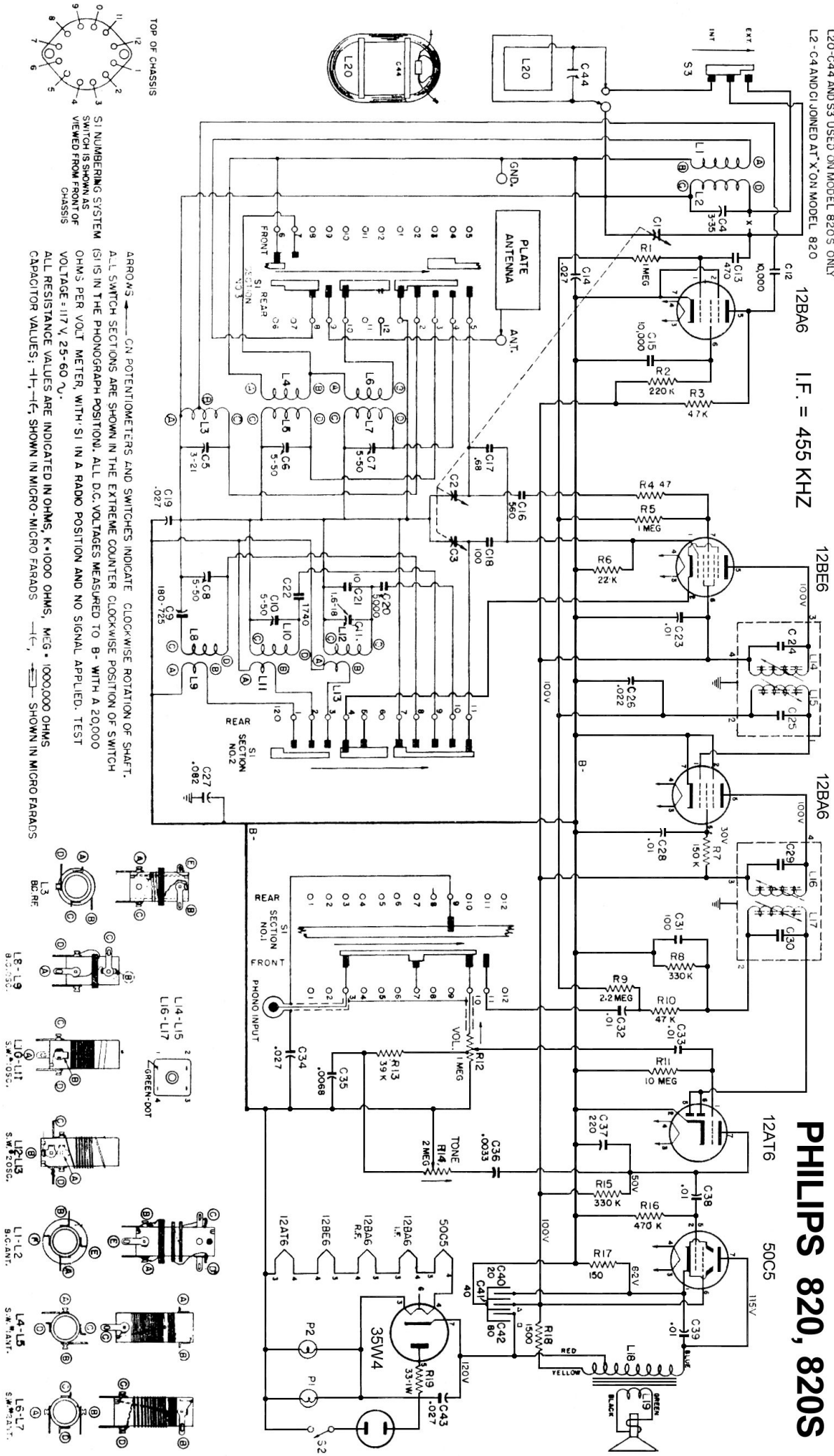


# PHILIPS 820, 820S



ARRANGEMENT OF DIAL CORD

ALIGN POINT OF SLIDER WITH START LINE OF ALIGNMENT SCALE  
 POINTER SHOWN AT HIGH-FREQUENCY END OF DIAL  
 GANG CONDENSER AT MINIMUM CAPACITY (OPEN)  
 DIAL DRUM IN POSITION SHOWN  
 SPRING EXTENDED TO  $\frac{1}{2}$ "  
 LENGTH OF CORD APPROXIMATELY 62"

$3\frac{1}{2}$  TURNS AROUND TUNING SHAFT

The schematic diagram shows each section of this switch in a straight line form. The short stator contacts are represented as solid squares; the long contacts as solid rectangles; and the rotor contacts as bars. All sections are shown in the extreme counterclockwise (phonograph) position of the switch. As the switch rotates clockwise, the rotor contacts move upwards through the second, third and fourth and switch positions as indicated above. The exact location of each stator is shown on a front view drawing of a switch wafer on the schematic diagram.

130V. 8W.

TUNING CONTROL

WAVE RANGE AND PHONOGRAPH SWITCH

ON-OFF SWITCH AND VOLUME CONTROL

150V 8W

12BA6

ALIGN 5 Mc.

ALIGN 1600 Kc.

ALIGN 600 Kc.

ALIGN 16 Mc.

ALIGN 1600 Kc.

ALIGN 16 Mc.

C10

C8

C9

C7

C5

C6

12BE6

12BA6

L15

GROUND FOR RECORD PLAYER BASE

C11

ALIGN 16 Mc.

12AT6

L17

ALIGN 455 Kc.

L16 UNDERNEATH

C40

C41

C42

50C5

35W4

L18

L19

TO SPEAKER

# BAND CHANGE SWITCH

## ALIGNMENT PROCEDURE AND EQUIPMENT CONNECTIONS

**SIGNAL GENERATOR:** Allow a sufficient length of time after the generator has been turned on for it to become thermally stable before making any tests. Always be sure to use the specified capacitor in series with the signal generator output lead connections as listed on the alignment procedure chart. Connect the return lead of the signal generator to the B— (center shield of 12BA6) of the receiver through a .05 mf condenser. Do not connect a grounded lead to B—.

**OUTPUT INDICATOR:** If a power output meter is used, adjust it for 4 ohms impedance and connect it across the secondary of the output transformer in place of the speaker voice coil. Do not exceed 500 milliwatts output during alignment. If an a-c voltmeter is used connect it across the voice coil with the speaker connected and do not exceed 1.4 volts during alignment. As the reading of the test meter increases with alignment, regulate the signal generator attenuator to keep the output below the above limits.

**RECEIVER:** Turn the volume control to the full or (clockwise) position and the tone switch to the full clockwise position. With the gang tuning condenser fully open adjust the dial pointer to the alignment mark on high frequency end of the alignment scale.

OPERATION STEPS	S I G N A L G E N E R A T O R			R E C E I V E R		
	Output Connections to Receiver	Frequency	Range Switch	Tuning Capacitor	See Notes	Adjust in Stated Order for Maximum Output
1	To 12BA6 Control Grid (1) through .05 mf Capacitor	455 kc.	Pos. 2	Min.		2nd I.F. Transformer L17 top, L16 bottom
2	To lug 5 of SW1, Section 3 through .05 mf Capacitor	455 kc.	Pos. 2	Min.	A	1st I.F. Transformer L15 top, L14 bottom
3	To Antenna Terminal through 100 mmf Capacitor*	1600 kc.	Pos. 2	1600 kc.		B.C. Osc. Trimmer C8 B.C. R.F. Trimmer C5 B.C. Ant. Trimmer C4
4	To Antenna Terminal through 100 mmf Capacitor*	600 kc.	Pos. 2	600 kc.	B	B.C. Osc. Padder C9
5	To Antenna Terminal through 400 ohms resistor*	5 Mc.	Pos. 3	5 Mc.	C	S.W. Osc. Trimmer C10 S.W. Ant. Trimmer C6
6	To Antenna Terminal through 400 ohms resistor*	16 Mc.	Pos. 4	16 Mc.	C	S.W. Osc. Trimmer C11 S.W. Ant. Trimmer C7
7 820S	Disconnect generator leads from receiver	1500 kc.	Pos. 2	1500 kc.	D	B.C. Loop Trimmer C43

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

### ALIGNMENT NOTES

**NOTE A:** After operation 2 has been completed, do not make any further adjustments to L17 and L16.

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

**NOTE C:** Unscrew oscillator trimmers approximately 3 turns from tight. Then turn adjustment clockwise until first output peak is obtained. Make adjustments

**NOTE D:** using this peak. Rock the tuning capacitor slowly back and forth while adjusting antenna trimmers. Assemble receiver in cabinet with back cover in position. Place antenna switch in the clockwise (loop antenna) position. Align with a radiated 1500 kc. signal from generator or on a weak station around 1500 kc.