

# TMC SPECIFICATION

NO. S 1117

REV:

ø A

COMPILED: CL

CHECKED:

APPD:



SHEET 1 OF 5

TITLE:

typed by vab

7/9/66

SPECIFICATIONS

FOR THE

KIT-298-2

# TMC SPECIFICATION

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I. This modification affects the receiver module TTRR-2. It involves changes to the 1st, 2nd, 3rd RF, and mixer sections.

## II. LIST OF MATERIALS SUPPLIED:

<u>ITEM NO.</u>	<u>SYMBOL</u>	<u>QTY</u>	<u>TMC PART NO.</u>	<u>DESCRIPTION</u>
1	R201, R202, R203	3	RC20GF103J	RESISTOR
2	C228	1	CM20B561J	CAPACITOR
3	C232	1	CM112F202G3S	CAPACITOR
4	C204, C205, C206	3	CC100-33	CAPACITOR
5	DELETED			
6		1	NP-362-73	NAME PLATE
7		1	CK684	SCHEMATIC
8	R219, R220, R221	3	RC20GF471J	RESISTORS
9	R218	1	RC20GF473J	RESISTOR

## III. MODIFICATION INSTRUCTIONS

### A. PREPARING THE UNIT FOR THE MODIFICATIONS:

1. Turn the power OFF.
2. Remove the module from the receiver.
3. Remove the top and bottom covers.
4. Unsolder L207, R201, R202, R203, C228, C204, C205 and C206.
5. Unsolder terminations of C201, C202 and C203 which connect to bases of their respective transistors.

### B. CHANGES ON THE MODULE:

1. Mount the three 10K ohms resistors, Item 1, in place of R201, R202 and R203. Solder them.
2. Mount the 560 <sup>capacitor</sup> pf, Item 2, in place of C228. Solder it.
3. Mount 2000 pf, Item 3, in place of L207. Solder it.
4. On the underside, (printed circuit side), of the board, connect R218, Item 9, between the COLLECTOR of Q201 transistor, and the junction of C202 and T202. Solder in place.

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5. Mount the three .2 mf, Item 4, in place of C204, C205 and C206. Solder them.
6. Solder resistors, Item 8, R219, R220 and R221, between unsoldered capacitor leads C201, C202 and C203 (see step III A 5 above) and terminal to base of transistors Q201, Q202 and Q203 respectively.
7. Mount the bottom cover, and plug the module in the receiver for alignment.

C. MODULE ALIGNMENT:

a. TEST EQUIPMENT REQUIRED

1. HP Model 524C Frequency Counter or equivalent.
2. HP Model 606A RF Signal Generator or equivalent.
3. Tektronic Model 545 Oscilloscope or equivalent.
4. Simpson Model 260 VOM or equivalent.

b. PROCEDURE

1. Using the oscilloscope, measure signal level at TP2; level should be approximately .3 volts peak-to-peak.
2. Using the frequency counter, check frequency of signal at TP2; signal should be approximately 1.75 MC above operating frequency of TTRR (F1 or F2, dependent upon setting of F1/F2 switch). If this signal is not obtained, check circuitry of local oscillator and buffer/doubler.
3. Remove local oscillator crystal Y201 and Y202. Connect RF signal generator to Antenna Jack of receiver; adjust generator to deliver TTRR operating frequency (F1 or F2). Connect oscilloscope to stator of adjustment A capacitor C216.

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4. Adjust screw A on TTRR for maximum amplitude on oscilloscope.
5. Connect oscilloscope to stator of adjustment B capacitor C217. Adjust screw A for maximum amplitude on oscilloscope, then adjust screw B for maximum amplitude.
6. Connect oscilloscope to stator of adjustment C capacitor C218. Adjust screw A for maximum amplitude on oscilloscope; readjust screw B for maximum amplitude, then adjust screw C for maximum amplitude on oscilloscope.
7. Connect oscilloscope to stator of adjustment D capacitor C219. Readjust screws A, B and C (in that order). Adjust screw D for maximum amplitude on oscilloscope.
8. Connect oscilloscope to TP1 (mixer input), and set generator output at 1 microvolt.
9. Readjust screws A thru D (in that order) for maximum amplitude on oscilloscope.
10. Insert local oscillator crystal (or crystal oven), and allow 30 minutes for the crystal to warm up.
11. Connect oscilloscope to TP3, then adjust screw E for maximum amplitude on oscilloscope.
12. Replace top cover of TTRR-2.
13. Connect oscilloscope to the IF input of the IF board in the receiver (terminal #1) and readjust screws A thru E. (in that order) for maximum amplitude on oscilloscope.
14. Disconnect test equipment and *affix adhesive nameplate, Item 6, to top cover of TTRR.*

