

SERVICE BULLETIN



Northern Electric RADIO

Model BP 5410

4-Tube 3-Way Portable

Receiver

SERVICE INFORMATION



SPECIFICATIONS

GENERAL:

4-Tube plus selenium rectifier Superheterodyne 3-way Portable available in two colours: Maroon and Green.

1. FREQUENCY RANGE

Broadcast band — 530 to 1600 K.C.

2. INTERMEDIATE FREQUENCY

455 K.C.

3. TUBES

Type	Function
1R5	Converter
1T4	I.F. Amplifier
1U5	2nd Detector, A.V.C. and 1st Audio Amplifier
3V4	Power Amplifier

4. A.V.C.

On 1R5 Converter and 1T4 I.F. Amplifier

5. POWER SUPPLY

Batteries — "A" 4½V, 100 Ma (Eveready No. 746 or equivalent)

"B" 90V, 11 Ma (Eveready No. 490 or equivalent)

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

6. POWER OUTPUT

250 Milliwatts

7. ANTENNA

Loop type installed in set

8. GROUND

Ground must *never* be connected to this receiver.

9. AUDIO SYSTEM

Audio portion 1U5 resistance — capacity coupled to 3V4 power output tube

10. LOUDSPEAKER

4" permanent magnet Alnico V.

11. CONTROLS

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

To operate receiver on batteries, power cord must be plugged into slots behind tuning condenser on chassis.

12. DIMENSIONS

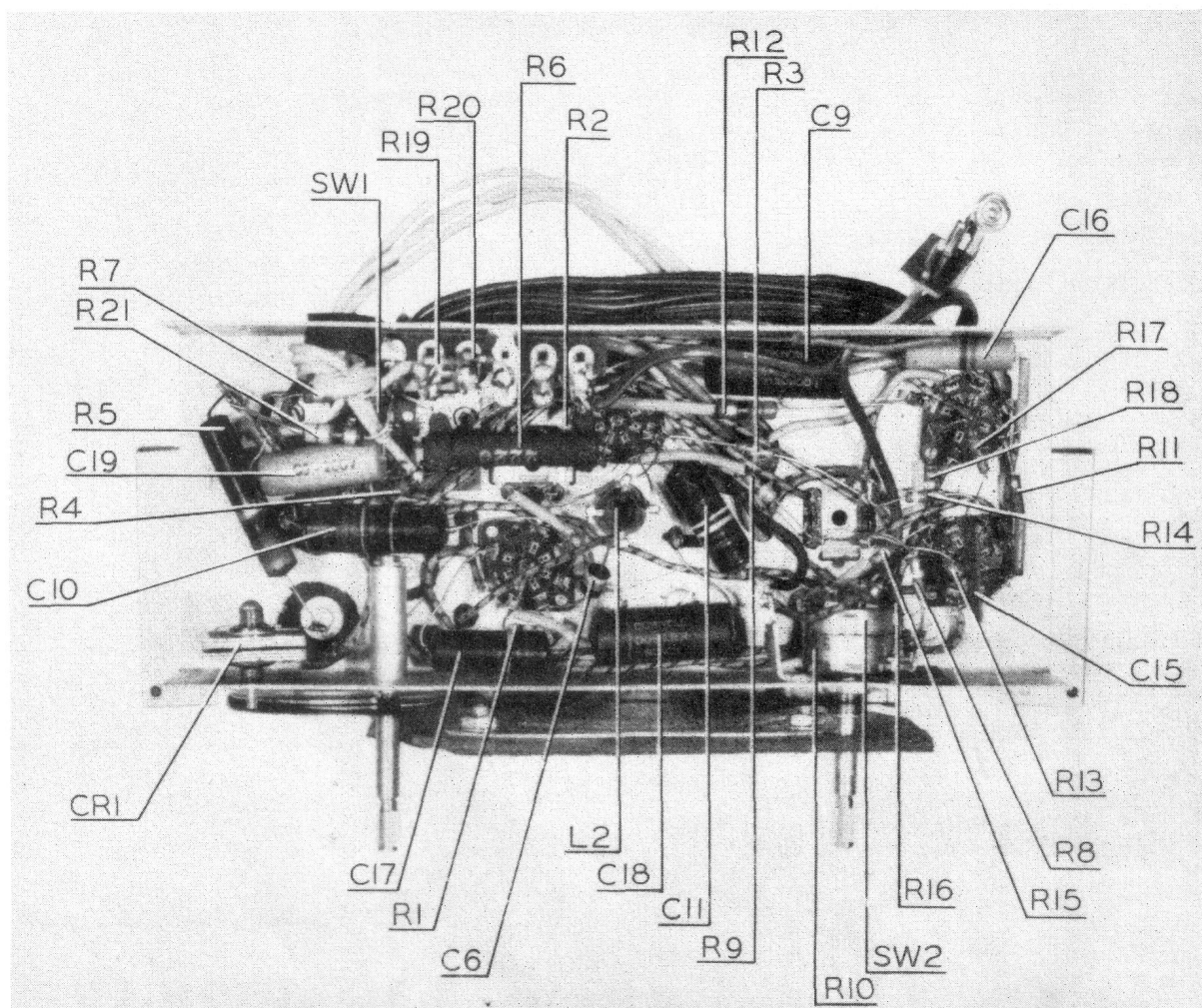
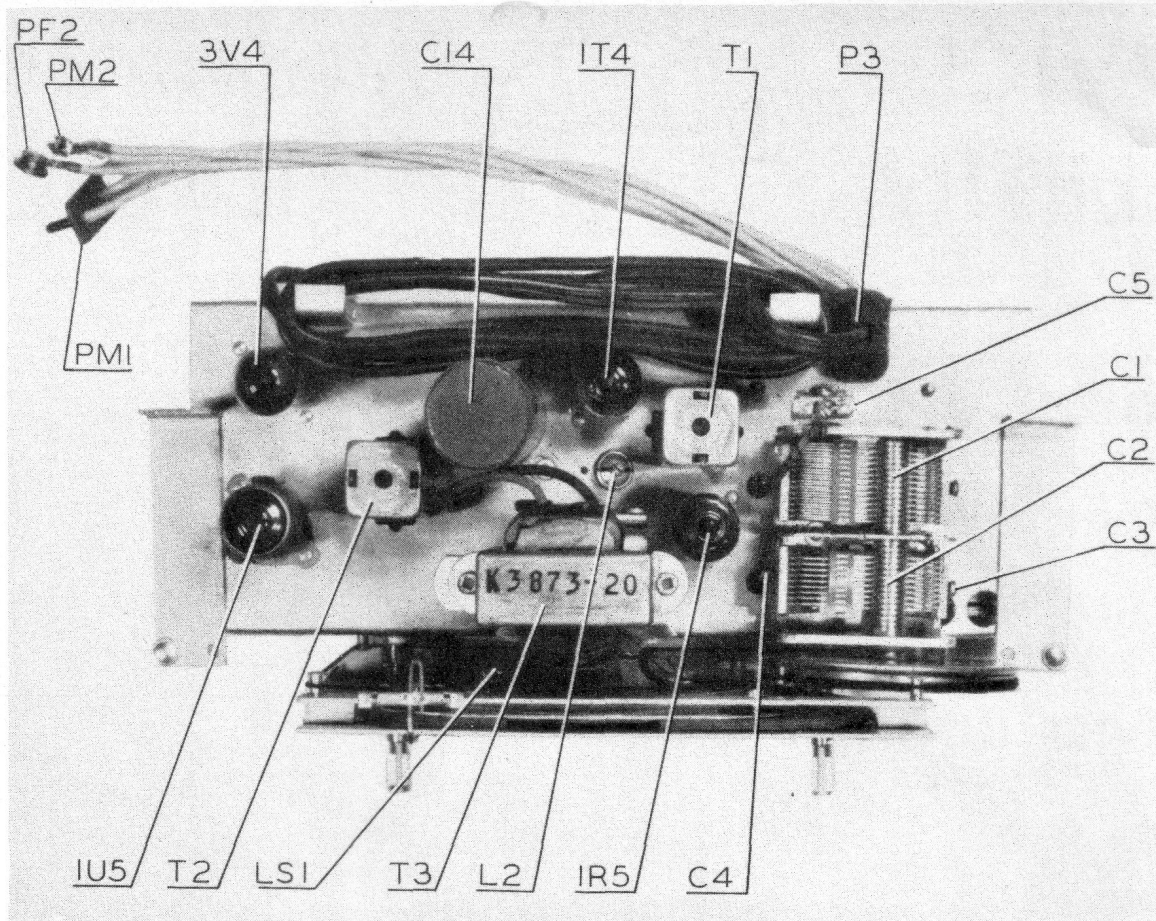
Chassis, Assembled (excluding shafts)
Length 10" Width 4¾"
Height 5-3/8"

Cabinet, Overall (including knobs)
Length 10-1/8" Width 6"
Height 8¼"

Bulletin RS 126 - April, 1950

Mailing Classifications 4.13 & 28.17

Price 25¢



ALIGNMENT

1. I.F. ALIGNMENT:

With chassis removed from cabinet, connect a 33,000 ohm resistor across loop section of tuning gang. Connect signal generator to loop section of gang through a 200 mmf capacitor and to the chassis. Align the 4 iron cores of the I.F. transformers to 455 KC starting with the 2nd I.F. transformer and finishing with the 1st I.F. transformer. The receiver must be aligned on battery operation and have the gang tuned to the high frequency end of the dial.

2. OSCILLATOR ALIGNMENT:

With the chassis connected up and operating as in paragraph 1, and with base plate replaced, set signal generator to 525 KC and completely close the gang capacitor. Adjust oscillator coil iron core for maximum output. Set generator to 1625KC, with gang capacitor wide open adjust trimmer on oscillator (front) section of gang for maximum output.

Repeat these operations at 525 and 1625 KC until no further adjustments are necessary.

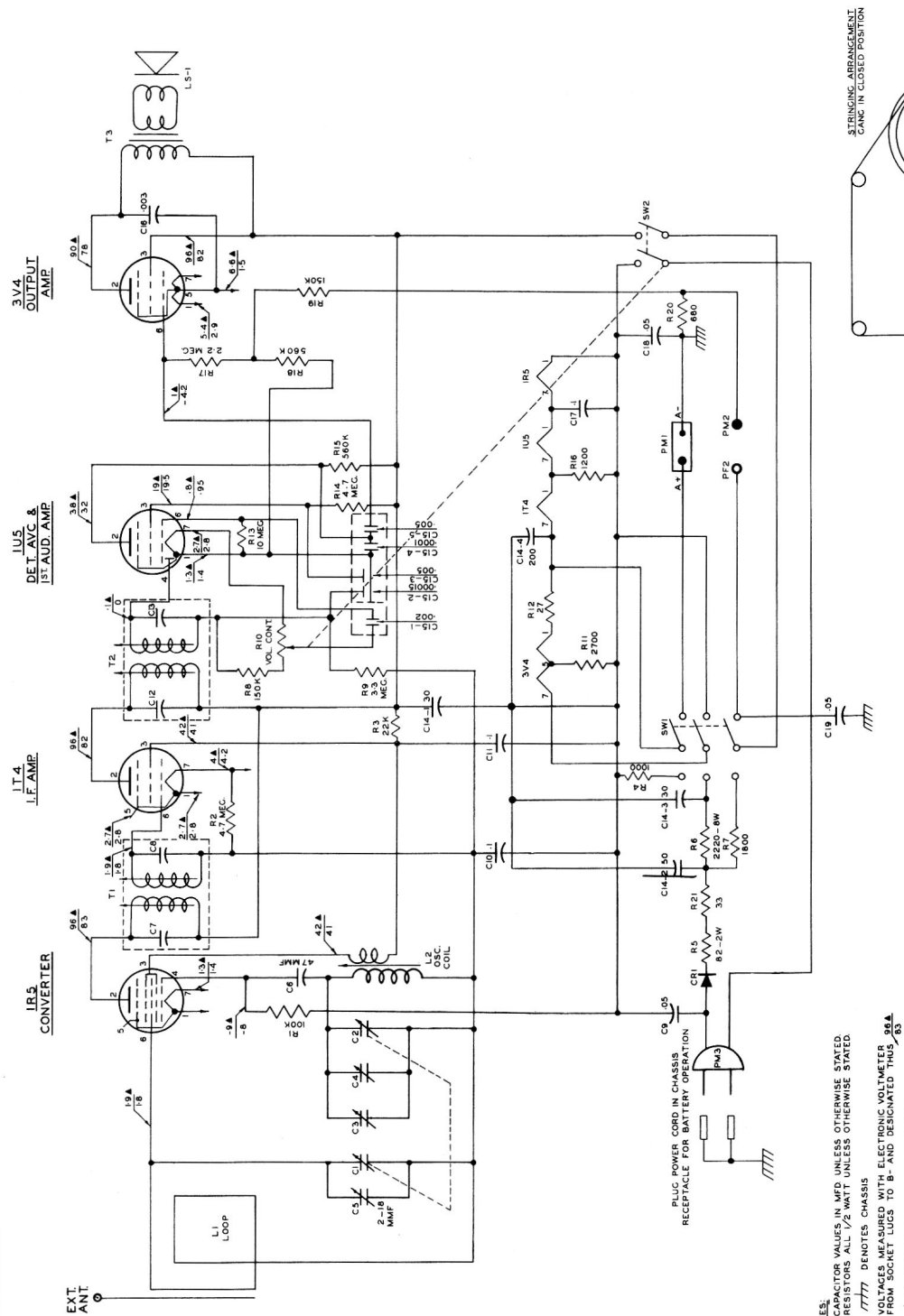
3. LOOP ALIGNMENT:

Remove 33,000 ohm resistor, install chassis in cabinet and connect loop to gang. Leave lead from signal generator lying close to loop but not connected to it or to the chassis. Tune receiver and generator to 1400 KC and adjust ceramic trimmer mounted on top of gang for maximum output. Batteries must be connected and installed in cabinet during this adjustment.

Check frequency of receiver with gang fully open and closed and readjust to 525 and 1625 KC, if necessary, as in paragraph 2. If any change in adjustment is required, repeat loop alignment at 1400 KC.

Replacement Parts

Item	Description	Part No.	Item	Description	Part No.
R1	Resistor 100,000 $\frac{1}{2}$ W	K10000C-104	C17	Capacitor, Paper .1 200 V	K10130-104
R2	Resistor 4.7 meg $\frac{1}{2}$ W	K10000C-475	C18	Capacitor, Paper .05 200 V	K10130-503
R3	Resistor 22,000 $\frac{1}{2}$ W	K10000C-223	C19	Capacitor, Paper .05 200 V	K10130-503
R4	Resistor 1,000 $\frac{1}{2}$ W	K10000C-102	SWL	Switch, AC-Battery	R17360-33
R5	Resistor 82 2 W	K10005C-820	SW2	Switch, Part of	R17361-1
R6	Resistor 2,220 8 W	R17360-63	PM1	Plug, A Battery	R17293-3
R7	Resistor 1,800 $\frac{1}{2}$ W	K10000B-182	PF2	Plug, B Battery	R17293-4
R8	Resistor 150,000 $\frac{1}{2}$ W	K10000C-154	PM2	Plug, B Battery	R17293-5
R9	Resistor 3.3 meg $\frac{1}{2}$ W	K10000C-335	CR1	Rectifier, Selenium	K10426A-2
R10	Volume Control 1 meg	R17361-1	L1	Loop	R17360-23
R11	Resistor 2,700 $\frac{1}{2}$ W	K10000B-272	L2	Osc. Coil	R17360-38
R12	Resistor 27 $\frac{1}{2}$ W	K10003B-270	T1	Transformer, I.F.	R17257-1
R13	Resistor 10 meg $\frac{1}{2}$ W	K10000C-106	T2	Transformer, I.F.	R17257-1
R14	Resistor 4.7 meg $\frac{1}{2}$ W	K10000C-475	T3	Transformer, Output	K3873-20
R15	Resistor 560,000 $\frac{1}{2}$ W	K10000B-564	LS1	Speaker	R17360-37
R16	Resistor 1,200 $\frac{1}{2}$ W	K10000B-122		Clip, I.F. Transformer	R17306
R17	Resistor 2.2 meg $\frac{1}{2}$ W	K10000C-225		Speed Nut	R12979-2
R18	Resistor 560,000 $\frac{1}{2}$ W	K10000B-564		Dial Indicator	R17360-52
R19	Resistor 150,000 $\frac{1}{2}$ W	K10000C-154		Dial Spring	R17338-1
R20	Resistor 680 $\frac{1}{2}$ W	K10000C-681		Dial Cord	K10301
R21	Resistor 33 $\frac{1}{2}$ W	K10003C-330		Cord & Plug Assembly	K10319-31
C1	Capacitor, Gang 420-162	R17356-4		"C" Washer	K2895
C2	Capacitor, Gang			Tuning Shift	R17362-1
C3	Capacitor, Gang			Tube Mini-Shield	R17311
C4	Capacitor, Gang			Knob, Maroon	R17360-69
C5	Capacitor, Trimmer 1.5 - 18	K1458-14		Knob, Green	R17360-71
C6	Capacitor, Ceramic 47 mmf	K10409B-470		Cabinet Assembly, Marron	R17360-30A
C7	Capacitor, Part of	R17257-1		Cabinet Assembly, Green	R17360-30C
C8	Capacitor, Part of	R17257-1		Kord-Lok bushing	K10440-1
C9	Capacitor, Paper .05 600 V	K10128-503		Dial Back Plate Assembly	R17360-55
C10	Capacitor, Paper .1 200 V	K10130-104		Tube, 1R5	
C11	Capacitor, Paper .1 200 V	K10130-104		Tube 1T4	
C12	Capacitor, Part of	R17257-1		Tube 1U5	
C13	Capacitor, Part of	R17257-1		Tube 3V4	
C14	Capacitor, Electrolytic 50 - 30 150 - 100 30 - 200 25 - 10	R17359-1		Holder Strap	R17360-57
C15	Capacitor, Bullplate .002 - .005 .00015 - .0001	R17363-1		Handle, Maroon	R17360-68
C16	Capacitor, Paper .003 600 V	K10128-302		Handle, Green	R17360-70
				Handle, Spring	R17360-67



MODEL B.P.541Q
THREE WAY PORTABLE RECEIVER
SCHEMATIC DIAGRAM

Northern Electric

COMPANY LIMITED

DISTRIBUTING HOUSES THROUGHOUT CANADA