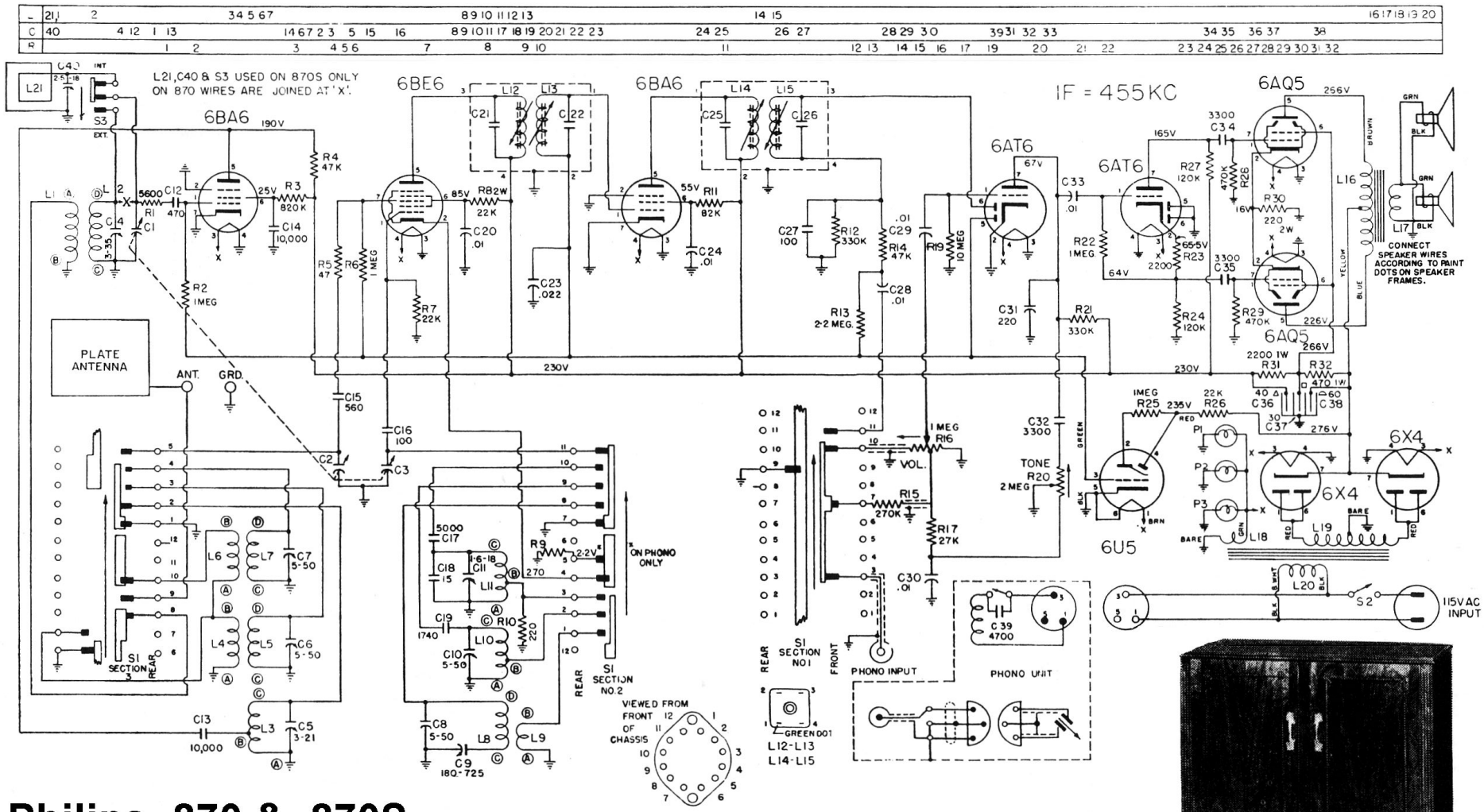



# Philips 870 & 870S

| OPERATION STEPS | SIGNAL GENERATOR | | RECEIVER | | | |
|---|---|---|---|---|---|---|
| | Output Connections to Receiver | Frequency | Range Switch | Tuning Capacitor | See Notes | Adjust in Stated Order for Maximum Output |
| 1 | To 6BA6 Control Grid (1) through .05 mf Capacitor | 455 kc. | Pos. 2 | Min. | | 2nd I.F. Transformer L15 bottom L14 top, |
| 2 | To lug 5 of SW1, Section 3 through .05 mf Capacitor | 455 kc. | Pos. 2 | Min. | A | 1st I.F. Transformer L13 top, L12 bottom |
| 3 | To Antenna Contact through 100 mmf Capacitor* | 1600 kc. | Pos. 2 | 1600 kc. | B | B.C. Osc. Trimmer C8<br>B.C. Ant. Trimmer C4<br>B.C. R.F. Trimmer C5 |
| 4 | To Antenna Contact through 100 mmf Capacitor* | 600 kc. | Pos. 2 | 600 kc. | C | B.C. Osc. Padder C9 |
| 5 | To Antenna Contact through 400 ohms resistor* | 5 Mc. | Pos. 3 | 5 Mc. | D | S.W. Osc. Trimmer C10<br>S.W. Ant. Trimmer C6 |
| 6 | To Antenna Contact through 400 ohms resistor* | 16 Mc. | Pos. 4 | 16 Mc. | D | S.W. Osc. Trimmer C11<br>S.W. Ant. Trimmer C7 |
| 7<br>870S | Disconnect generator leads from receiver | 1500 kc. | Pos. 2 | 1500 kc. | E | B.C. Loop Trimmer C40 |

* Or a standard dummy antenna with a 200 mmf condenser in series.



## ALIGNMENT NOTES

A — After operation 2 has been completed, do not make any further adjustments to L15 and L14.

B: The metal base plate of the chassis must be in position for operations 3, 4, 5 and 6.

C: After operation 4 has been completed, return to 1600 kc. and repeat operation 3, then repeat operation 4.

D: Unscrew oscillator trimmers approximately 3 turns from tight. Then turn adjustment clockwise until first output peak is obtained. Make adjustments using this peak. Rock the tuning capacitor slowly back and forth while adjusting antenna trimmers.

E: Assemble receiver in cabinet with back cover in position. Place antenna switch in the internal (loop antenna) position. Align with a radiated 1500 kc signal from generator or on a weak station around 1500 kc.

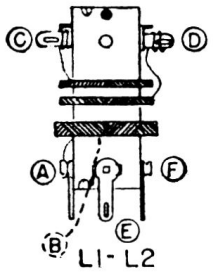
ARROWS ⟵ ON POTENTIOMETERS AND SWITCHES INDICATE CLOCKWISE ROTATION OF SHAFT

ALL SWITCH SECTIONS ARE SHOWN IN THE EXTREME COUNTER CLOCKWISE POSITION OF SWITCH (S1 IS IN THE PHONOGRAPH POSITION)

ALL D.C. VOLTAGES MEASURED TO CHASSIS WITH A 20,000 OHMS PER VOLT METER, WITH S1 IN A RADIO POSITION AND NO SIGNAL APPLIED. TEST VOLTAGE = 117V, 25-60 C.

ALL RESISTANCE VALUES ARE INDICATED IN OHMS K=1000 OHMS, MEG = 1,000,000 OHMS.

CAPACITOR VALUES, ⊣⊢ ⊣⊢, SHOWN IN MICRO-MICRO FARADS, ⊣⊢ ⊣⊢ SHOWN IN MICRO FARADS.




L1 - L2
B.C. ANT.

POINTER SHOWN AT HIGH FREQUENCY END OF DIAL

LOOP AROUND PULLEY

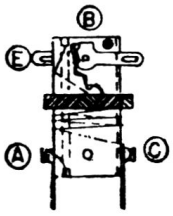
LOOP OVER PULLEY

GANG CONDENSER AT MINIMUM CAPACITY (OPEN)

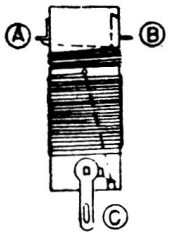
DIAL DRUM IN POSITION SHOWN

SPRING EXTENDED TO 1¼"

LENGTH OF CORD APPROXIMATELY 50"



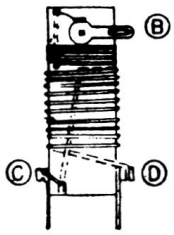

L3
B.C. R.F.



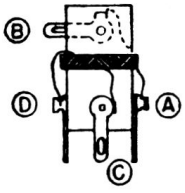

L4 - L5
S.W.#1 ANT.

**Philips 870 & 870S**

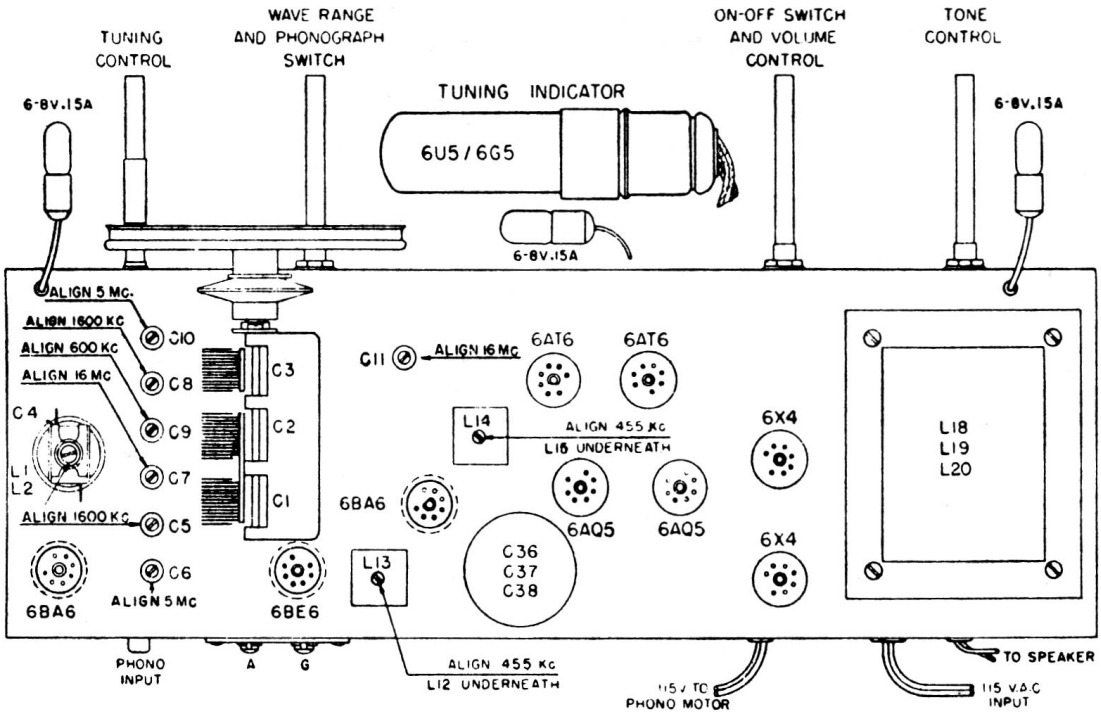
3½ TURNS AROUND TUNING SHAFT

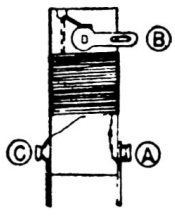



L6 - L7
S.W.#2 ANT.

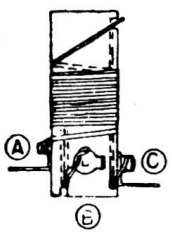



L8 - L9
B.C. OSC.




L10
S.W.#1 OSC.




L11
S.W.#2 OSC.