A National Electrical Service
Northern Electric
COMPANY LIMITED

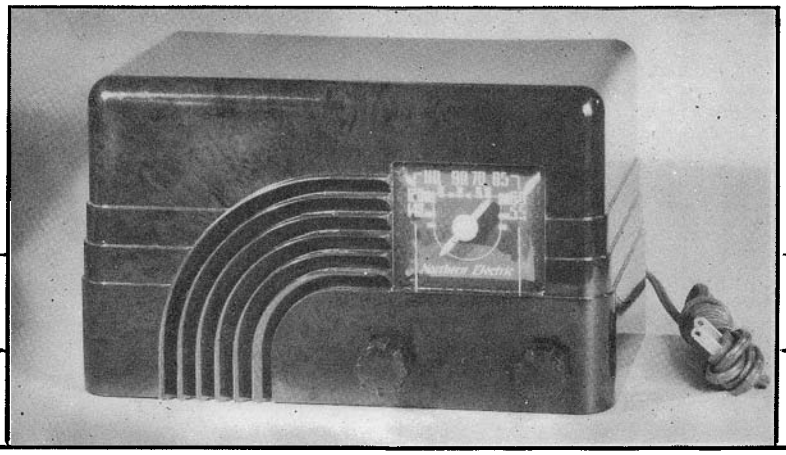
RADIO SERVICE BULLETIN

Model 5000-1

5 Tube Mantel Model

A.C. Universal Superheterodyne Radio Receiver

SERVICE INFORMATION



SPECIFICATIONS

GENERAL: This specification covers the Radio Receiver Model 5000-1. Model 5000-1 is an a-c Universal Superheterodyne Radio Receiver.

1. FREQUENCY RANGE:
   530 KC to 1510 KC (Standard Broadcast)

2. INTERMEDIATE FREQUENCY:
   455 KC

3. TUBES:

Type	Function
12SA7	Converter
12SK7	I-F Amplifier
12SQ7	(2nd Detector, (A.V.C. and 1st Audio Amplifier
35Z5GT	Rectifier
35L6GT	Output

4. POWER SUPPLY:
   110-125 volts, 25-60 cycles
   110-125 volts d-c (Reverse plug if set does not operate.)
   Consumption 30 watts

5. POWER OUTPUT:
   1.5 watts

6. A.V.C.:
   Applied to 12SK7 I-F and 12SA7 converter

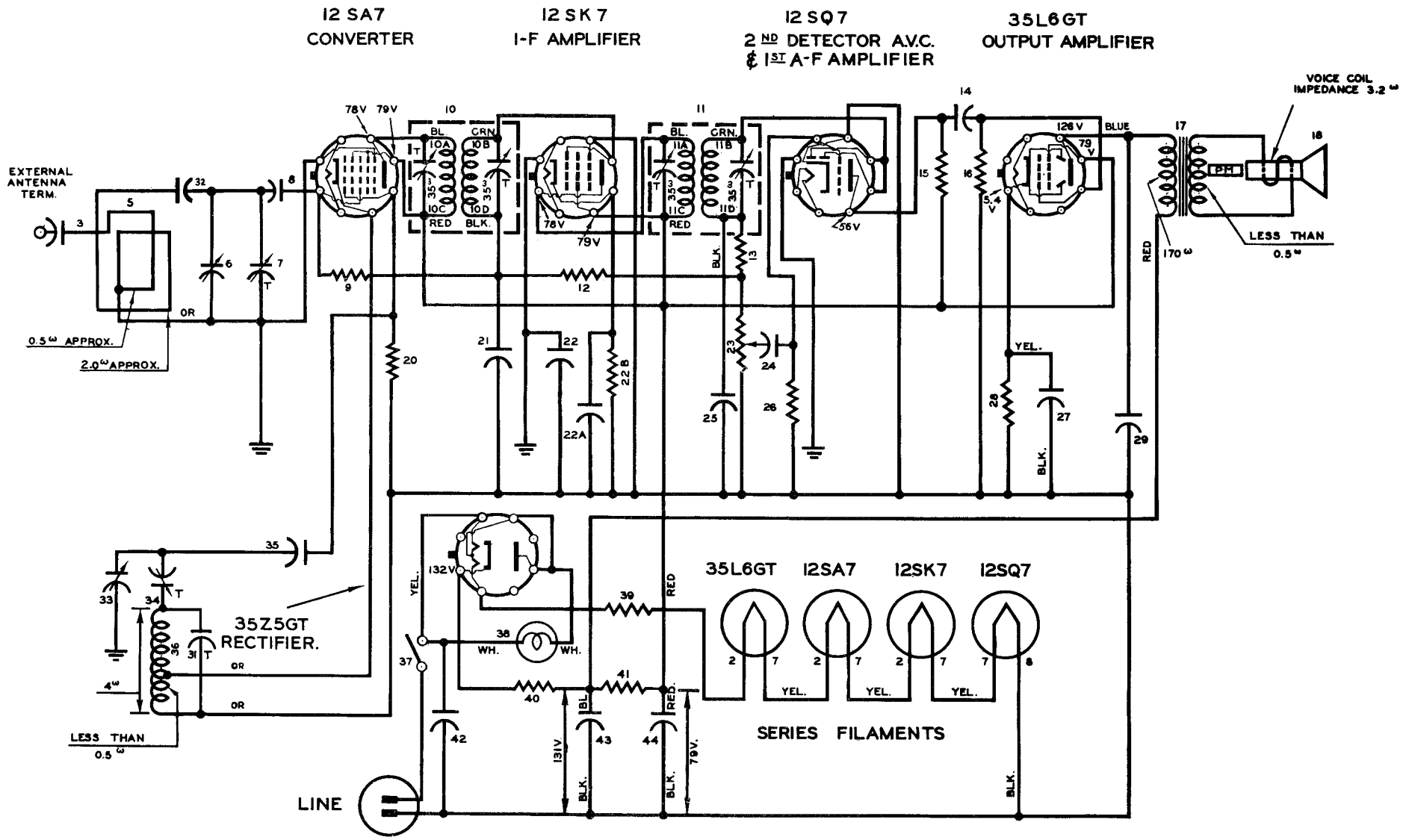
7. AUDIO SYSTEM:
   Audio portion of 12SQ7 resistance-capacitance coupled to 35L6GT power output.

8. ANTENNA:
   Built in Loop with terminal for use with external antenna.

9. CONTROLS, TWO:
   (1) Left-hand knob, volume control and on-off switch.
   (2) Right-hand knob, tuning control.

10. LOUDSPEAKER:
    5" P.M.

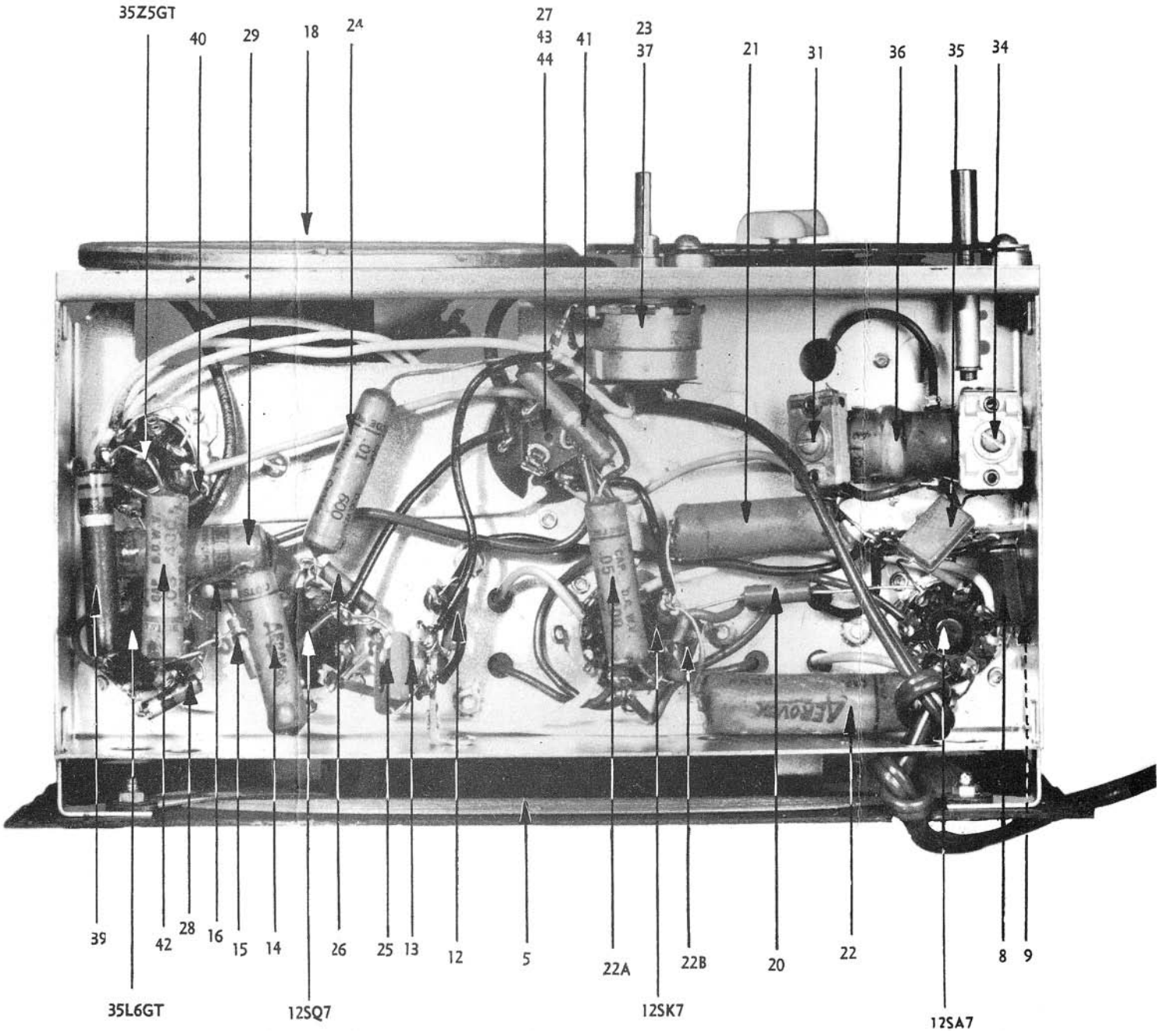
11. DIMENSIONS:
    Chassis assembly (excluding shafts) $10\frac{11}{32}$" x $5\frac{3}{8}$" x $5\frac{15}{16}$".
    Overall cabinet space (including knobs) $10\frac{5}{8}$" x $6\frac{1}{4}$" x $6\frac{9}{16}$".



NOTES

1- ALL VOLTAGES ARE READ FROM COMMON NEGATIVE LEAD USING A 20 000 Ω/V METER
2- LINE VOLTAGE IS 117 VOLTS DURING VOLTAGE MEASUREMENTS.
3- WIRING SIDE OF TUBES SHOWN.

SCHEMATIC DIAGRAM MODEL 5000-1 A.C. UNIVERSAL.



Wiring Diagram Model 5000-1

REALIGNING DETAILS

I.F. Alignment

Connect the generator ground lead to the common negative return circuit in receiver. It remains in this position throughout test. Set the generator to 455 kilocycles. Connect generator high side through a 0.1 mfd. condenser to the 1st detector grid (pin #8 on 12SA7) and adjust items 10A, 10B, 11A, and 11B (on I.F. cans) for maximum output. Gang condenser should be open during I.F. alignment.

R.F. Alignment

Connect the generator ground lead to the common negative return. Use a 100 mmfd. capacitor in series with the high side of the signal generator and connect to the antenna terminal.

Set the signal generator and dial pointer to 1400 kilocycles and adjust the oscillator trimmer, item 31 (on free end of oscillator coil) for maximum output.

Adjust the antenna trimmer, item 7, (located on gang) for maximum output, rocking gang while doing so. Set the generator to 600 kilocycles and tune in the signal. Adjust oscillator lag, item 34, (located on fixed end of oscillator coil, under chassis) for maximum output. Recheck at 1400 kilocycles.

REPLACEMENT PARTS LIST

ITEM	DESCRIPTION	TOLERANCE + - %	PART NO.
3	Capacitor, Paper: .003 mfd. 600 volts	25	K5660-3
5	Loop Antenna Assembly		R8142-23
6	Capacitor,Gang Tuning: 530-530 mmfd.(Part of		R14181
7	Capacitor, Trimmer:1.5-20 mmfd. (Part of		R14181
8	Capacitor,Mica: 1000 mmfd. 500 volts	10	K1611-23
9	Resistor:1 meg. 1/2 watt	20	K5974-25C
10	Transformer, 1st I.F.		R15306
10A & B	Capacitor,Timmer,1st I.F. 20-150 mmfd.		R15373
10C & D	Coil, 1st I.F.		
11	Transformer, 2nd I.F.		R15307-1
11A & B	Capacitor, trimmer, 2nd I.F.20-150 mmfd.		R15373
11C & D	Coil, 2nd I.F.		
12	Resistor: 2.2 meg.1/2 watt	20	K10000C-225
13	Resistor:47,000 ohm. 1/2 watt	20	K10000C-474
14	Capacitor,paper:.01 mfd. 200 volts	+20 -10	K2227-6
15	Resistor:22 meg. 1/2 watt	20	K10000C-224
16	Resistor:.47 meg. 1/2	20	K10000C-473
17	Transformer,Output		K3873-9
18	Loudspeaker		R12791
20	Resistor:22,000 ohm. 1/2 watt	20	K10000C-223
21	Capacitor,paper:.05 mfd.200 volts	+20 -10	K2227-8
22	Capacitor,paper: .2 mfd. 200 volts	10	K2227-22
22A	Capacitor,paper: .05 mfd. 200 volts	+20 -10	K2227-8
22B	Resistor:270 ohms. 1/2 watt	10	K10003B-271
23	Volume Control(with SW): .5 meg.		K4991-2
24	Capacitor,paper: .01 mfd. 200 volts	+20 -10	K2227-6
25	Capacitor,Mica: 400 mmfd. 500 volts	10	K1611-24
26	Resistor: 10 meg. 1/2 watt	20	K10000C-106
27	Capacitor(part of R12730)20 mfd.25 volts	+ no. Max.-10	R12730
28	Resistor: 220 ohms 1/2 watt	10	R10003B-221
29	Capacitor:.02 mfd.200 volts	+20 -10	K2227-7
31	Capacitor,trimmer:3-25 mmfd.		K1458-6
32	Capacitor,mica:4500 mmfd. 500 volts	5	K1952-36
33	Capacitor,Gang Tuning: 530 mmfd.(Part of		R14181
34	Capacitor trimmer-Part of R13472 Trimmer & Bkt. Assem.:300-625 mfd.		K3860-8
35	Capacitor,mica:50 mmfd. 500 volts	10	K1611-1T
36	Coil, Oscillator B.C.		R12513
37	Switch, ON-OFF (Part of		K4991-2
38	Lamp,Dial:250 ma. 6.3 volts		K2589-3
39	Resistor:82 ohms.2 watt	10	K10005B-820
40	Resistor:33 ohms,1/2 watt	20	K10003C-320
41	Resistor:2700 ohms, 1 watt	10	K10001B-272
42	Capacitor,paper: .03 mfd. 400 volts	10	K2228-18
43	Capacitor(part of R12730)40 mfd. 150 volts)	+ no max.-10	R12730
44	Capacitor(Part of R12730)40 mfd.150 volts	+ no max.-10	R12730

MISCELLANEOUS

Sockets	R15327
Scale, Dial	R8142B-24
Indicator, Dial	R13012
Spring, Dial	R12741
Cord, Dial: 10"	K4636
Cover,(Celluloid)Dial	R12951
Shaft,Dial Drive	R12727
Socket Lamp	K5517
Standoff(3-Term.)	K2114-2
Standoff(3-Term.)	K2114-1
Knob(Brown Mottle)	R15348-4
Knob(Ivory)	R15348-1
Speed-nut (Bezel Mtg.)	R12979
Cabinet,Plastic(brown Mottle)	R12829A
Cabinet,Plastic(ivory)	R13357A
Trimmer and Bracket Assem.	R13472
Insulating Mtg. Plate (Electrolytic)	R15102
Standoff (1-term)	K10120-4
Stud	R14178