TMC SPECIFICATION			NO. S S 1316
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TITLE:			
3/20/73			

INSTALLATION INSTRUCTIONS

Modification Relay Package

R390A/URR RECEIVER

p/o TMC KIT 375

TMC SPECIFICATION

REV: A	NO. S S1316
COMPILED:	CHECKED:
APPD:	SHEET 1 OF 5

TITLE: INSTALLATION INSTRUCTIONS FOR MODIFICATION RELAY PACKAGE R390A/URR RECEIVER p/o TMC KIT 375

1. EQUIPMENT AFFECTED:

R390A/URR Receiver

11. PURPOSE:

To provide frequency stabilization for the unit.

111. MATERIALS REQUIRED:

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

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TABLE 1

ITEM	QTY	P/N	DESC.	SYM
1	1	AX745	Assy, Adapt, 17MHZ	
2	1	AX746	Assy, 17MHZ Tuning	
3	1	CA480-174-17	CBL Assy, RF	W1701
4	1	CA1725	CBL Assy, HFO	W1101
5	1	CC100-43	CAP, FXD, CER	C1702
6	1	CM111F330J5S	CAP, FXD, MICA	C1701
7	1	CM111F511G5S	CAP, FXD MICA	C1704
8	1	CX106-18	CAP, VOLT-VAR	CR1701
9	1	EY102-1	GROM, Rubber	
10	1	ID420	INST. DWG, Rear PNL MOD	
11	1	ID421	" " 17MHZ Mod.	
12	1	ID422	" " VFO Mod.	
13	1	LA120-2	Label, Ident.	
14	1	LWE04MRN	WASH, LK, EXT	
15	4	LWE06MRN	WASH, LK, EXT	
16	1	LWS02MRN	WASH, LK, SPLIT	
17	1	NP362	Nameplate, Mod. Kit	
18	6"	PX370-20	INS, SLVG, TEFLON	
19	12"	PX830-12-1	INS, SLVG, SHRINK	
20	1	RC07GF124J	RES, FXD, COMP	R1702
21	1	RC07GF275J	RES, FXD, COMP	R1701
22	2	SA143	ADAPT, RF, T	CP1217,1415
23	1	SCBP0256BN3	SCR, MACH 3/16"	
24	1	SCBP0440BN4	SCR, MACH, 1/4"	
25	4	SFB0632SN6	SCR, Self-Threading, 3/8"	
26	1	TE102-2	TERM, TURRET	E1702
27	1	TE115-2	TERM, TURRET	E1701
28	1	TE149-120	TERM, LUG, SOLDER	
29	24"	BS100	SOLDER, TIN ALLOY	
30*	1	TP113R0-1/2	PUNCH, CHASSIS 1/2"	
31*	1	-	Drill Bit #40	
32*	1	-	" " 7/64"	
33*	1	-	" " 9/64"	
34*	1	-	" " 3/16"	
35*	1	-	" " 1/4"	
36	1	RC07GF104J	RES, FXD, COMP	R1703

* Items 30 thru 35 are supplied on each per station or one each per 10 kits for same station.

TABLE 2

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

IV. PROCEDURE:

A. PREPARATION

1. Refer to Tech Manual TM11-856A.

2. Remove the receiver from the rack & remove the top, bottom and RF Compartment covers.

B. REAR PANEL MODIFICATION

1. Refer to ID -420, Rear panel modification and Fig. 12 of TM11-856A.

2. Remove the four screws holding the antenna relay, K101, to the rear panel & bracket. Remove the relay from the panel to clear the area underneath. If the cabling is removed, observe the connections.

3. Mark the two A hole and four B hole locations. The AX746 Chassis can be used as a template for the B holes after locating the first hole. Drill the B holes with the #40 bit. Use a small bit & drill pilot holes for the A holes. Use the 1/4" bit and the 1/2" chassis punch for the A holes.

4. Cut and trim the label strip (LA120-2) and apply to the panel as shown in the installation drawing.

C. 17MHZ OSCILLATOR MODIFICATION.

1. Refer to ID -421, 17MHZ Osc. Mod. & TM11-856A Figs. 56, 58.
2. Remove the Calibration 1st Crystal Oscillator Crystal oven, HR202, from its socket. Plug the oven into the socket of the AX745, Adapter Assembly, with the oven hold down springs mounted in the holes provided in the cover. On the antenna Relay bracket there is a slot between the bracket and rear pan. Snake a piece of buss wire through this slot, under the camshafts of the RF section to the vicinity of the oven socket. Fasten the end of the buss wire to the wires from the adapter assembly and pull them under the cams and between the bracket and rear panel. Plug the assembly into the oven socket. Feed the end of the wires out through the SYNC XTAL OSC hole in the rear panel. Check to see that the operation of these tuning cams do not hit the wiring of the adapter.

3. On the 17MHZ tuning Assy, Ax746, remove the screws holding the printed circuit board to the chassis. The red wire and the Coaxial cable from the 17MHZ Adapter Assy fed out through the rear panel will be connected to the PC board. Cut and trim the wire and cable to as short a length as practical. Solder the Red wire to the terminal with the Red wire from J1105. Solder the Coaxial cable to the 17MHZ output terminal and the shield to the ground terminal. Remount the PC board to the chassis. Feed P1117, on the coaxial cable from J1103, VFO sample, through the hole in the rear panel of the R390. Mount the 17MHZ tuning Assy. to the rear panel using four 0632 self-tapping screws and lockwashers. Connect P1117 to the one side of CP1217, "T" connector. Remove P717 from J217 and connect it to the other side of CP1217. Connect CP1217 to J217.

4. Mount W1101 jack, J1101 to the rear panel. Route along the wiring harness toward the front of the receiver, around the crystal compartment to J415. Connect CP1415 to P1115 of W1101. Remove P215 from J415 and connect to CP1415. Connect CP1415 to J415.

D. VFO MODIFICATION

1. Remove the VFO Sub-chassis from the unit following the procedure in Paragraph 127 of TM11-856A. Remove the covers following the procedure in paragraph 130e.

2. Remove the rear hold down bracket from the can. Remove the three screws holding the outer cover. Slide the cover back. Do not pinch the wires entering through the cover. Remove the three screws holding the heater and inner cover. Slide the heater & cover back far enough to expose the top of the capacitors. Remove C702, C703 completely and replace C704 with C1704. Reassemble the can.

3. Remove the three screws holding the chassis cover and remove the cover. Refer to ID-422, VFO Modification & mark & drill the 3/16", 9/64" & 7/64" holes in the chassis.

4. Mount the grommet in the 3/16" hole. Mount E1701 into the 7/64" hole using the 3/16" 0256 screw & lockwasher. R1701 will be mounted between E1701 and the standoff on the chassis where R702 & a BRN/WHT wire is connected.

The resistor should be placed around the socket, XV701, on the side away from the oven. Estimate the length of the leads and cover them with the teflon tubing. Connect the resistor, do not solder the E1701 end. Connect C1701 between Pin 1 of XV701 and E1701. The body of the capacitor should be facing down toward the chassis. Do not solder the E1701 end. Connect R1702 between E1701 and the ground terminal on the chassis above and behind E1701. Solder E1701 connections. Mount E1702 in the 9/64" hole, with the ground lug underneath, using the 1/4" 0440 screw and lockwasher. Face the ground lug toward the inside of the chassis. Mount C1702 and R1703 between E1702 and ground. On E1702, use the lower portion of the terminal to connect the capacitor and the resistor. Do not solder. Feed W1701 through the cable clamp and the grommet. Trim the end as per the installation drawing. Connect the shield to ground and the center conductor to E1702 with C1702 and R1703. Solder the terminal. Connect CR1701 between E1701 and E1702 with the cathode end of the device toward E1701. Apply the minimum heat to solder the device. Use a pair of longnose pliers as a heat sink.

5. Replace the chassis cover. Replace the VFO assembly into the receiver. Mount J1104 of W1701 to the rear panel, routing the cable in a neat fashion. Check the calibration of the VFO following standard procedures.

E. COMPLETION.

1. Replace all covers and shields.

2. Apply the mode kit nameplate to the unit.

REVISION SHEET

THE TECHNICAL MATERIEL CORP.
MAMARONECK NEW YORK

S 1316
LIST NO.

DATE	REV.	SHEET	EMN #	DESCRIPTION	APP.
3/29/73	Ø			ORIGINAL RELEASE FOR PRODUCTION	
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TMC FORM MLR-1 2-65—AINS.