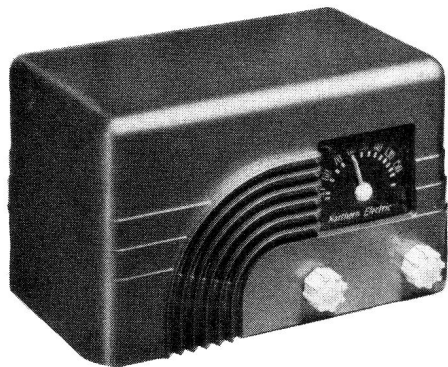


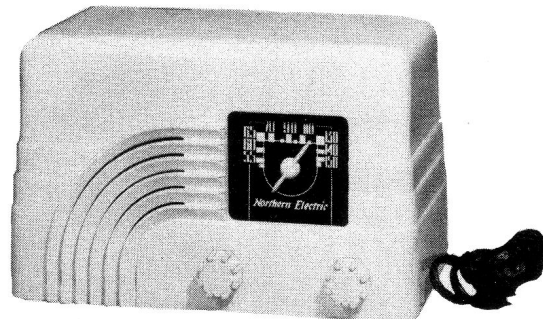
SERVICE BULLETIN



Northern Electric RADIO



Model 5104



5 Tube Mantel Model

A.C. Universal Superheterodyne Radio Receiver

SERVICE INFORMATION

SPECIFICATIONS

GENERAL:

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

MODEL

5104 Orn. Ivory
5104 Orn. Green
5104 Orn. Gold
5104 Orn. Blue
5104 Orn. Rose

1. FREQUENCY RANGE

Broadcast band - 540 to 1600 K.C.

2. INTERMEDIATE FREQUENCY

455 K.C.

3. TUBES

Type	Function
12SA7	Converter
12K7	I.F. Amplifier
12SQ7	2nd Detector, A.V.C. and 1st Audio Amplifier
50L6	Output Amplifier
35Z5	Rectifier

4. A.V.C.

On 12SA7 Converter and 12K7 I.F. Amplifier

5. POWER SUPPLY

110-125 Volts 25-60 cps. A.C.
110-125 Volts D.C. (Reverse plug if set does not operate when plug is connected.).

6. POWER CONSUMPTION

30 Watts.

7. POWER OUTPUT

2.1 Watts.

8. ANTENNA

Built-in loop renders an external antenna unnecessary in most installations. Should one be required, connect it to the "A" terminal at the rear 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 power output tube.

11. LOUDSPEAKER

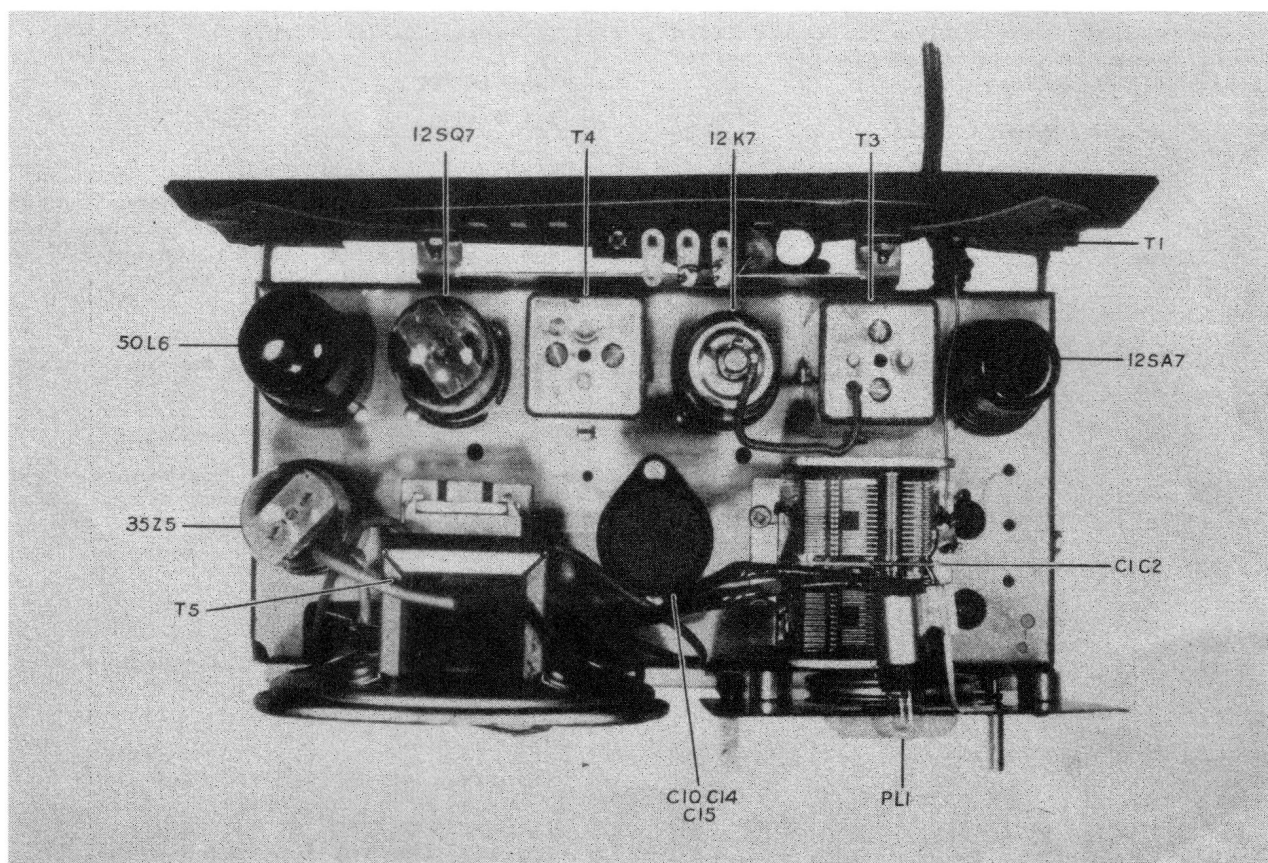
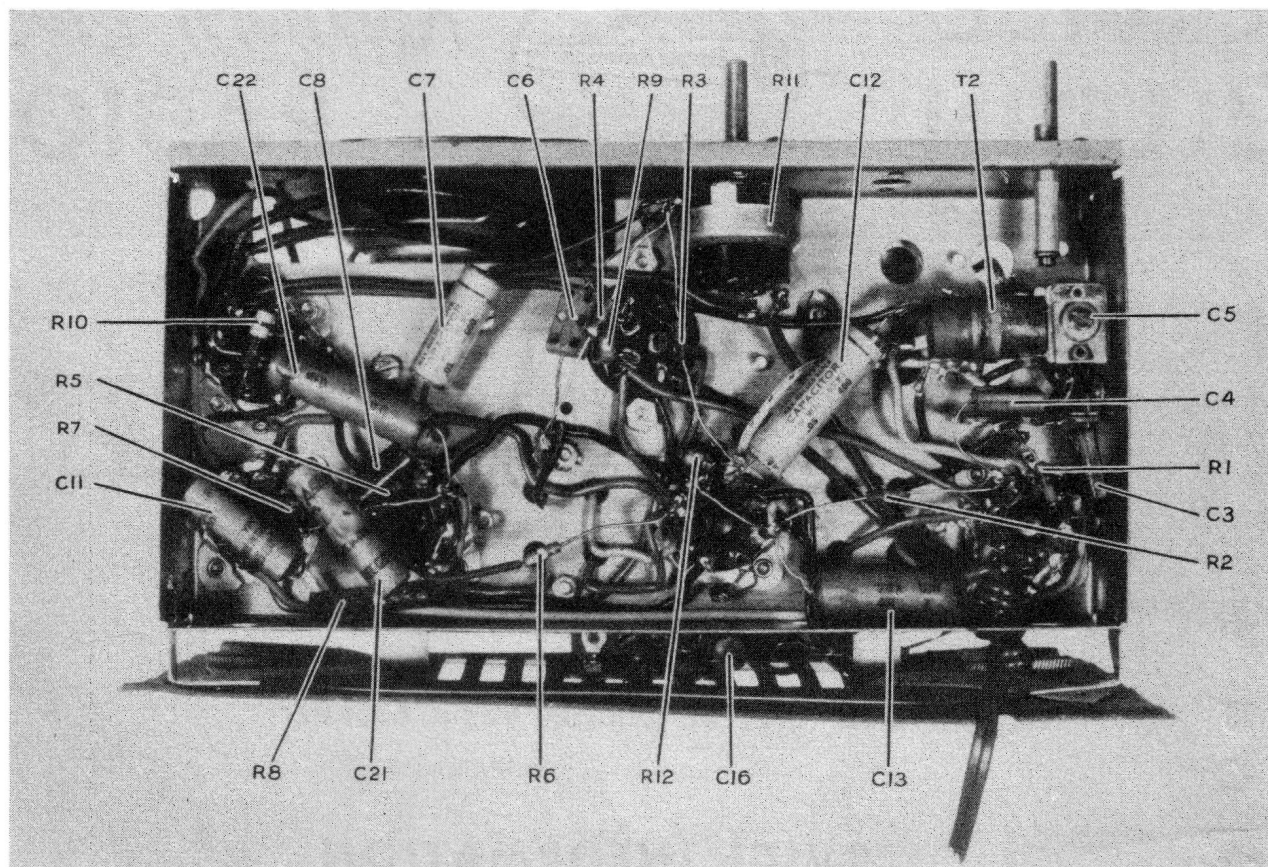
5" permanent magnet

12. CONTROLS

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

13. DIMENSIONS

Chassis, Assembled (excluding shafts)
Length 10 11/32", Width 5 3/8",
Height 5 15/16"
Cabinet, Overall (including knobs)
Length 10 5/8", Width 6 1/4",
Height 6 9/16".



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 & their location
I. F. 455 KC	0.1 Mfd. (Paper)	Antenna Section Gang	I. F. Trimmers, C17, C18, C19, C20 on I. F. cans (tuning gang open)
B. C. 1400 KC	100 Mmf (Mica)	Antenna Terminal	Oscillator trimmers on gang antenna trimmer on gang.
B. C. 600 KC	100 Mmf (Mica)	Antenna Terminal	Oscillator lag trimmer, C5 adjust while rocking gang. Recheck at 1400 KC.

REPLACEMENT PARTS LIST

Item	Description	Part No.	Item	Description	Part No.
C1	Capacitor Gang, Antenna section, 420 mmf part of	R12734	T1	Loop Assembly	R17281-23
C2	Capacitor Gang, Oscillator section, 420 mmf part of	R12734	T2	Oscillator Coil	R16104
C3	Capacitor, mica 1000 mmfd. 500 V..	K10134C-102	T3	1st IF transformer	R15375-2
C4	Capacitor, mica 51 mmfd. 500 V....	K10134C-510	T4	2nd IF transformer	R15307-2
C5	Trimmer, 225-750 mmfd. (part of R13472)	K1458-13	T5	Output transformer	K3873-9
C6	Capacitor, mica 100 mmf 500 V....	K10134C-101	PL1	Pilot light	K2589-3
C7	Capacitor, paper .01 mfd. 600 V ..	K10128-103	D1	Switch, AC power part of R11	K10323-2
C8	Capacitor, mica 390 mmf 500 V	K10134C-391		Antenna Loop and back assembly	R17281-30
C10)	Capacitor, Electrolytic, 20-40-40		Miscellaneous		
C14)	mfd 25V, 150V, 150V	R12730			
C15)				Dial Indicator Assembly (Double Ended)	R13012
C11	Capacitor, Paper .02 mfd 600 V....	K10128-203		Dial Indicator Assembly (Single Ended)	R16281
C12	Capacitor, Paper .05 mfd 400 V....	K10129-503		Dial Cord Spring (for use with R13012)	R12741
C13	Capacitor, Paper .2 mfd 200 V....	K10130-204		Dial Cord Spring (for use with R16281)	R13898
C16	Capacitor, Paper .003 mfd 600 V... K10128-302			Dial Scale Assembly (for use with R13012)	R8145-24
C17)	Trimmer, 20-150 mmf part of T3			Dial Scale Assembly (for use with R16281)	R8258-24
C18)				Dial Cord	K10301
C19)	Trimmer, 20-150 mmf part of T4			Shaft Tuning Drive	R12727
C20)				Socket, Octal tube	K10145-36
C21	Capacitor, Paper .01 mfd 600 V....	K10128-103		Bezel	R12951
C22	Capacitor, Paper .025 mfd 600 V... K10128-253			Plain Knob Assembly (Ivory)	R15348-1
R1	Resistor, 1 meg 1/2 watt	K10000C-105		Plain Knob Assembly (Brown)	R15348-4
R2	Resistor, 22000 ohms 1/2 watt	K10000C-223		Cabinet, Ivory	R13357-A
R3	Resistor, 2.2 meg 1/2 watt	K10000C-225		Cabinet, Brown	R12829A
R4	Resistor, 47000 ohms 1/2 watt	K10000C-473		Cabinet, Ornamental Green Finish	R13357C
R5	Resistor, 10 meg. 1/2 watt	K10000C-106		Cabinet, Ornamental Gold Finish	R13357E
R6	Resistor 220000 1/2 watt	K10000C-224		Cabinet, Ornamental Blue Finish	R13357G
R7	Resistor, 470000 1/2 watt	K10000C-474		Cabinet, Ornamental Rose Finish	R13357J
R8	Resistor, 150 ohms 1 watt	K10004B-151		Cabinet Back Assembly	R8258-23
R9	Resistor, 1500 ohms 1 watt	K10001C-152		Terminal Strip, Single	K10120-1
R10	Resistor, 33 ohms 1/2 watt	K10003C-330		Trimmer & Bracket Assembly (incl. C-5)	R13472
R11	Volume Control .5 meg	K10323-2		Speed Nut (Bezel Mounting)	R12979
R12	Resistor, 220000 ohms 1/2 watt K10000C-224			Stud, Gang Mounting	K10298-3
				Insulating Mounting Plate (Electrolytic) ..	K15102



Northern Electric
COMPANY LIMITED

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KINGSTON TORONTO HAMILTON LONDON WINDSOR KIRKLAND LAKE TIMMINS SUDBURY
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