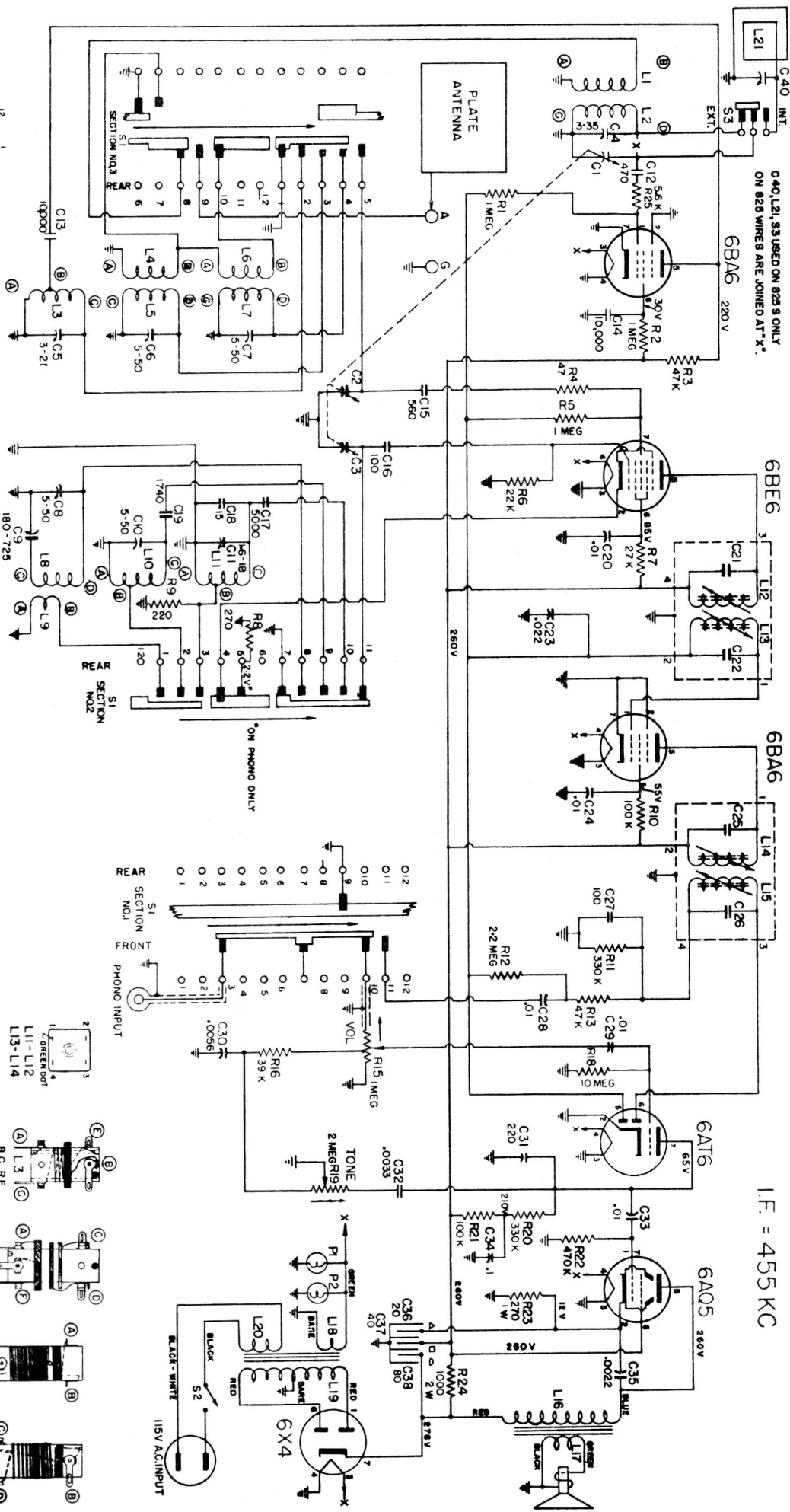
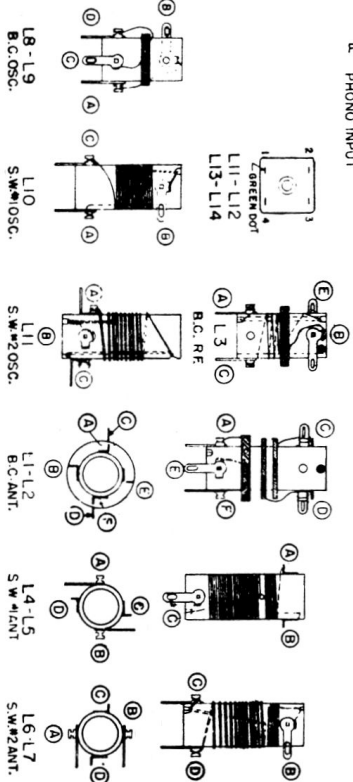


C40, L21, S3 USED ON 825 S ONLY.
ON 825 WIRES ARE JOINED AT "X".

I.F. = 455 KC



ARROWS → ON POTENTIOMETERS AND SWITCHES INDICATES 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 = 117 V, 25-60 Ω .
ALL RESISTANCE VALUES INDICATED IN OHMS. K=1000 OHMS, MEG=1,000,000 OHMS.
CAPACITOR VALUES, μ F = 10⁻⁶, μ M = 10⁻⁹, SHOWN IN MICRO-FARADS, μ F = 10⁻⁶, SHOWN IN MICRO-FARADS.



Philips 825 & 825S

ARRANGEMENT OF DIAL CORD

ALIGN POINT OF SLIDER WITH START LINE ON ALIGNMENT SCALE

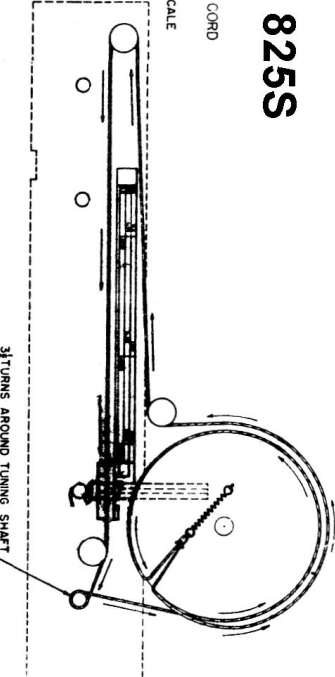
GANG CONDENSER AT MAXIMUM CAPACITY (OPEN)

DIAL DRUM IN POSITION SHOWN

SPRING EXTENDED TO 1/4"

LENGTH OF CORD APPROXIMATELY 53"

POINTER SHOWN AT HIGH FREQUENCY END OF DIAL



Models 825 or 825S are six tube superheterodyne receivers designed for use on AC power only. Three tuning ranges cover from 540 kc. to 18.1 Mc.

PHILIPS TUBES

- 6BA6 R.F. Amplifier.
- 6BE6 Pentagrid Converter.
- 6BA6 I.F. Amplifier.
- 6AT6 Detector AVC and 1st AF Amplifier.
- 6AQ5 Audio Output.
- 6X4 Rectifier.

RANGE SWITCH POSITIONS AND TUNING RANGES

- 1st Phonograph Position.
- 2nd Standard Broadcast Range from 540 kc. to 1740 kc.
- 3rd Shortwave Range from 1.73 Mc. to 5.5 Mc.
- 4th Shortwave Range from 5.5 Mc. to 18.1 Mc.

INTERMEDIATE FREQUENCY: 455 kc.

LINE VOLTAGE:

115 volts, 25 cycles or 115 volts, 60 cycles.

CURRENT DRAIN: .47 ampere.

AUDIO OUTPUT:

2.5 Watts undistorted, 5 Watts maximum.

CONTROLS: (Left to right—looking at front)

1. Tone Control.
 2. On-Off Switch and Volume Control.
 3. Wave Range and Phonograph Switch.
 4. Tuning Control.
- Loop Antenna-Plate Antenna Switch on rear of cabinet (Model 825S only).

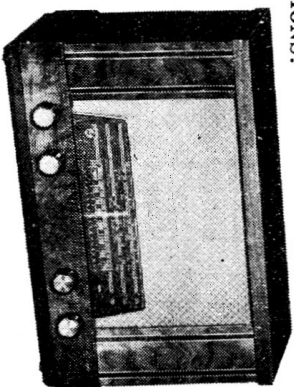
ANTENNA AND GROUND:

A sheet of metal foil or a loop provides a built-in antenna. For optimum results, an outside antenna is necessary.

A secure ground connection should be made to a cold water pipe or to a grounding plate buried in damp ground.

CABINET DIMENSIONS:

Width—18 $\frac{1}{2}$ ".
Height—12 $\frac{1}{4}$ ".
Depth—8".



WAVE RANGE SWITCH:

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 counter-clockwise (phonograph) position of the switch. As the switch rotates clockwise the rotor contacts move upwards through the second, third and fourth wave range 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.

TO REMOVE CHASSIS

1. Disconnect plug from AC line socket.
2. Remove antenna and ground connections.
3. Remove control knobs.
4. Remove back cover. (Disconnect loop leads on 825S.)
5. Disconnect speaker at pin jacks.
6. Lift and remove dial scale glass from front of cabinet.
7. Remove pointer from front of the cabinet by sliding it to the right. Hold pointer slider from inside of cabinet if necessary.
8. Remove the two screws, which secure the chassis mounting plates, from the bottom of the cabinet.
9. Slide chassis complete with mounting plates out of the cabinet.

ALIGNMENT OF RECEIVER

EQUIPMENT REQUIRED

SIGNAL GENERATOR: Capable of supplying modulated frequencies from 450 kc. to 18.5 Mc.

OUTPUT INDICATOR: A power output meter or a high resistance A.C. Voltmeter.

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 ground terminal of the receiver.

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 1.5 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 on (clockwise) position and the tone control to the treble (full counterclockwise) position. With the gang tuning condenser fully open adjust the dial pointer to the alignment mark on high frequency end of the alignment scale on the dial background.

ALIGNMENT PROCEDURE CHART

OPER- ATION 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 6BA6 Control Grid (1) through .05 mf capacitor	455 kc.	Pos. 2	Min.	A	2nd I.F. Transformer L15 Top, L14 Bottom
2	To lug 5 of SW1, Section 3 through .05 mf capacitor	455 kc.	Pos. 2	Min.	B	1st I.F. Transformer L13 Top, L12 Bottom
3	To Antenna Terminal through 100 muf capacitor*	1600 kc.	Pos. 2	1600 kc.	B	B.C. Osc. Trimmer C8 B.C. R.F. Trimmer C5 B.C. Ant. Trimmer C4
4	To Antenna Terminal through 100 muf capacitor*	600 kc.	Pos. 2	600 kc.	C	B.C. Osc. Padder C9
5	To Antenna Terminal through 400 ohms resistor*	5 Mc.	Pos. 3	5 Mc.	D	S.W. Osc. Trimmer C10 S.W. Ant. Trimmer C6
6	To Antenna Terminal through 400 ohms resistor*	16 Mc.	Pos. 4	16 Mc.	D	S.W. Osc. Trimmer C11 S.W. Ant. Trimmer C7
7 825S	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 muf condenser in series.

ALIGNMENT NOTES

- NOTE A**—After operation 2 has been completed, do not make any further adjustments to L15 and L14.
- NOTE B**—The metal base plate of the chassis must be in position for operations 3, 4, 5, 6 and 7.
- NOTE C**—After operation 4 has been completed, return to 1600 kc. and repeat operation 3, then repeat operation 4.
- NOTE D**—Unscrew oscillator trimmers approximately 3 turns from tight. Then turn adjustment clock-
- NOTE E**—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.