

Historical Notes

Date: Mon, 3 Nov 1997 23:30:10 +0500
From: "Chuck Rippel" <crippel@...>
Subject: [R-390] BA Receiver Fun - Targets

Thanks for the many notes I received about posting some targets for our BA receivers. I was astounded at the number of affirmative replies received. As many know, I find listening a great deal of fun and very challenging. There are basically two styles of listening. Short Wave Listening is where the operator tunes in to a particular program. Short Wave Broadcast DX'ing is listening for very weak or seasonally challenging radio broadcasts or stations. In most cases, the language used by the broadcaster is not english as they are serving the local population. It is DX'ing v/s Listening where I intend to focus.

Being a good SWBC DX'er is a bit like being a good detective. Various clues are pieced together to arrive at a conclusion. In our case, identifying an unknown station. Some of those clues are:

Time
Frequency
Language
Programming
Music Style

Time:

Audibility of a station depends on the time it is broadcasting and the frequency it is on. Typically, the frequencies over 10 mhz are best during local day light and below, local dark. Signals below 7 mhz generally require darkness between the transmitter and receiver locations. However, not always and we will explore the opportunities when that rule can be expanded a bit.

Frequency:

Armed with the time and knowledge of propagation, frequency is the next big clue. There is general frequency consideration or band consideration. An example might be if a station on 4915 were being heard at 2200UTC on the East Coast. We know that there is daylight to the west but darkness to the east. Because signals on that frequency require darkness to propagate, it is reasonable to assume that the transmitter is located east of the listening location where darkness has already fallen. Likewise, if it is 1100 UTC and you were listening to 4890, darkness is west of your location so it is reasonable to assume the transmitter is also west of you.

Specific frequency is a very important tool, perhaps the most valuable.

When the station is not transmitting in a known language, frequency is a very important component of identification. Going back to the 4915 example above, a quick check in Passport To World Band Radio reveals several stations on 4915. However, only one, Ghana Broadcasting Service has propagation. Consider hearing a station on 4753.6 in local morning. There is only ONE station broadcasting on that rather unique frequency which would have propagation, Radio Republik Indonesia Ujung Pandang.

I tend to lump programming, music style and language clues together. Use of these comes with experience and knowledge of the other clues above.

TARGETS:

I am going to concentrate on reliable stations in the 60MB (with one exception) for just a bit. This is perhaps the single most versatile SWBC DX band and offers many challenging catches. It is useable during darkness, local early mornings and evenings/night time. You can easily hear every continent save for Antarctica on 60 meters.

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Remember, if you hear any of these stations, please send the loggings to: wian@... CumbreEditor@...

These are editors of INTERNET based, SWBC DX bulletins. Your contribution will entitle you to receive several FREE weekly mailings of the bulletin. I will post the FAQ for Cumbre DX which will give a format example useable for both newsletters.

Listings are Frequency, Country, Station, discussion

Mornings- 1100-1200 UTC

The Pacific, Indonesia and some Asian stations are morning targets.

4890 Papua New Guinea NBC. Here, you will find the home service of the National Broadcasting Commission of Papua New Guinea. The language on this outlet is usually English with a smattering of Pigin. At 10KW, it is quite powerful and is easily heard on both the West and East Coasts. They sign off at 1200 UTC.

5005 Nepal, R. Nepal. A tough catch, Radio Nepal can be identified by its top of the hour ID and time pips which occur at 1/4 past the hour. In deep winter, I generally hear Nepal around 1215 UTC

Afternoons- 1900 - 2230 UTC

During this timer period, stations from the African Continent fill the 60 meter band. Eventually, the Africans sign off and give way to the South

Americans through our local evenings.

4915 Ghana, Ghana Broadcasting Company. Again, a home service run by the Ghana Government. Excellent station to hear an example of local programming and African "Hi-Life" music. A powerful station located very far in West Africa and one of the earliest stations to appear here on the East Coast. There is english programming which I believe is at 2200.

4935 Kenya, Voice of Kenya. Government run, local outlet as above but just a bit tougher as Kenya lies on the East African coast. They sign off at 2106 with a prayer reading in English from about 2102 - 2105. If you are lucky, Voice of Kenya can be heard from about 2030 UTC until sign off.

15476 Antarctica, Radio Nacionale de Archangel comes from an Argentine base serving the scientific population. In Lower Sideband, this is a very difficult catch and one can go for days before propagation will allow enough audio for an ID. They are scheduled to sign on at 1857 and go off at 2120 and I have heard them in the 2030 - 2100 time frame.

Evenings 2300 - 0330 UTC

The Africans having signed off for the evening, the band is now dominated by our neighbors to the south.

4980 Venezuela, Ecos del Torbes. Hook up your hi-fi amplifier to the diode load on the R390A to hear this one! This southern powerhouse has some of the best audio on any band until sign off at 0400.

4990.91 Peru, Radio Ancash. This is one of my benchmark stations when evaluating a completed radio for audio recovery. Shortwave Broadcasting in Peru changes almost daily and there are dozens of stations on the air. Some DX'ers concentrate on Peruvians and Bolivians for an entire lifetime as they are so prolific. Radio Ancash offers excellent examples of music called "Huyanos," a tinkling delicate musical style which has its roots in Aztec culture.

5010 India, All India Radio, broadcasting from Thiruvananthapuram. Audible for about 45 minutes to 1 hour during a long path opening, this station is suprisingly strong and appears here from about 0030 till 0104 or so. Again, this station offers good examples of sub-continental (Indian/Pakistan/Bangladesh/Sri Lanka) music and can be a challenging DX catch. It is interesting that time in India is such that their top of the hour is at our :30 or bottom of the hour. Thus, any ID will be heard at the bottom of our hour. Unique time tones are good identifier clues in the case of Nepal and India.

Thats about it. This Friday, I will post more afternoon African targets. The

weekends are fun to spin down through 5-4 mhz logging them. Remember, share what you hear.

Date: Sat, 8 Nov 1997 08:56:59 -0500 (EST)
From: Radiomatt@...
Subject: [R-390] R-390A & SSB

It might be of interest to you guys that think the 390s were only designed for AM/CW is that several of the later manuals show how to interconnect SSB adapters, but more interestingly, some very late radios might have had product detectors installed at the factory with a mode switch that included USB and LSB. A ham in Italy has one of these very very rare R-390As. I saw a picture of the front panel once, and sure enough, there were extra positions and markings!

The last r-390s were built in 1984 by Fowler Industries on special order for the Pentagon...as I recall only five were made in that production "run", so the cost per radio was rather high ...\$ 34,000 or \$38,000 EACH. if I recall correctly. Maybe these sets had the SSB upgrade installed? If anyone could get hold of a manual for this series, it might contain some interesting upgrade ideas.

Date: Sun, 9 Nov 1997 08:18:29 -0500
From: Don Stepka <dts4@...>
Subject: [R-390] Fowler R-390As

>The Fowler R390A's did not have SSB installed. I know of a fellow who has one.

>And yes, they did make 5.

I think this is fascinating. How and why did this happen? Did someone plan a larger run that fizzled? It's hard to believe that they have ever been so scarce that someone couldn't find five, particularly for \$30,000 each.. Heck, 1984 is about the time that you couldn't give them away at ham fests. (I'm sorry to say that '80-'85 is also the time that nobody took home the 10-12 390s and 390As that I saw piled by trash cans at the end of several hamfests, each of which was nicer than the one I now own. They didn't even get raided for their tubes, just scooped up by a payloader, dumped in a truck, and off to the landfill. Some 51Js and 75As as well, as I recall. I felt bad about it then, and worse now.)

Date: Sun, 9 Nov 1997 17:15:19 -0500
From: "Thomas A. Adams" <103360.2133@...>
Subject: [R-390] Electronic assistance

"Electronic Assistance Corp." is another name for Hammarlund. I have one of these myself. They're reputed to be the best of the R-390As around, even

better than the ones with Collins nomenclature plates. Based on the performance of mine, I have no problem with that claim. Tho I take it with a grain of salt, the guy I got mine from claims that the radio I have was U.S. State Department issue, for use in foreign embassies. I'm inclined to believe it; this set came to me in excellent, almost new shape (minor front panel flaws), with nowhere near the wear and tear of the military issue sets I've seen. You'll note that your nomenclature plate has (at most) a Federal Stock Number, and nothing that marks it as U.S. Army Signal Corps issue. A lot of 'em were sold outright by EAC to the general public for civilian purposes.

Date: Sun, 9 Nov 1997 22:14:55 EST
From: paul.courson@... (An Unsigned Note)
Subject: [R-390] More on Electronic Assistance Corp./Hammarlund

James & Tom have revived interest in this curious bit of shared heritage. Actually, according to some research by Steve, WB3HUZ, EAC purchased what was left of Hammarlund in the 1960s. He said production of the remaining Hammarlund lines was never merged with existing EAC manufacture, so the link at the factory is tenuous.

I personally had hoped to be able to instead refer to my 1967 EAC as a "Hammarlund" R-390A, to showcase the far more popular name. But Steve is pretty certain that the connection was mostly corporate (overseeing independent subsidiaries), and that EAC assembly did not directly benefit from anything Hammarlund imparted to their radios.

As for EAC's own history, it is checkered.

EAC's 1960 contract to produce the R-390A is the one involving ceramic, rather than mechanical filters. This discovery -- after the units had already started delivery and government monies had already begun to flow -- reportedly created quite a stir among military procurement officials. They were left to explain this unsanctioned bit of cost cutting, at a time the R-390A was indeed proffered as a less expensive version of its older sister, the R-390 (made by Collins and Motorola).

EAC, as best as I can determine, successfully interpreted that general cost-cutting mentality to retroactively justify the change. The argument apparently worked, since EAC would later win more production. A maintenance order went out, however, instructing depots finding ceramic filters to replace them with the specified mechanical types. (I have the document for anyone needing)

We have recently had a correspondent on the R-390 list server who *has* such a radio -- still with the ceramic filters! This may be one of the rarest

R-390As around !!! He is correct in pointing out that the audio quality would be better than had the mechanical filters been installed. For the military, however, there was a practical degradation in intermod suppression in the harsh RF environment of a ship with multiple HF transmitters.

EAC went on to produce some of the last R-390A receivers, considered by many to be the best among all produced. The 1967 contract (production from this order seems to have spanned 1966-1968) included many units with Teflon, rather than vinyl insulation on the wiring harnesses. Years later, we all can appreciate the ability of such wire to withstand abrasion, kinking and heat-related deterioration better than the older type.

It was these late-model R-390As that also enjoyed an upgrade of tube shields to the black, heat-dissipating IERC-types. Older silver types - -- which share the IERC's function of shielding from stray RF fields -- were said to contain rather than convey heat. Chuck, WA4HHG, has written extensively on how this can shorten tube life (Steve's AM Radio Page contains his report). <www.thebizlink.com/am/>

The 1967 contract also improved the RF and AF meter readability and mechanical smoothness, through different paint and (apparently) improved d'Arsonval movement, respectively. Older meters include radioactive, brownish-yellow paint (which is a hazard if the meter is opened and particulate matter inhaled), and some were prone to sticking.

The radioactive issue prompted an order to depots that are responsible for processing such radios for government surplus auction. It forced the removal and destruction of the meters by the most efficient means possible. I have heard stories of blowtorch removal, and disposal barrels FULL of meters later filled with concrete and hauled to a toxic waste dump. Tragically, there was no distinction made between "new" non-hazardous meters and older types. In later years, R-390As have come out of military depots with meters intact (perhaps the memo has been lost).

The effects of cost-cutting continued to show up in EAC's later models. The dust covers are made of thinner, less rigid material than older contracts (with the gray dust covers of the R-390 series being the strongest of all) . There are widespread reports of Q.C. problems, including new radios delivered DOA to government prep sites. These sites would "recondition" allegedly problematic modules, PTO assemblies and RF decks to make a working radio that could be deployed. Eventually, so many of the radios were testing bad that the contractor was booted in the rear, and lots of "make good" work had to be done at the factory as the government rejected instead of reconditioning those that failed.

As communications needs changed, demand for the R-390A was tapering off. Electronic Assistance Corp still had a number of refurbished units that the government had earlier rejected. It was these radios that were later offered directly to civilian markets. CQ Magazine in 1968 carried regular advertisements (I have a photocopy). As far as I have been able to determine, EAC indeed "fixed" whatever was wrong with the radios that were returned to government service.

I have never seen a verified civilian model, which reportedly does NOT include the military nameplate or nomenclature, but does include some sort of substitute in its place on the front panel. I have no information on numbers sold to non-government markets. The price tag was pretty steep.

Date: Sat, 11 Oct 1997 19:57:18 -0400 (EDT)
From: Michael Crestohl <mc@...>
Subject: [R-390] Why I like the R-390/390A....

Paul Courson WA3VJB has started the ball rolling in asking why we like these receivers. This is a good way to introduce each other and "break the ice". Thanks, Paul. I like the R-390s and R-390As for a lot of reasons, but mainly because it represents a personal challenge.....

Years ago when I was a young ham I was interested in Collins Radio and knew some of the older hams who had this equipment. I helped many of them with their problems and was somewhat familiar with them. One of the guys, Charlie VE2AFM had a R-390 or maybe it was a 390A - don't remember. This was in the early seventies and Alltronics in Boston was selling them for \$750.00. Charlie, who was pretty well off, bought it for top buck. I remember looking at it and wondering how one would ever fix this thing if it needed it. One day Charlie called me over and asked me if I could take a look at the "Military Collins" and see what was wrong with it - several of the bands were dead. I remember going over to look at it but couldn't do much - looked it over and figured out what some of the modules were supposed to do but without docs that was about it. Frankly I was afraid to take it apart because I wasn't sure I could get it back together again. That radio defeated me - I was unable to do anything to help him out. I understand he lost interest in it and bought a KWM-380 and there it sat, unused and ignored. Later when he passed away another ham got the R-390/390A. I wonder if he still has it??? Hmmmmm!

Years later I started seeing R-390s and 390As at hamfests and fleamarkets some of them quite cheap so I picked up a couple of 390s and 390As (along with some of the other component parts for the FRR-44 but that's another story). Three others came to me in deals, trades, etc. I did not have the time to play with them until recently when I decided to focus some attention on them and make some decisions as to what to do with all

this stuff I accumulated. Needless to say I like the radios because I am impressed with the precision with which it operates and the challenge to master its care and feeding that was imposed on me by Charlie's radio many years ago.

Now the R-390/390As are easier to get, although it seems that the really "good" ones are in great demand, becoming a cult radio! E-R, HSN and several Net resources have made it much easier for folks with similar, although esoteric interests to get together and learn from each other. The bottom line is that these receivers are really wonderful machines and if properly maintained will perform as well or better than anything on the market today. That is quite remarkable for a radio that will soon be celebrating its 50th birthday.

Also I like it because it doesn't depend on hard-to-find tubes and parts except the covers, meters and the ever-elusive CY979 cabinet. The R-390 has some scarce tubes like the 6082 and of course the 3TF7 regulators,(which can easily be dispensed with), the 26Z5 rectifiers are a bit pricy but the rest of the tubes are as common as you can find them, cheap and plentiful at any hamfest. The documentation is excellent and the radios are quite easy to work on once the initial intimidation is overcome.

I have come to the conclusion that: The R-390 is the DC-3 of radio communications receiving equipment! What do you guys think of that?

Granted, spectrum navigation is a lot easier on a microprocessor-based radio with its memories and scanning capabilities. But once I've found what I want to listen to I can select which radio I want to enjoy operating. I love the modular construction, the ease with which modules are exchanged, the wonderful TM11-5830-358-35 with explicit and detailed information, the mechanical marvel that tracks all stages so precisely, the list goes on. One of my favorite stories of the R-390 is that the Russians, who had examples of most of our military radio gear from the Korean adventure, copied many of the designs for their own equipment. The R-390 was so complicated that they never even tried to copy it.

I now look forward to learning as much as I can about these two radios, the R-390 and its cost-cutting suster the R-390A. I know there are great differences and I look forward to knowing more about both sets. This list and its subscribers is a powerful resource to compile the definitive document for future R-390 enthusiasts which I truly believe will follow us.

Date: Sun, 12 Oct 1997 02:34:41 -0400
From: jim thompson <jim@...>
Subject: [R-390] Why I like the R-390A

Greetings fellow R-390(A) aficionados,

I look forward to seeing the comments and technical exchange between all of us who appreciate the R-390(A) receiver for what it is - a milestone in receiver development. As we combine our collective experiences and knowledge about these wonderful receivers, I know that I, for one, will learn to enjoy my R-390A's even more. Chuck has started the technical ball rolling with his comments on getting absolutely glorious audio out of an R-390A. I use the diode takeoff point, too, though I haven't made a pad yet because the amp I use seems to be able to handle the drive voltage. The amp is a full-range portable PA made by TOA which features a 50-watt amplifier and has a built-in 12" wide range speaker. It is a great sounding small portable PA system for keyboards, guitar and voice, which is why I have the thing. I'm sure a decent Hi Fi system would produce similar results. I have to say that the difference between the audio produced by this amp and the stock audio is totally amazing. I would make the analogy of comparing a pocket transistor radio with my home theater system. The difference is nearly that dramatic. I absolutely endorse this modification.

Well, on to the question at hand: "Why do I like the R-390(A)" or something to that effect. First, let me say that I love receivers - period. If it's a unique and/or top-of-the-line tube receiver, then it's a candidate for adoption. It has been my lifelong hobby to admire, study and design receivers. I love to second-guess manufacturer's and apply modifications which will improve the performance of a particular receiver. I delight in seeing clever circuitry and in the optimization of seemingly common design. Generally, when I acquire a new receiver, long before I ever turn it on, I study the schematic for anything unusual. They'll open up the receiver to see what the mechanical engineers did that is different. In other words, from a technical standpoint, what makes that particular receiver special? I also like what I call receivers with "pretty faces."

A quick trip through the circuitry of the R-390A reveals some interesting things but nothing I'd call ground breaking, technically. In fact, you have to remember when this receiver was designed and recall its purpose to excuse some of the things the Collins engineers did. While I'm on that subject, maybe I should list of couple of the things I personally find annoying about the R-390A. First, to me, it doesn't make any sense to build a receiver with incredible CW selectivity (a single-pole crystal filter, followed by a 2 KHz mechanical and finally an very narrow audio filter) and make all that selectivity nearly useless by providing a tuning system which cranks through 100 KHz in a single turn. Of the knob. But, who uses an R-390A as a CW receiver? Two other things which are nearly unforgivable are the AVC system and it's attack time which can be measured with a stop watch (remember that even the lowliest Drake

receiver applies full AGC in 100 microseconds or so), and, of course, there is the audio system where it seems that distortion must have been considered a virtue. I'll save the minor gripes for future discussions. All the little annoyances aside, the R-390A is an incredible receiver. Its filters are able to achieve better than -100 dB ultimate attenuation. And, the R-390A's filters seem to be far better than those used in amateur and other commercial equipment. They must have more "poles" because their shape factor is better than any of the common mechanicals I have in my list. If someone knows how many poles the different filters had, please let me know. I believe the filters in the amateur gear used 7 disks and the R-390A filters had 9 disks. I know that the S-line filters did not achieve a 2:1 shape factor. It was 2.1/5.3 for a shape factor of 2.5:1. The mechanical filters used in the R-390A were able to attain a honest 2:1 shape factor, an unheard feat at the time. That 2:1 shape factor was for the 2 KHz filter. The 4 KHz filter had a shape-factor of around 1.55:1 if the curves in the TM 11-5820-358-35 are correct. That's truly exceptional. The 8 KHz filter, which is really nearly 11 KHz wide at -6 dB is only 16 KHz down at -60 dB, again pretty amazing with a shape factor of less than 2:1. It's too bad that there wasn't a real 8 KHz filter in the this receiver.

Of course, there is the great sensitivity of the 390A and its relatively low background noise level that makes the receiver a joy to use. We must not forget the incredible PTO and accurate digital readout. I purchased one of Chuck's restored receivers and when I got it home I wanted to check out the PTO. The tracking was very good, but that's not the amazing part of this story. Here is what I did. I let this Phoenix (I call it that because it was rescued from from a junk pile and restored to its previous glory) warm up for 24 hours and put it on zero-beat with WWV. I went away for 7 days and upon my return, I found that the receiver had drifted about 20 Hz, by my estimate. I had to use the undulations on the "line" meter to note the drift as beat note was sub-audible.

Combine the incredible dial accuracy and frequency stability; the sensitivity; relative freedom from overload, birdies, and images; filters that are almost as good as those available today; and fantastic audio available from the diode load and how could you not love this receiver. It is a technical masterpiece, especially when considered in the context of its peer, era of design and purpose. It's like an old friend. There is so much to like that you can forgive the little annoyances. It is for all these reasons that I like my R-390A.

Ok, enough of that. Here is a teaser. For those who do not yet have an SSB converter for your R-390(A) and want to give it a try, don't sell your Drake 2B yet. I have a wonderful conversion that turns the Drake 2B into an SSB demodulator with passband tuning, variable selectivity, AND 500 Hz per turn vernier tuning. Best of all, it only takes a couple of hours to make the

mod in the 2B and you can remove all the mods in about 30 minutes, returning the 2B to its original condition. As soon as I can get around to it, I'll put the info up on my WEB Site This conversion is a dandy and it plugs directly into the i.f. out jack on the R-390(A). Thanks to all who stuck with me through this. But, when I get to talking .

Date: Sun, 12 Oct 1997 04:25:41 -0400
From: "Thomas A. Adams" <103360.2133@...>
Subject: Copy of: [R-390] Curtain Raiser

Greetings, all. OK... Here's MY kickoff.

I first became familiar with the R-390 series from a neighbor. Ruben Porter, K9RP (back then, in the early '60s, K9ANM) had recently completed an Army tour as an R-390 repairman on Okinawa, at a place called Sobie Camp. It's purpose, working in conjunction with another station in Alaska, was monitoring and D/Fing Chinese Army radio traffic coming out of mainland China.

I was just a young pup then, a Novice, and I was enthralled by the tales of this place... rows upon rows of receive positions in an underground bunker, each manned by a "ditty-bopper" (morse intercept operator), equipped with a mill, and an R-390 that was tied to one of several dozen rhombic antennas pointed at the Chinese mainland, constantly sniffing the HF spectrum for military transmissions. This R-390 "super receiver" fascinated me. When Rube first hit the place, the rig apparently hadn't been released as a general purpose HF radio yet, and was still highly classified and only issued to the intercept folks, D/F activities, and other assorted spooks. I got the impression from his tales that the R-390 was gradually replacing the Hammarlund SP-600 series as the radio of choice at the site. I suppose that familiarity breeds contempt, and Rube was VERY familiar with the R-390 and R-390A; as a ham, Rube preferred using the old SP-600s for band cruising. He and I still maintain fairly close contact, and he STILL can't understand my fascination with and love for the R-390 series!

It wasn't until the mid- 1970's that I actually got my hands on an old, beat up, surplus R-390A. I hit Fair Radio for a manual, and with that I crossed over the Jordan into Art Collins Promised Land! My entire conception of communications receiver design and performance changed. Suddenly, my old SP-600 fell into immediate disuse. My thing has always been intercept (snooping) on RTTY and digital communications. The precise frequency readout and extreme frequency stability of that old R-390A made it a natural as a cruising set. That second line level audio channel was made to order for RTTY demods. An R-390 with the ovens all turned on sat on a frequency like the Rock of Gibraltar, hour after hour. I quickly became

convinced that any frequency drift encountered on an RTTY signal was at the TRANSMITTER end of the circuit; it couldn't POSSIBLY be here! The mechanical filters (a sort of "gee whiz!" feature when I first heard about the sets) made the beast a champ at cutting thru the QRM. That battered old R-390A made me a fan, bigtime. When I moved to Madison, WI. I met Terry, WB9GVB, at work. One night after work I showed him my shack in a corner of the bedroom of my 3 room apartment, and he too immediately became an R-390A afficianado.

My second love has long been LF and VLF radio. Back in the '60s, Ruben had briefly mentioned the R-389, a long wave version of the series. That radio was one that I always kept an eye open for. Two years ago, I finally found one. Art's boys did it again; without a doubt, the R-389 is the finest long wave receiver I've ever encountered.

My shack is currently home to the following sets in the series;

QTY SET MANUFACTURER

1 R-390 COLLINS
1 R-390 COLLINS /MOTOROLA
1 R-390A ELECTRONICASSISTANCE CORP. (ie, Hammarlund)
1 R-390A UNKNOWN;SUSPECT MOTOROLA
1 R-389 COLLINS
1 R-220 MOTOROLA
1 R-392 STROMBERG-CARLSON

The R-390's are housed in a 6 foot rack along with auxilliary gear to form an ongoing experiment in building a diversity R-390 setup for RTTY reception. It gets changed and altered from time to time, but the oscillators sync up pretty well (most of the time), with receiver the outputs feeding the twin audio inputs of a Universal Shortwave M-7000 multimode decoder box. The antennas are polarization crossed (one vertical, one horizontal). When the system is fired up, the performance on weak, long haul digital signals is VERY impressive. Antennas for HF intercept and monitoring are a pair of T2FD wideband designs. One covers 1.4 - 7.0 MHz, and the other covers 5.5 - 30 MHz. They feed all of the receivers in the shack by means of a pair of surplus multicouplers. The R-389 is, in my opinion, one of the finest AM BCB DXing receivers ever produced. For long wave reception and beacon DXing, the R-389 has no peer; I compare it to my other 2 "modern" design receivers, an R-1134 / WRR-3, and a Hammarlund SP-600VLF. The older military long wave designs aren't even in the race.

R-392 is an interesting design, but I have been exposed to it's big brothers

too much; while quite good, it is a second rate performer compared to the R-390 / R-390A.

The R-220 is currently undergoing overhaul, and I haven't had much chance to assess it's performance. I got it mainly for weather satellite reception on 137 MHz.

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Date: Sun, 12 Oct 1997 10:32:01 +0500
From: "Chuck Rippel" <crippel@...>
Subject: [R-390] R390A- My Opener

My experiences with the R390A came about 1972. A ham at that time, I had also been a very active Shortwave Broadcast DX'er (and still am, frankly). Affordable general coverage, transistorized receivers were still quite crude. I had a Realistic DX-150 and an Allied SX-190. While the latter had frequency readout to 1kc, it overloaded horribly in the face of a strong signal. At night, the 49M band was a signal distorted signal from end to end from the powerhouse European broadcasters there.

In a local classified paper, I saw this receiver listed, an R390A. I had seen in some of the monthly DX publications I got that some of the other successful DX'ers used these so I checked it out and picked it up. I was an R390A owner. Unfortunately, it did not work 100%. After about a year, I rolled up my sleeves, figured out the gear train and got it working. Nice receiver. Like most of us, when some of the slicker imported radios came around, I opted to sell it to help raise the \$\$ to get one.

About 5 years ago, I chanced upon a 1967 Contract EAC R390A that had just come out of the box. By then, I had a far and away better understanding on how they worked so set about making it work perfectly. Not beleiving in "hard" modifications, I chose to add a few of the soft modifications found in the Hollow State news.

After the receiver was done, I took to work and used one of our service monitors to completely align it. On a whim, I checked the sensitivity.... Holy cow!!! 0.2uv for 10db S/N + N???!! I re-read the procedure, and re-checked my test. 0.2uv it was.

I took the receiver home and put it up against the JRC NRD-525 to listen to one of the Australian CAAMA stations on 2.325. The R390A easily pulled in 30% more useable audio than did the JRC.

That caused me to try and find out why. I studied the design of the receiver and researched the development (I have some of the documentation for

that here) and found that the R390 series of receivers were a masterpiece of engineering design. They were incredibly sensitive yet immune to overload.

Every Navy ship in the fleet, until quite recently, was equipped with one and the NSA still use them where the senior operators prefer them over mega-dollar Harris and WJ's.

I still enjoy the challenge of Shortwave Broadcast DX'ing. To me, it eclipses any operating experience amateur radio offers. There is no "repeat my report" exchanges, no net controls or organized DX'peditions. Like most SWBC "hard core" DX'ers, my domain is the 120, 90 and 60 meter tropical bands. They abound with low power, regional broadcasters from every continent and offer a lifetime of challenge.

The logging process is a bit of detective work. Putting together "clues" of frequency, time, language (90% are not in English) and programming narrows down the target. However, the clincher is getting and interpreting an ID. For that, you need a receiver with audio recovery and the R390 is it. This was the clincher:

Back a few years ago, I had discovered that Cape Hatteras, about 2-1/2 hours south of me was an excellent radio receiving spot. I had driven down there to surf fish a bit and was listening to my AM car radio. During a fishing down time, I scanned the AM band. There was a station on every frequency from Main to Florida and in broad daylight. I brought down a battery powered Shortwave Radio and found conditions nothing short of incredible.

A few of the more accomplished SWBC DX'ers and myself later rented a house and took our radios there. There were 2 Watkins-Johnson 1000's, some Drake R8's and a smattering of JRC's and of course, and R390A.

During the 4 day stay, I chanced to check a few of my "wish" stations one of which was the Radio Republik Indonesia outlet in Dili, once portuguese Timor on 3304.8. It had not been logged on the East Coast in 20 years. Well, to make a long story short I logged RRI Dili and the only receiver to get usable audio was the R390A. Luckily, I taped the station during the 28 minute window propagation/sunrise afforded. All there were "R390A believers" after that.

The Collins designed R390 series receiver can, if taken care of easily last for several generations. How many receivers do you see with miniature roller bearings on the rack assy slides? As a member of the Collins Collectors Association, my contribution has been to restore and perform pre-emptive maintenance on these fine receivers to allow that.

Going through one 100% takes me 10's of hours although I do enjoy doing it at my current 2 receiver per month hobby level. In those "travels," I have identified many little problems which crop up repeatedly and have shared them with their solution VIA the Collins List and other outlets. Last year, Hi-Res Communications and myself teamed up and made the 7 hour R390A video to document operation, troubleshooting and restoration techniques.

Accept the R390A for what it is, an exemplary AM and CW general coverage receiver. It was not designed for sideband and I sort of resent carving one up to try and accommodate that mode.

There are ways to use the IF out to help receive SSB but even those are a compromise. Better to get your hands on an R1051, Collins 51S-1, Drake R8 or any other receiver DESIGNED for that mode.

Finally, the R390(A) is DX'ing tool, not an end all. With no passband tuning, notch filter or synchronous detector, it can fall short when trying to fight off QRM. However, given a weak station in comparative clear, there is nothing better.

Want to test yours? One evening, say 0230 or so, run up to 15167.7 and try to hear R. Tahiti. Compare with the R390 does compared with your import be sure to use like modes (AM) and filter widths if possible.

As you can see from my signature, I have several R390A's (no R390's yet). There is one in my shack as a DX tool, one with my 20V-2 station, one in the shop to listen to and a beautiful one built into a cabinet in my office at work for an entertainment radio. I favor the newer units, the 1967 EAC's being the easiest to find although I have a 1968 Dittmore-Friemuth.

Thats about it. Here endeth the epistle.....

Date: Sun, 12 Oct 1997 10:27:52 -0500
From: badger <badger@...>
Subject: [R-390] Why I like the R-390A

Greetings one and all, Well all my remarks seem to have already been expressed by those who posted before me :-). So I will try some different comments I guess.....

I have two R-390A's mounted in a rack and set up for diversity at the moment, connected to crossed dipoles. Works great for listening to SWBC stations under almost all conditions. The downside is I am in an apartment complex, so those crossed dipoles are pretty short. I also am

able to get away with an end fed 60 foot wire, so all is not lost.

I got interested in the 390 when as a highschooler back in the '70's was able to borrow the 390 (non-A) from the shop teacher and listen to it for a few months. I was hooked. I tend to agree that the 390 does have better audio (technically better group delay characteristics :-)) due to the LC filters as apposed to the 390A's filters. I do like the tighter skirts of the 390A though when listening under crowded conditions though. I sort of have a 390 as well in that I have an R-392 sitting on the desk. It really does have better audio than the receivers in my rack, and is a bit better when listening to stronger local AM stations and such, which I rarely do anyway....

Problems with the 390A? Well, the biggest problems I have had has been broken gear clamps! Had to replace all the clamps in both 390As last year as ALL had cracks in them. It was a chance to learn the gear system and alignment procedure so al lwas not lost and much was discovered of the inner workings of the radio. And no it was not really that difficult to totally disassemble the gear train and reassemble and align it! Honestly, I actually enjoyed it, sorta. The other time- consumer was the PTO linearity and endpoint adjustments! I had no problem with the one in the Teledyne unit, it was a Durbrow (I think, may be Collins.....) but never did get the Collins unit in the older EAC unit absolutely linear, had worse luck with the "new" rebuilt-in-1984 Cosmo I got from Fair Radio! Regardless the EAC tunes "close enough" in that I can live with being 2 KC off. (as apposed to being RIGHT ON at the 100 kc points on the Teledyne) Other minor points are the differences in the crystals as they age, and no way to trim them on freq! Gotta zero the dial when changing bands on both. I can live with that as well.

Other minor points -- Rectifiers. The Teladyne/Imperial is a Navy unit complete with big Navy tag on front, though no diode load pin jack. What it DID have was SS rectifiers in the power supply. They appeared to original equipment, as the leads had the same insulating tubing and varnish coating as the rest of the components in the power supply. The radio still worked with the evil diodes, but I snipped them and replaced them with 26Z5's. Any comments on other units that have ORIGINAL diodes in the PS?

Other Oddities: My 1960 EAC IF deck is outfitted with CERAMIC filters. These appear to be original equipment Cleavite filters. They lack the ringing of the standard mechanical filters. Anyone else heard of such a thing?

Audio: I just use speakers/transformers and am satisfied with the audio level as-is. To get rid of some of the distortion on SSB signals, I just use the CV-591 :-) Eventually I will build a switching panel for the speakers,

antennas, and convertor to switch between the two 390A's. When I get a round tuit :-) So, that is my story!

Except the sad part that the third 390A is a junker, with the only good part being the frame. Oh well.....

Date: Sun, 12 Oct 1997 11:49:05 -0400 (EDT)
From: Michael Crestohl <mc@...>
Subject: [R-390] Forwarded message from Chuck Rippel WA4HHG

Good point. I have 2 R1051H models and they work well. I hate the filters they have as they are much too broad but there is nothing as stable.

When I worked as a Communications Systems Engineer for Northrup Aircraft-Page Communications on a Naval Project for the Saudi Government, we used hundreds of the R1051B's. We piped a 5 mhz cesium standard to each one. Yep, very stable indeed.

From: paul.courson@... (An Unsigned Note)
Date: Thu Dec 18, 1997 5:03 am
Subject: [R-390] Re: 390A from Fair Radio condx (DO NOT ARCHIVE)

There was a first-person account circulating nearly a year ago about these radios. The civilians involved had discovered piles of these radios sitting outdoors at a military facility, where the units were being held for processing on their way to auction by DRMO.

The discovery was in, oh, lets say August, because I remember it still being warm weather in the account, which somehow included verification that the radios had been out-of-doors since about April or May. The people approached military brass about the advantages of taking the radios under cover, thereby improving the revenue likely generated at auction.

But the officials said they had far more valuable materiel to worry about, like multi-million dollar airplane parts, etc., and that the 30 year old radios were likely to sit right where they were. The months pass.

Around February of this year, the sad tale was written about weather-beaten radios finally coming up for auction. Fair Radio's catalogue description, while accurate, is somewhat terse. The first-person account described radios whose lubrication no longer protected steel gear assys from surface rust; how the rainwater & snowpack had caused PTOs to seize wherever they had last been tuned; and how all the control functions including the IF racks were pretty much bound up by accumulated dirt and grime from sitting in a depot yard. I seem to remember that most if not all of the rigs viewed were missing their

covers (probably for ventilation in rack mounting). I do not remember any comment regarding the meters, although I see Fair's catalogue description notes they are (now) missing. If I can dig up that story from the diskette archives, will post to the group. I think I have given a fair (no pun) capsule summary of same.

Good luck. In my view, these radios -- at this point in the market -- would become interesting only if they were well under \$100/unit, considered a source of parts. For the most ambitious, perhaps they could be seen as restoration projects (better buy two to hopefully make one good one, so then you're into it for \$250 plus shipping).

I predict that five years from now, \$125 parts units will be a good deal, but not yet. We earlier had discussions here about whether Fair's proprietors, George and Phil Sellati, would favor customer walk-throughs for inspection and selection. Given the questionable condition of these units, and the relatively optimistic asking price, it might prove useful to gently ask for such an opportunity with them. Earlier, I was skeptical there would be much incentive for Fair to allocate time & personnel for picky customers to review gear that was accurately portrayed, reasonably priced, and offered in the same "as is" context as these units. Rgds.,

From: "Floyd Soo, W8RO" <hires@...>
Date: Thu Dec 18, 1997 11:15 am
Subject: Re: [R-390] 390 an 390A from Fair

I have just acquired one of Fair Radio's \$125 "Specials". They are correct in saying that they are great parts rigs as they are mostly complete. They were all piled on top of each other on skids, so scratches, dents, no covers, spray paint across the front panel, missing tubes and tube shields (yes, the ballast tube was MIA), no meters, etc.; are common to all rigs. To the uninitiated, they may look like a disaster, and may even look un-restorable. HOWEVER, I was fortunate enough to have a friend here locally in the Detroit area that worked on these rcvrs aboard ship in the Navy. He drove down to Fair, took some time and looked over the skids and chose 2 radios out of the bunch that looked restorable to him. He took 'em home and within a couple of nights had both of them working! We did some "hoss tradin", and I now own one of those 390As! It still does not have meters, and the front panel needs some attention, but, IT WORKS! Al (K8WXQ) had disassembled the radios and gave them a thorough cleaning and lubing inside. Mechanically, electronically, the radio is 80%. I have found a source for replacement meters, I may have Chuck (WA4HHG) help me with the front panel and a solution to the ballast tube delemma. Al had replaced a tube or two, 2 resistors, 2 caps and one crystal to get the radio working. BUT! He knew where to look, too! Hope this was the type of info you were looking for!

From: jim thompson <jim@...>
Date: Thu Dec 18, 1997 11:00 pm
Subject: [R-390] R-390A's from Fair Radio

There has been a lot of discussion about the condition of the subject receivers. I was one of those who personally viewed them on many occasions as they sat out in the weather over a period of nearly 18 months. Originally, there was a pile of about 2000 receivers (a guess) which were quite restorable. This, by the way was quite a sight. I have one that was completely restored and it is a beautiful receiver. It was rescued before they were totally ruined by the weather. I was the one who wrote a rather lengthy description of the entire affair which I entitled the "St. Julians Creek Massacre." If anyone is interested, I'll republish it. In a nutshell, what you will see if you buy one of these sets are radios that have rust anywhere that metal could rust. They were piled 24 to a pallet, so if one of the top units moved, it just crushed whatever was underneath it. When they left here (Portsmouth, VA), they had the tube shields, most tubes, the ballast tube, no covers, all filters, no meters (except for one or two lots which slipped through), and most other parts. The tube shields, ballast tubes, BFO's and audio chassis (in some cases as I understand) and other selected parts were removed after they left here. Since Fair now has lots of tube shields and ballast tubes, I suppose we can guess where they went. Anyway, if you have a chance to look one over before buying it, great. You may find one that left the St. Julian's during the earlier sales and it may be restorable. The last ones to leave are definitely parts radios. I have nothing against Fair Radio. To the contrary, I'm glad they are able to make these available to us for parts. I happen to know that some of the receivers went at auction for over \$100 each, though those sold in the first auctions when for \$37.50 each. I tried to purchase just a few of them for myself and some friends as parts sources. I was not successful with any of my bids. I hope this helps with some of the questions about the condition of the sets as offered. Incidentally, they sat in the rain long enough for the paint strip across the front panel to fade and in the case of one pallet, completely wash off. The PTO's didn't turn very easily in that batch!! It is with the highest regard and respect for a milestone in radio history that I lament the loss of nearly 2000 wonderful R-390A's which after years of faithful service to our country and armed forces, were piled into heaps and left to face an ugly fate in the bowels of a scrap yard. From one who appreciates fine receivers -

From: "S. Lee" <slee@...>
Date: Fri Dec 19, 1997 11:25 am
Subject: Re: [R-390] R-390A's Fair Radio (Government waiste)

When I was a wee lad in the early 50's we lived down the end of a long dirt road not but a mile from the Goodyear Naval Air Station. This was in

Arizona. Had no TV's, had no telephone's. What we did have was the worlds largest playground..and radio. They were stockpiling all the surplus WWII aircraft at Goodyear. The only barrier to fun and games was a rickety barbed wire fence. So off we'd go across the fields of cotton, millet, or lettuce; stopping only at US 80 to check for traffic (hardly any) and to see if the guard was on the other side of the base (dust trails in the air).

There was Liberators, B-17's, Corsairs, Hellcats, the odd P-40 came and went. I mean to tell you if it was a WWII warbird they had it. And if they had it, we played in it, hi hi!!! Didn't completely understand what that thingy was with the wire dangling from it but kinda figured out it was for pointing out the bad guys and braggin' about how you won the war. My oh my, what a childhood...they called us poor, hi hi. There was a gravel pit at the southeast corner of the base.

One day they built an aluminum melting furnace in that pit. Then the warbirds starting disappearing in earnest. Was real sad to see those war heros get treated that way yet they weren't being wasted. Off the horizon was Luke Air Force Base. Out there they had jets and sometimes they'd fly low over our house....WOW! On my 8th birthday I got to join the Cub Scouts. Mom showed up at school with a Cub Scout shirt that she had sewn. There was a field trip that day too.

Our troop got to visit Luke Air Force Base. We took turns sitting in an F-100 Super Sabre with a couple pilots supervising. Came my turn and you should have seen the look on those pilots' faces when I began rattling off to THEM what some of the various controls were for. I didn't know 'em all but I knew a lot of them! They didn't quite grasp that I'd already "flown" many a "mission" in my "younger" years :) and sat around listening to our local heros on how it was done.

From: Michael Crestohl <mc@...>
Date: Sat Dec 27, 1997 7:44 pm
Subject: [R-390] REVIEW: R-390/URR - R-390A/URR Handbook, Paolo Viappiana 1996

REVIEW: R-390/URR - R-390A/URR Handbook, Paolo Viappiana, Editrice Il Rostro

Okay - what am I doing writing a review in English of a book written in Italian? To make matters worse I don't have much knowledge of the language either!

Well, first of all I would like to state that there is enough information taken from the various US Army TM 11s, charts, diagrams and figures that know no linguistic boundaries to make the Handbook worthwhile to someone who does not have access to the official documentation. Of course,

some degree of familiarity with the language would be a great asset here or a friend who can help.

The fact that a writer in Italy chose to write a book about a forty year-old US military and government radio receiver really intrigued me but it only backs up the claim that these radios are extremely good for listening to the portion of the spectrum they cover - 500 KHz to 32.000 MHz, AM and CW. Add-ons and circuit modifications will also make SSB signals intelligible but since most shortwave broadcasts are AM the receiver is popular among serious hobbyists who like to tinker with their equipment.

The Handbook contains 20 Capitulos (Chapters) and covers a lot of ground; ie: technical data, modifications, history, trivia, statistics, lore and legend about this receiver. Paolo's work covers "la famiglia 390" which includes the R-389, R-390, R-390A, R-391 and R-392 and the differences between them, particularly the R-390, R-390A R-725 and R-1247. It is very convenient to have block diagrams and tube lists of both receivers in one book if you are interested in both models.

One of the things it conveys very nicely is that the R_390 and R-390A receivers are VERY different. Paolo has included a detailed chart of contract numbers, contractors, years of manufacture and estimates how many were made in each contract. I am curious how accurate those production figures are, since Tom Marcotte, compiler of the on-line list has not publically speculated in the numbers, at least that I have seen.

As far as illustrations go, Paolo has borrowed liberally from the TMs and these are, of course, in English. There are mention of some of the officially modified models, such as with LSB and SSB, Diode Load output on the front panel and a whole chapter that lists the TM11s and NAVSHIPS manuals for all models and some sources for them. Also included is mention of the Boatanchors List on theporch.com and how to subscribe. There is a ten page bibliography or articles, mostly in English, with familiar and knowledgeable names like Kleronomos, Rippel, Langford that is extremely valuable and this compilation alone is well worth the price of the book.

I looked in the mods and did not see the very important C-553 mod to change the notorious Vitamin Q plate blocking capacitor on the plate of V501 (1st IF amplifier) to a .01/600V Sprague "Orange Drop" - cheap insurance on your four Collins mechanical filters recommended by Chuck Rippel. In fairness to the author it may be in there somewhere and my ignorance of his language must be forgiven if this is the case.

The book is available directly from the publisher - write them at: Editrice Il Rostro di Patrizio Giovane & C., 20155 Milano, Via Monte Generoso 8 Italy, or Fax: 02-2133869. They will mail you a copy, enclosing an invoice

for 35.000 Italian Lire which is about \$25.00 US. You must pay in Lire and can get from a bank or currency exchange.

I am hoping that the book will be translated into English one day. However, in my opinion THE R-390/URR HANDBOOK contains enough useful information that it is worth getting if no other detailed sources are available.

%T R-390/URR - R-390A/URR Handbook
%A Paolo Voappiani
%I Editrice Il Rostro
%C Milano (Italy)
%D 1996
%O In Italian
%G ISBN: none
%P 143 pages, paperbound
%K Radio Receivers, Short-Wave, Military, Collins Radio, R-390

From: "Joseph W. Pinner" <kc5ijd@...>
Date: Wed Dec 31, 1969 8:59 pm
Subject: Re: [R-390] r=390a last production run

As far as I've learned, the last run was a "commemorative issue" of only 5 radios made by Fowler Industries. The price tag would make a Congressman gag, but a BA aficionado smile and nod in agreement. Obviously they went to Signal Corps (or whatever the modern equivalent is) big wigs...betcha Barry Goldwater got one, too! No they were a Navy contract that went to ships made at a Mississippi Gulf Coast yard. They were part of the original specs for this class of ship and so they were procured.

rom: trinit69@... (Tom Marcotte N5OFF)
Date: Fri Jan 16, 1998 3:34 pm
Subject: Re: [R-390] r=390a last production run

Interesting, but wrong. The rigs went to the Navy, LSD ships.

From: "Chuck Rippel" <crippel@...>
Date: Fri Jan 16, 1998 6:30 pm
Subject: Re: [R-390] r=390a last production run

I'd say the Amelco's were far and away the very worst. The workmanship I have seen is no where near the best which IMHO is the 1967 EAC's. I don't think a great lot about the Collins builds, either. Haven't seen one of the 5 Fowlers first hand but know one who has and they are not all that great. The Capeharts and Imperials were quite nice. I have the original

engineering specs and don't remember seeing a failure prediction. The Harris RF590 has one of 10K hours.

> Were modules all built to same print or were ECOs allowed as long as interchangeability was OK? Yes

From: trinit69@... (Tom Marcotte N50FF)
Date: Sat Jan 17, 1998 5:48 am
Subject: [R-390] All 390A's not created Equal

In speaking with a former EAC engineer, he said that they spent a considerable amount of money "redesigning" (his words) the R-390A assembly practices to allow wiring of the modules in the open, that is to say that the flanges on the boxes were not yet folded up, simplifying the assembly considerably. He commented that Collins had not designed the thing with mass production in mind in his opinion. If you examine a EAC IF next to a Collins, you'll see differences in the sheet metal folds. Apparently Radiomatt has never received a F on an engineering paper for jumping to conclusions (been there, never going back). Fowler actually produced the parts for the 1986 production run. Few people see as many R-390A's as Rick Mish. He rebuilt one of the Fowlers, and commented to me that the parts and assembly were different than he'd seen on any others. The xtals and caps were mostly 1986 (although the big caps in the audio module were older, like the '70's). The wiring was less than neat, and the wafers on the switches was thinner than other makes. The filters were late production Dittmore Freimuth. The pots were made in Mexico.

This was not a congressional conspiracy to get 390A's for Goldwater, it was plain and simple, the use of an old spec for LSD ships which had not been updated for modern use. The Navy later replaced all of the 390A's on these LSD ships with R-1051's and RF-590's.

From: Stanley Wilson <microres@...>
Date: Sat Jan 17, 1998 8:25 pm
Subject: Re: [R-390] All 390A's not created Equal

Well it been a few years since I have done any Mil Spec work, but if it was sold to the Navy all drawings for everything use to be available from a location in Phil, PA. This included the details. In addition the original fabrication shop of the part was also available. Be surprised at how many modern shops still have old tooling on the shelf. Everyone is afraid to throw away tooling. Navy has a lot of storage space. hi I use to work in a Navy Cal lab and we only took up about 10% of the building (1963). Some of the building had even less space being used. No one could throw anything away. Just buy more file cabinets. Late I worked in Aerospace. When we shipped something the paper (all drawings including the details

were shipped with the item. The paper took more room and crating than the product.

From: Michael Crestohl <mc@...>
Date: Mon Feb 9, 1998 3:38 pm
Subject: [R-390] R-390A Radios For Sale by George K1ANX

My friend George Rancourt, K1ANX has a big pile of R-390A receivers that came from the famous Saint Julian's Creek lot in VA. He is offering them to the BA and R-390 community at \$125.00 each or 5 for \$500.00 plus shipping. This may be a good opportunity to get another fixer-upper or parts unit. George told me that last year (1997) over 1000 R-390As were destroyed by the government at Tobyhanna Army Depot in PA. This is in line with their new policy of destroying communications equipment instead of selling it off as surplus. George also tells me that he is getting a computer "soon" and will be online shortly thereafter. He asked me to post the following: "I have a large quantity of R-390A rx's for sale. I will sell in lots of 5 or more at \$100 each. These rx's have all modules but no meters or top/bottom covers. They are not checked out as far as being operational."

Please call, thank you. George Rancourt K1ANX 413-527-4304
If interested please contact George directly, not me - I am only posting this for him.

From: Doug <doug@alpinet.net>
Subject: Re: [R-390] Heat build up in the R-390A

Will and the crew.....I can say from experience installing a couple hundred 390A's in rack cabinets that they were hot and hard on tubes and gear. It seemed the top receiver had the highest failure rate...and of course was the hottest. Each rcvr had the covers removed and IERC shields installed, which helped a bunch, but never did extend tube life to the point equal to the same tube run in the open air. We put dual blowers and filter downs in the first 4 rack units of each cabinet, and continued to replace them monthly as they filled up quickly. Each bay had 4 rcvrs and RTTY converters mounted. The converters put out more heat than it's companion rcvr, and one field change that was sent out to us was to rewire each converter power supply with teflon insulated conductors to reduce insulation failure due to heat. Cabinet mounting the R390A is a nice, clean way to have one on the operating bench. But, take into account the heat buildup and construct your enclosure accordingly, perhaps incorporating a couple muffin fans on the top or back to aid in air movement, along with removing both covers. In addition, don't hesitate to blow it out occasionally with a bit of canned air or a small compressor. One thing that did raise the ambient temp of an R390A was the "Solid State" mod for the

power supply, adding silicon diodes to replace the ever failing rectifier tubes. It DID save the rect tubes, but also raised the plate voltage on the rest of the receiver about 20 volts (the drop across each rectifier tube no longer in the circuit), increasing heat dissipation in all of the tubes, causing more heat related failures!

Date: Wed, 16 Sep 1998 20:19:39 EDT
From: Radiomatt@aol.com
Subject: [R-390] Torque value

What is not generally known is that during the Korean and Vietnam wars, radio operators developed a version of Carpal Tunnel Syndrome colloquially called "390 wrist", by field medics assigned to the Signal Corps.. The Surgeon General's office got involved, when the affliction gained pandemic status and forced Collins, as the prime contractor, to develop a program to reduce the torque needed to turn the KC knob.

NSA, CIA and all military units all were issued a dilution solution to free up the gears. If your 390 takes a lot of effort, it wasn't field repaired! One benefit was that the R389 had motorized tuning installed before going into production.

Even today, hundreds of lawsuits and medical disability claims are wending their way through the courts; Defense lawyers have been unable to answer the Plaintiff's contention that the only remaining suitable occupation for sufferers of "390 wrist" is driving a bus, (so long as it has an Automatic Transmission), and that sufferers are totally disabled. This, by the way, is the true reason for the destruction of R-390s by the military: liability. (Actually, there's a second possible area which is that the R-390s could be used to tune in Howard Stern, causing users to hyperventilate, leading to possible brain damage. (Actually not listening to Howard Stern, but tuning around the SW bands causes an identical affliction).

Medical researchers have found that tuning as little as 275 kHz PER DAY can cause permanent damage to the muscles and cartilages in the lower arm.

Date: Thu, 24 Dec 1998 15:12:17 +0000
From: Dave Rickmers <rickets@earthlink.net>
Subject: Re: [R-390] Pueblo Incident

About 10 years ago CSPAN visited the Pueblo (which is a North Korean National Monument). There were at least 4 (ea) R-390As racked-up in the radio room. The ship seemed to have been well maintained, at that time.

Date: Fri, 15 Oct 1999 12:26:49 -0400
From: "Chuck Rippel" <crippel@erols.com>
Subject: [R-390] Re: "Let the buyer beware"

IMHO the EAC's have the most utility because they are the most widely available, newest build. Yes the Dittmore-Freimuth (high serial number #250) and the newly discovered 1968 EAC contract (high serial number ~149) would be the exception but are not widely available. Keep in mind that EAC did a 1960 run also. I put those near the same category as the Motorolas. That said, I have seen some real junker EAC's and some very, very nice Capehart, Amelco and Imperial units. Here is a ranking based soely on my preferences. There are plenty of radios which break these rules so take it as very general.

Ranked in order of desireability for USERS, not collectors:

1968 Dittmore-Freimuth > 1968 EAC > 1967 EAC > Teledyne/Imperial
>Capeheart > Amelco > 1960 EAC > 1984 Fowler > Collins > Motorola

Date: Wed, 08 Sep 1999 09:16 -0700 (PDT)
From: rlruszkowski@west.raytheon.com
Subject: [R-390] Rework Contracts

There is money in rework. (Howard Hughes, Hughes Aircraft Company).

From time to time guys come along with good ideas. The implementation of the idea is to big to install as a field mod kit. So off it goes to the low bidder. Some places specialize in the rework. The process off tearing one down and doing a complete over haul and installing the changes is not the same process as running a new one down the assembly line. So the folks who do the original build are not always the folks who do these rebuilds. Some rebuilds were just to replace things that failed early in life.

From time to time we techs would drop a R390 in the Teletype de-greaser to clean it up. OK today but it kills the wire harness over time. A rebuild would be to take a lot of these receivers collecting in a depot, and have them rebuilt to replace the harness and things trashed by the de-greaser. It recovered a lot of receivers at less cost than a new production order.

Navy ship board systems really catch hell from the salt. Hughes Aircraft did lots of these reworks in the 80's early 90's on systems for the Navy. The guys in the field (aboard ship) just do not have the resources to do a rework to clean out the salt and repair things. So the systems were sent to a contract factory and re-worked. Again on a bit contract.

A few spare sets were re-worked and then cycled through all the systems

to be re-worked. Part of the contract is the logistics of swapping all the units out. Sure I'll meet this crate on a dock "where" and do a ship board swap. Drop the old unit back in the crate and get it shipped back to the factory. Also help the guys getting the re-worked unit to get it installed and on line. A long one here on re-work

Date: Tue, 30 Nov 1999 12:11:54 -0800 (PST)
From: Tom Marcotte <courir26@yahoo.com>
Subject: Re: [R-390] Dittmore-Freimuth EAC Question...

The Dittmore-Freimuth radios were all made by (GASP!) EAC.

I was lucky enough to buy a cherry 390A from the former chairman of EAC, Robert Edwards. The rig was presented to him by the company employees, and has a special brass presentation nameplate. The rig was immaculate, and came with two sets of spare parts marked with the Dittmore-Friemuth contract number. I've known folks who had DM tagged radios that said all modules were EAC.

Conclusion, DM did not make any 390A's. They did however make telephone gear, and mechanical filters. They were based in Milwaukee.

While I'm digressing, EAC made all sorts of stuff prior to 390A's, including recorders for the first U-2, radar altimeters for Navy helos (spacecraft recovery helos specifically), bottling equipment, and parimutual betting calculators for racetracks.

EAC Industries is still in operation making plastic labeling, but the old radio EAC remnants are now owned by Cardwell Condensor (which also owns nearly all of the old boatanchor company rights. If you can name a BA company, Norman likely owns it).

Date: Tue, 30 Nov 1999 13:14 -0800 (PST)
From: rlruszkowski@west.raytheon.com
Subject: Re:[R-390] Dittmore-Freimuth EAC Question...

The 12-68 is accepted as a month year stamp. so December 68 This date style is used on Mil stuff for shelf life control. It also goes with lot numbers. As yours is marked 12-68 it was likely kit'ed in December 68.

Because your R390A has a 67 EAC contract number it does not mean it was built in 67 or 68 or 69 or 70. In 67, EAC won a contact to build and deliver some number of units. The period of performance may have been as long as 5 years to get the last one delivered. The first unit delivered under the contract may have not been delivered for as long as 3 years after award of contract. There is all the first article testing and proof of

performance and quality conformance. Interchangeability of parts into other units from other contracts testing. Lead time to have parts (coil forms, gears, slugs) manufactured prior to assembly of the receiver. Your 67 EAC is tagged with that contract number because that is the contract it was built for. The many parts were likely done in batches and delivered as monthly lots. The sub contract for a part will say deliver 10,000 production parts at 500 per month for 20 months to start with a delivery month some where after acceptance of first articles and pre-production test on the parts. Send us some samples to see if you are doing it right. When we get the bugs worked out then you must supply these at a build rate. One sub contractor may get a gear approved in a month and then not deliver production for two more years until EAC get every last one of the parts inspected and qualified and is then ready to start actual production. The gear guy may have built his gears any day in this period and boxed them to be delivered in monthly lots as contracted for. The date on a part reflects the actual time frame the part was accepted by the Quality Guy. You can look at the conformal coating on some metal cans and see the part number was stamped on, the coating applied, and then the data and or QA stamps were applied after the coating.

There may have been as many as 25 build benches operating. so you would get 50 receivers assembled in an 8 hour day. Maybe a 100 if you had two shifts going. 200 working days a year yields 10,000 receivers built a year. These would be big numbers it was more likely 5000 built a year. Some of the guys keeping track of serial numbers can give us a good idea as to how many were built per year on some of the contracts.

I hope this give you some insight into the military build process and some of the dates you see on military stuff.

Date: Tue, 30 Nov 1999 16:55 -0800 (PST)
From: rlruszkowski@west.raytheon.com
Subject: [R-390] Dittmore-Freimuth EAC Question Contract Mods

Hi Roger... that the kind of info I was looking for....thanks... I only wish there was a publically availble list of Q.C. records so we could find out when they were made and who they were delivered to... I have see "Electron Bule" 390 not "A"s that were Canadian Issues to the RCAF, hence the Blue front panels and the Grey Blue side panels...I regret ever selling my old one... glad I found a couple of them not to far away... 73 de Jordan...

I've known folks who had DM tagged radios that said all modules were EAC. Conclusion, DM did not make any 390A's. They did however make telephone gear, and mechanical filters. They were based in Milwaukee. While I'm digressing, EAC made all sorts of stuff prior to 390A's, including recorders for the first U-2, radar altimeters for Navy helos (spacecraft

recovery helos specifically), bottling equipment, and parimutual betting calculators for racetracks. EAC Industries is still in operation making plastic labeling, but the old radio EAC remnants are now owned by Cardwell Condensor (which also owns nearly all of the old boatanchor company rights. If you can name a BA company, Norman likely owns it). 73 N5OFF

OK there are contract mods to deal with. And there are contractors and sub contractors to deal with. R390A's OK you want some more just like those. This is a manufacturing problem not an engineering problem. Collins designs very good communications equipment. The Collins production facility is running full two shift production building the current contract stuff. so you ask Collins to build you some more things in the next 3 years. Collins says we are at full capacity for the next 3 years. Why should Collins commit to an expansion to handle a contract? What will they do with the folks in three years? Do you have any follow on work for them? Sorry we are not those kind of people. So... the military turns to some one who is those kinds of people. Who will bid to manufacture some more R390/A's. This is just a fabrication job. Every part is known and qualified. We have the plan and drawings. You could even assemble 20 or so from spare depot parts.

Now its a logistics issue. Where do we get all the parts to put these things together? EAC Industries has make a living for a lot of folks doing these second source follow on builds for all kinds of items. I do not know the order in which Dittmore-Freimuth or EAC became involved. Even if you have a module marked EAC you do know if it was built by EAC themselves or if it was subcontracted and really assembled by some job shop.

Dittmore-Freimuth had a contract with the Government. Sir, We will deliver to you exactly XXX R390/A just like these papers say to you not later than the date of WWW for the dollar amount of SSS to be paid DD percent now and the balance on delivery. Dittmore-Freimuth will kick ass and take names. Dittmore-Freimuth will do what ever is needed to make R390/A's come into reality. Easy parts, go over to Ohmite and buy some brown devils. Go over to Sprague and buy some orange drops. Go where you can and buy the parts that meet Government specs. You make a 7 pin tube socket part number 5960-385-1467, I'll buy XXX times 16 from you. Do you do the 9 pin sockets also? Then you go to the harder parts. EAC you use to put these subassemblies together, do you want to do XXX more for me. Then you work on the harder parts. Will the metal fab place that did the last production run do some more for us? If not who will? When you solve all the parts logistics then you can go to work on the assembly bench. Have a subassembly built and quality sign off from the government. The IF deck is a given. EAC is doing it just like the ones they did on a previous contract. These are more of the same so accept them. Maybe the

wire harness turns into an issue. maybe a connector turns up as a problem?

Dittmore-Freimuth get done doing the build. The military comes along 5 years later and say's hay guys do you want to make some more for us? Dittmore-Freimuth says after the Bull and run around on the last lot we do not want any thing to do with you. The Military says OK any one in the US want a contract to build R390/A's. Some one took up the task to build more R390/A's. At the last try, some one did 5 receivers as a test feasibility study and when they turned in the bill to the Military the military elected to never have any more produced. The parts had been out of production so long and the need to make them exact interchangeable copies was costing so much against the production quantity of 2000 that it was not even in the Army's budget to get a production lot built. In one of the last big builds in the 60's while I was in service some one did a big spare part build of the gears and other long life hardware items on their own as part of a contract they had to build R390/A. After that every time spares were needed for logistics these guys offered them off the shelf to the Government at cost plus a percentage return on investment. No one could build a new one today for less than the old stock. New Old Stock (NOS) parts with 68 Or 69 stock dates still abound for the R390/A's.

Oh where Oh where did they go. We will never know a lot of them went classified to the Army Security Agency (ASA) Navy, Air Force and Marine secret intercept sites. English, French and German's had sites equipped with the receivers. A good many were assigned to the Signal Corps. These things were acquired and delivered to a logistics depot. The depot was required to keep some number on hand. If the quantity went under this number the command reported that more were needed. Next year some money was allocated in the defense budget and some more were ordered. Some year latter new receivers started to show up at the depot and were properly put on a shelf. Some days paper would arrive at the depot with instructions to ship some receivers some where. Some days used receivers would show up at the depot and be serviced and put back on the shelf. Used stuff was always shipped before new stuff. One day some one in the Pentagon would say let there be a new military unit of such size and locate them there. Make sure they get provisioned and paid. Some clerk would look at Table Of Equipment (TOE) for the unit. A'ha they get 100 men, a mess hall, 6 trucks, 3 jeeps and 15 R390/A's with spares. That's it, Depot send that new unit 15 R390's pronto. When some one ordered a unit to stand down and end its existence. The property book officer of the unit made sure every thing on the TOE was disposed of in accordance with his orders. Turn it over to a host government, send it back to the depot. Sir, we are the last 6 men here, every thing has been turned over as required. Very good sir, you and your 4 men are relieved of duty, thank you for a job well done. sign here. you are on leave until 15 days. here are your travel orders

to your next duty station. Exchange salutes and the Ranking Officer walks away and delivers the last morning report for the unit to the proper military historian. So we never know who had what or where it served. We get some clues from the graffiti and stories that come with our receivers. We need to hang on to this stuff. You ever try to run an Army with out copy machines and computers? The details we think of were just never keep. Who cares where it came from or where it went. Most GI's just wanted it to work, their end of a duty day if not their lives were depending on it.

Date: Fri, 21 Jan 2000 14:40 -0800 (PST)
From: rlruszkowski@west.raytheon.com
Subject: Re:[R-390] 390A ID

I think you have EAC 67. Because those are the date codes on your modules. I hope your name plate is EAC. As for having a mongrel, read some of the other threads going on Fair Radio. Sh-- Ma--- its a 67, Over 33 years old and you not only want the original engine and new smell but all the knobs to boot. Back in 68-75 when we got a receiver on the bench we did a band spread check. If the spread was under 1Kz it was OK. If the spread was more you could spend 15 - 30 minutes with it trying to adjust the spread back into the 1Khz limit. Hey, we were on a PM schedule and most of the techs not only hated the Army but hated working as well. So. If 2 or three shots at tweaking the spread did not fix a PTO you did a swap with the supply room and went on with life. The swapped out PTOs when to Depot and some one with more care (old civilian needing a pay check) would just take the time to tweak the PTOs back into line. The "Fixed" PTOs were then put back into the supply system. I never seen a PTO (they were only 12 years or less old back then) that could not be adjusted into good alignment. I saw only one PTO that was not repairable. It did not oscillate and we did not have a clue after we opened it up and checked it out. We think one of the Caps in a block of caps inside went way out of range. It was not ohm meter open or short and that was all we had for test equipment. So you own a wonderful R390 /A of 67 vintage with a swapped in Collins PTO. I do not understand where the stamps are you listed. On the PTO? On the inside of the front panel? On the outside of the front panel? Inside the dial glass bezel? Do these look like a rubber letter stamp and black paint where each letter is mounted into a movable letter stamp? Or do they look very neat like an engraved molded one part stamp like the part numbers on the sub chassis? Ugliest are changes done at depot or field. Very nice is factory mod before it went out the door.

So is mod 11 against the PTO or against the receiver? the location of the number determines this. Carl listed a FSN. Is that the R390/A FSN?

Date: Sat, 26 Feb 2000 10:26:13 -0800

From: David Ross <ross@hypertools.com>
Subject: Re: [R-390] NTIS / Navy Publishing

>I did some more digging and found out that the Air Force also used R-1051's. I called around and found that the manuals were available but they couldn't sell me one. Sucks, huh?

There's a way around that "WE HAVE 'EM BUT CAN'T SELL 'EM TO YOU" line... You need to qualify yourself to receive 'militarily critical data'. If you live in the U.S. or in Canada then you can do it like this:

1. Call 1-800/352-3572 and ask for a FORM DD2345 application. They'll mail it out to you.
2. Fill it out & mail it back to them. It asks about your citizenship status and also about why you want the data. (A friend did this and told them he needed the data in order to pursue his hobby of working on & operating old military radios - he got it with no further questions asked.)
3. If they like you, they'll send back an original FORM DD2345 which is signed by some U.S. authority and also by some Canadian authority. Keep the original on file.
4. When you get hit with the "CAN'T SELL IT TO YOU" line, offer to send them a signed & dated photocopy of your DD2345 form.
5. It'll expire in five years, but is simple to renew. I've renewed mine twice.

Often, the DD2345 form will break through these beanbrained bureaucratic logjams for the simple reason that it gives the book/manual people a bolthole - a way to point the finger at someone else in case they are called on the carpet later for selling something as vital to National Security interests as an R-1051 manual to an ordinary U.S. taxpayer...

Nolan has already done the hard part - finding that one federal bureaucrat who'll admit to having the manuals in stock at his facility. Flash the DD2345 at the fellow and it will hopefully open a few doors...

I've used my DD2345 several times. The first was when I bought a complete set of TSC-15 books from McClellan AFB - amounted to a 6" stack of paper, cost about \$180, and most all the title pages were stamped in nice red ink with "NOT FOR EXPORT" and a lot of other scary verbiage. (As expected, about two years later I found as many TSC-15 manuals as I wanted at a Sacramento scrapyard.

Sunshine Metals had bought 53 TSC-15s from McClellan AFB and since

paper has a negligible scrap value they just gave me the books. Most of the TSC-15s went off to smelters in the Orient, but the manuals weren't considered worth the cost of shipping...) good luck Dave Ross
N7EPI ross@hypertools.com

Date: Sat, 26 Feb 2000 14:35:57 -0600
From: Nolan Lee <nlee@gs.verio.net>
Subject: Re: [R-390] NTIS / Navy Publishing

Actually, there are several that I won't go into. Some are a little off the wall but have worked for me very well in the past resulting in usually free manuals sometimes sent along with thank you notes or comments like "feel free to contact me again....", etc. With the 500+ subscribers to the list using them, they wouldn't work very long and I intend to save these methods for manuals that I've exhausted all other methods of obtaining and really have a need for.

>Nolan has already done the hard part - finding that one federal
>bureaucrat who'll admit to having the manuals in stock at his facility.

You're right, it's hard as hell to find out who has what, especially among the different branches. NEVER tell the branch that you're dealing with that the manual was also used by another branch. They're use that as an easy out and tell you that you'll have to contact the other branch about the manual. I've had mediocre luck with the "I've exhausted all other leads and YOU are my last hope." line. You can easily run up some serious long distance charges making these calls trying to track down manuals and locations. I probably ran up thirty or forty dollars worth of the calls tracking down the AF R-1051 manual but I got what I was looking for. I've struck out a number of times too. ;-(

I've also had a lot better luck with telephone calls than I have attempting to track stuff down via email. Fax's seem to work pretty good. Prepare your fax in advance with the information on what you're looking for and make your initial voice call to the location and get the name/fax of the person that you need to deal with. Then fax the info to them and buzz them back. It's a lot easier and there's less chance of them writing down and searching for the wrong thing w3hich I've had happen more times than I care to remember.

Date: Tue, 7 Mar 2000 12:36:56 +0200
From: =?iso-8859-1?Q?H=E4m=E4l=E4inen_Yrj=F6?=<yrjo.hamalainen@thk.fi>
Subject: RE: [R-390] Close spaced signal dynamic range

If you read the Collins reports, especially the Report on cost reduction

programme <http://www.mindspring.com/~tirevold/faq-collins-cost.pdf>, which lead to a model R-390a, the cross modulation spec for the R-390a was noted to be something that was proposed to be "further improved".

From the report, chapter 2.3.15: "Field tests by SCEL engineers on current R-390 receivers revealed that cross modulation is a problem in the presence of strong interfering signals".

"Late tests show that cross modulation is largely confined to the first IF tube at medium high levels (.05-.2 volts input) and the RF amplifier at levels above this".

At the end of the Report it was concluded: "Since cross modulation is becoming of greater concern, further work might be desirable to find means for its reduction, particularly at strong undesired signal inputs."

You can notice that from the last quotation that cross modulation was not such an priority #1 topic at that time as it seems to be today. Of course it was noted and efforts were made by Collins to improve the situation. Like the change of RF tube to recently introduced 6DC6 which improved the situation. And it seems that what was achieved was the best reasonable compromise with that era technology.

Date: Wed, 15 Mar 2000 18:55:52 -0500
From: "Tetrode" <tetrode@sprynet.com>
Subject: [R-390] R391 RCA mystery mod

Want to thank all who responded to my 391 post so far. Lew, W1GXT pointed me in the direction of some archived pre-R390 reflector material from the Boatanchors list that Jan Skirrow has archived on his site. The R-390 threads are at the links below and are excellent reading if you haven't done so yet

http://www.skirrow.org/Boatanchors/r390_thread_1.htm
http://www.skirrow.org/Boatanchors/r390_thread_2.htm

I clipped out the messages from thread 1 regarding the R-391 RCA mod and info related to the AN/FLR-7 DF system it was designed to be used in and included them below for those interested in the information. Maybe it'll jog some memories and shed more light on the subject or create some interest in restoring these receivers. Besides, there's new list members around now (like me) who weren't on line back in 95 and 96. It makes for a long post-hope nobody minds, but there's been very little list traffic lately so I figured Majordomo wouldn't mind pushing around a few extra bits. Hopefully the email won't chew it up too badly. John, KA1XC

*****text follows*****

Subject: Unusual R390/R-391/URR etc. Tue Feb 13 07:54:42 1996

Thought I might shed a little light on the subject of unusual R-390's and their uses. When I was stationed with the U.S. Army Security Agency in Udorn, Thailand my job was autotune op. In this position we had two receivers, A and B (R-390's). When we received a tip off from the O5H's (morse code copiers) we would find the guy and take a DF shot on him. The receivers in the outstations (4 or 5) would autotune up to where we set our receiver(s) so they would be approximately on the same frequency (plus or minus a KC or so). Then they would take the DF shot and forward the information back to us in operations. Even back in the 1970/'71 days it was amazing how fast we could fix someone.

Of course to do this the receivers had motors in them connected to the tuning mechanism. Not being a receiver tech at the time I don't know how they worked exactly. I don't know what the difference between the AN/FR-7 and the AN/FLLR-9 is. Perhaps they are just different versions of the same antenna.

If memory serves me correctly the AN/FLLR-7 was the smaller 'portable' version of the doppler DF'ing setup that we used in SE Asia. It had 26 or so verticals in a circle with the shack in the middle where we had our operating positions. R-390's, DF scope, etc. The antennas were sampled at several thousand times a minute and a station's signal formed a half propeller pattern on the screen of the scope showing the direction it was coming from. The whole setup covered a circle of about 100 feet with the antennas only about 20 feet tall. In school at Ft. Devens we were given handouts explaining the parts of the system and they weren't classified so this description while vague shouldn't be a problem.

The AN/FLLR-9 setup as described by one of the people on the group was a huge affair. One of them had been in construction in Udorn for over a year when I left in June 1971. There were supposed to be several around the world in Germany, Phillipines, England and several other places. I never did get to see the inside of one but I did meet some of the guys that went TDY all over the place setting them up and they could tell some stories. They formed a circle about 500 feet in diameter as I recall and had 3 rows of verticals around them plus the inner reflector screen as I recall. The tallest verticals were about 100 feet. A lot of money wasted IF they pulled out of Thailand like we heard later.

Subject: Unusual r-391 receiver Mon Feb 12 09:27:17 1996

I suspect the receiver was part of the world-wide hfd network run by the Navy to triangulate ship positions based on hf transmissions. It is a fascinating system of which very little is written. Much remains classified.

Mike michael@kc2kj.k2nesoft.com

Subject: Unusual R-391, FLLR 7/9 Antennas Tue Feb 13 07:55:00 1996

The big concentric antenna arrays used in the FLR 7 and FLR 9 are technically known as Woolenweber Arrays. Their principle of operation is described in Jasik's "Antenna Handbook" for those antenna nuts among us. I have a friend who was in the Army Security Agency in Thailand assigned to one of these sites. He alternately called it a "Flare 9" or "Glare 9". His specialty was the repair of R-390A receivers used at the site. Evidently the antenna array could be used in several modes. With proper capacitive coupling to each (amplified) antenna output, a unidirectional pattern could be obtained. A pseudo-Doppler method was also available for more precise direction finding. A large number of receivers could be used simultaneously and the antenna switching system used a (relatively) modern computer system to do the switching and phasing. However, good old R-390A receivers were the preferred receiver for their reliability and minimal phase noise. Constant scanning up and down bands did cause premature wear of the R-390A RF deck "watchmaker's nightmare". My friend said similar sites were located in England, Germany, Turkey, and elsewhere. Never one to like the radio intercept operators, he called them "ditty-bops". He said it was not uncommon for these poor fellows to go "looney" after an extended shift of monitoring Chinese CW stations. 73, Barry WA4VZQ
ornitz@eastman.com

Subject: Unusual R-391, FLR 7/9 Antennas Tue Feb 13 07:55:13 1996

Doesn't the FCC use Wolenweber (sp?) antennas for their DF'ing? I've called them on several occasions and heard the op do the DF bit over the phone. It sounds like a "whirring" sound, like an electrically steered array of some kind.

E-mail broehrig@admin.aurora.edu 73 de Bob, K9EUI

Subject: Unusual R-391/URR Receiver Mon Feb 12 09:27:07 1996

If I remember correctly, the FLR-7 is the nomenclature for the huge elephant cage HF direction finders used by the NSA and their military adjunct groups for HF monitoring from their various world wide HF monitoring sites. Most are run by the Naval Security Group (NSG) I believe. These are the big circular concentric rings of many tens of tall monopole antennas over a ground screen that occupy several acres. Your R-391 was modified for use with those direction finding arrays, which use a phase sensing doppler mode that requires controlled phase characteristics over the IF bandpass. For this reason R-390A's were not used, as they have mechanical filters which have complex group delay versus frequency curves and a tendency to ring. Simple stagger tuned IFs have much more linear group delay versus frequency and no tendency to ring. The absence of a bandwidth knob suggests that the IF bandwidth was optimized for some one kind of signal - I'd be curious to know what the actual IF bandpass curve is for that radio. My guess is that it would be optimized for

CW ...

Dave Emery N1PRE

die@die.com

Subject: Unusual R-391/URR Receiver Mon Feb 12 09:27:32 1996

Dave, Your response triggered a faint memory. I have a book that describes the antenna you mention, and even has a picture of it at a monitoring post in England. The nomenclature shown in this book is AN/FLR-9. The book also describes that these were indeed used with R390s, but it doesn't specifically mention an R391. I don't know what the difference between the AN/FLR-7 and the AN/FLR-9 is. Perhaps they are just different versions of the same antenna. I am wondering, though, why this radio was modified for the Navy, when it seems like the system used with the AN/FLR-9/7 antenna would definitely be land based. I need to post a description of this book on the boatanchors list one of these days as well. It is written by a former US Air Force Signals Intelligence Officer and describes his tours of duty at RAF Chicksands in England.

Dennis Gibbs dgibbs@rational.com

Subject: Unusual R-391/URR Receiver Mon Feb 12 09:27:37 1996

Same here. I'd forgotten all about the "dinosaur cage" located near NMO (Coast Guard Radio Honolulu). NMO was on the Navy's NAVCAMSEASTPAC (what a mouthful!), and I always thought that the directional antenna control located below each Collins 651S rcvr (we had about 2 dozen of 'em) was connected to that DF cage. Each control was a dozen-position rotary switch.

>From memory, the cage must have had a radius of *at least* 40 yards, and certainly would have held captive the largest dinosaur or elephant. (Note I said radius, not diameter!) NAVCAMSEASTPAC was located in Whitmore Village, just north of Wahiawa and Wheeler AFB, and just east of Schofield Barracks, smack dab in the middle of the pineapple fields.

Jeff NH6IL (NMO CW op '77 to '80)

Subject: Unusual R-391/URR Receiver Sun Feb 11 11:56:51 1996

Greetings all, I've been meaning to post something about this to the group for a long time. I picked up an R-391/URR receiver about 1.5 years ago that seems to be unusual. I am curious if anyone out there has seen another R-391 like this, or perhaps may be familiar with this particular version. The front panel of this rig has an additional decal, about 1.5 inches square, immediately below the function switch. It reads:

R-391/URR (MOD) RECEIVER, RADIO

A unit of direction finder set AN/FRA-44 (XN-1)

Counter Measures Receiving Set AN/FLR-7(XN-1)

Modified For Navy Department - Bureau of Ships by contractor Radio Corporation of America Camden N.J. contract NObsr 81315 U.S.

On the front panel of this receiver, there is a small metal plate that covers the hole where the bandwidth switch should be. In other words, the bandwidth switch has been removed. On the IF Deck, there is NO shaft coming out of the chassis where the bandwidth control would be. There is just a hole there. In addition, the IF transformer covers on the IF deck look different, and in fact, have the name "RCA" and a part number on the sides. It definitely appears that the IF Deck was modified by RCA. The rest of the receiver appears to be normal, just like any other R-389/R390/R391. Does anyone else out there have an R-391 modified like this? Does anyone know the story behind this unit? Dennis Gibbs dgibbs@rational.com

Subject: Weird 391 Mon Feb 12 09:27:53 1996

The R-725 was the R-390A with the R390 IF strip used by NSA in the TRD15 and 23 systems. As mentioned, they used 8-10 of these receivers and a circle of receiving antennas 150' in diameter and a device called a goinometer? (I think that's right) to sequentially rotate the "antenna farm" to feed it into a truckload of additional equipment from scopes to amplifiers and a transmitter. This allowed the doppler effect to then give a line of bearing for DF Work.

It would sound as if the mentioned 391 had a similar purpose. However, the autotune 390 version creates more questions. Maybe NSA didn't mean to get rid of this one and it slipped away! (Maybe from the Ft. Meade skunk works?) Definitely WEIRD!

73's Dave

metzd@cfw.com

*****end of text*****

Date: Wed, 22 Mar 2000 12:41 -0800 (PST)
From: rlruszkowski@west.raytheon.com
Subject: [R-390] What is MWO-11-5820-294-35/2?

>Does anyone out there in '390A land know what the subject MWO is comprised of and what it >does?

MWO is a Modification Work Order.

11-5820 is a electron tube device (Radio)
11-5820-294 may be a version of the R390 or R390/A manual.
11-5820-294-35 tells us its a 3 to 5 level maintenance manual
11-5820-294-35/2 tells us its the second change against the unit.

(a) Undergoing scheduled repair for stock.

(b) Subject to other work orders that require application prior to issue.

c. Applied By. Field Radio Repairman or equivalent maintenance personnel.

PARAGRAPH 3. Purpose of Modification> To eliminate continuous radiation at 340 mc as a result of parasitic oscillations, by connection the suppressor grid to the cathode of the local audio output tube V603.

PARAGRAPH 10. Modification Procedure.

a. Radio Receiver R-390/URR.

(6) Unsolder and remove the jumper lead connected between pin 2 and ground of tube socket XV603.

(7) Connect and solder a suitable length No. 22 AWG solid wire between pins 2 and 7 of tube socket XV603.

b. Radio Receiver R-390A/URR.

(4) Unsolder and remove the jumper lead connected between pin 2 and 4 of tube socket XV603.

(5) Connect and solder a suitable length No. 22 AWG solid wire between pins 2 and 7 of tube socket XV603.

11. Recording the Modification. Ink or paint "MWO 11-5820-294-35/2" near the nomenclature plate on the front panel of each modified receiver. When modified equipment is packed or crated, clearly mark "MWO 11-5820-294-35/2" on the exterior of the case in a similar manner.

Date: Thu, 23 Mar 2000 00:59:02 -0500
From: "Richard A. (Tony) Stalls" <bc348@sprintmail.com>
Subject: Re: [R-390] What is MWO-11-5820-294-35/2?

I was assigned to both depot (Tooele Army Depot) and as field maintenance unit commander where we installed lots of MWO's ("Modification Work Order"). From a practical sense, nobody installing them thought much about what the numbers meant, but it was covered in the supply and maintenance courses we all took.

Now the disclaimer. It has been almost 35 years since I learned about the MWO system in the Army and my recollection isn't infallible, but I'll try to

explain what I can remember from the way it was done in the mid-1960's, back when the R-390A was a first-line issue item.

At 3/22/2000 12:41 PM -0800, rlruszkowski@west.raytheon.com wrote:

>MWO is a Modification Work Order.

>

>11-5820 is a electron tube device (Radio)

>11-5820-294 may be a version of the R390 or R390/A manual.

>11-5820-294-35 tells us its a 3 to 5 level maintenance manual

>11-5820-294-35/2 tells us its the second change against the unit.

That's a pretty good analysis, but you're forgetting that we're talking about the Army here and applying what seems logical doesn't always work. <g> MWO numbers don't relate to manuals, or at least they didn't back then. The MWO-11-5820-294-35/2 breaks down something like this:

11 = Signal Corps

5820 = Federal Stock Classification (FSC)

294-35/2 = The MWO number in that FSC series. The "/2" is probably an update or addendum.

MWO's were published in Department of the Army Pamphlets, and according to my R-390A's "35" (Field through Depot) maintenance manual, they were in DA Pamphlets 310-4 and 310-7.

The MWO's were ordered through the Army Supply System as kits and were generally installed at the field maintenance (4th echelon) level. "Factory MWO's," is not a term I recall ever having heard before, but when the item was returned for depot maintenance, that included assuring that all current MWO's were installed, but there were no MWO numbers stenciled or decaled on the outside of the case like they were in the field.

Again, it has been a long time, but I would think that if there was a modification that was beyond the Field Maintenance capability, the units would probably have been turned in and an updated replacement issued, or perhaps exchanged.

Field Maintenance technicians ("Specialists") were highly trained in the equipment they worked on. My unit was direct support for the non-explosive components of the HAWK Air Defense Guided Missile System (made by Raytheon BTW.) Our guys where were all very competent and I'm sure that their Signal Corps counterparts were just as well trained and competent, so they wouldn't have a problem installing trimmer caps and fuse holders.

Remember that this was during a time when being an Army electronics

technician meant knowing how to lace cables and solder wires with a soldering iron. Recall also that MWO's came as kits, not unlike Heathkits, and most anybody that could read could install most of them.

I'd say that the next step in finding out what this is to query the NTIS to see if DA Pam 310-4 and DA Pam 310-7 are available.

Richard A. Stalls
CPT, Ordnance Corps (1964-1967)
(AKA: Tony, K4KYO)

Date: Tue, 4 Apr 2000 21:25:16 -0400
From: "GSURPLUS" <gsurplus@rochester.rr.com>
Subject: [R-390] R-1247

I have a R-1247. It looks just like a 390A. I wonder if anyone could explain where this radio fits in. Made by Manson Labs it says. Does this have crystal filters ? I notice that there is no squelch position on the power switch. Thanks for any ideas

Date: Tue, 4 Apr 2000 22:54:42 -0400
From: "WF2U" <wf2u@qsl.net>
Subject: RE: [R-390] R-1247

It IS an R-390A, modified by Manson Labs. The receiver was modified to accept an external frequency synthesizer (there should be a couple of sealed relays where the local oscillators connect to the mixers and extra connectors to feed the synthesizers into the mixers.) Provided the relays are still there, you don't have to reconnect the oscillators to the mixers. The default position is internal LO's. Manson Labs made the synthesizers, and the entire system was a double-diversity system, even the transmitters (modified T-368's) were locked into the same time base on the synthesizers.

Date: Fri, 12 May 2000 15:18:39 -0400
From: tbigelow@pop.state.vt.us (Todd Bigelow - PS)
Subject: Re: [R-390] Rear serial number findings

Not all or most receivers had serial numbers stamped on the back. Some of the contracts were subcontracted. The "vendors" provided back side numbers for inventory control. When a government guy set the receiver up on a bench and did an acceptance test on it and "received" it as government property then it got a tag to indicate it was delivered against the contract and the manufacture could invoice the government for payment. The tags may have went on at any point in the assembly process. But it became "tagged" equipment when the inspector blessed it. The numbers on the back

may have been inspector blessing marks. The numbers on the back may have been accepting stamps at the receiving depot. The numbers may have been subcontractor to contractor inventory control. Some times the numbers matched some time they did not. We always used the front tag number for property control within ASA from 68 to 76 and I had bunches of these receivers at several locations around the world. And I knew of a lot more that were not mine to worry about. You ask about stick on labels. Son, the military did not have stick on back then why even band aids were not military back then. The only tape we had was red. We did use labels on the back for control but these were not serial numbers. You just have a receiver from a contract that did get back chassis stamps.

Roger KC6TRU San Diego

Date: Tue, 27 Oct 1998 07:18:26 -0700
From: "Eustaquio, Cal J" <cal.j.eustaquio@lmco.com>
Subject: [R-390] PMS cards

Please, no sexual jokes here! The abbreviation doesn't have anything to do with female biology. What "PMS" means here is Preventive Maintenance Service. Several years ago, we had an R-390 aboard my ship that was used to monitor the International Distress Freq. Occasionally, we had to do PMS servicing on the radio. If anyone has a copy of this card, I would like a copy. Thanks. Cal.

Date: Tue, 27 Oct 1998 08:35:30 -0700
From: "Eustaquio, Cal J" <cal.j.eustaquio@lmco.com>
Subject: RE: [R-390] PMS cards

It's interesting to compare notes to see how the individual services treated their respective maintenance systems. That system you described sounds pretty much typical Army. We use the Red/Green/Amber status to describe readiness condition of our tanks, fuel, ammo, etc. Probably this is the same for the Signal Corps. In the Navy, the PMS cards were governed by a higher shore activity known as NAVELEX (or Naval Electronics). Later, the organization changed to COMNAVSPAWAR (or something like that). So far, that was the Army/Navy/Marine Corps perspective on the subject (the latter two are part of the Dept of the Navy). It would be interesting to find out how other organizations would treat their preventative maintenance systems.

Back to the PM system in the Navy. I remember that maintenance would take place on a quarterly cycle with certain pieces of gear that needed to be check on. For example, if you needed to inspect for dust/dirt and otherwise in the R-390, there would be a card marked "M-1" to indicate that this check would take place on a monthly basis. The card would instruct the technician to complete the check according to the directions of the card. If

the technician did not do the correct work, or use unauthorized cleaning materials, procedures, or whatever, it could mean a slap on the wrist, an Article 15 (or Captain's mast), or worst, Court Martial, fines, and jail time if the consequences were really bad. So, anyone do their PMS lately (ahem, you know what I'm talking about). Cal.

Date: Tue, 27 Oct 1998 10:06:30 -0600
From: "clarence" <clarence@kilgore.net>
Subject: Re: [R-390] PMS cards

Ah yes the PMS hated by myself and others since i was in the "M" Division, some one had all this figured out this in a nice Lab some were on a nice cool work bench etc etc, and some of the non technical folks were unable to understand why we were not able to it by the book all of the time, but of course this was before the surface warfare requirements for all officers.BTW

i was the PMS coordinator for my division my last job for I said goodbye.

Date: Tue, 27 Oct 1998 11:22:50 EST
From: JCStott@aol.com
Subject: Re: [R-390] PMS cards

The Preventive Maintenance Work Cards for the R-390/URR and R-390A/URR is the T.O. 31R1-2URR-286WC-1. There is a 28 day inspection, 84 day inspection and 168 day lubrication cycle outlined.

Date: Tue, 27 Oct 1998 12:35:36 -0500
From: Will Schendel <n8azw@concentric.net>
Subject: Re: [R-390] PMS cards

It would be interesting to me and possibly others, what the 28 and 84 day inspections consisted of. The lubrication cycle seems self explanatory. Also, were these PM routines intended for receivers used on a 7/24 schedule?

Date: Tue, 27 Oct 1998 13:24:29 EST
From: JCStott@aol.com
Subject: Re: [R-390] PMS cards

The best that I can remember is as follows:

28 Day Inspection -- Was a Noise Figure Test at several spot frequencies using a Noise Figure Meter, Microwattmeter and RF Detector.

84 Day Inspection -- Was an Operational & Performance Check of all controls and functions.

As far as a 7/24 type schedule this applied to anything in active usage. Different services and agencies may have had different procedures. I will see if I can find one and get it scanned, but don't hold your breath. My resources aren't any better than yours.

Date: Tue, 27 Oct 1998 14:36:07 -0700
From: "Eustaquio, Cal J" <cal.j.eustaquio@lmco.com>
Subject: RE: [R-390] PMS cards

Several members of the net expressed interest in determining what the PMS cards contained. I'm sure that this will be found out via John and maybe other resources. Now comes the question: does anyone actually plan to follow a guide (such as what the Navy used a quarterly cycle maintenance board) to check on their radios? I probably won't plan on getting any program in mind (I hated PMS when I was in the "Uncle Sam's Canoe Club" anyway). But probably a once a year check when you don't have anything to do on a weekend would be educational.

Date: Tue, 27 Oct 1998 16:24:20 -0600
From: "Dr. Gerald N. Johnson, P.E." <geraldj@ames.net>
Subject: Re: [R-390] PMS cards

Depends on whether you have smoking things about, like cannon, anti-aircraft weapons, big guns, air craft, steam engines, and cigars. Also depends on whether you used the original lubricants or something more modern with a slower propensity to make gum. And whether you have tropical breezes blowing in sand and salt or arctic breezes contributing dirt, sand, salt, and ice crystals to the mechanisms. Its sure that the Navy's PMS was designed for a radio that resided in the main gun turret of a battle wagon that summered in the arctic and wintered off the Sahara desert pausing at Guantanamo bay each trip for fresh Cuban cigars and that passed through the Suez canal each trip so all the whisky on board had to be rebottled in cleaning alcohol bottles to pass Egyptian customs. And so sometimes left an extra bit of residue when used for cleaning. And the PMS was based on a shooting real time war so the guns and radio were used. And possibly the intervals shortened for peace time, so the sailors didn't run out of things to do on those long leisurely round the world voyages of adventure and exploration.

I've seen teletypes lubricated according to vintage instructions with none detergent oil actually gum up in less than a year. So for mechanisms, it may be very important to have used the best of cleaners and most long lived lubricants to achieve only annual attention, no matter what the environment or intensity of use.

Date: Tue, 27 Oct 1998 16:02:43 -0700
From: "Eustaquio, Cal J" <cal.j.eustaquio@lmco.com>
Subject: RE: [R-390] PMS cards

Pretty colorful description about usage of the PMS system, some of which is quite true. But having "been there, done that" sort of thing, I don't see too many members ('cept maybe the silent few who are hard core about these rigs) would choose to copy the "Navy way" of doing things. In fact, probably down right unrealistic considering that the PMS schedule was pretty hectic. What I was talking about (see original post) was that maybe some may want to try out a card on some ennui ridden weekend and perform the test. Hey, who knows? It may be great to see how the radio is performing and maybe it may need a bit of tweaking and lubing (just the ticket for time consumption). BTW, none of the R-390's that I know of ever resided in the conditions you described. Instead, they were in Radio Central, air conditioned and kept clean, one deck below the first "fresh air deck" is located (at least in my ship). Also, I don't know of too many "vintage instructions" that may abound if something can be done better (since there were feedback report forms done in abundance to check such problems and NAVELEX/SPAWAR to issue them).

Date: Tue, 27 Oct 1998 19:03:18 -0800
From: Edward Zeranski <ejz@nosc.mil>
Subject: RE: [R-390] PMS cards

Yep, there was the Navy PMS system with it's '3M' cards and before that POMSEE books if I remember it right. Also know the usual practice was to 'gundeck' the entries before quarterly inspections because the under staffed crew spent all its time fixing real busted stuff and not some of the silly seeming 'POMSEE' (Hey, could be wrong spelling but its been 35 or so years) or '3M' maint. cards..... When you have a perverted URD-4 that is trashed and is getting squacked about for downed pilot DF or a KG thats on the fritz for secure comms with gunnery spotters its kinda hard to take dusting a TED seriously.

Date: Wed, 28 Oct 1998 00:07:41 -0600
From: "Dr. Gerald N. Johnson, P.E." <geraldj@ames.net>
Subject: Re: [R-390] PMS cards

Cal, I'm spouting from the design side and from Army tradition. When I was in the Army there were two ways of accomplishing everything. One was the traditional way remembered by the nearest sergeant, and the other way was printed in the regulations. Officer Candidate Schools ran on tradition seemed like, not regulations. First sergeants didn't often read, and there was some question whether some of the 2nd lieutenants COULD read.

My scenario would be based on the PMS being planned ahead for the worst possible operating conditions, hence in the turret, not the environmentally controlled decks. Probably on a tub made before those environmental controls were standard equipment. Not that necessarily there was ever a ship with duty that encompassed the Suez, the Arctic, the tropics and Quantanamo bay within in the same tour.

Actually from what I hear that the radios with rack interlocks tended to needed to be restarted after each large gun was fired despite the radios being firmly bolted to deck and bulkhead as far from the main guns as possible. (SRT-14 for example) (which would be a good vintage companion for an R390). It would be tough keeping an r-390 working in that situation without lots of putting things back on a very regular basis.

And if the lubrication did gather grunge from the environment, cleaning and relubrication was definitely high priority.

I expect the Marines and Army used the same PMS schedule for truck mounted radios where just the operators climbing in off deserts or swamps or whatever would carry in more dirt than the air conditioning (or buck private cleaner) system could clean up on a regular basis. Don't know, the Army didn't teach me beyond firing a musket and washing dishes.

Then they took advantage of my work experience, they thought, and my two degress in electrical engineering, having me with tubed transmitter design experience and graduate work on digital communications on power lines, test and evaluating solid state vidicon targets... It beat getting shot at regularly but I wasn't very productive (except when feeding dishes to a dishwasher on KP).

I did keep a MARS station working when needed, though the Army supplied two shifts of operators, I fixed the radios.

Date: Thu, 26 Apr 2001 23:26:27 -0400
From: "Barry Hauser" <barry@hausernet.com>
Subject: [R-390] Xtal Deck Manson Mod Thing

I just came across an unusual crystal osc. deck that has a Manson Labs gimmick on it I don't recall reading about - at least as a separate item. It's a small cast alloy box which plugs into the V401 tube socket, secured with a bracket to the top of the oven. There's a socket for V401 tube coming out of the side of it and two mini coax connections labeled E1 and E2. There's also a mni relay mounted on the opposite side of the tube.

Silk-screened (R-390A MANSON C374-004-000) on top.
Looks ominous. Anybody know what this was for? Some

countermeasures spook thing? Or maybe a counter-countermeasures spook thing to shut down the oscillator to avoid signal stiffer detection by the opposite number spooks? Xtal rejuvenator and transmogrifier? Xtal destructor in the event of enemy capture? Some RTTY stuff? Oh, I know - trunk tracking ;-)

Date: Fri, 27 Apr 2001 05:14:07 -0500
From: Tom Norris <badger@telalink.net>
Subject: Re: [R-390] Xtal Deck Manson Mod Thing

Yep, looks like you have the deck out of the elusive R-1247/GRC-129. Check all your other oscillators for this as well. One or two other RXs used a similar mod as well for feeding/monitoring oscillators for high stability use. The GRC-129 has one on each osc section with coaxes coming out the back of the radio terminated in BNC fittings.... I have a list of receivers and various mods somewhere if I can find it.

Date: Fri, 27 Apr 2001 06:47:42 -0400
From: Meir Ben-Dror <mbendror@optonline.net>
Subject: RE: [R-390] Xtal Deck Manson Mod Thing

This was part of an R-1247/GRC-129 receiver which is the nomenclature for the R-390A receiver modified by Manson Labs. The GRC-129 system was a high-stability diversity system (if I recall, was used by NASA) which had two R-1247/GRC-129 receivers.. These modified R-390A's had other associated equipment manufactured by Manson Labs. The receiver was modified to accept inputs from the external frequency synthesizers which generated all the necessary LO frequencies. The receivers can be switched over from internal to external LO operation and for this purpose had small relay boxes and LO in/out cables/plugs. The IF output was utilized through an SSB converter (2 channel) which provided the demodulated audio output (the BFO signal was supplied externally from one of the synthesizers). The CV-1693 is the 1 MHz step synthesizer and the O-1203 is the 1 KHz step synthesizer locked to the same frequency standard. With the 2 synthesizers the receiver is tunable within its normal frequency range in 1 KHz steps. The frequency still has to be dialed in the receiver, because the RF stages and mixers have to be peaked up at the frequency of operation. The receiver can be operated normally, too. I used to have the synthesizers for the GRC-129 system and I still have the receiver which works normally by itself - it has 2 tags: the system tag -

R-1247/GRC-129 Receiver, Manson Labs S/N 48, contract #AF30(635)30962; and the original R-390A tag: R-390A/URR, S/N 1832, Motorola, contract 14-PH-56.

As a point of interest, Hallicrafters also made some of the synthesizers for Manson. I also had another part of the same system, the O-1555/URC

which is a synthesizer to set the frequency of a modified T-368 transmitter whose GRC-129 nomenclature eludes me. The component I never had is the SSB

generator that was added to the transmitter instead of the original modulator deck. I also had some documentation on the synthesizers. I hope this clarified the function of your mystery xtal deck.

Date: Fri, 27 Apr 2001 07:25:24 -0400
From: Bob Camp <bob@cq.nu>
Subject: Re: [R-390] Xtal Deck Manson Mod Thing

Well unless there's two Manson Labs out there I suspect I know who made it. The one I'm familiar with is now called Vectron. I'll ask around about it and see what I can find out. Most of the stuff from back then is long gone

Date: Fri, 27 Apr 2001 09:23:11 -0500
From: "Bill Hawkins" <bill@iaxs.net>
Subject: RE: [R-390] Xtal Deck Manson Mod Thing

One of the problems NASA has with receiving signals from spacecraft is the Doppler shift. If you had a rubidium standard out there, you couldn't find it on the dial without knowing how fast it was going, if it's way down in the noise and getting fainter. OTOH, if you *track* the Doppler shift from launch, you know exactly how fast the spacecraft is going away from Earth. I'm guessing that this would have been a real challenge in the days before computer-controlled frequency synthesizers. Seems to me the Mars-bound spacecraft had a Doppler shift of about 14 KHz. Heterodyning with local oscillators is a subtraction process, so the Doppler effect at millimeter band transmissions remains the same 14 KHz all the way down to 455 KHz IF - or to some IF that an R-390A could receive. Anybody out there ever use one of these sets with the Manson Labs external equipment?

Date: Thu, 19 Jul 2001 11:44:45 -0500 (CDT)
From: Dave Merrill <r390a@enteract.com>
Subject: [R-390] Unserviceable and Obsolete?

I found a piece of documentation for an R-390A I once owned. It's the DD 1348-1 Item Release form that accompanied the unit when it was disposed of by the Army at Ft. McCoy, WI. There's a scanned image is at:
http://www.enteract.com/~r390a/hobby/DD_1348-1.jpg
The scan quality isn't that great since it's from a multi-carbon copy of a typewritten original. Some boxes were retyped without erasing the carbons first, so in places it's difficult to read. And of course, some stuff got typed outside of the boxes, compounding the illegibility. Murphy's Law just doesn't let up! The image is about twice the actual size of the form.

Some notes:

1) Dates: I bought this radio from a surplus dealer in the early 1980's. The form has a 1 Mar 74 printing date, so I'm pretty sure all the dates typed on the form refer to 1979. They are in Julian notation, so for example '9051' is the 51st day of 1979.

2) The 'Unit Price' in the upper right corner may be hard to read - it is 1314.99 - and the handwritten number underneath it is 87.51. Not sure what the handwritten number refers to, perhaps depreciated, 'book' value?? Anyway, \$1314.99 seems low to me - weren't these costing Uncle Sam over \$2000 each?

3) Box 'C' (MARK FOR) reads 'DEMIL CODE A' I believe (the form was a little torn in this area.) Anyone know what procedures DEMIL CODE A involve? Anything beyond removal of radioactive materials?

4) Box 'U' (ITEM NOMENCLATURE) is incorrect; it was most certainly an R-390A (EAC manufacture), not an R-390 as the form states. But close enough for gub'ment work.

5) I don't agree with the description of the radio in the 'REMARKS' box. After restoring the 'Radioactive Components' it worked like a champ! On the other hand, if the Army hadn't thought it was junk, it wouldn't have been released as surplus :-). BTW, the first word on the third line of 'REMARKS' is 'EXCESS'.

Date: Sun, 22 Jul 2001 10:44:17 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] Imperial/Teledyne Business Connection?

Does anyone know (I mean like really know) the business connection between Teledyne Systems Corp and Imperial Electronics? These two marques shared the contract 37856-PC-63. The rigs were marked Imperial up to at least # 3022. Above #3976 they were marked Teledyne Systems Corp. Anyone know the answer?

Date: Sun, 22 Jul 2001 10:50:49 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] R-390 Contracts and Nos.

Last week someone asked for R-390 contract info. FWIW here are my latest numbers. The last number is the highest sn reported to me by an owner (i.e. I don't know the exact number made, but it should be at least ###). 16,856 is the sum, compared to over 54,000 for the 390A under

similar accounted principles.

73 Tom N5OFF

Collins 14214-PH-51-93	4952
Collins 14226-PH-51-93	1412
Motorola made for Collins Radio 14214-PH-51-93	4952
Motorola made for Collins Radio 14241-PH-51-93	3449
Motorola 90-PH-52	219
Motorola 26579-PH-52	893
Motorola 13602-PH-53	979
total:	16856

Date: Thu, 23 May 2002 15:42:32 -0400
From: Norman Ryan <nryan@intrex.net>
Subject: [R-390] Front Tags Revisited

If a receiver went to the depot for refurbishing, restoration, repair, or what have you, it was taken apart module by module. The front tag also was removed if the front panel was to come off for repainting.

At the end of the process, the panels and modules went back together, then a tag was fished out of the bin and re-attached. The only thing the assembler watched out for was to put an "A" tag on the "A" receiver and a non-A tag on the non-A receiver. That's why so many receivers have tags that don't match up with the differing makes of modules inside.

Modules also got mixed in the field as well as at the depot. The depot merely was interested in getting the receivers up to spec and back in circulation. Once back in the field, the front tags were useful for helping keep maintenance records straight. If you encounter a receiver with modules of the same make, contract, and similar range of serial numbers, chances are it's a "low mileage" unit that saw little service and lots of shelf time.

Bottom line: Do not rely on the front tag to tell what's actually inside, especially when shopping for a rig. Check out the modules and form your hunch from there.

From: "Ronald Davis" <RDavis24@carolina.rr.com>
To: <r-390@mailman.qth.net>
Date: Tue, 11 Jun 2002 18:53:58 -0400
Subject: [R-390] EAC question?

I have picked up a couple R-390A's and I have a question. Both have EAC tags and EAC modules but the tags are different. One has FR-36-039-N-6-00189(E) and the other has DAAB05-67-C-0155. Does anyone know the difference? I am new to this and please remember that hi. Both are in very

good shape and work FB. Thanks for any help.

From: Llgpt@aol.com
Date: Tue, 11 Jun 2002 19:02:28 EDT
Subject: Re: [R-390] EAC question?

One is the order number, the other the contract number. Look closely at the tags, they will state that. Both are from the 1967 EAC contract.

From: "Chuck Rippel" <R390A@R390A.com>
Date: Wed, 19 Jun 2002 12:57:20 -0400
Subject: [R-390] Oooops...

<snip> The nametag problem is fairly common. Tags were swapped for inventory control or at depot. Hank Arney did make repro tags that were supposed to be of good quality. Maybe he will contact you if more are available. I guess you could check the back of the chassis and see what manufacturer and contract number you find. You can check the AF deck and power supply easily for manufacturers. That will give you some idea of what components are there for starters. It was common to throw in whatever component was on the shelf at depot, so don't be surprised to find a mix of manufacturers. <snip>

Date: Sat, 29 Jun 2002 20:18:50 -0500
Subject: Re: [R-390] looking around for r390-a
From: blw <ba.williams@charter.net>

> One other thing - a dirty unit is not necessarily a bad unit -.....

Not trying to be contrary here as this is a good discussion, but.... I had a very good friend buy my second R-390A at Dayton about 7 years ago. He is a downright good guy who undercharges for everything. Anyway, he is a long story that I won't get into now unless someone has seen Larry driving around in his truck with 2 trailers behind him. Last seen heading for Lima, Oh or Florida or Alabama. He is the guy who parked his rack of Collins R-390As in front of the wife's washer and dryer. She had to get him to roll it away every time she wanted to do the clothes. Anyway, Larry was very excited about this super clean one that he got for \$365. And, it was the cleanest radio I've ever seen. Every bit of it looked like it came off of the line yesterday. This radio had to have been preserved somewhere. Wire bundles were clean and shiny. Not a speck of dust could be found anywhere. Also, there was not a drop of lube on any of the gears. The best I can tell, this radio had the TMC mod done to it and it has the tapped holes on the back of the chassis for part of mod that I've seen elsewhere. It has the TMC mod tag on the front panel. It came with the Utah plate with top and

bottom covers. It also came with the black meters. It has a 67 EAC chassis, power supply, and AF deck. I think the IF and RF decks are EAC too due to manufacturing looks and peculiarities when compared to everything else. Funny thing is that it had a S-W tag on the front. I haven't done much to the radio yet. I keep putting off the work as it has major problems everywhere. Low sensitivity below 8 MHz. Calibration points are off just about everywhere. I tried to align it with a friend a few years back and it wouldn't align past the first mixer. I forget the details at this moment, but I have my notes in the manual. I figure that this one needs to be recapped everywhere and everything inspected closely. The point is that while I appreciate the condition of the radio, it isn't ready for much at the moment. I know that it will be a good one when I'm finished with it one day. Looks were deceiving on this one.

From: "Barry Hauser" <barry@hausernet.com>
Subject: Re: [R-390] looking around for r390-a
Date: Sat, 29 Jun 2002 22:02:51 -0400

<snipped> And, it was the cleanest radio

I've got three like that, but they weren't clean. Two work, one is missing its PTO. All have that TMC mod with the little box on the back panel with a solid state PC board in it, extra labeling on added bnc connectors, etc. They're somewhat mysterious.

> I haven't done much ...I keep putting off the work as it has major problems.....

This reminds me of something Dave at Fair used to tell me. Every now and then, he'd come across a really clean R-390A, but he couldn't get them to work with any degree of module swapping. I suspect the following:

- 1. They failed early and got put aside, or were mothballed long enough for lots of caps to go bad.
- 2. Faulty wiring harnesses, and again, as-sided.
- 3. "NOS/NIB" units of the fabled grail stories. But, the realities are that an original unused, untouched for 40 years R-390A is unlikely to work, and worse, will do damage to itself if powered on recklessly.
- 4. Unit that was on the defective pile and not yet repaired when they started phasing out, or buried in the repair depot. Eventually got surplused out "as found".

- 5. Somebody messed around with it, scrambling the works with difficult to find wiring errors and may have even tried to align the set by "ear".
- 6. Attempted removal of mod.

Well, something like those. The two that I have like (with the mod) were laced with puffy white corrosion here and there.

Looked bad but it cleaned up as if it were an outside job or not really corrosion. Both went operational with very little work. I've seen a number of R105A's -- the Collins aircraft/autotune receivers -- that, inside, look like they were never used, but have odd wiring discrepancies vs. the manual and don't work. Yup, ya' can't tell by lookin'. And, what's odder still, is a depot dog fugitive from St. Julien's Creek has a shot at WOA -- working on arrival.

But the real reason is probably this: Your's is missing it's Knights of the Templar, Guardian of the Grail dead spider.

From: "Drew Papanek" <drewmaster813@hotmail.com>
Date: Mon, 01 Jul 2002 13:20:12 -0400
Subject: [R-390] Re: Looking around for r390-a

I got my first R-390a ('67 EAC) from Fair Radio 20 years ago and my experience was a good one. The "used-reparable" unit worked fine on all bands. After a short time of use I developed "R-390a wrist" and so tore down, cleaned, and lubricated the RF geartrain. My experiences with Fair in the last few years have been good also. I just obtained a '61 Teledyne at the right price very locally. I found it at the town dump (obviously free). It's all there, cosmetically fair. It had been used for years as a mouse condo/toilet and I am in process of cleaning and restoring.....

Date: Tue, 23 Jul 2002 16:45:56 -0700
From: Dan Arney <hankarn@pacbell.net>
Subject: Re: [R-390] Manufacturer of R390A

Well Paul you are in for a bunch of info. Out of all of the R-390-A's out there I know of only one that has virgin modules and the correct tag, That was built by Bob Luce when he worked for Teledyne and he still owns it. The rest of them are known as depot DAWGS, meaning when they came if for IRAN all modules were stripped and went on the way to the dept. that worked on that module, plus the tags all went in a box as the panels were stripped and refinished and when it was assembled the tag installer grabbed a tag and screwed it in place and away it went. The intent of the

design was to make it all interchangeable. Few changes along the way, panels, caps, wiring but they are ALL DEPOT DAWGS. I make tags for all of the contracts and sell some of them to Fair as they choose certain tags. I only stamp a S/N of your choice on a tag. I do have some original tags available also. You can play musical tags and modules and when you get through looking for a pure Virgin Collins etc. you just won the R-390A lottery. 22 contracts? and so grab a name that turns you on. Cause all dem Radios is one and da same, look da same, play da same, sound da same and above all dey are da same. OH yes there are a lot on S/N 1 radios floating around out amongst them.

From: "scott" <polaraligned@earthlink.net>
Subject: Re: [R-390] Manufacturer of R390A
Date: Tue, 23 Jul 2002 20:04:14 -0400

Ah yes, a newbie. I was one 8 weeks ago and asked the same first question. Well this is what I have learned from these fine gentleman on this list: There may be no one "correct manufacturer" of this unit. It may have had bad modules swapped at the service depot. It is possible that you have 6 different manufacturers in this set and the name tag of a 7th on the front!!!. The modules should all have the manufacturer's name stamped on them. The chassis may or may not. You need to check out your modules. Don't fret though, it is pretty normal for these sets to be "mutts". You still have one of the finest performing sets ever made, mutt or not. I was able to determine that my 390A was a pretty pure Teledyne unit because all the modules were Teledyne and the front panel pots and meters had date codes of 1965. My tag was a 1955 Collins though. You may be able to tell the same way.

Here is contract info on R390A's
The data in each row is manufacturer, year, contract #, highest serial number.

Collins 1954 14214-PH-51 984
Collins 1954 375-P-54 310
Motorola 1954 363-PH-54 3,427
Collins 1955 8719-P-55 4,914
Motorola 1956 0014-PH-56 4,909
Motorola 1958 14385-PC-58-A1-51 5,988
Stewart-Warner 1959 42428-PC-59 2,076
Stewart-Warner 1960 20139-PC-60-A1-51 4,511
Electronic Assistance Corp 1960 23137-PC-60 4,255
Capehart Corp. 1961 21582-PC-61 4,237
Amelco/Teledyne Systems Corp 1962 35064-PC-62 3,642
Capehart Corp.for Adler Electronics 1963 20878-PP-63 5
Imperial Electronics/Teledyne Sys 1963 37856-PC-63 3,976

Electronic Assistance Corp 1967 DAAB05-67-C-0155* 10,717
EAC Industries/Hammarlund 1968 consumer 142
Dittmore-Freimuth 1968 DAAB05-68-C-0040 215
Fowler Industries 1986 N 00024-84-C-2027

Let us know what you have!!!

From: "Dallas Lankford" <dallas@bayou.com>
Subject: Re: [R-390] Hello New to list
Date: Thu, 8 Aug 2002 08:52:34 -0500

Welcome Mike and Hi Don - At the moment we are swatting mosquitoes because of the West Nile virus or whatever here in Louisiana. I think we have encephalitis floating the state too. I was gonna let this pass because of the tendency I have to stir up the hornets, but then I decided to go out to the shed and get my hornets nest stick and give it a little workout.

I wouldn't buy an R-390A from Fair Radio or anybody else unless I was certain it did not come from the government auction at St. Julian's Creek Annex, VA. (We may swat mosquitoes in LA, but we don't leave R-390A's in parking lots to be rained on for a year or whatever.) That means I would probably only buy from a long time friend who had an R-390A from before the SJC massacre (as it has been called). You may read glowing reports of rebuilds of these SJC 390's in the reflector archives, but I would want to use one of these R-390A's myself, give it some thorough measurements, and draw my own conclusions.

Even if it passed those tests, I don't like the idea of squirting a bunch of Tilex, 409, Windex, or other kitchen cleaner into an R-390A. I wouldn't even set an R-390A of mine in the driveway and wash it down with tap water. My car shows numerous water spot residues after I wash it, and I don't think I would care for those water spots on and in my R-390A's. Then you would have to remove the PTO and crystal ovens, take them apart, and dry out the innards. Among other things, I guess that means you would have to remove the insulation from the PTO, wash it (to remove any residue), and hang it on your clothes line in the back yard to dry out. I think the ovens also have insulation that you would have to remove, wash, and dry, but it has been a while since I have been inside one of them. A couple of years ago when the SJC R-390A's were hot items, someone e-mailed me a very well written discussion about the things that were wrong with a typical SJC R-390A. I thought he posted it on the reflector, but now I can't find it.

Here are a few of the things I remember from his discussion. Stainless steel screws rusted (not surprising). This, of course, could make repairs more difficult. Yellow wrap capacitors coming unwrapped. Well, that's not

too tough. Replace the capacitors. Coil windings in the shielded transformers of the RF deck starting to come unwound. I don't know how you would fix this. His conclusion (not mine) was that this RF subchassis was unsuitable for use in an R-390A. Despite these difficulties in getting a good R-390A, it is certainly worth the trouble. I don't think there is a finer receiver made. If you can't find a non-rained on one, let me know, and I'll try to help you find one. Best regards, Dallas

Date: Thu, 8 Aug 2002 13:36:59 -0500 (CDT)
From: Dave Merrill <r390a@enteract.com>
Subject: [R-390] St Julien's Creek (was 'Hello New to list')

From Chuck Rippel's site:
http://www.r390a.com/html/radio_rape.html

Here's a text version of the 'St. Julien's Creek R-390A Massacre'
<http://www.radioworks.com/nr390saga.html>

And a few pix from Fair Radio's old warehouse where a some of the 'blue strippers' ended up:

http://www.enteract.com/~r390a/hobby/fair390_1.jpg
http://www.enteract.com/~r390a/hobby/fair390_2.jpg

(Someone from this list posted these a few years ago but I cannot remember who - sorry!)

Date: Fri, 09 Aug 2002 09:42:36 -0400
From: tbigelow@pop.state.vt.us (Todd Bigelow - PS)
Subject: Re: [R-390] Re: R390/Solid State

The gov't made tens of thousands of WWII aircraft too, as well as other equipment. Granted, they did a better job of destroying them sooner, but they were still working on destroying the R-390 family not too long ago too. Not being one who likes to tell others what to do with their property, I'd like to suggest that Mike try building his solid state replacement technology into a 7-9 pin tube- base arrangement or other such 'plug-and-play' things so that the modifications would be easily reversed when the day comes that Mike no longer owns this radio. It would likely be more challenging than just tearing into a chassis and hacking it up, and as well he may solve a future need for tubes as they become more scarce. Maybe he'd become the Bill Gates of tube replacements?? Well, that really wasn't a nice thing to say. I apologize. Honestly, none of this gear is really "ours" for long. Everything I have of tube vintage belonged to at least one other person before, who considered it 'theirs'. I'm sure glad they took as good a care of these rigs as they did, too. The fellow who sold me my first R-390A

passed away a couple years back, but the radio lives on in the same like-new condition he sold it to me in. Mike, we're really not a bad bunch of guys. This list probably contains the biggest wealth of R-390* (and other) knowledge that you'll find anywhere. We are focused on preserving and fine-tuning an outstanding 50 year old design that still manages to whoop the hell out of much (most?) of the newer SS gear. Wouldn't it be more challenging to take some of the older 'new' techonolgy Yaecomwood receivers and see if you could eliminate all the phase noise, chuffing, and bring the noise floor down to something approaching the R-390? I'm certainly not against experimenting and making new discoveries, but it's going to be difficult making most of the list members believe that solid-stating an R-390 will make it 'better'.

Date: Fri, 23 Aug 2002 13:33:00 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] Capehart or Collins: which is better?

With few exceptions, all R-390A's were built to the same Army specification. When they were new, you may have been able to tell a difference. At this stage of the game, the "best" radio, performance wise, would likely be determined by the skill of the restorer. You may just prefer Collins, which is OK too.

But it won't necessrily work better. Experience has shown that a '67 EAC is a good platform from which a great radio can be had, but the older radios can also be made good as well. I have the oldest 390A I've ever seen, s.n. 7 from the first contract, and it works great because I've spent a lot of time on it. Bottom line, a careful restoration on a good sound hull will net you a good receiver, regardless of make IMHO. Your mileage may vary . . .

From: tony@bright.net
Date: Fri, 23 Aug 2002 17:06:18 -0400
Subject: [R-390] Pricing Help on Adler R-390A

Hi Gang, I've been away from the R-390 list for a year or better - family and work obligations, enjoyable though they are, are taking up all of my hobby time. So, I've started to thin my boatanchor collection. One of the radios I'm thinking of selling is my Adler Electonics R-390A, Serial Number 5. Apparently, this is the only set to have surfaced from that contract. A fuzzy picture of the ID tag is shown on the R-390A FAQ site. Honest question time: is this set worth anymore because of the low serial number, or because it is the only one from that contract? My collector instincts tell me "yes", but, in the end, it's still an R-390A. Would the answer be different if it were a Fowler or Helena Rubenstein tag? I'd like to know what you think.

Date: Fri, 23 Aug 2002 15:02:08 -0700
From: Dan <hankarn@pacbell.net>
Subject: Re: [R-390] Pricing Help on Adler R-390A

Tony, IMHO it is a R-390A unless all of the modules are also from Adler and have S/N`s in that range or date. Other than that, it is a Depot DAWG!!! Hi. I make repro tags for all contracts and stamp S/N of your choice on the tags. I have not made any Adler tags.

From: "tkinney" <tkinney@klinktech.net>
Date: Fri, 23 Aug 2002 17:25:35 -0400
Subject: [R-390] Re: Collins / Capehart

I did the same thing, Paid \$700.00 for a 'All Collins' with the label....sent it to Mish and found it was all SW, guy I got it from on EBay refunded me hundred bucks... but still.....paid alot for a Collins...

From: Llgpt@aol.com
Date: Fri, 23 Aug 2002 18:28:05 EDT
Subject: Re: [R-390] Pricing Help on Adler R-390A

IMHO, it is probably worth a little more than the average run of the mill R-390A because it is the only "known" example of the Adler contract..... having said that, it is also "just another R-390A" If you can find a "collector" who is looking to have "one of each", then it is worth whatever he/she will pay for it.

Date: Fri, 23 Aug 2002 20:54:44 -0700 (PDT)
From: Rodney Bunt <rodney_bunt@yahoo.com>
Subject: Re: [R-390] Pricing Help on Adler R-390A - I must be lucky

Fellow Collins obsessive, compulsives I recently acquired a R-390A (from USA) as a companion for my Collins R-390. It said Stewart Warner on the outside, and ALL modules are Stewart Warner on the inside!!! I am starting to feel that I must be VERY LUCKY, that is if, Uncle Sam played mix and match for all those years, with the insides. Is this the consensus out there ?

Date: Sat, 24 Aug 2002 00:11:59 -0400
From: rbethman@comcast.net
Subject: Re: [R-390] Pricing Help on Adler R-390A - I must be lucky

I must ask - Are ALL modules the SAME serial numbers #? I have a '67 EAC with all EAC modules, but the modules ser #s do not match the chassis ser # I also have a '52 Collins with all modules Collins EXCEPT the PTO which is Cosmos. The chassis is ser# 252, the IF is #35, AF # 6XX, and so

forth. Yep! Depot sure played mix and match from my observations of at least a half dozen different R-390As.

Date: Fri, 23 Aug 2002 21:14:46 -0700 (PDT)
From: Rodney Bunt <rodney_bunt@yahoo.com>
Subject: Re: [R-390] Pricing Help on Adler R-390A - I must be lucky #2

I didn't know the modules had matching serial numbers, so I will check that. You learn something new every day on this reflector...

From: "scott" <polaraligned@earthlink.net>
Subject: Re: [R-390] Pricing Help on Adler R-390A - I must be lucky #2
Date: Sat, 24 Aug 2002 07:09:23 -0400

I question whether the 390's came with matching module serial numbers. Some manufacturers may have done this but I am not too sure it was the rule of thumb. From what I have been told by several guru's here, the serial numbers would be close but not necessarily the same. Any input from others?

From: DCrespy@aol.com
Date: Sat, 24 Aug 2002 09:09:48 EDT
Subject: Re: [R-390] Pricing Help on Adler R-390A - I must be lucky #2

Actually Rodney, I think the conventional wisdom is that the modules will have serial numbers that are very close together, but not necessarily the same. If they are close then you probably have an original unit that has not been through Depot maintenance.

Date: Sat, 24 Aug 2002 06:33:38 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] Not so lucky, re: matching modules and s.n.'s

Of all the 390A's I've had, at least half had modules from the same contract. This included Collins, Mot's EAC's, SW's etc. I had a 725 that was scrambled and a few others, but to imply that all radios are depot dogs is incorrect. The 67 EAC's seem to have been least likely to hit a depot as the majority of those that I've seen were all EAC. With EAC making so many, they could have gone to the depot and come out all EAC again. My old Collins has all Collins modules. The RF and IF have no sn at all but have Collins p.n. s. You can see a pic at

<http://www.geocities.com/courir26/390Asn7.jpg>

The only contract that I know for sure had matching s.n.s is the Fowler contract. I know a chap who owned two of the five and this was the case

with both. But you picture the EAC assembly area working two shifts, making 15,000 390A's, Bob Edwards cracking the whip, who the heck would care about matching numbers when modules are coming down the line like cakes on I Love Lucy. At Fowler on the other hand, where they made five total radios, a batch of two and then a batch of three, they probably had no choice but to match them up as they were completed.

From: "Bill Riches" <bill.riches@verizon.net>
Subject: RE: [R-390] Not so lucky, re: matching modules and s.n.'s
Date: Sat, 24 Aug 2002 09:43:32 -0400

My 67 EAC #6179 has all EAC mods - was lucky - clean and has worked well for the 10 years I have had it. It has a place of honor in the living room!! The 725 lives in the ham shack - of course better audio!!

Date: Sat, 24 Aug 2002 14:55:44 -0400
From: Albert Solway <asolway@sympatico.ca>
Subject: Re: [R-390] Pricing Help on Adler R-390A - I must be lucky #2

My 2 cents worth. In my experience with manufacturing in the military environment one of the Quality Assurance requirements was a document called a Configuration and Serialization List. This document listed serial numbers, manufacturing history, test data, drawing revisions etc. of each module that made up the item being shipped. These modules usually came from a pool of modules and were drawn at random for integration into the final item. As a result it is highly unlikely that modules in any final item would have matching serial numbers. Serial numbers would usually be applied at a level of assembly when test data, by module, would be a QA requirement. So at time of shipment serial numbers of particular final item is known but at the first overhaul this would be lost. The R-390 series of radios was designed in a modular fashion to make field and depot repair simple and fast. Modules could be then repaired at leisure without affecting radio down time. So to have a mix of module serial numbers and manufactures in any radio is proof of the original radio reliability design objectives. I don't know what kind of manufacturing QA requirements were required in the 50s. My experience dates to the late 60s. Also excuse my terminology for field and depot repair, it may not be appropriate.

From: "Jim Shorney" <jshorney@inebraska.com>
Date: Sat, 24 Aug 2002 23:36:55 -0600 (CST)
Subject: [R-390] R390 story

Someone was asking for R390 stories. This one is from my good friend Wayne, KEOBZ. When asked why he doesn't do CW anymore, he says he got burned out on it. Wonder why...

=====BEGIN FORWARDED MESSAGE=====

R-390 stories? Well the most memorable involved a stunt I used to do back in the Navy down in Panama in 1970. As a Communications Technician, my job was to spend most of my time copying code using a couple of rack mount R-390A's. The headphone outputs were wired up to a stereo headphone jack that was switched so we could listen to either receiver or both (one in each ear). All our code copying was done on an old manual typewriter. After a few months you got to where code was so automatic that it did not even register in your head, if you heard a di-dah, your left pinky finger automatically hit the "A" key, and so on. Whenever we got a new guy fresh out of school, someone would bring the newbie around to watch me work. They would see me there with my feet up, listening to the code station on one side of my headphones, listening to some good rock and roll on the other side (usually Radio Nederlands), copying code on the typewriter with one hand, holding a cup of coffee in the other hand, and talking to the visitors all at the same time (and getting perfect code copy at about 15 groups a minute). Talk about multi-tasking! Needless to say, this always got the new guy nervous. There is my big story. Wayne

=====END FORWARDED MESSAGE=====

From: Llgpt@aol.com
Date: Sun, 25 Aug 2002 09:09:18 EDT
Subject: Re: [R-390] R390 story

And, a good one. father was a teletype and crypto technician during the 40's through the 60's. We were stationed overseas most of my teen years. Maany times I would go with him to Chicksands or Menwith Hill (England) and see literally dozens of operators wearing headsets while carrying on conversations, drinking coffee, smoking cigarettes and typing out messages. And they thought they were normal?? A good friend who was a Naval Intelligence high speed code intercept operator during WW2 tells me the same stories. He told me another interesting story.....zzzzzzz WAKE UP!!!!!!

This is a good tale: He was in Tokyo harbor for the signing of the peace treaty. He and others were sent aboard japanese ships (what was left) to remove communications equipment to send back stateside for examination. They had copies of the National HRO's, right down to the diamond with the "N" in it. Ya gotta love 'em! Then he was due to be discharged, and was asked if he would like to make some good money.....he thought about it and said yes. He was discharged from the Navy, sent to China and got a crash course in Chinese. They were then sent to a listening site near Russia, given Hammarlund Super-Pro's, had literally miles of wire antennas. Using wire recorders they copied the

Russians in the clear for a year. Once a week a C-47 would land and drop off supplies and pick up the reels of wire tapes. Once a month he was given \$1,000.00 in American dollars. At the end of the year, he came back and went to four years of college in Louisiana, he attained a degree as an EE and ME. He is still kicking and is quite fond of R-390's. Les
Locklear

Date: Thu, 5 Sep 2002 12:40:30 -0400 (EDT)
From: "Paul H. Anderson" <pha@pdq.com>
Subject: [R-390] R-390 restoration and modifications

Folks have written strongly negative postings about modifying R-390's, especially with solid state changes to the tube circuits. I think it is a shame to come down hard on people who want to modify them or have done so in the past. The reason I say that is that the best way to learn about something is to take it apart, work on it, fix it, modify it, and so on. I do this with cars, and no one screams about me putting a 302 roller motor shortblock into my 1966 Mustang (underneath the CA emissions heads, smog gear, and so on). Sure, there are fewer R-390 and R-390A's than Mustangs. Some R-390's certainly deserve to be saved in as original condition as possible - those that are rare and unique - R-389's, pristine R-390's, and so on. But come on - there are a lot of R-390A's out there that would have been dumpster fodder 10 years ago. Some on the list feel that St Julien Creek radios aren't worth bothering with, with good justification (their condition isn't worth the time needed to repair them properly). Other people, like me, feel the St Julien Creek radios have enough potential to be worth the time, on average. Certainly some will be lemons, but I suspect most clean up to be perfectly adequate radios. What's wrong with someone experimenting? Alex wanted to do solid state replacements for some hard to find R-392 tubes (26C6) - plug in, sure, but what's wrong with some other guy taking a ratty R-390A and experimenting with the circuits, trying different approaches to things for the purpose of learning, not to mention fun? I see a lot of conflicting views on this list - "the radio is perfect, don't modify it", "the radio has poor AGC, do this mod", "tubes are glorious, don't replace them", "let's build a solid state 6082", "diodes vs 26Z5W's", and on and on. What's the line between solid state being good versus bad? Military obviously used them in the power supplies (and probably preferred them). Heat and power reductions are good - having options for when rare tubes are no longer available is good, too. But a little experimenting should be ok, too. Take the eBay auction for the transistorized R-390A. They guy said he did it long ago - maybe he dug it out of a dumpster recovery missing half its parts with broken wiring to boot. I admire him for having the knowledge to fully understand the R-390A well enough to go through and solid state everything, and still have it play at the end! Is it better? Is it faster? Prettier? I don't know and I don't care. He had the balls to do

something different, enjoyed the result, and shouldn't be persecuted for it. It was pretty painful awhile back seeing many dozens of very hostile messages about the person asking about solid stating their R-390A. It is just a radio, and just a hobby. The museums have as many as they need, they last a long time, and there are still plenty to go around. In the long run, we're all gonna be dead, and the radios are probably going into dumpsters anyway. If you're gonna scream about someone solid stating an R-390A (theirs, not yours), where's all the hue and cry about parting out radios? Should every R-390A be saved, no matter what the cost? What about the folks with 5 radios (like me, oops) - are they all playing 100% perfect, 100% pristine original restored examples, or are they just collecting dust on the shelves? I think it is perfectly appropriate to question if a particular radio warrants special preservation or not. But if it is just a below average condition, garden variety R-390A from a garden variety contract, then what's the big deal? Just as there are Mustangs (6 cylinder drivers), and then there are Mustangs (boss 429, boss 302, 428 CJ, plus dozens of variants of rare combinations), there are R-390's (bottom of the barn scavenging trip recoveries, meterless St Julien Creek wonders), and there are R-390's (about any R-389, a Rick Mish restoration of a NIB R-390, or a low serial # 67 contract EAC or many others). I personally draw the line at drilling holes in a piece of metal that is original unmodified. Many other changes on an R-390 series are hard for me to justify for my radios for my purposes. Other people naturally differ. I think the R-390 restoration hobby has room for both modified radios and unmodified. It would be great to see some more tolerance and acceptance of both ends of the hobby.

Date: Thu, 05 Sep 2002 11:00:56 -0600 (MDT)
From: Richard Loken <richardlo@devax.admin.athabascau.ca>
Subject: Re: [R-390] R-390 restoration, modifications, and solid state

Gee, I once thought about getting an R390 chassis and making a transmitter out of it to match my receiver (I also dream about getting a Porcshe 911 and sleeping with Sally Fields). Good thing I never mentioned this, I would have had to move to Chile for my own safety.

Date: Thu, 05 Sep 2002 10:15:58 -0700
From: Dan Merz <djmerz@3-cities.com>
Subject: Re: [R-390] R-390 restoration and modifications

Paul, I agree, thanks for posting this perspective, Dan.

From: "Chuck Kembring" <kembring@epix.net>
Subject: RE: [R-390] R-390 restoration and modifications
Date: Thu, 5 Sep 2002 13:59:08 -0400

Paul... I did enjoy your comments and perspective. I agree wholeheartedly.

Date: Thu, 05 Sep 2002 14:07:01 -0400

From: tbigelow@pop.state.vt.us (Todd Bigelow - PS)

Subject: Re: [R-390] R-390 restoration and modifications

I don't think I came down hard with my remarks, just stated the obvious (to me). I'm not against modifications if they improve or extend the life of a piece of gear, I'm just not in agreement with chopping, drilling, and otherwise irreversibly changing a piece of historic gear regardless of how plentiful it may be now. Just take a look at ARC 5 gear - I'm still trying to obtain a few items needed to complete a full station, but the stuff isn't around. At least, not in the condition or numbers it was 20 years ago, and surely not the price. I'd bet they made more of them than R-390s, too. There is no argument with me about someone's freedom to do with their property as they see fit - I support that completely. I may not agree with it, I may tell them that they shouldn't and explain why, but I'd never say 'no, you cannot'. That is up to the person paying the bill. I fail to see the need or even desire to do such a thing, but it's not written anywhere that I need to understand or approve. Personally, I'm glad the guy decided to keep it and enjoy it, since he went through all of the work to change it into something it wasn't meant to be. Only he can have a true appreciation for the time, thought, and labor involved. Seems fitting that he should enjoy the fruits of his labors. I found it ironic that the description mentioned buying it as a conversation piece or for parts, which combined with the pictures of the work seemed accurate to me. After modifying your Mustang, would you consider it worthy of being a conversation piece or parts source? If so, why would you do it in the first place? It just seemed like the missing words at the end of his statement might have been ...'because after what I did to it, that's about all it's good for.' Again, I'm glad he decided to keep it. Lest anyone think I have no appreciation of the arguments involved, I once modified a clean BC-455-B to work from 115VAC. Drilled holes, rewired circuits, etc. Never gave it much of a thought since the things were *everywhere* for a dollar, maybe \$5 NIB back in the late 70s/early 80s. The good thing to come from it wasn't any well-honed skills in the field of converting vintage gear, but rather an appreciation for the radio and design as it existed, as well as the desire I still have to find, restore, preserve and enjoy these and other old rigs today. The '455 sits on the desk in my office at home, tuned to WBCQ or whatever else I may come across during a free moment. If I tried to sell it, I'd be lucky to get \$5. To me, it is priceless not only as a nostalgic artifact, but for the lessons it taught me. They were just very different lessons than one might expect. You're right, though - I've seen some interesting contradictions on here, especially recently. A post condemning someone for trying to improve on Collins' design, followed later with comments about their converted Jaguar, or complaints about someone listing items for sale with high

prices, after the same poster had complained that people were too cheap when it came to the prices of his items. We probably all have our own personal conflicting views, no doubt part of being human. Perhaps the question is...with the R-390 series being as good as it is, why would you want to try to make it into something it isn't? Other than the obvious 'because I want to and can' arguments, I mean. Maybe this was indeed a pristine example 10 years ago, who is to know or decide? If you think it's okay to do so, then it's okay for R-389s, too - why not convert them to general coverage or solid state? Now THAT would be a challenge. Wait a minute...I'll bet this radio was in great shape and this all came about because of a bad ballast tube! That's it, I've had it! Gimme the Sawzall!!!
73, Todd/'Boomer' KA1KAQ

From: Al Tirevold <tirevold@mindspring.com>
Date: Sat, 5 Oct 2002 21:13:23 -0400
Subject: [R-390] Additional Documents on tghe FAQ site

Ed Alves, KD6EU has graciously provided a number of documents to fill in the missing documentation on the FAQ site. I scanned them in and they are available at: <http://www.r-390a.net/faq-refs.htm>
Some of these are VERY BIG FILES!

Specifically, they are:

<http://www.r-390a.net/NAVSHIPS-0967-063-2010-1966Nov.pdf>

<http://www.r-390a.net/NAVSHIPS-0967-063-2011-T-1-to-FC6-1969Jun.pdf>

<http://www.r-390a.net/NAVSHIPS-0967-063-2010-T-2.pdf>

<http://www.r-390a.net/NAVSHIPS-0967-063-2014-T-4-1966Nov.pdf>

<http://www.r-390a.net/NAVSHIPS-0967-063-2031-T-1A-1964Nov30.pdf>

<http://www.r-390a.net/NAVSHIPS-93053-T-1.pdf>

<http://www.r-390a.net/NAVSHIPS-0967-063-2110-FC6-1966.pdf>

<http://www.r-390a.net/TM11-5820-358-10-1961Jan16.pdf>

<http://www.r-390a.net/TM11-5820-358-10-C2-1965Jan15.pdf>

<http://www.r-390a.net/TM11-5820-358-20P-19720125.pdf>

Date: Sun, 20 Oct 2002 07:36:43 -0700 (PDT)

From: Michael OBrien <mikobrien@yahoo.com>
Subject: [R-390] Teledyne, Amelco tags ? and removing/ fixing RTTY control

I have 2 R-390a receivers with the same order # but from 2 different companies The order # is 35064-pc-62 The companies are Amelco (# 1453) and Teledyne (# 2702) The Amelco was bought from a ham and the Teledyne came from Fair Radio. It looks the Amelco has a Amelco RF deck with Teledyne pc-63 audio and PS The Teledyne unit is mixed. Would anyone know about this order # ? Also does anyone know how to remove or fix the RTTY control on the BFO (my Amelco) The black part with the numbers dial is loose and turns when you rotate the knob

From: Llgpt@aol.com
Date: Sun, 20 Oct 2002 10:54:43 EDT
Subject: Re: [R-390] Teledyne, Amelco tags ? and removing/ fixing RTTY control

Teledyne acquired Amelco during the 5,000 production run. Not at all uncommon.

From: Aidehua@aol.com
Date: Sun, 20 Oct 2002 10:57:56 EDT
Subject: Re: [R-390] Teledyne, Amelco tags ? and removing/ fixing RTTY control

I have both a Teledyne and an Amelco. They were indeed combined under the same contract. The Contract # was 35064-PC-62. They were produced in 1962. If you have a combination of components, then you have the original run. The PTO should be either Progresitron(sp?) or Dubrow...Hope that helps.

Date: Sun, 20 Oct 2002 08:51:02 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] Teledyne, Amelco , Imperial Story

Here is the story on the Amelco/Teledyne connection. The Amelco story starts with Teledyne. In the fall of 1960 Dr. Henry Singleton and Dr. George Kozmetsky left Litton Industries and formed Teledyne Inc. Teledyne's first acquisition was to purchase a small electronic "build to print" manufacturing company in Los Angeles named Amelco, which was located on Panama Street in Culver City.

Amelco was the first operating company of Teledyne. They bid and won contract 35064-PC-62 for the manufacture of R-390A's in late in early 1962. The first units were manufactured and shipped with the name

Amelco on the name tags. Before all units on this contract were shipped, the name of the company was changed to Teledyne Systems Corporation and the remaining units under this contract were shipped under that name.

In the meantime, another Los Angeles area company named Imperial won contract 37856-PC-63 to make R-390As. Teledyne acquired Imperial shortly thereafter, and all units shipped under the names Amelco, Teledyne Systems Corporation and Imperial were manufactured and shipped from the plant on Panama Street in Culver City. According to my research, about 7600 radios were built by Teledyne under the three company names and two orders.

In summary, the Teledyne production of R-390As looked something like this (hope the tabs don't mess it up):

Badge Name	Order No.	High s.n. noted
Amelco	35064-PC-62	2540
Teledyne Systems Corp	35064-PC-62	3642
Imperial	37856-PC-63	3022
Teledyne Systems Corp	37856-PC-63	3976

Total Production, at least 7619 sets. Hope this helps.

From: Llgpt@aol.com
Date: Sun, 27 Oct 2002 19:16:42 EST
Subject: Re: [R-390] Capehart Audio Deck

>I've got a odd ball number on my R-390A audio deck. Is anyone familiar with this? >CAPEHART 21908-PC-61 SM 248601 SER. 547

This has shown up before, it is just one of many spare parts contracts.
Les Locklear

Date: Mon, 28 Oct 2002 03:59:11 -0800 (PST)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] Odd Contracts, Was Capehart Audio Deck

I heard about this long ago according to my records. I heard it from you! Looks like a spare parts contract. Here are some others. There are no whole sets associated with these.

Electronic Assistance Corp	DAAB05-68-C-0039
Electronic Assistance Corp	N00126-70-C-0359
Stewart-Warner	42428-PC-59-A1-51

Stewart-Warner DA-36-039-SC-81549
Communications System FR-11-022-C-4-26418(E)
Clavier Corp. DAAG05-67-C-0016
Clavier Corp. DAAG05-67-C-0136
Motorola RF Deck 14385-PC-58-51
Teledyne IF Deck 37856-PC-63
Hacking Labs, Menlo Park CA PS Deck DLA400-80-C-2948

From: "Ron H" <rnharsh@attbi.com>
Subject: Re: [R-390] Surplus Equipment
Date: Tue, 3 Dec 2002 15:33:31 -0600

I guess I am really out of the loop!
What the heck is the DLA, DRMO and the DEMIL Q list?

Date: Tue, 3 Dec 2002 13:55:41 -0800 (PST)
From: Joe Foley <redmenaced@yahoo.com>
Subject: Re: [R-390] Surplus Equipment

Wow, You are out of the loop. The DRMO was the department that was responsible for processing our radios when they were surplused out of the military. It stands for Defense Re-utilisation and Marketing Operations.

The Demil Q list is to keep track of items that can be sold to US citizens but they like to keep track of where it goes after that. It also establishes a list of countries that these items CAN'T be sold to. DLA, I'm not sure of but is probably related.

Subject: RE: [R-390] Surplus Equipment
Date: Tue, 3 Dec 2002 14:06:26 -0800
From: "David Wise" <David_Wise@Phoenix.com>

Defense Logistics Agency

Subject: Re: [R-390] Surplus Equipment
From: Richard.McClung@Dielectric.spx.com
Date: Tue, 3 Dec 2002 14:06:49 -0800

DLA - Defense Logistics Agency

DRMO - Defense Reutilization and Marketing Offices

DEMIL - Demilitarization

Q List - one of many lists for different classes of materials and how the are to be disposed of.....

CODE DESCRIPTION

A Non-MLI/Non-SLI -- Demilitarization not required

B MLI (Non-Significant Military Equipment - Non-SME) -- Demilitarization not required. Trade Security Controls (TSCs) required at disposition.

C MLI(SME). Remove and/or demilitarize installed key point(s) as prescribed in DOD 4160.21-M-1. Defense Demilitarization Manual, or lethal parts, components and accessories.

D MLI(SME). Total destruction of item and components so as to preclude restoration or repair to a usable condition by melting, cutting, tearing, scratching, crushing, breaking, punching, neutralizing, etc. (As an alternate, burial or deep water dumping may be used when coordinated with the DOD Demilitarization Program Office.)

E MLI(NON-SME). Additional critical items/material determined to require demilitarization, either key point or total destruction. Demilitarization instructions to be furnished by the DOD Demilitarization Program Office.

F MLI (SME) -- Demilitarization instructions to be furnished by the Item/Technical Manager.

G MLI(SMIE). Demilitarization required AEDA. Demilitarization, and if required, declassification and/or removal of sensitive markings or information will be accomplished prior to physical transfer to a DRMO. This code will be used for all AEDA items, including those which also require declassification and/or removal of sensitive markings or information.

P MLI(SME). Security Classified Item Declassification and any additional demilitarization and removal of any sensitive markings or information will be accomplished prior to accountability or physical transfer to a DRMO. This code will not be assigned to AEDA items.

Q CCLI. Commerce Control List Item Demilitarization not required. CCLI are dual-use (military, commercial, and other strategic uses) items under the jurisdiction of the Bureau of Export Administration, U.S. Department of Commerce, through the Export Administration Regulations. The types of items under the Commerce Control List (CCL) are commodities (i.e., equipment, materials, electronics, propulsion systems, etc.), software, and technology. The CCL does not include those items exclusively controlled by another department or agency of the U.S. Government.

From: Llgpt@aol.com
Date: Tue, 3 Dec 2002 17:07:07 EST
Subject: Re: [R-390] Surplus Equipment

DLA stands for Defense Logistics Agency, a fancy name for Supply.
Les

From: "Walter S. Szachara" <szachara@gulftel.com>
Subject: Re: [R-390] Surplus Equipment
Date: Tue, 3 Dec 2002 18:33:50 -0600

DRMO -- Defense Reutilization and Marketing Office

Demil Q List -- A list of items that must be "demilitarized" (read smashed or destroyed) before being sold to the public

DLA -- Defense Logistics Agency

Date: Sat, 28 Dec 2002 15:47:18 -0800 (PST)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] R-390A Makers List Page

http://www.geocities.com/courir26/390a_makers

Please refer to the above link for the latest list of contract orders, sn's and other notes. I'll keep this document updated with new info as it surfaces. Myself and Les Locklear had a short article in the new ER, but unfortunatley there was a couple of typos and at least one update since then. Feel free to link this, but credit self, Les Locklear, Wally Chambers-K50P, and all of you on the list for sending in the info.

From: "Tom Bridgers" <tarheel6@msn.com>
Date: Tue, 14 Jan 2003 20:29:45 -0500
Subject: [R-390] Viappiani R-390/390A Handbook... review & how to buy

Several list members wanted more info on the book and information on how they might buy the book. The following is submitted, with the kind help of John Poulton, in response to those requests.

The complete review by Michael Cristohl of the Viappiani R-390/R-390A Handbook is provided below. A few paragraphs down are instructions for ordering the book from Editrice Il Rostro di Patrizio Giovene & C., the publishers in Milano, Italy.

REVIEW: R-390/URR - R-390A/URR Handbook, Paolo Viappiana,

Editrice Il Rostro

by Michael Cristohl

Okay - what am I doing writing a review in English of a book written in Italian? To make matters worse I don't have much knowledge of the language either! Well, first of all I would like to state that there is enough information taken from the various US Army TMIIs, charts, diagrams and figures that know no linguistic boundaries to make the Handbook worthwhile to someone who does not have access to the official documentation. Of course, some degree of familiarity with the language would be a great asset here or a friend who can help. The fact that a writer in Italy chose to write a book about a forty year-old US military and government radio receiver really intrigued me but it only backs up the claim that these radios are extremely good for listening to the portion of the spectrum they cover - 500 KHz to 32.000 MHz, AM and CW. Add-ons and circuit modifications will also make SSB signals intelligible but since most shortwave broadcasts are AM the receiver is popular among serious hobbyists who like to tinker with their equipment.

The Handbook contains 20 Capitulos (Chapters) and covers a lot of ground; ie: technical data, modifications, history, trivia, statistics, lore and legend about this receiver. Paolo's work covers "la famiglia 390" which includes the R-389, R-390, R-390A, R-391 and R-392 and the differences between them, particularly the R-390, R-390A R-725 and R-1247. It is very convenient to have block diagrams and tube lists of both receivers in one book if you are interested in both models. One of the things it conveys very nicely is that the R_390 and R-390A receivers are VERY different. Paolo has included a detailed chart of contract numbers, contractors, years of manufacture and estimates how many were made in each contract. I am curious how accurate those production figures are, since Tom Marcotte, compiler of the on-line list has not publically speculated in the numbers, at least that I have seen.

As far as illustrations go, Paolo has borrowed liberally from the TMs and these are, of course, in English. There are mention of some of the officially modified models, such as with LSB and SSB, Diode Load output on the front panel and a whole chapter that lists the TMIIs and NAVSHIPS manuals for all models and some sources for them. Also included is mention of the Boatanchors List on theporch.com and how to subscribe. There is a ten page bibliography or articles, mostly in English, with familiar and knowledgeable names like Kleronomos, Rippel, Langford that is extremely valuable and this compilation alone is well worth the price of the book.

I looked in the mods and did not see the very important C-553 mod to change the notorious Vitamin Q plate blocking capacitor on the plate of V501 (1st IF amplifier) to a .01/600V Sprague "Orange Drop" - cheap insurance on your four Collins mechanical filters recommended by Chuck

Rippel. In fairness to the author it may be in there somewhere and my ignorance of his language must be forgiven if this is the case.

The book is available directly from the publisher - write them at:
Editrice Il Rostro di Patrizio Giovane & C.,
20155 Milano, Via Monte
Generoso 8 Italy,

or Fax: 02-2133869. They will mail you a copy, enclosing an invoice for 35.000 Italian Lire which is about \$25.00 US. You must pay in Lire which you can get from a bank or currency exchange.

From: "Emanuele Girlando (IW1DHI)" <egirland@tiscalinet.it>
Subject: R: [R-390] Viappiani R-390/390A Handbook... review & how to buy
Date: Thu, 16 Jan 2003 00:29:55 +0100

The book also includes an interesting appendix by Marco Bruno (IK1ODO) reporting many performance measures of the R-390A.

Date: Wed, 15 Jan 2003 21:03:30 -0600
From: Don Reaves W5OR <w5or@comcast.net>
Subject: RE: [R-390] Viappiani R-390/390A Handbook... review & how to buy

Coincidence? There is a picture of Mr. Viappiani and some of his receivers in this month's Electric Radio. Page 33. R-389, too. Says Paolo is a professional audio engineer and longtime SWL'er. Anybody on this list speak Italian?

From: "Emanuele Girlando (IW1DHI)" <egirland@tiscalinet.it>
Subject: R: [R-390] Viappiani R-390/390A Handbook...clarifications!
Date: Sat, 18 Jan 2003 10:55:27 +0100

Some clarifications: "muble" reads "mumble" - the noise of thinking... "I am not pleased to know.." was a raw literal translation from Italian meaning: "unfortunately I don't know him - I would be pleased to know him" - ok? I recommend the book - it is still available @ Il Rostro.

The correct references to "Editrice il Rostro" are:
Editrice Il Rostro
Via B. Buozzi, 5 - 20090 Segrate (MI)
Tel. +39-022135366 - +39-022133257
Fax +39-02-2132869
e-mail: info@ilrosto.it
<http://www.ilrosto.it>

Hope this helps you all! Ciao.

Date: Tue, 25 Mar 2003 13:50:16 -0500
From: tbigelow@pop.state.vt.us (Todd Bigelow - PS)
Subject: Re: [R-390] Julien Creek receivers...

Some time ago the ol' sage Nolan gave his opinion on these radios. I believe it was based not only in his past experiences with many of these radios, but also with the work involved in restoring them to top condition. The problem was and is the degree of damage done over time and the amount of work required to restore and/or repair it. This was then compared to what you could buy a decent working or restorable example for, one that hadn't been exposed to the elements for years. To cut to the chase, Nolan figured it was just not worth the hassle to bother. Mainly because to do it right, you'd pretty much need to tear the radio down to parts (not just modules) and reassemble it, replacing many components and pieces, if you really hoped to have a reliable radio. Coils, caps, resistors.....many items would absorb moisture over an extended period of exposure. Combine this with the many bad electrical and mechanical connections to be expected and you get the idea. I don't think his intent was ever to claim no one should bother, more that they'd be better off to use a blue striper as a parts donor for a rig in better shape. It was just a clear case of the potential time and money invested by the time you got through, what you'd likely have to replace, and would you just be better off finding a better set to start with. If you have a lot of time and access to a lot of known-good parts, and if the blue striper (name given to radios from the 'St Julian's Creek Massacre' derived from the blue stripe painted across all of the radios on the pallet) was free or really cheap, then go for it. Nolan's original post was with respect to the prices being charged for them by Fair Radio and perhaps others who were selling them at the time. He figured with the \$200+/- price, the price of parts you'd likely need to replace (many if it was one of the exposed top/front/side victims), the difficulty in finding some of the coils and other scarce parts, and the time you'd have invested you'd be better off to pay more for an example that was never exposed to the elements like that. I tend to agree from the time/cost/availability side. We're fortunate to live in a time when decent R-390As are still plentiful and comparatively inexpensive. 100 years from now a blue striper will probably be worth its weight in gold. Okay, maybe not *that* much....
Boomer, K1KKAQ

Date: Tue, 25 Mar 2003 14:00:42 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] Julien Creek receivers

I can only tell you from MY first hand experience. I have one of these "Blue

Stripers". It sure ISN'T corroded. It is pretty darn clean. The restoration, as it is, is pretty painless! I'm going through and recapping it, found only one bad tube, and have had to replace one "can" due to careless handling by someone over the years. The 455Kc oscillator can had the slug broken, and the threaded portion was sheared off level on the top. The PTO is great, all modules are clean. If this is extra work, expense, and labor, I'd like to know WHAT kind of cake walk some folks are getting!

From: "Cecil Acuff" <chacuff@cablone.net>
Subject: Re: [R-390] Julien Creek receivers
Date: Tue, 25 Mar 2003 13:27:39 -0600

I agree...mine was dirty to say the least...lots of sand etc. But it cleaned up nicely. The only problem was some of the ferrous hardware...like the studs and nuts that hold some of the can covers on have rusted and that will probably take a little work to clean up. The slug rack springs were rusted and I picked up a couple sets from Dave of R-390/URR fame. (look I can do it without saying Non A) Beyond that once the gear train is cleaned up the rest is pretty much the same as for any other R390A.

I have not had to replace all the coils or all carbon resistors etc....they all look great and even after being in the weather for quite some time the radio worked when I received it! Not the greatest but, it would receive WWV which was a good starting place! The under side of all the modules and the chassis looked like brand new! I wish I had 10 of these things...and am very glad they were able to be saved from the scrap yard!!! Wish we could do the same for the R1051's....I'm afraid that day has passed though!

Date: Tue, 25 Mar 2003 14:34:58 -0500
From: tbigelow@pop.state.vt.us (Todd Bigelow - PS)
Subject: Re: [R-390] Julien Creek receivers

Sounds like you got one of the better ones, Bob. As was mentioned, the placing in the pile (along with the amount of time exposed, I don't think they all just appeared one day) has a lot to do with it. I've seen a few of them at hamfests over the last 2-3 years. Some looked like they were 500 years old. Chassis were corroded and pitted, crud in every corner and crevice, broken tubes, crappy looking sockets that had been left empty and exposed, stiff/frozen controls.... Like anything else, having one in front of you before deciding is the best approach. My response was one of attempting to clarify where the original 'not worth the effort'/'impossible to restore' view may have come from.

As long as the person is aware up front of what they are getting into, there's really no harm in trying. Worst you can do is fail, best you can do is

succeed. Being able to evaluate the radio and your chances up front always helps. Besides, nothing is impossible if you have enough time and money. The P-38 'Glacier Girl' proved that. (-: It's good that at least some of them escaped Cap'n Crunch the shredder.

It's too bad they weren't taken better care of in the process, though. Gems to us, so much scrap to someone else.

From: "G4GJL" <G4GJL@btopenworld.com>
Subject: Re: [R-390] Julien Creek receivers...
Date: Wed, 26 Mar 2003 00:27:12 -0000

I imported 10 of these, and between 4 of us hams in on the deal over here, we have 8 or so of them on the air now. I personally revived 4 of them. I agree with the comments on quality of materials being the main reason they are still worth fixing. I did all the prescribed capacitor changes, 2k2 resistor changes and resistor checks but there again I would have done those mods on any rig. The main problem was the paint stripes, dust / sand and the dried grease and crud on the gear box. Fortunately on the sets I had there was enough grease and oil around on the upper chassis that it acted as a protective layer to the metal, though of course it was also layered with sand. Does any one know if there is a lot of black sand or cinder near St Juliens.? Well most of it ended up in my sets!! I removed the dried grease and sand with 2 pints of Kerosene washed over the metal parts per radio, followed with hours with light oil on Qtips. A labour of love really. The Last set I revived has a better performance than any 390A I have heard- Mine or those heard at Neil Cline G8LIU (UK R390 Guru) shack. In summary, I think the \$100 plus shipping (\$150 per set) was well worth it for us UK guys, but yer pays yer money and yer takes yer choice as they say! 73 Pete G4GJL

Date: Tue, 25 Mar 2003 22:58:58 -0500
From: Gene Beckwith <jtone@sssnet.com>
Subject: Re: [R-390] Julien Creek receivers...

Wow!! Totally not so....I've been away from the list for some time and seems our lore is slipping into obscurity....!! The now famous St J's are a legend and I can offer testimony as to their restroability... I pick up two from Fair that had their "Blue Strips" in place plus some yellow...and some black...plus a fair share of 'sand' from the out door bivwac ... My only mistake was I didn't pick anothe half dozen...when they were stacked to the ceiling over at Fair... Today they are in regulars use here at W8KXR...and in one case, as I've just mentioned in another post to the list...visitors want to know where they can oder one...the second was intentionally left with a trace of "blue" just to remind me of the battle scares this beauty has been through.... If you are new to this list you will learn that all info needed for

a complete restroation or clean up, depending on how much work (learning) you're willing to absorb...is avialable. The St. J's are a legend...and if u have one...or more...get started...Mine hold their own with most of the new sushi boxes ... not bad for multi year old technology...

From: "Ed Zeranski" <ezeran@concentric.net>
Subject: Re: [R-390] Hi
Date: Sat, 7 Jun 2003 21:30:09 -0700

>The SRR-11 became the SRR-11A along with the rest of the SRR-11,12,13 series.

I've been picking up the 390/390A back and forth too but the old ears jumped up when the SRRs got mentioned. The receivers in my SRT-14-15-16 manual(I have the transmitter, manual 1955) are RBA-RBB-RBC. When I went to Navy ET school in the early '60s the taught receivers series was SRR-11/12/13 ..along with the SRT series but...but..R390(A and non A) was there too. ET school was in Bldg 520 at Great Lakes. As a young squid, before my three all expense paid SE Asian Vacations, we called them all '390s. Not R390, not R390A...just shittin' '390...as in "I went to the comm shack to swap out a '390." It was the circuit/ comm. function that counted not what was on the name plate. By the way..working on the SRR receivers just sucked. The '390s were ok but then we got a saddled with the R1051 and UCC-1V for tone diversity multiplex receive traffic.....Bozo

Date: Sat, 7 Jun 2003 22:45:07 -0700 (PDT)
From: John Kolb <jlkolb@cts.com>
Subject: Re: [R-390] Hi

As Navy Radiomen, we only called them 390's also. Even though every one we had was an 'A. Wasn't a problem there as everyone knew what we meant - and for our purposes, they would have interchangeable. However things are different here in this group - many of the messages asking techenical questions will get different answers depending on if they are asking about a 390 or 390A. Since so many people have said 390 when they were refering to a 390A, unless you know well the person asking a question about a 390, you won't be sure which they are really asking about. If I post an ad asking to buy a 390A IF strip, everyone knows exactly what I want. If I ask for a 390 IF strip, and really wanted one for a 390A, I've just wasted everybody's time plus maybe even end up buying the wrong part. Even if I really wanted one for a 390 non A, someone who might have sold me a 390 IF strip may not bother answering assuming I'm one of those sloppy people that calls everything a 390 and probably really want one for a 390A. However if I ask for one for a 390 non A, everyone will be sure exactly what I want. So I will always consider references to 390 non A's to be in good taste and an aid to clear communications.

To answer a different message also: I don't recall ever hearing about the SRR-11A series with mechanical filters, but it's just random luck that the A in SRR1xA, R-390A, and R-388A all indicates mechanical filter versions - doesn't mean you can buy any radio with an A in the name and find a mech filter. Speaking of filters, I have some mechanical filter info on my web site <<http://members.cts.com/king/j/jlkolb>>

From: ToddRoberts2001@aol.com
Date: Sun, 8 Jun 2003 07:25:50 EDT
Subject: Re: [R-390] Hi

Hi John, thanks for your posting to the R-390 reflector. I cannot agree that it is just random luck that the SRR-11A, R-390A and R-388A all have mechanical filters. I have both the original SRR-11 and the SRR-11A with mechanical filters. The manual clearly states that the SRR-11A contains mechanical filters. It is nearly identical to the SRR-11 except for the added mechanical filters in the IF strip. Can you give me an example of a U.S. military radio receiver with the "A" suffix that does not have mechanical filters?

From: "Forrest Myers" <femyers@attglobal.net>
Date: Sun, 29 Jun 2003 10:49:20 -0400
Subject: [R-390] R-390(A or non A) entertainment

While stationed in Germany in the American Army in the early 1960's we always had a 390 connected to the PA system and tuned to AFN. AFN was the forerunner of AFRTS. The radio was tuned to AFN during the day and changed to Radio Luxemburg at night. At the time, Radio Luxemburg played the popular music of the day that mostly consisted of English Liverpool type of music. Anyway, the R390 did provide good entertainment for the troops in those days. Entertainment was not it's main function though. We had so many r390(A and non A) around that they were really the most readily available and easy to hook up to the PA radios we had.

From: "federico" <federico@dottorbaldi.it>
Subject: Re: [R-390] R-390A Variant
Date: Wed, 6 Aug 2003 16:11:55 +0100

Hi to all, probably it is part of a system developed for Apollo missions (land based obviously) that employs an external frequency synthesizer by MANSON Laboratories. At the moment I don't remember the name (R-1490/URR??? probably wrong) and I'm in my holiday home so I can't check.

On Tue, 5 Aug 2003 22:07:41 -0500, Byron Tatum wrote

> Hello-

> I recently obtained a variant of the R-390A of which small
> relays were installed on modules and 3 osc. output / inputs were
> available at a rear panel plate, equipped with 3 BNC conn.and
> terminals to energize the relays. The front panel tag is missing and
> I cannot recall the ID number of this set. I believe this one is an
> all Collins made unit, and it is only the second of this type that I
> have seen.About 8 years ago I dis-assembled one of these, it was an
> all Collins module and mainframe set, however the modification was
> done by another contractor.The front panel ID tag reflected a new
> type number. I would be interested in trading this set for a late
> model { preferably EAC} if anyone is interested.It is complete with
> covers and meters. Thank you, Byron WA5THJ.

From: "federico" <federico@dottorbaldi.it>
Subject: Re: [R-390] R-390A Variant
Date: Wed, 6 Aug 2003 16:13:03 +0100

P.S.: some years ago I saw on E-Bay the modification kit with the new tag

From: "WF2U" <wf2u@starband.net>
Subject: RE: [R-390] R-390A Variant
Date: Wed, 6 Aug 2003 11:49:50 -0400

Your receiver is an R-1247/GRC-129 Receiver, modified from the R-390A by Manson Labs. This equipment was part of the AN/GRC-129 system which had (2) R-1247 receivers for dual diversity. The 2 receivers had the CV-1694/GRC-129 Single Sideband Converter, (Manson Labs) connected to them, The CV-1693/GRC-129 is the 1 MHz step synthesizer and the O-1203/GRC-129 is the 1 KHz step synthesizer locked to the same frequency standard. With the 2 synthesizers the receiver is tunable within its normal frequency range in 1 KHz steps. The frequency still has to be dialed in the receiver, because the RF stages and mixers have to be peaked up at the frequency of operation. The receiver can be operated normally, too. Both synthesizers and the converter were built by Manson Labs, but the synthesizers were also made under contract by Hallicrafters, in their last throes of death... The system transmitter was the modified (for sideband) T-368, under the nomenclature T-946/GRC-129, driven by the O-1555/URC synthesizer. 73, Meir WF2U Landrum, SC

Date: Fri, 21 Nov 2003 05:34:05 -0800 (PST)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] Clavier IF Module - Ugh !

This is the only example of 1970 Clavier parts I've seen.

From: "Don Reaves W50R" <w50r@comcast.net>
Subject: RE: [R-390] Clavier IF Module - Ugh !
Date: Fri, 21 Nov 2003 09:58:20 -0600

Wouldn't this be the newest piece of R-390 gear we have documented?

Date: Fri, 21 Nov 2003 08:11:09 -0800 (PST)
From: "Tom M." <courir26@yahoo.com>
Subject: RE: [R-390] Newest 390A Gear?

Obviously the 1984 Fowler rigs are the latest. However, Hacking Labs of Menlo Park, CA made power supplies in 1980. That is the latest parts contract I've seen (save for the Hank Arney contracts).

From: "Tom Bridgers" <Tarheel6@msn.com>
Date: Fri, 21 Nov 2003 11:12:08 -0500
Subject: [R-390] Clavier Crystal Deck

Well ... I have a Clavier Crystal Deck that our "friends" in the govt. demilled. Meaning someone took a ballpean hammer to the top of it in two places and to the bottom of it. It's ugly. But they did not touch the side of the deck where the nomenclature shows the following:

Clavier Corporation
Order No. DAA G05-67-C-0136
FSN 5820-644-4437
SM-D-249007
Serial No. 121

If I sent you guys a photo of this wretched thing, no doubt it'd brings tears to your eyes!

Date: Fri, 21 Nov 2003 08:17:48 -0800 (PST)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] R-390A parts contracts URL

http://www.geocities.com/courir26/390a_makers.html
This is where I keep the 390A contract info.
I need to update for the Clavier thing.

From: "Don Reaves W50R" <w50r@comcast.net>
To: "Tom M." <courir26@yahoo.com>, <r-390@mailman.qth.net>
Subject: RE: [R-390] Newest 390A Gear?

I forgot about the oddlot Fowlers. Who has one of those?

Anyone report about the build quality of the Fowler?

Date: Fri, 21 Nov 2003 14:06:32 -0500
From: JMILLER1706@cfl.rr.com
Subject: Re: [R-390] R-390A parts contracts URL

I'll take a picture of the Clavier IF and post it tonight. Or email to anyone interested. Let me know. Wonder what Antiques Roadshow would say it's worth? It's untouched (except for my repairs).

From: "Sam Doughty" <sdman@cableone.net>
Date: Wed, 26 Nov 2003 19:46:42 -0600
Subject: [R-390] Serial #

Info on a 390A with a SN EX-1. Been out of the loop for a long time and just starting back. Sam

From: "STEVEN FITZGERALD" <scfitzgerald@verizon.net>
Date: Wed, 26 Nov 2003 12:44:31 -0500
Subject: [R-390] Amelco

I am new to 390's and was wondering if the Amelco Manufactured 390's are considered a "better or worse" radio. I see on one of the web sites that the Amelco manufactured was not produced in great numbers.

From: "Tom Bridgers" <Tarheel6@msn.com>
Subject: Re: [R-390] Amelco
Date: Wed, 26 Nov 2003 12:55:00 -0500

Actually IMHO the Amelco is one of the better R-390A's. Amelco and Teledyne were made by the same company; so both are high up on my list of good mfrs. I base that on several that I have -- and all of them are first-rate 390A's. I would certainly rank them higher than a Stewart-Warner, and for the most part better than my Capeharts. Though, I have one Capehart that is a winner, and I think Tom Marcotte has had a lot of success with Capeharts. But I digress! You'll find an interesting oddity. The bigger of the two plugs on an Amelco AF module is placed exactly 180 degrees from all the other manufacturers. The Amelco AF modules will work in other mfrs radios, and vice-versa, but you have to turn the plug 180 degrees for it to mate properly. And sometimes that seems to put an extra strain on the wiring. I wouldn't want to have that as a permanent installation.

Date: Sun, 07 Dec 2003 08:59:39 -0500
From: Tom B <tbryan@nova.org>
Subject: Re: [R-390] Signal Generators (was: Deoxit)

<snip>

R-390 and R-390A manuals are also available at the same place.

<https://www.logsa.army.mil/etms/data/A/006385.pdf>

<https://www.logsa.army.mil/etms/data/A/006386.pdf>

<https://www.logsa.army.mil/etms/data/A/006388.pdf>

<https://www.logsa.army.mil/etms/data/A/006391.pdf>

<https://www.logsa.army.mil/etms/data/A/006394.pdf>

Many of the military manuals that are available on ebay come from the Army site.

From: "Dottor Federico BALDI" <federico@dottorbaldi.it>

Subject: R: [R-390] R-725, the new Holy Grail

Date: Sun, 7 Dec 2003 21:49:11 +0100

I'm quite surprised because as far as I know R-725/URR don't have the advantage of mechanical filters of R-3909A/URR and don't have the advantages of R-390/URR; the lone advantage of R-725/URR is when you employ it in radio direction finding and I don't think that the buyer really shall employ the R-725/URR in this type of service. If somebody pays 1600 USD for an R-725/URR what shall be the value of an R-389/URR or a G133F?

Excuse me for my english that isn't so good as I should like.

From: "John KA1XC" <tetrode@comcast.net>

Subject: Re: [R-390] R-725, the new Holy Grail

Date: Sun, 7 Dec 2003 17:15:57 -0500

Hi Federico, mechanical filters are not always an advantage. Hams usually go gaa-gaa after them because they have steep skirts which are excellent for attenuating close-by interference, an important consideration in the crowded ham bands. However, they also give AM signals (especially broadcast) a slight raspiness to the upper audio frequencies, so folks who prefer fidelity over filtering will prefer the older R-390 with LC type filters. Of course, hardcore radio nuts will usually want one of each kind of radio/filtering to suite particular circumstances or mood. :^) None of the 390x series of receivers was ever designed for hamming or broadcast listening, they were built to fight in the Cold War, so none of them are actually being used for their original purposes by us hobby people. What makes the R-725 interesting is that it's an oddball, half 390 and half 390A, and there were relatively few built, both factors which make them interesting therefore collectable and costly. At least you can listen to all of HF with an R-725; with an R-389 you're limited to the broadcast band and below. I sure would like one, but not at that price, maybe I'll get lucky

sometime at a flea market.

From: "wjneill@lcc.net" <wjneill@lcc.net>
Subject: RE: [R-390] R-725, the new Holy Grail
Date: Sun, 7 Dec 2003 18:12:18 -0500

I'm glad I've got one. As well as an R-389. Perhaps in a few more years, given the presumed increase in value of such receivers, I shall be able to live a life of idle decadence in retirement when I sell off the contents of my five racks of receivers and ancilliary equipment.

From: ToddRoberts2001@aol.com
Date: Sun, 7 Dec 2003 18:32:44 EST
Subject: Re: [R-390] R-725, the new Holy Grail

Very interesting to see how desirable the R-725 has become as reflected on the end price in the auction. That has spurred my interest in the conversion of installing/modifying an R-390 I.F. strip to work in an R-390A. Looks like with a few hours of time and some re-wiring one could have a working clone of the R-725. I think the combination would be a good one if someone's main interest was in Broadcast/Shortwave listening and/or ham-band AM phone operation. You would have the serviceability and newer design of the R-390A RF chassis and the somewhat smoother audio of the R-390 I.F. in one package.

From: "Dottor Federico BALDI" <federico@dottorbaldi.it>
Subject: R: [R-390] R-725, the new Holy Grail
Date: Mon, 8 Dec 2003 00:38:59 +0100

In my personal opinion I believe that what worth to be collected are fine receivers and obviously the rarer ar the more sought. What I say is that if you have an R-390/URR in good shape probably you shall have better performances that with an R-725/URR, I preferred to spent the same money (more or less) to have an R-390/URR remanufactured from Rick Mish. I see the R-725/URR in the same way of R-391/URR quite rare receivers but not better than the R-390/URR from wich they come. About the R-389/URR my point of view is that it is a LF specialist, very rare (at least here in Europe) that give high performance in a part of frequency range (LF) not covered from the other receivers of the R-39XX, consider than were built less than 1000 pieces. Anyway here in Italy there is a say " not all the mad people stays in mad's hospital" and surely I'm one of them, I hope that the guy that bought the R-725/URR shall enjoy himself. In my collection (that you can view with the link below) I have :

COLLINS EQUIPMENT
two R-390A/URR (one Collins and one EAC 1967)

one R-390/URR by Rick Mish
one R-389/URR by Rick Mish
one CV-1982 SSB CONVERTER (nuvistors) Kahn Lab.
one R-392/URR Stewart-Warner
one G133F by LTV TEMCO
two 51J-4 one in St. James Gray for Tanjug with slavian silscreened and
one with front panel of the same colour of R-390 (?)
one 651S1 with preselector 635U-2
two MULTICOUPLER ex US Navy (many many 6922 tubes inside)
one RTX AN/PRC-515 complete of all accessories

NON COLLINS EQUIPMENTS

one EKD-300 by RFT ex-DDR (1990)
one EKD-500 by RFT ex DDR (1991)
one EZ-100 preselector for EKDs
one RTX ITT MSR-8000 with ATU MSR-4040
one RACAL PRM-4031 manpack HF
one Plessey PRC-320 L manpack HF
one MEL PRC-2000 manpack HF (1997)
one Transworld PRC-1099
one GRC-215 REGENCY NETWORK
two 100 W power amplifier RACAL and REDIFON

Visit my webspace voted to military surplus radio and aircraft clocks :
www.dottorbaldi.it/militaryradio

See also: www.geocities.com/pa0jta2/hamshacks.html

Date: Sun, 07 Dec 2003 18:54:53 -0500
From: Barry Hauser <barry@hausernet.com>
Subject: Re: [R-390] R-725, the new Holy Grail

I'm pretty sure it's been done -- backwards and forwards -- fitting an R-390 IF deck into an R-390A and the other way around. Irony Dept.: Just imagine sometime in the not so recent past -- a pilgrim buys what looks like an R-390A, possibly missing its tag and later learns he has no mechanical filters and the IF deck looks funny. There was probably a time when they were viewed as deficient, second rate, bolyxed, whatever. Long before the concept of @RARE@ was fully developed in modern society. One school of thought is that, yeah, you can fit a '390 IF deck to a '390A, or maybe better off just getting an R-390 to keep your "A" company and switch off when conditions and program content call for it.

From: "Scott Seickel" <polaraligned@earthlink.net>
Subject: Re: [R-390] R-725, the new Holy Grail
Date: Sun, 7 Dec 2003 20:12:45 -0500

I think the overall condition of it really helped its value. It is really in sweet condition. Personally, I can think of a really lot of better stuff to buy for \$1600 than that radio. Just my opinion. Sure a lot of you agree.

From: Jhowings@aol.com
Date: Sun, 28 Dec 2003 15:05:01 EST
Subject: [R-390] Unusual R-390a

Looking for info. I have the N5OFF contract list but do not find my Rx on there. Front plate says Collins, Ord No 8719-P-55,

however printed on rear panel is EAC Ord No FR-36-039-N-6-00189(E), SER NO 949.

Anybody got an answer ??

From: SP600historian@aol.com
Date: Sun, 28 Dec 2003 16:06:45 EST
Subject: Re: [R-390] Unusual R-390a

Well, Joe, what you have is a "Depot Dawg".....The front panel was more than likely from a Collins with the 1955 contract nomenclature tag. The rear panel was taken from a 1967 EAC contract. When these receivers went to the depts for repair/overhaul, the front panel tags were removed, as were the various modules/chassis and sent to their respective repair stations. When completed, they were reassembled in whatever form they came from the various repair stations. That was the way the receiver was spec'ed out, so modules/chassis would be interchangeable. There are "very few" examples that have all the numbers matching. Most are "Depot Dawgs," but the is not a disparaging term, but pretty much the norm.

From: Jhowings@aol.com
Date: Sun, 28 Dec 2003 19:19:28 EST
Subject: [R-390] Unusual R-390a

Thanks to those who almost immediately responded, I think the mystery (to me) is solved now-Bureauracy The general condition & very clean, engraved front panel do indicate the later receiver or special use as it does not have the 40 years used look outside or in. I've had "normal use" and show the last 35-40 years easily, Hi Hi

Date: Sun, 28 Dec 2003 13:03:53 -0800
From: Dan Arney <hankarn@pacbell.net>
Subject: Re: [R-390] Unusual R-390a

Joe you have a depot dog. both are valid order/contracts. I have tags for all of the contracts. I have that EAC order number and can stamp the 949 S/N on it \$30.00 mailed.

Date: Wed, 31 Dec 2003 13:30:05 -0500
Subject: Re: [R-390] Updated Collins (R-390A) Contract List
From: brumac@juno.com

Tom, For your information, I have a new high serial number of 6582, penciled on a front panel that I bought from American Trans-Coil a few years back. The problem being that there is no receiver to go along with the number, only an Imperial tag, contract # 37856-PC-63, serial # 1570 so I suspect that it is anyone's guess as to who made the panel, perhaps EAC? FC-4 was not performed (no diode load test point) and there is a brass tag, 2" X 0.75" just to the right of the RF Gain, stating, 'Property of US Navy' and below that, '62858-000977'. Tag is fastened with 2 brass rivets. Does anyone know how ATC got their receivers? Were they depot dogs, new from manufacture or what?

Date: Wed, 31 Dec 2003 15:12:25 -0500
From: Barry Hauser <barry@hausernet.com>
Subject: Re: [R-390] ATC Items - was Contract List

My understanding is that about 200 assorted used units were purchased. These were disassembled. Some of the parts (plus new and NOS inventory) was purchased, bundled and put up for sale by Chuck Rippel a few years ago -- he might have some left. As far as the remaining inventory, ATC needed to make space, and I have taken over most or all of the '390A material and some other items. (My office/warehouse is only 15 mins. away.)

Not quite set up -- still organizing the inventory. However, I can tell you that most of the R-390A components were harvested from receivers that were in use at one time or another. I can't say whether they were "depot dawgs" or not -- could be -- as the RF and IF decks are well mixed now. If anyone needs anything in a hurry, let me know. Offerings and prices remain as shown on the ATC site at this time. You say the number is pencilled on? ;-) Barry

Date: Wed, 31 Dec 2003 15:23:56 -0500
Subject: Re: [R-390] ATC Items - was Contract List
From: brumac@juno.com

Yep, the panel came with a tag and the # was under the tag, in pencil.

From: "Scott, Barry (Clyde B)" <cbscott@ingr.com>

Subject: RE: [R-390] ATC Items - was Contract List
Date: Wed, 31 Dec 2003 15:08:35 -0600

The front panel on the frame I'm restoring also had a serial number written in pencil where the tag goes. It was painted over with some clear enamel or clear lacquer to preserve it.

From: David Hallam <dhallam@RapidSys.com>
Date: Fri, 9 Jan 2004 14:59:09 -0500
Subject: [R-390] R-390 Info

Is there any way to determine any information about my R-390, date of manufacture, etc.? The original front panel tag was missing when I got it and that was 30 years ago. The modules all seem to be Motorola except for the VFO, which is Collins.

From: R390rcvr@aol.com
Date: Fri, 9 Jan 2004 15:27:30 EST
Subject: [R-390] R-390A dating

The 1st thing to check in your case is the number of fuses on the back panel. 1 or 3? The 54 contract, one fuse. The 56 contract had one fuse until # 2683, then 3. All the 58 contract had 3. You can sometimes get dates off installed components, such as the line filters, etc. Obviously, may have been changed, but not often. The filter caps often are changed and are dated but less reliable. Lots of other tips if you are interested in further refinement of your dating. As many others will tell you, often they have been through the depot refurb process, where everything is shuffled around, and you end up with a mongrel, aka depot dog. Still good radios, but more mutt like. Hard to tell who the parents were!

From: "bernard nicholson" <vk2abn@batemansbay.com>
Date: Fri, 9 Jan 2004 22:50:17 +1100
Subject: [R-390] Re: R-390 digest, Vol 1 #950 - 5 msgs

About the problem with corroded springs ect Fair Radio in LIMA OHIO have the RF deck and Gear ass. for around 40\$, I have 3 of these rx's in Australia and I prefer them to the 51S1 which I also have. In crowded bands for SSB there is nothing to compare with the 2Khz filter for skirt selectivity and the dynamic range is far better also I have both the double triode prod det. and the 6BE6 pentagrid unit in 2 units and one is unconverted my units are Teledyne and caphart & Stewart warner also through my collection I have had Collins, Imperial and others and apart from some front panels not being engraved there is nothing to chose between them I always get rid of the black tubular caps with the colored bands they are usually leaky and getting rid of them improves the noise

floor , and the audio module I just pull out the octal caps and solder the new ones under chassis modern caps are much smaller and fit no problem.

Date: Fri, 9 Jan 2004 17:02:53 -0800 (PST)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] R-390 Date Info

A good way is to check the date on the crystals. The calibration xtal is the easiest to check (but it may have gotten changed). The xtals in the xtal deck are not so easy to check, but a reliable way of dating at least that module. Also see the bathtub cap neat the PTO for an estimate of frame age.

From: "Cecil Acuff" <chacuff@cableone.net>
Date: Sun, 30 Nov 2003 11:57:56 -0600
Subject: [R-390] 15th Radio Squad.

Hope this somewhat off topic post will not be an annoyance to the group. I have been meaning to ask this question for some time and have just not gotten around to it. Is there anyone out there that served in the 15th Radio Sq. Mobile of the USAF Security Service during the Korean War.

My Dad was a cook for that group in the early 50's and has told me stories about the radio equipment and the "Elephants Cage" antenna farm at the base there in Japan. He was no more than 17 or 18 at the time. He joined the Air Force at 17 and Japan was his first deployment after Basic Training. He has seen my SP-600's and R-390A's and says they look like what he remembered from back then. What has prompted me to ask about this at this point is his Passing yesterday evening after a nearly 10 month battle with brain cancer. He was extremely healthy until age 69 when he was diagnosed with a terminal brain tumor. He died at age 70 at home with all his children and grandchildren gathered around him.... God has indeed blessed us!

He had attended several reunions in the last several years and this year was to help sponsor the 2003 reunion on the Gulf Coast where he lived for the last 33 years or so. He did help arrange the location but got sick and couldn't finish with the arrangements nor attend when it came to town. If you served with this group during this time and may have known Bobbie Acuff...please drop me a note off list! Thanks...and sorry for the OT post!

Date: Mon, 31 Jan 2005 15:59:35 -0000
From: "William G. Mills" <millsend@alltel.net>
Subject: [R-390] LS-206A Loudspeaker Assembly

The Radiomart LS-206 loudspeaker assembly listed on E-bay is not a stock LS-206. The orginial LS-206 and LS-206A loudspeaker assemblies did not

have the carry handles. I was a U.S. Army Signal Corps Platoon Leader (2nd Lieutenant) of a HF Radio Platoon (Company C, 304th Signal Battalion) in Korea in 1962-63. My platoon had 12 each AN/GRC-26D radio trucks as well as the AN/MRC-2 HF radio system (HF receiver truck with racks of R-390A receivers and a transmitter truck with T-368 transmitters).

Each rack of R-390A receivers had a LS-206 loudspeakers assembly. I purchased a LS-206A manufactured by Oneida Electronics Serial Number 21 from Fair Radio Sales several years past. The LS-206A was manufactured under a 1963 U.S. Army Signal Corps contract. Buyer beware when dealing with Radiomart.

Date: Sun, 28 Mar 2004 03:36:10 -0800 (PST)
From: "KC8OPP Roger S." <kc8opp@yahoo.com>
Subject: [R-390] R-390/A Rescue

This is one of those stories that had I not been involved with would be a bit hard to believe, But what follows is the absolute truth.

A week back while finishing up an AM QSO on 40M, A ham from KY called me and said that he had been listening to the conservation about R-390s. He had delivered his to a local ham for repair a while back. The radio was deemed "beyond economical repair" so he had told the repairing ham to dispose of the radio. He passed along his name and telephone number and of course I gave him a call. When I called to see if the radio was still available, there was a short pause on the line. The R-390 was available, but to dispose of it he had tried to put the radio out for the trash man and was told that it was to big and bulky and would have to be in smaller pieces to be allowed in the trash. So he proceeded to dis-assemble the radio by taking out all of the modules, removing the front panel and controls, and taking apart the main chassis and he was about to take the VFO apart. He said he would stop taking it apart if I was interested.....DUH!

Well 630 miles and \$25 later there is now a Stewart-Warner #1858 R-390/A in the basement shop. The only thing missing is the antenna relay, which had been replaced with some yet to be determined hay-wire so-239's. Came complete with original meters and ID tag, plus all the tubes covered with IERC shields. Some assembly is required, but should not be to difficult. Most of the cut wires are still long enough to make the connections. The frame is back together, front panel now has the harness and all controls and should start making the connections this weekend. Did I mention that he also included the operations and maintenance manual. The VFO is a cosmos, but all of the modules are Stewart-Warner. The RF deck mech alignment has slipped, but overall looks OK. Initial plans are to re-assemble, repair and align. This is the first 390/A here, but

should fit in OK with the three non A's already in service. I may have some questions for the group regarding particulars of the A model as this project moves along. I do have some pictures of the pile of parts and am taking more as the re-assembly moves along. A friend has a web site so will see if we can put some info and pictures there.

Sorry about taking up so much bandwidth with the long winded story, but I will try to keep ya'll posted as things move along. Gary, WB8BEM came along for the ride and will back me up on this rescue story, like I said in the beginning, almost un-believable.

From: "Barry Hauser" <barry@hausernet.com>
Subject: Re: [R-390] R-390/A Rescue
Date: Sun, 28 Mar 2004 11:06:03 -0500

I, for one, do not doubt your word. Recollections, tho' foggy suggest that this was probably not the most improbable '390 tale. There are some members of the DDD -- Dumpster Diver Department -- who have made interesting prior briefings. Also reports of drive-by's, whereby the listmember or close affiliate was innocently driving along, spotting an R-390() sitting on the curb, (or yard sale table) awaiting pickup (so they did). These do not include the tales of yore wherein mint '390's were acquired for chump change near the end of swapfests as the sellers didn't want to lug 'em back home, etc. These are difficult to believe out of context of the eon in which they occurred. (A little bit like looking at the Roman viaducts -- many of which still work -- and thinking "How'd they do that?!". Ans.: Cheap labor, lots's of time, stone and brick -- and high quality concrete -- as opposed to the new stuff that cracks after a couple of years. But, again, as with the '390's, I guess you had to be there.) Don't worry about bandwidth. Reclamation of otherwise doomed relevant artifacts is of keen interest around here. HmMMM. Seems as though the Internet and the e-place are not sufficient protection against current uniformed disposal. We'll have to start making up those photocopied signs with photos saying "Have you seen me?!. If so, Please Call XXX-XXXX or email XXX@XXXX." And if that's not enough, we'll have to go with the milk cartons, too. In case you missed a sideways reference in a previous post, I have taken over the remaining ATC inventory of R-390A parts, which includes wiring harnesses (cut off), antenna relays, filters, back panels, etc. There are other sources for parts, but from the sound of what was done, I might have the right combination of stuff. These parts came from about 200 R-390A's that were stripped down many years ago. <sigh> Lemme know if you are missing pieces. Prices are as/was (and still are) on the ATC website.

From: "John KA1XC" <tetrode@comcast.net>
Subject: Re: [R-390] R-390/A Rescue

Date: Sun, 28 Mar 2004 11:48:36 -0500

Great story Roger, it helps make up for the all too common tales of mindless R-390 destruction that one hears. And that was some chain of events leading to your catch; you definitely deserve "Hero" status for saving another great old radio from the landfill. I guess that repairman never heard of Ebay! With your background you should have no problem with repairing the "A", it's construction is a lot more straightforward than it's predecessor.

Date: Thu, 13 May 2004 18:50:20 -0400
From: "AI2Q" <ai2q@adelphia.net>
Subject: RE: [R-390] Fair Radio R-390A??

My R-390 was salvaged from a house fire. The house burned to the ground on Xmas Eve 28 years ago. The set was then stored in an outside shed for 24 years. When I opened it up the interior was covered with mouse droppings, and there was a large mouse skeleton inside the top cover. The set was black, black, black---everywhere. I completely dis-assembled mine, including removal of the racks, and opening up of each and every RF-deck coil can (they plug in using sub-mini silver-plated banana jacks), and other coil assemblies. I inspected, tested, hand-cleaned and polished everything.. Even the Veeder-Root counter was totally blackened inside and out. The switches had to be especially carefully cleaned, too, but the MFP and coil dope preserved everything else perfectly. All of the original tubes checked out good on my tube tester. Even the pilot lamps were still good. That's testimony to MIL-spec design and construction, eh? I did replace one open resistor and an open relay rectifier. After re-assembling it, I totally aligned it....and it's been playing excellently in my shack ever since. It's one FB set. My advice: don't re-cap unless necessary, and then only where necessary. I think the caps are higher quality than those of the R-390A (perhaps other listers can substantiate that, or not). Good luck with it. Keep us all posted. Vy 73, AI2Q, Alex in Kennebunk, Maine

Date: Sat, 3 Jul 2004 18:09:07 -0400
From: "Walter Schulz" <k3oqf@localnet.com>
Subject: [R-390] Reply to my Ballast Tube Question

Thank you all for the help regarding finding Ballast Tubes and Mod's for my R-390A/URR. I knew about the using a resistor in place of the Ballast. I bought my first R-390A/URR around 1968 about two years after my four years aa a Navy Radioman. The fellow who sold me the R-390A (Stewart-Warner S/N 953) was a Material Officer/Electronics Billet. He told me then to use about 48 ohm resistance to replace the Ballast Tube, just as has been mentioned in the discussion. I just wanted to restore my three R-390A's to original status. For the last 36 years my original R-390A has worked with

the 48 ohm resistor just fine. After re-aligning the I.F.'s the receiver sensitivity is approximately 0.2 microvolts. Better than most of the riceboxes sold today.

I was on the USS Hancock CVA-19 during 65 to 66. Supervisor Radio Central on Essex Class aircraft carrier, WWII carrier. The R-390A was used for receiving 8 channel MUX either USB or LSB. Simply moving the BFO + or - 1 KC for SSB. Did not use any other unit for SSB. The receivers were fed from Wire Rope antennas thru antenna couplers. The receivers were used ship to ship (USB), ship to shore either MUX or USB, and for 500 KCS CW International Distress and 8364 KCS Emergency Lifeboat Frequency, 2182 AM Distress. Also the receiver was use to receiver FOX Fleet Bcst via cw and radioteletype (MUX) (Covered Ckts).

Coming back from Indochina via great circle route, just east of Japan we could receive Iowa and mid-west AM Bcst band stations solid on our mid-watches.....It's a great receiver.

Date: Mon, 05 Jul 2004 21:54:48 -0400
From: Rbethman <rbethman@comcast.net>
Subject: Re: [R-390] R-390 History

I suspect that it will be totally futile. I was in service from '60s until very late '80s.
Some records were NOT required to be kept beyond 24 months. After that period they were simply destroyed. Especially true for older equipment that went for turn in and disposal.

Date: Mon, 05 Jul 2004 22:04:03 -0400
From: Bob Camp <ham@cq.nu>
Subject: Re: [R-390] R-390 History

We still have some of that "destroy in 24 months" paperwork around from the Revolution. If you spend enough time (read months) it's amazing what you can turn up. You are not going to find a full trail but you might get lucky and get a good idea of were your radio (or at least ones in the same serial number sequence) went.

Date: Mon, 5 Jul 2004 22:23:41 -0400
From: "JamesMiller" <jmiller1706@cfl.rr.com>
Subject: Re: [R-390] R-390 History

I have heard that serial number tags were often replaced during depot maintenance, so the tag on your radio is probably not the original anyway. Likewise, the modular design meant that depot repairs could be done by replacing entire modules... over the life of service, I would wonder

if a given radio even has its original modules.

Date: Mon, 5 Jul 2004 22:02:52 -0500
From: Tom Norris <r390a@bellsouth.net>
Subject: [R-390] Re: R-390 History

Actually, the last 3, I have had did have matching modules. Order numbers and everything matched, one was a '62 Imperial*, one a '67 EAC, the other a 54 Collins. Some of my others through the years have been mutts though.

Date: Wed, 7 Jul 2004 04:52:17 -0700
From: "Ed Zeranski" <ezeran@concentric.net>
Subject: Re: [R-390] R-390 History

I worked in the Long Beach Naval Shipyard for a while then at North Island (San Diego). Equipment came in by the pallet load, was stripped down to the 'T' bone, rebuilt, then shipped back to the 'owners'. All they cared about was the serial number on the tag matching their 'custody' cards....didn't give a hoot about what was inside as long as it worked.

Date: Tue, 6 Jul 2004 09:58:15 -0700
From: "Dave Faria" <Dave_Faria@hotmail.com>
Subject: Re: [R-390] R-390 History

I'm very fortunate in that all the 39* radios I mentioned do have tags and the modules have very close serial numbers to the panel tag. It probably means they did not see much service. The only radio I do know some of the history is the 391, it came from a listening station in Hawaii. The other radios are anyone's guess. I will query the fellow I got the 391 from and ask him how much more he knows. Thanks for everyone's input

Date: Tue, 6 Jul 2004 23:05:05 +0200
From: "Schluensen" <schluensen@freenet.de>
Subject: Re: [R-390] R-390 History

I have a 67EAC with all modules from EAC. The receiver came from the German Navy (1. Z-Geschwader "Rommel", "Lütjens" and "Mölders"). These three ships (US "Charles F. Adams" - Class) were built in the 1960's in USA.

Date: Wed, 07 Jul 2004 20:21:40 -0400
From: Bob Camp <ham@cq.nu>
Subject: Re: [R-390] R-390 History

In US service the really crazy module swapping seems to have happened as part of major depot level work on the radios. I was wondering if there

were enough for the Kiel Depot to do the same sort of thing. Of course the guys at the Marinearsenal Kiel may simply have had different work habits or different objectives when they did the work. If the matching numbers is a normal thing for radios in German Naval service I bet we get the R-390 vs EK-07 thread going again in no time at all

Date: Thu, 08 Jul 2004 08:29:13 -0400
From: "Veenstra, Lester" <lester.veenstra@lmco.com>
Subject: RE: [R-390] Re: SRI R-390?

The FRA-86 is not an R-390. It is a DFSK demod used with FLEXCOP, a TDM demod system. It was used R-390a's modified with a ten turn counter on the BFO knob. The system is on exhibit at the NSG Museum in front of Ft.Meade.

Date: Wed, 21 Jul 2004 13:38:37 -0500
From: Harry Joel <hcjoel@direcpc.com>
Subject: [R-390] The story of Grundig

Any review of vintage radio offering on the e-Place will have a good number of vintage Grundig table model superhets. You may not know how Grundig grew to be the German equivalent of IBM+SONY. Before the start of WWII, in my beloved birthplace, Fuerth, Bavaria, I remember seeing a whole-in-the-wall radio sales and repair shop run by a gentleman named Grundig. It was stuck between the one and only seafood store and an Italian ice cream emporium. During the war Grundig received many army contracts to fabricate transformers and sub-assemblies for army communication gear. The Army supplied all raw materials and the government supplied assembly buildings and the work force made up of Eastern Europe countries forcefully expatriated and kept in primitive living quarters within the assembly compound. Unlike other contractors, Grundig treated this work force with compassion and respect and managed to get extra food rations for them. Then came the end of WWII. During the next few months, the expatriated workers of other contractor went on a revenge binge of looting. The Grundig crew however posted guards at all entry points and kept looters away. Thus Grundig had a stash of radio components at his disposal being the de-facto owner. There was a big demand for new radios, with pre-war models going bad. The US provisional government had put in effect a law which banned any manufacturing of radios. Grundig used a loophole in this law by offering radio KITS. The where simple regenerative receivers using two 12P2000 MIL style pentodes, selenium rectifier, transformer, and all other bits and pieces including a simple cabinet and of course instructions. The kits were flying off the shelves and Grundig used the profits to set up a development lab and was thus ready with a really super good line of receivers when the ban on manufacturing was lifted. Soon his line included TV's, tape recoders

and many other electronic items. So goes the story about turning human compassion into an electronic empire.

Date: Wed, 21 Jul 2004 14:57:38 -0500
From: mikea <mikea@mikea.ath.cx>
Subject: Re: [R-390] The story of Grundig

What a really neat story! Thanks very much for some interesting human (and radio) history I hadn't heard before.

Date: Wed, 21 Jul 2004 15:21:56 -0700
From: "Marshall M. Dues" <mmdues@hal-pc.org>
Subject: Re: [R-390] The story of Grundig

Excellent post. Thanks for the insight.

Date: Wed, 21 Jul 2004 15:41:04 -0700 (MST)
From: Richard Loken <richardlo@admin.athabascau.ca>
Subject: Re: [R-390] The story of Grundig

"forcefully expatriated", I love that kind of careful phrasing.

Date: Wed, 21 Jul 2004 16:43:00 -0500
From: "Don and Diana Cunningham" <wb5hak@sirinet.net>
Subject: Re: [R-390] The story of Grundig

Keep the stories coming, Harry!!! You are adding much to our radio history files.

Date: Sat, 7 Aug 2004 22:09:18 -0500
From: mikea <mikea@mikea.ath.cx>
Subject: Re: [R-390] Russian HF Radios

> I own a pristine R-250M model. Its performance is simply incredible,
> considering an early 50's design with all octal tubes (19 of them).
> outperforms many receivers 10 years more advanced. The spec on the
> sensitivity is 0.6 uV for S/N ratio of 10 dB at 3 KHz IF and 2.5 KHz AF
> bandwidth, with a 100 ohm antenna. Audio output is 0.5 W into 600
ohms at 4%
> (AF output tube is a Russian 6P6, which is the exact equivalent of the
6V6).
> Frequency stability is specified as maximum 200 Hz drift after a warm-up
of 2 hours!
[snip] There are photos of the various versions at a Russian web site
> http://www.cqham.ru/trx/r_250.html .

Thanks very much; that's a neat RX, and there's a lot more on that site that I'd never heard of. If you'd care to put some larger pix of your R-250, internal and external, on your website or to mail them to me so that I can put them on my website, I'd be very pleased.

Date: Sat, 7 Aug 2004 22:01:12 -0400
From: "WF2U" <wf2u@starband.net>
Subject: RE: [R-390] Russian HF Radios

The Russians indeed built a receiver in the same class and purpose as the R-390 and R-390A. The frequency display was not the Veeder-Root mechanical-digital counter as in the R-390* series, but an analog system comprised of a coarse dial displaying each 2 MHz band in 100 KHz increments and a "fine" frequency dial which was projected from the rear, displaying increments of 1 KHz, above the coarse dial. The receiver has a dual conversion system based on a tunable first IF of 1.5 to 3.5 MHz, mixed down to the 215 KHz fixed IF. The rest of the bands are converted with a crystal oscillator/mixer to the variable IF, a la Collins. The difference is that the bands are 2 MHz wide instead of the 1 MHz in the Collins system, and the tuning is not a permeability tuning arrangement with slugs moving in and out of the coils, but a multi-section main tuning capacitor and a drum bandswitch system. The selectivity is infinitely adjustable (by variable coupling of the 215 KHz IF stages, between 1 KHz and 14 KHz, and an audio bandpass filter is provided as well, selectable between 8, 5, 2.5 and 0.3 KHz. The receiver contains a thermostat-controlled ovenized crystal calibrator, the BFO is tuned with a reduction drive, with a dial displaying -5 KHz - 0 - +5 KHz frequency in 100 Hz increments. AGC time constants available are 1, 0.1 and 0.05 seconds or AGC OFF.

The RF input is selectable with a front panel switch between a 60 to 400 ohm (nominal), balanced and unbalanced dipole, whip/long wire or ground, antenna trimmer control on the front panel.

There are jacks for AGC in/out for diversity, 1st and 2nd IF out, and 600 ohm audio line out (besides the headphone jacks).

The construction is modular: the RF/first IF/crystal oscillator/mixer is in the bottom drawer in the cabinet, the top drawer contains the second IF, BFO, AGC, detector and audio circuits, as well as the metering circuit - the receiver has a built-in emission tester and each tube can be selected for test while the receiver is in operation, or the meter can be switched by the selector to monitor the audio line output or the received signal strength. The power supply is external, and interestingly the input is selectable between 220 and 120 VAC...

The first version of this receiver was put in service with the (former) Soviet Armed Forces in 1948 with the military nomenclature of R-250 ("Whale"), and the improved version, the R-250M was issued in the early 1950's.

Both these models used standard metal octal tube types, which are equivalent to the US types. In the early 60's the receiver was modernized and standard miniature tubes were used together with some circuit improvements.

The self testing arrangement got an additional feature, a built-in noise generator, so besides emission testing of the tubes, a sensitivity check could be performed without external test equipment (like: "Hey, Sergey, I can't copy headquarters!" "Check the receiver with the noise generator, Ivan!" "click, click, click as the meter switch is turned to check each tube, and the input with the noise generator"- "There is nothing wrong with the receiver" "S* *t! The ice broke the antenna again!") This version was the R-250M2 and was in production until 1981.

Incidentally, in all these receivers the B+ is 160 VDC, giving the tubes a real long and cool life, with a total current draw of 120 mA! The filaments are series-parallel connected (all 6.3 V tubes) for 12.6 V at 6 A.

I own a pristine R-250M model. Its performance is simply incredible, considering an early 50's design with all octal tubes (19 of them). It outperforms many receivers 10 years more advanced. The spec on the sensitivity is 0.6 uV for S/N ratio of 10 dB at 3 KHz IF and 2.5 KHz AF bandwidth, with a 100 ohm antenna. Audio output is 0.5 W into 600 ohms at 4% (AF output tube is a Russian 6P6, which is the exact equivalent of the 6V6). Frequency stability is specified as maximum 200 Hz drift after a warm-up of 2 hours!

The tube complement in US equivalent designations is 10 x 6SK7, 3 x 6AC7, 3 x 6SA7, 2 x 6H6, 1 x 6V6, + a voltage regulator tube (I have to find the US equivalent) and the power supply has a 5Z4 rectifier. The detector/BFO injection is good enough for good SSB reception, even with the AGC on, as well as CW is just great to copy on it with all the selectivity options. It's no slouch in AM quality, although .5 W is really not enough to drive a big speaker without an outboard amp.

All this in a real "boatanchor" package of 26" wide, 18" deep and 21" tall (with the shock mounts), weighing 209 pounds, without the power supply, which weighs about 35 pounds.

Options available were RTTY demodulator, high precision AFC (Automatic Frequency Control) system, which provides tuning with a servo motor and

a diversity control interface. There was also a vibrator power supply option, for 12 VDC input.

Construction is really excellent quality and it looks like good US mil-spec work. The wiring and soldering are also first-class, the components look high quality. The transformers are potted, cased and painted, just like the US mil. stuff. Incidentally, I got a couple of sets of NOS spare tubes, with 1972 manufacturing date. Pretty late for still making metal octal military tubes!

There are photos of the various versions at a Russian web site http://www.cqham.ru/trx/r_250.html .

Well, I hope this wasn't boring, but there is not too much traffic here tonight anyway...

Date: Sat, 18 Dec 2004 16:03:34 EST
From: RLucch2098@aol.com
Subject: [R-390] Can you please help identify this?

I know this list is for R-390's but milcom List seems to be dead, maybe someone can tell me where to ask if no one here knows? Now, the unit: It would be nice to know its use & possible Part Number. I know the name marked is Beam-Finder. Seems to be an Audio filter & works nice. Any ideas? Pics:

<http://www.myradioroom.com/navybeam-finder1.jpg>
<http://www.myradioroom.com/navybeam-finder3.jpg>

Date: Sat, 18 Dec 2004 16:17:59 -0500
From: "larryasp" <larry.asp@sympatico.ca>
Subject: Re: [R-390] Can you please help identify this?

It resembles or is an audio filter used in WW2 aircraft. Fits in series with the earphones and the output of the radio. It was a passive device. It widened or narrowed the audio frequency width. Most hams found those very useful after the war for copying CW - during the war same thing in the aircraft, or perhaps listening to the radio beam when navigating, and of course to help eliminate or at least filter out some of "Jerrys" jamming. You could try listening with your own radio.

Date: Sat, 18 Dec 2004 13:39:35 -0800
From: "David Wise" <David_Wise@Phoenix.com>
Subject: RE: [R-390] Can you please help identify this?

Nitpick: The photo may be captioned "Beam Finder", but the device itself is

clearly marked "Beam Filter". Makes much more sense, particularly in the avionics context.

Date: Sat, 18 Dec 2004 16:58:58 -0500
From: Bob Camp <ham@cq.nu>
Subject: Re: [R-390] Can you please help identify this?

I used one of these for quite a while as a CW filter. They were a staple item on the surplus market for quite a few years. Here's what it does:

- 1) Both setting: does no filtering at all.
- 2) Phone setting: notches out a narrow band at something like 1KHz.
- 3) Range setting: passes the 1 KHz tone through a fairly narrow band pass filter.

I'm not totally sure what the tone used was after all these years. It was a bit higher than the normal CW tone most hams use. They were used in conjunction with aircraft navigation beacons. The beacons were AM modulated and generally operated below the AM broadcast band. They transmitted both CW and voice at the same time. Sitting there listening to the CW for hours just to keep up with the weather must have been a bit much. An interesting variation on the system used two transmitters. They both sent CW at the same time. One transmitted only when the other one was off the air. One would send dots and the other one dashes. You could pick out the louder one by ear. Since the louder one was closer you could steer a line at an equal distance (range) from the two transmitters.

Date: Sat, 18 Dec 2004 15:03:10 -0700
From: "Kenneth" <w7itc@hotmail.com>
Subject: Re: [R-390] Can you please help identify this?

According the letter series this device has something to do with WWII Navy sonar equipment.

Date: Sat, 18 Dec 2004 14:43:46 -0800
From: "Kenneth G. Gordon" <kgordon@moscow.com>
Subject: Re: [R-390] Can you please help identify this?

BTW, I have your tubes (VT-131) all packed up. Line at the USPS is about a mile long, so will mail this asap.

What you have is a "Beam Filter". It was normally used by aircraft when listening to the "Radio Range" stations. Most of those have been taken over, BTW, by the NDBs of today. Those Range stations, transmitted both a VOICE signal, usually recorded information on weather or landing

conditions at the airport where the Range stations was located. In addition, they also transmitted an MCW signal, usually at 1020 Hz, which, depending on whether or not you were to one side or the other of the path directly towards that station, was either the International Morse Code letter "N" or "A". When you were directly on the path to the station, you got a steady carrier, and also when you passed directly over it. The Beam Filter was used in the "RANGE" position to filter out the voice signal, leaving ONLY the 1020 Hz "A", "N", or the steady carrier. Hams used it to peak up a CW signal. In the "VOICE" position, it filtered out the 1020 Hz "RANGE" signal so you weren't bothered by that 1020 Hz noise when you were trying to copy the voice signal. Hams used it to remove an annoying heterodyne on a voice signal, if there was one at the right frequency: 1020 Hz. In the "BOTH" position, it bypassed the filter completely so that you heard both signals. This position was a bit more sensitive than either of the other two, so it was normally used when listening for a weak station. Hope this helps.

Date: Sat, 18 Dec 2004 22:35:44 -0500
From: "Michael Murphy" <mjmurphy45@comcast.net>
Subject: Re: [R-390] Can you please help identify this?

I have had a couple of the grey Air Force units and still own one of the Navy units as shown in your picture. They did make great CW filters although they were a little high in frequency for most CW ops taste. I used mine on an 80M command set and on the BC-348 to get some CW selectivity back in the 1970's. Here is a link and an excerpt.

http://www.ibiblio.org/pub/academic/agriculture/agronomy/ham/BOATA_NCHORS/20040731.ba.v03_n681

The Army Air Force chose to mount the filter remotely from the switching function. The Navy had a combined unit, which is very nice but larger than the Army switch box. The Army filter is the FL-5-* and the switch box is the BC-345. They were used at only the pilot's and copilot's positions along with the BC-366 Jack Box. Other crew positions had only the BC-366 Jack Box which provided switching between the different communications systems and a place to plug in a headset and a microphone. The switch positions on the BC-366 were:

COMP - radio compass receive only

LIAISON - liaison radio receive and sidetone only for most crew members transmit for pilot, copilot and radio operator

COMMAND - command set transmit, sidetone and receive available at all stations

INTER - Interphone available at all crew stations

CALL - Overrides all other positions so that any or all crewmembers can

be

called to switch to the intercom channel. Spring return position

On the BC-345, the three positions are RANGE, VOICE or BOTH. During the war, weather reports were often transmitted on navigational beacons located

in frequencies below the broadcast band. The navigation signals were MCW at

a frequency of 1020 cycles. The original radio range navigation system consisted of radio beacons that transmitted four beams roughly 90 degrees

apart although this was modified by adjusting the antenna pattern to provide

the desired courses. The letter A was transmitted in Morse on one side of the course and the letter N on the other. These two Morse characters are complimentary so that the on-course signal was a steady tone. Depending on

which of the four courses from a particular beacon was being used the As could be on the left or right side of the course. Thus, it was necessary to have a chart to tell which way you should turn to find the desired course.

The three filter positions allowed the pilot or copilot to hear either the voice signal, the navigation (range) signal or both. The only remaining vestiges of this system are now called NDBs (for Non Directional Beacon) and can still be heard if you have a receiver that covers the frequency. Generally, they are in the 200-300 Kc range. (there were no Hertz in those days!) There are no longer As and Ns but MCW identification is transmitted along with voice information. The Navy unit is simply called Radio Beam Filter stock no. (R) 16-F-2150. It is a great little unit if you can find one. It is in a nice, black wrinkle finished case with a sloping front upon which is mounted the switch. It also comes with a cord and PL-55 to plug right into your receiver's output.

Date: Wed, 29 Dec 2004 20:37:50 -0600

From: William J.Neill <wjneill@lcc.net>

Subject: Fwd: [R-390] Synthesizers, was 390() vs 390(A)

One other proposed USN dual-diversity radio receiving set was, I think, the AN/FRR-49. It is pictured in the "radio receiving sets" section of an original nine-volume compendium of USN communication equipment dated around 1956 that I obtained from the USN Publications Distribution Center in Philadelphia about two decades ago. The set consists of two R-390() receivers coupled to, of all things, a AN/URA-8. Because there's a photo of the proposed set, I can only presume that someone somewhere thought this sucker would work. There's lots of other nifty things throughout the nine volumes and every piece of equipment is given a

superficial description of its capabilities as well as FSN number, proponent agency (USN, DA, USAF, NSA, etc.) and appropriate TM's. Of course, where proposed equipment is depicted, there is a statement "no TM published."

Date: Thu, 13 Jan 2005 09:13:30 -0600
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] Re-R390 Putting a Cap on Caps

I'll add to what George said by saying don't pay a lot of attention to the tag on the front of the radio. It in most cases don't mean a whole lot because when you get home with it you will most likely find a "who's who" of manufacturers names on the modules. They usually came out of the Mil Depot that way after being overhauled. I certainly wouldn't pay more just because it had a certain tag on the front. Except in the case where you may find a 67 EAC with all EAC modules for example. But verify the modules to be EAC if you can. That would be one case where it might be worth more money. Try to get one with original meters if you can...don't worry too much about top and bottom covers....if their in place OK but don't pass on a radio that's missing them. If it has covers pull them and look around before committing to the purchase.

Know the difference between an R-390A and a R-390/URR there both good radio's but some folks aren't sure how to identify each in the wild. Look for the antenna trimmer control location. Top center is an "A".

I've done business with Fair Radio and they are good folks. Most of the radios they have had for the last few years are from the Blue Stripe pile of St. Julian's Creek. They are more of a challenge than just your average surplus 390A just be aware of that.

Date: Mon, 28 Mar 2005 23:04:17 EST
From: Flowertime01@wmconnect.com
Subject: [R-390] R390-A Contract Choices.

Back when (68-75) we had the receivers by the hundreds. We considered them all equal. They were all alike inside and out side. There were differences (wire harness, cosmo PTO). Some gear trains ran better than others but any and all receivers would work to specifications. We did not go out of our way to swap modules around but it did happen. If you get one that mostly matches inside, you make consider buying some lottery tickets. Fair Radio is selling working receiver for \$600.00.

Watch the meters. Some receivers had glow in the dark paint on the meter face. Some tree huggers though us fellows would be licking the paint on our meter faces or throwing R390/A in the land fill. Many receivers had the

meters pulled before they went to salvage sale. The cost of replacement meters with "acceptable" interior paint can drive the cost of a receiver up.

The state of the tube set can increase the price. Consider what it is going to cost to replace a set of tubes.

The next real cost is the work that has been done on the receiver. A simple semi annual preventive maintenance cleaning and alignment performed by a skilled technician takes a minimum of 4 hours. Plan to spend all day Saturday twice a year doing a cleaning, tube check and alignment on your receiver. Skilled electronic techs are billing \$20.00 \$25.00 an hour for independent time. More if they are supporting a commercial shop overhead. A real gear cleaning, panel paint job, recap, audio deck rebuild (different cap values for better audio sound) or other real repair can push the price of a receiver up over the 1,000 mark real easy. The 3 K item was a real stretch.

Real deals are still being found real regular. Start shopping and do not pass over any because of the perceived contract it come from. If its all there it can be returned to full function. Some real care and it can out perform the generic run. Super smooth gears trains are very doable. Better audio through some audio deck changes. Better sensitivity through tube selection (not a lasting change as tubes age). Better performance through some cap and resistor changes.

You may have to pay for work that has already been done. You can do the needed work your self. There are several of us fellows on the reflector here who will do work for you. Mostly you will select a local fellow to you as UPS can be done but it cost. Crates and freight service is a pain to arrange and also cost.

You may already have an offer or two from the list for a receiver. Let us know what you find. Let us know what problems you find in the receiver.
Roger KC6TRU

Date: Mon, 11 Apr 2005 21:41:41 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] What is the difference between 390 and 390A

>From 68 through 75 I was an Army Tech (33C) and made a living servicing R390 and R390/A for literally thousands of Ops (O5H) who made their living lessening to them. >From the listen point of view, there were no signals either receiver could not hear. Would an Op copy the signal was a different subject?

The R390 IF does not ring like the mechanical filters in an R390/A a ditty

OP did not care about the IF deck ring. Us SSB and AM listeners do notice the difference. The R390 and R390/A are both bad mouthed for the AM audio quality. There are easy work around. The R390 uses a pair of 6082 series voltage regulators that you can cook on (at least heat rations).

With today power line voltages in the states the power supply regulation is over kill. Sensitive wise the receivers are pretty equal and better than any thing else. The Army tried a lot of other receivers and the R390 R390/A were the intelligence intercept receivers of choice. When you need to roll up and down the bands chasing RTTY, and Dits on a demanding schedule

The R390 and R390/A would get it on frequency and out of the atmospherics day in and day out. Now if you just want to listen to a little AM radio on Saturday afternoon, there are some other options. Either model any manufacture. There all above average. Once you get it working again you will keep it working and wonder why you were ever without one.

Date: Fri, 22 Apr 2005 09:18:09 -0500
From: "Steve Goode" <goode@tribeam.com>
Subject: [R-390] Black Panel '390A and other rambling

I talked to my dad last night. Unfortunately the only info I was able to get from him was that I did not go to Augusta. He took me to Clyborn to see the dew line printers. There you go for remembering facts. Although I was about 10 years old and really only knew I was going to where dad worked. He could not remember anything about the 390. I believe he only worked on the 390A's. I vaguely remember him complaining that Motorola lost the 390A contract to some company that had no experience building them. They were not even an electronics company!

This could have been referring to Helena-Rubenstein. But it also could have been Stewart-Warner, or even both. A short time after Moto lost the contract my dad was laid-off for quite a while. It was hard times for the family. He was mad at the world and we were the closest part of the world. I do not know why he did not go to Stewart-Warner and work for them on the 390As. They were also in Chicago at the time I believe. He was finally called back to Motorola to work on other government contracts. So I would have liked to own a Motorola R-390A. I never wanted a Stewart-Warner. If a Helena-Rubenstein actually exists, I'd only want to piss on it. What I have is a nice depot-dog with no Stewart-Warner modules.

Date: Fri, 22 Apr 2005 10:31:10 -0400
From: Bob Camp <ham@cq.nu>
Subject: Re: [R-390] Black Panel '390A and other rambling

The contracting on the 390A was very similar to a lot of systems. As time

goes on the contractors are often less and less capable. There are a few cases this has not been true, but usually it is.

Date: Fri, 22 Apr 2005 09:49:36 -0500
From: "Steve Goode" <goode@tribeam.com>
Subject: Re: [R-390] Black Panel '390A and other rambling

My understanding, which is fourth hand with no real facts, was that Motorola was not disqualified from bidding. They just lost the bid to other companies. The lowest bid/bids win. I think my dad's complaint was that Moto had two contracts of experience building 390A's. They knew the costs and put in a fair bid. The other companies had no experience, except for Collins which I don't know if they bid or not. Helena-Rubenstein would know better than Motorola what it cost to build an R-390A? Is there any evidence that the later Motorola units were assembled poorer than the earlier units?

Date: Fri, 22 Apr 2005 12:46:02 -0400
From: Bob Camp <ham@cq.nu>
Subject: Re: [R-390] Black Panel '390A and other rambling

Based only on talking to people at Motorola who worked on the R390's they put a lot of work into them. The PTO corrector stack adjustment process was famous even twenty years later. I suspect they bid the contract as they saw it - build the whole radio. Some of the later contracts had the PTO built by an outside contractor.

Date: Mon, 09 May 2005 18:38:26 -0400
From: Bob Camp <ham@cq.nu>
Subject: Re: [R-390] Anyone know what our military now uses

There are a lot of people out there who are making HF radios or who did make HF radios.

Taking only the military / government end of things and starting from the R390A: The R390 was partially replaced in Navy service by the R1051 The Harris RF550 and Racal 6790 GM replaced some of the R390's and a slew of other radios.

The "official" replacement for the R390 was the Harris RF590 and 590A, they pretty much flushed out the 550's and some of the 6790's. Some of the 590's got replaced by the RF350K (*very* strange but true). The RF350's are being replaced by Falcon's. That is only one of the many family trees out there. It's admittedly a bit Harris centric. There is another equally valid route that gets you to a bunch of Collins gear like the HF-80 and now all the black box radios.

It also ignores a bunch of Racal radios. These days an awful lot of what was once done with R390's is done with digital "sample the entire band" radios with no knobs on them at all. The claimed advantage is that you can get a lot of information all at once. They also are quite a bit better at following stuff like spread spectrum HF.

There's not a lot of straight analog voice communications on military HF anymore. For straight analog intercept work people like Icom and Racal still make specialty radios with knobs on them. Typical prices on this stuff start at \$10K and go on up from there. The black box systems can easily get you to a major chunk of a million dollars. That's not as crazy as it sounds. A R390 would cost quite a bit if you translated the original \$2K cost into inflation adjusted current dollars

Date: Mon, 09 May 2005 17:54:54 -0700
From: "Kenneth G. Gordon" <kgordon@moscow.com>
Subject: Re: [R-390] The R390/R390A front end, anything similar?

> Does anyone know if any other receiver has ever been built, that had such a profound front >end, with 2 or even 3 R.F. stages, three I.F. frequencies, two of them variably tuned, that >helps give profound performance.

BC-779 and its cousins all had 2 RF amp stages and at least 3 IF amp stages: Also National HR0-50-1. "If you want to hear them, get a National: if you want to know where they are, get a Collins." or another variation at the time was, "If you want a RECEIVER, get a National: if you want a frequency meter, get a Collins.". I added a triode product detector to a BC-779 once. It was the quietest, most sensitive receiver I had ever used up to that time. In its original condition, it was spec-ed at 1 microvolt or less sensitivity. In addition to having a wide-range crystal filter of good design, it also had a mechanically variable IF coupling system. In any case, it isn't the 2 (or more) RF amp stages, and the 3 (or more) IF stages that makes a receiver: it is far more than that. Gain distribution is one factor. Besides, the older receivers had 2 RF amp stages mainly to improve the image response at frequencies above 20 Mhz. The three IF FREQUENCIES of the R-390 series had to be very carefully thought out to prevent weird mixer products.

Date: Mon, 9 May 2005 23:06:32 EDT
From: ToddRoberts2001@aol.com
Subject: Re: [R-390] The R390/R390A front end,

I think the R-390/R-390A receivers are pretty much in a class by themselves having triple-tuned tracking front ends plus up to 2 triple-

tuned variable tracking IF's and a third fixed IF. Collins made other receivers that were similar design like the R-388/51J-4, R-648/ARR-41 but they were simplified versions and had only one variable tracking IF that I am aware of. I think the R-392 had 2 variable triple-tuned IF's so that is the only other one I am aware of that had as complicated a design with 2 variable tracking triple-tuned IF's.

Date: Fri, 8 Apr 2005 20:09:56 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] PTO Massive Deaths

>The 390A's have been "eating" PTO's since the mid 60's. There are documented stories of >mountains of dead PTO's piling up out behind various depot locations. Strange.....

Yup, The PTO was an exchange item not fixed at the organization level. New ones were to be had for exchange. So we just shipped one in and got a brand new one back if it even looked dusty. Prior to the 70's most units did not have a frequency counter. So the unit had no way to do an end point adjustment. If the spread got to far off, (300 Hertz) the tech just did the paper work for a replacement. The PTO wound up in a stack at some Depot. Get a thousand stacked up and you consider a contract to refurbish. Until they went out of production, why bother just build me a new one please. Until the late 60's we did not understand how the crystal ovens were cooking the receivers. It was common practice to run the receivers with the ovens on thinking it added something useful to crystal stability. Buy 1972 even sites on the DMZ in Korea were well heated enough that the receivers were run with the ovens off. If you had a Van full of receivers you just turned every thing on and let the shelter heat up until it was warm enough to work in. We had a MLQ24 van in Korea. It was a 3/4 ton truck and shelter. Some nights the Van was the warmest place on the site and all the off duty guys would sleep on the floor. Yup it was warmer in a Van full of tubes than in a block building with space heater glowing as red as the filaments in the vacuum tubes. I digress, back to PTO's.

PTO's were going to depot for all kinds of reasons. Lack of counters to adjust them. Killed from ovens being on in summer heat. Bounced down roads in Vans until something broke. Pulled coax connectors. The fair number of cold solder joints that would not be explored because the unit was an exchange item. You just trouble shot your problem down to the PTO and exchanged it. If a tube swap did not cure a PTO problem, it went to the big pile at the depot. Once the depot sent big bunches off to a contractor to refurbish because new ones were not coming off the assembly line any more, the problems found were a variety of simple problems. Lucky for us so many got swapped out, there are lots spare units around today. Do you have any idea how many PTO's have been built into

home brew VFO's? The contractor bitched that more problems were from the poor handling than actual problems with the PTO's. The issue became a good hour lecture on the handling of PTOs in the R390/A class room buy 1968. Most were just needing end point adjustment. The little wiper was dirty and PTOs warbled. Some were cooked from their own oven heaters. A few had broke cores from bad G's. Some had broken pins on the wire harness. There were a number of cold solder joints. The upshot was, tech started to inspect PTOs when problems occurred and frequency counters were added to the R390 service bench.

Date: Sun, 15 May 2005 00:29:44 -0500
From: "Orrin Bentz" <minmar@2z.net>
Subject: [R-390] RE: What Came After The R-390

Can anyone tell me what kind of receivers were in use by the military & civilian agencies after the R390's were phased out. In other words which radios are we going to collect and refurbish next? This question may be answered in the archives but I couldn't find it.

Date: Sun, 15 May 2005 05:28:30 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] RE: What Came After The R-390

I guess the R1051 came after the 390A. There were many versions. Here is some info.

1051
General Dynamics, cost \$25,250
NObsr 93015 hi s.n. C731
NObsr 83368 hi s.n. B929

1051B
Bendix (Allied Signal Inc), cost \$25,250
NObsr 93204 hi s.n. A7980

1051C
General Dynamics, Black face
AF19(628)-4860 hi s.n. 25

1051D
GDE Systems Inc (General Dynamics), cost \$16,830
N00039-68-C-1585 hi s.n. A898

1051E
Bendix (Allied Signal Inc), cost \$25,250
None

1051F

Stewart Warner Corp., cost \$21,210
N00039-76-C-0297 hi s.n. A55
N00039-89-C-0298 hi s.n. C\$
N00039-70-C-0559 A88

1051G

Stewart Warner Corp, cost \$21,210
N00039-79-C-0109 hi s.n. A586
N00039-89-C-0298 SER# C3

1051H

Stewart Warner Corp, cost \$50,490
N00039-83-C-0292 hi s.n. A176
N00039-87-C-0164 hi s.n. B442

After that the main receiver is the RF-590 series or R-2368 by Harris.

Date: Sun, 15 May 2005 11:01:59 -0400
From: Bob Camp <ham@cq.nu>
Subject: Re: [R-390] RE: What Came After The R-390

We just went through a fairly detailed thread on this about three weeks ago. It should be fairly easy to find in the archives.

The R390 radios are fairly unique. They were "front line" radios for a long time. Unlike a lot of military gear they were used by all of the services and many agencies. There are *very* few pieces of gear of any type that have been as widely accepted. The .45 Colt pistol is about the only item that comes to my mind. The R390 is fundamentally a fixed location radio rather than a portable or strap it on a jeep mobile radio. The 390's were made in enormous numbers considering the type of radio they are. No other radio of this type has ever hit nearly the same production numbers. No other radio of this type has been made by as many people for as many years. Again it's a unique radio. Up to the point that the 390's came out each of the services came up with their own radios. After the R390 to a great extent they went back to the same pattern. There is a series of radios used by the Marine Corps that is different than those used by the Navy. Navy radios came from different suppliers and were designed differently than Army radios. The Army and Air Force shared some gear but generally issued different sets for the same basic missions. The agencies radio usage is even more obscure and complex than usage by the services. The services could afford to design radios from scratch. The agencies for the most part simply did not have a big enough budget to do that sort of thing. Radios were designed targeted at agency type requirements, but from the ground

up for a given agency. The 390's were used in various missions from the early 1950's through the early 1990's. For all we know they are still deployed somewhere in the world by the US. Certainly the bulk of the usage was in the late 1950's and 1960's. The 390A radios began to show up as common items on the surplus market by the early 1970's. In the late 1980s the government was worried enough about them to buy a ton of spare tubes to keep them going.

One technically correct answer to your question is the Harris RF-590. It was designed from the ground up as a replacement for the R390. The similarity of the numbers between the two radios is deliberate. They were sold into a number of systems where they directly replaced the R390's both in service and agency service.

Another fundamentally correct answer to the question is the R1051. This is a Navy only radio rather than a multi service / multi agency radio. It is essentially a return to the previous pattern of radios designed for the specific needs of a single service. The 1051's definitely dropped into racks that R390's came out of and did so starting in the 1960's while the bulk of the R390's were being built. The R1051 was designed specifically to overcome limitations of the R390 in Navy usage. They are also still in service in the Navy.

In another respect just about any HF radio that was made in quantity by Collins, Racal, Watkins Johnson or Harris did replace the R390 in some application with either the services or agencies. Certainly the Racal 6790GM and the Harris RF550 are in this category.

The final way to look at it is that there really was no replacement for the R390. Communications requirements have changed over the years. The biggest role of the R390 was in backbone communications for the DOD. The full deployment of satellite based communications in the 1970's took HF out of the backbone role. We can debate the intelligence of this move, but it is what was done. In this sense the replacement for the R390 is a radio that doesn't even cover HF at all.

Fortunately this is a hobby and not a court of law. We each get to decide what to do with our own collections. Just about any set of radios can be described as forming a reasonable "evolution" of radio systems. As you may have guessed by now I have a few of radios that came after the R390 in my collection. I make no claim that I have an exhaustive set, or even a representative set. No matter which way you go there is some cost involved. None of these radios are 100% reliable. Parts for all of them are hard to come by. Simply buying one of each is not a reasonable way to have a working set of radios. Either you will spend a lot of time and money shipping radios out for repair or you will maintain a stock of parts

yourself. As the radios get newer they get more expensive. A rack full of R-390A's will set you back just a little.

Best advice would be to pick *one* of the successor radios and focus on it. Get a reasonable setup including spares and manuals. Once you are comfortable with the stability of that part of the collection move on to the next radio. Most of us are limited in the cash we can spend on this hobby. If you have a *lot* of money to put into this then we need to talk Assuming you have a rational budget the best guess is that you are talking at least a couple of years per radio type.

Date: Sun, 15 May 2005 11:45:23 -0400
From: Barry Hauser <barry@hausernet.com>
Subject: Re: [R-390] RE: What Came After The R-390

What about the SRR-XX series of modular (subminiature tube) receivers? They're Navy only, and first came out a bit after the '390's, ahead of the 1051's. Substantial overlap in usage of all three even though the first R-390 came out in '51 and first 1051's in late 60's. SRR's came out somewhere in there in the early/mid 50's. Can anybody clarify?

Date: Sun, 15 May 2005 17:53:50 -0400
From: Bob Camp <ham@cq.nu>
Subject: Re: [R-390] RE: What Came After The R-390

The SRR's certainly did similar things compared to the R-390's. I would call them contemporaries of rather than replacements for the R-390. I certainly would bow to the knowledge of others if they know of R-390's being pulled and replaced with SRR series radios.

Date: Sun, 15 May 2005 16:56:03 -0500
From: Dave Merrill <r390a@rcn.com>
Subject: [R-390] Ahoy! R-390A sighting aboard USS Hornet

Earlier this year we were visiting in the San Francisco and we took a tour of the USS Hornet <http://www.uss-hornet.org> moored at Alameda Point. Well worth your time if you are in the area. After being a little disappointed to find that the radio room was not yet open to the public, I was surprised to find two R-390A receivers adjacent to the weather compartment. The pictures I took are here: <http://img50.exs.cx/.....> They both seem to be EAC but I don't know which contract. Meters missing, perhaps removed when the ship was decommissioned? Both have the front panel diode load modification so they're likely Navy. Label added by the museum calls them 'R-390'. Dual cabinet CY-2416/U was a new one to me, never saw one before. Since the ship has gone through many refittings, perhaps the case was a leftover from earlier equipment?

Other gear spotted:

3 x Frequency Shift Converter CV-89A
2 x Frequency Shift Converter CV-172A/U
Modulator MD-168/UX
Kleinschmidt (?) Teletype

RBC Receiver

All of this gear is in somewhat rough shape - the compartment where they are housed is open on one side and the sea air is taking its toll. This is not a knock on the fine folks running the museum. They have an enormous task and not many hands to do the work. The Hornet had been sold for scrap (primarily for the copper), but the contractor returned it to the government because they could not dismantle it economically and comply with California's environmental requirements so it wound up as a museum. There's been a lot of discussion on the list of some of the more glamorous roles for the R-390 - intercept, tactical communications and so on - but they also served in more mundane tasks like weather FAX reception.

Date: Sun, 15 May 2005 19:39:44 -0400
From: Bob Camp <ham@cq.nu>
Subject: Re: [R-390] RE: What Came After The R-390 - Collectable.

I guess this could be answered in another fashion. Many of the radios that came after the 390 probably will not be a big hit on the collectors market thirty years from now. Many of the radios that were in service at the same time as the 390A are not a big deal in collections today. Right now my collectable in 30 years, but not a 390 guess would be:

- 1) Racal 6790 GM
- 2) Harris RF-590

Both are common enough to have a following. Both are well enough made to be here in 30 years. I have an personal bias as to which is the better radio. There are a *lot* of other candidates if you get into smaller production run radios. My guess is that in 30 years the R390 will still be more collectable (along with the SP600 and RA 17) than any of the radios that came after them. If Hank's around he'll toss some odd German radio into the mix and he's probably not wrong. If there's a Russian on the list they might add a R250M2 and I would not argue with that either. Pretty much all of these radios served in the same era as the 390. They all represent similar solutions to a common problem. The radios that replaced them were solutions to a different set of problems.

Date: Sun, 15 May 2005 20:23:52 -0400
From: "Michael Murphy" <mjmurphy45@comcast.net>

Subject: Re: [R-390] Ahoy! R-390A sighting aboard USS Hornet

Nice to see the RBC too. That is a real boat anchor. There were some folks talking about radios with front end selectivity - the RBC is right up there with the other radios mentioned with fantastic shielding and two RF stages. The Navy needed a radio for the fleet that could not be RDF tracked by it's receivers local oscillators or a regenerative stages (or any other oscillators) by an enemy warship. This was a common way to find enemy ships during and after WW1. Lord Mountbatten was a radio officer in the 1930's doing RDF work in this way.

Date: Mon, 16 May 2005 19:13:21 -0700

From: W6GER <w6ger@uci.net>

Subject: [R-390] Re: Ahoy! R-390A sighting aboard USS Hornet

Ahoy Dave and the R390 Group, The USS Hornet Amateur Radio Club has a WebSite with many pictures taken in several of the Radio Rooms. You can access the site at: [http://www.qsl.net/nb6gc/....](http://www.qsl.net/nb6gc/) Click on the "PHOTOS" tab and you will have access to approx. 80 photos take recently aboard the "Grey Ghost"..

Date: Mon, 16 May 2005 22:32:52 EDT

From: Flowertime01@wmconnect.com

Subject: Re: [R-390] RE: What Came After The R-390

There are two kinds of radio receiver operation out there.

Type one is RTTY link fixed frequency. Fixed channel PRC series of transceivers work for this kind of operation. Most of the receivers I have seen in the last 20 years fall into this mode of operation. It is in the detent and set to this frequency or you move it one detent stop and you are on the adjacent channel frequency. Nothing between the two choices.

Type two is more like Amateur operation and R390, any frequency between and across 31.5Mhz with a resolution of as fine as you are willing to work the knob to.

The intelligence agencies doing intercept work still have a use for this type of a receiver. You can drag in any signal if you work it long enough. You could put the original on tape real time and play it over and over until you get it if you wanted it. IE the commander said get it. These are the receivers we are going to want when they get surplused out. Someday they will be. R390's went out the door because the military was lobbied and Congress was lobbied to have military contractors build new stuff and tax payers pay the bill. If the military needed more good receivers, they could have ask the low bidder to build another batch of R390/A's.

The .45 was a good item since 1911. Someone wanted to sell something new and could not make money low bidding a new batch of .45 iron. So the lobby was in for the 9mm. The results is bla, bla, bla and BS. Receivers changed over the years. Fixed frequency channel receivers and transmitters got cheap and easy to manufacture. Thank you CB, business band, and digital tuning. This type of receiver has been applied to every nitch it would fit into.

The small market, (Amateur, Intelligence, Science) for full tuning receivers has been put on the back burner. The "glut" of R390/A surplus has filled the market for most Amateur and science needs. So no one is building a military receiver to match the range of the R390's. Long haul HF military has gone back to wire lines and satellite links. This has moved out of the HF range. A watt of hand held HF in a tactical battle field will get you killed. You put up a signal that can be DF'ed from 30 miles and you are going to catch so much incoming artillery your own unit will be jamming that radio where the sun never shines. So tactical battle field has also move into VHF, UHF and fixed digital channel tuning. Just because 1 watt will not go 30 miles. While the Amateur community is facing more use on our frequency spectrum, other parts of the HF bands are getting much less use today. I can see amateur radio having any thing and every thing under 50Mhz. Of course we will have to live with BPL, the application that finally drove every one else to spread spectrum up and over 50MHz. I was reading my copy of World Radio yesterday. The question to Krusty Kurt was "how do we get the AM off the Amateur Bands?" Just as I retire and want to get my DX100 and R90/A back on 7Mhz. CW and AM are the two low cost ways to still do it your self into Amateur radio. Why do we want to get AM off the bands? SSB has been there for 50 years plus and the comment is still SSB sounds best in the OFF mode. All of us R390 owners are still looking for a circuit that will let SSB come out of a set of phones with a sound that does not leave us hearing impaired. Oh, you meant what receivers were manufactured after the R390/A? Sorry, I missed the intent of the question. Roger KC6TRU

Date: Tue, 17 May 2005 07:28:07 -0400
From: Bob Camp <ham@cq.nu>
Subject: Re: [R-390] RE: What Came After The R-390

Most of the intercept radios that are being made these days are of the "throw it all into an A/D converter" type. They are more or less black boxes that interface to a computer. The closest equivalent in ham radio would be the software defined radio. The advantage is that you can get a *lot* of channels all at once. You can also demodulate all sorts of bizarre digital signals without custom demodulator hardware. Like it or not the intercept target today is a lot more

likely to be a digital chirp than an AM station. There are a bunch of people who make these radios ranging from the old time radio companies like Collins and Racal through a bunch of tiny little three guys in a garage outfits. I doubt we will ever see the military going for another custom designed radio with knobs like the R390. Even in it's day the R390 could not be justified for intercept use. The radio was built for general purpose use and moved over to intercept duties when somebody proved it could do the job. The amazing thing about this radio is that it did so many things so well. If you talk to people who used the "competitors" to the R390 in an intercept role, none of them were as rugged, or as widely deployed.

Date: Tue, 17 May 2005 07:31:13 -0500
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] RE: What Came After The R-390

Sounds like we need to face up to the facts....THESE are the good old days. Don't sound like there is much in our future to look forward to as far as newer radio's coming out of service that we'll want to spend much time on...Last I heard the Government is not allowing any technology to be surplusd anyway. Any R-1051's for example that are coming out of service are being scraped for the metals.

Date: Tue, 17 May 2005 13:23:03 -0400 (EDT)
From: John Lawson <jpl15@panix.com>
Subject: Re: [R-390] RE: What Came After The R-390

I have a question: not having access to the article, I still wonder if the reference wasn't actually to the usual shortwave broadcasting stations that occupy portions of 40M and elsewhere?? Rather than the small segment of us who enjoy "That Sound"....

>there was a new rig setup in the shack and when he tuned

Well, the modern twist on that would be "... he only heard the raucous whine of BPL at 40+ dB over S9."

Date: Fri, 20 May 2005 19:17:03 -0500
From: "WAOHQ" <r390@al.tirevold.name>
Subject: [R-390] R390A for 101st AB Museum

Ken contacted me through the R-390A.net web site. Can anyone provide him with some assistance in his quest?? Thanks, Al

I was in the Army from '69-'79 as a Morse Interceptor. The unit I was with in Vietnam (265th Radio Research Company, 101st Airborne Div) is currently working with the 101st Abn Museum at Fort Campbell, KY to

build a display dedicated to our unit. We're trying to find a R390 to be placed in the display. Doesn't have to be operational. Any idea where we could find one cheap or, better yet, to be donated to the Museum? Great site. In our day, the feeling was pretty much if you were using one of these "boat anchors" and couldn't hear the signal, it just wasn't there! Thanks.

Ken Manley

Sr. Sourcing Specialist (319) 295-7412 Cell: (319) 651-9140
Rockwell Collins, 400 Collins Rd. NE Mailstop 126-01
Cedar Rapids, IA 52402

Date: Mon, 23 May 2005 23:44:56 -0600
From: "Kenneth Arthur Crips" <CRIPS01@MSN.COM>
Subject: Re: [R-390] R-390 "deadly components"

Comparing, in a negative way, high end receivers designed in the twilight of Tube radios is really stupid. I look at all such radios in my collection as books written by the electronic engineers of the time. All of these radios do the same job, it is how they do that job fascinates me.

I just got my RME-45 running this radio had it's final checks completed 8 March 1946. the Engineers at Radio Manufacturing Engineers decided to use loctale tubes, why did they chose this type of tube? The S meter is not hard wired but has a cord that plugs into a receptacle on the inside . I can just imagine and engineer who was tired of having to disconnect a bunch of wires to get a meter out.

The SP-600, why in gods name did they use the band switch turret with all of the little ceramic blocks. Collins used PTO's which where more expensive then regular variable capacitors. They are superior but what caused Art Collins to go this way. I can go on and on with this. So instead of statement like the R390A/URR is a cheap copy of the R390/URR think about the reason for the engineering changes and what was on the minds of the engineers who designed those changes.

With all of this said my favorite receiver is my R388/URR (militarized 51J3)

Date: Mon, 23 May 2005 22:46:43 -0700
From: Dan Arney <hankarn@pacbell.net>
Subject: Re: [R-390] R-390 "deadly components"

The military must have liked the "A" as they bought some odd 50,000 plus and their are very few radios in the world that can equal it. I will not get that thread started again. Hank

Date: Mon, 30 May 2005 19:57:47 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] I was unaware they made this cover(pics)!

>No need to guess. You are right. These could be "black out" covers. The R-390A does not have a >dial light dimmer. When the radio is used in a shelter, at night, there would be a requirement >for a black-out door or turning off/covering up all light producers for someone to enter or leave >the shelter.

Our field stuff in Nam had them in 69. We hated the things because they do not stay up and you have to hold the cover up when you went to dial onto a frequency. The Vans in Korea on the DMZ had them in '70 - '71. Those were relegated to the motor pool and were just a maintenance problem to keep the stuff "hot in the depot" [parked, but not yet junked] operating. We had a couple on some receivers in the field station at Torri Station Okinawa. Those receivers were monitoring some propagation beacons on some fixed frequencies. You could walk by the chart recorder, see where the needle on the recorder was as you went to work and knew if you were going to hear any thing. It was easy to just keep the dial covered. 90% of the station ops and maintenance folks did not even know there was a special project running over in the corner. We were just collecting data. Mostly they were like the micro dials on the BFO. Sort of official after market bolt on accessories. They had / have a NSN and you could order them like other parts. If you were doing serious operations and needed to spin the knobs as part of the job, you hated the things. If you have one receiver on display skip it. If you get to have more than one receiver on display, buy all means add one to the shack for looks. If the paint is falling off your dial counter, you may want to run a cover over it. Did you know you could also order red lights for the dial lights? These were allowed in the Vans for field work.

Date: Sun, 29 May 2005 12:23:46 -0400
From: Barry Hauser <barry@hausernet.com>
Subject: Re: [R-390] I was unaware they made this cover(pics)!

They're not all that common, but not all that rare either. From time to time, Fair Radio puts individual flip-down covers on the e thing. I have one sample, not installed. No markings as to manufacturer. Not all that high-tech -- just a piece of sheet metal, stiff wire, a spring for friction to hold it in position and a piece of felt.

Date: Fri, 3 Jun 2005 08:24:04 -0400
From: Steve Byan <stevebyan@mac.com>
Subject: [R-390] Ft. Devens

Was there a Wullenweber antenna at Fr. Devens? (Chris?) Cummings

claims there was on his site at
<http://www.mindspring.com/~cumplings7/wullen.html> (unfortunately not accessible right now due to Earthlink's bandwidth limits). I live near Devens, and haven't come across anything like the archeological remains of an FLR-9. Where was it located? The northern section is now being redeveloped as an industrial park; the area south of Route 2 is still restricted access and is in use for National Guard training. Also, where was the ASA school located on the base?

Date: Fri, 3 Jun 2005 08:34:10 -0400
From: "Veenstra, Lester" <Lester.Veenstra@intelsatgeneral.com>
Subject: RE: [R-390] Ft. Devens

I was not aware of Wullenweber antenna at Fr. Devens. If there was one, it was not in the HFDF net.

Date: Fri, 3 Jun 2005 09:35:57 -0400
From: "John KALXC" <tetrode@comcast.net>
Subject: Re: [R-390] Ft. Devens

I've heard similar rumors, but about 3 years ago a friend and I did a fairly good search of the place for such a thing and found nothing save for some open areas where the beast *might* have lived. Others have told me that there used to be one there but it had been dismantled long ago. Those things had enormous amounts of copper and steel as well as cabling which has scrap value. Then there is also the question that since the Wullenweber DF network was run by the Navy (oddly), why would there be one at an Army base?

Date: Fri, 3 Jun 2005 09:40:17 -0400
From: "Veenstra, Lester" <Lester.Veenstra@intelsatgeneral.com>
Subject: RE: [R-390] Ft. Devens

Same reason they were at Air Force sites. One big family! By the way, Devens would not have offered much over the site at Winter Harbor ME

Date: Fri, 3 Jun 2005 11:50:45 -0500
From: "Don Reaves W5OR" <w5or@comcast.net>
Subject: [R-390] Collins Mechanical Filter History

Interesting info from Rockwell. Some of the details don't jive with our lore. Also demonstrates why using the generic term, "R-390", is endemic to our list culture, and necessary.

<<http://www.rockwellcollins.com/about/additionalproducts/collinsfilters/page>

1907.html>

If the link above is truncated in your email program, go to www.collins-filters.com..... Click the About Collins Filters link.....See the History section.

Hello to all the guys I met for the first time at Dayton. I still haven't unpacked, nor looked at all my notes.

Date: Fri, 3 Jun 2005 13:06:39 EDT
From: Llgpt@aol.com
Subject: Re: [R-390] Collins Mechanical Filter History

This was cut n' pasted from their page: "The highest volume application of mechanical filters in those days was in the R-390. Each radio used four mechanical filters. Originally designed at Rockwell Collins in 1955, the R-390 was later built by many different companies, mostly as the R-390A. The total production volume of R-390As was more than 65,000 radios."

It certainly doesn't demonstrate "why" the "generic term" R-390 is used. Their information isn't anywhere close to being accurate regarding the numbers built unless they are including the R-390 in with the R-390A. 65,000??? I don't think so! But, if you include the R-390's and R-390A's, it comes to more than 70,000+ radio receivers. So much for "historical accuracy." Ahhhh, engineers....., reminds me of the saying an old engineer friend of mine told me: <snip> Les

Date: Fri, 3 Jun 2005 13:27:26 EDT
From: Llgpt@aol.com
Subject: Re: [R-390] Collins Mechanical Filter History

I care about accuracy. Not so much about the numbers, but the statement that the R-390 had mechanical filters. Part of the dumbing down of America if you ask me. Broad statements meant to be all inclusive, etc. I believe in being more accurate and doing research before speaking out or writing about something. Yep, pretty soon I'll be history to, but history should be truthful and accurate right? You might disagree, but wrong and mistruths aren't accurate history.....

Date: Fri, 3 Jun 2005 14:37:45 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] Ft. Devens R390 training

I do not know what an FLR-9 is. I just do not remember the designation. In 71 - 73, I did not know of a big elephant cage antenna at Devens. These things are huge, they put whole two story operations buildings inside them. I do not know what their military designation was. A smaller circular antenna maybe 500 foot across and a bunch of vertical antenna

poles used for direction finding, were pretty much mobile units. I do not know the military designation for this one either. They had at least one set up for the training DF operators and maintenance techs. It was over in what you now call the National Guard area. There would likely be nothing left to identify that site. Just another open field with power lines to it. There were two gates to Fort Devens from Ayer. Between Shirley and Ayer was the main gate. About a 1/4 mile in the gate and to the right side was a quadrant of buildings and a parade ground. The buildings were concrete brick. had open porches around the inside of the quad. The parade ground was across the street from the quad buildings. These were WW I hospital buildings and considered haunted. I have heard these have all been torn down. About a 1/4 mile in the gate and to the left up the road that went right between the school house quad and the parade field was the way to the old WW II barracks. There were some brick senior NCO housing in the area. The old wood two story buildings were the students stayed. I was down there for a year in 68-69. A mess hall called Connies served at least 4,000 guys every day. It was consolidated Mess #4. It was the only one left a Devens then. This indicated that once upon a time there were at least 3 others serving as many other guys. The barracks were whole big block. We use to walk over to the base fence along the rail road yards and into Ayer from the barracks. The rail yard at Ayer was huge. All kinds of logistical stuff coming in and out of Devens during WW II. By the 70's it was all down sized. ASA had the school house there for O5 ditties, 98 traffic analysis and 33 radio maintenance. We were all of course in the collection business. About a mile up the road from the main Ayer Gate on a hill top was the new barracks built in the late 60's and early 70's. This road continued across post to Route 2 the "back gate." Did you know Goddard launched the first liquid fuel rockets from Ft Devens? That site was near the golf course. The gold course was considered one of the best in the state. Every politician and business exec that could wrangle a base pass wanted to come out and play a few holes. If was built by the Army Corp. of Engineers. There was a good size stockade on base that provided lots of labor to keep the greens. What was considered the old hospital area over by Shirley is now a state prison. There was a gate over there called Shirley Gate. Do you know where the other area was off post used for Vietnam Training? John Wayne filmed the Green Brett over there. Every one coming out of school had to spend a week in the "bush" over there before getting "out of school" and assigned to a duty station. Yes Sir, I understand a week of January at Ft Devens is just like July in Viet Nam Sir. I am sure I will learn some very useful escape and evasion lessons Sir. We were REMF's, knew we were REMF's, if things were going so bad in the war that us REMF's were about to be captured, we were wondering about the leadership being taught at the 90 day OCS wonder school.

Date: Fri, 03 Jun 2005 20:21:34 -0400
From: Mark Huss <mhuss1@bellatlantic.net>

Subject: Re: [R-390] Ft. Devens R390 training

As far as I know, there was never a FLR-9 Antenna or system on Ft. Devens. Training for FLR-9's took place either at Homestead Fl. Or San Antonio. There were TRQ-29? DF sets that use R-725/URR receivers, a Goniometer, and about twenty-four 1.25" by 18' masts arrayed in a circle over a screen ground. It was located across from the old, old NCO Club (two revisions back) located on Mirror Lake. Between the School Quad and the Ayer Gate were located three HF Cone Dipole Wire antennas arranged 120 degrees apart. It was used for live copy by O5H (Hogs) Morse Code Intercept Operators. Each Operator had an R-390A/URR and a ASR-33 Teletype for copying code. Practice copy was also fed to these receivers by racks of Multi-couplers and a wideband shortwave transmitter fed by wideband tape recorders.

The School Quad is still standing, but closed off. It was not the WWI hospital, though I do not know the original location of it. I suspect that it was located at the old Warehouse area near the dump (where you jumped the fence into Ayer back in 68). Pictures of the WWI Hospital shows it to be wood. The Brick Quad was built in the 1930's as Barracks. It included Mess Halls. And yes, Hale Hall is haunted. Across from the School Quad are brick Officers Quarters, also built in the Thirties. These were sold for a pretty penny after Devens was closed.

Yes, Goddard did shoot his first few liquid-fuel rockets from near the new Hospital. Intelligence School students erected a monument at the site in the eighties. It is now restricted from public access due to it being too close to the hospital, a State Prison Hospital now.

The Sniper Tree has been removed from behind the Main Ayer Gate after the post was closed. It was clearly visible to anyone entering the gate, located between two pine trees. Built during WWI as a training aid, it looked like a shell-shattered tree trunk. Made of concrete, there was a small hole at the base for a person to enter, and several gun-ports. Even after a hurricane took out one of the pine trees, exposing the 'shattered' top of the trunk, it was almost impossible to tell it from a real tree trunk. Indeed, when the Grounds Maintenance people were cleaning up after the Hurricane, one worker took a chain-saw to it with spectacular results!

Oh, and yes, the Man-Traps are still there on the Golf Course! Made looking for balls in the trees to north of the fairway a bit exciting! Built during WWII, when parts of Devens was used for a POW camp, they formed deep pits to trap unwary Golfers!

Another point of history. As a major point of entry for returning Doughboys coming back from Europe, the Spanish Flu Epidemic of 1918

hit the post hard. Thousands died in the hospital there.

Oh, there were actually five gates, not counting the new one opening onto Route 2. Shirley Gate located by the old WW2 Hospital, which should have been still up in 68. Ayer Gate, what you called the Main Gate. The Commissary Gate, which led to Enlisted quarters used during WW2, converted after the war to civilian housing. Shaker Village Gate, off what was Salenero Circle. And the Airfield Gate, which led to the old Army Air Corp airfield. From 1939 P-40's were stationed there. It was abandoned after Moore Army Airfield was built. It is now Shirley Airport. Moore Army Airfield is closed, the runways torn up.

Sorry for the off-topic post. Ft. Devens was one of the nicest posts in the country. Though small, it was a pity when it closed down.

Date: Fri, 03 Jun 2005 20:05:46 -0500
From: "Marshall M. Dues" <mmdues@hal-pc.org>
Subject: Re: [R-390] Ft. Devens R390 training

Your post was definitely not off topic, rather, greatly appreciated. I, for one, really appreciate historical narratives on the use and application of our R-390 series radios where ever, how ever, and with what ever additional equipment. In 1962-64, I was home-ported in Boston (Charlestown Naval Shipyard) on a guided missile heavy cruiser, the USS Boston (CAG-1) as a radioman. I used R-390A receivers in the ships' crypto center doing submarine reports. I knew where all the submarines were -- ours, and theirs. I was 19-21 years old. Interesting times.

Date: Sat, 4 Jun 2005 11:30:47 -0400
From: "John KALXC" <tetrode@comcast.net>
Subject: Re: [R-390] Collins Mechanical Filter History

Les, you should send Collins a nice note, talking about it here will not fix their problem. That 390/390A statement is 50 year old minutia that nobody cares much about save us.

Date: Sat, 4 Jun 2005 13:19:06 EDT
From: Llgpt@aol.com
Subject: Re: [R-390] Collins Mechanical Filter History

Already working on it. I figure the person who wrote it has probably never seen a vacuum tube, much less know the difference between a R-390 or a R-390A. (see how easy that was to say?) Les

Date: Sun, 5 Jun 2005 20:52:48 -0400
From: "Jim Miller" <jmiller1706@cfl.rr.com>

Subject: Re: [R-390] Please spare us

It is my understanding that the "A" model resulted from a cost reduction study conducted by the Signal Corps, documented in a report which you can read at Al Tirevold's site: <http://209.35.120.129/faq-collins-cost.pdf>

If the above link doesn't work, go to <http://www.r-390a.net> and browse the References for the Cost Reduction Report. It's all there. It was the result of a cost reduction effort instigated by the Government, and Collins apparently responded quite nicely.

To quote from the report: This report covers all the work done on the Signal Corps Cost Reduction Contract DA36-039-sc-52584 which resulted in the redesign of the Radio Receivers R-390()/URR and R_391()/URR. Except for the automatic tuning facility of the R-391, the two receivers are similar. These receivers, particularly the R-390, are fulfilling many needs of the Armed Forces, and are being produced in quite large quantities. Since the unit cost of these receivers is high, this program of cost reduction should result in a considerable saving to the Government. In addition to the primary purpose of reducing cost, every effort was made to improve the reliability, accessibility and performance of these receivers wherever it was possible to do so.

Two finished model R-390 and one R-391 receivers were built and delivered to the Signal Corps as called for in the contract. These are designated "A" models. One "B" model R-391 was also built and delivered to test all the new ideas and bring them together in one receiver. The main task of the contract, then, was to reduce cost of the equipment and improve the reliability, accessibility and performance. The work done may be broken down into the following phases:

- Phase A: Study of the Main Areas for Investigation.
- Phase B: Cost Analysis of the R-390 and R-391 Receivers.
- Phase C: Design and Experimentation.
- Phase D: Construction of "B" Model Receiver.
- Phase E: Construction of "A" Model Receiver.
- Phase F: Delivery of Models.
- Phase G: Preparation of Drawings and Final Cost Analysis.

Date: Sun, 5 Jun 2005 21:45:21 -0400
From: "Michael Murphy" <mjmurphy45@comcast.net>
Subject: [R-390] R-390 "B"

Instead of arguing about what exists and has gone obsolete, what about what could have been: what if the military had demanded one more cost reduction attempt in the series using 1970's-type components? I will call it the B model. What about a solid state IF module, or PTO, a digital readout

and no ballast tube?

Date: Sun, 05 Jun 2005 23:24:25 -0400
From: Mark Huss <mhuss1@bellatlantic.net>
Subject: Re: [R-390] R-390 "B" model

In a manner of speaking, yes. There was a limited production run of R-390A's with an electronic digital display. Used analog mixers on the three Local oscillators before connecting it to a TTL Frequency counter. This was before microprocessors. Another allowed the oscillators to be sync'ed to a Master Oscillator. Used by NASA. Nothing went into major production, probably because the R-390A just worked so well. I was in when the Army was getting rather desperate to replace it with a solid state receiver. They would buy hundreds of Watkins-Johnsons, Collins, Racals, even JRC's. Each time after comparing sensitivity, selectivity, maintenance requirements, reliability, and operator preferences, they kept going back to the R-390A. Finally, in the early eighty's, they gave up and bit the bullet because of replacement costs and the growing requirements to remote control radios via data links and went with the Racal 6030A. Even then, a few R-390A's somehow fell off the back of the garbage truck to end up in out-of-the-way racks for when the listening got serious.

Date: Mon, 6 Jun 2005 00:25:51 EDT
From: ToddRoberts2001@aol.com
Subject: [R-390] US Army ads with picture of R-390A

Does anyone else remember as late as the 1970's the U.S. Army was running recruitment ads showing a picture of someone operating an R-390A? I think these ads were turning up in various magazines as well as TV guide in the middle to late '70's. I was wondering if anyone might have saved one of these ads and could post it somewhere we could see it? I think those may have been some of the last pictures ever showing the R-390A being used by the military.

Date: Mon, 06 Jun 2005 15:27:03 -0400
From: "Steve Hobensack" <stevehobensack@hotmail.com>
Subject: RE: [R-390] R-390 (NON A)

I agree. I was a ditty chaser in the Navy in the late sixties. They were all called "R-390". The vast majority of the rcvrs were the A model, but the "A" suffix was never added in casual conversation.

Date: Mon, 06 Jun 2005 19:55:42 +0000
From: eldim@att.net
Subject: RE: [R-390] R-390 (NON A)

I agree with Steve. In my years with the Air Force we "ONLY" had the "A" Model R-390's and always referred to them as R-390's.

We did however, have a TWIX come down from higher headquarters to refer to them as R-390"A" when in the presence, of our Canadian counterparts, on NORAD Sites, Overseas Canadian Listening posts, or when north of the U.S. borders.

Now on the subject of the "B" Model. I recently parted with a Collins R-390A that had a custom Panel with several changes, which included miniature lights, toggle switches, and a rear connector. The previous owner who fabricated this panel and made these mods also included the original engraved front panel if I wanted to restore it to original.

I wish I had taken pictures before the trade. I wish I would have at least take a picture of the Data Tag!!! :(Several people wanted to cash me out, but I have trouble handling large sums of cash, not to mention the short term capital gains tax that I would have to fork up. I'll keep my eyes open to see if the second one shows up out this way.

73,Glen Galati, KA7BOJ Tacoma, WA

Date: Mon, 06 Jun 2005 15:58:42 -0400
From: "Steve Hobensack" <stevehobensack@hotmail.com>
Subject: Re: [R-390] Please spare us

If the R-390a has 1 μ V sensitivity and the RA-17 has about 1/2 μ V sensitivity, Is that twice as sensitive? There are some frame-grid tubes one can insert in the front end to improve sensitivity. I have tried them, but I always go back to the good old 6DC6. It is resistant to imd (overload, cross modulation). The R-390 is my only receiver(as compared to 51J4, SP-600, Icom720A) that will pick up daytime WTOP in washington DC 1500 kc 360 miles away ?10kw, against a local station 1490 kc WMOA 1 kw 5 miles away. I have to zero beat 1500, 2 kc bandwidth selected, bfo offset 1.5 kc.

Date: Mon, 06 Jun 2005 22:37:42 +0000
From: eldim@att.net
Subject: Re: [R-390] Please spare us

You just need to check the sensitivity of your receiver or increase your RF Gain in the MGC Mode. Plus you must make sure your aerial is connected. Check your ground too!

Date: Mon, 6 Jun 2005 19:58:40 EDT

From: Flowertime01@wmconnect.com
Subject: Re: [R-390] R-390 "B" What No ballast Tube.

Here in 2005 on good old USA power lines, the ballast tube seems like over kill. Back in 1969, 1970 around Phi Bhi where we did every thing our selves including generate the electricity, the ballast tube was a definite plus. A year later in Korea, every thing on the DMZ was running on even smaller local generators 24 x7. The ballast tube was a good idea in it time and worked well in some pretty sorry environments. Roger
KC6TRU

Date: Mon, 6 Jun 2005 18:59:05 -0600
From: "Kenneth Arthur Crips" <CRIPSO1@MSN.COM>
Subject: Re: [R-390] Please spare us

This is great now we are starting to discuss radios like we should. It is interesting to look at what happened to some of the Radio companies in the post WWII era. A case in point is Radio Manufactures Engineers of Peoria, Illinois (RME). I have a RME 45 which was built in October of 1946. It is a well made radio. RME was purchased by Electro Voice in the early 1950's and the RME division of Electro Voice continued into the late 50's when production stopped. In the early 70's some of the engineers who started with the RME division retired and instead of going fishing they when on to form Tennessee Technical now known as Ten Tec. This Electro Voice connection explains why most Ten Tec rigs operating with in spec's sound so good on the air.

Date: Mon, 6 Jun 2005 21:05:35 -0400
From: "Dave Maples" <dsmaples@comcast.net>
Subject: RE: [R-390] R-390 "B" model

All: Considering that SAC replaced one of the vacuum-tube computer elements with a solid-state device in 1983 (I remember the article in Aviation Week and Space Technology, as well as other places) it's easy to understand why they hung on to the 390's et al for such a long time.

Date: Mon, 6 Jun 2005 23:39:09 -0600
From: "Kenneth Arthur Crips" <CRIPSO1@MSN.COM>
Subject: Re: [R-390] Please spare us

The R388/URR (51J3) has crystal filtering, and the R388A/URR (51J4) has mechanical filters. I have never had the opportunity to compare these two radios side by side. If anyone has been able to do this how do the two radio compare. My SP-600 has both kinds of filters but it needs a serious tune-up, it is real deaf so it just isn't possible to compare using it. I must say I like the phasing control the crystal filtering has.

Date: Tue, 7 Jun 2005 00:16:50 -0700
From: "Dan Merz" <djmerz@3-cities.com>
Subject: RE: [R-390] Please spare us

Hi, the crystal filtering in the radios you mention is of the type that dates back to the early thirties and is not the passband type of filter with a relatively flat top that passes a range of frequencies uniformly. Rather the top is very sharp and the passage of some range of frequencies is further down on the skirts of the response. This was early on called a "signal signal response" filter because the bfo could be positioned relative to the passband to produce only one side of the beat response and the other side was suppressed. One side of the filter has a very steep curve. This was very useful for cw and eliminated interfering signals that were otherwise received. Later, passband filters were made with multiple arrays of crystals that produced flat-topped passbands but I don't think this type of filter is used in either of the two radios you mentioned. The 51J4 has passband filters of the mechanical type that are similar to the mechanical filters in the 390a, though in different holders. The 51J3 relies on tuned i.f. transformers for filtering other than the sharp cw crystal filter. Of course the crystal filter can be used for ssb but the audio response is somewhat restricted because of the sharp filtering characteristic. There are some vintage tube receivers with passband type crystal filters. The only one I have experience with is the Mackay 3010 which has a crystal lattice filter of about 6 khz bandwidth in the 2nd i.f. stage and this is backed up by selectable narrower mechanical passband filters in the 3rd i.f. stage.

The R388 has somewhat broader skirts when the transformer i.f. selectivity is used, compared to say 390a mechanical filters or 390 transformer i.f. selectivity. This difference is mostly important only when two signals are very close. I added a 500 khz ssb mechanical filter to my 388 to see the difference; it helped some but wasn't world shaking. Though it was a Collins filter, it may not have been as good as the ones used in the 51J4. I would think the 51J4 is capable of separating ssb signals better than a 51J3 but for cw there may be little difference using the crystal filter of either. Dan

Date: Tue, 7 Jun 2005 08:12:03 -0500
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] Please spare us

I've never seen an SP-600 with mechanical filters.... That would be rare for sure...

Date: Tue, 7 Jun 2005 10:19:36 -0700

From: "David Wise" <David_Wise@Phoenix.com>
Subject: RE: [R-390] Please spare us

>....."signal signal response" Typo. "Single signal". You leave out the important fact that the crystal had not only a sharp peak, it also had a sharp notch. The Phasing control affected the spacing between them, so you could peak up on the desired signal and simultaneously null out an interfering signal nearby. There must have been some shortcomings or side-effects, because later crystal filter designs (such as in the R-390x) make a point of doing away with the notch, by means of a neutralization adjustment.

>[.....I added a 500 khz SSB mechanical filterIt depends a lot on how you install it. "Blowby" is a big issue, and you have to take a lot of care with shielding to get anywhere near the out-of-band rejection the filter is capable of. That's why the R-390A filters are in those double-ended flange-mount cans. This is discussed in the Cost Reduction Report.

Date: Tue, 7 Jun 2005 14:51:34 -0700
From: "Dan Merz" <djmerz@3-cities.com>
Subject: RE: [R-390] Please spare us

Hi, thanks for the correction, "signal signal" was a typo - that'll teach me to do late night replies!! Should have been single signal. My first real ham band receiver was a simple homebuilt thing with 1700/1700.5 KC crystal pair front end filter for the i.f. It was better than most commercial inexpensive sets with only 2 or 3 i.f. transformers. The R-388 even when operating with only i.f. transformers has better selectivity. The single crystal filter when implemented well does a nice job, the SX-28, early Super Pro's, SP-600 come to mind within my own experience. I spend little time using receivers that were actually designed for ssb though I listen to ssb most of the time. I must actually prefer to twist knobs, which probably originates from using an S-38 Hallicrafters to discover and receive ssb - not even an external bfo adjustment. Radios designed for ssb are somewhat boring to operate in comparison, though I have a couple. I must admit at times I miss the HQ-180 I had for a while but opted to keep the SP-600 instead and ride the r.f. gain. The SP-600 kept the phasing control, so it's not that phasing control wasn't still regarded as a useful front panel control in 1950. Maybe the Hammarlund engineers were just better at implementing it than the Collins guys (better here means either it was cheaper, quicker, or proven in their shop so don't think I'm belittling the C guys). Occasionally, I have used the crystal filter in the SP-600 for ssb. I haven't studied the single crystal circuit in the 390 enough to comment other than to say that 2 degrees of selectivity in that mode were considered sufficient. Best regards, Dan.

Date: Tue, 7 Jun 2005 19:46:17 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] Please spare us

From my military education, by 1950, Post W.W.II our military was moving away from dits. RTTY imposed a level of "security" on our communications, You just were not going to copy RTTY by ear with a stick in hand. So the R390 was just great for that RTTY use. The linear PTO let you deal with drift and other facets of radio reception. Post W.W.II the Spooks were closed down, we did not need to listen to any one except our commanding officers. And you did not need a radio to do that.

The rest of the world just was not up to RTTY, so they still used a lot of dits. Once it occurred to the command that we may like to receive the dits or others, the spooks were stuck with the existing hardware. Spooks never got to pick their receiver with an essay question test. The spook choices were do you want these or not? A lot of communications were still dits, even if the official line was we do RTTY. While the signal corp used lots of R390 or R390/A for long haul communications, short haul was done on telephone lines. Most of the com work was via a RTTY link. And spooks were using the only stock military receiver available in production to copy dits. The spooks could buy any radio in the warehouse with a military stock number.

We were not calling it a NSN yet. By the late 50's when spooks got to radios in a big way, there were very few choices on the shelf to be acquired by the hundreds being requested. So more R390 and Later R390/A receivers were built just for spooks. Never mine that the receiver was a poor spook receiver.

It was what was in stock and in production. End of story solidier, go listen to your receiver and get those dits. Its a receiver good enough for the military brass and its good enough for you. How dare you even think the military brass has not provided you the best receiver money could buy. Troops were told the R390/A was an improved receiver, not a cost reduced receiver.

While the spooks done lots of dit intercept on the R390 and R390/A the military never considered the receiver a ditty catcher. They also did not consider it an Armed Forces Radio catcher or a SSB catcher either. What management was thinking when the receiver were being designed and purchased had no relation to how they were to actually be used over the next 40 plus years of their life. That is not what management expected to happen but then reality bits every one now and then. And reality rules.
Roger KC6TRJ

Date: Tue, 7 Jun 2005 20:47:56 -0400
From: "Bill Levy" <levyfiles@att.net>
Subject: Re: [R-390] Please spare us

I would like to second Roger. In the world in which we live, the A and B models are improvements. The Pommies call is the MK 2 and the MK3 It doesn't matter if it has more tubes or less tubes. A is better than non A. B is even better. The KWM-1 was in Francis Gary Powers U2 that got shot down. The KWM2a suitcase was in every Embassy and all over Vietnam and the Mars bases. The KWM380 was an improvement. You want to argue? Go ahead and nitpick. You can't prove the existence of God either. Doesn't matter to me. Its called progress even if we are luddites and the world was better when we were 18 and we had 3 girls as our roommates and one was our lover and the other two could cook! Of course it was better THEN but then is a moving target! Good as Roger says is good enough! When it breaks its a piece of crap.

Date: Tue, 07 Jun 2005 20:33:22 -0700
From: John Kolb <jlkolb@jlkolb.cts.com>
Subject: Re: [R-390] Please spare us

The 51J-4/R-388A has the same crystal filter and phasing control as the 51J-3 as well as mechanical filters. The change was made by removing one of the stages of IF amp and replacing it with a module containing the filter switching, filter sockets, and two IF amp tubes. This module was also sold seperately to convert 51J-3's to 51J-4's. The modules show up occasionally on ebay.

Date: Thu, 9 Jun 2005 11:44:17 +1000
From: "bernie nicholson" <vk2abn@bigpond.net.au>
Subject: [R-390] Re: Racal RA.17 Receivers

Guday Roy My receiver is a RA17L these radios are all very similar the American radios had a 6AS6 as the third mixer the British radios had a 6F33 which is very hard to find these days and I have substituted the 6AS6 in my radio it has different socket connections, the radios are easy to service if you have the right gear , the ceramic bypass caps in the IF stage give a lot of trouble and also the 100KHz IF'T s are wound with Litz wire under tension and after many years of heating & cooling some strands give way and effect the Q of the transformer and when you re align you cant obtain the shape in the handbook, I have fixed these by disassembly and running solder up the wires , you can get a good idea what is happening in the Wadley loop Y, connecting a CRO probe to the O/P of the 3rd mixer and tuning the MHZ dial you will see the one mhz pips going across the screen as you tune the VFO from 40 to 70Mhz ,also the 40mhz filter and the 37.5 mhz filter need to be swept ,I use a HP 141T and

tracking gen and this combo does a great job, I also have the ISB adaptor for this radio which has an input of 100KHZ and splits off both sidebands at 18KHZ and demodulates with 2 product detectors, I have bought many pallets of these receivers at our AUST gov. surplus auctions and have never found one that I couldn't fix , A very common prob is an open circuit 100k resistor associated with the 6As6 screen or plate, I can't remember, also here in Australia, in the late sixties and early seventies lots of hams in OZ made there own Ra17 rx s it was called the Delta het and I have scanned the articles into my computer if you would like to see them, Do you have broadband Roy? as they are a few Megabytes, My project of the hour is re manufacturing an ART 13 tx by Collins, I have got it all back together and its taken a fortnight, { I am a retired electrician } and I powered it up last night and its working, today I am going to align it

Date: Thu, 16 Jun 2005 17:20:02 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] Original Antenna Used with R-390 and R-390A

If you were an O5H in the Army Security Agency, you used your receiver with a whole antenna farm of rhombic antennas. You shared your antenna farm with some few hundred other O5H's through some CU 872 antenna couplers. Your antenna farm covered 360 degrees. Your rhombic's shared there two side towers with adjacent rhombic. They were likely 100 to 130 foot towers depending on the lay of the land. Your farm field formed a 180 degree vista. If you were a Signal Corp Communicator doing both sending and receiving. Likely operating RTTY, you had a dipole cut to your exact operating frequency. You were likely operating over 15Mhz and had a couple 50 ft telephone poles for mast. You may have had a curtain antenna or two for diversity operations. You likely had a farm field of antenna's to work different links at different directions. I just know everyone of those antennas was a kit and had part numbers and nomenclatures. Today I just have as long a wire as I can get into the air.
Roger KC6TRU

Date: Thu, 23 Jun 2005 10:59:44 EDT
From: RLucch2098@aol.com
Subject: [R-390] Anyone Know about this FSK device & Value?

Hi All; When I bought my last Motorola R-390A, the seller included this device. He said it was used with the R-390A's but would like to get any info I can, like value, etc! It is an FSK converter CV-116C/URR, no cables & untested. Made by ONEIDA Electronics, same as my R-390A speaker I got a few weeks ago.

Here are some pics, last one shows tag:
<http://www.myradioroom.com/fskconverter1.jpg>

<http://www.myradioroom.com/fskconverter2.jpg>
<http://www.myradioroom.com/fskconverter3.jpg>
Any info will be appreciated.

Date: Thu, 23 Jun 2005 11:38:15 -0400
From: Roy Morgan <roy.morgan@nist.gov>
Subject: Re: [R-390] Anyone Know about this FSK device & Value?

Yup, sure enough. It's a CV-116 terminal unit. these things apparently preceded the URA-8A with it's pair of CV-89 converters (though it might have been the other way around.) The CV-115 is more or less half of a CV-116, with only one channel. I have a CV-115 and a manual for the CV-116. As you can see, it is a tube- and mass- intensive device. The 115 is about all I want to lift at one time. And apparently they really DO need all those fans. If an R-390A owner wants an authentic period companion tuning unit for his/her radio, this is a prime candidate. I plan to get my CV-115 running for the experience, then will perhaps pass it along to someone else as part of a long-term weight and volume reduction program here.

I can't say a thing about the performance of these things, unfortunately. I think they are slope (discriminator) type units, and will not outperform a Dovetron by any means. The 116 seems to contain a comparitor of sorts for two-channel multiplex. Very likely it will drive your 60 ma machine(s) directly.

As to the value, quite some years ago, I paid about \$100 for my CV-115, and that may well have been too high. At that time, the Hamfest price might have been much less. I don't know of any being sold other than mine, though, so this is only one spurious data point. I suggest you try the electrolytics if you can find any, the fire it up. Those little metal cans in among the tubes are capacitors, and may well be paper caps that are subject to failure/leakage. If so, any would-be operator will have quite a restoration project on his hands.

Date: Thu, 23 Jun 2005 13:04:39 -0400
From: "Tim Shoppa" <tshoppa@wmata.com>
Subject: Re: [R-390] Anyone Know about this FSK device & Value?

What's inside a CV-115? I did some RTTY stuff with surplus Bell datasets, and they were maybe a dozen transistors with some big inductors for LC filtering of mark and space. There was a not-small power supply for 60mA current loop but even then it wasn't all that big. I could imagine doing all that with a half-dozen 12AU7's. (In fact, I think the 1960's ARRL handbook did it that way using surplus telco inductors). So what's all that mass for, especially if as you surmise it was actually a slope converter?

Date: Fri, 24 Jun 2005 02:20:01 -0600
From: "Kenneth Arthur Crips" <CRIPSO1@MSN.COM>
Subject: Re: [R-390] Anyone Know about this FSK device & Value?

As with all such military equipment you can often find these manuals in their original form at a well stocked Government Repository Library to find one look here libraryspot.com/governmentlibraries.htm The one over at the University of Wyoming has the tech manuals for such stuff as M4 Sherman Tanks, M5 White Scout cars, etc. I see Fair Radio Sales has the manual: CV-116 FSK Converter repro 17.00.

Date: Fri, 24 Jun 2005 10:46:42 -0400
From: "James M. Walker" <chejmw@acsu.buffalo.edu>
Subject: Re: [R-390] Anyone Know about this FSK device & Value?

Hello fellow heavy lifters, couldn't help but notice the reference to CV-116 FSK Converters and thought I might be of help. First it is a Dual Diversity FSK converter, used in the AN/GRC-26D of R-390 and T-368 fame! Second it would be a geniune waste to scrap one if it works. If you are really interested in a Manual I have the complete sets ala Military Manuals in PDF and can email them to you, if you like. I believe I also have a picture and short description on my web pages at <http://eshop1.chem.buffalo.edu/T-368.html>

Date: Tue, 05 Jul 2005 20:47:43 -0400
From: shoppa_r390a@trailing-edge.com (Tim Shoppa)
Subject: [R-390] Serial number matching

Through dumb luck, one of my R-390A's bears a Stewart-Warner nameplate with serial number 624. And my other one has a Stewart-Warner RF deck with serial number 625. Out of the factory, was there any matching of serial numbers on the various subassemblies, or was it more random?

Date: Tue, 5 Jul 2005 22:19:26 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] Serial number matching

Back when 68 - 75 many of the receivers had matching decks and front panel serial numbers. Some times a receiver would have decks that were off by a serial number or two. Some receivers had decks that just had not reason to the deck numbers.

We never though it made any difference. We though the numbers were stuck on the decks before the decks were installed. We though it was a

what ever issue. Somedays, someone was feeling bored and matched up several whole receivers. Other days it looked like any number was OK to get the thing assembled. Looking at your deck serial numbers should not be taken as any thing other than curiosity.

Some guy will sell a matched receiver on Ebay and wax on for several extra hundred dollars for one that never went to the depot. Having looked into a couple thousand receivers at various locations and years, I saw all kinds of number sets. Its just luck if any of the decks have the same number as the front panel tag.

Date: Wed, 06 Jul 2005 06:24:28 -0400
From: shoppa_r390a@trailing-edge.com (Tim Shoppa)
Subject: Re: [R-390] Serial number matching

Certainly, a curiosity. And it's not that either of my radios had matching modules - I was more struck by the fact that my two radios (each of which is a Heinz 51 mix!) had serial numbers that differed by only 1. Sort-of-like twins separated at birth but reunited after 4 decades. Of course, the way R-390Aitis has taken over here, I won't be satisfied until every single R-390A has met its brethern here in my basement :-).

Date: Wed, 6 Jul 2005 05:13:03 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] Serial number matching

The only matched numbers I've seen are with the Fowlers. They only made five so it was not too tough to match them. Tom

Date: Wed, 6 Jul 2005 05:16:44 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] R-390 s.n.s here

Just wanted to step in with a correction . . . I never kept a registry (someone's website had a link to me indicating such, but that is incorrect), just a record of high s.n.s and a few other curiosities. The record is saved here:

<http://www.geocities.com/courir26/CollinsRec.htm>

Date: Wed, 06 Jul 2005 12:38:14 +0000
From: "richard may" <richardmay@hotmail.com>
Subject: [R-390] Re: Serial number matching

Some time ago, I dropped the faceplate of my backup receiver to replace a defective switch. To my amazement, the RF deck was labeled "Motorola Number 1". Unfortunately, the RF geartrain faceplate had been switched

somewhere down the line with an EAC deck. (I found the second serial number on the side) Goes to show you, anything is possible.

Date: Wed, 6 Jul 2005 10:36:00 -0400 (EDT)
From: John Lawson <jpl15@panix.com>
Subject: [R-390] Serial matching - slightly OT

Many hundreds of years ago - I worked at a large electronic and aerospace surplus company. Yes - an alcoholic working for a brewery... ;) While working there I got in a Nems-Clarke telemetry receiver, 100-400 MHz continuously - the model with the Mallory Inductuner and the Weco planar triode in the front end. I used it quite a bit back then (the mid '70s). Flash forward to the late 80s - I see another similar model at a ham swap, and buy it 'cause it's cheap. I put it in the rack next to its predecessor, woo hoo. A few years later, while moving the radios, I happen to notice that they have *consecutive serial numbers*, and in fact the first radio I got was the 'younger' one. It's interesting to think of the paths they took from the assembly line, into service, then surplus, only to be rejoined in decades later in my shack. Two house-moves ago I sold 'em... way too big and heavy and noisy for what they did... ObR-390: my 390A appears to be a mostly Motorola rig, but arrived in my care missing (alas!) its rating plate.

Date: Thu, 7 Jul 2005 11:17:36 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] Serial number matching

Once you get them all together in your basement, you can get them all properly sorted out. I think it would help their personalities. I have worked on some real confused receivers and I think having their subassemblies mixed up is part of their personality problems

Date: Thu, 7 Jul 2005 11:58:44 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] Tags

Yes, you could order replacement tags back then. Fellows saw a need to take them home with them as keepsakes. The property book Officer would have a fit. As his property was becoming unaccountable for. So you could order a new tag. Any old speedy 4 or 5 was not about to get the paper signed off on, but the Warrant Officer could get it done. We some times altered tags. You would get two receivers from different contracts with the same serial number on the same property book. (We had lots of receivers.) So someone would stamp a letter after the serial number on one receiver. Someone may have an altered tag of this flavor and wonder why.

Date: Thu, 7 Jul 2005 13:21:21 -0500
From: Craig <westerman@cableone.net>
Subject: [R-390] What happened to all the NOS parts?

With around 60,000 R-390s and R-390As having been manufactured, the government had to have tons of NOS parts setting in their warehouses. Were these parts sold for scrap, trashed or still in storage (hopefully) somewhere?

Date: Thu, 7 Jul 2005 14:26:33 EDT
From: Llgpt@aol.com
Subject: Re: [R-390] What happened to all the NOS parts?

Well, there are a lot of people with a lot of R-390, R-390A's and spare modules, parts etc. gathering dust, out there. I know of many with 12-20 receivers and spare modules etc. My thoughts are that they will not increase much in value, the generation coming up now couldn't care less about "our" technology. Those who have lots of it should consider giving their families a break and sell while the selling is good. I'm not looking or trying to sell, so I have no stake in my opinion. Les Locklear

Date: Thu, 07 Jul 2005 14:42:19 -0400
From: "James A. (Andy) Moorer" <jamminpower@earthlink.net>
Subject: Re: [R-390] What happened to all the NOS parts?

I wish. What I've got is OOS - that is, OLD old stock. Or even VOOS - VERY old, old stock.

Date: Thu, 7 Jul 2005 15:01:00 EDT
From: R390rcvr@aol.com
Subject: [R-390] Stockpile of BOS

Well, guys: I personally collect BOS, broken old stock. My favorites are main tuning knobs with broken tabs. Lots of those. Still looking for the NOS warehouse.

Date: Thu, 7 Jul 2005 14:23:04 -0500
From: "Barry" <n4buq@aol.com>
Subject: Re: [R-390] What happened to all the NOS parts?

I still think there's a box of 100,000 #8-36 Bristol-drive set screws somewhere besides the bottom of the ocean.

Date: Thu, 07 Jul 2005 16:22:55 -0400
From: Roy Morgan <roy.morgan@nist.gov>
Subject: Re: [R-390] What happened to all the NOS parts?

Oh indeed. we need to find that box! While we are at it, does anyone have or know of a source for a 3/8 inch 32 tpi tap???? I am planning to mount some BNC connectors in the clamp fitting of Twinax connectors to make UG-whatever-it-is substitutes, for antenna connections on the R-390's.

Date: Thu, 7 Jul 2005 15:29:44 -0500
From: "Barry" <n4buq@aol.com>
Subject: Re: [R-390] What happened to all the NOS parts?

McMaster (www.mcmaster.com) Catalog page 2238

Date: Thu, 07 Jul 2005 13:44:14 -0700
From: Dan Arney <hankarn@pacbell.net>
Subject: Re: [R-390] What happened to all the NOS parts?

Craig, I have at least 4 or 5 tons of parts for the R-390A from a former depot repair facility.

Date: Thu, 7 Jul 2005 14:12:45 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] Tags Interchange

The early R-390A tags in fact do interchange (in size) with the R-390A. The early Collins and Motorola for sure.

Date: Thu, 7 Jul 2005 17:44:20 -0400
From: "AI2Q" <ai2q@adelphia.net>
Subject: Re: [R-390] What happened to all the NOS parts?

"Ah, where have all the parts gone? Gone to graveyards, every one. When will we ever learn? When will we ever learn?"

When I was in Vietnam in 1966, an AF sergeant called me to check out a CONEX container sitting on the tarmac in Pleiku airfield. K9BWI and myself looked it over and saw thousands of new parts, all in multi-layer MIL wrappings.

These parts were for R-390As, RT-718s (KWM-2As), etc.--- and all were waiting for disposal/destruction. The entire contents of that container was slated for the trash dump.

If you think that was wasteful, it was nothing compared to the pallets of R-390As piled up sitting in the mudfield! Whatever happened to those?

Date: Wed, 13 Jul 2005 12:06:33 -0400

From: "David Schilling" <dschilling@juniper.net>
Subject: [R-390] Ft. Devens (Was Signal Generator Impedence Questions)

I am an old ASAer and can tell you there was not a complete FLR-9 at Devens. Back in the 70's all of the training was done on-site in Augsburg Germany. Last time I saw the FLR-9 was in the late 70's there and training continued. No idea if the site is still there today. RDF was taught at Devens and some small tactical pieces of equipment were there. The one I remember was a circle, about 100ft dia, But age has robbed me of the exact nomenclature. The entire school was moved to Arizona and no doubt there is a museum there that would cover some of the history of Ft Devens. Sorry I can be of more help. David Schilling (US Army Security Agency)

Date: Mon, 25 Jul 2005 12:38:56 -0400
From: Barry <BarryG@visi.net>
Subject: [R-390] Depot Dawgs

I have been on this list for years, I enjoy the 390A es 390 tech talk. This is my first post, I hate the off topic stuff, but having put up with it this long, maybe you can indulge me. This has been discussed in the past, however, not recently. I worked in a Depot for 5 years, Naval Air Rework Facility (NAS Norfolk). EVERY ITEM WE OVERHAULED HAD TO PASS THE FACTORY SPEC. PERIOD. Were there different manufacturer's for the same item?

Yes. Did various modules from various manufacturer's end up in a different mainframe? Yes. Did the build quality differ from vendor to vendor? Yes. Zero defects were the stated goal at my facility, EVERY piece of gear I personally overhauled had a document with MY artisan stamp (number unique to the tech) on it.

Plus, there was a SEPARATE Quality Assurance Dept. that sampled 50 to 100 percent of the output of equipment from the shop. God forbid you got a QDR (Quality Deficiency Report) back from the customer on a piece of gear you certified as spec. It created a real problem for the shop and tech.

I suspect and have seen, this "DEPOT DAWG" moniker used by various morons and radio snobs over the years. Who might not have a TRUE appreciation for the depot overhaul process as I saw it. Of course there could be one bad apple in every barrel, however, in this case THAT apple didn't spoil the bunch.

To reiterate: EVERY ITEM WE OVERHAULED HAD TO PASS THE FACTORY SPEC. PERIOD!

Date: Mon, 25 Jul 2005 17:22:57 -0700
From: Dan Arney <hankarn@pacbell.net>
Subject: Re: [R-390] NOS R-390A on the E-Place

Probably not. my understanding is the Military Tag was installed after the radio was an accepted item. For the purpose of inventory control for the Gov. contract. And down the line when it came back as a DEPOT DAWG the tag was removed so the panel could be refinished and then when it got accepted again the QC man reached into the box of tags and lo and behold the DAWG had a new number as it went out the door. And that is a possible reason that the Helena Rubenstien tags were taken by the QC guys as a novelty for the girlfriend or the XYL's.

Date: Tue, 26 Jul 2005 03:40:31 +0000
From: eldim@att.net
Subject: Re: [R-390] NOS R-390A on the E-Place

Hello 390 Friends, How are we sure that a 390 ever had to, or even went to a Depot? How much abuse did these receivers receive? In the fixed, in-place situations or duty assignments that I served in we were highly aware of taking care of our assigned equipment. That included pride in appearance as well as meeting all technical specs. In my last assignment we had our R-390A for nearly 7 years (73-80), and I don't recall ever even having to do a Module change. In fact,

I don't recall having to do anything other than replace aging vacuum tubes. Of course we were an AIR FORCE Tactical Unit, and this mighty fine receiver was an authorized piece of test equipment that we used as a 'SELECTIVE VOLTMETER' for nulling out traps, searching for birdies, and listening to AFN and the ballgames. Of course our equipment consisted of mostly Airborne Transceivers configured for Tactical Ground Mobile use. We also had an FM VHF (30-79MHz) Transceiver for commnuication with our Army counterparts. Plus we had portable man-pack FM, HF, and UHF Transceivers for use if we needed to hoof it with the Army.

Our Maintenance rear area had a Collins KWM-2A to maintain commo with our forward deployed units. We also had one in SAC (63-66) as part of our HF set-up (T-368 Transmitter) which in my 3-1/2 years don't recall any maintenance problems. I wonder if there are any security service personnel (radio maintenance types) who would care to elaborate. They had racks of these receivers. I also can't imagine that every R-390 that went to a Depot for overhaul, required the front panel to be removed and redone. Sounds like a forest to me. Of course I can't speak for Depot Level maintenance, since I never had occassion to be assigned to one. I would think that they were mostly civilians, at least that is what the Air Force had at their depots. Back to work. You noticed I didn't say, "REWORK".

73,Glen Galati, KA7BOJ,Tacoma, WA,eldim@att.net

Date: Tue, 26 Jul 2005 12:53:17 -0400
From: "Veenstra, Lester" <Lester.Veenstra@intelsatgeneral.com>
Subject: [R-390] EAC Quality

When I was on active duty and the getting the last run of receivers from EAC, we all agreed that these new receivers were trouble. As I recall they had a higher failure rate, burning resistors and bad small electrolytic caps, that the previous production run receivers.

Date: Tue, 26 Jul 2005 22:00:04 -0400
From: "Bruce Ussery" <twc9198764412@earthlink.net>
Subject: Re: [R-390] depot dawg - demeaning ?!?!?! Humph!

How appropriate for this thread- that wonderful B-29 FIFI is a depot dawg: "(Many parts and spares also came from the other B-29s at China Lake)." When the B-29 came to Raleigh-Durham airport a few years back I went to see it and stood in line a while to walk thru it. Lo and behold there sat a BC-348, my original boat anchor from my teen years. I just barely resisted playing with the knobs. Blew off work Monday morning to go watch it fire up and take off. Wonderful sounds; four big clouds of smoke as each engine fired. So now I have a couple of BC-348s , keeping my R390 and R392 company- nice balanced look. (Back on topic- whew...)

Date: Sun, 21 Aug 2005 21:49:41 -0400
From: jgolden365@aol.com
Subject: [R-390] R725 or R390A or what?

For a few months I had what I recall was an R725 but maybe it wasn't. It had an LED readout in place of the Veeder-Root counter, and a small aluminum box full of electronics hung off the rear apron of the receiver. If it wasn't an R725 what was it?

Date: Sun, 21 Aug 2005 21:09:24 -0700
From: "Dave Faria" <dave_faria@hotmail.com>
Subject: Re: [R-390] R725 or R390A or what?

I did not get the entire receiver just the main chassis. It had the aluminum box on the back and notes on the unit indicated it was a modified AGC control unit. Is this the box that he has and I wonder how it hooks up?? It is all discrete transistor. What is a Pollyanna???

Date: Sun, 21 Aug 2005 22:12:05 -0400
From: Mark Huss <mhuss1@bellatlantic.net>
Subject: Re: [R-390] R725 or R390A or what?

A Pollyanna is an R-725 modified by a government agency to have an LED digital readout because it was needed. JGolden, you should have kept it, it was probably the only one left in existence. They usually 'Thermite' classified equipment.

Date: Wed, 31 Aug 2005 11:49:21 +0000
From: odyslim@comcast.net
Subject: Re: [R-390] Unusual Facility in UK

> I was wondering if any other members of the r-390 group saw the picture in the Listeners Emails column in the Art Bell Coast To Coast AM website recently? A listener sent in a satellite picture of an AN/FLR-9 "Elephant Cage" HF DF antenna array and was wondering if any readers might know what it was. I was one of about 60 replies he got that correctly identified it as one of >the large HF DF antenna arrays. It is a nice overhead picture showing the array at RAF Chicksands looking kind of like a large round clock face from above.

>It turns out the man who sent in the picture already knew what it was, he was just testing Art Bell's fans to see what kind of crazy responses he might get! He thought he would get emails from people telling him it was a landing site for UFO's

> He said he was surprised and very impressed there were so many knowledgeable people out there who knew what it was. I think there are several members of this group who have actually operated an Elephant Cage array?

I would love to hook up an R-390A to one of those arrays and sit down for a couple of hours of nice AM BC band DXing! You can still see the picture for the next day or two on Art Bells website. Look in the column under Listeners Emails.

<http://www.coasttocoastam.com/>

My father was an HF Dfer for the army for many years.I remember him telling me of such arrays. He would travel to remote sites all over the world and help organize the installation of them. They also used specially modified R391's that could be tuned from remote transmitters so the site could be unmanned.

Date: Wed, 31 Aug 2005 08:43:12 -0500
From: "Barry" <n4buq@aol.com>
Subject: Re: [R-390] Unusual Facility in UK

I think the link is: <http://www.coasttocoastam.com/gen/page1076.html>

Date: Thu, 1 Sep 2005 14:33:49 +0100
From: "William G. Mills" <millsend@alltel.net>
Subject: [R-390] Wullenweber Antenna

The "Elephant Cage" circular antenna mentioned in previous posts is in fact the Wullenweber direction finding antenna originally designed by the Germans during World War II. The U.S. Armed Forces signal intelligence services improved on the Wullenweber antenna design and installed the antennas with associated HF receivers, computers, at signal intelligence sites world wide i.e. Panama, Korea, Greece, Turkey, Germany, etc. The R-390A along with Hammarlund SP-600 receivers were the principal receivers used at the "field stations". Those receivers were later replaced by the Harris line of HF receivers. Most, if not all, of the signal intelligence sites have been deactivated.

Date: Fri, 09 Sep 2005 09:17:35 -0400
From: Roy Morgan <roy.morgan@nist.gov>
Subject: Re: [R-390] Unusual Facility in UK

>When I left San Diego in July 2004, there was still one on the silver strand.

>You had to drive down to the very south end of the strand to see it.

At Yahoo Maps, I discover that there is a Naval Radio Station on that peninsula.

Date: Fri, 9 Sep 2005 07:44:27 -0700
From: "Ed Zeranski" <ezeran@ezeran.cnc.net>
Subject: Re: [R-390] Unusual Facility in UK

Imperial Beach radio facility.

Date: Sat, 10 Sep 2005 03:40:41 EDT
From: GBabin73@aol.com
Subject: Re: [R-390] Unusual Facility in UK

It's been shut down for a few years now. It used to be NRRF (Navy Radio Receiving Facility). The antenna array is still there (The elephant cage), but the building is empty. I was lucky enough to get a tour while it was operational, absolutely the most amazing RX system on Earth. 73! DE N5MCJ, Jerry

Date: Sun, 11 Sep 2005 12:40:39 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] Unusual Facility in UK

The elephant cage is just one of many antenna's at the site. I have no idea what else is going on out on the silver strand. The North end of the peninsula that forms the silver strand and the outer bank of the San Diego Bay, is a naval air station. It is called north Island as once upon a time it was an island. There were gaps in the silver stand sand bar. The gaps were filled in and a rail road, trolley line was built on the strand. You could ferry across the bay to Coronado Island. These islands were separated by a marsh. That marsh also has been filled in. Today there is a big tall bridge across the bay from the main land to the peninsula. The Navy Seals still storm the silver strand beach about once a month as part of their training exercises.

Date: Sun, 11 Sep 2005 12:54:30 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] Unusual Facility in UK

Yes, thanks, the small city in the very most south west corner of the continental united states. Imperial Beach radio facility. That is where the Antenna is located. Imperial Beach does an awesome sand castle building event on the beach there each summer. A real party on the South end of San Diego. The other party is on Fiesta Island in the mission beach north end of San Diego. A strange game named over the line is played there. The event goes over the line. If New Orleans does not recover, San Diego may become our best party city. However, I find US cities do not party like many other cities in the world. When I arrived in San Diego in 1984 there was a real awesome dipole strung up in Lemon Grove. It was taken down in the mid 90's while I was in Los Angles. There were three towers with a center feed. I think the towers were over 200 feet. I was told it was a Navy LF antenna for ship to shore. I was up on a "high" land location.

Date: Sun, 11 Sep 2005 19:13:02 -0400
From: damcdonnell@bellsouth.net
Subject: Re: [R-390] Unusual Facility in UK (now talking about a place in CA)

an satellite image of the antenna system.

<http://maps.google.com/maps?q=Imperial+Beach+CA&ll=32.591985,-117.127090&spn=0.013070,0.020262&t=h&hl=en>

and at terraserver

<http://terraserver.microsoft.com/image.aspx?T=1&S=10&Z=11&X=2439&Y=18030&W=3&qcsan+diego%7cCA%7c>

another one in Alaska

<http://terraserver.microsoft.com/image.aspx?T=4&S=9&Z=6&X=3470&Y=67955>

&W=3

The elephant cage (wullenwebber) antenna on Diego Garcia has been dismantled.

http://www.spaceimaging.com/gallery/spacepics/diego_garcia_01_01_05_1M

zoom to the upper left of the island. you'll see a brown circle were the antenna was.

Date: Sun, 11 Sep 2005 17:12:00 -0700

From: "Ken Kaplan" <krkaplan@cox.net>

Subject: [R-390] Neat antenna site

A few year ago I was on a business trip to the San Diego area and just happened across a mighty big antenna. I found a sign on a fence that said something like "Navy Receiving Facility." This place is close to Imperial Beach. Check the URL below to see a picture (approx. 182kb). Anyone know anything about this site? I'd love to connect my R-390A to it!

<http://members.cox.net/krkaplan/image011.jpg>

If you start Google Earth, go to San Diejo at about 20,000 feet. Then go to:

32deg 35min 36.68s N

117deg 07min 44.76s W

Eye elevation 1000 ft

I was at: 32deg 35min 12.32s N 117deg 07min 42.00s W

Isn't the Internet cool!?

Date: Sun, 11 Sep 2005 20:25:31 -0400

From: "Home" <sparks@codepoets.com>

Subject: RE: [R-390] Neat antenna site

Ken, that's a Wellenwebber (SP?) DF antenna, AKA dinosaur cage used by Naval Security Groups for HF DF. There were a lot of these monsters all over the world, many are gone and now part of the cold war history. The one down at Homestead FL was destroyed in Hurricane Andrew in 1992 and never restored to my understanding. I think Sabana Seca PR is gone too,

as well as many others. I was not a Communications Technician (CT) type (I was a Radioman) so I can't say what they used for receivers but you can bet the R-390 was there. 73 Tom K4NCG

Date: Sun, 11 Sep 2005 22:08:23 -0700

From: John Kolb <jlkolb@jlkolb.cts.com>

Subject: Re: [R-390] Unusual Facility in UK

The transmitter site, commonly referred to as the Chollas Heights antenna towers, and the Imperial Beach receiver site were both open to the public on Armed Forces Day back around 1975. Don't know if the rx site is still open occasionally or not.

Date: Mon, 12 Sep 2005 02:07:51 EDT
From: GBabin73@aol.com
Subject: Re: [R-390] Neat antenna site

The site is NRRF (Navy Radio Receiving Facility). It was shut down a few years ago. I was volunteered into doing a retirement ceremony there in 1997 and ran into a civilian employee that worked there (He happened to be a ham I that had known for several years). He gave me the grand tour. What a set-up! I'd swear you could receive someone rubbing two wires together in Pohang and be able to pin point it to within a couple of degrees. It was rumored that they assisted SDG&E (the local light company) pinpointing noisy transformers. At the time, it was filled with racks of Watkins-Johnson, etc. type gear, although I'm sure it was once filled with racks of R-390's. The antenna array is still there, but the building is now empty. The last time I was there, I was stationed with the Sea-Bees and we used the site to store excess heavy equipment. The empty building, completely gutted, was a sad sight. 73! DE N5MCJ, Jerry

cDate: Mon, 12 Sep 2005 07:56:20 -0500
From: glwebb@gundluth.org
Subject: Re: [R-390] Unusual Facility in UK

I was surrounded by (Wullenwebers) on Guam and in the Canal Zone, Panama 1967- 1970:
http://www.anzwers.org/free/navyscpo/guam_intro.html
http://www.anzwers.org/free/navyscpo/Guam_035_big.jpg
http://www.anzwers.org/free/navyscpo/NSGA_Galeta_Island_Site.jpg
Since it has been a while I may be wrong, but I think on Guam we could also use some rhombic arrays for weak very important signals. The CDDA's were used for direction finding and getting fixes on certain signals usually ships and usually Soviet Union. Gary L. Webb NI9V

Date: Fri, 16 Sep 2005 20:45:31 -0600
From: "Kenneth Arthur Crips" <CRIPSO1@MSN.COM>
Subject: [R-390] I ran across this interesting little tid-bit

Here is an interesting little tid-bit. I recall there was a member of this list who toured the USS Pueblo, AGER-2 It would seem the North Korea is hinting on returning her.
<http://www.sfgate.com/cgi->

bin/article.cgi?f=/n/a/2005/09/07/national/w003008D15.DTL

Date: Sat, 17 Sep 2005 16:19:57 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] I ran across this interesting little tid-bit

Fellows, The North Koreans have the USS Pueblo on display. One of the tour guides is the Captain of the ship that captured the USS Pueblo. What a wonderful retirement plan. If you ever get to North Korea you can go for a tour. Have your photo taken while standing next to a shell hole in the super structure. The ship was on TV last week. They showed some nice shots of the R390/A s.The Koreans were wanting to give the ship back some time ago. But got pissed over something that was said in Washington and are still keeping the ship. All the remote controlled receivers I worked with were VHF UHF links. With that many crew men on board why remote a receiver? Where are you going to link it to? Who is going to keep the antenna platform stable and pointed at the satellite? More likely was the use of wide band tape recordings that could be carried home and run over and over until every last radio transmission was eked off the tape and analyzed for content. Roger KC6TRU

Date: Sat, 17 Sep 2005 14:20:29 -0600
From: "Kenneth Arthur Crips" <CRIPSO1@MSN.COM>
Subject: Re: [R-390] USS Pueblo link needed

I am not sure which link you need. I notice the one I supplied to the SF Chronicle doesn't work anymore. Here is the link the site put together by the crewmen <http://www.usspueblo.org/> and the News about it possible return is here:
<http://news.google.com/nwshp?hl=en&tab=wn&q=uss%20pueblo>
The reason why I mentioned is someone on this list visited the ship and posted photographs of the R390 radios still racked up in it's radio room. As was mentioned in the news reports the North Korean use it as a museum ship and proof of how superior the North Korean Navy is over the US Navy.

Date: Sun, 2 Oct 2005 09:06:54 -0400
From: "James A. (Andy) Moorer" <jamminpower@earthlink.net>
Subject: [R-390] R-648

Anybody know anything about the R-648? There is one you-know-where (item 5814012399). It looks a lot like our good friends - slug racks, PTO, mechanical filters.

It looks like someone took a lot of parts from a 51J4 and an R-390 and put them back together without a manual. Interesting receiver.

Date: Sun, 2 Oct 2005 12:21:07 -0400
From: "Leanne" <leanne@islc.net>
Subject: [R-390] re: R-648

This was an airborne receiver that was the replacement for the BC-348 in the early 60's.

When the Marine Corps (and probably Navy) removed the ART-13/BC-348 combination (AN/ARC-8) , from their transports, and replaced them with the AN/ARC-38 transceivers and added the R-648 for an auxiliary receiver.-

Date: Sun, 2 Oct 2005 13:26:07 EDT
From: ToddRoberts2001@aol.com
Subject: Re: [R-390] R-648

The R-648 is a nice receiver but it does have a few limitations. It does not cover the broadcast band. I believe the first band is 190-550KHz and the next band up normally starts at 2MHz but there is enough overtravel that you can get it to tune down to almost 1.9MHz. Also the one on eBay does not have the case but one could be made up for it or possibly you could find an old R-648 case somewhere from a real junker R-648. It is best to replace the noisy dynamotor power supply with a small 120VAC power supply and one can be fitted inside the chassis easily and there was an old construction article in 73 magazine I believe showing how to build an AC power supply for it - that makes it a very nice table-top receiver with a built-in AC supply. Another thing about the R-648 is that it uses 500KC filters similar to the ones used in the 51J-4 except the ones in the R-648 are solder-in types and the 51J-4 filters are plug-in. The R-648 comes with 2 stock bandwidths - 1.4KHz and 6.0KHz. The 1.4KHz BW filter is not really too practical as it is too wide for CW and a bit too narrow for SSB or voice. If you replace the 1.4 with a 3.1KHz filter from a 51J-4 then the receiver plays great with 3.1KHz for SSB/Narrow AM and 6.0KHz for wide AM. The R-648 filters will play nicely in a 51J-4 also if you file off the solder tabs on the pins, then they will plug into the 51J-4. You may need to file down the threaded mounting studs a little bit also to plug into the 51J-4 but I believe the studs have the same spacing as the locator pins in the 51J-4 filters. One could mount some standard HC6-U crystal sockets in the R-648 IF amplifier box so you could have it compatible with the 51J-4 plug-in filters and file off the solder tabs on the original R-648 filter pins so everything would be compatible to swap filters back and forth between the 2 radios. 73 Todd

Date: Sun, 2 Oct 2005 15:04:02 -0400
From: "WF2U" <wf2u@starband.net>

Subject: RE: [R-390] R-648

Interesting, this discussion came up just recently on another list. Instead of composing the information I have, I'll just copy and paste the info from existing messages. This info agrees with what I've known regarding this receiver. I had one myself but I traded it for another piece of military surplus gear some 15 years ago. I'm quoting Mike KK5F, who is a real airborne radio equipment expert/collector: "The R-648/ARR-41 was made by Collins, but I don't know of any module or major assembly in the R-648/ARR-41 that is interchangeable with one in the R-390, -390A, or -392 receivers. The similarity is coincidental and cosmetic. The R-648/ARR-41 is the auxiliary HF receiver that was normally installed with the US Navy's AN/ARC-38 HF AM/CW receiver-transmitter (also made by Collins) in larger aircraft. The AN/ARC-38 was the USN's mid-1950s replacement for their earlier AN/ARC-25 HF set (combo of the T-47/ART-13 and the R-105/ARR-15). The frequency coverage and modes of operation of the AN/ARR-41 are identical to that of the AN/ARC-38 (2 to 25 mc), plus the AN/ARR-41 covers the LF/MF beacon band. Anyone re-creating an AN/ARC-38 set should include the AN/ARR-41 with it as a matter of course. Don't believe the common ham operator BS stating that the R-648/ARR-41 was a replacement for the USAF's BC-348 for use with the T-47A/ART-13. It wasn't There's at least one ham's ARR-41 web page that persists in putting out that nonsense long after that ham was shown otherwise. The USAF did not use the AN/ARC-38 or AN/ARR-41 except in the few aircraft they got from the USN that already had them installed, and there's absolutely no documentation of the military ever pairing an AN/ARR-41 with an AN/ART-13." and (courtesy of Scott Johnson:) "I might add, the ARR-41 has several modules in common with the ARC-38, so one might think of it as a manually tuned receiver from an ARC-38, Mike is absolutely correct, the USAF never procured them, early ones were Collins, later ones were made by another contractor that slips my mind. At any rate, it is one of my favorite receivers (next to the ARR-15), which, interestingly enough share design features with the ARC-2 receiver section, and the 18S- receiver section."

Date: Mon, 3 Oct 2005 12:40:43 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] R-648 contracts

I dug into my bar napkins and found these contract notes on the 648. I'm still a little fuzzy on the freq coverage. Did only some of them cover medium wave?

R-648/ARR-41 hi sn total 2207

NOas55-821r 150

NOas57-438 1045
NOas60-0164 (medium wave) MW-897
N383(19-383)74432A YY-125

Date: Tue, 04 Oct 2005 00:13:54 -0700
From: John Kolb <jlkolb@jlkolb.cts.com>
Subject: Re: [R-390] R-648 contracts

The NAVAER 16-30ARR41-501 Handbook operation Instructions lists the freq coverage as 190-550 kHz and 2-25 MHz. The R-648 I have, however, does not have 190-550 coverage..The LF group of coils are not installed, and the tuning will not go below 2 MHz. No label on this one, so can't give contract #.

Date: Tue, 04 Oct 2005 10:38:12 -0700
From: Buzz <muttman@charter.net>
Subject: Re: [R-390] R-648 contracts

I was a radio operator in the 60's and flew in several Neptunes with the R-648 and none of them had the VLF band. But the VLF band was available on the ARN-21 RDF. Also I think by that time 500 Kc was no longer an emergency frequency and I THINK, that we were monitoring 2.125, 121.5, and 243.0.

Date: Wed, 5 Oct 2005 20:30:11 -0400
From: "Dave Maples" <dsmaples@comcast.net>
Subject: RE: [R-390] Off-topic questions on coastal stations

All: Many thanks to Don for his patience. I visited Point Reyes, CA this past week and encountered the coastal station there; that reawakened some questions I had:

1. There was a second coastal station down at Half Moon Bay, CA. Was this associated with the station at Point Reyes (e.g. the transmitting half of the station at Point Reyes)? I think it was, but I'm not sure. It now belongs to Globe Wireless, and I think is shared with ARINC.
2. WCC used to belong to Mackay Radio, I believe. It disappeared into the ether some time ago, leaving WLO, etc. I believe that Globe Wireless obtained the license. Did WCC ever show up anywhere else?
3. In tuning the coastal bands, I am now hearing what appears to be a different format. It starts with what appears to be a long SITOR stream repeated several times (kinda like Pactor I), followed by a few short SITOR bursts like would be heard if the station had connected to another station

(e.g. a ship), followed by some much higher-speed bursts. I'm not familiar with the higher-speed bursts. Anyone have a clue what's happening here? Is there a replacement for SITOR in the works?

4. Globe Wireless used to look for SWL reports. It's very hard to find out anything about what GW is doing on HF from their Web site now. Do they still welcome questions about their operations? This is not to diminish what GW is doing--they have obviously made a new silk purse out of a a purse that nobody else valued.

5. Does anyone besides me recall the really interesting "fist" that WLO used to have in the late 60s on their CQ tape (slower speed, very long dahs, and very short dits as I recall)? Again, no criticism, just thought it was interesting.

6. I checked the USCG web site, and they don't list anything on MF any more. I see the notes about NAVTEX operation around 500 kHz, but I get the sense that nothing else is happening there now. Is this correct? Dave WB4FUR

Date: Tue, 8 Nov 2005 08:14:50 -0600
From: Tom Norris <r390a@bellsouth.net>
Subject: Re: [R-390] R-390A is no more available at Fair Radio

> They (the new in the box Command sets) were \$9.95 in about 1958 when I bought mine. I still have it. Roy

I missed out on those "good old days" but then again, I should look at the average wages at the time and compare it to now. I have some older Fair Radio catalogs back to the mid 60's and in today's dollerettes there seems to have been some bargains. One of the bigger bargains of all appears to be the R-390 and 390A if you track their prices through the 70's to today adjusting for inflation. Of course, now that I've said that I can't find my old Fair Radio catalogs! Tom

Date: Thu, 3 Nov 2005 20:53:28 EST
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] CU-872 Multicoupler

Would you like to part with the CU872 antenna coupler? Do you know if Fair Radio has any more?

The 6922 are industrial grade E88CC/6DJ8

1 in and 8 out, 70 ohms. Wonder what system it was used in and if anyone

has experience using it. Plan on using it with my R-390 and R-390A, etc.

If you were ASA educated as a 33B20 Radio repair man you learned to service these items.

If you was an ASA educated O5H you had 1, 2 or maybe 3 of these between your antennas of choice and your receivers. O5H likely had 2 receivers and each receiver was on a different antenna. The place was called a field station. The antennas were called an antenna farm. 15 guys, 30 receivers, 15 mills were in a room called a bay. In the corner of the bay was two racks filled with CU872. The racks had patch panels. The OP could pick a coupler output and patch it over to one of his two receivers. The guy may swap the patch 3 or four times in a 8 hour shift. Some guys had skeds that never needed to have an antenna swap. Some where else was a room where all the antenna leads come into the building. Each antenna feed one CU872. The 8 outputs went down the cable ways to 8 different bays. into a CU872 in the rack in the corner. If more than 8 guys (very likely) wanted to use the same antenna in the bay then one CU872 output would be patched into a second CU872. That way 15 outputs would go to one of two receivers at the 15 operator positions. There were 7 positions down the side of the room that had the two CU872 racks. There were 8 positions down the other side of the room. No one wanted to set the 15 position across from the coupler racks. The coupler racks had blowers and made it cold across from the rack. The racks were also next to the bay doors and you cough all the noise from the hall. At the other end of the room was a supervisor position on one side of the room with 2 more receivers. Across from the supervisor was the traffic analysis desk. Supervisors handed out sked. (your freq, antenna and time) while the analysis tried to make some sense out of who you were copying. Lots of O5 ops copied cut numbers. You hear ditty EISH5 and type 12345. you hear TMO 4 dah and 0 and you typed 67890.

Some ops had RTTY machines and some ops had AN/THN11 tape recorders.

So CU872 antenna couplers will work at least across the R390 spectrum. They will work up to 50 real easy. Good tubes will get you above that. I never had receivers that went that there that I could patch into a CU872 to see how high it went. We had OPS that did this, but I was not allowed to just play with it to see what was what. On the bottom end the CU872 has a filter in the bottom pan that cuts every thing under 2 MHz off. It got the AM broad cast band out of the noise mix. The filter has BNC input and output. you can use a barrel connector and bypass the filter and use the CU872 all the way down to at least the bottom of the AM band. The CU872 is two sets of four amps. you can get inside and uncable one side of the amp and populate only half of the tubes. This will drive 4 outputs. The

CU872 was considered zero gain. One output had the same level as the input. As the output was fanned from 1 to 8 the gain was 8.

If you have several receivers a CU872 is nice to have as you can put 8 receivers on one antenna. The Army, Navy, Marines and Air force all used the CU872 antenna coupler in receiving sites. If you were a far end and all your antenna pointed to north America you likely had CU872s for the receivers. Then the transmitters had separate antenna. You likely looked at the propagation charts, clock on the wall and patched the RTTY tape to the correct transmitter. You can get into the transformer outputs. By bringing the transformer output out without grounding one side (as is done with the N connectors) you can put the phase correct and drive the R390 balanced input from two coupler outputs and get a gain that way. Not something that one could do with military equipment in service. But owning one of your own opens lots of applications for you.

The circuits inside are very redundant. This will help you if you have had a tube go bad and have crispy things to repair. Finding 20 new tubes can be a bite in the pocket book. I took care of these critters at several stations between '68 and '75. If you checked the tubes every 6 months you were OK. The front panel meter is a real nice 50 UA movement. I have two meters that I still use in home built voltmeters.

Roger

KC6TRU

Date: Tue, 8 Nov 2005 09:48:01 EST

From: DJED1@aol.com

Subject: Re: [R-390] R-390A is no more available at Fair Radio

I missed out on the good old days too- I bought my R-390A just after they hit the surplus market in the early '70s. One place was selling refurbished units for as much as \$2000 then, and I got a very nice unit for only \$595, plus another \$100 for the CY979 cabinet.

I figure in today's dollars that is about \$2500, so I'm still waiting to break even on the purchase. Fortunately, there still seem to be a few radios coming available each week. I saw a half dozen at Dayton this year, and see one or two on the e-place each week.

It's a little riskier to buy from a private party than from Fair, but on the other hand most private radios have meters.

Date: Tue, 08 Nov 2005 11:16:28 -0500

From: Roy Morgan <roy.morgan@nist.gov>

Subject: Re: [R-390] R-390A is no more available at Fair Radio

I seem to have one. It's got tiny remnants of blue paint on the panel. The

previous owner got the thing running, though I have not done much with it since I bought it at a hamfest some time ago.

Date: Tue, 8 Nov 2005 08:22:39 -0800 (PST)
From: Joe Foley <redmenaced@yahoo.com>
Subject: Re: [R-390] R-390A is no more available at Fair Radio

I don't know what everyone's whining about, they ran out of T-368s eons ago! They don't even have many parts left. I don't even have a spare 6000 tube for mine. On the good side, I got the last complete T-368 form them. hehehehehehahaha,... (evil sneer)

Date: Tue, 8 Nov 2005 12:06:00 -0700
From: "Kenneth" <crips01@msn.com>
Subject: RE: [R-390] R-390A is no more available at Fair Radio

I am going to have to check out a local military surplus outfit here in Cheyenne. He isn't going to have R390's but he just might have racks, and cabinets he is a real packrat. When I get over to him I'll let everyone know what he might have.

Date: Tue, 08 Nov 2005 19:23:30 -0600
From: Patrick Jankowiak <recycler@swbell.net>
Subject: Re: [R-390] R-390A is no more available at Fair Radio

One of many pleasant experiences with Fair Radio, in 1997 I asked them for a "checked, aligned, good-working R-392, which was pretty enough to please my girl friend". The radio worked properly, had the 'correctly emissive' meter, and was pretty enough, although the YL was not so impressed as by rights she might have been. ("Oh look, [insert YL name here], what I just spent \$300 on.." -for some reason that seems to ruin it every time.) It did impress everyone at work where I had it shipped to.. bunch of old men engineers.. they drooled and lusted, which brings me to the point that there is a terrible shortage of female engineers and radio geeks.

Date: Wed, 9 Nov 2005 15:25:35 -0800 (PST)
From: "W. Li" <wli98122@yahoo.com>
Subject: [R-390] re: R-390A is no more available at Fair Radio

I did not miss out on the good ol' days; back then I had a little cash from mowing lawns and newspaper delivery... went downtown to San Francisco's Market Street in the 50's where there were three surplus shops full of stuff to the ceiling!

They had triple ARC-5 rec'r racks for a buck, and lots of ARC-5 cables and

tuning boxes.... picked up a new-in-box BC-453 Q-5'er for \$15 and unfortunately did a hatchet job on it (I was 15). I still have it somewhere..... Of course there were no 390's on view... knowledge of their existence was strictly on a need to know basis...

Across the Bay just outside the Oakland Municipal Airport there were two Quonset huts with lots of component parts and more ARC-5's!

Two ham friends and I made the grand tour every Saturday for four years.... picking up small stuff each time (in a "hot" 48 Nash). All three of us got turned down for the Navy (hoping to become ET's) when we graduated in '57: two ended up in aerospace later on. Times do change, and I got in the USMC in '67 though... must have lowered the standards somewhere along the line.

Date: Wed, 9 Nov 2005 21:21:03 EST
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] re: R-390A is no more available at Fair Radio

I saw the San Francisco's Market Street in the '70's where there were three surplus shops full of stuff to the ceiling. Was coming home from Korea and brought my first TS352 there. By 1995 they were gone. I did not get out to Oakland until about 1995 while working for Hughes. I think I was in the same two Quonset huts outside the Oakland Municipal Airport with lots of component parts. The old market ain't what it used to be.

Date: Wed, 9 Nov 2005 21:39:20 -0500 (EST)
From: John Lawson <jpl15@panix.com>
Subject: [R-390] Surplus History

That would be Mike Quinn's - still in business, though not at that location for years now. I was in Mike's a few months ago. Also Weirdestuff in Sunnyvale can be a lot of fun. But the days of "Surplus" are gone forever - and 'good' swapmeets are following, I'm afraid.

Date: Thu, 10 Nov 2005 19:53:43 -0500
From: shoppa_r390a@trailing-edge.com (Tim Shoppa)
Subject: Re: [R-390] Surplus history

When I got started in the hobby the old-timers were saying the same thing - but they were reminiscing about the days of spark gap transmitters, and they were lamenting how easy the young'uns had it with cheap 1625's and Command Sets. A little bit later VHF popularity took off incredibly based on surplus air radios and then later the Progress line stuff. And then Microwave stuff etc. hit the surplus stream. (Still 1625's and Command Sets were on the market too!) I don't know what is next, but I'm sure

something is coming. Already the microwave stuff that hit the surplus stream in the 70's is completely passe compared to consumer stuff that's so much smaller and cheaper and vastly less power-hungry.

Date: Mon, 14 Nov 2005 11:17:09 -0600
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] R-389 Sold For \$3550.00 on eBay

Well in the good ole days most of this stuff had to be sold off the back of the tailgate and at Hamfests which limited the market and exposure for potential sale of the item. (keeps prices low) I remember going to a local hamfest here on the coast and a local guy always could be depended on to have a pickup backed up inside the pavilion with R-390's stacked up on the back for sale. That was back when you couldn't give away tube gear. (late 70's early 80's) He went home with the stuff usually...we were all too busy drooling over the Kenwoods and Icoms... He's still around and has a warehouse full of 390's and a nice KWS-1 that I foolishly traded him as a kid. (for an NC-183D my disease started early) He's just sitting on the stuff with no real interest in it but try to buy a piece and he wants the sun and the moon.(if he'll even talk to you) None of it's restored and been stored for the last 30+ years. He's said to have a couple hundred 3TF7's and probably as many 26Z5W's but he's unapproachable.

Back to my other thoughts about Ebay....

All Ebay has done is expand that exposure and marketplace globally which drives prices up. Are we to fault Ebay for putting a seller and a buyer together halfway around the world or across the country for that matter. Depends I guess whether you are a seller or a buyer of a particular piece of equipment. As a buyer I can find things that were not available to me in small town USA. As a seller I can find a buyer in small town USA that's looking for the widget I just happen to have. An example....my wife has been buying China from a lady in N.J. through Ebay. (been married 25 yrs and have never bought China...it's a big deal to wives) It's expensive stuff normally but she is buying seconds that comes directly from the factory store in N.J. The lady she is buying from makes a trip to that store twice a week and picks over the pieces and buys what she thinks will sell...as well as things that are on my wife's needs list to finish her full 8 place settings. I'm delighted because she is buying this stuff at a fraction of the cost she would have paid from a retailer and we can't see anything flawed in any of the pieces. I'm sure the lady we are buying from is making 100+% profit but my wife would never have had that opportunity if it were not for her selling the stuff on Ebay. I think it's a great thing...and wish I had thought of it..(that and post-it notes)..I'd be rich.

Now that said I disagree sharply with Shill bidding practices and have

protested to Ebay about their policing of that practice. I have mixed feelings about the folks that have made a business out of selling on Ebay. Especially those who look solely for amateur SK estate purchasing opportunities to be sold on Ebay. (radio-mart I suspect) Many of our widows don't have a clue what to do with all the junk we acquire over a lifetime and just want to see it gone when that time comes. There are folks that will help with that....I consider many of them to be opportunists preying on the unsuspecting for personal gain. (read cheats) Are they providing a service...I guess some would say so. I guess it depends on how fairly they deal with the Widows.

I enjoyed the good ole days too....I certainly felt great when I came home from the local hamfest 25 years ago with a complete Heathkit separates station for \$150 manuals included... still have the pictures of my 2 year old son sitting in my lap twisting on the knobs. I don't mind paying a fair price for electronics gear on Ebay. Which I have done in the past and will do in the future. I do have a problem with the guys that are selling things they know nothing about but are only offering it because of the profit potential. Good part is I don't have to buy from them....but somebody will....there's the rub. I think the market is fair in most cases....I sold two R-390's on Ebay. One went for \$860 the other for \$1525.

Considering the condition of both radio's and what was included in each sale I think the market treated me fairly. Would I like to have sold the latest one for \$2500....sure wouldn't you. Would I have sold either one of them for half that at a Hamfest....no way! Too much work invested and they probably wouldn't have sold. Probably still a little high for the typical crowd looking for buys like in the ole days. The hamfests I have attended in recent years have turned into mostly computer parts fests....a real disappointment. I personally think they should not be allowed to sell that type stuff at hamfests.... One last comment on Ebay.... The cost of tube radio gear may have gone up in price since Ebay came along but... you can't beat the price of nice high quality test equipment on Ebay. It's the place to buy test gear! Just my \$0.02 worth....don't take any of it personal....I didn't intend it that way... Cecil...

Date: Fri, 18 Nov 2005 22:02:44 -0600
From: mikea <mikea@mikea.ath.cx>
Subject: Re: [R-390] Pricing Question

I've had 3 R-390A's given to me: an EAC, a Stewart-Warner, and an Amelco. I bought an R-390 from Rick Mish, and it's a lovely piece of work. When I was TDY to Osan AB, ROK, I saw all the R-390 (or R-390A) rigs in the MARS shack being tossed into a dumpster, and couldn't rescue any for myself because I was leaving the next day and my hold baggage had already gone out. That *hurt*.

Date: Fri, 18 Nov 2005 22:51:11 -0600
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] Pricing Question

Well that brings me to my story which I have never told here, of how I got my first R-390A. I had been looking for one for quite a while...I didn't at that point have any boatanchor radio's...I was active on the ham bands chasing DX on a Yaesu FT-1000D. (long since gone..sold it and bought my wife a computerized sewing machine...ain't love grand.) Anyway I had been talking to a local guy, I have spoken of before, about buying one from him since he had a pile of them. We could never get together...mostly because he would never commit. I decided to call an elderly Amateur Radio friend who is now SK...his call was KB5QBU.

I called and asked Fred if he had or knew anyone that had an R-390 for sale. His response was...."Funny you should call...I just went and retrieved one from a fellows home that I had lent to him a few months back...he died in a plane crash and it's in the trunk of my car and I was dreading having to get it out. If you will come get it out it's yours." Of course it didn't take me but a few minutes to get over there and get it out for him. Turns out he was a member of MARS and had signed the thing out many years earlier. He did some paperwork to have it retired or decommissioned or whatever it is one does to get it off the books. It's a very clean Motorola.. with all Motorola modules. Original meters and all covers. He gave me a binder with some manuals in it and they turned out to be for the R-391 which I traded to our list admin for a correct original R-390A manual many years ago.

My only regret looking back now is that the same day Fred offered a very nice looking old National receiver...a VLF as I remember it...probably an RBL or some such and I didn't take it. (I had what I had come for...couldn't imagine me needing another old tube radio..HA) He was cleaning out...worried about what his wife was going to do with all the stuff if he passed on. I'm sure it went in the trash.... Turns out as I later found out...his wife died a few years later and he moved out west to live with his son where he died just a few years ago.

One things for sure....I was bit hard by a bug that day...I didn't see the symptoms until much later. I have the incurable disease now. Probably no less than 20 boatanchors reside in the shop now....along with an Icom 756 Pro II just to keep things balanced!

Where does it end? I find myself driving down the road looking at trash piles in front of homes folks have moved out of or cleaned out, hoping to spot a discarded boatanchor....haven't yet but I can only imagine how

many have gone to the landfill undetected..... Cecil...

Date: Mon, 21 Nov 2005 15:12:20 -0500
From: "Patrick" <brookbank@triad.rr.com>
Subject: Re: [R-390] radios at trash sites

When I was in the USAF (about 1963) and stationed at the 649th Radar Squadron (ADC) I found at the base dump a R-390A, after a lot of work I got it to work and put it on my night table, a few days later, the AP's came and told me that if I did not return the receiver to the dump I would be charged with stealing government property. So since those squadrons have long been deactivated, maybe is still there along with a lot of other treasures (the entire MARS station and thousands of crystals as an example).

If you feel lucky, it is located on the Blue Ridge Parkway about 9 miles north of the Peaks of Otter Lodge. The only thing there now is a search radar manned by the FFA.

Date: Mon, 21 Nov 2005 19:05:36 -0500
From: "Steve Hobensack" <stevehobensack@hotmail.com>
Subject: Re: [R-390] 390s in "I Walk the Line"

I was a CW op in the Navy in Germany in the late sixties. There was a copying contest on typewriters for good military cw ops across Europe. (I was not a competitor) Seems the fastest man copied around 58 groups (5 letter random) per minute. Did you see the cw ability contest in QST magazine, Nov. pg 57 ? Young Eastern European ladies and girl hams did better than the men. Winning speed 147 wpm. Unbelievable !

Date: Mon, 21 Nov 2005 19:28:17 -0600
From: bw <ba.williams@charter.net>
Subject: Re: [R-390] 390s in "I Walk the Line"

Being a pilot in the Army, we had to keep the station ID in CW up all the time in case of losing the station for some reason. That sometimes meant flying and listening to CW for hours. It did become musical and reassuring. We sometimes tracked 2 beacons and had both turned up and that was more enjoyable. Weird now that someone mentions it. Maybe that is why I enjoy Dx'ing beacons on VLF. It is relaxing if the static crashes aren't bad.

Date: Mon, 21 Nov 2005 17:56:32 -0800
From: "Kenneth G. Gordon" <kgordon@moscow.com>
Subject: Re: [R-390] 390s in "I Walk the Line"

> Interesting. The most capable CW operator/contester that I know is a

member of the U.S. >Navy Band - he plays trombone and similar. 'Seems as if musicians have a knack for the >code.

That has definitely been my experience too. I knew one fellow, Lee Pratt, whose fist literally sounded like he was sending to music. He was left-handed but taught himself to use his bug with his right hand so he could write in his log, etc., while sending. He had the easiest to copy fist I have ever heard.

Date: Tue, 22 Nov 2005 09:43:41 -0800
From: "Kenneth G. Gordon" <kgordon@moscow.com>
Subject: Re: [R-390] Military trash sites

When I was still serving the remainder of my reserve duty, I was OD one time at the Montana National Guard's summer camp in Helena, Montana. That night, while I was on duty in the guard shack, my first sergeant and a bunch of the other guys all started walking past my shack with shovels on their shoulders. I walked to the door and asked them what was going on. Sgt Sanford, my immediate boss, handed me a shovel and said, you have my permission to lock the door and come with us for an hour. After a 5 minute walk, we ended up at the base dump and everyone started digging. Within minutes, I found a brand new engine for one of our trucks, several .50 M2 machine gun barrels, still covered with cosmoline and tinsel paper, and some brand new, still wrapped small first aid kits. I don't know for sure what the other guys found, but they all seemed pleased. We didn't find any radio gear, although I was looking for it. The only thing I took was one of the first aid kits. I used it hunting for many years after that, refilling it when necessary. That base was quite old and had been deactivated at least 5 years before we used it for NG summer camp. Our outfit was a service battery for a SP howitzer battalion. I remember the guys were VERY happy to find the engine, still sealed in a crate. They also found another engine there later: a huge Ford V-8 for one of the Sherman based SP howitzers which we still used at that time. One of those had blown an engine and we used this one to replace it with. Incredible.

Date: Tue, 22 Nov 2005 14:22:22 -0500
From: "Patrick" <brookbank@triad.rr.com>
Subject: Re: [R-390] radios at trash sites

Have no idea why the R-390a was at the dump, but I know it was there for some time due to its condition (muddy and wet) I also know the R-390A was still in service at that time since I was trained on it at Keesler AFB Biloxi Miss. it was as part of the teletype reception with two R-390's in diversity mode. No I did not go back to the dump, it may still be there.

Date: Tue, 22 Nov 2005 14:27:45 -0500
From: JMILLER1706@cfl.rr.com
Subject: Re: [R-390] Military trash sites

Then there's the story about the pallets of NIB Collins radios and maybe 390s hurriedly buried in trenches in Viet Nam during the final days. Are they still there?

Date: Tue, 22 Nov 2005 19:04:27 -0600
From: bw <ba.williams@charter.net>
Subject: Re: [R-390] radios at trash sites

I remember when they found a tank in a lake in Korea. A perfectly good tank. It was excess and not on the books, and had to be dumped before the Inspector General team arrived to inspect and inventory the unit. I was in a few motor pools my first few years and we always had excess equipment that we had to hide during IG inspections. Normally, we would dispatch a truck with the worst of it to be gone all day. We got caught a few times.

Date: Wed, 23 Nov 2005 15:54:38 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] 390s in "I Walk the Line"

As a young teenager living in England, (dad was a teletype/crypto tech) I visited men with Hill, Chicksands and Bletchley Park many times in the time frame (1954-1957) I saw many young GI's sitting talking, drinking coffee, smoking cigarettes and typing and copying without missing a beat.....different times, different people.

Date: Wed, 23 Nov 2005 16:04:37 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] radios at trash sites

My story circa 1958: We were living in Madrid, Spain. Dad was stationed at Torrejon A.F.B. as a teletype/crypto tech. One evening he came home and announced to me be ready to get up early tomorrow morning, we have to go pick up your radio. The next morning, we drove out to the base and proceeded to the base dump, We went over to an area where he had "hidden" a radio receiver the day before. We lifted up some cardboard boxes and there say the biggest radio I had ver seen! It turned out to be a Hammarlund AACS (tuned 300 kc to 10 mc), and the power supply. I asked why it was in the dump. He said they were getting rid of "these" because the Collins radios are the latest receivers. As we got ready to leave, the bulldozers were covering up a bunch of radios, turned out to be SP-600's. That is the way business was done in those days. Turned out that all the Hammarlund needed was three tubes, so

much for government waste in those days of damn it all defense spending. I listened to KABC in New York and the New York Yankees and Milwaukee Braves in the World Series that year on mw from Spain!!! Had an approximately 165 ft. longwire strung out.

Date: Sun, 27 Nov 2005 20:10:05 -0500
From: Barry Hauser <barry@hausernet.com>
Subject: Re: [R-390] Edlie Electronics (was Incomplete IF module)

Funny you should mention Edlie's -- you force me to reminisce ... involuntarily .. and also provide an update. The owner, Ed, inherited the business from his father. not sure how long it was located on Courtland Street (part of Radio Row downtown). It was there until the early '70's when the whole area was razed to make way for the World Trade Center. Ed then moved to Levittown LI, NY where he bought a one-block section of a strip mall on Hempstead Tpke. Rented out the stores but had one for Edlie Electronics and nearly the entire basement for surplus inventory. I moonlighted there on and off on several "tours" in the '70's and early 80's. While I was there primarily at first to help computerize his mailing lists (converting to a Data General Novus from Address-o-Graph plates), I often pitched in behind the counter. I recall the last days of domestic tube manufacturing. One by one the major brands dropped out. Every week we would get a new price list with higher prices. Finally, only "International" was left. I digress.

When I was there, both working or visiting to pick up something, Ed mostly had new merchandise and commercial surplus -- not much if any mil surplus at the time. In the old days, he used to run ads in Radio Electronics, etc. listing lots of tested and untested tubes. I don't think he had any tubes at all last time I saw him -- about 10 months ago. The store was in operation until about two years ago and then he finally rented it out. He moved the main operation to his home nearby, but still has the bulkier surplus stuff in the basement of the strip mall which, last time I checked, he still owns. He continues to publish and mail a catalog and has a web site <http://www.edlieelectronics.com/>An interesting tid-bit: His son Larry used to work there until. He is married to Jerry Seinfeld's sister. Jerry's father owned a sign-making business and built the "Edlie Electronics" sign that was on the storefront in Levittown for 30 years. Some time after Seinfeld hit it big, he hired his sister, Larry's wife, as his business manager and Larry left the electronics biz. Another tidbit -- I got my brother-in-law, Tom, a job there. Later on, he started his own business with a partner -- electronics parts brokering -- mostly chips. I'll have to give Ed a call, see if all is well. Barry

Date: Thu, 1 Dec 2005 18:21:16 EST
From: Flowertime01@wmconnect.com

Subject: Re: [R-390] Incomplete IF module (matched numbers)

>Begg another question, were all of the module serial numbers in a given radio >identical? ... Tom, N3LLL

No way. Some days someone tried to get a few of the modules of the same number into a chassis and then the final inspector would pass a bunch of receivers. The last act was to put the tag on the front panel and make it government property. Some times someone would try to match the tags to the internal modules. Field stations had hundreds of receivers. At the initial "building of the station" several hundred receivers from likely the same contract would arrive all at once. This provided a lot of receivers with consecutive numbers. Over the years, the technicians had time to play games and match up modules and numbers. Some technicians though the receivers once were all together as matched sets and the miss matched modules had been swapped out and needed to be put back. On some small contracts, things fell into line fairly well. There is this holy grail of a receiver with all matching modules inside. It did happen. But more from bored assembly crews than a matter of assembly requirements. Some times technicians in the field would swap a few modules around to get the last one back in place. Some front panel tags also got swapped to make a matching set. But this was from technicians have some free time on their hands.

Roger KC6TRU

Date: Thu, 1 Dec 2005 17:51:18 -0600
From: "tfrobase" <tfrobase@kitparts.com>
Subject: RE: [R-390] Incomplete IF module (matched numbers)

Thanks for clearing they up, that was my guess although every time I sell one that question comes up. In summary if the modules are all the same contractors manufacture and pretty close to the same numbers that is probably a radio that did not get messed with much? ...

Date: Sun, 4 Dec 2005 17:39:45 -0600
From: Tom Norris <r390a@bellsouth.net>
Subject: [R-390] 1968 EAC 390A

Figured I'd raise more of a discussion over the civilian EAC '390A (similar to that seen on Ebay). It wasn't meant as strictly an ebay subject, but a discussion of this particular sort of R-390A. Seriously, while we've raised the issues of ballasts, end points and gear rebuilds on a regular basis, this isn't a subject I've heard discussed in some number of years. We've discussed other contract years of note, but not mentioned much about the EAC end-run.

Looking at Tom Marcotte's s/n list, the high serial seen for these seems to

be near 118. Anyone know how many of these were sold? Were these all repaired QC failures or were they simply the "tail end" from the 1967 contract? Anything in particular different about these units other than the front tag?

Date: Sun, 04 Dec 2005 19:49:35 -0500
From: Barry Hauser <barry@hausernet.com>
Subject: Re: [R-390] 1968 EAC 390A

Glad you brought this up because I have a question. Tom Marcotte's production chart shows DAAB05-67-C-0155 for the EAC '67 Contract, followed by EAC Industries/Hammarlund '68 as "consumer" -- no contract number -- with highest reported S/N as 118. Following the consumer run the chart shows DAAB05-68-C-0040 -- '68 contract, but as Dittmore-Friemuth with highest s/n as 215.

I recently acquired a '390A with a '60 EAC tag on it, but nothing is from that contract. The contract stamped on the back panel is DAAB05-68-C-0040, however the rubber stamp job shows "Electronic Assistance Corp." not Dittmore-Friemuth. The serial # on the back panel is 153.

The IF deck has the same contract and mfr as does the Xtal Osc. deck. The power supply is a '67 EAC, and has what looks like a depot rectifier upgrade job -- tube shield mounts crushed in the usual fashion. The audio deck is a Collins -- just has "Collins" and a serial number.

However, the plug-in caps have a '67 date. I have not pulled the RF deck and can't see the stamping, but looks like it belongs to that Xtal deck -- probably that '68 contract. So ... did the D-F's say Dittmore-Friemuth on the back or EAC? Or what ??? standing by

Date: Sun, 4 Dec 2005 19:04:26 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] 1968 EAC 390A

My understanding is that the Dittmore Friemuth receivers were all 67 EAC built R-390A's.

Date: Sun, 4 Dec 2005 23:45:35 -0600
From: Tom Norris <r390a@bellsouth.net>
Subject: Re: [R-390] 1968 EAC 390A

So, where did the commercial receivers end up coming from, supply-line wise? Did the good EAC receivers go to them and the ones that didn't pass QA end up being sold commercially?? I didn't get an email off to the ebay seller before he had his radio boxed up, or he'd been happy to have taken a

shot of the back panel.

Date: Mon, 5 Dec 2005 04:36:59 -0800 (PST)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] 1968 EAC 390A

All the ones I've seen had the contract number marked out. I think they were all over runs or QC repairs. The one I got from Robert Edwards had very low and very high s.n.s in it, indicating it may have been made from QC repairs.

Date: Mon, 5 Dec 2005 20:02:34 EST
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] 1968 EAC 390A

I have no idea who built the EAC receivers that were sold as commercial units. The design was Collins. Collins was paid to do the design and retained ownership to the design. The typical deal was you got paid for the design work even if nothing was ever produced. There was a small contract for proof of production and verification that produced product meet design requirements. I have no idea where those original first receivers went. After that was production contracts. The contract was to produce a commodity for contracted cost. The exact commodity of this contract looks just like this item setting here (one of those first proof of production receivers). You received this contract from the government.

Collins had patents on "manufacturing methods". Every time someone built one and used Collins "manufacturing methods" you paid a royalty to Collins. The government made sure Collins got a check for every receiver it contracted to have built. There is nothing in this deal that prevents any manufacture from cutting their own deal with Collins to make and sell the receivers. At some time the patents on the manufacturing processes expired and then any one could build a knock-off of the receiver. All the machines to cut and bend chassis metal were owned by private manufactures. A lot of it was subbed out to metal fabrication shops. I knew a neighbor named Jigs. That was not his real name but he built jigs for GM in Flint Michigan. What I thought were stamped metal parts on 1950 and 1960 cars were in fact parts that went through 15 or 20 bending steps. It was all generic metal presses and stop jigs.

In 1977 I was working at Essex wire in Clare Michigan. They mostly made the wire harness for the Chryslers. They had a custom department. They would build one of for the proto type cars and proof of production for cost estimates. Some times they would build a 100 of some model harness from years past for a parts house. I have no idea where they found all the molded plastic connectors. The terminals were fairly stock. We would hand

paint and strip wire to specific colors. The items out of the custom department looked just like items coming off the production lines from a look and fell stand point. Is there a shop out there some where that would build an exact wire harness for an R90 or R390A? I think there is at least a few places. Look at Hank out in California and how many parts he has been able to have fabricated. If you have the money, and the idea is good, you can make more money. The real test is getting from no money to money. Roger KC6TRU

Date: Tue, 6 Dec 2005 03:48:31 -0800 (PST)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] 1968 EAC 390A

Roger: There are so many problems with your post I don't know where to start. First of all the tooling was owned by EAC, not the Govt. This was not a govt ammunition plant. It was a private business. EAC built the units sold as commercial units by EAC. Collins did not make a small proof of production batch of R-390As, they made about 6000 units or more than 10%.

Date: Wed, 18 Jan 2006 10:28:39 -0600
From: David M sundheimer <wOnbz@juno.com>
Subject: [R-390] Subs detection of radiation

Re: discussions on the detection of radiation by enemy subs - the Library of Congress, Veterans History Project, Book "Voices of War", Page 135. The writer was on the Queen Elizabeth to England. "When the ocean trip began, all electrical devices were called into a central room, the reason being that they sent out waves that German submarines may pick up. I turned in my electrical shaver."

Date: Thu, 19 Jan 2006 19:44:45 -0500
From: Mark Huss <mhuss1@bellatlantic.net>
Subject: Re: [R-390] Subs detection of radiation

For what it is worth. When I arrived at Ft. Devens, MA for Advanced Training a few buddies and I took a trip to Rockport, MA one weekend. Looking through an Antique Shop for an old-fashioned ships lamp, I saw an interesting poster from WWII. It was a drawing in the typical style showing a civilian in a watch cap on the deck of a ship holding out a small box with a wire dangling from it. In the distance was a rough drawing of a Nazi bomber, with a brown bomb-shaped airplane much closer, heading straight for the sailor. The caption read 'Your Shaver Might Save Your Ship!!!'

As I was attending 33S school at the time, it interested me. But for \$100,

it was too rich for my blood. But I was interested as to what it was. The salesgirl was no help at all. Several months later, I finally found the answer from a historian at M.I.T.'s Lincoln Labs. During late WWII, the Germans developed an Anti-Ship Gliding bomb with a TV camera in the nose. Launched from a Condor, it glided to its target, controlled by the bombardier in the aircraft.

A nasty little bugger, it was terrorizing Merchant Ships in the North Atlantic and Med with its great accuracy. Then during one attack, so the story went, an officer decided he should look his best at the Pearly Gates, turned on his electric razor (had to have been British ;), and the bomb, about to hit his ship, suddenly swerved and missed!

Putting two and two together, he realized that the razor must have somehow interfered with the glide bombs guidance. Reporting the incident, word got back to M.I.T.'s Radiation Lab who was desperately trying to develop a countermeasure for the new bomb. M.I.T. had the poster in question printed up and distributed to all Merchant Ships as a stop-gap measure until the jammers could be manufactured and distributed.

It was probably more of a feel-good measure than anything else, but an interesting piece of trivia.

Date: Tue, 14 Feb 2006 09:08:08 -0500
From: "Tim Shoppa" <tshoppa@wmata.com>
Subject: [R-390] Heretical comparison: R-390A vs WJ-8716

Yeah, I know. I'm bad. I got a WJ-8716 from that E-place last month. This is Watkins-Johnson's HF receiver from the early/mid-80's. Mine has the preselector (PRE), ISB, and GPIB options. The last means that (gasp!) it has a microprocessor in it. So how does it stack up against the R-390A? First opinions, after a few weeks of use:

1. The WJ-8716's shielding is way better than the R-390A's. If I unplug the antenna from the WJ-8716, I get nothing. At all. Anywhere. Not even the blowtorch AM transmitter in my backyard shows up. Compare this to the R-390A, where even with the covers on several of the local AM broadcasters show up pretty well and even the powerhouse SW broadcasters can come in on the 6MHz band. I've been told that the WJ-8716 is supposed to be Tempest Compliant, and if so they sure did it good. There are about 8 trillion screws holding the top and bottom covers on. (OK, really like sixty some) and everything on the back comes out on BNC's. Internal modules are on little PCB cards that go pretty securely into a backplane. Built-in extenders etc.

2. Sensitivity-wise, both have plenty through at least the low HF. With the low sunspot count there's not much to listen to above 20MHz right now.

3. Selectivity-wise, WOW. The WJ-8716's filters (a crystal filter at 10.7MHz, plus mechanical filters at 455 kHz) are incredibly flat in the middle and steep on the sides. It has 300Hz, 3.2kHz, 6kHz, and 16kHz bandwidths. This is where this receiver really shines. If the signal is not in the passband, it's gone.

4. For AM reception without any awful heterodynes, they both do about as well as each other. For SSB (keep in mind I have no SSB mods nor an outboard SSB unit for my R-390A) the WJ is a clear winner. It blows away all my modernish (well, 70's and 80's vintage) ham receivers too. It also has ISB, which is a unique experience to get different sidebands in different ears via headphones. Not sure how much good it is other than "hey wow" (although it does tell you from which side of the carrier that stupid heterodyne is coming from without having to lift a finger! And it's trivial to select the sideband with the least QRM.) The WJ-8716 only has two AGC time settings: "Slow" (fast attack, slow decay) and "Fast" (fast on both). The asymmetrical timing on "slow" is obviously good if you're setting on one frequency but it's a pain when scanning through the bands because the hang is so long. I'm still not really used to it.

5. Control-wise, my only complaint is the stupid thumbwheels for BFO frequency on the WJ. The WJ seems to have a TCXO master oscillator and it is spot-on from the instant it's turned on. 4 buttons select 4 different tuning rates. The BFO setting is only effective in the CW mode. Those used to modern digital radios will think that the WJ's user interface is hopelessly simplistic (no memories, no automatic scanning, etc.) but it's fine by me (although all the buttons are identical, I would prefer good old knobs!)

6. Images: I have the previously-mentioned blowtorch AM transmitter in my backyard. On consumer-type radios, images of this show up everywhere up and down every band. On both my R-390A and WJ-8716, these images are not a problem. I haven't gone persnickity looking for birdies or anything.

All that said, I am back to doing listening and tinkering with my R-390A as well, so I'm not hopelessly modern yet! Tim.

Date: Tue, 14 Feb 2006 16:14:30 -0800 (PST)
From: Perry Sandeen <sandeenpa@yahoo.com>
Subject: [R-390] FLR 9 Vs, Rhombic

Todd Roberts asked: FLR 9 Vs other antennas

I was stationed at Karamursel Air Station in mid 1965 during the construction and change over to the FLR 9. This was a radio intercept base run by USAFSS about 60 miles SE of Istanbul. We had two functions; intercept primarily of Russian HF traffic and the maintenance of a 24X7 IDSB radio link that started out at IIRC, base at Izmir Turkey near the Turkey - Russian border. I believe this is where Gary Powers took off.

One sideband signal carried 16 channels of multiplexed teletype. The other was a reserved phone line. After starting at Izmir, we received the signal, relayed it to Croughten, England who relayed it to Ft. George Meade and re-transmitted it to Ent AFB in the middle of Colorado Springs (Now the US Olympic Training center) which was the USAFSS headquarters. If the phone was picked up anywhere along the line it was immediately answered at Ent. We ran two high power and one low power frequencies at one time which we switched depending on the time of day. About 15 miles away was the base transmitter site where they used 30KW linear amps for our high power transmit.

Assigned to the base receiver site I had the opportunity to use the R390A's (I never knew at that time there Non A's existed) on both the rhombics and the FLR 9. We had around 16 A's in our shop. About a dozen sat on single frequencies all the time. We had a RTTY setup with a printer which we used to "read the mail" of AP, UPI & others. On 2nd shift we really chewed through the paper. IDR the converter we used.

Our AFRTS local station was a 1400KC or so peanut whistle. We tech supported them and provided a AFRTS relay for sports events, usually baseball. We'd ask the FLR 9 controllers to provide their best match for the frequency and general location. The FLR 9 was better, but nothing to write home about. Even our receive from England wasn't on a 3 bay Hughs(sp) receiver didn't seem any more reliable. But this was the cold war and Viet Nam was going full bore. Since the Russians were supporting the VC any improvement of signal strength was worth the money. If you look on a globe you will see that Istanbul is roughly south of Moscow. The base location was dictated by politics of the Turkish government. [Read: employment of locals in a poor area.] Since all political decisions originated in Moscow it was a great target. We also had smaller intercept stations along the Black Sea. This is a very long post. I'll post more later about if people are interested. Regards Perrier

Date: Tue, 14 Feb 2006 20:57:54 -0600
From: Gary Pewitt <n9zsv@cei.net>
Subject: Re: [R-390] FLR 9 Vs, Rhombic

Perry, along with Phil Atchly I was one of the people who relayed your data to the states from RAF Croughton. Actually we microwaved it to Barford St.John where it went out on tropo scatter. We didn't get to play with any R-390A's though, curse the luck. Just about everything we handled was teletype and it came in on British landlines which used different voltages so we had thousands of relays to convert it to our voltages and current loops. Spent a -lot- of time with vector scopes adjusting those relays. Sure was glad when they started replacing them with solid state modules. I wonder if there is anyone on the list that spent time at Wheeler in Libya or Laghes in the Azores? Please do post more. I am interested even if no one else is.

Date: Wed, 15 Feb 2006 08:42:20 -0500
From: "B Riches" <bill.riches@verizon.net>
Subject: Re: [R-390] FLR 9 Vs, Rhombic

Was in Athens Greece 1962-1964 - worked in ground radio repairing Collins S line and R390a's! S line at ground radio provided coms for Med area - Wheelus - England - Turkey - Ethiopia - Germany. R-390's for rtty crypto - 4 channel mux! Was in Libya at receiver site a mile off base playng with R-390 and SP600 receivers. At that time I never thought that I would still be rebuilding them or even be able to own them! Quite an experience.

Date: Wed, 15 Feb 2006 07:29:31 -0800 (GMT-08:00)
From: Tony Angerame <tangerame@earthlink.net>
Subject: [R-390] Re: FLR 9 Vs, Rhombic

I was also at Karamursel from 65-67. I sat back in the Printer Room if you recall in the very corner of the buiding I was a 29252. Were you in maint or comm? Ever buff the hallway? Would you be up for a Bull run? I always thought the FLR-9 was a bit noisier than the terminated rhombics. Guess it was one heck of a DF antenna though compared to the adcock. The roach coach was cok fina abi.

Date: Thu, 16 Mar 2006 09:22:00 -0800 (PST)
From: Michael OBrien <mikobrien@yahoo.com>
Subject: Re: [R-390]much to Pay? Amelco/ Capehart

I asked the same type of question a few years ago and this is what I was told: Here is the story on the Amelco/Teledyne connection. The Amelco story starts with Teledyne. In the fall of 1960 Dr. Henry Singleton and Dr. George Kozmetsky left Litton Industries and formed Teledyne Inc. Teledyne's first acquisition was to purchase a small electronic "build to print" manufacturing company in Los Angeles named Amelco, which was located on Panama Street in Culver City. Amelco was the first operating

company of Teledyne. They bid and won contract 35064-PC-62 for the manufacture of R-390A's in late in early 1962. The first units were manufactured and shipped with the name Amelco on the name tags. Before all units on this contract were shipped, the name of the company was changed to Teledyne Systems Corporation and the remaining units under this contract were shipped under that name.

In the meantime, another Los Angles area company named Imperial won contract 37856-PC-63 to make R-390As. Teledyne acquired Imperial shortly thereafter, and all units shipped under the names Amelco, Teledyne Systems Corporation and Imperial were manufactured and shipped from the plant on Panama Street in Culver City. According to my research, about 7600 radios were built by Teledyne under the three company names and two orders.

In summary, the Teledyne production of R-390As looked something like this (hope the tabs don't mess it up):

Badge Name	Order No.	High s.n. noted
Amelco	35064-PC-62	2540
Teledyne Systems Corp	35064-PC-62	3642
Imperial	37856-PC-63	3022
Teledyne Systems Corp	37856-PC-63	3976

Total Production, at least 7619 sets. Hope this helps. 73 Tom N50FF

Date: Thu, 16 Mar 2006 15:03:51 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390]much to Pay? Amelco/ Capehart

Amelco started the 35064-PC-62 contract for 5,000 receivers, they were purchased/acquired by Teledyne who built the remainder of the R-390A's under the same contract number..

Date: Thu, 16 Mar 2006 17:51:40 -0800
From: Dan Arney <hankarn@pacbell.net>
Subject: Re: [R-390]much to Pay? Amelco/ Capehart

My understanding is that Capehart was taken over by Amelco and the end producer was Teledyne.

Date: Thu, 16 Mar 2006 22:32:50 -0500
From: "Bob Young" <youngbob53@msn.com>
Subject: Re: [R-390] Teledyne serial number contract question

Where does Capeheart come in the scheme of things?

Date: Fri, 17 Mar 2006 07:23:13 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] Teledyne serial number contract question

Capehart Corp. Order Number 21582-PC-61 (1961 order). Capehart Corp. Mfd. for Adler Electronics Order Number 20878-PC-63 (only five units can be accounted for) Capehart Corp. was a home stereo (hi fidelity) manufacture and was owned by Senator Capehart.

Date: Fri, 17 Mar 2006 09:55:22 -0500
From: "Tim Shoppa" <tshoppa@wmata.com>
Subject: [R-390] Army/Navy/MARS/other "customer" breakdown for 390A's?

We've got a good background on the various manufacturers/nameplates of R-390A's. I'm not claiming it's perfect, but it certainly satisfies most of my curiosity about who built what and when.

What I do not necessarily know is a breakdown of the "users" of the 390A's. Obviously there's the "Navy diode load point on the front panel" mod. I don't know if every Navy unit had this done or just certain ones. My guesstimate is that most of the radios sold by Fair over the last couple years came through the Navy chain based on this mod and pictures and comments that I read. But of course this is heavily influenced by where Fair got them from, right? So just because most of the Fair Radio chassis had the doide mod I would be wrong to say that most 390A's were used by the Navy?

Was there any cross-pollination between Army and Navy depot repair? i.e. Did Tobyhanna do Navy radios too?

I also know that certain 390A's went to hams in MARS, many of which have passed away and their equipment redistributed. Did MARS ever want radios back? Could radios be turned back in to MARS for depot maintenance and you got a refurbished radio, or were the hams pretty much on their own after they got issued equipment?

Also I'm sure that certain units went to embassies/spy agencies/military contractors etc. and might have been maintained outside the depot system. But I'm guesstimating that these numbers are in the very very low percents.

And of course there were the EAC/Hammarlund "consumer" units offered for sale in the late 60's... a hundred or so in total? In any event these had

unique nameplates and serial number run, right?

So, finally: Is it safe to say that if wasn't a Navy radio, and it wasn't a MARS radio, and it wasn't an embassy/spy agency/contractor radio, and it wasn't a consumer unit, that it was probably a Army unit? Or is there a category of user that I'm missing out on?

Sorry if these are all silly questions. What little I know about military repair depots I've guessed or read here. And while I've seen the ex-MARS units 30 years after the fact, I don't understand the MARS organization as it was in the 60's.

Date: Fri, 17 Mar 2006 08:03:19 -0800 (PST)
From: "KC8OPP Roger S." <kc8opp@yahoo.com>
Subject: [R-390] Army/Navy/MARS/other "customer" breakdown fo 390A's?

Don't forget about US Air Force, we had lots of R-390A's at the school house on Keesler AFB in the early 70's.

Date: Sat, 18 Mar 2006 13:19:20 +0100
From: "Clemens S.Ostergaard" <clemens@it.dk>
Subject: [R-390] Army/Navy/MARS/other "customer" breakdown for 390A's?

I think this underestimates the numbers employed during the Cold War in "elephant cage" and other arrays surrounding the Soviet Union (and China), from Norway to Turkey to Yemen to Thailand to South Korea, etc. etc. rooms and rooms with walls full of them in all the allies. Also rx's sold to the three-letter agencies of allies in the sixties. But others on this list can better estimate that field of employment of the R-390A. And by the way, the sun is shining today: I just found a working 56-contract Motorola for \$120 while today on German e-bay a nice Capehart sold for \$2500.

Date: Sat, 18 Mar 2006 09:39:03 -0500
From: Jack Absalom <kf4yio@charter.net>
Subject: [R-390] possibly the last teledyne R390A

I am finishing my restoration of a Teledyne R390A that I think may be the last one built by Teledyne. I know that Teledyne bought out Imperial in 1963 and finished their contract 37856-PC-63 using the name "Teledyne Systems Corp" and that the highest serial number they built was 3976. Well, my Teledyne Systems Corp R390A has the following information on the front panel label.

RECEIVER, RADIO R-390A/URR

SERIAL NUMBER 3976
TELEDYNE SYSTEMS CORP
37856-PC-63
U.S.

At least one of the modules has the same markings. It looks like everything fits so I thought I'd ask you all what you think. Could this be the last Teledyne R390A built?

Date: Sat, 18 Mar 2006 09:20:08 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] possibly the last teledyne R390A

That highest serial number is the highest serial number that was reported to either Tom Marcotte or myself when we ran that informal survey years ago.

Those contracts were typically for 5,000 units with the exception of the 1967 EAC contract for 10,000 + and various small contracts to both military and civilian governmental agencies.

Date: Sun, 19 Mar 2006 17:19:35 -0500
From: Mark Huss <mhuss1@bellatlantic.net>
Subject: Re: [R-390] Hosing those 390A, a short pictorial

For what it is worth, in the ASA, we used to wash down the R-390A's in a huge sink every four years, weather the needed it or not. the only precautions we took was to yank the PTO and tubes, then went at it with degreasing fluid.

Then we took it to the sink and hosed it down real good. Finally, they went to a small spare room we had, which had a few industrial heaters that kept the room at about 130 degrees. After a few days, we would pull them out, lube the gears, and install the realigned PTO's What was funny was when we had a Collins Rep come in. He had an Engineering Degree, whose ink wasn't dry yet.

Supposed to help us with a maintenance schedule for some new Collins solid-state intercept receivers. As soon as he walked into the shop, he demanded to see our maintenance procedures for his Collins equipment, with that 'know it all' voice of the 'Young and Ignorant'! So I took him out to the van, and drove him to the Fire Station, where we were washing down a dozen R-390A's. Panicked when he saw us fire-hosing down a dozen R-390A's!

And actually fainted when Charlie told him we had already finished doing

the HF-8050's he had come to maintain! Remember Charlie's last words to him. 'Hey, a Collins is a Collins'

Also a sea-story when I was in was a shipment of R-390A's arriving on a small barge in the destined for Field Station Okanawa in 1968.

Sank between the cargo vessel and the dock. In 1972, a couple of maintenance guys were diving in the harbor, and ran across them. Hauled them up, washed them down to get the salt off of them, then shoved them in the rack.

Every one worked fine. Not sure I buy that one, though, considering the damage salt water would do the the coils, if nothing else.

Date: Fri, 24 Mar 2006 11:54:44 -0500
From: Roy Morgan <roy.morgan@nist.gov>
Subject: Re: [R-390] R389 and R390 faults

>.....it seems as the PSU, Audio stage and IF strip are interchangeable.....

Yes, they are. In the R-389, the widest (two(?)) IF bandwidths are not used. This is because of the inherent narrow bandwidth of the R-389 RF tuned circuits.

>1.Were any parts listings produced

Yes. Find and study the manuals for both radios.

>2.Are there any common faults Yes.

1)You really need a fan on the voltage regulator sections. See:

[http://home.comcast.net/~roysmorgan/click "fanplate"](http://home.comcast.net/~roysmorgan/click%20fanplate)

2) the 47-ohm, 2-watt resistors in the voltage regulator section (audio deck) and in the power supply rectifier section should be checked. You will likely find them all drifted upwards in value at least somewhat. All should be replaced with modern, higher wattage resistors.

3) In the R-389, the MAIN TUNING KNOB has a clutch built into it. If it is frozen or corroded, it can lead to RUINOUS damage to the PTO if you force the thing by hand, or hold it while running the motorized tuning. The R-389 PTO is nearly unobtainable. I know of one and one only that has been sold in the last 10 years.

4) In the R-389 you are in danger of ruining the motors if you run them without new lubrication. One motor moves the main tuning dial and is controlled by a switch on the front panel, and one motor automatically changes RF tuning sections as the tuning is moved through it's range.

.....have a mechanical counter for the BFO, why

It replaced the standard knob. It was used by intelligence gatherers doing radio intercept to both accurately set sideband and CW BFO offsets and to measure signal characteristics. They were, in fact, common ten turn counter dials which embodied both counting and mechanical reduction of motion. There is nothing secret or especially rare about the turns counters. What they were doing with them is possibly still classified.

Date: Sun, 26 Mar 2006 16:12:25 +0000
From: "Gene Dathe" <dathegene@hotmail.com>
Subject: [R-390] minuteman radios

Off topic, but someone here probably worked on 'em....

Does anyone know what transceivers, HF and UHF, were used with LGM30G, Minuteman? Someone told me that he saw a 390 in a very early installation, I find that hard to swallow...Thanks for the info!

Date: Sun, 26 Mar 2006 10:26:09 -0600
From: "Francesco Ledda" <frledda@verizon.net>
Subject: RE: [R-390] minuteman radios

I visited the Minuteman museum site in southern Arizona. This had a radio similar to the R-1051. I have been told that the R-1051C was expressly designed for the SAC Minuteman sites.

Date: Sun, 26 Mar 2006 11:27:12 -0600
From: Robert Nickels <w9ran@oneradio.net>
Subject: Re: [R-390] minuteman radios

That's what I saw when I toured an LCF in 1976. They covered up the frequency readout for the tour which was offered to neighboring landowners as a good will gesture. The commander showed me their survivable HF array which consisted of multiple vertical elements that were normally underground but could be raised pneumatically. While the LCFs had two-way capability, their primary need was to receive the EAM messages on both HF and VLF. The ground crews used both military and commercial VHF/UHF FM gear, a buddy used to service their repeaters and mobiles when he worked for a GE shop in Cheyenne.

Date: Sun, 9 Apr 2006 09:38:53 -0400 (EDT)
From: "Paul H. Anderson" <paul@pdq.com>
Subject: [R-390] wow... the R-391A does exist

I would not normally post 'seen on ebay', but this is absolutely astounding. There's an R-391 XC-2 radio on eBay - item # 9710078628. I think I about had a heart attack when I saw it (I'm a big fan of R-391's). I asked the seller to list more pictures of the autotune area - hopefully we can learn more about it. No relationship to the seller...

Date: Sun, 09 Apr 2006 10:49:44 -0400
From: Barry Hauser <barry@hausernet.com>
Subject: Re: [R-390] wow... the R-391A does exist

Well, if genuine, it may be of some historical interest, but that's about it. Good thing you didn't waste a heart attack over it and I'm not sure that additional photos of the autotune area would help much -- the components are not there.

If you look closely at the view of the bottom you'll see a remnant of it -- that casting that runs about 2/3rd's of the way across the bottom. And what does it have on it? Hardly anything is what. See all those holes in the casting? The only thing there is the transverse shave with worm-drive gears -- 3 of them.

I think you have one or two '391's right? There should be two mechanical modules, nearly the same, for each of the KC and MC shafts (the heads containing the pawls, etc.), a controller module with small relays and rotary switches -- that also has the wheel with the 8 channel numbers, probably a sealed relay -- and, last, but not least, the motor, which was probably supposed to stick into the power supply area a bit, I don't know.

It appears to have the extra controls on the front panel, but who knows if the switches are wired - -I don't see the stray ends where the autotune modules would be. Wiring would go to the motor and from the switches to the sealed relay and controller module. I do see what appears to be an extra wiring bundle coming out of or near the audio deck.

Unless someone out there is sitting with the missing pieces, there is probably no practical way to complete it. I don't have a side-by-side comparison, but it does NOT look like the autotuner parts from an R-391 would fit. Motor is way over on the left on those above the can cap. At any rate, you'd have to strip out a good, complete R-391 in the attempt to skootch in the parts. Good complete R-391's aren't exactly cheap -- and many of them that are complete, do not have working autotuners.

(Probably most of them.) You can get some idea of the extent of what's missing if you take a look at Ray's (W2EC) web pages

<http://www.w2ec.com/r391bot.html>

So, basically what you have there is an unusual front panel with a couple of added switches, a channel window and an interesting tag. I don't know

if anyone has seen a complete R-391A. It's possible that this one never had the modules -- maybe they were never completed. Can't swear by it from the photos, but I don't see hardware markings or "shadows" where all those modules would be. Even with this artifact, it may still be a question as to whether the R-391A ever existed except on paper and in the form of some prototypes that didn't pass muster or weren't finished. (Unless someone has seen a complete one, working or not?) It's also missing quite a few knobs and one meter, some tubes, a number of cans missing from the IF transformers. Would seem to have served as parts donor in the past. I wonder if the bidders are aware? The auction has hardly begun and the bidding is way up there. Seller has 100% positives, but says he thinks it's mostly complete -- which I suppose it is, ... but, I suppose he might not be aware. I suppose it will go sky high, even with some bid retractions. Would be nice to have some clearer photos of the front panel. Could blow one up to full size and ... well.

Date: Sun, 9 Apr 2006 09:52:08 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] wow... the R-391A does exist

The existence of that particular experimental R391A has been known for a while. There more than likely not a "small handful" to be found anywhere. This prototype and possible one more exist. All of the R390X, R-725 were originally built with the X or XC designator. Looks rough as 40 grit sandpaper to me. YMMV

Date: Sun, 09 Apr 2006 11:24:55 -0400
From: Barry Hauser <barry@hausernet.com>
Subject: Re: [R-390] wow... the R-391A does exist

I have a couple of '391's and had the autotuners working -- for a short while. If I were to let one of them just run on (I pulled the plug), it would probably self-modify the 10-turn stops to infinite-turn and theoretically tune the RF deck to UHF, or maybe even Wi-Fi ;-). From what I've heard, most of the '391's never, or hardly ever, had their autotuners in use. Of course, they require a heavy-duty 28 volt DC supply, but there's another thing. The motor is fairly high rpm and geared down. Sounds like a mixmaster or an A/C (not rechargeable) drill -- and no wonder -- motor is courtesy of Hamilton-Beach. The PTO, it's gearing and the RF deck is stock, but the R-390/URR -- "the man's radio" -- has somewhat heavier components. Even so, it puts some stress on things. In addition, it makes a racket and quite a bit of vibration -- not too kind to tube elements and some other components. Not great for coils and trimmers, nor probably crystals, for that matter. An even greater consideration with mechanical filters, in the case of an "A" rendition. Probably a good idea to have a few spares of those and maybe a dozen extra ballast tubes on hand. I don't

know if such considerations helped put the cabosh on the R-391A such that only 2 were made -- or did even those get fully completed? While the autotune is an interesting curiosity -- and does work when it works on the '391 -- it isn't all that practical. Downright scary when you fire one up. ("Omigosh! What's that thing doing to my radio! So much for that Rf deck alignment I just did!") If you want to get an idea, just remove either or both of the MC and KC knobs from your R-390A or R-390, chuck up one of the shafts in your old 3/8" Black 'n Decker variable speed drill, and give 'er a spin.

Date: Sun, 9 Apr 2006 11:42:20 EDT
From: ToddRoberts2001@aol.com
Subject: Re: [R-390] wow... the R-391A does exist

Barry - Dittos for the R-389 motor tuning also. I have used the motor tuning - once - on an R-389 and I just about cringed at the way the main tuning dial spun around so fast I thought it was going to break something inside. I am sure it is rugged enough to use a time or two but after seeing how fast it spun things around I wouldn't want to use it again unless maybe for a special occasion or to demonstrate to someone else how it works and then only for a second or two and only if I knew everything was perfectly lubricated inside.

Date: Sun, 9 Apr 2006 11:52:57 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] wow... the R-391A does exist

XC-1 exists in Massachusetts.

Date: Sun, 9 Apr 2006 13:51:37 -0500
From: "Dave Merrill" <r390a.urr@gmail.com>
Subject: Re: [R-390] wow... the R-391A does exist

There's a short video of an R-391 in operation here:

http://www.geocities.com/ac_cars/R391.rm

(For some reason there is no sound - could be something with my laptop?) I have an R-391 with the matching power supply and original cables. It was in near new condx when I bought it 30 years ago - even had the tools on the back panel, all covers, not one missing screw. It's quite amazing to set one channel to WWV, switch to another and return to WWV to find it still zero-beated. How they achieved this level of repeatability with 1950's technology still is impressive.

Date: Sat, 15 Apr 2006 12:32:58 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] Kindley AFB Rx Pic

see

<http://www.kindley.us/William%20Cummings%20at%20Receiver%20Site.jpg>

Must be warm in that room.

Date: Sat, 15 Apr 2006 17:02:00 -0400
From: "antipode" <antipode@comcast.net>
Subject: RE: [R-390] Kindley AFB Rx Pic

Great shot! This is the 2nd picture I've seen today like this. Both are in the same scenario. The other is on the front cover of the latest AWA Journal.

Date: Sat, 15 Apr 2006 15:24:36 -0700
From: "ELDIM" <eldim@att.net>
Subject: Re: [R-390] Kindley AFB Rx Pic

What info is there on Kindley AFB? I take it that was located in the UK? The picture appears to be from the 60's. I love to hear and see more.

Date: Sat, 15 Apr 2006 17:55:58 -0500
From: Dan Arney <hankarn@pacbell.net>
Subject: Re: [R-390] Kindley AFB Rx Pic

Glen, Kindley AFB was located in Bermuda. I was a Tech Rep for Land-Air Inc. to the 53rd Weather Recon Sqd. flying WB-29's. IIRC they 12 WB's. We were riding out a Hurricane in the "O" club on the hill watching things go flying by, the anemometer on the tower departed at 130 Knots after the eye passed. They had 6 of the WB's crewed and on the ramp facing into the wind with all engines running. They refueled them during the lull of the eye. The second one from the hanger to the west became airborne and landed at Hunter AFB in Savannah Georgia 880? miles away. This was in the press and the Air Force Times. About 50 people in the "O" club saw it and some photos were taken, that showed up in The AFT. We had to take a taxi, bus or rent a motorized bicycle. Only residents could drive cars on the Island.

Date: Mon, 24 Apr 2006 00:37:10 -0400
From: "Fred Stillwell" <roswell@apk.net>
Subject: [R-390] wow... the R-391A does exist

It is a few days late but I just read your e-mail to the list re: the R-389 auto tune. We used them in the USAF 24/7 (where and for what I'd rather not say) but let me tell you, when you had to QSY from 200kc to 4 or 500 kc in one hell of a hurry the auto tune was the ONLY way to fly. I don't think I

ever wrecked one of them doing so. It sure was fun, but even on a good day it was still frustrating waiting for it to get where you were going to. On another note, I do recall one night I was in a real hurry to QSY with a 390 or 390A (they all looked alike back then when I was 19) and didn't pay attention to the red indicator on the dial readout. I don't remember just what the dial finally read but the maintenance guys had some fun trying to get it back in line. Anyhow, thanks for the post and CW lives

Date: Mon, 25 Sep 2006 19:48:21 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] AF MARS record keeping, and "chains of custody"

Three problems with chain of custody.

Part A. most were owned by units that would not admit they even existed let alone owned a R390.

Part B If you exceded an R390 you had to remove those radioactive meters. So the tag came off and the resulting unidentified junk was exceded as unknown item of zero value with meters.

Part C A unit keep property books. You were likely an officer and you had a list of equipment. Today the form is an 1149. Back then it was a different number. Your form listed the property and where it came from. It was yours until you gave it to someone else. You gave property to someone else because you had orders to do so. The day some new property arrived you had an idea where it came from, because it had an address on it. As property officer you keep all your property records forever.

So when you left some where and transferred all your property to the next fellow you had someone type up a very nice property form for you. This form listed you as owner and at the current location. The new owner signed for it and accepted it. His paper work shows no clue where the stuff come from or how long it had been at the current location. You have two records. I received this and I gave it to someone else. I have a superior officer signature on the receive copy and a signature on the transfered away copy. My book balance is zero items. The new guy does an eyeball walk around and checks the serial number of every item. Lots of NCO's go along and help hunt every thing up. There are maintenance records in card files that should have a rack and room location on the file card. The property list should agree with the outgoing property list. The list should agree with the file cards. The property list should agree with all the property found by inspection. Usually three officers were involved in the passing of a property book. (more of a folder full of property forms). Each type of end item was listed on one form. R390 NSN, Receiver 380 each serial numbers as follows. 380

serial numbers on the form. R390/A NSN, Receiver 22 each serial numbers as follows. AN/TNH 11 NSN Tape recorder 400 each serial numbers as follows. So you had a bunch of pages. Every thing was on the property book: Tool Kits, racks, work benches, and test equipment. Some guy had a property book of the buildings on base. Item 1 was the flag pole on the parade ground.

The outbound owner, the new incoming owner and a superior officer who had command of the outbound and inbound fellows. Outbound guy did not get relieved until the superior officer was happy that every thing was located and transferred. He looked at the NCO's and ask is every thing in order. The new guy did not sign for anything until he had seen every thing. You were not a property book owner by chance. You had some training in Officer school (OCS) to be a property book holder. Things were found on post and added to the book. Things were lost and reported in the morning report as lost. Last seen at time of acceptance of ownership and not able to locate today. A reasonable search was made and the item located or not located. Lost property was no big deal. I had stuff stolen off a truck in Korea. We knew it was on the truck when we departed and not on the truck when we arrived. We know it was stolen off a moving truck. It happened all the time in Korea. We were supposed to have someone ride in the back of the truck with the stuff. Ever rode in an open pickup in Korea in January? Bottom line, once property transferred ownership once at a location all record of where it come from is lost. Excess property was transferred back to a depot. New requirements were request from depot. If depot di not have it, they requested it from some larger holding organization. Guys had R390/s new and used in crates and cared less what they were. They concern was that no crate got lost. Somedays a railcar would be parked next to the depot building and would need to be unloaded. Another day you moved a bunch of crates onto a rail car and it was gone. Logistics is logical. History of equipment was not something to expend manpower on.
Roger L. Ruzzkowski

Date: Wed, 27 Sep 2006 18:59:34 -0700
From: "ELDIM" <eldim@att.net>
Subject: Re: [R-390] AF MARS record keeping, and "chains of custody"

I was A MARS CUSTODIAN in GERMANY back in 1969 thru the early 70's, and I can tell you that you are asking for information that would be amost impossible, IF NEXT TO A MIRACLE, to obtain as we kept no records of the origin of our equipment drawn from Military Salvage & Disposal , R&M (Redistribution & Marketing, DRMS, other than the DD- Form 1348 that originally accompanied the item or items.

In most cases we did not see this form if there were more than one item turned in under that document.

The Base or Installation that the item originated from during turn-in to supply would be associated with a 6 place alfa-numeric code known as DODAC (DEPARTMENT OF DEFENSE ACTIVITY CODE). i.e. W68EVQ which was assigned to FT. LEWIS, WASHINGTON; SZ3380, DRMO FT.LEWIS LOGISTICS CENTER; FE4855 McChord AFB,WA, VO5141 SSN USS SAND LANCE.

There is a Directory somewhere that lists all these-but where eludes me at the moment.

Date: Thu, 28 Sep 2006 11:46:13 -0400
From: <peuhs@bellsouth.net>
Subject: [R-390] A Paper Trail

I agree with Glen on the multiple unit situations...I just can't remember enough ind. info ever existing to allow you to ever get very far with tracing a single entity..I just don't think it could ever be found even if it still existed...Also many parts just kind of moved about....Even saying this, however...ALL things were notated on a form somewhere....they are just probably missing now, unless someone discovers a lot of old paper in a depot somewhere and saves it... verything DID have a tag...

I do agree the attempt is an area of some limited interest, and would be possible for further research...Some distance into the past might be possible, but a lot of it would be simply word of mouth, with little paperwork to support it. Private repair/rebuild persons who have had many units pass through their hands have kept good records in some cases which could be useful. It IS worth remembering that some facts were written on the unit in pencil, and numbers sometimes as well..My 390 non A was one of those, but I NEVER found the Major whose name was on it... General stats. on ind. units in the present area of knowledge are kept by several, of course, including oddballs, rare units, wrecks etc..(Not the people..the Radios....) No reason this area can't be at least looked at ..IF anyone were tough enough to do the work...and contact the people..

Just remember, we saw in mil. pratice, many units with changed-out modules that no one even knew the source of, in those instances where a lot of work was going on, and someone needed it NOW...Some units were already impossible to tell what was orig, unless you used the basic frame or osc...and assumed all other changes were added later...and if so...from what other unit?..Some were done right on spot..(in many mil. items..not just radios, I recall) from one lost just the day before...and stripped of some parts even before or while records were being made covering the work.... And by the way....I don't believe a lynching is in fact, needed in this case....!!

My Regards To All, John (JLAP)

Date: Mon, 02 Oct 2006 19:43:56 -0400
From: "Charles A Taylor, WD4INP" <WD4INP@isp.com>
Subject: [R-390] Non-A version? Cost Reduction program. "Practicality"

After X number of years, an item is removed from the list. I think that the R-390 has passed out of the window while the R-390A remains at the "edge." This puts me in mind of a publication of Collins Radio Corporation that documents the process and rationale of the cost reduction program from the R-390 to the R-390A, and is titled, more or less, "R-390A Cost Reduction Program."

DOES ANYONE KNOW A SOURCE FOR A "PDF" OF THIS DOCUMENT?

The R-390 was vastly over-engineered, mainly because its specifications were promulgated by zealous junior officers of the Army Signal Corps, despite Collins's attempt to get them to see the daylight. Even the R-390A is over-engineered. The Crystal Oscillator subassembly oven is one example, but at least there was made available the option of turning it on or off with a switch on the rear apron of the R-390A. The operation of the Crystal Oscillator subassembly oven is totally unnecessary in any environment that you'un and me'un's gonna encounter. That would be "Practicality Number 3, on my list of "Practicalities." Anyway, at least when yore front porch collapses under the weight of the refrigerator and the R-390A and kills ten hound-dawgs, the R-390A will survive.

Date: Tue, 3 Oct 2006 10:10:53 -0400
From: <peuhs@bellsouth.net>
Subject: [R-390] Cost Reduction....and Knobs...

Item 1- I have the final on the cost reduction program...Run from a source I cannot recall, inc. what orig format..some years ago..My doc. (of 31 pages), is one of the official, that were provided under the program..It is titled on first page:

"...COST REDUCTION PROGRAM FOR RADIO RECEIVERS, R-390/391()/URR Final Progress Report

Period Covered:.....

Object: The object of this contract is to study the Radio ReceiversR-390/391 ()/URR to make certain improvements and simplifications so as to reduce the cost of this equipment.

Signal Corps Contract No. DA36-039 sc-52584
Signal Corps. Specification- MIL-R 10474 Dated 28 August 1950 and

Amendment No. 3 Dated 15 Jan 1952

Dept of the Army Project No.3-24-01-152
Signal Corps Project No. 805H
PREPARED BY: L.W. Couillard
APPROVED BY: E.W. Pappenfus Head, Department III

A PUBLICATION OF
THE RESEARCH AND DEVELOPMENT LABORATORIES

COLLINS RADIO COMPANY
Cedar Rapids, Iowa.

"... I note it is listed as "Final"...and if I have it it must be available and in different formats on the web...Note that in the blank area after the "Period Covered"... there is no entry...

All Participants are listed in the section:
7.0 IDENTIFICATION OF PERSONNEL. <snip>

Date: Tue, 3 Oct 2006 11:44:12 -0500
From: "Bill Hawkins" <bill@iaxs.net>
Subject: RE: [R-390] Cost Reduction....and Knobs...

I scanned, OCR'd and cleaned up the text of a copy of the report (stamped by Mil-Spec Electronics) about 10 or 15 years ago. I believe it went into the collection of 39x lore. No coins were collected for the effort. I had my first 390A and was hooked by the beauty of the beast. That copy did not have the fold out pages containing the detailed cost comparisons. Does your manual have those pages?

Date: Tue, 3 Oct 2006 12:15:10 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] Cost Reduction....and Knobs...

It can be read in its entirety here: <http://209.35.120.129/faq-collins-cost.pdf>

Date: Tue, 3 Oct 2006 14:22:36 -0400
From: <peuhs@bellsouth.net>
Subject: Re: Re: [R-390] Cost Reduction....and Knobs...

I am pleased to find the final report still available, and hope it might answer questions for others. A lot of newer members may not have ever seen this interesting document at all.. Mine IS the one at the site given by Les in his answer earlier. Perhaps any with additional information will

come forward again...In fact, the detailed cost analysis is not, then, a part of this Final Report. and there are no fold-outs,..so that material must be in the earlier working report, and would have to be found somewhere else, it appears.???

Date: Thu, 05 Oct 2006 02:41:52 +0000
From: richardmay01@comcast.net
Subject: [R-390] Digital readout

A digital readout mod actually did exist. It was an add-on using seven segment leds, stealing its power from the power supply. I was in Japan and noticed a few of these mods used on R-390A's for an intercept mode other than Morse code. Pretty cool, no calibrating was required and they read down to 100 cycles. I was lucky enough to talk the maintenance NCO out of one. The BFO did not change the frequency readout. Of course, in those days, I didn't realize what I had and it is long gone. I have never seen another one. Rich.

Date: Wed, 4 Oct 2006 23:34:07 -0500
From: Tom Norris <r390a@bellsouth.net>
Subject: [R-390] Fair Radio Sales Nostalgia Pics

Back in the early '90's an acquaintance of mine went up to Fair Radio to pick up an R-390. They let him pick one out of the stack while he waited for them to give it a quick check. He had his camera with him and took a photo tour of their old store.

http://www.fernblatt.net/_radio/fair_radio_sales_pics/

I wish I'd taken mine when I went up there later. He missed the Back Building. Back then there were pallet upon pallet stacked 4 high of R-390A's from the St Julien's Creek DRMO sale. Yep, the poor little Blue Stripers.

I'd gone up just to see if they were as bad as folks were saying...(and to pick up a couple) They even had a couple of T-368's left back in the mid to late '90's. You might hear some of the older folks wax nostalgic about Command Sets, but I miss the old days of inexpensive R-390(*)'s. If no one has been up there, it may still be worth the trip. The old place was, I've not seen their new and improved store - maybe someone will chime in...

Date: Thu, 5 Oct 2006 07:47:52 -0500
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] Digital readout

Rich do you remember if it was a mechanically driven affair? I am assuming not if it didn't require calibrating it must have somehow

monitored the various frequencies and did the math necessary to be accurate... Sure would like to see one of those....that's something we could probably duplicate pretty easily. You would think there would be technical documentation around on it somewhere....

Date: Thu, 05 Oct 2006 07:40:49 -0600
From: DW Holtman <future212@comcast.net>
Subject: [R-390] Digital Readout

There are several companies that make digital readouts for analog tube sets. Such as <http://www.aade.com/dfd1.htm>. It seems to me that the R-390 series is one of the last that need a digital readout. When properly aligned as everyone knows it has a very accurate readout. I would like to see the modified military version just to know what type of readout was involved. Working on this series of radios is therapeutic, the most relaxed part is my day that I enjoy the most is going out to my shop turning on a good shortwave station and puttering around with R-390's.

Date: Thu, 05 Oct 2006 09:45:06 -0400
From: Mark Huss <mhuss1@bellatlantic.net>
Subject: Re: [R-390] Digital readout

It has been thirty years, so my memory is a bit hazy. It used LED seven-segment display like the ones you used to see in calculators. It had 8 digits and read to 100 Hz. Counting was interesting, as this was before Large complexity TTL. It tapped the three Local Oscillators, then used analog mixing to derive the tuned frequency which then was counted using TTL logic. If anybody is interested historically, I can ask my brother if he remembers more. But the modern way to do it is to use the DFD2 frequency display. This allows three inputs good to 35 MHz to monitor the 1ST, 2ND, and 3RD LO's. Alternately, you can monitor 2ND LO, 3RD LO, and the BFO, then use a level detect to detect 1ST LO on or off fed to the counter as a logic level. The guy who runs AADE.com has expressed interest in modifying his code to accomodate the R-390A. Note, for R-390 you must measure 1ST, 2ND, and 3RD LO. This would work on both R-390 and R-390A with no change. One problem we are beginning to have is crystal aging. Originally, you rarely had to calibrate the display when changing bands. After 50 years, you sometimes have a variance of several kHz.

Date: Thu, 5 Oct 2006 20:57:02 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] Digital readout

It was in one of those places where if we told you the details we would have to shoot you and then shoot our self. There is documentation but Mulder will find a UFO before we could pry a copy loose under the freedom of

information act.

Date: Thu, 5 Oct 2006 21:07:09 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] Digital readout

There was a series of modules that plugged in. Some went between the RF deck connector to get B+ and 6.3 AC made to DC with a bridge rectifier. Then there were little BNC tees. These got you the signal from the crystals and PTO. The logic gate just count this that these tham and those. Then it just counted one of them again but for a short time to fake an additional 455. Other little modules were high impedance off the little BNC's and used some B+ to get the signal up to TTL level. There was a 6 digit display to get you to a 100 hertz. About 1973 there was a push on to get frequency counters that would count to 50 Megahertz and cost under a \$100.00. You could build one of your own these days and use what ever display you wanted behind one of the spook flip up covers. Most of it could lay on the crystal osc deck.

Date: Mon, 23 Oct 2006 11:05:41 -0600
From: Transmaster <22hornet@gmail.com>
Subject: [R-390] Interesting receiver

I was looking through Fair Radio Sales website and I spotted this receiver R-1051B does anyone know who built this unit and when they where in use. Receivers have always fascinated me to see what engineers come up with to do the essentially the same job over the years.

Date: Mon, 23 Oct 2006 13:01:51 -0500
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] Interesting receiver

Originally built by General Dynamics. Came in the R-1051 with no designation, the B, C, D, E, F, G and H designations. Some G and H models I'm told are still in service in subs. A very complicated receiver of modular design but will stay dead on frequency once warmed up for weeks..months etc....thanks to a 5 MC TCXO module. Poor filter selections but has a great feature for beating selective fading by using the double sidband mode and it's two IF and audio chains zero beat on a SWBC station. Really cool! Not particularly sensitive and with low audio output. Tuning method not popular which I think has hurt it desirability. When working properly a pretty good receiver for SSB and SWBC. Poor for CW. When broke a real dog to work on. Will be a classic because of it's unique electro-mechanical design. I'm surprised to see any listed with Fair Radio as I bought all the remaining complete radio's they had probably 5 years ago. Maybe they got some more. Last time I checked the military was crushing all of them coming out of service and selling for scrap. I gave away the last 6 or 7 I

had to get them out of the shop...tired of tripping over them. They were complete but non-functional... Cecil Acuff

Date: Mon, 23 Oct 2006 13:09:12 -0500
From: "Francesco Ledda" <frledda@verizon.net>
Subject: RE: [R-390] Interesting receiver

I think that it is an amazing receiver, considered that was designed in the early sixties.

Date: Mon, 23 Oct 2006 14:02:10 -0500
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] Interesting receiver

I agree it's an engineering marvel...one that replaced an engineering marvel the R-390 series. But in terms of performance, outside of frequency stability and SSB demodulation, it's pure receive performance is bettered by a good R-390A...probably even a good SP-600. The R-1051 suffered from a lot of internal noise...it's full of germanium transistors. I heard in the later years it was costing the military around 30K each for the G and H models. That was probably in the 80's if I were to venture a guess.

Date: Mon, 23 Oct 2006 15:09:35 -0600
From: Transmaster <22hornet@gmail.com>
Subject: Re: [R-390] Interesting receiver

It is to bad there isn't the kind of documentation for these less know rigs such as one finds for Collins equipment. By this I mean the notes and thoughts of the engineers who designed various part of a Collins radio. I find it fascinating to learn the why, the how, and the reason why these milispec radios where built as they where.

Date: Mon, 23 Oct 2006 17:43:34 -0400
From: "Gregory W. Moore" <gwmoore@moorefelines.com>
Subject: Re: [R-390] Interesting receiver

As one who owns one of both, and has worked on both, I would venture to say that the 390 wins hands down in all respects. That being said, this is the word of a former Naval Aviator, and there just aren't too many R-390's or R-1051's in Naval A/C except for specialized ones ;-). Given the fact I own both an R390A and an R1051, my opinion is the R390 is easier to tune, easier to copy SSB with or without the CV-591/URR (just use the BFO) unless you are using it to copy ISB --hi-- and the sound quality is far better... This is my own opinion, and is open to flame wars etc, etc. I enjoy a little controversy once in a while --hi hi--

Date: Mon, 23 Oct 2006 15:44:46 -0600
From: Transmaster <22hornet@gmail.com>
Subject: Re: [R-390] Interesting receiver

One question I have is what is ISB used for The Sunair receivers I am getting have this mode.. One of the coolest things to listen to on US Military HF frequencies is something called "Nightwatch" there isn't any traffic on it but it is a nightly check in somewhere on an open HF frequency of all of the US Military bases across the planet. It gives you a secure feeling knowing how vast the reach of the US Armed Forces are. The Frequency of this net changes daily so it is not easy to find. The Sunairs can be set to scan set frequency blocks so maybe I will have better luck finding it each night..

Date: Mon, 23 Oct 2006 22:26:31 -0700
From: John Kolb <jlkolb@jlkolb.cts.com>
Subject: RE: [R-390] Interesting receiver

The Navy destroyer I was on was completely rebuilt and received R-1051/URR's in 1965.

Date: Mon, 23 Oct 2006 22:59:08 -0700
From: John Kolb <jlkolb@jlkolb.cts.com>
Subject: Re: [R-390] Interesting receiver

The main driving force behind the R-1051 was the Navy's shift in the mid 60's to multiplexed RTTY transmissions for most ships. These had from 4 to 16 as I recall separate RTTY data channels within one signal, with 85 Hz shift. Thus they had to be tuned within a couple of Hz accuracy. The alternatives to the 1051 were the WRR-2 aka FRR-59, or R-390's with CV-157 converters, either of which would have been a real nightmare to maintain. One of my fondest memories as a Navy radioman was calling an ET up to fix one of our 1051's, watching him replace each of the modules from the spares kit, one at a time - radio still bad - putting all the pulled modules into a working 1051 - still working. While he was scratching his head, I tilted up the 1051, looked at the chassis underside, and spotted where one of the wires/connector pins had popped out of the connector backshell. But most problems could be fixed by a relatively untrained ET with a set of good modules.

We received a pair of 1051's during our 1965 rebuild for use with the forthcoming mux transmissions, but received R-390A's with CV-591's for use with SSB. Before the introduction of the 1051, only a few ships were equipped for mux transmissions. My prior ship, the Commander 7th Fleet flagship was, with direct mux transmissions to and from whichever shore

station was closest as we moved around. Had a pair of FRR-39's???
41's??? which was a relay rack with 2 R-390's and 2 CV-157's.

Date: Tue, 24 Oct 2006 11:30:55 EDT
From: Radiograveyard@aol.com
Subject: [R-390] An interesting receiver

I recently went to a scrap yard where we got radio stuff on a per pound basis. In the radio room of a Navy ship decommissioned in 1997 we pulled a R390-A and a 1051 B both had been in service at the time of retirement. As far as my view of the two receivers give me the 390-A anyday as the 1051 is hard to work with and worse to service. If you can come up with the companion transmitter and amp it makes a neat station if you like hanging on a frequency for a time. Pete

From: John Lawson <jpl15@panix.com>
Subject: [R-390] R-2144A Off-topic long shot question

Does anyone within the sound of my keyboard have any info at all on the R-2143A/URR (HF) and/or R-2144A/URR (VHF) receivers? Or possible 'pointers' to such info? These are 'black box' type units - just a case and connector, designed for external control. My usual sources are silent on these devices - made by Hughes/Raytheon for ECM and tactical roles in the mid-80s. I would especially love to have the communications protocols and I/O wiring... the HF radio covers .001 to 32 Mhz in 4 bands. Yes, that's 10Kc...

Date: Fri, 27 Oct 2006 23:57:56 -0700 (PDT)
From: Rich MC Clung <wa6knw@sbcglobal.net>
Subject: [R-390] LS-206 SPKR

>Does anyone know the original acquisition cost for the LS-206 dual
>speaker as used with the GRC-26, etc?

Part Number/Drawing Number: LS206AU
Type Designation: LS-206/U
Item Name: LOUDSPEAKER ASSEMBLY
Category of Supply: 2G
Unit of Issue: EA
Unit Price: \$170.00
NSN: 5965003470231
LIN: L82043

Date: Tue, 2 Jan 2007 12:31:09 EST
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] R390A not working at all

Once upon a time long ago (1968) I received a draft notice. It was a time for draft dodging and so I elected to dodge the draft. Being polish I elected to enlist. I was given a whole bunch of test. After the test some dude ask me if I though I could keep a secret. Being polish of course I can do that also. So I enlisted in the United States Army Security Agency. That organization I learned had possession of most of the R390 and R390/A receivers on the planet at that time.

I had graduated high school in 1966. We got to get out of this place if its the last thing we every do. Started into Junior College at Mott Community College in Flint Michigan. Was working second shift in the GM plant bolting six cylinder engines together. Going to school mornings and only taking 12 credits. you needed 14 to get deferred. So I had almost two years of college before I went into service. Drafting, mechanical design, English, Industrial materials, welding, Math. I was given a Morse code test. But I knew I did not want to spend four years doing code copy. I was in service to learn something new not spend four years marking time doing something I already knew. I wanted to learn some new stuff. I flat flunked that test. I tried hard to ensure I did not get even two letters correct. That worked. I wound up in Receiver repairman School at Fort Devens Mass.

Go read ASA pages for more on the Security Agency. You need to know where your tax dollars are going.

So 14 June until mid August 1968 I was lost in the woods in Misery. Some where near Fort Leonardwood. In August I was sent to Fort Devens. In route I visited Chicago and heard Classical Gas on the radio for the first time. Loved it as I had played trombone through my school years. At Fort Devens I did some 60 days of KP at Connies waiting for a security clearance. So school was a year long.

On Monday you arrived in a new class room. There was a new instructor. You were in the room for 5 days and moved on. The instructor knew his one week class cold. What ever the subject was you learned it. On Friday was a test. Week after week after week. One week we did R390 and the next week we did R390/A just to go over it again.

After receiver school I did Microwave school. In Oct 69 I finished school and had orders for Viet Nam. So Oct 69 to Oct 70 was spent in Phu Bia at a field station. Field Stations have bunches (can you say thousand) of receivers. We worked 12 hour shifts forever. About every 10 days we had guard duty. As guard duty was sun down to sun up and shifts were noon to midnight or midnight to noon you had two shifts off around the guard duty. So you worked about 9 of 10 days. Went to Sydney Australia twice that year. Went to Hue a couple times. Saw a bit of Saigon.

Did Nov 70 home in the States and went to Korea. Korea also had lots of R390/A. Korea was a 13 month tour so I left Korea in Dec 71. I stopped to see my brother in Tokyo Japan. He took me Christmas shopping on the Ginza while I was there. So I had almost 4 years in service by that time and had been Doing R390 maintenance as a steady living for a good two years.

I had reenlisted in Dec 71 and was going back to Fort Devens near Ayer Mass to be an instructor. I went to school to learn to be an instructor. I then started teaching the last week of 102F10 or old 33B20 or Receiver Repairman School. I taught the AN/TNH-11 audio recorder. It was used to record voice for later transcription. I did that for over a year. I then went to NCO training and did support for the school. I hauled all the test equipment out of the class rooms every three months and took it over to the calibration shop and back to the class room.

I meet a girl and we got married. (Oct 73) Wanda and I have been together since. In school I had the class the very last week and day of its time together for almost a year. These guys were getting short and knew it. I was a hard ass and made them get the stuff they needed to know. They would ask me why I was so adamant about them getting the stuff. I told them that someday I would be back in a field station they would all be their and I did not want to be the only guy in the place that could repair a AN/TNH-11.

Wanda had orders for Okinawa when she graduated from 98 School (Traffic Analysis). So I put in to go to Okinawa with Her. We did two years together in Okinawa. I finished my two year degree between classes at Ft Devens and classes in Okinawa. I was promoted to Staff Sergeant E6. I was a trick chief most of the time I was in Okinawa at the Torii Field Station. When I arrived there was one 33 in the shop who had not had me as an instructor. That guy had been a morning student and had Herb Reed as his instructor. He was considered more strict than even I was. There were a couple NCO's in Okinawa who knew me from Korea. The old guys told the new guys not to worry once I got to Okinawa I would teach them to party as well as I had taught them to fix recorders weather they wanted to learn to party or not. As I had taught them recorders weather they wanted to learn or not.

Wanda and I traveled a week to Teepee Taiwan. Traveled all over Okinawa. I spent two years leading a trick shift in the maintenance shop repairing R390/A. I got out in late 1975. I have bad legs. I can walk all day but as soon as I start to run I do not have enough blood circulation in my lower legs. I would have never been drafted. I did enlist and got through basic in great pain. After 8 years of service the Army was getting up to speed on

physical fitness. I could not imagine my self doing the physical fitness test twice a year for the next 12 years to retire. I has been getting by on the pushups set up overhead bar scores and walking my mile to finish with a minimum passing score. So I did not reenlist again. I skipped a bunch of incoming in Phu Bai but I have a Bronze Star and Army Accommodation Medal.

So I did a year in a very good school learning R390/A repair. Two years of doing it every day all day. Two years getting quizzed on electronic theory in general. Two years leading a shift of 10 - 12 guys who were doing it every day all day.

I finished my two year degree in Okinawa.

Worked as an electrician

Picked up a techronic 500 scope mail order and started an Electronic Repair Business.

Built my own home in Michigan.

Finished my four year degree in Computer Science at Central Michigan

Did my Master degree In Computer Science at Central Michigan on the GI bill.

Joined Hughes Aircraft in June 1984.

Traveled the some more for Hughes. (Rota Spain, Paris and London)

Became part of Raytheon in the mergers.

Retried at age 55 from Raytheon in 2004.

I brought my first R390/A in 1984 for \$300.00 in San Diego.

Picked up a AN/URM25 at a surplus shop in Lemon Grove.

Picked up a TS 385 at Murphy's in El Cajon.

Picked up three TS 505's at a swap meet.

Picked up two more Tektronic scopes for spare parts.

Now I be retired in Westminster South Carolina.

I am rebuilding the house from the inside out. We started in Nov 2004 and I have a second bathroom and Kitchen to go. The First Robot season kicks off here on Jan 6th. That will slow the homework down until May. Then I get to unpack the electronics in the basement and get the shack all back in order. = I do not read the mail every day.

Roger AI4NI was KC6TRU in California

Date: Tue, 2 Jan 2007 15:24:02 EST

From: Flowertime01@wmconnect.com

Subject: Re: [R-390] Re: R390A Education

I was taught in a class at Fort Devens Mass back in 1969. The class was presented once every two weeks. As most classes were only one week there

were Two R390 class rooms. You did a week in one and then a week in the other. The instructor was a world war two vet. He was teaching the class because the Army types though the class was too hard to teach and was not doing a good job of teaching it. I lucked out and had a real pro for an instructor. Students were doing to school eight hours a day back then in one shift. By 1972 classes were six hours a day and taught in two shifts from 6 AM to noon and Noon to 6 PM. I taught the afternoon shift then. R390 was a two-week class. Monday was a short history of the receiver R390 and R390/A a tour of the shop and a look at the receiver. A look at the test equipment. A look at the TM. One hour wasted and most of two weeks to go.

Pop open your R390/A TM flip to the first schematic of the RF section and power supply. Finish the day doing schematic analysis of that single sheet of paper. Sweep the classroom and make it to formation to march back to Connies for supper.

Day two pop open your R390/A TM flip to the second schematic of the IF section. Students shall do the schematic analysis of that single sheet of paper. This was a guided tour and you were expected to be able to read schematics and determine what was happening in that circuit.

Day three morning was look at your receiver. Open your eyes. The afternoon was listen to your receiver. It was that day that I learned all the stuff I posted last year. As part of the trouble shooting experience we were lead through the receiver step by step knob by knob. Each student was standing in front of a receiver on the bench with eyes open. Headsets on and looking into our own receiver. The instructor was walking up and down the isle calling out education. Set function knob to MGC. It's that knob son. Set limiter switch off. Spin the dial to 7+000 look at those cams. See this. Move the MC Knob to 8 see that switch move.

Set that receiver up on end. Set the bandwidth to sharp. Hear the difference in sound. Pull RT510; hear the difference in sound. Lift the rack and move the slugs. Hear the loss of cal tone.

On and on and On for 8 hours. This is how you front panel a receiver to localize a problem down to a stage.

On day four we did an alignment procedure. One student one receiver one day. Step by step under verbal instruction. See what is going on listen to that. See the meter move. At the end of the day we all listened to every receiver and agreed that every receiver was working. From then on the mantra was yesterday it worked. Today it does not work. There is only one thing wrong with it. Can you see it? Can you hear it? You can find it and

you can fix it.

Then for 5 more class days it was find the bug and do it again Sam. There were 10 receivers in the room. We had eight students in my class as we had lost some. Eight of 20 made the eight week cut. We eight were lumped into one class. Most classes were eight nine or ten students. You did not lose 6 of 10 every week. Two weeks in a row was news making and investigated. The instructors loved us. They had had the last week off due to no students.

The ten receivers each had a different problem (bug) placed into it. You had 8 hours to do ten problems in ten different receivers. You did round robin time between time on a bench, talking to an instructor at the black board or out in the hall smoking. In 5 days you did 50 problems in a R390/A. you walked up to an R390 on the bench. Eyeballed and listened to it until you isolated the problem. You did this in less than 15 minutes. At an hour you failed to get it. You practiced the look and listen approach to isolate problems. It was learn this receiver from the look and feel and sound.

The last day was 5 bugs in 8 hours for a test. The same bug was in two different receivers so you only had to visit 5 receivers.

Other equipment classes were five days each. My AN/THN-11 Recorder class as five days. Monday was introduction, play with the recorders, theory of how recording and magnetic tape works and a 10-question quiz. Tuesday was schematic analysis and operational analysis. Wednesday, Thursday was 10 bugs each day. Friday was a troubleshooting test. Five bug in 6 hours. You had a tube, a relay, a power supply, a bad filter cap with hum, and a capstan motor speed loop problem.

The R390 had an extra of schematic analysis a full day of look, listen and operate, a day of alignment and two extra days of bugs.

Just one day it was look and listen. In the R390/A you can pull tubes one at a time. In the R390 the tubes are in filament strings. So a pulled tube would drop two or more tubes in the filament string. BFO on and off. VFO you can unplug the connector. We set those receivers up on end, got out the tube pullers and when at it. Under supervision from a master you pulled one tube at a time. The day after we pulled and replaced every thing in the receiver we realigned it.

Set your receiver up on end. Get the schematic out and start at the audio output. Put your headphones on and pull a tube at a time. Listen to the difference. Play with the knobs to understand how it sounds from that stage to the output. You can teach yourself this stuff about your receiver in

a couple hours. You spend more time burning fingers and waitings for the filaments to warm back up than you do learning what you need to know.

Yea so like one day this old guy said this is how you trouble shoot that receiver from the front panel knowing what you do from the schematic analysis and theory of operation you can look and listen to the tube stage. Then you can align it with some wire, a meter, generator, spline wrench and pop icicle stick. He spent 8 hours leading us through it all as part of the trouble shooting process.

I agree it is not all in a text file I have read. Guys who knew the equipment taught it. It was taught as part of getting an understanding of how things work. It is still taught in military schools every day to lots of students. The process is used on every thing from a butter knife in the mess hall to aircraft engines. Military guys who were trained to maintain some item of equipment went through the process while being taught to perform maintenance on the item under instruction. For some an Ah HA come along and they went you could apply this to any thing. Some other struggled through the class and could not wait to get out of service.

In my service time I did few soldering iron repairs. We weremaintaining receivers at optimum performance. I spent more time soldering inmy 10 TNH-11 than anywhere. We unsoldered everything at least once just to see what would happen. Some guy would ask a question. We ask what do you think the outcome would be from the schematic analysis. The we would try it just to see what really happened. I spent a lot of time cleaning up solder joints in the recorders. They were the same ones I had learned on back in 1969. every joint on a circuit card was clean and neet. You did not eyeball your way through my bugs. We had megohm resistors with repainted color bands. We had real tubes that had failed. we had relays that we had fried inside and had never been soldered open. For bad fuses we used only ceramic fuses you couls not eyeball. You had to pick up the meter leads and test.

In the Field (Nam, Korea, Okinawa) I tested tubes and did alignments everyday. For monthly PM we would walk out to a receiver and do an eyeball for blue tubes and run that knobology. You found loose knobs that way. You did listen for a cal tone on every MHz and at every 100 KHz across one MHz. You did a listen at WWV or the Japan equal. If a receiver was having a problem your operators did a trouble call on it. You did dial-light replacement in the rack as they were called in on trouble reports. I know I fixed at least one of everything over time, but I would do days of PM on bunches of equipment that was just meter, meter, meter. That's a Korean expression for Look, look ,look. To meter in Korean was to look at a girl. To be caught meter,

metering was to be caught looking at another girl. We were in the preventive maintenance game not the corrective maintenance game. That why it is called PM not CM. Like Preventive Maintenance. So the goal was to get there before it failed. Thus we did not have a lot of charred things to replace because we let a tube go to complete failure. They fail did and I did do a lot of soldering.

So every day the maintenance men did this spin the knob test on receivers and knew what they were trying to establish as good or not good in a receiver. Think of doing the front panel knobology and trying to determine if we were hearing a microphonic tube in a receiver. Spin the knob on a receiver, go get a tube and plug it in, Ask the operator if that sounded better or not. Receivers were in racks. You could not reach inside and be tapping tubes. You had to front panel it and get down to one or two 5749's in the IF and swap them one at a time to find a micrphonic tube you could hear by playing with the knobs. Switch the band switch and hear an IF tube pop and ring microphonic. Roll from 7 to 8 to 7 and tell if the first mixer was sounding weak, noisy, and microphonic. You did not learn this in a day at school. I had several repairmen we would not let work on an R390 in the shop. Other guys got good over time.

I had a Teletype mech. in Okinawa names Randy Smith. He carried a 3-foot long screwdriver in his belt like a sword. He could walk up to any model 28 Teletype and fix it flat right now. Those were / are mechanical beast. They would vibrate screws loose. Randy could feel one across the room and know what it needed. He could set mechanical setting by eye that others needed their go no go gauges to set. Some where some guys just get it and the rest of us just have to keep working at it.

I had a 33C who had a degree in Math. He did his four years and when back to the classroom to teach. I have meet ASA guys over the years. Most did their service time and never looked back. Most O5H's would never consider being a ham and do CW.

Date: Wed, 03 Jan 2007 01:33:45 -0500
From: Mark Huss <mhuss1@bellatlantic.net>
Subject: Re: [R-390] R390A not working at all

Just missed you, Roger. Hit Devens from Lost-in-the-Woods if Feb 75. Bricker was my first Instructor. That man could Teach! Having had a laryngectomy (sp.) he could not talk above a whisper. What he could do was take ten guys in a room, whose education level ranged from a two room high school in Arkansas to a guy who had joined in 68 because he ran out of College Deferments. (One more semester, and he had four Bachelors!) Another who could not change a fuse, to someone like me who had several years working Electronics already. And Bricker could teach

them all simultaneously. No mean trick. Remember Herb, too.

And Major Mosher. His talent was Math. You would have eight guys sitting in front of him for ten days straight with totally blank looks on their faces. Every day on the march to Barracks, we would commiserate our imminent failure. Every one of us were completely lost. And on the last day before the test, one by one, each student would suddenly exclaim "Ah!" And you would suddenly completely understand everything the Major had told you for the last two weeks. It was like a religious experience. You may remember Russell, my older brother. He spent time in Phu Bia in 67-68 or 69, Can't remember. He is still Teaching down in Huachuca, where they moved the School after Devens closed.

When I was going through school, they decided to merge all the courses, So I got Receivers, Recorders, the Clock, etc. They dropped the R-390, just teaching the R-390A. I remember the TNH-11, mainly because I was the only one to get one of the Test bugs right. All the relays had 120V on them where they should have had 0V, and 0V where they should have had 120.

The bug was a bad fuse, but everybody got confused by the odd readings. I figured out that someone had wired the power to the Bench backwards! After Graduation, I went to Ft. Hood (few miles from Home) to work Tactical. The MLQ-24, mostly. Then Korea just after the Second Korean War. That's when I found out that it takes an Army to Really screw up. My orders said Field Station Korea, Pyong Yang. Spent hours pouring over maps of South Korea looking for Pyong Yang. And none of the guys who had been stationed there were any help. They just broke out laughing hysterically when I showed them my Orders! Figgered it must really be the Pits.

Finally figured it out. Getting Tankers to change it was a different matter entirely. "Orders is Orders. You go where youse told. And no lip!" I got desperate when they issued me tickets. Took me all day sitting down at Transportation while they figured out there just weren't American Carriers to Pyong Yang. Finally got a MAC Charter to Japan. Transfer to British Airways to Beijing, and finally CAAC into Pyong Yang! "Do not wear uniform (NoShit!). Orders Not to be Changed in Transient unless directed by Commanding General Army Security Agency" The day before I left, I got a rather desperate call from Transportation and Personnel! Something about wanting those tickets back. And all the copies of orders I had been handing out all over post telling everyone where to send my stuff. And, of course, where my pay was to be sent.

In the end, I got commercial all the way. Which meant no one there at Kimpo to meet me. Remember, I was supposed to be in Pyong Yang, not Kimpo. So I caught a cab to the bus station, found a Bus going to Pyong

Tek, caught a cab to Humphries. And called someone at the field station to come pick me up at the gate. Wasn't comforting when the first words out of the Sgt.s mouth is 'Who the Hell are You?!' Then it was back on the Bus for the Repo-Depot back in Seoul. There, after all the shots and the films, they decided that with a clearance like that, I would make a cracker-jack Clerk. So I walked out, grabbed my Duffle, and caught the Bus back to An-jong-ni.

Told Personnel they were mean to me up there, and I wasn't going back. They could fight it out. After two years, I headed back to Devens, and worked the Shops there. Shop 6 across from the old NCO club and Mirror Lake. Ratt Rigs, R-725's in the TRR-20's, and some other Tactical stuff, like those @*\$\$@ reel to reel recorders in the TRQ-23's. Whose bright idea was it anyway to put a positive ground (including the Tape Heads) tape recorder in a negative grounded case? Some time in the old Commissary with the 98's, and finally over to Shop 1 to support the Hogs and all their R-390A's.

Did a Stint at the Donkey Racetrack, and back as an Instructor. Got out when the Army did the massive Force Reduction in the Intel branches right before Desert Storm. After all, it was not like we would be going to war any time soon. Got to admit, it was a gas. And didn't get shot at (too much).

Date: Wed, 3 Jan 2007 10:26:41 -0500
From: <b_hagen@sbcglobal.net>
Subject: RE: [R-390] R390A not working at all

It is good to be part of this group which keeps me in touch with my 390. Seldom have much to contribute however as my MOS was a guided missile repairman. If you have a defective Nike maybe I can suggest a solution.
Bruce Hagen

Date: Wed, 3 Jan 2007 11:11:32 EST
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] R390A not working at all

Oh man do I remember Russell.
We roomed together in Phu Bia.
We had three more roomies that were stories unto themselves.
We five were not normal but Russ come close to normal.
Please say HI to the Man for me when you next see him.
We were together again at Devens as instructors.
I come in from Korea and he was already at the school house.

We lived in the last trailer in D row. in Phu Bia We had a real good house girl named No Te Cho. The termites had been so bad in the trailer wall that

the wall would not hold the air conditioner up. We had to tear the wall out ourselves and rebuild it to hold the air conditioner. Russ had reenlisted and went home on leave. He carried a new motor back in his luggage to replace the bad fan motor in the air conditioner. Light bulbs in the ceiling had no switches you turned then on and off by unscrewing them. If you used one of the adapters that had a string on the side, the light hung so low guys would smack them with their helmets on. I wired our two lights to switches on the wall using wire for setting off claymore mines. I was told I could not do that. We had the only room in any of the trailers with a light switches on the wall. I used a paper stapler to tack the wire to the wall and ceiling. We could not find any duct tape. Russ was really good with the coke can cannon. He could pop a can out the window and into the trash bin across the street almost every shot.

And buy the way he could fix any R390 or any other thing that come into the shop.

Date: Wed, 3 Jan 2007 11:20:43 EST
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] R390A not working at all

Love your story.
I sure hope you enjoyed Korea as much as I did.
I only saw one MLQ-24 in Korea and I did not get to work on it.
Strange to discover all these relations after all the R390 stuff we have swapped here on the reflector.

Date: Wed, 3 Jan 2007 11:26:51 EST
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] R390A not working at all

We need you to be part of the mail.
Hang with us.
You likely can say much more about your R390 than you can about your Nike.

Date: Wed, 3 Jan 2007 10:28:12 -0600
From: "William J. Neill" <wjneill@consolidated.net>
Subject: [R-390] AN/GLQ-8

Anybody know what the subject countermeasures set is? I have a CV-116 (no B or C) modified for use with the set and cannot find any reference to it.

Date: Wed, 3 Jan 2007 11:44:41 EST
From: Flowertime01@wmconnect.com

Subject: Re: [R-390] AN/GLQ-8

Is your CV116 a plug in module with about a 4 x 5 front panel area? You may have to go off to a large library and look in the Janes Books. There is one on Military radio equipment. Others on ship, planes and other subjects.

Date: Wed, 03 Jan 2007 17:40:27 -0500
From: Mark Huss <mhuss1@bellatlantic.net>
Subject: Re: [R-390] R390A not working at all

Great, I forwarded your last few to Russ tonight. He will be happy to hear from you. And if you think he was good, I was the one who got Mom's new Big Ben back together again before she got home. Russ didn't! :-P

Date: Wed, 03 Jan 2007 18:21:28 -0500
From: Mark Huss <mhuss1@bellatlantic.net>
Subject: Re: [R-390] R390A not working at all

Oh, and be glad you didn't get to work on an MLQ-24. For the uninitiated, an MLQ-24 is a "Mobile Non-Communications Intercept System ". Take three Radar Intercept systems, dating 1944 (Army Air Corp), 1948(U.S.Air Force), and 1956 (U.S. Navy), all designed to be mounted in aircraft. Shove it all into the back of a pickup truck. Figure out how to wire them together so that they at least can live together, if not exactly cooperate.

Take two radomes designed to be blister-mounted to the Fuselage of a B-29, and stick them on top of two crank-up towers bolted to the side of the Pick-up Truck. Add plastic Palm fronds stolen from the lobby of the R&R hotel in Wie-jong-bu to the Radomes for camouflage, since you can't put them under the Camouflage nets, and 2nd Lt. "Crash" "Totaled Three Jeeps Five Times in Six Months" Rothmann insists they be camouflaged.

Then power the whole thing from a motor-Generator off of a WWII SCR Radar, complete with Spark-gap "Bang" Generator, bolted to the Generator Trailer. Finally, park the whole she-bang on top of the tallest treeless mountain you can find with a direct line-of-sight to the Enemy, and hope he doesn't decide to blow away the two Magic Palm Trees that suddenly appeared in 40 below snow where no other palm trees have ever appeared before. By the way, that was one of "Crash's" better ideas. Don't make me tell you about the time we got iced in on top of a mountain on the DMZ. And his idea for clearing the dirt track down was to have us pour every drop of gas and diesel we had on it and setting the mountain on fire.

Date: Wed, 3 Jan 2007 18:30:44 -0500
From: "Jim M." <jmiller1706@cfl.rr.com>

Subject: [R-390] R-390a Part Of First ELINT Satellite Recon System

Interesting bit of history, declassified in 1998 after 40-some years,

http://ncst-www.nrl.navy.mil/HomePage/GRAB/GRAB_Photos.html

Scroll down to "Receiving Hut" photo. Two 390-A's

Date: Wed, 3 Jan 2007 17:50:34 -0600

From: "Cecil Acuff" <chacuff@cableone.net>

Subject: Re: [R-390] R-390a Part Of First ELINT Satellite Recon System

I'd never guess that antenna array to be of any use on HF? What's up with that. Looks like VHF Yagi's.....maybe some frequency downconverting going on in there somewhere.... I don't see anything in the picture that I would expect to be doing that job. One of the R-390A's looks to have a frequency counter mounted above it. Not sure what the other is unless it's a mixer of some sort to put the audio from both radio's on tape.. Not sure what is mounted below desktop...

Interesting stuff...

Date: Wed, 3 Jan 2007 19:38:20 -0500

From: <b_hagen@sbcglobal.net>

Subject: RE: [R-390] R390A not working at all

Sorry to be of no help. All the stuff that was at WSPG while I was there is long gone - the corporal, the Honest John, etc., except the Nike and I have no idea what version finally got deployed as it happened long after I was out. Actually most of my time was in the radar lab being a tech for civilian contractors. Good duty. Bruce

Date: Thu, 04 Jan 2007 08:09:35 -0500

From: "Tim Shoppa" <tshoppa@wmata.com>

Subject: Re: [R-390] R-390a Part Of First ELINT Satellite Recon System

> One of the R-390A's looks to have a frequency counter mounted above it.

Almost certainly not a frequency counter but a "digital clock" (really a timecode generator). It might have synchronized to other base stations via HF radio.

Look at the heights of the neon stacks: Leftmost digit counts to 2, then up to 9, then up to 5, then up to 9, then up to 5 then up to 9. You're right, those sorts of counter modules were also used for frequency counters from the 50's onward.

> Not sure what the other is unless it's a mixer of some sort to put the

> audio from both radio's on tape...

The standard for rocket telemetry puts timecodes into or alongside the analog data stream and then puts it all on tape so a mixer is very plausible.

> http://ncst-www.nrl.navy.mil/HomePage/GRAB/GRAB_Photos.html Tim.

Date: Thu, 4 Jan 2007 10:20:21 -0500
From: "Patrick" <brookbank@triad.rr.com>
Subject: Re: [R-390] R390A not working at all

In SAGE the phone lines were either tactical or operational. While I was at the Topsham AFB, ADC HQ, Maine in SQC, I had to test the firing Mech. of the BOMARC's weekly, before doing so, I had to contact the Bomarc site and ask them to do a series of functions to prevent an actual launching and to send back the data to analyze their status. Also I was trained on the R-390 at

Keesler AFB and then was trained on the FSQ? (I think that was the number) the IBM tube computer that at that time controlled the ADC. in 1964 I remember that we flew a F106 from the east coast to the west coast without pilot intervention, using the GKA5 (??) data link from SAGE site to SAGE site (Semi Automatic Ground Environment) built by RCA. Have many memories of that time mostly good, does anyone remember the PEGE flight (prime evaluation of ground environment)???? and the WAR room on the block house???? with the fastest film developers in the world that displayed the air traffic status to a giant screen???? Those were de days when computer memory consisted of ferrite doughnuts about 2 milimeter in diameter each and required seven of them to form a byte.....well enough of that....after USAF was IBM for me, 30 years of great work.....Happy New year to all.....Pat

Date: Thu, 04 Jan 2007 22:56:01 -0500
From: Glenn Little WB4UIV <glennmaillist@bellsouth.net>
Subject: Re: [R-390] R-390a Part Of First ELINT Satellite Recon System

The satellite that this payload was on was TRANSIT. This was a navigation satellite that transmitted on about 150 MHz and 400 MHz. The frequencies were a few Hz below this. We used the satellite to give us a Doppler curve. We knew where the computer thought we were and we tracked the satellite based on the predicted Doppler curve. When we finished the pass, the computer compared the acquired Doppler curve with the predicted Doppler cure and computed Latitude and Longitude offsets. The reason for the two frequencies was to know if there was anomalous propagation. There was at least one ground station that controlled the satellites. I think that it transmitted to the bird in the 400 MHz range. I

highly suspect that the antenna in the pictures is UHF.

We did have problems at times with the secondary payload interfering with the navigation signals. We would usually get a message advising us of the times that the satellite was unusable. Probably when the secondary payload was active.

Date: Mon, 8 Jan 2007 11:18:52 EST
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] R390A not working at all

I just come back on line after the week end doing Robots. We you at Det L. ? Doing time on the mountain top with only two R390's in a cement block building? Had the milky parked out front on the North side? It is a mountain as it is 2,027 feet high. Yup that last 27 feet up the hill top south of the building is a mountain peak. Beautiful view except for that wire fence across the North Valley floor. I loved it up there even if it was cold as hell but then any place is colder than hell. I was young then and cold was OK. Some days you were standing in the clouds or even above the clouds.

Date: Mon, 08 Jan 2007 23:14:19 -0500
From: Mark Huss <mhuss1@bellatlantic.net>
Subject: Re: [R-390] R390A not working at all

A little off-topic, but everyone likes a war story. ;-) Yes and No. But I grabbed every chance I could to go up. When the MLQ was up on L, I would either drive up in my Duce, or caught the chopper on Phoenix Airlines if it needed fixing NOW. Sometimes I would stay the night, or fix something else while I was up there (to stay a bit longer). My biggest memory of L was being up on the Tower working on the coax feed. I bumped my TK-105 toolkit (middle of winter, and that wind was COLD, even wearing everything I could get my hands on). Watched it sail majestically down until it hit. And exploded. I think a couple of the tools ended up in NK. :-D P.S. Ten minutes after I got back to the Field Station, I mailed a MO to LL Bean for the Biggest, warmest Parka they had in stock. The part about being used for Arctic Expeditions caught my eye! Still got it, too.

A guy named Bednark had the MLQ's before I did. He might have been there when you were. He got banned after his first chopper ride back from L. Didn't like the way the Pilots would just sort of lift off, move a bit over, then scream down the mountain a few feet up. I thought it was a blast! L was also where 'Crash' wrecked one of the Jeeps. Drove it off the edge, and it flattened the Guard Outhouse just as the Korean Guard stepped out. He was not amused.

Also one time, in the Spring, I think, we had a new kid in Maintenance. Henderson, or something. I had to drive the Duce up to L to fix the MLQ, and he wanted to tag along. When we left, I put the brakes on at that first turn by the Helipad. No Brakes. Good air pressure, though. But without brakes, there was no way i could stop before the bottom. So I downshifted and went down the hill using nothing but compression braking. And with a Maintenance hut on the back!. Scott's staring at the scenery, whistling a happy tune, completely clueless. At the bottom, i thought about how long it would take to get a wrecker there from Red Cloud. And said the hell with it. Drove all the way back until just outside Red Cloud. Then pulled over at the monument there. Scott asked way we stopped. I told him the brakes had gone out. He said 'Lucky they did not go out on the hill'. I told him 'Nah, they went out at the Helipad.' Heard a little squeek and looked up. The look on his face was priceless! He spent the next ten minutes puking beside the truck. Very young Kid. I don't think my 'Now why would I want to do something silly like that for!' attitude helped much. God, I Loved that Duce. Heard the Army is thinking about getting rid of them. First the R-390A, then the 45, then the Wart-Hog, now the Duce. They must have a Death Wish!

Do you remember the name of that village at the bottom of L? Had that little tiny restaurant/Soju house. I used to always throw a case of 'C's in the back, because the Lady who ran it liked them. And she would trade a case for anything on the menu.

One thing you missed was the Duck. One day, I hear a Mohawk real loud in the truck, engines surging. I step out, and there is a Mohawk about five hundred feet off the ground over the Antenna Farm doing a beautiful Aerobatics show. When he headed back to the Runway, he passed over a hundred feet up in a turn. There was a Frigging Duck driving! I shared a hootch with a Mohawk Aircraft Electronics Tech, so I asked him about it. Seems a new Pilot got run over the coals that afternoon by the 146th CO for doing Aerobatics. Turns out it was the Original Disco Duck out of Seattle. The one in that stupid song. He came up with the Disco Duck shtick for some radio station there. Didn't get any money, though he sued. When he ran out of money, he went to the Recruiters and rejoined on the condition he was guaranteed Mohawks. Supposedly wore the Duck outfit when he would fly missions along the DMZ. Theory being, or so he said, that if he ended up going down on the wrong side of the DMZ, the NKers would hesitate shooting a six foot Duck.

The Mohawk Pilots had an interesting landing pattern. They would fly the downwind leg almost directly over the Airstrip. At the end of the runway. they would peal over and dive straight down, then pull up just in time for the wheels to hit the numbers. Then they would throw the props in reverse, and stop about even with the Motor Pool where I worked. One day,

I'm laying down in my lawn chair on top of my Duce when here comes a Mohawk. Same routine as always, except he touched down a bit farther down the runway than usual. Engines roar as he puts it in reverse. And in the blink of an eye, the nose of the Mohawk is pointed straight at me! Quite a feat as at that point, I am at right angles to the runway! Before I could blink, the Mohawk is pointed straight again, and lofting off. I look over at Bob sitting next to me, and we both say 'Did you see what I saw?' About ten minutes later, here comes someone else in the pattern. But it is not a Mohawk as it went out about five miles and is slowly coming in. Sure enough, it was that same Mohawk. Never knew they could land long and slow like that. Turns out a U-21 Pilot talked one of the Mohawk Pilots into giving him a check ride. And when he pulled it into reverse, his hand slipped? But only one prop went into reverse. Got it straightened out. but it scared him so bad he did a long, slow approach. For those of you who doubt me, ASA was famed for having some of the weirdest Fliers in the Army. Half of them were Space-Cases, the other half were just crazy. And they were probably the best pilots outside of Air America. I saw a U-21 (a cross between a Beech King Air and Queen Air for you civilians) that had lost half its port wing from a spar failure. The pilot flew it back to xxxx with a load of replacements. I don't think even Beech knew how he did it. At least that was what the Beech Engineers said. Thing was, he always flew with a Teddy Bear as his co-pilot. He would kick the Co-Pilot out of the Cockpit, and strap his Teddy Bear in. He would even eat with it at the Mess Hall, making a tray for it and everything. I suppose the Modern Army wouldn't put up with that. Pity, really.

Date: Thu, 11 Jan 2007 13:01:59 EST
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] R390A not working at all

I am glad the agency was not getting any less crazy while you were in. State side at the school house it was very military. The farm was also a poor place to be. But over seas you could be human and have some fun. You wrote about coming down the hill with no brakes. We will never convey the true nature of that road to any one who has not really been there and seen it.

Out side of the detachment was Tag Wa Nie at the base camp just out side the civilian no go zone. Back at B company was Tong Da Chon. B Company had other detachments on hill tops and a station at Camp Casey. So there were lots of R390 about doing real work every day.

Helo rides to the site, What a concept reserved for inspecting generals in my day. The way those guys flew. I would want to be next to the deck. Less distance to fall when the thing failed to fly. Forward speed, what's height got to do with that? Please take one axis out of the equation. So one

morning at 27 below doing 65 down a gravel road and riding in the open back of a pick up truck, I though I would look to see where we were. There is some space across the civilian no go zone between our entry point and the base of the hill. A mistake. I parted my parka from over one eye and looked forward. Instant frost bite and intense pain in the eye. We never even slowed down or told the driver. I recovered OK.

Date: Thu, 11 Jan 2007 13:18:15 -0500 (EST)
From: "William A Kulze" <wak9@cornell.edu>
Subject: [R-390] Mil experience

I'm finally getting caught up on the postings. I have the week between Christmas and New Years off, and since I have painfully slow dialup at home I do most of my online stuff on lunch break at work. I've enjoyed the stories from Duane and everyone else on their early experience with 390's.

I was schooled as a ground radio tech in the Air Force and the R-390 was used to teach Rx principles. I was wondering if there is anyone out there who was at Keesler AFB in those classes in the spring of 1977?

I remember telling my dad, who was a ham, about the radio and he was familiar with it and seemed a little impressed. My only regret is that I did ok in school and was sent to a shop at Hickam that didn't have a school, so I never saw another until about 1990. SCOPE Control tech? Secure and non-secure voice and data VIP comm. They had two 6ft racks of gear from 1964 that did AD/DA conversion which was then sent through crypto.

I don't know why they bothered with crypto cause you could hardly understand the end result anyway. Sounded like donald duck. To think that today you flip open a little phone and do the same thing, crystal clear! Anyway, wondering if there's anyone who was there while I was. Thanks to all for keeping the knowledge and skill alive.

Date: Thu, 11 Jan 2007 14:46:17 EST
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] Mil experience

Naw, if its encrypted it still sound like Donald. Over the years some of us have operated and maintained some really awesome technology. Today we lead these quiet lives and get no respect for the things we have done in the past. Whenever I meet a Fireman, Police Officer, Health care giver or VET they get my thanks and respect for the job they have done. And that includes all you Fellows here on the reflector as well. I do not presume to know what any one of you may have done on any one day of your life that set that day out from ordinary.

Date: Sun, 14 Jan 2007 21:19:34 +0000
From: odyslim@comcast.net
Subject: Re: [R-390] Wow R-389 sold for \$4K on Ebay

Bill, I am with you. How many could there be left. The seller of the 4k radio said there were only 200 left. Where did he get his numbers? I am sure over half are at the bottom of the sea or buried by one of those huge dozers with those spiked steel wheels they use to crush things with before disposal. Someone should do a 389 and 390 census. Or has one already been done. On the other hand maybe we should skip the census, Uncle Sam might take them back after the big EMP comes.

Date: Sun, 14 Jan 2007 16:41:17 -0600
From: Dan Arney <hankarn@pacbell.net>
Subject: Re: [R-390] Wow R-389 sold for \$4K on Ebay

The S/N of mine is 576.

Date: Sun, 14 Jan 2007 18:16:17 EST
From: ToddRoberts2001@aol.com
Subject: Re: [R-390] Wow R-389 sold for \$4K on Ebay

I was told the gov't contracted for a total number of 2000 R-389s. It might be easier to get a total figure as they were all exclusively made by Collins. I know Fair Radio had a batch of them at one time. I have never seen one at a hamfest but I am sure a few did turn up there also and I am sure a few ended up in Europe.

Date: Sun, 14 Jan 2007 17:16:28 -0600
From: "William J. Neill" <wjneill@consolidated.net>
Subject: [R-390] R-389 stuff, Part I

The observation about EMP brings back an awkward memory. I lived in San Antonio between 1981 and 1989 and was a member of the Assn of Old Crows and a few other spook groups at the time and once a month, AOC and AFCEA would have a luncheon at Kelly AFB officer's club. At one particular luncheon (at which my hero, Bobby Ray Inman was the guest speaker), a USAF COL from ESC was seated diagonally from me and we struck up a conversation about HF comms. He was describing current technologies employed by USAF for HF comms and some of the spiffy solid-state receivers and other odds and ends they were using to keep peace alive in the world.

Upon conclusion of his comments, I described that I was running four R-390()s and a few other vacuum tube receivers at home and being a technological dinosaur, I just didn't understand how beneficial the new

receivers were other than saving lotsa weight and maybe some watts. The nice COL then offered up some truly fond memories of R-390 ()s, R-388s, and SP-600s and concluded his comment with "Well, son, at least you'll still be working after the first EMP". Even today, I think that is a classic, almost legendary observation, coming from a true professional.

Date: Sun, 14 Jan 2007 22:26:38 -0500
From: Mark Huss <mhuss1@bellatlantic.net>
Subject: Re: [R-390] R-389 stuff, Part I

William. Rumor has it (Probably heard it here :-)) that when the Army, etc deployed to Desert Shield in 90, the first things to go were the solid-state Intercept receivers, prompting a mad scramble Stateside to resurrect R-390A's that had been flushed from the system ten years before because, "We Gotta have Solid State, even if it isn't quite as good as the R-390A. It is getting embarrassing to have these old relics laying about :-["Don't get me wrong. Solid-State can do wondrous things, until Thor's Hammer drops.

There was an HF system once that had top of the line Solid-State Receivers in it. Dozens of them. And right above every one in the rack was an R-390A. Cuse as God is my Witness, the Solid-state unit front-ends would pop like popcorn whenever a Lightning Strike got within two miles of the Antenna Farm. Spring was so bad we just unhooked the SS Receivers, and just did everything manually, because every time the SS receiver went, cost three hours of time, and a \$600 module. The R-390() and A are like the DC-3. Lots of Planes can do lots of things a DC-3 can.

And do it a lot better. But nothing yet has come along that can do it all quite so well. And if you don't believe me, DC-3's are Still carrying cargo (and a few passengers), even in the US. Because there just isn't anything flying that can haul 12,000 lbs of cargo taking up 900 cubic feet over a thousand miles, and still make money for its owner sitting on the ground 20 hours a day. Such is progress.

Date: Mon, 15 Jan 2007 22:58:25 -0500
From: "Fred Stillwell" <roswell@apk.net>
Subject: [R-390] R-389 stuff, Part I

After reading your post about the DC-3 being way cool, I just had to write. Way toooo many years ago (1959) when tubes were king I had the great time thanks to the old USAF. We flew from Elmendorf AFB (Alaska) to Nome and then to ST. Lawrence Island in an old Curtiss C-46 (oh yeah) that belonged to Alaska Airlines. In the middle of winter ! Cold and slow and loud...

The only nav aid at Northeast Cape (st. Lawrence) was a LF homing beacon " OHC". Let me tell you, we broke out of the snow storm and did a " go around" the first try but did make it down on the 2nd try.

Eleven months later I made the return flight in a C-123, cold and loud but just a bit faster. Before we left we had to load the cargo bay with all the "Pabst Blue Ribbon Beer" that nobody in the Airman's club wanted to drink. Plenty of R-389's, R-390s, and SP-600s for all. Spent many hours driving a '389.

Date: Fri, 26 Jan 2007 19:41:39 -0500
From: Mark Huss <mhuss1@bellatlantic.net>
Subject: [R-390] HFDF

I checked out the new HFDF Google group that had dropped a message on the SWL Google Group a few days ago. Basic premise is to form a group that combines an HF receiver, a sound card, and a GPS receiver module to provide a time tic accurate to 1µsec. Combine them, with the receiver recording the audio from a signal, the 1PPS from the GPS superimposed over it. By finding simultaneous 'events' from several such recordings taken by receivers in different locations, you can determine the propagation delay to within hundreds of microseconds. This will allow you to draw a equidistant circle, figuring ~930 feet per microsecond. Collecting several of these, subtracting the processing delay of the receiver, you will get a fair idea of where the transmitter is. Sounds workable if you are willing to live with errors of maybe 200 miles or so. I did something similar back in the early eighties using an R-390A, only I did it backwards. The problem I faced was getting a time hack as accurately as possible from HF time stations. VLF would have been best, but we did not have the capability at the time. Using an Oscilloscope triggered from the 1PPS from a Cesium Beam, I monitored several Time Standard Stations while watching the IF Out from the R-390A. From this, I was able to determine delta time between the received ticks and the Standard tick from the Cesium. Subtracting the delay through the receiver, and taking into account possible hops through the F-layer given distance and the height of the ionosphere, I was able to get sufficient accuracy to set the proper delay for the clock I was setting from the Cesium. One thing that aided me tremendously was the ability to monitor the IF out. And the stability of the R-390A. Since most of us have R-390's already, as well as computers with sound cards, one only needs to buy the GPS module, which is running about \$70. Connecting the GPS 1PPS to the sound card is as simple as capacitively coupling it to the audio out of, say the Diode Load. Anyway, thought I would bring it to the attention of the group, since we do own the *Best* radio for the job. And if nothing else, it will while away the long winter months trying to figure out where those pesky Numbers Stations are. Or the 'Chinese' Woodpecker.

Date: Wed, 31 Jan 2007 07:53:20 -0700
From: Transmaster <22hornet@gmail.com>
Subject: [R-390] UR 390

I was looking through a 1970 issue of '73 magazine. In a ad' for an outfit which repaired and calibrated radios, and test equipment. There is a photo which shows a rack mount of gear used to receive WWV as a calibration standard. In the rack is a radio the caption identifies as a UR-390, the front panel on the radio is the same as my R-390A except there is no antenna trimmer and the nomenclature plate is installed where the trimmer would have been. I tried to scan the photo in but it is too blurred to make it worth sending. I have never read of a UR-390 mentioned on this forum. What flavor of 390 is this receiver?

Date: Wed, 31 Jan 2007 09:00:52 -0600
From: mikea <mikea@mikea.ath.cx>
Subject: Re: [R-390] UR 390

Does it look like this: <<http://mikea.ath.cx/R-390/index.html>> ?
Look at an R-390 and an R-390A, side-by-side, at <<http://mikea.ath.cx/>>.

Date: Wed, 31 Jan 2007 10:06:37 -0500
From: "Bob Young" <youngbob53@msn.com>
Subject: RE: [R-390] UR 390

I am no expert, but if you're asking what is a R-390, it was the predecessor to the A and had (I believe someone will correct me and add additional info I'm sure) LC filters instead of mechanical filters, also had more tubes and supposedly was more complex. I think they had 32 tubes, the A was supposed to be a cost reduced version, this topic can get a little controversial around here, haha! You will see them on ebay occasionally. I have a 388 on the way, my radio after that will be a 390. The way you can tell at a glance is that the ant. trimmer is off on the right side I believe and the plate is right where you described.

Date: Wed, 31 Jan 2007 09:05:04 -0700
From: Transmaster <22hornet@gmail.com>
Subject: Re: [R-390] UR 390

Yes that is what it looked like. I am aware of the R390 non A but I have never seen one called a UR-390 I was wondering if this might be yet another type of R390, non A.

Date: Wed, 31 Jan 2007 17:08:56 -0800 (PST)
From: Joe Foley <redmenaced@yahoo.com>

Subject: Re: [R-390] UR 390

The official designation of that radio is the R-390/URR. Maybe someone who made the ad didn't quite understand the nomenclature.

Date: Wed, 31 Jan 2007 19:07:32 -0700
From: Transmaster <22hornet@gmail.com>
Subject: Re: [R-390] UR 390

Here is the text of the caption from the Leger Laboratories ad' from the March 1968 "73" magazine.: "This is the primary frequency standard. It consists of a Collins UR-390 receiver, a Hewlett-Packard counter and an SR-60 VLF phase comparators. this setup is used to monitor WWVB on 60 kHz and gives us a frequency standard traceable to NBS for frequency measurement." If this receiver is working at 60 kHz could this be a VLF version of the R390/URR or is it a mis-identified R-289/URR

Date: Wed, 31 Jan 2007 22:05:31 -0500
From: Mark Huss <mhuss1@bellatlantic.net>
Subject: Re: [R-390] UR 390

SR-60 VLF rings a bell. I think it was a 60 kHz VLF receiver. If it was the one I am thinking about, it had a meter on the left side that would read phase, and a mechanical dial that set delay on microseconds. It had a head that was a shielded loop with a built-in transistor preamp. You remoted it outside someplace. The SR-60 had a phase shifter in it so you could phase-shift the 60 kHz carrier to compensate for prorogation delay, and read off the delay between your standard and the WWVB carrier. The R-390 is used to receive WWV as a Sanity Check and secondary since I remember the SR-60 did not let you decode WWVB.

Date: Sun, 18 Feb 2007 11:16:25 -0600
From: "John Kopke" <jdkopke@cablespeed.com>
Subject: [R-390] Interesting Receiver

Interesting naval receiver on ebay. item# 170081990616

Date: Sun, 18 Feb 2007 11:34:09 -0600
From: "John Kopke" <jdkopke@cablespeed.com>
Subject: [R-390] Interesting Receiver

Sorry I couldn't provide the link as my email is not working properly. But its listed under navy receiver and its a [FRR-59] . Read the description and you decide .

Date: Sun, 18 Feb 2007 09:43:31 -0700

From: Transmaster <22hornet@gmail.com>
Subject: Re: [R-390] Interesting Receiver

Wow this radio tugs at my boatanchor soul, and from National radio no less. This must just about be National's last gasp in the radio world.

Date: Sun, 18 Feb 2007 12:06:00 EST
From: Radiograveyard@aol.com
Subject: [R-390] Intersting receiver

Yes VERY interesting 64 YES 64 tubes 24 semi conductors and a conservative weight of 250 pounds actually I think its more. A Rohde and Schwarz EK-07 by comparison is a mere 146 pounds. A neat radio you need a second mortgage to ship it.

Date: Sun, 18 Feb 2007 13:00:30 -0600
From: "John Kopke" <jdkopke@cablespeed.com>
Subject: [R-390] Interesting Receiver

Yes, It got my attention because it looks very similar to the SRR-19 1f 30-300kc version I acquired from a ship strip.[extensive hammer damage unfortunately]

Date: Sun, 18 Feb 2007 13:19:21 -0500
From: "Bob Young" <youngbob53@msn.com>
Subject: [R-390] interesting receiver

The FRR-59 is in Raymond Moore's Receivers 4th ed. p 113,

Date: Sun, 18 Feb 2007 23:16:28 -0000
From: "Lester Veenstra MOYCM" <mOycm@veenstras.com>
Subject: RE: [R-390] Interesting Receiver

Relative of the R-1230 series

Date: Sun, 18 Feb 2007 15:27:02 -0800
From: "Kenneth G. Gordon" <kgordon2006@verizon.net>
Subject: RE: [R-390] Interesting Receiver - AN/FRR-59

I believe Greg Mengell, who is a member of this list, has several of those for sale. I know he made an offer to that effect to the list a while back. I have always had a soft spot in my heart (my Wife would say "head") for receivers in general and for National's in particular. BTW, I owe Greg big-time for his kindness to me and hope this would pay off a very small part of that debt I still owe to him. He is one very fine fellow.

Date: Tue, 2 Jul 2002 18:47:51 -0700 (PDT)
From: John Kolb <jlkolb@cts.com>
Subject: Re: [R-390] FRR-59/WRR-2

Around 300 lbs, as I recall. I once had a pair of them, which I could move around by myself by splitting it into 3 pieces, case, RF section and IF/audio section. My XYL was sure glad when I got rid of them :(

> - has one bazillion tubes, with at least one fan to keep them all cool
> - very noisy to be near (see above)

I sat in front of one 42 hours a week for a year while in the Navy - it does have a fan, but I don't remember it as being particularly noisy.

> - NOT for band cruising

Not bad -tunes in 100 kHz wide bands, only ten times worse than the 1 MHz bands of the R-390. Now the R-1051 is a radio NOT for band cruising.

From: "Derek Cohn/WBOTUA" <vibroplex@mindspring.com>
Date: Thu, 18 Jul 2002 07:34:07 -0500
Subject: [R-390] FRR-59A is on the air!

Thanks so much to everyone who gave me advice about the FRR-59A. I finally got it home and hooked it up this week. After replacing a bad 5751, the unit fired right up. I have some dirty switch contacts to contend with but, other than that, it seems to work! Here are some photos in my garage:

<http://www.mindspring.com/~vibroplex/FRR-59A.JPG>
<http://www.mindspring.com/~vibroplex/FRR-59A1.JPG>

I'll keep you all posted on my progress with this and thanks again for all the kind words and thoughts.

Date: Mon, 09 Aug 2004 08:30:14 -0400
From: "Veenstra, Lester" <lester.veenstra@lmco.com>
Subject: RE: [R-390] Re: FRR-59

Now that is a real receiver; Have one also, the FRR-59. Same "synthesis" as the R-1230 as both are one of the last gasps of National Radio.

Date: Thu, 14 Oct 2004 15:50:10 -0500
From: "John Multer" <multerj@bytehead.com>
Subject: [R-390] Receiver Comparison

I have seen comparisons on the list of the R-390 with R-1051 and Sp-600

and some others. I have never seen mention of the AN/WRR-2A or AN/FRR-59A. Has anyone had any experience with these and how they might compare with an R-390? For those who may be unfamiliar with these receivers, they are large two deck vacuum tube sets that were used by the Navy. They are synthesized and use different IF strips for AM, USB, and LSB.

Date: Sun, 01 Jan 2006 10:27:14 -0600
From: "Francesco Ledda" <frledda@verizon.net>
Subject: RE: [R-390] What are the odds?

I had a working FRR-59B stored in my garage for about 15 years. When powered again, it worked like a champ!

Date: Mon, 23 Oct 2006 22:59:08 -0700
From: John Kolb <jlkolb@jlkolb.cts.com>
Subject: Re: [R-390] Interesting receiver

The main driving force behind the R-1051 was the Navy's shift in the mid 60's to multiplexed RTTY transmissions for most ships. These had from 4 to 16 as I recall separate RTTY data channels within one signal, with 85 Hz shift. Thus they had to be tuned within a couple of Hz accuracy. The alternatives to the 1051 were the WRR-2 aka FRR-59, or R-390's with CV-157 converters, either of which would have been a real nightmare to maintain. One of my fondest memories as a Navy radioman was calling an ET up to fix one of our 1051's, watching him replace each of the modules from the spares kit, one at a time - radio still bad - putting all the pulled modules into a working 1051 - still working. While he was scratching his head, I tilted up the 1051, looked at the chassis underside, and spotted where one of the wires/connector pins had popped out of the connector backshell. But most problems could be fixed by a relatively untrained ET with a set of good modules. We received a pair of 1051's during our 1965 rebuild for use with the forthcoming mux transmissions, but received R-390A's with CV-591's for use with SSB. Before the introduction of the 1051, only a few ships were equipped for mux transmissions. My prior ship, the Commander 7th Fleet flagship was, with direct mux transmissions to and from whichever shore station was closest as we moved around. Had a pair of FRR-39's??? 41's??? which was a relay rack with 2 R-390's and 2 CV-157's.

Date: Tue, 20 Feb 2007 07:54:00 -0600
From: "Craig Anderson Ext 1365" <Craig.Anderson@saintpaul.edu>
Subject: [R-390] FRR-59/URR

I actually owned two of these behemoths back in the late 80's. One of which I purchased from Rick Mish at Miltronix. The FRR-59 makes the R-

390A look like a crystal radio in its complexity since it uses 64 tubes and uses a tube based frequency synthesizer. Trying to get the thing to work was a nightmare. The documentation is hard to get and the thing is so big that it is difficult to work on. It is not a particularly good radio anyway. I think this was the contract that finally killed National. I talked to an ex-Navy technician who had worked on these and he was not impressed. Their reliability was less than stellar. No comparison to the R-390A or R-1051. The two best days of my life...the day I acquired and FRR-59 and the day I finally sold them both!

Date: Tue, 20 Feb 2007 09:49:41 -0500
From: "Keith Densmore" <densmore@idirect.com>
Subject: Re: [R-390] FRR-59/URR

Having owned and refurbished 4 of these critters over the last 30 years, I partly agree with Craig, and partly disagree. They are definitely not for the faint of heart, to service properly they must be bolted down. Once that is done however, the drawers swing out, separately, and tilt for easy servicing. The trick with doing a repair on a radio of this nature is isolating the faulty section. Same applies to any complex radio, R-390's included. Once the section is isolated repair is straightforward. Front end alignment is easy to do on these sets. Once repaired and aligned, I have never heard a better sounding SSB radio. Like all sets, they do have some weaknesses too but when you weigh in the quality of construction, these are beautiful sets, if you have the room for them. IMHO. BTW, the set on ebay that sparked this discussion is mine. I did the original repair and alignment about 20 years ago and it has not failed once in that time.

Date: Tue, 20 Feb 2007 09:09:05 -0600
From: "Francesco Ledda" <frledda@verizon.net>
Subject: RE: [R-390] FRR-59/URR

I agree. I never heard a better sounding SSB receivers. As far as reliability, they are very good. I do agree that they require some thinking to understand the frequency drift cancellation loops. Repairs are easier, if you have a good lab with the appropriate test equipment.

Date: Tue, 20 Feb 2007 07:16:41 -0800
From: gregory mengell <gregorymengell@comcast.net>
Subject: Re: [R-390] FRR-59/URR

I would agree with Kieth. Once properly maintained they are an excellent receiver. Manuals can be obtained and repairs though at times difficult are not impossible. I have nothing but good things to say about them. I own 2 at present and have another 2 across town that I will be attempting to rework with aid of a friend. This in no way detracts from my overall

respect that I have for the R390A which is a superb design.

Date: Tue, 20 Feb 2007 10:17:06 -0600
From: "Francesco Ledda" <frledda@verizon.net>
Subject: RE: [R-390] FRR-59/URR

Ditto. My WRR2 has not failed since 1986! My FRR59 has not failed since 1992. Not bad!

Date: Wed, 21 Feb 2007 05:39:14 -0600
From: "Thomas Frobase" <tfrobase@kitparts.com>
Subject: [R-390] FRR-59/URR

I purchased my first FRR-59 in 1975, I lugged it one piece at a time, top chassis, bottom chassis and case, down a narrow basement stairway in Lima, Ohio. If the case was not bolted down it will tip forward, scary! It took forever to get it fixed, at that early stage it was hard to find debug cables so I would solder wires to probe points and extend them through the case and then plug the radio back together to test. Once I finally got it running, I believe it was the best tube radio ever built. The frequency was rock solid, 100 KHz / band. I ran it into a TTY converter that received on a commercial commodities channel. It ran for months without tweaking the frequency. The radio was ahead of its time! I ended up moving to Cleveland in 1978 and took it back to Fair Radio where it came from, it is still my favorite!

Date: Mon, 12 Mar 2007 22:52:28 -0700 (PDT)
From: Perry Sandeen <sandeenpa@yahoo.com>
Subject: [R-390] Active radio intercept base

When I left Karmursel AS in Turkey in 1966 they had just had the FLR-9(?) operational for about 9 months or so. It was a huge hummer nicknamed the "elephant gage". At that time Karmusel was called a "radio intercept" base.

Now I guess the proper acronym is "signet" for signals intelligence. If you want to see a current "site" that has been active for over 20 years go to google earth and find the following coordinates: 26 Deg. 21 Min 16.49 Sec N. and 50 Deg. 06 Min 21 21.71 Sec E. It is in the eastern province of Saudi Arabia, about five miles north of the Saudi Aramco town of Dhahran. There is a five mast HF system and a Radome. As it is only about 2,500 ft wide and 1,500 ft long it is hard to spot.

The easiest way to find it is to go to a large view of SA. Find the northern tip of Bahrain and go due west about 10 miles. You will see a round very green circle that looks like it has cross-hairs. This is one of the kings

palaces. Go southwest of it near the seven o'clock position looking for a bleak sandy area. This will put you very close to the site. On maximum magnification notice that behind every bush there is a beautiful women.

When in another foreign country during the first Gulf war I coincidentally met some of the people stationed there and they told me that they spoke Farsi, the national language of Iran. Nothing more. To assuage the fears of the paranoid, the site is two miles off of a public road traveled by thousands daily and there is a turn off sign stating that it is a USAF facility.

Date: Mon, 18 Jun 2007 14:41:04 +0000
From: Sheldon Daitch <sdaitch@mor.ibb.gov>
Subject: [R-390] R-390 Photos in USS Liberty

See: http://www.nsa.gov/liberty/images/Portside_Shock_%20and_Water_Damage.jpg

http://www.nsa.gov/liberty/images/Shock_Damage_Above_Torpedo_Hit.jpg

the main page is: <http://www.nsa.gov/liberty/>

Date: Wed, 18 Jul 2007 21:18:06 -0500
From: Dan Arney <hankarn@pacbell.net>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

So if you have number 2 who has number 1? I know and have seen it with my own eyes. I made up a new tag for it due to it having a scratch across the front of it. I have made tags for all of the R39XX contracts for years and the tag you show does not follow that format in any way shape or form, that I am aware of.

HOW ABOUT PICTURES OF THE BOTTOM OF THE IF DECK TO SEE THE CONSTRUCTION AND COMPONENTS TO SHOW UP TO DATE PARTS INSTEAD OF BBODS. WHAT KIND OF FILTERS RE INSTALLED AND WHERE ARE THE TRIMMERS LOCATED. I WILL BET THIS WILL NOT SHOW ON YOUR LISTING AS I THINK IT IS A "SCAM"

Date: Wed, 18 Jul 2007 21:23:16 -0500
From: "Mac McCullough" <w5mc@austin.rr.com>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

I had FOWLER s/n. 1 I know exactly what is and is not genuine.. several others here do as well ... BTW FOWLER s/n 1 did come out of the St. Julian's Creek STASH as did several other fowlers ... but they are very

identifiable.

Date: Wed, 18 Jul 2007 22:27:55 -0400
From: Bob Camp <ham@cq.nu>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

Not that many years ago there was a guy who showed up at every Hostraders hamfest. His deal was that he would make you up a replacement serial number plate for any radio you happened to have. His stated opinion was that the serial numbers were "not his problem" he just made the plate up to match what ever serial number the people gave him. The product the guy made was very good. The plates were accurate and well made. I could not distinguish them from the originals. He was at every hamfest for at least a ten year period. Ever since I ran into him I have been *very* careful about low serial number radios ... That's not to say that what he was doing was wrong. People do need replacement plates. It's a legitimate business. It is open to a few problems though ...

Date: Wed, 18 Jul 2007 22:35:54 EDT
From: ToddRoberts2001@aol.com
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

Could you tell us exactly what are the distinguishing characteristics of a genuine Fowler Industries R-390A? I always wondered if those radios were completely built from scratch or they must have used some available NOS parts perhaps gathered from government depots? I don't think they would have built the PTOs from scratch? Or some of the metalwork? I would think the RF gearbox alone would be beyond the ability of a company like Fowler Industries to make from scratch or at least not cost effective?

Date: Wed, 18 Jul 2007 22:09:17 -0500
From: Barry Williams <ba.williams@charter.net>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

Good job, Dan!

Date: Wed, 18 Jul 2007 23:58:07 -0400
From: Scott Bauer <odyslim@comcast.net>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

I never go by the front plate for any identification. If the radio has ever been in any repair depot, it has probably been changed for one reason or another. As far as I am concerned the only thing a front plate does is fill in the 4 holes drilled in the panel. When I buy, I look at the back panel. That is the number given by the original manufacturer. If I am able, I look

at the modules for their ID. I have several radios that do have matching modules, rear panel and ID tag. That is when a tag has any use to me. The tag is totally useless if none of the modules or rear panel match it. Hank, can you make up tags that say Depot Dawg, St Julians Creek Massacre or Yellow Striper? If so, I want some. :-)

Date: Wed, 18 Jul 2007 23:47:47 -0500
From: "Mac McCullough" <w5mc@austin.rr.com>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

As I previously stated I did buy Fowler sn. 1 there was no, absolutely no doubt, it was genuine, as well all of its modules, when you see a Fowler and an opportunity to perform a cursory look, you will or will not have a sense if it is genuine, as for the specific nuances of them, I have been asked to write a feature article about this subject for the upcoming CCA SIGNAL news letter, in that I will identify the numerous points or ways it can be identified..

Additionally from the St Julian's haul, I think there were 2 additional Fowlers found, George Rancourt will know for sure, as well the sn.'s and as I recall from the 98-99' era #5 had already been found and was offered for sale, look thru ER in that era, and I think it will appear listed in the classifieds, that was VERY early Ebay times and ER was the predominate medium for selling and buying of equipment like this, the HTYS was waning, if not passé by that time .. and at the time the #5 was listed, none of the others had been identified, at least publicly, and I suspect in actuality 'found' there were a lot of radios to go thru from St Julian's, many more, if you were expressly looking for a Fowler..

As I mentioned last week when I asked about the current trend in better shipping methods for 390's, I have been away from the 390 subject for 4-5 years ... but at last count 4 of the 5 had been found or identified, I will add, on sn. 1 it is original in every module, none were exchanged or mixed as was so often the case once the receivers were in the field for a long enough period .. In no. 1's case all were specific Fowler identified..

I had 465 of the St Julian sets, and I checked each one before sending them in batch's of 100 to Phil at Fair Radio, Phil bought these in lots of 100 as his sales dictated, it was my original goal to restore these individually, that was about the second biggest pipe dream I had in my life

As an index point, I paid 37.50 for a few, 65.00 for most, and in a few instances 100.00 for a few, so averaged in I was at about 60.00 ea. Now that was not the case for ole # 1 believe me.. I paid dear for that one ..but it was 1998-99 and we were entering the "false sense of economic euphoria" era... so money was little obstacle... not like now ...

One question I will leave the reader to ponder, why were 5 built and ordered, when only 4 were required, only 2 ships were being constructed... Tom M, has pretty well determined why .. but it is an interesting question or plausible answer. thanks for the read .. mac/mc w5mc

Date: Thu, 19 Jul 2007 00:01:23 -0500
From: "Mac McCullough" <w5mc@austin.rr.com>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

One more "small point" as being the first long term owner of Fowler # 1 I did receive a very formal letter from Fowler Industries of the time, as I recall Mr. Charles Hungadunga was the acting President... the letter was quite stern, and directed me to do several things with reference to owning # 1 ...

I later had a long talk with Mr. Hungadunga and it was all cleaned up ..

Date: Thu, 19 Jul 2007 00:51:15 -0500
From: "Mac McCullough" <w5mc@austin.rr.com>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

If any of you are seriously bidding on this, I offer several comments, although the seller has a few points incorrect, they are very small to the extent of his overall effort and research he did in preparation for this listing, he has done a good job.. And I clearly believe this set is indeed a GENUINE Fowler R-390A, as I made mention, if you get really serious and near the auction end, 1 day or so, and your bid is listed, I can quickly give you many points to look for to discern that this is a genuine Fowler.. As a information tidbit, I have no knowledge of this seller, dont know him, and would only presume him if he were in a room with one other person that I do know .. mac/mc w5mc

Date: Thu, 19 Jul 2007 03:15:01 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] How to Tell Fowler Frame

When Fowler made the back panels they misspelled SYNC OSC as SYWN OSC I believe. The W was "repaired" to make a N. The one on ebay has this flaw. I do seem to recall Mac being contacted by Charles H. Hungadunga of Hungadunga,Hungadunga,Hungadunga,Hungadunga and McCormick (I think it was the most important Hungadunga of the bunch, too) as to the need to return his Fowler radio to the factory to remove radioactive materials. I thought that was pretty funny (from a distance, of course).

Date: Thu, 19 Jul 2007 06:47:23 -0500

From: Dan Arney <hankarn@pacbell.net>
Subject: Re: [R-390] How to Tell Fowler Frame

Sorry guys I misread the date as 41 not 1994! as Phil M pointed out.

Date: Thu, 19 Jul 2007 08:01:41 -0500
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

Good stuff Mac...only problem is I don't do CCA so I won't see your write up.

Date: Thu, 19 Jul 2007 09:08:26 -0400
From: "Tim Shoppa" <tshoppa@wmata.com>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

> Might be watching the first \$5000.00 R-390A.....unless I missed another
one
> that has already won that honor.

I think the government price for the Fowlers new must have been in the \$10K+ range. I have no proof of my conclusion, just my eyeballing the complexity of the instrument (having rebuilt a couple and seen a couple NIB subassemblies over the past couple decades) + cost of what tooling couldn't be recovered from past runs + some very very minimal overhead. Lose some tooling and the gov't price could have easily shot up to \$20K, \$30K, even more.

Date: Thu, 19 Jul 2007 08:13:16 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: [R-390] Fowler S/N 2

I've been reading the archives with interest concerning the Fowler R-390A s/n 2. I no longer subscribe to the list, but several friends told me of the activity about this particular R-390A and I wanted to clear up a few things, so I subscribed this morning to attempt to do that. The story about this particular receiver was originally published in Electric Radio Magazine issue 71 in March, 1995. A close-up photo of the nomenclature tag was in issue 72 in April, 1995. That is the "Real McCoy Tag" Speculate about made up tags etc. One wasn't made for this receiver except when it was built for the U.S. Navy by Fowler Industries. I know the owner, Victor Hatharasinghe who was mentioned in the original article and it is indeed a "genuine" Fowler and is s/n 2. Tom Marcotte reviewed the pictures of this receiver back in 1995 and knows of the validity of this particular receiver, as do several other people. Tom Marcotte did quite a bit of research with personnel from Fowler Industries and Avondale Shipyards regarding the five R-390A's built. That information was published in subsequent issues

of Electric Radio Magazine.

Date: Thu, 19 Jul 2007 08:15:51 -0500
From: "Mac McCullough" <w5mc@austin.rr.com>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

FACT : fowler's price was in excess of mid 30k ea. as I recall and tom didn't they [fowler] have issues making them meet spec on sensitivity or such, whatever it was no home run for them, with such limited qty.

Date: Thu, 19 Jul 2007 08:19:17 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

\$35K according to the purchasding records from Avondale Shipyards.

Date: Thu, 19 Jul 2007 09:54:18 -0400
From: "Tim Shoppa" <tshoppa@wmata.com>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

Good to see my guess wasn't too far off the mark! What was EAC/Hammarlund charging in the late 60's for the rocket logo ones? I remember an ad in QST of that era with a price in the \$2K- \$2.5K ballpark, not chump change! And throughout the 60's there were always surplus dealers who advertised in the back specifically wanting to buy 390A's. I think I remember one in NY and another in Fla. Until the EAC/Hammarlund ad I don't remember seeing any offered for sale (new or surplus) in QST.

Date: Thu, 19 Jul 2007 09:02:04 -0500
From: "Mac McCullough" <w5mc@austin.rr.com>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

EAC did one PUBLIC offer one time I think, late 68 or very close 1.6 -1.8k I forget, that is the only Manufacture offer I know of, then you had Columbia Electronics Paul Kees who was always a leader in that era .. Columbia was the good stuff surplus dealer in the day mac/mc

Date: Thu, 19 Jul 2007 09:06:24 -0500
From: Dan Arney <hankarn@pacbell.net>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now

Cecil, I was not referring to Rick Mish that RM was in ref. to Radio Mart!!!

Date: Thu, 19 Jul 2007 12:35:12 EDT
From: Flowertime01@wmconnect.com

Subject: Re: [R-390] St Julian's Creek Receivers.

I have some questions about the St Julian's Creek Receivers. About how many total receivers were their that passed through the sales yard? Does any one know where these receivers come from?

Date: Thu, 19 Jul 2007 14:20:38 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] Fowler Industries R-390A on eBay Now - Contract dates

I purchased a St. J's "survivor about 6 or 7 years ago for \$300. It is DEFINITELY a Collins mfg unit. The IF reads: FINAL IF UNIT 540 7577 006COL. SER. NO. <BIG NUMBERS> 35

The data plate, corroded on the edges and back, to some degree, says:
SIGNAL CORPS U.S. ARMY
First line: RECEIVER, RADIO R-390A/URR.
2nd line: SERIAL NO. 232 ORDER NO. 14214-PH-51
3rd line: COLLINS RADIO COMPANY 115/230 V.A.C. 48-62~
220W

I originally *had* all the modules by Collins. I swapped the Audio Module with as '67 EAC when I swapped the '67 EAC for a Northern Radio Variant SP-600. The reason being that the EAC Audio module had a transformer mod on it so that it's output was 8 ohms. The person I was trading with was rather picky. He got the Collins Audio Module. Knowing how these radios get twiddled around, I was more inclined to keep "him" happy. There were/are blue paint sprays on the front panel. I also have the "half moon" arcs of bare aluminum adjacent the Mc and Kc knobs. The data plate/tag is raised 'clear' aluminum with the black area of paint *below* the clear portions of the tag. *IF* this tag is a phony, then someone went through some *REAL* effort to make it. This would indicate a contract date of 1951. < It only has *one* fuse on the back panel>

Date: Thu, 19 Jul 2007 16:56:22 -0500
From: Dan Arney <hankarn@pacbell.net>
Subject: Re: [R-390] Fowler S/N 2

Bob and Les, This gives more credibility to the story and makes it a lot more up to speed. It will probably go for mucho bux.

Date: Thu, 19 Jul 2007 19:43:06 -0400
From: "Bob Young" <youngbob53@msn.com>
Subject: Re: [R-390] Fowler S/N 2

Yeah I'm interested to see what it will go for, I bet for more than 5 grand, it's over 2000.00 now after only one day,

Date: Thu, 19 Jul 2007 23:00:56 -0500
From: "Mac McCullough" <w5mc@austin.rr.com>
Subject: Re: [R-390] "Fowler S/N Tewfer"

As a general answer with a question, just how many pieces of Govt surplus can you support with provenance, none I think, esp. equipment this vintage... mac/mc w5mc

Date: Fri, 20 Jul 2007 00:12:59 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] "Fowler S/N Tewfer"

I've read ALL the ER articles regarding the Fowler R-390As. As Mac has already pointed out: The rear panel has the VERY distinct error in the word spelling of "SYNC". Click on the picture of the rear. The click where it indicates for a larger view. Lo and Behold! "SYWC", as noted in the ER articles. Gentlemen, I may NOT be the *most* brilliant one on the list, NOR am I the dumbest or most dense. But from everything that I've read and now seen of the item of discussion, IT is the *real* deal!

Date: Fri, 20 Jul 2007 09:30:47 -0400 (EDT)
From: "Paul H. Anderson" <paul@pdq.com>
Subject: [R-390] Rare R-390 radios

Here's the radios that I've heard of that are rare (and exist): Fowler radios (all five); prototype radios (they have X or PP in the tag ID #? and sometimes other indications of handwork - I think there have been at least a few sold on ebay); the two R-391A's (one apparently complete, one missing some of the autotune mechanism - this one sold on eBay awhile ago); If there were documented #1 radios, I suppose they'd be rare. What else out there is truly rare (and exist)?

Date: Fri, 20 Jul 2007 06:40:25 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] Fowler Parts

I want to give you all a couple of example of unusual parts on the Fowler. >From the photos the seller sent me, I noted two CAGE codes on the audio transformers.

97102 is for Sterling Transformer of Brooklyn
72149 is for Electronic Transformer of Patterson, NJ

I've never seen transformers from these companies before on 390As. I've

seen lots of Amercian Trans Coil, etc. These two are new to me. The radio is legit and so far the only Folwer to not come from SJC (i.e. the best one).

Date: Fri, 20 Jul 2007 10:51:43 -0400
From: Barry Hauser <barry@hausernet.com>
Subject: Re: [R-390] Rare R-390 radios

Has it been determined that the Helena Rubenstein contract was an urban legend? (suburban, rural ?) I don't want to cast any aspersions on that Fowler #2, but that late in the game, it's doubtful that anyone could tool up to make everything from scratch. I rather doubt that they hand-carved and wound five PTO's. More than likely, when Fowler got the contract for the five destroyers, they went shopping, and late-contract, "NOS" and possibly still-crated R-390A's were around. There may still be some crated ones, but that's also the subject of urban legend.

Again, it looks like the real deal, but I suspect what they consisted of were some late contract (EAC '67 or '68) units, which were re-badged in the time honored tradition of re-branding tubes -- (the tube number is etched in with acid, the brand names were painted on.) They may have also tested everything and provided for backup modules and parts.

It's not a big project with R-390A's. There's the front tag and all the other ID is rubber stamped or silk-screened on the back panel and the modules. In all probability, the original manufacturers worked between one another rather than build all the modules themselves -- which I would suspect particularly in the late 50's to '61, when the highest number of contractors were producing them concurrently, or nearly so. Also noticeable that the modules in the Fowler have labels rather than imprint ID's.

At the time, PC's, ink jet and the first laser printers were available, as well as computerized typesetting and printer make-ready equipment, so that it would be actually easier to make up adhesive labels, than rubber stamps or stencils. There are some companies that specialize in making paper, plastic and metal labels such as Seton. Maybe the minimum order is 100, but for \$30K, you can toss 95 away.

This is not to detract from its perceived value, it's still a rare bird. But, I doubt if they could be sold to the Navy at \$30K each if they had to cover the tooling and setup costs spread over only five units. The manual shown looks like the '85 Navelex manual I OCR'ed as a starting point for the Y2K edition, which by itself doesn't mean anything. How else would they whip up a batch of 5 -- at all? Any thoughts.

Date: Fri, 20 Jul 2007 10:55:58 -0400

From: flood@Krohne.com
Subject: [R-390] Re: R-390 Digest, Vol 39, Issue 25

I have only come across one. Mike C. beat me to a R390A at a NE Flea a while ago and it was later offered here. It had manuals with notes from the service tech and notes referring to the ship it was used on as well as some other stuff that I forget. It was ready for the "Antiques Roadshow"

Date: Fri, 20 Jul 2007 11:24:47 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] Rare R-390 radios

I don't have the time right now to answer in detail, maybe tomorrow. Tom Marcotte knows much more detail than I do as he spoke with the former General Manager at Fowler Industries and purchasing people at Avondale (now Northrup Grumman) Shipyards. They built them using components, but had some difficulty obtaining certain components.

Date: Fri, 20 Jul 2007 09:33:56 -0700
From: "Dennis A. Deaton" <d.a.deaton@roadrunner.com>
Subject: [R-390] R-390A Census

I've been reading, with subdued interest in all the postings on the Fowler-built R-390As. My question is this: Is someone putting together a database of R-390A serial numbers? If so, I would like to enter my R-390A from the first Collins contract into it.

My receiver has an interesting story. Unlike all the published ideas being thrown around, the R-390A receiver itself was never a CLASSIFIED piece of hardware. It was - and still is - a general purpose HF receiver. Only its application could have been classified. If it was used as a piece of communication equipment on board a ship or in an Army communication van, its application was UNCLASSIFIED. If it was used at a three-letter-agency listening post, its application was CLASSIFIED at the level of classification of the listening post. The equipment remained UNCLASSIFIED. To support this, let me tell you how I first met my own receiver back in 1962. My father was taking an electronics course at night at our local high school. I was 15 at the time and accompanied him to the class. I sat in the back of the classroom. The teacher asked me if I was a ham and I replied "Yes" (WV6TQG at the time). He sent me into a separate room off to the side to operate the novice station while the class was in session. Some novice station! It was a DX-40 transmitter and an R-390A receiver! Many years later, I was working as an Electrical Engineer for the Naval Air Warfare Center at Point Mugu. One of my old high school buddies was the head of the Industrial Arts department at our old high school. He said that he had orders to clean out all the equipment from that

same school lab and asked if I wanted that R-390A. After a short pause, I said "YES!". Well, its in my garage in the early stages of clean-up and restoration. I did some checking on how the school got the receiver. All they did was requisition it through some Defense Department program to provide equipment for technical education back in the late 50's. DoD would never give away CLASSIFIED equipment. Besides, all CLASSIFIED equipment I've ever seen (and I've seen a lot of it) has classification stickers and placards all over the cases. There are none of these markings on the R-390A's. Hopefully, I'll soon have the unit up and running. I don't have a DX-40 to go along with it, though. But I do have a Johnson Adventurer. Talk about an odd couple! It should work quite well as a CW station.

Date: Fri, 20 Jul 2007 11:49:08 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] R-390A Census
reply-type=original

Look here: <http://www.hausernet.com/r390faq/CONTRACTSL.htm>
That should be what you are looking for.

Date: Fri, 20 Jul 2007 12:15:46 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] Fowler S/N 2

The reason for not being on the list was quite simple, I no longer own a R-390 or R-390A and have been devoting my time to the and updating of various articles and information on the Hammarlund Historical list and tending to my John R. Leary re-engineered SP-600.

Date: Fri, 20 Jul 2007 17:22:39 +0000
From: ml.denison@comcast.net
Subject: [R-390] Fowler IF

Does anybody know who made the mechanical filters for the Fowler IF deck? NOS Collins? I'm wondering if they are now candidates for failing due to the foam degradation. Mostly lurking, Mort (still with my R-725)

Date: Fri, 20 Jul 2007 13:31:53 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] Fowler IF

The Fowler's were just another production run of a "stock item". So they had to use the stock parts as listed in the parts manuals. Everything was the same part and interchangeable down to the lowest part. Problem is that all parts are not in the parts manual as I learned about R390 antenna

relay frames. Not all parts were available. There is a history that Fowler had some problems obtaining parts. So the mechanical filters are stock Collins. Most likely NOS from existing inventory.

Date: Fri, 20 Jul 2007 12:36:10 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] Fowler IF

Dittmore-Freimuth.

Date: Fri, 20 Jul 2007 10:36:13 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] Fowler IF Filters

It was Dittmore Freimuth of Milwaukee.

Date: Fri, 20 Jul 2007 10:41:46 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] Fowler IF

Where do I start? The R-390As were made from US Army Signal Corps drawings. The parts had to comply with the specific drawings and specifications, not a certain supplier. The filters are Dittmore Friemtuh. He says that in the ebay listing.

Date: Fri, 20 Jul 2007 12:54:49 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] Rare R-390 radios

Helena Rubenstein: The gentleman that originally posted that information is very credible. They were built by Collins, shipped the naval Security Group in Bremerhaven Germany. If (they probably were) surplused out overseas, the nomenclature tags were usually removed. The modules would have Collins on them. They are probably out there, but nobody would know about it.

Fowler: When Tom Marcotte spoke with the Plant Manager he commented that they had particular problems obtaining JAN tubes, in particular 26Z5W's and 3TF7's. Remember, that they were considered "unobtainium" in the late 80's early 90's. Then the government released surplus tubes and Fair Radio was selling them at reasonable prices (they went quickly). The potentiometers were made in Mexico, the meters were A & M Instruments, the quality of the wafer switches were not as robust as the runs during the 50's and 60's, Dittmore-Freimuth made the mechanical filters (as they did on many later versions), as well as the ones the built themselves, which were 67 EAC receivers with Dittmore's filters. I can't say if what they

obtained, but can assure you they didn't purchase any in the crate R-390A's. Even though they were available at various locations throughout the country. When you bid on a contract the Government lets, you fill the requirements, and they inadvertently left the R-390A spec in the bid offering. Avondale Shipyards probably didn't think to do a search for "in the crate" R-390A's and put out a request for bids to build five R-390A's. Fowler Industries was Clavier and prior to that Capehart, so they had experience building R-390A's and suppling R-390A spare modules (Clavier). Tom Marcotte can pick it up from here, as that is about I can remember or verify from back when we did the ER articles.

Date: Fri, 20 Jul 2007 11:16:41 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] More Fowler Fodder, Letterhead, Map

Les is correct. They made the whole radio. I spoke with the plant manager many years ago. He told me they used the Thomas Register to find parts. One of the Fowler guys I spoke with was Pete Kozak. I have his phone number but will resist posting it here lest he get bombarded with ebay type questions. I remember one of his quotes, "look, this operation was no Collins Radio." He said the building barely had a sign. It was called Fowler Industries because it was on Fowler Street (corner of Front and Fowler). Sounds like I'm making this stuff up but I'm not. I got a copy of a letter from them which is posted here: <http://www.r-390a.net/fowler-ltr.pdf>

This is the google map link
<http://www.google.com/maps?q=78+Front+St,+Port+Jervis,+NY+12771,+USA&sa=X&oi=map&ct=title>

Date: Fri, 20 Jul 2007 16:07:14 -0400
From: rbethman <rbethman@comcast.net>
Subject: [R-390] Took a Fowler to do it

Welcome back Les! I may need you and some of the *other* antiques very soon. That '51 Collins R-390A has been apart for about 4 years. I just relocated the center of the Oldham coupler! Silly me - I taped it *inside* one of the modules so *I* wouldn't lose it.

Date: Fri, 20 Jul 2007 17:32:10 -0400
From: Barry Hauser <barry@hausernet.com>
Subject: Re: [R-390] More Fowler Fodder, Letterhead, Map

Fowler sold out to Cardwell Condenser according to that letter. Cardwell is still in business in Lindenhurst, about 15 mins. from me. I found their website and emailed them. I thought maybe I could get an invite to look in their back room or something. Emailed me back already saying the Fowler

inventory was disposed of many years ago. Thought maybe there were some spares, like S/N #6, #7, etc. (as in "I'll give ya' fifty bucks for those crates back there... <coff, coff>). No dice. <snip>

From: "Les Locklear" <leslocklear@cableone.net>
To: "wli" <wli98122@yahoo.com>
Subject: Re: [R-390] Fowler discussion on usenet.
Date: Sun, 22 Jul 2007 11:58:34 -0500

Here is something you may find interesting. Old information, but an original document. Put it on the pearls if you like.

Date: 4/25/2004 12:33:49PM CDT
From: courir26@yahoo.com
To: llgpt@aol.com

Les,

This is the original note sent to me about the HR radio You may post it if you like. 73 Tom

Date: 07 Jan 95
From: n1pg@n4yrz.va.usa.na
To: n5off@k5arh.la.usa
Subject: R-390A RCVRS

Hi Tom:

Read your bulletin ref R-390's with interest. I am retired from the Navy, 24 years service in electronics. In 1956, I conducted the first field test on the Collins R-390 (not 390A), so I have had a long time interest in that series. Used and maintained and repaired R-390/R-390A until I retired in 1975.

The most unusual R-390A that I ever saw bore a builders label indicating that the Manufacturer was Helena Rubenstein (the cosmetic maker). Regret that due to the passage of time, and lost correspondence /notes, I am not able to identify better than the manufacturer.

In 1960, I was stationed at the Naval Security Group Activity, Bremerhaven, Germany, in the Research and Development Department. We received 3 R-390A's bearing the Helena Rubenstein label. I do remember that it was a Navy Contract, as opposed to Army, AF, etc.

The label was so unusual that I wrote several letters to track down the

story. Here is what I got from a friend at Collins Radio, the original developer. Rubenstein decided to diversify into electronics, since military contracts was where the money was, they bid on a contract for 80 R-390A rcvrs. At that time, they did not have on their staff a single electronics engineer, so they bid a ridiculously low price. Low bidder won! Then they hired an engineer to set up an assembly line. He told them how much the whole thing would cost and they almost fainted. Rather than spend the money, they bought 80 R-390's off the shelf from Collins for some exorbitant price, put their own labels on them, delivered them to the Navy and promptly forgot about going into electronics.

I'm sorry I can not provide any further info about this batch of R-390A's but thought you might like this info as a sidelight on the History of the receiver.

73
Harry
N1PG

Date: Fri, 7 Sep 2007 17:03:51 -0700 (PDT)
From: Rasputin Novgorod <priapul@yahoo.com>
Subject: [R-390] Mate for the r-390a

What would have been the appropriate mate (i.e. transmitter) for the 390A? As used in a small one receiver, one transmitter, station? In other words, what would a small military station consist of, using 390A quality gear (transmitter, tuner, antenna, etc?)

Date: Fri, 7 Sep 2007 18:05:21 -0700 (PDT)
From: Joe Foley <redmenaced@yahoo.com>
Subject: Re: [R-390] Mate for the r-390a

On, no,.... You really shouldn't have asked that. Oh,... well,.... you have no idea what this means,..... you've been bitten by "The Bug". Don't worry, it won't hurt for long, just rest your back after hoisting the power supply deck to the bench. Let me know if you want to subscribe to the mailing list for "that transmitter".

Date: Sat, 08 Sep 2007 09:49:06 -0400
From: wa3frp@aol.com
Subject: [R-390] Re: Mate for the r-390a

I've found that my R390A/URR and T-440/FRT-24 play together well both with and without supervision.

Date: Sat, 8 Sep 2007 14:00:18 -0400

From: Bob Camp <ham@cq.nu>
Subject: Re: [R-390] Mate for the r-390a

A lot of R-390 wound up set up separate from their transmit sites. I have met several guys who could talk for hours about transmitters and who had pretty much never seen an R-390. I've also run into R-390 guys who had very little, if any, exposure to the transmit side of things. If you do get bitten by the transmitter bug, be aware that there are not a lot of them out there.

Date: Sat, 8 Sep 2007 15:16:31 -0400
From: "David C. Hallam" <dhallam@rapidsys.com>
Subject: RE: [R-390] Mate for the r-390a

I realize my station doesn't exactly qualify as all military but I get a lot of fun out of operating. I have a R-390/CV-591A receiver combination and a Johnson Invader 2000 transmitter. Besides being fun to operate, it helps hold the house in place when the wind starts to blow.

Date: Sat, 08 Sep 2007 22:05:13 -0400
From: sparks@codepoets.com
Subject: RE: [R-390] Mate for the r-390a

I wish I could find a WRT-2 to mate up with my 390's I'd love to have one even though they weigh as much as a tank. My vote is for the WRT-2 to mate with the R-390. That's what I used on a Navy Destroyer back when there were Radiomen. The T-2 was an excellent transmitter, as large as a URC-32 (KWT-6 to some) but I can't recall ever doing anything to a T-2 other than preventive maintenance. Any WRT-2's out there?

Date: Sat, 6 Oct 2007 21:29:50 EDT
From: DJED1@aol.com
Subject: Re: [R-390] 5749 Tube purchase

I don't think the prices had dropped that much by the mid-70s. I bought my R-390A in the early '70s, about a year after they first made it onto the surplus scene. They started out at \$2000, and had dropped to \$695 by the time I bought. (I've got an ad from Dec, 1972 CQ sitting here which advertises the R-390A for \$750, the SP-600 for \$285, and a CV157 for \$125!)

Got a CY979 cabinet for another \$100. Accounting for inflation, I figure I paid the equivalent of \$3000 in today's dollars, so the prices have to go up some more before I break even.

On the topic of 5749s I've only replaced a couple of tubes in the 35 years

I've had the radio, so I don't need to add to my stash of tubes in my lifetime. Turning the radio on and off all those years finally did wear out the microswitch, but it saved replacing a lot of tubes.

Date: Sat, 6 Oct 2007 21:21:55 -0500
From: mikea <mikea@mikea.ath.cx>
Subject: Re: [R-390] 5749 Tube purchase

> because nobody wanted to pay \$25 for 390s, SP-600s, etc. I took a few home, but saw hundreds of them tossed (not gently) into trucks and hauled off for scrap. And I don't go to that many ham
> fests. Those were the days....

September 1969, Osan AB, ROK: R-390s and R-390As from the MARS shack being tossed into the dumpster, the day after I shipped my hold baggage back to North Camp Drake, Japan, and the day before I got on the plane myself. The MARS guys told me I could have as many as I wanted. *sigh* I had to wait until 1999 to get an R-390.

Date: Sun, 7 Oct 2007 10:33:18 -0400
From: Bob Camp <ham@cq.nu>
Subject: Re: [R-390] Tubes

On the R-390A you can thank the people running the DOD supply process in the mid 1980's. They bought an enormous number of tubes for the R390, essentially none of which ever got used. Unfortunately the ballast tubes were in another category than the vacuum tubes and they didn't get in on the mass buy.

Date: Thu, 15 Nov 2007 18:37:42 -0700
From: Transmaster <22hornet@gmail.com>
Subject: [R-390] Wahiawa Naval communications center

My Dad was just reminiscing to me about his days as a sailor stationed at Pearl Harbor circa 1956. He was an electrician's mate and he told me he was often sent to Wahiawa to fix electrical problems at the Naval Pacific Master com' center. He asked me if it was still in business. I looked it up and I was able to tell him that is was.

I went to Google Earth to take a look and right away I noticed a CDAA (Circularly Diposed Antenna Array) system. I asked him about this and he told me he remembered it. He told me it was a real problem getting into the place to do electrical work things where so secret many times he, was blinded folded before being led to where the work needed to be done, and was watched very carefully to make sure he didn't see anything he shouldn't have.

I mentioned to him that I might have three of the radio receiver models he might have seen had he been permitted. I am not sure if the R390A/URR would have been there but there sure could have been R390/URR, perhaps some SP600 Hammarlunds, and maybe an R388 or two. . Again I look at these radios in my collection and I wonder if these radios could tell tales of the stories they could communicate.-- Kenneth A. Crips, W7ITC

Date: Thu, 15 Nov 2007 21:07:32 -0600
From: "William J. Neill" <wjneill@consolidated.net>
Subject: [R-390] Kagnew Station story

<http://www.ausa.org/pdfdocs/ArmyMag/June07/rasmuson.pdf>

Date: Sun, 27 Jan 2008 18:36:13 -0500
From: Steve Hobensack <stevehobensack@hotmail.com>
Subject: [R-390] RE: GB> Legal China topic

The USS Pueblo was captured by the North Koreans during the Winter of 67-68. It was full of R-390s and some KW-37 crypto gear, all captured by the communists. There was no time to destruct. I have read that the units were well scrutinized by the Soviets and Chinese as well. In the case below, there would be no point in reverse engineering as you said.

> To: kargo_cult@msn.com; glowbugs@piobaire.mines.uidaho.edu
> Subject: RE: GB> Legal China topic
> Date: Sun, 27 Jan 2008 12:04:09 -0500
>
> As a related point: about 3 years ago I traded a guy in Mainland China an
> R-390 (non-A) I had not been all that thrilled with for the description-
> vs-condition (it was OK, it just was 20-40% less than I had
> expected. Worked fine, but was quite worn- for example: even the main
> drive
> worm gear was nearly worn down.) I was scrupulously honest about the
> condition however.
>
> I don't think he minded. He must have had a back door to a Chinese Army
> warehouse, or had gotten an incredible deal on their surplus market. He
> wanted multiple units, and was offering new tube-type and new solid-
> state HF
> receivers in trade. Maybe they were really planning on reverse-
> engineering
> them, but I doubt it. The solid-state receiver I received was a
> bit odd, but good enough that rev.eng. an R-390 was hardly
> necessary.(snip)

Date: Sun, 27 Jan 2008 18:53:22 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] RE: GB> Legal China topic

The USS Pueblo is now a Museum with ALL radios in place. They are proud to show it off to whomever "MAY" visit. They got to do what they wanted with R-390s, R-390As, and the like when Iran fell after the Shah. We had ?some? listening posts there.

Date: Sun, 27 Jan 2008 19:22:51 -0500
From: Bob Camp <ham@cq.nu>
Subject: Re: [R-390] RE: GB> Legal China topic

If they wanted to take a look at R-390's or R-390A's they had a lot of chances. We had a *ton* of them in Viet Nam. They certainly all did not come home. For that matter, you could buy a commercial version of the 390A in the 1960's. If they were lazy / cheap, I'm sure that a hamfest acquisition was possible at any point past the mid 1960's. I only started going at that point, so it may have been possible before that. Given how widely the radios were distributed, I would bet a well used set of electrolytics that the schematics made it to the "other side" by the mid 1950's.

Date: Fri, 15 Feb 2008 09:34:33 EST
From: DJED1@aol.com
Subject: Re: [R-390] Radio on eBay

Brings back bad memories from back in the early '70s: I had just discovered R-390As based on an article in CQ magazine, and I really lusted after one to replace my BC-779. They were being offered from the surplus dealers at that time for \$795 up to \$2000, but I found that DOD was occasionally offering some in their monthly auctions. So I bid on a lot of three, after calling the depot and asking about condition and completeness- "yep, looks like it's all there". So I won the bid for \$900, mailed off my payment, and drove to Virginia to pick up my treasures. Imagine my shock to find three chassis, empty of all modules! I left them there, took some photos to document the condition, and filed a complaint with the agency, which eventually refunded my money- whew! Having been burned once, I went and paid about \$700 for a nice radio and cabinet from one of the dealers. Now if I had just held onto all those CV-591As I bought for \$30 each...

Date: Sat, 16 Feb 2008 09:02:48 -0500
From: Steve Hobensack <stevehobensack@hotmail.com>
Subject: Re: [R-390] Radio on eBay

Recalling the prices for the R-390, I too remember the high prices for those receivers back in the early '70s. I got out of the Navy in November '70 as a ditty chaser. I always wanted one, but was turned away by the prices. Then for some reason in the '80s the prices dropped to about 100 to 300 bucks depending on condition at hamfests. I picked up three of them in the 1980s. I'm glad I got them in the '80s, as the prices started to slowly but surely climb back up in the '90s.

Wed 20 Feb 2008

From: Dave or Debbie Metz <dmetz@ntelos.net>

Subject: [R-390] Interesting Link Vietnam NSA released report

I have been reading a bit of this

link <http://www.fas.org/irp/nsa/spartans/index.html>

This is a big big File at 35 meg. However, it's a declassified NSA document that talks about 390's in Rcl30 aircraft, shows what I think might be Collins equipment on page 152 or this document. It's too big to read in an evening at 500 pages, but it talks about the tonkin gulf failures and Tet and the failures of SIGNET. It's probably not a read for everyone, but I am sure there are some electronic spooks out there who might not know this was floating around out there

Date: Mon, 25 Feb 2008 15:49:19 EST

From: DJED1@aol.com

Subject: Re: [R-390] Interesting Link Vietnam NSA released report

I found it a fascinating read. Apparently much of the North Vietnamese communication was encrypted CW, accounting for the large numbers of R-390s and intercept operators needed in that time period. Today it seems strange to read about all the manual effort required to encode, intercept, decrypt and disseminate the information. But it was 40 years ago (ouch!-seems just like yesterday). I did see a mention of R-392s being used for mobile intercept stations. Strange that some classified paragraphs were released, while others are gone altogether.

Date: Mon, 25 Feb 2008 14:58:25 -0600

From: mikea <mikea@mikea.ath.cx>

Subject: Re: (U) [R-390] Interesting Link Vietnam NSA released report

(U) Not so strange: not all information cools at the same rate, and things that might reveal current (or not yet sufficiently aged) methods and sources [SEVENTEEN WORDS REDACTED]

(U) I'm quite interested in the NV cryptosystems, myself, but I don't expect to see anything about them this century. Anyone here got stuff that can be

shared?

(U) Lots of R-390s on the ground and in the air, lots of R-392s and other gear on the road, and at least some RACAL 6217 gear mounted on helos and being used to DF sources. Wouldn't surprise me if there had been RA-17 gear in use, as well as the SP-600s, HRO-50s, Collins, and whatnot.

Date: Mon, 25 Feb 2008 15:32:36 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: (U) [R-390] Interesting Link Vietnam NSA released report

>From The Hammarlund Historian SP-600 link:
<http://www.hammarlund.info/sp600.html>

The only SP-600's not included on this list that I'm aware of are the "hybrid" SP-600's manufactured during the Vietnam war. The military designation was R-1511/GR. These models used only 9 tubes, dual voltage regulators, 8 printed circuit boards and a 200 khz bandpass filter. usually used in banks of 5 receivers and connected to video recorders. They were used for signal intercept work in the HF spectrum to detect where the enemy was talking. The reels of tape were sent to the NSA in Ft. Meade, Maryland for interpetation. (We have a manual for this unit on the "manuals" page.)

Date: Mon, 25 Feb 2008 15:48:48 -0600
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: (U) [R-390] Interesting Link Vietnam NSA released report

I had a co-worker who was an airborne CW intercept op flying over the jungles of Vietnam and other unmentioned places... Interesting guy to talk to....He retired a few years back and I haven't seen him in a while.

Date: Mon, 25 Feb 2008 17:16:31 EST
From: DJED1@aol.com
Subject: Re: [R-390] Interesting Link Vietnam NSA released report

Finished the last chapter- finally got a mention of our radios- "When the installation at Ramasun in Thailand was abandoned, the document states that the Americans removed 17 tons of equipment, leaving only the empty buildings and about a hundred old R-390 receivers." Maybe they are still there?

Date: Mon, 25 Feb 2008 15:32:30 -0700
From: Richard Loken <richardlo@admin.athabascau.ca>
Subject: Re: [R-390] Interesting Link Vietnam NSA released report

Hee Hee. That would have been another five tons to airlift out of Thailand.

Date: Mon, 25 Feb 2008 16:46:44 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] Interesting Link Vietnam NSA released report

"Old R-390 Receivers," so, can we assume that no R-390A's were left there? "Old" meaning they wouldn't work anymore? The Government is the biggest waster of tax payer dollars, including the military and civilian branches.

Date: Mon, 25 Feb 2008 20:30:58 -0500
From: "Richard Spargur" <k3ui@comcast.net>
Subject: [R-390] RE: R-390 Digest, Vol 46, Issue 25

Don't assume that. All, but three were R-390As. Three R-390s were there, but they were modified to work in an odd system called AUTOTUNE, AN/TRD-1465/URR, if there any O5 Duffies out there.

What is was used for I won't explain, how it was tuned was a hoot. As the only person there 1972 -1973 to repair the system. The Kilocycle and Megacycle change knobs were removed and replaced with gears. A belt, one that looked like a fanbelt from a 1956 Chevy connected the KC and MC change to servo motors.

The receiver was tuned from... somewhere else. I don't remember, the AUTOTUNE may have been deinstalled the year before the station closed.

Can you imagine all of a sudden the KC shaft would start turning about 30 RPM. The MC would, of course, be less intersting. After awhile the gears would start leaving brass schaving in the bottom of the rack. Time to order new gears.

Date: Mon, 25 Feb 2008 21:08:31 EST
From: DJED1@aol.com
Subject: Re: [R-390] RE: R-390 Digest, Vol 46, Issue 25

I wondered if I would turn up someone with some actual experience from that time and place. I'm guessing the autotune R-390s were used for DF purposes. Were they making a transition to solid-state radios in the early '70s, or was the site still well endowed with R-390's?

Date: Wed, 27 Feb 2008 21:10:10 -0700
From: "Bill Beech (NJ7P)" <nj7p@nj7p.org>
Subject: [R-390] Re: R-390 Digest, Vol 46, Issue 26

We did not replace the R-390A's at Field Station Korea until the 1980's. The WJ receivers they replaced them with had a keypad, but no tuning knob. Those lasted about 6 months before a WJ with a tuning knob appeared in the O5H racks.

Odd to modify an R-390 for autotune externally when there were so many R-391's built and used in Army receiver sites throughout the world. Probably Navy as well. I used to own 8 of them, but they chewed up too much power, so I am down to one. But then I suspect some computer or digital control system drove the "autotune". I like the Collins version....

Date: Sun, 02 Mar 2008 05:10:22 -0500
From: Michael Crestohl <W1RC@Verizon.net>
Subject: Re: [R-390] Re: Litton Model 1309 Microdial

>The front panel was not painted black when the micro dial was installed.
>I think only the CIA wasted time on black paint. <snip>.

Several years ago some enterprising individual with a good imagination painted a front panel black and called it the "CIA" model. It is a fantasy item. There never was a "CIA" version with a black front panel. All production units had the familiar grey front panel. If you ever get to visit the National Cryptological Museum at Fort Meade MD the first thing you see when you enter the building is a R-390A - with a grey panel. Several years ago a friend listed an R-390A with a black front panel on ePay. He clearly stated that this was NOT a special "CIA" model but the bidding went considerably higher despite the fact that he was completely honest in his listing. Go figure..... it is what it is.

Date: Mon, 24 Mar 2008 13:36:58 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] Radio Facility, R390 in use

The uniforms are Ike's. WWII, Korean era and into the 1955 time span. One fellow has a PFC stripe on his sleeve. Later the pants and shirts became the same color and fabric and we lost the tie. This was called Kaiki and was a summer dress uniform. We still had dress greens with a jacket and fatigues. You did not wear a jacket with this uniform. It was shoes, pants, shirt and tie. Mostly an indoor headquarters type uniform. The site looks like a signal corp tranceiver site. Lights in some of the rooms because the florcent ballest made to much RF hash and got into the receivers and transmitters. We used better than average ballast in the receiver sites to avoid the noise and the fixtures were well screened and grounded to help reduce the 60 cycle hum also.

Date: Wed, 9 Apr 2008 10:42:56 -0500

From: mikea <mikea@mikea.ath.cx>
Subject: Re: [R-390] RE: R-390 Digest, Vol 48, Issue 10

In support of which I advance my experiences:

In my experience, the maintenance and operation manuals for classified equipment are themselves classified at the same level as the equipment they cover, since the maintenance manuals tell how the equipment works and is repaired, and since the operation manuals tell how to use the equipment.

My experience also is that classified equipment is tagged with the equipment's classification, and with any special-access requirements and/or compartment labels.

None of the versions of the R-390 or R-390A manuals I've seen -- from the very old (1950s) through the most recent 1960s/60s) -- have had any classification markings whatever, whether printed on the original or stamped on later. This includes my original depot maintenance, field maintenance, and operation manuals from the Army. Moreover, the Collins R-390 and/or R-390A document I've seen carried no classification markings at all, but discussed the internal economy of the receiver in enough detail that it certainly should have been classified if the hardware was.

Date: Thu, 10 Apr 2008 09:20:08 -0700
From: "Dennis A. Deaton" <d.a.deaton@roadrunner.com>
Subject: [R-390] RE: R390A Classification

Hopefully I can shed a little light on this, three ways. First, my own R-390A, S/N 433 from the first Collins contract. I first saw it when I was in High School back in the early '60's. It was in the ham shack of the school's Electronics Lab. It had been acquired as part of a DoD gift to industrial education back in the 1950's. Many years later, a classmate of mine became the chairman of the industrial arts department of that old high school. He, in turn was given the order to clean out all the "old junk" in the building as they were relocating the department to a different facility. He contacted me and asked if I wanted the receiver. Of course I had to think about it first - only about 2 micro-seconds - before I said yes. It's sitting on the bench in my garage, in the rebuild process now. The obvious thing is this. The DoD would NOT give away a piece of CLASSIFIED equipment to a high school.

Second, my experience as an Electrical Engineer and Project Manager for DoD. I worked at various labs and agencies over a 31-year period from 1971 to 2002. Over that time I would come into contact with various

types of equipment, both CLASSIFIED and UNCLASSIFIED. When a piece of equipment is CLASSIFIED, it is plainly marked as such and has classification stickers plastered all over it. I worked on many pieces of countermeasures equipment that were so marked. The design documents for those equipments carried the same classification markings as the equipments themselves (usually a higher classification level). I've seen a lot of R-390As over the years in a lot of different locations (including "monitoring" stations). Never did I see any classification stickers on R-390A receivers. The microwave lab that I ran at Point Mugu had one on the bench just for us to zero-beat the 10 MHz clock in our frequency counter with WWV. The receiver was not CLASSIFIED. The lab was not CLASSIFIED. It did not have any special security measures that are needed for a CLASSIFIED facility using CLASSIFIED equipment. I also did some work at an un-named facility in Colorado. That place IS a secure facility. It has racks of new digital receivers that were built by Collins and WJ. None of them are marked as CLASSIFIED either. However the facility is secure and, more importantly, the receiver's use is CLASSIFIED. It's a matter of application.

Third, if you look at the original R-390A design documents that are available on the web at various places, you'll see that they are usually marked as "Sensitive" or "Restricted". That is merely an internal Collins marking that was there to prevent industrial espionage from competing firms "Sensitive" and "Restricted" are not DoD classifications. The MIL-SPEC, MIL-R-13947B, for the R-390A is not CLASSIFIED either. If the receiver was to be a piece of CLASSIFIED equipment, it would carry the same (or higher) classification markings as the receiver.

I hope that this helps sort out the myths from fact.

Date: Thu, 10 Apr 2008 15:16:34 -0400
From: "Don Heywood" <wc4g@knology.net>
Subject: [R-390] Receiver classification and cabinet comment

Hello all, during all the years I have been involved with the R-390 family starting in 1963 on the submarine Sailfish, have any of the equipment or technical manuals been classified. I do however have an R-391 manual which is marked "restricted", this is a preliminary draft and probably was marked for company security. This is the one with the interesting spelling, i.e. "alinement"... <snip>

Date: Thu, 10 Apr 2008 17:11:42 EDT
From: JRFKE5RI@aol.com
Subject: [R-390] R390A Classification results

Here are the results of my investigation which included responses from

many people in the security services who used them or maintained them from their first introduction until their final phase out. The consensus of opinion is that the receiver itself, was not classified unless it had special modifications or was part of another classified system. I am one hundred percent certain that this conclusion is correct. Wikipedia should take note!

Date: Thu, 10 Apr 2008 23:37:28 -0400
From: Roy Morgan <k1lky@earthlink.net>
Subject: Re: [R-390] RE: R390A Classification

I think in the distant past, some DoD publications were marked "restricted". For example, I seem to remember having manuals for the RAL and possibly the LM frequency meter and the GO-9 transmitter that are marked that way. These were all designed prior to WW-II, or at least evolved from designs that old. Sorry, I can't confirm my memory: most of my manuals are in storage.

Date: Fri, 11 Apr 2008 00:40:53 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] RE: R390A Classification

You are indeed correct. I have a TCS-12 manual, and it is marked Restricted. Dennis, as far as "modern" markings - you are correct. However, during MY time in starting in the '60s, some items were marked with one of the NOW common classifications - Followed By: "Formerly Restricted Data". So Restricted has been in use during WWII, and into the early '60s.

Date: Fri, 11 Apr 2008 09:32:32 -0500
From: glwebb@gundluth.org
Subject: Re: [R-390] R390A Classification results

My memory from nearly 40 years ago is predicably unreliable. But as a former R brancher (CTR2, Hi to John the M brancher) here is what I remember: I spent three years working with and around R390A's inside buildings inside FRD-10 Circular Disposed Antenna Arrays. Mostly doing narrow band and wideband High Frequency Direction Finding. To go from E3 to E5 I had to study the pertinent manuals.

None of the ones about the receivers were stamped with any level of classification. And none of the receivers had any either. I'm sure though, that some of the equipment associated with the encrypted teletype circuits was classified An O brancher could tell us more.

I talked to a T brancher this morning who worked with banks of R390/R390A's in the '70's. None of his equipment was classified. By the

way, "Restricted" as a level of classification was dropped sometime in the 50's. Some countries still use it as one of theirs. U.S. levels are "Confidential, Secret, and Top Secret". Contrary to some novel writers, there is no level above Top Secret. There are some designations used to narrow the Need To Know and Access. "Eyes Only" and "Cryptographic" come to mind.

Date: Fri, 11 Apr 2008 15:55:05 +0100
From: "Andy Jackson G8JAC" <g8jac@btinternet.com>
Subject: RE: [R-390] R390A Classification results

Here's the British slant on this. We still use "Restricted" although the secrecy paranoia has eased off over the past decades. Information that is government property but doesn't really warrant "Restricted" is now classified as "Crown Copyright". In the old days however, even an army document describing the resistor color code was classified as "Restricted" here!

Date: Fri, 11 Apr 2008 10:31:50 -0500
From: Barry Williams <ba.williams@charter.net>
Subject: Re: [R-390] R390A Classification results

Very interesting stuff! I worked in, or around the Nuclear Surety Program in the 1970's and an E-4 and E-5. I was told that there were higher levels that I won't mention here. I was in a Pershing missile unit in Germany at that time. The targeting information was kept at the battery level, along with the code box that was heavily protected. I later ran into the higher level issue when working as a Warrant Officer. My understanding was that this was not discussed at all. I only heard about it from people who were close friends, and only in brief mentions.

Date: Fri, 11 Apr 2008 19:31:23 -0400
From: "Richard Spargur" <k3ui@comcast.net>
Subject: [R-390] R390A Classification results

I worked on the R-725 for several years 1970-1973. A gross way to describe the difference with an R-390A is to say it is essentially an R-390A with an R-390 IF deck. The mechanical filters in the R-390A's IF deck's mechanical filters caused distortion which made it un-usable for direction finding applications. Initially the manuals would have been classified until they were fielded in systems, but I never saw one. The ones I had, had no classification markings at all. As a side: note I want an R-725 if one needs or wants a new home. Does someone have an electronic copy of the manual?

Date: Thu, 10 Apr 2008 17:46:23 EDT

From: DJED1@aol.com
Subject: Re: [R-390] R390A Classification results

Sounds right. I did find a post on the net that said that the R-725 manual was classified. This falls under your category of special modifications.

Date: Sat, 12 Apr 2008 03:54:36 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] R-390A conversion to R-725

<http://www.geocities.com/courir26/r725conv.htm>

Date: Fri, 11 Apr 2008 22:21:19 -0400
From: Roy Morgan <k1lky@earthlink.net>
Subject: Re: [R-390] R-390A conversion to R-725

I believe it was Tom Marcotte who published an article in ER magazine. Of course you can get a copy of the issue from ER, once it is identified. Also, I think the instructions were either posted to this list, or put on a website.

Date: Tue, 17 Jun 2008 10:18:53 -0400
From: "jay golden" <jgolden577@rochester.rr.com>
Subject: [R-390] modified R390A

Thirty years ago I bought a modified R390A from Ted Dames. It had an LED readout in place of the Veeder-Root counter and a small Bud box hung on the rear of the receiver. It drifted lots and eventually I returned it to him for a refund. It had the full complement of mechanical filters. Dames said it had been surplus from the White House Communication Agency, but who knows if that was correct. It wouldn't have been an R725, but what was it?

Date: Tue, 17 Jun 2008 13:26:39 EDT
From: DJED1@aol.com
Subject: Re: [R-390] modified R390A

Interesting- I remember talk on the reflector about a mythical R-390A with an LED readout, but I never heard of anyone who had actually seen one. Any idea how it worked? Too bad you got rid of it, it would probably be worth a fortune now! I still have my original Ted Dames radio. He was one of the first to offer

surplus R-390As at a "reasonable" price. Some of the dealers were asking for \$2000 for a refurbished surplus radio. I paid Dames \$700 for radio and cabinet, which translates to about \$3500 in today's dollars. It is an Amelco, with all Amelco modules, and was little used when I got it.

Ed W2EMN

Date: Thu, 14 Aug 2008 20:33:48 -0400
From: bonddaleena@aol.com

Hi, I have asked this question a couple of years ago, but since I suffer from CRS, I don't remember the results.... About 5 years ago, I ran across a guy who bid on the contents of a storage building. He had NO chance to preview what was in there. It had a couple of these receivers. I bought one for almost nothing, thinking it would be a good source of parts. The radio appears to be a R-390A with extra 'boxes' on the back. I have the metal tag that states... "R-1891". A couple of years ago, I searched the WWW from work with no results. Now that I'm retired (and the WWW is much more 'full'), I have tried searching again. I still cannot come up with an answer. What the heck is this variant???

Date: Thu, 14 Aug 2008 23:55:19 -0400
From: "Tim Shoppa" <tshoppa@wmata.com>
Subject: Re: [R-390] Unknown R-390 model

If you really mean R-1981/TSC-25, that's a 390A with extra jacks on the back to hook up magic electronics to the various LO's/BFO's/PTO outputs and the re-inject a correction frequency for extra stability.

Date: Fri, 15 Aug 2008 00:27:18 -0400 (EDT)
From: John Lawson <jpl15@panix.com>
Subject: Re: [R-390] Unknown R-390 model

I know someone who has the Magic Box that attaches to all those Gozintas and Comezouttas... looks a bit like TMC gear - grey 7" high 19" rack-mount goody. You'd absolutely never guess what it was unless you were completely familiar with it... he told me what it was because I noticed it sitting next to an in-the-middle-of-an-overhaul 390A - I thought it was a 3rd-party military SSB converter at first.

Date: Fri, 15 Aug 2008 07:48:06 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] Unknown R-390 model

That system was manufactured by Manson Labs.

Date: Fri, 15 Aug 2008 15:02:44 -0400
From: Bob Camp <ham@cq.nu>
Subject: Re: [R-390] Unknown R-390 model

Actually to get really picky about it, they were made by Manson and then later by Hallicrafters after Hallicrafters bought out Manson.

Date: Fri, 15 Aug 2008 14:12:43 -0500
From: "Joseph Grossbauer" <wa9msd@ggnet.net>
Subject: RE: [R-390] Unknown R-390 model

I have an R-1981 at home, again assuming this is the beast we are talking about. I will check the modules and see what I can come up with. I got this as part of a big surplus crate that was being disposed of and bought it from the guy who bought the crate. One of those rare deals costing me less than 3 figures. I remember that all the modules matched and everything inside seemed like new though the front plate and sides were somewhat beat up from being dumped in this crate. Turned out to be a GREAT radio right out of the box (crate), guess I need to pull it out from storage and fire this baby up.

Date: Sat, 16 Aug 2008 20:43:28 -0400
From: bonddaleena@aol.com
Subject: Fwd: [R-390] Unknown R-390 model

Gee, sorry about the typo.... Yes, it is indeed a R-1981, not a R-1891... Gee, musta had too many 807s that night. Anyway, not only did I find out some info about the radio, but several VERY knowledgeable types here, figured out what I meant. (since I didn't!!) I bought the radio as a 'parts unit' for my VERY mint '67 EAC. Now I don't know whether it's worth the small effort to make it correct....
HELP!!!

Date: Sat, 16 Aug 2008 23:16:31 -0500
From: "Bill Hawkins" <bill@iaxs.net>
Subject: RE: [R-390] Unknown R-390 model

IIRC, that setup was designed for NASA to listen to deep-space probes whose frequency Doppler-shifted in flight. Or maybe the shift was caused by the Earth going around the Sun. Anyway, tiny signal buried in noise, had to be exactly on frequency to pick it out. The 390 was sort of a Q5'er listening to an IF from the microwave receiver.

Date: Sun, 22 Feb 2009 09:18:57 -0800 (PST)
From: Rasputin Novgorod <priapul@yaho.com>
Subject: [R-390] blue striper

I've been reading old r-390 group emails. I've seen the term "blue striper", which I infer to be a scrapped/unfixable radio. Could anyone explain where "blue striper" comes from?

Date: Sun, 22 Feb 2009 12:48:06 -0500

From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] blue striper

The "Blue-Striper" term comes from the St. J's HUGE pile of R-390/R-390As. They had a characteristic stripe of spray paint in the color blue down the front of their panels. They indeed were to be scrapped, BUT were not unrepairable. There are still some to be had, and I obtained one that is being restored. Bob - NODGN

Date: Sun, 22 Feb 2009 12:56:19 -0500
From: Physicist <physicist@cox.net>
Subject: Re: [R-390] blue striper

I have a picture of the pallets of R390A's somewhere.

Date: Sun, 22 Feb 2009 13:01:20 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] blue striper

I've got both pictures here also. Its just that they can't be posted to the list.

Date: Sun, 22 Feb 2009 13:06:49 -0600
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] blue striper

I sent you the link to the pictures... You'll notice a stripe of paint sprayed vertically down each stack of radio front panels... thus the name...

Date: Sun, 22 Feb 2009 13:31:50 -0600
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] blue striper

For posterity...here is the link for everyone... Good part is many of these ended up in restorers hands and these do make good radio's with a little work.

http://www.r390a.com/Archived%20Pages/radio_rape.html

Date: Sun, 22 Feb 2009 14:44:15 -0500
From: Bruce Mac Lellan <brumac11@hotmail.com>
Subject: Re: [R-390] blue striper

At some point the painter must have run out of blue as I have one with a yellow stripe down the front panel. Got one with a blue stripe too.

Date: Sun, 22 Feb 2009 13:46:51 -0600

From: "LEE BAHR" <pulsarxp@embarqmail.com>
Subject: Re: [R-390] blue striper

Cecil and others. I still get sick when I see this picture. You are right, glad some got restored.

Date: Sun, 22 Feb 2009 14:59:57 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] blue striper

Yes, a number of them are in hands that have or are restoring them. I still cringe when I look at the front cover of one edition of Aviation Week & Space Technology with hundreds of B-52s cut up and left to be observed by Russian satellite. These type of "scenes" are repeated with all too great a frequency.

Date: Sun, 22 Feb 2009 13:59:59 -0600
From: "LEE BAHR" <pulsarxp@embarqmail.com>
Subject: Re: [R-390] blue striper

I am going to have nightmares, tonight!

Date: Sun, 22 Feb 2009 18:13:47 -0500
From: Gene Beckwith <W8KXR@neo.rr.com>
Subject: Re: [R-390] blue striper

For those that missed the era of the "St. J Blue Striper's," there was an intense amount of information regarding the salvaging and rebuilding of these radios...the information was intense with more enthusiasm than I've ever seen...maybe passion is a better word...than anything before or since. Fair had these by the pallet load...and was a sight to behold...I picked up three...and all are restored to a level that few can tell from factory new...it is a job...and details on how-to abound including refinishing front panels, mechanical rebuilds of gearing and making new shaft clamps and on and on... In one case I left a tell tale trace of blue paint under the top edge of the Veeder Root freq read out...just for kicks and to mark it's heritage as a true "St. J. Blue Striper....and yes...Blue was a common color as well as yellow and black...and in some cases all three on the same rig was evident...the paint was easily removed with laquar thinner with little or no harm to the original paint...

Many stories include taking home a sand and muck filled radio...plug it in...and Yep it ran.. many stories like that just for kicks, prior to autopsy and a full rebuild.... It was a great time to rebuild the R390A...and prices then were a steal by todays standards... Recent tip to Fair indicated few if any complete units left...with only picked over carcasses for

parts....again...it was a sight to see with pallets and pallets of these famous radios stacked to the rafters not so many years ago.... I currently have a working stable of R390a...some on HF...others with converters for VHF and UHF...doing nightly duty with local and not so local AMers as well as tracking international news broadcasts...and yes doing duty with ssb converters too, as stable as much of the plastic radios now on the air... Nothing has come close to performance and dependability of these radios in spite of the nearly two years in the worst conditions... If u missed the Blue Striper's...keep an eye out...and grab one ... they can be brought back to life and made to operate and look like factory new...

btw...currently working on a Motorola that is pristine under the hood...it is oddly showing an eye-brow over the Meg band changer. That is some serious tuning....old faded label on rear panel reads...Army Security Agency...Imagine the stories it could tell! But, this radio is immaculate...almost too clean to support the eye-brow...again...who knows, and if they could only whisper a few stories of where they've been and what they've heard....

Date: Wed, 25 Feb 2009 18:28:34 -0800 (PST)
From: Joe Foley <redmenaced@yahoo.com>
Subject: Re: [R-390] Antique bug

Reply from Mr. Mitchell of Vibroplex:
> Joe, as you know, Vibroplex is a very small company.
> It is not economically feasible for us to spend our
> limited resources to research all the requests that
> we get. I suggest that you contact some of the
> key collectors and they might be able to help you.
> Vibroplex

Date: Wed, 25 Feb 2009 21:58:51 -0500
From: "Dana Cobb" <objoyful@tampabay.rr.com>
Subject: Re: [R-390] Antique Bug

Joe: I visited the Vibroplex booth at the Orlando, Florida Hamfest a week or so ago. It was all glitter and lights. Much of the products they were selling are unaffordable to many of us today. I suggest you reply and ask if they will release their records to one of those "key" collectors. They may have the "time" to assimilate them and put them on the internet for all to enjoy.

Date: Wed, 25 Feb 2009 21:07:29 -0600
From: "Gary H. Harmon, Jr" <gharmon@idworld.net>
Subject: Re: [R-390] Antique Bug

The info to date Vibroplex keys is readily available all over the net. If you have the serial number you can easily determine the year made. You can then look on eBay for current and completed auctions to determine an approximate value. No need to harass the Vibroplex company for data that is easily located. Give me the serial number and I'll give you the approximate manufacture date. I will also give you a value based on my knowledge.

Date: Wed, 25 Feb 2009 22:23:03 -0500
From: Roy Morgan <k1lky@earthlink.net>
Subject: Re: [R-390] Antique Bug

If you send an email to the company, they likely can tell your friend when it was made. (I was pretty much wrong on that!)
<http://www.vibroplex.com/>

There is a link: "Date Your Vibroplex" that indicates S/N 71923 was made about 1919. Check the link "Out of Prod. Keys" to see what model it might be.

Date: Thu, 26 Feb 2009 06:44:06 -0800 (PST)
From: Robert Meyer <meyer_rm@yahoo.com>
Subject: Re: [R-390] Antique Bug

In the middle of all of this, I'd like to throw a question out there. Somewhere amongst the rubble that is my station (currently all packed away in a garage 'cuz I can't set it up where I am), I have a keyer that is made exactly like a vibroplex bug.

The difference is that the faded, curled tag on it said that it was made by the model train company Lionel. It claims that it's a J-37 (if memory serves) which would seem to indicate that it was made for the military.

Does anybody know anything about this thing? I was actively using it before I shut my station down when I moved to my current location. It was a wonderful thing. I learned to use one when I was working on my first ticket in 1980/81. I acquired this one years ago.

Date: Thu, 26 Feb 2009 09:53:32 -0500
From: Jim Brannigan <jbrannig@optonline.net>
Subject: Re: [R-390] Antique Bug

Yes, Lionel made keys for the military during WWII. A search will provide a lot of information.

Date: Thu, 26 Feb 2009 09:56:47 -0500
From: "Miles B. Anderson, K2CBY" <k2cby@optonline.net>
Subject: [R-390] Antique Bug

Lionel made a bunch of things under military contract during WWII, including plugs and jacks, as well as straight keys and bugs. You mention J-37. If I recall, J-37 was a straight key -- not a bug -- with a leg iron.

Date: Thu, 26 Feb 2009 10:07:16 -0500
From: "Tim Shoppa" <tshoppa@wmata.com>
Subject: Re: [R-390] Antique Bug

There are a lot of different models of J-37. The J-38 was the "training key" and the J-37 in all its variants (J-44, J-47 and others I've seen but don't know the number) was the "field key".

I learned on a J-38, in fact I still have the one my elmer gave me when I was 9 years old and still use it on SKN, but I never used the J-37 much. The military generically called the Vibroplex (even those made by other suppliers with Vibroplex tooling) a J-36. Why does the bug get a lower number than the straight keys? Dunno... :-).

Date: Thu, 26 Feb 2009 09:12:52 -0600
From: Mike Andrews W5EGO <mikea@mikea.ath.cx>
Subject: Re: [R-390] Antique Bug

Sounds like a Lionel J-36. During WW II (and maybe for a bit just before), Lionel and maybe some others had contracts to make bugs patterned on the Vibroplex Lightning Bug. Vibroplex also made them under contract, as I own a Vibroplex J-36 given to me by an uncle who got it when he was a radio operator on B-24 (or B-25) bombers in the European Theatre of Operations during WW II. Mine has a black crackle base, brass nomenclature tag, and chromed moving parts, with black finger and thumb pieces. Still works just fine, though it would be improved by a teardown, cleaning, and reassembly.

Date: Sun, 1 Mar 2009 23:26:14 -0500
From: "Tom Bridgers" <Tarheel6@msn.com>
Subject: Re: [R-390] R-390 Digest, Vol 59, Issue 1

Welcome back, Patrick. By the way, my wife and I were visiting another couple this weekend, and this guy showed me a picture taken of him in 1952 with an AN/GRC-26.

On the photo he had marked that the system he was working with cost \$65,000. The photographer didn't have a wide angle lens, but you can

clearly see the R-388 receivers he was using, a teletype machine, and the outlines of a transmitter. He believes it was a BC-610, but he doesn't remember for sure.

There is also an outside photo of the "shack" (or whatever they call the outside structure of the radio room) on what he believes is a deuce and a half truck. Two whip antenna's are clearly visible as is a 50 caliber machine gun on the rear.

Date: Mon, 2 Mar 2009 00:18:12 -0500
From: "Dana Cobb" <objoyful@tampabay.rr.com>
Subject: Re: [R-390] R-390 Digest, Vol 59, Issue 1

I was in an Air Guard, mobile communications squadron in 1965. We had a similar set up, except there were two R 390 receivers for diversity RTTY reception, rack mounted in the hut on the back of the deuce and a half truck. (2 1/2 ton capacity truck) Also called a six bye. It had a BC 610 transmitter also. Had the whip antennas, but also had three 40 foot rope guyed pipe masts we could install a dipole that was built like a tape measure. Flat steel about a half inch wide that could be adjusted to any length you wanted from 3 to 30 Mhz. The trucks were Korean war vintage, made by Dodge, Reo and Studerbaker Co. We towed a 10 kw gas operated four cylinder generator around on a trailer for power. They didn't let us mount firearms to it though...darn...

Date: Thu, 16 Jul 2009 08:39:18 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: [R-390] The end of an era

At one time the course used the SP-600, R-390, R-390A, Racal 6790 and I believe now the Harris 590 series as well as others.

7/15/2009 - KEESLER AIR FORCE BASE, Miss. -- More than six decades of Keesler history draw to a close Tuesday as the last radio communications operations class in the 336th Training Squadron graduates. "The course has been taught at Keesler since 1948," said Tech. Sgt. Matthew Land, instructor supervisor. "This course has graduated about 15,000 students and employed more than 70 instructors -- that's about five instructors every five years." "We're merging into one of the three new career fields which will have a 3D Air Force Specialty Code prefix -- Rf transmissions 3D1X3, cyber surety 3D0X3 or client systems 3D1X1," he explained. Sergeant Land said the duties of radio operators haven't changed that much over the years. They operate, deploy and sustain radio transmitters, receivers and ancillary equipment for line-of-sight, air-to-ground and satellite communications and provide multiple spectrum communications in fixed and tactical environments. These

Airmen configure antenna and radio equipment for efficient operations, establish and maintain communications links with distant stations, operate terminal control consoles and monitor system performance indicators. They also implement operational directives and manage communications facilities and activities.

Date: Sat, 20 Jun 2009 20:03:46 -0500
From: <wb5uom@hughes.net>
Subject: [R-390] OT Apollo 11 Mission

Ok, its off topic, but you guys on here let me learn that the R-390 was used in the Apollo Missions. So, I am curious, where were YOU - today 40 years ago? I myself was 14 and was flying alone on a Braniff Flight over the Carribbean Ocean on my way to the Panama Canal Zone when the Pilot announced we had landed on the moon.

Date: Mon, 20 Jul 2009 20:21:28 -0500
From: "Barry" <n4buq@knology.net>
Subject: Re: [R-390] OT Apollo 11 Mission

Wow, I didn't know them moon was a layover on the way to Panama. :) I've been listening to the "real-time" audio at www.wechoosethemoon.org but I got wrapped up in work activities and missed the point where the LEM touched down. Rats. Hopefully I won't miss the "One small step for (a) man" later on tonight (if I haven't already...)

Date: Tue, 21 Jul 2009 01:22:02 +0000 (UTC)
From: odyslim@comcast.net
Subject: Re: [R-390] OT Apollo 11 Mission

I was 9. Our school had a couple of TV's and they let us watch. I then bought the model and built it. A couple years later I did what most kids do with models.. Blew it up with an M-80 :-)

Date: Mon, 20 Jul 2009 21:03:03 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] OT Apollo 11 Mission

I had fallen asleep in front of the tv, but my wife woke me in time to see it. I was 25, a Navy veteran and raising a family.

Date: Mon, 20 Jul 2009 22:03:53 -0500
From: mikea <mikea@mikea.ath.cx>
Subject: Re: [R-390] OT Apollo 11 Mission

I was working a shift in the USAF comm center at North Camp Drake, in

Asaka, Saitama Prefecture, Japan, on the northwest corner of metro Tokyo. I found out about it when I got out of the secured area, and called my parents collect to rejoice. Why was I overjoyed? Because I helped lay the foundation for that mission. Back in 1965-67, I worked at the MSC (forget JSC; it's the MSC to all who worked there then), during the Gemini Project and the first little bit of the Apollo Project (including Apollo I; pray for the repose of their souls). I was one of about 100,000 people who helped lay the foundation and pave the way, and I'm Damn Proud of it . It was my first job ever. I was 18, and working in the highest of high-tech. We threw guys up into the sky, or as RAH so aptly puts it in TNotB, "beyond the sky", and got them down safely, every one. Since then, for some reason, every job has been a bit of a let-down. It was just about as much fun as can be had with clothes on, and we knew that We Were Doing Something Very Important, too. That they paid me was just an added benefit, and that I was making union scale (\$3.65/hour to start), when my dad was making about the same as a Registered Professional Engineer, was a whole big box of cherries on the top. I would have done it for free. I would have PAID to do it, doing my best to outbid the other competitors for that job. And I get to remember it every time I look at Luna. That is where I was.

Date: Mon, 20 Jul 2009 23:46:19 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] OT Apollo 11 Mission

I was 19, in South East Asia. I went into the consolidated club for a couple ham and cheese sandwiches after being out on patrol. They were showing it on AFRTS with the only TV in the entire outfit. I'm tickled for the ham and cheese, and astounded by what was going on. I had absolutely NO idea what was happening in the rest of the world.

Date: Mon, 20 Jul 2009 21:06:05 -0700 (PDT)
From: glwdoublewing@yahoo.com
Subject: [R-390] (no subject)

I was in the Canal Zone (Galeta Island) as a Navy Communications Technician 3rd class I was standing the Eve watch. No TV just a Wullenweber CDAA, a bunch of R390A's, and some HF DF electronics. We listened to the whole thing on one of those receivers. Exciting times for sure!

Date: Mon, 20 Jul 2009 22:11:33 -0700 (PDT)
From: wli <wli98122@yahoo.com>
Subject: Re: [R-390] OT Apollo mission

I was 28, and had just gotten out of the FMF, and was raising a family on the GI Bill.

Date: Mon, 20 Jul 2009 19:06:22 -1000
From: "Raymond Cote" <rjcote@hawaii.rr.com>
Subject: Re: [R-390] OT Apollo 11 Mission

I was just returning from a submarine deployment to the northern Atlantic. (water temps were 30 Degrees) and got back to Connecticut when it was on TV. I was a young 30 then.

Date: Tue, 21 Jul 2009 02:06:31 -0500
From: Gary Pewitt <n9zsv@magtel.com>
Subject: Re: [R-390] (no subject)

I was sitting in the number 4 gun tower at the Idaho State Prison. I had smuggled in a radio in my lunch box which was -strictly- against the rules and when they said those magic words " Tranquility Base, The Eagle Has Landed" I started yelling and cheering so loud you could hear it all over the old "Greystone hotel". What a night! I had never been so proud to be an American. And I still am even after the "January Disaster".

Date: Tue, 21 Jul 2009 00:16:30 -0700
From: "Chris Kepus" <ckepus@comcast.net>
Subject: Re: [R-390] OT Apollo 11 Mission

I was 27, married with one child, and was in Seattle working in an Industrial Engineering group that was part of the Spares Division for Boeing. I had followed the Apollo program closely and was watching TV when he stepped out of the Lander, walked on the surface of the moon, and spoke those few but powerful words. It was truly one of the most "magical" and memorable moments of my life.

Date: Tue, 21 Jul 2009 09:52:40 +0000
From: eldim@att.net
Subject: Re: [R-390] OT Apollo 11 Mission

We were stationed at Aviano Air Base, Italy on 20 July 1969 and heard it on Armed Forces Radio. If I recall, everyone was jumping with joy. It is amazing how one can use his/her imagination to visually capture an event of this magnitude. Unfortunately, we did not have TV service in that area. What a day in history some 40 years ago when I had just turned 26 and life was still one glorious excursion and adventure.

73, Glen (Battlestar) Galati, KA7BOJ, ex WBOAXK, DL4GG, HL9WA

Retired MSGT, USAF

Date: Tue, 21 Jul 2009 16:33:31 +0300
From: <alex@tx.technion.ac.il>
Subject: Re: [R-390] OT Apollo 11 Mission

I was 19, in the Israel air force, have seen the landing on TV.

Date: Tue, 21 Jul 2009 06:44:27 -0400
From: frankshughes@aim.com
Subject: Re: [R-390] 40 years ago

Gosh, 40 years ago... I was living @ home, waiting for a "slot" (training schedule window) to open @ Ft. Benning so I could get my MOS. Watched the event on our ancient B&W TV. I saw the launch go off in person a few weeks before!

At that time, lots of Orlando folks were involved in one way or the other, There were a bunch of us in the old neighborhood that went over the Jetty Park to watch the titanic beasts shake the Earth on their way to the mission objective.

Date: Tue, 21 Jul 2009 07:33:52 -0500
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] OT Apollo 11 Mission

I am enjoying as much a sense of American Pride just listening to where you guys were serving and what you were doing as I had gotten from watching the landing.

My Dad woke us boys up (I was 13 and my brother 9) to watch history in the making. Little did we know we would be riding out Hurricane Camille the next month. We lived in Biloxi MS and lived in Air Force base housing as my Dad was an air traffic controller at Keesler. He retired there in '71 (at the ripe age of 38) and we settled in Gulfport where I've been ever since. Dad is buried at the National Cemetery not a stones throw from where we lived in 69 and watched the Apollo landing. Government recently demolished the old housing and built new. Can't even go to my old address anymore...-(Funny how life goes...slowly covering our tracks.

Date: Tue, 21 Jul 2009 05:53:26 -0700
From: Samuel Letzring <sletz@msn.com>

Subject: Re: [R-390] OT Apollo 11 Mission

I had just finished grad school and was waiting orders to report to USAF Security Service school in San Angelo TX. I was 25, a Capt. in the USAF. I remember I was sleeping on a couch at an old roommates house outside Chicago and woke up to watch the landing. I had hoped to be a scientist/ astronaut while in the AF- but my applications were always turned down- in those days you really needed to be a pilot to get an astronaut slot.

Date: Tue, 21 Jul 2009 15:09:51 +0200
From: Heinz Breuer DH2FA <dh2fa@dar.c.de>
Subject: Re: [R-390] OT Apollo 11 Mission

I was 15, living in Germany and didn't go to bed that night. Watched TV from touchdown on the moon to lift off.

Date: Tue, 21 Jul 2009 08:16:06 -0500
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] OT: Lifes paths

If ya'll will endure me I would like to add to the continuum of my first note as I realize there is a little more to the story of how strange the path of life is... Before the AF moved us to Keesler we were stationed for a few years at Langley VA. While I didn't serve in the military I often feel as if I did because of my allowed involvement during those years. (try that in today's world) I spent a fair amount of time in the control towers of a couple of Air Force bases...even spent a few minutes in an operating GCA unit out on the field. When Dad was with SAC doing Instrument Repair work on KC-135's at Offit I got to spend some time in the instrument shop.

At Langley I vividly remember the hulking white hangar across the field that belonged to NASA. Guess I'll never forget some of those images. During a school field trip we toured the insides of one of the wind tunnels at the NASA Research Center. This summer my son (soon to be 21) landed a 10 week internship with the NASA Research Center at Langley and has an office in a brick addition to the white hulking hangar I saw as a kid. He has seen the insides of one of the many wind tunnels at NASA and hopes to see a run of one of those tunnels before he leaves in a few weeks to return home in preparation for his Junior year. He's studying to be an Aerospace Engineer with minor in math.

Life travels in circles too...

For you Navy guys...while stationed at Langley we also went on a school field trip to the Newport News ship yard...in a boat and pulled up behind the Aircraft Carrier JFK while under construction. What an awesome

sight... Thanks for listening guys while I travel down memory lane...

Date: Tue, 21 Jul 2009 09:42:51 -0400
From: "Dr Fred Hambrecht" <w4jle@w4jle.com>
Subject: [R-390] OT Apollo mission

I was at the Cape. My job was engineer on the lunar mission simulator. I worked in the Astronaut training building. Knowing what to expect, Armstrong scared the hell out of us when he stretched his fuel past the limits. He had 12 seconds of fuel left at touchdown.

Date: Tue, 21 Jul 2009 09:44:54 -0400
From: Gord Hayward <ghayward@uoguelph.ca>
Subject: Re: [R-390] OT Apollo 11 Mission

I was visiting relatives in Ottawa and watched it on TV. That was the year I started university. (Chem Eng at Waterloo)

Date: Tue, 21 Jul 2009 16:46:13 +0300
From: Sheldon Daitch <sdaitch@kuw.ibb.gov>
Subject: Re: [R-390] OT Apollo 11 Mission

I was at Fort Monmouth, NJ, 32D Fixed Station Facilities Controller School, and watched on a day room TV set.

Date: Tue, 21 Jul 2009 10:02:02 -0400
From: "kw4a" <kw4a@hughes.net>
Subject: [R-390] Apollo 11 Mission

It's amazing the level of expertise of those answering (not really, considering). I was in the instrument shop of the Univ. of Missouri Research Reactor where I served as Shift Supervisor of Reactor Operations. I guess I can say one of the lucky in as much that later we received some Lunar samples to do some research on. So, our adventure continued.

Date: Tue, 21 Jul 2009 07:16:23 -0700 (PDT)
From: Steve Toth <stoth47@yahoo.com>
Subject: [R-390] Fw: Re: Apollo 11 Mission

I was 22 and in the Air Force at Castle AFB in CA. Watched the landing at my former base dormitory roommate's apartment with him and his new wife and a couple of friends. One of those classic defining moments when you remember exactly where you were.

Date: Tue, 21 Jul 2009 11:30:22 -0300

From: "Guido" <laffitte@prtc.net>
Subject: Re: [R-390] OT Apollo 11 Mission

I was 17 and on vacation at home with some cousins watching the whole event in the old B&W TV. In the days before Apollo arrived in the moon I had been participating in the Apollo Optical Tracking Program managed by Bellcomm in conjunction with the American Association of Variable Stars Observers. The idea was to spot and follow as much as possible and using telescopes, the Apollo 11 spacecraft. It was successful and continued through other missions.

Well, now you know that apart from radios I also do some astronomy :-). It was an awesome experience.

Date: Tue, 21 Jul 2009 07:50:43 -0700
From: Renee Deeter <k6fsb.1@gmail.com>
Subject: Re: [R-390] OT Apollo 11 Mission

I was 13 at the time, in Fremont, CA and glued to the TV, a b&w, a team of horses could not drag me or my brother away. Dad was on call and on his way back to the hospital. I remember the incident all the events for that mission. Later I ordered pictures from NASA...they were free for the asking! Still have them. What a way to encourage many of us to enter the sciences.

Date: Tue, 21 Jul 2009 13:48:17 -0400
From: "w8bvh" <w8bvh@sbcglobal.net>
Subject: Re: [R-390] OT Apollo 11 Mission

I was 26, already in and out of the U.S.Navy spent about 9 years working in a local appliance shop and waiting for the police academy to open up so I could be a Sheriff's Deputy. My wife, to be, was on a trip, w/ some her friends from college, in France w/ no TV. I watched some of it at the appliance store where I worked then the rest at my parents home. It was probably the neatest thing that I ever saw. My dad, an ex-ham, told me that he never would have believed he would have seen anything like this in his life time.

Date: Tue, 21 Jul 2009 14:03:06 -0400
From: K2CBY <k2cby@optonline.net>
Subject: [R-390] OT Apollo 11 Mission

Two reflections: I was in Army basic training and driving a rental car back to Ft. Jackson, South Carolina from weekend leave that I spent at Myrtle Beach with a bunch of other GIs when I heard the news on the car radio. While I was excited by the moon landing, I was even more excited when we got back to the post that we had the next day off !

My father was born in 1902 - six months before the Wright brothers flew and lived long enough to see men walk on the moon. Talk about progress in one lifetime !

Date: Tue, 21 Jul 2009 19:03:42 +0100
From: "Lester Veenstra" <m0ycm@veenstras.com>
Subject: Re: [R-390] OT Apollo 11 Mission

Navy also, stationed at that famous sub tending facility, RAF Edzell

Date: Tue, 21 Jul 2009 11:21:34 -0700 (PDT)
From: Rich McClung <sgm460122@yahoo.com>
Subject: Re: [R-390] OT Apollo 11 Mission

I was breaking the bush with a AN/PRC-74B in my rucksack. At night when I was able to tune in VOA I heard that they had landed on the moon. I told the guys what I heard on the radio and the first reply was, "No S**T! The moon you say" And then everyone went back to doing what they were doing.

Date: Tue, 21 Jul 2009 14:39:45 -0400
From: Bill Kulze <wak9@cornell.edu>
Subject: Re: [R-390] OT Apollo 11 Mission

Boy, it's been a long time since I felt like such a puppy! I was 12 years old, spending the summer in Islip, NY on Long Island with my uncle, aunt and cousin. Watched it on their old BW TV, maybe 12" or 13", with rabbit ears. Could barely make out what was happening. Same TV we watched the Mets on. They were die-hard fans, and that was their big pennant year. I remember Walter Cronkite covering the moon landing. IIRC he was without words for a bit and kind of choked up. My dad worked for IBM in Owego, NY and I remember going to the Broome County Airport a few years earlier when he flew down to Huntsville, AL to work on the landing module. I guess there's a piece of him on the moon still. Flew on a big prop plane with Mohawk Airlines. Stood up on the observation deck and watched it go. He was also a ham, W2NVD, and he's why I'm one now.

Date: Tue, 21 Jul 2009 15:34:50 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] OT Apollo 11 Mission

As I had just come off a patrol, I put away the PRC-25 that as the "medic" I carried as the second radio on the patrol. Others: It is amazing how our lives were intertwined on THAT day! It seems that "most" were active military OR veterans. Interesting to read the different places we were and

what we were doing! Bob - NODGN

Date: Tue, 21 Jul 2009 13:51:18 -0700 (PDT)
From: Bryan Stephens <bryanste@yahoo.com>
Subject: Re: [R-390] OT Apollo 11 Mission

I was six years old. My father was transferred in July '69 from Norton AFB (So. California) to Lackland/Kelly AFB (San Antonio). We watched the launch on a basket-case B&W TV set at an old motel on Fredericksburg Rd (Travis Motel). As I recall the set failed not long after liftoff. We moved into a rental house just in time to watch the lunar landing and moonwalk on a decent RCA color console. I remember hearing the (CD) sirens.

Date: Tue, 21 Jul 2009 18:23:40 -0500
From: "Bill Breeden" <breedewb@cableone.net>
Subject: Re: [R-390] OT Apollo 11 Mission

I was 19 and home for the summer from Purdue University working as a train crewman on the old Baltimore & Ohio Railroad out of Washington, Indiana. It was a busy time on the railroad, but I was lucky enough to be off duty during the landing. I later served in the Air Force from May 1973 to May 1977.

Date: Tue, 21 Jul 2009 19:31:21 -0400
From: Bill <bmarx@bellsouth.net>
Subject: [R-390] Apollo 11 Mission

I was on a date with Betsy Kraft....no comment...

Date: Tue, 21 Jul 2009 19:57:53 -0400
From: "Dave Maples" <dsmaples@comcast.net>
Subject: Re: [R-390] OT Apollo 11 Mission

I was 14 years old at the time. I'll go back a bit to Apollo 8. After watching that broadcast on Christmas Eve I told my dad before I went to bed, "If they don't break away from the moon don't even get me up." Come Christmas morning my dad came to get me up and said, "Merry Christmas, Dave". Instead of saying anything else I asked him, "Did they get away???". Upon hearing the affirmative, I got up and REALLY enjoyed the day.

Come the summer I sat on that Sunday afternoon in a VW beetle in the pouring rain with my brother and my youth choir director listening to the landing. After church we got home that night and the whole family gathered in the boys' room, because we had the best TV set and the boys had put in a stereo. We sat there absolutely glued to the set until 5 AM

when they went back into the LEM. For a long time I had the newspaper from that day; not sure what happened to it. What a night!

I later had the privilege to work at both of the test facilities (Arnold AFB and Stennis Space Center) where NASA tested engines for the space program, as well as a lot of the model testing in the wind tunnels, from 1979-1999. I wish I could show you guys some of those facilities, and I wish myself I had been there during the time the initial efforts were underway. By every record I could ever find, it reflected man at both his worst and his best. It's true we spent money like water, but look what we got for it! We created totally new technologies that are still working for us today. In doing so we permanently expanded the wealth base, which is the only way to "grow" an economy. We created an entire new generation of scientists, engineers, and technicians, who went on to build things just as amazing (have you ever looked at how cellphones and routers really work? Neat stuff, for sure).

<opinion> I think it's fair to say that the great God blessed us in a very special way with a lot of good leaders (technical and non-technical) in that period between 1939-1969. Now that burden of real leadership is resting firmly on our shoulders; it's time we faced our own challenges with the same humility before and faith in God, the same confident attitude, and the same attention to accuracy and completeness that they did. </opinion>

Date: Tue, 21 Jul 2009 19:09:48 -0500
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] Apollo 11 Mission

Well ya didn't say if you saw the landing or not....
The submarine races might have been more interesting...:-)

Date: Tue, 21 Jul 2009 20:28:12 -0400
From: Bill <bmarx@bellsouth.net>
Subject: Re: [R-390] [Bulk] Re: OT Apollo 11 Mission

Aside from my date with Betsy....I did watch the landing. I had a TV in my apartment in New York. More seriously I watched in awe. My father was one of the designers of the LEM (Lunar Excursion Module). He was "Mr. Clean". That was what they called him at the time. He was a developer of the "Clean Room".

He got tired of everyone messing with his hydraulic designs by contaminating the fluids so he came up with specs to keep things clean. He today is responsible for the white coats and hats you see them wearing in some of the labs.

He worked for Grumman Aircraft on Long Island. He never discuss his role and it took years for my sisters and I to get him to have a conversation about it. Lots of stories of astronauts after that. He took me on a tour of Cape Canaveral in the 1980's.

He became KA5VYD at the age of 71 and a General Class holding W5HJM one week before he passed away in 2000.

Date: Tue, 21 Jul 2009 20:05:50 -0500
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] OT JFK assasination...

Well I have to say one other major defining moment in my lifetime was the JFK assasination. Another time most folks probably know exactly where they were at and what they were doing. We were stationed in France for 3 years and were visiting another family that was stationed over there when news came across the TV. The room went silent...kids and all and the whole mood changed. I was a little young to know much about what was going on but I knew it was serious and very historic...

Date: Tue, 21 Jul 2009 20:13:17 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] OT JFK assasination...

We were out to sea off Cape Hatteras aboard the U.S.S. Independence CVA-62 when the Captain announced it over the IMC system. Dead silence as I remember it, a very somber moment. On another connected moment, a few weeks later, I saw Jack Ruby shoot Lee Harvey Oswald on TV while on a weekend pass while the ship was docked at pier 12 in Norfolk, Virginia.

Date: Tue, 21 Jul 2009 21:19:16 -0400
From: jcoward5452@aol.com
Subject: Re: [R-390] OT JFK assasination...

I was in my 5th grade home-room class with Mrs. Nicconi. It was the first time I experienced that helpless sinking feeling of loss but I did not quite understand why until a bit later. Jay

Date: Tue, 21 Jul 2009 15:40:37 -1000
From: "Raymond Cote" <ajcote@hawaii.rr.com>
Subject: Re: [R-390] OT JFK assasination...

Well, as long as others are jumping in on the JFK topic, I was just finishing up school on the SRR-11, 12, 13 receivers and started the TTY repair class on Treasure Island Service School Command when we were directed to tune around on the receivers and try and pick up TTY signals. Needless to

say most of us were on UPI and saw the copy come in about the shooting. The school was cancelled for the day. I was 22 then.

Date: Tue, 21 Jul 2009 20:40:59 -0500
From: <wb5uom@hughes.net>
Subject: Re: [R-390] OT JFK assasination...

Yup, elementary school film room, the principal made the announcement and I knew then something was really wrong. I've been RIGHT ever since. Something IS wrong

Date: Tue, 21 Jul 2009 21:41:31 -0400
From: "kw4a" <kw4a@hughes.net>
Subject: [R-390] JFK Assasination

USS Triton (SSRN-586) undergoing overhaul at EB Groton, Ct. working mid shift and got back to the apt to crash and saw the assassination on TV and basically stayed glued to the TV when off duty all the way thru to Oswald's assassination. What a period of history to live thru.

Date: Tue, 21 Jul 2009 21:03:07 -0700 (PDT)
From: wli <wli98122@yahoo.com>
Subject: Re: [R-390] OT JFK assasination...

Well, I was a third year medical student working on the *black* charity ward at Baltimore City Hospital. In those days, Baltimore regarded itself as a Southern city with segregation everywhere.

The entire hospital literally stopped as Walter Cronkite gave his reports on the TV's. Everyone was stunned. The Emergency Room where I worked that night was completely empty, it was usually full folks with gun and knife wounds in those days... the entire city was likewise in a state of shock and strangely quiet.

No sirens, no yells, no car horns. For the first time, the usual gang wars stopped cold, and the cops had nothing to do. 36 hours later, it was back to business as usual.

Date: Tue, 21 Jul 2009 22:15:39 -0600
From: Richard Klinker <rklinkr@tribcsp.com>
Subject: [R-390] Apolo 11 landing

I was in the Navy stationed on a ship in Pearl Harbor when the landing took place. We had returned from 8 months patrol in Westpac (Viet Nam) and was in for overhaul and training. I was having lunch on the mess deck and watching on the only tv on the ship. It was a defining moment in my

life. I also saw the USS Hornet come back from the pickup of the space craft a week later. She came in to refuel and off load NASA equipment. What a time to be there!

Date: Wed, 22 Jul 2009 08:03:48 -0400 (EDT)
From: "William A Kulze" <wak9@cornell.edu>
Subject: Re: [R-390] OT JFK assasination...

On this one, I have to say I don't remember. I had my tonsils out either that day or the day before. I do remember sitting on the living room floor (eating ice cream, I think) watching the funeral procession and seeing John John salute as his father's casket passed by. But, being 7, I knew something bad had happened but had no idea of the gravity of the event. I do know that a lot of good things about this country seemed to die in the 60's. Today I just shake my head and still don't understand.

Back on the moonwalk, I've also noted that so many on this list were serving in the armed forces at the time. My dad was a radioman in WWII in the Army, having become a ham as a teen in the 30's. Wound up as an engineer at IBM without ever going to college. My older brother went in the AF in the early 70's and became a radio operator, serving on Blue Eagle, the airborne command post for CINCPAC, in the early 80's. He never became a ham though. I saw on another post that they just ended that school at Keesler. I served in the late 70's and went to Keesler for Ground Radio tech and had my intro to the R-390. Anyway, I want to thank all you folks out there for your service to this country. I just hope we're not all heading down the tubes. Enough editorial, I just love radio!

Date: Wed, 22 Jul 2009 08:57:20 -0400
From: Jim <jbrannig@optonline.net>
Subject: Re: [R-390] OT JFK assasination..

JFK: I was in a High School dance class...(yes, dance. a few Gym classes were made co-ed and they tried turn us into little ladies and gentlemen) anyhow...the music stopped and over the PA the Principal announced the Kennedy assassination. There was a great silence and school was dismissed. On Sunday, I walked into my grandmothers house just as Ruby shot Oswald...

Moonwalk: I was on summer vacation after college sophomore year and gave up a night chasing coeds to watch it at home... Army time was a few years later...

Date: Wed, 22 Jul 2009 09:05:02 -0500
From: glwebb@gundluth.org
Subject: Re: [R-390] OT JFK assasination...

I was a high school junior at the time in West Virginia. It was a nice fall day and I skipped school to go squirrel hunting. The mother of one of my friends, Bernice Enochs saw me when I was going home and came out with a tear streaked face to tell me the sad news.

Date: Fri, 24 Jul 2009 09:34:39 -0300
From: "Guido" <laffitte@prtc.net>
Subject: Re: [R-390] OT JFK assasination...

I was in Spain about to turn 11. We were not tourists there but refugees from the communist regime in the island 90miles from Key West :>(That day at the guesthouse where we were staying in Madrid, I saw the cleaning lady, a young woman, crying. When I asked what was the problem, I learned that JFK had been assasinated. I never forgot that. Finally in January 64 we were given visas to enter the US where we arrived in February 1, 1964 with totally empty pockets and to start a new life. Until he passed away in 2004 my dad always said that this is a great country and I agree 100%.

Date: Fri, 24 Jul 2009 11:38:51 -0500
From: "William J. Neill" <wjneill@consolidated.net>
Subject: Re: JFK and other moments in history that we just don't know about

An Australian view of the topic and far more thorough than will be found in the US press:

http://www.aspi.org.au/research/spf_article.aspx?aid=58

Follow the embedded URLs in the right-hand sidebars for various perspectives on the topic. By the way, I was a senior in high school in Dallas on Nov. 22, 1963, and two friends and I cut classes to go downtown to see the JFK motorcade. We were six blocks from the assassination site and did not learn about the event until we returned to school. Strangely, school was not dismissed and classes were conducted as scheduled although nothing was accomplished.

Date: Sat, 25 Jul 2009 08:48:05 -0500
From: "Francesco Ledda" <frledda@verizon.net>
Subject: Re: [R-390] OT JFK assassination...

I grew up in Italy. I was less than 6, when JFK was assassinated. My father came to pick me up at school and told me of the assassination. When we got home, my mother, sister and aunt were sitting on the sofa crying about

JFK. It was a very sad day. On July 20th 1969, my parents woke us up to watch Armstrong take the first step on the moon. I remember those fuzzy images on our BW TV like if it were yesterday. Those were exiting and historical days. We need more days like those!!!!!!!!!!

Date: Mon, 17 Aug 2009 20:39:27 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] Synthesizer Phase Noise

I had a couple of these synthesized receivers to take care of for a year. A human did not actually listen to these receivers. When the system found a signal it sounded an audio alarm. Some human (Senior NCO in the bay) looked at the frequency display yelled out the numbers, pointer at some op, pushed the button to silence the alarm and send the system seeking the next new transmitter to pop up with the set band scan limits.

The system was 5 racks wide and state of the art in 1965. Today its hand held and called a scanner.

No one cared how much noise was in the system. Those receivers were not for human ears to listen to. The goal was to get that silly display to read accurate on every MHz of the R390/A without the need to cherry pick crystals or zero the PTO every time the system changed the MHz shaft.

Once the scanner found a signal that just popped up, its job was to alert some humans and pass the task of doing signal copy back to humans with good receivers. The only thing was to get the best frequency possible from the system to the operators.

You do not do signal intelligence collection with one operator one receiver and one antenna. You deploy farms of antenna, lots of receivers, lots of operators, and some few special systems that trade phase noise and audio quality for robotic persistence, You divide machines to special task and manpower to special skills and operations. You provide systems with specific attributes. You let some other features fall where they may.

On a bad signal you may have patched the scanner output over to an operator working with a set of split head phones. His R390/A in one ear and the scanner audio in the other ear. As soon as the operator had the scanner signal found on his receiver. I said found not tuned, not optimum, not copied, not worked. The operator dropped his split phone. As soon as the split phone was dropped (as thrown on the floor to get both hands back on the mill) The scanner operator hit the seek button to send that system seeking the next new transmitter to be found.

The guys using these special systems did not care about no stinking phase noise. They loved that system that would just scan a band segment over and over and over and never miss a new signal. Give you the best indicator of where to tune your receiver to let hear the new signal. Ignore the ones it had heard before. And do several other computer programmable tricks. The system could scan over ear drum busting signals looking for the low watt signals trying to hide under the big signals. The scanner would seek and seek and seek just waiting for a new signal to pop up. The System worked well enough. Operators were happy to set it up and let it seek. That audio alarm going off was more of a nuisance factor to 14 other guys who had a signal they were working. Than the phase noise was to the 15th guy seeking a new signal to work.

Date: Thu, 10 Sep 2009 05:55:42 -0400
From: Jim <jbrannig@optonline.net>
Subject: [R-390] R-390A sighting

Last weekend I was at the Washington Navy Yard. While touring the destroyer, one of my daughters said "Daddy, they have one of your radios here". Ahh, an R-390A....with some kind of radiation warning stickers on the meters.... My wife, an RN, asks what the warning stickers are about. I explain the whole glow in the dark, gumment ripping out meters process. She comments that my radio still has the meters and is this dangererous? Me (thinking of list comments) that it is only dangerous if you take out the meters and lick them.... I get "the look"... The Navy Yard museum is a good tour. Try to do it when in DC....

Date: Sat, 24 Oct 2009 09:36:36 -0500
From: Barry Williams <ba.williams@charter.net>
Subject: [R-390] U.S.S. Pueblo

I was clicking around the news channels last Thur night right as the Greta Van Susteren show took their cameras on the Pueblo in N. Korea. The radio room was fully stocked and looked spotless. There were quite a few R-390As in the racks. I wish I had recorded it for some still shots. Did anyone else see that?

Date: Sat, 24 Oct 2009 12:09:06 EDT
From: DJED1@aol.com
Subject: Re: [R-390] U.S.S. Pueblo

A few years ago someone had posted pics of the Pueblo R-390 radios, but the site seems to have disappeared. Anyone have a good link?

Date: Sat, 24 Oct 2009 11:35:48 -0500

From: Grant Youngman <nq5t@tx.rr.com>
Subject: Re: [R-390] U.S.S. Pueblo

<http://www.pbase.com/bmcmorrow/usspueblo&page=1>

Date: Sun, 25 Oct 2009 11:15:29 -0700 (PDT)
From: Charles Rouse <rouseokc@sbcglobal.net>
Subject: [R-390] USS Pueblo

Pueblo photos w/ R-390A racked at
<http://web.archive.org/web/20020815180528/users.erols.com/eengineer/pueblomain.html>

Date: Sun, 25 Oct 2009 17:02:11 EDT
From: DJED1@aol.com
Subject: Re: [R-390] U.S.S. Pueblo

ref:
<http://web.archive.org/web/20050310143043/users.erols.com/eengineer/pueblomain.html>

Yeah, that's the pics of the Pueblo I remember. The R-390As look pretty good for having been attacked with an axe. Maybe that accounts for some of the dummy/missing knobs. I bet the North Koreans could get a bunch of money selling them on eBay- more collectible than the Fowler radios. Did anyone notice the modified SP-600 used by NSA to record a wide band of the HF spectrum?

Date: Mon, 26 Oct 2009 12:30:20 -0500
From: glwebb@gundluth.org
Subject: Re: [R-390] USS PUEBLO

When I was a CTR from 67 to 70 I was at land-based duty stations (Guam, then Canal Zone). There were the four ships that CT's were most likely to be assigned to: USS BANNER, USS PALM BEACH, USS LIBERTY, and USS PUEBLO. Looking back many times I have thought what if the Navy had sent me to one of these ships? I would have had a 50/50 chance of getting one where I could have been killed/wounded, or captured/tortured.

I have two friends that were wounded on the Liberty: Eugene (Gene) Kirk and Don Botcher. Both are good men who feel betrayed by their government.

Some experts feel that the North Koreans were emboldened to take their action against the Pueblo by the very poor response to the attack on the Liberty. Maybe, maybe not. But I feel there is no doubt that our

government's actions during the attack on the Liberty and afterward tell a very sad story.

Date: Wed, 24 Feb 2010 21:21:30 -0800
From: Brian Vietri <bvietri@msn.com>
Subject: [R-390] R-1247 Nasa Receiver FOR SALE

This receiver was modified for Apollo Space Program. I have for sale Manson Labs R-1247 s/n 94. This unit is in great condition, works very well, very clean, has some knob paint wear, top and bottom covers and balanced antenna adapter. I have installed 600 volt Orange Caps in IF module, C603 and C606 Rebuilt, Inrush current limiter installed. (Mfg Motorola R390A s/n 1818, Manson Labs s/n 94) Pictures available upon request. This unit is heavy approx 75 lbs, so it will be PACKED, SHIPPED and shipped INSURED by UPS. Plz serious inquiries only..... WILL NOT SHIP OUT OF USA Asking \$1350.00 OBO + ship + ins Paypal Preferred Contact Brian bvietri@msn.com

Date: Thu, 25 Feb 2010 09:09:06 -0700 (GMT-07:00)
From: "Richard W. Solomon" <wlksz@earthlink.net>
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

I have to ask ... What mods were done to it for the Apollo Program ? I doubt they flew it !!

Date: Thu, 25 Feb 2010 13:37:51 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

No they didn't fly them. There were a bunch of changes to these by Manson Labs. There are a bunch of Bnc connectors on the rear panel, that allows for a higher level of frequency control and coupling them together. Uncle Sam's methods of "coupling" R-390As was done externally by receiver multi-couplers, directed at the diversity aspects. When you start doing HF operations for a Space Program, the diversity antenna systems that Uncle Sam used for intercepts no longer would work. Hence the major mods done by Manson Labs.

Date: Thu, 25 Feb 2010 10:58:52 -0800 (PST)
From: Mack Rogers <n4vgb@yahoo.com>
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

Unless you own some of the external auxillary gear to go along with a R-1247 rcvr, it's just an R-390A with more connectors on the back. (big smile). An unusual collectors item, yes, but still just a R-390A.

Date: Thu, 25 Feb 2010 14:34:13 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

It will only go for what someone is willing to pay. The add-ons by Manson Labs are useless! There is no way of getting the external equipment that is designed to connect to the modifications! (Another BIG Smile!) I won't belittle someone's offerings or desired price! It belongs to him, he has every right in the world to place a price on it that HE feels is proper. Folks like you and I won't be making offers. (ROTFLMAO!)

Date: Thu, 25 Feb 2010 12:12:32 -0800 (PST)
From: Mack Rogers <n4vgb@yahoo.com>
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

Lots of variations of the basic rcvr design around, R-390, R-390A, R-391 (motor drive tune with 10 presets), R-725 (either a DF set or crypto rcvr, according to who you ask about it), R-1274 (NASA version), then there are the 1984 Navy contract units built by Fowler Industries (supposedly only built via a typical DOD SNAFU). All very interesting and many of them are indeed very collectible items. I just don't have enough cash to be a collector! (big frown now) HiHi!

Date: Thu, 25 Feb 2010 15:40:43 -0600
From: "Bill Hawkins" <bill@iaxs.net>
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

Ben Hall, are you out there? When this subject came up many years ago, and he was at NASA, I recall that spacecraft sent back microwave signals, to get tight beams. The microwave signal was mixed down to something a 390A could hear. The Manson mods allowed very precise control of the frequencies used by the 390A for mixing in the RF deck and PTO.

It's possible that the receiver won't work without the external Manson equipment, but could probably be restored to a normal 390A with a NASA nameplate. Does anybody know?

Precise frequencies were required because the Doppler shift of the spacecraft signal was used for navigation velocity data, along with the position in the sky measured by the ground antenna. If there were multicouplers, they were for redundant 390A sets, not diversity reception. The sets didn't need Manson for that. There was a time when I'd have snapped up anything to do with NASA, but that phase of my life is fortunately over. Now I just copy Shuttle flights from NASA-TV to DVDs.

Date: Thu, 25 Feb 2010 13:54:03 -0800

From: Brian Vietri <bvietri@msn.com>
Subject: [R-390] R-1247 Receiver

Just a note: CONCERNING MY RECEIVER FOR SALE. As I am not a dealer, just an average ham trying to find a good home for a great piece of gear, that I no longer use due to personal reasons, was hoping someone else would appreciate.....

Date: Thu, 25 Feb 2010 14:00:44 -0800 (PST)
From: Steve Toth <stoth47@yahoo.com>
Subject: Re: [R-390] R-1247 Nasa Receiver info

I have one of these. It's an R390A with mods for external connection to two high stability frequency oscillators, one was used for Megahertz and one was used for Kilocycles (not included and mostly unobtainium and very expensive IF you can find them - although I seem to remember from a previous thread that someone here on the list has a set of the oscillators).? No changes in internal components from a standard R390A except the modified PTO and plug in crystal oven crystal can - it still uses the interchangeable power supply, IF, RF and audio decks but NOT the standard PTO. Alignment and calibration is the same as a standard R390A.

FWIW:

Pro:? It is unique and has a certain amount of "cool" factor as being an unusual version of the R390A. You also get bragging rights to owning an R390A "that was modified to be used in the Apollo space program". A genuine R1247 will have a couple easily seen mods: the three connector plate mounted on the upper rear panel with three jacks labeled "J1A, 17Mhz input", "J2A, Synth Input" and "J3A, 9-17Mhz" input. You will also find a mod to the PTO (two mini BNC connectors just below Z702 with input cables) and Mod 1 labelled on the corner of the audio deck closest to the PTO.

Con (from a strictly practical standpoint only): The mod inserts relays into the oscillator signal paths. It just adds one more minor thing (dirty relay contacts over time) to go wrong and degrade receiver performance. It's still an R390A and is a great receiver, its uniqueness just adds one more minor aspect to its ongoing maintenance.

More Info: R-1247/GRC-129

The radio receiver R-1247/GRC-129, HF, 500 Kc to 32 Mc, is a high stability version of R-390A/URR using external ultra-high-stability oscillators. Used by NASA for the Apollo program and modified from the R-390A by Manson Labs.

Contract info: Manson Labs, contract AF30(635)30962 ,Part No 224-0A2

Additional info per Tom, N5OFF:

" All the Oscillator outputs were in series through sets of 2 DPDT relays that appeared to allow the R390A to use its own Oscillators, Import external oscillator signals, or export its internal oscillators to a set of BNC jacks on the rear panel. By all the oscillators I mean PTO, 17Mcy XTAL, and the 1st conversion xtal. These relays required external power via a small connector labeled CONTROL. The relays were Mil Spec commercial units mounted on well machined casts that fit into the OSC tube sockets on the PTO and Heterodyne osc. and the one for 17mhz xtal plugged into the socket for crystal oven. There were 2 small dia. color coded coax cables going to each relay. The R390a worked normally with no connections to any of the connectors."

Additional info per WF2U Landrum, SC

This equipment was part of the AN/GRC-129 system which had two R-1247 receivers for dual diversity. The two receivers had the CV-1694/GRC-129 Single Sideband Converter, (Manson Labs) connected to them, The CV-1693/GRC-129 is the 1 MHz step synthesizer and the O-1203/GRC-129 is the 1 KHz step synthesizer locked to the same frequency standard. With the two synthesizers the receiver is tunable within its normal frequency range in 1 KHz steps. The frequency still has to be dialed in the receiver, because the RF stages and mixers have to be peaked up at the frequency of operation. The receiver can be operated normally, too. Both synthesizers and the converter were built by Manson Labs, but the synthesizers were also made under contract by Hallicrafters, in their last throes of death. The system transmitter was the modified (for sideband) T-368, under the nomenclature T-946/GRC-129, driven by the O-1555/URC synthesizer.

Date: Thu, 25 Feb 2010 17:12:55 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] R-1247 Receiver

As I posted, I have NO beef regarding what price you set for this particular radio. Personally, I hope you sell it for the price you want. I just don't see it in *MY* shack. The current economic situation has me completely out of this league. I don't think anyone is belittling the radio. I have owned two R-390As. Currently only one, and it is being restored. It is one of the "infamous" Blue Striper's from St. Js. The other good receiver that is up and running is a Northern Radio variation of an SP-600. (You should know how this list by now! LOL!)

Date: Thu, 25 Feb 2010 14:18:46 -0800 (PST)
From: Mack Rogers <n4vgb@yahoo.com>
Subject: Re: [R-390] R-1247 Nasa Receiver info

Strange as it may be, the AN/GRC-129 shows up on the mil lists as being a modified version of AN/GRC-26D! Wonder where NASA parked those deuce and a half trucks!? (big grin and scratching head) SSB adapter for a T-368!? We could all go for one of those!

Date: Thu, 25 Feb 2010 17:34:55 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] R-1247 Nasa Receiver info

Those 2 1/2 ton trucks set up as GRC-26Ds, were "pre-positioned" in Europe. A very large number in Germany around 30+ years ago. Send a message to WB2FCN! <James M. Walker> <chejmw@acsu.buffalo.edu> He's who saw them in big numbers. Don't know about the AN/GRC-129.

Date: Thu, 25 Feb 2010 16:43:34 -0600
From: "Barry" <n4buq@knology.net>
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

I can walk to NASA' backyard. I keep hoping they'll set a pallet of R-1247s out to the curb one day...

Date: Thu, 25 Feb 2010 14:52:16 -0800 (PST)
From: Mack Rogers <n4vgb@yahoo.com>
Subject: Re: [R-390] R-1247 Nasa Receiver info

I recall seeing some surplus dealers and even a few individuals that had the complete AN/GRC-26D shelters with all the radio gear still intact but only the shelters and gear, not still on the truck. Which brings up the interesting question of exactly why something that was supposedly for NASA use only would show up on the mil lists as being a standard military piece of gear? AN/GRC-129 shows to be a standard AN/GRC-26D with modifications? <big grin> Could we be seeing one of those deals where NASA needed it but didn't want to pay the price tag themselves? I used to see train loads of brand new military heavy construction equipment, bulldozers and etc., going into one of our TVA nuclear plant construction sites. A few days later that brand new military construction equipment would roll out of the TVA shop repainted and renumbered as TVA property!? <grin, wink>

Date: Fri, 26 Feb 2010 01:56:07 +0300
From: sdaitch@kuw.ibb.gov
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

Way too far back for me to recall a lot of details, but I remember seeing at least one Manson Labs driven R-390 system at either Fort Monmouth, in

1969, or in Vietnam, in 1970 or so. I am leaning toward seeing it at Fort Monmouth. The July 1968 Army Strategic Communications Command Pamphlet Number 105-4 simply calls it a Frequency Stabilized Radio Receiving Set, AN/FRR-41. It does not list any specific unit model numbers, other than the R-390A and CV-157. The detail indicates the modified receivers "will be used for the reception of analog and data transmissions over STARCOM HF single sideband radio circuits." I had some correspondence with some folks who worked at the Phu Lam HF station a few years ago, and IIRC, I got some feedback they may have had some Manson Labs modified units, but no one ever came back to me with details or even any pictures.

Date: Thu, 25 Feb 2010 17:26:54 -0600
From: "William J. Neill" <wjneill@consolidated.net>
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

AN/FRR-40 and AN/FRR-41 were used for MUX purposes and used either stock R-390 or R-390(A) receivers in CY-1119A rack mountings. There's nothing special about them. As information, SigC described a series of equipments based upon the R-390() in the following Technical Bulletins:

TB SIG 322-173 SSB Voice Terminal Equipment 06-10-68
TB SIG 322-174 SSB Channel Combining & Splitting Equipment 06-10-68
TB SIG 322-175 HF Radio Direction Finding Equipment 04-09-71
(AN/TRD-15)
TB SIG 322-178 SSB TTY Terminal Equip 16 Chans 06-10-68
(AN/FRR-40/41)
TB SIG 322-301 Diversity FSK TTY Receiving Equip 11-29-68
(AN/FRR-38)
TB SIG 322-302 SSB Receiving Facility 11-29-68
TB SIG 322-303 Basic HF Radio Receiver (R-390) 04-15-69
TB SIG 322-306 Facsimile Terminal 08-21-68

I have originals of the above listed documents in my collections.

Date: Thu, 25 Feb 2010 17:39:42 -0600
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] R-1247 Receiver

And that is Fair Enough.... Case closed...

Date: Thu, 25 Feb 2010 18:44:13 -0500
From: "Meir WF2U" <wf2u@wsl9ops.com>
Subject: Re: [R-390] R-1247 Nasa Receiver info

The R-1247/GRC-129 receiver is the nomenclature for the R-390A receiver modified by Manson Labs. The GRC-129 system was a high-stability diversity system used by NASA which had two R-1247/GRC-129 receivers. These modified R-390A's had other associated equipment manufactured by Manson Labs. The receiver was modified to accept inputs from the external frequency synthesizers which generated all the necessary LO frequencies.

The receivers can be switched over from internal to external LO operation and for this purpose had small relay boxes and LO in/out cables/plugs. The IF output was utilized through an SSB converter (2 channel) which provided the demodulated audio output (the BFO signal was supplied externally from one of the synthesizers).

The CV-1693 is the 1 MHz step synthesizer and the O-1203 is the 1 KHz step synthesizer locked to the same frequency standard. With the 2 synthesizers the receiver is tunable within its normal frequency range in 1 KHz steps. The frequency still has to be dialed in the receiver, because the RF stages and mixers have to be peaked up at the frequency of operation. The receiver can be operated normally, too.

I used to have the synthesizers for the GRC-129 system and I still have the R-1247 receiver which works normally by itself - it has 2 tags: the system tag "R-1247/GRC-129 Receiver, Manson Labs S/N 48, contract #AF30(635)30962"; and the original R-390A tag: "R-390A/URR, S/N 1832, Motorola, contract 14-PH-56".

Hallicrafters also made some of the synthesizers under contract, for Manson.

I also had another part of the same system, the O-1555/URC which is a synthesizer to set the frequency of a modified T-368 transmitter whose GRC-129 nomenclature eludes me. The component I never had is the SSB generator that was added to the transmitter instead of the original modulator deck. I also had some documentation on the synthesizers.

I sold all the accessories mentioned above maybe 10 years ago, with whatever technical documentation I had, except I kept the R-1247 receiver which I still have. It's usable as a normal R-390A without all the accessories.

I hope this clarified some questions.

Date: Thu, 25 Feb 2010 20:18:33 EST
From: ToddRoberts2001@aol.com
Subject: Re: [R-390] R-1247 Nasa Receiver info

I wonder if anyone has ever tried to run a R-1247 using 3 separate modern DDS oscillators? It might be easier and more cost-effective than trying to find the original matching Manson Labs synthesizer unit. The R-1247 is rare enough but the original synthesizer is probably unobtainium these days.

The reason I ask is because I do have a R-1247 but have pretty much given up on ever being able to find the Manson Labs synthesizer unit, much less a good working unit. Plus I have read the original synthesizer was a bear to keep running and the specs weren't all that great on it as far as phase-noise goes. If someone knew the drive level needed it shouldn't be too hard to get the R-1247 up and running as it was intended with a couple of modern, low-phase-noise DDS oscillators.

Date: Fri, 26 Feb 2010 02:44:41 +0100
From: Heinz Breuer DH2FA <dh2fa@dark.de>
Subject: Re: [R-390] R-1247 Nasa Receiver info

I have one of these synthesizers with a Hallicrafters name tag. I have to check my storage but I seem to recall that it is the 1 MHz synthesizer. I mentioned this unit a couple years ago on the Hallicrafters reflector and nobody was able to tell me anything about it. If anybody needs it please drop me a line.

Date: Thu, 25 Feb 2010 21:05:54 -0500
From: Glenn Little WB4UIV <glennmaillist@bellsouth.net>
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

Do you have the Manson Labs synthesizer that makes this receiver different, or just the receiver with the extra BNC connectors and relays to allow it to operate with the synthesizer? I think that the receiver will still function as a standard R-390A without the synthesizer, possibly requiring some jumpers.

Date: Thu, 25 Feb 2010 21:02:12 -0600
From: Tom Frobase <tfrobase@gmail.com>
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

No jumpers, just works as is. I have a Motorola SN951 modified like this. Three BNC's on the rear and a connector for relay voltage. The relay's bypass the normal circuits. I removed the mods, they were all plug ins, and restored the receiver to its original state. It is in my shack playing as I write this ...

Date: Thu, 25 Feb 2010 22:19:56 -0600

From: "Bill Hawkins" <bill@iaxs.net>
Subject: Re: [R-390] R-1247 Nasa Receiver info

I'm glad to know that the R-1247 functions as an R-390A by default. I bear the seller no ill will. NASA sets do not grow on trees. But I really wonder about the need for precise frequencies, when the R-390A is so well adapted to multichannel RTTY diversity reception all by itself. Does anyone else know about the need for secondary conversion from microwave to precisely discover the Doppler shift from the microwave signal on the spacecraft? Would I really have needed the R-390A for SSB diversity comm in 1965? Who would I be talking to? I can understand the military adopting precise frequencies to get closer to perfection, but did NASA need it for site communication?

Date: Thu, 25 Feb 2010 22:49:15 -0600
From: Jerry K <w5kp@hughes.net>
Subject: Re: [R-390] R-1247 Nasa Receiver info

Bill, I was stationed in Hawaii as Communications Officer for the Navy's Manned Spacecraft Recovery Force Pacific (CTF-130) from 68-70.

As you are probably aware, many of the at-sea recoveries for Apollo 8 onward (weather permitting) took place near American Samoa, with command and control of the at-sea forces coming from our command center at Kunia, Hawaii. We had rudimentary satellite voice via NASA satellite vans onboard the recovery ships (mostly as a backup link), but that was in the verrrry early days of satellite voice, and most of the command and control communications for the recovery forces were conducted via 24/7 ISB HF RTTY and voice links (usually voice on one sideband and RTTY on the other) using the recovery ship's equipment (augmented by transportable transmitter vans on board with 5 and 10 KW transmitters).

For the Hawaii shore end of these links we used remote transmitter/receiver services from Naval Communications Area Master Station (NAVCAMS) Eastpac at Wahiawa, Hawaii. They kept several 5 and 10 KW transmitters on RLPA's on line for us, and my comm crew and I passed the QSY's to them. They did a heck of a good job for us. They were NOT using R-390A's for these circuits--I believe they were using some version of the R-1051. However, NASA also ran their own "private" point-to-point HF links out of American Samoa, and they may have been using 390A's and diversity RTTY for that. Nothing exotic, just plain old ISB HF, although of course very little receiver drift could be tolerated. NASA also had a boatload of Collins "suitcase" KWM-2 rigs, and they used those a lot when they could. The RF EMI environment aboard the recovery ships was a constant nightmare, too. Load 10 KW into a cage that's covered with salt

spray and watch the fireworks at night. Ha. That was probably my most interesting (and challenging) duty tour. 73, Jerry W5KP USN (Ret)

Date: Fri, 26 Feb 2010 01:31:20 -0500 (EST)
From: "Richard W. Solomon" <wlks@earthlink.net>
Subject: Re: [R-390] R-1247 Nasa Receiver info

I would think that the accuracy and stability of the First LO (at Microwave Freq's) would be much worse than the low freq LO's in the R-390. Unless they were phase-locked to a Cesium standard !! Even then, Doppler shift would have made tuning a joy !! Just ask anybody who is into EME.

Date: Fri, 26 Feb 2010 08:54:45 -0500
From: John Vendely <jvendely@cfl.rr.com>
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

The R-1247 was not developed for the Apollo space program. It was developed in 1963 as part of the AN/GRC-129, a tactical RATT van used mainly by the Air Force. The idea was to provide frequency synthesis facilities for the R-390A in SSB/RATT operation, solving the receiver's long-term stability problems.

Manson Labs modified stock R-390As to accept two external frequency synthesizers which substituted for the internal PTO, HF crystal oscillator, and 17 Mc oscillator. The resulting system was thus phaselocked in 1 kc steps, and had much better long-term frequency stability than the stock receiver--when it worked. The synthesizers proved unreliable, and also degraded receiver phase noise performance. Manson also supplied a SSB converter for the receiver, and a SSB exciter (CV-1695/GRC-129) for use with the system's transmitter, a modified T-368 from which the old exciter and modulator was removed, and to which the SSB exciter and new 1 kW linear amplifier were added.

The "R-1247 developed for Project Apollo" story appears to have originated with a guy selling a grossly overpriced partial set of the synthesizers several years back, and has been circulating ever since. It's become a kind of urban legend in the surplus radio community. NASA used many R-390As throughout its ground communications network from the beginning of Project Mercury onwards for HF reception and as a tuneable IF. And I can attest to the fact that they did indeed purchase a few R-1247-style conversions from Manson Labs. However, they were disappointingly unreliable, and were quickly removed from service.

Conversion of older equipment to SSB and frequency synthesis was a big deal there for a while, and Manson Labs did a lot of business in this market. They offered their upgraded R-390 systems on the commercial

market as well, usually featuring a synthesizer system which tuned in 100 cps steps (Manson Laboratories Model 299). However, they weren't very successful. They also produced a very similar synthesizer/SSB upgrade for the Collins AN/FRT-24 transmitter. TMC also did an R-390A synthesizer upgrade using equipment of their design.

In all fairness, the reliability problems this equipment had were typical of that generation of vacuum-tube frequency synthesizers. All the synthesized gear of the time, whether purpose-built or modified, required frequent attention to keep it going. Manson's multiloop serial injection PLL synthesizers were audacious, state of the art designs for their time, and by far the most physically compact. They were therefore tweakier than most. I must say I greatly enjoy working on them though, perhaps for this very reason, and can recommend them to anyone who's also nuts enough to want to spend the necessary time at it...

Date: Fri, 26 Feb 2010 09:00:20 EST
From: DJED1@aol.com
Subject: Re: [R-390] R-1247 Nasa Receiver info

I recall back in the early '60s listening to Gemini capsule communications on HF SSB. I assume that NASA was linking comms back from one of their remote sites like the Azores or Australia. Maybe they didn't want to maintain the staff that the military used to supervise the operation of RTTY and SSB reception, hence a setup which would be frequency stable to a few cycles.

Date: Fri, 26 Feb 2010 08:14:12 -0600
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

That's great info....in my mind a rare piece of history that clears up a piece of the R-390A/Manson Labs gray area as we thought we understood it. You speak of loving to work on the stuff...that leads me to believe you possess some of the old synthesis gear that was used with these receivers. If I am correct maybe some photos for the archives would be in order. You certainly don't see much if any of this stuff around these days and I would guess that piece will be lost forever in the not too distant future if not documented. It's just this kind of stuff we need more of here...or future generations will have no clue...

Date: Fri, 26 Feb 2010 08:16:01 -0600
From: wf2u@ws19ops.com
Subject: Re: [R-390] R-1247 Nasa Receiver info

I never hooked up the synthesizers to the receiver when I had them. I only played with part of the system, the SSB converter, it seemed to be working fine.

Date: Fri, 26 Feb 2010 08:09:13 -0600
From: Dave Merrill <r390a.urr@gmail.com>
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

Would the TMC version be the R-1981/TSC-25?

Date: Fri, 26 Feb 2010 08:17:54 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

This gets my vote for the best informational/historical post of the year (so far). It's great to get the facts from somebody that "was there." As someone that has been digging through the truth and fiction regarding Hammarlund Manufacturing Co., I wish that we had more people that would step forward and clear the air, so to speak.

Date: Fri, 26 Feb 2010 08:40:41 -0600
From: Jerry K <w5kp@hughes.net>
Subject: Re: [R-390] R-1247 Nasa Receiver info

How true, Ed. Few folks today can appreciate the investment in multiple high power transmitters and receivers, directional antennas, and the multitude of warm bodies required to support a life-or-death reliable 24/7 ISB HF ship-to-shore link over a 2500-mile North-South path for even a few days, let alone for weeks at a time. We kept at least two and sometimes three freqs on the air at all times, and used leap-frog QSYing during the frantic dawn and dusk long-path transition periods. There were times the MUF would dive from 14 MHz to 2.5 MHz over a 30 minute period in the evenings, and you couldn't wait it out, you had to have the circuit up and working during those periods. There were no reliable computer Maximum Usable Frequency (MUF) forecasts available most of the time, just pencil and paper seat of the pants prognostication based on experience. However, I'm proud to say my crew of a dozen or so, with great support from the Hawaii NAVCAMS folks, ran those links with a documented 99%+ reliability factor for three weeks straight every mission. Nobody got any sleep! :) Today's long-path communicators have it made, they just dial up a couple of satellite channels and let 'er rip.

Date: Fri, 26 Feb 2010 09:13:50 -0600
From: "William J. Neill" <wjneill@consolidated.net>
Subject: Re: [R-390] R-1247 Nasa Receiver info

Yes, you would've needed the R-390() for HF diversity comms in 1965, either in space or frequency diversity configurations. The benefit of HF diversity operation is that if the signal goes down on one antenna/receiver, it'll still be up on the other and therefore you'll still be functional. And the ancillary equipment, whether it be a CV-116() or CV-157, has the capability to compensate for minor signal drift, thereby further enhancing quality of the signal. I still run HF diversity although there ain't a helluva lotta traffic left that merits such operation, especially TTY.

Date: Fri, 26 Feb 2010 07:33:05 -0800 (PST)
From: wli <wli98122@yahoo.com>
Subject: Re: [R-390] R-1247

I'll second Les. This has been very informative to me and others who were *not there*. Great posts! They will be listed under *history*.

Date: Fri, 26 Feb 2010 10:45:32 -0800 (PST)
From: Mack Rogers <n4vgb@yahoo.com>
Subject: Re: [R-390] R-1247 Nasa Receiver FOR SALE

Ahhhh, there is the info that I hoped would be forthcoming. I always suspected the AN/GRC-129 and all it's components were developed for the military and not NASA.

Date: Fri, 26 Feb 2010 13:29:12 -0600
From: glwebb@gundluth.org
Subject: Re: [R-390] R-390 Digest, Vol 70, Issue 28

.....but no one ever came back to me with details or even any pictures."

The sites where I worked with various versions of R390's had a long list of prohibited items with cameras and tape recorders at the top of the list.

Date: Fri, 26 Feb 2010 14:37:57 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] R-390 Digest, Vol 70, Issue 28

Like Gary, there were many sites that I worked that had the same types of restrictions. The Group Commander didn't have the combination to the Operations Center. HE had to press the VISITOR's button to gain access. It is NO surprise that there are NO pictures. Even those whom speak their piece today "could" get a visit by a Dark car with VERY darkly tinted windows occupied by "gentlemen" in suits. It was and IS the nature of the business that MANY were in while working for Uncle Sam,, whether in uniform or not.

Date: Fri, 26 Feb 2010 13:41:48 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] R-390 Digest, Vol 70, Issue 28

Not if they speak of vacuum tube receivers.....that would be pure stupidity on the Government's behalf. Oops, wait a minute I worked for those dummies for 37 years, they are capable of dumb moves.

Date: Fri, 26 Feb 2010 14:57:03 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] R-390 Digest, Vol 70, Issue 28

You and I KNOW how anal THEY can be! I got drug in for a LONG session of questioning in 1983. It started by CID pursuing a missing piece of club equipment. I told them what I was doing in the club station. Next thing I knew, I was on the HOT seat because I had communicated with Russian amateurs. This developed into multiple sessions. They finally laid off the grilling. I'm surprised that I got my clearance reinstated to work with DOE after retirement!

Date: Fri, 26 Feb 2010 12:04:31 -0800 (PST)
From: Steve Toth <stoth47@yahoo.com>
Subject: [R-390] R-1247 NASA Receiver Info

You know what's interesting about this is that when the ham I bought my R-1247 from shipped it, he used the description "used Vietnam radio equipment".

Date: Fri, 26 Feb 2010 19:21:46 -0600
From: <wb5uom@hughes.net>
Subject: Re: [R-390] R-1247 Nasa Receiver info

Like others have said, this is great stuff. Very good information. I was born a few years to late for I think it would have been great to be a part of something like that. Thanks guys for sharing. (and no need to stop either)

Date: Fri, 26 Feb 2010 19:40:19 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] R-390 Digest, Vol 70, Issue 28

Back in 1958, my dad was stationed in Madrid, Spain. He was a teletype and crypto tech. I had a Hammarlund SP-200 variant, a AACS model.

I sent off a QSL request to radio Moscow..... the Air Force intercepted the reply and QSL card from them and dad was called in to answer why his son

was in contact with the Russians. They were anal about things back then too. It's funny now.

Date: Sat, 27 Feb 2010 13:26:26 +0300
From: sdaitch@kuw.ibb.gov
Subject: Re: [R-390] R-390 Digest, Vol 70, Issue 28

There are plenty of photos of the Phu Lam radio site in Vietnam, to include the TTY equipment in the Autodin facility, and even photos taken in the HF transmitter site. I just never found any photos of the HF receiver site. Two places to look at: <http://www.1stsigbde.org/> and <http://phulam.com/stories.htm>

I made several trips to the Phu Lam site in 1969 and 1970, but I think mostly to the microwave and tropo radio operations and the technical control facilities. The HF side of Phu Lum wasn't in our area of general responsibilities, so I don't think I paid a lot of attention to that side. Really wish that I had.

Date: Fri, 05 Mar 2010 16:14:46 -0700
From: "Bill Beech (NJ7P)" <nj7p@nj7p.org>
Subject: Re: [R-390] R-390 Digest, Vol 70, Issue 30

I was located on Kindley AFB, Bermuda, (AF brat) in the early 60's and I listened to the Mercury Voice comms on 15.015MHz USB. I did later hear the HF net that linked the big ground stations until satellites took over. Bermuda had a big NASA station which was replaced by a simple roll maneuver as the vehicles clear the tower....

Bill, NJ7P

> Date: Fri, 26 Feb 2010 09:00:20 EST
> From: DJED1@aol.com
> Subject: Re: [R-390] R-1247 Nasa Receiver info
>
> I recall back in the early '60s listening to Gemini capsule communications
> on HF SSB. I assume that NASA was linking comms back from one of their
> remote sites like the Azores or Australia. Maybe they didn't want to
> maintain the staff that the military used to supervise the operation of RTTY and
> SSB reception, hence a setup which would be frequency stable to a few cycles.
> Ed W2EMN

Date: Tue, 6 Apr 2010 12:03:33 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] ebay NOS r-390A

Picking up one of these radios I am filled with a sense of history. These were on the front lines of the cold war, listening for the Russians, Chinese and Vietnamese. I do not think that there would be the same sense of history in a NOS radio that was stored in a warehouse since it rolled off the factory line. There is a real point I had not thought on long enough. I have a Blue striper we know came out of an ASA sight some where and one that was used in the Long Beach California ship yard prior to about 1980. The Long Beach one looks better but it sure does not have the history of my blue striper. Thanks for fixing my point of view.

Date: Wed, 7 Apr 2010 12:43:37 -0500
From: glwebb@gundluth.org
Subject: Re: [R-390] eBay NOS R-390A

Do you know for sure the Long Beach unit has no interesting history? I used R-390A's in the Navy when I was on Guam 1967-68 where we did a lot of intercept of a lot of different kinds of traffic including some from underwater sources. There were around 10 spy ships in service during those years. The USS Pueblo and the USS Liberty had some pretty interesting events. Of course their receivers did not end up in the public domain. But that leaves 8 other ships with a lot of R390A's that "heard" a lot of interesting and significant traffic. Yours may be one of them.

In Panama 1968-1970. We had two to four Army ASA guys per watch doing intercept for their own interests. We had a R-390A which was monitoring the NASA frequency during the Apollo 11 mission. I had the good fortune to be on watch during the landing itself. Now I have no evidence that my Navy Motorola R390A was the one that I tuned and listened to 41 years ago. But I can imagine it is. And if nothing else is true, it can and does, remind me of some pretty interesting and historically important times and doings that centered around these wonderful receivers. Whether they ended up at the St. Julian's massacre or the Long Beach Naval Yard.

Date: Wed, 07 Apr 2010 14:02:35 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] eBay NOS R-390A

And I lived in the tropical barracks right next door on Fort Amador. The RLPs were sort of obvious. I "may" be sacrilegious, but the '51 contract Collins that was a "Blue-Striper". I'm completely stripping the front panel and refinishing it. It was TOO nasty to leave the stripes there.

Date: Wed, 7 Apr 2010 14:50:20 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] eBay NOS R-390A

Well, the Fowler serial number 2 was found at the LBTF (Land Based test Facility) at the Long Beach Shipyard.....a small piece of history there.

Date: Wed, 7 Apr 2010 22:14:37 -0400
From: "Richard Spargur" <k3ui@comcast.net>
Subject: Re: [R-390] R-390 Digest

>..Roger Ruszkowski 33C4H 1968 - 1975.....

Nice to see your calling card by your name. How many people know what a 33C4H is. Forgive me if I am not 100% accurate.

33C: Intercept Receiving Equipment Repairman (School trained to make them nuts and bolts and stuff out of R-390As and put them back together, align them and make them work.)

4: SFC/E? Thank you for your long service.

H: Instructor; knows where Allen and Hale Hall were.

Date: Thu, 8 Apr 2010 20:36:53 EDT
From: Flowertime01@wmconnect.com
Subject: [R-390] Where did Julian Creek receivers come from?

I love my spell checker I do I do. The sand in the gear train is from Julian Creek and will not help us determine where these receivers were from. I think we need to put the question to Where did Julian Creek receivers come from? I think a lot of the story is in the archives and been posted before. I do not know the real facts. I do have some idea but no facts.

Date: Thu, 8 Apr 2010 20:49:25 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] eBay NOS R-390A

My Long Beach receiver is inscribed on each sub assembly to keep parts from being swapped into the general mix. I was told it was from the MARS station at Long Beach. I am sure it has history of its own.

But there were the ones in Phu Bia, on the DMZ in Korea, My R390's with 24 volt power supplies in a van. The one's in Okinawa were wonderful. My buddy Klick tells me about R390's in Africa. I feel sorry for about 12 that

were weekly disassembled by students in Hale Hall at Ft. Devens.

I knew of other in Shimma Alaska, Germany and Berlin and Turkey.

And you are right the Navy had lots of them. The Marines had a bunch more. I know of other locations that had them.

They were the back bone of long haul signal corps receivers for years. These got paired with transmitters and every military installation of any size had a phone line from a TTY to a receiver some place that carried the daily logistics of the military. I have no idea how many of these receivers there were / are. History, any one of these receivers has history if it did no more than ordered your chow and brought you your orders to go home.

Date: Thu, 8 Apr 2010 20:57:13 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] eBay NOS R-390A

Neat, I think they were trying to keep my receiver from getting integrated with that Fowler serial number 2. With reason and the need to keep some integrity in the procurement process. More history worth remembering.

Date: Thu, 8 Apr 2010 21:15:29 -0500
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] Where did Julian Creek receivers come from?

From what I understand, it was just a gathering point from various DRMO sites all over. I honestly believe that they didn't know what to do with them and the pile grew over a period of time until the big day when they were all sold at auction.

Date: Fri, 9 Apr 2010 08:20:57 -0400
From: William A Kulze <wak9@cornell.edu>
Subject: [R-390] Surplus location

Slightly OT, but does anyone recall a big surplus place in the San Fernando Valley? My R390a came from there about 20 years ago. I guess they had them stacked to the ceiling. The work scene was not so good then and I was working for a place as their CB technician (I know, I know). A guy I knew serviced forklifts and I think he traded some work for a couple radios. I got mine for repairing and tuning up his CB. (I did have enough pride to not pull the modulation limiter unless a customer was quite insistent.) Another buddy got an R390. The BFO didn't work on mine, it was at best a very high freq beat. I opened the bfo pto and the slug had come off the shaft. One rear corner of the chassis was bent, looked like the radio got dropped. A little super glue fixed it right up.

Does anyone remember this place and are they still in business?

Date: Fri, 9 Apr 2010 06:42:41 -0700 (PDT)
From: Dennis Kidder <w6dq@att.net>
Subject: Re: [R-390] Surplus location

Are you referring to Apex Electronics? They are still in business:
<http://www.apexelectronic.com/>

They were/are probably the largest surplus dealer in the Los Angeles area. I don't recall seeing R-390As there (which is not to say that there weren't) but there was definitely equipment stacked to the ceiling! (My all-time favorite surplus "joint" with stuff stacked to the ceiling was JJ Glass in downtown LA. Long gone, but great memories! Neither one a place you wanted to be in an earthquake!)

Date: Fri, 9 Apr 2010 10:03:32 -0400
From: William A Kulze <wak9@cornell.edu>
Subject: Re: [R-390] Surplus location

Thanks Dennis, that might be the place. I think I went there once for some cable. Seems like there was a place somewhere around Reseda and Sherman Way. I know there was a place down there where I bought my first shortwave radio, a Panasonic RF-2200, for \$60, in the mid '80s, but that might have been a pawn shop. Yeah, there were some places out there that were like surplus heaven! And, yes, no place to be in an earthquake! I worked a couple years for a small place in Santa Rosa called Haltex Electronics, IIRC. There was a Haltek in Santa Clara and one of the founders split from them and started Haltex and his son was running it when I worked there. There was one fellow who came in there a lot that was clearing out and I wound up with a lot of his stuff. Quite a good intro to boat anchors, and besides radios I got some old test equipment so that I could also do alignments and such on them.

Date: Fri, 09 Apr 2010 17:43:50 -0700
From: Renée Deeter <k6fsb.1@gmail.com>
Subject: Re: [R-390] Surplus location

TNX Guys I just returned from Apex....what a wonderful mess! I am staying in the area for a couple of days and had a couple of hours....not enough time, not enough time! too much stuff.... now a really good reason to visit my brother!

Date: Fri, 09 Apr 2010 12:47:33 -0400
From: rbethman <rbethman@comcast.net>

Subject: Re: [R-390] Where did Julian Creek receivers come from?

It is a "bit" puzzling. The term DRMO wasn't really in use when all these old gals got sent to St. Julien's Creek Annex, Norfolk Naval Shipyard (NNSY), Portsmouth, Virginia.

Each and every military installation had a PDO, Property Disposal Office. They used to be the collection point for all the Military Units that the particular installation served.

St. J's has been a munitions/ordnance installation going back to around 1849. It changed in 1969 from its ordnance and weapons supply mission, to become an Annex to Naval Weapons Station, Yorktown, Virginia. In 1977 it was transferred to the Norfolk Naval Shipyard.

Apparently it has been a facility that generated potentially hazardous substances include metal plating, de-greasing, painting, operation of hydraulic equipment, vehicles and locomotives, ordnance loading, ordnance testing, ordnance disassembly, ordnance destruction, pest control, maintenance of lead-acid batteries, and printing. Trash and garbage generated from the facility was disposed in on-site dumps. Wastes were typically disposed in low areas, which are wetlands. Beginning in the late 1930s, waste ordnance materials were disposed on site. On-site disposal and storage of waste created numerous sources of potential contamination, including landfills and an ordnance disposal (burning) area. Sources of potential contamination located on the facility include four landfills, an ordnance disposal area, an ordnance burn pit, a hazardous waste disposal area, a waste storage area, and a pesticide disposal area. These sources were noted because of their potential to release to the surface water surrounding the facility, i.e. Blows Creek, St. Julien's Creek, and the Southern Branch of the Elizabeth River. Somewhere in all of this it ended up with the huge stacks of R-390s and R-390As that we have seen the pictures of. It "Most likely" did so due to the radioactive waste issue, regarding the original meters and the original OA2s that developed radioactivity from use due to conditions of the gas used in their envelopes. Low level radioactive waste was buried in drums at Barnwell, S.C. It IS interesting that these radios from ALL branches of the military went to a single disposal point. I never experienced anything like that in my entire military career. Bob - NODGN

Date: Fri, 9 Apr 2010 19:35:18 EDT

From: Flowertime01@wmconnect.com

Subject: Re: [R-390] Where did Julian Creek receivers come from?

I think you are right. The receivers wound up there because of the tube and meters. Someone had a bright idea the meters could be separated from the

receivers and a lot of scrap sold and thus would not need to be disposed of (buried) as hazardous waste.

Date: Fri, 9 Apr 2010 20:43:03 -0400 (EDT)
From: larrys@teamlarry.com (Larry Snyder)
Subject: Re: [R-390] Where did Julian Creek receivers come from?

Hmmm... So somewhere at SJC there's a grave containing all the missing meters? Sounds sad.

Date: Fri, 9 Apr 2010 21:00:22 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] Where did Julian Creek receivers come from?

Knowing my government, that's my belief.

Date: Fri, 09 Apr 2010 20:39:43 -0500
From: Robert Nickels <ranickel@comcast.net>
Subject: Re: [R-390] Where did Julian Creek receivers come from?

I just checked and the St. Juliens Creek Massacre info is still available on the web in case anyone is wondering what we're talking about:
Pics: http://www.r390a.com/Archived%20Pages/radio_rape.html
Text: <http://www.radioworks.com/nr390saga.html>

13 years ago this coming Sunday...lest we forget...

Date: Fri, 09 Apr 2010 17:48:26 -0700
From: "Dennis Deaton" <wa6acc@verizon.net>
Subject: Re: [R-390] Surplus location

I believe that you are referring to Apex Surplus out on San Fernando Mission Blvd.
It's still there and very much alive.

Date: Fri, 9 Apr 2010 20:58:26 -0500
From: "LEE BAHR" <pulsarxp@embarqmail.com>
Subject: Re: [R-390] Where did Julian Creek receivers come from?

Sure was a tragedy. Almost as big as 9-11.

Date: Sat, 10 Apr 2010 00:20:54 -0400
From: Glenn Little WB4UIV <glennmaillist@bellsouth.net>
Subject: Re: [R-390] Where did Julian Creek receivers come from?

There was a similar group of R390A receivers at DRMO Charleston SC.

These were destroyed even further. They had a disposal "expert" determine that there was gold in the R390A receivers.

All modules were removed from the receivers and an air chisel was used to remove all connectors from the receivers. There was at least 20,000 pounds of these. These were collected in an outside storage bin until the auction.

A local scrap yard won the bid. I was able to buy a car full of the parts. The receivers were loaded by scrap crane into a dump truck. When the dump truck arrived at the scrap yard, the receivers were dumped onto the ground. These were thrown into 55 gallon drums cut in half, attached to a front loader.

These were hauled to the furnace as fast as they could load them where they were melted for the aluminum. I still salvage parts from the pieces that I got. There was nothing restorable in the lot. I wish I knew then what I know now and I would have loaded mostly IF modules. Another R390A horror story.

Date: Sat, 10 Apr 2010 10:18:25 -0500

From: Tisha Hayes <tisha.hayes@gmail.com>

Subject: Re: [R-390] Where did the Julian Creek receivers come from?

"Someone had a bright idea the meters could be separated from the receivers and a lot of scrap sold and thus would not need to be disposed of (buried) as hazardous waste."

I have a funny story about that. I used to be a FEMA certified Radiological Instructor III and taught classes for EMA organizations. As part of one of the classes I would hide .5 uCi cobalt 60 sources in a room and send in students to map the radiation sources. This was to teach the grid search technique and how to work as a team. At the end of the exercise the team would provide me with a map of where they thought the sources were located I had five training source capsules and had hidden them well... One team reported six sources. I had to check this out... What they ended up mapping was an old boat-anchor military radio that had the lettering and knobs painted with radium paint. This thing was stored in a wooden cabinet that I was unaware of. It was putting out nearly as much gamma/beta radiation as a check-source. It was quite neat. As long as you do not grind the stuff into dust and either eat or snort it into your nose these types of sources are not a problem. There are many more things that pose a greater radiation risk. The same folks who get all in a knot about radioactive meters have a half-dozen smoke detectors with americium sources, fiestaware dishes with uranium paint, an old Wesclox alarm clock with the radium facepaint or live in an area where there is a lot of granite

with radium gas.

Date: Sat, 10 Apr 2010 13:40:44 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] Where did Julian Creek receivers come from?

I started by looking at the Military History of the "end point". I looked over what its purpose was from the beginning. I followed it through its changes, and what it became.

I used most of one paragraph from the total. That's the one where the burial of hazardous materials on-site came into view.

I knew that "something" very out of the norm would have to be involved for ONE single location would be used for the bringing together of this equipment from the "different" services and/or branches of DoD. Even today, they remain separate in dealing with surplus or no longer in service equipment.

The ONLY thing that makes "any" sense is the meters and voltage regulator tubes.

I've watched the Military do things in a peculiar manner with regard to electronic equipment since about 1960. Eglin AFB, FL, used to take each and every multimeter, and break the meter before putting it into the salvage yard for disposal as scrap. A very labor intensive process.

The Army used to collect things of "like" type, and bundle them in "lots" for bid.

However, St. Julien's Creek was the ONE and only "consolidated" disposal.

Can I call it "The Gospel" of St. J's? No. However it is the "only" reason that I can discern for a BIG break in behavioral pattern for Uncle Sam!

Date: Sat, 10 Apr 2010 18:18:09 -0400
From: jcoward5452@aol.com
Subject: Re: [R-390] Where did Julian Creek receivers come from?

Several years ago there was an article in Air and Space magazine about life in an underground missile silo. The pictures were all artist's conceptual paintings, no photos. What caught my eye though was the rendering of floor to ceiling racks of radios with the same panel layout as the R-390 and -390A. Lots of them. I can imagine each radio tuned to a different HF comm channel and also a completely redundant back up. Just wondering how many silos there were and how many radios in each one.

Date: Sat, 10 Apr 2010 12:15:58 -0400
From: "James Young" <YoungFamily@glwb.net>
Subject: [R-390] R-390 Frequency Label 4596.5

My recently acquired R-390 (1951 Motorola contract) came with a Dymo-type label at the top center above the nomenclature tag that simply says "4596.5" and it has me curious. Should I infer that my 390 spent countless hours listening to this one frequency at some Cold War listening post? Or would that be over-romanticizing the vague history of my receiver?

I will not pull the label off, nor would I paint over a blue stripe if I had one. These and other artifacts are testaments to the serviceability of the design and in the case of the blue paint, the indignities so many sustained.

If anyone has comments about the "4596.5" label I'd be interested to hear them. Does it ring any bell or conjure up speculation about my 390's previous life?

Date: Sat, 10 Apr 2010 21:21:39 -0500
From: Gary Pewitt <garypewitt@centurytel.net>
Subject: Re: [R-390] R-390 Frequency Label 4596.5

The R-390 receiver at Beefeater Bombplot-Radar Bomb Scoring Site- near Wilder, Idaho was set on 5710 HF permanently. That was in the middle to late '60's.

Date: Sat, 10 Apr 2010 18:07:08 -1000
From: "Ray Cote" <rjcote@hawaii.rr.com>
Subject: Re: [R-390] R-390 Frequency Label 4596.5

I had a few from Pearl Harbor DRMO that had dymo tape and the turn-in activity said it was an Inventory location and was Dymo so it could be removed easily.

Date: Sun, 11 Apr 2010 13:57:58 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] R-390 Frequency Label 4596.5

The entire RBS - (Radar Bomb Scoring) System was a good bit more widespread than most would believe. In addition to places like "Beefeater Bombplot", there were USAF rail cars that traveled the country as RBS mobile stations.

Additionally, the Army Nike sites ran RBS missions. They would track the incoming acft, communicating with them, using the winds aloft data, get

tone at the BRL, (Bomb Release Line), then using those antique computers, calculate the point of impact.

A score of "Shack" was issued when the calculated point was within 300meters.

The actual track plots, and resultant calculations were packaged up and sent as classified mail.

I have NO idea how many of these locations used R-390s or R-390As. I would suppose that the rail cars used them at a minimum. The folks at the Nike sites never saw the radios used. So I could not tell you from that aspect.

Date: Sun, 11 Apr 2010 22:20:00 -0500
From: Gary Pewitt <garypewitt@centurytel.net>
Subject: Re: [R-390] R-390 Frequency Label 4596.5

Oh yes, the radar trains. I served two six weeks TDY missions on one. We had to jack up the last car at the rear end and swivel it out away from the tracks so the Acquisition radar antenna wouldn't get knocked off by passing trains doing 80 mph just a few feet away. We used gigantic ratchet jacks with very long handles. The trains were originally meant for the Minute Man missile program which was changed to fixed sites. The first tour was at Winslow, Arizona and moved to Garden city, MO. The second was about 60 miles east of Pierre SD in the middle of nowhere where the tracks were in such bad condition that the trains were limited to 15 mph. A lot of us spent some time in Cambodia guiding the Arclight bombing missions when someone figured out that if we could score them we could also direct them. Worked pretty good when there was anything there to hit.

Date: Sun, 11 Apr 2010 21:02:20 -0700 (PDT)
From: Steve Toth <stoth47@yahoo.com>
Subject: [R-390] Fw: Re: R-390 Frequency Label 4596.5

Small world - I spent my time in the Air Force in Flight Simulators training B-52 pilots and co-pilots so they could go on those Arclight strikes. Our simulator equipment was also mounted in railway cars so we could take it TDY to the crews on alert duty at the stateside SAC bases.

Date: Fri, 16 Apr 2010 13:51:47 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] Cosmos Dis-assembly

<snip> BTW folks. The nitrogen pressurization was done on the

engines ALSO. The only time this was compromised, other than unbolting the top from the bottom of these containers, was *IF* the engine was transported by air. Obviously, having the container blow a gasket and perhaps damaging the engine during ascent, it had a valve that allowed to leak a portion of the nitrogen to prevent it.

The same situation was encountered during descent. The valve had to allow the increased air pressure to be equalized to prevent collapse of the container and damaging the engine.

The manufacturer's of PTOs were dealing with the same issues. If you simply use desiccant without removing *ALL* moisture from the air, you've compromised it when you close the can. Therefore, *DRY* nitrogen is applied to the PTO "sealed can" when built or overhauled at depot.

We had upwards of a hundred outgoing containers, and fluctuating close to the same number of incoming containers. We used to tear them down in a rotating frame. Had to do an inspection, and then determine whether it was going to be the whole enchilada tore apart, or if it went through a shorter line only doing repairs and the SAME complete checkout as the whole enchilada. (This included, at that time, a full compressor stall. Not for the faint hearted! Have you ever seen a 15,000 HP jet engine shoot a flame out both the intake and exhaust about 15 foot long, visible in bright light? It begins with a tiny runble, a very short silence, followed by an entire test chamber that suddenly has both ends fill with flame and a VERY loud BOOM!

They finally determined that this test was NOT necessary. It destroyed too many of the engines that were perfectly good.

Sometimes Uncle Sam got carried away!

<This is based on years of work on gas turbines, especially the J-79s. (GE LM-1500s) >

Date: Fri, 16 Apr 2010 13:16:22 -0500
From: mikea <mikea@mikea.ath.cx>
Subject: Re: [R-390] Cosmos Dis-assembly

Compressor stalls happen in real life, too. I've never been on an aircraft when one took place, but I know some folks who have, and they say they were *AWAKE* for the rest of the flight.

The recent volcanic eruption in Iceland brought to mind some images I saw a few years ago, of a jet engine in a test cell with all the lights out and the throttle set wide open. The entire engine was yellow-hot, with parts of

it even hotter. Much of the interior from the burner cans aft would have been at white or blue heat. Flying that through a cloud of volcanic ash would have some untoward effects:

- o Ash melts on contact with the hot buckets, wets them, coats them, and rotor balance goes out the window -- along with blades.
- o Ash abrades compressor blades.
- o Engine performance, even if it does continue to run, goes way down.
- o Ash abrades windshields, turning them to expensive frosted glass.
- o Ash abrades blade antennas, so the VHF radios don't hear or get out.
- o Ash is hard on GPS patch antennas, so position and speed isn't good.
- o Ash clogs pitot tube, so airspeed isn't accurate.
- o Ash clogs cabin air intake filters.

Not a lot of fun. I wish the people complaining about the cancelled flights would think about these things.

Nope, no R-390s in those engines.

Date: Fri, 16 Apr 2010 14:35:44 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] Cosmos Dis-assembly

<snip>..... The GS-13 or whatever he was that was one of the honchos at the facility, used to get one of us in the test chamber, while adjusting the stator vanes that change angle, cause a compressor stall for the visitors that were watching the test chamber in use. "Smitty" would smile at which ever of us was performing the vane scheduling and give a head/chin jut to indicate *HE* wanted a compressor stall to try and make someone wet themselves. None of us really liked it. But - Bosses are bosses. Since you had the vane hydraulic input adjustment in your hand to rotate the uniball link, you were VERY aware that any "extra" movement would cause the stall. Anyway, when the BOSS wanted one, you provided it, with your eyes closed tightly! You were NEVER sure which one *MIGHT* cause failure and parts leaving the casing very near you! Let's stick with the desiccant and nitrogen! Sometimes "old memories" are best left locked away!

Date: Sat, 08 May 2010 16:17:18 -0400
From: wa4aos@aol.com
Subject: [R-390] St. Julien's Creek R-390A Massacre plus more Qs

A few questions. I am trying to find the pic of pallets of R 390 and or R 390A's left open in the weather for a long time at St Juliens Creek; perhaps over a year. Is it still on line. I looked and googled,"St. Julien's Creek R-390A Massacre and didn't find the pic. Does the pic still exist? <snip>

Date: Sat, 08 May 2010 16:27:27 -0400
From: jcoward5452@aol.com
Subject: [R-390] Fwd: Where did Julian Creek receivers come from?

Someone was just looking for this.

I just checked and the St. Juliens Creek Massacre info is still avialble on the web in case anyone is wondering what we're talking about:

Pics: http://www.r390a.com/Archived%20Pages/radio_rape.html
ext: <http://www.radioworks.com/nr390saga.html>
13 years ago this coming Sunday...lest we forget...

Date: Sat, 8 May 2010 16:42:22 -0400
From: "W8BVH" <w8bvh@sbcglobal.net>
Subject: Re: [R-390] St. Julien's Creek R-390A Massacre plus more Qs

I found these sites that may be of interest to you and others.

<http://www.radioworks.com/nr390saga.html>
http://www.r390a.com/Archived%20Pages/radio_rape.html
<http://www.theradioboard.com/rb/viewtopic.php?p=390&sid=d0533d0571ce91ab35b1f3f31c38d7ab>

Date: Fri, 4 Jun 2010 06:40:54 -0500
From: mikea <mikea@mikea.ath.cx>
Subject: Re: [R-390] security classification

I don't have first-hand knowledge, or even second-hand knowledge, of the 390 or 390A being classified. I do know that in 1969 they were being removed from the MARS shack at Osan AB, ROK, to be replaced by something else, after being in service there for some years. The MARS shack was open to all military and civilian personnel, so the rigs weren't classified during the period they were in use there. I've worked with classified gear, and the precautions required before uncleared personnel were allowed in would have been totally unrealistic in a MARS shack.

Date: Fri, 4 Jun 2010 11:24:59 -0400
From: "Bernie Doran" <qedconsultants@embarqmail.com>
Subject: Re: [R-390] security classification

yep, likewise, I had secret documents in my hands once at North American Rockwell, signed out, signed in, from a vault, and in your sight/ control at all times, if you went to the can they went with you!!! confidential was much less so and stored in the work area. Never even heard how top secret was done. I would wager that it, and you had to remain in a totally secure

area. anyone with top secret clearance had a red dot on thier id badge, almost all I ever saw(people) worked in advanced design. That is why I think this is just another story, perhaps secret during design and maybe confid. later but even that had all docs stamped top and bottom. Bernie P.S. and then the is the letter clearance!!!

Date: Fri, 04 Jun 2010 11:55:09 -0400
From: jcoward5452@aol.com
Subject: Re: [R-390] security classification

When I worked at Avantek I had the red dot badge but that was Secret,not Top Secret.What was secret were the frequencies of the various bands the components operated at.We had to cover frequency counter displays or have the display numerically offset,Same with spectrum analyzers.ATE's were in padlocked rooms and any test software had to be checked out and in to a vault.Even some of the customers were classified secret. Amazing all the trouble we went to and now all that stuff is obsolete and turns up at flea markets and surplus places and even ebay. As to the R-390, 390A there was a small flip up security cover that could be mounted on the frequency display.

Date: Fri, 4 Jun 2010 17:24:04 EDT
From: JBurgwynjr@aol.com
Subject: Re: [R-390] security classification

As a member of the ASA team in the Taiwan facility, I thought the mission was security as well as the equipment but then I guess they both were not discussed off base nor were the radios taken off base to my knowledge. That was back in the early 60's. We used 390, 390A, 388, SP-600, etc. Anyone could have seen that huge antenna farm which would be a tipoff to radio

devices being used. Back at Ft Devens, Mass they were all over the place. Can't remember the old man that lived on top of the hill in Ayer or Harvard, Mass. Went to see him one time for a tube for my ham rig at home off base. Never have seen such a home ham/military store. Think his name was Herb Gordon. What a home and he must have had 4 or 5 of whatever radio and part you wanted. But I don't think he was much of a seller. I got to see him because I rented an apartment from the US Postmistress who knew him. He had a huge home on a hill overlooking the beautiful country side and his operating position looked out toward the East from his third story op room. I did some operating for the MARS Station at Devens AA1KBO when I was reassigned to Devens from Taipei. We used a BC610 with a couple of R-390 . We were not net control, I think a fellow named Jack ? was a civilian net controller and may have lived in New York. All of that was a long time ago....Year or so ago I was going to a hamfest in New England and decided to go by Ayer to see Ft Devens and it

was gone !!! Kinda sad I had grown to like it all but the cold winters. And listening to the carry over on some of the cheap barrack radios from the code of BED from the Bedford, Mass beacon at their airport. It took me a while to catch on that the Army wasn't trying to lull me to sleep in the bunk. John Burgwyn W4WAW

Date: Fri, 4 Jun 2010 14:34:10 -0700 (GMT-07:00)
From: "Richard W. Solomon" <wlksz@earthlink.net>
Subject: Re: [R-390] security classification

Herb Gordon was WLIBY. He had a radio store on the property, but most of the stuff was very high priced. When he went SK, there was a big sale at the store and a lot of stuff went real cheap. One goody I snagged was a PRO-310. Ugly sukka, but worth it's weight in Gold today.

Date: Sat, 5 Jun 2010 07:51:31 +0100
From: "Lester Veenstra" <Lester@veenstras.com>
Subject: Re: [R-390] security classification
To: <JBurgwynjr@aol.com>, <r-390@qth.net>
Message-ID: <086801cb047b\$88c23ab0\$9a46b010\$@veenstras.com>
Content-Type: text/plain; charset="iso-8859-1"

Nice to see someone who remembers Herb (IBY) the favorite of 73 and the scourge of QST.

I worked for Herb, among other things, fixing r-388s and R-390xs. Then I joined the Navy, designated a CTM and sent to A school where the majority of the course was to learn R-390s. For some reason they decided it would be a waste of time for me to take the classes. Instead they gave me the course material and I sat in a room taking the tests. Got out of Great Lakes (K9NBH) in a lot less than the two years the navy said it would take to get educated!

BTW, R-390s were never a classified hardware or in the form of manuals.

Date: Fri, 4 Jun 2010 20:58:13 -1000
From: "Raymond Cote" <rjcote@hawaii.rr.com>
Subject: [R-390] security classification

When I purchased a couple R390-A receivers from DRMO, Honolulu, the receivers were tagged, not sprayed, SECRET when being utilized. The BFO's were replaced with ten-turn pots and marked with marks on the chassis for common stop points. DRMO personnel shredded the manuals because they had not clue that the operating frequencies were classified not the books. Reminds me of the dunces that worked at Jim Creek and

destroyed so many radios due to slight meter needle isotopes. My radios came with meters, as I pulled the tags off the radios before someone noticed the warning.

Date: Sat, 5 Jun 2010 08:44:07 -0400
From: "Bernie Doran" <qedconsultants@embarqmail.com>
Subject: Re: [R-390] security classification

Well that was what I expected, there have been numerous responses by people that were there and know that these receivers and manuals were not classified so this should now be a dead issue. At least for a few years, then someone will probably start it up again. It has always amazed me how easy it is for humans to grab onto a wild story and ignore truth that is right in front of them. <snip>

Date: Sat, 5 Jun 2010 12:20:09 -0500
From: "William J. Neill" <wjneill@consolidated.net>
Subject: [R-390] NAVSECGRU Reserve history

Y'all oughta know about this:

http://www.nsa.gov/about/_files/cryptologic_heritage/publications/misc/silent_warriors.pdf

Date: Sat, 5 Jun 2010 14:14:20 -0400
From: Al Tirevold <al@tirevold.net>
Subject: [R-390] "Classified" R-390A Receivers

In my research, I have come across exactly one reference that is classified - "Restricted" - and that is The Final Engineering Report on Radio Receivers R-389()/URR and R-390()/URR from 1953-Sep-15.

I suspect that that classification is an internal Collins radio item, not an official government classification.

The document is at <http://www.r-390a.net/faq-eng-r3.pdf>

The radio was frequently used within a secure 'classified' environment. The uses to which the radio was put and the frequencies that were used were often classified.

I have found no evidence that the radio was itself, ever 'classified'.

Date: Sat, 05 Jun 2010 15:01:14 -0400
From: Jeff Adams <physicist@cox.net>
Subject: Re: [R-390] "Classified" R-390A Receivers - Update

There is a picture of the classified document and declassification letter on my website:

<http://www.jeffreyladams.com/class.html>

Date: Sat, 05 Jun 2010 15:26:40 -0400
From: rbethman <rbethman@comcast.net>
Subject: [R-390] "Classified" R-390A Receivers

This whole "Classified" issue had to do ONLY with the Engineering Report.

The term "RESTRICTED" is NOT even an appropriate marking for Classified material.

There has been "very" few pieces of equipment that were in and of themselves "Classified".

The "media" that was produced "using" this equipment WAS what was indeed classified.

This is/was true of ELINT materials and the information regarding HUMINT operations, and their "fruits".

The media was appropriately marked, dated, times, frequencies, and such information was all affixed to the media.

The ONLY time I have encountered "Classified" hardware, was when dealing with U-2s and SR-71s. Their equipment bays were loaded with hardware that in some instances the Nomenclature/Name was indeed classified.

I participated in HUMINT for a few years. The only thing that got classified was the "how", "where", and "when".

The equipment NEVER was!

There is a lot of "misunderstanding" when it comes to the R-390 and R-390A receivers. They could NOT store anything. The little flip up spring loaded display covers were used when people had the appropriate clearance to enter the facility - BUT - did not have "The Need To Know".

Date: Sun, 6 Jun 2010 16:13:24 +0200
From: "Prof. Johannes Fischer" <prof.johannes.fischer@t-online.de>
Subject: Re: [R-390] R-390 Digest, Vol 74, Issue 4

Hi everybody, what was classified was the Engineering Report on the R-389/URR, R-390 and R-390X. Later on that document was de-classified.

Date: Mon, 7 Jun 2010 10:03:58 -0500
From: glwebb@gundluth.org
Subject: [R-390] Classified Equipment

The only equipment during my Navy tours on Guam and the Canal Zone that I remember being classified were the encryption units for certain of our teletype circuits. I saw a lot of R390A's. I don't recall seeing a Top Secret, Secret, or even a Confidential stamp on any of them. The time period being from 1967 to 1970.

Date: Mon, 7 Jun 2010 10:20:55 -0500
From: mikea <mikea@mikea.ath.cx>
Subject: Re: [R-390] Classified Equipment

If the photo at <<http://www.jproc.ca/crypto/kw26.jpg>> had better resolution, you'd be able to read the SECRET classification on the equipment nomenclature label in the upper left corner of the top drawer. It says something very like

SECRET
TSEC/KWR-26A in the top two lines.

The image at <http://www.jproc.ca/crypto/kw26_cmodel.jpg>, of a KWT-26C and a KWT-26C, has the label as well.

The image at <http://www.jproc.ca/crypto/kw26_txx.jpg>, of a KWR-26C carcass that has been declassified (by removal of its guts), is missing the label -- because once the guts are removed, it's no longer a KWR-26C and hence no longer classified -- and, I suspect, because Daddy DIRNSA would prefer that folks not see the nomenclature tag unless they're cleared for that level and have CRYPTO access.

Date: Mon, 07 Jun 2010 08:25:49 -0700
From: "Dennis Deaton" <wa6acc@verizon.net>
Subject: Re: [R-390] Classified Equipment

As far as the R-390A receiver being classified equipment goes, I saw my own R-390A (Collins unit from the first contract) when I was in junior high. My dad was attending night classes at our local high school, working on his GED. I went along to the electronics class with him. Being a new novice, the class instructor was kind enough to let me go into back room and operate the school's club station while class was being held.

The station was this R-390A and a Heathkit DX-40. The school had received the receiver NIB from a DOD grant. I'm certain that DOD would not give classified equipment to a public school! Many years later, an old grade-school buddy of mine who ended up teaching at our old high school called as said that the administration was basically shutting down the electronics classes and that he needed to "clean out" all the excess "junk" from the classroom. He asked if I wanted the R-390A. Two nano-seconds later I answered "YES"! It's now on the bench in the process of being restored. I'm going to match it up with a Johnson Adventurer.

Date: Mon, 07 Jun 2010 12:33:50 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] Classified Equipment

Dennis, Those whom understand that this is the case get it. Then there are a number of folks that DON'T! Trying to convince them that the ONLY thing that was classified was the "Engineering Report", is wasted breath and energy. [ROTFLMAO] Those folks do not have a grasp on the appropriate "Markings" for classification!

Date: Mon, 07 Jun 2010 08:29:25 -0700
From: "James A. (Andy) Moorer" <jamminpower@earthlink.net>
Subject: Re: [R-390] Classified Equipment

I have read the discussion on classification with interest. Perhaps someone can opine on a companion question: does anyone know when the R-390A was first offered to the public? When I was a kid, we knew all about the Hammarlund "super-pro" receivers and gazed upon them with great longing, but I never heard of an R-390-series receiver until the late 60's. Even if they weren't classified, they sure weren't well-known in that era.

Date: Mon, 7 Jun 2010 12:23:25 -0500
From: mikea <mikea@mikea.ath.cx>
Subject: Re: [R-390] Classified Equipment

I am told that ads for them, newly manufactured, appeared in radio magazines in the late 60s. I had heard of them through UNCLAS means by 1969, when the Osan AB MARS station was changing them out for newer gear. Here's an ad in the October 1968 CQ:
<http://www.jvgavila.com/eac_390a.jpg>

I agree they weren't well-known until the mid-60s at the earliest, but the word started getting out about 1970 IIRC.

Date: Mon, 07 Jun 2010 13:27:44 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] Classified Equipment

I would say that being put in MARS stations took them out of ANY realm of possible security issues. MARS stations let the "everyday" G.I. walk in and schedule a link, and let them in to talk direct from the MARS station. I know that I didn't pay ANY attention to the equipment in the MARS Station when I called home in the '60s.

Date: Mon, 07 Jun 2010 10:28:39 -0700
From: "Dennis Deaton" <wa6acc@verizon.net>
Subject: Re: [R-390] Classified Equipment

I failed to mention the year that I first saw my R-390A. It was 1958. Long before the EAC ad appeared in CQ. I graduated from college (after high school, Jr. college and the USMC) in 1971 and worked for DOD on a variety of classified programs for the next 31 years. The only classified equipment I ever saw was krypto gear (KG-75's and -125's), jammers (ALQ-162's, -126B's and -165's), missiles (SM-1's, SM-2's and RIM-2D's) and radar consoles (AWG-9's, APG-65's and SPG-55B's). The receivers and transmitters associated with the krypto boxes were unclassified. The jammers were classified when loaded with the waveforms (techniques) associated with a particular threat. The radars had specific waveforms and frequencies hardwired into their design. The missiles and KG boxes are obvious.

When I ran the EW dept's microwave lab at Point Mugu, I had an R-390A sitting on the lab bench just to receive WWV and set up the 10-MHz lab reference. A waste for that receiver. But, it worked just fine.

Date: Mon, 07 Jun 2010 16:20:02 -0500
From: Jerry K <w5kp@hughes.net>
Subject: Re: [R-390] Classified Equipment

True. The R-390 series was never classified gear in and of itself, although it was sometimes tuned to freqs whose particular use was classified at the time. When used during classified ops the receivers sometimes carried a temporary classification appropriate to their freq in use at the time. That's one of the reasons for the little flip-up peek-a-boo cover installed on some Veeder Root counter windows. Crypto gear, per se (KG series, KWR and KWT series, etc.) was ALWAYS classified any time associated card readers, tape readers, and guts (circuit boards) were installed. When I was sent to Mare Island to crypto repair school in the early 60's and we first got our KWR-37's aboard ship, there was no dedicated space for them that was secure enough, so our 37's were jammed into the Crypto room itself, which

was a pretty small space. Shortly after, we got a full overhaul of the topside spaces which included installation of new banks of R-390A's, WRR-2's, URC-32's, WRT-1's, WRT-2's, UHF and VHF gear, and a major space expansion. The entire radio shack was finally classified SECRET, along with my adjoining ET shack and IFF/Radar rooms. Finally, we could quit worrying about different classifications of individual items of gear, since without a SECRET clearance nobody got in there unescorted anyway, and the covered fleet broadcast area simply had a little shower curtain looking thing around it to keep official visitor's stray eyeballs away. We were in tall cotton then, at least for an old gator freighter. Koken chains, vacuum tube cipher streams, card readers, stop watches, and WWV. Fun stuff to work with, cutting edge technology at the time. The amazing thing is, it actually worked quite well, as did the 390A's, which is more than I can say for the AN/WRR-2's!

Date: Mon, 7 Jun 2010 19:34:02 -0500
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] Classified Equipment

I'd like to find on of those to put on the one receiver I plan to keep for use in my station. One of the BFO counters would be neat too...

Date: Tue, 8 Jun 2010 00:55:44 -0400
From: Roy Morgan <k1lky@earthlink.net>
Subject: Re: [R-390] Classified Equipment

I've no direct experience with the WRR-2. At one point I thought I might try to get one. Can you tell us what they did wrong, or didn't do that they should have? Maybe they simply had too many tubes!

Date: Tue, 8 Jun 2010 06:35:53 +0100
From: "Lester Veenstra" <Lester@veenstras.com>
Subject: Re: [R-390] [SPAM] Re: Classified Equipment

Creation of the second LO from first LO

Date: Tue, 08 Jun 2010 08:35:10 -0500
From: Jerry K <w5kp@hughes.net>
Subject: Re: [R-390] Classified Equipment

Compared to the relatively dirt simple but equally effective 390A, the WRR-2 was (to me) a needlessly huge, ridiculously complex (about 70 tubes), noisy, heavy (250 lb without mountings), radio shack heater. I hated 'em, the RM's hated 'em, I think God might have even hated 'em. As a result, ours probably had 10 hours of use in the three years I was aboard that particular ship, and most of that was just to turn them on to do PMS.

The 390A's were on the other end of the spectrum. We all loved them, they worked almost flawlessly 24/7, and maintenance was a total piece of cake.

However, if you like a challenge and have the room and a strong back, lots of info at WRR-2 <<http://www.navy-radio.com/navy-rcvrs.htm>> is available, including an outstandingly written (as usual) USN manual for download.

I have always loved the way the Navy wrote tech manuals. So much so that after I retired, I ran a 50-person tech manual development shop for NAVSEA (I worked for a DOD contractor) for many years out in Norfolk. It was the most enjoyable civilian job I ever had.

I will admit that with new tubes and a full alignment to specs, the WRR-2 is a great receiver. But like the Oak Ridge Boys song says, "Sometimes the pleasure ain't worth the pain". Kind of reminds me of the AN/URC-32, which I wasn't too fond of either. But that's just me, I like stuff that works great, doesn't break very often, and is easy to fix when it does. Art Collins made a lot of those, but he also threw up an air ball once in a while. :)

Date: Tue, 08 Jun 2010 08:26:41 -0500
From: "Francesco Ledda" <frledda@verizon.net>
Subject: Re: [R-390] Classified Equipment

The WRR-2 is wonderful radio, but it requires a little love to get it running. It is stable like a rock and has the best sounding SSB that I ever heard. It compares well against modern radios like the Cubic 3030 and others...

Date: Tue, 08 Jun 2010 22:22:52 -0400
From: jrfke5ri@aol.com
Subject: Re: [R-390] Classified Equipment

I do not believe the R390A was ever classified by itself. The first one I saw was in ET School (CTM) at Treasure Island in late 1962. To the best of my knowledge, the "BFO counter" (Duodial) modification was classified.

Date: Tue, 8 Jun 2010 21:42:08 -1000
From: "Raymond Cote" <rjcote@hawaii.rr.com>
Subject: Re: [R-390] Classified Equipment

As far as dates go, The R-390A was being taken OFF my submarine in about 1965 and being replaced by the R-1051. I remember as the Radio men were complaining that the 390A was a better radio and easier to tune up and down. My contact with them was that I was asked to work on them as an Electronics Technician. The purpose of this note is to relate that the R-390A was waiting for us at the pier as the sub returned to port and the

1051 disappeared. The radio gand and the Comm officer were not impressed with the 1051. So if the 1051 was already set to replace the R-390A by mid 60's the 390A was out for some time before that period.

Date: Wed, 9 Jun 2010 07:11:05 -0500
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] Classified Equipment

Interesting...I had never heard the 390A was used on subs.... I assumed only surface ships with the Navy.

Date: Thu, 8 Jul 2010 19:32:31 +1000
From: "Steven and Michelle" <gsxr85@skymesh.com.au>
Subject: [R-390] NASA R-390A

I've just become a proud owner of an ex NASA R-390A. This is not a Manson Labs model but it has a label above the tag with "NASA This is the property of the Goddard Space Flight Centre" and the a number. It was used at the tracking centre at Canberra Aust.

Date: Thu, 8 Jul 2010 08:44:07 -0500
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] NASA R-390A

Congratulations Steve...you own a piece of History. Better documented than most that are out there. Wish I knew where mine served. When I was doing R1051's some had the ships name written on the sides of the chassis or cabinets. Haven't found any of my R-390A's marked in any way that would give a clue as to where they served.

It's too bad there is not a Military inventory some where that kept track of where each radio was assigned and how it was disposed of. That type info is available on aircraft in the military inventory and I'm guessing it was also tracked somewhere on the radio assets as well... We just don't have access to it..

Date: Thu, 08 Jul 2010 09:04:14 -0500
From: Barry Williams <ba.williams@charter.net>
Subject: Re: [R-390] NASA R-390A

That would be a good thing to have info on. What we need are the DA Form 2408-9's. These are the Equipment Usage Reports. That has the manufacturer, date of manufacture, transfers, etc. I can't remember that far back with nitpicking forms even though I probably wrote on thousands of those, but I think there were blue and red copies if you were lucky enough to have them at the unit level. They were filled out at the factory

where the white copy was the current logbook copy. These original copies were kept somewhere for sure.

Date: Thu, 08 Jul 2010 10:15:49 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] NASA R-390A

All of these forms went into files. Those files were kept for a designated period, on-site, until either destroyed or archived. The Army files "were" archived in St. Louis. IIRC, they had a fire in the records holding "area" in the '60s or "maybe" '70s. It would be one heck of a task to locate them, *IF* we could even get in to look.

Date: Wed, 10 Nov 2010 15:50:07 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] Rules of Ware

Actually, in lieu of C-130s flying NOE, (Nap Of the Earth - just in case someone doesn't know.), I do remember living in Ft. Walton Beach, Fl, with SAC beginning the "new" idea of low altitude bomb runs. We had B-52s pretty darn low, and they would dispense chaff in an attempt to ensure they weren't being detected coming in from out over the Gulf of Mexico. The chaff was worse than ANY "grab bag boxes" or possible pallets coming in. They indeed have an instance where a C-130 had engine failure issues over the Gulf. They had to drop weight to get in. That was an utter FIASCO! The "cargo" was anti-intrusion devices that "looked" like a tiny planet Saturn. These broke open, (boxes or crates), when they hit the water. These devices were "intended" for use in Viet Nam by laying them around the perimeter of an airfield, fire-base, or other installation. They went off with a loud "pop" when pressure is applied. Uncle Sam spent a hefty amount cleaning them up!

Some of us do remember 6 1/2 volt batteries. How many remember those that were 225 volt? My Stepfather has those in his Hershey Sun Strobes. Got across one or two of them myself. Getting back to the chaff, it was a royal PIA to rake out of the grass!

Date: Wed, 10 Nov 2010 15:56:37 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] Rules of Ware

There is always "Panic Construction Company". That is what we nicknamed the Panama Canal Company after our outfit had been stationed there. We've managed to mark an untold number of things built by those from the outfit with PCC in memory of times gone by. We used to produce one-third the power for the entirety of the Canal Zone.

Date: Thu, 11 Nov 2010 08:50:26 -0600
From: Barry Williams <ba.williams@charter.net>
Subject: Re: [R-390] Rules of Ware

What you are describing is called contour flying. NOE is a helicopter thing. The skids and fuselage is in the tree tops and only the rotor system is showing. Forward speed is usually around 10 knots or less, and rarely up around something like 30 knots.

Date: Thu, 11 Nov 2010 14:42:28 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] Rules of Ware

Yes, I'm well aware of NOE being associated primarily with helicopters. I've also been on numerous "loach" runs. The A6 Intruders and other fixed-wing aircraft came "home" with branches and trees still there. I was just remembering seeing the B-52 "barely over tree tops" with the "latest" methodology in mind of the mid '60s. I STILL hate chaff! I was the one in the house that had to rake it! Living adjacent to Eglin AFB, and the "Aux Field #9", otherwise called Hurlburt AFB, made for an interesting period of my life. Saw a "lot" of interesting things that took place.

..... and a post re nametags from the past.....

Date: Thu, 10 Dec 1998 16:59:24 -0600
From: Nolan Lee <nlee@gs.verio.net>
Subject: Re: [R-390] Generic name tags

>to those of you looking out for a "correct tag". FYI, I'm NOT a fan of
>attaching any pedigree to the R-390A (the make/serial # stuff is
meaningless
>when you see the radio has many different manufactures modules in it as
a
>result of swapping/switching around at your local SIMA or shipyard or
ET
>shop in the Navy).

Neither of mine experienced this problem. I have the original modules/tags/meters/etc. for both of them. One of them even has 23 of the original tubes and all of the original covers. I suspect that there are a lot more "original" ones out there than you think. Since my '67 EAC doesn't have the hole drilled in the front panel for the diode load mod, I suspect that it wasn't in Navy service. The '55 Collins was in Navy service. I personally carried it off of the USS Topeka (light cruiser) before we cut the ship up in 1975. I think that it had been moth balled for about 6 years

prior to that. It was fairly low mileage until I got a hold of it. <grin> Over the last 23 years, I've owned 4 or them that were like this. I still have two of them.

We sold hundreds of R390A's in the mid 1970's supplying about a half a dozen surplus electronics dealers with them. Most of these were original. Next time you run into Phil or George at Fair Radio Sales, ask them about the quality of the average surplus R390A's in the mid 1970's that they purchased truck loads of from Industrial Supplies Division of Southern Scrap in New Orleans. Back then, most came with the meters and were stored inside warehouses awaiting auction. The covers were uncommon even back then though along with the little square plate for the AC connection. Most had the three plug panel that covered the AC connection and the terminal strips and damn near every one of those that I saw was seriously dented all to hell. I'd like to find one to add to my collection. Very few of the ones we sold had the covers or the standard AC cover.

They're out there, just very seldom put up for sale. I suspect that most of the people that bought these radios 20+ years ago still have them and will probably own them until they become SK's.

On 2/21/2011 8:17 AM, wa4aos@aol.com wrote:

> Hi Group,

>

> In my ever growing collection of R 390, R 390A and R 392 equipment, I have just received an R 1981 (R 390A) There is not much on the web about this one and I am wondering if there are other examples out there?

> My good friend Jon, K1VVC, found it at the Richmond Frost Fest this year; we have agreed on a trade and I now have the unit. I have not pulled modules yet but the Power Supply is an Amelco. Just a quick look over and my initial guess is the rest of the modules are Amelco as well; not an EAC as I had heard but a very nice example nevertheless.

>

> I pulled this off the web:

>

> The R-1981 was a R-390A modified to bring out the 17 MHz, HFO and VFO signals to the rear panel and to insert an error correction signal for high-stability operation. It was a part of the TSC-25 communications system. The modifications were done using a kit of parts from The Technical Material Corporation (TMC) under contract number 14385-PC-58. The manufacturer of the R-1981 receiver is unknown. If anyone possesses one or knows of its history, send mail to the FAQ-Meister so we can share the information.

>

> When I get it in the lab, I'll take pics and post them on my web page. I am fortunate that this example is in very good shape, possibly an 8 on the 10

point scale.

> Any other info would be greatly appreciated.

>

>

> Glenn Scott WA4AOS

> DSM Labs

> w w w dot dsmlabs dot com

Date: Mon, 21 Feb 2011 19:49:46 -0600
From: Tom Frobase <tfrobase@gmail.com>
Subject: Re: [R-390] R 1981 R 390A Receiver

I found a similar unit a couple years ago, it was a 1958 Motorola.

If you look at the three mods when energized it allows an external oscillator to inject in place of the on board functions PTO 1st IF and 2nd IF. The set should work as a normal R-390A without the relays energized. If you look back through the list a couple of folks talked about the set up being used for diversity reception. I ended up removing the mods, no moving parts, and restoring the set back to a really clean R-390A it is what is in my shack today.

Date: Tue, 22 Feb 2011 11:17:47 -0600
From: Tisha Hayes <tisha.hayes@gmail.com>
Subject: [R-390] R-1981

Maybe some of this was for a DF setup or potentially some sort of Doppler correction scheme of the Air Force or NASA for satellite reception. As we know, our beloved mechanical filter setup does not lend itself well to certain DF applications (interferometry).

As has been mentioned, maybe the high stability option (17 MHz osc) was part of a requirement for high speed data reception. Locking the receiver to a NIST traceable or disciplined oscillator or some type. It seems that the inherent instability of the other crystals might make that a challenge. (when we are counting ppm's)

Date: Tue, 22 Feb 2011 12:26:33 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] R-1981

This sounds VERY much like the R-725 (?), that NASA used for communications during the Apollo era. Much of the external equipment was made by Manson Labs.

Date: Tue, 22 Feb 2011 11:38:30 -0600

From: Tisha Hayes <tisha.hayes@gmail.com>
Subject: Re: [R-390] R-390A Design Improvements

I don't think any one of us can challenge the collective wisdom of the entire Collins design team. There are areas in the receiver where maybe a little bit more attention could have been paid by some of the individual designers.

Some include;

AGC action and the "moment of silence"

Audio response (fine for military standards but maybe a bit poor for some of us)

Overdoing the entire "cost reduction" scheme

Narrowing down the front end to improve the IP3

If you want to put in a different AGC switch, new capacitor and rewire a bit you can come up with better AGC action (the way it should have been done).

By changing some caps you can reduce THD (total harmonic distortion) and restore some frequency response to the audio.

If you want to put a relay and tube at the mysterious blank plate on the audio deck, make a slight mod to one front panel switch stop you can restore squelch functionality like the original R-390 had.

If you want to narrow down the IF stagger tuning and maybe add a roofing filter the radio may work a bit better on closely spaced signals.

We are not talking about major reworks like replacing all of the tubes with transistors or rewinding coils in the RF stage. Progress forward may be in little steps, sometimes smaller than what many may appreciate.

Date: Tue, 22 Feb 2011 12:55:20 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] R-390A Design Improvements

This is my philosophy in a nutshell! You're starting with what WAS the Rolls Royce of its time. A LOT of careful thought was put into the design of the cost reduction version of the R-390. Yes, it meant that "some" areas no longer equaled the original. However, the design team worked closely with the Signal Corps to come up with an "acceptable" replacement. We make

"some" small changes in the periphery, but nothing really substantial. The biggest reason is that the core elements are out of our league or re-engineering abilities. These old girls are electro-mechanical marvels! I would NEVER attempt to tamper with the gearing and cam actions that are the heart of them. I have one audio deck that the previous owner replaced the audio transformer with one that puts out an 8 ohm audio signal to the rear terminal strip. Good on him! I knew him well. He was a satellite communications engineer by profession. Ham radio was his love of life He passed away in 2002 quietly, in his ham shack. I'm sure he was happy! I miss visiting with him in his enclave! He's the one that introduced me to the resistor in lieu of the ballast tube.

Date: Tue, 22 Feb 2011 17:51:13 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] R-1981

I think the one your are thinking of was the R-1247 for NASA. The R-725 was used in DF work.

Date: Tue, 22 Feb 2011 19:32:06 -0500
From: rbethman <rbethman@comcast.net>
Subject: [R-390] The rare bears

Of all those noted, discovered, and owned, this would be what would be considered the rare R-390As, from the rarest on:

[I caveat this by saying - 1) I'm human, therefore make mistakes 2) there may be more information that I have either NO knowledge of, OR have simply forgotten over the last 10 to 12 years of owning and restoring these wonderful radios.]

1 - The LONE prototype R-390A kept by a Collins team member

2 - The four that were built in 1984 that never saw the inside of the ships that they were built for.

3/4 - Those specifically built for specialized use, i.e., R-725s and the R-1247 built for NASA.

Pretty much the next critters that would qualify would be, (at least in "my" estimation), the first 300 to 400 of the actual Collins manufacture from the initial 1951 cost reduction contract.

Date: Tue, 22 Feb 2011 18:56:30 -0600
From: "libbysales" <libbysales@austin.rr.com>
Subject: Re: [R-390] The rare bears

A correction please : your number 2 is in need of additional points...

2.1 5 were built.. not four, there is no doubt on this, s/n 1,2,3,4 and 5 have been found and verified ...

2.2 they did serve aboard ships, I have serial number 1 and it came from the SJC stash as well at least 2 others ..although I cant prove they did serve aboard the express ship they were built for, it does make logical sense that they were a part of the commissioning... Fowler did make them and ship them to the Pascagoula or however it is correctly spelled, and they were built under order from the ship yard for the 2 ships under construction and would therefore be tied at least at the outset to be a part of the original fixed ships inventory...

I offer this as fact and confirmed by personal experience...ownership of one, reviewing previous ones { Fowler } that have been posted and sold on either the eBay medium or Electric Radio

I feel very comfortable in my report and offer it to for inclusion and as supplemental information.. mac/mc w5mc

Date: Tue, 22 Feb 2011 19:02:31 -0600
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] The rare bears

Well there was also the one that was built for a retiring official from Collins if I remember correctly...placarded as such as well... If I remember correctly it showed up in recent years. I think in a ER issue as I remember. How about the rumored Electronic Digital Readout models.... The few that had professionally installed product detectors. And maybe the civilian Rocketship EAC models...

Date: Tue, 22 Feb 2011 19:04:42 -0600
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] The rare bears

It's been speculated that at least one of those sold was a forgery....

Date: Wed, 23 Feb 2011 05:59:25 -0800 (PST)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] The rare bears

Mac is correct. Five were made for the LSDs built at Avondale. LSD 44 Gunston Hall was one of the ships. One can look up the similar ships in the class at Avondale. I spoke with the Avondale purchasing agent at the time

of discovery and also with a couple of Fowler people.

Date: Wed, 23 Feb 2011 08:20:11 -0800 (PST)
From: John Flood <kblfkg@yahoo.com>
Subject: Re: [R-390] The rare bears

What about the couple of us who have the pre-production / prototype
Motorola
R-725's?? Are we rated a 2.5 on the Bethman scale?? :)

Date: Wed, 23 Feb 2011 10:48:17 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] The rare bears

Only if George Rancourt sprinkled some holy water from St. Juliens Creek
over them.....;-) But, only two drops would be allowed to touch the Mu
Metal shield over the PTO. If that shield isn't there, it has to be disposed of
at:

Secret Signal Corps Disposal Facility 27121 Hwy. 49 North
Gulfport, Mississippi 39503

Date: Wed, 23 Feb 2011 14:03:27 -0600
From: Randy and Sherry Guttery <comcents@bellsouth.net>
Subject: Re: [R-390] The rare bears

That's the old address - they moved since Katrina to
Secret Signal Corps Disposal Facility 2412 C St.
Meridian, Mississippi 39301

Date: Wed, 23 Feb 2011 11:12:16 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] The rare bears

LOL!!! I owned an R-725 many years ago, it was an Arvin Industries, Inc.
s/n 95. In actuality it started life as an EAC 67 contract s/n 7857. I believe
Mort Denison is the present caretaker of that particular unit. It did have
the mu-metal shield and the 25.2 v power supply. I could see a couple of
stains where George had sprinkled the holy water on it, or maybe it was
Art Collins? Nice receivers, but I'm not a collector, if I don't use 'em
regularly, they move along and get replaced with another in that never
ending search for the Holy Grail of receivers. I haven't found it yet, and in
retirement, the quest has somewhat fizzled along with my get up and
go.....

Date: Wed, 23 Feb 2011 15:51:47 -0600
From: "Les Locklear" <leslocklear@cableone.net>

Subject: Re: [R-390] The rare bears

People that collect/use rare receivers. Approximately 1,500 built. Nice for most of the AM broadcast band and VLF/LF if you can find anything to listen to down there aside from beacons.

Date: Wed, 23 Feb 2011 14:54:22 -0700
From: "Lloyd Godsey" <kk7iz@cox.net>
Subject: Re: [R-390] The rare bears

That was closed due to Gulf storms. New address
Secret Signal Corps Disposal Facility
1315 N. udall Circle
Mesa, Az 85203

Date: Wed, 23 Feb 2011 16:20:38 -0600
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] The rare bears

You didn't get the word... They closed that one...overrun with illegal Mexicans...too close to the border...

New address:
Secret Signal Corps Disposal Facility
12509 Quail Ridge Rd.
Gulfport, MS 39503

Closer to the Secret Russian Truck Depot and all the Black Helo's...:-)

Date: Thu, 24 Feb 2011 11:30:29 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] Active List

Well, there is another "Rare" short production run;
Capehart Corp. for Adler Electronics
Order No. 20878-PP-63
Five R-390A's somebody on this list has serial number 1. I think serial number 5 also surfaced sometime back.

Capehart also built 12 R-390A's for the National Bureau of Standards.
More fodder for thought or maybe a claim to fame?

Date: Thu, 24 Feb 2011 12:16:11 -0600
From: Tisha Hayes <tisha.hayes@gmail.com>
Subject: Re: [R-390] Active List

It can be overwhelming to think of the amount of detail that went into the design of the R-390- 390A series of radios to go after the level of accuracy and stability they achieved with tube based gear.

I bet that almost none of it was done using even a primitive computer to do the curves and calculations of how all of the components came together into making the design.

Many folks today are in one of two camps;

1. Come up with a design and then kludge together a bunch of stuff on top of that design to get accuracy and repeatability.
2. Make a computer model of something, then build it and tear your hair out when it does not behave like the computer model said it would.

To have the honor to work as one of the design team at Collins. This applies for many different Collins derived designs. They were not too many years removed off of hand wound coils and galena crystal detectors.

Date: Thu, 24 Feb 2011 11:30:02 -0700 (MST)
From: Richard Loken <richardlo@admin.athabascau.ca>
Subject: Re: [R-390] Active List

Ironically I think as much innovation and intelligence was required in the other camp: mad man Muntz and his cheap TV sets and Hallicrafters. Those guys would build a design and remove parts until it no longer worked. Designing the cheapest possible radio out of discrete components that can be reliably mass produced is no mean feat either. I absolutely detested trying to fix them. I worked in industry on the broadcast equivalent of the R390 where trouble shooting and repair were pretty easy - I did not care for my occasional exposures to minimalist consumer electronics.

Date: Mon, 28 Feb 2011 20:45:54 +1100
From: "Steven and Michelle" <gsxr85@skymesh.com.au>
Subject: [R-390] NASA radio

I have a standard Motorola R390a receiver, not an R-1274. It has a label above the Motorola badge with the NASA symbol on it, serial no. and property of Goddard space flight centre. It was used at the Canberra tracking station during the Apollo missions. On the top vertical edge of the readout is "Receiver No. 2". On another posting on the net (Thought it was in the Premium-rx archives but can't find it now.) an ex NASA employee said that the R-1274 was made for the navy and NASA acquired a few but found the Manson Labs mods unreliable so they used only standard

R390a's. He also said that they weren't used for tracking or to measure doppler shift. I am no expert on these radios by any means but I seen a few claims on the web that the R-1274 was built for NASA or are NASA radios. If they were, unless removed, should also have the NASA label on them one would think. Not claiming all this is right just curious. Would like to find the posting.

Date: Mon, 28 Feb 2011 07:18:53 -0600
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] NASA radio

I think the posting was on this list and sometime last year. Might check the archives here.

Date: Mon, 28 Feb 2011 08:09:10 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: [R-390] R-1247/GRC-129 Information

Found this with a Google search: <http://www.fernblatt.net/ml1.html>

R-1247/GRC-129

Radio receiver, HF, 500 Kc to 32 Mc. High stability version of R-390A/URR using external ultra-high-stability oscillators. Used by NASA for the Apollo program. Contract info: Manson Labs, contract AF30(635)30962, Part No 224-0A2

Additional info per Tom, N5OFF:

" All the Oscillator outputs were seriesed through sets of 2 DPDT relays that appeared to allow the R390A to use its own Oscillators, Import external oscillator signals, or export its internal oscillators to a set of BNC jacks on the rear panel.

By all the oscillators I mean PTO, 17Mc, y XTAL, and the 1st conversion xtal. These relays required external power via a small connector labled CONTROL. The relays were Mil Spec commercial units mounted on well machined casts that fit into the OSC tube sockets on the PTO and Hetrodyne osc and the one for 17mhz xtal plugged into the socket for crystal oven. There were 2 small dia. color coded coax cables going to each relay. The R390a worked normally with no connections to any of the connectors."

Date: Mon, 28 Feb 2011 14:01:55 -0500
From: John Vendely <jvendely@cfl.rr.com>
Subject: Re: [R-390] NASA radio

You're exactly right, the R-1247/GRC -129 receiver was not developed for

NASA, but for the U.S. Air Force. Developed under contract AF 30(635)30962 by Manson Laboratories, GRC-129 was a frequency synthesized, SSB upgrade to the older AN/GRC-26D mobile, truck mounted HF "RATT" system used by the Army and Air Force. The Army seems to have stuck with the outdated but more reliable GRC-26D. You're also correct that NASA did acquire a few R-390As equipped with Manson Labs synthesizers, and these were briefly used at the Bermuda Tracking Station, and perhaps others. But, as you said, they were quickly removed from service due to problems with the synthesizers. The "R-1247 developed for NASA's Project Apollo" myth has been around a while, but it really seems to have taken off a few years back when some character was working hard at peddling a set of GRC-129 synthesizers on the internet, and played the NASA angle like a cheap drum. It seems the misinformation has been repeated so many times since then, it's simply become accepted as fact. Indeed, the seller himself may not even have known he was spreading misinformation. But misinformation, it was.

The GRC-129 was actually a part of the Air Force's massive effort to upgrade to SSB. Although they started acquiring purpose-built synthesized SSB gear for the ground to air network starting around 1956, the Air Force had a large inventory of older HF AM systems (by then used mainly for teletype), and decided to convert certain eligible equipments to SSB. The GRC-129 was a product of this. Manson Labs got a lot of this business, and on the fixed station side, they developed a related system to upgrade the Air Force's AN/FRT-24 transmitters to frequency synthesis and SSB, the AN/FRT-24A. Some fixed station AN/FRR-41s also got an upgrade similar to the GRC-129, with a version of the CV-1693/GRC-129 which produced a stabilized 555 kc and 100 kc for the CV-157s. These are easily distinguished from the normal CV-1693 by an extra indicator on the upper left labeled "CV-157", which indicates the 157s are in external phase locked mode. These were all 1 kc step tuning systems, but Manson also sold a synthesizer/demodulator upgrade package for the R-390A, available commercially, which had an extra loop in the 2.455-3.455 Mc synthesizer to provide 100 cps steps.

The Technical Materiel Corporation had the contract to produce the primary HF SSB comms gear for Project Apollo. TMC supplied four-sideband, autotune versions of both the GPT-10K and GPT-40K transmitters (with SBG-3 exciters), and 4-sideband autotune DDR-5 diversity receivers. The NASA tracking ships carried six (!) GPT-10K 10kW transmitters, and the enormous DDR-506 receiver system, essentially eight of the 4-sideband DDR-5 variant receivers operating as 4 dual-diversity pairs. These systems were installed in 1965. These state of the art radios carried multiple teletype and voice channels, plus 1200 baud digital data which served as a backup for the 2400 baud satcom link between the tracking ships and Goddard. The HF link was used for this

purpose on more than one occasion. In fact, due to a satcom failure, Apollo 11 translunar injection data was transmitted from Goddard to the tracking ship USNS Redstone over the 1200 baud HF system, which uplinked it via the Unified S-band link to the Apollo 11 spacecraft.

Though the R-1247 was not a NASA item, many stock R-390As were used by NASA throughout the ground network, and on the Apollo Tracking Ships (which carried three or four R-390As, depending on the ship). They were used as general purpose HF receivers, and especially as tuneable IFs for downconverters. In the latter role, they were the "back end" of the com receivers which received voice transmissions from Project Mercury and Gemini spacecraft, before the development of the Unified S-Band system for Project Apollo. Project Mercury spacecraft carried a single-channel AM HF transceiver, and the R-390A was used to receive these as well.

The R-390A had a long history with NASA, and you clearly have an example of the genuine article there. Are there any dates associated with the NASA Goddard asset tags which might indicate when it was installed? This might be a clue to which project it was used on.

Date: Mon, 28 Feb 2011 22:01:19 -0500
From: Curt Nixon <cptcurt@flash.net>
Subject: Re: [R-390] NASA radio

Thanks for all the great history on these receivers within NASA. I don't suppose there is any magic link to a site that traces serial numbers to duty assignments for this equipment? Gotta be somewhere in shipping and inventory data but maybe not online.

It would really be rewarding to understand where our equipment was "stationed" during its career.

Date: Tue, 1 Mar 2011 14:41:03 +1100
From: "Steven and Michelle" <gsxr85@skymesh.com.au>
Subject: Re: [R-390] NASA radio

Any idea how many of R390A's NASA would have used. Have you seen many in private hands and if not where are they all? Just haven't seen any pictures of them on the web. Maybe a few have slipped through the cracks but NASA may still have most of them. I think it was an earlier posting of yours I read. All other accounts of them that I can find only mention the myth of the R1274. You obviously have first hand knowledge of them. Thanks again.

Date: Fri, 4 Mar 2011 21:25:48 EST
From: Flowertime01@wmconnect.com

Subject: Re: [R-390] NASA radio

NASA had lots of links to all the branches and at lots of sites. A lot of the stuff was secondary or back up links. A lot of it was just even logistics links. A lot of radio teletype as that got you a hard copy. You could do punch cards for logistic support. All kinds of links to get local weather from bases around the world looking out a day or two for launch or touch down.

We are likely to find NASA used almost everything that was ever used by the military in some form as just part of their world wide communication web.

All kinds of frequencies were used in telemetry links in the test and mission launches. You never knew what would propagate, fail, or work well. So we can expect a lot of different receivers were used for the intercept of telemetry.

Just getting a good time mark from WWV was a mission. The R390's had a known delay time that had been measured beyond belief to keep standard clock time at military sites around the world. Why reinvent that just to get all the sites on a synchronized time tick. There were stock time bases / clocks, scopes, R390 receivers and antenna systems with known propagation delay times. Plus frequency fade and time of signal transit from WWV to sites were known.

I imagine a lot of things were tried just looking at Doppler frequency shift. In time radar and lots of computation would give you a trajectory and speed. But real time a Doppler shift sound would likely tell you more about time and speed. You can count frequency shift in hertz. With a time tick you can analog real time compute speed and then plot distance over time on a paper graph. All kinds of uses for special receivers with state of the art add ons as test instruments.

If you have one of these receivers or other equipment with some identifying markings do try to keep the history together. You not only own a really great article of American manufacture, you own a bit of world history. Someday we will haul these things into a 24 hour Vegas pawn shop and get respect.

Date: Fri, 4 Mar 2011 21:58:49 EST
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] NASA radio

When I got out of service in 1975, property book was still a typewriter and carbon copy operation. Property book being who signed for what

inventory on a site on any given day. The "Property Book Officer" was the designated stucky of ownership. You had property books for ever building and operation on a site. Someone owned the desks, chairs and file cabinets. Someone else owned all the radio equipment. Someone owned all the pots, pans, silverware, stoves in the mess hall. Someone owned the fire extinguishers. Someone owned all the vehicles in the motorpool. Someone owned the one truck, flagpole and buildings on the site. You wanted things to be inventoried as expendable (tubes, transistors, paper, punch tape, coffee, fuel, paint) so it would not be on a property book. Every item that was received, transferred, shipped had a multi copy hand written or typed form with the from, what, and two completed. One signed off as released and another signed on as accepted and thus added to your property book. From time to time you completed your tour of duty and signed your complete book over to another person. A real inspection hand hand and eye ball one every item in the property book was conducted. If you had a real "list" of that property you were controlling, it was because you typed it up by hand. A lot of officers punched their list up on RTTY tape. In many little parts. You could feed the parts to a repunch and string it all together. You deleted an item with scotch tape over some holes. You could stop the tape or tare the tape to insert an additional number or item. by changing the tape in the reader or flip a switch from read tape to read keyboard. Once you had a good tape together you could print nice list of noun nomenclatures and serial numbers. These list then were walked around for inventory. With your tape in hand you could delete and add items to your working list.

Later punch cards were hand typed one card one line one item. Sort them yourself by hand. Feed the deck to a card reader and get a printed list back from the computer printer. There is no history / data base of all those inventories of all that government property. This is why it is important to preserve what bit we can find.

Date: Sat, 05 Mar 2011 22:35:53 -0500
From: Dave or Debbie Metz <dmetz@ntelos.net>
Subject: [R-390] Wullenwebber information Project Boresight

Forgive me for crossposting but this R390 crowd has always talked about the problem with the phase shift of the mechanical filters. After reading this article, I think its very clear why the Wullenwebbers were developed, and why NSA developed the R725 with the earlier 390 IF strip, and the DC to the PTO filaments. (And the R1230's among other Security group equipment) Not sure I have this exactly correct but in any case, it sure discusses something that is news to me. I have seen the wullenwebbers in photos but had no idea as to the real purpose in life other than a real expensive HFDF system. Sounds like we owe a big debt to some real geeky guys at NSA and Canada. Here's the link:

<http://jproc.ca/rrp/boresight.html>

Date: Sun, 06 Mar 2011 09:39:08 -0500
From: Curt Nixon <cptcurt@flash.net>
Subject: Re: [R-390] Wullenwebber information Project Boresight

That was a very interesting article. As a High School Extra Class, I was recruited for work in Gander and Greenland in the mid-sixties. Probably some of that equipment. It would be very interesting to see some technical docs/photos of the receiver banks and antenna arrays but I suppose cameras were a capitol offense!

Date: Sun, 6 Mar 2011 15:01:26 -0000
From: "Lester Veenstra" <lester@veenstras.com>
Subject: Re: [R-390] Wullenwebber information Project Boresight

This is the first time I have seen a discussion of TH in the clear.

Date: Sun, 6 Mar 2011 09:45:19 -0800 (PST)
From: Steve Toth <stoth47@yahoo.com>
Subject: Re: [R-390] Wullenwebber information Project Boresight

Great article - fascinating stuff!? I gather the antennas referred to are the "elephant cage" antennas discussed in posts a few months ago?

Date: Sun, 06 Mar 2011 13:18:46 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] Wullenwebber information Project Boresight

Yes.

Date: Sun, 06 Mar 2011 13:22:31 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] Wullenwebber information Project Boresight

Information "RELEASED".
<<http://www.nrl.navy.mil/pao/pressRelease.php?Y=2000&R=32-00r>>

Date: Mon, 7 Mar 2011 15:34:51 +0000
From: "Webb, Gary" <glwebb@gundluth.org>
Subject: [R-390] Wulleweber/Boresight personal experience

I was stationed at two of the Navy's Wullenweber sites. Guam and Panama. I was a section supervisor for wideband for a while in Panama. This is what I can recall from 40 + years ago: On either end of the bank of receivers was a large reel to reel 24 track tape recorder. Each reel would

record 30 minutes. When a new reel was put on the recorder, it would run 2 minutes worth of tape into a bin on the lower half of the recorder. When the tape on one reel came to the end it would trigger the other one to start recording. There was still two minutes of tape in the first recorder bin. So for two minutes both recorders would be recording the same information. If I remember correctly, tapes were reused every 24 hours.

When we would receive a request from the NSA, we would pull the tape for the specified time and play it on a work station that was set up to display just like the regular HF DF ones. The recorders were fed the goniometer information along with the RF signals. That's what allowed us to get a bearing reading from the burst signal. The bearing info was sent by encrypted teletype to NSA. And they did the fixes. Regular HF DF fixes would have been done at a station that was designated as a Net Control or alternate Net Control.

Date: Mon, 07 Mar 2011 10:59:55 -0600
From: Randy and Sherry Guttery <comcents@bellsouth.net>
Subject: Re: [R-390] Wullenwebber information Project Boresight

Yeah - a bit surprised myself. Then again - I have yet to figure out what criteria the Navy (and/or DOD) uses to decide what is and isn't still classified. There are things in Sherry Sontag's book that I am just flabbergasted by - as I thought they would never be allowed "out". Yet when I checked with the Navy about some "things" I was involved with - I was reminded of my oath of secrecy - which was an effective - if round-about way of saying "No - you still can't talk about that". So I just don't talk about anything that was classified "back then" - so I know I'm not going to get into trouble (Just to be clear: this does not refer to Boresight - I'd never heard of it until recently).

Date: Thu, 10 Mar 2011 14:29:12 -0500
From: Nick England <navy.radio@gmail.com>
Subject: [R-390] 1980's Navy R-390A's

I have a 1986 document on the radio equipment aboard the Navy's FFG-7 class frigates. Shown on an equipment layout amongst the R-1051's and other modern stuff is an R-390A Last night I found some photos of the communications center on a couple of these ships and sure enough, there's a familiar face. These particular two ships were commissioned in 1984 and 1986 - the 51 ships in the class were built between 1977 and 1989 by Bath and Todd shipyards. OK, I know about Avondale and the Fowler R-390A's - but where did these 50 or so R-390A's come from??? Did the shipyards buy them on ebay or what? I checked with a fellow aboard FFG-40 and he says there is now a modern receiver in that rack. Photos for

your amusement and edification at <http://www.navy-radio.com/ships/ffg7.htm>

Date: Thu, 10 Mar 2011 14:02:24 -0600
From: "Les Locklear" <leslocklear@cableone.net>
Subject: Re: [R-390] 1980's Navy R-390A's

Fantastic find, Nick! I was absolutely amazed when I helped uncover the 1984 Fowler R-390A story. Not we've got a whole new chapter. I wonder where they procured their 390A's from? There were plenty in military inventories at that point in time. I would bet they purchased a bit smarter than Avaondale Shipyard did.....

Date: Thu, 10 Mar 2011 13:17:44 -0800 (PST)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] 1980's Navy R-390A's

I think the difference here was between "GOVT SUPPLIED" material and "CONTRACTOR SUPPLIED" material. The 390As for Avondale were contractor supplier according to my discussion with them. I have a copy of the book "THE YARD" about Bath Iron Works. They go into that in the book. Really good scooped pics! I really like them. Interesting that this setup had all sorts of cats and dogs for HF receivers.

Date: Thu, 10 Mar 2011 17:36:02 -0800
From: Tom Chirhart <k4ncgva@gmail.com>
Subject: Re: [R-390] 1980's Navy R-390A's

Nick, when the Sherman Class Destroyers came out of FRAM in the early/mid '70's two R-390a's were left inside Radio Central for morale purposes. (I was on DD-938/Ingram.) They were cabinet mounted next to the WRR-3B MF receiver used to monitor 500 Kc. The 1051's were great for RATT using the UCC-1 and KWR-37's/KG-14s for fleet broadcast and with the KW-7 URA-17 Orestes ship/shore, but the CW ops, including me, preferred the 390 so when we had to do HF CW we jury rigged a long cable for the headphones so we could sit at the mill and log and take traffic. Of course is a ship on the net was off freq we had to stand up and tune them in. Still better than the 1051's that were rack mounted at tabletop height to the right of the operators position. I hope to tour the USS Barry DD-933 at the Washington Navy Yard with hopes to take a inside Radio Central to see how badly they gutted it when it was decommed and made into a museum ship.

Date: Sun, 13 Mar 2011 18:25:34 +0100
From: "Henry Meil's" <meils@get2net.dk>
Subject: [R-390] Good brief USN intro to the R-390A for first time users

My soft-cover manual/book, RADIOMAN 1&C NAVY TRAINING COURSE NAVPERS 10229-C, Second edition, 1963 pages 121-123, including a fold-out block diagram, gives a concise overview of the the receiver

From: William A Kulze <wak9@cornell.edu>
Subject: Re: [R-390] X RF Deck Tube Optimization

<snip> Roger, where were you an instructor? I was a Ground Radio student at Keesler in the spring of '77.

Date: Mon, 21 Mar 2011 19:10:23 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] X RF Deck Tube Optimization

I was teaching at the Ft Devens school house in 73 when I met my wife Wanda.

I reuped some where in Korea in late 71 and was at Ft Devens in Jan 72. I spent the week before Christmas of 71 with my brother in Japan. So almost two years Jan 71 through Nov 73 I left for Okinawa after Thanksgiving 73 and got to Okinawa before Christmas. So did you have an Instructor named Russell (Russ) Huss He would have been at the new school in 77. We did Nam together.

Date: Tue, 22 Mar 2011 07:57:47 -0400
From: William A Kulze <wak9@cornell.edu>
Subject: Re: [R-390] X RF Deck Tube Optimization (Mil radio training)

I was at Keesler AFB in Biloxi, MS Jan - June 1977 and I'll be darned if I can remember anyone there. It snowed there the day we took the bus from San Antonio. I remember one girl in ground radio who got stationed at Myrtle Beach and another girl in the basic electronics portion who asked "why?" regarding everything. After an explanation of the fact that a capacitor stores a charge or how a transistor works... "Why?" Really exasperated the instructor! "It just does!" "Yeah, but, why?"

I remember studying Rx's with the R390 and tracing the different signal paths and power circuits with colored pencils. The tests for each block consisted of a written test and a hands on troubleshooting test. We were taught the "half split" method to isolate which section was failed, although, with a lot of the radios being tube most guys caught on that a bad tube had a spot of white paint on the bottom, or there might be a wire removed from the socket, taped and stuck off behind the harness somewhere. I thought it was more fun to do the detective work, though. I remember one radio in a 6 foot rack, I think for flight line VHF that used freq synthesis and PLL. I

remember coming back to the barracks from class one day and there was an orange extension cord hanging from a third floor window in the courtyard. Guess some guy couldn't handle something or other. Cord broke, though.

After school my duty station was at Hickam Airways, with operator consoles, line amplifiers, jack fields and a switchboard. Never saw another radio, they were elsewhere on the island. After finishing school I went home on leave and I sat in the airport bar having a beer with my dad. He seemed impressed when I talked about the R390. He'd been a ham since before WWII, I've got his old call. I never got interested in radio as a hobby until after he was gone. I wish he was around to talk to about this stuff. Heck, I wish I had half of his old gear! I might have found one, that was in the garage of a friend who's living in his father's house. That guy was a CBER and my dad might have given him this old HQ-170 when he retired and moved to FL. And a D-104, too.

Sorry to wax reminiscent on ya, but let me throw one more thing out there. I've got a jpeg of a QSL my dad sent out in 1946. Under W2NVD it says "EX OX1AA". Right after he got out of the Air Corp he had a job with American Airlines up in Thule, Greenland. If these calls were sequential that would be a significant call. Anybody out there have any insight into this? <snip>

Date: Tue, 22 Mar 2011 07:33:54 -0500
From: "Cecil Acuff" <chacuff@cableone.net>
Subject: Re: [R-390] X Rf Deck Tube Optimization (Mil radio training)

We do get some snow here...it's rare but it does happen. I'm usually able to remember them but 1977 was two years out of High School for me and I don't remember that one...just too far back. I've lived in the Gulfport/Biloxi area since 1968. My Dad retired at Keesler as an air traffic controller. I spent a lot of time in the control tower. There were a lot of T-28's here then as the Air Force was training a lot of Vietnamese pilots at the time.

Date: Tue, 22 Mar 2011 08:43:25 -0400
From: William A Kulze <wak9@cornell.edu>
Subject: Re: [R-390] X Rf Deck Tube Optimization (Mil radio training)

Cecil, we must be about the same age, I graduated HS in '75. We got there about 9pm, it was gone by then, but everybody was talking about it. It funny what you remember and what you don't. There were some 3 wheeler ATC rides at a little track on the beach, and I bought a guitar at the Gulfport mall. And a sign at a little place out the back gate that said "no dogs or airmen allowed". Every time I see your name I wonder if your related to Roy.

Date: Wed, 23 Mar 2011 18:17:52 -0500
From: "Robert Sisco" <rsisco@stx.rr.com>
Subject: [R-390] First post to the list.

I am in love with Tisha, as I am sure the rest of the guys are. Sight unseen, HA HA. My R390A has a great deal of memory associated with it. I bought it from John Maun W5MEU in San Antonio in the mid 80s. He was retired from the Research Institute in San Antonio. He was also retired from the Army. He was a rough sergeant, who treated me like a son. He had R390A receivers staked all over his radio ranch. The one he sold to me was a pick of the litter. There is not a single scratch on it. The forbidden phosphor meters are in it. John was big on not doing modifications, but there was one he insisted on. In all his R390A receivers he would put a higher voltage capacitor in series with the mechanical filters. I will not use any words like John did, but people will flip the selectivity switch taking out all the mechanical filters, when this capacitor shorts. He told me in words I can not use here, if I was shopping for an R390A to tune in the crystal calibrator, then flip through each band. If the pitch stayed the same, that receiver would be worth a fortune! <snip>

Date: Tue, 5 Apr 2011 11:14:05 -0500
From: Tisha Hayes <tisha.hayes@gmail.com>
Subject: Re: [R-390] 16 KHz filter oscillates

> ...infamous Helena Rubenstein collection.....

Is there a modicum of truth that some of the one-off manufacturers ended up reselling modules from the other prime contractors and that some of those were the junker modules that needed significant rehab? Those low quantity manufacturers may be collectable, based upon the nameplate but I do not know if I would want a radio made from the flunkies of modules.

Date: Tue, 05 Apr 2011 12:28:42 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] 16 KHz filter oscillates

That really becomes an issue of *when* the radio was manufactured. Going back to the Cost Reduction Analysis Report - ONE of the top items of cost concerns was CAPACITORS. I have on the bench "one" of the very early Collins made R-390As. It is from the '51 order, that actually started to come out in '54. Roger pointed out specific items that these have to identify them. NO holes in the IF Deck coils, and NO holes or trimmers on in the filter can. I can tell you that I have pulled BBODs from this beast from day one! The years later made R-390As, i.e., '67 EAC, didn't have a single one they were all Aerovox, yellow "wrapper", resin sealed

capacitors. The only problem with it was THE nasty acid type capacitor on the AF deck board. However, I'm like you. I don't really have a lot of faith with some of the "other" suppliers. The Stewart Warner, Collins, and EAC ones are "probably" the cream of the crop. (Simply IMHO.)

Date: Tue, 5 Apr 2011 19:20:02 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] 16 KHz filter oscillates

It is not the real deal. The IF deck is a Teledyne Systems Corp. Serial number 6167. Maybe the Helena Rubenstein IF modules were Teledyne modules carefully rebranded. I do not know just think out loud.

Date: Tue, 5 Apr 2011 19:39:38 EDT
From: Flowertime01@wmconnect.com
Subject: Re: [R-390] 16 KHz filter oscillates

The contracts did not say you had to build any of the receiver from scratch. You just had to produce an exact copy. If you could get "new" subassemblies from old stock that was OK. If complete old "new" receivers could have been located in the time frame, they would have been acceptable for the contract.

Lots of subassemblies from other production runs. But I expect the subassemblies were very good acceptable parts and not rejects.

Then again there is money in rework. If the contract is cost plus, I think I would need to rework every last bit of any found subassemblies. One can never be too conservative in a cost plus situation. Better to rebuilt up front than to risk the loss of income. Some of these wild things we seen done with our tax dollars are real science projects. Someone with input into the contract process gets to ask for all kinds of line items that should have never been allowed.

Other times someone starts a contract with some wrong verbiage that just obstructs the procurement process to no end. Working the LPD 17 program we seen lots of requirements that were just off the wall. Three years into the LPD

17 the three major contractors were still going back to the Government and asking for modifications. Folks, Please just let us do it this way and we save you all enough to cover your salary for another year. Think about what your asking for, Please.

Date: Thu, 18 Aug 2011 13:52:50 -0700 (PDT)

From: Perry Sandeen <sandeenpa@yahoo.com>
Subject: [R-390] FYI BA Beauty

I bought a book called B-29 Missions at B&N for \$13 in their bargain priced section. It is a coffee table type of book and it has several very nice large color pictures of the radio deck and some showing individual pictures of our beloved equipment.

Date: Sat, 20 Aug 2011 16:20:15 -0400
From: Nick England <navy.radio@gmail.com>
Subject: [R-390] R-390A working on the railroad

Presidential train communications car
<http://www.jfklibrary.org/Asset-Viewer/Archives/JFKWHP-ST-54-43-61.aspx>
Google "Presidential train communications car" for more

Date: Fri, 02 Mar 2012 12:26:07 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] AN/URM-25s

<snip>

Do I know about these methods? Certainly. My reference to the same period and working with missiles, radars, and their sensitivity/accuracy was just another look at the entirety.

- 1) The MTR had to lock on to the 12" cone with a required minimum distance of 1 mile from the IFC area to the Launching area.
- 2) It had to maintain this "lock" from the initial lock at missile erection in prep for launch.
- 3) This lock , track, and data link must be maintained from launch to intercept. If the lock was lost, the missile was programmed to self-destruct.
- 4) This had to sustain the initial acceleration, continue until maximum velocity was reached, (over Mach 3), to an altitude around 70K feet or more, and at a distance of around 300K yards.

This was intended simply to provide an example. The entire process of loading a missile onto the elevator, already having arming plugs inserted, raised to the surface, and slid along the rails to where it would be raised to the launch angle, was interspersed with a constant litany of testing for stray voltage with sensitive devices. This was necessary to ensure safety to personnel, and the possible loss of a missile due to accidental ignition of

the booster by the squib. Obviously you really don't want a booster lighting up when it isn't the right time and place. All of this was being performed while the Target acquisition radar was sweeping, the TTR, (Target Tracking Radar), TRR, Target Ranging Radar), and the MTR were ALL in play. The numerous signals permeated the area. There were multiple Missile Batteries doing the same thing with the same numbers of pieces emitting RF. There were up to 5 IFC areas all doing this at the same time, engaging targets, acquiring their missiles, and targets. If there was ANY issue of RF that would interfere with all of this activity, the entire system would have been compromised. There was an annual exercise where we had U.S. Aircraft of many different types that would come in with jamming of every type possible emanating from B-52s, SR-71s, and RB-57s, while trying to penetrate us, and us performing target ID, acquisition, and simulated interception.

Whenever we went through this, the IBM system where my wife worked a number of miles away from the Air Defense Command Post, would have the huge search radar scramble their computer to the point that the attached IBM line printer would begin shooting paper out at a rate that caused the paper to hit the ceiling.

The AN/FPS-24 search radar had been kicked into high output AND its Frequency Hopping mode. This was what the *REAL* thing would be like. Therefore, all the capabilities of the Command Post, along with similar capabilities of the Missile Firing Batterys, were turned loose and running at MAX along with all Battle Short switches flipped on so that even if some dumb light bulb, switch or other item would perhaps fail, system continued to operate.

The computers, radios, and all of the above were going constantly, with our microwave links amongst the entire Defense Artillery Group, AND the links to NORAD with the SAGE/BUIC system. This was the harshest RF environment that I have ever worked within. RF leakage was highly prevented even with all the openly exposed items. Yet - there never was a single RF cage/Faraday shield in existence. How do you place such devices around either Missiles or Radars? So through this together, and you have a recipe for disaster. However, it simply did NOT happen! There are much more things that we had concerns over, and had to place close attention to. The warheads were under this environment also. They were not dummies.

Date: Fri, 02 Mar 2012 12:55:00 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] AN/URM-25s

I also had the prior experience of being on a team performing Patrols in

the Jungle in SE Asia. We carried PRC-25s with 1 to 1.5W output, and for long haul the PRC-47s. We were always aware of the limitations of the radios, and had compromises that had to be dealt with. When you were on the move, the standard measuring tape style whip on the PRC-25s, we would grab the top of it, and bend it over to tie it to our web gear so it wouldn't snag in the jungle and the wait-a-minute bushes. When we would setup for a period of time and had the chance, we would use the long whip in place of the tape whip. This came out of the accessory bag that went with the radio set. It was well over 6 ft in length. It wasn't flexible. However, it gave us a much further reach for both transmit and receive. When we would have to "phone home", either to update Mother, or arrange for an extraction, that was when we strung the dipole of the PRC-47. Yes, it too had a whip. That whip was more for in country use. Not to "phone home". I've been through both low level RF environments and extremely high RF environments. Both environments were matters of lives and limbs to say the least.

My background was highly varied as I progressed through an entire military career. It proved to be a very interesting experience. I've done the crawling through the jungle, working with missiles and warheads, and then other nuclear devices that were used for power production, burst testing to determine effects on living organisms, and the creation of Radioactive isotopes for either medical use or standard sources for calibration and/or reference. <snip>

Date: Mon, 5 Mar 2012 17:03:20 +0000
From: William A Kulze <wak9@cornell.edu>
Subject: Re: [R-390] Long time ago

I've always felt like I missed out on the radio repair side while in the Air Force. Went to Keesler AFB as a Ground Radio Communications Equipment Repairman. Learned Rx principles on the R-390. Did well enough in school that I was sent to a station in a job that had no school. There were only 9 (I think) shops like it in the AF. I was assigned to the 1957 Comm Group and was a SCOPE Control technician at Hickam Airways. Had secure voice/data capability for VIP comm across the Pacific. Had a system in there that did A/D and D/A conversion and could send it through crypto. Fairly simple today, flip open your phone and make a call. That system consisted of two 6' racks from Motorola and Philco. Installed in 1964.

But I never saw another radio! Worked on switchboard, consoles, line amps, etc. Even had two huge 10" or 12" tape transports, inch-wide tape and 10 channels, one was always WWV/WWVH. If there was an incident one of the ops would go stick a piece of paper in the reel so they could find it later. Three lines from Andrews, 3 to Clark and 3 to Yakota. Could patch Autovon into switchboard if Andrews needed another line. Had to do that

soon after finishing OJT and working shift alone. Was listening in to see if I got it right I heard the op cal for plane 27000. Didn't realize that was AF One, Carter was flying around the world.

I'm told that the Airways station is gone now, I think all of the mil air traffic just goes straight to ATC in Diamondhead.

I've heard Andrews on 15016 upper. I guess still part of the old network, not sure what they've got these days, though.

Bill W2NVD
Motorola R-390a, 14-phila-56 SN 822
And more

Lived in Santa Rosa in the 90's. Worked at Haltex when I first got there, now World Wide Wire. There was a guy cleaning house who gave me most of the BA gear I have now either for free or real cheap! Then worked at Air Monitor Corp and Agilent on Foutaingrove until carly's big layoff move. That's when you started finding call centers for HP in india.

Remember, the bad tube is the one with the paint spot on the bottom!

-----Original Message-----

How many of us (R390A fans) were M-brancher's in NavSecGru?
This may bring out a flood of replies! KE5RI Santa Rosa, CA

Date: Mon, 5 Mar 2012 17:36:51 -0500 (EST)
From: Roger Ruskowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] AN/URM-25s

>I thought a faraday cage was where capacitors were kept. David /
WB5UOM

We keep a lot more than capacitors in the cage. A couple of the cages were designed for Elephants. If any were to be found loose in the area there was a disaster plan to round them up and put them in the cage. The cages were extremely high and would serve to contain other large tall animals The cages were also designed to keep large cats from climbing out of them. The Navy guys told me this was so. The whole building was screened inside with what looked like brass window screen. Then each room was also screened. Then the walls and ceilings were covered with acoustic ceiling tiles to keep the audio reverberation in the rooms down. A chain link fence out side keep any one from getting close enough to listen through the walls. Every rack was grounded to a copper ground cable. every ten feet or so along the cable was a 10 foot ground rod through the floor. It was said

that before the building was built the earth under the building was "treated" to make the earth more conductive to couple the ground system to the earth. It was not just a cage. It started out in the antenna field and and continued right up to your ear in the head phones. Roger AI4NI

Date: Mon, 12 Mar 2012 13:15:23 -0400 (EDT)
From: chuck.rippel@cox.net
Subject: [R-390] \$5k R390A on E-Pay

If its the same radio I'm thinking of, I know it well. It was one of 2 brand new EAC R390A's I have. This one came with a Delta Electronics, Solid State SSB adaptor/Sync Detector and a cabinet built to fit both. There is a picture on my old site, its the first radio at the top/right hand side of the page.

<http://web.archive.org/web/20080110001901/http://www.r390a.com/html/shacktour.htm>

I ran it with my Collins 20V-2 for several years. The receiver was very, very sensitive and if memory serves me, the serial number was something over 10,000. Sort of an update; this could not have happened intentionally if I had planned it. The web-hosting company where the R390A www site was kept folded. A week later the motherboard for computer which held the backups failed. The USCG has had and has me very busy at USCG CAMSLANT but I'm hoping that will slow down just a bit. I haven't restored a radio in a couple years but will be throwing the shingle out officially soon. Un-officially, I'm ready to start restoring today. I really miss workling on them. Re-subscribing to this list was a good first step. Best Chuck.Rippel@cox.net

Date: Tue, 13 Mar 2012 16:54:02 -0500
From: Randy and Sherry Guttery <comcents@bellsouth.net>
Subject: Re: [R-390] \$5000.00 390A????

Ditto- however I guess I need to clarify that - in my case it's HAM license that I never got... I did get my Radio Telephone 1st in 1966; added RADAR in 1978; US Navy and US Air Force Metcal license (certificated) in 1976; NASA hand soldering license in 1976; etc., etc. And as long as we're list "things" "not many" just for "the record" - I'm US Navy trained in precision optical alignment and calibration to an accuracy that (to my knowledge) is still classified today - that includes Theodolites, Jig Transits; Alignment transfer periscopes, telescopes, reference mirrors / cubes; etc. - all used to align primary navigation/guidance for Polaris/Trident/Posieden missiles - an area where the accuracy is somewhat self-evident - and a bit of "life and

death concern" - especially to those whom several million tons of nukes are aimed at (as well as those of us aiming it). <snip>

Date: Tue, 13 Mar 2012 18:57:50 -0500
From: <wb5uom@hughes.net>
Subject: Re: [R-390] \$5000.00 390A????

Well, I think I am one of those that can comment here. I wasn't offended, and am not offended, by anything anyone has said in this discussion. I started out as SWL at the age of 13. When I tripped over something late one night on the Shortwave bands and dialed it in and found it to be two of our bombers coming back from their missions over Vietnam, well that hooked me. It hooked me on RADIO, not ham radio, not SWL radio, but communications. In 1974 I got the 1st phone, in 1978 I got the ham license, in 1985, I started my career in commercial communications, in 1992 I went into business for myself and (sadly on some days) still there. Can I get out? (slight smile) But, there are ALL types in every arena. I do little hamming as I don't like contests, I don't do DX because most of those just want the contact and no conversation. I spend MOST of my time with Military and commercial HF communications. And yes ALOT of hams will turn and walk away when that subject comes up.

But I love RADIO. I got very irritated at the ham community here and although I do provide a 440mhz repeater for open use, and occasionally I'll help the local

Emcomm group on some issue. But I don't like the attitude of today's hams. (at least here) and it's easy to visualize when you own several tall radio towers and get to listen to all the pitches as to why THEY (the hams) deserve to be on this tower or that tower. To all of you that have those Vietnam stories from personal experiences (and those unmentioned little countries nearby), I respect you and would LOVE to sit and talk with you. I was a tad young to go. But -- the point is ---it takes all kinds and I know there are those who don't care for me or my interests -- and that's ok with me. Is there REALLY such a thing as a \$5000.00 R-390?

Date: Wed, 14 Mar 2012 01:59:37 -0500
From: Randy and Sherry Guttery <comcents@bellsouth.net>
Subject: [R-390] OT - Re: Optical things

I've received several questions, comments, etc. about my comment about optical "stuff" - and SINS (Inertial Navigation) and Polaris, et. al. For obvious reasons - there isn't a whole lot of info "out there" - but as time passes - and things are de-classified - more info is getting out. A bubble-head that served on one of the boats like I worked on has done a tremendous job of documenting his boat specifically - and the 598 class in general. The Edison (SSBN 601) was in the Atlantic - so I never worked on

it - however - I've worked on three of the five of that class (G. Washington SSBN 598; P. Henry SSBN 599; and A. Lincoln SSBN 602)- and needless to say - his pages bring back a lot of memories. A few points - the submarine crews never did the "routine" optical stuff - that was up to the tender (save for the built-in periscopes, we had most of the "stuff" needed on the tender - no room on the boat) - so there isn't a lot of detail about the fine points of the optical work. However - I think most people smart enough to make their way around a 390/1/A can gain a fair idea from what he does have there.

Enough talk - here's the link... http://www.ssbns601.com/tour_NavCen.asp
And he has several more - including some vids. This was the "base fleet" of the 41 for Freedom... BTW - if you check the radio room stuff on the 598 class - we'll be back dead-on topic for this group... guess what the primary HF receiver was for the 598 class (and several others, for that matter)....

Date: Wed, 14 Mar 2012 11:39:14 -0500
From: Randy and Sherry Guttery <comcents@bellsouth.net>
Subject: Re: [R-390] \$5000.00 390A????

I had no contact with the missiles themselves - there were (are) specialists that took care of them... That said - actually Polaris and Pershing had quite a bit in common - both two stage solid propellant, blunt stupid (i.e. ballistic - once fired - they followed a ballistic trajectory making no other "corrections" - unlike today's smart weapons); and deadly. Polaris (and certainly it's progeny) had further throws and higher yields - but then they were designed for different use. So in one respect - yes - Polaris (and progeny) had to have far more accurate navigation (both to establish origin and then in-flight) simply because they were going to go one to several thousand miles further - and any error in origin (and/or flight) navigation compound rapidly with distance... and while we intended harm to our target(s) - we equally strove to limit any collateral damage...

Date: Sat, 7 Apr 2012 19:30:45 -1000
From: Raymond Cote <bluegrassdakine@hotmail.com>
Subject: Re: [R-390] My First Boat Anchor...

Well on one on my submarines, I was greeted with the R390-A receivers being offloaded by a new Communications officer and new state-of-the-art R-1051 digital tuned receivers being installed. They lasted only one patrol and the 390s were brought back on board at the insistence of the Senior LPO (Leading Petty Officer) of the radio room. I don't know what happened after that, but the 1051s were around at other sites for quite a while. I was subsequently assigned to R-390A instructor duty and all I saw were the 390A receivers at electronics school,, although the R1051 was being

taught in parallel. Happily I was not involved with the 1051. Perhaps if I was, the one I have would be working. HA!

Date: Sun, 08 Apr 2012 16:21:19 -0700
From: "Bill Beech (NJ7P)" <nj7p@nj7p.org>
Subject: Re: [R-390] R-390 Digest, Vol 96, Issue 5

I was assigned to the USASA Field Station in Korea in 1977. R-390A receivers were the only receivers in general use. They were replaced by a WJ design which had NO tuning knob. Those were removed and replaced by WJ receivers which had a tuning knob. The O5H's (Hogs) did not like a receiver with out a tuning knob. When I returned in 1980, the second WJ receiver was the general use receiver. It was still a digital receiver but could be tuned by a knob, as well.

Date: Fri, 27 Apr 2012 10:49:57 -0500
From: Randy and Sherry Guttery <comcents@bellsouth.net>
Subject: Re: [R-390] Interesting R390A

> ...I don't ever remember there being a mention that R-390A's were ever used on Submarine service.

I'll mention it - yes they were / are. It's been a while since I've seen a sub radio room - back "then" (1975) R-390A's were "standard"- along with a 1051. I "heard" that on some boats that had gone to all 1051s - Comm officers were not pleased - and some pulled a 1051 and put a 390A "back". I think all the boats I worked on had at least one 390A - though I'm not sure about a couple of the fast attacks (wasn't aboard long enough to see the radio room). Of course 1) wasn't looking that close and 2) it's been nearly 40 years -- but I don't remember seeing a 390A like the one on eBay - though that's "different" enough - I *think* I'd have noticed - but again - the contents of the radio room were "sensitive" - so unless one had "business" in there - all one ever got was a look "in passing"... (and my business was in the NavCenter). I'm also skeptical about some of the "claims"... I certainly don't recall any of the "other" modified 390A used a "replacement" panel just modified what was there. This is a snapshot of a radio room - while the 390A is not in focus - I think you can tell enough to see that at least that radio - on that submarine - is not modified as "described". <<http://www.comcents.com/boomer390a.jpg>>

Date: Sat, 28 Apr 2012 02:12:40 -0400
From: Glenn Little WB4UIV <glennmaillist@bellsouth.net>
Subject: Re: [R-390] Interesting R390A

The R-1051 is an appliance operator's radio. Dial in the frequency, select the mode and adjust the volume. For some unknown reason the widest

filter is selected for CW. The R-1051 series receiver is more stable than the R-390 series.

The R-390 series is very much more versatile, but, requires an operator that understands the receiver to properly operate it. The R-390 was not stable enough to copy multi channel broadcasts, in the hands of the average RM. This is what I understand is the reason for the R-1051 replacing the R-390.

The R-1051 does have a tube in the receiver front end, making it possible to potentially survive an EMP. 73 Glenn WB4UIV ETCS(SS) USN
Retired

Date: Fri, 27 Apr 2012 23:31:41 -0700 (PDT)
From: Perry Sandeen <sandeenpa@yahoo.com>
Subject: [R-390] sitting on the same coils

When I was stationed at the Karamursel Air Station base receiver site we had six or so R390A's in relay racks that were on fixed frequencies 24X7. The only time that changed is when we did a routine PM check every six months which they always passed. In the 18 months I was there they never failed. And they had been operating like that long before I got there.

We did have multiple muffin fans mounted on a large piece of sheet metal that were mounted in the base of each relay rack for cooling. The bad part was at night when it got cold there was no thermostat control on the A/C so one had to wear a field jacket on mid-shift (11PM to 7AM) even in July.

I would have loved to have gotten one of them as surplus. They looked inside and out like they had just come from the factory.

Date: Sat, 28 Apr 2012 08:38:55 +0200
From: Clemens Ostergaard <clemenso@gmail.com>
Subject: Re: [R-390] Greetings from Sydney, Australia

Yes, it is a unique group. I too have never met a list so knowledgeable, so helpful, and yet carrying its experience and wisdom so lightly. And very few harsh words here.

Imperial Electronics I think were (are?) in San Diego, on Imperial Avenue. They were linked to Teledyne, also in San Diego, and they both worked on the contract with the number you indicate. 63 just signifies the year the contract was entered. My first R-390A, in 1983, was made under this contract, and marked Teledyne (sn 3821).

Date: Fri, 27 Apr 2012 20:59:43 -1000

From: Raymond Cote <bluegrassdakine@hotmail.com>
Subject: Re: [R-390] Interesting R390A

Well, the radios that I worked on ON A SUBMARINE were stock R390-A radios. It was very early in the 1960's and they looked just like the 5 I have now. A short time later (1 year) we converted to the R1051, and sometimes the 390 returned due to operational needs. There would be no reason I can imagine to add some of the things I saw other than being added by someone who liked to change things in his shack. My .02 cents worth.

Date: Sat, 28 Apr 2012 09:26:26 -0500
From: "chacuff" <chacuff@cableone.net>
Subject: Re: [R-390] Interesting R390A
To: "Randy and Sherry Guttery" <comcents@bellsouth.net>, "R-390-List"

I've done all of the above...(oops below)... You think the R390 series gives you wrist problems...try an R-1051 with it's decade frequency tuning... The early version is the most repairable of the series...all descreet components. Starting with the B models there were IC's that are now unobtainium....strange how we can buy tubes from 100 years ago still at reasonable prices but some IC's seem to have left the planet. Of course the earler models were the oldest and probably the most used of the surplused radio's but for reasons mentioned above was my first choice of a keeper if you can find a clean one.

The positive things about the R1051:

Very stable...set it on a frequency once the thing warms up and it won't move for weeks.... Great SSB radio...much better than the R-390 series... Would do sideband diversity receive for great ECSS reception of AM with two IF strips and two audio amps. Set it on a SW station...zero beat the carrier with it in DSB, hook up a speaker to each audio out and selective fading was greatly reduced...and it was locked on due to it's stability.

The Down side:

You can't work on the thing unless you have a handful of extender cables and the manual and a box of spare modules. Modules from the "Plain" and the later models are not all interchangeable. The beast is as much a mechanical nighmare as it is electronic. Actually I saw about as many problems with the mechanical parts of the RF deck as I did electrical/electronic problems with the Frequency Standard...and the Six Pack module has both mixed together.

If one is determined to learn to fix them it is doable...I've been down that road and after 6 or 7 years there wasn't enough demand to keep all the stuff

needed to service them so I sold it all(read gave it away) and moved to my pile of R-390's and SP-600s. Much more fun to work on and to listen to.

Date: Sat, 28 Apr 2012 10:13:58 -0500
From: "chacuff" <chacuff@cableone.net>
Subject: Re: [R-390] Interesting R390A

Nothing they didn't already have with the R-390 series... I think the driving factor was stability, dial accuracy for RATT and SSB neither of which the R-390A did well without dial fiddling. The R-1051 was mounted several to a rack...set on frequency and walked away from...not usually at an operators position but they were remotely controlable... Also maintenance shipboard was module swaps. Modules were shipped back to depot not the whole radio. Biggest downfall was reliability....

Date: Sun, 27 May 2012 21:56:45 -1000
From: Raymond Cote <bluegrassdakine@hotmail.com>
Subject: [R-390] history and evolution of the Collins gear

The mil list has been talkin lately about the R388 and 51J3 equipment. This brings to mind the thought of the evolution of these great receivers. When was the first designed, what was the first one? 51j1? Was there units before the J series? What are the capabilities of the various lineage? from the 51H, 51J, 51S R388, R389, R390 390A 391 and so forth? Does anyone have all this in writing or does it have to be compiled, perhaps on these lists?

Date: Mon, 28 May 2012 11:11:25 -0500
From: "chacuff" <chacuff@cableone.net>
Subject: Re: [R-390] history and evolution of the Collins gear

You need a copy of "Shortwave Receivers Past and Present". Outlines pretty much all of that. Out of print right now but used copies are available from time to time on Amazon. But be prepared to spend big bucks...it's a sought after reference and the used copies are high. I've been looking for one myself...the latest one. New one is being printed for release this summer I heard.

Date: Mon, 28 May 2012 12:04:26 -0500 (CDT)
From: nryan@mchsi.com
Subject: Re: [R-390] history and evolution of the Collins gear

Try this link:

<http://www.abebooks.com/servlet/SearchResults?sts=t&tn=Shortwave+Receivers+Past+and+Present&x=52&y=9>

Date: Mon, 28 May 2012 13:20:27 -0500

From: GDM <lgdm3@charter.net>

Subject: Re: [R-390] history and evolution of the Collins gear

Right now there are 6 copies for sale on ABE Book Sellers. Prices are \$64 to \$154.

Date: Tue, 29 May 2012 11:11:41 -0500

From: "Les Locklear" <leslocklear@cableone.net>

Subject: [R-390] Shortwave Receivers Past and Present

The 4th Edition is in the works. It should be available fall/winter 2012.

<http://www.universal-radio.com/catalog/books/0003.html>

Date: Fri, 13 Jul 2012 21:37:26 -0400

From: Sandy Geiger <chg111@hotmail.com>

Subject: [R-390] Specific Products WWVC Receiver

Hello, list...Long time, no talk to. Not too long ago, I happened on a Rare Byrd... A Specific Products WWV Compator/Receiver. All it does is pick up WWV on several different freqs, but it has an Oscilloscope, & a panel-mounted speaker. I did get a manual for it, but the manual is for a slightly later-July, 1962-model. Anybody else out there have one of these l'il beasties ? Anybody know anything about them ? Its pretty much useless now, but back in '62, there was no internet, & if you NEEDED precise time, I guess you got one of thease things. It DOES rate a 9.5 on the Kewlness meter-I mean, c'mon-It BEEPS, it is full of Tubes, looks like hi-grade construction, & best of all, it has a Scope...I would appreciate any/all info that you guys can offer-I MIGHT do an article in "Electric Radio" on it.

Cheers, Sandy Geiger, Rogersville, TN

Date: Fri, 13 Jul 2012 21:34:41 -0500

From: "Bill Hawkins" <bill@iaxs.net>

Subject: Re: [R-390] Specific Products WWVC Receiver

It also has a plug-in mechanical filter for the IF. That's from memory, I no longer have it.

Date: Sat, 14 Jul 2012 02:46:33 +0000 (UTC)

From: bavarianradio@comcast.net

Subject: Re: [R-390] Specific Products WWVC Receiver

Hi Sandy, I have one of these as well. I do have some documentation but as I recall it is almost useless. I'll go hunting for it and get back to you. BTW, do you still have your AR 60 (just curious) 73's Ross W1EKG

Date: Fri, 13 Jul 2012 23:41:17 -0400
From: Roy Morgan <k1lky@earthlink.net>
Subject: Re: [R-390] Specific Products WWVC Receiver

I have a Beckman 905 WWV Receiver. It has no scope, a normal type IF string, and does not compare. I had it running well quite some time ago. You are right, unless you love to listen to WWV, there's not a lot of use for these now.

Date: Sat, 14 Jul 2012 13:56:10 +0000 (UTC)
From: bavarianradio@comcast.net
Subject: Re: [R-390] Specific Products WWVC Receiver

I'm actually in the clock repair business and use it for synchronizing the master clocks. It is quite impressive when it's on. Ross

Date: Sat, 14 Jul 2012 07:29:49 -0700
From: "r.tetrault@comcast.net"<r.tetrault@comcast.net>
Subject: Re: [R-390] Specific Products WWVC Receiver

No specific info on that one, but they all had the same purpose: dial up WWV and then inject your favorite local reference into the comparator. Tweak until it beeps, I guess. Fluke made one and I lusted after them on eBay for quite a while. Then I got a Spectracom phase comparator, then I got a Symmetricom GPSDO w Rubidium fallover. Then I got too busy.

Date: Sat, 14 Jul 2012 10:56:10 -0400 (EDT)
From: Roger Ruszkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] Specific Products WWVC Receiver

Once upon a time long ago (73, 74) I was designated the official time keeper at a station in Okinawa. Never mind the Okinawians had a satellite TV receiver dish up on the hill and we used their time. Time keeper was just one more maintenance shop maintenance duty. There was two nice racks over by the antenna patch coupler racks. The two racks had a receiver, scope, set of batteries and clock display. You had a manual. In the manual was latitude and longitude tables. Also was a interpolation work sheet.

You found your place on the planet once.
That was all inked into the manual long before I arrived.

The bottom line was a set of delay numbers for each WWV station. Plus Japan, Canada, Australia and several other "known signals"

You dialed WWV up on the receiver and put the time tick on one trace or used it for the trigger on the sweep. You drifted your time tick from your clock to the propagation delay as calculated from tables in the manual. You thus had time as close as you could get it. All the oscillators in the receivers and scope could be referenced back to the WWV carrier. This was all maintenance activities performed once a month. Once each shift, the senior maintenance shift trick chief would have to go look at the clock and check the time. You then reported to the senior NCO on the operations floor and acknowledged you were the maintenance chief of the shift. You walked the operation floor, looked at the clock, eye balled the operation NCO and went off to get some real work done.

We had these clocks at other stations were I served, but it was not my job to check then or maintain them. Once in while (semi annually) I may of had to top off the batteries and or do some real cleaning where one of them leaked and made a mess.

I think you have a real chunk of history
That receiver was state of the art time clock until we went to GPS time.
There may have been solid state version, But I bet that tubes ruled.
The stuff was just much more reliable, maintainable, teachable and plain robust.

The clock display was likely nixie tubes and long since re purposed.

Real time still depends on knowing your location and adding in the propagation delay time.

Date: Sat, 14 Jul 2012 11:17:47 -0400
From: Sandy Geiger <chg111@hotmail.com>
Subject: Re: [R-390] Specific Products WWVC Receiver

Guys, many thanks for the replies, so far...I'd wanted one of these things since I first saw one on Evilbay several yrs back...But they usually got WAY beyond my pocketbook really quickly...This one came off Craig's List, thru a fellow on Audiokarma, another site I frequent. I wonder what these bad boys sold for, just looking at it, w/the near Mil-Spec construction & all, I'd say they were kinda muy expensivo...This 'un's RETIRED, it has found its place of honor beside the 1955 Collins R-390A, the RCA AR-60, the R&S EK-07, the R-389....(grin) 73s,

Date: Sun, 15 Jul 2012 18:58:55 -0400 (EDT)
From: Roger Ruszkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] Specific Products WWVC Receiver

The scope would have just been its own unit a nice rack mount model and a couple of cables to where ever the out put of the receiver and the clock osc were. There may have been an additional box that accepted the audio tone from the receiver and put out a trigger pulse. The propagation delay of that whole circuit would also be included in the calculations. Unless you luck upon the whole manual for the complete system, you may never know what a lot of these special units looked like. We are lucky any parts have survived.

Date: Sun, 15 Jul 2012 19:42:16 -0400
From: Sandy Geiger <chg111@hotmail.com>
Subject: Re: [R-390] Specific Products WWVC Receiver

"We are lucky any parts have survived..." EXACTLY ! And I have not, & WILL NOT, do anything detrimental to mine while I'm its steward...Only things I did were to take it to my tech in Knoxville, & had him go thru & re-cap it...I installed 4 rubber feet from McMaster-Carr to keep it from "skinning-up" whatever it sits on, I MAY try to get the paper sticker off the faceplate, but that's about it...Oh yeah, I did VERY CAREFULLY clean the chassis w/an artist's brush, too...My sets live a rather "Pampered" life while they're on MY watch...

Arlo Goodyear, W6ERT
14 October 1954
(Collins Radio was bought out by Rockwell and no longer exists)

The Collins Radio Company, as an organized business concern, began in the late summer of 1932. At that time, Arthur Collins and an associate who later left the company - were the nucleus around which the firm was to develop. It was not until May of 1933 that they were financially able to hire a full-time employee. By Christmas of 1933, the total personnel amounted to 8, including Mr. Collins and a stenographer-secretary.

Today most everyone is at least faintly familiar with the term "Ham Operator", and understand it designates one who has embraced radio as a hobby. There are literally hundreds of thousands of these hams scattered over the four corners of the earth, bonded together with a common love of electronics, and the self-satisfying desire to "build it yourself." Since the practical achievement of radio-wave transmission by Marconi, and the discovery of the vacuum tube by DeForest, these hams have been the greatest single factor in the contribution of knowledge to the practical aspects of the radio art.

When World War II broke out, America was already well in the lead of the electronics field. These hams were already trained and thoroughly familiar with its requirements. In the earliest days of the radio hobby, the devotee had no recourse other than to build his own "gear." With the advent of the DeForest multi-element tube, radio circuitry at once became more complex, and paradoxically more reliable. These two characteristics are manifest today in the miracles of radar and television. However, these same characteristics are to become the stumbling blocks of many would-be hams. It was not long before many of these hams discovered that the path of acquiring of parts, the construction, and final testing of transmitting gear was a rough one.

Many of them had read or heard of a young chap in Cedar Rapids, Iowa, who had built his own equipment and had successfully maintained contact with Admiral Byrd's Arctic expedition when even the government's best stations could not do so. It was at this time that Mr. Collins' business acumen became apparent; he knew how to recognize and to anticipate the needs and requirements of an infant industry. It was not necessary to build "a better mousetrap," just any "mousetrap" was better than none. That he built the best "mousetrap" he knew was the keystone of his company, as well as the symbol of his personal integrity. Those of us who remember the depression days of the early '30s will understand in some measure the security provided by such foundation, especially when we realize those dates parallel the founding of Collins Radio. During the first two years, Collins Radio built only four types of transmitters, and three of these would be considered "flea-power" today.

The early publicity of the Admiral Byrd contract paid off again when this Iowa company was commissioned to build all of the communications equipment (except receivers) for the Byrd Antarctic expedition (1934). The radio- interested world heard and stopped to listen, remained to buy. Father Hubbard, the Arctic priest; the National Geographic Magazine; Prince Michael of Romania; a doctor in Mexico City; an exporting firm in Africa; an Indian Maharajah; a fruit growing concern in Sumatra and Boraco; a fishery on the West Coast; these are a few of the many who

helped widen into a road, the path which led to "the better mousetrap." The South American countries, whether in peace or in war, became good customers. Men came from the European countries, and even from India to study the business potential of Collins' products - radio transmitting equipment that worked consistently around the clock, month after month.

Mr. Collins is an avid aviation enthusiast, and it was only natural that he very early began research in the development of equipment for the aviation industry, both air-borne and on the ground. It was during this work that he conceived the basic idea of the now famous Autotune. In simple lay language the Autotune is an electro-mechanical device which will automatically tune radio equipment to pre-determined channels. Its ability to accomplish this with extreme accuracy under the most adverse conditions had made this system the outstanding type in the industry.

The original site of Collins Radio was the basement of Mr. Collins' home. In 1933, the company moved to several rooms in the sub-floor of an office building at 2920 - 1st Avenue (Cedar Rapids). In 1935, the "factory" portion was moved to a store room at 7th Street and 1st Avenue; in 1937, it went back to 2930 and took over a factory building in the rear. In 1941, the first section of what is now known as the "Main Plant" was built at 855 - 35th Street, N.E. in what was not much more than a swampy pasture. The first citizens in that area objected strenuously to a "factory" being built near them, because of the devaluation of their property. Today that property is worth as much as a hundred-fold over the time when Collins came in. What was then corn fields, pasture land and brush is now a fine residential area of new well-built homes along paved and curbed streets. Bright-eyed youngsters on their way to school romp on the tailored lawns and admire the huge beds of brilliant flowers of the Collins' factory. And many who objected to the original move now take pride in the fact it is their source of livelihood.

When Franklin D. Roosevelt first sounded his preparedness campaign, there were about 150 employees at Collins. The business office in New York City had been firmly established and the first of the major orders from the branches of the armed service made their appearance. Until that time, most of the business had been to individuals, private firms, and to countries outside the United States. During the summer of 1941, the personnel began to expand slowly and after Pearl Harbor, it really mushroomed. Prior to then, there were still many people in Cedar Rapids who hardly knew of the company. With the war years, there was scarcely a family who was not represented directly or at least was well acquainted with an employee. In a few short years, Collins Radio became an institution in the community. Many came for employment because they felt they could do their bit to help a loved one in the service; many more came because they were lured by the upturn of wage scales, and the overtime.

Local women's apparel firms reported that women who had never worn a dress costing more than \$14.95 now had no hesitancy at paying from \$59.50 to \$89.50 for garments. In 1943, the factory employees accepted the American Federal of Labor, (AFL), as their bargaining unit. It is worthy of note that Collins has never had a major labor difficulty and not one man hour has ever been lost because of strikes. Those people chosen to act as shop stewards have been responsible in their requests and behavior. The company, on the other hand, hired organizational experts to conduct complete surveys and to submit a system of wage brackets, establish rules of seniority, and pay increases, and to set up a general working plan. Collins has always followed a philosophy of promotion from within where such a system was at all feasible. That there were "growing pains" was an inescapable fact. Men who had never dreamed of supervisory work suddenly found themselves heading large groups. In many cases they had to learn by trial and error - there were not teachers. Be it said to the everlasting credit of both the leaders and the led, that they got the job done, and still maintained the high standard that had become the hallmark of the company.

To further extend good working conditions, the company set aside a ten minute period at mid-morning, and another at mid- afternoon as "coffee breaks," without a pay loss to the employee. A large cafeteria completely outfitted in stainless steel equipment of the most modern design was built close the main factory, and its concessions, subject to company limitations as to price, sanitation, etc., was leased to a private firm. Complete First-Aid stations were set up at major areas, and adequately staffed with a corps of registered nurses especially trained in industrial nursing. Several matrons were appointed to help with the personnel problems of the female employees. It should be understood that in a company of several thousand employees, its cross section is a cross section of every day America - a panorama of love, hate, jealousy, temperament, finances, morals, marriage, divorce, pregnancy, new cars, last year's dresses, payments on the home, and what have you.

In about 1942, a credit union was established among the Collins employees. Seven men paid a sum of \$5.00 each, another man borrowed the \$35.00, and the Collins Employees' Credit Union was in business. Today it has the staggering capital of \$900,000.00; an office suite with a staff of four full time employees - not to mention the various credit and auditing committees who work without pay - and a complete set of bookkeeping machines. Because of the heavy burden of personnel work - employee's financial crisis - which the Credit Union took over from the company, the management saw fit to subsidize the infant concern in the earlier days. Within a year, it was paying its own way even at the low rate of interest charged on loans. Besides that, it furnishes an annual dinner-

dance for all active members and their immediate families, an event marked by fine food, a good dance band, and a floor show of big time entertainers. While a strictly private Collins concern the Credit Union functions under the Iowa Banking Laws and the Bureau of State Bank Examiners. The total losses of about 1/10 of 1% speaks eloquently for the way the group is handled.

In this modern world of science, there is no such thing as standing still. One either goes ahead or falls behind. A thorough understanding of the month-to-month achievements in the electronic and kindred fields is an essential requirement for progress. To insure an adequate collection of such information, and to provide a central dissemination point, a large and very complete technical library has been set up. It is housed in a beautiful, modern, and well appointed area, and staffed by four full-time trained librarians. As a means of further enlarging its scope, it has liaison with the local public and private libraries, the library of the University of Iowa City, as well as the state and national groups.

There are approximately 4,000 books, 300 pamphlets, 200 subscriptions to current magazines, and 5,400 reports from other firms in the industry. These are readily available to any member of Collins personnel. All information is cross-referenced to title, author, and subject matter, and is issued on what is basically an honor system, although for obvious reasons, records are kept as to the temporary custody of the material.

The library is open around the clock, though staffed only during regularly scheduled working hours. The bound books include important magazines of previous issue, two sets of encyclopedias, dictionaries of general use as well as of various languages and arts, handbooks and texts on mathematics, geology, astronomy, chemistry, personnel, management, supervision, hydraulics, mechanics, ferrous metals and etc.

Because electronics is, after all, a branch of physics, a staff of graduate physicists, and another of mathematics is maintained to do research work for any department needing help. A complete and exceptionally well equipped chemical laboratory, staffed by six graduate industrial chemists study the problems of lubricants, paints, stress data, powered iron cores and kindred questions. Should field reports on a certain type of equipment show that perhaps the engraving on the panels were not wearing well, then it would be the task of this department to study the conditions under which the units had been operating, and to find an ink that would last.

To aid project engineers in materializing their ideas in a somewhat concrete form, Collins has a pattern shop where craftsmen build balsa wood models from the most scanty of diagrams. These pattern makers can turn out models in a matter of minutes with the obvious saving in time and

money over the old systems of making such components of metal. In technical nomenclature, these are known as mockups or "dog" models. They provide the designer with a 3-D perspective impossible to achieve on a drawing board.

During the war years, it was almost impossible to find adequate housing for the rapidly expanding departments at Collins Radio. Because the actual factory production demanded rather specialized areas it was found expedient to place the more flexible groups in outlying buildings. At one time in the approximately thirteen mile square Rapids, Collins had twenty-three sections scattered about and delays brought about by such a scheme is at once appeared necessary to set up the most elaborate private telephone system built in the Middle West. There are three complete exchanges, each large enough to serve the average town in Iowa, and staffed by shifts of regular operators. These girls not only handle calls to cities all over the world but act as receptionists and handle both teletype and regular Western Union telegraph service.

Within the company, the phones are, of course the automatic dial system, and do not require the service of the operators. These competent girls are busy all day finding individuals in other firms over the country, taking messages, making train plans and hotel reservations, as well as presenting a trim and chic appearance to the public. They are especially selected for their patience, sincerity, appearance, and ability to make "hair-trigger" as well as diplomatic decisions. Because of the highly confidential nature of so much of the work at Collins, absolutely no outsider is permitted to go beyond the public lobbies, unless recognized, authorized and "cleared." Even then he does not move about unescorted. To provide enforcement of this rule, a corps of approximately fifty armed guards are on duty in shifts around the clock, seven days a week. The authority of these guards is final. They are charged with the responsibility of security, but if asked to maintain it with tact and diplomacy at all times. They would be upheld if they barred the President of the United States until he was properly identified. Be it said to their credit that they are considerate, polite, reasonable, and human. No employee is ever made to feel he is being spied upon or has reasons to feel his privacy is invaded. The guard corps also constitutes a trained fire brigade which is augmented by a company fire marshal, and checked regularly by the city and state fire inspectors. An interesting incident occurred recently when the writer reported an overheated bearing in the air conditioning system in one of the buildings. In forty seconds, an electrician, two maintenance men, and two guards were on the spot with chemical extinguishers and a ladder.

Earlier in this paper, we commented on the relatively wide geographic separation between various departments of the Cedar Rapids properties. This necessitated the setting up of a system of mail cars operating on a

regularly scheduled routes between these areas. Uniformed drivers in station wagons maintain this service during all working days. The amount of mail - both inter-office and postal - require the use of "mail-rooms" at each building, with a staff of "mail girls" who distribute to the final destinations approximately every hour. Another group of men perform the same service twice daily for heavy or bulky commodities. There are about thirty-five vehicles ranging from passenger cars up through milk trucks, and dump trucks, two huge "semis" for cross country deliveries.

Soon after the opening of the municipal airport, Collins leased an extensive area of that ground and built a modern hanger, control tower, and associated offices. Its purpose was threefold. The company owned a DC-3, two twin-engine Beechcrafts, and a "trainer" besides the privately owned craft. Adequate facilities were thus provided for "in the air" test and research of airborne gear. A place was provided for the installation of our equipment in customer's planes and the company could house its own ships, ready for delivery of emergency repairs over the nation as well as to transport executives, by time saving flights.

Two licensed commercial pilots and three licensed mechanics were on duty. Scarcely a day passed that at least one "visiting" plane does not land on the Collins strip. Collins Radio maintained its own staff of technical writers who set up the highly intricate and precise instruction manuals which must accompany each individual unit. Under the general headings are the typing, printing and binding sections, the commercial artists, the large and most modern photographic department capable of doing anything from portraits to microfilming, motion pictures and high speed photography. There is an advertising department and a publications department, whose duty is to publish the monthly "Collins Column" and the periodic "Collins Signal" as well as public relations brochures and the like.

A separate area where the temperature and humidity are precisely controlled and where the operators are dressed in full surgeon's regalia, houses the flight instrument department. Here delicate mechanisms as fine as those of a lady's watch are assembled into the systems upon which an airplane pilot depends for his senses, and sometimes for his very life.

These are a few of the sections which actively produce merchandise. To sustain these groups, and the company as a whole, are the huge accounting department - with its banks of business machines - a complete legal staff, a complete corp of patent attorneys, a maintenance staff of electricians, truck drivers, painters, plumbers, carpenters and janitors.

There are building engineers and heating engineers, there are messenger and delivery boys, yardmen and horticulturists. Ringling Brothers Circus

is dwarfed by the immense corp necessary to keep such an establishment operating every hour of every day. More than 97 of these people are from within the general Cedar Rapids area, and spend about 95% of their wages in that area, literally millions of dollars annually - what is generally believed to be one of the largest private payrolls in the state.

With the sudden interest in atomic energy, Collins entered the field in 1945. It had the honor of building and installing at Brookhaven, Long Island, the world's first commercially built cyclotron. In lay terms, this an advanced type of "atom smasher." This was followed by a similar installation at Argon, near Chicago, in 1951. From then on, the Korean situation compelled the company to apply its entire production to war materials.

In 1946, Collins built and began production in a site at Burbank, California. In 1950, another plant was built at Dallas, Texas. This is primarily devoted to aircraft equipment, and the site was chosen because of the better year round flying weather. Also because of the government's policy of widely separating strategic plants. The Dallas plant employs about

1,200 people, and the Burbank location about 800. In 1954, a sales office was opened in Toronto, Canada, to handle Canadian and British business. Early in 1953, Mr. Collins broke the ground for the most modern and complete Engineering Building in the Middle West. It was ready for occupancy about Christmas of '53. It now houses about 750 engineers, draftsmen, laboratory workers, stenographic and secretarial help. It has its own cafeteria- auditorium, is completely climatized, and covers an area of roughly a square city block. Located on the north-eastern outskirts of the city - in the shadow of the WHT-TV tower - it is beautifully situated in a landscaped oak grove. Its outside is pleasingly modern in aspect. Its interior is functional with adequate provision for the comfort and well-being of the employees. A system of recorded music forms a restful background during the coffee breaks and at noon. In good weather, the personnel are at liberty to enjoy the beautiful lawn and park during the rest periods. It may be truly said that Collins Radio pioneered the policy of employee well-being in this area.

One trait is common to all Collins Radio properties and never fails to excite comments from observers - it is the extreme immaculateness and cleanliness and good order. This holds true from its perfect lawns to its restrooms. That rule is unflinching - it has been laughingly said that ,even, Collins confusion is neatly done!. Thus a multi-million dollar, internationally known electronics firm has grown from a young man's vision and integrity. There are boys and girls in our schools and colleges who firmly believe that Collins Radio is part of their own family, because

in their life time, it has been a source of income, a sense of security, for their parents. The story of Arthur Collins is another chapter in the American Saga.

We are grateful to Charles F. Brett, a former Collins employee, now living in Colorado Springs, for furnishing us with a copy of Arlo Goodyear's manuscript. It provides our readers with a first-hand account of what it must have been like to have been associated with Collins Radio in those early years.

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Date: Sun, 19 Aug 2012 15:31:32 -0700 (PDT)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] EAC Contract info in Red Bank Paper

I was browsing the archives of the Red Bank NJ Register and found some specific contract announcements for EAC to build "R-390" radio receivers.

See

<http://s803.photobucket.com/albums/yy311/R7000/?action=view¤t=EAC1967order.jpg>

<http://s803.photobucket.com/albums/yy311/R7000/?action=view¤t=EAC1965order.jpg>

I noted two orders but there may be more.? In the 1965 order, Robert Edwards cited that they had built these before.

Date: Mon, 20 Aug 2012 02:22:36 +0000 (UTC)
From: bavarianradio@comcast.net
Subject: Re: [R-390] EAC Contract info in Red Bank Paper

The interesting thing here is that if you do the math, Uncle was paying a bit over \$1,000.00 a piece for them. Doesn't that seem a bit low??? Or am I missing something???

Date: Mon, 20 Aug 2012 12:14:50 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] EAC Contract info in Red Bank Paper

Look at the time frame. Incomes in the period of '65 to '69, the high incomes were those that made \$20K +. Since The Government bought the rights to the entire design and prints when they bought them originally, they provided these to whomever they awarded the contract to.

A very similar comparison was the M-16 of that same period. They were made by numerous Manufacturers. I've personally carried one made by Mattel Industries. The same period had the GM Camaro SS-396 selling for just barely above \$2K. So the math figures very well with the time, and what the USD was really worth. Just another perspective of the realm of that period.

Date: Mon, 20 Aug 2012 17:22:38 -0400 (EDT)
From: Roger Ruzzkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] EAC Contract info in Red Bank Paper

This looks like a sweet deal to me at 1K each. So in 66 a kilo buck was 1/5 of the take home pay for an automotive worker for a year in Detroit or Flint Michigan. That was serious money. In 68, for 40 hours in a Flint Chevy shop you took home \$100.12 Union due week you only got \$98.12 You worked 50 weeks a year and had a two week "change over" in July with no income. Guys use to raise families, buy homes and new Chevies on \$5,000.00 a year back then.

Date: Tue, 21 Aug 2012 12:24:23 -0500
From: "Marshall Dues (K5MMD)" <mmdues@gmail.com>
Subject: Re: [R-390] EAC Contract info in Red Bank Paper

I got out of the Navy in 1964, and returned to my home in the Flint, Michigan area. Minimum wage then was \$.90 or \$1.00 per hour. Flint is a General Motors town consisting of Buick, Chevrolet, Chevrolet Frame & Stamping, Fisher Body, AC Spark Plug, and Ternstedt Parts Mfg. All union. The United Auto Workers wage for assembly line workers was \$2.65 per hour, with a shift premium of \$.25 per hour. My navy pay was around \$78.00 per month, so, although I swore I would Never work in the factories, I was employed at Buick as an assembly line worker on the third shift. I was making over a Hundred Dollars a Week! and thought I was finally pooping in tall cotton for the first time in my life.

In 1966, several important things in life (to me) were in some sort of harmony: A new Jaguar XKE sports car cost \$6,600.00, a new Cessna 150 airplane cost \$6,700.00 and my Union wages for the year was around \$6,500.00 gross. Take home pay was obviously less because of taxes, union dues, and other deductions. I was single, living in an apartment that cost me \$16.00 per week, and I had recently purchased a new Buick LeSabre 400 fastback (that I myself assembled and walked down the assembly line on my shift) that had a list price of \$3,456.20, but I remember paying \$2,900 or so for it (I still have the window sticker somewhere).

I was taking private pilot flying lessons, and decided to not buy the Jaguar

XKE or the new Cessna 150, but I did purchase my first airplane, a 1946 Aeronca model 7AC "Champ" for \$1,200.00. I flew that plane for over 800 hours and even flew it down here to the Houston area in 1969.

I mention these figures to illustrate what the costs associated with life in the early '60s were for the wants and needs of a young man with only a high school education and military service behind him. Life was "sort of" good at that time, but because of the decline in the quality of life in Flint, Michigan, I left for Northwest airlines in Detroit. (Better pay, although still union). Good technical schooling (I was an avionics technician in the aviation industry for the next 25 years (including ARAMCO aviation department in Dhahran, Saudi Arabia). Today, Flint, Michigan (and Michigan in general) is an economic cesspool of corruption, greed and Chicago style politics. ALL of those hundred year old automobile factories have been scraped of the face of the earth. It's still a union only state, but there are very few jobs to be had.

The Collins R-390 series of radios at \$1,000 - \$1,300 were out of my reach at the time, but are a bargain at most prices today. As Roger says: you need at least TWO of them. More is better. It's a great receiver.

Sorry to ramble, but this old man is starting to live in the past, these days.

73, Marshall M. Dues, K5MMD, (ex WN8DIM, WA8PEX, WA5ZEP, WB5MYO)

Collins R-390As, ART-13, URC-32B, S-line, ARINC avionics, plus a hundred or more of the Hallicrafters, National, Hammarlund, Gonset, Morrow, Drake, Swan, Heath, Knight, and many other classics saved from the land fill by a young man who actually Learned about Ohm's Law electronics.

> Marhall, This may be reaching back too far for my memory, but aren't you the
> member who flew a homebuilt up somewhere to pick up a R-390A and took
> pictures of it strapped in the back on the way home? Those were great
> pics and a great story too.
>
> the other Barry

Date: Tue, 21 Aug 2012 23:57:46 -0500
From: "Marshall Dues (K5MMD)" <mmdues@gmail.com>
Subject: Re: [R-390] EAC Contract info in Red Bank Paper

You have a good memory.... That was ten years ago. In 2002 I flew my Van's RV-6 homebuilt airplane up to Flint, Michigan to attend my 40th

high school reunion, and on the return to Houston, I landed in Lima, Ohio and bought my second Collins R-390A from Fair Radio Sales. It cost \$310.00 for a complete and working radio then. I lashed that heavy radio to the copilots' seat and flew it back to Houston, Texas with me. I remember on that flight tangling with an 8-engined B-52 heavy bomber at 14,500 feet over southwest Arkansas, and photographing him as he passed 500 feet below and to my left. What a surprise! Thanks for the memory.

Date: Wed, 22 Aug 2012 07:21:12 -0500
From: "chacuff" <chacuff@cableone.net>
Subject: Re: [R-390] EAC Contract info in Red Bank Paper

What you might have seen was the ad for the brand new EAC Rocketship R-390A offered to the public. I've seen pictures of that ad. I don't think the military was surplusng the R390A yet in the late 60's. Cecil...

Date: Wed, 22 Aug 2012 14:59:34 +0200
From: Clemens Ostergaard <clemenso@gmail.com>
Subject: Re: [R-390] EAC Contract info in Red Bank paper

Further to the question of the unit price coming out at about \$1350, we can look at the price that EAC charged for the R-390A when selling it to civilians (the one with the rocket like logo and no contract no.), which was \$1700 (and lower for new but shopworn items). That would be about right, DoD getting some discount (a term not easily used in conjunction with the R-390A, but you know what I mean).

Date: Wed, 22 Aug 2012 13:48:58 +0000 (UTC)
From: bavarianradio@comcast.net
Subject: Re: [R-390] EAC Contract info in Red Bank paper

Hello all, I guess what I'm trying to figure out is that in 1940, the RCA stack of "RB" receivers (RBA,RBB,RBC) cost a bit less than \$10,000 (unless I'm wrong) which was a bucket load of money, fast forward to the late 60's and the R-1051 was \$25,000.00 (or thereabouts) It seems odd that the 390A would be so cheap compared the radios flanking it's time frame. I know that the 390 was more expensive than the "A" but I don't have any idea what 390's cost back in 1951 or so. Did Uncle Sam get a discount?? I doubt it...

Date: Wed, 22 Aug 2012 17:17:37 +0200
From: Clemens Ostergaard <clemenso@gmail.com>
Subject: Re: [R-390] EAC Contract info in Red Bank paper

There is one of the 'civilian' EAC R-390A on ebay as we speak:

140826921991 one previous owner and it is not Uncle Sam, I also find the 1965-67 price low,. though of course there were no R&D costs anymore, and for many suppliers of parts things would be routine, after 40.000 receivers produced previously . In today's money it would be close to \$10.000 but still... And the \$1700 would be about 12,5K.

When were they first surplused I wonder? The ads from Ted Dames were in the World Radio and TV Handboook in the second half of the 1970's I seem to recall. "World's Best Receiver, etc." The stuff of dreams (or drools). (I get the digest, so a little out of sync regretfully)

Date: Wed, 22 Aug 2012 10:56:33 -0500
From: Randy and Sherry Guttery <comcents@bellsouth.net>
Subject: Re: [R-390] EAC Contract info in Red Bank paper

390s started being "phased out" in the late 1960s. Many of them served their second life in related activities - such as base HAM shacks, MARS units, etc. 390/As also began to find their way "out" by the early 1970s. I bought my first 390s in 1973 direct from the DSA surplus outlet - for \$0.20 a pound. At one point we had one 390, two 391s, six 390/As a couple of BC-348s - and an R-1051 (D IIRC). Never did get the 1051 to work - I guess that was why it was red tagged. Didn't like them anyway so sold it to a HAM. Problem was, of course - shipping. Getting that much weight from Guam back to CONUS was an issue. Even as an E6 with almost no furniture - we bumped hard into the weight limits... (sadly most of the heavy iron had to be left behind). Some things went through auctions - but again prices were held down by shipping. I imagine much the same was going on in CONUS - but those with "access" were scooping up the early stuff.

Date: Wed, 22 Aug 2012 12:24:25 -0400
From: "Todd, KA1KAQ" <kalkaq@gmail.com>
Subject: Re: [R-390] EAC Contract info in Red Bank Paper

Not only that, the 'cheap' price listed in the ads for the civilian version was only if you bought multiple sets. A lot of folks miss the fine print. George Rancourt recently came into a civilian version and said he wasn't terribly impressed with the overall quality compared to the mil versions. He said it looked like they took reject modules, repaired them, and built the sets. He has my EAC mil version at his place and said the civilian model wasn't as nice. I've never been into one myself beyond casual viewing. Probably along the lines of the Fowlers, scarcity wins out over quality for collector types. They do have a cool tag, though.

Date: Wed, 22 Aug 2012 12:43:11 -0400 (EDT)
From: djed1@aol.com

Subject: Re: [R-390] EAC Contract info in Red Bank paper

They were probably dribbling out in the late '60s. I was aware of them based on a CQ column that probably published in that time period, meaning a few select amateurs already had them. They started becoming readily available in the early '70s. One dealer in New England was selling "refurbished" ones for \$2000 in that time period. A year or so later Ted Dames offered them for \$795, then \$595. I bought one from him in '73, I think. I even sprung for a cabinet for another \$100. Seems like a bargain now, unless you correct for inflation. In that case, I'm still under water. But I've had 30 years of enjoying a great boatanchor. Ed W2EMN

Date: Thu, 23 Aug 2012 13:43:45 -0400 (EDT)
From: chuck.rippel@cox.net
Subject: [R-390] EAC Rocket Ship Radios

I have one of the 252'ish R390A's that was offered to the general public. Save for the Rocketship on the front tag, I can't tell the difference between it and mil-spec. It's just, IMHO, another '67 EAC with a rear serial number stenciled on the back plate of just over 11,000.

Date: Fri, 24 Aug 2012 09:10:41 -0400
From: "Lester Veenstra" <Lester@veenstras.com>
Subject: Re: [R-390] EAC Rocket Ship Radios

As I recall from active duty days, these last production runs from EAC were notorious for the acid leaking tantalum caps in the audio assembly.

Date: Thu, 6 Sep 2012 16:11:11 -0500
From: Don Reaves <donreaves@gmail.com>
Subject: [R-390] Receivers on the USS Robert E Lee

Courtesy of listmember Nick England is this wonderful picture.

<http://www.navy-radio.com/ships/robertelee-01.jpg>. R-389, CV-591, R-390A, another R-390 on a shelf to the right. My question: what is the receiver in the bottom of the stack with the monitor scope? Scott, RCA? Thanks, Nick, for the great mill pictures as well.
<http://www.navy-radio.com/morse-mill.htm>

Date: Thu, 06 Sep 2012 17:22:37 -0400
From: "Jim" <jbrannig@verizon.net>
Subject: Re: [R-390] Receivers on the USS Robert E Lee

I didn't realize that the CSA had that type of ELINT capability ;-)

Date: Thu, 6 Sep 2012 17:22:56 -0400
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] Receivers on the USS Robert E Lee

AN/BRR-3 VLF rcvr. Details on my VLF receiver page at www.navy-radio.com

Date: Thu, 6 Sep 2012 17:44:56 -0400
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] Receivers on the USS Robert E Lee

And for you R-390 tweekers out there, note that the AN/BRR-3 has 0.02uv sensitivity - that's 0.02well, to be fair, that gadget does have 60 cps b/w and 14-30kc RF input

Date: Fri, 28 Sep 2012 20:02:33 -0400
From: "Bill - KK4XO" <kk4xo.bill@gmail.com>
Subject: [R-390] EAC R-390A - American Embassy Duty

I have an EAC R-390A which will be going in for a complete repair/restoration later this year. In the meantime, I am trying to learn a bit more about the history of the unit. I know for sure that it came from a storage room in the American Consulate/Munich, Germany, but was not on any State Department equipment inventory which would indicate that it was probably used by another agency within the Consulate building there. It is very clean and appears to have seen little real band-switch usage which makes me believe that it was possibly used to receive a single guard frequency or to monitor a single fixed broadcast station channel - perhaps by FBIS or VOA monitoring personnel. The only other real clue as to who may have used it originally is on the Technical Material Corporation Model LSP-7 dual speaker rack panel which still has two red Dymo embossed labels - one indicating "AN-47" and the other indicating "VRA-6". My guess is that these were two different antenna systems attached to two different R-390A's monitored between the two switched speakers. Indeed, through internet searches, I've learned that the VRA-6 was an 18 foot vertical receiving antenna which was used by various USG and DOD agencies overseas. I have, so far, been unable to find any information as to what the "AN-47" may have been. There are signs of another embossed label above these two but unfortunately it was missing when I received the unit from another Ham operator and ex-State Dept employee who was told to "get rid of it" in the early 1990's..being a Ham, he took it home rather than "deep six" it in a dumpster. Can anyone on the list help with the "AN-47" part of this mystery?

Date: Sat, 29 Sep 2012 12:35:55 -0400
From: rbethman <rbethman@comcast.net>

Subject: Re: [R-390] EAC R-390A - American Embassy Duty

The AN-47, by both logic and old memory, was a dipole antenna. Most likely operated by "Military Attache" or "Agency" personnel. Assets in Europe were transmitting updates on their "Missions". They did not listen for a response. Embassies served multiple purposes. They always had Agency and Attache persons. Assets would have been all throughout Europe and the old USSR.

Date: Mon, 1 Oct 2012 17:16:01 -0400 (EDT)
From: Roger Ruzzkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] Freakishly Large R-390

You need to blow the ad up and read the text carefully. Delco was only claiming that they made some of the parts inside the receiver. Delco did radio's for GM auto's for years so think, tubes, resistors caps and may be some of the Rf deck coils. Maybe some of the IF deck coils also. Likely some of the relays in the R390 Audio deck with the breakin circuit. That is one big R390 in the back of the truck. Artistic licence

Date: Sat, 6 Oct 2012 14:30:38 -0400 (EDT)
From: Glenn <wa4aos@aol.com>
Subject: [R-390] R 390A Front Panel Color

Presently, there is an R 390A on ebay with an off-white front panel. The seller believes it was redone, albeit, very well redone. Around 1972, when I had my first exposure to these receivers after getting my Novice ticket as a teen, I remember seeing either an R 390 or A model with a similar front panel color but I have never seen one like it since. There is one on youtube that seems to be the same color but the author would not answer a question about the color; perhaps a language barrier.

So my question for the group is; does anyone know if this was ever a color requested under contract or made to suite a certain client, business or branch of a Military Service? If I had to guess, SWAG, I would like to believe it may have been for the US Army but this is just a wild guess. Any info would be GREATLY APPRECIATED.

Presently, I have over 100 units in my warehouse or mostly R 390A's and some 390's. 389's 391's and 392's. I have a friend who also owns over 100 pieces and neither of us have any knowledge of this being a color that was used under contract. Personally, I like this color and would consider using it for some of my clients if I can find lineage to an actual contract or application.

Date: Sat, 6 Oct 2012 16:27:00 -0400 (EDT)

From: "rkofler@aol.com" <rkofler@aol.com>
Subject: Re: [R-390] R 390A Front Panel Color

When I purchased my Hammarlund SP200 BC794B, it had an off white panel. That paint was worn through around the knobs as if it had been used many hours. I refinished and relettered the panel in the traditional gray, but I have always wondered why it was white. I read that some of these radios were purchased by the news services, such as AP and UPI, and that some were sent to US diplomatic missions around the world. Whether that has anything to do with that panel color I do not know. The nomenclature plate was missing.

Date: Sat, 6 Oct 2012 16:13:41 -0500
From: Cecil <chacuff@cablone.net>
Subject: Re: [R-390] R 390A Front Panel Color

Is that not an odd ball tag on that R-390A listed on eBay. Went over to look at the color of the front panel and was surprised by the tag. Never seen one like it. Looks original, just unfamiliar.

Date: Sat, 6 Oct 2012 16:16:37 -0500
From: Cecil <chacuff@cablone.net>
Subject: Re: [R-390] R 390A Front Panel Color

I've seen a few Hammarlund SP600's done that way as well. Not sure it was ever factory on the 600.

Date: Sat, 06 Oct 2012 15:07:20 -0700
From: Dan Rae <danrae@verizon.net>
Subject: Re: [R-390] R 390A Front Panel Color

The seller, who is a member of this list, by the way, clearly says it is a repro tag and that it has been re-painted in his description. I think it looks neat in that color, even if it is not original, and the insides look extremely clean. And I was outbid :^(

Date: Sat, 06 Oct 2012 19:00:26 -0400
From: Al Parker <anchor@ec.rr.com>
Subject: Re: [R-390] R 390A Front Panel Color

My SP-600-JX-28/R-620 has a light panel. I have not, as yet, determined if it is factory, but have no reason to believe it was done post-factory. When I redo it, I'll use light paint to try to duplicate it. There were only 100 of them made, I know of a few out there, maybe someone here has one? Perrier maybe?

Date: Sun, 7 Oct 2012 08:19:25 -0500
From: Les Locklear <leslocklear@hotmail.com>
Subject: Re: [R-390] R 390A Front Panel Color

I have owned a R-390A and an SP-600 with very light gray front panel. I don't know if they were original, but sure looked like they were.

Date: Thu, 11 Oct 2012 08:56:26 -0700 (PDT)
From: Perry Sandeen <sandeenpa@yahoo.com>
Subject: [R-390] R-620 Color

My R-620/JX-28 has the normal gray color of the other 600?s. Also the picture shown in the funky R-620 manual appears to be the gray color. Since they only made 100 I really doubt if the light color was ?factory?.

D

D

Date: Sun, 14 Apr 2013 14:10:35 -0500
From: n4buq <n4buq@knology.net>
Subject: [R-390] OT: Which Aircraft?

On a recent visit to the Smithsonian Air and Space Museum, I ran across the radios in this:

http://www.knology.net/~TheLanding/pics/DSC_0313.JPG
<http://www.knology.net/%7ETheLanding/pics/DSC_0313.JPG>

Unfortunately, I didn't get a picture of the aircraft itself or the placard that I'm sure would have been nearby. Does anyone recognize it? I'm pretty sure those are ARC-5s and a BC-348(*). Pretty cool to see them all the way they were back then. I read where they were supposed to put one on display in the Enola Gay but I don't think that's this one. Sorry for the OT but I don't really know where else to ask. Google hasn't helped all that much.

Date: Sun, 14 Apr 2013 16:17:26 -0500
From: n4buq <n4buq@knology.net>
Subject: Re: [R-390] OT: Which Aircraft?

List member sent me the info ("Flak Bait").

Date: Mon, 15 Apr 2013 10:45:38 -0700 (PDT)
From: wli <wli98122@yahoo.com>
Subject: Re: [R-390] OT which aircraft?

The upper shelf has a pair or ARC-5 transmitters
The middle has a BC-348 receiver
Below are the ARC-5 receivers

All were used in WWII
I have seen them in B-24's and B-25's
I think the ARC-5's were also seen in Mustang's

I have a bunch of them in my shop....

Date: Mon, 15 Apr 2013 17:30:00 -0400
From: Bob Camp <ham@kb8tq.com>
Subject: Re: [R-390] OT which aircraft?

That looks a bit more like a B-17. ARC-5's showed up in just about everything the USAAF flew, and a lot of RCAF stuff as well.

Date: Mon, 15 Apr 2013 13:58:28 -0800
From: "Roger Gates" <w7kvt@q.com>
Subject: [R-390] Mystery aircraft

I can say with confidence that the aircraft is not a B-17G. We have one in the Evergreen Air and Space Museum and I have spent considerable time in the "radio room". I suppose it could be a B-24 or possibly a B-29. I have never seen the radio compartment in those aircraft. I hope someone can

solve this mystery.

Date: Mon, 15 Apr 2013 15:10:13 -0700 (PDT)
From: John Saxon <johnbsaxon@yahoo.com>
Subject: Re: [R-390] Mystery aircraft

I am pretty sure this is "Flak Bait", I think a B-26 from WWII.? I have a photo I took at the Smithsonian years ago, but not sure where it is now.? I do have a photo I downloaded this morning that looks identical to the one posted, and it includes an A-2 jacket in the foreground with "Flak Bait" on it.? I don't know where I can post the photo...if someone who has a spot to load the photo, send me an email and I will send the photo I loaded this morning.

Date: Mon, 15 Apr 2013 17:26:32 -0500
From: Cecil <chacuff@cablone.net>
Subject: Re: [R-390] Mystery aircraft

Flak Bait was a B26-B. I probably have a Smithsonian picture around here somewhere that I took several years back.

Date: Mon, 15 Apr 2013 15:27:30 -0700
From: "Chris Kepus" <ckepus@comcast.net>
Subject: Re: [R-390] Mystery aircraft

Goggle is your friend: From the Smithsonian:

"The NASM B-26B-25-MA nicknamed "Flak Bait" (AAF serial number 41-31173) survived 207 operational missions over Europe, more than any other American aircraft during World War II (A de Havilland Mosquito B. Mk. IX bomber completed 213 missions but this aircraft was destroyed in a crash at Calgary Airport in Canada, two days after V-E Day, see NASM D. H. 98 Mosquito). Workers at the Baltimore factory completed "Flak Bait" in April 1943, and a crew flew it to England. The AAF assigned it to the 449th Bombardment Squadron, 322nd Bombardment Group (nicknamed the 'Annihilators'), and gave the bomber the fuselage identification codes "PN-O." Lt. James J. Farrell of Greenwich, Connecticut, flew more missions in "Flak Bait" than any other pilot. He named the bomber after "Flea Bait," his brother's nickname for the family dog."

Date: Mon, 15 Apr 2013 16:05:05 -0700 (PDT)

From: John Saxon <johnbsaxon@yahoo.com>
Subject: Re: [R-390] Mystery aircraft

Check these out:

<http://www.bing.com/images/search?q=b-26+flak+bait&go=&qsn=&form=QBIR&pq=b-26+flak+bait&sc=1-13&sp=-1&sk=#view=detail&id=D385FF78AD56F5EE4EDA3C6927DA8F27DCC749DB&selectedIndex=5>

<http://www.bing.com/images/search?q=b-26+flak+bait&go=&qsn=&form=QBIR&pq=b-26+flak+bait&sc=1-14&sp=-1&sk=#view=detail&id=E9E7B56F015C1BEC993426B23B82722879489645&selectedIndex=79>

Date: Mon, 15 Apr 2013 19:39:57 -0400 (EDT)
From: Barry <n4buq@knology.net>
Subject: Re: [R-390] Mystery aircraft

BTW, if you click the image I posted, it will display full size. The tag on the BC-348 is pretty clear in that one.

http://www.knology.net/~TheLanding/pics/DSC_0313.JPG
<http://www.knology.net/%7ETheLanding/pics/DSC_0313.JPG>

From: John Flood <kblfqg@yahoo.com>
Subject: Re: [R-390] Caps

I was cleaning out the computer and came across the following document. Interesting photos of a couple of R-390A's in a commo shelter. If I posted it here ages ago and forgot, you are all welcome to make fun of me as I now begin to enter the old buzzard stage in life.

<http://www.nro.gov/history/csnr/programs/docs/prog-hist-03.pdf>

Date: Wed, 15 May 2013 05:31:10 -0400 (EDT)
From: Glenn Scott <wa4aos@aol.com>
Subject: [R-390] John's R 390A article MORE??

I enjoyed the article that John posted regarding R 390A's used during the early era of satellites. Technology efforts now days are often global events with many countries contributing to the projects. Just consider how jumbo jets are built by a conglomeration of different countries and disciplines now. However, there was a time not long ago that most of us remember well. Where US companies were doing amazing R&D and manufacturing

technology that is still a marvel of engineering and scientific brilliance today.

That got me wondering how many other articles/pics or other postings of R 389, R390, R 390A, R391, R392 and R648 receivers might be tucked away in the files of readers of this list. Surely, there must be other application articles out there beyond what we find on the Internet. I believe other readers of this list would like to see those kinds of articles as well. Perhaps a consortium of articles/pics could be compiled into a Y2K type format. A dedicated, actual applications of these receivers that we all covet!!! Even old photo's of communication rooms on ships and elsewhere, Spook photos, if they exist, photo's with R392 in the back of jeeps. Pics of some of the manufacturing sites of these receivers. Does anyone know if any of these receivers made into submarines? I suspect due to the weight, not many or any made it into aircraft applications other than the somewhat rare R648.

We have covered the technical side of things well but the application side should be important to archive too. Any thoughts???

Date: Wed, 15 May 2013 08:31:53 -0700 (PDT)
From: Norman Ryan <nnryann@yahoo.com>
Subject: Re: [R-390] John's R 390A article MORE??

Nick England has a whole bunch of stuff, much of it on Navy gear, here: <http://www.virhistory.com/ham/hobbies.html>. It's a start!

Date: Wed, 15 May 2013 17:43:44 -0400 (EDT)
From: Roger Ruszkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] Caps

I like the clock over the left hand receiver.

Date: Wed, 15 May 2013 18:00:54 -0400
From: "Ed Tanton" <n4xy@comcast.net>
Subject: [R-390] Shell Aeroshell #7

Recently I happened by an email-I think here-about a great grease, Shell Aeroshell #7. Mentioned in the post was a mention about being hard to find, and a large-size purchase requirement. Not so. OK is wasn't really cheap, but I got a tube with 14oz (the usual size used in caulk guns/etc. for slightly under \$20 shipped, from Aircraft Spruce (the source for a LOT of aircraft 'stuff' including some nice zinc-chromate spray paint recently.) www.aircraftspruce.com

Date: Wed, 15 May 2013 19:49:58 -0400
From: Jeff Adams <physicist@cox.net>
Subject: Re: [R-390] John's R 390A article MORE??

The CIA used them at listening posts. I have pictures.

Date: Wed, 15 May 2013 16:58:20 -0500
From: "Ron Kolarik" <rkolarik@neb.rr.com>
Subject: Re: [R-390] John's R 390A article MORE??

I don't know about the submarines, only time I ever saw one it was either a Russian we caught on the surface or one of ours we were doing a transfer to, mail or personnel. Naval aircraft I worked on did not carry the R390, all channelized comm gear including the HF and no separate rx/tx. There may have been some carried on more specialized, read "spook", aircraft but that was above my clearance. I never did see an R390 checked in to the avionics repair depot either. The time frame was mid '60s. Tons of R390's in the carrier comm room though, wasn't allowed to play in there :(

Date: Wed, 15 May 2013 19:51:32 -0400
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] John's R 390A article MORE??

Yep, subs had R-390A revrs too. USS Robert E Lee for example
<http://www.navy-radio.com/ships/roborteleee-01.jpg>
Note I don't think the USN ever deployed the R-390 but had tons of R-390A models in use in general comms as well as intercept applications. More shipboard photos here <http://www.navy-radio.com/ship.htm>
And a shore station photo here- dual diversity TTY using AN/URA-8A converters. <http://www.navy-radio.com/commsta/r390-cv89-01.jpg>

Date: Wed, 15 May 2013 20:14:03 -0400
From: "Duffy Floyd" <duffy56@verizon.net>
Subject: Re: [R-390] John's R 390A article MORE??

R-390A's were on the USS Pueblo as well. The ship taken by the North Koreans during the Nixon Administration.
<http://www.pbbase.com/bmcmorrow/image/116361376>

Date: Wed, 15 May 2013 19:23:25 -0500
From: Les Locklear <leslocklear@hotmail.com>
Subject: Re: [R-390] John's R 390A article MORE??

On board the U.S.S. Independence CVA-62 during the period 1960 - 1964 there was a bunch of R-390A's in radio central. I was a BT (Boiler tender), but

had a radioman buddy. I would go up topside and listen to armed forces radio the BBC and sports from time to time. They always had a radio "down for repairs" that was used for listening.

Date: Wed, 15 May 2013 20:34:30 -0500
From: "Don Cunningham" <donc@martineer.net>
Subject: Re: [R-390] John's R 390A article MORE??

I was on USS Edson (DD-946) in the early 1970's, out in late 1971, and we still had one or two R-390A's onboard. The "workhorse" receiver was the R-1051 by then, running multichannel MUX, but the R-390A's were "band cruisers" to find and keep adequate signals for the Fleet Broadcast each shift.

It now seems odd to call an R-390A a "band cruiser", but try finding new frequencies on an R-1051!!!!!!! You'll go back to the R-390A, I assure you. We also still had an antique or two, like the AN-FRR12, with a gazillion tubes???? That sound right?? Our main RTTY transmitter was the AN-WRT-2, and the fabulous URC-32 for SSB voice ops. Lots of VHF and UHF stuff for short range and "plane guard" duty while steaming in the Tonkin Gulf Yacht Club!!!! We still had conventional 5" guns, so some of the shorter range gear was for talking to shore spotters for the guns.

I got to see Edson in NYC at the Intrepid Museum in 2003, then they traded her for a French Concorde. BAD trade!!!!!! Now a group has moved her to Bay City, Michigan and I hope to go see her again after they get the facility started.

Date: Wed, 15 May 2013 22:57:44 -0400
From: "quartz55" <quartz55@hughes.net>
Subject: [R-390] John's R 390A article MORE??

I was in the 78th USASASOU in Berlin working at Teufelsberg, or Trammelsberg, 63-65 (lived in the old SS barracks at Lichterfelde) and we had plenty of the R390As in the Russian and German section listening to the East Block maneuvers. I think they also had a few for RTTY, but I never got into a lot of the sections that were on the base at the time. The whole place was on a need to know basis. When I was there I think there were about 6 wings of one floor about 80' long and a central tower with the golf ball on it, it expanded quite a bit when I left and turned into the 'Berlin Brigade'. I was in the Orange section where we had the microwave dish in the golf ball tuned into a 64 channel PPM signal from the East

German Central Committee. Recorded each channel on reel to reel Revox with vox control and the translators had some sort of reel to reel playback deck that had fast forward, and reverse buttons on them, they were probably some GI contract item, I've never seen them anywhere else or since. I was a German linguist there. The audio was translated right there and the digital tapes were sent back to NSA.

Everytime I mention I was in the ASA, someone tells me they were too, there must have been a hellavalota guys in the Army Security Agency back then, or a lot of people are making up stories. I think there were at least 3 stations in Berlin, the dittyboppers near the mountain I was on, and also the AF/Army ELINT station at Templehof, I got to go over there one day. There were probably more stations. Ours was USM620K at Teuflesburg. I'm sure that's classified info if anyone cares, not sure what you could get out of it though.

Date: Wed, 15 May 2013 21:25:49 -0700 (PDT)
From: Norman Ryan <nnryann@yahoo.com>
Subject: Re: [R-390] John's R 390A article MORE??

Some time ago, I saw an R-390 (A version, I think it was) on the USS Clamagore, museum submarine at Point Pleasant near Charleston, SC.

I'm aware this may have been a donation from one of the volunteer crew, so dunno if this was what she carried during active service before becoming a museum vessel, but there it was in that teensy cramped radio shack space.

Date: Thu, 16 May 2013 15:41:57 -0400 (EDT)
From: Glenn Scott <wa4aos@aol.com>
Subject: [R-390] AT&T Telstar video

In my recent quest to find more applications of the R 390 series receivers, I ran into a bunch of old AT&T videos on you-tube that were posted in 2011. These videos range from the early 60's through the mid 70's of the few I have looked at. Although maybe a little off topic, these videos are from the same era as are our coveted receivers. I did not see a 390 of any type in the various racks but the videos were fascinating all the same. Many of us grew up with the space program, perhaps some were involved one way or another. In this video, you will see the first ever Sat phone call from Maine to DC, On the DC end was VP Johnson, Then a speech that JFK made was televised through Telstar to Europe for the first time. There are many more of these AT&T archived videos on you-tube that I have not looked at yet. If anyone spots a 390 series Rx in one of these, please report it to the group.. The video also rekindled many good old memories of days when so much ground breaking R&D was being conducted.

<http://www.youtube.com/watch?v=uKH-GijnAGk>

Date: Thu, 16 May 2013 12:45:12 -0700 (PDT)
From: John Flood <kblfqq@yahoo.com>
Subject: [R-390] R-390 Sub use

I do remember reading that the USS Albacore AGSS569 in an early wiring diagram, showed the R-390A. ?However it seems like for most, or all, of its operational life it used the R-1051. From personal experience the R-1051 series does make the R-390 series look like a band cruiser!?

Date: Thu, 16 May 2013 21:28:19 -0400
From: Tom Chirhart <k4ncgva@gmail.com>
Subject: Re: [R-390] R-390 Sub use

The 1051's were great for was HF RATT using the UCC-1 to a KWR-37 to a model 25 printer for the HF broadcast.. When SATCOM arrived we cold ironed HF RATT...We also used the 1051's to guard HF HiComm with a TX on standby, usually a WRT-2. On the Orestes circuits we used the 1051's to a URA-17 to a KW-7 to Model 28 ASR and a WRT-2. Wow the memories from nearly 40 years ago..... RM2, USS Jonas Ingram DD-938... The two 390's we had after FRAM were used for CW drills or AFRS monitoring piped throughout the ship while underway or in foreign ports....

Date: Thu, 16 May 2013 22:29:05 -0500
From: Raymond Cote <bluegrassdakine@hotmail.com>
Subject: Re: [R-390] R-390 Sub use

This thread is lasting. My first sub the USS Henry Clay in 1965 was unloading a R-390a as I reported aboard for my first patrol. "By direction" of the new comm officer. Read that as "new" meaning low level of experience. Upon arrival back in Rota Spain, the shops home port we immediately got the R-390A back. Guess the comm people were dissatisfied with the 1051. My first few trips I was asked more than once to help with the 390-A trouble shooting. It was also the only place on the boat where I could do some SW listening while underwater. Good fun

Date: Thu, 16 May 2013 22:34:46 -0500
From: "Don Cunningham" <donc@martineer.net>
Subject: Re: [R-390] R-390 Sub use

I never could understand the logic of taking a perfectly good ship and deliberately sinking her!! Made about as much sense to me as jumping out of a perfectly good airplane. Guess that's why they put me on a destroyer :>)

Date: Fri, 17 May 2013 22:15:13 -0400 (EDT)
From: Glenn Scott <wa4aos@aol.com>
Subject: [R-390] R390a Spotted in video

In 1976, I had the privileged to visit the, then NASA tracking center near Rosman NC. There, I recall seeing either 4 or 6, R390A's , don't remember for sure, In this tracking center that was use to track the Mercury, Gemini and Apollo missions earlier.. Even though communication to the various space ships was done on VHF and UHF, HF was used from some of the tracking stations at sea.

I did some more you-tube searches and ran across this wonderful video of the Friendship Seven mission. This was the one with John Glenn in 1962. I did spot R390A's at 3:28 and 10:15 minutes into the video. There were other shots where I only saw rack handles and can not confirm that those were 390A's This video is almost an hour and was EXCELLENT. Much video of the tracking stations around the globe as well as lots of conversation between John Glenn and the ground stations. I'll report video of the R 390A receivers in various applications from those days to the group and would appreciate hearing from others about possible finds.
http://www.youtube.com/watch?v=zJBJ-_KN470

Date: Fri, 17 May 2013 23:07:42 -0500
From: "Ba.Williams" <ba.williams@charter.net>
Subject: Re: [R-390] R390a Spotted in video

HF was used on launch day well into late 1990's and probably later for booster and spent rocket stage recovery operations. I remember tuning to it a few times on launches.

Date: Sat, 18 May 2013 07:43:46 -0400
From: Bob Camp <ham@kb8tq.com>
Subject: Re: [R-390] R390a Spotted in video

I suspect that if they were in NASA service they may well have had the Masden mods done to them. NASA was one of the main customers for those radios.

Date: Mon, 20 May 2013 12:26:23 -0500
From: "Bill Breeden" <breedenwb@cableone.net>
Subject: Re: [R-390] Soldering School (was: Another newbie question...)

I attended the two week "High Reliability Soldering & Connections" course at Keesler AFB in August of 1974. That class has been as useful to me over

the
last 39 years as anything I learned in the Air Force.

The lead Instructor told our class that the soldering techniques taught in the class reduced the weight of the solder in an ICBM by 40 pounds. 40 pounds of extra payload capacity in an ICBM was considered priceless at that time.

Date: Thu, 13 Jun 2013 18:46:37 -0400
From: k2cby <k2cby@optonline.net>
Subject: [R-390] Unusual front panel

What R-390A version/contract had the words "UPPER" "BFO" "LOWER" stenciled where the BFO frequency normally appears and the words "AM" "CW - SSB" stenciled where "BFO OFF-ON" normally appears on the front panel?

Was this an "after-market" conversion?

Who were these units sold to? Foreign? Spookdom? How many were produced?

Does it indicate that the BFO was crystal-controlled? Was there a product detector included?

Has anybody got a print?

Date: Thu, 13 Jun 2013 21:08:06 -0400
From: Tom Bridgers <tarheel6@msn.com>
Subject: Re: [R-390] Unusual front panel

These panels are the result of Columbia Electronics work in updating and restoring R-390A's for certain 3-letter US govt. agencies and for a few Latin American countries. I have several of the Columbia Electronics nameplates that I purchased from Dick Walser who was the prime sub-contractor doing the work..

He and his business partner designed the module that is an add on to the IF deck which produces the capability to switch from Lower SSB and Upper SSB. Somewhere in my files, I have a circuit drawn by Dick, but it is also available in Paolo Viappani's book, R-390-URR - R390a-URR handbook. The book, written in Italian, appears to be available from: Amazon.co.uk.

I also have one of the panels designed by Dick with the nomenclature you describe. Dick Walser, in North Hollywood, CA, was the subcontractor in

that work. His company was named Airborne Electronics. I visited Dick about 15 years ago, and spent a delightful two days with he and his lovely wife, Dede, talking about the old days and looking over his incredible collection of R-390A parts.

Until his death about 5 years later, I was on the phone with Dick several times a month seeking his advice on this or that problem I was having trying to restore a R-390A. He had an encyclopedic knowledge of the R-390 and R-390A, and was a genuine pleasure to have a conversation with. Another person on this list had the great fortune of purchasing all of Dick's parts, most of which unfortunately were lost in a shipping disaster when they were shipped to his new home in Texas.

Date: Thu, 13 Jun 2013 21:57:50 -0700
From: Gordon <gordon@n6wk.com>
Subject: Re: [R-390] Unusual ? Front panel

Since I don't read Italian, is there an English version that shows the modified Circuit for the add-on to the IF Module?

Date: Fri, 5 Jul 2013 20:22:25 -0500
From: George Humphrey <ka5den01@gmail.com>
Subject: [R-390] R-390A Question

Would a R-390A serial # 3892 made in order no. 8719-P-55 by Collins Radio Co. be a Special Operations order radio?

Date: Fri, 5 Jul 2013 23:21:51 -0400 (EDT)
From: Roger Ruszkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] R-390A Question

Super nice you have an R390A with a tag on it.
Or is the number from one of the modules?

If you pulled the tag the receiver could be scraped as unknown junk. If you left the tag on it was identified as an R390A with radioactive meters that had to be removed by the junk maker and he had to then deal with the radioactive meters. Later meter replacement we not radioactive. A junker could just check not original meters on the paper and let the receiver go with tag and meters. Pull the tag, pull the meters, what's a junk maker to do?

There is no such thing as a Special Operations order radio. If some one told you your receiver served in a field station or some other special operations site you have to ask How do they know it was actually in one of these sites. These site likely used R390A's but how is it known that your receiver was

in one of these sites.

Once upon a time there was an army and it needed some better radio's
They had some navy friends who had radios.
But the Navy guys also wanted better radios.
The air force guys were still not around.
And the marines could not conceive of a use for radios yet.
So the Army and Navy AN/ got together on the radio buy.

The good old days when things were simple and glowed in the dark.
The radios on hand were what we would call direct conversion today.

Armstrong had this idea for super heterodyne but local oscillators were not real stable, and not real linear

Collins had this slug tuned oscillator that was linear, and he was building good direct conversion receivers that were militarily acceptable. The guys at Collins wrote a contract from the government to Collins. Handed the paper to a government bureaucrat and said give this contract back to us to accept. The normal way government contracts are written and awarded. This got R390's into production. Some bureaucrat with too much time on his hands though the R390's were too expensive and ask for a cost reduction.

Collins could not say they could build R390' for less, but they could do a R390A for less. Not exactly the same thing so we can improve the manufacturing process and save a few bucks. The cost saving R390A will need a bunch of dollars up front to design. In the end Collins was paid more for the R390A than for the R390's. That's how it works.

The receivers were so wonderful, that everyone in the Army and the Navy wanted them for use in standard shipboard and Signal Corps operations.

Some where along the line the idea popped up that we should listen to what the other guy was talking about on his radios.

And this brings us to your Special Operations order radio question.

The military could not just let any one have the job of listening to the radio all day. This sounded like every one was doing nothing. This had to be a secret job. This listening stuff needed a bunch more radio receivers. It did not need transmitters. It also needed farms of antennas. But that a different story. So Collins got to build a bunch more less expensive R390A receivers. A station in Africa was all R390's but most other stations were R390A and some R390's. R390's had uses over R390As. AM voice sounded so much better on the R390's and it still does today.

But the receivers were not built for Special Operations. The receivers were the backbone for the Signal Corps and standard radio traffic across all the military from WWII until sand-state took over.

Special Operations with no one looking at their budgets just also wanted a whole lot of them. Then at least two receivers were used with every transmitter. Can you say diversity receiving. Receivers likely outnumbered 4 to 1. Receivers had value in the surplus market. You needed your own power company to run a surplus transmitter and it likely had more output power than you could legally use. so a lot of transmitters were sold as real scrap.

Red light bulbs were installed in the dial lights aboard ship where night vision was a must.

Blue light bulbs are also available from other uses but fit.

A flop down dial cover was available for the same use, and to cover the display if you did not want casual viewers to know what you really had playing in your head phones.

There is a micro dial add on when the receiver is used with TTY. It let you set the BFO with a gear reduction for fine tuning and you could dial back to the same setting time after time.

Then there were all kinds of special receivers in small quantities.

A few hundred 1950s R390As were rebuilt with SSB in the late 1980's 1990's.

The R390 and R390A were never Special Operations receivers.

They were and are wonderful receivers that also seen a lot of use in special operations applications.

For more information goggle field station, also Julian Creek, and elephant cage all separate subjects they will not goggle together. Roger

Date: Sat, 6 Jul 2013 10:39:03 -0400
From: "quartz55" <quartz55@hughes.net>
Subject: [R-390] R-390A Question

I worked for the 78th USASASOU in Berlin from Nov 63 to Nov 65, before it became Berlin Brigade. Of course we had a few R-390A's in the station, USM620K, on top of Teufelsberg. We also had some WJ receivers that went

on up into the VHF range, don't know the model. There were several 390A's used for the RTTY unit. I think most of the R-390A's were used in the ditty bop stations located in other places around Germany, Turkey, etc. Like Roger says, the receivers were probably procured by some bureaucrat at the request of the CO of the local stations or perhaps even back at Ft. Meade. There was nothing special about any of them and I don't doubt that they got switched around all over the place when needed. We also listened to a 64 channel PPM station on microwave. We used about 24 old Revox reel to reel recorders for the channels. I wonder if those old Revox recorders would be exotic because they were in a SOU?

Dave N3DT

Date: Mon, 5 Aug 2013 10:46:26 -0400 (EDT)

From: Roger Ruskowski <flowertime01@wmconnect.com>

Subject: [R-390] Off topic to W. Li in an unheated Quonset hut

So it was the winter of '70 - '71 and a group of us traveling maintenance men were visiting a DMZ site for some special monthly maintenance activities. Along with these activities were a bunch of brass. The brass filled up the good bunks and us maintenance people were relegated to a termite infested Quonset hut. It was February '71 and about 15 below zero that night. No termites in sight. The "space heater" was fueled from a 5 gallon Jerry can of diesel that hung on the side of the heater. We had a second Jerry can in the Quonset with us.

We pulled our steel cots up around the space heater in a star pattern. The heater glowed a bright cherry red in the dark. Diesel fumes were drifting out of the Jerry can hanging on the heaters side. Our feet next to the heater were overly hot and hanging out of the covers. The covers were pulled up a round our head. Our pillows and covers frozen in frost from our breath. Over a span of less than 8 feet that area went from a bright cherry red to well below zero. There was one thin sheet of Quonset hut metal between that heater and the infinity cold reaches of the universe that night. No lights up on the DMZ and on cold nights no moisture in the air. You can see stars like almost no where else in the world.

Every hour or so you got up and moved your bunk back away from the heater flopped the hot end away from the heater and crawled back into your rack.

Eventually the hot covers cooled off and your feet were freezing. The pillow thawed out and was first soggy cold then steaming hot. The wool blankets defrosted and began to steam. A towel over you head warmed through and you had to move again. Half way through the night I had to change the Jerry can as I was the only one there that even knew how to operate the heater. Ah, the memories of youth.

Date: Fri, 23 Aug 2013 21:37:46 -0400
From: "R. Dennis Gibbs" <R390A@verizon.net>
Subject: [R-390] Interesting R-390A front-panel tag on the auction place

An interesting R390A tag showed up on the infamous auction site, item number 111150672174 Has anyone out there encountered one of these tags on an actual receiver? I've never run across one.

Date: Sat, 24 Aug 2013 00:54:17 -0400
From: Tom Bridgers <tarheel6@msn.com>
Subject: Re: [R-390] Interesting R-390A front-panel tag on the auction place

The tag in this auction was created by Dick Walser, for the R-390-A receivers that he rebuilt for several governments in South America, and certain 3-letter agencies in the US Government.

I visited Dick at his home in North Hollywood, CA in April 1997. Then and after, I purchased many R-390A parts from him - including several of the tags shown in the eBay auction cited. The eBay seller also obtained the tag from Dick's estate.

About two years after my visit, Dick died as a result of complications from surgery. He was a heckuva nice guy and had an encyclopedic knowledge of R-390's and R-390As, and how to repair and maintain them. As Ray Osterwald said, in the afterword to my article about Dick in the February 2003 issue of Electric Radio, "he was a true gentleman and electronic genius who will be greatly missed." Ray is absolutely correct.

Date: Sat, 7 Dec 2013 14:11:57 +0100
From: djelatnik slavonsija <djelatnik.slavonsija@gmail.com>
Subject: [R-390] R390A on subs

In the small pieces of spare time I finally completed reading book caled "Blind man's bluff" on the topic of cold war use submarines for spying and radio intercepting. My interest is on following topic: it is possible that in cold war years some R390A receivers are instaled on submarines? Every kind of details on this topic will be very interesting for me and perhaps all other R390A users and current owners..

Date: Sat, 7 Dec 2013 08:51:46 -0500
From: Nick England <navy.radio@gmail.com>

Subject: Re: [R-390] R390A on subs

Certainly - Here's a 1966 photo from the submarine USS Robert E Lee
<http://www.navy-radio.com/ships/roborteleee-01.jpg>

Date: Sat, 7 Dec 2013 09:07:12 -0500
From: "Ed Tanton" <n4xy@comcast.net>
Subject: Re: [R-390] R390A on subs

And isn't that an SSB converter just above it? And what is the receiver highest above that?

Date: Sat, 7 Dec 2013 08:14:53 -0600
From: "Phil Mills" <pmills7@comcast.net>
Subject: Re: [R-390] R390A on subs

That's an R-389....

Date: Sat, 7 Dec 2013 09:45:12 -0500
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] R390A on subs

from the top:
R-389/URR LF receiver (15-1500kc)
CV-591A/URR SSB converter
R-390A/URR HF receiver
AN/BRR-3 VLF receiver (14-30kc)

Date: Sat, 7 Dec 2013 10:05:15 -0500
From: "Ed Tanton" <n4xy@comcast.net>
Subject: Re: [R-390] R390A on subs

Awesome! Interesting! I thought it looked familiar! I have a CV-591 downstairs, and plan to connect it to my 'A when I get my station back together-sometime next year.

Date: Sat, 7 Dec 2013 12:05:04 -0500
From: "Ed Tanton" <n4xy@comcast.net>
Subject: [R-390] link to an image of my CV-591A

There's even a low-rez image of it on my website, taken LONG before I had a decent digital camera:
http://n4xy.com/Images/Electronics/Ham_Radio/Receivers/rcvr_ssb-conv_cv-591a_01.jpg

And here's my R-390-A with better images, but still relatively low-rez:

http://n4xy.com/rcvr_MIL_r-390-a.html

Date: Sat, 7 Dec 2013 18:24:01 +0100
From: djelatnik slavonija <djelatnik.slavonija@gmail.com>
Subject: Re: [R-390] R390A on subs

On this photo from the sub receiver have some sort of short right handle, it's that regular handle for Navy or some sort of special mod? Do you guys/girls have some recommendations regarding books about radio intercept? I love to read this kind of high tech actual action books... Stay tuned and keep your tubes warm..

Date: Sat, 7 Dec 2013 12:36:38 -0500 (EST)
From: djed1@aol.com
Subject: Re: [R-390] R-390 Digest, Vol 116, Issue 4

Ahhh- the old days. I bought four '591s from the Government for \$35 each. I sold them all off for maybe \$100 each because they didn't fit in well with my desk cabinet R-390A, and the performance wasn't that great. Sure sorry I didn't hang onto them to help fund my retirement. On the other hand, I still haven't broken even on my R-390A. In 1973 I paid \$700, which might be equivalent to \$3K today. It's still a keeper tho.

Date: Sat, 07 Dec 2013 13:17:27 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] R390A on subs

I suspect that the smaller handle on the right side was a necessary change for the cramped radio "room" and the need to open adjacent cabinets. That compartment is very tight!

Date: Sat, 7 Dec 2013 19:28:15 +0100
From: djelatnik slavonija <djelatnik.slavonija@gmail.com>
Subject: Re: [R-390] R390A on subs

That is true, subs are very cramped living space. During one my travels, I visited one in German city Bremenhaven. This particular sub was last from WW2 production line and was never used in combat, but my impression regarding that men in this boat must be accomodated for very little free space and always present claustrophobic environment... And one more thing..what kind of HF antennas is used on subs, it's some sort of dipole? Dubravko 9a5bdp

Date: Sat, 07 Dec 2013 13:46:03 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] R390A on subs

I don't know what was used in that time period. Today, there is no dipole, and I'd get in a bunch of trouble to describe what is in use and how.

Date: Sat, 7 Dec 2013 15:13:12 -0500
From: "quartz55" <quartz55@hughes.net>
Subject: [R-390] Radio Intercept

I have a list of a few books about the intercept station in Berlin if you're interested in them. Don't know where to get them.

C Trick: Sort of a Memoir (memoir) by Don Cooper (2000)
Death On Devil's Mountain (novel) by David Von Norden (2009)
McCurry's War (novel) by Chuck Thompson (2012)
Reunification: A Monterey Mary Returns to Berlin by T.H.E. Hill (2013)
Voices Under Berlin: The Tale of a Monterey Mary by T.H.E. Hill (2008)

These books are all about the intercept station on Teufelsberg in Berlin, USM620K, I worked there in 65/66 as a German Linguist (Radio Intercept, forget the MOS, military occupation speciality, it's been too long but I could look it up on my DD214).

Date: Sat, 7 Dec 2013 15:21:05 -0800 (PST)
From: Norman Ryan <nnryann@yahoo.com>
Subject: Re: [R-390] Radio Intercept

Try this link: <http://www.voicesunderberlin.com/buy.html>

Date: Sat, 07 Dec 2013 18:34:58 -0500
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] Radio Intercept

Radio Intercept was a single facet of what took place. Do some searching regarding the "tapping" of the Soviet Naval Command underwater cable.

Date: Sat, 7 Dec 2013 23:54:49 +0000
From: <chacuff@cableone.net>
Subject: Re: [R-390] Radio Intercept

Yep and the USS Scorpion...

Date: Sat, 7 Dec 2013 19:06:28 -0500
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] R390A on subs

Short answer - whip antennas.

Some 1950's unclassified US sub antenna details are here:
<http://www.navy-radio.com/manuals/900121/900121a-6.pdf>
see page 6-159 for example. For some later info see here and search inside
on hf, antenna, etc.
<http://books.google.com/books?id=OJLiSJ1w6IYC&q=hf>

and see here -
http://books.google.com/books?id=4S3h8j_NEmkC&pg=PA52

Also see Jerry Proc's excellent page on Oberon-class RCN subs
<http://jproc.ca/rrp/rrp2/oberon.html> cheers,
Nick K4NYW www.navy-radio.com

Date: Thu, 12 Dec 2013 08:50:51 -0500
From: Richard Wojnar <richardwojnar@yahoo.com>
Subject: [R-390] R391

I am new here with my first post. In the 60's I was a morse code inteceptor in the Army Security Agency stationed in Asmara Ethiopia and Vint Hill Farms. I used a R390 exclusively. About twenty years ago I bought a R390 from a HAM in Maryland and it sat covered up for years. Well, now I am retiring at the end of the year and decided to get back to getting my license and getting my radio restored. I got it cleaned up and now find that it is a R391. The auto tune version of the R390/A. I took it to Howard Mills for restoration and was emailed a day ago stating that it is finished waiting for pickup. Does anyone know who used the R391? Was it the Naval Security Group, Army Security Agency, etc? I find that there were only about 1450 produced but there is very limited info on the web. Anyone use one?

Date: Thu, 12 Dec 2013 08:59:37 -0500
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] R391

For what it is worth, R-391 was an Army procurement contract and I haven't ever seen any photos or heard about them used in Navy service. I think the R-391 was not normally used outside of the AN/FRR-33 dual diversity system (for Army HF comms), but that's just a guess. That also fits with the FRR-33's preselector which would be good for blocking nearby transmitters.

Date: Thu, 12 Dec 2013 21:56:30 -0500 (EST)
From: Roger Ruszkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] R391

The R391 was a signal corps receiver.
It went with a transmitter that also had auto tune / select crystals.

When the world was RTTY HF you had your R391 and transmitter set up on preselected frequencies and had your daily traffic net. You know about daily traffic nets as you made a living copying them from Asmara Ethiopia and rerunning tape recordings at Vint Hill Farms.

You had a pair of R391 set up to do diversity receive. On time you auto tuned your R391 over to the proper frequency and loaded a new roll of paper in the RTTY printer. Loaded two punch tape machines with fresh tape. And copied all the incoming traffic for the scheduled event. Then you loaded an out going punched tape in the tape reader and when your turn came hit the transmit button. Once a day the chain of command worked bottom up Please boss I need the following. Once a day the chain of command worked top down you shall do the following EXACT FOLLOWS.

You not only copied it to printer but also copied it to one or more punch tapes. Because you did not know what parts were going to be relayed. And you also wanted to make sure you got a good tape copy to retransmit thus two tapes were punched.

A lot of the stuff was orders. You loaded a tape with an exact set of orders in a tape reader. Put a minugraph master in the printer. Run the tape to cut a minugraph stencil. Put the stencils in a minugraph machine and litterly cranked out 50 copies of the orders.

We ran an Army, Navy, Air Force, Marine Corp, Coast Guard, and Logistical support around the world on the system.

You do not know how much traffic your R391 received in its day.

I knew guys who could tare tape and re punch tape to edit traffic faster than I can do mail here on my keyboard.

Welcome aboard.

Roger AI4NI 33C4H 68 - 75 Ft, Devens student, Phu Bia Viet Nam, Korea, Fort Devens Instructor and Okinawa Shop supervisor / Trick Chief.

Date: Thu, 12 Dec 2013 22:10:29 -0500 (EST)
From: Roger Ruskowski <flowertime01@wmconnect.com>
Subject: [R-390] R391

You R391 is mostly an R390 you can use the R390 TM 11 5820 357 35 manual and TM 11 5820 357 -35P parts manual. There is a R391 manual

that covers the receiver and auto tune operation and theory. But I do not know the manual numbers. Several of the Fellows on the reflector here have R391's and can help you with specific questions.

Date: Thu, 12 Dec 2013 22:48:58 -0500
From: "Lester Veenstra W8YCM" <mOycm@veenstras.com>
Subject: Re: [R-390] R391

Most of the R-391s went into a NavSegru program detailed in:
Red November: Inside the Secret U.S.-Soviet Submarine War Paperback
by W. Craig Reed (Author)

THE AUTO TUNE WAS NEEDED TO FACILITATE RAPID QSY. THE 24 VOLT AUTOTUNE MOTOR SUPPLY WAS COMMON FOR RACKS FULL OF THE RECEIVERS. OPERATORS WERE INSTRUCTED TO SWITCH FREQS ON EACH RECEIVER INDIVIDUALLY, ONE BY ONE. HOWEVER, SAILORS BEING SAILORS, PARTICULARLY AT SHIFT CHANGE, THEY WOULD GO DOWN THE RACK OF RECEIVERS, FLIPPING ALL THE SWITCHES, ONE AFTER THE OTHER WITHOUT WAITING FOR THE PREVIOUS RECEIVER TO FINISH AUTOTUNE.. THE LOAD ON THE 24 VDC SUPPLY WAS ENOUGH TO KILL IT IN A CLOUD OF SMOKE. THEN TO QSY, THE OPS HAD TO UNLOCK THE AUTOTUNE AND MANUALLY SET EACH R4ECEIVERS THE OLD FASHONED WAY.

Lester B Veenstra M?YCM K1YCM W8YCM/6Y5

Date: Mon, 16 Dec 2013 20:37:06 -0500
From: "James A. (Andy) Moorer" <jamminpower@earthlink.net>
Subject: [R-390] What's the latest military manual discussing R-390A?

I just finished scanning a Navy training manual "Radioman 3&2" NAVTRA 10228-F, 330p, dated 1971. It mostly talks about silicon receivers, like the R-1051, but there is a half-page on the R-390A with an image of the front panel. Clearly, they thought a radio man in 1971 needed to know about these receivers, implying that they thought you might run into them in the course of your service.

Anybody know when they printed the last "official" military manual mentioning the R-390A as something besides a historical curiosity? I was a bit startled to find it in 1971.

Date: Mon, 16 Dec 2013 20:56:28 -0500
From: Bob Camp <ham@kb8tq.com>
Subject: Re: [R-390] What's the latest military manual discussing R-390A?

They were still buying massive numbers of spares for these radios in the

mid 1980's. I suspect you can find them in training courses at least through that era.

Date: Mon, 16 Dec 2013 21:46:55 -0500
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] What's the latest military manual discussing R-390A?
1977 -NAVEDTRA 10251 Cryptologic Collection Equipments
<http://www.navy-radio.com/manuals/crypto-equip.htm>

1978 - NAVEDTRA 10232-B Cryptologic Technician M 3&2
<http://www.navy-radio.com/manuals/10232b.htm>

1988 FFG-7 Class Frigate Radio Communications Systems Manual shows an R-390A in the installation drawings. A brand new R-390A also shows up in 1984 construction photos
<http://www.navy-radio.com/ships/ffg7.htm>

Date: Tue, 17 Dec 2013 13:33:01 +0000
From: Bill Kulze <wak9@cornell.edu>
Subject: Re: [R-390] What's the latest military manual discussing R-390A?

I went through Ground Radio school at Keesler Jan - June '77 and the first thing after basic electronics was Rx principles on the R-390. I don't think it was the 'A' as I seem to remember a squelch circuit. As a matter of fact, solid state was only the last couple days of the basic electronics part.

Date: Tue, 17 Dec 2013 07:45:59 -0600
From: Les Locklear <leslocklear@hotmail.com>
Subject: Re: [R-390] What's the latest military manual discussing R-390A?

You'll be happy to know that that course is still being taught at Keesler AFB. I do remember they were using the Racal 6790 series in the mid 90's. I retired out there in January 2009 and have no knowledge as to which receiver they are now using.

Date: Tue, 17 Dec 2013 10:30:11 -0500
From: Tom Nicholson <Gunsrus1942@Comcast.net>
Subject: Re: [R-390] What's the latest military manual discussing R-390A?

Sorry, but I couldn't resist!!!! OLD memories! Went thru Keesler in late 1959 & early 1960. We called Basic Electronics "BED's". Solid state theory was quick and easy. "Transistors are NPN & PNP & they work fine, next subject is"!! Still remember that the instructor would tap his podium when ever he was making a point about something that there would be a question on the test about. :-P Went to ECM maintenance at

Wolfe Hall, 2nd floor. We were trained on the SP-600 and were only shown the 390's in a rack of about 12 of them. Was told they were a "gear drive nightmare" & IF SELECTED we would come back for upgrade training at a later date. As fate would have it, after graduating, I was selected to go to Stewart AFB & train at IBM in Kingston NY on the AN/FSQ-7 SAGE computer maintenance.

Living now in Florida & cannot wait to get over to Keesler and see what is left of the "old place"!!! Apologize for being off topic.

Date: Tue, 17 Dec 2013 09:46:32 -0600
From: Les Locklear <leslocklear@hotmail.com>
Subject: Re: [R-390] What's the latest military manual discussing R-390A?

Well, Keesler is still the electronics training center for the Air Force. But, they have consolidated training for all of the branches of the Military for weather, air traffic control and other courses. There are Army, Navy and Marine Corps detachments stationed on the base. Wolfe hall still exists in new construction. All of the old WW2 buildings are long gone. The medical Center is the second largest in the Air Force. The "Triangle" has all new dormitories. You wouldn't recognize it. Les

Date: Tue, 17 Dec 2013 13:32:23 -0500 (EST)
From: Roger Ruszkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] What's the latest military manual discussing R-390A?

I left the Army Security Agency in 1975. I knew that at least 5,000 receivers were still in use operating 24 x 7 and no end in sight. I had been training the maintenance manpower to keep them all operating while an instructor at Ft Devens. in 72 - 73 We did not care what the date was on the TM 11 5820 - 358 - 35 My 61 copy on the shelf is marked superseded in 72. It may or may not have been. It may have just been marked up to get it out of the building. We did keep the latest copy of the parts manual (also very marked up with changes) on the counter at the parts department window.

Date: Mon, 17 Feb 2014 23:42:08 -0600
From: Don Reaves <donreaves@gmail.com>
Subject: [R-390] Special Purpose R-390

Anyone know what this is?
<http://bunkerofdoom.com/hoard2/PIC-0128.jpg>

My old eyes can't quite be certain of the custom tag. Perhaps "Modified by Clark Instruments" is one line?

Date: Mon, 17 Feb 2014 22:38:27 -0800

From: Don Kammer <norad2240@gmail.com>
Subject: Re: [R-390] Special Purpose R-390

RECEIVER SPECIAL PURPOSE
Type: .5 TO 32 ...
Modified by Clark Instruments
Original Type Receiver ...
COLLINS RADIO COMPANY

I was able to increase the picture to 150%, but that was it. Hope this (sort of) helps!

Date: Tue, 18 Feb 2014 06:06:33 -0500
From: Charles Steinmetz <csteinmetz@yandex.com>
Subject: Re: [R-390] Special Purpose R-390

I looked at various magnifications and with a few filters and think I was able to decipher a bit more. Carets (^) indicate unidentified characters:

RECEIVER SPECIAL PURPOSE
Type .5 TO 32 MCS ^^^^^
Modified by Clark Instruments
Original Type Receiver 390 OR 390A UR.R
COLLINS RADIO COMPANY

The only difference I see on the front panel is the MC and KC knobs. They give the impression that there are separate "inner" and "outer" adjustments, but that could just be cosmetic.

Date: Tue, 18 Feb 2014 11:58:20 +0000
From: Don Kammer <norad2240@gmail.com>
Subject: Re: [R-390] Special Purpose R-390

I agree with you about the knobs. I noticed them immediately and was convinced they were either cosmetic or were put there as one piece each to provide a significantly better grip, such as would be provided to a bicycle chain.

The plate is another matter. I think the plate was a stamped template applied to both flavors of the R390, regardless of who actually built them. Yes, we know this beautiful child originally came from Collins, but I think that any company referring to itself as Clark "Instruments" would have some sort of inkling for the difference between an R390 and an R390-A! Thus, it may or may not be a Collins based on their idea that "one size fits all" with their cavalier plate application stating that it's either/or...!

Date: Tue, 18 Feb 2014 09:08:35 -0500
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] Special Purpose R-390

The Clark contract could have been to modify a batch of receivers without regard to whether they were 390 or 390A so the tag seems OK to me. Users often didn't really distinguish between A and non-A.

I have a vague feeling I have seen reduction dials like that before - but that might be only some self-fulfilling wishful thinking.

Date: Tue, 18 Feb 2014 12:05:25 -0600
From: "Bill Hawkins" <bill@iaxs.net>
Subject: Re: [R-390] Special Purpose R-390

OK, so the name plate was made for modifications to a real 390 or a cheapened A version. One can tell the difference between the A and the non-A by the location of the antenna trimmer, among other things.

Google doesn't get anything useful for Clark Instruments.

Don, can you tell us how the set was modified?
How about a clearer picture of the name plate?
Was the front panel labeling modified other than the nameplate?

Date: Tue, 18 Feb 2014 15:41:11 -0500
From: Charles Steinmetz <csteinmetz@yandex.com>
Subject: Re: [R-390] Special Purpose R-390

I agree with that. One point, however: the assumption seems to be that the radio pictured was made to a government contract. But if that were the case, one would expect to see the contract number on the nomenclature plate, along with some official procurement ID (model number). It is possible the six unreadable characters at the end of the second line are an official procurement ID, but the line in its entirety ("Type .5 TO 32 MCS ^^^^^") does not read very much like a government nomenclature plate. The same is true of the third line ("Modified by Clark Instruments," identifying it as a modification and not identifying Clark Instruments further -- Co., Inc., etc.) and the plate generally (identifying the pre-modified item, and identifying it as "Collins").

So, I'm more inclined to think that "Clark Instruments" was some guy in his basement who modified at least one radio and had at least one nice-ish label plate made. The fact that there seems to be no information about "Clark Instruments" on the web supports this hypothesis. So, until we get word otherwise....

Date: Tue, 18 Feb 2014 15:08:05 -0600 (CST)
From: Jim Haynes <jhhaynes@earthlink.net>
Subject: Re: [R-390] Special Purpose R-390

I can't be sure, but those knobs suggest to me that they are locking knobs, so you set to a certain frequency and then tighten the locks and then it can't be changed without a little extra effort.

Date: Tue, 18 Feb 2014 20:56:14 +0000
From: <joldenburg2@new.rr.com>
Subject: Re: [R-390] Special Purpose R-390

Possibly a radio modded by NEMS-Clark? "NEMS-Clarke, aka Vitro Corporation, built monitoring and test equipment for RCA - and marketed the product on their own as well. The original companies NEMS - National Electric Machine Shop (founded 1899 as National Electrical Supply Co) - and Clarke Instruments (founded 1940), merged in 1951 as NEMS-Clarke. NEMS was manufacturing radio parts, and Clarke designed telemetry and special purpose receivers, largely for the Defense Department."

I own a number of Nems-Clark receivers. They are mostly VHF rigs with outputs for video monitors, panadapters and recorders. It would be interesting to see the rear panel of the rig to see if any such amenities had been added.

Date: Tue, 18 Feb 2014 17:55:55 -0500
From: Bob Camp <ham@kb8tq.com>
Subject: Re: [R-390] Special Purpose R-390

It would not be at all surprising to see "Clark Instruments' continuing to use its name on a small amount of product well after the merger. It's one way to retain legal rights to the name. One would *guess* that some portion of the US Gov was the end customer.

Date: Wed, 19 Feb 2014 19:08:24 -0500 (EST)
From: Roger Ruszkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] Special Purpose R-390

The name plate is not mil spec.
Cool but not government.
Cool knobs.
Are they locking knobs?
That is an R390A
Are there any internal mods?

How about a pictures of the back panel, top side looking in and bottom.
Can you fellows help me guess what in this box on my deck?

Date: Thu, 20 Feb 2014 20:53:41 -0500
From: John Vendely <jvendely@cfl.rr.com>
Subject: Re: [R-390] CV-157 SSB converter

<snip> In the early 1960s when synthesized equipment began to proliferate, there was a big incentive to get rid of the wasteful pilot carrier and reallocate its power to additional sideband intelligence, and the stability problem became an issue. The solution was the Manson Laboratories SBM-1 "Stabilization Kit" designed as an upgrade for the R-390A and CV-157. A number of AN/FRR-41 systems were retrofitted with it, especially by the Air Force. The system consisted of the Model 299 Synthesizer, which provided a synthesized 2.455-3.455 in 100 cps steps for both 390As, and the Model 372 Stabilizer, which synthesized all the crystal injection points for the two R-390As, plus a synthesized 555 kc and 100 kc for the two CV-157s. The FRR-41, thus modified, could be then operated either fully synthesized, or with continuous tuning and pilot carrier AFC as originally, . I have one of these updated FRR-41 systems, and it works great, although the synthesizers are quite cranky and require frequent attention. The system I have was used by the 45th Space Wing as an ISB high speed computer data link on the Eastern Test Range in the mid 1960s. This may have been the world's first computer wide area network--and on HF! Later, the enormous remotely-tuned DDR-506 receivers, developed by TMC, were used for similar purpose by NASA between NASA Goddard, Wallops, and the Range & Instrumentation ships during Project Apollo. <snip>

Date: Fri, 21 Feb 2014 09:33:07 +0000
From: Sheldon Daitch <SDAITCH@bbg.gov>
Subject: Re: [R-390] CV 157 stuff

Voice of America used ISB transmissions for many years for program feeder service prior to going to satellite circuits for all programs.

There were four ISB transmitters at the Greenville NC VOA complex (TMC GPT-10s converted to TMC GPT-40s) and then two Continental ISB transmitters were added.

Delano had two ISB transmitters, but if memory serves me correctly, the two Continental ISB transmitters added were removed from Delano.

The numerous receiver sites overseas used, in the latter years, RCA SSB-3 ISB diversity receivers. VOA must have had about a hundred of these receivers and typical operation was one program feed on USB, another

program feed was on LSB. The RCA receivers were the later mixed tube-transistorized systems, versions of the fully tubed unit RCA was marketing in the mid-1950s.

Greenville Receiver site had 8 of the RCA receivers for program feeds to Washington, but we also have two older ISB diversity systems, using Racal RA-17 receivers and Pioneer ISB demodulator/diversity combiner systems.

Date: Fri, 21 Feb 2014 10:58:43 +0100
From: sigmapert <sigmapert@gmx.de>
Subject: Re: [R-390] another CV 157 question

I have two CV-157. One of the is from Transcom Electronics Inc. Hoffmann Laboratories, Inc.
Serial No. 58, Order No. 08722-PH-55
Transcom Electronics Inc.
Serial No. 115, Order No. FR-36-039-B-6-01282(E)

Besides the three manufactures already mentioned in the nice report from John K9WT (Hoffman, Dubrow and Bridge) Transcom is another one.

Here the images of my tags:
http://schmid-mainz.de/CV-157_Tags.jpg

Date: Fri, 21 Feb 2014 08:54:36 -0500
From: John Vendely <jvendely@cfl.rr.com>
Subject: Re: [R-390] CV 157 stuff

That's very interesting. I used to listen regularly to these ISB feeders, using a R-90A/CV-157, or a R-390A/TMC SBC-9/AFC-2, which was TMC's answer to the CV-157. Phase locked to VOA's pilot carrier as intended, you got great broadcast quality SSB. I recall during the 1976 presidential elections hearing VOA election coverage in English on USB and the same coverage in Russian on LSB. BBC and Radio Moscow also used HF broadcast feeders in those days, though without the pilot carrier. I think the VOA ISB feeders disappeared around 1994 or so. Pilot carrier AFC is relatively rare today, but still exists on some ISB data transmissions, e.g. NATO Link 11.

Man, I sure would like to add one of those huge RCA SSB-R3A receivers to the collection. If anyone knows of one for sale, please let me know.

p.s., I have a TMC MMX-2 exciter which was surplused out of the now defunct VOA Bethany Relay station, where it was used in one of the ISB feeder transmitters. It lives on in my shack, in a TMC 1kW transmitter which I have on the air regularly... John K9WT

Date: Fri, 21 Feb 2014 09:02:22 -0500
From: "Lester Veenstra" <lester@veenstras.com>
Subject: Re: [R-390] CV 157 stuff

And these ckts had FDM FSK channels above the program audio, carrying unencrypted admin traffic, from HQ, out to the HF relay sites.

Date: Sun, 23 Feb 2014 09:31:18 +0000
From: Sheldon Daitch <SDAITCH@bbg.gov>
Subject: Re: [R-390] CV 157 stuff - VOA traffic

One of the interesting aspects of the admin traffic was that when the personnel overseas were coming back to the US, especially official trips, some of the traffic would be related to lodging reservations and credit card numbers would be passed in the clear. In all the years I worked the Greenville end, and saw the credit card numbers, I never heard of any problems with credit card fraud.

The Greenville transmitters ran the RTTY on one of the sidebands on the TMC transmitters, simple AFSK, Northern Radio tube type tone generators. We used a high set of tones and low set of tones, keyed with the same information and the Northern Radio tone demodulators had a voting circuit and compared the two sets of tones on the receive end for keying the DC loop.

The Greenville transmitters, the TMCs, were the normal feeder transmitters. The transmitters at the relay stations, were dedicated lower power HF transmitters normally used only for the RTTY circuits. In those days, we had a six days a week schedule with Liberia, Kavala, Rhodes, Munich and Tangier and then we added Botswana.

When I started at Greenville, we had two ASR-28s, one on the receive path and one on the TX path. All message traffic was on paper tape. The outgoing traffic from DC had been punched into a master tape to send to the relay stations, done by the prior evening shift supervisor, so the morning tech did not have to deal with individual messages. On our receive side, we cleaned up the traffic tapes and resent the messages to DC via TTY circuits on the microwave system.

At some point, late 1980s, we replaced the Model 28s with Extel system equipment. The Extels were neat - no more paper tape - but we ran into one interesting problem with them. When we weren't running traffic, we ran an idle channel filler and we found the memories in the Extels weren't large enough to hold the message traffic and the idle channel data. I don't remember exactly what our workaround was - I'll probably have to think

about it for a bit.

Date: Sun, 23 Feb 2014 08:38:09 -0500
From: "Lester Veenstra" <lester@veenstras.com>
Subject: Re: [R-390] CV 157 stuff - VOA traffic

Thanks for the insider view. Were the 75 Baud circuits? That is what I think I recall.

Date: Sun, 23 Feb 2014 14:09:55 +0000
From: Sheldon Daitch <SDAITCH@bbg.gov>
Subject: Re: [R-390] CV 157 stuff - VOA traffic

I am almost sure the machines were set up for 100WPM - five level code.

Date: Mon, 24 Feb 2014 09:12:18 +1100
From: "Eric Gauja" <ericgauja@optusnet.com.au>
Subject: [R-390] Ed Fong article on R390A

Last week, there was a post by Chuck Rippel on the 390A's birthday which mentioned an article by Ed Fong in The Signal comparing the R390A to more modern receivers. I have searched for this article on line without success. Can anyone help with a link to this article, or have access to a copy?

Date: Mon, 24 Feb 2014 10:46:40 +1100
From: "Eric Gauja" <ericgauja@optusnet.com.au>
Subject: [R-390] Ed Fong article on 390A

Thanks very much Carl - Found the series of articles, well worth reading , and perhaps referencing on the R390A FAQ page.

Date: Sun, 23 Feb 2014 17:54:14 -0600
From: Raymond Cote <bluegrassdakine@hotmail.com>
Subject: Re: [R-390] Ed Fong article on 390A

What was the link you received from Carl ? Wish there was a default to "reply all" and users would have to actively reply to sender only

Date: Mon, 24 Feb 2014 11:25:59 +1100
From: "Eric Gauja" <ericgauja@optusnet.com.au>
Subject: [R-390] Link to Ed Fong 390A article

Link received from Carl is: [http://collinsradio.org/Signal/newsletters/Six part series First Quarter 2005 through Second Quarter 2006](http://collinsradio.org/Signal/newsletters/Six%20part%20series%20First%20Quarter%202005%20through%20Second%20Quarter%202006).

Date: Mon, 24 Feb 2014 14:30:17 +0000
From: Don Kammer <norad2240@gmail.com>
Subject: Re: [R-390] Ed Fong article on R390A

Funny thing about Ed Fong, who's article inspired Chuck to put that (birthday) information on his website. I've started reading Ed's article(s), and based on his callsign within said article(s), I looked him up on QRZ.com. Come to find out that, although I live in Colorado Springs, I'm working for about a month and a half in Palo Alto (to help launch a satellite), but am staying in Sunnyvale. Ed lives almost exactly 1 mile south of the Quality Inn where I'm staying, and I'm sorely tempted to walk down there and thank him for his article that indirectly started all of this hoopla! Just hadda share... Best to All on this very highly auspicious occasion!

Date: Mon, 03 Mar 2014 17:25:30 -0500
From: rbethman <rbethman@comcast.net>
Subject: [R-390] Screws bolts and the like

My major life experience I obtained was after I returned from across the "pond".

I received very in-depth Mechanical Maintenance Technician training and board certification. It covered Nuclear Power Production, and Conventional Power Production. We were also trained in the art of being a Machinist. That was a hard part of it too! I have experience in maintaining large Railroad Engines, and some that had there initial use in submarines. The two specific ones would be the GM EMD 16-567-E4, and the Fairbanks-Morse 38 TD 8 1/8.

The very large bolts and nuts had very high torque specifications. The EMD is a 16 Cyl., 567 cu. in. per cylinder displacement, the E4 designates it as turbo-charged. (The bloody turbo was the size of a VW Beetle!)

The Cylinder crab nuts had NO lock washers at all. The Torque spec. was 2000 ft./lbs. +/- 200. NO this is NOT a typo! Torque multipliers were required! I can't say that in my 20s that it really saved the body. The last one I was involved with installing, I was the "big" mechanic, so I got the booby prize. It involved a three engine set that MUST be re-torqued after a 72 hour run at full power and load. I managed to get through all three of them, finally tearing a shoulder on the *very* last one.

The Fairbanks-Morse are no better. The crankshaft journals required tightening by hand as far as possible, then followed by a slugging wrench. Many a time I swung the 20lb. sledge hammer.

These are a couple of the reasons for later Rotator Cuff surgeries, and the degree of Arthritis that I have.

Torque specs, the *real* ones in the Manufacturer's Maintenance manuals specify either a dry torque value or a wet torque value.

Dry meaning just that. No lubricant in that "joint"! Wet torque means that a specific lubricant is to be used in the torquing process.

The old RTFM is imperative. These specs are NOT arbitrary. They are developed by the engineers, and they fall into the MUST be followed category.

I also learned the Electrical Distribution side since we worked in teams and cross-trained OJT. It was the only real method that was available.

I have spent my later years having to watch carefully HOW much force to use. It has been interesting how many sizes, such as 15/16s that I have broken the dang wrench on trying to get the electrical connection tight enough. I'm sure the cold weather wasn't any help that one day. I was tightening 500MCM and 750MCM with 12 AWG strands in freezing weather.

One of the cables fought back when I was trying to get it to bend and go where it should in the cold. I distinctly remember getting tossed back on my rump at least once, possibly more. It has been over 3 decades since that one day.

Enough posting. Torque, fasteners, and the methods are indeed a science. Thankfully our radios are NOT in this realm! I am no longer up to it.

Date: Fri, 21 Mar 2014 13:17:38 -0400
From: rbethman <rbethman@comcast.net>
Subject: Re: [R-390] Hazards, they are all relative

As you so well put things, you have indeed done so again! Uniformed service did expose one to far more dangerous things. Some were flying through the air with a perceived reckless abandon. These were not healthy. Neither was the Agent Orange. History has demonstrated the reckless use of DDT fogging systems in Florida. The vehicles were marked: "Mosquito Control". It was a part of life that was the *Norm* at the time. Fortunately I do not appear to have underwent significant harm. PCB laced transformer oil was used in locations where fire was a very possible issue. I have been up to my armpits in some, simply to change the voltage taps. Part of the "Duty" element.

Date: Fri, 21 Mar 2014 18:04:14 +0000
From: Bill Kulze <wak9@cornell.edu>
Subject: Re: [R-390] Hazards, they are all relative

When I was at Keesler in '77 they used to do the fogging, most every night. I guess in the old days when you were incarcerated, the 'delousing' involved getting all powdered up with ddt.

Date: Fri, 21 Mar 2014 21:53:49 -0400 (EDT)
From: bonddaleena@aol.com
Subject: Re: [R-390] R-390 Digest, Vol 119, Issue 25

Well, I can say that I HAVE indeed served my beloved county. I was in the USN during the Vietnam conflict. I built Hydrogen bombs. Really. We had plenty of monitors that were 'adequate' back in the day. Did I/do I worry about any of the consequences? Not for one minute. I learned a lot of great lessons from my service. I went to schools at Sandia Corp. in New Mexico. Some of the mechanical abilities they taught me, serve me to this day as a retired EE with IBM. Wouldn't trade my service for anything. Only one thing that I wonder about..... today's shooters/reloaders are 'afraid' to experiment with WS2 and/or HBN, despite the overwhelming superiority of those chemicals in the shooting sports.....Just don't snort it dude!

Date: Sat, 22 Mar 2014 15:21:08 -0700
From: Dennis Kidder <w6dq@att.net>
Subject: [R-390] Fwd: {Collins} President's Recommendation - USS SLATER - we need you to vote!

This was posted this morning on the Collins Collectors Association email list by Bill Carns, President of the CCA. Like Bill, I think this is something that many on the R-390 reflector would be interested in and would lend a vote of support. The USS Slater museum ship, the only remaining WW II Destroyer Escort, is in a competition to receive some grant money. I know that many of you either volunteer or otherwise support museum ships like USS Slater and will see the value in this. Hopefully you can take a minute and follow the link below and add vote for their cause.

The link is towards the end of the post, but I include it here:

<http://blog.timesunion.com/giving/final-vote-in-the-capital-region-gives-promotion/2053/>

Thanks and 73, -dennis W6DQ Fullerton CA

----- Original Message -----

Subject: {Collins} President's Recommendation - USS SLATER - we need you to vote!

Date: Sat, 22 Mar 2014 10:07:45 -0500
From: Bill Carns <wcarns@austin.rr.com>
To: <COLLINS@LISTSERVE.COM>

I will risk being slightly marginal about topic here. But not really. This ship is part of our national heritage and also the radio room is stuffed with Collins and deserves to be preserved. All you need to do to show your support of this preservation effort and grant request is to click the link below. I urge you to do just that. Then go visit. I want to thank Tom for his relay here. There was a photo of a great bunch of volunteers working on the ship, but it will not come through the reflector, and may cause a bounce, so I am deleting it.

Bill Carns, N7OTQ
Trustee KOCXX
President, Collins Collectors Association
Editor, Signal Magazine
Wimberley, TX
512 618 2762 (Cell)
512 847 7010 (Home)

From: Tom Chirhart [mailto:k4ncgva@gmail.com]
Sent: Saturday, March 22, 2014 9:53 AM
To: Bill Carns
Subject: Fwd: USS SLATER - we need you to vote!

Bill,

I wanted to ask your approval before forwarding this to the CCA reflector. The USS Slater is the only remaining WW-II Destroyer Escort and they are competing for a grant. They need votes. The Radio Room has restored Collins gear and other gear. I found some ham band crystals for their TBL TX in a parts bin. Can you share this with the reflector. voting ends Monday at 5 PM.

Begin forwarded message:

From: Tim Rizzuto <tim@usslater.org <mailto:tim@usslater.org> >
Date: March 21, 2014 at 9:04:59 AM EDT
To: slater@lists.logical.net <mailto:slater@lists.logical.net>
Subject: USS SLATER - we need you to vote!

<http://blog.timesunion.com/giving/final-vote-in-the-capital-region-gives-promotion/2053/>

It's the final round of the Capital Region Gives contest. We need everybody's help to share this as far and as wide as you can, and vote for the USS SLATER. We're up against several other worthy not-for-profits. But USS SLATER is special because she was saved by veterans, and restored by veterans, to honor veterans. She stands as a symbol of their courage and the sacrifices that have protected this country and enabled all of the other agencies to do their good work. These guys put in 17,000 Volunteer hours aboard the ship last year. All we want you to do is click a link.

We need you to vote, and for everybody to share this link. Spread the word for USS SLATER! Let this be our turn. Let's share this and win this.

Date: Mon, 21 Jul 2014 00:55:58 -0400 (EDT)
From: Roger Ruszkowski <flowertime01@wmconnect.com>
Subject: [R-390] School House bugs

The Fort Devens Mass school house had class rooms.
In each room was a weeks worth of education.
Every Monday you started in a new class room for a year to 18 months.
You had a tool box. TK105 You picked it from your old class room on Monday and brought it to your new class room.
Each room had ten seats.
Each room had benches, stools, equipment to learn this week and test equipment needed to maintain equipment to learn this week on each bench.
Ten benches five bugs two of each bug.
Big grid on the calk board 10 names, 10 positions 1-2, 3-4, 5-6, 7-8, 9-10.
Log your start and stop time.
You could watch the board and see how the day was going.
The front end of school was theory.
The back end of school was week after week of equipment.
In the equipment weeks you did:
Monday theory of item and play with item.
Tuesday was schematic analysis of item.
Wednesday was find 5 bugs in item on bench
Thursday was find 5 more meaner bugs.
Friday was find 5 more bugs. two from wed, two from thurs and a new one.

There were like plenty of bugs to mix up from week to week.
Bad line audio this week Bad local audio next week.
Bad fuse here. Bad fuse there.
Burnt out lamp.

We had fried tubes for every tube in the item.

We have had items for every thing that would plug in, relays caps, tubes, fuses crystals.

We would plug in 4 bugs and solder a fifth so you only had to solder up two units a day.

We had meg ohm resistors carefully repainted to solder in as open resistors.

We had every solder joint on a terminal board re soldered so you could not just eye ball for new solder.

We would open wires in the wire harness plugs to give you a bad wire harness.

We could mess up clamps, knobs, shafts and miss align any thing that needed adjustment.

Every student spent 6 months in common theory and test equipment.

A student spent 6 to 12 more months depending on the school three days a week 6 hours a day at a bench trouble shooting 5 bugs a day on a piece of gear he had never seen or heard of before Monday. R390 school was two weeks. One week alignment. One week bugs. The first week you got do three alignment semi annual PM procedures. You had to pass signal to noise on every band. As you got a part procedure done you asked for an instructor sign off as you demonstrated the step. An instructor could walk past an R390 on the bench with spline tool and tweaker never break stride and keep a student busy all day getting that receiver back in alignment.

I got more real hands on education at Fort Devens than any where else in my life. I did four years 6 days on two days off in Viet Nam, Korea and Okinawa applying what I had learned in school. I did two years teaching a tape recorder week after week after week.

Date: Mon, 21 Jul 2014 13:52:53 -0400 (EDT)

From: Roger Ruszkowski <flowertime01@wmconnect.com>

Subject: Re: [R-390] School House bugs

A most unbelievable state for a receiver.

The theory always was, It was working fine yesterday.

Now it does not work.

There is one and only one thing wrong with it at this time.

Find the problem and fix it.

Things in the school house were in awesome good shape.

This is how it looks in the field and this I show we expect you to keep it looking young man do you understand me?

Happy to hear you are getting the problems fixed and the receiver restored. Roger.

-----Original Message-----

From: Craig Heaton <hamfish@efn.org>

Subject: RE: [R-390] School House bugs

Thanks for the reply! Having been to a couple training secessions every year during the working years, I kinda thought buggy R390's were out there, somewhere. The Amelco might have been one that was infested, not fixed, then followed me home.

What to trouble shoot first was like what comes first the chicken or the egg. Getting the audio stable let me find other bugs, took a large can of Raid. Every module had shorts; leads from one component touching another lead, etc. In the IF deck, the covers had to be removed on the IF transformers; caps shorted to the inductors. Crystal deck; leads on some of the mica caps shorted together. RF deck; there were three RF cans with shorts. One short in the audio deck.

Still don't understand the need for 5K pots to cure line & local controls, but it works. (Maybe another rainy day in Oregon)

Date: Mon, 21 Jul 2014 15:15:12 -0700

From: "Craig Heaton" <hamfish@efn.org>

Subject: Re: [R-390] School House bugs

Not so young any more, Roger. If the Amelco was 100%, I'd have nothing to do! The only thing not original on this infested beast was a 12BY7 in place of the current regulator tube RT510, the tube socket was rewired also. It was clean (spot less) inside & out. Original tubes, all the BBOD's were there, old electrolytic caps, front panel had no rack rash, no wear on the knobs.

Swapping modules from a 100% Motorola didn't cure the loud audio. Could be a wire harness issue in the Amelco? But I've rung out the wiring dozens of times. I think I have plenty of time here on the 3rd rock from the sun in order to play radio some more....

Comparing the two; Motorola vs. Amelco, the Motorola wins hands down as to better components & detail to assembly. As things stand today, both have the same sensitivity and the Amelco is now stable. One thing to note: R104 & R105 per the schematic are 2.5K pots in parallel. Measure across the ends of either pot and one should see a resistance of 1.25K and somewhere in the Y2K manual the 1.25K value pops up in support of ohms law. The Motorola measures a tad above 1.5K which leads one to believe those pots are around 3K each. No problem there considering 20% tolerance of the mil spec pots and my VOM's don't have a fancy sticker

traceable to NIST. I'll place money that Motorola picked the 20% high side of 2.5K and built a better receiver.

Date: Thu, 24 Jul 2014 21:42:24 +1000
From: Ken Harpur <igl0099nz@yahoo.co.nz>
Subject: Re: [R-390] R-390A Noisy Ant. Trim and Raspy Calibrator Revisited

<snip> Also very interesting to read Roger's account of making bugs for the students to find...I would have loved to have been there (I wasn't even born when these radios were made). Interesting to read about painting up 1Meg resistors to look like lower values.

Date: Wed, 6 Aug 2014 10:36:37 -0400
From: "Todd, KA1KAQ" <ka1kaq@gmail.com>
Subject: Re: [R-390] Kielbasa

> Well, well, well, look what the cat drug in.....Todd de Boomer!.....

Doing just fine, thanks. I popped in sometime within the last year or so after Les rattled my cage a bit. Been busy like most other folks, became a dad in November of 2012 to a beautiful daughter who is now nearly 2 already(!), fun stuff like that. Can't recall if I mentioned that previously. So things have changed a bit?

> I didn't realize that Don and I joined somewhere around the same time. I
> somehow always assumed he was always our fearless leader.

Don't quote me as my memory is not as good as it once was. I suspect Don was here from the start, he just took over the list around that time. Maybe 95? It was his show when I joined.

> I'll say something about Don- he knows his stuff and when he gives advice
> it is always good and extensive. And, he deserves a medal for putting up
> with the crisis back then. Talk about moderating from behind the scenes.
> You done good, Don.

I got to meet Don at Dayton back in 2007 and he is just as great a guy in person. Friendly, jovial, quite knowledgeable, and a true gentleman. And I'll tell you something else about Don.... Some years back when I was still living in the wretched northeast (B-R-R-R among other reasons) I came across a BC-610E that I hoped to restore and use in my station. Long story short - I broke one or both of the 2A3 audio tubes which most folks know had been driven through the roof price-wise by the audiophool crowd.

Hearing of my dilemma, Don sent me a good, tested set....FREE. Wouldn't accept payment. FFWD to this past year. I contacted Don to let him know I'd be sending the tubes back to him the next time they surfaced in the mess called my garage, since the 610 was sold before the move south. His response was "keep 'em - sell them and put the money toward the baby's college fund". That's the kind of guy who runs this list and puts up with us.

- > We are missing some fine folks. I miss Dr. Jerry. I was writing some back
- > and forth and lost his address. Same old Jerry.
- > Where's Joe Foley? If anybody has his number please email it to me.

Haven't seen or heard from Dr Jerry in a number of years, seems he was still in touch with some of the old members. Foley is much easier: beehive kicker now runs the Yahoo T-368 list and can be found there easily. I'm pretty sure he crawled out of his hole on here a couple years back too, when Locklear was poking people with a pointy stick.

- >I talked to Les last year. He befriended me when I joined the list and
- >helped me out off list many times. He gave me stuff. Just sent a Sherwood
- > FM receiver as a gift. He gave me leads to the RBL-5 and HP 3586B that I
- > own. And, he is one sneaky troublemaker too. Joe got a lot of blame that
- > really belonged to Les.

Agreed, though Joe probably got away with something else so it all evens out. (o: Les and I stay in touch behind the scenes and exchange photos of our latest toys, etc. Les is another bottomless cup of knowledge when it comes to the R-390 family specifically or SW receivers in general. And he's funny.

- > Sandy Geiger is another great guy. He sent me a JRC NRD-535 that had
- been
- > struck by lightning. Insurance paid him for it, so I got it. It powers up
- > and I'm sure some of the cards are okay. Interesting radio to poke around
- > and examine.

Was still hearing from Sandy on occasion within the last year or so. I think he's in the antique radio group I frequent. He has some cool stuff. Like an RCA AR-60, IIRC. Hope Ken and the Chew Crew is reading this. I was glad to see you rejoin a while back. Been following your critter family all this time. I hope Ken sticks around. Looking back it appears that the whole antifreeze thread was based on a bad joke that morphed into a downward spiral. Leaving the list over that after so many years solves nothing. And, thanks for pointing out the real Barry thing. I remember the joking around when we got up to 3 or 4, but I forgot that Barry Hauser came up wth other other. I'm not going to use that anymore out of respect for the real other other Barry. Those were the fun days before the wimps

joined up, got together and decided to complain as a bloc against the core membership.

Yep, Hauser was the 1st Barry, so you became 'other'. An honor bestowed. Barry #3 who chimed into this thread is N4BUQ, I could only remember the N4 (sorry Barry!). Boomer is an old nickname of mine that I used on here back in the mid-90s. When Todd Roberts showed up around 2000 it came in handy and precluded a numbering system. I wandered off around 2004 or whenever the nit-picking started and posts like black capacitor crap and don't lick the meters seemed to be the only acceptable fare. Over, and over. And over. But don't you dare talk about other radios, or cars, or telescopes, or guns, or any of the other myriad of off-topic threads we enjoyed over the years, generally during the slow times. I used my delete key on posts of no interest and it never failed me. These threads died a natural death and the list continued on. Amazing. They were always the exception, not the rule. I'm motivated now to dig out those old list files soon. I recently bought a humongous backup drive, so I'll hook it up and transfer stuff. There's some funny Nolan Lee stories. Last time I looked I sat and got some good laughs.

The only one of Nolan's posts I could find a few years ago was Flight of the Phoenix, about the R-390A he hauled out of his 120 degree attic, full of mud dauber nests, cleaned up and resurrected. It had the usual Nolan humor and a lot of useful information. Sent it to a number of folks but have no idea where it is now. Probably with Otis at the junkyard.

Anyway, glad to hear from you and the injection of common sense you gave the list. Don't be a stranger. As mentioned, I was back a year or two back and have posted on rare occasions since. A thread came up last year that appeared to reflect the newbs* displeasure with the old timers of the list and how if it wasn't for the newbs blah blah blah. That was a good time to exit stage left. A beautiful 20 month old daughter, a lovely wife, and a life beyond the internet keep me well occupied. Some nights when it's quiet (usually after midnight) I fire up the ARBE III and tune around on an old Federal model 59 TRF set. Brings back the fun of BCB DXing. The Gerald Bull Teledyne 390A is here and working great (suffered its first ballast tube failure a year or so back) and the EAC is still up at George K1ANX's place. Hope to pick that up in the fall.

Sorry to hear you're not flying anymore but glad to see you, Barry #3, and some of the old crew still hanging in there in today's brave new world of the internet.

There's a year's worth of posting for ya. Enough out of me.

de Todd/'Boomer' KA1KAQ/4

* I use the term 'newb' affectionately, of course. We were all newbs at one time, we had to start somewhere. And of course we knew we were smarter than anyone else on the list, too. (o:

Blast from the past:

"If you see us running, catch up" - Bomb Squad motto

Date: Tue, 9 Sep 2014 08:40:42 -0400
From: Blair Batty <blairbatty@gmail.com>
Subject: [R-390] OT: Submarine navigation

Sorry for the off topic, but I know there are lots of ex-military types here; I don't know where else to ask. How did a submarine navigate during WW2? Did a compass work underwater inside an iron tube? Did they just look thru the periscope to see where they were going? Dead reckoning? Or were they mostly a surface vessel. I suppose today they have all sorts of magic, electronic gps devices, so they can travel for months without every surfacing. But what was available, say in the 60's-70's?

Date: Tue, 9 Sep 2014 09:00:52 -0400
From: Roger Gibboni <rgibboni@lmdulye.com>
Subject: Re: [R-390] OT: Submarine navigation

Directional gyro that was reset with star sightings when they could surface. The longer between star or sun shots the more th DG drifted. Same as in an airplane. Even today the only true north pointing instrument in an airplane is the wet compass.

Date: Tue, 9 Sep 2014 08:31:35 -0500
From: Raymond Cote <universal_comm@reagan.com>
Subject: Re: [R-390] OT: Submarine navigation

Remember that star sightings only have position, not heading. Once position is determined the sub then uses whatever heading it can determine from past fixes as to what direction it is going. You cannot get heading from a star or other fix. Only by deducing your track from past fixes can you dateline your heading. A gyro sim pass using speed thru water can give you an idea as to your track thru the water.

Date: Tue, 9 Sep 2014 13:33:24 +0000
From: Sheldon Daitch <SDAITCH@bbg.gov>
Subject: [R-390] Magnetic compass and true north

The wet compass points magnetic north/south, not true north. But you'd know true north from the magnetic declination charted information.

Date: Tue, 9 Sep 2014 08:35:46 -0500
From: Ben <brloper@gmail.com>
Subject: Re: [R-390] OT: Submarine navigation

If you're talking 60-70's time frame then a pretty advanced INS . WW2 they only stayed under water for a few hours and then in an attack.

Date: Tue, 9 Sep 2014 10:15:45 -0400
From: Roger Gibboni <rgibboni@lmdulye.com>
Subject: Re: [R-390] Magnetic compass and true north

yes sir but pilots navigate to magnetic north always. boats---for some reason---are different. they use true north. Don't know why. Maybe avoids a conversion from celestial sightings when they used that--R

Date: Tue, 9 Sep 2014 06:31:25 -0700
From: Norman Ryan via R-390 <r-390@mailman.qth.net>
Subject: Re: [R-390] OT: Submarine navigation

Good question. A quick Google yielded this: Until after World War II, submerged submarines were navigated with a simple magnetic compass, supplemented by periscopic sextant shots and observation of the shoreline. Most periscopes could not be used at depths greater than 9 m (30 ft). Improvements in gyroscopic navigational aids ultimately led to the development of modern inertial navigation systems capable of providing accurate guidance without the need for frequent external "fixes."

Date: Tue, 09 Sep 2014 09:44:33 -0500
From: barry williams <ba.williams@charter.net>
Subject: Re: [R-390] Magnetic compass and true north

The military also uses grid north. In the low tech aircraft we navigated by military topographical 1:50,000 maps mostly set up on a grid north basis. There are 3 norths. Grid north. Magnetic north. True north. We also used distance scales of miles, kilometers (the metric system) , and statute miles. Three airspeeds- indicated airspeed (IAS), true air speed, and ground speed. Two barometer scales for altimeters- millibars and inches of mercury. In Europe around the Brits we used 2 altimeter settings, QNH and QNE. We used two terms for switching ATC services- everybody used handoffs when being handed off to another ATC service, but you had to say hand over around Brits because handoff means a dirty act to them.

Date: Tue, 9 Sep 2014 10:12:42 -0500
From: GRANT YOUNGMAN <nq5t@tx.rr.com>

Subject: Re: [R-390] OT: Submarine navigation

WW2 boats were essentially surface craft that could submerge. Celestial navigation was the primary method of position determination. With the advent of nuclear power (and even some of the diesel electric subs) in the late 50's, and the teardrop hull design, boats became true submersibles ? built to run submerged.

The SINS ? Ship's Inertial Navigation System was pretty sophisticated for it's time. It worked well, although I do recall at least one time that it put us (this was the early 70's) in the middle of mainland China. And the gyros were problematic, very expensive, and failed frequently enough that they were a critical supply item. It's also possible to take a star sight with a periscope. We carried LORAN (as I recall it was LORAN-C) as well, but I don't recall it ever being used.

On a trip to the Arctic in 1970 we had one of the first satellite navigation systems on board. (No GPS in those days, and the SINS did not work well at extremely high latitudes, at least for position). We had to come to periscope depth at about the right time, stick a mast out of the water, and then it would take about 20 minutes to get a satellite pass and fix. Running under the ice, you had SINS and dead reckoning. Never got lost :)

Even in the 60's and 70's ? (not really the dark ages) ? subs did not have to surface. In a typical 8-12 week patrol you'd surface once ? in the middle of a moonless night, for as little time as possible ? to clean the periscope head windows. A modern (includes 60's 70's) boat is completely self sufficient (makes water, makes oxygen, cleans the internal atmosphere) and can remain at sea and submerged indefinitely ? except for the limit of about 120+ days driven by food supply.

Date: Tue, 9 Sep 2014 17:04:12 -0400
From: Bob Camp <kb8tq@nlk.org>
Subject: Re: [R-390] OT: Submarine navigation

In answer to the question - yes a compass works just fine underwater on a sub.

Date: Tue, 9 Sep 2014 14:08:03 -0700
From: Joe Foley via R-390 <r-390@mailman.qth.net>
Subject: Re: [R-390] OT: Submarine navigation

Mostly a surface vessel. Periscope MAY have had a compass ring, too.

Date: Tue, 09 Sep 2014 18:46:25 -0400
From: Mike Carroll <mike@lacperdu.com>

Subject: Re: [R-390] OT: Submarine navigation

I believe that the first use of SINS was on the Nautilus. She made a N Polar voyage sometime about late 50's. It was a cold war thing, first to be at the N Pole in a sub, and all that implies. She claimed Victory, circled the Pole and all that, but now I'm Shocked, Shocked! to learn that SINS "did not work well at extremely high latitudes"! Maybe she wasn't exactly there. Gumm'n't doesn't fib, I don't know what to think.

Date: Wed, 10 Sep 2014 12:44:49 +1000
From: "bernie nicholson" <vk2abn@bigpond.net.au>
Subject: Re: [R-390] R-390 Digest, Vol 125, Issue 9

Re Mag compass/ Navigation Ect , I spent 7 years at sea in the 1970s as a Merchant Navy officer, and before the days of GPS navigation , Knowing where one was was quite problematic , if one couldn't get sun or star sights , On a passage from London to the far east Via the Cape of Good Hope , I remember Rounding the Ushant light ,entering the Bay of Biscay , thence we had bad weather for the next ten days , by that time we were somewhere off the coast of West Africa BUT the sand haze blown from the Sahara Precluded any sightings , 9 days later we sighted an Island Dead ahead , it turned out to be St. Helena , We were 270 Nautical miles off course after 19 days from our last Known position , Our Dead reckoning Navigation was >From the Smiths Log Hanging off the Stern , and Propeller Revolutions minus Known slip percentage , And Gyro which controlled the Auto-pilot, We also had magnetic compass , With compensation a Magnetic compass does work in a steel hull , Little Bar magnets are Oriented around the compass which cancel the Ships magnetic field allowing the compass to respond to the earths magnetic field , and its regularly checked by running the ship in a circle Known as swinging the compass and taking bearings on known shore positions, The Gyro s worked well , BUT if you had a power failure Power had to be restored within 20 minutes or the Gyro would start to tumble and loose direction , One can understand how in times past ships ran into reefs ect , Wind and Ocean currents can cause you to be a long way from where you think you are if you weren't able to get a fix !

Date: Wed, 10 Sep 2014 04:09:06 -0500
From: Raymond Cote <bluegrassdakine@hotmail.com>
Subject: Re: [R-390] OT: Submarine navigation

Mike I seem to remember one of the old timer chief PO telling me something about faking out the SINS and telling it it was really on the equator when approaching 80 deg north. It is very vague and I don't have a clue what that did to the slewing of the gyros. That is too long ago and it might have been only on the first iteration of nav systems using Verdan computers instead of newer Mardan

Date: Wed, 10 Sep 2014 04:13:33 -0500
From: Raymond Cote <bluegrassdakine@hotmail.com>
Subject: Re: [R-390] OT: Submarine navigation

The conning officer would call out "mark this bearing " and the quartermaster of the watch (sometimes me) would read it off the gyro repeater so he did not have to look down. For fire control, the right thumb hit the red button and the fire control console automagically displayed instantaneous headings. Long ago

Date: Sun, 14 Sep 2014 13:53:38 -0400
From: Bob Camp <kb8tq@nlk.org>
Subject: Re: [R-390] The BFO pitch counter dial?

As far back as the 1960's the US has been passing R-390's around to other nations and scrapping them out "in country". There were a *lot* of R-390's in Turkey back in the 1950's and 1960's. I wonder why :)

Date: Sun, 14 Sep 2014 13:05:52 -0500
From: Les Locklear <leslocklear@hotmail.com>
Subject: Re: [R-390] The BFO pitch counter dial?

There was a big surveillance site in Izmir and probably others.

Date: Sun, 14 Sep 2014 11:37:36 -0700
From: Norman Ryan via R-390 <r-390@mailman.qth.net>
Subject: Re: [R-390] The BFO pitch counter dial?

Eerie deja vu moment! I might have operated one of those rigs back when the earth was still cooling (1960-61) while stationed at USASA Det 27 (Manzarali) some 20 miles south of Ankara.

Date: Sun, 14 Sep 2014 21:22:40 +0200
From: Clemens Ostergaard <clemenso@gmail.com>
Subject: [R-390] Those R-390's in Turkey

It is no wonder there are many exemplars of the rx in Turkey. The country was front-line during the Cold War, adjacent to the Soviet Union's

'underbelly'.

Turkey was the first country in Asia that CIA had Sigint-agreements with (secret at the time I think). There was for example a base at Sinop, by the Black Sea, and later a Wullenweber antenna array at Karamursel AB, near Izmir, run by the USAF, from 1966 and said to be dismantled in 1977. There would be banks and banks of R-390A's installed at these and other stations in the 50'es and 60'es. Turkish military would inherit them, and later, much later, pass them on to amateurs, DX'ers etc, or direct to the junk yard. Since NSA and others were involved in their use, it is natural that the BFO micro-dial is found on some of them.

Date: Sun, 14 Sep 2014 15:28:46 -0400
From: Bob Camp <kb8tq@nlk.org>
Subject: Re: [R-390] Those R-390's in Turkey

.and I wonder what could possibly be going on today that might involve cleaning out some of those old locations and firing them back up with more modern gear?.

Date: Mon, 15 Sep 2014 15:08:23 -0500
From: Raymond Cote <bluegrassdakine@hotmail.com>
Subject: Re: [R-390] The BFO pitch counter dial?

My brother was in a Turkey in the late 50's at an Air Force listening site on top of a mountain using a bank of Kwm-2 units and a couple R-390a on the side.

Keepin' an ear on the Russians he was!

Date: Tue, 16 Sep 2014 16:00:55 -0400
From: Richard Wojnar via R-390 <r-390@mailman.qth.net>
Subject: Re: [R-390] Those R-390's in Turkey

This email brings back sooo many memories as yes, Sinop was a classified installation in the 50's and 60's. I was a high speed morse code interceptor in the Army Security Agency stationed at Kagnev Station in Asmara Ethiopia in 1964. We, along with Sinop, carried out Cold War missions. You are correct with the CIA Sigint agreements as well. The assignments were highly classified at that time and still classified in a lower category today. I have a R391 and would fill a room of R390/A's if I had the chance!

Date: Tue, 16 Sep 2014 21:10:35 -0500
From: Don Reaves <donreaves@gmail.com>
Subject: Re: [R-390] Those R-390's in Turkey

Did you SIGINT guys have any R-389s in use at those listening stations?

Date: Tue, 16 Sep 2014 19:42:47 -0700
From: Norman Ryan via R-390 <r-390@mailman.qth.net>
Subject: Re: [R-390] Those R-390's in Turkey

Not to my knowledge. Work was compartmented, so a typical op like myself (MOS 059 in my case) didn't have the run of the place. My duty stations from 1960 to 1961 were Bad Aibling, Germany, and Det 27, Turkey.

Date: Fri, 17 Oct 2014 08:44:06 -0400
From: "KK4XO - Bill" <kk4xo.bill@gmail.com>
Subject: [R-390] FW: [FLBOATANCHORS] Misawa begins dismantling its 'Elephant Cage' - Japan - Stripes

I picked this up on another list and am forwarding it here since I know there will be some interest: <http://tinyurl.com/ld4o93g>

Date: Thu, 29 Jan 2015 14:38:12 -0500
From: Nick England <navy.radio@gmail.com>
Subject: [R-390] 1980-1987 new R-390A installations

I've pulled a batch of hi-res photos off the National Archives showing the FFG-7 series of frigates under construction.

<http://www.navy-radio.com/ships/ffg7.htm>

Nice shots of M28 TTY gear, R-1051 rcvrs, etc in their native habitat. And a good ole R-390A installed in each ship 1980-87 See for instance

<http://www.navy-radio.com/ships/ffg7/ffg43-06808.jpeg>

Date: Thu, 29 Jan 2015 14:47:52 -0500 (EST)
From: Barry <n4buq@knology.net>
Subject: Re: [R-390] 1980-1987 new R-390A installations

Interesting. One picture shows the R390A's meters with the radioactive warning stickers and one doesn't. I assume these are, indeed, the same room?

<http://www.navy-radio.com/ships/ffg7/ffg43-06808.jpeg>

<http://www.navy-radio.com/ships/ffg7/ffg57-11061.jpeg>

Date: Thu, 29 Jan 2015 14:53:29 -0500
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] 1980-1987 new R-390A installations

Different ships - the first is FFG-43 and second FFG-57

Date: Thu, 29 Jan 2015 14:58:45 -0500 (EST)

From: Barry <n4buq@knology.net>
Subject: Re: [R-390] 1980-1987 new R-390A installations

Ahh, okay. That's embedded in the file name. I didn't catch that.

Date: Thu, 12 Mar 2015 21:16:39 -0400
From: Nick England <navy.radio@gmail.com>
Subject: [R-390] photo of R-725 in AN/TRD-23 DF system

Interesting info from another list -
Subject: Re: [coldwarcomms] ASA DETACHMENT at NSGA NORTHWEST
VA

These aren't R-390's

<<http://oldspooksandspies.org/Photos/Chisholm/pauldal.jpg>>.

They are R-725's <<http://www.radioera.com/r390a.htm>>
The R-725's had a modified IF to work with the TRD-23.

I maintained these radios at Shu Linkou AS, Taiwan for the ASA
detachment.

They used a conical monopole for an antenna.
Mike Dick, SMSgt, USAF, Retired

Date: Sat, 30 May 2015 10:13:04 -0400
From: Glenn Scott via R-390 <r-390@mailman.qth.net>
Subject: [R-390] R390A's on USS YorkTown

Not sure this has been mentioned but there is a neat video on youtube, 04
2015, about the Radio room restoration on the USS Yorktown which
includes a number of shots of the R390A receivers. Most of which were
removed when the Yorktown was retired. Thanks to the help of some hams
in the area and some retired personnel who served on the Yorktown, they
have revived the radio room. Neat video.. Also a brief shot of what looked
like a T368.

<https://www.youtube.com/watch?v=ProsmHgOJeI>

Date: Sat, 30 May 2015 10:58:29 -0400
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] R390A's on USS YorkTown

Many thanks for posting this Glenn - FWIW, the xmtr in the photo is a
TMC GPT-750 (AN/URT-17) not T-368. I found some more photos of the
Yorktown's radio room on Dave's qrz page <http://www.qrz.com/db/K4SUE>

Date: Wed, 20 Apr 2016 14:27:45 -0400
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] Interesting Radio

I've pulled a batch of hi-res photos off the National Archives showing the FFG-7 series of frigates under construction. <http://www.navy-radio.com/ships/ffg7.htm>

Nice shots of M28 TTY gear, R-1051 rcvrs, etc in their native habitat. And a good ole R-390A installed in each ship 1980-87 See for instance <http://www.navy-radio.com/ships/ffg7/ffg43-06808.jpeg>

These were not the 1984 Fowler units, but evidently ones refurbished or pulled from stock (or somewhere) and installed in ships under construction as late as 1987. They are shown in the 1988 FFG-7 class Radio Communications System manual.

Date: Wed, 20 Apr 2016 14:01:24 -0500
From: Les Locklear <leslocklear@hotmail.com>
Subject: Re: [R-390] Interesting Radio

Well, the only thing I know for certain is that the front ends on the RF Harris sand state transceivers were lighting up like fireworks displays. I don't know if the KWM-2A's and associated ancillary equipment ever made it over there.

R-390A's more than likely never made the trip either.

Regarding Nick England's info about R-390A's being installed in ships in the mid to late 80's is factual. Had Fowler or the agency (Avondale Shipyards in Louisiana) that built the Gunston Hall class of LSD's checked, R-390A's were still in stock at various supply depots. But, the U.S. Navy left the specification in place after building the originals series of LSD's by Lockheed on the West Coast.

I personally saw two in the crate Amelco marked on the crates at Keesler AFB in Biloxi in the early 90's. I have no knowledge if they were NOS or "Depot Dawgs." To this day, Keesler still teaches the ground radio course. Prior to my retirement at Keesler in January 2009, I visited a classroom in the early 2000's and they had Racal 6790's and Harris RF-590's in place. I have no idea what they were using after that time frame.

Sangria and "Non A".....Sangria is correct and good for you. "Non A" belongs in a dumpster somewhere or wherever it started probably with some

millennial that wasn't aware of how damn simple it is to say/write/type. R-390/URR or R-390A/URR. <snip>

Date: Wed, 20 Apr 2016 20:28:51 -0400
From: "Todd, KA1KAQ" <kalkaq@gmail.com>
Subject: Re: [R-390] Interesting Radio

That's right too, Nick - I'd forgotten those or somehow thought it was part of a rebuild/refit. They were actually new boats.

The Fowlers were supposed to be new radios built from scratch. But since tooling had long since been scrapped, they ended up being a cross between marginal craftsmanship in creating some parts and rebuilt sub assemblies from a company on Long Island whose name escapes me now. Many of us bought tube shields and other parts from them when they wanted to liquidate their stock years ago. The late Barry Hauser bought out their remaining stock as I recall. As Les said, the government has had piles of these things tucked away in dark corners so it would've been a no-brainer to do it right. Sounds like this is what they did on the FFG-7 contract, at least. I recall getting those photos from you a couple years back and being amazed.

Date: Wed, 20 Apr 2016 19:39:23 -0500
From: Les Locklear <leslocklear@hotmail.com>
Subject: Re: [R-390] Interesting Radio

I'm pretty sure that was American Trans Coil on Long Island. They had a bunch of R-1051 parts too.

Date: Tue, 24 May 2016 18:54:35 -0500
From: Don Reaves <donreaves@gmail.com>
Subject: [R-390] RTTY w/R-390

Interesting picture from the Army CECOM historian site.

<http://www.cecom.army.mil/historian/photodisp.php?fname=men+study+r+adio.jpg&dirname=Radio>

Was this a standard diversity RTTY setup? Also on this site is a TM for AN/TRD-4 - a Marine Corp portable direction finding setup using three R-390 receivers.

Date: Wed, 25 May 2016 00:27:05 +0000
From: "Mike McCauley" <mlmccauley@att.net>
Subject: [R-390] Interesting picture from the Army CECOM historian site

That equipment looks like it's sitting on a raised floor pad, like a 60's-70's era mainframe computer installation. Was it forced-air cooled from underneath?

Date: Wed, 25 May 2016 17:53:27 +0000 (UTC)
From: Gary Geissinger <geissingergary@yahoo.com>
Subject: Re: [R-390] RTTY w/R-390

That looks just like the AN-GRC26D setup I was issued from Air Force MARS in 1974. Everything you see in the picture including the cables, manuals, and a busted generator.

It used to be in the Keesler AFB MARS station, but the transmitter developed some nasty symptoms and the entire setup was turned into supply as condemned. That's how I managed to get it issued to me. Turns out the T-368 problem was a cracked HV feed-thru which would intermittently arc thru and crowbar the transmitter and the fuse in the wall box as well. Solved the problem for a buck.

<http://rattrig.com/AN-GRC-26/26.htm>

It came with 5 Kleinschmidt teletypes and nearly caused a divorce. The only outlet in the little rental house we lived in that could support the T-368 was in the kitchen. Hey, where else could I put the setup? Seemed logical to me at the time.

I turned it all back into Air Force MARS in August, 1975 when I went back to school. Unfortunately the base MARS station in Denver broke the unit up and issued a different parts of the GRC-26D to various members. Too bad they didn't keep it together.

Piece by piece I have been reassembling this configuration. But not the Kleinschmidts! I would love to find a good CV-116 though.

Date: Sat, 15 Oct 2016 00:43:31 -0500
From: Don Reaves <donreaves@gmail.com>
Subject: [R-390] R-390/R-389 CG ship installation
Content-Type: text/plain; charset=UTF-8

If you don't haunt the milsurplus list you might have missed this link to a fascinating set of pictures of a USCG cutter, the Hamilton from 1967. Check out pages 22 and 24.

<http://www.uscg.mil/history/cutters/378/Hamilton/img/Hamilton-Interior-1967.pdf>

Date: Sat, 15 Oct 2016 12:52:17 -0400
From: Thomas Chirhart <k4ncgva@gmail.com>
Subject: Re: [R-390] R-390/R-389 CG ship installation

Somewhere I have some 8X10 B&W photos of new 389's being installed at Coast Guard Radio Station New Orleans/NMG - my first CG duty station.. IF I find them I will post them somewhere. The 389's were replaced by the Collins 651S-1's.

Date: Sat, 15 Oct 2016 13:03:45 -0500
From: Don Reaves <donreaves@gmail.com>
Subject: Re: [R-390] R-390/R-389 CG ship installation

Stan, I'm not sure what those Teletype machines are. They look similiar to ASR-33s. Perhaps someone will recognize the exact model.

Tom - that's interesting that the LF/MF 389s were replaced with HF 651S-1 units. I've had both and the R-389 outperforms the 651S-1 handily below 500KC. I note there was an option to the 651S-1 that extended coverage down to 15KC but my specimen didn't have that.

Date: Sat, 15 Oct 2016 14:19:01 -0400
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] R-390/R-389 CG ship installation

Model 28 Baudot teletype machines. Model 33 were light duty ASCII machines not suitable for military comms. FWIW - The ASR is likely AN/UGC-5, the KSR is likely TT-47/UG. For photos of various models, see <http://www.navy-radio.com/tty.htm>

Date: Sat, 15 Oct 2016 12:40:16 -0600 (MDT)
From: Richard Loken <rlloken@telus.net>
Subject: Re: [R-390] R-390/R-389 CG ship installation

Teletype also produced the model 32 baudot machine but I don't know of any other model 30 series machines that did baudot. Be it baudot or ascii the model 32 and 33 were light duty machines.

Date: Sat, 15 Oct 2016 16:32:44 -0400
From: Roger Gibboni <rgibboni@lmdulye.com>
Subject: Re: [R-390] R-390/R-389 CG ship installation

Lots of r-389s and r-390s in the radio room. Where are the transmitters

Date: Sat, 15 Oct 2016 15:59:24 -0500
From: Don Reaves <donreaves@gmail.com>
Subject: Re: [R-390] R-390/R-389 CG ship installation

Eh Wikileaks, er, i mean Wikipedia, claims the Model 33 was developed first for the Navy. So, there is that! Wishful thinking on my part, I guess, I have a KSR-33 and an ASR-33 in storage that might see the light of day sometime, if for nothing more than to get a waft of that heated machine oil smell. Nothing like it. WikiPee cites this document from Don House

<http://www.baudot.net/docs/house--teletype-corp-synopsis.pdf>

House says the Navy rejected the 33 design so it was released as a civilian light duty machine, just as Nick reports. If you go look at the 1979-89 timeline in Don's synopsis, you see that AT&T/Teletype consolidated operations in Little Rock during that time. My computer software company at that time used many Model 40s for line printers, and when one failed we could take it out to the huge facility in southwest Little Rock, leave it at the guard shack, come back in a few days and it would be waiting for us, repaired, at the guard shack. As I recall they never charged us for any of those repairs.

One of the AT&T engineers working there was a hometown friend, and he finally got approval to give me a tour of the factory, minus the top secret areas (LOL). It was a fascinating place and I remember seeing a few receivers in a few of the test areas. They might have been R-390s but some memories from then are fading. AT&T, and my engineer friend, were in the midst of trying to automate the factory using DEC minis and homegrown C programming. Slightly OT; I will return now to regular program content and admin stealth mode.

Date: Sat, 15 Oct 2016 17:29:00 -0400
From: Thomas Chirhart <k4ncgva@gmail.com>
Subject: Re: [R-390] R-390/R-389 CG ship installation

The CG used the Collins 514S-1 (I think that's it) a remote version of the 651S-1 RX. CG Radio Station Galveston TX/NOY closed in the 70's and CG RadSta NOLA/NMG picked up monitoring duties using these remotes. Any ship calling NOY on 500 kHz would be answered by NOLA/NMG and moved off to 454 kHz to take their traffic. The 651S-1 was a good receiver - I remember when the mod came out to change out the nixi tube displays with LED displays. The 651S-1's were replaced with Harris R-2368's around 1990/91.

Date: Sat, 15 Oct 2016 17:35:19 -0400

From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] R-390/R-389 CG ship installation

Well just to make sure the dead horse doesn't rest, here's Teletype's TT-242/UG which was the lightweight (not necessarily light duty) prototype that the USN declined in favor of the MITE teleprinter...
<http://www.navy-radio.com/tty/ksr/tt242-ugc-1411-01.jpg>
<http://www.navy-radio.com/tty/ksr/tt242-1412-12.JPG>

Teletype intended that the M33 machines were for light duty only and were evidently somewhat surprised at how the 33 was adopted as the standard 24/7 computer terminal for everyone but the military.

R-390 content - all my teletype machines are hooked up to FSK converters attached to R-390A receivers.

Date: Mon, 17 Oct 2016 4:54:45 -0400
From: <wb3fau55@neo.rr.com>
Subject: [R-390] Tobyhanna

Well, I do not know much about this place. Someone tried to tell me that Collins set up shop there and built R-390s and R-390As there. I told my friend that was not true. To my understanding, Tobyhanna is/was a salvage disposal facility for obsolete military gear. Some comments here please, as I straighten out my friends thinking. 73s Russ.

Date: Mon, 17 Oct 2016 10:11:23 +0000
From: Les Locklear <leslocklear@hotmail.com>
Subject: Re: [R-390] Tobyhanna

Tobyhanna was a repair depot. When receivers and or the modules could not be repaired at the field level they were shipped to Tobyhanna and other depots for repair. The R-390's would be disassembled down to modules, cleaned tested and repaired, re-assembled (not always with the same modules in the same receivers) and thus were nicknamed "Depot Dawgs." Collins had nothing to do with it.

Date: Mon, 17 Oct 2016 11:53:20 +0000
From: Les Locklear <leslocklear@hotmail.com>
Subject: Re: [R-390] Tobyhanna

Here is a link to the Tobyhanna website:
<http://www.tobyhanna.army.mil/>

Date: Mon, 17 Oct 2016 11:47:53 -0400
From: Bill Cotter <n4lg@qx.net>
Subject: [R-390] Depot Dawgs

Lexington-Bluegrass Army Depot (LBAD) in Avon KY is a depot like Tobyhanna where communications and avionic equipment were overhauled and shipped worldwide. I was a young civilian engineering-tech while in college from 1972-75, and I spent a lot of time repairing R-390's, R-390A's, and R392's, as well as a lot of other mil gear. We employed around 5,000 people, most of whom were electronic and mechanical technicians, machinists, welders and other crafts-people.

The R-390x would come in on one end of Warehouse #3, be stripped down to their component parts, everything cleaned in some kind of vapor-bath, dried, and each assembly sent to a station for testing and repair. Panels and knobs were stripped, painted and lettered by rows of people. My role was fabricating the workstation, testing jigs and test equipment for each process step per mil specs.

After each module was tested, repaired, final tested and passed QA, the component was placed on a shelf by its designation. A radio was assembled from the component parts off the shelf, then subjected to a burn-in and a final QA with an operational test. The "Depot Dawg" came out the other end of Warehouse #3 like-new with a serial tag ID'ing LBAD as the overhaul depot. Nobody had any concern for "pedigree" as all the components were made to the same mil spec. The radios were packaged in containers to withstand drop-shipping from helicopters and aircraft in any weather, and the pallets containing the radios were shipped out on train cars.

Where the Collins name may have come about in Tobyhanna was that we also repaired several hundreds of KWM-2A's and 30L-1's. Mostly from Vietnam MARS stations. They usually had a characteristic red dust and some were shot up. We would make these radios like-new, but without the extensive dismantling that the R-390x series underwent. As a consequence, a number of radios deemed unrepairable went to the scrap heap (off limits to hams). One of my many jobs on the Collins line was to operationally test the pairs in a commo hut on the site by making QSO's in the ham bands. Without a doubt, it was a dream job!

Date: Mon, 17 Oct 2016 11:50:51 -0400
From: Bill Cotter <n4lg@qx.net>
Subject: [R-390] Depot Dawgs

Lexington-Bluegrass Army Depot (LBAD) in Avon KY
<http://www.bluegrass.army.mil/>

Date: Mon, 17 Oct 2016 15:06:32 -0500
From: Mike Clare <mikelclare@gmail.com>
Subject: [R-390] GRC-26 units

As an Army MARS screener for DE State MARS I was able to screen and received 96 complete units just out of Depot in 1982-83 . These were passed on to members in DE and other local states plus some of the boxes were parted out and sent to Phil. Navy Yard as storage on shop mods. Don't know what happened to them but. I used mine as a complete station till 1988. I still have 2 390a, speaker unit and rack with table unit. Army Mars released all equip. Issued to all members in about 1990 and I cleared out 5 T-368 transmitters to local members for parts etc.

Msgr. Mitchell L.Clare Ret. 1990 (29.5 yrs)WB3ILMThought might be of interest.

Date: Mon, 17 Oct 2016 15:12:35 -0700
From: Les Zwiebel WB6ORZ <wb6orz@comcast.net>
Subject: Re: [R-390] Depot Dawgs

Fascinating site, Bill. In the Hunters' section, I looked for a link to apply to hunt for a R390-A Audio deck, and also one with various Bandwidth mechanical filters, but all I came up with were schedules to bag deer or turkeys. But I enjoyed the visit anyway.?Seriously, must have been great to work there. (((73))) Les WB6ORZ

Date: Mon, 17 Oct 2016 18:57:53 -0400
From: Norman Hairston <k4hca@windstream.net>
Subject: Re: [R-390] Tobyhanna

I have a KWM-2A that had a sticker on front bottom, left hand corner that reads Tobyhanna. Seems there was another word on the sticker but I don't remember what and I could not find the sticker before submitting my two cents worth. I spoke to a friend, who was in a position to know, WW II Veteran and Ham Operator said that Tobyhanna was a high level depot maintenance center. I have never heard any different description.

Date: Mon, 17 Oct 2016 20:47:28 -0400
From: Bill Cotter <n4lg@qx.net>
Subject: [R-390] Tobyhanna

There were three main signal depots in the 70's that did 3rd echelon level repair and refurbishment services, since WWII. All three were in competition with each other, bidding for each contract service. They were Tobyhanna Army Depot, Lexington-Bluegrass Army Depot, and Sacramento Army Depot.

Ultimately, Tobyhanna was the sole survivor.

<http://www.globalsecurity.org/military/facility/tobyhanna.htm>

<http://www.globalsecurity.org/military/facility/lexington.htm>

<http://www.globalsecurity.org/military/facility/sacramento.htm>

Date: Mon, 17 Oct 2016 20:58:04 -0400

From: Bill Cotter <n4lg@qx.net>

Subject: [R-390] Depot Dawgs (dogs)

The Bluegrass Army Depot (Richmond, KY) has a vast amount of acreage where our nations chemical weapons are stockpiled and destroyed, and the deer are plentiful at the heavily guarded facility. Once a year a purge of deer is ordered, and the hunters flock to the site.

Lexington Army Depot (Avon, KY) is downwind about 26mi, and is the former site of depot repair services. It is now extinct, and has Raytheon doing contract work for the special forces.

The original "dogs" term came when a huge order of R-390x receivers were requested. During re-assembly of the '390, all the good modules were used up in the first few waves of production. Then all the modules set aside because of complex problems (dogs) had to be worked to meet the final total shipping quota. there were a lot of hair pulling on many of these "dogs" trying to get them to meet mil specs. The final receivers met all specs, and had the blood, sweat and tears to go with them.

Date: Tue, 18 Oct 2016 02:05:31 -0400

From: Charles Steinmetz <csteinmetz@yandex.com>

Subject: Re: [R-390] Depot Dogs

> Then all the modules set aside because.....

I suspect that isn't strictly true. I've worked on quite a few LAD depot dogs, and many of them had intractable problems that I believe were present both when the affected modules arrived at LAD and when they left in assembled radios. Things like wires crushed under chassis hardware, electrolytic capacitors installed backwards, connectors with missing pins that had obviously never been opened after original assembly, RF/IF transformers with shorted turns due to obvious manufacturing defects,

components with mismarked values, etc., etc., all of which were clearly present when the modules were originally manufactured and had not been re-worked subsequently.

I believe that by the end, LAD was not checking the outgoing dogs particularly carefully and that quite a few did not work properly. Many still don't.

Date: Wed, 19 Oct 2016 18:46:47 -0400
From: <wb3fau55@neo.rr.com>
Subject: [R-390] 390A contractors

So in the subject of contractors, were there suppliers of just subchassis? I have been told that Teledyne, Amelco, and Imperial all worked together to build their radios. So we know of 5 contractors of PTOs- Collins, Cosmos, Motorola, Dubrow, and Progressitron. Perhaps others?

So my real question is were running spares made up separate? I know there were new IF strips made. I saw some at a hamfest. As always, fascinating info.

Date: Wed, 19 Oct 2016 23:13:12 +0000
From: Les Locklear <leslocklear@hotmail.com>
Subject: Re: [R-390] 390A contractors

There are many PTO's with a Raytheon sticker on them. Raytheon didn't build PTO's that was a rebuild contract. There is a list out there that has contractors that were building modules on a spare parts contracts. Most of them were also the R-390XX manufacturers. Some weren't.

Date: Wed, 19 Oct 2016 23:16:40 +0000
From: Les Locklear <leslocklear@hotmail.com>
Subject: Re: [R-390] 390A contractors

Here is a link to the information regarding spare parts contracts and other R-390XX related contracts.

<http://www.qth.net/pipermail/r-390/2009-April/045248.html>

Date: Wed, 19 Oct 2016 19:26:00 -0400
From: Bob Camp <kb8tq@nlk.org>
Subject: Re: [R-390] 390A contractors

Simple answer on the PTO's is that they didn't stay in spec forever and ever. Buying new ones was a lower cost alternative to reworking them in the field or even at the depot level. 20+ years after they built the last one,

the assembly
girls at Motorola still had nasty things to say about setting up PTO's.....

Date: Wed, 19 Oct 2016 20:10:04 -0500
From: Stan Gammons <s_gammons@charter.net>
Subject: [R-390] Fwd: Re: 390A contractors

Speaking of the PTO. The R-390A I had, and was an idiot to let it go, had a Cosmos PTO. I seem to recall it had a screw with a rubber washer on it that was removed so one could adjust the linearity of the PTO. There looked to be some sort of tiny trimmer that you adjusted. Were all PTOs like this? Who made the "best" PTO?

Date: Fri, 13 Jan 2017 01:46:34 +0000
From: Les Locklear <leslocklear@hotmail.com>
Subject: Re: [R-390] Faux Spook R390A 282314863791

All this "talk" about this subject matter has revived my memory (distant it may be) of the two "Black Faced" R-390A/URR receivers that I have owned in the past.

The first was back in the early fall of 1994... a gentleman on the west coast in California contacted me with some information regarding a R-390A/URR that he said was manufactured in 1984 by a company named Fowler Industries. After making many telephone calls (I was not yet connected to the internet) and snail mails to many friends it was determined that they (Fowler) had indeed manufactured a very short run of R-390A's for a U.S. Navy contract. He also mentioned he had an R-390A/URR that was painted black, a Motorola from the 1956 contract, serial No. 2665. We made a deal and it was shipped to me, it turned out to be a rebuild by Miltronix for him as determined by the label on the rear panel. It performed very nicely and in time (2 - 3 months it was sold to another gentleman once again in California. This started me on my quest to document the history of who and where they (R-390A/URR Receivers) were manufactured and how many. I had a few partners in crime, namely Tom Marco tte N5OFF, Walter Chambers K5OP (a silent key). and Chuck Teeters W4MEW (a silent key). along with many R-390A owners who help provide me and many readers of Electric Radio Magazine with additional information and reading enjoyment.

During that time frame 1984 - 1998 I decided to have Rick Mish at Miltronix rebuild my 1962 Amelco R-390A/URR and paint the front panel matte black. It was a beautiful receiver and I have always regretted selling it several years later.

But, back to the point of this reply. I know of no black faced R-390A/URR or for that matter any R-390/URR receivers delivered to the military or any governmental agencies that were painted black. I have seen various shades of gray running from gray/green and gray/blue. I saw one claiming to have been on a USMC contract that was painted Olive Drab Green. Go figure.

I'll leave the comments regarding the various "upgrades," etc. on the receiver in question to the peanut gallery.

Date: Mon, 8 Jan 2018 00:38:58 +0000 (UTC)
From: Perry Sandeen <sandeenpa@yahoo.com>
Subject: [R-390] ?A? and SP 600 Heretic check-in

OK,OK, OK. I've taken the bait, so here are my comments.

I readily confess that I'm a perfectionist like Tisha but I'm far behind in the 'doing it' <CLIP>

Well,back to the good stuff. The 'A' was made better sounding and useful for DF work in Viet Nam. Collins took the IF out of the Non-A, made a few minor mods, and then it was rebranded as the R725. It is an upgrade that can be done by us owners.

Boththe 'A' and SP 600 can be made much better by a number of incremental improvements. Ray Osterwald, editor ER magazine, Dallas Lankford, Chuck Felton and other have published articles and theirs and a few more are incorporated into my heretic 'A' and SP 600 schematics. Also the Y2KR3 and the SP-600 anthology have almost all of the improvements documented.

It's all up to what you want, your mechanical and soldering skills, and time. All the mods except the R725 conversion are low budget. Low budget meaning less than \$100.

Neither radio being 50 to 60 years old can or should be compared to modern ultra-uber\$9K rice boxes.

The real question is: does it do what want or need to do and can it be made to meet your needs with your time and skills.

I would wager that the improved receivers would meet all but the most super-esoteric needs of receiving. If you have those needs, go buy a \$9K rice box.

One last rant. I'm sick and tired of hearing that 'mods' have to be

reversible for the next owner. WTH? These aren't priceless irreplaceable endangered species. The other sacred cow is don't drill any holes. So what and why? Most of us don't want radios to look like Bonnie and Clyde's car when they were killed. But it's someone else's radio that that person decided to drill holes. Don't like it? OK, but no one was anointed as the public's radio commissar. Just shut up about it. <clip>

Date: Sun, 7 Jan 2018 19:05:53 -0600
From: Stan Gammons <s_gammons@charter.net>
Subject: Re: [R-390] ?A? and SP 600 Heretic check-in

I have a machinist friends that left California for many of the same reasons you are. He's been in 4 land for close to 20 years now.

Thanks for your and everyone else comment on this subject.

Is the audio mod Collins made in the Y2K manual?? I seem to recall seeing a mod that was nothing more than replacing some of the caps in the audio deck with ones of different values, but I'm sure that's not the one you are referring to.

Thanks for all the work you've done on the Y2K manual. It's a huge manual, but it's a very valuable resource!

Date: Sun, 7 Jan 2018 19:21:04 -0600
From: Cecil Acuff <chacuff@cableone.net>
Subject: Re: [R-390] ?A? and SP 600 Heretic check-in

Good to hear from you. And yes you have figured out the retirement gauntlet. I don't know how anybody can afford to retire...much less live in most places in California. My son lives there and it's a great place to visit and blessed with many things...but...as you have found you can make so much more of your retirement dollars in a place like SC. My brother lives in NC....not a friendly place for retirees either from a tax perspective.

Anyway...I hope going forward your retirement goes well. Moving is tough at that age. Your views on these radios are right on....

How many R-390A's were built....like 64,000 of them. We dumped them into the jungles of Vietnam from aircraft, into the ocean from ships...what are a few mods. Not sure how many SP-600s were built....even the likes of ITT, McKay, Northern Radio, John R. Leary and NASA were modding them....why not us if it keeps them out of the landfill or scrap metal yard and entertaining it's user. The museums have plenty I'm sure.

I have enjoyed and appreciated your publication of the "Heretic Series" of

SP-600s...kind of sounds like a custom Harley. I retire next year and plan to implement many of them so keep them coming and check in more often....

Date: Sun, 7 Jan 2018 21:05:32 -0500
From: Bob kb8tq <kb8tq@n1k.org>
Subject: Re: [R-390] ?A? and SP 600 Heretic check-in

Well, the ?gotcha? is that the alternative is no longer a \$9,000+ super duper box. There are a lot of sub \$300 SDR alternatives out there. Locked to something good (an Rb or a GPSDO) they are way better than any of the ?old stuff?. Selectivity wise ? yup ? Dynamic range ? gulp ? take a look at the numbers. Sensitivity keeps getting better. If you live on planet Earth with normal noise levels and antennas, not much wrong with SDR sensitivity wise. Want to demodulate this or that weird signal? ? not a problem. Something new comes out next week? Download new software. Price wise, less money than an R-390 on eBay. Yes, you will do a bit of this and that. You also will poke a bit at than 390 ?.

Now, I'm not trying to sell anybody a SDR board or get them to toss out their R-390. Far from it actually. One is very much not the same as the other. Both are projects, they have different ends and stops on the way. I'm just pointing out that there has been a lot of change in how you do a radio, even in the last decade or so. If you are going to decide 'best' by the numbers (which I happen to think misses a lot of stuff), it?s really hard to beat the newer SDR boards..

Date: Sun, 7 Jan 2018 21:12:20 -0600
From: Bill Breeden <breedenwb@cableone.net>
Subject: Re: [R-390] ?A? and SP 600 Heretic check-in

Continuing the heresy, if you still want a radio with knobs, an Elecraft K3 or K3S makes a fantastic general coverage receiver.? I love my 1967 vintage EAC R-390A, but my K3 outperforms it and is much easier to use.? For many years, the Sony ICF-2010 set the standard for synchronous detection and I have used my 2010 to listen to the IF output from my R-390A in both synchronous AM and sideband modes, but the synchronous detection capability provided by the K3 is superior to the 2010. Three brand new 10 watt K3S transceivers equipped for general coverage receiving would fit comfortably with a \$9,000 budget.

Date: Tue, 9 Jan 2018 04:35:11 +0000 (UTC)
From: Perry Sandeen <sandeenpa@yahoo.com>
Subject: [R-390] (no subject)

Yo Again Dudes,

My Learned Friends Wrote:

Well, the gotcha is that the alternative is no longer a \$9,000+ super duper box. There are a lot of sub \$300 SDR alternatives out there. Yes the SDR can be sub \$300. The "gotcha" is that you also need a 27" monitor (minimum) \$175, a good PC for \$450, a better video card \$185, Rb or GPS \$200. A good backlighted keyboard \$125 and a wireless mouse \$30. Less see Ahum...\$1465 + tax.

You forgot the XYL factor.

XYL What's that?

You: That's my new SDR radio.

XYL: What's that funny screen?

You: That's a water fall displly of the radio frequencies I'm looking at.

XYL: Can I watch re-runs of I Love Lucy on it?

You: Uh no, not really.

XYL: Well that doesn't seem like a good deal.

You: Well it is as it's the latest technology.

XYL: OK, Whatever

You: Locked to something good (an Rb or a GPSDO) they are way better than any of the 'old stuff'. Selectivity wise .. yup .. Dynamic range .. gulp.. take a look at the numbers. Sensitivity keeps getting better. If you live on planet Earth with normal noise levels and antennas, not much wrong with SDR sensitivity wise. Want to demodulate this or that weird signal? not a problem.

Me: Yes but that's only if you need it. My point was maybe 90% don't

You: Something new comes out next week Download new software.

Me. If they are still in business and will it rus when MS does a forced update on Win 10?

You: Price wise, less money than an R-390 on eBay. Yes, you will do a bit of this and that. You also will poke a bit at than 390

Me: I just proved that is incorrect.

Now, I'm not trying to sell anybody a SDR board or get them to toss out their R-390. Far from it actually.

You: One is very much not the same as the other. Both are projects, they have different ends and stops on the way.

Me: My original point.

You: I'm just pointing out that there has been a lot of change in how you do a radio, even in the last decade or so. If you are going to decide best by the numbers (which I happen to think misses? a lot of stuff), it's really hard to beat the newer SDR boards..

Me: It depends. You can't move a mouse as fast as you can twiddle the knobs.

Me: You're forgetting the \$9K ricebox and the XYL.

Wife: What's that?

You: That's my YIK 9000 Limited edition receiver.

Wife: It seems to have a lot of buttons.

You: Yes. I think I counted 33, not including the multi-function ones.

XYL: What do they all do?

You: They allow one to maximize the best possibility to hear the other guy.

XYL: Gee, and I thought my micro-wave was complicated.? Well good luck with it.

Boat anchor scenario:

XYL: What's that your doing?

You: I'm restoring this antique R390A to it's original condition.

XYL: Wow, there's a lot of gears in there. Is it like a cars manual transmission?

You: That exactly describes what it does to the radio signals. It was break-through marvel in it's time. Unfortunately there will never be another type of that radio again. That's why I'm preserving it so our kids and grand-kids can see how far we've come.

XYL: Gee, that's neat. Good luck with your project.

You: Thanks, I think it's going to be worth the effort.

XYL leaves to watch TV and you get to do your radio stuff with her blessing.

Regards, Perrier

Date: Mon, 8 Jan 2018 23:30:45 -0600

From: Stan Gammons <s_gammons@charter.net>

Subject: Re: [R-390] (no subject)

That was an awesome post!

Yeah, the new stuff may well outperform the R-390A; but that wasn't my question. I asked how it compared performance wise to radios of the same generation. Personally, I don't really care for any of the "modern" stuff. I'll keep my R-390A, Drake TR7, TenTec Omni VI and keep those running for as long as I can get parts for them. It's not that I can't work on SMT, I can. But, I'm getting old and I can't see as well as I did 25 years ago. Thanks for the offlist email Perry!

Date: Tue, 9 Jan 2018 09:39:36 -0500

From: Bob kb8tq <kb8tq@n1k.org>

Subject: Re: [R-390] (no subject)

Well, I certainly would not debate the cost of the Hydrogen Maser one might (or might not ?) attach to the system. :) The CPU side of things can be handled pretty well with one of a multitude of cheap ?Raspberry Pi? like devices. The price more or less comes out to:

Board - \$140
Computer - \$75 (board \$35, display \$40)
GPSDO - \$100
Enclosure - \$35

No, that's not the whole thing, but it's pretty close. It's based on what you would buy today. Wait a few months and the details will change when the next this or that hits the market. Do the software with open source packages and there is no big deal about this or that outfit stopping support ?.(and no cost for that side of it).

Indeed, R-390's could be had from Fair a while back for \$125 plus shipping. You still can find a range of prices even on eBay. What one sells for depends a lot on a whole bunch of things. There is no fixed price. I would not suggest to a new guy that \$350 was his target budget for buying one though.

I'd say that it comes as no big surprise to anybody on the list that buying the radio is just the first part of the cash outflow. I can't even remember all the bits and pieces I've accumulated to keep things running over the years. My guess is that the sun will cool to room temperature before there is a shortage of some (but not all) parts. hmmm just how many spare power transformers is a good number? ?hmm?..

There's only a fixed price on a project once you decide to stop doing it. Same is true of fixing up an old car or buying a used boat or just about anything else in life.

Again, I'm by no means trying to talk people out of their R-390 project and into playing with SDR's. From what I've seen, the group in each area is a bit different and each are very dedicated to what they play with. That's great and it's what makes it fun. I most certainly do not have any fond memories of playing with an SDR software stack as a kid. I also know a number of kids these days that would *much* rather play with tubes than sand. It's not a one size fits all / this is fun for everybody kind of thing.

On the XYL side, none of this (SDR or R-390) is going to be a living room sort of thing. It's a messy / dirty / fun / exciting project. Yelling nasty words at the dead circuit is *very* much part of the process. Tearing things down and putting them back together is part of either side of it. If you want a living room device, by all means, go for the \$9,000+ super button machine. I have a few of them as well?. (though not the in the \$9,000 category)..Somehow I seem to play with the other stuff a bit more.

Date: Tue, 9 Jan 2018 10:22:14 -0500
From: Bob kb8tq <kb8tq@nlk.org>

Subject: Re: [R-390] (no subject)

Message-ID: <BC8A6A9A-DBBB-419A-94EB-5A8118858373@n1k.org>

Ok, well, that's a different question. Compared to anything made in similar volumes, the R-390 or 390A did quite well by comparison. It also did quite well compared to a lot of radios made in significantly lower volumes. There were a few radios designed for specific tasks that did better in this or that respect (selectivity, sensitivity, stability, dynamic range). Even the R-390 got re-worked for various tasks to improve it in some areas for this or that mission. Since they were produced over several decades, there are a lot more examples of 'better' later on than earlier. In the 1970's it would be tough to call them 'best' vs a number of other radios. In the 1950's there were a few that were better, but not many.

Generally when asked about this or that issue with the radio, the stock answer to the question was: We did what was in the spec. It was designed to a specification and (almost) did everything that was asked. It did not get a bunch of stuff (trimmers on the crystals is one example) that was not in the spec. Cost was an objective and the radios were made by the low bidder. They made a *lot* of R-390A's so it's not a big surprise that they worried about cost.

Some parts of them (the PTO's come to mind) were remembered with a definite lack of fondness 30 years after the fact by those who built them ?. Even with cost constraints some of the bits and pieces were a major challenge to run down the production line. Since this is a PG list, I will not repeat the exact comments from the line girls. Needless to say, they had a *very* hard time understanding why anyone would play with one as a hobby. Even for a cost driven design, they still did put a lot of 'good stuff' into the radio.

Date: Tue, 9 Jan 2018 10:08:46 -0800

From: Alan Victor <amvictor@ncsu.edu>

Subject: Re: [R-390] (no subject)

Putting a technical spin on this thread.

It would interesting to see what it would take function and cost wise to duplicate or BEAT an R390A or comparable tube state of the art receiver. In particular, I would look at all the standard specifications as well as those that begin to encompass digital demodulation and see if this could be met with an R390A architecture; namely a continuous tracking pre selector receiver. You could consider up conversion and high performance 16 bit A-D converters and so on until you arrive at a comparable or better receiver. Just asking as I am in a breadboard stage of a variation on such as receiver.

Date: Tue, 9 Jan 2018 14:53:31 -0500
From: Bob kb8tq <kb8tq@n1k.org>
Subject: Re: [R-390] (no subject)

One of my 'years back' ideas was to use (gasp!!!) an R-390A RF deck as the preselector for an SDR. After a bunch of back and forth with the SDR guys, it seems that this is not a real good idea. You can get at least R-390A levels of overload performance without doing it and you need fairly complex dither sources if you do use a tight preselector.

Backing up a bit, even in the era the the 390 was designed, you *could* do better for selectivity (both IF and front end). The point that is generally made is what they did is plenty good enough (in most areas of the design). I'd suggest the same is true when looking at an 'improved' radio. There really isn't a whole lot that I can point to on a 390 in terms of the front end being a limit over the years. Yes, with a 1KW transmitter 3 from the RX antenna, you have an issue. in that case move further away !!!

The same things that drove the rebuilds in the 60's to improve stability apply at least as much today. A SDR of just about any type (even without a GPSDO) would be more stable. The same sort of issues that drove the multitude of SSB adapters over the years also would apply to any upgrade. Neither one of these 'features' cost much in an SDR. We could spend a number of years debating the virtues of various fancy AM detectors. There have been a few times a fancy this or that helped. The other 99.99% of the time, the stock 390 detector did just fine. There were a number of times it sounded better than the crazy stuff.

One of the most basic issues in terms of 'good enough' or 'how good' is the missing engineering report. That's where the data you really need is located. Anybody I've ever asked about it has returned a blank stare in response. The reaction was very much like the one you get when asking questions about where a nuclear sub goes on a cruise.. I don't know of anybody who has spent the time to really go crazy on a 390 trying to find what the issues are. They are pretty darn subtle. Were they classified? Did people simply not remember the super small stuff? Did it actually not matter at all? I have no idea. Lots of ways to spend a whole lot of time.

Date: Tue, 9 Jan 2018 22:13:58 +0000
From: Doug Hensley <w5jv@hotmail.com>
Subject: Re: [R-390] Comparing R390A w/Period Devices

Could someone compare: R390A with RA-17.... with 51J4 with Radiomarine CRM-R6A ...

Date: Tue, 9 Jan 2018 14:42:47 -0800
From: Alan Victor <amvictor@ncsu.edu>
Subject: Re: [R-390] (no subject)

Good inputs Bob (kb8tq). I'm looking at addressing selectivity first by significantly improving phase noise of the LO. Looking at a cavity oscillator and dividing down for the LO. So I should be near the noise floor of some of the best digital counters. Low noise figure at HF is more like a horse power spec, but less than 3 dB is easy to achieve today. Actually *post detection NF* and low noise IF and detectors can render a low noise front end, mute! No pun intended. I think large signal overload and multi-tone IMD is still a significant challenge and that's where a low IMD preselector architecture is attractive, like the 390A. I think there is still room for innovation in Rx development and looking back at prior architectures particularly those used in the test and measurement world might be worthwhile. Alan

Date: Tue, 9 Jan 2018 16:41:24 -0600
From: "William J. Neill" <wjneill@consolidated.net>
Subject: Re: [R-390] Comparing R390A w/Period Devices

In one of my five racks of military radio receivers, I have a 51J4 paired with an R-390A for running dual-diversity Teletype traffic. I had to change a crystal in the CV-116B (the two receivers are attached to) so as to be able to accept the 500KHz IF signal from the 51J4.

I primarily use the 51J4 to sniff out signals from all the muck in the HF bands and if I can tune up pretty well on a signal with the 51J4, then I can come down on it nicely with the R-390A.

Of course, try finding any 60wpm to 100wpm Teletype traffic in the HF bands these days. It has almost become an exercise in futility.

Date: Tue, 9 Jan 2018 18:44:46 -0500
From: Robert Newberry <N1XBM@amsat.org>
Subject: Re: [R-390] Comparing R390A w/Period Devices

There is the guy over at www.rtty.com that does internet stream rtty news. I have no idea the specifics but I guess guys with tty gear use it.

Date: Tue, 9 Jan 2018 19:32:09 -0600
From: Stan Gammons <s_gammons@charter.net>
Subject: Re: [R-390] (no subject)

Yes, some times I forget it was designed to a specification.

I'm uncertain of the age of the one I have.? It was made by Teledyne and has a Progressitron PTO. I don't know if the last 2 digits in the contract number were the year the contractor started making the radios or what.

Thanks for your and everyones comments on this subject.

Date: Tue, 9 Jan 2018 20:50:03 -0500
From: Bob kb8tq <kb8tq@n1k.org>
Subject: Re: [R-390] (no subject)

Before you go to crazy on phase noise - consider that the input stage to your SDR chip is going to have a (likely disappointing) phase noise floor. If you can come up with any of the common VHF XO circuits in the -170 doc/Hz range, they will be better than the chip they are driving. The same basic issues exist in the R-390. The phase noise of the oscillators is only 'just so good', but the mixers also have a floor. They took the oscillators to the point that the mixer dominated and stopped there. The RF pre-selection does it's thing, but it's a lot more broad than most people expect it to be. You knock down some stuff in a 390 that way. It does not help with signals on the same band you are tuned to. Lowpass / highness filter banks would probably be 'as good' in a re-imagined radio.

Date: Tue, 9 Jan 2018 20:56:03 -0500
From: Bob kb8tq <kb8tq@n1k.org>
Subject: Re: [R-390] Comparing R390A w/Period Devices

Consider that the R-390A contracts overlapped for a lot of years with things like the R-1051 and a whole series of similar US radios. As mentioned in another post the EK-07 overlapped with it almost from the start. The Russians also had their answer(s) to the EK-07 style radios. The 390A stayed in production for a *long* time. There were a *lot* of things it might get compared directly to.

Date: Wed, 10 Jan 2018 02:48:13 +0000
From: Doug Hensley <w5jv@hotmail.com>
Subject: Re: [R-390] Comparing R390A w/Period Devices

Thanks Bob. Before all the leg-pulling & non-sense started, a post was curious about period alternatives to the R390A. That is a natural question as most period alternatives (e.g. RA-17, CRM-R6A, 51J4, etc.) can be operated for hours on end without fatigue whereas the R390A cannot.

Given the unpleasant and tiring wrist movements necessary to operating the R390 or R390A over a period of time, it seemed a good question to me. I used both the R390 & R390A in the Navy for a long time, at sea and

ashore. I was not the only ham on most ships but I never saw anyone tuning or wanting to tune the R390A after hours. One ET I knew used to use an AN/URC-32A in the transmitter room for SWL'ing. On one ship (USS Cochrane, DDG-21 often seen on old reruns of Hawaii Five-O), we had, in addition to the R390A's, two National monsters called the SRR-19 and its large HF variant. Clumsy, awkward layout and control design but always used before the R390a's with the exception of in port after hours listening to local broadcast band (AM station).

The R390A works well in its military environment and mission but is a poor choice for a ham radio or SWL set. YMMV.

Date: Tue, 9 Jan 2018 22:55:50 -0500
From: Bob kb8tq <kb8tq@n1k.org>
Subject: Re: [R-390] Comparing R390A w/Period Devices

For some sorts of SWL or Ham operation, a 390 (or a 1051 or a Harris 550) works fine. If you have a net (or a favorite SWL station) that you listen to every evening, put the radio on that frequency and all is well. Regularly scheduled RTTY, WEFAX broadcasts the approach works great. Indeed one **might** have a stack of radios, each on this or that frequency

Indeed for random band sweeping, I'll take a SP-600 style radio. I probably don't care much about exact frequencies. I just want to see what I can hear right now. Tune around here then tune around there. Much easier with an 'old style' radio. The 'modern way' would be to toss it up on a spectrum display. Somehow I can't get excited by that..

None of that really relates to performance numbers. It's all ergonomics. I happen to be one of those 'simpler is better' people. Fewer knobs and buttons to fiddle is better than more knobs and buttons. To a great degree that's why I consider a proper SDR a project (tuning by keyboard and mouse not so much). You don't actually **need** all the controls on a 390. There aren't many that are redundant, but there are a few settings that are (yes, we could debate that. There will **always** be a use for any button) keep it simple. If you haven't used that setting in a month. It's not needed. Move on.

Radio design **always** will relate directly to the intended use for the radio. Like it or not, the 390 was not aimed at band cursing. It was built to set to a channel and leave it there for a while. Yes, it still needed a baby sitter for some stuff. They only could afford to make it just so good at the time. The 1051 and its cousins came along once synthesis techniques improved and true 'set and forget' became a reality. Again, not really anything to do with the numbers we talk about all the time. Tuning accuracy is pretty far down on most peoples lists.

Date: Wed, 10 Jan 2018 10:17:37 -0800
From: Spence Barton <ence-ack@riouusa.com>
Subject: Re: [R-390] Comparing R390A w/Period Devices

Actually, my R-390 is perfect for "band cursing". It's band cruising it's not so good for.

Date: Wed, 10 Jan 2018 19:51:18 -0500
From: Roger Ruszkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] Comparing R390A w/Period Devices

Way back yonder Wei-Li included history and details of much business things in his compiled Pearls of Wisdom. The Y2K manual is the in hand maintenance manual. When I read that you are listening to an R-390/URR, or even more so, an R-390A/URR I ask that nature not include your soul in any upcoming ground plans. May good ESD protocols be with all your days.

Author Topic: Collins R-390A Resource Page (Read 4022 times)
Here are several sources for information on the legendary Collins/US Army joint design R-390A/URR as well as the Collins R-390/URR radio receiver. Please note that they are NOT the same. <http://www.r-390a.net/>
This Web site is the ultimate resource for information for the R-390A. It has everything you ever wanted to know about the R390A. Kudos to Al, WAOHQQ, for all his work compiling this outstanding reference source. I am proud to be listed as a contributor. MisterMike, W1RC

The history line suggests the Collins R-390/URR was to be an interface transform and selective frequency filter needed to match the impedance between an antenna and a teletype demodulator in an HF teletype receiving system. Internal circuits and front panel meters enabled visual tuning indication far superior to just an audio output signal level. Listening to a Collins R-390/URR as if it were a vintage Zenith Transoceanic shortwave radio was never part of the design requirements. That is why there is a 455 KHz output on the rear panel. Detect the signal your way and amplify it your way. Get out of the box and leave it alone.

Collins (and other corporate) RF engineers knew that the core-tuned oscillators and the selectivity of the RF deck were the product that Collins was the first to offer in the marketplace. The other usual features of the Armstrong superheterodyne receiver were included in the test instrument packaging. It looks like a receiver to us. You know a Picasso when you see one. You know a Collins when you see one. Furthermore, you have learned to distinguish the subtle differences in products produced in-house, and products produced by outsourced franchise contractors (Helena-

Rubinstein). Collins wanted SSB, but the first demo stuff was not stable and the feature was dropped. The entire bandpass of the audio deck was to cut off as much out of TTY tone band pass noise as reasonable to present the teletype-demodulator the best input possible for good clean text copy.

OMG a ditty receiver! Yes, and you tailor the keyed tone you copy with headsets to your audio satisfaction with some left hand synthesizer controls. The Army and Navy long-haul logistics communications had no use for voice or manual Morris. Voice is a tactical application. United States Military logistics was via teletype. Over wire since 1914 and wireless since 1918. Utilizing a Collins R-390/URR for human audio was not a military activity.

You need an app for that. It bolts in the rack either under or over the R-390/URR. It draws power from its leash. Connecting a short interconnect dongle cable from the R-390/URR to the app completes the installation of the app. A reboot is not required. From day one American tax-payers were not going to have the military sitting around all day listening to talk radio.

Respectfully, Roger Ruskowski

Date: Thu, 11 Jan 2018 15:57:13 +0000 (UTC)
From: Steve Toth <stoth47@yahoo.com>
Subject: Re: [R-390] Comparing R390A w/Period Devices

Sounds like the perfect receiver for today's digital modes to me - looks like we've come full circle!

Date: Thu, 11 Jan 2018 10:17:19 -0600
From: Stan Gammons <s_gammons@charter.net>
Subject: Re: [R-390] Comparing R390A w/Period Devices

Yes. Parking the R-390A on one of the WSPR frequencies, 30 meters most likely, and tinkering with MDSR is one thing I plan to do. Not sure if I'll have to have a product detector to do that. Guess I'll find out soon :)

Date: Thu, 11 Jan 2018 12:10:03 -0500
From: Bob kb8tq <kb8tq@nlk.org>
Subject: Re: [R-390] Comparing R390A w/Period Devices

Take a look at the drift requirements for WSPR. There are a couple of modes and some of them are well past anything the stock 390 can handle. That's not a knock on the 390. There are a lot of SDR's and lot of buttons radios that can't do the job on those modes either. Plan on at least a 24 hour warmup before you start playing.

Date: Thu, 11 Jan 2018 13:32:29 -0600

From: Don Reaves <donreaves@gmail.com>
Subject: Re: [R-390] Comparing R390A w/Period Devices

I've played with WSPR extensively on 500KC, running a WSPR beacon for years under the ARRL 600 meter experimental license. Its best to lock WSPR monitoring receivers to a very accurate stable reference oscillator - like a GPS conditioned oven. My transmitter was synced to the external output of an HP-3586B SLM oven that was quite stable after 2 weeks of 24x7 operation. Same with the WSPR decoding computer - it needs to be synced with an NTP time source. Bob is right - bandwidths for WSPR are quite narrow, so any frequency drift or time drift gets out of the passband in a hurry.

The beacon was taken off the air under my experimental license after I got UTC approval for normal 630 meter operation under my primary ham license. It's still off the air while I update some of the station components, and the recent cold weather has kept me out of the basement working on that. Currently I'm playing with a SDRPlay RSP2 SDR receiver and it may become my primary 630 meter receiver. Sadly the R-389 will have to serve as a backup only for LF/MF duty.

I've used SDR receivers as panadaptors for the IF output of various analog receivers - R-390, R-390A, ARR-15, among others. Just set the input of the SDR to 455 or whatever is the output of the target receiver and away you go. The ARR-15, an early cousin of the R-390 series, in its original non-hacked form is especially nice with an SDR panadaptor as the receiver bandpass by design is quite wide, which enables the SDR to chew on more signals. A secondary benefit is you can use the SDR as a SSB detector with excellent audio out.

Date: Thu, 11 Jan 2018 12:47:47 -0800
From: Alan Victor <amvictor@ncsu.edu>
Subject: Re: [R-390] R-390A and the SP-600

If any interest prior to the land fill or other Earth friendly paths. I have an excellent copy from microfiche from the Rome Air Force Development Center *Preferred-circuit Techniques for Receiver Applications*
Over 1000 pages Tech report no. RADC-TR-67-216. Date June 1967.

Covers every conceivable circuit technique at the time for wideband receiver techniques; 1 MHz-10 GHz. Any interest, email me direct. '73' Alan

Date: Thu, 11 Jan 2018 16:31:41 -0500
From: Roger Ruszkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] Comparing R390A w/Period Devices

You posted >>> Plan on at least a 24 hour warmup before you start playing.

Are you doing DX HF communications from a station or making a cell phone call?

I do not know that 1940 vacuum tubes can even be competitively applied in the receive side of today's state of the art communication hardware. (Vacuum tubes being hard and wear well.) If you are not enchanted with the yellow paint on your sand box toys, swipe your sister's finger nail polish, mix up your own colors and start painting. If you do not have a life style where you can remember to fire it up Thursday evening for the coming week end hobby time these old technology aspects of Amateur Radio may not be your center of attention. Why did that young man just bounce down the yard sale driveway with a shoe box of old nail polish, powder and perfume? Paint base, color pigments, and solvents.

Bob, the new spectrum filtering software applications and the modulation methods are offering acres of new sand box to exploit for our enjoyment. It is a good thing there are alternates to the R390 because there are not sufficient R390's to cover current desires. The new technology is where we all need to focus. Love for old stuff is a hobby and lifetime skill building opportunity. Luddite behavior is self-limiting.

Signal processing is fast Fourier transforms and it is the leading edge image generator producing benefits today. Sonograms for babies, broken bones and blood clots. Ground penetrating radar for utility location. If you are going to read a paragraph look to read forward in time.

All of the software defined radio is an educational opportunity with open labs for any person wanting to expand their knowledge in support of their goals. The demand for programmers who understand the math, can work between sockets, and get it done right two weeks ahead of their schedule line as shown daily in the conference room slide show will never be filled with over skilled personnel. Amateur Radio is open and some of the radio active ones doing leading edge real time signal processing are having so much joy with their freely directed self enrichment it could soon become a prohibited behavior.

Hold a sound vision of the product, its application, number of units to be produced and sold and value in the world market. Thousands of sonogram machines are in use serving millions if not billions of humans. One team took some special collecting stuff to Oak Island one summer as a field trip. That data is looking for someone to render it into a 3D walk through of Earth's first cubic mile. I can not play in the software sandbox, having been employed as a field engineer and senior software acceptance test conductor for the worlds best. Besides it is already 14 years old and 28 or

more iterations out of date. Old software is being recycled to recover the electrons for reuse.

I have been learning on R390 hardware since 1960 and still not mastered the compilation of diverse knowledge embedded in one receiver. Reverse engineering alien technology from bumpers left at fender bender sites we can access is not the path forward.

Bob, truly the prosperity and good life is forward. And it is digital. However the machines are already out living us. Not yet reproducing !!!

3 D printing any one? Respectfully Roger Ruskowski

Date: Thu, 11 Jan 2018 18:36:56 -0500
From: Bob kb8tq <kb8tq@n1k.org>
Subject: Re: [R-390] Comparing R390A w/Period Devices

My only real point was that the R-390 needs about a day in a typical rack to settle down however much it's going to settle. I have no illusion about a 390 holding 0.01 Hz for 15 minutes.

Date: Fri, 12 Jan 2018 00:52:39 +0000 (UTC)
From: Perry Sandeen <sandeenpa@yahoo.com>
Subject: [R-390] "A" stability

That's true for a "stock" "A". Dallas Langford did a mod to his "A" BFO and reduced its drift to less than 1 Hz per hour measured with a Rb referenced counter. Theoretically, one could change all the "A" ovens to proportionally controlled units and put a buffer on the 17MHz oscillator to prevent the 1st mixer AGC action pulling it and get some awesome frequency stability numbers. But then what is the end purpose to the effort? I guess it depends how "nuts" we are with our hobby.

Date: Fri, 12 Jan 2018 01:07:33 +0000 (UTC)
From: Perry Sandeen <sandeenpa@yahoo.com>
Subject: [R-390] HP 3586B stability

The problem is if you really, really want your HP 3586B stable and accurate then one must use something like a HP 33XX synthesizer for the 2nd (?) osc that is xtal controlled for the selection of LSB and USB as it isn't phase locked as the other internal oscillators are. I know picky, picky, picky.? Both that's what might be needed on the new digital modes. I have seven. I think I might need ECT. BTW the article in QST about the new digital bands stated that "a low noise receiver is vey helpful" IIRC.

Date: Thu, 11 Jan 2018 20:20:59 -0500

From: Bob kb8tq <kb8tq@nlk.org>
Subject: Re: [R-390] "A" stability

A lot is going to depend on how stable your shack is (temperature wise). One of the cost compromises on the 390's is that the crystals are not in ovens that are matched to their turn temperature. This makes it very much a crap shoot when you fiddle with the ovens. They most certainly do what the spec required. It is unlikely that the spec was looking for much better than 20 Hz of drift. To the extent these were RTTY radios, they were 850 shift RTTY. A drift of 100Hz or so would not have bothered anything. Yes, the world moved on after they were designed. They hung in for quite a while.

Date: Thu, 11 Jan 2018 19:47:07 -0600
From: Stan Gammons <s_gammons@charter.net>
Subject: Re: [R-390] "A" stability

Sounds like using an "A" for digital likely isn't going to work. I'll give it a try before long though. If the signals in the waterfall look like the leaning tower of Pisa, I'll know it's not going to work :)

Date: Mon, 22 Jan 2018 09:29:31 +0000 (UTC)
From: Larry H <dinlarh@att.net>
Subject: [R-390] R-390A frequency drift stability specs

I read the stability specs in the Y2KR3 tech ref on the bottom of page 5 in chapter 1 some time ago, but there's more to the spec than that. I found the original spec on the r-390a.net (thanks to Al Tirevold and Tom Marcotte) and read through it (link follows):
<http://www.r-390a.net/MIL-R-13947B.pdf>

Here's some of what I found for frequency stability:

VFO

Temperature:

300 cycles as the temperature is changed from +104°F to +140°F

70 cycles as the temperature is changed from +86°F to +176°F

Time:

With ambient temperature held constant:

not to exceed 10 cycles per day (for 10 days starting 5 days after temperature stability)

Overall

With ovens on, shall be within 300 cycles over the temperature range of -40°F to +149°F, as the temperature is varied in steps of -40°F to -4°F to +32°F to +68°F to +104°F to +149°F.

Line voltage

Not more than 30 cps, with a change in line voltage from 105 to 125

volts.

That was most of the frequency stability related info that would be of interest to us. But 2 important items were not covered there, and are: 1. BFO and 2. Overall with ovens 'off'.

1. From experience, most of the BFO's I have seen these days have a large warm up drift issue. After .5 hour they've drifted +/- 200 cycles, for the next 2 hours +/- 1 or 2 cycles every 15 minutes, and then +/- 1 or 2 cycles every hour until 6 hours, when they hold at about +/- 1 cycle every hour. I'm sure when these were new, the drift was less as age seems to change the temperature coefficients. This can usually be corrected with new NTC caps, but a very stable receiver or counter must be used to measure it.

2. With the ovens off, the VFO is much more stable as temperature fluctuations are greatly reduced in our environments. Using the above VFO 'time' spec of '10 cycles per day', that divides out to be 0.4 cycle per hour. As with the BFO, that's with new components that have the correct temperature coefficient.

As for the line voltage effect, I've found it to be less than the spec on today's 390s, I measured a few and found it to be less than 1 cycle drift for voltage between 110 and 120 volts. The 4 places I've lived at in the last 20 years have had fairly stable power, so this is not a big issue for me.

I have improved the warm up drift of the VFO and BFO in my R-390A daily driver so that I can copy SSB after it's on for a few minutes with very little drift. Of course it's much better after a half hour.

Date: Mon, 22 Jan 2018 11:51:24 -0500
From: Bob kb8tq <kb8tq@n1k.org>
Subject: Re: [R-390] R-390A frequency drift stability specs

There *are* a bunch of crystals involved in the 390 signal path. In some cases they subtract from each other, in other cases they just are part of the drift. The gotcha is that the crystals were nominally cut for the 'ovens on' condition. They were not specifically designed for stability around room temperature. A drift rate of 0.25 to as high as 1 ppm/°C would not be unheard of for the parts in a 390. Over a 10°C 'warmup' you could get 20 ppm of drift if you came out on the wrong side of the crystal lottery. At 30 MHz that moves you . gulp .. 300 Hz ?. On a typical shack that wobbles by about 2°C per hour, you would get about 60 Hz.

Date: Mon, 22 Jan 2018 12:49:17 -0500
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] R-390A frequency drift stability specs

FWIW, maybe it is worth reviewing what the R-390() was designed for -

CW and single channel RATT (RTTY). CW was, of course, no problem for the R-390() using internal BFO. The military converted to RATT as fast as it could for a number of reasons, including the huge benefit of on-line crypto.

Single channel FSK at that time was +/-425 Hz. Using the internal BFO and AFSK converters, RATT was no problem. Here's a common configuration - two R-390A receivers in dual diversity with AFSK converters (AN/URA-8A) <http://www.navy-radio.com/commsta/r390-cv89-01.jpg>

For SSB voice the CV-591A converter with crystal "BFO" was commonly used. Two CV-591A converters were used with RATT on one sideband and voice on the other sideband (or RATT on both sidebands). <http://www.navy-radio.com/ships/cvsl2/hornet-02.jpg>

As RATT advanced to multi-channel VFCT, FSK became +/-42.5 Hz with up to 16 channels in a 3kc voice channel. This required AFC in an external converter driven by the R-390() IF output. CV-116 (twin diversity RATT) and CV-157 (ISB) were both used for this application,

<http://www.navy-radio.com/rcvrs/images/fr38-02.JPG>

<http://www.navy-radio.com/rcvrs/images/fr41-02.JPG>

The RATT transmitter signal included a greatly reduced carrier that was used to drive the AFC, keeping the end-to-end system locked within 1 or 2 Hz forever. IMHO, the 1950s military HF communication system was one heck of an engineering marvel.

Date: Mon, 22 Jan 2018 19:01:25 -0600
From: Stan Gammons <s_gammons@charter.net>
Subject: Re: [R-390] R-390A frequency drift stability specs

Yes. However some preliminary testing with an hour or slightly less warm up, both ovens off, show it's stable enough to decode FT8.

Date: Wed, 24 Jan 2018 01:17:59 +0000 (UTC)
From: Larry H <dinlarh@att.net>
Subject: Re: [R-390] R-390A frequency drift stability specs

Bob, you are right about the crystals being cut for the temp of the ovens they are in to get minimum drift, and the switch on the back turns off both the VFO oven and the 2nd crystal osc oven. I've thought about disconnecting the VFO oven wiring and running with just the 2nd crystal osc oven on, but my stability seems good enough with it off (although I have not actually measured it). Perhaps some day when I open up my VFO again, I will cut the wire.

Date: Tue, 23 Jan 2018 19:44:09 -0600

From: Stan Gammons <s_gammons@charter.net>
Subject: Re: [R-390] R-390A frequency drift stability specs

I tried measuring the stability of my R-390A using WWV and the FreqCal feature in WSJT-X. My signal to noise ratio a good bit less than 20, so the results aren't reliable. I have used my R-390A for FT8 and it worked. I tried attaching a capture of the waterfall to an earlier message, but the image got tossed. Signals in the waterfall were straight and not leaning to one side or the other which would indicate drift. I haven't tried the much longer duration JT65 and JT9 signals though. I realize the R-390A isn't the most suitable receiver for this, but it's fun to see what its limits are :)

Date: Fri, 16 Feb 2018 15:43:57 -0500
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] 390A test jigs

I found some (not very good) photos of the R-1247, showing those multi-colored cables -
http://img0055.psstatic.com/102956442_390a-r-1247-receiver-collins-390a-manson-labs-390a-ebay.jpg
http://img0049.psstatic.com/99152618_390a-r-1247-receiver-collins-390a-manson-labs-390a-ebay.jpg
http://img0068.psstatic.com/102956441_390a-r-1247-receiver-collins-390a-manson-labs-390a-ebay.jpg

Date: Fri, 16 Feb 2018 16:03:22 -0500
From: John Vendely <jvendely@cfl.rr.com>
Subject: Re: [R-390] 390A test jigs

The R-1247 was not developed for NASA (who never had any of them), but was part of a frequency-synthesized, SSB upgrade for the AN/GRC-26D RATT van, done under contract for the Air Force by Manson Laboratories. The R-390A's were modified by Manson to provide relay-switched inputs for two external synthesizers, one substituting for the receiver's internal crystal oscillators (called a "stabilizer"), the other substituting for the internal 2.455-3.455 Mc PTO. The T-368 transmitter was also reworked for SSB--the modulator and PA were removed, and a SSB exciter, synthesizer, and a new linear amplifier PA deck were installed. These modified GRC-26Ds were re-named AN/GRC-129.

Manson also did a synthesizer upgrade for the Air Force's AN/FRR-41 receivers. I have one of these receivers here. Called the Manson SBM-1 "Stabilization Kit", these were designed to be easily field-installable, with no significant modification to the receiver other than a few mounting holes drilled into the rear panel. They used adaptors containing switching relays which plugged into the tube sockets of the

receiver's various oscillators, and the tube would then be plugged into the adaptor. Cables were routed out to a bracket added to the rear of the receiver contained coax connectors and a control connector for the synthesizer inputs. Similar adaptors were also supplied for the FRR-41's two CV-157 ISB converters. The synthesizer units were similar to, but not identical to those used in the R-1247. The stabilizer provided an additional 555 kc and 100 kc injection for the two CV-157s, and the synthesizer had an extra PLL and tuned in 100 cps steps, vs the 1kc steps of the AN/GRC-129 system. No change in nomenclature was made to the receivers or converters after installation.

These modified FRR-41s were used by the Air Force for high-speed (3000 bits/sec) ISB HF data links up and down the Eastern Test Range. NASA did have a couple of these modified FRR-41s, but they were quickly dumped due to difficulties with the synthesizers. All these were subsequently replaced with the greatly superior TMC DDR-506 diversity receivers, which were used from about 1966-1980.

The R-390A stabilizer adaptors were considered undesirable by hams, mainly because the PTO adaptor adversely affected PTO linearity. They were virtually always removed and discarded. Paul appears to have found a loose set.

Date: Thu, 18 Oct 2018 21:33:19 -0400
From: dog <agfa@hughes.net>
Subject: Re: [R-390] ASA

Yeah, that picture on the first page of the 280th is Andrews Barracks, those 2 long buildings in the back are the Prussian/SS barracks we lived in. That building on the right is the swimming pool for the 32 Olympics. That Gruenewald picture is the CW intercept building at the base of Teufelsberg. When I was there the NSA site was just a group of trailers attached to a central golf ball microwave dish. I think the 280th came right after I left, they were changing the name all the time. I've got no problem talking about my time there, it's all known, but then I wasn't in a combat zone although I did get an Occupation Medal because Berlin was occupied. We had Russian linguists and German linguists, we listened to the Russian and East German army doing maneuvers in the eastern section, I was in the 'Orange' section where we had a 64 channel PPM microwave link from the 'Zentral Kommittee'. We made OB files on everyone that talked on the system. I got to go to Templehof once with a Sgt where they did ELINT with the AFASA. We used to get publications from the East Germans that had pictures of our workstations including the tape recorders we used in the site I worked at, USM620K. Interesting times. Berlin was a real nice city and the Berliners loved us, especially if we could talk their language. In a way it was a fun

time, in others not so much. I was glad to get out and spent the next 3 years in the inactive reserve and at UofMD. By then we were in the middle of VN. I was lucky. Most of the guys that were younger than I ended up in VN.

Maybe 15-20 years ago a bunch of us from ALS got together for a couple years at one of the fellows place up near Boston. I did get in touch with quite a few of them afterwards, but some of them just disappeared it seems like. They probably wanted to.

Date: Sat, 12 May 2018 17:07:46 -0700
From: Larry H <larry41gm@gmail.com>
Subject: Re: [R-390] Motorola R390A manual

Hi Mark, Welcome to the R-390A world.

Although it was designed and built by Collins, there were many other manufacturers of them over the years, too. There are numerous books for them by the Army and Navy (but the manufacturer is not important, usually). The tech ref is the most used and can be found on: <http://www.r-390a.net> website. It's called the Y2K Tech Ref R3 found here: <http://www.r-390a.net/Y2K-R3/index.htm>. The original military manuals for them are here: <http://www.r-390a.net/faq-refs.htm>. A popular ref is *TM 11-856A <<http://www.r-390a.net/TM-11-856A.pdf>> *Radio Receiver R390A/URR, 1956-Jan-20'.

Date: Thu, 7 Jun 2018 14:36:11 +0000
From: Doug Hensley <w5jv@hotmail.com>
Subject: [R-390] R390 & R390A in Teletype Service

I served at sea during the latter hay-day of the R390A receiver and so lived with both the 390A and 390. We copied a LOT of teletype code back then as that was THE way to fly. There was no such thing as computers, ASCII or the like. To make the copy, the R390 or R390A IF output was fed to the AN/URA-6 converter which easily accomodated diversity reception. It was a 3 unit stack with demods on top & bottom (think A and B) and a comparator/selector in the middle. The demods had scope to set up the correct signal pattern and the comparator listened to both defaulting the stronger signal bit to its output. That output was then patched to the loop and away the Model 28's went. It was really swell back in those days.
<snip>

Date: Sat, 11 Aug 2018 16:42:24 -0400
From: djed1@aol.com
Subject: Re: [R-390] Interesting find on a R-390 online

Don't know if this is a related document but a while ago I found a declassified history of SIGINT in Vietnam written by NSA. I cringed to read that when they abandoned a listening post in Cambodia at the end of the war they "stripped the place to the walls, leaving only 100 obsolete R-390 receivers". Ouch!

Date: Sun, 12 Aug 2018 09:44:44 -0500
From: Cecil Acuff <chacuff@cablone.net>
Subject: Re: [R-390] Interesting find on a R-390 online

Had a friend I met at the company I work for...some 20+ years ago. He s retired now. Was a CW intercept operator that told me he flew all over the jungle snooping out signals using an R-390 series receiver. Told me of kicking them out of the aircraft into the jungle at the end when we exited Vietnam. I've also heard stories of them being dumped overboard at sea off of navy vessels. I think that was standard practice when upgrades were made during deployment. I guess the new radios were loaded along with supplies and upgraded while underway as opposed to a scheduled refit while in port.

Date: Tue, 14 Aug 2018 01:50:27 -0700
From: Larry H <larry41gm@gmail.com>
Subject: [R-390] WWV shut down. Alternate calibration methods

I just read that the NIST has an item in the 2019 budget to shut down 'NIST radio stations in Colorado and Hawaii'. I assume this is WWV and WWVH. Here's a link to the NIST budget:

<https://www.nist.gov/director/fy-2019-presidential-budget-request-summary/fundamental-measurement-quantum-science-and>

If they do go away, how can I calibrate my equipment I only know using WWV.

Date: Tue, 14 Aug 2018 10:15:20 -0400
From: "Robert Meadows" <rpmeadow@bellsouth.net>
Subject: Re: [R-390] WWV shut down. Alternate calibration methods

Just how does NIST expect that shutting down WWV will not have a serious effect on the measurement of time Any other time signal is fraught with failure, especially if it is internet based. The internet will be the first major "failure" in the event of gummite run amuck.

Date: Tue, 14 Aug 2018 09:19:31 -0500
From: SGS 126 <brloper@gmail.com>
Subject: Re: [R-390] WWV shut down. Alternate calibration methods

Use GPS time

Date: Tue, 14 Aug 2018 09:32:06 -0500
From: Phil <pmills7@comcast.net>
Subject: Re: [R-390] WWV shut down. Alternate calibration methods

On what hf frequency does GPS broadcast

Date: Tue, 14 Aug 2018 11:09:20 -0400
From: Bob kb8tq <kb8tq@n1k.org>
Subject: Re: [R-390] WWV shut down. Alternate calibration methods

If you dig into accurate measurement of time, it s been a *long* while sine WWV was a primary source for serious work. In terms of precision, a number of services have come along that will do a much better job of delivering time to your workbench. With some of them, the “done from scratch” cost is actually less than the cost of using WWV.

Date: Tue, 14 Aug 2018 11:20:28 -0400
From: "Robert Meadows" <rpmeadow@bellsouth.net>
Subject: Re: [R-390] WWV shut down. Alternate calibration methods

GPS is much higher frequency, and the signal is something like 168 Db below the noise level. It is only with the magic of computers and software that the GPS signal is copied and decoded.. Of course every pass over Ft Collins every satellite is updated, and part of that update is the time signal that drives WWV.

Date: Tue, 14 Aug 2018 15:22:38 +0000 (UTC)
From: Steve Toth <stoth47@yahoo.com>
Subject: Re: [R-390] WWV shut down. Alternate calibration methods

My understanding is that the WWV shutdown is in a budget proposal clause - nothing has been decided. It may not happen.- Steve

Date: Tue, 14 Aug 2018 15:25:03 +0000
From: Bill Kulze <wak9@cornell.edu>
Subject: [R-390] FW: WWV shut down. Alternate calibration methods

I'm wondering if it will be strictly satellite based. Shame to see the HF go away after it has always been there. I remember when somebody first gave me some old test gear when I first got going, Trying to calibrate the time base on an old Tektronics scope, just from the audio. When I was in the Air Force in the late '70's, the comm station I was in had a couple of those huge 10 channel dual transport reel to reel recorders with 1" tape. One channel

was always WWV. During an event, the operator would stick a piece of paper in the reel to mark the location.

Date: Tue, 14 Aug 2018 10:50:51 -0500
From: Bill Guyger <bguyger@yahoo.com>
Subject: Re: [R-390] WWV shut down. Alternate calibration methods

I think this is just a suggestion to be considered. FWIW I know that all the radio stations I work for and all that I am aware of and the TV guys use clocks that are GPS trained. The old clock system we use to have did have A 5.00 MHz. and 10.00 MHz. WWV receiver built in and had to have a long wire antenna. Now all the antenna that the clock unit has looks like a fat upside down ice cream cone.

Date: Wed, 15 Aug 2018 12:34:42 +0000
From: Steve Hobensack <stevehobensack@hotmail.com>
Subject: Re: [R-390] WWV Shutdown

Time of day is not as important to me as accurate frequency measurement and the calibration of the tcxo on my Kenwood tcvr and R-1051b. FLDIGI is a multi-mode digital transmission program for ham operators that is a free download. It has a very accurate way to compensate your soundcard. After your sample rate is correct as per the fldigi instructions, tune to an accurate frequency station such as CHU 1 kHz below 3330/14670/7850 kHz in USB mode. You will hear a 1 kHz tone, and see a line at the 1 kHz mark on the waterfall, or close to it. Adjust your rig so the mark will read out exactly at 1 kHz. The FLDIGI mode will need to be in 'frequency analysis' and you read the CSV (comma separated values) average in the rectangular box just below the waterfall.

Date: Wed, 15 Aug 2018 09:46:07 -0400
From: dog <agfa@hughes.net>
Subject: [R-390] WWV Shutdown

I've tried calibrating with WWV, but I get about 2-3Hz doppler drift here in the east, so I bought a Nortel GPSDO, plus it puts out 10Mhz that I can feed to my Moto Service monitor and also my TS-2000. I bought a little circuit from OZ that does that for some rigs. Trouble is the DSP is off by about 1.7Hz The new digital TV stations put out a GPS locked carrier signal, but some are offset by a small amount.

I used to work at Goddard back in the '70's, right next to the towers for WWV. There had those big Amperex multi channel recorders from satellites that one track was dedicated to the WWV signal. Somewhere I've got a WWV QSL card for the time they switched to Ft.Collins. I remember even back then some of the technicians thought the moon walk was faked.

Don't know what a new GPSDO sells for these days but I would think one could be had for \$100 or less I've got a Rb standard, LPRO-101, if anyone wants to buy it pretty reasonably.

Date: Wed, 15 Aug 2018 14:50:30 -0500
From: Bob kb8tq <kb8tq@n1k.org>
Subject: Re: [R-390] WWV Shutdown

At least according to those who run it, CHU is not a "frequency reference" transmission. They provide accurate time, but the carrier frequency is just done by a generic oscillator.

Date: Wed, 15 Aug 2018 19:07:38 -0500
From: "Ron.K3PID" <ron.k3pid@sbcglobal.net>
Subject: Re: [R-390] WWV shut down. Alternate calibration methods

What about the millions (Yes millions) of clocks, weather stations, etc that use the 5 MHz WWV signals They can't possible expect to just dump that support! Maybe it's a long term thing say over 10 years or something...

Date: Wed, 15 Aug 2018 19:11:23 -0500
From: SGS 126 <brloper@gmail.com>
Subject: Re: [R-390] WWV shut down. Alternate calibration methods

I think it's all going to be GPS and WWV clocks are going to become regular clocks

Date: Wed, 15 Aug 2018 17:11:41 -0700
From: Larry H <larry41gm@gmail.com>
Subject: [R-390] WWV Shutdown

Dave, How did you measure the drift

Date: Wed, 15 Aug 2018 19:59:44 -0500
From: Bob kb8tq <kb8tq@n1k.org>
Subject: Re: [R-390] WWV shut down. Alternate calibration methods

I think you have WWVB and WWV confused. The wall clocks / weather stations these days all use the 60 KHz WWVB signal.

Date: Wed, 15 Aug 2018 22:52:57 -0400
From: Glenn Little WB4UIV <glennmaillist@bellsouth.net>
Subject: Re: [R-390] WWV Shutdown

I have maintained three digital TV transmitters and none were locked to

GPS. They have the capability, but, it was an option that was not bought. The only way, that I know of, to measure the frequency of a digital TV station is to look at the pilot which is just above the low end of the channel. You cannot use a counter, but, use a calibrated spectrum analyzer. The pilot frequency is published, and is accurately listed on the transmitter name plate.

Date: Thu, 16 Aug 2018 14:34:26 +0000
From: Gordon Hayward <ghayward@uoguelph.ca>
Subject: Re: [R-390] WWV shut down. Alternate calibration methods

I'm using a GPS receiver (\$20) to discipline an OCXO (\$120) at 10 MHz. Clocks etc. use WWVB because 60 KHz is ground wave so the doppler is not an issue and the path length is constant. I built an up converter so I can get WWVB on the 390A. Interesting note: at the speed of light, 1 nS is very close to 1 ft. I did get QSLs from both - "At the tone..." was too easy so I decoded the subaudible modulation on WWV. WWV was QSL number 29608 and WWVB was 217. Another note, one of the big prion labs in the US is in Ft. Collins near WWV and one in Canada is in sight of CHU. Interesting (but off topic) trivia.

Date: Thu, 16 Aug 2018 10:57:33 -0400
From: dog <agfa@hughes.net>
Subject: [R-390] WWV Shutdown

Yeah, Glen, that's what I'm doing. Using the SA function on my Moto 2005HD which is locked to the 10MHz Nortel GPSDO to look at the pilot. Then I go into high resolution RX mode, so it's good to 1Hz. I haven't talked to the stations I've monitored but the few I did check, mostly NPR stations, were all spot on a frequency 25KHz or so. But yeah, you can't count on them being exactly on but they seem to be a good indication. I wish there were some UHF freq standard beacons around. I have a beacon on 2M that's in central VA that I can RX and that one is always good by my reckoning, it's supposedly locked to a GPSDO also. The 6M beacon at Goddard I can sometimes rx, but it seems to wander around.

Date: Sat, 18 Aug 2018 16:46:09 -0700
From: Larry H <larry41gm@gmail.com>
Subject: [R-390] WWV Shutdown

There is an online petition available to sign for the purpose of keeping WWV funded. Here's a link:

<https://petitions.whitehouse.gov/petition/maintain-funding-nist-stations-www-wwvh>

I have signed it - it's easy.

Date: Sat, 18 Aug 2018 23:51:27 +0000 (UTC)
From: Joe Connor <joeconnor53@yahoo.com>
Subject: Re: [R-390] [Hammarlund] WWV Shutdown

It's so easy that even I was able to do it without begging one of my kids for help!.

Date: Sun, 19 Aug 2018 1:24:31 +0000
From: <joldenburg2@new.rr.com>
Subject: Re: [R-390] WWV Shutdown

Thanks for the link, I've put this out on my mailers to 200+ contacts.

Date: Sat, 18 Aug 2018 20:30:21 -0500
From: Stan Gammons <s_gammons@charter.net>
Subject: Re: [R-390] WWV Shutdown

I sent the info to the WSJTX group, the DrakeRadio group, the DXLAB group and a couple of local groups. There's probably 12,000+ members combined in all of those group. Maybe some of them will spread the word to other groups they belong. I stay far far away from Facebook. Maybe a fellow member of this group can post the info there.

Date: Thu, 23 Aug 2018 20:51:29 +0000
From: Steve Hobensack <stevhobensack@hotmail.com>
Subject: Re: [R-390] WWV Shutdown

I have found various on-line tuning forks and tone generators. They seem to be very accurate. You can adjust your txo/tcxo.

Date: Thu, 23 Aug 2018 21:45:56 -0400
From: dog <agfa@hughes.net>
Subject: [R-390] WWV Shutdown

I have four 5MHz Motorola disciplined oscillators that use 8VDC input and a control voltage that's really not necessary unless you can figure out how to discipline them. I've had one on for a long time and I really can't find that it's that inaccurate at least to the 1Hz level or better. I'll sell for lets say \$20 plus shipping for anyone that wants one or more. Moto part number 51R82024V08. they're enclosed in a soldered shut metal box and have 5 PC mount pins on them. I have the pinouts for them. I took one apart and can supply pics of them if someone wants them. There's a lot of Styrofoam in them. They were disciplined oscillators for the Moto UHF Quantar digital repeaters. I've got no use for them.

Date: Mon, 7 Jan 2019 17:26:26 -0600 (CST)
From: K PERALES <kenperales@comcast.net>
Subject: [R-390] Related radio

Many of us who used the R-390 in the military also used the Collins 51S-1 for radio intercept for Airborne Radio Direction Finding ARDF. I would like to know if anyone in this group might have one or more of the 51S receivers in any condition. There is one of the last working models of the RU-8D plane used by us in Vietnam at the Air Combat Museum in Topeka, Kansas that is missing the mission gear we originally used. Since no one is going to be up flying ARDF any time soon, they would only like radios to be mounted in the plane, not ever powered up. Since all of the existing versions I have seen of the 51S are AC models, the original radios were all 24VDC. If anyone out there knows of any radios, working or not, I would be interested in talking about getting a couple for the museum.

Date: Sat, 23 Feb 2019 08:41:09 +0000 (UTC)
From: Roger Ruzzkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] R-390s and a lot of other goodies

Russ, I have been writing the book on this for the last 25 years. Wei-Li with the Pearls of Wisdom has been keeping the small topics organized and indexed. The R390 net website has kept me in print. A bunch of Berry, Berry, and Berry were grinding my grammar long before Grammarly though they knew English. Some older mentors put down the first drafts. The Y2K bunch still has the best R390/A manual. That started before my self-improvement program felt a need to work on my writing skills. For the new amateur thinking hands in hobby an R390/A and a Y2K manual could anchor a child for life. There could be a new boat anchor use. One does not do things like this alone. In 25 years a team has kept the reflector up and running. I do not even know the names of most of the fellows who have had a hand in making it so. Web results

The R-390A Frequently Asked Questions Page Pearls of Wisdom
www.r-390a.net/Pearls/

Nov 10, 2018 - Wei-Li has been collecting and categorizing the wisdom which flows through the R-390A mailing list for ... R390 (non -A) and R-391 Notes ... R388 R389 R390 R390/A R391 R392 and more like these. One prototype had nuvistors best build yes no or maybe on a whole series of comparison studies of nuvistors envelopes compared to 7 and 9 pin envelopes. With a reworked power supply to support a tube set in nuvistors. Science projects to evaluate new technology.

You could make some money selling a book or reference manual. Urban legion. Real life stories from the Fellows here on the reflector over the life of the reflector do not support the complement. The R390 group is only one focus group. Other groups have prospered and their real life experience

does not support books. Books today are like polaroid photos static and dated. Japan is going to launch 8K HD live action TV at the 2020 Summer Olympic Games in Tokyo Japan. Ink on paper how quaint. A goal out of grad school at Central Michigan University in 86 was to go paperless in computer science. I was system testing the LPD17 Ship Board Wide Area Network when I retired on time on plan and moved on. The printer in the room across the hall was still dispensing a case of paper a day. The ship board design was for a paperless society of 900 male marines, sailors, and no beer in sight. I moved on to square D Schneider Electric in Seneca South Carolina. Some thing satisfying about g

loving up and operating a low voltage 480 volt 3 phase full motor control center in manual step control. All brand new and some had never been built before. Built as designed could get people killed and I got missed a couple times. The units not assembled to design could offer equal entertainment. Send me back to Nam my life was physically safer from my buddy beside me on the line. I was having way to much fun at work so my job was sent to Mexico via Nafta. I received two years of social reeducation and training while clocking class room hours for my number 3 A. S. degree on top of my BS and MS. Thank you giant sucking sound. But I did become qualified to teach computer science classes at universities across America. And was hired for more than two years to teach a few classes. The administration liked my class room demeanor because I had been to acting school while in the military and am animated. Platform instructor see Gunny at mail call. The things todays children bring into the class room as minimum requirement. Your laptop shall fire up for the period. A pencil in hand is an obstruction to keyboarding skill. Thank you for your complement on my knowledge. In 25 years this stuff has been fact checked and today it sound good and tight. Because a lot of stuff was passed and some not good. But some one got off their ass and made a post. Do not be picking on live bodies that still read the very stuff you encourage me to assist with in a new book. Segue to my last college degree and stint as a professor. I have a book in the works with a do it your self publisher. Men alone at lunch is not a good idea. Clemson had a PhD candidate needing field engineers to collect some data. Any would be authors looking to self publish care to keep a journal and be part of a "Self publishing for Dummies" what works what fails who has the Pravda who are the thieves. The English department at Tri County Technical College and the graphic arts departments were flat up against it. Want to be writer put up your best 60 page project. Want to be graphic artist collaborate a small book project. Graduates for the project management class team up the book boss, authors, illustrators, facility edit and over sight quality sign off stakeholders and get it done. No one had a rubric to success. A real uphill sell to aspiring students looking to build portfolio and experience. That research project failed. The market expectancy is under 5000 copies total sales for any given self published book. Aggravations exceeds the return on investment. No known sure process is I hand that will walk a good

story through editing to a manuscript. Then the book needs a cover illustration. Then the author and the book need some advertising publicity. The faculty of this college is unable to demonstrate this essential workplace skill set and teach it to students wishing to enter professions where getting published is common. Roger you have been writing R390 like dear Abby and sister Ann Landers for years tell the kids how you were an original blogger. I still have more real ink in the cloud than any other facility member not some thing I was telling an English professor doing real tune up on my stand up acting skills and sourcing content on demand in the Google world. I lost a grade point when I fell off the pink pony and hit the floor in oxygen deprivation. I was an uncontrolled spectacle. I have been beating dead horses for a long time but I was not ready to see pink ponies mauled by Clemson tigers in the hall ways of higher education. I have a history book manuscript just a little wider in scope than electronics and my life span. It was the summer of 16. My mother reached a point where she could not be left unattended. So I moved back to my childhood bedroom (yes in the basement, that is where the boys sleep and tended the furnace fire). My sisters and brothers helped mother and I through two more years here at home before Mother went to assisted living on a Friday the 13th in July 2018. I at age 70 just can not pick mom up and tidy her up and I could not keep her bound down to prevent falls. I was grounded for two years with mom and not about to run away from home chasing a book dream. I parked that manuscript and have compiled two more manuscripts while reading stories to mother. My house mouse employment opportunity has closed and its back to the book. I purchased the blight home next door as my physical fitness program and am cleaning that property up. I was in Lansing Friday evening for a party caucus at the federal congressional district level. Saturday we caucus for state wide party officials. Mother finds out I am back in politics and I will hear about it every day as I tuck her into bed out at her new home. My mother age 90 under the adult supervision of some 20 year old. Figure the odds. The young staff are perplexed by the way the residents resist so effectively like two year olds. Mother can herd two or three litters of kittens at once. She never mastered the 33 all at once before the max count decreased due to natural causes. Young child you are defenseless against my mother. Do you see me seeking her scorn Mom is taking lessons from a lady who celebrated 100 years of life between Thanksgiving and Christmas. I am looking for an illustrator to do the book cover art in an 8K HD screen saver jpeg file. A travel agents wall poster land scape image of a time when. One project one book credits and the whole nine yards. I have been working for two years on this off topic alternate life production sub task. I am a Geek and Nerd and Old school. The cheese moved and I present with 8K HD support in the lecture hall. Selling the stuff I am before Summer 2020. I know exactly what the elements of the image are. This is land scape and it looked just like this. Here read it for your self in Sumerian. (or my English [not from the original]) But this is

art and it has functions that manifest when shared between humans. The theory on electrons may be all wrong but we accept it and can carry on with the symbolic logic and get some things better understood even if viewed in error. Seriously if one of you Fellows can illustrate and would like to hear the very off topic not R390 offer of fame fortune and market rate art sale please post back and we will take it off the reflector here. If you know some one who is looking for an book cover illustration opportunity share an email address with them. Please I have a jpeg collage image as a rubric I have three pages of text with specific detailed features because the landscape is historic in its own context. I have an excel book with a dozen plus sheets of fact check features. It was my assembly notes of why the parts exist and where they belong in the composite illustration. I have a back story on the story and why the illustration is what it is and why it belongs on the cover of my book. I will zip and sent the four files to any one that would like a chance. I will queue all responses and work one at a time. I will tell those on hold that they are on hold but the offer is open. As queries withdraw I will pick up the next offer and explore it. When some one tells me we are on the same page at the level I have in the zip file I will alert the other applicants. When it gets done it will be shown to everyone. I can not imagine completing this task with out some collaboration time on the telephone. Talking to real people about real work scares them. Talking to real people about paychecks and book credits scares them. I am not asking any one to speculate more than a couple hours on my offer. I am looking for the illustrator who can accept what we were told and bring the details into visual context. It is an old image that has been carved into stone more than once. If you find your self with a real feel for what I am seeking on the P. T. Barnum transition between side show attraction poster and the need to purchase a ticket and step inside you may be the talent I am seeking to create my illustration. I have been here before the event fades real fast in the what did you produce this quarter and what is the production plan for next quarter business world. Stop telling your friends and even they will forget it. Co workers will never forget it. Band width abuse and I ask forgiveness

Date: Sat, 23 Feb 2019 14:48:41 -0500
From: Bruce Hagen <b_hagen@sbcglobal.net>
Subject: Re: [R-390] R-390s and a lot of other goodies

Thanks Roger. I have used your knowledge many times and must thank you for what you have shared.

Date: Tue, 26 Feb 2019 20:30:24 +0000 (UTC)
From: Roger Ruszkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] Stash in Shelby NC has new owner Parts Exist 70 projects were offered in the original advertizing.

Fellows, Can we have a review of your English grammar Long translation is You have not seen this hardware in your life time. It has been and it is old used needs parts and care before it can have power applied. 70 receivers is stock in any dictionary. This find was below the R390 reflector groups imagination no problem. There are a lot of things people just do not need to know. How often have you read it here. If you need some parts ask for them here. Some one will get with you one on one in the mail and not here on the reflector. You may even have a phone call with another real human at some point. Three or four sales a year do not keep R390 parts depots open. We are a subset of Collins who will touch the unclean of Motorola, Capehart, and Cosmos ilk. There is order in the universe. This is the front door for the R390 family of receivers. It is the parts counter. If Radio Shack can not keep the doors open what do you expect from the Amateurs' When it settles the new owner knows we exist as a body of customers closes to home with dollars in hand. We will be politely advertised to. New to you Old original Stock extra. NOS The subject is R390/A receivers the adjectives must fit the subject. While NOS may logically be Chummily toys to some. The Old Mans idea of NOS are bounded by reality. This is history fellows and it went zing. The buyer and the seller knew what they were bartering. We care not where the manna was found. Where is it now to be found and acquired in smaller lots for those of us who are owners and needing parts support. To know that many receivers are out their free range and that parts exist. Rebuild repair maintain is labor cost. Good looking projects were bartered at fair price. No one is claiming a return on investment and needing to pay taxes. It is well in the fabric even if sun freckles do not meet marketing magic math models. Logical but improbable, Roger

Date: Fri, 1 Mar 2019 16:49:50 -0500
From: Nick England <navy.radio@gmail.com>
Subject: [R-390] Royalty and R-390A

Norway's King Olaf V visits R-390A receivers
<http://www.navy-radio.com/ships/ccl/clc1-1960-book-03.jpg>
Aboard USS Northampton 1960

Date: Mon, 15 Apr 2019 00:35:32 +0000 (UTC)
From: Perry Sandeen <sandeenpa@yahoo.com>
Subject: [R-390] Chuck Felton, KDOZS, SK

Compiled by Ray Osterwald, NODMS My friend and long-time ER reader and contributor, Chuck Felton, passed away peacefully early Thursday morning, September 27, at the VA hospice in Cheyenne Wyoming surrounded by his family. A service was held Monday, October 1st, 2018. He had been ill for several years and his electronic service work had been declining.

Chuck was a veteran of the Army Signal Corps during the Vietnam era but served stateside. He was an expert with many classic military transmitters and knew the Collins-designed T-368 very well, having many stories about working on them. He lived for many years in the mountains west of Boulder, Colorado while he worked for National Bureau of Standards doing RF research work. He was eventually laid off and moved to Wheatland, Wyoming, to escape the growing population centers around Denver. Later, he moved the family to Cheyenne where the schools and employment opportunities were better. He was the author of 19 articles in Electric Radio, such as The KDOZS Equipment Notebook, beginning with the February 2005 edition. His last article ran in ER#308, January 2015, about special passband alignment techniques for the SP-600IF. All of his articles were popular and are still being requested. He had a rather unique writing style.

Mr. Felton was well known for his repair and modification services. He produced the "Felton R-390F" receiver that contained hi-fi audio modifications designed by Bill Kleronomos (KDOHG, SK), with various RF changes Chuck designed for high performance. Also included in his work were specially modified SP-600 receivers. Anyone owning a Felton-modified receiver such as these is quite fortunate. Chuck was a regular check-in on the Wyoming Cowboy Net, the Western Kansas 160M Net, and was net control for the Mountain States portion of the 1st Wednesday Collins AM net. He could also be found on any of the other AM nets or on any other AM activity he could find. As Matt Matthes (KDOEVS) says, "Chuck was a true Radio Man and electronic technician! He was actively rebuilding, repairing and hot rodding many different kinds of ham radio receivers, transmitters and transceivers. His knowledge and fun personality will be greatly missed." Chuck Felton was on the cover of ER #159, August 2002. Regards, Perrier

Date: Thu, 25 Apr 2019 23:34:12 +0000 (UTC)
From: Perry Sandeen <sandeenpa@yahoo.com>
Subject: Re: [R-390] R390A noise floor-whats sufficient?

Wrote: Suffice it to say, the R390a's noise floor - especially if you optimize the tube locations - is more than sufficient for our modern day, noise filled environment. Disconnect your antenna, put the receiver in MGC mode, then short the antenna balanced inputs together. Compare that to what you hear to what you hear with the antenna connected on a dead frequency. If it's dramatically different - which I'm sure it will be - you needn't worry about the R390a's noise floor. -143 dB is crazy low (even compared to a thunderclap) and will almost certainly never be achievable in real life except in a screened lab. As my good friend Bob KB8TQ would say: It's complicated.

Now as a generalization that's a fairly accurate assessment. The problem becomes with all the common exceptions that occur. Those exceptions are common enough that Ham transceivers routinely offer receiver specs far better than what *surveys* deem necessary for HF receiver needs. Now we won't call the general ham radio operator *cheap* but extremely thrifty fits well. Hams aren't going to pay for such stuff (say \$9K) unless it provides tangible benefits.

Now let me take you back to yesteryear of mid 1965 to Nov. 1999 at Karamursel Air Station TUSLOG DET 28 Turkey, located on the south shore of the sea of Marmora. It was one of a number of USAF Security Service radio intercept base along that south coast. Cutting to the chase. I spent two-thirds of my time there in the base receiver site. We had a 3 bay Hughs synthesized receiver for most of our radio traffic which was IDSB. One side was 16 channel encrypted RTTY and the other a voice reserved channel that went from the eastern Turkey border to ENT AFB in Colorado Springs, CO. We also had banks of A's from some other sites as well as a few for our shop RTTY and a couple of spares.

Now we were in a radio quiet area and had directional rhombic antenna's but we routinely picked up AM pirate radio rock and roll stations off the English coast to feed to the ditty-boppers in the intercept radio building. These stations were about 1,575 miles away on a ground wave. They were not 50 KW clear channel behemoth's with umpteen hundred feet tall verticals as are common in the USA but more like above average peanut whistle stations found on the higher end of the USA AM broadcast band. We also routinely kept out HP 103B() shop master oscillator calibrated by using the one second ticks on WWV 10MHz during daytime hours with a Oscope triggered by the 103. The ground distance is around 6,175 miles so we had to have at least one, or maybe two skips to get to Turkey. We had no newspapers (Stars and Stripes) Playboy magazine (the base chaplains) and just a small AM station AFRTS with all the Viet Nam and US news that we should need to hear,

So on 2nd (mostly) and 3rd (a little) shifts we ran wire service RTTY. Reuters, AP, UPI whatever. We went through rolls of yellow print paper as if it was TP in a diarrhea ward. We were on standby maintenance except for changing the bay receiver frequencies very infrequently. So watching the RTTY feeds was one way to pass the time. There would be long periods of time where the RTTY was printing plain text (using the line output) but when you'd turn up the audio output all one would hear is mud. For varying periods of time the RTTY would be quite and then many times the output would just be some minor update, so we tended to surf the different services for more/new info.

So there were times when we could hear a flea fart in Fiji or have a hard time receiving AFRITS in Greece just 600 hundred or so miles away with clear reception.

The other issue to consider with minimum noise floor figure is that the receiver ages and the original noise floor decreases. So whatever noise floor one strives for goes back to It depends (on what is important to you as no one size fits all)

Date: Fri, 26 Apr 2019 02:18:49 +0000 (UTC)
From: B Riches <bill.riches@verizon.net>
Subject: Re: [R-390] R390A noise floor-whats sufficient

Thanks for the memories - was stationed at 2140 comm sq Athens 1962-1964 radio maint - still working on R-390A's!!
73,

Date: Fri, 26 Apr 2019 10:52:22 -0400
From: dog <agfa@hughes.net>
Subject: Re: [R-390] R390A noise floor-whats sufficient

<clip>
Re the listening posts I was in Berlin 63-65 as a German linguist. USM620K. We had plenty R390's but my job was listening to a 64 channel PPM link from the East German Central committee and keeping track of conversations. Pretty boring most of the time. Once in a while we would listen to east German/Russian maneuvers on VHF, I think we used WJ/CEI RS-111's I have one now I'd like to get rid of.

Date: Mon, 13 May 2019 20:06:19 -0500
From: <wb5uom@hughes.net>
Subject: [R-390] R-390's in Vietnam

Topic has been visited before, saw this one and decided to share:

<<http://oldspooksandspies.org/Photos/Chisholm/pauldal.jpg>>
<http://oldspooksandspies.org/Photos/Chisholm/pauldal.jpg>

>From the website :
<<http://oldspooksandspies.org/Photos/Chisholm/Chisholm.html>>
<http://oldspooksandspies.org/Photos/Chisholm/Chisholm.html>

Date: Mon, 13 May 2019 20:30:31 -0500
From: Cecil <chacuff@cableone.net>
Subject: Re: [R-390] R-390's in Vietnam

Great pictures...I love seeing these things in the wild. Thank you guys that served...and thanks for sharing a window into what it was like. Priceless! Interesting thing...none of those radios were bolted in...

Date: Sun, 26 May 2019 06:57:15 -0400
From: <jgedde@optonline.net>
Subject: [R-390] R390/R390A really "classified?"

Were the R390 and R390A really "classified," or is that a legend? I have read in the manuals that they need to be destroyed if they are left behind so that they can't be used by the enemy, but I'd imagine that to be the case with any usable equipment left behind. I have also seen engineering papers marked as "RESTRICTED" with the word crossed out. If they were classified, when did they become declassified? Curious about that.

I'd also love to hear R390/A stories from those of you that used and/or service them during wartime. Again, curious. 73's, John

Date: Sun, 26 May 2019 10:56:46 -0500
From: "William J. Neill" <wjneill@consolidated.net>
Subject: Re: [R-390] R390/R390A really "classified?"

<https://knss.radio.com/articles/captured-uss-pueblo-displayed-n-korean-propaganda-prize> <<https://knss.radio.com/articles/captured-uss-pueblo-displayed-n-korean-propaganda-prize>>

And look and the R-1406/BRD-6 receiver used with the BRD-6B receiving set:

<http://jproc.ca/ve3fab/brd6.html> <<http://jproc.ca/ve3fab/brd6.html>>

Date: Sun, 26 May 2019 12:12:08 -0400
From: Glenn Little WB4UIV <glennmaillist@bellsouth.net>
Subject: Re: [R-390] R390/R390A really "classified?"

The USS Pueblo was probably a planned sacrifice.

Before she left for this mission all destruct charges were removed and all defensive weapons were removed.

All she had for defense was small arms.

There were two submarines in the area ready to defend the ship but were ordered to stand down.

Where can I find this report?

With no destruct charges, equipment destruction was minimal.

To the best of my knowledge the R-390 and R-390A were not classified.

Some of their uses might have been.

These receivers saw a lot of different uses.

Some by intercept operators, some for DF and NASA used some for some

of their missions.

Date: Sun, 26 May 2019 11:28:24 -0500
From: "William J. Neill" <wjneill@consolidated.net>
Subject: Re: [R-390] R390/R390A really "classified?"

NSA reports on USS Pueblo:
<https://www.nsa.gov/news-features/declassified-documents/uss-pueblo/>
<<https://www.nsa.gov/news-features/declassified-documents/uss-pueblo/>>

Date: Mon, 27 May 2019 07:54:24 +0000 (UTC)
From: Roger Ruszkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] R390/R390A really "classified?"

John, It is a shit and shinola subject. Enjoy the read. I launch Time Line at Contact in the Desert later this week for real. Some days in my real life exceed my own imagination. Where were you day one the DMZ in Korea when I jammed an anchor rod through a rusted mortar round I was standing astraddle of while looking up for directions. I am a radio repair guy hanging with my antenna buddies on the DMZ in Korea a cake walk assignment after my year in Viet Nam and about to be victim of Korean war left overs. Can I have an attitude check here? The United States Army Security Agency is a no bull shit spending your tax dollars still today and listening organization. "We" have no plans to leave this week but if the winds of Washington change and we are on the way out the door please attend to a couple important things you would not want to be ask about if captured by the other side. Can you say Bengasi. Do you remember the USS Liberty? Like every emergency response enacted to plan there is an order of pre planned steps designed to reduce the final total impact on the six sigma community involved in the emergency. A large contingent of the military act like an 1 D 10 T in very stressful situations (normal human reactions come into play). Therefore the preparedness must train in advance down to this ugly detail of level as preservation on investments (thus minimizing on collateral damage) When the 122's are dropping in and the 101st Airborne is loading 8" under the direction of a Hughes Fire Control Radar System in response your first consideration is for the paper quality as ass wipe, your second consideration is for the paper quality as ear plugs. Light the fuse on a 122 and an 8" shell would fall on you before the 122 reached its destination. One in the barrel, radar online, rocket up, barrel swivel and auto fire. When the gun servos auto-spun the 101st Airborne crew was ready to load the next round. Hughes fire control went one for one until the incoming quite for many months. Need an acre of jungle cleared Buy a 122 with free set up service of the GPS locator device. Once the customers learned you could not run from the device to escape the coming land clearing operation or dig deep enough to endure the Jello ride sales plumed, but P. T. Barnum explained the continuing

cash flow. It still works in Beirut today and one day all at once. They can not kill us all. The United States Army Security Agency used the explosion buffer zone around the 101st Airborne ammo dump as an antenna field for dual use on the real-estate one fence and field to mow. It was an Army base war or no war. Sorry I fell asleep. for dual use on the real-estate one fence and field to spray and keep defoliated. When the VC went shooting at the 101st Airborne ammo dump, the response was a very state of the technology over-kill response. The 101st Airborne did not give a rats ass about us ASA rems. We keep the generators running for the air field lights, antenna field lights, and yard lights all night on the chopper pads and convoy assembly areas in the ammo yard. We were 75% of the warm body mass on the one sixth of base bunker perimeter we shared with the Ammo yard guys the civilian Asphalt company that put up zero manpower for night time guard duty. Once every ten days you did an up all night three REMF's and a man that wants to go home doing his last few days at the ammo dump across the road from the air field and a coming flight home. Do not ask or we will help him beat the shit out of you and log you as a lost 1 D 10 T that walked into the wire and rats. Out taking a piss and you fell face first into a dumpster of empty ration cans, a couple bent up stands of razor wire plus a tangle of 100 foot long lamp cords from the used Claymore mines and woke up all the rats. Then you and twenty rats each attempted to make a fast exit. You do not have any rat bites and we will not need to tell your mother about this night. Military medics know how to explain things to NCO and Officers with out the generation of additional paperwork. Serving in the Agency offered duty at locations with above average security and very over average aerial ?spraying because the antenna field was full of left over fire works from the ammo yard in past years. The ammo yard had been hit more than once. The events were historic film footage. The antenna did set in the explosion buffer zone around the 101st Airborne ammo dump and they had used their dual use property more than once with out a proper police call. We needed acres of weeds keep under control and we could no do drive the flame throwing trucks in the antenna fields any more. That is not EOD procedure. If you are on the USS Pueblo and about to be boarded by the North Koreans and no one can prevent it, you may not want to explain all the extra receiving equipment, tape recorders and very interesting story books (case files). After all the USS Pueblo was not a floating cell tower for sailors at sea. If you are copying clandestine spark gap on the USS Pueblo you likely do not want that known to the your new host for the next few years and well beyond your term of enlistment. One analysis heresy is the spark gap was a ruse to suck in an American Asset. The Russian and Chinese were range testing and we were baited in. Some in Washington are giving you away faster than you understand. We are not trying to get that spark gap operator, discovered, silenced, captured, or killed what ever the motivation for the transmissions. Until we have a good copy and then analysis we do not know if this is a pop up opportunity or not. You are

about to become a prisoner of war. What should you do to minimize your coming agony? Just having an education in Phnom Penh could get you killed. Revisit Rwanda as an exercise in minimizing loss in uncertain times. All of life is not sheltered by the 101st Airborne 24 7. Contrary to conspiracy theory stuff was being down-graded and set free all the time. On the end of the contract the Military had procured the property rights. And what ever the technology in the document it just is not that leading edge any more and likely being taught at the University in a technology class. Or Tom Clancy has it published. Top secret, Secret, Confidential, No Foreign Nationals, Restricted and a dozen more words are in use to limit the loss of intellectual property rights. How fast we can kick your ass is a Hughes proprietary data point that has never been sold to anyone. Secrets are about business function not system function. Some things you have read have application in time and place. Asking vets to mix and match for the fun of it is not a conversation starter. I have worked in buildings with more termite setting atop cabinets than the 101st Airborne had on hand over in the ammo park and we knew the numbers because we copied all phone calls in Viet Nam on every system and exchange. Life with the real stuff sucks. Both the North and South Koreans would like to step back from the DMZ. And light up a fire works display that has been in assembly since the armistice. As a start on the neighborhood redevelopment in the world largest wildlife refuge that straddles the DMZ centered in a 10 kilometer wide civilian no-go zone. I had a good back wind with elevation and I spit into North Korea from the guard point on the fence. The building contents were I worked on a mountain top that over looked that guard post were state of the art and some were one of a kind instruments that included the R390's as the system detector of choice. Did you not see those IF deck mechanical filter band pass images last week? Just how unstable were those new radar transmitters and did they actually work well? We copied it, pointed an antenna at one and it moved, mixed it down into HF, watched our counters set rock solid while an operator tried to keep the R390 on the signal. The HF paper dispenser was the paper recorder of choice and we sent rolls to Washington for personal use. Black ink on white paper what good is it? From the mountain top we watched the South Korean Army play field games on the south side of the DMZ. Can we detect the radar signal here? South Korea wanted to know if the North Koreans were just looking at them with a new flash light in hand? Analysis have a report to produce daily and it is hung on the wall to be read. Hay everyone this is the current bull shit story and if you have heart burn you know who you need to see pronto. Check this for errors. You would think the reading room was a stall in the latrine to hear it talked about in the hall. Once upon a time while serving at Phu Bia the honor of house mouse came the day after a night of guard duty. The ten day count was, day off, night on guard duty, that day and night off, next day house mouse, and back on 12 and 12 for a 240 hour count. The maintenance shop is not required to visit the reading room. As house mouse you did do daily

housekeeping to include the analysis areas. It was the job of the house mouse to care for the I corps commander and entourage when they come to the reading room. We keep that end of the military as far out of our capability as we could. Our commander once told the I Corp Commander that he would be happy to drop a couple mortars across the base on to the I Corp Commander's bunker so those folks would know what incoming sounded like. Just because my boss knew that fellow at I Corp had missed II and Korea and never heard an incoming round in his military career while in combat did not save my Commander's career as he had never had that experience himself. A Chopper flew across the air field, our antenna field, the ammo yard and points beyond hill 180. The chopper was doing night infrared mapping and throwing flares as flash bulbs for the visual image with the infrared details. We are the ASA and we knew for days the photographer was coming. When the first flare went off our kids listening to the radio chatter on the air field hit the alarm and sent every one to the bunkers. When we were photographed forty flashes into the flight we were all standing in the street waving at the helicopter and yelling for more beer it was going to be a long night. We doubled our population in the thermal images as still warm and vacant plus live in the street. We were a science test and knew we were a science test and were pissed and had a response prepared. When I Corp asked what our problem was our commander was not in the know that the troopies in his command had abused their need to know. A couple naive speedy fours were sent to assure our Commander the incoming was real the flares were real and just two different events in the same set of sounds and time. Would the VC drop a couple mortar rounds on the ammo yard just before the photographer arrived? If we know it they know it? Yes sir. Our Commander went foolish on the phone and ended his career that night. What you did not think we were recording those phone lines. The Vietnamese girls hung up their head set in the telephone exchange and filled out to the trench line to get in on whatever was happening but the photographer had passed them by and 200 girls in the middle of an army base compound at 10 pm are not present in the photographs shown in Washington DC. I hear tell the tapes from the phone exchange were also played in Washington DC. Our boy could not just say I am checking sir and we will stand down now on your directive. For once the real military knew more about the current situation than the ASA commander knew and he was not ready for them to be right on that evening. Weekly visits from a real general became part of life in the field station the military had real concerns for our health and safety as ASA officers were using the site to chalk promotion points. The Army put that training program under formal review. Much education occurred in the reading room at Phu Bia. New Years midnight was a sight to see and you only seen one in five. Hearing is a human problem. The machines are awesome at listing in a whole range of spectrum. I had three R390/A's in Phu Bia with addy ons I was ready to set a thermite on. I had two more at Torii station Okinawa I was ready to give the treatment to. There were

different and you still do not need to know. In general life is not a problem. Different day and location and the extra hole in a standard military receiver may not be some thing you want to discuss with your new host. You may not be able to disappear a whole R390 with thermite. You can disappear and extra hole with thermite. You can pawn the mess off as a 1 D 10 T moment of no scientific or military value. Twice upon a time some of my R390/A were receivers of interest. Roger.

Date: Mon, 27 May 2019 07:04:26 -0400
From: Glenn Little WB4UIV <glennmaillist@bellsouth.net>
Subject: Re: [R-390] R390/R390A really "classified?"

A little punctuation goes a long way.

Date: Mon, 27 May 2019 12:14:33 +0100
From: "Andy G8JAC" <g8jac@btinternet.com>
Subject: Re: [R-390] R390/R390A really "classified?"

In the British Army technical documentation system of Electrical & Mechanical Engineering Regulations (EMERs), the resistor colour code was classified as Restricted!.

Date: Mon, 27 May 2019 07:15:12 -0400
From: <jgedde@optonline.net>
Subject: Re: [R-390] R390/R390A really "classified?"

I read your response an hour ago and have been thinking about it ever since. Firstly let me say thank you for writing it. Secondly let me say that I meant no offense by my question. I should have verbalized it better. What I was asking was less about it being a classified radio and more about how it was used, where it was used, how it was maintained, how it was repaired, what it was like working on them. The last thing I intended to do was stir up a Veteran. You see, while I am too young to have served when the R390/A was active, I do come from a family of Veterans and know better than to ask questions the answers to which I cannot understand.

Dad enlisted and served in the motor pool in Thailand during Vietnam and went into Cambodia to retrieve trucks. It was years before he would do more than hint he even went there. Now, all he says is he went there to retrieve motor vehicles. I can tell that bad things happened there... He doesn't talk about it. He also spent some time as a DI (man does Dad have a loud intimidating voice!)

Both of my grandfathers were WW2 vets. My father's father served in Italy (Riva Ridge) in the 10th Mountain division (87th) fighting the Germans.

He earned a Silver Star there, but to this day I don't really know why. I don't know whether it was because of modesty (he was a humble man) or because he just didn't want to talk about it. On the other hand, he would talk, no problem, about training at Camp Hale, being in charge of supplies overseas, etc. As far as being in charge of supplies, it clearly taught him. You've never seen a more organized man. He documented everything he did in little notebooks, everything he bought, everything he fixed, etc. etc. Even planting a tree in the garden went in a notebook with the date, what kind of tree it was, measurements, etc.

My other grandfather, I really don't know what he did. But as a child he would show footage from the liberation of concentration camps and tearfully tell us kids we need to watch it because it was our job to make sure nothing like that ever happened again.

I grew up with the expectation that it was my duty to serve. I have always felt small because I was born having been dealt a bad set of cards health-wise and was unable to serve. On the other hand, my health has, more times than I can count, made me come close to buying the farm and that changes you (last time was the closest yet and it was back in October). But, being raised like I was, I tough it out and fight (but I must admit I'm growing weary of seeing the elephants).

Even my sister served. She was part of Clinton's women in the military push and was part of some kind of new program where she underwent grueling training with one of the special forces (I can't remember which). She was one of 600 women in the program and one of three that made it through. I think she would've died rather than quit...

So again, it was the last thing I wanted to do was rile anybody up and I apologize if my questions offended anyone. You see, I first saw an R390 in a magazine in the early 80's and my eyes lit up. All these years I've wanted one, and now I'm the proud owner of two: an R390 and an R390A. I get so much enjoyment out of working on them, restoring them to their former glory, and of course using them. But, one can't help wondering what their history is and where they came from...

Regards and thank you for your service, John

Date: Mon, 27 May 2019 20:12:15 +0000 (UTC)
From: Roger Ruszkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] R390/R390A really "classified "

Andy, Oh Yes, That political incorrectness could still get you canned in some parts of the Empire. First Lady Hillary Clinton posted a notice on the bulletin board in the white house. All the women would ware suitable

panties on the premise. No bare bottoms while on the parole clock. Some people will hunt snips anyplace and the adult leadership makes serious efforts to limit personal injuries. I do believe you fellows remember your color code sequence. No for the awesome poetry But for the stupid presentation. Roger

Date: Mon, 27 May 2019 15:16:14 -0500
From: <wb5uom@hughes.net>
Subject: Re: [R-390] R390/R390A really "classified "

Ditto what Spence said.
Thanks Roger!

Date: Mon, 27 May 2019 20:19:56 +0000 (UTC)
From: Roger Ruzzkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] R390/R390A really "classified "

Glen, I send a copy to my self at flowertime and a copy to r-390. I see what I send. I see my copy back to me from me. I see what I get back from the reflector. I see what you posted back to the reflector. I envision you need a parameter tweek in your e mail some place. I have you folded around again on this to see how you re warp. Roger.

Date: Mon, 27 May 2019 20:23:18 +0000 (UTC)
From: Roger Ruzzkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] R390/R390A really "classified "

Glen, one was good now here is two. What do you see from me? What do you get from everyone else ?

Date: Mon, 27 May 2019 22:08:07 +0000 (UTC)
From: Roger Ruzzkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] R390/R390A really "classified "

John, I have been entertaining the readers for 28 years. You drew to an inside straight. I have not laid down this many words in a long time. You are not the target you just ask a question and received a DI answer. What I was asking was less about it being a classified radio and more about how it was used, where it was used, how it was maintained, how it was repaired, what it was like working on them. I do not have a need to know how I used those receivers or where I was if I did use one of those items you speak of. If I do not need to know myself I surely have no need to bring the subject up. I tried to tell you what it was like working on them. The job sucked. The work sites sucked. The food sucked. Your sex life could not even get sucked. We played stupid games with people's lives because we could. My own government was killing both me and the weeds with agent orange. In

1971 I am standing in a field of left over Korean war ammo dump working on antenna's. Flash back a year to Viet Nam as you stick a stake in a bomb. Is Roger a little weird? Yes. It took more than one of these days. One day I was just leaning on one of my big video recorders in Korea. The one and only hand delivered panadapter set on the table and was patched into an Rf output on the Hughes Receiver System. I had read the manuals and had the equipment set up and operating. Some operator screamed and the record button was pushed and I left the room as an excess body. I did not have a need to know what the mission was. My recorder with a virgin tape copied our first intercept of a Russian satellite download. They played the tape back and watched the panadapter display. The second Russian satellite pass went to tape and was watched at the same time by the field engineers before central planning even knew the trick could be done. ASA Korea received a meritorious service award for some activity and it was not for growing morning glories on the antenna guy wires. The guys in the room did not think the Russians were able to watch their downfeed in real time like we could. Because over in the next chapter that mission room was listening to the Russians bitch about the link between the antenna and their watch floor being down and timing was way off. Because two chapters over another mission room was tripping the satellite early and no one was getting data until we were ready to look. You need Clancy to give these days justice. The South Korean Army was in the fields around the mountain using a North Korean transmitter and crystal detector receivers to inspect the topographical maps and get a new set of markups collected for editing. We are agency, we read your mail, listened to you on the phone, tracked your spending habits, and monitored the radio in use by the field engineers. We knew if you just had the shits. We still know if you just have the shits. We still know they want to know if we have the shits. We know they do not know the truth. It is a manpower and paycheck problem no one else has solved. I have the South Korean Army kicking this ordnance shit around and no one will pick it up for disposal. Go read the pearls of wisdom for your maintenance help. Read the thread heading in the monthly digest. Some of these topic run long and in season with fishing and sausage making topics. Road kill references are always threads worth reading. This is where you will find the leads you seek. Go and look my stories up in the archives and read them at your leisure. This space is reserve for new current original work. You wrote He also spent some time as a DI (man does Dad have a loud intimidating voice!) Yes you learn to do that in a theater class, and mine still has not gone away. I am in Korea trying to recover from a year in Viet Nam and had help. One day I am about to kill myself poking at 20 year old ordnance on a battle field. I did a show stopping flash back. A couple months latter I have a special package and needed to get reading. A week later and I am in a room as operating engineer on a one of in the field. Try this if you will for us please. Whatever it was when ever it was it worked and we had another chunk of junk on your uniforms for

inspections. Do the web searches for ASA. The unit history and what was going on is all military history. You will find the conspiracy threads doing index services for you. They have history all mapped out. Respectfully, Roger.

Date: Mon, 27 May 2019 22:20:59 +0000 (UTC)
From: Roger Ruskowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] Gone traveling and to get in some air time AI4NI

Fellows, Please submit a request to central control for a change in operations. Roger needs a response from Connie Rod for his silly little problem. You want to read fix it here then you write fix it here. Step by step like roger has laid it down for 28 years. touch what where and set this to the value of. How do I fix the problem in my mail browser
Respectfully, Roger.

Date: Mon, 27 May 2019 22:39:18 +0000
From: Tom Bridgers <tarheel6@msn.com>
Subject: Re: [R-390] R390/R390A really "classified "

I agree with Spence. Roger put a lot of heart and experience into that posting. I enjoyed reading it. ASA guys in my limited experience are a different breed of cat. In the early 1960's when I was stationed in Bad Kreuznach, Germany with the HQ's 8th Infantry Div, the ASA guys lived on the third floor of the three-story building that the 8th Admin company GI's occupied. The rest of us ordinary GI's bunked on the 1st and 2nd floors. The stairwell that took us to the first and second floors also continued on to the third-floor. Except there was a big sign above the steps that would take one to the third-floor, that said "The third floor was only for ASA personnel, and off-limits to everyone else". I don't remember whether it said you'd be court-martialed if you would trespass, but I don't recall anyone in our 8th Admin company violating that restriction.

Mostly it was like the ASA guys didn't exist. During my entire year and a half in Germany, I never saw an ASA GI except on one occasion. A number of us Admin guys had to re-qualify with the .45 caliber pistol, the M1911, as I recall. So we go to the pistol range, and there is another group of GIs there. Except these guys wore no insignia, or any indications of rank. It was a GI uniform alright, but no rank whatsoever was sewn or pinned on. When we asked our sergeant who those guys were, he quietly said those guys are ASA. They are with the Army Security Agency. Don't try to talk to them, because they are not going to talk to you. Leave them alone. So we didn't interact. They stayed over to one side of the pistol range, and we stayed on our side. -Tom

Date: Tue, 28 May 2019 01:19:09 +0000 (UTC)
From: Perry Sandeen <sandeenpa@yahoo.com>
Subject: [R-390] Memorial Day

May all the list members everywhere in free countries who served in their respective armed forces receive thanks for the sacrifices they made. In the armed forces all gave some, but some gave all for us.

Date: Tue, 28 May 2019 01:49:54 +0000 (UTC)
From: Perry Sandeen <sandeenpa@yahoo.com>
Subject: [R-390] resistor colour code classified

Thanks. That (sadly) helps me understand why Great Britain is what it is today. [And I like to be able to go back and visit again.]

Date: Tue, 28 May 2019 02:15:16 +0000 (UTC)
From: wli <wli98122@yahoo.com>
Subject: [R-390] Subject: Re: [R390] R390/R390A really "classified "

These last few days have been a very interesting series of posts for me. I was on active duty in the same time period, with a much less colorful experience. As you know, the Marine Corps has no medical arm, and we in the Navy provided doctors, nurses, corpsmen, and medical equipment to the Corps. I spent all my time teaching Navy hospital-corpsmen on their way to Vietnam, at Camp Pendleton. Although my original orders were cut for I-Corps, Navy Intelligence would not grant me the necessary security clearance for overseas duty since one of my aunts in the old country had married a Party member. Took them hundreds of \$'s and a full year before I was finally cleared, only to have the President cancel my orders and those of our Division one day before we were scheduled to deploy. Back then I had a BC-348C and would listen to multiple SW foreign stations to follow the war. Today, I know that had I access to a R390A, I could have picked up many more stations.

One thing I observed, was that returning corpsmen were outstanding individuals. Much later, when I was in private practice, having former corpsmen on the surgical team was a huge plus?something the administrators above me had no clue. Corpsmen were absolutely the best people to run my heart-lung machine in surgery.

Date: Tue, 28 May 2019 10:37:32 -0400
From: dog <agfa@hughes.net>
Subject: Re: [R-390] R390/R390A really "classified?"

I was in Berlin '62-65 at one of those ASA listening posts as a linguist in the Gruenewald, the Americans called it Teufelsberg. The Germans called it

Trammelsburg. USM620K as I remember,, you might be able to find a reference or 2 about it. When I first got there with the ASA we wore no insignias. They soon figured out if there was no insignia, they knew who you were, so we were incorporated into the Berlin Brigade for the uniform. No ever said much about 'military intelligence'. Yes, the ASA guys were sort of a breed apart. The MP's and Gaitors next door to us thought we were spying on them. I noticed when they required a 4 year enlistment for the language school, the quality started going way down, about the time I left.

Date: Tue, 28 May 2019 13:24:06 -0400
From: kellerfamily01@charter.net
Subject: [R-390] R390/390A really "classified"

I was in the USAFSS in the 1950s, which was the Air Force version of the ASA. Our main reason for existing was to provide military support for the NSA. We did a lot of interesting things that probably should not be talked about even today. But, when we were on intercept duty in the operations shack, we had an R390A and a Hammarlund SP-600 in front of us. We used the SP-600 to search around for comit related to the mission and, when we found something, we would lock it in with the R-390A to copy. Bill WB5KXO

Date: Tue, 28 May 2019 12:29:06 -0500 (CDT)
From: K PERALES <kenperales@comcast.net>
Subject: [R-390] Was it classified

I signed up for the ASA in 1967 under the mistaken idea that I would be around things that FLY. The MOS was said to be Air Traffic Controller. I had flunked my hearing test for helicopter pilot training. The recruiter told me about this really special group call Army Security Agency that my test scored qualified me for and they had opening in said Air Traffic Control. The real seller was that there was no ASA in Vietnam which in 1967 when everyone else was being drafted to go to Nam sounded like a good idea. My enlistment for 4 years was based on a number of mistaken ideas. Number one, Air Traffic Control turned out to be deciding which radio messages were important and to what group they were directed, not things that fly. Ended up being a good thing considering the number of people killed around flying things in Nam. Second mistake was thinking that the Army was really going to let me choose what like of work I was going to do. When I reported to Fort Devens for MOS school, they told me they had to many Air Traffic Controllers and I was now going to be a Ditty Bopper (05H20 Morse Intercept Operator) and a week later I was screaming Di Dah Alpha and running around the outside of the building carrying a 20 pound manual typewriter because I did not scream loud enough. After finally meeting the 15 GPM requirement to move on, I was

sent to the big brick building filled with room after room of hundreds of R-390A radios and introduced to the wacky world on morse intercept. We were told that everything about our mission was classified Top Secret Crypto and that we could be sent to prison forever if we talked about it to anyone other than our fellow troupes. I found out that was BS on our first weekend passes into Boston where we met a whole legion of ASA groupie college girls that knew everything about our school and mission far better than we did. They all knew Morse Code and could speak to us in morse just like we did in the barracks to practice all the time. They also knew before we did that we were going to Nam regardless what the recruiter told us and that we would be called Radio Research instead of ASA. My girlfriend at the time even told me about asking for an advanced class in Communication Jamming to be able to stay in Boston for an extra 4 months. Project Crazy Cat turned out to only be used in Nam so I ended up volunteering to go the Nam against everything I tried to avoid by going into ASA in the first place. While the mission of the ASA was classified and how the R-390 was used was classified, I believe that the radio itself was not. I found an ad on the web from 1969 CQ magazine that offered the radio for sale to the general market while I was still in Nam actively still using the 390 to monitor VC and NVA signals. And while the military thought that our mission was a secret, about half of the messages we copied in Nam and back at Vint Hill Farm Station listening to Russian and Chinese radio traffic was them listening to us, listening to them, listening to us. Their radios to listen into our radio traffic was ever bit as good as ours. And I can say after monitoring Russian radio traffic for the last years and a half of my time that their female morse radio operators were way faster and better than any American operator I ever listened to. We were told that they would train up to 4 years before ever being allowed to send live over the air. Speeds of between 60 and 90 GPM (Groups Per Minute as messages were sent encrypted into numbers in groups of 10 numbers per group, 10 groups per line and 50 lines per block) were routine and fewer than 5% of us Ditty Boppers would even copy them without having to use tape replays to go back over the message a number of times to get it all. I was one of the few on our shift that could copy the Russians live. I once went through a case and a half of fanfold paper (1000 sheet to a case) in one 8 hour shift.

Every manual the military ever put out during any kind of conflict was labeled Restricted or Top Secret even for burning cans of shit from the outhouses in Nam and I doubt there was anything actually secret about how to mix diesel with crap and light it with a match and stir for 6 to 8 hours. Labeling the use of the R-390 radio Top Secret was form rather than function. I was told that because I had been in the ASA, I could not fly over any Communist country after I got out of the Army for 10 years. As if there was anything I could tell the enemy about tuning a radio and how to identify a Russian station from a ship to shore radio was anything they did not already know.

Now the fact that we had planes (RU-8D) doing Airborne radio direction finding over Nam and could pinpoint an antenna to within 20 meters on the ground was something that was classified at the time and even then, the VC knew that certain kinds of planes like our twin engine non-armed planes could find them was enough that if they could see the plane overhead, they knew enough to stop transmitting when our plane was pointed directly at them. They may not have known how or just how accurate we were but they knew what was going on. There was nothing about the R-51 radio that was all that special but the manual on how to use the radio and for what was classified.

Even today, the equipment used by the NSA is not all that special, it is the way they use it and who and what they are listening to that is secret. Back in the 60's we had satellites that could take pictures to read the label on a beer can along side the road. The class where we learned how to dump pictures from satellites, the walls were covered with pictures of girls/women sunbathing topless in their backyards from all across the US and the world. Look at Google Earth and how much detail you can see of houses and yards and that is just what you are allowed to see. Imagine that someone can read the label on the package of meat along side your BBQ and know what else they can see when you think no one is looking.

The picture of the Ditty Bopper from Nam, was trying to show the radio we used without actually showing a classified radio that could have got someone in trouble showing the radios we actually used. I spent hundreds of hours sitting at a position just like that and they were all R-390A not what ever mixed up version that was supposed to be. Ken

Date: Thu, 6 Jun 2019 03:40:28 +0000 (UTC)
From: Roger Ruszkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] Current notes from the field Ancient History
Author's Industry Conference

As an old timer in a brass and vacuum world I went to visit some friends in the desert and try and make some contacts. That is not a fence section on the hillside. That is a reflector element on 300 and the full antenna does AM well. I was invited to listen on a couple antenna's I do not get to use daily and it was fun. Listening to the night time sub- and supersonics from the local life forms was also educational in nature. Serious Amateur Radio Heresy holds forth that all the transmitter signal power can be loaded into the imaginary field, where the power is 100 % transmitted, and can be recovered. The geometry of feed lines and antenna's in use for radio signal transmission and signal receiving is not optimum. Not our fault as we simple must work with the stuff we know.

Gold is transparent in a magnetic field. We know a lot about ferrites and magnetic fields. Brass is a non magnetic metal alloy that is used to tune magnetic fields to specific frequencies. Move a mass of brass in a magnetic

field and it changes the oscillators frequency of operation. Move a mass of gold in a magnetic field and no change occurs in the oscillators frequency of operation. Is this true? I watched a couple entertaining acts. I am not here to do patent disclosure. However, if the heresy holds, and applies beyond radio frequency applications humans could get some real grip on gravity. We humans do not hear any E T's because we are listening in the wrong fields with the wrong antennas.

Mean while on the week end many in the field are trying to catch up to the masses. There was much energy in the atmosphere at the Contact in the Desert event, however many of the details were lost under the background static. With so much of the entertainment industry focused on the get Trump show the ET and Me crowd are feeling the loss of space above the fold. I do not need any of Sullies friends in my closet, I have an imagination of my own.

The reading genera encapsulated in Ancient History with Extra Terrestrials I the second largest reading audience certainly within the United States where Star Trek the next Generation is still supreme. The Ancient History Author's Industry Conference was open to all. No tickets for rides on displacement type amusement devices were being offered at the conference. Nothing to be seen here in the light of day inspector Colombo. This is just a Haunted house amusement attraction. The star gate inside is just imaginering. Ask the Wizard of Oz how it all works.

The Top Questions

#01 The closing question was: Who is the profit of today who can see the year ahead and thus the places to cash in. An open invitation to aspiring Authors. If you do not know your own head lines, how are you going to succeed. This is a big business here, where every one makes their own way. Will those who know where they want to go in the next year please post your proposed itinerary in the reading room.

Roger Ruszkowski will be at the event next year and introducing a much better story. Watch for the coming time line.

#02 This is a book sales industry conference, where is the genera market share moving toward? The best selling book of all time is still the Bible. That can not be true. Yes, the Bible is hands down still the best history of planet Earth. Diana Carrie and her invention Star Trek The Next Generation holds the best selling shelf in the book stores a recent phenomena that sets past and future apart offering a metric in sales. Erich von Daniken and the genera in pursuit of history and a bible with extra terrestrials will return to first place as the Trekkies weary of

waiting and set off to do it for them selves. Even Shakespeare gave credit to the Bible as real human history and more. History with aliens is still segregated from propaganda and religion. To increase the bad image the aliens in history genera is still shelved with a mix of other inexact sciences Collectively Erich von Daniken's shelf is still the cash cow center in book stores around the world. Failing shop owners do not even know the metrics exist or how to change inventory for a better cash flow.

#03 The challenge round question was: what happens on the street if full disclosure were to happen within a? year. The over whelming response to what happens on the street if full disclosure were to happen within an year was: where have you been child that you are so out of the loop.

The Faire Queen of Hollygrove (an interactive outdoor event that focuses on recreating the look and feel of a fictional English village during the reign of Queen Elizabeth I in the latter half of the 16th Century) took care of full disclosure for Michigan back in the late 60's. The Queens Faire land about Holly Michigan was considered to be over come by Swamp Gas. Gerald Ford himself debated with some of the Central Planning staff over the vocabulary and sentence structures published in the history books. California education feels it is leading on many edges. The overwhelming attitude of the genera is that: well it has not happened my way yet with movie deals so it has not happened to any one else.

Henry Ford held forth that one can not be wrong with one's self. A few humans when presented a calm rational presentation still hold out that ET's just have not done the introduction right and so E T 's do not yet exist. I am age 70 and the world had gone over this point of no return before I was born. I was told by eye witnesses in the family the E T's were gray and not green. Then I learned about TV. Then we invented color TV where green and grey has significance in the story. Some of the story details in the news papers were very incorrect. The E T's have been doing slice dice and disappear prior to the Second World War. The phenomenon just has not touched your family yet.

#04 TV and the media do not claim the E T 's are here so where is the show and tell? If not for the curious fact that history and mystery holds the second largest sales shelf in the book store second only to Star Trek future science, the AI at TV would bypass sci fi, history and mystery. The truth is CERN is getting no more education time than the independent researchers are getting. The aggravation of the attention in the moment is exceeding the long term return on the investment. Please come be mugged on camera for our entertainment value. The science news on physics could totally collapse and generate our first observable black hole.

The narrative is a propaganda campaign to exclude any counterculture via

a bully process. Readers still hold a significant share of clout in commerce. Thus these readers favorite genera can not yet be ignored as forces in the market place. The Trek Authors are about to have a pole shift in the markets of Earth.

#05 Best Party Planner: the good the bad and the ugly.

The Phoenix Lights is the biggest thing they can get this deep into our gravity well and leave. The sighting are vessel stress checks before exit into space. This is a gravity well, the other end is acceleration. How fast can we go in space knowing we will not pop a seam. If the vessel stress test should fail, you would like to exit the vessel with infinite life support. Could we conduct this test in breathable air? The Phoenix Light ships were as low as they could go. The ships motion across our skies was its side slip as it burned the rubber doing engine warm up test. On the instrument panel the ship was at full engine acceleration and looking for harmonic resonances caused by friction against the force shields. Last air stop on this arm of the galaxy and safety checks are real maintenance procedures. Brand new hauls and looking to step up the performance safety rating for an insurance premium discount. Humans detect nothing yet, but the vessels go full shields up, engine thrust up and full throttle push against the mass of Earth. The Phoenix Light ships could not set down and get back off the ground. The truth is the first foot off Earth into space is the biggest power consumer. If the vessel comes apart like the one did in 48, then at least in theory the machine operator would be in a survivable environment until extracted by their medical experts. It is a full stall power test against a foundation that can be overturned before you do it in dead space. You need to believe your cocoon is a safe ride.

#06 Where is the science? Gravity, light, and functional solar energy (70%) are still classed as magic acts. Some do cards, some do tigers and good looking women, some do energy fields, but those are still just the imaginary fields and not the real field. Presenters in the fields get fire lane control space at venues. Sort of hold this area open so the crowd in waiting does not over load the local air-conditioning. Your sell is one on one. Better to put your advertising budget into a hired You tube production to produce an informative presentation. Then, get your presentation indexed and placed so it can be found and viewed by your potential stakeholders. There are fishing skills and these skills are taught while drinking beer and being very very quite.

If you are coming to the convention to be a vendor you will still not bring sufficient product next year. We have so got to have a better poster gallery at the convention next year. (ask me) When you book a hotel room for a week several months in advance, coming vendors can have tons of product waiting at the will-call window. UPS will park a semi trailer and hold

incoming event packages for one delivery to the event center on check in day. I watched four trailers of product get delivered by the parcel services, while I was dealing for a parking space.

I, Roger Ruzzkowski, am still looking for an illustrator that wants to render output in 8K HD jpeg file format. The 200 best books in our genera should be an 8K HD slide show in every book store in the world. After we show you how to do the technology you can debate if it was reverse engineered from some E T stuff no one yet believes we already have. The Star Trek crowd should not be the leading edge for history.

Solar energy is converted to low voltage at low current energy resting or moving within a conductor. The science quest is for an accumulator. Where the long slow steady day light charge can be stored for later use. Saving energy in our real fields leads to real hazards. The radio frequency guys want to accumulate the energy in a non-magnetic but electric field in oscillation. I declined the demonstration and unknown if any radiation exposure. Just an old radio repairman tithing on a life the best way I know how. Tell the world Roger's contributions over 28 plus years to the QTH has no value to the many who have read my writings and restored an R390 receiver or two. Sorry I never learned to punctuate, it is not a feature in brass. Brass is not case sensitive so get over the shift key errors children. A fellow friend ask me to tell a story about the good old days. Nine critics took the time to tell me I can not tell a story worth reading. Not one put up an alternate product to show us how we should answer the questions. Put that in your metric AI.

#07 What do I think about the coming climate change?

If you are prone on the ground hugging 50 plus pounds of stone, no one mentions your persona as a tree-hugger in the sheer winds of the moment. Pet rocks will be back in vogue. Linda Moulton Howe considers the machines of the infrastructure will suffer great storm damage as the climate changes. Further the odds will catch up with the insurance industry Ponzi.

#08 What will Artificial Intelligence (AI) do for our society?

I begin to understand why stone tools have stayed in production for over 50,000 years. The Radisson Inn is in dire need of a six sigma make over. Soda product and deposit on container is only \$2.50 transaction in pocket cash only, select any button on the console, get a diet drink manufactured with sweeteners that handicap heartbeats, clearly not the product expected from advertising on the vending machine, in a world of choices one supplier was brought in and fails to deliver to the customer. Pick a fight with an upstairs vending machine late at night and see where you

sleep in California. No recourse no consequences for the poor hospitality. My pet Neolith has not attacked a machine in many long years, but repressed memories have returned.

Michael Tellinger says his rocks are special with a cold side and warm side. Why of course this is true and I was introduced to such rocks as snake rocks. The sunny side is warm and the shaded side is cooler. Set the rocks out to the north-side with a warm southern slope and high shaded north side. In the evening the snakes will lay out on the warm rock surface and can be safely identified from a distance and eliminated if desired for safety. Rocks have many crystals that have semiconductor properties. The properties of any rock at any energy frequency permits a semi conductor behavior within the spectrum. The right natural stone walls in buildings can have one way behaviors. Exhaust heat, and reject incoming heat. Some correct assembly of materiel is required.

TSA told Michal that we need to stop moving the rocks around. The airline pilots told the TSA staff moving rocks were also upsetting the airplanes so the rocks were not wanted on air frames. A TSA employee advised me to pick up a local and not be bringing any Neolithic through their facilities. After all I did call the rock a tool with a sharp edge. Michael Tellinger has disclosed that some rocks simply being transported against their will, upset the electronics in use by TSA. As my favored rock partner has issues with machines, so it was left behind.

#09 What could Artificial Intelligence (AI)? do for our commerce?

The advertising and entertainment experiment in current operation is neither artificial or intelligent. The network for commerce is still giving 5 billion dollars a year in awards to pirates as a consumer's friction cost. The industry wants the 5 billion as a tax deduction. A tithe if you will, a honey pot so we know where the slugs are, would be customer cost reductions, should be corporate profits, could be infrastructure investments. Better that we let the network industry distribute the tithe as opposed to laying this extra work on the current government. Privatize some of the cash flow distribution of wealth decisions.

Every machine on the network has a hardware device address. Every network switch knows where the message originated and where the message is destined. If a device sends messages that annoy another machine, that machine needs to only tell the switch and every one in between to drop that machines messages as penalty for bad past performance. No Ack, no Nak, just an empty buffer awaiting an incoming packet. All the bad machines are on a bad list and denied a connection as soon as the message hits a network switch. Your machine not giving you a connection? Inquire at the bad desk for a diagnostic reading. You

can not use your denied device to make that query you fool. Have a friend download the app, copy the number on the barred device and send off for a response. Irritate commerce with no shirt or no shoes and you get no service. Irritate commerce with scam, fraud, or just checking once two often and you get no service. The minimum fine will be a new device and its registration fees. A simple set of balls in a regulatory agency could end the hacking industry.

#10 OK but how was the party show?

Once again Contact in the desert was a grand event. The speakers were gracious with their time beyond expectations. There was over 36 hours of showtime available at the event. The camera crews were total fails in the live audience venue lighting. I am sure the CDs are awesome, but the live audience is still suffering eye impairments. Over 1000 attendees stared into the spot lights for all available hours and then hung through the breaks for more contact time. Many of the elders wearing photo grays missed the visual suffering. The audio in the event rooms was good enough for me but I am deaf. Using the sound system to settle the audience is just flat rude and it opened every session. Drive everyone bodily numb for 15 minutes and the guest speakers ask for the next hour, can you hear me yet over your ringing ears. We promoters can see you cash cows are just so much more sensitive to each other and you can see and hear it in our daily actions!!!

Look at the engineering that was put into the event. The Walk went down and we ain't got anything of value. Hope you enjoyed the party and friendship. A bunch of bullies had their way with the conference attendees and that will have consequences going forward. We can read it a week later from the comfort of our own reading rooms. The real time vacation was awesome but the event is not fundamental one's knowledge and understanding of our existence. Cult membership is not required.

#11 Are we reaching a higher state of conciseness?

For the high end entertainment value, just keep reading your news source, more facts, less friction and less fiction. Why yes we are reaching a higher state of conciseness, only a small remanent group hold out on to the belief that after 70 years humans have not endured sufficient repetition of the message that E Ts are real. The E T college kids are trespassing in our sand box and the park-ranger needs a day or two to catch up with some entities and move them along.

#12 Have we been visited in the past?

We do not have a corner on sand boxes. Part of the inalienable rights is

our freedom in our sand box. You may come visit us but only in accordance with a set of rules. Some cheat and it takes time for park management to catch and stop the behavior. Some past clowns owe Earth big time, so things are looking tight on the visit list right now. Some guy named Anu whined with his cup bearer drinking buddy for 68,000 years to book a ride to Earth and home again from his location. The king of a galactic empire wants to visit Earth. His wife told him he did not have cab fair and was going no where until the court ordered judgements against him were paid off. His credit card would not even get Anu into a bedroom. And this is the best response for have we been visited in the past.

We have few E T in our sand box because E T manners have been extended to our Earth DNA plants and animals. No human or even a majority vote can invite an E T to Earth. What we see are all trespassing on their rule book for the most part. The Anunnaki claimed interstellar exploration of all parts within one solar system on their Earth visit visa papers. Once upon a time the Anunnaki had sanctioned sand box time here with us humans on Earth.

#13 What is Duality?

As above so below is a way of thinking in the engineering world. The problem solving process works well. Our most entertaining education is presented in a dual example presentation. Do you see this? Yes. This is like that. Let me explain the parallel and the new take away. The good stories get repeated.

#14 Explain plate tectonics and Pangea if you can.

Michael Salla and Linda Moulton Howe introduced the theory of plate tectonics and Pangea. A new cause for continental drift could be real big impact events. Earth may have increased in size over time and things have spread out in a better spin cycle balance. Each day Earth receives three tons of star dust. This has to lead to some significant accumulation of mass over time. I will have a white paper next year with real numbers. A real possible reoccurring process over time may be in play. Will it float? Earth has an over dense core so maybe it will float.

Respectfully,
Roger Ruskowski AI4NI

Date: Fri, 14 Jun 2019 09:34:26 -0500
From: "Richard (Skip) Green" <k7yoo@yahoo.com>
Subject: [R-390] R274

I tend to agree about the SP600 being a great band cruiser, but I think

there is an under appreciated radio that competed for the same contracts...The SX73. In some ways I like it better. This is not based on any empirical evidence, just casual use. I would be interested to hear other experiences.

Date: Fri, 14 Jun 2019 17:18:35 +0000 (UTC)
From: Mike Bracey <mikebracey@att.net>
Subject: Re: [R-390] R274

I like my R390A, NC183D, 75-4 and my SX-28 but my SP600 is my favorite band cruiser. You can't beat that flywheel tuning!

Date: Sat, 15 Jun 2019 15:45:02 -0400
From: Roy Morgan <k1lky68@gmail.com>
Subject: Re: [R-390] R274

R-390 folks,

I chatted with a fellow at a recent hamfest who was a radio intercept operator during his military time. He said each fellow had four R-390A's and one SP-600. The SP-600 was to locate a desired signal, and once located, an R-390A was tuned to the frequency for copying. He did say that commonly monitored operators became known to them from their CW fist characteristics, and even got nicknames among the operators. Apparently 30 WPM was common.

I am assuming that the shift supervisor would assign frequencies for monitoring to each of the fellows on duty. I also assume that the receivers were fed from multi-output signal splitters (what is the right name for those things?) operating from a set of antennas.

Date: Thu, 25 Jun 2020 11:06:47 -0500
From: Robert Nickels <ranickel@comcast.net>
Subject: Re: [R-390] Fowler R-390A on ePay

That was my question too. I remember reading that Fowler scrounged NOS parts and made what they had to, but it's still just an R-390A, right? Plus if 5 were made and a couple were stored outside (maybe this one, then restored), I'd put much more faith in the performance of one that's lived a comfortable but somewhat longer live indoors. If the modules have been swapped out, then the only uniqueness is the Fowler tag and mainframe wiring (and bragging rights). It's one of those things where the story behind the radio is the most interesting part!

I'll admit to contributing to the silence of the group, after finally spending a couple of weeks going over the three I have that had all developed minor problems, thanks the "Pearls" and accumulated

knowledge, all are running well but for I think one flaky crystal on a nonessential band (27 Mhz !)? Really appreciate all the work that's been put into documenting the repair and restoration process that has enabled many of us to become self sufficient maintenance-wise. I still need to pull my R-390 out and figure what's making the tick-tick-tick sound...almost no doubt a leaky capacitor, but which one will be the challenge ;-)

Date: Thu, 25 Jun 2020 14:00:50 -0400
From: Roy Morgan <k1lky68@gmail.com>
Subject: Re: [R-390] PING!

I have heard a report (unconfirmed) that if you have TOO much fun, the Texas Mounted Police May come and cite you for civil disobedience and award a fine.

Date: Thu, 25 Jun 2020 19:28:54 +0000 (UTC)
From: Steve Toth <stoth47@yahoo.com>
Subject: [R-390] Parts Request - off topic

Thanks guys! I bookmarked the suggested url's and checked the tube stocks - no problem sourcing the tubes. FWIW:? Fair Radio had the best prices - all in stock. Db Tube and Tubes & More were about the same pricing - of the two, Db Tube had the better selection in-stock on Command set tubes.

Date: Thu, 25 Jun 2020 20:35:58 +0000 (UTC)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] Fowler R-390A on ePay

The one I saw from a certain chap in California was in mint cond. I've only seen one like that.

Date: Fri, 26 Jun 2020 05:29:57 +0200
From: fdigiol <fdigiol@gmail.com>
Subject: Re: [R-390] R: Wow! Fowler R-390A

Only because Fowler revealed a itself as a "foolish" enterprise,does it justify its 10.000\$ price? Another foolish move.

Date: Fri, 26 Jun 2020 04:23:39 +0000 (UTC)
From: robert meadows <rpmeadow@bellsouth.net>
Subject: Re: [R-390] R: Wow! Fowler R-390A

Folks ,I do believe that there is some fakery going on with "the rarest of rare" Fowler R390A. Take a look at the data plate. Contract number indicates a 1964 contract, whilst the internet search of Fowler R390A seems to show a data plate on a "real radio" of 1984. So, the fakir made up

a new data plate and didn't do his faking research very well. Robert, W4RRD, who just over a week ago purchased my first R390, correct R390, for the second time. Traded it off a long time ago for a R390A that got sold when the bid D came along, then out of the blue am contacted by a fellow who responded to a note with a local radio club that I am looking for older radios. The 390 came home the next day... No, it isn't for sale, no big D possible, just rent "em. Ask the seller to verify his radio, I did, and for what I see, it is a fake, simply due to the wrong contract number. The data plate is same contract number as shown on the Fowler info, but, the 84 on a real radio is on this FAKE a 64... Might offer him what it is worth, around 200 bucks. Cheers All, R

Date: Thu, 25 Jun 2020 22:12:07 -0700
From: Larry H <larry41gm@gmail.com>
Subject: Re: [R-390] R: Wow! Fowler R-390A

Robert, Good catch. The real Fowler contract number is: N00024-84-C-2027. Note the '84' in the middle. I believe that '84' means 1984. And, as Robert points out, the tag on the 390A on Ebay says this: N00024-64-C-2027. There ya go!

Date: Thu, 25 Jun 2020 22:44:44 -0700 (PDT)
From: Greg Mengell <gregorymengell@comcast.net>
Subject: Re: [R-390] R: Wow! Fowler R-390A

WOW! GOOD DETECTIVE WORK.

Date: Fri, 26 Jun 2020 02:44:55 -0400
From: Charles Steinmetz <csteinmetz@yandex.com>
Subject: Re: [R-390] Fowler R-390A

I had not noticed the contract number issue, but when I first saw the photos I immediately noticed the shoddy quality of the ID plate. I have made a number of ID plates for various radios and other equipment (full-scale and model engines, etc.), and know dozens of folks who have done the same. We have all gotten results that look original. The ID plate on this Fowler looks positively crude by comparison (including fuzzy imaging and a number stamp that is too large) -- not at all what one would expect from a factory radio.

Date: Fri, 26 Jun 2020 13:54:32 +0000 (UTC)
From: Thomas Hoyer <thoyer1@verizon.net>
Subject: Re: [R-390] R: Wow! Fowler R-390A

While the front name plate may be a reproduction and the reproducer didn't use the correct contract number (shame on them), all of the internal

modules are Fowler S/N 1 and have been vetted by several people with intimate knowledge of this radio as well as the other existing Fowlers.

Date: Fri, 26 Jun 2020 15:07:28 +0000
From: Les Locklear <leslocklear@hotmail.com>
Subject: Re: [R-390] R: Wow! Fowler R-390A

I don't recall, I'll have to go back and read Mac's e-mails. He might have lost or misplaced it along with rear panel.

Date: Fri, 26 Jun 2020 10:08:36 -0500
From: Cecil <chacuff@cableone.net>
Subject: Re: [R-390] R: Wow! Fowler R-390A

From Mac... I'm disappointed in what I think is being said that Rick Mish was portraying owning and or selling s/n 1 ---snip--- he never saw the original Fowler plate, I didn't send it to him for this express reason. -----
<snip>----

Date: Fri, 26 Jun 2020 10:11:37 -0500
From: Cecil <chacuff@cableone.net>
Subject: Re: [R-390] R: Wow! Fowler R-390A

Probably pasted more of that than I should have...my apologies...
But that said...it pretty much mirrors my thoughts on Mish.

Date: Fri, 26 Jun 2020 10:10:54 -0500
From: Paul Staupe <staupe@gmail.com>
Subject: [R-390] Fowler #1 and a request for a bright carrier level meter

Excellent discussion about the Fowler on eBay, it's great to have some detailed pictures and then the background from those in the know. When I looked carefully at the modules, it seemed to me that they looked very similar to the many EACs from the '67 contract I've had over the years. Is it possible that Fowler purchased these modules from EAC/Hammarlund and made some minor upgrades? I can't imagine that for such a limited run they would have set up the tooling to build these from scratch. Or, could it be that they purchased the tooling and parts from EAC/Hammarlund? On another subject, I have a nice EAC in the 8K s/n range from the '67 contract that never went thorough the depot, however the meters had been pulled. I replaced the VU meter with a bright newer one, but have never been able to find a similar bright carrier level meter. Anyone have one that they would be willing to part with?

Date: Fri, 26 Jun 2020 15:27:29 +0000 (UTC)

From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] Fowler #1 and a request for a bright carrier level meter

The EAC IF decks have different metal bending than the rest. The mint Fowler I saw had non-EAC metal bending in the IF deck, so I would say not EAC.

Date: Fri, 26 Jun 2020 15:34:15 +0000 (UTC)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] Photo Attach Test

Did this photo attach work?

----- next part -----

A non-text attachment was scrubbed...

Name: ac2c_3.JPG

T

ype: image/jpeg
Size: 56325 bytes

Desc: not available
URL: <<http://mailman.qth.net/pipermail/r-390/attachments/20200626/17a67de1/attachment.jpg>>

Date: Fri, 26 Jun 2020 10:37:47 -0500
From: Paul Staupe <staupe@gmail.com>
Subject: Re: [R-390] R-390 Digest, Vol 194, Issue 20

Sure did!

Date: Fri, 26 Jun 2020 15:43:03 +0000 (UTC)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] Mint Fowler Photos.

I'll attempt to attach some pics of the mint Fowler that Les's buddy discovered many years ago. Note the IF metal bending is not EAC style. I don't have a dog in this hunt. I do wish I had that mint example though.

Date: Fri, 26 Jun 2020 10:59:42 -0500
From: "Les Locklear" <leslocklear@hotmail.com>
Subject: [R-390] Fake Fowler Tag

Fake Fowler Tag.

Date: Fri, 26 Jun 2020 11:02:07 -0500
From: "Les Locklear" <leslocklear@hotmail.com>

390@mailman.qth.net>

For whatever reason my attachment of the Fake Fowler tag didn't go through.

Date: Fri, 26 Jun 2020 11:21:11 -0500
From: "Les Locklear" <leslocklear@hotmail.com>
Subject: [R-390] Fake Fowler Tag

I hope this resized pic goes through.

Date: Fri, 26 Jun 2020 11:30:57 -0500
From: "Les Locklear" <leslocklear@hotmail.com>
Subject: [R-390] Fake Fowler Tag resized

Lets see if this works. If not, I have some cold beer waiting for me...

Date: Fri, 26 Jun 2020 16:35:46 +0000 (UTC)
From: robert meadows <rpmeadow@bellsouth.net>
Subject: Re: [R-390] Mint Fowler Photos.

The fake data plate is just the beginning. Same folks made the fake plate as made a birth certificate some time ago...absolutely no attention to detail.

Date: Fri, 26 Jun 2020 16:43:02 +0000 (UTC)
From: robert meadows <rpmeadow@bellsouth.net>
Subject: Re: [R-390] R: Wow! Fowler R-390A

One doesn't need a photo of a data plate to make one. There are several companies that make data plates all the time using actual artwork and the process of making them as they always have been made. Then the serial number is stamped on with, of course, the correct size number stamp(s). Such plates are not "cheap" unless a batch is made. It is fortunate in this case that the fakir was not very attentive to detail and made the fake plate with wrong contract date upon it.

Date: Fri, 26 Jun 2020 22:37:25 +0000 (UTC)
From: Roger Ruszkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] R: Wow! Fowler R-390A Will some one write one for
 Wi Lie and the Pearls of Wisdom.

Fellows, what Navy ship did Avondale Ship Yards build on the west side of the river and north of the rail bridge? What was Avondale building in 1984 the supposed year of the Fowler Contracts? What year was that ship launched? What are the names of the people talking to Avondale and hand crafting R390/A receivers?

The Fowler receivers are reported as NOS, and not rebuilds because Avondale did not know how to ask the Army Signal Corps for five receivers specified in the part manifest on a Navy Contract.

The Fowler receivers for Avondale pre-date my time in New Orleans. The basic story that some one was paid to do a sub study on a procurement contract is true. Some one was paid to put something that quacked-like-a-R390/A together for enough photo-ops and documents to produce a white paper. Avondale may have taken possession of a pile of items that quacked like an R390/A with one of Minnie Pearls price tags attached to the guard bar. Otherwise the whole Fowler Build is an elaborate fake in that there was never a contract to purchase receivers. The contracts detail studies and tests to be conducted and reported. How much to build an R390/A and why should we believe your estimates. Why was that silly question a sub contract item in a Navy Ship contract? This is how lawyers learn the answers to the questions before they ask a witness on the stand to explain it to the jury if you will. This stuff is just keeping up with cost and having a base line to compare with.

See picture A, see picture B, picture B cost less. Please Initial here. The LPD-17 Shipboard network requirements grilled the network industry for compliance to software and hardware requirements. Product testing combed out so many bugs with the assembled testing resources in the San Diego Laboratories we had charge numbers to entertain different vendor representatives who came to watch their products display undocumented features. Tell the Navy a Cisco product fails to make the specification requirement and Cisco will send some one qualified to come and check.

All the LPD -17 and up ships have a room with four and a spare R390/A receivers in use. I told my Shipboard Wide Area Network design team we would not be sharing space with that compartment. We can put fiberoptic network racks anywhere. Not in a room with an R390/A. We were not even allowed next door or down stairs. We are FCC complaint WTF. Being prophetic and right does not lead to accolades. Yes, we are the secret ship board network, but we still do not have a need to enter that space. Yes the network switch noise is objectionable to the HF spectrum.

There is a room full of spies on a Navy Ship with 500 Marines who are monitoring the spectrum from DC to daylight. Who would guess. I did not know the specifications for every item in the compartment, but I knew what the expectations of the Navy and Marines are.

There was floor space in that compartment but not for network switches. Tons of printer paper stored in the floor space was OK. The LPD-17 ships had requirements for sound powered phones. Avondale did not know how to request the parts from the Navy supply chain as stock items. It took a

while for management to catch that run-away in procurement. The sound powered phones were not part of the network and up to me for oversight. A mentor can only do so much at lunch. The history of the Fowler receivers has some facts that caused some-one to put together some receivers thinking they were going to sell them to Avondale for use aboard a Navy Ship.

The Navy contract said new ship parts. The Army Signal Corp said good used R390/A like new. The correct answer was to amend the line item to accept some existing R390/A 's. Avondale let a bid request asking how much to manufacture the required new receivers. This was just a spec request, the Navy are asking what would it cost to take this path to contract fulfillment. Get paid to put a production proposal and cost offer together. Black ink on white paper = paycheck on Friday. Outrageous procurement cost in the paper submitted with invoice for payment in full. Get paid to conduct a test and study to support the cost in the original paper.

Do we have sufficient paper here to let some one signoff on using R390/A receivers as-is from the Signal Corps. They promise to give us good parts. OK, the Navy has been billed and paid for three time the cost of the receivers. The stock stuff will be good to go. Who built what from what when for a Navy Contract associated with Avondale Industries the ship building company in Louisiana. Not the cotton company of bandage fame in Walhalla, South Carolina and other locations.

Did the Fowler receives get dumped into Julian Creek? And found in the rescue? May we have some real time line and history here please? Ask me why I retired after 20 years at Hughes and Raytheon at age 55.

Respectfully, Roger Ruzzkowski

Date: Fri, 26 Jun 2020 18:05:41 -0500
From: Francesco Ledda <frledda@att.net>
Subject: Re: [R-390] R: Wow! Fowler R-390A Will some one write one for
Wi Lie and the Pearls of Wisdom.

Roger, You have some good points. It makes no sense to manufacture 5 new radios, while used units were available on the market. The set up and manufacturing cost must have been astronomical. Probably, the contract was cost plus, and the Navy had pay for it.

Date: Fri, 26 Jun 2020 19:15:08 -0400
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] R: Wow! Fowler R-390A Will some one write one for
Wi Lie and the Pearls of Wisdom.

FWIW, the FFG-7 frigates were built about the same time as the Avondale Fowler Fiasco. Every ship had an R-390A installed. Somebody at Bath Iron Works knew how to procure these receivers to meet the USN requirement. Here are photos of the various ships under construction 1979-87. How many R-390A receivers can you spot?

<http://www.navy-radio.com/ships/ffg7.htm>

Date: Fri, 26 Jun 2020 18:23:05 -0500
From: "Les Locklear" <leslocklear@hotmail.com>
Subject: Re: [R-390] R: Wow! Fowler R-390A Will some one write one for Wi Lie and the Pearls of Wisdom.

Well, I'm going to try to answer this despite my brain saying leave it alone... The U.S. Navy neglected to remove the R-390A/URR requirement for the LSD (not LPD) Gunston Hall Class ships Gunston Hall 44 and Comstock 45. The purchasing department at Avondale shipyards sent out a bid for five (5) R-390A/URR receivers. Fowler Industries won. They built five. Fowler originated from Clavier Corp. that was once Capehart. So, they had the knowledge to build them. No aliens or any conspiracy to sneak them in were used in the process and the spare parts were going to be included, but they got waylaid to the B-29 base that was being built on the moon. But the Air Force found out that tubes wouldn't operate in those conditions, so the receivers and spares ended up in the Gunston Hall class LSD (Landing Ship Dock) ships being built in Avondale shipyards. That's all I have to say...

Date: Sat, 27 Jun 2020 00:04:18 +0000 (UTC)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] R: Wow! Fowler R-390A Will some one write one for Wi Lie and the Pearls of Wisdom.

Makes a lot of sense Les. Thanks.

Date: Fri, 26 Jun 2020 20:39:25 -0500
From: Francesco Ledda <frledda@att.net>
Subject: Re: [R-390] R: Wow! Fowler R-390A Will some one write one for Wi Lie and the Pearls of Wisdom.

Thank you for the explanation.

Date: Sat, 27 Jun 2020 05:11:01 +0000
From: Tom Bridgers <tarheel6@msn.com>
Subject: Re: [R-390] R: Wow! Fowler R-390A Will some one write one for Wi Lie and the Pearls of Wisdom.

I found two R-390A's for sure, and maybe a third one below the first two.

>R-390A receivers can you spot?

Date: Fri, 26 Jun 2020 23:15:52 -0700
From: "D. Resor" <organlists1@sonic.net>
Subject: Re: [R-390] R: Wow! Fowler R-390A Will someone write one for
Wi Lie and the Pearls of Wisdom.

By my counting, the fore Teletype machines outnumber the 390A of which
I only see one.

Date: Sat, 27 Jun 2020 19:14:19 +1200
From: Ken <kenharpur@startmail.com>
Subject: Re: [R-390] R: Wow! Fowler R-390A Will some one write one for
Wi Lie and the Pearls of Wisdom.

Good evening all, I found this article while doing some research into the
current epay listing and I thought this article might be interesting to
some... It starts on page 8 then continues on page 11. I hadn't come across
this before and figured some of you might not have either.

<http://w3kwh.com/newsletters/SCARC-KH-09-2007.pdf>

Enjoy your weekend!

Date: Sat, 27 Jun 2020 09:22:09 +0000 (UTC)
From: Roger Ruzzkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] R: Wow! Fowler R-390A Will some one write one for
Wi Lie and the Pearls of Wisdom.

Thank you for digging this PDF file up.

Date: Sat, 27 Jun 2020 10:07:25 +0000 (UTC)
From: Roger Ruzzkowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] Field Day

Field Day is always the fourth full weekend of June, beginning at 1800 UTC
Saturday and running through 2059 UTC Sunday. Field Day 2020 is June
27-28. Bands: 160, 80, 40, 20, 15 and 10 Meter HF bands, as well as all
bands 50 MHz and above, all modes. From my personal experience in New
Orleans twenty years ago, I felt the then management of Avondale Ship
Yard west of the river and north of the railroad bridge to be short on six-
sigma experience and understanding. I propose we R390/A owners have a
real interest in the Fowler Receivers. This is part of the receiver's level of
performance, historic uses, military mainstay, industrial interactions, and
scientific legacy. R390/A receivers are plain best in class. [Above and
beyond the rest of Collins in my humble opinion.] Bob Young has ask us not

to go stupid here and that motion had a second by Mike Bracey KE5YTV. I take the advice to heart. Some bad business has occurred in the past and we keep seeing more examples of it pop upon E-bay. In the R390 R390/A world we are blessed with 2K 8 bit ferrite core memory and have recollections of events in our lives. A very diverse group we are. Right off the top, we need to know the history of receivers. Some left Viet Nam via Okinawa, Australia and now on to China. Some went to Julien Creek. Some were trashed in California. There are some small private stashes of receivers held by pickers from other surplus sales. Some were refurbished with a better (!!!) single sideband detection circuit and sold to the Military in several South American countries. The Army Signal Corp used these receivers by the hundreds (see the original contract numbers on the R390.net site). The Army Signal Corp used the receivers in long haul teletype systems for logistic support operations. The Air Force air travel reservation system was punch tape and teletype on the Army Signal Corp system. Everytime someone in the military changed duty station that moved their payroll service point, a set of standard messages went across the network. The intercept spooks (aka United States Army Security Agency AKA Lighting Fast Chicken Fuckers of Playboy magazine fame) had over 3000 R390/A's in service, and was putting 20 recruits out of school each week to go to the field sites and maintain receivers. On the back side, 20 soldiers who knew a lot of radio theory and electronics had served four years were going home unemployed but with college education benefits. The ditty school was full of new operators. The NATO allies had a radio link on every base with a mess hall. The collective history of the receivers is interesting. In the process of getting educated, we have had some bad life experiences. I agree with the sentiment of not bringing all the trash forward. The agency likely had 2000 radio repair personnel on the bench in the field around the world. One repair person giving each receiver 20 hours of thought per year could keep 100 receivers operational. We cared for more than just receivers every day on the job. Hands down the R390/A is still the largest batch of standard items ever manufactured.

Les Locklear tells us that, the U.S. Navy in 1984 neglected to remove the R-390A/URR requirement for the LSD Gunston Hall Class ships. Gunston Hall 44 and Comstock 45 class LSD (Landing Ship Dock) ships were being built in Avondale shipyards. The purchasing department at Avondale shipyards sent out a bid for five (5) R-390A/URR receivers. Fowler Industries won. They built five. Fowler originated from Clavier Corp. that was once Capehart. So, they had the knowledge to build them. Les is having problems with his moon base memories. I understand and this is why I encourage us to get these memories into the cloud for historical preservation. Can I get this months kidney stone memories expunged. Nick England (navy.radio@gmail.com) reports the FWIW, the FFG-7 frigates were built about the same time as the Avondale Fowler Fiasco. Every ship had an R-390A installed. Somebody at Bath Iron Works knew how to

procure these receivers to meet the USN requirement. Here are photos of the various ships under construction 1979-87. How many R390A receivers can you spot?

<http://www.navyradio.com/ships/ffg7.htm>

The R390A/URR was used in the photo ops because an image of a rack full of transistor receivers never seen or mentioned in public, was lost on the viewing audience. In 1984 Avondale screwed up the "top side" part of the ship build contract that Les refers to. This is where the Fowler receivers were caused to come into existence. Nick tells us R-390A/URR were going into Navy ships at Bath Iron Works across the 70's and 80's. In 2000, Avondale shipyards had a ship contract to build a hull for the LPD-17 USS San Antonio. Bath Iron Works in Maine had the contract to build out the "top side" of the new ship. Bath Iron Works mostly installs the artillery on Navy ships.

Raytheon still has the best artillery guidance software. Raytheon had the shipboard fiber network to ensure the integrated combat systems worked as expected by U. S. Marines. If the Raytheon systems failed, it was all on the Raytheon one-stop engineering design. The Raytheon warfare specialty inherited from the Hughes Aircraft Company is the software guiding one up someone else's ass first. I am a radio guy that knows what some item on a PowerPoint slide labeled R390A/URR could be. I did eight years keeping radios operating for the ditty's, and my wife and friends who were trying to make some sense out what other bad people were planning to do or had done. ASA collected input from many finks who unknowingly ratted other bad actors out while bragging about attendance and missing paychecks. Who did that dastardly deed over yonder. May we suggest the employer mentioned in the radio traffic as not making payroll to a crew who claims some minor participation. OK now we have some clues what went wrong in the business world, that caused collateral damages to be reported in the news. Any guess on what tiddily-wink will be played next. Just asking for insight. Yes, the ditties ideas were taken for input. These guys keep bets and odds on the story-lines being tracked. How far in reporting time was the ASA traffic, United Press World Wire copy, White House, national news, Armed Forces Radio and the Stars and Stripes stories behind the intercept.

The amount of stuff our state department declines to comment on daily fills a file drawer. I know a drawing for a room full of radio intercept equipment when I see one. I know radio intercept is DC to daylight and the Navy has no reason to compromise the radio intercept noise floor with digital equipment noise generated in the radio receiver spaces. The whole idea of putting a shit box next to their telephone was lost on the young network engineers at Raytheon. In the year 2000, the ship design for the LPD-17 class of ships had space in a radio intercept equipment suite for four receivers in two rack with a cold spare in the ready racks. By the year

2000 old used R390A/URR receivers were on hand to be installed in the ship when that assembly date arrived in New Orleans. Avondale Industries learned something about procurement in the interim between 1984 and 2004.

The Navy can tether weather balloons and have amazing vertical antennas for the HF and VLF radio spectrum. Up top under the balloon microwave receivers on circuit boards capture signals no one expects to be intercepted and down-linked from the balloon to the deck on fiberoptic cable paired with the tether lines. The crew reels the balloons up and down as the weather permits and current proximity to signals suggest. What is all this funny equipment near this deck door that has a network connection requirement with the other end of the VPN where antenna tuner and coax, not fiber, to what compartment? In God we trust and everyone else we monitor. Your tax dollars are at work and your government is not clueless. We the people are not looking to throw bucks at things other people in the world are not ready to let go of. We can't get no satisfaction and we know it. The kids on my neighborhood Facebook page are calling me a baby-killer again, and wonder why we are not all vegan. I tell them every selfie is in the cloud forever and Clear View has a copy, and they respond it will be impossible to haunt them and their credit rating for life. We will find a feeling comparator sensor some day and put relative feelings into context.

By the way, another 20 nations are equally engaged in the monitoring of worldwide and local communications. The Chinese are running intercept on every internet switch on Earth. Every city of size in America has switches where traffic over fiber routed through switches is echoed out of the switch on a VPN to a copied destination. A maintenance feature of network switches that can be hacked. Chinese Huawei wants the echo feature on demand embedded in the G5 phone firmware, because G5 is capable of serving the gateway needs of large volume and dollar business enterprises. Think direct connect to the IRS at points of production and distribution. When the money moves, IRS will receive their exact share. For a monthly fee, you can listen to any MAC address associated with a cell phone anywhere in the world if the signal is routed through a switch where some echo firmware exist in the network switch device. Now Clear View is selling copies of all the images it can intercept and copy. As you get closer to the switch bad guy eddy uses, the more of his calls you intercept on your network tap point. Reach the cell tower bad eddy connects with and you can copy all the Nextel walkie-talkie phone chatter of the security people echoed out through the maintenance VPN.

I digress, my apologies to Les, yet again. Robert Meadows reflected sure seems to me that in 1984 the Navy and other services had gone past the R390A design. I believe from memory that the R1051 was a later radio

and still in service. This is true for daily communication work with amazing systems supporting all kinds of digital modulation and encryption. The R390A/URR receivers are specifically for HF radio intercept. The HF radio apps the spooks have will copy anything up to 3 DB under the noise floor of the system at the frequency of interest. Amateur radio apps and an R390A/URR is still the best HF receiver system. Once you're operating against the wall every other system is against the same wall and thus equal. Risk assessment: the R390A/URR receivers may work after and EMP event. Les said there were problems with spare parts being used on the moon. Just saying the idea is in the sales literature. The R390A/URR receivers were going on modern Navy ships for the spooks aboard the ships as late as the LPD-17 designs. Used receivers from existing military inventory are being used as needed where needed. There is no rhyme or reason between the contract numbers to get a ship built in 1984 and have five R390A/URR receivers produced. This problem has been a screaming contest in government accounting since someone asked for a spot check on the bankbook. Someone holds a file cabinet of paper from history. Maybe somewhere there are dates and contract details. We would have some idea of what should have been on nameplates to fulfill contract requirements for the name tag part of the total product to be delivered complete and given a serial number by stamp to the nameplate if accepted by Fowler quality. Get this far and you can present the unit to a procurement inspection with a request to be paid for contract delivery of hardware assembly. We R390 enthusiasts have no reason to enable the frauds to produce more eBay nightmares on our good name and legacy. Still it is God only who knows what that last thing we have seen on eBay was. Francesco Leda K5URG commented.

It makes no sense to manufacture 5 new radios, while used units were available on the market. The set up and manufacturing cost must have been astronomical. Probably, the contract was cost plus, and the Navy had to pay for it. I agree and I see at least three contracts in the procurement process to get the receivers built. The first two contracts had a paper document for a deliverable item and the contracts were settled before the build contract was announced. How much to build? Justify that cost. Then OK, here is a contract to build five each. What do we believe was built from what parts? How many sub-assemblies were built from scratch for demonstration? Any comment on the VFO's that were used? Someone in '84 had a science project line item to find the real cost to produce R390A/URR receivers or someone at Avondale went down the wrong procurement path to have something built when they should have asked to have some things delivered. My lifetime experience from 2000 permits both solutions to occur simultaneously. The R390A/URR is not my only example of science projects written into a Navy ship building contract.

I watched Avondale almost screw up sound power phones on the LPD-17 in

the year 2000 with a paperwork error entered into the wrong channel. This is where some real science occurs. The contract line item was under risk assessment to review the technology of the Navy's sound powered phone system looking for changes in the science and technology. Some geeks at Lockheed did that study and completed the documents to be paid. The line item did not tell Avondale to purchase something that did not exist as a stock Navy ship part to replace a proposed pure nonexistent part no longer available. What the contract sentence said for the base line study guidance and reality were detached in a contract. Part two was the review and justification of the first cut estimate. Avondale was looking for companies building sound powered phones different from what the Navy has used since like 1940. Sound powered phones on Navy ships existed before Deforest put together an Audion tube in 1906. There is no other source of sound power phones. The current manufacture may continue manufacturing, and billing the Navy for the sound powered emergency phones the Navy wants aboard their ships at the price wanted for their cost to manufacture. An independent third party not overly nerdy had a study conducted and it supports the claims and we have a price with support for soundpower phones on Navy ships. The old company can have the contract to produce the parts at the contracted and agreed to new cost of production. We see this just checking process in the contacts all the time. The Saudi Government paid a million dollars to move a program out of a building, just so the Saudi contractors in Los Angeles could have the whole building to themselves. It was a throw-away in the bid list, and the Saudi said why yes we chose privacy with no one else in the building where the Saudi will do receiving. Hughes could not keep walking the same parts past them for inspection and delivering unchecked items at the other end of the factory. The Saudi paid construction cost for new secure areas, moving cost, and a premium for lost time to the evicted tenants on their contract performance. People in Avondale were sensitive about some past business myths. Hey, we were Hughes and former GM and now Raytheon and had a gym bag with a million dollars of lottery winnings in small mixed bills left behind by Howard for Richard. Bath Iron Works and Lockheed had their sore business points also. This did not keep us field engineers from enjoying dinner together in New Orleans. The crazy old Army vet ragging on Tom Clancy over the Hunt for Red October software science was a good dinner story. The other Raytheon field engineers in New Orleans were impeccable as expected. My big system view had its uses and caused me frequent problems. I have never found a gracious way of telling my cubicle buddy he is chewing the requirement wrong and will have heart burn for it.

We need to know who built the Fowler receivers and what happened to the receivers since being built. Along the way, some bad actors had roles in history. I read about the color of paint on front panels and ask why it is not ANSI 48 Gray. These are just radios in the dashboard, not the paint job on the ride. You are the fellows who took part in the history of this legacy.

Donald has done three years and never mentioned some sore points with other stakeholders, and we clearly know the state of the Union this year. This post clearly adds nothing to our shared knowledge of the Fowler receivers. It is about time we had put together some more R390A/URR story line for the Fowler receivers and give them the attention and respect that they are due.

Respectfully, Roger Ruzkowski AI4NI

P.S. I am looking at call sign options as I move from South Carolina to Michigan with the FCC here after Field Day later today. It is about time I put the AM Heath kit DX 100's back on the air here in Michigan with the R390A/URR for the receive side of the shack. The microphonic tubes sound awesome on the air from one transmitter that was rebuilt before I knew that the tube in use were not stock. I can do RTTY for the round up and contest events. I like my 50 watt Ten Tec Argosy for single sideband operations. I have the hilltop in Mott Park, a geographic high point in the county on the sand bar named Michigan in the Great Lakes. With record high water levels on the Great Lakes, broken dams, drained reservoirs, and flood water I have never had a ground plane water level this high to work with. Sun spots are down this year. Mother has passed, my book is published, I am over a kidney stone, on the ballot for Republican party precinct organizer, and annoying Mayor Neeley with social media comments. What do you for show and tell on FieldDay at Kettering University next to the First Robotics robots ripping up the carpet. I wear my first place robotics team medal and grin. I have a first place Alliance team member award for that also. My autonomous software was in demand and best of show all weekend for the first 30 seconds of a match and the students could drive in their time slot. I was gracious to my teammates and let them do their own pre-event check off and they got it wrong. We went on to be part of the winning alliance. Our robot failed to show off as expected by the crowd, but we did not necessarily lose any points. Just because the robot launched smurf balls in the direction of the target, there is no reason to believe any ball will score. Not launching ten balls on autonomous and moving in closer under human control and rethinking the joy stick operation pasted six of ten for scored points. A quick recover from an assembly error in the pit and pre-event check fail is not exactly a winning performance. This was not a six-sigma performance it was just best of show that day. I do have mental problems and it show is all of my test scores. Enjoy field day 2020.

Date: Sat, 27 Jun 2020 05:19:43 -0500

From: "Les Locklear" <leslocklear@hotmail.com>

Subject: Re: [R-390] R: Wow! Fowler R-390A Will some one write one for
Wi Lie and the Pearls of Wisdom.

Ken, I've had that in my files for several years. But many thanks for sharing it with those that might not be aware of it.

Date: Sat, 27 Jun 2020 11:22:51 -0400
From: "Jacques Fortin" <jacques.f@videotron.ca>
Subject: Re: [R-390] Fake Fowler Tag

Have you seen, that on the sn tag of this "Fowler" for sale on ePay, that the remnants of punched-in numbers can be seen on the picture ? Looks like an original sn tag that was "reworked " ...

Here is a cut n' paste from Paolo Viappiani in Italy regarding the (his) final conclusion which I agree with entirely as does Tom Marcotte.

Les Locklear <leslocklear@hotmail.com>
Thu, Jun 25, 2020
+++++
La Spezia, Italy, May 11, 2019

Hello my friends of the "Fowler Group": While adding my congratulations to Tom Hoyer for his great work on the Fowler unit he has at hand (I agree with Mac's opinion, Tom is really a good friend for Pete!), I think is now time to draw some final conclusions about the Fowler units that have survived until now.

So I try to summarize everything in the lines below. From what has been written so far by the participants in this discussion and from the comparison of all the photos they sent, it results that:

- " -
- T
- he Fowler #1 is the Pete's unit currently under restoration by Tom Hoyer;
- " -
- T
- he Fowler #2 is the unit (once?) owned by Victor Hatharasinghe (we don't know if it has been sold);
- " -
- T
- he Fowler #3 seems to be my unit;
- " -
- T
- he Fowler #4 and #5 (if they ever existed) have not survived yet (and probably they won't survive ever...).

Do you agree with these conclusions? Thank you very much for your replies and comments! And... just a request to Tom Marcotte "Could you please attach some of the pictures you have concerning the Victor's Fowler #2? In particular I would like you attach the ones that appeared on the Electric Radio article (original front tag, rear of the unit with the "SYWC"

typo, etc.). Sorry for the trouble and TYVM, Tom! With a strong thank you and warmest greetings to everyone! 73, Paolo

+++++

Attached are the nomenclature tags as supplied to Mac McCullough by Rick Mish which were included with the Fowler No. 1 pieces shipped to Peter Graves. The tag on the Fowler sold to Paolo was exactly as those. You can see they are brushed metal and silk screened. The original on Victor Hatharasinghe's s/n 2 was a correct photo etched tag as supplied on all military orders. And, finally an e-mail from Mac McCullough explaining what he owned..

Well I'm here now and will add several what i think are facts. The question on the black id tag ? these are REAL in my experience. Every sub chassis had these and at one point one had faded to a lighter brown thus the black/brown but i think those are real. The front panel was engraved/stamped, and as I made mention it did not have the Navy AGC or what ever that mod was wherein it included a banana jack seems like green in color was the de-jour color. Those IF cans where FOWLER is inked on and a matching p/n these are real, best i remember my unit at the point i was the owner these were clean and pretty vivid in color and contrast, i didn't express it so much to Tim in my post, but it was near overwhelming the extensive effort Fowler went to to comply with the contract requirements. Someone sent a picture of two window covers for the Veeder-Root counter, I made mention of the hand-crafted and fill-welded interior corners are well reflected in the one picture I saw in contrast to the normal stamped/drawn one also shown in the picture. <snip> The back panel didn't have that add on multi- purpose bar or tray on the back, it was standard. Yup, best I recall it had Sync not spelled as we are used to seeing. <snip> As for two production runs, that is not even in my realm of BS, its just a plain lie IMO

+++++

One more from Mac:

I guess the reason no one has answered or responded is I didn't ever send this.. my apology please ..see below what i thought I had sent earlier..

Well some clarity is needed here, I have no knowledge of or any first hand contact with any FOWLER receiver except No. 1, only one I have ever owned bought or sold is No. 1. Seen pictures of most all the others, but never touched or owned any of them. The handwritten notes that were included in last weeks exchanges were direct from George R ..

As for the power supply module and power lead damage, that has occurred over time and storage, it did not come to me that way, and as best I recall, I never sent that item <snip>

Where I stated the main PTO was a Cosmos, no sign of Cosmos is seen in the pictures, it must have been an assumption on my part, and I think a solid assumption, Collins my guess was long past making up a lot of 5 of those, Cosmos was not that removed from manufacturing them in the circa

84' era IMO, opening it will confirm that assumption to someone experienced with PTO interiors and design methods/methodology, so easily solved IMO. and, it tracks as the BFO oscillator is shown to be a Cosmos.

Best i recall George tacked on \$1,000 for the Fowler, I gave George a plus for finding the No. 1 unit, he had, I forget how many. Rather or not it would have been included in my lot of 50 i will never know and at the time didn't care, if it had been I would have felt inclined to tell George so. No reason to obscure or hide something exciting like that, what I am sure of is in my 400 lot of receivers none were Fowler's, or Helena Rubinstein however it is spelled.

++++
That's pretty much the story with all the sordid facts. Les

Date: Fri, 24 Jul 2020 18:27:06 -0500
From: Phil <pmills7@comcast.net>
Subject: [R-390] Old guy needs help identifying some things....

I have been discussing with a friend some things we are hopefully going to purchase from someone who is downsizing. In the course of this discussion, we mentioned the R-725 which if I remember correctly is an R-390A that has been retrofitted with an R-390 IF deck. We also talked about a version of the R-390A that had small adapters plugged into the oscillator tube sockets so external oscillator signals could be fed in through bnc connectors on the rear panel. Could someone please tell me what the designation of this receiver is? Also, in regard to that receiver, my friend claims he traded me a synthesizer designed to be used with it. I have no recollection of this trade but know that my friends memory is better than mine. Does anyone know the designation of this synthesizer...I might be able to find a picture on the internet that would jog my memory. Thanks for any and all help from and old guy...I can still move an R-390A around as long as don't have to pick it up off the floor :-)
Phil W5BVB

Date: Fri, 24 Jul 2020 19:44:50 -0400
From: Glenn Little WB4UIV <glennmaillist@bellsouth.net>
Subject: Re: [R-390] Old guy needs help identifying some things....

IIRC the synthesizer was built by Manson Labs. Also I think this version of the R390A was used in the Apollo program. The receiver is probably a R-1247/GRC-129. The synthesizer is probably a O-1203/GRC-129.

Date: Sat, 25 Jul 2020 02:38:56 +0000
From: jvendely@cfl.rr.com
Subject: Re: [R-390] Old guy needs help identifying some things....

Yes, the R-1247 was part of the AN/GRC-129, which was a 1 kW SSB

upgrade done by Manson Laboratories to the Air Force's AN/GRC-26D RATT vans The R-1247/GRC-129 was never used in by NASA in Project Apollo, despite the widespread folklore. The big Apollo HF systems were supplied by TMC.

Date: Sat, 25 Jul 2020 14:53:42 +0000 (UTC)
From: Steve Toth <stoth47@yahoo.com>
Subject: Re: [R-390] Old guy needs help identifying some things....

I have an R-1247 I picked up from an SWL'er in Rhode island. Attached (below) is background info that I gathered over time from previous discussions on modified R-390A's here on the R390 forum. It is in a Word doc. I'm no expert on this and other guys here on the board have direct experience with the modified receivers. In any case, I hope this helps clarify what receiver you are looking at.

Date: Sat, 25 Jul 2020 20:58:00 +0000 (UTC)
From: Roger Ruzzkowski <flowertime01@wmconnect.com>
Subject: [R-390] Receiver flavors.

The R390A with the R390 IF deck was for a direction finding system. The Antenna array was 20 feet high whips in a 200 foot ring. It all went with a 10 x 20 mobile building. Two operating positions and 4 receivers. The Antenna commutator just spun and an antenna coupler put the signal to all four receivers. You tuned up your signal and read the direction for peak signal off of a scope face. The horizontal sweep on the scope followed the commutator compass angle.

Audio from other locations was wired into the operation positions, and the operator could compare the incoming signal on the audio wire to what was being tuned by the direction-finding receiver. The Map analysis would lay it all out from points half way around the world. We could locate an active antenna to between two post.

The hum of the mechanical switching of the antennas caused the mechanical filters to do spurious things.

Some one thought the R390A IF sucked and the R390 IF was better. So someone with contract money found a way to get some built. Just for show and tell of their own power.

R390A with the extra externals. The VFO first and second crystal oscillators were monitored externally. The three oscillators were counted, and summed. If the number in the counter was wrong, the stepper drive motor on the VFO shaft, would roll down ten, and then roll back up to the desired frequency. No one knew what the gear train lash was, but they

knew how to dial an oscillator to frequency with a stepper motor.

This system was all about finding your exact transmitting frequency. Five racks of equipment and we would call it a Radio Shack CB scanner. The R390 is a receiver, simply tune it to the desired frequency of maximum signal strength. You need to drive the gear train to the receiving frequency any way. The oscillators were counted and the VFO adjusted. The megahertz and kilohertz shaft had sprockets and chain drive from the stepper motors mounted in the rack under the receiver.

In the world of 6C4 mixers, where does the external synthesizer give a lower background noise out of the mixer compared to a 6C4 mixer driven with a clean sine wave. This is open design, tweak the R390 6C4 circuits if you expect improvement scan be realized. You do not need everything the receiver is capable of to get the job done. A feature of the scanner took the 455 IF off the back of the receiver to a separate detector unit. The ability to set a receiver to a telemetry frequency watch the Doppler shift, and keeping the receiver on? maximum signal strength of a changing frequency with the stepper motors was an automation of telemetry collection.

The process started to track battery powered transmitters with no frequency stability. Who knew it would be needed to follow rockets With one hand on the knob you had to stick the dits, because the mill needed two hands. Copy on these field units was a real pain. Start with a wide band frequency converter to HF. Monitor it with and R390 and run it out to a tape recorder with ready, record, and stop. The external detectors on a T1 phone line band width of rocket stage telemetry would keep the receiver peaked to maximum signal strength. 16 K band width of digital-MODEM modulation.

So a better computer, the stepper motors and receivers with oscillator test points were coupled to yet another external detector for the space industry doing regular science. The idea of a transmission that moves across a bandwidth greater than 16 K hertz and needs auto tuning not auto stepping had arrived. That whole Rf gear train needs to move, not just the count of the oscillator. If you need exact phase match, you synthesize the match frequency between 455 KHz and DC external to the R390 link in the conversion system. Engineers put their goodies in their own box for profits. Engineers are not known for community service grants. There is room in a rack for that.

Real parts on countertop equals real dollars in Fridays paycheck. I see this part in the military inventory, may I included it in my system design? Find a standard part and it is free to your project design. A good working R390 in any variant is free and you can keep it working good. You want an R390 rebuilt there go your contract dollars. You build your own box of system

glue and earn the development dollars for yourself. If any of the services need telemetry from a speeding bullet with Doppler, this R390 variant is the off-the-shelf solution. Just because you do not know it does not mean it does not already exist.

The Navy had three separate field modifications to the receivers. Power cord change, front panel pin jack for the DC Load, 1/2 watt out on the line audio. ASA added the micro dial to copy RTTY. Signal Corps added the dial cover because receivers were often on public display while in use. Navy added red dial lamps. Blue lamps were also available. After that if someone wanted something else, ask a company to rework some number of receivers, and get them up to spec for their intended project use. TMC did lots of work building one-off systems for a series of space contracts. Hughes Ground Systems Group was all about the land base end of communication systems.

The Chinese are tracking the mass of Earth down to the size of an oil barrel. They are working on mass down to the size of a pork belly. They want to track mass down to the size of a virus. The Chinese integrated-circuit factories are two production generations behind Japan. Chinese chips will not do 5G. The network chips for 5G are fabricated in Japan for Huawei China phones. Hackers claim "diagnostic" firmware processed into the chips during manufacturing is the phone spy engine part of 5G. The service provider can track the phone. "Where are my company phones and my employees?" A new phone feature for a fee. China trashed Japan's Summer Olympics accident or not. The chip fabricator in Japan said it will end the production and export of spy phone chips to China when the contract ends on 31 August 2020.

Can you request a GE locomotive train engine for a crash test? Yes Hughes did it first, and if some one else has a contract item to repeat the test you will become the proud new owner of a used once train engine to care for until a third owner of the engine is designated. There is more than one way to get creativity off on a siding. Your tax dollars providing "safe daycare" to nerds. Do not run into kitchen. Roger 33C4H AI4NI

Date: Sat, 25 Jul 2020 18:13:31 -0500
From: "Les Locklear" <leslocklear@hotmail.com>
Subject: Re: [R-390] Receiver flavors.

You might want to take a few steps back and read the January 2006 issue of Electric Radio magazine Issue No. 200. It tells the "REAL" story of the R-725.

Date: Sun, 26 Jul 2020 07:56:14 -0500
From: "Les Locklear" <leslocklear@hotmail.com>

Subject: Re: [R-390] Receiver flavors.

Here is the story, from Henry Rogers at the Western Radio Museum here:
<http://www.radioblvd.com/MilitaryCommunicationsGear.htm>
Scroll down...

The R-725/URR is a 1967 Electronic Assistance Corporation-built R-390A receiver that was modified (in 1967) by Arvin Industries, Inc. for the USAF to use in semi-portable radio direction finding systems. Each R-725 receiver had the following modifications installed. First, the standard R-390A IF module was replaced with a new manufacture Series 500 IF module built by Arvin Industries or Servo Electronics. The Series 500 IF module was essentially a R-390 IF module (six IF amplifiers with no mechanical filters) that had minor updates to coax connectors to allow the Series 500 IF module to be installed with no modifications to the R-390A circuitry. However, further design development for the R-725 modification turned up a 60hz modulation problem that required additional modifications. A small chassis is mounted in the main frame space directly in front of the power supply module. This chassis has a 25vac transformer, two resistors and a connector-harness. This was a "hum-bucking" transformer that basically disconnected the VFO tube, the BFO tube and the ballast tube and powered the tube heaters with a "floating" 25vac (not referenced to chassis) and then used the resistive divider connected to B+ to "swamp" the AC with DC. The result was these tube heaters and ballast tube series string operated on +25vdc. To further protect the PTO from 60hz hum pickup, the entire PTO case had a grounded ferrous metal shield installed. The final modification was to the IF Output connector. The larger Series 500 IF module prevented connecting the IF Output cable to the back connector due to lack of clearance. A special "low profile" right-angle coax fitting was installed that allowed the IF Output to be available at the back panel. The contract number for the R-725/URR was DAAB05-67-C-2338 with a total number of receivers modified being less than 300.

The Non-Secret R-725 Story - The purpose of the R-725 mods was for compatibility with military portable direction finders that used four vertical antennae per installation along with three receivers. The DF system used went back to the Bellini-Tosi type of DF set-up that used two crossed loop antennae with a rotating loop inside to create a radio-goniometer. Bellini and Tosi had discovered that crossed loop antennae would "re-radiate" the signal they were receiving within the small field inside the antenna's space. The "re-radiated" signal retained all of the directional properties of the original signal and could be measured for varying signal intensity dependent on direction. The crossed loop antenna size didn't affect the frequency of operation allowing for reduction in the size of DF loops on LW. The original Bellini-Tosi system dated from around 1900 and the system was sold to the Marconi Company around 1907. By

the early twenties, vacuum tube amplifiers were being added to increase performance capabilities of the DF antennae systems. The most common B-T DF systems used the crossed loops but some larger systems used the four-square vertical antenna system. This system was developed by Adcock during WWI and because the connections to and from the four square verticals were underground it didn't respond to skywave propagation and allowed ground wave DFing over long distances. The B-T DF and Adcock systems continued to evolve and improve with the systems being used throughout WWII. During WWII, oscilloscope displays began to be used for direction indications. After WWII, larger DF systems continued to be developed up to the mammoth "elephant cage" antennae ("Wullenweber" was the actual name) that were over a thousand feet in diameter and consisted of several "rings" of circular antennae all working to provide accurate DFing over great distances and wide frequency spans. By the 1990s, most of these large arrays were becoming obsolete and nowadays most have been dismantled.

The mechanical filters used in the R-390A resulted in signal path phase shifts that caused errors to show up in the DFing electronics. When used with the four square antennas, the low frequency modulation added via the radio-goniometer interacted with the mechanical filters creating the error. Early versions of this DF set-up had used R-390 receivers and the radio-goniometer was located quite a distance from the receivers to reduce any interference. In the 1960s, the USAF wanted to reduce the size of the entire DF system so it could be towed around on a trailered hut. This meant the radio-goniometer had to be in the same room as the receivers. This was going to require some protection to certain receiver circuits. The R-390 had been out of production for several years, so the solution was to design the new portable system to use modified R-390A receivers that could be easily purchased. Arvin Industries was the main contractor with Servo also doing some rework. The modified receivers would have the Series 500 IF module, essentially a R-390 IF module that was slightly updated to not require any rework to the R-390A receiver it was installed into. That eliminated the mechanical filter phase shift problem.

Additionally, with the close proximity to the radio-goniometer, a 60hz hum appeared on the PTO tube filament and that also interfered with the LF modulation of the DF system. A special "hum bucker" chassis was added to the receiver that essentially operated the VFO tube, the BFO tube and the 3TF7 Ballast tube on +25vdc. Also, a grounded ferrous metal shield was added to the PTO housing to prevent hum "pick up." Arvin bought new R-390A receivers in 1967 direct from Electronic Assistance Corporation and the modifications were installed at Arvin. When complete, the receiver was tagged as "R-725/URR." The tags will generally show Arvin Industries as the contractor but sometimes Servo Electronics will be encountered. Arvin ink-stamped a serial number on each Series 500 IF module and when that module was installed into the receiver that same serial number was stamped onto the front panel data plate.

The Secret Project - Was there another purpose that was the "real" reason that the R-725 was created? According to an article that appeared in Electric Radio in January 2006 by Chuck Teeters, there was a "top secret" purpose for the R-725 and the receiver "mods" were primarily created for that "secret" project. The R-725 was a product that resulted from the Cold War jamming that was common between the USA and the USSR. In the mid-to-late 1960s, the NSA, the USAF and the Signal Corps were developing a new system called "Tropicom" that was an upgrade to the antennas and transmitters to improve HF communications for the military. The Tropicom upgrades also included the incorporation of the "F9c" anti-jamming/crypto system. The F9c system used a spread spectrum transmission of digital noise and signal that ran through a digital encrypto-key generator that had 144 stages of looped-feedback that also fed through phase modulators to maintain proper phase relationships of the signal and noise. When recombined at the receive end the signal to noise extracted the signal and left the noise and any jamming attempts far below the signal level. Since the system used spread spectrum, the signal couldn't be detected without the proper combination of equipment and decryption and that left any jamming attempts at just "blind" shots. However, when the F9c was used with a R-390A on the receive end, the phase changes in the mechanical filters interfered with the recombination process and the system didn't work. When used with R-390's with a standard IF amplifier circuit, the F9c system worked fine.

Since the R-390 receivers dated from the early-1950s, there were only a limited supply of those receivers still available and those that were available needed constant maintenance. The ultimate solution was to have new R-390A receivers with newly-built R-390 IF modules installed available for the Tropicom system.

In order to keep the F9c project "secret," the actual use of the R-725 couldn't be known to those outside the Tropicom project. Since there really was the Adcock DF system upgrades that really did need a non-mechanical filter type R-390A, the R-725 was directed to be built for the DF purpose only. However, those running the F9c project had the R-725 order quantity doubled and half of the R-725 receivers were procured for F9c use while the other half went to the DF systems. The secret classification stayed on with the F9c system and it was used for quite a long period with many upgrades over the years. So, even though half of the R-725 receivers were used in direction finders, the other half had a "secret life" used in the anti-jamming/crypto communications world of the NSA, the USAF and the Signal Corps.

Performance - The R-725/URR is very much like listening to a R-390 receiver. The modifications to the VFO-BFO heaters using the "hum-bucker" are not audible. The big change is the Series 500 IF module. With six IF amplifiers, the R-725 has plenty of gain. So much, that most strong signals will push the Carrier Level meter to 70db or 80db and then if the receiver is tuned off of the signal, the meter drops to 20db or less. I have the IF gain

reduced by 40%. Audio sounds slightly different than the R-390A with mechanical filters but still there is lots of selectivity and QRM is not a problem. The R-725 is basically like having an R-390 without all of the maintenance headaches.

Les Locklear, Gulfport, MS., Dx'ing Since '57

Date: Sun, 26 Jul 2020 13:44:18 +0000 (UTC)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] Receiver flavors.

Thanks. I'm still using the R390 IF in my "R390A"

Date: Sun, 26 Jul 2020 08:53:02 -0500
From: Gary Erickson <gerickso@tds.net>
Subject: Re: [R-390] Receiver flavors.

Extremely interesting article. Having had an upclose and personal relationship with the aforementioned missions and receivers, the article brings greater clarity.

Date: Sun, 26 Jul 2020 10:06:39 -0400
From: David Hallam <collinsuser@outlook.com>
Subject: [R-390] Receiver Flavors

At one time I put a R-390A IF in my R-390.? I made up jumpers for the different coax connectors and put a resistor in some place to make up for the parallel/series filament chain.? I wasn't happy with the results and the experiment quickly ended.

Date: Sun, 26 Jul 2020 15:13:12 +0000
From: David Wise <David_Wise@Phoenix.com>
Subject: Re: [R-390] Receiver flavors.

I thought I understood, but... confirm or deny, please: The VFO and BFO heaters are AC, with the whole circuit elevated to about +25V, not actual DC heater power. (The phrase "hum-bucking" is messing with my head.)

>Elevating an AC heater circuit was a common practice in hum-sensitive >applications. It prevents heater thermionic emission to the cathode.

Date: Sun, 26 Jul 2020 15:30:37 +0000 (UTC)
From: John Flood <kblfqg@yahoo.com>
Subject: Re: [R-390] Receiver flavors.

Back in my possession is the pre production, engineering prototype,

development unit (you pick the name) that I found several gears ago at either one of the last hosstraders, or early Near-Fest events in NH. A small number of these have surfaced. Mine is included in a more recent E.R. article by George Rancourt. When I first mentioned it here when I found it in the back of a pickup truck parked next to me, some of the esteemed R390 wizards. :) thought it may have been a home brew R-725. However, the IF deck and more importantly, hidden under a light coat of grey paint in the upper right corner of the front panel, was a hand painted, with fingernail polish, contract or NSN number that cross referenced to direction finding equipment, radio. The main difference in this one as in other pre production units was the lack of the bootstrap shielding of the PTO. A friend of mine who works at MIT has found reference to what we believe is this early spread spectrum system in a company history book. All that said and done, it's a R390A, that I don't have to worry about the mechanical filters crapping out on me. It's in my attic shack and won't get turned on until the temperature up there comes back below 80F. :). Un-heated up there, it is a good source of supplemental heat!

Date: Sun, 26 Jul 2020 19:19:40 +0000 (UTC)
From: Roger Ruskowski <flowertime01@wmconnect.com>
Subject: Re: [R-390] Receiver flavors. FYI: R-725 the real story.

Thank you for the two attachments. That's cool, I only knew of the 725 as I had some of the direction finding systems in my MOS and the system had funny receivers almost like those I had been taught to maintain. Our lore was the antenna switching and mechanical filters did not did not work quietly together. I was ASA, What the Signal Corps was doing for world wide communications had no interest to me as long as the chow and paychecks were as advertised. I had no idea there was a whole mess of 725's in the world. Later in life as Avondale needed some R390's for a ship they needed to know it was an error in part numbers. Avondale needed to order some 725 as the latest production of the HF receiver. The requirement was for an HF receiver, R390 R390/A 725 all the same. The ink looked like R390/A and thinking stopped. The rest of the world thought they were doing good things and had no clue there tax dollars were keeping me off welfare.

Date: Fri, 18 Feb 2022 22:41:26 -0800
From: Larry H <larry41gm@gmail.com>
Subject: [R-390] The History section on our r-390a.net website updated

Hi All, I've sent a little time recently updating the History section on our r-390a.net website. The link to it is at the top of the first page. I've created 4 categories so far: EAC, Fowler, St. Julians Creek and Helena Rubinstein. I've only completed one category, so far, and plan to add more to the others and new ones, also. Please let me know what you think and offer

suggestions and contributions.

Date: Sun, 20 Feb 2022 12:53:23 +0000 (UTC)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] H-R , was The History section on our r-390a.net
website updated

Group, I read the history notes referenced here. I propose any reference to Helena Rubenstein either be removed or tagged as with an asterisk as unverified. There is an email in the notes from me to Les referencing the original source, but I never said I believed it. Why don't I believe it? - no photos have ever surfaced- no modules have surfaced- there is no reference in business literature indicating that HR was ever in this business. In the meantime the following have surfaced.- three of the five reported Fowler radios- modules from obscure companies like Communications Systems and Hacking Labs- radios marked Dittmore-Freimuth. In summary, I think the original story of HR radios is a fabrication.? We've all had our little laugh, now it's time to remove any reference to these being a real thing. My mind can be changed with a shred of evidence.

Date: Sun, 20 Feb 2022 08:29:49 -0500
From: Bill Cotter <n4lg@qx.net>
Subject: Re: [R-390] H-R , was The History section on our r-390a.net
website updated

I read Tom's note and to had to add in: the author of my 1971 freshman two-semester University Chemistry book was Helena Rubinstein! [spelled with an: i] She must have been a very busy person writing books and making radios.

Date: Sun, 20 Feb 2022 11:31:52 -0700
From: "Jordan Arndt" <Outposter30@shaw.ca>
Subject: [R-390] Stewart Warner R-390A history...?
Message-ID: <682C332FDE94452DB422A76165B70002@Jordan1>

Is there any written history regarding the S-W production aside from known serial numbers..??

Date: Sun, 20 Feb 2022 11:30:04 -0800 (PST)
From: Greg Mengell <gregorymengell@comcast.net>
Subject: Re: [R-390] H-R , was The History section on our r-390a.net
website updated

I can tell you I saw one at McCLELLAN AFB in Sacramento in the '70`s.It was on the faceplate of an R390A that had been crushed with only the

front panel and tag recognized. I suspect that HR bought a very limited amount of raves from another vendor and put on their own name tags. Realizing the expense involved they quickly got out of that arrangement.

Date: Mon, 21 Feb 2022 00:51:44 +0000 (UTC)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] Good R-390 Drama in Google Books, Govt Contracts Disputes

If you browse Google Books with certain search words you will see lots of contract drama regarding awards, defective radios, etc. Here https://www.google.com/books/edition/Board_of_Contract_Appeals_Decisions/V3rt_pDx7kkC?hl=en&gbpv=1&bsq=stewart-warner%20R-390%20

This paper goes on about the Amelco/Teledyne buyout and related defective receivers. This is just a sample. Plenty more if you search for the right words.

Date: Mon, 21 Feb 2022 00:52:30 +0000 (UTC)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] Good R-390 Drama in Google Books, Govt Contracts Disputes

I should have said Imperial/Teledyne.

Date: Mon, 21 Feb 2022 01:41:56 +0000 (UTC)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] RCA-Clavier/Capehart Tube Struggles

Good stuff in here about television tubes 6DC6 causing R-390 problems. They list contract number and quantity for Clavier (Capehart). see page 37,852

Date: Mon, 21 Feb 2022 02:17:57 +0000 (UTC)
From: "Tom M." <courir26@yahoo.com>
Subject: Re: [R-390] RCA-Clavier/Capehart Tube Struggles

Sorry looks like the link didn't work.
Anyhow, search google books, you'll find it.

Date: Sat, 26 Feb 2022 21:49:43 -0800
From: Larry H <larry41gm@gmail.com>
Subject: [R-390] Capehart/Clavier R-390A noise issue 6DC6 tube

Tom Marcotte made a very interesting find on Google Books in the 'Board of Contract Appeals Decisions' section. Unfortunately, the source is out of

focus, lengthy and full of legal ease. See my brief summary of it and a link to a copy of it in the History section on our website, r-390a.net.

Date: Sun, 27 Feb 2022 00:24:30 -0800
From: Larry H <larry41gm@gmail.com>
Subject: [R-390] General history on our website also updated

I found a website that has a very nice write up about the history of the R-390 and R-390A by *Luca Fusari*
<<http://lucafusari.altervista.org/page9/AmericanRadio.html>>.
There's a link to it in the first entry of our 'history' section on our website, r-390a.net. Let me know what you think.

Date: Sun, 27 Feb 2022 18:25:51 +0000 (UTC)
From: Jim Whartenby <old_radio@aol.com>
Subject: Re: [R-390] General history on our website also updated

It seems to me that, in general, history is full of nooks and crannies that are difficult to explore so are often just glazed over to get to the subject at hand. That the R-390 followed the development of the 51J is somewhat obvious to the casual observer but this raises the question as to the origins of the 51J.

The Collins radios that predate the 51J and have most of the same key components of the 51J are the ARC-2 and ARR-15. Both contain the first Collins permeability tuned oscillators and use a variable permeability tuned RF amplifier slug rack. The ARR-15 adds a variable permeability tuned IF amplifier slug rack and a unique method used to tune the radio to frequency. As I see it, everything is there in the ARR-15 with the exception that the receiver is of single conversion design.

If one accepts that there is no spontaneous generation, that is to say that nothing appears out of thin air, then there is a back story to explore for both of these radios. The Naval Research Laboratory must have had a hand in the development of both the ARR-2 and the ARR-15 since both have used the new approaches to radio design and both were used only in Navy aircraft.

The 51J must have a similar story of development that goes back to at least WW2 but now the Signal Corps is the behind the scenes prime mover. There might be some evidence of this if the original RFQ (Request For Quote) and other correspondence can be located in the archives of either the Signal Corps or Collins Radio.

Date: Mon, 28 Feb 2022 00:29:39 +0000 (UTC)
From: "Tom M." <courir26@yahoo.com>

Subject: Re: [R-390] General history on our website also updated

The R-390 cost reduction report from Collins has good info on the development. Worth reading.

Date: Mon, 28 Feb 2022 21:40:03 +0000 (UTC)
From: Jim Whartenby <old_radio@aol.com>
Subject: Re: [R-390] General history on our website also updated

More background information was found here then in the Cost Reduction Report. See: <http://www.wa3key.com/r-389.pdf>

Date: Wed, 2 Mar 2022 04:50:47 -0800
From: Larry H <larry41gm@gmail.com>
Subject: [R-390] General history on our website updated

I changed the history links in the History section on the first page on our website, r-390a.net. The first entry still points to our 'history page', the second to the history on 'radio boulevard', and the new third entry to Luca Fusari's website

<<http://lucafusari.altervista.org/page9/AmericanRadio.html>>

(I was in our 'history page' at the top in the General section. I also changed our 'history page' so that the General section points to Ray Osterwald's write up on Norm Drechsel's website,

<http://www.wa3key.com/r-389.pdf>

(the 'Part 1' section is the history).

Let me know what you think.

Date: Thu, 3 Mar 2022 05:28:30 -0800
From: Larry H <larry41gm@gmail.com>
Subject: [R-390] Added Collins VFO info to our History Page

The Collins Collectors Association has an article on the Collins PTO VFO, so I added a link to it in the last entry of our 'History Page'. Here's a direct link to our website's History Page: <https://www.r-390a.net/R390AHistory.htm>.

Date: Thu, 3 Mar 2022 16:25:11 +0000 (UTC)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] History of EAC from Moody's

Sorry I don't have a scanner. Here is a jpeg history of EAC according to Moody's from the 90s. They are still in business making signs or something like that.? Just going through my files before this gets lost.

----- next part -----

A non-text attachment was scrubbed...

Name: EAC History.jpg

Type: image/jpeg

Size: 1891591 bytes

Desc: not available

URL: <<http://mailman.qth.net/pipermail/r-390/attachments/20220303/c3c8bf02/attachment.jpg>>

Date: Wed, 30 Mar 2022 23:39:44 -0700

From: Larry H <larry41gm@gmail.com>

Subject: [R-390] I added some history info on the Cosmos PTO VFO to our website

Hi all, I added some history info on the Cosmos PTO VFO to our website, r-390.net. Here's a direct link to the history selection page:

<https://www.r-390a.net/R390A>

History.htm and to the Cosmos info: R390A Cosmos PTO History.pdf

(r-390a.net) <<https://www.r-390a.net/R390A%20Cosmos%20PTO%20History.pdf>>

Date: Fri, 1 Apr 2022 21:03:19 +0200

From: GIOVANNI BECATTINI <giovanni.becattini@icloud.com>

Subject: [R-390] A booklet about surplus (and 390)

I am writing a small photo booklet about surplus and 390. It is free and you can download it here:

<http://www.k100.biz/parade.htm> <<http://www.k100.biz/parade.htm>>

I am not an expert, if I made mistakes please tell me and I will correct it.

Date: Tue, 26 Apr 2022 20:26:10 -0700

From: Larry H <larry41gm@gmail.com>

Subject: [R-390] Added Teledyne/Imperial/Amelco info to our website history

Tom Marcotte found an interesting Appeal's document for a Court decision about Teledyne Corporation suing the Government. It also includes info about Imperial Electronics Inc. and Amelco Inc. Here's a link to the history page:

[https://www.r-390a.net/R390A History.htm](https://www.r-390a.net/R390A%20History.htm) ,

and a direct link to the new document: R-390A Teledyne Imperial vs Gov review.pdf

<<https://www.r390a.net/R390A%20Teledyne%20Imperial%20vs%20Gov%20review.pdf>>

It's an entertaining and educational read.

Enjoy. Regards, Larry

Date: Sun, 1 May 2022 21:14:49 -0700
From: Larry H <larry41gm@gmail.com>
Subject: [R-390] Teledyne Imperial Amelco website history update

Hi All, I've just made an update to our r-390a.net website history information about Teledyne, Imperial and Amelco. Most of it is in the Teledyne Imperial Amelco section of our history page. Here's a link to it: R390A Hist Teledyne Imperial Amelco.pdf (r-390a.net)
<<https://www.r-390a.net/R390A%20Hist%20Teledyne%20Imperial%20Amelco.pdf>>
There's some very interesting, informative and entertaining reading there.

And, I updated the section on the Manufacturers page with some information about Amelco, which was blank before. Here's a link to it: The R-390A Frequently Asked Questions Page <<https://www.r-390a.net/faq-manuf.htm>>

Enjoy. Regards, Larry

Date: Fri, 27 May 2022 13:32:54 -0600
From: "Jordan Arndt" <Outposter30@shaw.ca>
Subject: [R-390] Stewart Warner production numbers..?

Can someone confirm that the high serial numbers for the 1959 and 1960 Stewart Warner 390A production are correct as listed on the EA5AGV website:
https://www.jvgavila.com/r390a_4.htm

Is there a more accurate list somewhere perhaps...?

Date: Fri, 27 May 2022 16:03:13 -0400
From: "Jacques Fortin" <jacques.f@videotron.ca>
Subject: Re: [R-390] Stewart Warner production numbers..?

I believe that the latest info available is here:
<https://www.r-390a.net/R390a%20R390%20R391%20Production%20Notes.pdf>

Date: Fri, 27 May 2022 14:12:32 -0600
From: "Jordan Arndt" <Outposter30@shaw.ca>
Subject: Re: [R-390] Stewart Warner production numbers..?

If anyone has 1959 or 60 S-W receivers they believe are at least partially original to that chassis, and have a records of the serial numbers of the modules, front panels and ID tags, I'd appreciate having that info if it's easily available...

Date: Fri, 27 May 2022 19:02:59 -0700
From: Larry H <larry41gm@gmail.com>
Subject: Re: [R-390] Stewart Warner production numbers..?

Yes, the date on this file is 3-18-2022.

Date: Sat, 28 May 2022 10:11:42 -0600
From: "Jordan Arndt" <Outposter30@shaw.ca>
Subject: Re: [R-390] Stewart Warner production numbers..?

While I'd like to have a somewhat larger sample size, I'd like to thank Gary, Jacques, Larry, Tom et al for the info I have received.

>From what I can discern thus far, my belief is that the 1959 and 1960 SW production was actually a single production run spread out over 2 contract numbers.

The reason I believe this to be the case is that the serial numbers of the modules and front panels do not work under any other scenario, unless it was common to have many hundreds or thousands of spare or excess modules and front panels produced, which makes no economic or manufacturing sense. For example, the 1960 SW I've been slowly restoring has mainly 1960 production modules and front panels all of which are numbered well over 5,000, while the high known S.N. for that run is 4,572. Eg. the front panel is number 5266 and the remaining 1960 SW modules are all within a few hundred either way of that number. What I believe is that the serial number on the ID tag is actually a serial number the final assembly of the various modules and chassis, and was likely re-set to zero sometime in early 1960, which makes a great deal of sense both for record keeping and production as I've experienced in ISO-900x manufacturing. When I was involved in the production of optical mark reading equipment which were to be installed in lottery terminals, every CRT, power supply, ckt board and mechanical structure or device was assigned a particular serial number for record keeping for QA/QC and ISO tracing. After passing QA/QC burn-in and testing, these assemblies and modules were later installed into the terminal unit and then the entire terminal unit assembly was then given a serial number and was tracked throughout its use along with the installed modules. If one of the modules failed, it was returned for examination and repair where possible, and the modules list of the terminal unit was changed to show that a module(s) had been replaced and the listed serial number changed to that

of the replaced module. I believe that I can say with some certainty that no production engineer or manager would ever even attempt to have the various module/assembly serial numbers match on any production "unit" because that would be almost impossible to implement without slowing production to an absolute crawl. The logistics of that would be egregiously complex and very expensive to implement. Obviously, I can't account for what happened in the field after delivery given Depot module replacement and/or swapping, but I'd expect some type of similar record keeping would have been in place. Does anyone have that type of information...? Interestingly, the reason that I started looking into this is that I am trying to determine what an appropriate ID Tag for the 59 and 60 SWs I have might be... I'll likely post a 2nd part of my spiel, but I would appreciate any comments or info which you folks might provide...!

Date: Sat, 28 May 2022 12:31:31 -0400
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] Stewart Warner production numbers..?

FWIW, I have been tracking R-388 serial numbers and contracts at <https://www.navy-radio.com/rcvrs/r388.htm>

The receiver ID tag number starts over with each contract. There is also a Collins manufacturing number stamped into the chassis that continues in sequence across contracts. For example,
1950 - 19624-PHILA-50 (s/n 136) is Collins s/n 180
1952 - 3357-PHILA-52 (s/n 14) is Collins s/n 5595

Date: Sat, 28 May 2022 19:10:40 +0000 (UTC)
From: Jim Whartenby <old_radio@aol.com>
Subject: Re: [R-390] Stewart Warner production numbers..?

Larry I have four R-390A receivers.? Two are EAC, one is a Capehart and the last is a Stewart-Warner.
EAC, Nomenclature Tag S/N is 1165, Contract is FR-36-039-N-6-00189E
EAC, Nomenclature Tag S/N is 1666, Contract is DAAB05-67-C-0155
Capehart, Nomenclature Tag S/N is 2896, Contract is 21582-PC-61
Stewart-Warner, Nomenclature Tag S/N is 185, Contract 20139-PC-60

Looking beneath the Nomenclature Tags one can find, on occasion, an inspection stamp from the Government Source Inspector.? Usually Army, sometimes Navy.? Neither EAC had any markings under the tag but both the Capehart and Stewart-Warner had an inked stamped serial number.?? They are 2922 for the Capehart and 2576 for the Stewart-Warner so this might be another place to look for production S/N's. A question for Nick:?? I also have four R-390 receivers. All have seen better days and are not complete examples so the idea is to make one or two working units from

the four organ donors. Three have nomenclature tags supplied by Collins. The fourth has no tag so I have no idea who was the manufacturer. If Collins also had a S/N on the main frame, where would it be located?

Date: Sat, 28 May 2022 19:08:28 -0700
From: Larry H <larry41gm@gmail.com>
Subject: Re: [R-390] Stewart Warner production numbers..?

Jim, It looks like your R-390A numbers agree with Tom Marcotte's chart on our website. That's interesting that the Capehart and Stewart-Warner had the ink stamp under the mfg tag, but not the EAC.

Date: Sun, 29 May 2022 15:08:10 +0000 (UTC)
From: Jim Whartenby <old_radio@aol.com>
Subject: Re: [R-390] Stewart Warner production numbers..?

Nick mentioned that Collins tracked all R-388's produced across all contracts with a sequential production number, I believe that Capehart and Stewart-Warner may have done the same thing. I guess we will not know for sure until more nomenclature tags are removed and that area of the front panel is inspected. EAC may have done something similar, but the production number is somewhere else on the main chassis.

Nick and I exchanged emails years ago about an eBay photo of a R-390A. It was missing the nomenclature tag but a Navy anchor inspection stamp was clearly visible where the tag would have been.? One of my R-390A's does have an orange triangle inspection stamp under the tag area, the other three do not.

I don't know if Collins continued the sequential?production number marking for the R-390 and R-390A.? If Collins did, than I could identify my tag-less R-390 as either Collins or Motorola built.

Date: Sun, 29 May 2022 12:29:14 -0400
From: Bob Weiss <bobweiss1967@gmail.com>
Subject: Re: [R-390] Stewart Warner production numbers..?

FWIW, I have a Stewart-Warner R-390A here from the 1959 contract, with s/n 2211, just above the range on the "official" lists...

Date: Sun, 29 May 2022 12:39:14 -0400
From: Nick England <navy.radio@gmail.com>
Subject: Re: [R-390] Stewart Warner production numbers..?

I believe the "official" list contains the result of a survey conducted by Tom Marcotte. So it was the highest serial number seen at that time, not

info from the manufacturer. Since then, more units have come to light, like your 2211. I know this is the case for many R-388 contracts but I don't track R-390A ones.

Date: Sun, 29 May 2022 16:50:16 +0000
From: Kevin Schuchmann <kschuchmann@protonmail.com>
Subject: [R-390] production numbers in general

Being that the depots could swap out anything how does one make the call on what you really have? The R-390 (non-A) that I own says Collins order #14214-PH-51-93 serial #147, removing the plate there are no markings behind it. So do you go by what the front panel says? chassis? How does one make the call?

Date: Sun, 29 May 2022 09:56:37 -0700
From: Foster Paulis <fosterp@pahrup.com>
Subject: Re: [R-390] Stewart Warner production numbers..?

I agree with Nick. Some owners simply did not reply to the survey. I just checked my S-W receivers and have s/n 2280 contract #20139-PC-60.

Date: Sun, 29 May 2022 20:14:07 +0000
From: Radio AI2Q <ai2q@roadrunner.com>
Subject: Re: [R-390] Stewart Warner production numbers..?

My R-390 is S/N 1886.
Order 14214-PH-51-93
I also have an R-390A and an R-392.

Date: Sun, 29 May 2022 17:19:06 -0400
From: Bill Cotter <n4lg@qx.net>
Subject: Re: [R-390] production numbers in general

I worked at Lexington Bluegrass Army Depot from 1972-1975 during college, and we overhauled perhaps thousands of R-390 and 390A receivers. There was no effort to keep subassemblies with the chassis. In fact, the entire set was torn down to bare metal, replated, repainted, reassembled, and operationally tested to Collins specs. Each module would be repaired and tested by different work groups using test equipment and jigs. Disassembly and re-assembly were conducted on lines in a very large warehouse. Every receiver that was shipped had a new serial tag with a LBAD serial number.

Date: Sun, 29 May 2022 15:54:02 -0700
From: mdmerz <mdmerz@frontier.com>

Subject: Re: [R-390] Stewart Warner production numbers..?

Jim, my 390a is EAC FR-36-039-N-6-00189 (E) serial # 1858 with nothing under the tag, like one of your EAC's. I don't see this contract in the contract list. Dan

Date: Sun, 29 May 2022 23:22:28 +0000 (UTC)
From: Jim Whartenby <old_radio@aol.com>
Subject: Re: [R-390] Stewart Warner production numbers..?

It's there, look for the * (asterisk) at the bottom of the second group of contracts. I wonder if the FR prefix is for "French Republic?"

Date: Mon, 30 May 2022 09:10:07 -0400
From: Bill Cotter <n4lg@qx.net>
Subject: Re: [R-390] production numbers in general - LBAD

I should also add for the record, All R-390 & R-390A's passing through LBAD received the current MWO's for that time. So, every LBAD receiver, regardless of pedigree of modules, would have been identical in function and specifications. When we were done with a radio, it was truly "remanufactured and as new".

Date: Mon, 30 May 2022 06:31:54 -0700
From: mdmerz <mdmerz@frontier.com>
Subject: Re: [R-390] Stewart Warner production numbers..?

Jim, thanks for helping me see where it was listed. I see in the details online in the archive that that is an order number not a contract number so I guess that explains why it was asterisked and put in the left column. I didn't find any explanation why an order number instead of a contract number was put on a tag. Or whether the serial numbers for the FR tags were in a different series than the serial numbers for DAA tags

Date: Mon, 30 May 2022 17:45:37 +0000 (UTC)
From: "Tom M." <courir26@yahoo.com>
Subject: [R-390] R-390A Production Summary May, 2022

With all this discussion, I've attached a recent summary of the R-390A production that I have been tracking for a long time. A couple of notes: 1) if there is no evidence of it, it's not in my list. 2) the 1960 EAC numbers I've seen have a gap between 969 and 2591. Maybe I've just never seen one in that range, but none of the other contracts have a gap like that, so the total production might be 1500 or so lower than apparent.

See the attached pdf for the latest I have.

----- next part -----

A non-text attachment was scrubbed...

Name: r390a summary May 2022.pdf

URL: <<http://mailman.qth.net/pipermail/r-390/attachments/20220530/114870c5/attachment-0001.pdf>>

Date: Mon, 30 May 2022 14:05:10 -0400

From: Nick England <navy.radio@gmail.com>

Subject: Re: [R-390] R-390A Production Summary May, 2022

Just prior to the Dayton hamfest. a number of us were rummaging around in Fair Radio's warehouse, Brown W1NZR yells out from amongst stack of R-390A's - "Here's a Helena Rubenstein one!" Silence..... No heart attacks, just grins....

Date: Mon, 30 May 2022 18:14:37 +0000 (UTC)

From: Jim Whartenby <old_radio@aol.com>

Subject: Re: [R-390] Stewart Warner production numbers..

Having worked on government contracts, I have no firm understanding of the difference between an order and a contract. Speculation on my part, it has to do with who owns what. I believe that a U.S. Government contract gives the government certain rights such as ownership of the design and the right to inspections at the manufacturer's location to insure that the agreed upon specification is met. An order is just that, one buys the product, perhaps with a Certificate of Compliance, to the agreed upon specification and you have the right to inspect for and reject for compliance at the buyer's location but you have no rights to the design. It seems that any contract or order numbers that start with a letter may be with a foreign government. An obvious exception might be the Fowler contract for five R-390A receivers that is said to be for a Navy ship. The DAAB and FR could be NATO contracts with Germany and France. I am sure that someone on this list will have more information or opinions,

Date: Mon, 30 May 2022 15:11:57 -0700

From: EdZeranski <edzeranski@cox.net>

Subject: Re: [R-390] R-390A Production Summary May, 2022

EAC #237 1960 contract

SW #1597 1959 contract

The mate was swapped away for a BC-610I

Both patients alive and well!

Date: Mon, 30 May 2022 15:23:03 -0700

From: EdZeranski <edzeranski@cox.net>

Subject: Re: [R-390] production numbers in general - LBAD

Very similar experience. Worked at Long Beach Naval shipyard shop 67/pier 2 in the late '60s after a marvelous SE Asian Vacation. R390/R390A receivers came by the pallet load then through a 'class B overhaul'. Module mix and match, field mods installed etc then out the door. The R1051 was coming in for use with UCC1-V tone diversity multiplex so the '390s were on the way out except for sig intercept. Remember the vernier on the VFO? Eastern Block tone diversity?

Date: Tue, 31 May 2022 11:24:14 -0600
From: "Jordan Arndt" <Outposter30@shaw.ca>
Subject: Re: [R-390] production numbers in general - LBAD

As I noted in my prior message, there is no way to account for what happens to the various parts of an R-390A or non A once the receiver hits a depot. I've read comments about what are considered re-manufactured receivers given new serial tags, and while I've seen re-labelled PTO's reworked by Raytheon and at Tobyhanna (sp?), I've never seen a replacement ID Tag after a receiver has been re-manufactured...Are there any pics of examples of these...?

Date: Tue, 31 May 2022 17:30:11 +0000 (UTC)
From: Sheldon Daitch <sheldondaitch@yahoo.com>
Subject: Re: [R-390] production numbers in general - LBAD

Regarding serial numbers and no doubt potential duplications, how did unit property book officers deal with receivers with the same serial numbers? Consider the number of receivers manufactured, it might be unlikely a unit who had R-390 or R-390A receivers would have the same serial number, in each model, but it could happen. Just curious.

Date: Tue, 31 May 2022 19:13:09 -0500
From: "Les Locklear" <leslocklear@hotmail.com>
Subject: Re: [R-390] production numbers in general - LBAD

It seems odd that of the hundreds of R-390/URR and R-390A/URR receivers that I have seen, none have ever had a LBAD (Lexington Bluegrass Army Depot) tag on them.

Are we talking about nomenclature tags (you know, the ones on the front panel) or was it a "sticker" or rubber stamp applied to the rear panel? I have seen various rebuild stickers on PTO's and modules that had for example: Shop 10 Norfolk Naval Shipyard, Tobyhanna or various other different "levels" of depot repair. If thousands of those receivers passed through LBAD it seems likely that there would have been many reports of these "tags" or whatever was applied to them to designate they had been

repaired at LBAD.

Date: Sun, 3 Jul 2022 21:53:51 -0700
From: Larry H <larry41gm@gmail.com>
Subject: [R-390] Presidential Communications Railroad Car (Crate)

I just put a new historical document out on our website, r-390a.net, courtesy of Les Locklear. It's about the Presidential Communications Railroad Car used from 1942 through 1961. Here's a direct link to it: The Presidential Communications Railroad Car / ? (coldwar-c4i.net) <https://coldwar-c4i.net/crate/the_presidential_communications_railroad_car_crate.pdf>.

In the picture on page 3 from 1956, notice the radio control console contained 2 SP-600's and 2 R-390A's. See the picture on page 8 and notice. in 1961 that there are 4 R-390A's. Enjoy.

Date: Mon, 4 Jul 2022 14:23:42 +0000 (UTC)
From: wlnzr@cs.com
Subject: Re: [R-390] Presidential Communications Railroad Car (Crate)

Thank you very much for this most interesting piece. I actually knew one of the ww2 CW ops detailed to this assignment. Tyler Page of Oxon Hill, Md. Unfortunately I do not remember his ham call and also unfortunately I did not ask enough questions before he passed away some 20+ years ago. Cheers and a pleasant 4th of July to all.
Brown Beezer wlnzr

Date: Sat, 9 Jul 2022 21:23:34 -0700
From: Larry H <larry41gm@gmail.com>
Subject: Re: [R-390] Presidential Communications Railroad Car (Crate)

Hi all, I found some more good information about this subject and updated our website with links to it. Here's a direct link to the page I added to the history section: R390A Pres Comm Railroad Car.pdf (r-390a.net) <<https://www.r-390a.net/R390A%20Pres%20Comm%20Railroad%20Car.pdf>>. Enjoy.

I believe that the picture from page 3 (in my previous post) is not from 1956, but early 1961. See the new page I added to our website at the link above for some clarification.

Date: Mon, 11 Jul 2022 22:33:37 -0700
From: Larry H <larry41gm@gmail.com>
Subject: [R-390] Updates to our website, r-390a.net

Hi all, I made two updates to our website, r-390a.net.

1. Added another paragraph to the end of the Presidents Communication Railroad Car history page. In the 3rd link in this document (on 'hamgallery'), the article referred to a document in Ham Radio by Charles Clemens Jr, the 1st CW operator on the Presidential Train from 1942 to 1948, so I added a link to it in the above document. The article starts on page 58 and is an interesting account. Here's a link to it: Ham Radio March 1975.pdf (archive.org)
<https://ia903006.us.archive.org/12/items/hamradiomag/ham_radio_magazine/Ham%20Radio%20Magazine%201975/03%20March%201975.pdf>

2. I added a link in our Tutorials page in the Magazine section to point to the PDF's for the online Ham Radio Magazine files. The 1st page shown is one entry for each year. Click on the year of interest and a list of months is shown. Here's the link to them:

Index of /lib/ham_radio_magazine (archive.org)
<https://ia903006.us.archive.org/12/items/hamradiomag/ham_radio_magazine/index.html>

Date: Sat, 27 Aug 2022 18:32:50 -0700
From: Larry H <larry41gm@gmail.com>
Subject: Re: [R-390] Nick's awesome 1970 Navy tech ref pdf

Hi all, I've added a link to it on the 'references' page at the bottom of the 'US Navy' section.

Date: Thu, 8 Sep 2022 19:21:05 -0700
From: Larry H <larry41gm@gmail.com>
Subject: [R-390] Added front pictures to our website's 'variations' page

Hi all, I added some front panel pictures to our website's 'variations' page for most of the important receivers listed there. I did this for the R-389, R-390, R-390A, R-391 and R-392 by adding a link to Luca Fusari's website. I found a good picture of the R-648, so put it on our website with a link to it in the R-648 description.

Here's a direct link to the 'variations' page: The R-390A Frequently Asked Questions Page <<https://www.r-390a.net/faq-var.htm>>.

If you would like a picture of the others added, please send it to me (be sure it's not copyright protected).

Date: Sun, 16 Oct 2022 08:43:21 -0400
From: John Wendler <wendlerjrv@gmail.com>
Subject: [R-390] R-1247 AN/GRC-129 followed me home from NEARfest

I was told the lower frequencies were inoperative, so I have some work to do.

Date: Sun, 16 Oct 2022 06:32:37 -0700
From: Larry H <larry41gm@gmail.com>
Subject: Re: [R-390] R-1247 AN/GRC-129 followed me home from

Nice find, John. Our doc says that these units were R-390A's that Manson Labs modified. I assume that they were any breed 390A that they could get their hands on, or did one or specific manufacturers make the 390A's for them? Does anyone know how many units the contract was for and what year the contract was let.?

Date: Sun, 16 Oct 2022 17:22:49 -0400
From: John Vendely <jvendely@cfl.rr.com>
Subject: Re: [R-390] R-1247 AN/GRC-129 followed me home from NEARfest

The four or five Manson R-1247s I've seen were all originally manufactured by Collins. Not sure if this was the case for all of them...