Models 56, 56A

Portable Multi-Wave Receivers

The Model 56 Receiver can be identified with the Model 52 for practically all service purposes. The models are similar electrically, therefore the socket voltage and current readings, resistance analysis, excepting for one change, and D.C. resistance of coils can be used from the readings given in the Model 52, Bulletin No. 15.

One of the changes consists in the removal of the second detector grid filter resistor R-8 in the schematic diagram of Fig. 3 on page 6 of Bulletin No. 15. Also the A.V.C. resistors, which in the 52 were not attached to a strip, have been assembled into a compact panel unit which facilitates both mounting and servicing. A new dial has also been supplied for the Model 56 to provide for changes in the range due to coil alterations. The ordinary broadcast position, with the wave change switch pushed in, gave a range from .54 to 1.76 megacycles on the Model 52 but the Model 56 range is from .54 to 1.72 megacycles. The short wave range is also changed, reading now on the Model 56 from 2.23 to 6.2 megacycles, as compared to 2.35 to 6.4 megacycles on the Model 52. It should be carefully noted that in view of the change mentioned above the dial scales of both models are not interchangeable. The code number of the Model 52 dial scale assembly is K-1074-2, while the dial scale assembly for the Model 56 is coded as K-1074-3. As in the case of the Model 52 Receiver, the Model 56 is designed for 60 cycles while the 56-A operates on both 25 and 60 cycles.

REALIGNING:—The details for realigning as given on page 11 of this Bulletin, should be followed for realigning the Model 56. The line sketch on page 12 depicts the same trimming condenser layout as in the Model 56.

CHANGE IN POINT-TO-POINT RESISTANCE READINGS:—Second Detector A.V.C. and First A.F., Type 2B7:
—No. one Diode Plate to Cathode—500,000 ohms.

IMPORTANT NOTE:—In any case where a set has become inoperative on the high frequency end below three megacycles from no apparent reason—that is, where resistance or socket voltage and current readings indicate a normal condition—the type 2-A-7 first detector and oscillator tube should be replaced with another. If this corrects the trouble but it recurs again within a short space of time, the oscillator grid leak resistor R-2 on Fig. 1 in Bulletin No. 18, and at present valued at 25,000 ohms, may be changed to one of 40,000 ohms, which will have the effect of making the circuit operative with wide variations in the characteristics of type 2-A-7 tubes.

REPLACEMENT PART PRICE LIST CHANGES

RESISTORS (Additions to List)

K-1147-5	Resistor; 100,000 ohms; ⅓ watt.....
K-1147-4	Resistor: 25,000 ohms; ⅓ watt.....
K-1147-6	Resistor; 500,000 ohms; ⅓ watt.....

COILS

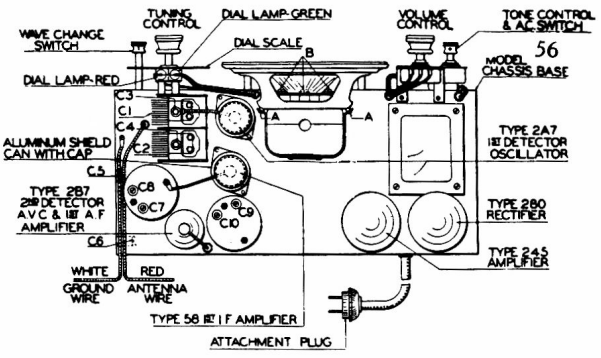
K-1064-2	Oscillator & I.F. coil assembly.....
K-1004-3	Second I.F. Transformer complete with trimmers.....

MISCELLANEOUS

K-1209-2	Metal knob (switch & tone control).....
K-1210	Wooden knob (tuning & volume control)..
K-1211-2	Set screws for metal knobs.....
K-1211-4	Set screws for wooden knobs.....
K-1074-3	Dial scale assembly.....
K-1117-1	Felt Feet (with screw).....

For piece part numbers and prices of all other parts used in the Model 56 Receiver refer to the Replacement Parts Price List on page 8 of Bulletin No. 15 describing the Model 52 Receiver.

Note: K-1117-1 can also be used for Models 50 and 52. For the Model 51 use K-1117-2



Chassis Layout—Model 56

SOCKET VOLTAGE AND CURRENT READINGS

The following readings were taken with a Weston Type 665 Selective Analyser together with the 666 Selector units concerned The line pressure was 112 volts, 60 cycles frequency. The Volume Control was turned to maximum and the tone control to treble for all readings.

Tube	Position	Filament	Plate	Screen	Control Grid or "C" Bias	Cathode	Plate Current	
							Normal Bias	Reduced Bias
2-A-7	Autodyne Detector Oscillator	2.2	(1) (2) 175	90	* .5	2.7	3.8	5.1
58	I.F. Amplifier	2.2	255	90	3.0	3.0	6.5	14.0
2-B-7	2nd Detector A.V.C. and first A.F. Amplifier	2.2	(3) (4) *65	42	.1	3.5	.65	1.1
45	Power Amplifier	2.2	235	—	*38	..	28	34
80	Power Rectifier	4.4	A.C. Plate to Plate 660 Volts				One Plate 28	

* Varies due resistance of meter.

(1) No. 3 Grid to cathode equals 180 volts.

(2) No. 2 Grid to cathode equals 12.5 volts.

(3) No. 1 Diode Plate to cathode equals —.6 volt.

(4) No. 2 Diode Plate to cathode equals —.2 volt.

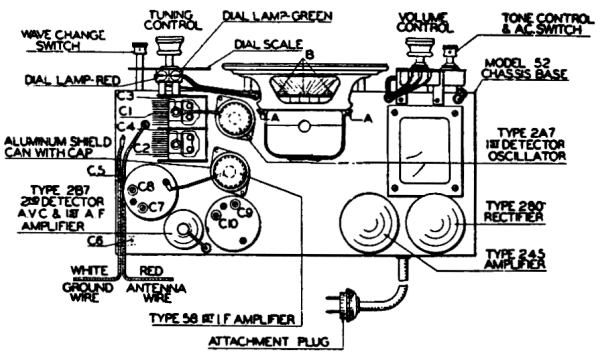
REALIGNING DETAILS

In realigning the Model 52 Receiver an I.F. of 462.5 K.C. is used. Proceed as follows:—

1. (a) Set signal generator at 462.5 K.C.
   (b) Couple to control grid type 2-A-7 first detector and oscillator tube.
   (c) Align C-7, C-8, C-9 and C-10.
2. (a) Set signal generator at 1500 K.C.
   (b) Set dial at 1500 K.C. (Switch "IN")
   (c) Connect generator to antenna lead of receiver.
   (d) Align C-3 and C-4.
3. (a) Set signal generator at 600 K.C.
   (b) Set dial at 600 K.C. (Switch "IN").
   (c) Align C-6.
4. (a) Set signal generator at 1500 K.C.
   (b) Set dial at 1520 K.C. (Switch "IN").
   (c) Re-align C-3 and C-4.
5. (a) Set signal generator at 2500 K.C.
   (b) Set dial at 2550 K.C. (Switch "OUT").
   (c) Align C-5.
6. (a) Check alignment at 6.0 megs. Signal will read at 6.1 to 6.2 on dial.

NOTE:—"C" of No. 2 applies on Nos. 3, 4 and 5 also.

The location of the trimming condensers mentioned above is shown on cut below.



Chassis Layout—Model 56 Receiver