ELECTRONICS FIELD CHANGE BULLETIN : 4-R-390A/URR
NAVAL SHIP ENGINEERING CENTER : 5-R-390A/URR
DEPARTMENT OF THE NAVY :
WASHINGTON, D.C. 20360 :

Prepared by the Naval Ship Engineering Center, Code 6679A2b

The purpose of this Electronics Field Change Bulletin is to provide in the Naval Supply System a permanent record of field changes published in the Electronics Information Bulletin (EIB). The EIB is a medium for quick dissemination of information to all personnel. Back issues are periodically cancelled. The field changes contained in this bulletin first appeared in:

EIB 655, 664

. . . . . .

Field Change 4-R-390A/URR—Installation of Diode Load Test Jack; Type II, Class A; 1 Man-Hour Required

This field change applies to all R-390A/URR Receivers installed aboard ship.

The purpose of this field change is to provide a front panel diode load test jack for test purposes.

No previous field change need be accomplished. Equipment nomenclature is not affected.

This field change can be identified by the presence of a green diode load test jack located on the front panel to the right of the PHONES jack.

Material Required (to be supplied by the installing activity):

Item	Quantity	Description	FSN
1	1	Test Jack, Green	9N5935-549-9279
2	15 ft.	Lacing Cord	KZ4020-231-5886

Tools Required:

Centerpunch
Ruler, 12-inch
Diagonal Pliers
Drill, Electrical
Drill Bit, 1/4-inch
Screwdriver, Medium size
Screwdriver, Phillips No. 1
Soldering Iron and Solder
Embossing Machine (Dymo-Mite Tape Writer No. 22 or equivalent)

Test Equipment Required:

AN/PSM-4 Multimeter or equivalent

Procedure:

To aid the technician in obtaining an overall picture of what is to be done, observe figure 56 of NAVSHIPS 93053, Vol. 3 (TM11-5820-358-35) or figure 74 of TM11-856A. A shielded conductor will be disconnected from P120 and removed from the cable harness to a point midway between the PHONES jack (J102) and the LOCAL GAIN control (R105) where a test jack will be installed. This jack is to be used for maintenance testing and procedures for the use of this jack in overall gain tests and adjustment of GAIN ADJ (R519) will be incorporated in a future revision of the Maintenance Standards Book for the R-390A/URR Receiver.

1. Remove power from receiver.
2. Disconnect all cables at rear of cabinet and remove receiver to workbench.
3. Disconnect P120 and remove its cover. Using diagonal pliers, cut lead at pin 11. Locate shield for this wire and disconnect the shield by cutting close to where shields are connected together. Reroute shielded lead along cable harness so that it departs from harness midway between the LOCAL GAIN control (R105) and the PHONES jack (J102). Using lacing cord, relace harness, reassemble P120, and connect to J620. Replace any cable harness clamps removed during rerouting of shielded lead.
4. On the front panel of receiver, measure and centerpunch a point 4-1/2 inches from left side and 1-5/8 inches up from the bottom.

CAUTION: Prior to drilling, insure that cable harness is clear of area where drill bit will penetrate behind front panel, preventing possible damage to cable harness.

5. Drill 1/4-inch hole and remove all metal shavings.

6. Mount diode load test jack.

7. Extrude the inner conductor from the shield where shielded lead departs from the harness cable. Cut conductor to proper length and, without applying excessive heat or pressure, solder lead to center terminal of diode load test jack.

8. Measure and cut the shield to reach the top connection (ground) on PHONES jack (J102). Using black plastic electrical tape, wrap the shield from where it leaves cable harness to within 1/4 inch of its end in order to prevent shield from shorting against phone jack tip connection. Solder shield to ground connector of PHONES Jack (J102).

9. Using an ohmmeter, check for continuity (less than 1 ohm) between the diode load test jack on the front panel and the diode load terminal 14 on Terminal Board (TB103) on the rear panel of receiver. Check and ensure that test jack is not shorted to ground.

10. Using black tape in embossing machine, type labels DIODE and LOAD. Attach the DIODE label on the front panel above the diode load test jack and the LOAD label below the test jack.

NOTE: While receiver is removed from cabinet, it is recommended that IF GAIN ADJ (R519) adjustment be made using a VTVM, in accordance with procedures set forth in the technical manual.

11. Replace R-390A/URR in its cabinet and perform operational checks.

Routine Instructions:

Correct the Technical Manual for R-390A/URR, NAVSHIPS 0967-063-2010 (Formerly NAVSHIPS 93053) in accordance with Temporary Change T-4, NAVSHIPS 0967-063-2014

Holders of technical manuals shall make the corrections immediately after completion of field change. Record completion of this field change on the Electronics History Card, NAVSHIPS 536, and on Record of Field Changes Card, NAVSHIPS 537.

Field Change 5-R390A/URR—Modification of Antenna Input Connections; Type II, Class A; 1 Man-Hour Required

This field change applies to all R390A/URR Radio Receivers installed aboard ship.

The purpose of this field change is to eliminate breakage of antenna relay (K-101) assembly and/or right angle Twinax adaptor.

No previous field change need be accomplished. Equipment nomenclature is not affected.

This field change can be identified by the presence of a shorting plug connected to J104 on rear panel of receiver.

Material Required:

In the majority of installations, no material will be required. Certain installations will require one or more of the items listed in Table 1. To determine which items are required, refer to the *"Note"* preceding *"Procedure."*

Table 1. Material Required

Item	*Qty.*	*Description*	*FSN*
1	1	UG-573B/U Type "C" Connector	9N5935-660-4302
2	1	UG-970 or UG-971/U Twinax right angle adaptor	9N5935-565-3095 9N5935-201-2410
3	1	UG-567A/U Right angle type "C" adaptor	9N5935-201-2755
4	1	BSM Right angle adaptor	9N5935-751-1586

Tools Required:

Screwdriver, medium size
Hacksaw
File, fine cut
Vise
Embossing Machine (Dymo-Mite Tape Writer No. 22 or equivalent)

Test Equipment Required: None.

NOTE: Prior to commencing with the field change ensure that the following conditions exist:

1. Antenna cable is terminated with a UG-573B/U (or equivalent) type "C" connector (Item 1) for connection to J103 at rear of receiver.
2. A UG-970/U or UG-971/U right angle adaptor (Item 2) is available for connection to J104.

3. There is approximately six inches clearance between rear plate of the receiver and the bulkhead, cabinet rear panel, or radio console rear panel. This is to allow cable bend using a UG-573B/U connector to J103. If there is not sufficient space, procure and install a UG-567A/U right angle type "C" connector (Item 3).
4. Open equipment and verify that P206 on antenna relay can be connected to J105. If not, procure BSM right angle adaptor (Item 4).

Procedure:

Observe Antenna Relay Assembly, figure 55 of NAVSHIPS 93053 Vol. 3 (TM11-5820-358-35). Cables to J105 and J106 will be reversed. A shorting plug will be made from presently used Twinax right angle adaptor (UG-970/U or UG-971/U) to provide a ground at J107. This field change will utilize J103 in lieu of J104 as Antenna Input Jack, yet provide the same electrical connection and eliminate breakage of antenna relay assembly and/or right angle adaptor with loss of J104 guide pin.

1. Remove power from receiver at fuse box.
2. Remove and place female end of UG-970/U or UG-971/U in vise and cut as shown in figure 1 to provide shorting plug. Apply light finger pressure to center pins until the unshorted pin drops out. File smooth all edges of the shorting plug.
3. With embossing machine tape writer, print the following 2 labels:

a. "FC No. 5 MODIFIES ANT CONNECTION"

b. "SHORTING PLUG REQUIRED ON J104 – HOLE AT RIGHT"

4. Disconnect all cables at rear of equipment and remove the receiver to the deck if Step 5 cannot be done by sliding receiver forward.
5. Disconnect P205 and P206. Connect P205 to J106 and connect P206 to J105. Insert BSM right angle adaptor between P206 and J105 (Item 4) if cable length is not adequate to reach.
6. Reinstall receiver. Connect shorting plug to J104 as shown in Figure 2. Many guide pins on J104 are missing (dropped out), so ensure shorting pin is to the left as viewed from the rear. CAUTION: If Field Change 3 has not been installed and 110V. protective cover plate was removed (Step 4), be sure to replace cover to prevent future shock hazard.
7. Place embossed label (a) prepared in Step 3 directly to left and even with J104. Place label (b) directly below label (a).
8. Refer to Note 3 preceding *"Procedures."* If clearance is sufficient, connect antenna cable connector to J103. If not, use adaptor (Item 3).
9. Restore power to receiver and perform operational checks.

Routine Instructions:

Correct the Technical Manual for R-390A/URR, NAVSHIPS 0967-063-2010 (Formerly NAVSHIPS 93053) in accordance with Temporary Change T-4, NAVSHIPS 0967-063-2014.

Holders of technical manuals shall make corrections immediately after completion of the field change. Record completion of this field change on the Electronic Equipment History Card, NAVSHIPS 536, and on the Record of Field Changes Card, NAVSHIPS 537.

Figure 1. UG-970/U or UG-971/U.

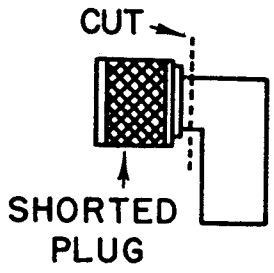

Figure 2. Rear view shorted plug.