

SERVICE BULLETIN



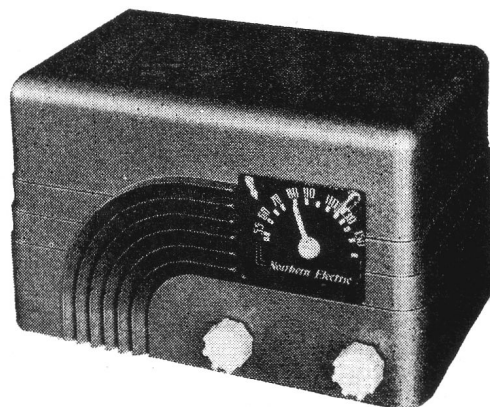
Northern Electric RADIO

Model 5110

5-Tube Mantel Model

AC Universal Superheterodyne

SERVICE INFORMATION



SPECIFICATIONS

GENERAL: 5-Tube Superheterodyne A.C. Universal Radio Receiver housed in table model moulded plastic cabinet available in five colours.

MODELS

5110	Ivory
5110	Gold
5110	Green
5110	Blue
5110	Rose

1. FREQUENCY RANGE

Broadcast band — 540 to 1570 KC

2. INTERMEDIATE FREQUENCY

455 K.C.

3. TUBES

Type	Function
12SA7	Converter
12SK7	I.F. Amplifier
12SQ7	Detector, A.V.C. and Audio Amplifier
50L6	Audio Output Amplifier
35Z5	Rectifier

4. A.V.C.

On 12SA7 Mixer and 12SK7 I.F. Amplifier

5. POWER SUPPLY

110-125 Volts, 25-60 Cycles — A.C.

110-125 Volts D.C. (Reverse plug is set does not operate when plug is connected.)

6. POWER CONSUMPTION

30 Watts

7. AUDIO POWER OUTPUT

2.1 Watts

8. ANTENNA

Built-in loop renders an external antenna unnecessary in most installations. Should one be required, a terminal marked "A" is provided on the back of the set.

9. GROUND

No ground is necessary for operation of this set.

10. AUDIO SYSTEM

Audio portion of 12SQ7 resistance — capacity coupled to 50L6.

11. LOUDSPEAKER

5" Permanent Magnet

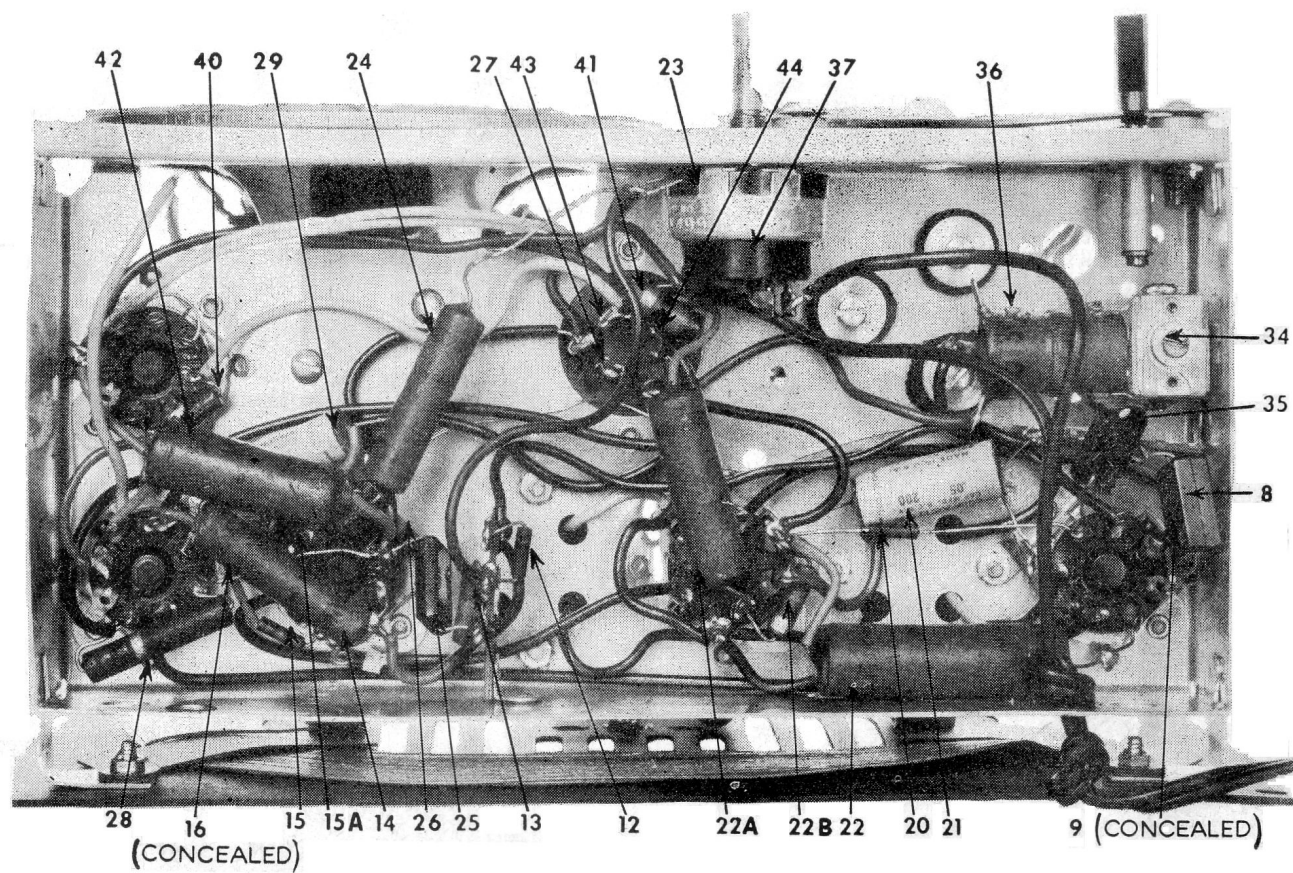
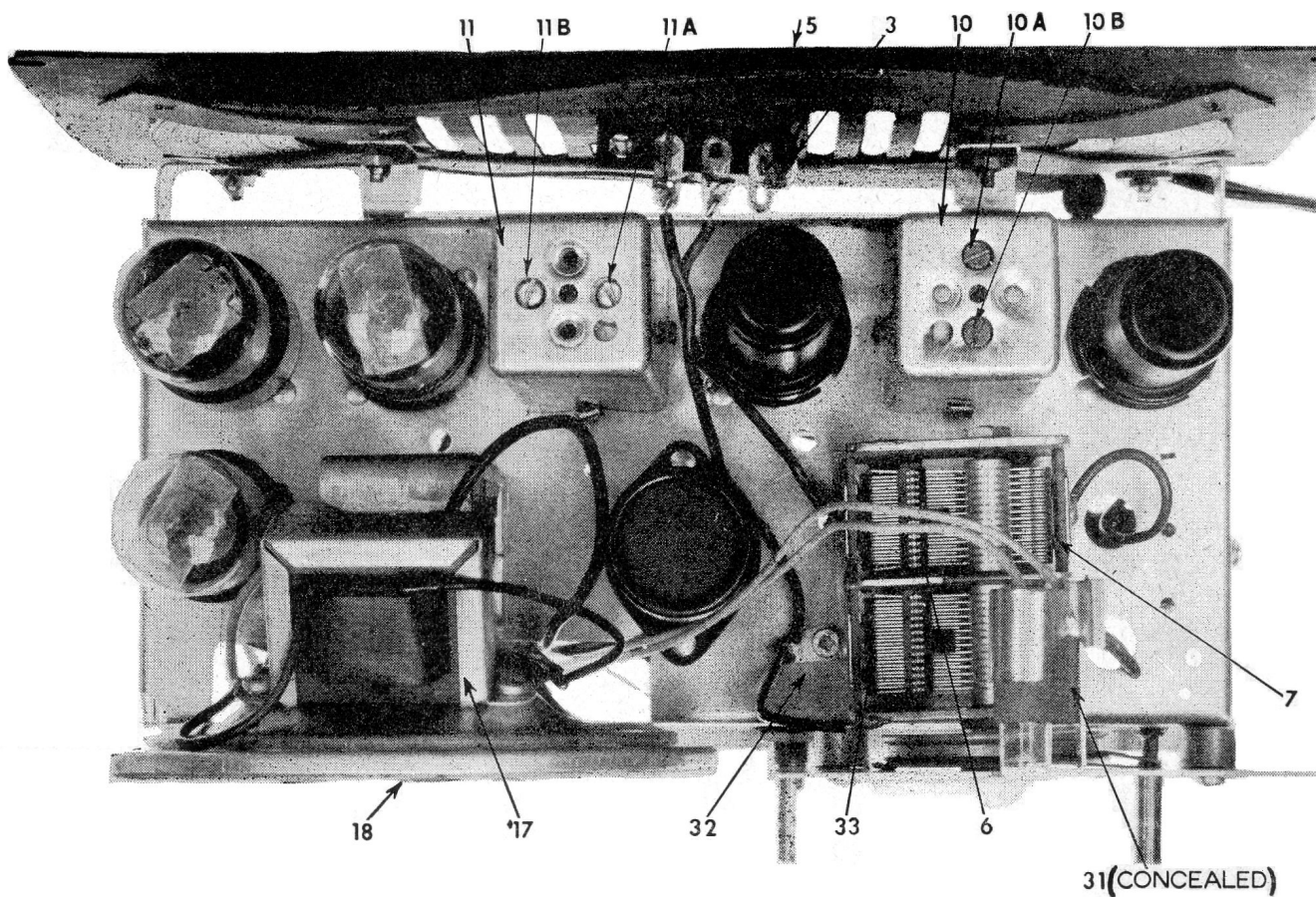
12. CONTROLS

Left — Volume Control and ON-OFF Switch.
Right — Tuning Control.

13. DIMENSIONS

Chassis, Assembled (excluding shafts).
Length 10 11/32", Width 5 5/8",
Height 5 15/16"

Cabinet, Overall (including knobs)
Length 10 3/8", Width 6 9/16",
Height 6 1/4"



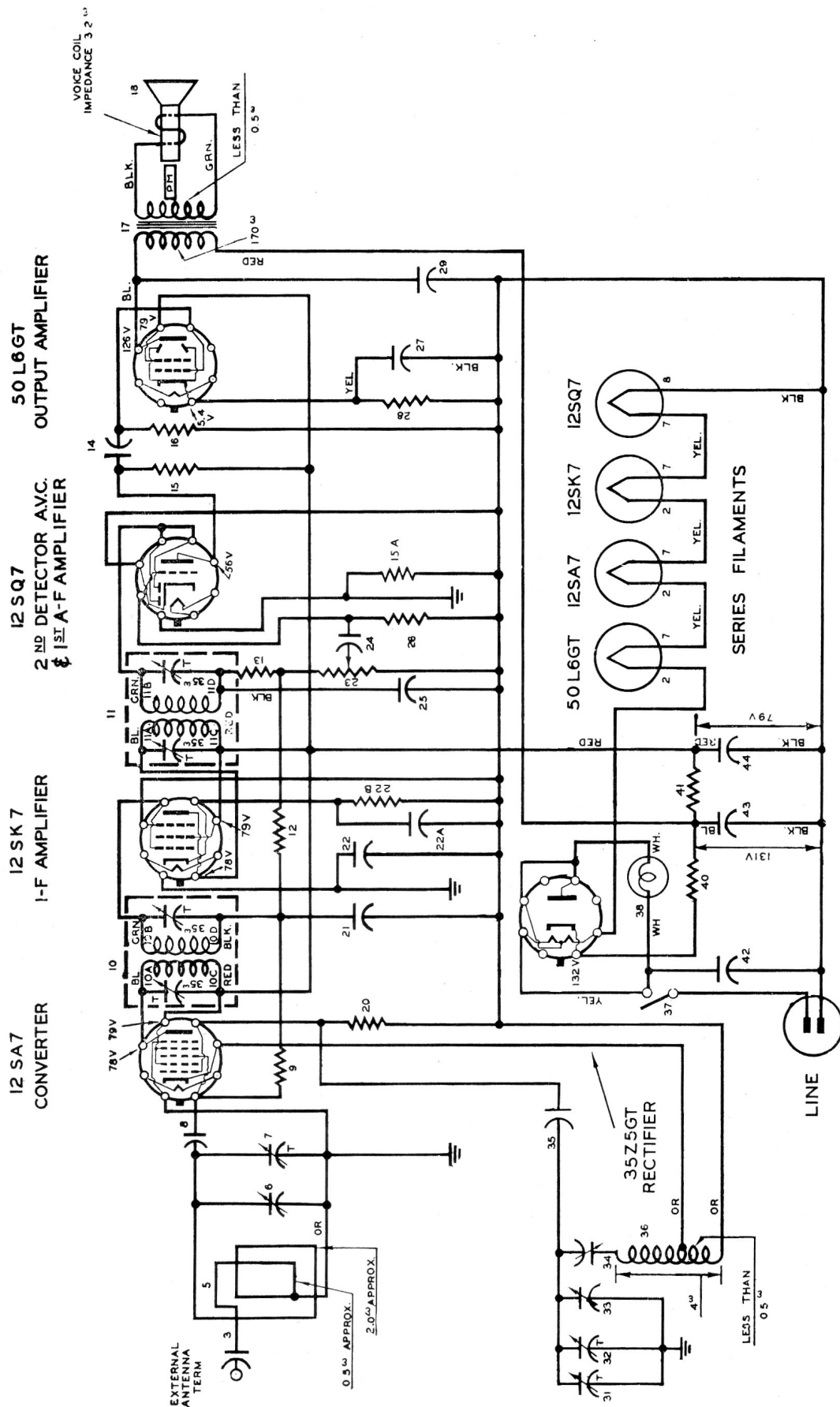
ALIGNMENT

Alignment procedure should be carried out according to the following table and in the order shown.

Alignment Frequency	Dummy Antenna	Receiver Connection	Items to be adjusted for maximum output and their location.
I.F. 455 KC	.1 Mfd (Paper)	Antenna Section Gang	I.F. Trimmers, items 10A, 10B, 11A and 11B, on I.F. Transformers (tuning gang open)
B.C. 1400 KC	100 Mmf (Mica)	Antenna Terminal	(a) Oscillator trimmers on gang, 31 and 32. (b) Antenna trimmer on gang 7.
B.C. 600 KC	100 Mmf (Mica)	Antenna Terminal	Oscillator lag trimmer 34. Recheck at 1400 KC

REPLACEMENT PARTS LIST

Item	Description	Part No.	Item	Description	Part No.
3	Capacitor, Paper, .003 Mfd 600 V.....	K10128-302	33	Capacitor, Gang, Oscillator Section, 420 Mmf, Part of.....	R12734
5	Loop Antenna Assembly.....	R16127-23	34	Capacitor, Trimmer, 225-750 Mmf (Part of R13472).....	K1458-13
6	Capacitor, Gang, Antenna Section, 420 Mmf, Part of.....	R12734	35	Capacitor, Mica, 51 Mmf 500 V.....	K10134 B-510
7	Capacitor, Trimmer, 1.5-20 Mmf, Part of..	R12734	36	Coil, Oscillator.....	R12513
8	Capacitor, Mica, 1,000 Mmf 300 V.....	K10134C-102	37	Switch, ON-OFF, Part of.....	K10323-2
9	Resistor, 1.0 Meg, 1/2 W.....	K10000C-105	38	Lamp, Dial, 6.3 Volts, 250 ma.....	K2589-3
10	Transformer, 1st I.F.....	R15375-1	40	Resistor, 33 Ohm 1/2 W.....	K10003C-330
10A	Capacitor, Trimmer, 20-150 Mmf, Part of	R15373	41	Resistor, 2,700 Ohms, 1 W.....	K10001C-272
10B	Capacitor, Trimmer, 20-150 Mmf, Part of	R15373	42	Capacitor, Paper, .025 Mfd 600 V.....	K10128-253
10C & D	Coil, 1st I.F.....	—	43	Capacitor, Electrolytic, 40 Mfd, 150 V, Part of.....	R12730
11	Transformer, 2nd I.F.....	R15375-1	44	Capacitor, Electrolytic, 40 Mfd 150 V, Part of.....	R12730
11A	Capacitor, Trimmer, 20-150 Mmf, Part of	R15373		Miscellaneous	
11B	Capacitor, Trimmer, 20-150 Mmf, Part of	R15373		Socket, Octal Tube.....	K10145-36
11C & D	Coil, 2nd I.F.....	—		Dial Scale Assembly.....	R16127-24
12	Resistor, 2.2 Meg, 1/2 W.....	K10000C-225		Dial Indicator Assembly.....	R16281
13	Resistor, 47,000 Ohm, 1/2 W.....	K10000C-473		Spring, Dial.....	R13898
14	Capacitor, Paper, .01 Mfd 600 V.....	K10128-103		Dial Cord (10").....	K10301
15	Resistor, .22 Meg 1/2 W.....	K10000C-224		Bezel.....	E12951
15A	Resistor, .22 Meg 1/2 W.....	K10000C-224		Shaft, Tuning Drive.....	R12727
16	Resistor, .47 Meg 1/2 W.....	K10000C-474		Socket, Lamp.....	K5517
17	Transformer, Output.....	K3873-9		Strip, Terminal, Triple.....	K10120-10
18	Loudspeaker.....	R12791		Plain Knob Assembly (Ivory).....	R15348-1
20	Resistor, 22,000 Ohm 1/2 W.....	K10000C-223		Speed Nut (Bezel Mounting).....	R12979
21	Capacitor, Paper, .05 Mfd 4004V.....	K10129-503		Cabinet, Ivory.....	R13357A
22	Capacitor, Paper, 0.2 Mfd 200 V.....	K10130-204		Cabinet, Ornamental Green Finish.....	R13357C
22A	Capacitor, Paper, .05 Mfd 400 V.....	K10129-503		Cabinet, Ornamental Gold Finish.....	R13357E
22B	Resistor, 270 Ohm 1/2 W.....	K10003 B-271		Cabinet, Ornamental Blue Finish.....	R13357G
23	Volume Control, .5 Meg, Part of.....	K10323-2		Cabinet, Ornamental Rose Finish.....	R13357J
24	Capacitor, Paper, .01 Mfd 600 V.....	K10128-103		Trimmer and Bracket Assembly (including Item 34).....	R13472
25	Capacitor, Mica, 390 Mmf 500 V.....	K10134C-291		Mounting Plate (Electrolytic).....	R15102
26	Resistor, 10 Meg 1/2 W.....	K10000C-106		Stud, Gang Mounting.....	K10298-3
27	Capacitor, Electrolytic, 20 Mfd 25V, Part of	R12730			
28	Resistor, 150 Ohm 1 W.....	K10004 B-151			
29	Capacitor, .02 Mfd 600 V.....	K10128-203			
31	Capacitor, Trimmer, 1.5-20 Mmf, Part of..	R12734			
32	Capacitor, Trimmer, 1.5-20 Mmf, Part of..	R12734			



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 5110 A.C. UNIVERSAL.