

Engineering Department
Radiomarine Corporation of America

AR-8506-B - RF ALIGNMENT CHART

Step	Connect Test osc. to.	Tune Test osc. to.	Turn Receiver Dial to.	Adjust the following for Max. output.
1	A1 thru 400 ohms or I.R.E. STD. Dummy Antenna. Ground A2.	24.0 mc	24 mc-Band 5	C-114 osc. C-110 RF (Rock Gang) C-106 Ant.
2	Same as Step 1	12.0 mc	12.0 mc-Band 5	Core Adj. Z-112
3	Repeat Step 1			
4	Same as Step 1	12 mc	12 mc - Band 4	C-113 osc. C-109 RF C-105 Ant.
5	Same as Step 1	5.5 mc	5.5 mc-Band 4	Core Adj. Z-111
6	Repeat Step 4			
7	Same as Step 1	5.0 mc	5.0 mc-Band 3	C-112 osc. C-108 RF C-104 ant.
8	Same as Step 1	2.0 mc	2.0 mc-Band 3	Core Adj. Z-110
9	Repeat Step 7			
10	A1 thru 200 μ f or I.R.E. STD. Dummy Antenna. <u>Do not Ground A2</u>	500 Kc	500 Kc-Band 2	C-111 osc. C-107 RF C-103 ant.
11	Same as Step 10	220 Kc	220 Kc-Band 2	Core Adj. Z-109
12	Repeat Steps 10 and 11 several times if necessary until "interlocking" is negligible.			
13	Same as Step 10	200 Kc	200 Kc-Band 1	C-164 osc. C-163 RF C-162 ant.
14	Same as Step 10	85 Kc	85 Kc-Band 1	Core Adj. Z-121
15	Repeat Steps 13 and 14 several times if necessary until "interlocking" is negligible.			

NOTES:

- 1 - All R.F. trimmer adjustments are beneath the chassis.
- 2 - All Oscillator iron core adjustments are above the chassis.
- 3 - Check pointer zero setting. Pointer should coincide with horizontal line at low frequency end of dial.
- 4 - Set "Band Spread" pointer to zero (mid-scale) position before proceeding with alignment.
- 5 - See reverse side for IF alignment instructions

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Power Supply

When operated from 115 V DC, care must be taken to see that the positive side of the line is not grounded. Either the mid-point or the negative side of the line should be grounded. When operated from 115 V 60 cycles AC, either side of the line may be grounded. In this case, the polarity should be tested both ways, and that connection chosen which gives the least hum in the receiver output. Connect the proper power supply to the RM-8 "line" terminals and insert the "lock in" type plug into the receptacle at the rear of the AR-8506-B chassis.

NOTE: Make a good ground connection to the receiver chassis before turning on the power switch to avoid accidental shock due to filter condenser charging current.

Connect an output meter such as G.R. #483-F, and a 600 ohm resistor in parallel across a phone plug and insert in receiver phone jack. Plug in a pair of RMCA 3000 ohm DC phones in the other jack for listening purposes. Advance RF and AF gain controls to maximum. The loudspeaker should be turned off during routine alignment and test, being operated only when checking operation of associated circuits.

IF Alignment: Connect the signal generator through a suitable blocking condenser (100 mmf. or larger) to the grid of the third IF amplifier tube (pin #4 with green lead) and feed in a strong 1700 KC modulated signal. Adjust both condensers on the last IF transformer (#12569) for maximum.

Advance the S.G. lead to the 2nd IF grid (pin #4-green lead) and adjust the third IF trimmers (#12568 transformer nearest rear of chassis) using less input from generator.

Repeat this procedure with signal introduced at 1st IF grid, being careful to avoid short circuiting nearby power supply leads, and using still less input.

The mixer grid is reached only by removal of the oscillator coil shield cover beneath the chassis or by looping a piece of wire around the grid pin (#4) of the mixer tube itself. The 1st IF transformer may be adjusted by introducing a stronger signal at the A₁ antenna terminal with A₂ grounded and with the band switch on 3, 4 or 5. Peaking of all IF transformers should be rechecked at this point to overcome any slight regeneration which may be present.

BFO Adjustment: Turn on the BFO panel switch and adjust the knob, and if necessary, the auxiliary trimmer, on #12600 BFO transformer to give a suitable beat note. Modulation should be removed from the signal generator during this adjustment.

Wave Trap Alignment: With the modulated 1700 KC signal present, adjust the iron core of the IF trap for minimum output. This is located beneath and at the rear of the chassis.

25L6 grid	0.6 volts-RMS-400 cycles	Third IF grid	- 2000 - 4000 uv
6SQ7 "	.015 " " " "	Second IF grid	- 400 - 600 uv
		First IF grid	- 50 - 200 uv
<u>Output:</u>	6MW (1.9 volts - 600 ohms)	Mixer grid	- 10 - 30 uv