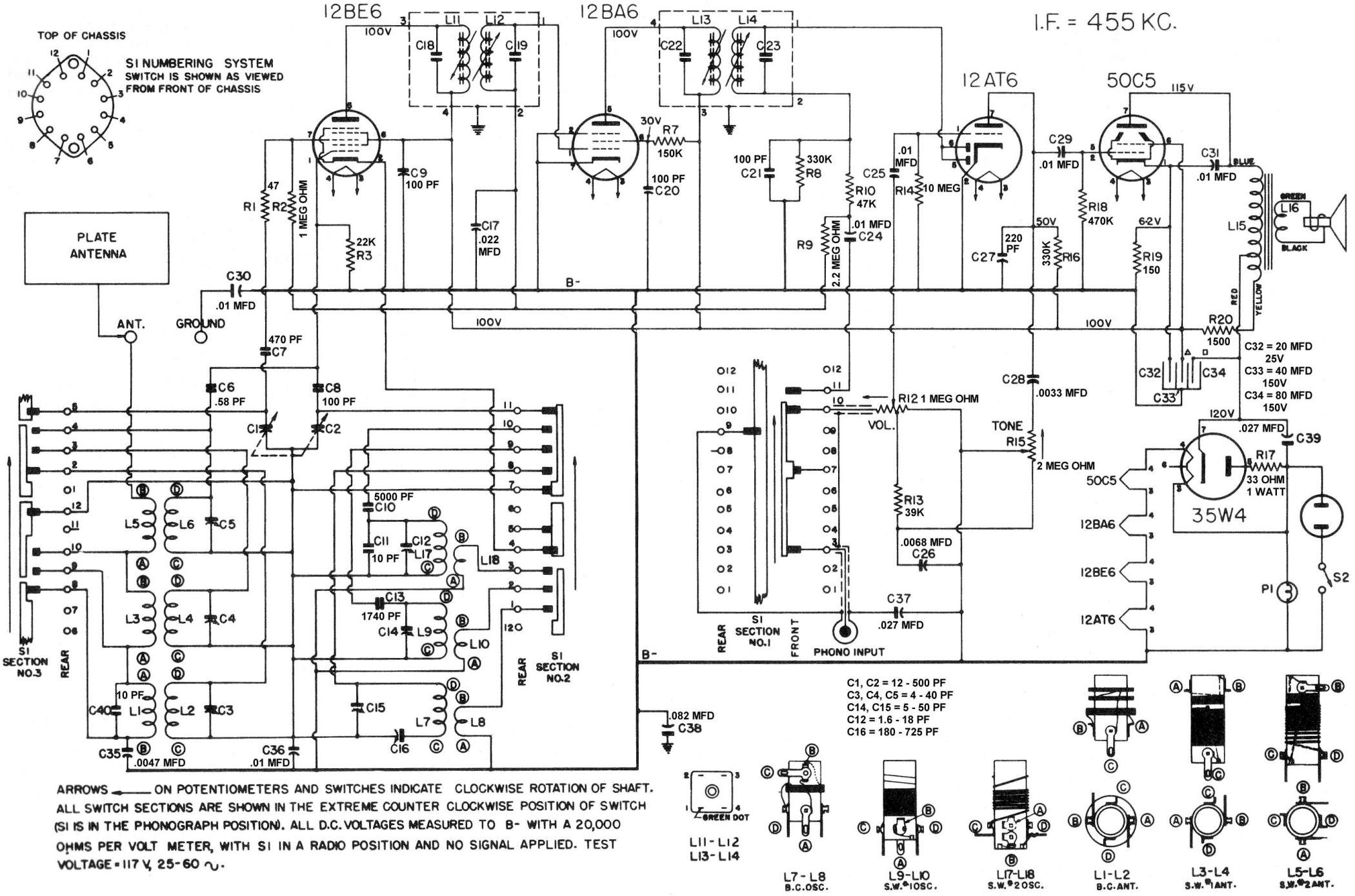


ARROWS ← ON POTENTIOMETERS AND SWITCHES INDICATE CLOCKWISE ROTATION OF SHAFT. ALL SWITCH SECTIONS ARE SHOWN IN THE EXTREME COUNTER CLOCKWISE POSITION OF SWITCH (S1 IS IN THE PHONOGRAPH POSITION). ALL D.C. VOLTAGES MEASURED TO B- WITH A 20,000 OHMS PER VOLT METER, WITH S1 IN A RADIO POSITION AND NO SIGNAL APPLIED. TEST VOLTAGE = 117 V, 25-60 ∿.

ARRANGEMENT OF DIAL CORD

ALIGN POINT OF SLIDER WITH START LINE ON ALIGNMENT SCALE

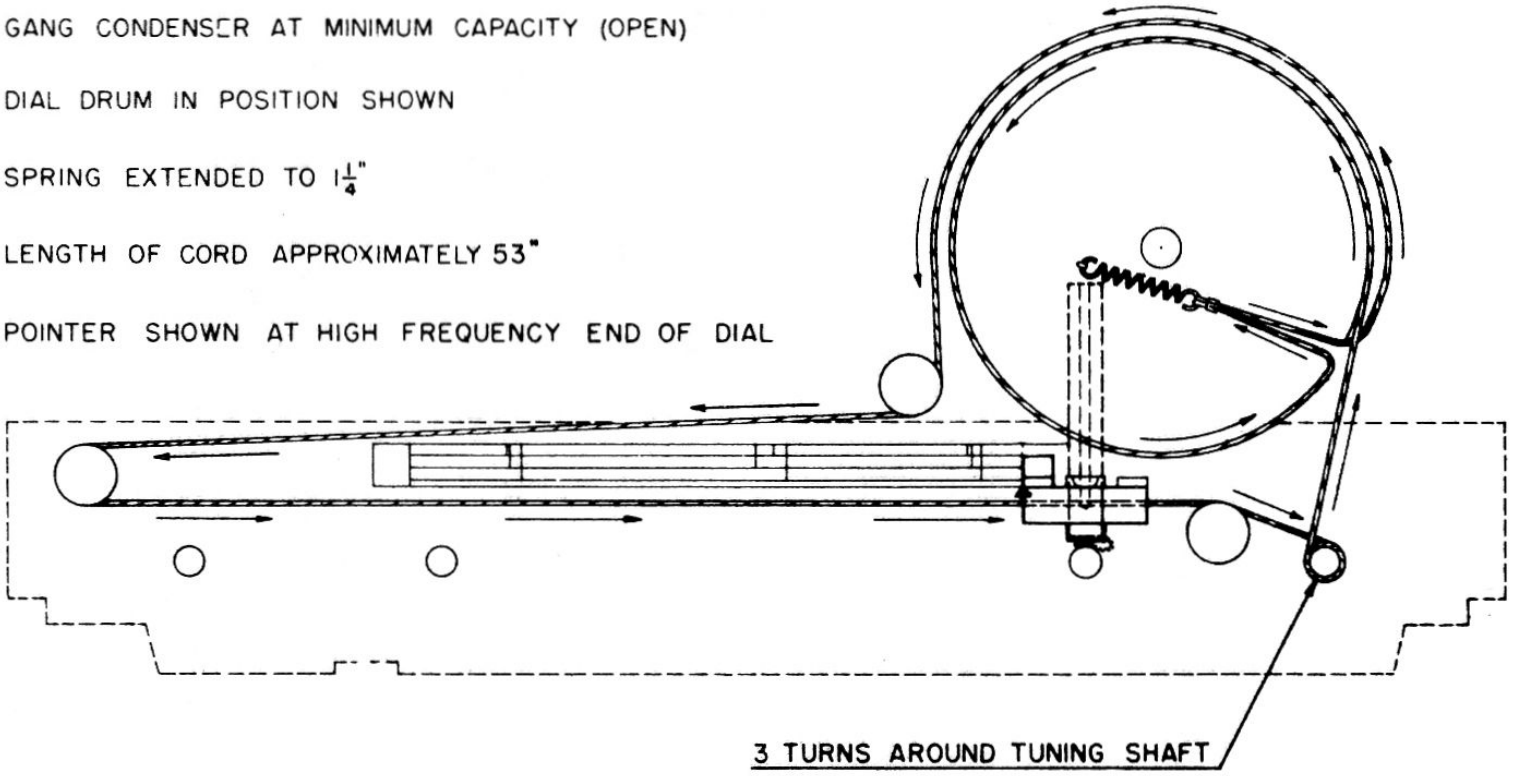
GANG CONDENSER AT MINIMUM CAPACITY (OPEN)

DIAL DRUM IN POSITION SHOWN

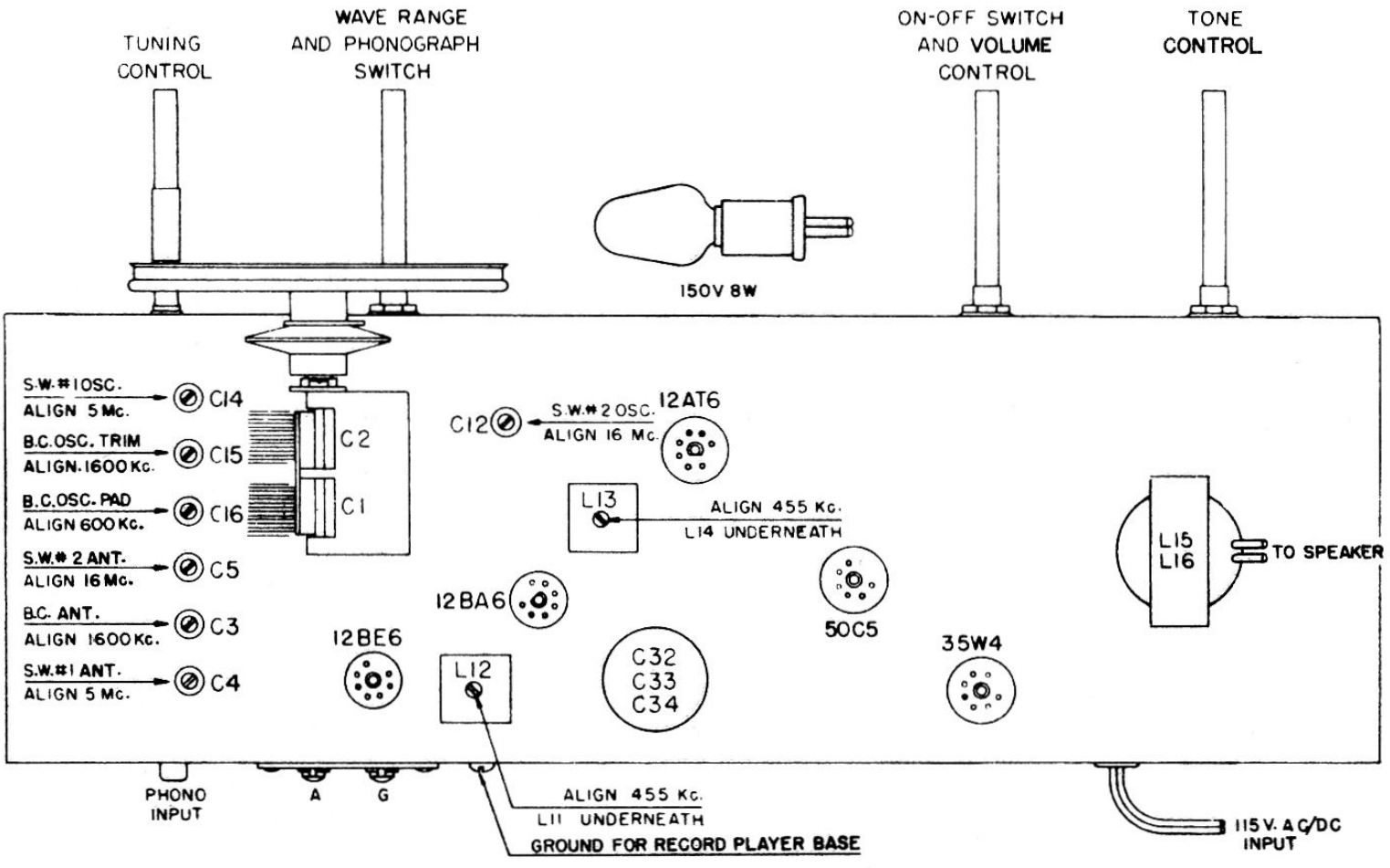
SPRING EXTENDED TO $1\frac{1}{4}$"

LENGTH OF CORD APPROXIMATELY 53"

POINTER SHOWN AT HIGH FREQUENCY END OF DIAL



3 TURNS AROUND TUNING SHAFT



TO REMOVE CHASSIS

1. Disconnect plug from line socket.
2. Remove antenna and ground connections.
3. Remove control knobs.
4. Remove back cover.
5. Disconnect speaker leads.
6. Lift and remove dial scale glass from front of cabinet.
7. Remove pointer from the front of the cabinet by sliding it to the right. (Hold pointer slider from inside the cabinet if necessary.)
8. Remove four chassis mounting screws from bottom of cabinet.
9. Lift rear of chassis and slide it 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.

Line Isolating Transformer: A 115 volt, 1 to 1 ratio transformer. (preferred but not essential).

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 12AT6) of the receiver through a .05 uF condenser. If a line isolating transformer is not used connect the generator return to the ground terminal on the chassis. 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 AC voltmeter is used connect it across the voice coil with the speaker connected and do not exceed 1.4 V. 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 control to the treble (full counterclockwise) position. With the gang tuning condenser fully open adjust the dial pointer to the alignment mark on the high frequency end of the alignment scale.

ALIGNMENT PROCEDURE

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 12BA6 Control Grid (1) through .05 uf Capacitor	455 kc	Pos. 2	Min.		2nd I.F. Transformer L14 top, L13 bottom
2	To lug 5 of SW1, Section 3 through .05 uf Capacitor	455 kc	Pos. 2	Min.	A	1st I.F. Transformer L12 top, L11 bottom
3	To Antenna Terminal through 100 uuf Capacitor ✱	1600 kc	Pos. 2	1600 kc		B.C. Osc. Trimmer C15 B.C. Ant. Trimmer C3
4	To Antenna Terminal through 100 uuf Capacitor ✱	600 kc	Pos. 2	600 kc	B	B.C. Osc. Padder C16
5	To Antenna Terminal through 400 ohms resistor ✱	5 Mc	Pos. 3	5 Mc	C	S.W. Osc. Trimmer C14 S.W. Ant. Trimmer C4
6	To Antenna Terminal through 400 ohms resistor ✱	16 Mc	Pos. 4	16 Mc	C	S.W. Osc. Trimmer C12 S.W. Ant. Trimmer C5

✱ = or a standard dummy antenna with a 200 uuf condenser in series.

Note A: After operation 2 has been completed, do not make any further adjustments to L14 and L13.

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 using this peak. Rock the tuning capacitor slowly back and forth while adjusting antenna trimmer.

RANGE SWITCH POSITIONS AND TUNING RANGES

1st - Phonograph Position
2nd - Standard Broadcast Range 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.

CURRENT DRAIN - .35 ampere

AUDIO OUTPUT - 1 watt undistorted
2 watts maximum