

DATE 6/10/64

SHEET 1 OF 4

TMC SPECIFICATION NO. S- 626

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MQB
COMPILED

REV G
7-29-64
CHECKED

TITLE: ALIGNMENT PROCEDURE, 250 KC & 205 KC PLUG-IN IF STRIP

RAC
APPROVED

A-Items required for alignment in the main chassis:

1. Signal generator model 82 or equivalent.

NOTE #1; If the output impedance of the generator used is 72 ohms, a 72 ohm to 50 ohm pad must be used.

2. Ballantine 314 or AC VTVM.

3. Cable terminated with 47 ohm resistor. (see illustration).

B. Items required for alignment out of the chassis:

1. Items 1,2 and 3 of part A.

2. 200 VDC regulated and 6.3 VAC power supply.

3. TMC socket, type JJ216, connected to power supply. (see illustration)

C. General step by step alignment:

1. Turn all slugs out.

2. Ground AVC bus on TB101 at R102 lug near lettering.

3. Connect signal generator to pin 1 of V102.

4. Adjust signal generator to 250KC, (or 205KC depending on Freq. of strip) For alignment of 1, 6, and 15KC symmetrical IF Strips and to center of Bandpass for sideband IF strips.

5. Connect 47 ohm terminated cable to J102 and AC VTVM to this cable.

6. Connect power plug (JJ216) to IF strip under test.

7. Turn power on. WARNING this voltage is lethal and should be treated as such.

8. Adjust signal generator as needed, while peaking T103 tuning core on top of can, to produce 1 volt output. Tighten locknut.

9. Connect AC VTVM to pin 5 of V101. Connect signal generator to pin 1 of V101.

10. Temporarily place a short jumper from the green dot of T102 to ground. Peak top tuning core of T102. Reducing signal generator output to maintain 1 volt out.

11. Remove jumper and adjust bottom tuning core of T102 for minimum indicator reading. Tighten locknut. (see note #3)

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12. Connect signal generator to RF input of JJ216 (see illustration)

NOTE #2; When unit is aligned in the main chassis, connect output of signal generator directly into J6208.

NOTE #3; When aligning a unit other than the 15KC symmetrical IF strip, omit steps 12 through 15 of part C. When alignment takes place in the main chassis, the IF strip to be aligned must correspond with both band-width selector switches on the front panel.

13. Reconnect AC VTVM to brown dot of T101.

14. Temporarily place a short jumper from the green dot of T101 to ground.

15. Adjust signal generator output as needed, to maintain a 1 volt output, while peaking top tuning core of T101, tighten lock nut.

16. Tune bottom core of T101 for minimum output as read on AC VTVM. Tighten lock nut.

17. Connect AC VTVM to terminated cable.

18. Adjust signal generator for a 5 millivolt output.

19. Check bandwidth at 3db points of each IF strip, the readings obtained on the AC VTVM must be as follows:

A. USB and LSB

1. Inner 3db frequency to be within 250 cycles of carrier.
2. Outer 3db frequency to be at least the bandwidth designation of filter.

B. Symmetrical:

1. 1KC 3db points, at 250KC, ± 500 -CPS
2. 6KC 3db points, at 250KC, ± 3000 CPS
3. 15KC 3db points, at 250KC, ± 7500 CPS

NOTE: For the 205KC IF, this Freq. would be 205KC.

C. IUSB and ILSB

- USED FOR 250 KC IF {
1. 2.775 KC, IUSB-inner 3db point at 250,250 or less
outer 3db point at 253,025 or greater
 2. 2.775KC ILSB-inner 3db point at 249,750 or greater
outer 3db point at 246,975 or less
- USED FOR 205KC IF {
3. 2.775KC, IUSB - inner 3db point at 255,250 or less.
outer 3db point at 207,775 or greater.
 4. 2.775KC, ILSB - inner 3db point at 204,705 or greater.
outer 3db point at 201,975 or less.

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- D. OUSB and OLSB
- | | | |
|-------------------|---|---|
| USED FOR 250KC IF | } | 1. 2.775KC, OUSB-inner 3db point at 256,040 or greater |
| | | outer 3db point at 253,265 or less |
| | } | 2. 2.775KC, OLSB-inner 3db point at 243,960 or less |
| | | outer 3db point at 246,735 or greater |
| USED FOR 205KC IF | } | 3. 2.775KC, OUSB-inner 3db point at 211,040 or greater. |
| | | outer 3db point at 208,265 or less |
| | } | 4. 2.775KC, OLSB-inner 3db point at 198,960 or less |
| | | outer 3db point at 201,735 or greater |
20. Remove jumper from R102 and adjust R116 to approximately mid position.
21. A. Set signal generator for 250KC when aligning symmetrical strips described in step 18, part B. (NOTE: 205KC when aligning the 205KC IF.)
- B. Set signal generator for the center of the bandpass frequency when aligning sideband strips described in step 18, parts A, C and D.
22. Adjust the slug on the top of L101 to obtain a minimum reading on the AC VTVM connected to the 47 ohm terminated cable.
23. A. Adjust R116 for an output of 1 volt on the AC VTVM for strips described in step 18, parts A and B.
- B. Adjust R116 for an output of 0.2 volts on the AC VTVM for strips described in step 18, parts C and D.

This completes the alignment of the IF strip.

DATE 12-4-61

SHEET 4 OF 4

TMC SPECIFICATION NO. S-626

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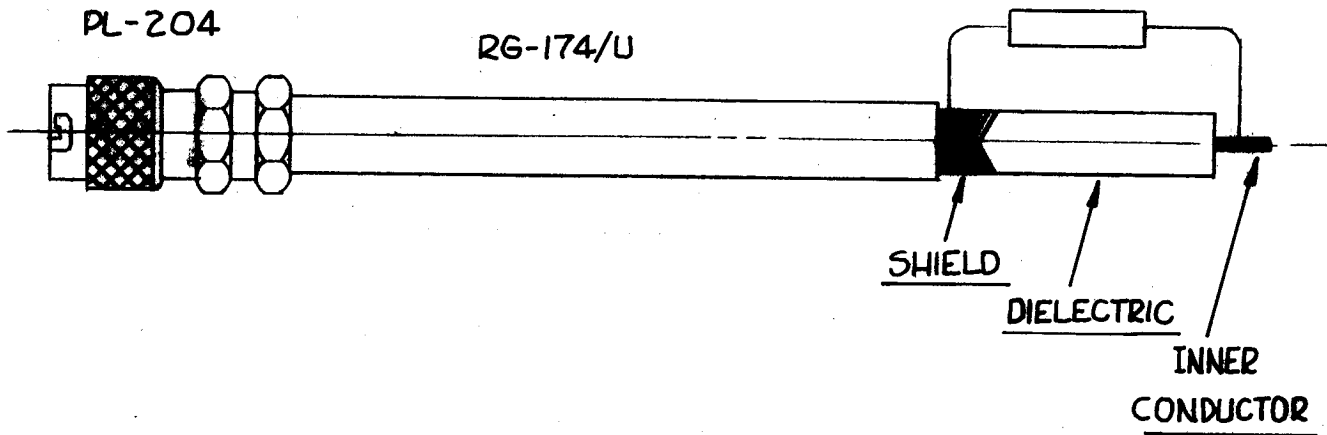
TITLE: ALIGNMENT PROCEDURE, 250KC & 205KC PLUG-IN IF STRIP

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APPROVED

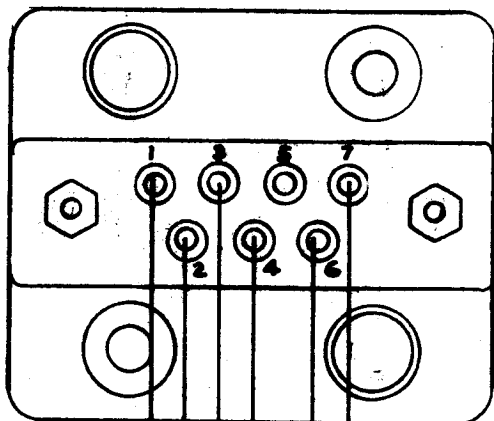
TMC PART NO.
PL-204

RG-174/U

47 Ω RESISTOR



TMC PART NO.
JJ-216



B+
200
VDC

RF
INPUT

FILAMENT
6.3VAC

GROUND

GROUND

