

# SERVICE BULLETIN



# Northern Electric RADIO



## Model 5116

5 Tube Mantel Model

A.C. Universal Superheterodyne Radio Receiver

## SERVICE INFORMATION

### SPECIFICATIONS

General: 5 tube A.C. Universal Radio Receiver, standard broadcast and one short wave band, housed in a walnut veneered cabinet.

1. Frequency Range:

540 K.C. to 1580 K.C. (Standard Broadcast)  
5.8 M.C. to 15.2 M.C. (Short Wave)

2. Intermediate Frequency:

455 K.C.

3. Tubes:

Type	Function
12SA7	Converter
12SK7	I-F Amplifier (2nd Detector, (A.V.C. & 1st Audio (Amplifier
35Z5GT	Rectifier
50L6GT	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:

2.1 watts

6. A.V.C.:

On 12SK7 I-F and 12SA7 converter

7. Audio System:

Audio portion of 12SQ7 resistance-capacitance coupled to 50L6GT power output.

8. Antenna: Spool of flexible aerial wire attached to set.

9. Controls: Three:

- (1) Left-hand knob, volume control and on-off switch.
- (2) Right-hand knob, tuning control
- (3) Centre knob, wave change switch

10. Loudspeaker:

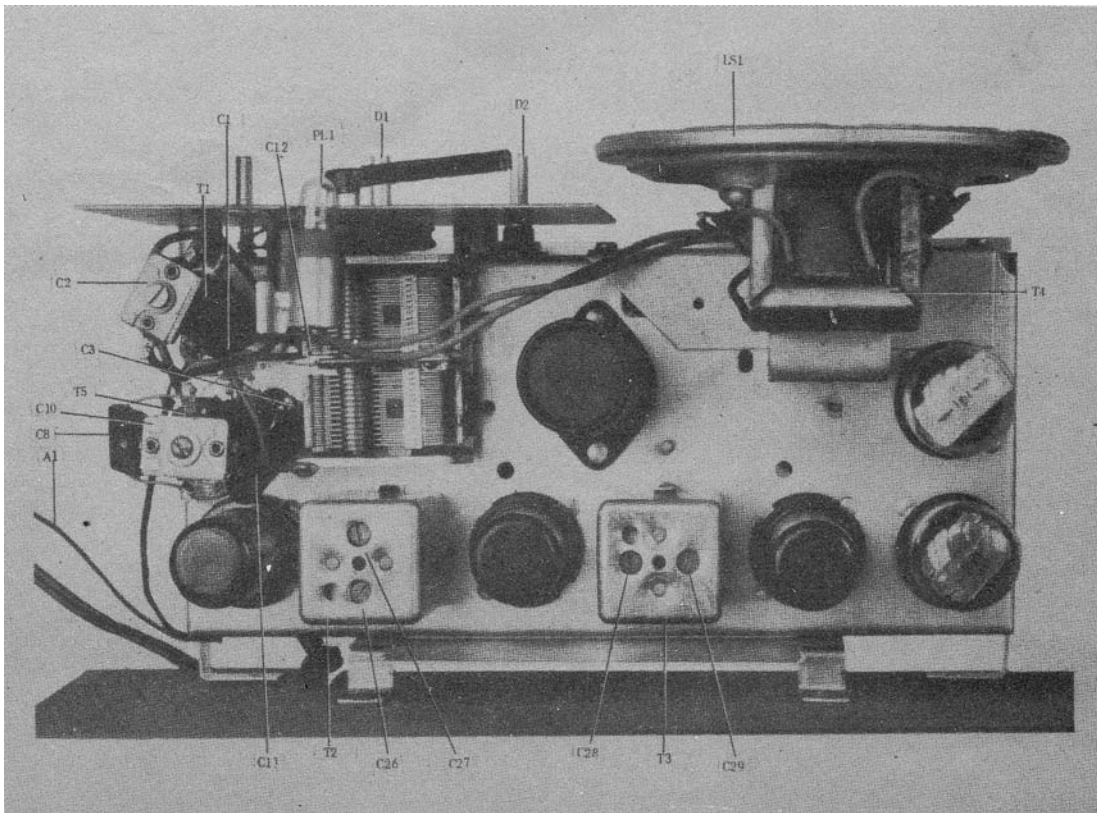
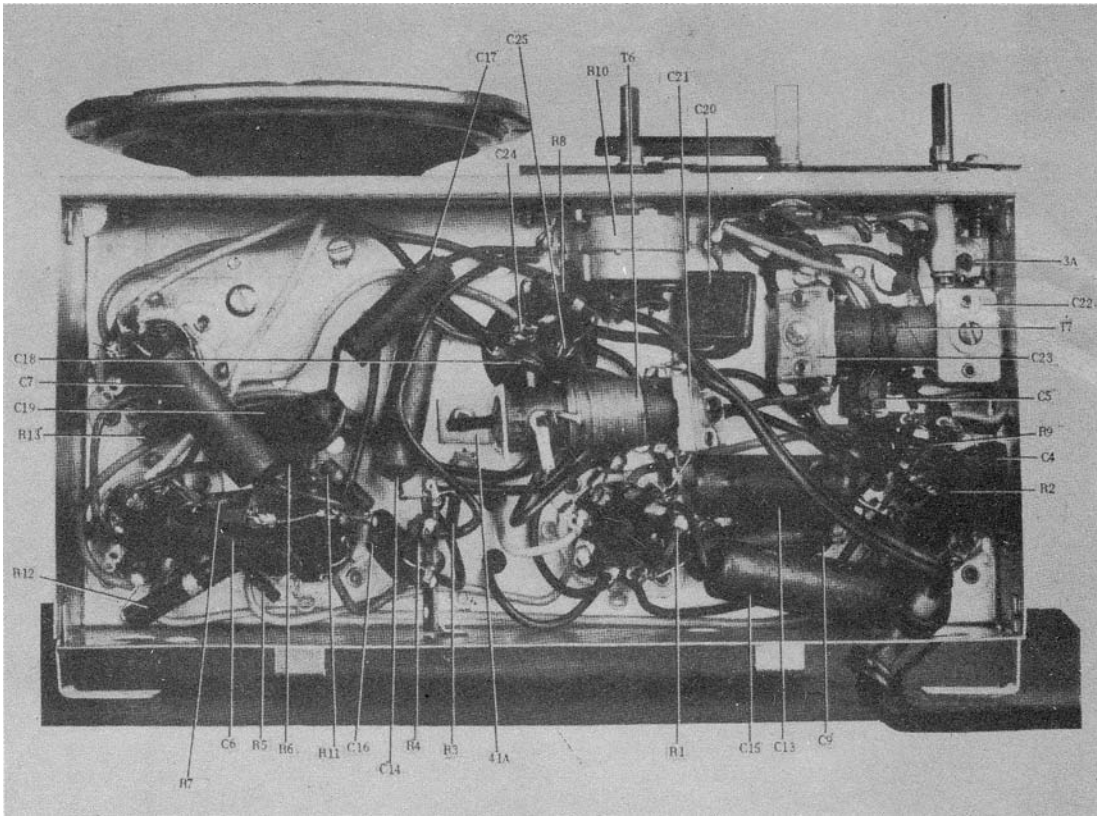
5" P.M.

11. Dimensions:

Chassis assembly (excluding shafts) 12 3/4" x 7 3/4" x 6"

Overall Cabinet size (including knobs) 13 1/4" x 8 1/2" x 7 1/4".

Note: Do not connect a ground to this set.



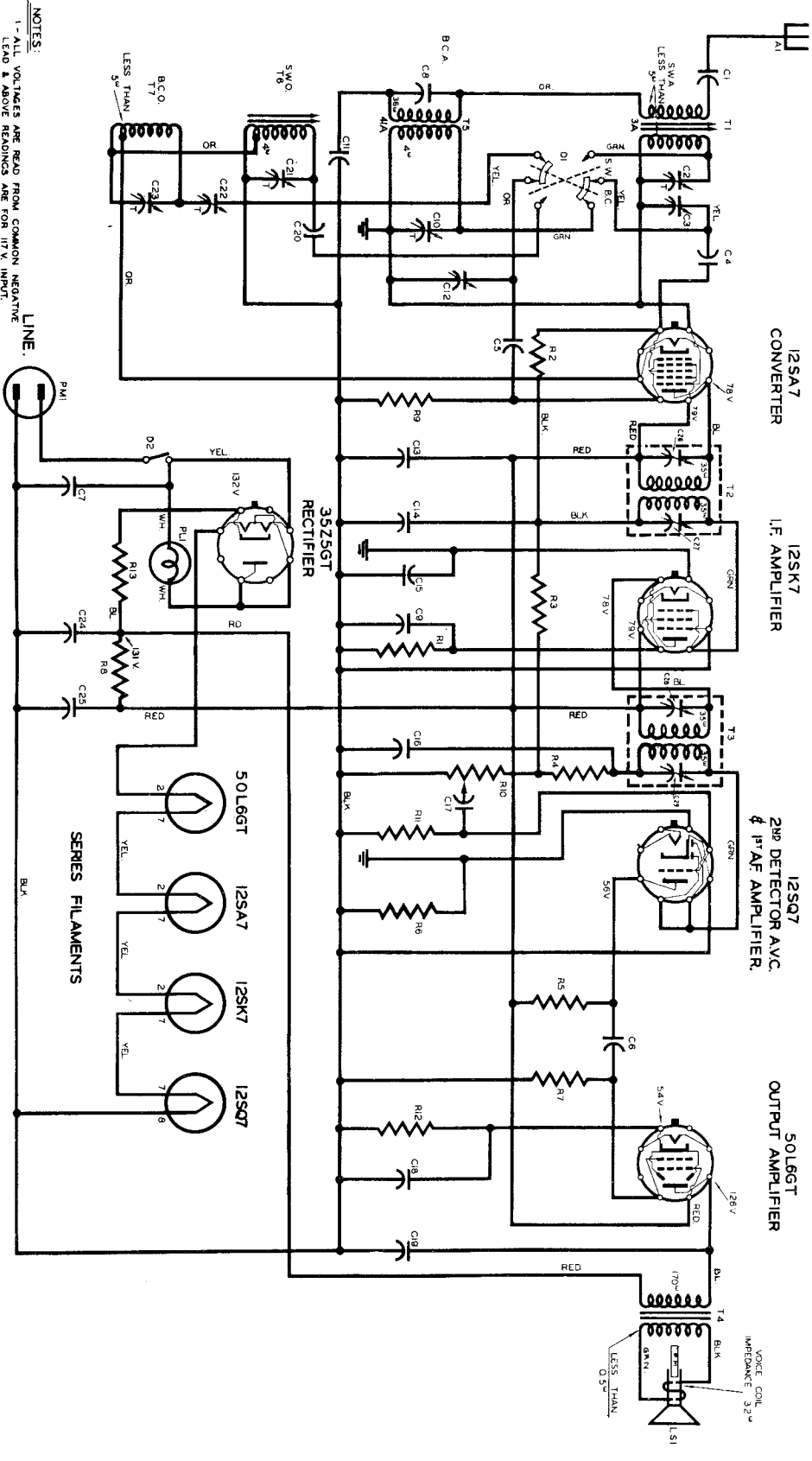
## REALIGNING DETAILS

Alignment procedure should be carried out in the following order:

Alignment Frequency	Dummy Antenna	Receiver Connection	Items to be Adjusted for Maximum Output and their Location	Alignment Frequency	Dummy Antenna	Receiver Connection	Items to be Adjusted for Maximum Output and their Location
1. I.F. 455 kc/s	.1 mfd. (paper)	Pin #8 12SA7	Trimmers C26, C27 C28 and C29 on I.F. Cans, items T2 and T3. Gang open.	4. S.W. 15 mc/s	400 ohm (carbon)	Antenna Lug	(A) Oscillator trimmer item C21, free end of S.W. oscillator coil under chassis.  (B) Antenna iron core, item 3A. Gang rocked during adjustment.
2. B.C. 1400 kc/s	100 mmf. (mica)	Antenna lug.	(A) Oscillator trimmer, item C23, free end of B.C. oscillator coil under chassis.  (B) Antenna trimmer, item C10, top of rear coil on chassis. Gang rocked during adjustment.	5. S.W. 6 mc/s	400 ohm (carbon)	Antenna Lug	(A) Oscillator iron core, item 41A.  (B) Antenna trimmer, item C2, top of front coil on chassis. Gang rocked during adjustment..
3. B.C. 600 kc/s	100 mmf. (mica)	Antenna Lug	(A) Oscillator lag, item C22, fixed end of B.C. oscillator coil. Gang rocked during adjustment.  (B) Recheck at 1400 kc/s.				(C) Recheck at 15 mc/s.

## REPLACEMENT PARTS LIST

Ckt. Designation	Descriptor	Part No.	Ckt. Designation	Description	Part No.
A1	Antenna Spool Assembly	R13379	R1	Resistor, 270 Ohm 1/2 W	K10003B-271
C1	Capacitor, Paper, .007 Mfd. 600 V	K10128-702	R2	Resistor, 1 Meg. 1/2 W	K10000C-105
C2	Capacitor, Trimmer, S.W. Antenna 3-25 Mmf.	K1458-6	R3	Resistor, 2.2 Meg., 1/2 W	K10000C-225
C3	Capacitor, Gang, Antenna Section, 420 Mmf, part of	R12824	R4	Resistor, 47,000 Ohm, 1/2 W	K10000C-473
C4	Capacitor, Mica, 1000 Mmf.	K10134C-102	R5	Resistor, .22 Meg. 1/2 W	K10000C-224
C5	Capacitor, Mica, 51 Mmf.	K10134C-510	R6	Resistor, .22 Meg. 1/2 W	K10000C-224
C6	Capacitor, Paper, .01 Mfd.	K10128-103	R7	Resistor, .47 Meg. 1/2 W	K10000C-474
C7	Capacitor, Paper, .025 Mfd.	K10128-253	R8	Resistor, 2,700 Ohm 1 W	K10001C-272
C8	Capacitor, Mica, 100 Mmf	K10134C-101	R9	Resistor, 22,000 Ohm 1/2 W	K10000C-223
C9	Capacitor, Paper, .05 Mfd.	K10128-503	R10	Volume Control, .5 Meg., part of	K10323-6
C10	Capacitor, Trimmer, B.C. Antenna 1.5-10 Mmf.	K1458-5	R11	Resistor, 10 Meg. 1/2 W	K10000C-106
C11	Capacitor, Paper, .007 Mfd.	K10128-702	R12	Resistor, 150 Ohm 1 W	K10004B-151
C12	Capacitor, Gang, Oscillator Section 420 Mmf, part of	R12824	R13	Resistor, 33 Ohm 1/2 W	K10003B-330
C13	Capacitor, Paper, .1 Mfd.	K10130-104	T1	Transformer, Sw. Ant	R12514
C14	Capacitor, Paper, .05 Mfd.	K10128-503	T2	Transformer, 1st I.F.	R15375-1
C15	Capacitor, Paper, .2 Mfd.	K10130-204	T3	Transformer, 2nd I.F.	R15375-1
C16	Capacitor, Mica, 390 Mmf.	K10134B-391	T4	Transformer, Output	K3873-9
C17	Capacitor, Paper, .01 Mmf.	K10128-103	T5	Transformer, B.C. Antenna	R12512
C18	Capacitor, Electrolytic, 20 Mfd, 25 V, part of	R12730	T6	Transformer, S.W. Osc.	R12515
C19	Capacitor, Paper, .02 Mfd.	K10128-203	T7	Transformer, B.C. Osc.	R12513
C20	Capacitor, Mica, 4500 Mmf.	K1952-36	3A	Core, S.W. Ant. Part of	R12514
C21	Capacitor, Trimmer, S.W. Osc. 16-72 Mmf.	K1458-8	41A	Core, S.W. Osc. Part of	R12515
C22	Capacitor, Trimmer, 225 - 750 Mmf. (part of R13472)	K1458-13		Miscellaneous	
C23	Capacitor, Trimmer, B.C. Osc. 3-25 Mmf.	K1458-6		Cabinet	R16280-21
C24	Capacitor, Electrolytic, 40 Mfd., 150 V, part of	R12730		Cabinet Back Assembly	R16280-23
C25	Capacitor, Electrolytic, 40 Mfd., 150 V, part of	R12730		Dial Pointer Assembly	R8233-23
C26	Capacitor, Trimmer, 1st I.F., 20-150 Mmf, part of	R15373		Dial Spring	R13898
C27	Capacitor, Trimmer, 1st I.F., 20-150 Mmf, part of	R15373		Dial Cord	K10301
C28	Capacitor, Trimmer, 2nd I.F., 20-150 Mmf, part of	R15373		Tuning Drive Shaft	R16399
C29	Capacitor, Trimmer, 2nd I.F., 20-150 Mmf, part of	R15373		Plain Knob Assembly	A14958-1
D1	Switch, Band	K6127-3		Indicator Knob Assembly	R14958-2
D2	Switch, On-Off, part of	K10323-6		Terminal Strip, Triple	K10120-10
LS1	Loudspeaker - 5"	R12791		Pilot Lamp Socket	K5517
PL1	Pilot Lamp, 6.3 V, 25 ma	K2589-3		Octal Tube Socket	K10145-36
				Dial Scale	R16280-24
				"C" Washer	K2895
				Gang Mounting Stud	K10298-5
				Rubber Grommet	K2498-2
				Electrolytic Mounting Plate	R15102
				Trimmer and Bracket Assembly (Including C22)	R13472
				Dial Drive Bushing	R12511



NOTES:  
 1- ALL VOLTAGES ARE READ FROM COMMON NEGATIVE LEAD & ABOVE READINGS ARE FOR 117V. INPUT.  
 2- WIRING SLIDE OF TUBES SHOWN.  
 3- WAVE-CHANGE SWITCH SHOWN IN B.C. POSITION.

SCHEMATIC DIAGRAM MODEL 5116 A.C. UNIVERSAL.

**Northern Electric**  
 COMPANY LIMITED

HALIFAX MONCTON QUEBEC CHICOUTIMI THREE RIVERS SHERBROOKE MONTREAL OTTAWA  
 VAL D'OR TORONTO HAMILTON LONDON WINDSOR KIRKLAND LAKE TIMMINS SUDBURY  
 PORT ARTHUR WINNIPEG REGINA LETHBRIDGE CALGARY EDMONTON VERNON VANCOUVER VICTORIA