

TMC SPECIFICATION

NO. S 1118

REV: \emptyset A

COMPILED: CL

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APPD: *[Signature]*

SHEET 1 OF 5

TITLE:

Typed by mtp

SPECIFICATIONS

for

KIT-298-1

TMC SPECIFICATION

NO. S 1118

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SHEET 2 OF 5

TITLE: SPECIFICATIONS FOR KIT-298-1

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I. This modification affects the receiver module TTRR-1. 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	R101, R102, R103	3	RC20GF103J	Resistor
2	C130	1	CM20B561J	Capacitor
3	C132	1	CM111F151J5S	Capacitor
4	C104, C105, C106	3	CC100-33	Capacitor
5	Deleted			
6		1	NP-362-72	Name Plate
7		1	CK683	Schematic
8	R119, R120, R121	3	RC20GF471J	Resistors
9	R118	1	RC20GF473J	Resistors

III. MODIFICATION INSTRUCTIONS

A. Preparing the Unit for Modifications

1. Turn the power OFF.
2. Remove the module from the receiver.
3. Remove top and bottom covers.
4. Unsolder L107, R101, R102, R103, C130, C104, C105, and C106.
5. Unsolder terminations of C101, C102, C103 which connect to the base of their respective transistors.

B. Changes on the Module

1. Mount the three 10K ohm resistors, Item 1, in place of R101, R102 and R103. Solder them.
2. Mount the 560 pf capacitor, Item 2, in place of ~~C130~~. Solder it.
3. Mount 150 pf capacitor, Item 3, in place of L107. Solder it.

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III. B. Changes on Module - Cont'd

4. Solder resistors, item B, between the unsoldered capacitor leads C101, C102, C103 (See step III A5 above) and terminal at base of transistors Q101, Q102, and Q103 respectively.
5. Mount the three .2 mf capacitors, Item 4, in place of C104, C105 and C106. Solder them.
6. Mount item 9, R118, on the underside (printed circuit side) from collector of Q101 to junction of C102 and T102. Solder them.
7. Mount the bottom cover, and plug the module into the receiver for alignment.

C. Module Alignment

1. Test Equipment Required:

- a) HP Model 524C Frequency Counter, or equivalent.
- b) HP Model 606A RF Signal Generator, or equivalent.
- c) Tektronix Model 545 Oscilloscope, or equivalent.
- d) Simpson Model 260 VOM, or equivalent.

2. Procedure:

- a) Using the oscilloscope, measure signal level at TP2. Level should be approximately .3 volts peak-to-peak.
- b) 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.
- c) Remove local oscillator crystal Y101 and Y102. 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 C116.
- d) Adjust screw "A" on TTRR for maximum amplitude on oscilloscope.
- e) Connect oscilloscope to stator of adjustment "B" capacitor C117. Adjust screw "A" for maximum amplitude on oscilloscope, then adjust screw "B" for maximum amplitude.

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III. C. Module Alignment - Cont'd

2. f) Connect oscilloscope to stator of adjustment "C" capacitor C118. Adjust screw "A" for maximum amplitude on oscilloscope. Readjust screw "B" for maximum amplitude, then adjust screw "C" for maximum amplitude on oscilloscope.
- g) Connect oscilloscope to stator of adjustment "D" capacitor. Readjust screws "A", "B" and "C" (in that order). Adjust screw "D" for maximum amplitude on oscilloscope.
- h) Connect oscilloscope to TP1 (mixer input), and set generator output at 1 microvolt.
- i) Readjust screws "A" thru "D" (in that order) for maximum amplitude on oscilloscope.
- j) Insert local oscillator crystal (or crystal oven), and allow 30 minutes for the crystal to warm up.
- k) Connect oscilloscope to TP3, then adjust screw "E" for maximum amplitude on oscilloscope.
- l) Replace top cover of TTRR-1.
- m) 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.
- n) Disconnect test equipment and install TTRR in receiver.
- o) *Affix adhesive nameplate, Item 6, to top cover of the TTRR-1*

