| TMC SPECIFICATION | NO. S 1315 |
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| REV: Ø | |
| COMPILED: | CHECKED: APPD: SHEET OF |
| TITLE: | |
| 3/20/73 | |

# INSTALLATION INSTRUCTIONS

Modification Relay Package

CV157/URR SSB CONVERTER

p/o TMC KIT 375

| TMC SPECIFICATION | | | NO. S1315 |
|---|---|---|---|
| REV: | | | |
| COMPILED: | CHECKED: | APPD: | SHEET 1 OF 6 |
| TITLE: Installation Instructions for Modification Relay Package | | | |
| CV157/URR SSB Converter p/o TMC KIT 375 | | | |

I. EQUIPMENT AFFECTED:

CV157/URR Single Sideband Converter.

II. PURPOSE:

To provide frequency stabilization for the unit.

III. MATERIALS REQUIRED:

Table 1 lists the materials supplied with the Kit. Table 2 lists the standard tools necessary to accomplish the modification. (These tools are not supplied.)

TITLE: Installation Instructions for Modification Relay Package CV157/URR SSB Converter p/o TMC KIT 375

## TABLE 1

| ITEM | QTY. | P/N | DESC. | SYM. |
|---|---|---|---|---|
| 1 | 2 | CA480-174-42 | CBL ASSY, RF | W501, 502 |
| 2 | 1 | CA1727 | CBL, DC | W503 |
| 3 | 3 | CC100-43 | CAP, FXD, CER | C501,502,503 |
| 4 | 1 | EY102-27 | GROM, RUB | |
| 5 | 1 | ID407 | INST.DWG,REAR PNL | |
| 6 | 1 | ID408 | INST.DWG,LOC CARR | |
| 7 | 1 | ID409 | INST.DWG,HET.OSC. | |
| 8 | 1 | LA120-1 | LABEL, IDENT | |
| 9 | 6 | LWE04MRN | WASH,LK,EXT | |
| 10 | 12" | MWC22(7)U5 | WIRE,ELEC,INS,GRN | |
| 11 | 12" | MWC22(7)U6 | " " " ,BLU | |
| 12 | 24" | MWC22(7)U95 | " " " ,GRN/WHT | |
| 13 | 12" | MWC22(7)U96 | " " " ,BLU/WHT | |
| 14 | 1 | MS6459 | BRKT,MTG,REL | |
| 15 | 1 | NP362 | NAMEPLATE,MOD KIT | |
| 16 | 24" | PX104-1-034 | INS,SLVG,BLK | |
| 17 | 12" | PX104-4-034 | INS,SLVG,GRN | |
| 18 | 12" | PX104-6-034 | INS,SLVG,BLU | |
| 19 | 12" | PX830-12-1 | INS,SLVG,SHRINK | |
| 20 | 1 | RC07GF474J | RES,FXD,COMP | R501 |
| 21 | 2 | RL143-6S | REL,ARM,DPDT | K501,502 |
| 22 | 6 | SCBP0440BN5 | SCR,MACH, 5/16" | |
| 23 | 4 | TE102-2 | TERM,TURRET | E501 thru 4 |
| 24 | 4 | TE149-120 | TERM,LUG,SOLDER | |
| 25 | 24" | WL100-7 | WIRE,ELEC,BUSS | |
| 26 | 24" | BS100 | SOLDER TIN ALLOY | |
| 27* | 1 | - | DRILL BIT, 9/64" | |
| 28* | 1 | - | DRILL BIT, 1/4" | |
| 29* | 1 | - | DRILL BIT, 5/16" | |
| 30* | 1 | TP113RO-1/2 | PUNCH,CHAS 1/2" | |

* Items 27,28,29,30 are supplied one each per station or one each per 10 Kits for same station.

## TABLE 2

1. Screwdrivers, Slot Blade Assorted
2. Screwdrivers, Phillips Blade, Assorted
3. Open End Wrenches, Assorted
4. Drill Motor, 3/8"
5. Soldering Iron
6. Pliers, Diagonal Cutting
7. Pli rs, Longnose

## IV. PROCEDURE:

### A. PREPARATION

1. Refer to Tech Manual TM11-266 or Tech Order TO31R1-2URR-231. FIELD MAINTENANCE CV-157/URR.

2. Remove the converter from the rack and slide out the drawer assembly. TM Fig. 44.

### B. REAR PANEL MODIFICATION

1. Refer to Installation Drawing ID407, Drilling Plan, Rear and mark the two A hole and one B hole locations. Drill a pilot hole in the three holes using a small bit. Expand the three holes to 1/4" using the bit provided. Use the chassis punch to make the two A hol s.

2. Mount W501, W502 & W503 to the rear plate as shown.

3. Cut and trim label (LA120-1). Mount to the rear panel as shown.

4. Route W501, W502 & W503 through the cable clamps of the wiring harness between the chassis and the drawer assembly. Route the cables around the guides that protect the loose end of the harness from catching on the folded over portion. Trim the tubing from W503 after the last clamp, located under the Local Carrier Oscillator.

### C. LOCAL CARRIER OSC. (100 KHz) MODIFICATION

1. Refer to Installation Drawing, ID408, & TM Figs. 44, 67, 68.

2. Remove the cover from the oscillator and remove th mounting screws of the oscillator chassis.

3. Unsolder the BRN, BRN/WHT, RED/WHT and the coax from T15 and Pin 1 of XV35. Mark the coax from Pin 1 for identification.

4. Mark and drill the 9/64" holes with the bit provided as per th installation drawing.

5. Remove the GRN wire from Pin 2 of XV35. Do not remove the end from C148. Solder the piece of GRN/WHT wire to Pin 2 of XV35. Solder the piece of BLU wire to Pin 1 of XV35.

6. Mount K501 to the chassis as shown in the installation drawing using the two 5/16" 0440 screws, two ground lugs, two lockwashers, two standoffs, E501 and E502.

7. Solder a piece of buss wire between Pin B1 of K501 & E501. Cover with GRN insulation. Connect the BLU wire from Pin 1 of XV35 to Pin A2 of K501. Cover the leads of C501 with BLK insulation. Connect one end of C501 to Pin X1 of K501. Do not solder. Connect the other end to ground. Solder a piece of buss wire from Pin A3 of K501 to E502. Cover with BLU insulation. Connect the GRN wire from C148 to Pin B3 of K501. Connect a piece of buss wire from Pin X2 of K501 to ground. Cover with BLK insulation. Connect the GRN/WHT wire from Pin 2 of XV35 to Pin B2 of K501. No connection to Pin A1 of K501. Connect R501 between E501 and ground.

8. Under th chassis locate the loose ends of W502, 100KHz input and W503, DC. Route & feed through the cable access hole into the oscillator compartment, the RED wire of W503 and the W502 coax. Cut and trim the wires as short as possible to allow connection to the oscillator. See the installation drawing for trimming the coax.

9. Connect the RED wire of W503 to Pin X1 of K501. Connect the center conductor of W502 to E501. Connect the shield of W502 to ground. Connect the center conductor of the coax that went to Pin 1 of XV35 to E502. Ground the shield. Reconnect the other wires as previously wired.

10. Recheck all wiring and connections. Reinstall th oscillator into the chassis and remount the cover.

D. HETERODYNE OSCILLATOR MODIFICATION (555KHz)

1. Refer to Installation Drawing, ID409, & TM11-266 Figs. 65 (TB12) & 68.

2. Mark & drill the holes with the bits provided. CAUTION: Care should be taken so that no wiring or components are damaged by the drill bit penetrating the chassis.

3. Insert the rubber grommet into the 5/16" hole.

4. Remove the GRN wire between C1 (TB12) and Pin 2 of XV1. Connect a new piece of GRN wire to Pin 2 of XV1 & route it through the grommet to the top of the chassis. Connect a piece of GRN/WHT wire to C1 where the GRN wire was removed. Route it through the grommet. Connect a piece of BLU/WHT wire from either the junction of C1 & R8 on TB12 or Pin 1 of XVZ and route it through the grommet. Route the RED/WHT wire of W503 & W501 coax from the rear of the chassis through the grommet.

5. Mount K502 to the bracket as shown in the installation drawing using the 5/16" 0440 screws, lockwashers, ground lugs and standoffs, E503 & E504.

6. Connect a buss wire jumper covered with BLK insulation between Pins B1 & A3 of K502 & Pin B1 of K502 & E503. Connect a buss wire jumper covered with BLK insulation between Pins X2 and A2 of K502 and Pin A2 of K502 and ground. Cover the leads of C502 with BLK insulation and connect between Pin X1 of K502 and ground. Do not solder Pin X1 at this time. Cover the leads of C503 with BLU insulation and connect between Pin A1 of K502 & E504.

7. Mount the relay & bracket assembly to the chassis as shown on the installation print with two 5/16" 0440 screws and lockwashers.

8. The center conductor of W501 will connect to E503. Measure the lead to the shortest practical length, cut and trim the end as done previously. Connect the center lead to E503 and the shield to ground. Connect the RED/WHT lead of W503 to Pin X1 of K502. Connect the GRN wire to Pin B2 of K502. Connect th GRN/WHT wire to Pin B3 of K502. Connect the BLU/WHT wire to E504.

9. Recheck all wiring & connections.

E. COMPLETION

1. Replace all covers and shields. Slide drawer back into unit. This completes the installation of th modification.

2. Apply the mod kit nameplate to the unit.

# REVISION SHEET

THE TECHNICAL MATERIEL CORP.
MAMARONECK NEW YORK

S 1315
LIST NO.

| DATE | REV. | SHEET | EMN # | DESCRIPTION | APP. |
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TMC FORM MLR-1 2-65—AINS.