

DATE <b>2-27-69</b>	<b>TMC SPECIFICATION NO. S 1249</b>	Ø
SHEET <b>1</b> OF <b>3</b>		
F. L vi COMPILED	CHECKED	TITLE: <b>FFR-2 MODIFICATION KIT</b>
<b>CFM</b> APPROVED		<b>KIT-151-2 (Commercial)</b>

EQUIPMENT AFFECTED

FFR-2, Receiver Subassembly

PURPOSE

To improve receiver operation by increasing the beat frequency oscillator (BFO) injection voltage, relocating the automatic volume control (AVC) reference point from the second detector (V103) to the plate of the third intermediate frequency (IF) amplifier (V102), and decreasing the impedance of the BFO output jack (J104).

MATERIALS SUPPLIED IN KIT

Item No.

1. One each TMC No. CC 101-3 (Symbol C134); Capacitor, Fixed, Ceramic, 220 $\mu$ F.
2. One each TMC No. RG-58\*/U (CA-1) Coaxial Cable, 16" long.
3. One each TMC No. RC20GF333J (Symbol R114); Resistor, Fixed, Composition, 33K $\Omega$ , 1/2 watt.
4. One each 1/8 inch diameter drill bit.
5. One each TMC No. TE 0102-2; Terminal, Insulated.
6. One each TMC No. SCBS0440BN4; Screw, Machine, 4-40 Threads x 1/4 inch long.
7. One each TMC No. LWEO4MRN; Lockwasher, External Tooth, No. 4.
8. One each TMC No. LWC20(7)U96; Cable, Insulated, Stranded, White/Blue, Size 20, 6 inches long.
9. One each TMC No. CC21SL510J (Symbol C119); Capacitor, Fixed, Ceramic, 51 $\mu$ F.
10. One each TMC No. NP362, Nameplate.
11. One copy of TMC Modification Drawing No. IN-1054.

TOOLS REQUIRED (To be provided by installing activity.)

- Pliers, 6 inch longnose.
- Screwdriver, 5 inch.
- Pliers, 6 inch Diagonal Cutting.
- Soldering Iron, 35 watt (pencil type tip).

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TMC SPECIFICATION NO. S 1249

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F. Levi  
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KIT 151-2 (Commercial)

### PROCEDURE

NOTE: See TMC Modification Drawing No. IN-1054.

For unmodified FFR Bottom View of Chassis, see TMC IN-3004 "Technical Manual for Communications Receiver Model FFR" Figure 4-3.

#### Step No.

1. Unsolder and remove capacitor (symbol C119) from pins 2 and 7 of the Second Detector and AVC tube socket (XV103). Discard capacitor.
2. Unsolder and remove the white shielded lead connecting XV103, pin 2 and capacitor C144 on the BFO terminal board.
3. Unsolder and remove capacitor (symbol C134) from the BFO terminal board. Discard capacitor.
4. Add new capacitor (item 1) in place of C134 from C145 to ground terminal lug on the BFO terminal board.
5. Connect new coaxial cable (item 2) from green terminal of T103 to capacitor, C144, on BFO terminal board. Solder the shield of item 2 to any convenient ground lug on both ends of the cable.
6. Unsolder and remove existing 6,800 $\Omega$  resistor (symbol R114) from detector terminal board and replace with new resistor (item 3).
7. Drill a 1/8 inch dia. hole midway between socket, XV103, and transformer, T103, approximately 1/2 inch from the edge of the detector terminal board. Use drill bit (item 4).
8. Mount the insulated terminal (item 5) with the screw and washer (items 6 & 7) on the bottom side of the chassis.
9. Connect the new wire (item 8) from the new insulated terminal to the blue terminal of T103 (plate terminal).

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10. Connect the new capacitor (item 9) from pin 2 of XV103 to the insulated terminal. This capacitor replaces C119 (removed in step 1).
11. Re-Align the IF transformers and re-adjust C100 as per Section IV Paragraph 2A and page 4-2A of TMC Instruction Manual No. IN-3004.
12. Affix foil-cal nameplate (item 10) immediately below existing nameplate.

