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ELECTRONICS FIELD CHANGE BULLETIN
NAVAL SHIP SYSTEMS COMMAND
DEPARTMENT OF THE NAVY
WASHINGTON, D.C. 20360

12-,15-,16-,18-,19-,20-,21-,22-AN/URC-32
1-,4-,5-,6-,7-AN/URC-32A
2-,3-,4-AN/URC-32B
3-,6-,7-,9-,10-,11-,12-,13-KWT-6 (8)

PREPARED BY THE NAVAL SHIP ENGINEERING CENTER, CODE 6181C

This field change bulletin contains electronic equipment field change information originally published in the following issues of the Electronics Information Bulletin.

The following appeared in EIB 609 and corrected in EIB 615

Field Change 12-AN/URC-32, 1-AN/URC-32A, 3-KWT-6 (8) – Increasing Bias Cutoff Voltage for Power Amplifier 6CL6 Driver Tubes; Type II, Class A; ½ Man-Hour Required

This field change applied to all AN/URC-32 equipments from serial 661 up, AN/URC-32 equipments from serial 1 to 661 that have applied field change 5-AN/URC-32, AN/URC-32A equipments from serial 1 to 20, and all KWT-6 (8) equipments.

The purpose of this field change is to replace resistor R22 in Power Amplifier AM-2061/URT. To provide increased bias cut-off voltage for the driver tubes to prevent drive to the power amplifier tubes when keying relay K2 is open, bias voltage will be increased from 25 volts to 46 volts.

No previous field change need be accomplished on any equipments except AN/URC-32 serials 1 through 661, which should have had Field Change 5-AN/URC-32 installed. Equipment nomenclature is not affected.

This field change has been accomplished when the 27,000 ohm resistor (R22) has been replaced by a 68,000 ohm resistor in the Power Amplifier AM-2061/URT.

Material Required:

One resistor, fixed, composition, ±5%, ½ watt, 68,000 ohm, MIL-R-11, RC20GF683J, FSN 1N5905-249-3661.

Procedure:

1. Rotate Power Amplifier AM-2061/URT driver tune and power amplifier tune knobs to zero; remove knobs.

2. Remove band change switch knob.

3. Remove tube access panel; remove front main panel.

4. Locate terminal board TB-1 which is on the main chassis in the upper left-hand corner above the meter.

5. Replace existing resistor R22 with a 68,000 ohm, ½ watt resistor.

6. Replace front panel, tube access panel, and knobs.

7. Resume operation.

Routine Instructions:

Corrections to applicable publications are not required.

Personnel making this field change shall record its completion on the Electronics Equipment History Card, NAVSHIPS 536, and on Field Change Record Card, NAVSHIPS 537.

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NOTE

The field changes contained in this bulletin do not require publications corrections. Correction material has been incorporated in the revised publications.

May 1967

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The following appeared in EIB 612

Field Change 15-AN/URC-32, 6-KWT-6 (8)—Installation of Wire Jumper in Junction Box to Provide 35 VDC.; Type II, Class A; 1/4 Man-Hour Required

This field change applies to all AN/URC-32 and KWT-6 (8) equipments when used with Coupler-Monitor CU-737/URC (Antenna Network 180U-2 for the KWT-6 (8)) having a VSWR protective circuit addition.

Purpose:

The purpose of this field change is to provide a wire jumper in Interconnection Box J-1007/U (AN/URC-32) and Junction Box 153H-3 (KWT-6 (8)) to provide 35 VDC required for operation of the VSWR protective device in the CU-737/URC or 180U-2.

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

This field change can be identified by the presence of a wire jumper between terminals TBK-15 and TBH-6 in J-1007/U or 153H-3.

Material Required:

No. 18 AWG wire jumper.

Procedure:

1. Remove dust cover of equipment junction box.
2. Install wire jumper between terminals TBK-15 and TBH-6. Replace dust cover.

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The following appeared in EIB 610

Field Change 16-AN/URC-32 and 7-KWT-6(8)—Power Amplifier Driver Stage Tube Oscillation; Type II, Class A; ½ Man-Hour Required

This field change applies to all Radio Sets AN/URC-32 and KWT-6(8).

The purpose of this field change is to remove the bus wire connecting pin 2 to pin 9 on tube socket XVI and tube socket XV2 to increase tube interchangeability. It has been reported that in the 6CL6 driver stage of Power Amplifier AM-2061/URT (367A-3), oscillation occurs when certain MIL-type tubes are used.

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

This field change has been accomplished when the bus wires between pins 2 and 9 on tube sockets XVI and XV2 have been removed.

Material Required: None

Procedure:

1. Remove power from equipment.
2. Swing unit out from rack.
3. Remove rear cover and locate tube sockets XV1 and XV2.
4. Remove bus wires connecting pin 2 to pin 9 on tube socket XV1 and on tube socket XV2.
5. Replace rear cover and replace unit in rack

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Routine Instructions:

Personnel making this Field Change shall record the completion of the Field Change on the Electronics Equipment History Card, NAVSHIPS 536 and on Field Change Record Card NAVSHIPS 537.

The following appeared in EIB 620 and corrected in EIB 628 and 677

Field Change 18-AN/URC-32, 4-AN/URC-32A, 9-KWT-6/8, Junction Box (J-1007)(153H-2); Modification for 600 Ohm Output to Receiver Switchboard System—Type II, Class A; 1 Man-Hour Required

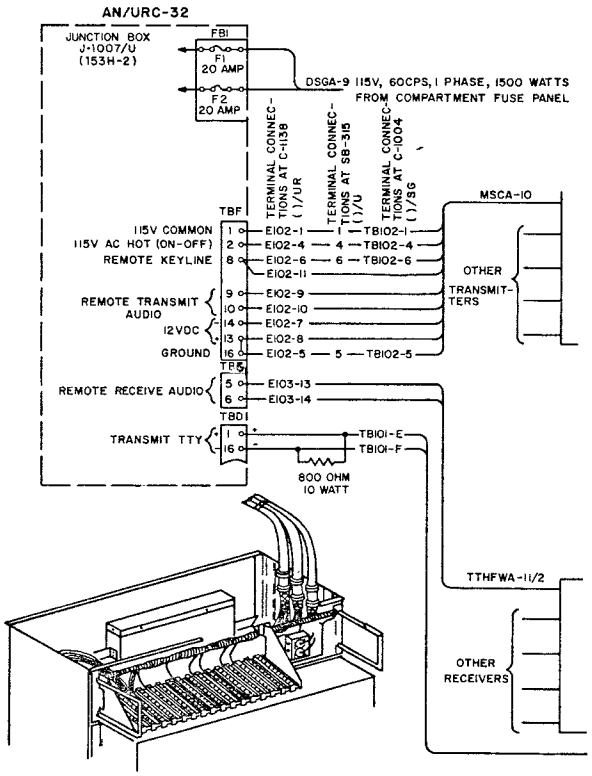
This Field Change applies to (J-1007) (153H-2) Junction Boxes associated with AN/URC-32 (A11), AN/URC-32A (Ser 1-523), KWT-6/8.

The purpose of this Field Change is to provide a 600 ohm output impedance instead of a 4 ohm impedance to the receiver audio switchboard system and to bypass the "Remote-Local" switch so that the receiver audio will be present at the switchboard at all times. It is still necessary to operate the "Remote-Local" switch for transmitter control.

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

Difficulty has been experienced aboard ship when paralleling the AN/URC-32 with another receiver through the audio patch panel. When the AN/URC-32 receiver is switched in, the audio from the other receiver is blanked out. This difficulty is caused by using the 4 ohm output from the AN/URC-32 series of equipments.

NOTE: AN/URC-32A, Serial 524 through 769, and AN/URC-32B, Serial B1 through B141 will have this resistor installed at the factory.



EXTERNAL CABLE CONNECTION DETAIL

Figure 1.

Material Required:

1 each 1800 ohm 2 watt resistor FSN 5905-101-2522.

Procedures:

Refer to Technical Manual NAVSHIPS 93285(A) then proceed as follows:

1. Remove cover from junction box.
2. Replace the 680 ohm resistor connected across contacts 5 and 6 of terminal board "G" with an 1800 ohm 2 watt resistor.
3. Connect audio cable to remote system on contacts 5 and 6 of terminal board "G" instead of Contacts 11 and 12 on terminal board "F".

Routine Instructions:

Personnel making this field change shall record its completion on the Electronics Equipment Histor Card, NAVSHIPS 536, and on Field Change Record Card, NAVSHIPS 537.

The following appeared in EIB 641

Field Change 19-AN/URC-32, 5-AN/URC-32A, 2-AN/URC-32B, 10-KWT-6(8)–Modification of Keying Circuit; Type II, Class A; 1 Man-Hour Required

This field change applies to Radio Sets AN/URC-32, Serial Numbers 822 and above, AN/URC-32A, and AN/URC-32B which do not have a jumper wire connected between TBJ-15 and TBH-14, KWT-6(8) Serial Numbers 80 and above.

The purpose of this field change is to improve the sequence of operation of the Antenna Transfer Relay (K3) in the C-2698/SRA-22 or (K1) in the CU-737/URC. This change will prevent the SWR protective device in the C-2698/SRA-22 or CU-737/URC, from being activated when the AN/URC-32 is unkeyed.

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

This field change can be identified by the jumper wire connected between TBJ-15 and TBH-14.

Material Required:

Quantity	*Description*	*Stock Number*
6 inches	Hook-up Wire #20	KZ6145-295-2822

Tools and Test Equipment Required:

Pliers, Diagonal, Wire Cutter
Pliers, Long Nose, 6 inch
Soldering Iron, 100 Watt
Solder, 60/40, Resin Core
Knife, Electricians

Procedure:

To accomplish this field change, perform the following steps in the AN/URC-32 Interconnecting Box J-1007/U:

1. De-energize the equipment.
2. Remove the protective dust cover.
3. Remove the jumpers between:
   TBJ-7 and TBH-14
   TBJ-15 and TBJ-16
4. Add a jumper between:
   TBJ-15 and TBH-14
   TBJ-7 and TBH-12
5. Replace the dust cover and return the equipment to normal operation.

The following appeared in EIB 641

Field Change 20-AN/URC-32,6-AN/URC-32A, 3-AN/URC-32B, 11-KWT-6(8)- Wiring Change to Receiver Overload Protective Device; Type II,Class A; 1 Man-Hour Required.

This field change applies to all AN/URC-32 series and KWT-6(8) series Radio Sets.

The purpose of this field change is to provide automatic reset after an overload condition.

Field Change 1 should be accomplished to AN/URC-32, serial number 1 through 359, prior to this field change. Equipment nomenclature is not affected.

This field change may be identified by the shorted BNC connector on relay (K1).

Material Required:

None

Tools Required:

Screwdriver, Phillips Head, 6 inch
Pliers, long nose, 6 inch
Pliers, diagonal, wire cutters
Knife, electricians
Soldering Iron, 100W
Solder, 60/40, Resin Core
1/8 inch Stencil Set

Test Equipment Required:

None.

Procedures:

Refer to figures 1 and 2 of this change, and proceed as follows:

NOTE: OBSERVE ALL SAFETY PRECAUTIONS.

1. Secure all a-c power to the AN/URC-32.
2. Disconnect the following items from the Receiver Overload Protective Device:
   AC power input leads to the main line fuses (F1 and F2).
   White/brown lead from C1.
   Antenna input cable or equipment cable (W-27) from J1.
   Receiver cable (W3) from J2.
3. Remove the protective device from the AN/URC-32 and remove the bottom cover.

Routine Instructions:

Personnel making this field change shall record its completion on the Electronics Equipment History Card, NAVSHIPS 536, and in Field Change Record Card, NAVSHIPS 537.

4. Remove the coaxial lead connected between relay (K1) and resistor (R2) (200 ohms, 5 W, 5 percent).

5. Shorten the coaxial cable, removed in step 4, to within 1 inch of the BNC connector. Remove 1/2 inch of the outer insulation. Push the braided shield back and remove 3/8 inch of the dielectric from the center conductor. Pull the shield over the conductor and solder the conductor and shield together.

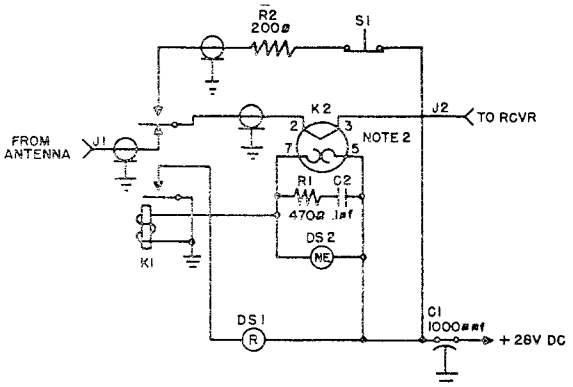
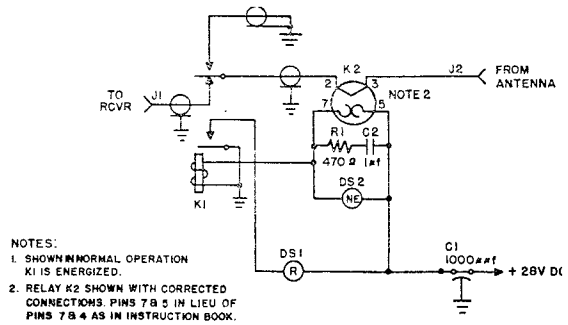


Figure 1. Receiver overload protective device before field change.

Figure 2. Receiver overload protective device after field change.



6. Connect the grounded BNC connector to K1 as removed in step 4. Replace bottom cover.

7. Stencil "ANTENNA INPUT" adjacent to J2. Stencil "TO RECEIVER" adjacent to J1.

8. Reinstall the protective device in the AN/URC-32. Connect leads removed in step 2 (Cable W-27 or antenna cable will connect to J2, Cable W-3 will connect to J1).

9. Return equipment to normal operation.

Routine Instructions:

Personnel making this field change shall record the completion of the field change on the Electronics Equipment History Card, NAVSHIPS 536, and on Field Change Record Card, NAVSHIPS 537.

The following appeared in EIB 652

Field Change 21-AN/URC-32, 7-AN/URC-32A, 4-AN/URC-32B, 12-KWT-6(8)—Modification to the Radio Frequency Amplifier, AM-2061/URT RF Input Receptacle, 2J1, and Plug, 15W2P1; Type II, Class A; 1 Man-Hour Required

This field change applies to Radio Sets, AN/URC-32, all serial numbers, AN/URC-32A, all serial numbers, AN/URC-32B, all serial numbers, KWT-6(8), all serial numbers.

The purpose of this field change is to provide dissimilar receptacles and plugs which will prevent the inadvertent reversal of the RF input plug, 15W2P1, and high voltage plug, 15W9P1, in the Radio Frequency Amplifier, AM-2061/URT.

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

This field change can be identified by the installation of a TNC series connector. The TNC connector is a screw thread adaptation of the original BNC connector.

Material Required:

Quantity	*Description*	*Stock Number*
1 each	15W2P1 Connector, Plug, Electrical, 1 contact, 1 mating end, TNC series, DAGE Part No. 8000-1	9N5935-473-5332
1 each	2J1 Connector, Receptacle, Electrical: TNC series, DAGE Part No. 8009-1	9N5935-989-2057

Tools and Test Equipment Required:

Pliers, diagonal, wire cutter
Pliers, long nose, 6-inch
Soldering Iron, 100-watt
Solder, 60/40, resin core
Screwdriver, Phillips, No. 5
Pliers, water pump 7½-inch
Wrench, adjustable, open end, 6-inch size

Procedure:

To accomplish this field change, perform the following steps in the Radio Frequency Amplifier AM-2061/URT:

Note: Observe all applicable safety precautions while performing the field change.

1. Secure all power to the Radio Set AN/URC-32( ).

2. Remove the Radio Frequency Amplifier (RFA) AM-2061/URT from the AN/URC-32( ) mounting frame.

3. Remove the Phillips head screws from the back cover plate of the RFA. Remove the back cover plate.

4. Disassemble the receptacle mounting bracket from the RFA by removing three Phillips head screws.

5. Remove 2J1, R.F. input receptacle, type UG-931/U, from the mounting bracket. NOTE: 2J1 is the center connector on the mounting bracket (see figure 1).

6. Disassemble type UG-931/U connector from the coaxial cable.

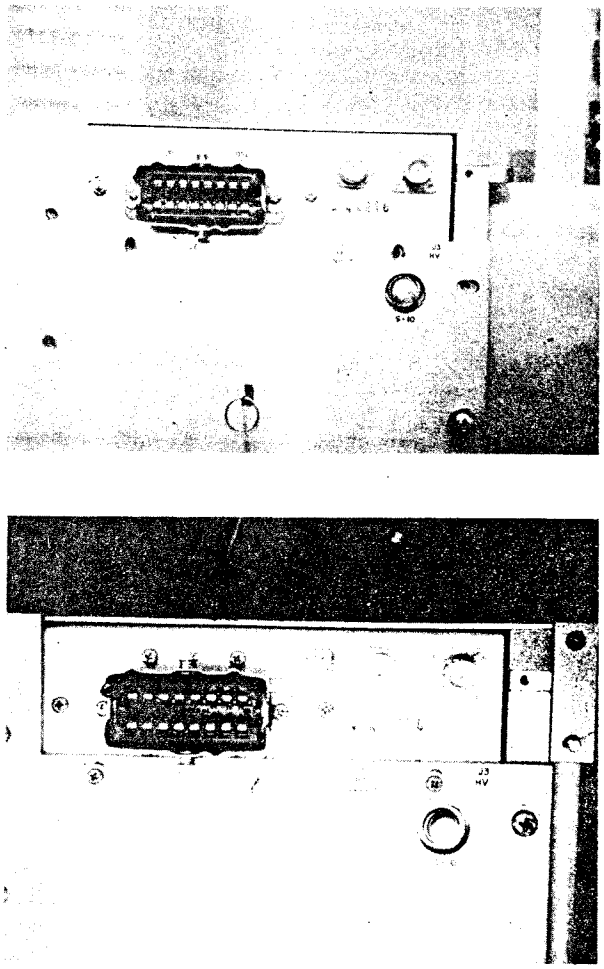


Figure 1. Modification performed.

7. Assemble the new, DAGE No. 8009-1, connector on the coaxial cable.

8. Install the new connector, DAGE No. 8009-1, on the mounting bracket.

9. Reinstall the mounting bracket to the RFA.

10. Reinstall the back plate of the RFA.

11. Disassemble the UG-88C/U plug connected to the RG-58C/U coaxial cable, W2. Coaxial cable W2 is part of the main frame wiring.

12. Assemble the new connector, DAGE No. 8000-1, on the coaxial cable W2.

13. Remount the RFA to the main frame, and return the equipment to normal operating condition.

Routine Instructions:

Personnel making this field change shall record its completion on the Electronics Equipment History Card, NAVSHIPS 536, and on Field Change Record Card, NAVSHIPS 537.

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