

R-390 Reflector December '03 Edited

From d.mcrae@telus.net Mon Dec 1 03:40:39 2003
Subject: [R-390] r-390a pto output voltage

Hi, Does anyone know what the correct output voltage is for R390a PTO? As well, where does it peak and what the correct adjustment procedure for transformer Z-702? I have checked one with a HP3400A and it had a peak of 7.75 volts at 0 000 and 2.25 v at 0 500 and 0+000. I can't find anything in the manual or on-line. Thanks, Doug

From roy.morgan@nist.gov Mon Dec 1 15:42:33 2003
Subject: [r-390] Wonderful R-390 pics

wrote: >This is the best R-390 restoration I have ever seen. Go to this website and be amazed:
<http://www4.cktkv.ne.jp/~aogucci/R390/R390.htm>

It appears that he removed the wiring harness and every thing else from the frame to clean and/or re-finish the thing. Quite an inspiration. I have two of them here awaiting restoration. Roy

From jmiller1706@cfl.rr.com Mon Dec 1 22:05:22 2003
Subject: [R-390] WTB R390 Knobs

Thanks to all who responded. I was able to find some that I can strip and refinish. Jim

From jmiller1706@cfl.rr.com Mon Dec 1 22:06:52 2003
Subject: [R-390] WTB R390 Dial Lamps

I now need a few dial lamps for the 390a. Are these commonly available (like auto or flashlight lamps)? Any for sale on the list? Thanks Jim

From W4CWA@nc.rr.com Mon Dec 1 22:33:02 2003
Subject: [R-390] WTB R390 Dial Lamps

Jim, Check Mouser (www.mouser.com) and look for part number 606-CM328. 93c ea. 73, Frank W4CWA

From sdman@cableone.net Wed Dec 3 07:33:31 2003
Subject: [R-390] Bristol Wrenches

Is there a source where wrenches/tools can be found to work on the 390? Sam

From r390a@rcn.com Tue Dec 2 19:47:28 2003
Subject: [R-390] Bristol Wrenches

<http://www.mcmaster.com/> search for 'Spline Key Wrenches' which should take you to pg 2652. At the bottom are the individual wrenches or sets. You really only need the six-flute 0.096" size. The long-arm variety is helpful when removing/replacing the Mc/Kc knobs.

Just ordered a set last week to use on some HP knobs. Came in two days, but then again, their warehouse is only 30 miles from here. YMMV. McMaster-Carr has no minimum order.

From w5kp@direcway.com Tue Dec 2 19:43:43 2003
Subject: [R-390] Bristol Wrenches

<http://www.acespilotshop.com/pilot-supplies/tools/Xcelite-99-ps-60.htm>

Lots of other places to buy this set, too. Don't know if this is the best price, but it's pretty decent. This is the best set of Bristols out there, and pretty much the standard. 73, Jerry W5KP

From rjmattson@hvi.net Tue Dec 2 19:51:50 2003
Subject: [R-390] Bristol Wrenches

Hi Sam Here are a few places for bristo/spline wrenches: <http://www.hmcelectronics.com/index.html>
<http://www.mcmaster.com/> bob.w2ami

From cbscott@ingr.com Tue Dec 2 19:53:06 2003
Subject: [R-390] Bristol Wrenches

There are also inserts for the 1/4" (Vaco style) handles for the Bristol drives. I really like mine as it is nice and long and having a handle grip is nice. Barry(III) - N4BUQ

From cbscott@ingr.com Tue Dec 2 19:55:47 2003
Subject: [R-390] Bristol Wrenches

Yes. These are the ones to which I was referring. Thanks, Jerry. I said Vaco, but Xcelite is the brand I was really trying to recall. Barry(III) - N4BUQ

From cbscott@ingr.com Tue Dec 2 19:57:47 2003
Subject: [R-390] Bristol Wrenches

.and just to clarify: If you already have the handle, you can get just the one size driver needed for the R390 by itself for around \$6.00. Barry(III) - N4BUQ

From kherron@voyager.net Wed Dec 3 00:35:28 2003
Subject: [R-390] Bristol Wrenches

Hi Guys, ><http://www.acespilotshop.com/pilot-supplies/tools/Xcelite-99-ps-60.htm>

Just so everybody knows, I stock these sets and for \$10.00 less than there advertised here.

I'm waiting for the next order to show up so if your interested in a set, let me know and we'll get you taken care of. >mm Thanks!! Kim Herron 1-616-677-3706

From rdavis24@carolina.rr.com Wed Dec 3 00:36:41 2003
Subject: [R-390] Restoring a Capehart

Hello, Well its been awhile since I posted, and I am finally getting ready to start on the old Capehart. I have been collecting every piece of information I can get my hands on about R-390A's. I have visited so many web sites, printed so much information that I will never run out of stuff to read hi. Well the Capehart unit has the "Always On" Function switch, but I think that will be a quick fix, and then it will be on to the harder stuff. I have been looking for some spare parts for the R-390A, but I have not been having any luck. I have made several posts to all the auction sites, but parts are not coming my way. If anyone has any parts that they do not need, please let me know. I am trying to collect as many spare parts as possible to keep my R-390A's running forever. If anyone has a non-working receiver that they no longer need, I will be interested in it also. I am planning on starting the Capehart unit next week, and will try to get a few pics while doing the work. I want to say Thanks to all the great folks on the list. I have learned alot from the list, and maybe one day I can contribute something worthwhile to help.
Thanks Ronnie KE4VPN

From kherron@voyager.net Wed Dec 3 18:15:15 2003
Subject: [R-390] Attn: James Moorer-Spline drivers

Hi James, Tried to reply to your mail. Your spam service blocked my mail. You can get in touch with me at the phone number listed below, or you can add my e-mail to your spam program. Thanks!!
Kim Herron 1-616-677-3706

From ghayward@uoguelph.ca Wed Dec 3 20:51:28 2003
Subject: [R-390] Restoring a Capehart

Hi Ronnie. I did that and my Capehart is working beautifully, thanks to much help from the list. Good luck and I look forward to hearing about your journey into the bowels of the rig. Cheers, Gord (VE3EOS)

From jmiller1706@cfl.rr.com Thu Dec 4 03:24:56 2003
Subject: [R-390] EAC R-390a FS

My EAC R-390a is going for sale here before it gets dropped into the Bay. See link and story below. <http://home.cfl.rr.com/jmiller1706/eacr390a.html> Paid \$800 for her 2 years ago. Put \$75 worth of sweat and parts into her. Be lucky to get more than what? \$600 would make me happy. Make offer.
Jim N4BE

From w5kp@direcway.com Thu Dec 4 12:22:10 2003
Subject: [R-390] New CY-979/URR Cabinet on that famous website

Throwing this out here because these aren't available very often. And yes, I have 100% personal pecuniary interest in this item. List patrol, en garde. Jerry W5KP

From courir26@yahoo.com Thu Dec 4 13:48:24 2003

Subject: [R-390] New CY-979/URR Cabinet on that famous website

No harm no foul. You may have pecuniary interest, but at least you don't have any money at stake. :-)
73 Tom

From R390rcvr@aol.com Fri Dec 5 00:34:27 2003
Subject: [R-390] Felton Electronic redesign of R-390A

Good evening all:

**Does anyone have experience with the above mentioned company. He makes some pretty impressive claims, but I haven't heard anyone ever mention him or his work.
<http://www.feltondesign.com/> Thanks for your input! Randy**

From James A. (Andy) Moorer" <jamminpower@earthlink.net Fri Dec 5 02:29:55 2003
Subject: [R-390] Felton Electronic redesign of R-390A

I have no experience with his engineering work - I am sure the receivers are remarkable devices, and I am sure his work is top-notch.

But his reported sensitivity figure of .012 microvolts across 50 ohms can't possibly be true. Please refer to my "noise and sensitivity" page at: www.jamminpower.com/main/noise.jsp

The short version is that a 50 ohm resistor at room temperature will exhibit a .0266 microvolt "thermal noise" voltage. This has been known for decades. A sensitivity measurement reports the voltage that is 10 dB above the base noise floor. The absolute minimum sensitivity possible with a 50-ohm load would be 10 dB above .0266 microvolts, which is about .084 microvolts. That is the theoretical limit - the actual sensitivity is probably much higher than that. James A. (Andy) Moorer www.jamminpower.com

P.S. - even a receiver with a 100-200 microvolt input sensitivity is an incredible receiver! No reason to inflate (deflate?) the numbers beyond physical limits.

From hankarn@pacbell.net Fri Dec 5 04:16:06 2003
Subject: [R-390] Felton Electronic redesign of R-390A

Andy, You overlooked one thing Felton has the Almighty's power, just ask him. All of the rest of us know NADA. He defies all of of the rules. According to him none of us in the restoring business know anything about R-39XX or anything about quality of workmanship. He has al of the answers. Donde esta his track record??? Hank KN6DI

From r.tetrault@comcast.net Fri Dec 5 07:00:30 2003
Subject: [R-390] Felton Electronic redesign of R-390A

James,

Don't forget the 10db decrease in bandwidth (3500 to 350Hz) which goes directly to the bottom

line. A zero noise figure receiver with a 1 Hertz bandwidth would have a sensitivity of -174dBm. Make that 500Hz BW and the sensitivity goes down by 27db ($10 \cdot \log 500$) to -147dBm. Add in the typical and conservative noise figure of 5dB for a well adjusted 390 and you're at -142dBm. That's MDS, mind you. Figure on 10db S/N and you have -132dBm. With a coherent (product detector) system, this is very typical performance figures for 390's but outstanding for modern communications receivers. Open up the BW and the sensitivity is reduced accordingly. When you realize a typical 20kHz two-tone IMD IP3 at 10dBm for the 390's you have a truly remarkable rig. (easy there, Hank, we know, we know). The dBm-BW approach is the method used by every coherent detection engineer in the world. When you convert from dBm to microvolts the numbers are startlingly small, yet nonetheless true. Mr. Johnson is still there, but his contribution has been reduced by the reduction in bandwidth. I remember working on the early Bell Labs specs for cell phones back in '82 and being unimpressed with a sensitivity spec of -112dBm until I found the references for required receiver BW to be many tens of kHz (inaudible control tones). they all reduce to the -174dBm/Hz baseline. Every time. Bob Portland, OR

From jlkolb@cts.com Fri Dec 5 05:15:59 2003
Subject: [R-390] Felton Electronic redesign of R-390A

wrote: > But his reported sensitivity figure of .012 microvolts across 50 ohms can't possibly be true.

I'm not saying Mr Felton's figure is accurate - it doesn't take much signal generator leakage at all to cause inaccurate measurements, but his 0.012 uV figure was for minimum discernable signal with a 350 Hz IF bandwidth and 250 Hz audio filter. That should make the 50 ohm resistor noise a little less than 0.01 uV, dividing 0.266 by the sq rt of 3500 hz/350 hz.

My recievers routinely measured < .1 uV sensitivity with a Heathkit Lab Generator on the other side of the room, without a connection between the rx and the sig gen. John

From jbrannig@optonline.net Fri Dec 5 12:39:31 2003
Subject: [R-390] Felton Electronic redesign of R-390A

I never heard of Felton before this post, but I looked at the WEB site and read the story about the KWM-2 and field day. As an active contester I found his claim of 259 Q's per hour in Field Day a bit of a stretch Jim

From keng@moscow.com Fri Dec 5 16:52:58 2003
Subject: [R-390] Felton Field Day.

> I never heard of Felton before this post, but I looked at the WEB site and read the story about the KWM-2 and field day. As an active contester I found his claim of 259 Q's per hour in Field Day a bit of a stretch Jim

Just a bit. When I was in my top form, with a logger, running CW, about 2 - 3 per minute was about all I could manage. and this was about 25 years ago. Gee. he must be superman. Ken Gordon W7EKB

From Tarheel6@msn.com Fri Dec 5 21:07:28 2003
Subject: [R-390] R-390A dial lamps FS

I have a limited number of R-390A dial lamps for sale. These are NOS military and are individually sealed and marked #350 on the lamp itself. The price is \$5.00 for a quantity of 10 lamps, plus \$2.00 for shipping and handling, making a grand total of \$7.00. Minimum order is 10 lamps. Order more if you need them, subject to the quantity I have! I'll have to let you know what shipping will be on orders of more than 10. Let me know if you're interested and I'll send you my address. thanks, -tom

From sdman@cableone.net Sat Dec 6 09:38:18 2003
Subject: [R-390] Interested

Need an address. Sam

From jmiller1706@cfl.rr.com Sat Dec 6 05:00:28 2003
Subject: [R-390] EAC R-390a FS

The radio sold, and I am happy. I'm now down to two. By the way, the Clavier IF module in this radio generated some interesting questions on the list. For anyone interested, I have posted pics of it at:

<http://home.cfl.rr.com/jmiller1706/ClavierIF.html>

After soldering the unsoldered joints I found in it, it works as well as any other IF I have (hope this doesn't scare the buyer away). My Saturday will be taken care of. packing and weighing the radio.

From WardSRehkopf@eaton.com Sat Dec 6 15:51:24 2003
Subject: [R-390] Wanted R390 parts

Want rear panel and metal spare fuse cover for a R 390. Do not require pin straightners. thanks K8FD

From d.mcrae@telus.net Sat Dec 6 22:20:42 2003
Subject: [R-390] R-392 case

Hi,

I am after the aluminum case for a R-392, a 1952 Stromberg Carlson. Does anyone know which is the correct one, ribbed or smooth, for this productions run? Does anyone have a extra one or any parts?
Thanks, Doug

From mjdrum@comcast.net Sun Dec 7 13:36:01 2003
Subject: [R-390] Signal Generators (was: Deoxit)

Cecil, I wanted a 8640B years ago, but it was over my head price wise. I just found one on the auction place for \$150 using the buy it now option! It is in working shape and looks to be in good cosmetic condition as well.

I don't think I'm ever going to get one cheaper then that.

Beware of a seller offering a manual download for the 8640B. It's available as a free download from the BAMA web site. This guy is trying to profit from other peoples work. I told him he was selling Copyrighted work and he responded with the most vulgar language I've ever heard. I'm sorry to say he is a ham too. Guy actually charges a shipping fee for a download he is selling! He does not even provide a CD! He gets it from BAMA and puts it on his server, then charges the uninformed for the privledge of getting it from him. I reported him to Ebay and HP.

Merry Christmas and Happy Holiday's to all.

From tbryan@nova.org Sun Dec 7 13:59:39 2003
Subject: [R-390] Signal Generators (was: Deoxit)

Hello All, >Beware of a seller offering a manual download for the >8640B. It's available as a free download from the BAMA >web site. This guy is trying to profit from other peoples >work. I told him he was selling Copyrighted work and he

8640B Manuals are also available from the Army website at:
Parts <https://www.logsa.army.mil/etms/data/A/022731.pdf>
Service? <https://www.logsa.army.mil/etms/data/A/060577.pdf>
Calibration <https://www.logsa.army.mil/etms/data/A/063108.pdf>

The 8640B manuals are freely available to the public but they are large files.

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. Tom Bryan

From David Hallam <dhallam@rapidsys.com> Sun Dec 7 14:52:35 2003
Subject: [R-390] URM 25D Signal Generator

Is there an on-line source for a manual for a URM-25D signal generator? I found a manual for a 25B on the logsa web site but not the 25D. David C. Hallam

From mjdrum@comcast.net Sun Dec 7 16:45:26 2003
Subject: [R-390] Signal Generators (was: Deoxit)

Hi Bob, Thanks for the info and the kind words. Those generators were mucho dinero a while ago, so I am very happy that circumstances have caused them to come down in price so I could finally get one!

The rat's auction is still on Ebay. He lists them one at a time. I can't tell you how low this guy really is. His email back to me was enough to make a normal person vomit. It was rich in 4 letter words, calling me a Jersey inbred and a host of other adjectives. He also sells downloads to Yeasu

manuals he gets for free too. As a community service, here is the link to his site. If you look at his other auctions you will see the other manuals. Caveat Emptor was quoted for low life's like him.

<http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=2578219742&category=25407>

Ebay knows what he is doing because I told them. Hopefully the legal department at HP will put him out of business. Mike

From mail08458@pop.net Sun Dec 7 16:51:48 2003
Subject: [R-390] URM 25D Signal Generator

IIRC, there is a URM-25D manual available for download on the K4XL's BAMA site (<http://bama.sbc.edu/>)

However, if anyone needs a hardcopy of the full URM-25D manual (theory/operation/maintenance/parts), I still have a batch of very high quality reprints (hi-res scan from my original w/clear photos, 11x17 schematic, 24lb paper, 67lb covers) for \$6/ea + postage. If interested, please contact me directly (bryanste@yahoo.com). Bryan Stephens bryanste@yahoo.com

From w5kp@direcway.com Sun Dec 7 18:03:20 2003
Subject: [R-390] URM 25D Signal Generator

This is the way business ought to be done amongst list members. Way to go, Bryan. I've downloaded a few semi-rare manuals from BAMA and printed them out, but if they are available in hard copy from somebody like Bryan at a reasonable price I'd much rather pay up front for a good hard copy. Printing and assembling is almost always a lot more trouble, time, and cost than buying a clean copy outright. Plus, most people who provide vintage manual services have the right equipment and knowledge to quickly efficiently produce good legible copies, whereas if you just do this rarely off your home PC/printer, it can be a real pain in the keister. BAMA provides a great service, but I find it most useful for a page or two here and there, or a copy of a single schematic, not a full download. 73, Jerry W5KP

From redmenaced@yahoo.com Sun Dec 7 18:21:49 2003
Subject: [R-390] URM 25D Signal Generator

Speaking of signal generators, how does the URM-25J stack up against the others mentioned? Is it substantially better than the "D" model? Just what are the differences? Thanks, Joe

From courir26@yahoo.com Sun Dec 7 19:43:49 2003
Subject: [R-390] R-725, the new Holy Grail

See results from you know
where.<http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3062352336&category=4673>

From federico@dottorbaldi.it Sun Dec 7 20:49:11 2003
Subject: R: [R-390] R-725, the new Holy Grail

Hi Tom and the Group, 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. 73 de Federico IZ1FID Visit my webspace voted to military surplus radio and aircraft clocks : www.dottorbaldi.it/militaryradio See also : <http://www.geocities.com/pa0jta2/hamshacks.html>

From federico@dottorbaldi.it Sun Dec 7 20:58:58 2003
Subject: [R-390] SEARCH FOR TECH. MANUAL OF RTX COLLINS 628T-3

Hi friends, excuse me for the off-topic message I'm searching for a friend (IOBR a retired pilot and now radio-ham) the Technical Manual of Collins airborne transceiver 628-T3. Any help shall be highly appreciated because the RTX need some repairs. Thanks and 73 de Federico IZ1FID

From tetrode@comcast.net Sun Dec 7 22:15:57 2003
Subject: [R-390] R-725, the new Holy Grail

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. John

From wjneill@lcc.net Sun Dec 7 23:12:18 2003
Subject: [R-390] R-725, the new Holy Grail

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 ancillary equipment Bill Neill Conroe, Texas

From ToddRoberts2001@aol.com Sun Dec 7 23:32:44 2003
Subject: [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. 73 Todd Roberts WD4NGG.

From federico@dottorbaldi.it Sun Dec 7 23:38:59 2003
Subject: R: [R-390] R-725, the new Holy Grail

Hi John and the Group, in my personal opinion I believe that what worth to be collected are fine receivers and obviously the rarer are the more sought. What I say is that if you have an R-390/URR in good shape probably you shall have better performances than with an R-725/URR, I preferred to spend 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 which 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 that were built less than 1000 pieces. Anyway here in Italy there is a saying "not all the mad people stay 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 (nuvitors) 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 73 de Federico IZ1FID

From Barry Hauser <barry@hausernet.com> Sun Dec 7 23:54:53 2003

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

Hi Todd and gang -- 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.
Barry

From Scott Seickel" <polaraligned@earthlink.net Mon Dec 8 01:12:45 2003
Subject: [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.

I think the overall condition of it really helped it's 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. Scott

From tetrode@comcast.net Mon Dec 8 05:36:18 2003
Subject: [R-390] The R-725 and the DF story?

Since we're on the subject, I'd like to bring up a question that's been on my mind about the reported purpose of the R-725 and its DF friendly IF deck. Is DF use really the case, or is this just a story that gets repeated?

While I've often read this explanation, I've never seen any documentation referring to what actual DF equipment or systems the R-725 was used with. I'm very familiar with the need for carefully characterizing the IF phase or group delay characteristics for particular applications, but I am unfamiliar with any needs for DF. Maybe I don't understand this requirement but could there be another explanation? The following is my reasoning.

DFing to me means determining the location of an emitter

>From what I know about the major HF DF systems used (such as the giant Wullenwebber arrays that were deployed world-wide) they could be simplified into three parts:

- i) the antenna array which is used to receive and resolve the emitter bearing
- ii) the receiver which allows you to listen in and provides a conditioned IF output
- iii) the display processing equipment which takes the IF signal and extracts the amplitude information and puts it in a form which can be used to create a rotating polar display. This gives you the familiar DF scope with the propeller shaped display indicating bearing.

The whole point of this is that it is the emitters amplitude which is being plotted against bearing, and I just don't see the emitters phase components, or the IF's, coming into the equation. I've also heard stories told by DF and intercept operators of such centers being filled with racks and racks of R-390's, R-390A's, and R-391's, but don't recall R-725's being mentioned much if at all.

Perhaps I'm missing something in the above explanation, but I DO have some applications in mind where linear IF phase would be handy.

1) Radio-location, defined as determining where the *receiver* is located based on known transmitters.

The transmitted signals contain precisely timed pulse information which can be translated to distance, so having an IF that preserves the phase (and therefore the timing) of the pulses is important. But there was lots of specialized radiolocation receiving equipment built and sold; why would you use an R-725 (plus other equipment), and why buy an expensive receiver that covers all of HF when radiolocation utilizes lower frequency ground wave? This doesn't make much sense to me.

2) Data communication, involving something more complex than the usual multi-channel TTY, but have not seen any references to this.

3) ELINT, Electronic Intelligence gathering, a big time Cold War activity. This is where you are interested in the actual RF signal itself so that it could be analyzed and information extracted, or so that it's "signature" could be determined.

Back when the NSA was formed, they (and their various agencies) started analyzing all the foreign signals they could from DC to light, and continue to do so today.

Wide-bandwidth analog recorders had arrived on the scene and remote listening posts, planes, subs, and ships hugging other countries borders were filled with all kinds of receiving gear quietly listening in and feeding these wideband recorders signals straight from their IF outputs.

Miles of tapes were routinely recorded every day, then rushed to centralized analysis labs for study. That is one of the main reasons surveillance receivers have IF signal outputs.

This is one application where keeping all of an unknown signal's amplitude and phase components intact would be the highest priority, since the goal would be to record the desired signal in its original form with the minimum distortion possible.

For this special purpose the R-725 would fit the bill, the few hundred built could have been all that was needed. ELINT was routine on VHF up through the microwaves, so why not HF too?

Could HF ELINT have been the real purpose for this radio? The DF story might be just that, a very believable cover story used to explain the procurement contract, brought to you by the cloak and dagger folks that like to keep their real business quiet.

Perhaps I've just been typing into the wind, but just maybe there is someone reading who could chime in and perhaps shed some light on this. thanks, John KA1XC

From courir26@yahoo.com Mon Dec 8 13:12:07 2003
Subject: [R-390] TRD-15, Was The R-725 and the DF story?

John and group, The DF set used with the R-725 was the TRD-15 (and one other that escapes me at the moment).

The R-725 was prototyped by Motorola, and then the rigs were modified by Arvin and Servo.

Arvin and Servo took existing 390A depot dogs, removed the IF decks and salvaged certain parts (such as the BFO, crystal filter and a few others) and built up new IF decks called "SERIES 500" decks to drop in. They also added a transformer to use for hum-bucking on the PTO.

Important: The SERIES 500 deck and the R-390 deck are not interchangeable. The filament voltages and IF hookups are different, but mechanically they are 95% the same.

I'm told the reason the R-725 was sold for DF purposes and not the R-390 was that Collins and the Signal Corps jumped into the R-390A with both feet. The use of the R-725 over the R-390 was a face saving measure to stay within the R-390A concept. This was probably also justified by training, documentation and parts drivers as well. The Army cut the cord on the R-390 and didn't go back. Servo is still in the DF business. see: <http://www.servo.com/>

From federico@dottorbaldi.it Mon Dec 8 13:32:36 2003
Subject: R: [R-390] TRD-15, Was The R-725 and the DF story?

Hi Tom and Friends, a quite common problem on the R-725/URR here in Europe come from the fact that we here employ 220 Volts instead of 110 Volts; in the R-725/URR isn't enough (if I remember well) to change the wiring of Power Supply transformer for 220 Volts as in the R390A/URR, you must change the wiring of the little transformer that supply tensions needed for the series "500" IF DECK. Some people don't know this particular and so I saw some R-725/URR with the little transformer gone for the survoltage. 73 de Federico IZ1FID

From wjneill@lcc.net Mon Dec 8 13:39:56 2003
Subject: [R-390] TRD-15, Was The R-725 and the DF story?

TM 11-5825-231-10 covers AN/TRD-15 AND AN/TRD-23 The R-725 is mentioned only as a component of both sets and there are no instructions for operation or maintenance In other words, there is no stand-alone TM for the R-725 nor are there higher level maintenance manuals for the AN/TRD-15 or AN/TRD-23 Bill Neill Conroe, Texas

From djmerz@3-cities.com Mon Dec 8 13:42:45 2003
Subject: [R-390] The R-725 and the DF story?

John, I liked your typing into the wind, as you humbly put it. This provokes the idea that there may be more than one truth (= the best exposition of the known facts) about the R-725. I have excerpts from the "Direction Finder Sets AN/TRD-3, AN/TRD-23A and Direction Finder Sets AN/TRD-15 and AN/TRD-15A" TM-115825-231-24, August 1973, that pertain to the R-725. I don't know what else is in this manual outside of the parts I have on the R-725 or what the type of direction finder equipment is involved. This information was provided to me by Tom when I became interested in modifying the 390 i.f. chassis to fit my 390a, which was completed. Maybe this will help, if someone else can look at the complete manual for details on the df equipment. Dan.

From hankarn@pacbell.net Mon Dec 8 13:46:20 2003
Subject: [R-390] The R-725 and the DF story?

John, Your theory makes a lot of sense and it is probably still very BLACK. Just more modern equipment. Hank KN6DI

From rdavis24@carolina.rr.com Mon Dec 8 15:07:32 2003
Subject: [R-390] Capehart Update and questions?

Hello,

Well I finally got a chance to take a look at my Capehart R-390A. It has been a long time since I looked at it, and did not remember anything except the bad Function Switch. Well it is in worse shape than I remembered. Someone has put a 239 antenna connector on the back, but it was installed in a way that I can put the original back on and it will not hurt the rig. They took the plate off the antenna coupler and removed the old one and then used the original holes to hold the new one on the back. I have a used antenna coupler that im going to install and make it original again, so that should fix that problem. One problem I have that I did not know I had, is that someone has done a "mod" to do away with 3TF7 ballast tube. I have not had time to look and see exactly what was done, but im sure it works, and that some kind of mod was done. Is it safe to do away with the ballast tube, or should I say, what is the best way to do away with it? Also, the entire rig is going to have to be cleaned very good, cause it is very dirty, gear train full of grease, dirt every where and the front panel is going to have to be redone. So I have much more work to do than I thought I would have to do. Is there a place that I can post pics of the rig, before and after photos for all to see, or should I just make my own website? Thanks for the help in advance. Ronnie KE4VPN

From dpg@coe.neu.edu Mon Dec 8 15:56:31 2003
Subject: [R-390] R-390 Carrier Scan, First Try

To the donor of the meters and others, I apologize for my delay, I had to get a website on QSL.NET setup before I could make the scan, as my school site is using all the space an undergrad can get - and more! Please view www.qsl.net/n1xzb/Images/Carrier.tif The tif file is about 1.2MB, so watch out. Also download a good viewer for the tif, like Irfanview (www.irfanview.com), if you do not have a good image program. Comments? Is this a nice meter for use for rebuilding other meters for the R-390? Dave Goncalves, N1XZB

From roy.morgan@nist.gov Mon Dec 8 16:05:53 2003
Subject: [R-390] URM 25D Signal Generator

wrote: >Speaking of signal generators, how does the URM-25J >stack up against the others mentioned?

Joe, My guess is: about the same.

>Is it substantially better than the "D" model? Just >what are the differences?

Can't tell you, but my notes on the URM-25 include the following messages.

I assume that "more attenuation stages" means an additional step in the output attenuator. I do not have pictures with enough clarity to see if this is true or not.

From JMILLER1706@cfl.rr.com Mon Dec 8 16:16:28 2003

Subject: [R-390] The R-725 and the DF story?

Attempting to answer John's initial question about reasons for the DF friendly IF deck. I'm not the world's expert in DF (although this has prompted some side reading today). Here's my understanding: Some DF systems employ fixed antennas (like Adcock arrays, they don't physically rotate), therefore the angle of arrival of the signal must be deduced by measuring relative phase differences or time of arrival at each of the antennas. This is akin to an interferometer. A system of this type using R-725's would employ several fixed position antenna elements at known spacings, with a separate receiver attached to each antenna. The IF outputs would go to some form of DF post-processor which would correlate the multiple replicas of the signal and derive phase/time difference of arrival. In theory, by knowing the phase differences at each antenna, and knowing the precise antenna spacing, the angle of arrival of the signal can be calculated. Nothing rotates. It's all in measu!

From wa6knw@sbcglobal.net Mon Dec 8 17:17:02 2003

Subject: [R-390] The R-725 and the DF story?

If you want to know where the R-725 was used you can see it all in TM 11-5825-231-10, Direction Finder Set AN/TRD-15/23. The fact is that the mechanical filters caused phase distortions which provided for inaccurate bearing readings in the goniometers. RICH WA6KNW

From David Hallam <dhallam@rapidsys.com> Mon Dec 8 18:40:30 2003

Subject: [R-390] URM 25D Signal Generator

Thanks to all who replied to my request for a source for URM-25D manuals. I got what I needed plus information about other manuals I needed also. David

From ghayward@uoguelph.ca Mon Dec 8 20:09:24 2003

Subject: [R-390] Capehart questions

The ballast mod can be one of three forms, a 12V tube, a resistor or a jumper with the 2 6BA6 tubes replaced with 12BA6 tubes. I did the latter with a wire jumper in the 3TF7 socket. No harm to the set and it works well. Cleaning is tedious, but has to be done. Cheers de Gord (VE3EOS)

From Usafssx2@wmconnect.com Mon Dec 8 21:40:23 2003

Subject: [R-390] Re: R-390 digest, Vol 1 #920 - 6 msgs

I don't know if this info helps your argument, but I sat DF (when my automated position was up and running on its own) at one of the biggest overseas sites (now de-activated) and I don't recall anything called an R-725. R-390A's were everywhere, morse intercept operators and voice guys used the model with the familiar turn knob on the BFO. Positions working with radio-teletype (my specialty) used the model with the mechanical BFO that was much more precise with a readout in the center. RS

From brumac@juno.com Mon Dec 8 22:07:11 2003

Subject: [R-390] R-390 Carrier Scan, First Try

Dave, Congrats on the 1'st meter face. Looks like good work from my perspective. Hope the faces for

the R390A's come out as well. Bruce MacLellan

From JMILLER1706@cfl.rr.com Mon Dec 8 21:27:05 2003
Subject: [R-390] The R-725 and the DF story?

Where is a copy of this TM that can be had? Sounds interesting. I think the goniometer was in fact a rotating antenna inside a shield/can with a small opening or aperture, with continuous angle readout as it rotated (?) Or did the can and aperture rotate? So you would tune the radio to the signal of interest, turn on the gonio to start spinning, then a processor of some sort would detect the pulse at the IF output as the gonio slit swept the direction of the target, then read out the gonio angle. That then was the heading to the target. Pretty cool. They do it these days with fixed antennas and interferometric techniques. So if the filters had a lot of ringing or delay distortion, that could throw the timing off.

From JMILLER1706@cfl.rr.com Mon Dec 8 20:15:45 2003
Subject: [R-390] The R-725 and the DF story?

For some reason my last post was truncated. Let me summarize that I believe that DF can be determined by measuring phase or time of arrival differences from multiple receivers / and fixed antennas at known positions. usually in the form of collocated vertical elements in a constellation of some kind. If the 725 was used like this, there would probably be one dedicated to each of several antenna elements, then the IF outputs processed to measure phase differences and calculate a bearing to the transmitter. The original mechanical filters probably distort phase information (due to steep skirts/ringing) making precise/repeatable measurement difficult - thus the change to the analog IF filters. Also, the multiple receivers and receive paths would have to be "calibrated" to account for differences in delay and phase response. So I suspect there were 3 or more receivers, with matched IFs, and one IF post processor doing the bearing calculations. Any thoughts?

From chacuff@cableone.net Mon Dec 8 23:45:22 2003
Subject: [R-390] Re: R-390 digest, Vol 1 #920 - 6 msgs

Just a thought unless one looks closely it's hard to tell you are looking at an R-725. It would be easy at quick glance to mistake one for an R-390A. It's possible most ops didn't know there was a difference. they just saw racks of what appeared to be R-390A's. (not to take anything away from the ops)

My Dad mentioned the ability the guys had to do DF with the large Elephants cage antennas. Flair 9's is what I am told they are designated. Probably had dozens of receivers tied to that thing to resolve an accurate fix. The antenna was a fixed array so DF had to be by measuring levels and/or phase angles. Not sure what was used back when Dad was there. could have been anything from SP-600JX-17's to R-725's I would guess. He did mention that the ops had a rotary switch of sorts mounted below the desk top that would allow them to select which receiver they were listening to. Wish I knew more!

From r.tetrault@comcast.net Tue Dec 9 07:21:08 2003
Subject: [R-390] Elephant Cages

Cecil, The Elephant cages had enormously complicated (but so what? to Uncle Sam) coax lead/lag phase switching tied to that circular array. They could be steered just like a rotary beam and had accurate directivities of a degree or so, besides being able to change beam angles nearly instantaneously.

It really didn't take dozens of receivers; just one, but it would take several widely spaced arrays to triangulate a particular emitter. There's a brief overview of these Wullenweber arrays in the ARRL handbook with some theory. More to be found elsewhere should you care to Google. Bob Portland, OR

From Kg4gxs@aol.com Tue Dec 9 12:39:17 2003
Subject: [R-390] R-725's

Stationed at two ASA sites in Turkey in the mid 60's I recall never seeing anything but R390-A's and a few R-390's at either the DF or Intercept positions. Trained as a DF op, these positions were not very active so I personally did mainly CW Intercept. Detachment 27 used Rhombic's and other assorted wires and Detachment 4 - 4 used the Elephant Cage Bill Fairbanks KG4GXS

From mikea@mikea.ath.cx Tue Dec 9 12:47:10 2003
Subject: [R-390] Elephant Cages

wrote: > Cecil, > > The Elephant cages had enormously complicated (but so what? to Uncle Sam) > coax lead/lag phase switching tied to that circular array. They could be > steered just like a rotary beam and had accurate directivities of a degree > or so, besides being able to change beam angles nearly instantaneously.

The *entire* maintenance manual for the Elephant Cage is available on the Web. I got a copy about 2 months back, just for old times' sake, Mike Andrews

From George.Kammer@cisf.af.mil Tue Dec 9 13:00:44 2003
Subject: [R-390] Elephant Cages

I was in USAFSS in the late '60s/early '70s in Anchorage, Udorn, Thailand, and San Vito, Italy, using the AN/FLR9-V antenna at all three locations in CW intercept and RDF. Thought you might like to learn a little more about the "Elephant Cage" AKA "Dinosaur Cage" AKA "Flair 9". Lotsa memories in there from the Viet Nam era. The stories we could tell

<http://www.fas.org/irp/program/collect/an-flr-9.htm> 73s to ALL!!! Don Kammer KB0JTF

From courir26@yahoo.com Tue Dec 9 13:06:25 2003
Subject: [R-390] R-725's with 390A tags

Bill, In response to your note, I've seen R-725's with R-390A tags.

While the R-725 MOD drawings required changing of the tags, and both Arvin and Servo did this, for whatever reason some had been re-badged with R-390A tags. Don't know the how or why. Tom

From roy.morgan@nist.gov Tue Dec 9 16:21:07 2003
Subject: [R-390] The R-725 and the DF story?

wrote: > . I believe that DF can be determined by measuring phase or time of > arrival differences from multiple receivers / and fixed antennas at > known positions. . I suspect there were 3 or more receivers, with > matched IFs, and one IF post processor doing the bearing > calculations. Any thoughts?

Yes, some: In one system I read about, the multiple antennas were fed to a phasing network which was adjusted by hand or by automatic system to produce two RF signals exactly in phase. The R-390 balanced input circuit allowed for in-phase signals to cancel in the input transformer. One part of the R-390A alignment is to adjust the input transformer trimmer cap to achieve maximum balance and thus maximum null for two equal in-phase signals. It could very well be that the IF output was used in such an automatic nulling system and that flat phase vs. frequency characteristics at the IF were needed to make it work well.

One article that tells of early DF equipment was in October, 1944 QST. It tells about the radio stations used by the Army Air Corps to guide aircraft over Canada and Alaska to the western Pacific. Adcock arrays were used. I can't remember if they were steerable or if they were fixed with adjustable phasing networks in the feed system. In any case, my reading of that article made me want an example of the SX-28's shown in use. Now I have two of them, both awaiting restoration. I have no plans for Adcock arrays here.

Sooo many projects, sooo little time. Roy

From roy.morgan@nist.gov Tue Dec 9 16:33:45 2003
Subject: [R-390] The R-725 and the DF story?

wrote: >Where is a copy of this TM that can be had? Sounds interesting. I think >the goniometer was in fact a rotating antenna inside a shield/can with a >small opening or aperature, with continuous angle readout as it rotated (?)

One definition at: <<http://www.bartleby.com/61/2/G0190200.html>> is: "A radio receiver and directional antenna used as a system to determine the angular direction of incoming radio signals. "

This is little help here.

As I understand it, the Goniometer is a rotating coil located with respect to two (or more) other coils so that it can couple to the others in a continuously variable way. If the energy in the other coils has certain phase relationships, the movable coil can be adjusted to create a null or a peak in its output signal. Likely the goniometer was in a shielded place (can or room) so as to avoid unwanted pickup of signals other than from the antennas. The "rotating coil" function was implemented in either software or software controlled reactive elements in later systems.

> So you would tune the radio to the signal of interest, turn on the gonio to start spinning, then a processor of some sort would detect the pulse at the IF output as the gonio slit swept the direction of the target, then read out the gonio angle.

The processor here could be a CRT with a trace which follows the angular rotation of the goniometer element. Early radar and ECM direction indicators worked this way. A bump (or perhaps a null) on the circular trace of the "PPI" showed the angle from which the signal was arriving. Roy

From roy.morgan@nist.gov Tue Dec 9 17:34:33 2003
Subject: Elephant Cage: was: Re: [R-390] Re: R-390 digest, Vol 1 #920 - 6 msgs

wrote: >My Dad mentioned the ability the guys had to do DF with the large Elephants >cage antennas.

Flair 9's is what I am told they are designated.

List members, The list server thinks my list of 8 or 10 web links about the Elephant Cage antennas is spam and refuses to post it. I'll be glad to send it directly to anyone who wants it. Roy

From Tony Angerame" <tangerame@earthlink.net Tue Dec 9 18:50:57 2003
Subject: [R-390] RE: Elephant Cage

Then there was the night in Turkey that a Tech in the blockhouse in the center was listening to AFRS with a portable transistor radio. We actually df'd the harmonic of his local oscillator and were surprised to place it directly above the site. UFO? Russians? No, just a bunch of 18 year olds a long way from home hihi Tony WA6LZH

From JMILLER1706@cfl.rr.com Tue Dec 9 18:49:06 2003
Subject: [R-390] Using/Aligning Balanced Input (WasThe R-725 and the DF story?)

Your mention of the balanced input trimmer alignment raises a question for the list (not related to DF). I connect to the balanced input connector in the manner documented on most 390 web pages, that is ground one balanced input and feed the center conductor to the other. Hence the second trimmer cap in each RF input coil has no effect when it is tweaked. Is this normal? Is any sensitivity lost by doing it this way. Some discussions have talked about using two 56 ohm resistors (one in each input pi), tied together to feed signal for alignment. Any benefit to doing this for normal operation? Have also read discussion of using dual center conductor coax (like they use for ethernet cables I believe) to feed a balanced dipole antenna in the manner which was intended, which tends to help reduce common noise. Any thoughts on whether or not this is worth the trouble to build up such an antenna?

From billsmith@ispwest.com Tue Dec 9 22:06:38 2003
Subject: [R-390] Using/Aligning Balanced Input (WasThe R-725 and the DF story?)

Using an unbalanced antenna feed necessarily introduces the ground (chassis) of the receiver into the antenna circuit. This allows currents from the power line and other connections to become part of the antenna. The test is to connect a short coax line to the receiver, shorted or preferably terminated with a 50 ohm resistor - the set should remain silent. If it doesn't, then the receiver obviously has an antenna. Unfortunately this may not be the intended antenna, and all sorts of spurs and spurious signals can get into the set through "back doors".

One solution is to build a small balun to present a balanced feed to the antenna connector. I have used a TV 300-75 ohm balun successfully, but presently use an unknown (junkbox) core with two windings of twenty or so turns, each. The coax feed line shield and one end of a winding is grounded to the receiver. The other end of this winding is connected to the "hot" or center coax conductor. Each of the two wires from the other winding are connected to the receiver's balanced input.

The coax ground connection is surprisingly critical, it must be short and an optimum grounding location on the set may need to be found by trial and error. This is especially true in the R390 because of the grounded center-tap of the antenna winding, where the chassis still plays a part in the antenna circuitry. A good earth ground is also desirable.

An alpha-delta antenna switch is used to select several receivers here, and when the switch is switched

away from any set, that set falls silent (with exception of strong local AM stations). The primary motivation for all this is to reduce interference on 160 meters from AM broadcast. Local computer and other electronic noise reception from inside the shack has been greatly reduced. 73 de Bill, AB6MT

From jbischof@nycap.rr.com Tue Dec 9 22:13:14 2003
Subject: [R-390] Balanced input

If one uses the balanced in put like Chuck explains, ground one side and the other side is the above ground side. I would think that one would have to retune the rf coil. The rf coils closest to the front panel there are six of them. I hope I explained this clearly. Check out the web site below and you will see what I mean. <http://www.r390a.com/html/feedpoint.html> James

From Usafssx2@wmconnect.com Tue Dec 9 23:46:17 2003
Subject: [R-390] Re: R-390 digest, Vol 1 #922 - 2 msg

DFing using the AN/FLR-9 Circular Array, (not Flair 9, but the mistake is understandable) was accomplished using, preferably, at least two other sites in order to triangulate the source emitter. A message would come over with a freq. An operator (usually 3 sitting the racks) would tune to the freq on the R-390, when the presentation on the big round scope was right, then you pushed a button that sent a message with the displayed bearing and frequency out over the net. My understanding was that this was VERY accurate.

The antenna arrays were huge, occupying several acres. The one in the Philippines, where I was stationed, is still partially standing. The Philipinos used the largest antenna elements as flagpoles. Most of the other antennas are long gone, as are the bases where they were located. There were FLR-9 sites in Thailand, Alaska, Japan, and the Philippines that worked together to nail down the location of emitters in parts of Southeast Asia, and elsewhere. The range was very large. There were also sites in Italy, Germany, England, Turkey. I believe the one in Alaska is still in use.

The Navy employed a smaller but similar antenna system called the AN/FRD-10, they were located on many sites in the US, primarily along the coastline in places like San Diego, Ca; Skaggs Island, CA; Key West, FL; Chesapeake, VA; and up in Maine. Ok, thats enough. Ron

From buzz@softcom.net Wed Dec 10 04:47:46 2003
Subject: [R-390] Need a repair person in the PA area.

A friend of mine has a R-388 that needs some repair and maybe an alignment. For starters, it has no audio and the dial cord is off the drum. He knows very little about radios but wants a professional job. His name is Fred Gallagher, and he's email challenged, so please call him at: 610-442-2133 or 610-682-0671 Thanks, Buzz

From ghayward@uoguelph.ca Wed Dec 10 13:42:40 2003
Subject: [R-390] Balanced input

The trimmer in each input coil set goes from one side to ground and there's a fixed cap from the other to ground. Thus, if you use the described coax input and you get the wrong side as the centre, the trimmer will have no effect. I like the balun idea, and the 75-300 ohm will probably be about right if the

unloaded inductance inductance is high enough. Its on my "to do next" list. Cheers de Gord, VE3EOS

From George.Kammer@cisf.af.mil Wed Dec 10 14:11:30 2003
Subject: [R-390] Re: R-390 digest, Vol 1 #922 - 2 msgs

Good morning to the group!

As a prior USAF Security Service morse (and DF) type, I've followed some of the links that have taken me back to where I put the R390, R390A, and the Flair-9 to such extensive use. And YES!. we DID call it the FLAIR-9 in Anchorage, Alaska/Udorn, Thailand/San Vito, Italy. The following links are for your navigating pleasure. The first is the USAFSS Web Ring, the second is a great shot of the AN/FLR-9(V) at San Vito. The third is the National Security Agency site with a litany of information across the board. Finally, for the "GRUNT" (Ground Roving Unit, Non-Trainable . to us Air Force types), the Army Security Agency web site is provided.

<http://www.usafss.org/>

<http://w3.trib.com/~wrp/sunnysv.htm>

<http://www.nsa.gov/>

<http://asa.npoint.net/>

Mega 73s to ALL!!! Don KB0JTF

From rjmattson@hvi.net Wed Dec 10 14:24:32 2003
Subject: [R-390] R-388 weight

Would anyone know the weight of a R-388 in pounds? Tnx, bob.w2ami

From r390a@rcn.com Wed Dec 10 14:28:12 2003
Subject: [R-390] R-388 weight

TM 11-854 says 35 lbs

From davidmed82@yahoo.com Wed Dec 10 21:50:53 2003
Subject: [r-390] R-389

Guys, I have an r-389 here for repair and I need some help. Is there anyone out there experienced with the mechanical adjustment of this radio. It is very complex when compared even to an r-381. The racks are driven by lead screws rather than cams!! The electronics are very similar to the r-390 and I have the radio playing nicely but the tuning system is not up to par. Dave

From r390a@bellsouth.net Thu Dec 11 05:58:52 2003
Subject: [R-390] G-133F manual available

As received from Fair Radio quite a few years ago. Meant to supplement the 51S1 manual. \$10 shipped anywhere. First email with a mailing address gets it. Tom KA4RKT

From rdavis24@carolina.rr.com Thu Dec 11 13:18:50 2003

Subject: [R-390] Can anyone help with R-391 prices?

Hello, I hope this is ok with the list, if not will someone please let me know. I have been working on the R-390A Capehart unit, and while doing that I have been searching for more R-390A's for sale. While searching for a unit to restore, I found an add on a list about a R-391 with CU 286 set for sale because the previous buyer backed out. The owner sent me an email with pictures and a description of all the items, but I have no idea of a fair offer. All I have been looking at are R-390A's and I know what the R-391 is, but I have no idea what the 286 set is? If anyone is interested in buying it, let me know and I will forward the email to you. Also, if anyone can get me a reasonable amount to offer on this two pieces I would appreciate it. Although, I probably can not afford it right now hi. Thanks Ronnie

From rdavis24@carolina.rr.com Fri Dec 12 22:03:59 2003

Subject: [R-390] Capehart update

Hello again,

Just got back in the house after pulling the AF deck out and recapping it with one of Walter Wilson's kits. Was not quite as bad as I thought it would be. The radio is working again, but still needs alot more attention. I still have to rebuild the filter caps C603 and C606, both have corrosion leaking out. I have the caps to do it, but I am a little hesitate about jumping on that job. Does anyone have any hints on the job? I still do not know how the radio is working without the ballast tube? I can not find any jumpers or extra resistors anywhere? Well I guess it is because im a true beginner and I do not know where to look hi. I am learning more everyday, and maybe in a couple of weeks this radio will be a truly good performer. Thanks for all the help Ronnie

From cbscott@ingr.com Fri Dec 12 22:12:17 2003

Subject: [R-390] Capehart update

Ronnie, I saw someone do this to an AF deck and it looked pretty good.

1. Remove (and save) the original caps leaving the clamping post in place.
2. Insert the positive end of each new individual cap down through the octal socket and solder it to the same lug through which you inserted the lead.
3. Tie all the negative ends together into a single solder lug and tie the solder lug down to the old clamping post.

If you ever decide to rebuild the old cans, these replacement caps are easily unsoldered and removed.

When I rebuilt my AF deck (before I saw the above), I used some old octal plugs and soldered the caps to the appropriate pins. Good luck, Barry(III) - N4BUQ

From courir26@yahoo.com Fri Dec 12 23:54:27 2003

Subject: [R-390] Capehart update

Ronnie, I've replaced the audio deck PS filter caps by placing individual replacement caps under the audio deck. The top looks naked, but looks better than having a cluster of electrolytics sticking out the top IMO. Some guys have cut open the old cans, put new caps in and sealed them back up for plug in

replacement. 73 Tom

From bernice@videotron.ca Sat Dec 13 00:32:57 2003
Subject: [R-390] Capehart update

> have to rebuild the filter caps C603 and C606, both have corrosion leaking > out. I have the caps to do it, but I am a little hesitate about jumping on > that job. Does anyone have any hints on the job?

Ronnie, I went through the same about 3 years ago. Continue working with Walter Wilson. See his site at http://r-390a.us/filter_capacitors.htm

I used the same technique for my Bluestriper. End result was very good. Used the same method on my SP-600 also. After cutting open the cans I screwed in the lag screw then heated them in boiling water. The innards came out very easy. A coating of tar about 1/16 inch remained. To remove the tar I put them in the freezer. The tar chipped out easily when frozen. Any remaining tar was cleaned using mineral spirits as Walter indicates.

I drilled and tapped for 2-56 screw. This leaves a bit more wall thickness in the aluminium stud than the 4-40 screw that Walter uses. In my capacitors I used 2-56 stainless steel screws to mount a solder lug. The new cap leads were soldered to the solder lug. I thank Walter for compiling and providing all the information on rebuilding electrolytics. Good luck. Al

From bjtatum@ev1.net Sat Dec 13 12:13:44 2003
Subject: [R-390] GRC-129 Synthesizer Units for R-1247

Hello: I have some pictures available now for the two units described. If anyone would like them emailed please ask. They are in JPeg format, about 16 or so pictures taken. Still interested in a trade for a very nice late model EAC receiver. Thanks, Byron.

From wewilson@knology.net Sat Dec 13 16:21:02 2003
Subject: [R-390] Capehart update

> I drilled and tapped for 2-56 screw.

I may have to try the 2-56 size screw, as I do sometimes have trouble with the 4-40 size. Some cans are easier to work with and drill and tap the screw holes than others. I always use the brass screws, and solder directly to the brass. I usually cut the screw heads off the brass after tightening them down and before soldering. Walter - KK4DF <http://www.r-390a.us/>

From sdman@cableone.net Sat Dec 13 18:28:41 2003
Subject: [R-390] Collins PTO

Does anyone have a junked Collins 70H-12 PTO with a good end-point adjustment?. I just acquired an 390A and went to set the end-point adjustment and sure enough someone had bugged it up to where it is impossible to adjust. Any help will be appreciated. Sam Doughty

From ttspotts@bellsouth.net Sat Dec 13 23:39:35 2003
Subject: [R-390] R390A/URR For Sale

This is a very clean Capehart Corporation Serial #21, Order # 21582-pc-61 with top and bottom cover. The panel looks almost new, was aligned by Walter this year. Firm Price \$520 plus shipping for the next few days and then to that e place. Reason for sale have become interested in working on Nationals. I can provide some pic if you need. Tx Tom W4UUC

From rdavis24@carolina.rr.com Sun Dec 14 01:07:37 2003
Subject: [R-390] Capehart Update

Hello again,

Well got a late start today, but managed to get the filter caps done C603 and C606. This was a learning experience as one might say. After I got several emails from list members, I decided to give it a try. Once I got the can off, I could tell for sure that it needed to be redone due to all the corrosion in the bottom on two lugs. The other one was not as bad but when ahead and done it also. After I got the things cleaned up and the caps soldered on, I had to put them back in the radio to see if I did something wrong. Well all worked, and matter of fact it works the best now that I have heard it so far. Pulled the caps back out and put some JB Weld on the cans and put them in C-Clamps for the night. Hope the JB Weld holds good. Not quite as bad as I thought it would be but it was a major job for a beginner like myself. Glad its done, hope its awhile before I do another set hi. I want to Thank Walter, Adam, Al, Tom and several other list members for all the help, could have not done it without the help. Well looks like its on to the IF Deck now. Thanks Ronnie

From k3pid@comcast.net Sun Dec 14 16:57:01 2003
Subject: [R-390] Sneaky Devil

I am working on the power supply for my R-390 undoing a sloppy solid state "upgrade" by restoring the rectifier tubes. I couldn't find the heater wires that run from the transformer to the two sockets although I was certain that they had to be there. The lacing was in tack and didn't look like it was disturbed but the wires were nowhere to be seen the sneaky devil had clipped them off and tucked them into the harness! I had to clip the harness to pull them out Now of course I will have to replace the lacing on the harness. Oh the joy of restoration. K3PID

PS: I haven't laced a cable in about 35 years but I am actually looking forward to renewing that lost skill (Art?).

From jbischof@nycap.rr.com Mon Dec 15 12:24:29 2003
Subject: [R-390] r390 non a parts for trade

I have for trade only, some r390 non a parts. I have the crystal pack, power supply, vfo, part of a rf deck not complete. Transformers that plug in the rf deck and the cabinet. Will trade for junker r390a , but the if deck has to be good. O here is the deal you have to pick up. If interested it is your lucky day. James Schenectady, New York

From Dave_Faria@hotmail.com Mon Dec 15 18:56:36 2003
Subject: [R-390] Antenna

GM list. I want to build a Folded Dipole antenna for my station. I can wind the balun but, cannot find a suitable terminating resistor. Can anyone point me to a source for a non-inductive 400ohm or 800ohm resistor 300 watt?? I can build a combination of resistors to meet the resistance and wattage if necessary. Thanks for ur thoughts Dave Faria/WA5TEZ

From David Hallam <dhallam@rapidsys.com> Mon Dec 15 18:30:51 2003
Subject: [R-390] CV-591

I wonder if anyone has any experience with the CV-591 sideband converter? I cannot get zero beat with the 17 kHz oscillator. It's close to zero beat with the adjusting trimmer fully closed but not quite. Should I pad the circuit with a fixed capacitor or are there other problems that need to be corrected?
David Hallam

From keng@moscow.com Mon Dec 15 23:08:27 2003
Subject: [R-390] Antenna.folded dipole.

wrote: > GM list. I want to build a Folded Dipole antenna for my station. I > can wind the balun but, cannot find a suitable terminating resistor.

No folded dipole I have ever seen in antenna books or other literature, or that I have built, ever needed a terminating resistor. If you plan to use this antenna with an R-390, my understanding is that the R-390's input impedance is already 300 ohms, balanced, and a properly built folded-dipole exhibits 300 ohms impedance, balanced, at the resonant frequency.

Of course, the folded dipole is resonant only around one frequency or band, so you would have to have several depending on what bands you intend to listen to.

Terminating resistors are only needed for antennas such as rhombics, Beverages (sp?), and the like, not for a folded-dipole. Ken Gordon W7EKB

From mmdues@hal-pc.org Tue Dec 16 02:45:25 2003
Subject: [R-390] Antenna.folded dipole.

There is an antenna called a Terminated, Tilted, Folded Dipole (T2FD) that has a terminating resistor. You can do a Google search on T2FD antennas and come up with a number of sites on this antenna. For example, see the following web site: T2FD design antenna special on hard-core-dx.com
<<http://www.hard-core-dx.com/nordicdx/antenna/wire/t2design.html>> Marshall Dues, WB5MYO

From brookbank@triad.rr.com Tue Dec 16 03:03:01 2003
Subject: [R-390] R-390 J-104

Looking for a J-104 connector. This is the power connector on the back of the R-390. Does anyone have a spare that would like to sell? Please reply directly to: brookbank@triad.rr.com Thanks, Pat

From billsmith@ispwest.com Tue Dec 16 05:54:16 2003
Subject: [R-390] Antenna.folded dipole.

A couple of things to think about:

(1) If the terminating resistor must be large (10-200 watts), then the resistor must be called upon to dissipate a significant amount of power. The power source is RF energy generated by a transmitter. That power is dissipated as heat and is not radiated as a radio wave.

(2) The antenna will provide a match over a wide range of frequencies. This is the major advantage of the antenna. Nothing is said how efficient the antenna is over that same range of frequencies. The antenna may indeed be more efficient off resonance, when compared to a mistuned dipole. Still, it can be very inefficient, especially when compared to a resonant antenna at the operating frequency.

(3) The military (and government) uses this design when establishing local communication paths with oversized transmitters. The antenna will work well in this application, where operators are not expected to know how to work with technical equipment, particularly transmitters and antenna tuners. 73 de Bill, AB6MT billsmith@ispwest.com

From keng@moscow.com Tue Dec 16 05:38:00 2003
Subject: [R-390] Antenna. folded dipole.

> > Terminating resistors are only needed for antennas such as rhombics, Beverages (sp?), and the like, not for a folded-dipole. > > I bet he's thinking of the T2FD. > > 73, > Dave Wise

Ah! I'll bet you're right. I hadn't thought of that one. I was thinking of the standard folded-dipole. Ken W7EKB

From Poil721@cs.com Tue Dec 16 11:11:25 2003
Subject: [R-390] Re: R-390 digest, Vol 1 #929 - 7 msgs

If you want to build the same type of antenna as B&W has on the market, you will need an 800 ohm non ind resistor and a 16/1 balun.(there in lies your problem, building the balun). The antenna can be anywhere from 60 feet to 190 feet depending on the lowest freq you will be interested in. The balun goes at the feedpoint and the resistor goes on the opposite end,(you can use 50 ohm coax to the shack) just use 1/2 in PVC as spreaders and they should be about 18" in length.(not critical) I've built 2 of them. One 90 ft the other 190 ft. They work good for what there intended for, BROADBAND/NO TUNING. But you might be better off with a a ZEPP with open wire feeders into a tuner.!! If you go to the US PATENT OFFICE you can get all the specs on the B&W antenna. They make a good receiving antenna because there a closed loop (quiet). Have funJOE/K2QPR

From Dave_Faria@hotmail.com Tue Dec 16 15:41:13 2003
Subject: [R-390] Antenna. folded dipole.

Thanks everybody for ur comments. I was using the B & W nomenclature calling the antenna a folded dipole - sorry if its wrong. I live in a restricted neighborhood on 1.5 acres where everybody looks over the fence(keep up with the Jones's syndrome). I, so far, have hidden a 40m dipole in the location where I'm going to locate this antenna. Thanks agn for the input. Wish me luck Dave Faria WA5TEZ

From chacuff@cableone.net Tue Dec 16 15:40:41 2003
Subject: [R-390] Antenna.folded dipole.

Maybe he's building a T2FD doesn't it use a terminating resistor and if it is to be used for transmitting as well it may need to be of a large wattage? Just reading between the lines a bit may be waaaay off base!
Cecil

From chacuff@cableone.net Tue Dec 16 15:47:20 2003
Subject: [R-390] Antenna.folded dipole.

Well it looks like you guys had already figured this out I am just a few days behind on my email. Sorry about that! Cecil.

From roy.morgan@nist.gov Tue Dec 16 16:41:58 2003
Subject: [R-390] Antenna.folded dipole.

wrote: wrote: > GM list. I want to build a Folded Dipole antenna for my station.
.No folded dipole I have ever seen in antenna books or other >literature, or that I have built, ever needed a terminating >resistor.

Ken and others,

I think he meant the Tilted Terminated Folded Dipole, "TTFD" which does have a terminating resistor opposite the feed point and is described quite fairly at:
<<http://www.radiohc.org/Distributions/Dxers/ttfd2.html>>

There have been many "animated discussions" (aka arguments) about the principles, use, and performance of these antennas. Some such discussions I have read included reports from fellows who use them in VietNam with success. Apparently a commercial supplier made them for the armed forces. (Was it B&W, perhaps?)

As described at the link above, the thing has wide spacing between the parallel wires, a non-inductive terminating resistor that dissipates up to one third of the applied power, and performs best with a 6:1 balun at the feed point and coax transmission line.

I have neither built one nor talked with anyone who's used one. Roy

From roy.morgan@nist.gov Tue Dec 16 16:52:03 2003
Subject: [R-390] R-390 J-104

wrote: >Looking for a J-104 connector. This is the power connector on the back of >the R-390. Does anyone have a spare that would like to sell?

Pat, If you mean the chassis mounted connector that is part of the radio, that is an integral part of the line filter. You will have to dis-assemble the line filter to get the old one out if it is still there. Or if it is missing, very likely the line filter is also gone. No doubt removed by some fool who thought the bypass caps were "leaking" when in fact they were not. (Half the line voltage on your chassis means

the thing is not properly grounded, it does not mean that the caps are leaking.)

One reasonable alternative is to make up a small metal plate to mount a common IEC "computer type" power receptacle that has RF filtering built in if you want it. It can mount with the same holes used for the original line filter so if you ever find a filter complete, you can retro fit the original part.

If you mean the cord mounted connector that plugs into the radio, that is a different thing. Be careful because there are VERY similar looking connectors that will NOT work. Important points are the number and sex of contacts, and especially the sex of the central locking screw. It needs to be either male or female to mate correctly with the connector on the line filter make sure you know which is which if you should run into a connector at a hamfest. I have about 4 I bought that are the wrong kind heheh

In any case, the place to ask for these, either a compatible separate chassis mount connector or the line cord mounted one is:

> >William Perry Company
> >92 Beechwood Rd. (Rear)
> >Louisville, KY 40207
> >502-893-8724
>No web site that I know of.
>Email reported 7/03: wmperry@covad.net
Roy

From tirevold@mindspring.com Tue Dec 16 18:46:33 2003
Subject: [R-390] Antenna.folded dipole.

I use TTFD dipoles - and have for over 20 years. I currently have two of them

They are NOT as efficient as a 'tuned' dipole, but on HF, I find the tradeoff of 1-2 'S' units of gain for fast QSY and broadband operation acceptable.

My R-390A's can't even tell the difference between a TTFD and an ordinary dipole - until you get down to really really small differences in signal and noise.

W4RNL (L B Cebik - <http://www.cebik.com/>) has a couple of really fine articles about them - they are very enlightening. My operational findings agree closely with his assessments. No- I don't want to get into any arguments about something else that is better - TTFD's are 'good enough' for me. Al, WA0HQQ

From bjtatum@ev1.net Tue Dec 16 18:56:33 2003
Subject: [R-390] Gear Clamps, Oldham Couplers for sale

Hello- Have for sale 3 of these assortments of Oldham Couplers / gear clamps :

Contents of each assortment are-

1 each of .89" OD Olham Coupler for .18" shaft, 1 extra center piece, with gear clamps

4 each of 1" OD " " " .25" " , 3 "

" " , with gear clamps

2 each of 1" OD " " " .30" " , integral gear clamps

12 each of gear clamps with .305" opening

3 each of gear clamps with .425" opening

If these are of any usefulness in your repair work my price is 40.00 per asst. These are removed from Collins built 1950's era Air Force gear, T-217 / T-218 series. Thanks, Byron.

From roy.morgan@nist.gov Tue Dec 16 19:26:37 2003
Subject: [R-390] Antenna.folded dipole.

wrote: >W4RNL (L B Cebik - <http://www.cebik.com/>) has a couple of really fine >articles about them - they are very enlightening.

I found this articles on his site: "Modeling the T2FD" <<http://www.cebik.com/t2fd.html>> Roy

From tirevold@mindspring.com Tue Dec 16 19:57:49 2003
Subject: [R-390] Antenna.folded dipole.

AND -

The ME-165 SWR meter originaly used with the T-368 transmitter contains TWELVE very nice 600 ohm, 50 watt non-inductive resistors - so you can 'roll your own' terminating resistor for that TTFD. They also make nice terminating resistors for wire Vees and rhobmics.

Fair radio has them : <http://www.fairradio.com/associ.htm> (pic: <http://www.fairradio.com/me-165.html>)

I found one all beat up with a broken meter for \$5 at a hamfest - the resistors were undamaged a bargain for high-power noninductive R !!!!! AI, WA0HQQ

From vk2abn@batemansbay.com Wed Dec 17 09:32:42 2003
Subject: [R-390] CV591

U should be able to turn the slug in the local osc and zero beat I have had these tech mat corp units and they work very well with 390 &A

From Poil721@cs.com Wed Dec 17 12:33:09 2003
Subject: [R-390] Re: R-390 digest, Vol 1 #930 - 11 msg

I'm not sure, but i think there's a difference between the T2FD and the Wideband folded dipole!! The T2FD might be fed with 300 ohm line instead of the 16/1 balun. You can go to W4RNL's info site on the matter!! He has a very interesting web page! Oh !! Yes, i dont think you will need more than a total of a 150 watt resistor (s) for 1kw CW/SSB!! www.cebik.com Happy Holiday's to all!!
JOE/K2QPR

From brookbank@triad.rr.com Wed Dec 17 16:03:01 2003
Subject: [R-390] R-390 meters

Have aquired a number of meters that work great on the R-390 and the R-390A, However the face is different.

Does anyone have a face for the Line Level meter and the Carrier Lever meter, or two defective meters

from which I could take the faces out and have reproductions made?

Would gladly purchase them. Please respond directly to brookbank@triad.rr.com Thanks and regards,
Pat

From clemens@it.dk Wed Dec 17 16:11:18 2003

Subject: [R-390] T2FD-antenna

Like Al Tirevold I have been using a T2FD for my R-390A's. and they like it. When I switch among various antennas I often find that the T2FD gives a little more intelligibility, and it is easy on the ear over longer hours. I can understand why prof operators like it. It also is useful for utilities-DX'ing, with its general coverage. Not much joy on tropical band and downwards, though, At least not in the dimensions I have, (RF Systems from Holland, stocked by Universal). Best, Clemens S.Ostergaard Aarhus DENMARK

From rdavis24@carolina.rr.com Fri Dec 19 22:48:25 2003

Subject: [R-390] Big Mistake Please Help

Hello,

Well all was going well with the Capehart R-390A until last night. I pulled the RF Deck out to start working on it, and after cleaning for sometime, I remembered that I did not set the PTO to 8 Mhz before pulling the deck? After I remembered that I just thought about messing up big time! I had already been turning the Mhz change knob to clean the deck, and the kilocycle change knob has also been turned for cleaning. So the problem is, that I have no idea where the PTO was at when I pulled the RF Deck? I knew better than this, I knew from the manuals and the videos that I should have put the PTO on 8 Mhz but while in the heat of working on it I just slam forgot. Please tell me there is a way to find out where the PTO is so I can install the RF Deck when I finished with it. Sure hope I did not mess up to bad? Again a Stupid Beginners Mistake Thanks again Ronnie KE4VPN

From goode@tribeam.com Fri Dec 19 23:35:13 2003

Subject: [R-390] Big Mistake Please Help

Ronnie,

If it is any consolation, I made careful measurements of my PTO before I took it apart. I took digital pictures of it. I made marks on the shaft and housing. Everything was done at 8 MHz. After I put it all together, IT WAS STILL WAY OFF! So don't feel bad.

If I remember correctly, the way I got it back on was to take my signal generator and find where the receiver was with the generator set very high. Then I walked the PTO back to where it should be. Sure made a big difference in sensitivity! I guess you could also count the PTO with a freq counter to get it back on. 73, Steve, K9NG

From bjtatum@ev1.net Sat Dec 20 00:12:49 2003

Subject: [R-390] Manson Labs GRC-129 Pictures Link

Here is a link for pictures of the Manson Labs synthesizer pair. <http://edebris.com/catalog2/item/1061>

From David Hallam <dhallam@rapidsys.com> Sat Dec 20 00:32:08 2003

Subject: [R-390] Big Mistake Please Help

Ronnie, Don't know about the 390A but on the 390 the end points of the PTO are 3.455 and 2.455 MHz. If you use your frequency counter to set the PTO to 2.955 MHz and set the counter to 500, you can lock the shaft to your tuning knob. David KC2JD

From jmiller1706@cfl.rr.com Sat Dec 20 00:26:31 2003

Subject: [R-390] Big Mistake Please Help

Set the band and the tune digits to your favorite AM stations frequency (say 1240 or whatever). Turn the PTO shaft by hand until you hear your station. If you get all the way to one end with nothing heard, go the other direction. You will also hear the noise level peak up when you're more or less synchronized. Be careful not to turn it past its stops however. It's no big deal, I have to do this every time I open mine up.

From courir26@yahoo.com Sat Dec 20 01:19:16 2003

Subject: [R-390] Big Mistake Please Help

You did the right thing by asking for help, but this is not really a big deal (unless you proceed without help then it can become a big deal).

The methods mentioned herein all can work.

You can do an initial setup by knowing this:

- the 10 turn stop on the RF deck has a range of 10.7 turns (what the? I thought it was 10!).
- the PTO has a greater range, about 15 turns from its stop-stop (give or take for different makers).
- So just set your RF deck on a known spot (like 000) and then install the PTO about 2.5 turns from its stop (from the proper end of course).
- now you can listen for your local AM stations and check for the amount of KC error and correct it.

The 390 and 390A have the same output in frequency on the PTO, that is on 000 the PTO will generate 3455 kcs, at the top end of its range it generates 2455 KCS. If you have a frequency counter, this is the safest way to set it up. Good luck, Tom N5OFF

From dwade@pacbell.net Sat Dec 20 04:43:58 2003

Subject: [R-390] Big Mistake Please Help

Ronnie,

I am in the almost exact same position. I have my RF deck out for cleaning and recapping and I'm sure the PTO isn't where I left it. I've been looking at the manual anticipating doing just what's been

suggested. lining it up with a broadcast station or using the freq counter. Unless you've cranked the PTO way too far either way I'm sure you haven't ruined anything. I really don't know how you could avoid re syncing the PTO after removing the RF deck. Good work. and good question! You beat me to it. Dennis

From AB4EL@MindSpring.com Sat Dec 20 06:44:44 2003
Subject: [R-390] Big Mistake Please Help

I showed the question from Ronnie to an R-390 fiend.

The answer is:

"The R390 RF deck is set to 8MHz or 07+000 .

"The pto should be set to 2455kc with a freq. counter or another receive.

"When the RF deck is on freq. 8MHz./07+000 all the cams should be on target."

73 George

From courir26@yahoo.com Sat Dec 20 16:18:27 2003
Subject: [R-390] Cams and/vs PTO

The cam issue is a separate problem from the PTO issue.

The cams must be set at 7+000. The PTO can be set on either end or anywhere one can track down a reference.

The point is, the RF deck does not have to be at 7+000 to set the PTO. 73 Tom

From tirevold@mindspring.com Sun Dec 21 00:19:19 2003
Subject: [R-390] New "Pearls"

Wei Li has kindly provided a refreshed set of "Pearls of Wisdom". I have posted them on the R-390A FAQ site: <http://www.r-390a.net/Pearls/> AI, WA0HQQ

From David Hallam <dhallam@rapidsys.com> Mon Dec 22 13:50:24 2003
Subject: [R-390] R-390 VFO

I am looking for advice.

The VFO in my R-390 has quit working. From a completely cold start, it will for a minute or two and then quit. I have done the obvious of checking the tube; it tested OK, substituting a couple of different ones, and checking the connection in the power and RF sockets. Any advice on where to start looking for the problem? David KC2JD

From R390rcvr@aol.com Mon Dec 22 18:39:53 2003
Subject: [R-390] HP 8656B manual?

Good day all: Does anyone have a digital manual for the HP 8656B? The manuals are hard to come by, unlike the 8640B, and if anyone has one they could share, I would really appreciate it. Have a wonderful holiday season! Randy

From jmiller1706@cfl.rr.com Tue Dec 23 01:09:47 2003
Subject: [R-390] R-390 VFO

How do you know its the VFO and not something else? Did you look at the VFO output level? Or if the radio just quits receiving, it could be some oher things. If you are sure it's the VFO, look at the filament. All the oscillator filaments are regulated through the IF module's 3TF7 "ballast" tube. If that tube is flaky, or the IF connector is loose, it can cause the oscillators to shut down due to loss of filament voltage. May be heat related. could be a component beaking down with increased temperature. You could try this: Let it warm up, when it quits, use some freeze spray (from Radio Shack) to cool own different areas such as the compartment underneath the tube.if it starts up again, then something is bad under or around the tube socket. If it's something inside the sealed can then that's another matter. Also, tighten the screws holding the tube socket, they could be loose. Hopefully it's not a cracked coil slug expanding as it heats.

From roy.morgan@nist.gov Mon Dec 22 20:52:39 2003
Subject: [R-390] Big Mistake Please Help

wrote: >>Don't know about the 390A but on the 390 the end points of the PTO are 3.455 >and 2.455 MHz. If you use your frequency counter to set the PTO to 2.955 >MHz and set the counter to 500, you can lock the shaft to your tuning knob.

CAREFUL!

Note Tom M's later post. (the PTO frequency in the opposite direction from dial frequency):

>The 390 and 390A have the same output in frequency on the PTO, that is on 000 >the PTO will generate 3455 kcs, at the top end of its range it generates 2455 >KCS. If you have a frequency counter, this is the safest way to set it up. Roy

From rdavis24@carolina.rr.com Tue Dec 23 02:20:40 2003
Subject: [R-390] Big Mistake Update

Hello,

First I want to say a BIG THANK YOU to all on the list who offered me help with my latest problem. I have found out what im going to do, after listening to several solutions from the members of this list. I have been cleaning, re-cleaning and cleaning again the entire RF Deck. I have all the slug racks done, but ended up breaking two slugs by dropping the last rack. I have a few spares and im glad I do now hi. I have been working on the gear train for several days on and off. I was afraid to dis-assemble the gear train since this is my first one, but I have all the gears clean now. I have lined up all the cams at 7+000 and set the over travel on the dial to 7+035. I still have to do a little more cleaning and then im going to recap the RF Deck. Hopefully by this weekend I will have it ready to try and line up the PTO to the RF Deck. What I am going to do is set the radio to 7+000 then im going to set the PTO to 2,455 with a frequency counter and hook everything back up. I hope all is well, cause I have spent a lot of time cleaning and working on this Capehart R-390A. I think I may have been bitten by some bug? I never in

my life would have thought that I would enjoy working on a radio as much as I have this one. Its been a great stress relief, and it keeps the old radios glowing. Its great being able to stop when you want to and go back when you want to. Although my XYL thinks im crazy working on the ole radio so much, it sure does make me happy. Again thanks for all the help and maybe by Sunday I will have a better update.
Thanks Ronnie

From buzz@softcom.net Tue Dec 23 04:54:57 2003
Subject: [R-390] Report on H.P. 8640B Sig Gen.

Fellow Listers,

After reading the praises here on the list I decided to get a H.P. 8640B. I did a BIN off ePay for \$330. <http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=25407&item=2580772487> The generator arrived today so after a few hours warm up I ran it over the hurdles against a IFR1200 analyzer. Everything on the 8640B worked perfectly! When I zero beat the 8640 against the IFR the frequency error was ZERO! I'm VERY happy with the 8640B. Thanks guys, Buzz

From mjdrum@comcast.net Tue Dec 23 12:23:11 2003
Subject: [R-390] Report on H.P. 8640B Sig Gen.

I recently got an HP 8640B myself, and it is an absolutely fantastic signal generator. When you remove the covers, you get to see the quality that went into it. It looks like they spared no expense to make it the best that they were capable of making It is one of the highest quality instruments I have ever seen
Congratulations on your purchase, and Happy Holidays. Mike

From k3pid@comcast.net Tue Dec 23 13:41:32 2003
Subject: [R-390] Thanks

Well my R-390 is back on the air thanks to good advice from this group. I only hope that I can return the favor as others ask for info and help! You're a great group! Thanks and have a happy holiday! K3PID - Ron H.

From courir26@yahoo.com Tue Dec 23 15:00:06 2003
Subject: Nice Work, was Re: [R-390] Big Mistake Update

Ronnie, Great work. Sounds like you have a good understanding of the beast. It really makes good sense once you understand it.

From mahlonhaunschild@cox.net Tue Dec 23 20:15:01 2003
Subject: [R-390] Crystal osc. dial drum transplant

Hello, list.

Am gearing up to start the rebuild of my "good" all-EAC R-390A. I was fortunate to find one that is in terrific shape internally (and has all-polyester capacitors from the factory so it's Less Work For Baby) but has the usual wear on the front panel and chassis exterior.

One thing I would like to do is replace the crystal oscillator dial drum (the one you can see through the hole in the top of the crystal oscillator deck). For some reason, the labels on the drum have deteriorated for reasons I can't figure out. I've got a Stewart-Warner/Amelco RF/osc. deck hulk I can use the drum from, but R&R'ing the drum looks troublesome. Has anyone actually done this? If so, how did you do it? I'd prefer to not use a paper label on the existing drum if I can help it (though I could easily make one). regards, Mahlon - K4OQ

From justbiteme@optonline.net Tue Dec 23 22:10:02 2003
Subject: [R-390] Big Mistake Update

Although my XYL thinks im crazy working on the ole > radio so much, it sure does make me happy. >
Thanks > Ronnie

Yeah, I think they are all jealous of our radios. They only wish they had all that attention. Scott

From craigm@pacbell.net Wed Dec 24 01:37:55 2003
Subject: [R-390] Crystal osc. dial drum transplant

Dave Medley has done this. There is, I believe an article on his web site about it he has, or used to have, the parts (new label, etc.). Craig

From K2CBY@aol.com Wed Dec 24 14:51:30 2003
Subject: [R-390] Crystal osc. dial drum transplant

Swapping dial drums on the crystal oscillator shaft isn't an impossible task; it's just a little awkward. You have to detach the gear, remove the oscillator subchassis, undo the snap ring at the forward end of the shaft where it rests on the front side of the bronze bushing. Then push the shaft out the back. The dial drum then falls off the shaft.

If all else fails, you can restore the markings with a paper dial. I made one using Microsoft Word (which took a lot longer than removing the dial drum) that produces an exact replica of (white on black) type style, size & spacing. Contact me off list. I can send it (with directions) as an e-mail attachment or can mail you one or more paper copies.

Whatever you do, take care: The drum is indexed to the shaft. If you destroy the old decal, be sure you mark the "1" point on the drum and make a note of the direction the numbers go. Miles, K2CBY

From drewmaster813@hotmail.com Wed Dec 24 21:30:09 2003
Subject: [R-390] BallaSeason's Greetings!

Hello All, In the spirit of Ronnie's ballastless but functioning R-390A and of the ballastraffic coursing through this list at this time last year I offer the following Christmas wishes:

May Santa Claus bring each of you a big bag containing the following:

1. An inexpensive Chinese knock-off of the 3TF7 (I don't know of any)so you can pop that in your radio and save the "lifetime supply" of NOS you bought last year for speculative investment purposes.

2. Two 12BA6 and a gold paperclip. Now demand for that tube can rise, supply can shrink and prices soar, befuddling owners everywhere of All-American Fives when they try to obtain their favorite IF tube.
3. A bit of wire and the "damn the originality" attitude to run the formerly ballasted tubes directly from the 6 volt line. You can then save the 25.2v for more important things, like the PTO oven. Remove the PTO inner can and replace with a can of Pop 'n Fresh dough. Turn on '390x and listen to the deafening silence for a while. Open PTO and enjoy fresh baked cookies.
4. Two 3BA6 and a piece of wire to wrap around pins from one tube to another above chassis. A goofy no solder required combination of 2. and 3. above.
- 5a. Two short pieces of wire and a 12BH7. You can sell the 12BH7 to your friendly neighborhood audiophool thereby funding about 1/3 the cost of a genuine NOS 3TF7.
- 5b. Same as 3a. except for 12BY7. You'll then have your "designated driver" for the holidays.
- 6a. A 42 ohm 5 watt resistor.
- 6b. Make that a 20 watt so your fingers don't get burned.
- 7a. A simple silicon diode and a liking for controversy. You can remove the #328 dialamps and the Veederoot will still be illuminated by the brilliant glow from the PTO and VFO tubes. 6BA6's of the world unite! You have nothing to lose but your filaments!
- 7b. A 20 ohm resistor to stick in series with the diode and make those 2 tubes blend back in with the crowd.
- 8a. LM317, bridge rectifier, resistor and a .1uF disc cap. You can do Dr. Jerry proud by building his ready-designed AC regulator solution. He did the hard work, you can put the true rms meter away.
- 8b. As 8a. but swap the bridge for a single diode. You will provide validation to Jim Shorney (and to me with my silly computer simulations) of Jim's pulsating DC ballast regulator concept. Jim and I will rest easier.
- 8c. Like 8a&b but add a big electrolytic, big heatsink, and power resistors as suggested by Dave Wise. Along with your quiet well regulated DC current source you can increase the entropy of the universe at a slightly faster rate whilst heating up the innards of your radio.
9. Chuck's RFI filtered ballast box. You can make a Rippel as you cruise the airWaves.
10. One of Dave Wise's sophisticated digital 3DW7 ballast Tubesters he developed in a quest to quell the hellacious high heat of 8c. above. Rumor has it that he was approached by a couple of men in black who obtained a sample. It is purported that the R-390 they installed it in is now so drift-free that they use it to verify the stability of WWV.
- You could also put the name "Mullard" on it and sell for big bucks to an audiophool as a 3 volt version of their favorite 12 volt 12AU7/AX7 frankentriode.

What I truly wish for all here is a new year of easy, carefree existence devoid of the unnecessary "ballast" that loads down so many of our lives. BallaSeason's Greetings to all! Drew "Vicariously

modifying and repairing R-390x through advice to others"

From dallas@bayou.com Wed Dec 24 21:32:46 2003

Subject: [R-390] USB & LSB Filters and BFO Fine Tuning

For several years I have had some high impedance USB and LSB filters which require 130 pF resonating capacitance. These seemed like ideal USB and LSB filters for the R-390A, except for the work involved in removing the original filters and installing these, and these did not have flanges. Flanges are essential, otherwise RF will leak around the filters. Making and fitting the flanges to the filters turned out to be easier than I thought. Details of this mod can be found in the FILES section of the YAHOO R390 group. The obvious advantage of this mod is that you can set the BFO PITCH and forget it.

There are several reasons why an unmodified R-390A is not a great SSB receiver. Fortunately, most of these have been addressed in the past. The KCS tuning rate has not, mainly because there seems to be no way to add fine tuning to the KCS tuning. The BFO tuning rate has also not been addressed generally, though there were a few R-390A's with BFO reduction tuning gizmos with a counter dial. I never used one, so I can't say whether it solved the SSB tuning problem or not. My BFO tuning mod uses voltage variable diodes, and works very well. The tuning range is 200 Hz (for 1 turn), which is equivalent to a 30:1 reduction in the BFO PITCH. You tune in a SSB signal as well as you can with the KCS knob, and then clarify the signal with the BFO fine tuning knob. The knob is attached to a pot which is installed in the DIAL LOCK hole. This mod can also be found in the FILES section of the YAHOO R390 group.

From Jim Shorney" <jshorney@inebraska.com Wed Dec 24 23:30:19 2003

Subject: [R-390] BallaSeason's Greetings!

wrote: >8b. As 8a. but swap the bridge for a single diode. You will provide >validation to Jim Shorney (and to me with my silly computer simulations)of >Jim's pulsating DC ballast regulator concept. Jim and I will rest easier.

Good grief, now I will be forever associated with this Happy Holidays, Drew and all. Keep 'em glowing.

From dallas@bayou.com Thu Dec 25 03:01:16 2003

Subject: [R-390] More USB & LSB Filters

I forgot to mention that I don't know where I got the 526 9365 000 and .65 000 filters. I also have a pair of 526 9364 061 and .65 061. They seem to be the same filter, except perhaps for a bit wider bandwidth. That doesn't matter if you use a 6 kHz roofing filter like I do. I believe I got the .061's from Surplus Sales Of Nebraska several years ago for \$100 each.

From jlkolb@cts.com Thu Dec 25 04:08:17 2003

Subject: [R-390] More USB & LSB Filters

wrote: > I forgot to mention that I don't know where I got the 526 9365 000 and > .65 000 filters. I also have a pair of 526 9364 061 and .65 061. > They seem to be the same filter, except perhaps for a bit wider > bandwidth. That doesn't matter if you use a 6 kHz roofing filter like I > do. I believe I got the

.061's from Surplus Sales Of Nebraska several > years ago for \$100 each.

It's hard to find accurate information on mechanical filters. The 1976 Collins Mechanical Filter Catalog lists the 526 9364 000 as a F455Z-1, USB 2.7 kHz @ 3db Y(long) case, and the 526 6365 000 as a F455Z-5, LSB 2.7 kHz @ 3db Y(long) case. A filter list I picked up somewhere along the way lists the 526-9364-000 and 65-000 as 3.0 @ 6 db and 6.0 @ 60 db and the 64-061 and 65-061 as 3.40 @ 6 and 7.55 @ 60. 2.7 min at 3 db and 3.0 @ 6 db could both be accurate descriptions of the same filter, measured at different points on the filter nose.

The labels on the 64-000 and 65-000 in Dallas's modification article list a BW of 3.4 kHz on the label, but the label from what I can see of it, doesn't look like an official Collins label.

Note that filter specifications are listed as a minimum BW at the top of the curve and maximum at the bottom. They can be quite a bit wider at the top and narrower at the bottom. My favorite filter, the F455Z23C, is spec'ed as 2.85 kHz @ 3 db min, 3.1 kHz nominal, and 4.9 kHz max 4.1 nominal. One example I have run curves on <<http://members.cts.com/king/jlkolb/site/curves/F455Z232.PDF>> is 3.50 kHz @ 3 db, 4.84 kHz @ 60. Considerably wider than one would expect from the published specs. John <<http://members.cts.com/king/jlkolb>>

From dallas@bayou.com Thu Dec 25 04:43:17 2003
Subject: [R-390] More USB & LSB Filters

Yes, the labels are not Collins labels. The Collins (blue) labels were removed so that I could solder the flanges to the filter bodies. Unfortunately, the labels could not be reused. So I typed new labels and put them on the filters, mainly for (my) reference. My Collins filter data lists the .64 000 as a Z-4, not a Z-1. I didn't measure the 3 dB bandwidths (the 2.7 value is called "nominal" by Collins in my data). I measured the 6 dB BW's of the .000's and got 3.4 and 3.6 kHz respectively. Since it didn't matter due to my roofing filter, I called them both 3.4's. The worst I got for one of the .061's was 4.0 kHz. But like I said, if you use a 6 kHz roofing filter at the input to the IF deck, then any of these filters will be like a 3.0 kHz filter. Incidentally, measuring deep skirt BW's of these high impedance filters is quite difficult because of RF leakage. Special test fixtures are required to get accurate results. Best regards, Dallas

From jlkolb@cts.com Thu Dec 25 06:39:40 2003
Subject: [R-390] More USB & LSB Filters

Ah, while my '76 Collins catalog said the 526-9364-000 was a F455Z-1, the '71 catalog did say it was a Z-4. I would expect it to be a Z-4 to mate with the Z-5 as a pair. Can't even always believe the factory literature. Just won a couple of Z-4's on ebay - hope I can find something to pair them with. John

From dallas@bayou.com Thu Dec 25 12:06:32 2003
Subject: [R-390] SSB Filters Numbers Mistake

I think the 526-9364-000 and .65-000 are not available from SSNE. They have the -061's.

From cbscott@ingr.com Fri Dec 26 18:54:36 2003
Subject: [R-390] New "Tube" radio

Guys, Check out the new radio I got for Christmas: <http://members.aol.com/n4buq/r390a/> Scroll down to the picture at the bottom of the page. 73, Barry(III) - N4BUQ

From cbscott@ingr.com Sat Dec 27 01:06:02 2003
Subject: [R-390] New "Tube" radio

A friend gave it to me for Christmas. It is a 3-tube AM/FM radio, what else!? It is powered by 4 AA batteries so they *must* be 1.4v tubes <big grin> I like the way the orange LEDs give it that warm glow. I'm not sure what the big "finned" thingee in the back was supposed to represent. Perhaps a giant selenium rectifier? The box states it is a "Vacuum Tube" radio, so they must be real tubes, right? If you can't trust what the box says, what *can* you trust?

Cousin Motorola here says "hey" to your R390A, Mike. Wish I had a nice CY-979 to house my next project in. Yours looks great! 73, Barry(III) - N4BUQ

From courir26@yahoo.com Sat Dec 27 13:59:19 2003
Subject: [R-390] 51S-1 on AF-1

I was peeking at the new Air Force one book. In the book there is a pic of the comm station during the Johnson admin (either 26000 or 27000) in which a 51S-1 is clearly visible on the radio operators desk. Not panel mounted, just sitting on the desk in the cabinet. 73 Tom

From wa9vrh@mtco.com Sat Dec 27 22:33:25 2003
Subject: [R-390] R390A Manual FS

Hi all, I have for sale an original R390A manual TM 11-5820-358-35. It is dated 8 December 1961. This not a reprint. It is in Good to Very Good condition. \$25.00 plus shipping from 61525. Thanks Larry WA9VRH

From Jhowings@aol.com Sun Dec 28 20:05:01 2003
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 ?? Joe, K0AHD

From courir26@yahoo.com Sun Dec 28 20:19:56 2003
Date: Sun, 28 Dec 2003 12:19:56 -0800 (PST)

Gentlemen? I've updated the subject list to include a new hi s.n. found on an Amelco contract. Feel free to view and reference. New info always welcome. Merry Christmas 73 Tom N5OFF
<http://www.geocities.com/courir26/CollinsRec.htm>

From SP600historian@aol.com Sun Dec 28 21:06:45 2003
Subject: [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 this is not a disparaging term, but pretty much the norm. Les Locklear SP-600 Historian <http://www.hammarlund.info/>

From Jhowings@aol.com Mon Dec 29 00:19:28 2003
Subject: [R-390] Unusual R-390a

Thanks to those who almost immediately responded, I think the mystery (to me) is solved now-
Bureaucracy 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

From rdavis24@carolina.rr.com Mon Dec 29 01:15:09 2003
Subject: [R-390] Big Mistake Update

Hello All.

Well I finally made it! I got the PTO and the RF Deck back on frequency again. It was not as hard as I thought it would be after having all the help from the list. I got everything done to the Capehart unit that I wanted to do with the exception of painting the front panel and knobs. Painting will have to wait till warmer weather. I used the kit bought from Walter Wilson and it included everything I needed. I installed the new carrier meter pot, inrush limiter along with the new caps. I cleaned the function switch real good while putting on the front panel and it is not stuck in the "On" position anymore. Did not think just cleaning the contacts would have fixed it but it did, I was ready to repair the switch itself. I aligned the rig today and it seems to be doing real good. Although the only antenna I have in the shop is a 2-meter 5/8" wave about 20', I could still pick up stations from all over. The rig still needs some cleaning, and im going to tear down the RF deck and reclean it just for cosmetics later. I have learned alot from working on this rig and have really enjoyed it. Now I have a 67 EAC waiting on me hi. I going to do the same with it. It is in very nice shape, but im sure it has not had the troublesome caps replaced yet. It is a lot cleaner and the wiring is newer than the Capehart unit. It does have a problem below 8 mhz though, and that will be the first problem to fix. It has a Collins IF Deck in it now cause the previous owner could not find the problem with the EAC IF Deck. I have the EAC IF Deck also, and im going to try and repair it, so I will have a complete EAC R-390A. The EAC was bought from a list member about 2 years ago, and I am sure glad I bought it now. Well Thanks for the help Ronnie

From dmetz@ntelos.net Mon Dec 29 01:31:19 2003
Subject: [R-390] FS: TEst Equipment

The following are excess to my needs and I really need the space. I do not want to ship but could bring them to the Frostfest in Feb. Priority given to someone who will take all three.

TS497 signal generator 2-400 mhz with manual. Open the cover and it doesn't look like it's ever been

used. As near as I can tell, works fine. \$50

HP 200 CDR rack mount wide range oscillator Flaky but seems to work \$10

Texscan/Jerrold sweep generator 9500T 1-300 mhz. Bought this off the auction site as working (he had great feedback so I assume it works) but not tested though it powers up. \$25 . Not exactly a boatanchor but not light either!

And if the person who would take all three lives in the DC area, I will be available for pickup in Reston this Thursday afternoon. Otherwise, this is located in Staunton Va. along I-81. 73's dave

From hankarn@pacbell.net Sun Dec 28 21:03:53 2003
Subject: [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. 73 Hank KN6DI

From jbrannig@optonline.net Tue Dec 30 13:33:44 2003
Subject: [R-390] More CV-591

I started working on my CV-591 last winter. It required so many replacement resistors and capacitors in the RF circuits that I depleted the junk box. When the box of new parts arrived from Mouser there was no time to work on the unit.

I just got it back on the bench.

The first variable oscillator was making me crazy. It was veeery touchy to adjust and it drifted constantly. I finished replacing all the capacitors in the circuit and it was still drifting. The resistors checked out OK, so I tried some chill spray. The last culprit was the cathode/feedback resistor. On to the mixers!!

I don't advocate wholesale replacement of parts, but if I was just starting this project I would remove the all vertically mounted "circuit" boards and replace all the components. Jim

From brumac@juno.com Wed Dec 31 18:30:05 2003
Subject: [R-390] Updated Collins (R-390A) Contract List

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? Happy New Year and 73's Bruce

From tetrode@comcast.net Wed Dec 31 19:12:20 2003

Subject: [R-390] Slightly OT: RF Coil Can ID's

Hi and Happy New Year group,

while sorting out a new junk box of parts I came across a bunch of slug tuned coil cans that are very close to the Zxxx coils used in the R-390A. They are almost identical in appearance but have different reference designations, frequency spans, part numbers, and the number of pin connections vary too.

I don't own any Collins gear other than 390's but I'm guessing they might have been used in some of their other HF equipment. Anyone recognize these things? thanks, John

Z4 1.7-3.7 MC 543-2981-003

Z8 3.7-7.7 543-2985-903

Z12 15.7-31.7 543-2989-903

Z23 7.7-15.7 543-3000-013

Z22 3.7-7.7 543-2999-903

Z25 2-4 MC 543-3002-903

Z26 14-28 543-3003-903

Z27 14-28 543-3004-014

From Barry Hauser <barry@hausernet.com> Wed Dec 31 20:12:25 2003
Subject: [R-390] ATC Items - was Contract List

Hi Gang,

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

From brumac@juno.com Wed Dec 31 20:23:56 2003
Subject: [R-390] ATC Items - was Contract List

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

From cbscott@ingr.com Wed Dec 31 21:08:35 2003
Subject: [R-390] ATC Items - was Contract List

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. Barry(III) - N4BUQ

From w5or@comcast.net Wed Dec 31 23:40:34 2003
Subject: [R-390] SKN

Folks, This is Straight Key Night for ham radio ops to bring in the New Year. Morse code by hand key. An opportunity to try out your R-390 receivers receiving real hand-made code, some good, most average, some awful :-). Listen around the low end of the ham bands, most likely 80, 40, and 20 meters.

from the ARRL web site: In this era of digital communication, keyboarding, FM and electronic keys, once a year many excellent operators bring the past to the present and participate in the annual ARRL Straight Key Night. The object of this friendly event is to enjoy some good, old fashioned QSO fun, using straight keys. The emphasis is on rag-chewing rather than on fast contest-type exchanges. SKN 2004 begins at 7:00 p.m. EST December 31 and runs for 24 hours through 7:00 p.m. EST January 1 (0000 --2400 UTC January 1, 2004).

Also,
Historic KPH will also be on the air with press and weather on 426kc (primary) and 500kc (calling). K6KPH will be on the air on 3545kc, 7060kc, 14050kc and possibly 21050kc if conditions warrant.

Happy New Year to the R-390 list members. Don Reaves W5OR@comcast.net

From jbrannig@optonline.net Wed Dec 31 23:54:14 2003
Subject: [R-390] SKN

No, I will not be on for SKN. I'm not even sure where my straight key is. it took me long enough to learn to send on an electronic key and as "Dirty Harry" sez, "A man has got to know his limitations" But I will listen. There are still a few Hams who can send beautiful CW on a straight key and is just wonderful to listen to Happy New Year Jim