

ARVIN RADIO

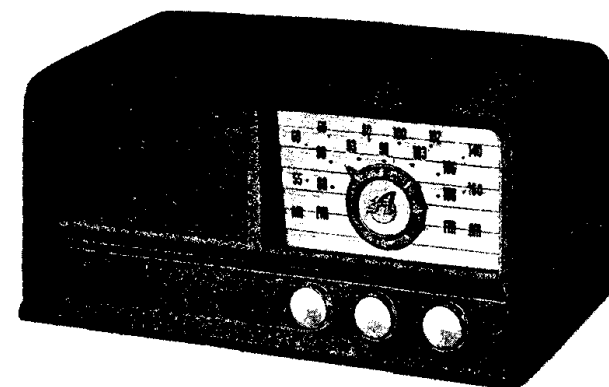
ARVIN RADIO, MODEL 580TFM

CHASSIS RE-313, 8 TUBE AC, AM-FM

The circuit on this page is exact for Model 580TFM, Chassis RE-313, while Chassis RE-310, used in Models 582CFB and 582CFM, has an extra position on SW.1 for phono switching and required additional wiring.

TECHNICAL INFORMATION

- AM** Tuning range — 540 Kc. to 1600 Kc. **Intermediate Frequency** 455 Kc. I. F. and R. F. measurements made at 500 milliwatts output — approximately 1.27 volts on a receiver type voltmeter connected across speaker voice coil. Approximate input for 500 MW output: I. F. 300 uv; R. F. with standard loop: at 600 Kc. 1200 uv/m; at 1000 Kc. 900 uv/m; at 1400 Kc. 800 uv/m.
- FM** Tuning range — 88 megacycles to 108 megacycles. **Intermediate frequency** 10.7 megacycles .I.F. and R.F. measurements made at 500 milliwatts output — approximately 1.27 volts on a rectifier type voltmeter connected across speaker voice coil. Approximate input for 500 MW output: I. F. 300 uv; R. F. "Absolute Measurements": 91 megacycles 100 uv; 105 megacycles, 100 uv.



ARVIN RADIO

Models 580TFM, 582CFM, and 582CFB,
Chassis RE-310 and RE-313, continued.

ALIGNMENT PROCEDURE

Output meter connection Across speaker voice coil
Output meter reading to indicate 500 MW 1.27 volts
Generator Modulation 30%, 400 cycles
Position of volume control Fully clockwise

Set dial pointer Horizontal, variable condenser closed
Set band switch To left for AM alignment, right for FM alignment

AM ALIGNMENT

Position of Variable	Generator Frequency	Dummy Ant.	Generator Connection (high)	Generator Connection Ground Lead	Adjust Trimmers In Order Shown For Max. Output	Trimmer Function
Open	455 Kc	.05 mfd.	Mixer Grid	Chassis	A1, A2, A3, A4,	I. F.
Open	1650 Kc		*Test Loop	Test Loop	A5	Oscillator
1400 Kc	1400 Kc		*Test Loop	Test Loop	A6	Antenna
**600 Kc	600 Kc		*Test Loop	Test Loop	Check Point	Antenna

* Connect generator lead to Standard Hazeltine Test Loop, Model 1150, placed two feet from the set loop, or three turns of wire about six inches in diameter, placed about one foot from the set loop. Or the generator can be connected with the high side lead to the AM antenna screw terminal and the ground lead to the chassis.

**With a generator signal of 600 Kc, tune the set to the point where maximum output is obtained, which should be approximately 600 Kc on the dial. Adjust antenna section plates of variable for maximum output. The alignment procedure should be repeated in the original order for greatest accuracy.

Always keep the output from the signal generator at its lowest possible value to make the A. V. C. action of the receiver ineffective.

FM ALIGNMENT

1. Turn band switch to FM, (right).

2. Connect (FM) I. F. generator to the second 6BA6 I. F. amp. grid, (lug No. 1) through a .01 uf mica dummy. Connect oscilloscope across volume control. With the I. F. generator tuned to 10.7 mc with 150 Kc deviation, and the same audio voltage used as horizontal sweep on the scope that is used to modulate the generator, adjust the ratio detector transformer slugs A7-A8 for the characteristic "S" curve (See Fig. 1), with maximum vertical height on the scope. After this adjustment the top slug of the ratio detector should not be moved during the rest of the alignment.

3. Connect I. F. generator to mixer grid through .01 mica dummy. Using 23 Kc deviation at 10.7 Mc, adjust for maximum output. Maximum output may be indicated by maximum vertical height on the scope or maximum voltage on a standard output meter across the voice coil of the receiver. After the two I. F. transformers have been aligned the bottom slug A8 of the ratio detector should also be peaked.

The characteristic "S" curve of the complete I. F. channel should be checked by applying a 10.7 Mc signal with 150 Kc deviation to the mixer grid and observing the "S" curve on the scope. It should not be very much different from that observed in step 2.

Connect R. F. (FM) generator (88 to 108Mc) to the antenna terminals through the standard 300 ohm dummy (150 ohm in each side of generator leads).

Use R. F. generator with 23 Kc deviation. With the variable condenser completely open and Signal Generator tuned to 108.5 Mc adjust oscillator trimmer A12 (small ceramic trimmer) for maximum reading on output meter.

Then tune receiver to low end of band (variable completely closed) and Signal Generator to 87.5 Mc. If the receiver does not tune to this frequency the FM oscillator coil L4 will either have to be squeezed together or lengthened to cover the band, (squeezing lowers and lengthening raises the frequency). Any change in the coil will have to be completed by the trimmer at the high end of the band.

5. With the same Signal Generator connections as per paragraph 4 tune Signal Generator and set to 105 Mc. Tune R. F. trimmer A13 for maximum output at the same time rock variable back and forth through the frequency. (Rocking is necessary because slight oscillator pulling causes erroneous maximum readings).

Tune Signal Generator and set to 90 Mc. Adjust R. F. coil L3 length for maximum output by squeezing or lengthening. Any change in the coil will have to be compensated at 105 Mc by the R. F. trimmer A13.

6. After Steps 4 and 5 are finished check calibration and band coverage. Steps 4 and 5 may have to be repeated if set is off calibration. Band coverage should be 87.5 Mc to 108.5 Mc. Sensitivity should be approximately 100 uv at 105 Mc, 98 Mc and 90 Mc.

