DATE 12/8/1960 SH. 1 OF 4 COMPILED BY	TMC SPECIFICATION NO. S - 10073	
	TITLE:	JOB
APPROVED		

SQUELCH MODIFICATION INSTRUCTIONS

FFR

DATE 12/8/1960 SH. 2 OF 4 COMPILED BY	TMC SPECIFICATION NO. S - 10073	
	TITLE: SQUELCH MODIFICATION INSTRUCTIONS	JOB
APPROVED	(FFR)	

1. Remove 4-40 binder head screw securing turret terminal on C151.

2. Lift C151 from clip and reposition and lengthen ground lead if necessary by heating ground lug.

3. Using # 29 drill remove head of rivet holding C151 clip in place.

4. Fasten clip by means of 1/4 6-32 to rivet nut on rear apron insert external tooth lockwasher between clip and rivet nut.

5. Drill rear apron in line with rivet nut and 2 inches forward c/l of receiver. Use # 29 drill.

6. Redress cable and run purple lead to turret terminal reconnecting C151.

7. Using template locate for 6AB4 and nut strap.

8. Mount 7-pin miniature socket and nut strap - nut strap to face C128 and C120. Pins 1 & 7 to face rear of chassis. Use 4-40 bolts and external tooth lockwashers.

9. Drill front panel as per template securing template in place with adhesive tape. Drill all holes first with # 48 drill.
   Drill bracket holes with # 25 drill & countersink for flathead 6-32,
   Drill center hole with 1/4 drill
   Avoid scratching panel.

10. Disconnect cathode resistor 2.2K from ground.

11. Drill two # 29 drill holes for turret terminal, adjacent to pins 1 & 5 of V104. (9 pin miniature). Use 4-40 1/4 binder heads and external tooth washers.

12. Blow out chassis thoroughly.

DATE 12/8/1960 SH. 3 OF 4 COMPILED BY	TMC SPECIFICATION NO. S - 10073	
	TITLE: SQUELCH MODIFICATION INSTRUCTIONS	JOB
APPROVED	(FFR)	

WIRING:

1. Mount pot on bracket with terminals.

Length of leads	spaghetti 18 inches
Center of pot to grid.	conductor 20 inches
Top of pot to turret terminal adjacent to No. 1 of V104.	spaghetti 16 1/2 inches conductor 18 1/2 inches

2. Mount pot bracket on panel making sure other leads do not interfere.

3. Tie pot wiring at (1) ground lug at front and of BFO assembly.

2. Cable junction at T104 bottom.
3. Cable junction at T104 top.

4. Wiring of pot. Center of pot (long lead) goes to V110 pin 1, and ground on pin 2.

Outside of pot short lead goes to turret post adjac nt pin 1 of V104, and ground on nut strap.

5. Connect 100 K resistor between turret lug adjacent pin 1 of V104, to pin 1 of V104.

6. Reconnect R122 (2.2K) and yellow # 22 wire to turret lug adjacent to pin 5 of V104. Connect other end of yellow lead to pin 7 of V110. Yellow lead length 5 inches.

7. Mount 82 ohm 1/2 watt between pin 7 of V110 and nut strap ground.

8. From C120A connect red lead 2 1/2 inches to pin 6, V110. Also connect 47 K 1 watt between pins 6 and 5 of V110.

9. From pin 5 of V110 connect blue wire 2 inches to C 120B.

10. Disconnect and remove R123 (120K) on terminal board E4.

11. Run twisted brown and white pair # 22 wire from pins 3 (brown) 4 (white) (5 inches in lengtn) to pins 1 (brown) 3 (white) on J105.

DATE 12/8/1960 SH. 4 OF 4 COMPILED BY	TMC SPECIFICATION NO. S - 10073	
	TITLE: SQUELCH MODIFICATION INSTRUCTIONS	JOB
APPROVED	(FFR)	

12. Ground pin 2 to center of socket V110 to ground strap.

13. Connect C 1 .1 mfd. from pin 1 V110 to grounded connection of C128.

DATE 23/9/1963 SH. 1 OF 5 COMPILED BY LC/hh APPROVED	TMC SPECIFICATION NO. S - 10073-A	
	TITLE:	JOB

RECOMMENDED PROCEDURE

FOR

CONVERSION OF FFR-3 SQUELCH OPERATION

T. M. C. (CANADA) LIMITED

OTTAWA ONTARIO

DATE 23/9/63 SH. 2 OF 5 COMPILED BY LC/hh	TMC SPECIFICATION NO. S - 10073-A	
	TITLE: RECOMMENDED PROCEDURE FOR	JOB
APPROVED	CONVERSION OF FFR-3 TO SQUELCH OPERATION	

PRELIMINARY OPERATIONS

1. Remove the SCBP0440BN4 machine screw holding the turret terminal which supports C151. Do not disconnect C151, i.e., leave the turret terminal connected.

2. Remove C151 from its mounting clip. Do this carefully, as careless handling may damage the cardboard container resulting in failure of the capacitor.

3. Remove the screw holding the clip on the chassis. If a rivet is used instead of a screw, use a # 29 drill to remove the head of the rivet.

4. Replace the mounting clip on the rear apron next to J105 using an NT-129-632-4 swage type round nut. Be sure that enough clearance is provided on both the top and the bottom as well as the side facing the adjacent jack (J105). The centre of the mounting clip should be approx. 2 inches from J105. Place an LWE06MRN lockwasher between the clip and the swage nut.

5. Carefully swing C151 around so that it may be pushed into the mounting clip on the rear of the wraparound chassis. Should its lead to ground be too short, an extra length may be spliced into it. Insulate any resulting joints with sleeving.

6. Drill a hole in the rear of the wraparound chassis with a # 29 drill 2 inches to the right of the C151 mounting clip. Mount the turret terminal, to which C151 is connected, in this hole using an SCBP0440BN4 machine screw and an LWE04MRN external lockwasher. Push the capacitor into its clip. Redress the cable harness containing the lead going to the turret terminal supporting C151.

7. Use the template to locate the mounting holes for V110. This socket will be located in the previous location of C151.

8. Mount the 7 pin miniature tube socket, TS-102-P01 in position for V110. Use the nutstrap, NT-101-4, which should be facing C120 and C128; pins 1 and 7 of the tube socket should face the rear of the chassis.

9. Drill the front panel as per template, first securing template with adhesive tape. Drill all holes with a # 48 drill first. Drill bracket mounting holes with a # 25 drill; Drill centre hole with a 1/4" drill.

10. Locate R122 from pin 7 of V104 to the ground lug. Disconnect it from the ground lug at V104 and connect it to the ground strap of V105.

11. Drill two # 29 holes adjacent to pins 1 and 5 of V104, respectively. Mount a turret terminal, TE-102-2, in each hole using the previously described hardware.

12. Mount a turret terminal, TE-102-2, immediately next to the mounting stud of C120 between C120 and V110, in the previously described manner.

13. Mount a turret terminal, TE-102-2, between C120 and the adjacent terminal board in the previously described manner.

14. Mount a turret terminal, TE-102-2, 1 1/2" from, and in line with the turret terminal holding C151.

15. Mount potentiometer R155 on the mounting bracket in such a way that when the assembly is correctly positioned on the front panel, the solder terminals will be pointing down. Do not install on the front panel yet.

WIRING

1. To the right hand terminal of R155 (terminals pointed up) connect a length of wire 5" long with black insulation. To the centre terminal connect a length of wire 20" long with yellow insulation. To the left hand terminal connect a length of wire 20" long with orange insulation. Mount the assembly on the front panel.

2. Connect R155 as follows; Connect the black lead to the ground lug beside crystal socket Y100 in the BFO section. Connect the yellow lead to pin 7 of V110. Connect the remaining orange lead to the turret terminal on rear of the wraparound chassis located 1 1/2" from the turret terminal supporting C151.

TMC SPECIFICATION NO. S - 10073-A

TITLE: RECOMMENDED PROCEDURE FOR CONVERSION OF FFR-3 SQUELCH OPERATION

JOB

3. Between the turret terminal supporting C151 and the turret terminal located 1 1/2" from it, connect R156. (1, 000 ohms, 1 watt)

4. Connect a green lead between pin 6 V110 and the turret terminal located between C120 and the terminal board.

5. From the turret terminal located between C120 and the terminal board, connect the following; C161 (. 01 mfd) to the ground lug on the adjacent terminal board; R157 (1 megohm, 1/2 watt) to the junction of C121 and C122 on the same terminal board.

6. From pins 3 and 4 of V110 connect two brown leads twisted together to pins 1 and 3 of J105.

7. From the turret terminal located between V110 and C120 connect the following; to pin 1 V110 R153-2. 2 megohms 1/2 watt; to the ground lug adjacent to C128 R152-10, 000 ohms 1 watt; to C120A R151-270, 000 ohms 1 watt.

8. From pin 1 V110 connect a blue lead to pin 1 V104.

9. From pin 1 V104 connect R160 (2. 2 megohms) to the turret terminal adjacent to pin 5 V104.

10. From the turret terminal adjacent to pin 5 V104 connect the following; to pin 8 V104 R158 (470, 000 ohms); to the ground lug adjacent to V105 C160 (. 1 mfd.).

11. Disconnect the lead at pin 8 of V104 (from Audio Gain) and reconnect it to the turret terminal adjacent to pin 1 V104. From this same turret terminal connect C159 (. 01 mfd.) to pin 8 V104.

12. From pin 7 V104, connect R159 (68, 000 ohms 1 watt) to the right side (looking from socket side) of L102.

13. From the junction of R159 and L102 connect an orange lead to C120B.

14. Connect buss wire from pin 2 V110 to the ground lug via the centre post of the tube socket.

15. Disconnect and remove R123 from the circuit.

16. Disconnect and remove C127 from the circuit.

17. Disconnect and remove C125 from the circuit. Replace it with a 0.005 mfd. ceramic capacitor.

18. Disconnect and remove C126. (NOTE: NOT USED ON LATER MODELS)

FINAL WIRING CHECK

19. Check the following voltages-no signal, 6AB4 and 6T8 removed, R155 fully clockwise, RF and AF gain controls fully clockwise.

Allowable deviation ± 20%

V110 pin 1	5.2 volts
V110 pin 6	-.63 volts
V110 pin 7	-34 volts
V104 pin 1	5.2 volts
V104 pin 7	6.0 volts
V104 pin 8	5.0 volts

20. Remove the stamping from C120 and C128 and relocate on opposite side of capacitor.

21. Stamp V110 and 6AB4 beside the tube socket on the bottom of the chassis.

REVISION SHEET TMC (CANADA) LIMITED OTTAWA ONTARIO | S-10073

MODEL FFR-3 Squelch PROJECT NO. _____

DATE	REV.	PAGE	ITEM	DESCRIPTION	REMARKS	CHK.	APP.
23/9/63	A			Complete Revision		LC/hh	