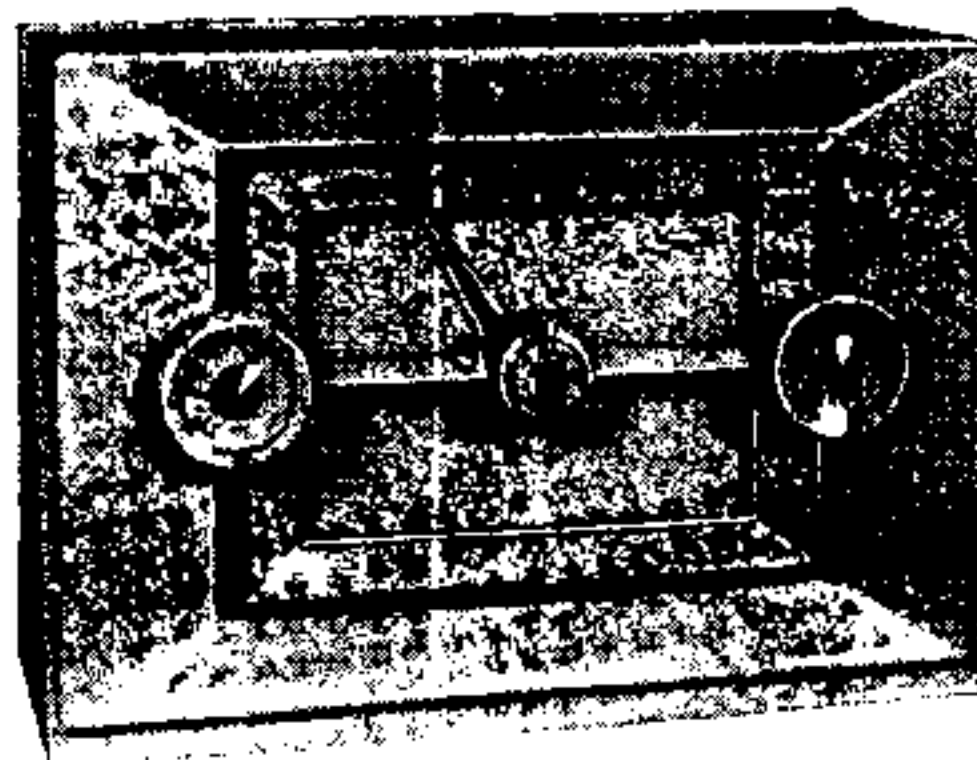
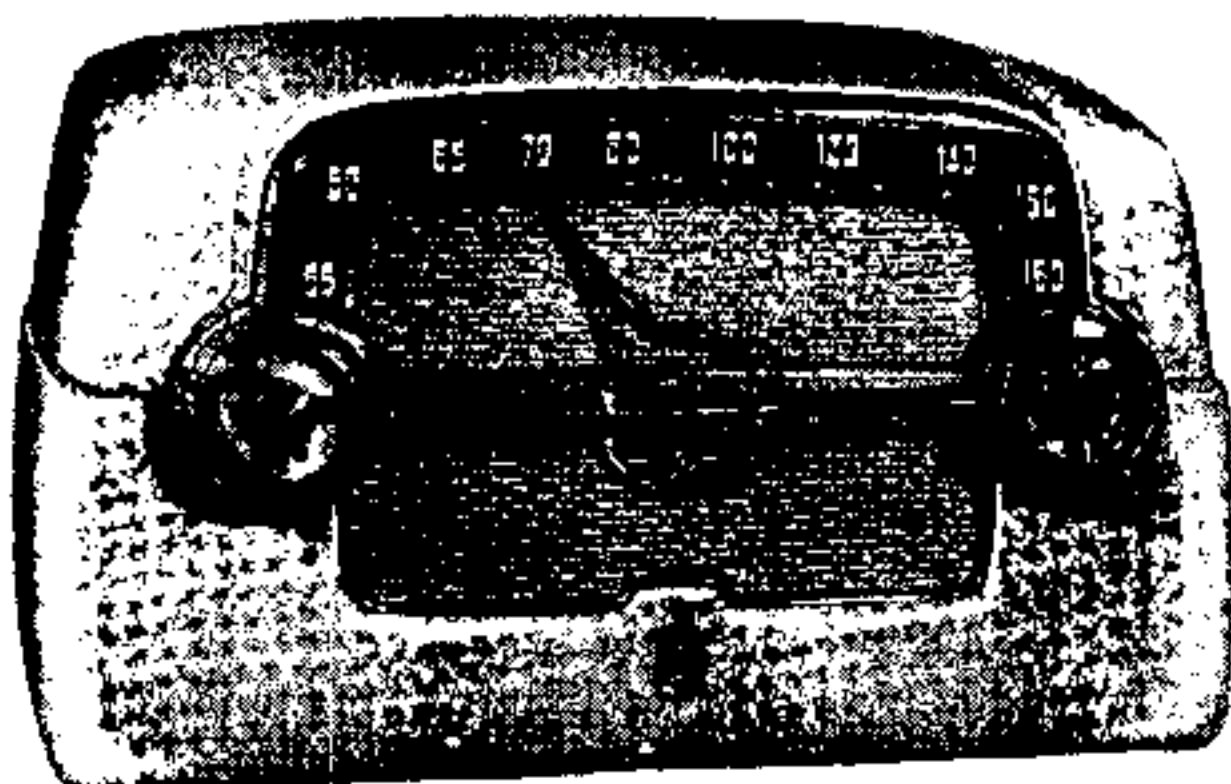


MODELS E15BE, CE, SL, TN, WE, E20GN, GY, MN, TN, Ch. 15-20E



Model	Color
E 15 WE	White
E 15 BE	Blue
E 15 TN	Tan
E 15 SL	Steel Blue
E 15 CE	Chartreuse

Model	Color
E 20 MN	Maroon
E 20 GN	Green
E 20 GY	Grey
E 20 TN	Tan

DESCRIPTION

TYPE: Five-tube, single band, Superheterodyne.
FREQUENCY RANGE: 540 to 1600 kc.
INTERMEDIATE FREQUENCY: 455 kc.
POWER SUPPLY: a.c.-d.c.
VOLTAGE RATING: 105-125 volts.
POWER CONSUMPTION: 30 watts maximum.
POWER OUTPUT: 1 watt maximum.

TUBE COMPLEMENT:

Type	Function
12BE6	Converter
12BA6	I. F. Amplifier
12AV6	Detector, AVC, 1st A. F. Amplifier
50C5	A. F. Power Output
35W4	Rectifier

When using direct current it may be necessary to reverse the position of the power plug in the electric outlet for correct polarity.

Reversing the position of the power plug when alternating current is used may reduce hum.

Under no circumstances should a ground be connected to this receiver.

PHONOGRAPH CONNECTION — To use a record player with this receiver insert the pickup plug of the record player into the Phono jack on back of receiver. Then slide the Radio-Phono Switch on the back of the receiver to the "Phono" position. Connect the power cord of the record player to a convenient electric outlet of the correct voltage and frequency. Operate the record player in the normal manner.

ALIGNMENT PROCEDURE

Note: Before removing the chassis from the cabinet, turn the tuning control completely counter-clockwise and push the dial pointer down so as to clear opening in grille.

1. Connect an output meter across the speaker voice coil.
2. The r.f. signal input from the signal generator should be connected as indicated in the alignment chart. Connect the signal generator ground to lug as shown in Chassis Top View.
3. Turn the volume control on full and adjust the signal generator output to produce approximately midscale deflection of the output meter, but maintain signal generator output as low as possible to prevent AVC action in the receiver.

MODELS E15BE, CE, SL, TN, WE, E20GN, GY, MN, TN, Ch. 15-20E

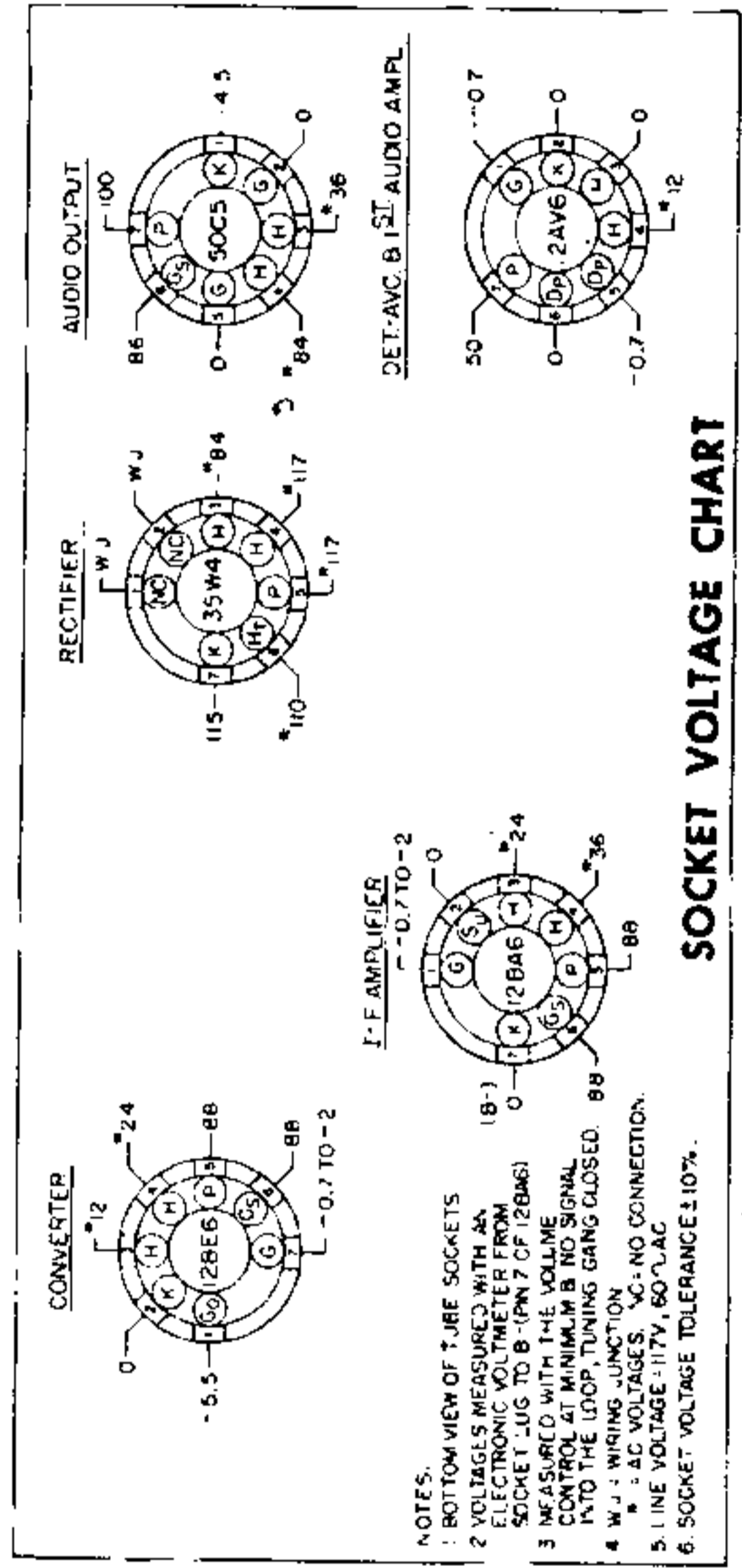
ALIGNMENT CHART

Alignment adjustment locations are shown on page 9 "CHASSIS, TOP VIEW."

Alignment Sequence	Signal Generator Output		Position of Dial pointer	Adjust for Maximum Output
	Frequency in KC	In Series with		
1	455	200 mmf.	1620	A, B, C & D (See Note 1.)
2	1620	200 mmf.	1620	E (See Note 2.)
3	1400	200 mmf.	Tune to Signal	F (See Note 2.)

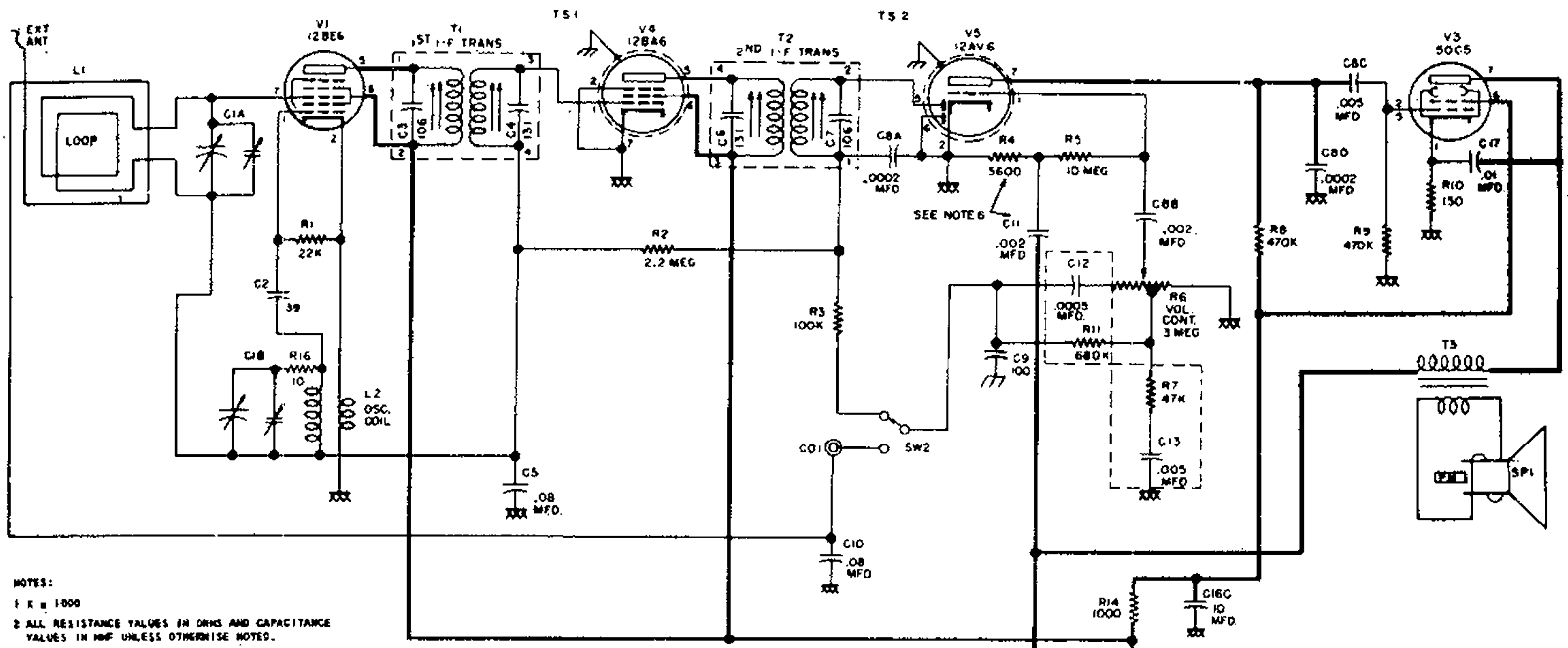
ALIGNMENT NOTES

1. Repeat adjustments (A, B, C & D) in sequence, until maximum output is obtained.
2. The loop antenna must be positioned with respect to the chassis to simulate its position when chassis and loop are fastened in cabinet.
3. After the chassis is installed in the cabinet, set the pointer for proper dial calibration.

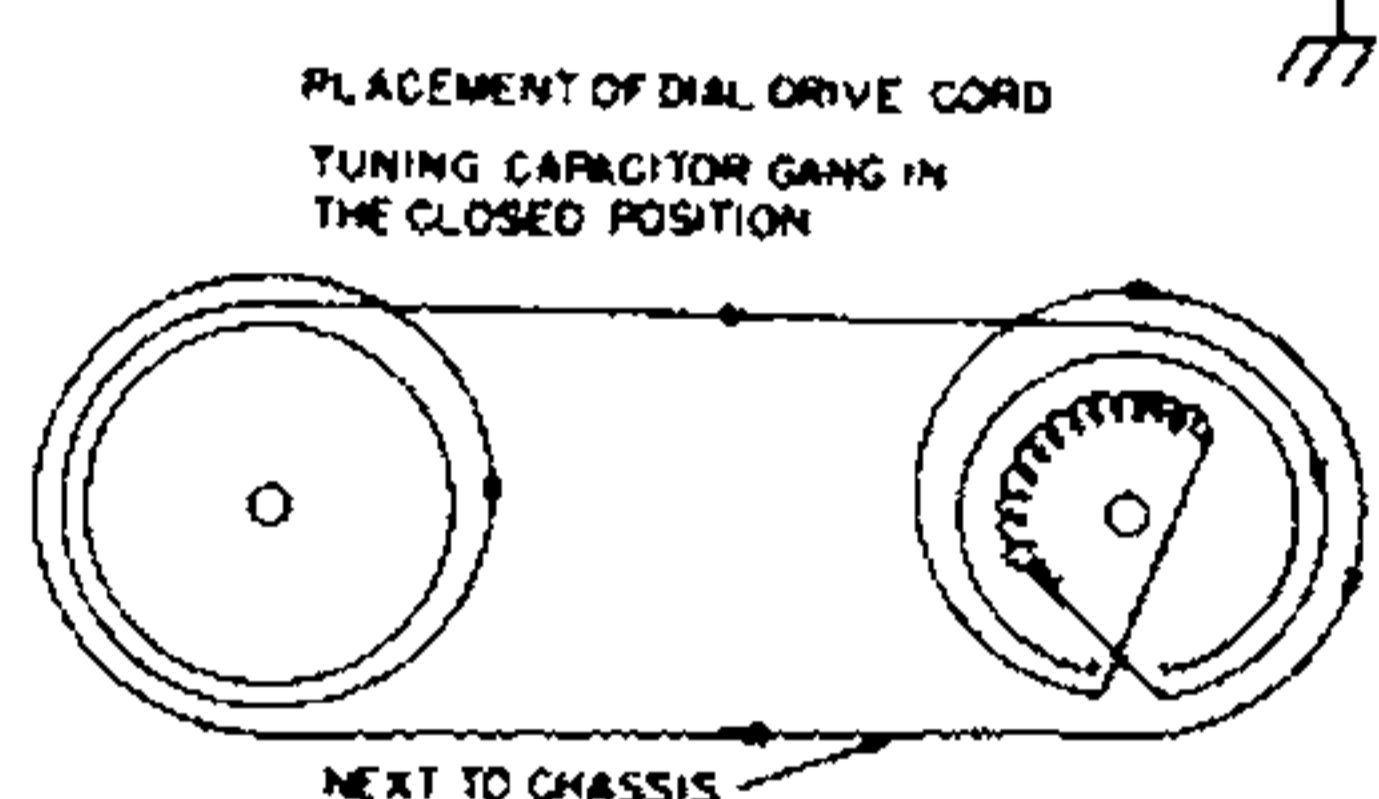
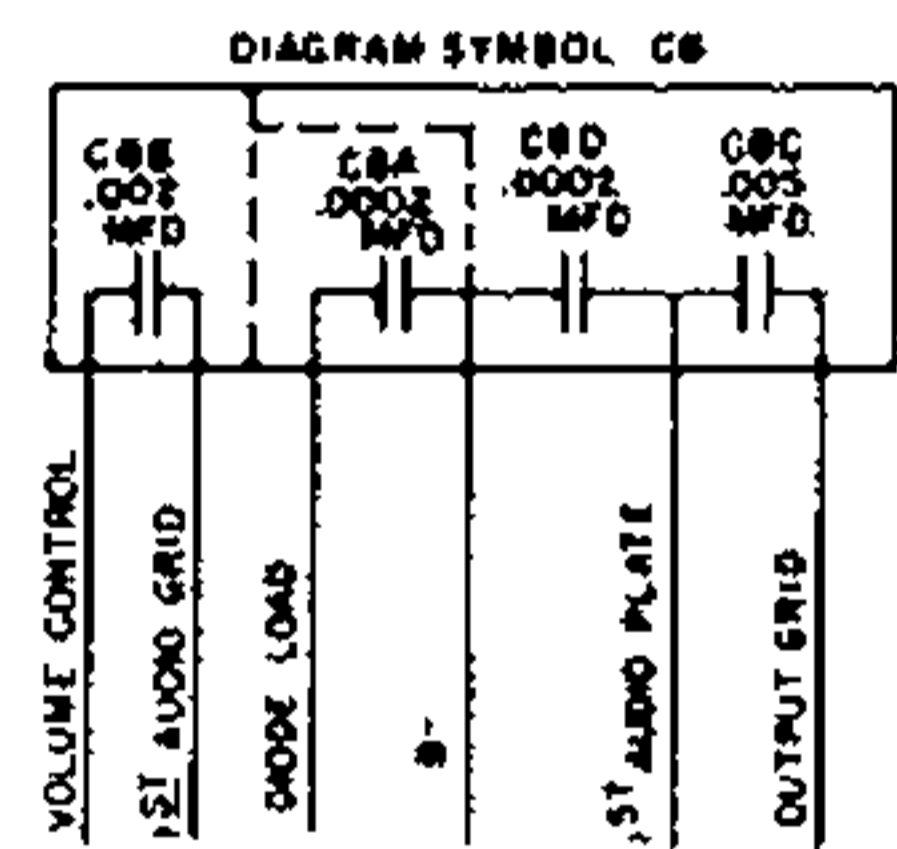


SOCKET VOLTAGE CHART

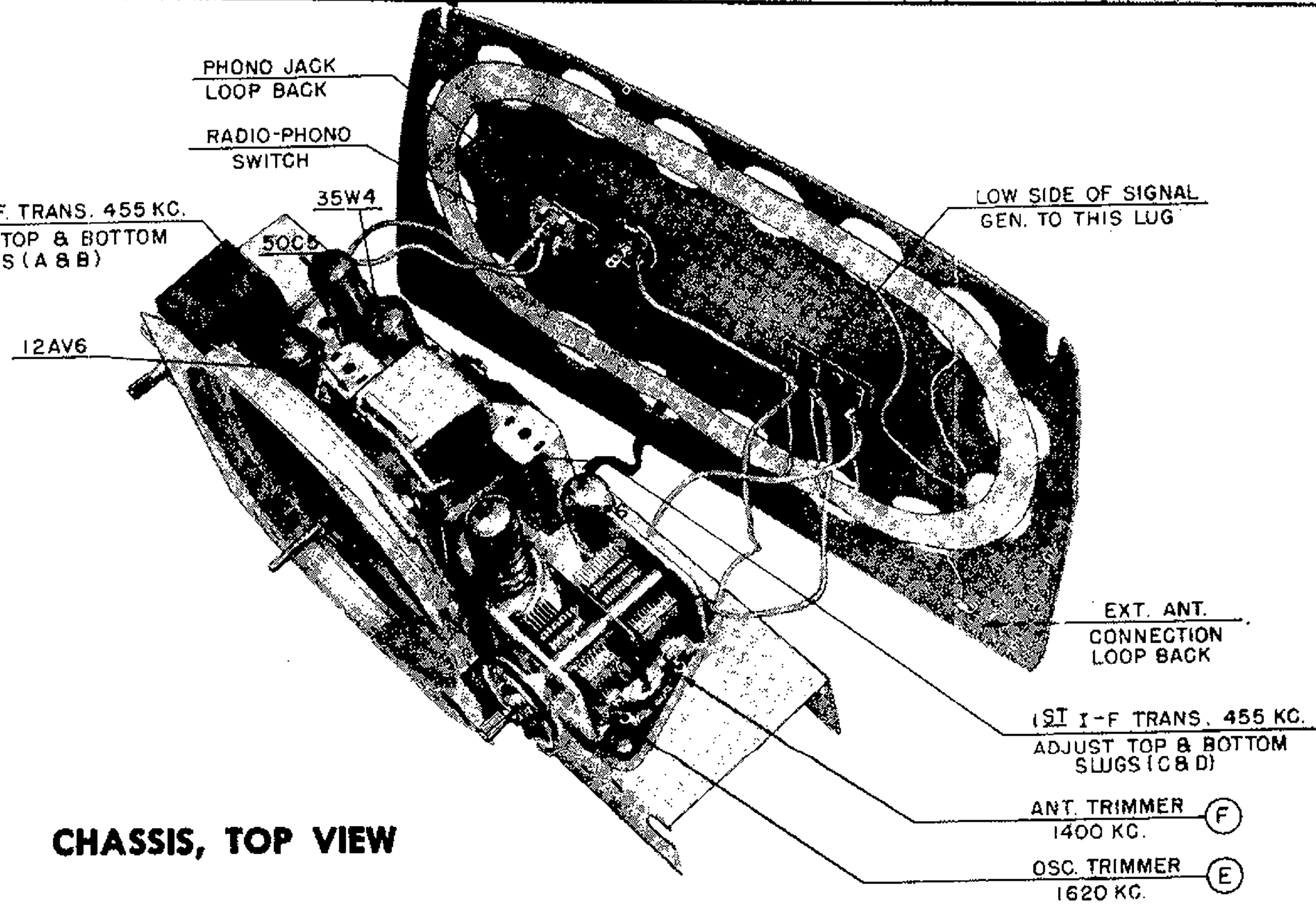
MODELS E15BE, CE, SL, TN, WE, E20GN, GY, MN, TN, Ch. 15-20E



- NOTES:
- 1 K = 1000
 - 2 ALL RESISTANCE VALUES IN OHMS AND CAPACITANCE VALUES IN MMF UNLESS OTHERWISE NOTED.
 - 3 NUMBER ONE TERMINAL ON I.F. TRANSFORMERS CODED WITH GREEN DOT, NUMBERS PROGRESS CLOCKWISE.
 - 4 I.F. = 455 KC.
 - 5 --- = CHASSIS
 - 6 --- = COMMON WIRING
 - 6 R4 AND C15 USED WITH PH. SPEAKERS ONLY.



SCHEMATIC DIAGRAM



CHASSIS, TOP VIEW

MODELS E15BE, CE, SL, TN, WE,
E20GN, GY, MN, TN, Ch. 15-20E

PARTS LIST

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
C1A	151844	Capacitor, Variable		151773-4	Bridge (E20GY)
C1B		Capacitor, Variable } Two Section		151773-2	Bridge (E20TN)
C2	137727-109	Capacitor, 39 mmf., 10%, 200 v., ceramic		153567-1	Cabinet (E15WE)
C3	Part of T1	Capacitor, 106 mmf.		153567-2	Cabinet (E15BE)
C4	Part of T1	Capacitor, 131 mmf.		153567-3	Cabinet (E15TN)
C5	39001-85	Capacitor, .08 mfd., 600 v., paper		153567-4	Cabinet (E15SL)
C6	Part of T2	Capacitor, 131 mmf.		153567-5	Cabinet (E15CE)
C7	Part of T2	Capacitor, 106 mmf.		153007	Cabinet (E20MN)
C8A	144675-1	Capacitor, .0002 mfd., 500 v.		153008-3	Cabinet (E20GN)
C8B		Capacitor, .002 mfd., 500 v. } Four Sec-		153008-4	Cabinet (E20GY)
C8C		Capacitor, .005 mfd., 500 v. } tion disc		153008-2	Cabinet (E20TN)
C8D		Capacitor, .0002 mfd., 500 v. } ceramic		139921	Clip, I.F. Transformer Mtg.
C9	143686-3	Capacitor, 100 mmf., 500 v., Molded disc ceramic		131154-1	Cotter (External), Pointer Pulley
C10	39001-85	Capacitor, .08 mfd., 600 v., paper		153291-1	Escutcheon, Dial (E15WE)
C11	39001-74	Capacitor, .002 mfd., 600 v., paper		153291-2	Escutcheon, Dial (E15BE, E15TN, E15SL, E15CE)
C12	142951-12	Capacitor-Resistor		151674-1	Escutcheon (E20MN)
C13	142951-11	Capacitor-Resistor		151674-3	Escutcheon (E20GN)
C14	39001-85	Capacitor, .08 mfd., 600 v., paper		151674-4	Escutcheon (E20GY)
C15	39001-17	Capacitor, .05 mfd., 600 v., paper		151674-2	Escutcheon (E20TN)
C16A	147174	Capacitor, 100 mfd., 150 v. } Three Sec-		150423	Foot (Felt in metal cup)
C16B		Capacitor, 30 mfd., 150 v. } tion Elec-		153862	Grille Assembly
C16C		Capacitor, 10 mfd., 150 v. } trolytic		151627	Grille Cloth & Baffle Assy.
C17	39001-13	Capacitor, .01 mfd., 600 v., paper		153552-1	Knob (E15WE)
R1	39374-41	Resistor, 22,000 ohm, 10%, 1/2 w.		153552-2	Knob (E15BE)
R2	39374-69	Resistor, 2.2 megohm, 10%, 1/2 w.		153552-3	Knob (E15TN)
R3	39374-49	Resistor, 100,000 ohm, 10%, 1/2 w.		153552-4	Knob (E15SL)
R4	39374-34	Resistor, 5600 ohm, 10%, 1/2 w.		153552-5	Knob (E15CE)
R5	39374-85	Resistor, 10 megohm, 10%, 1/2 w.		152996-1	Knob (E20MN)
R6	151845	Control, Volume (3 megohm, Tap 300,000 ohm)		152996-3	Knob (E20GN)
R7	Part of C13	Resistor, 47,000 ohm, 1/2 w.		152996-4	Knob (E20GY)
R8	39374-57	Resistor, 470,000 ohm, 10%, 1/2 w.		152996-2	Knob (E20TN)
R9	39374-57	Resistor, 470,000 ohm, 10%, 1/2 w.		153540-2	Medallion (E15WE)
R10	39374-15	Resistor, 150 ohm, 10%, 1/2 w.		153540-3	Medallion (E15BE, E15TN, E15SL, E15CE)
R11	Part of C12	Resistor, 680,000 ohm, 1/2 w.		153289-1	Moulding, Trim (E15WE)
R12	39374-189	Resistor, 100 ohm, 10%, 2 w.		153289-2	Moulding, Trim (E15BE, E15TN, E15SL, E15CE)
R13	39374-114	Resistor, 1200 ohm, 10%, 1 w.		147275	Mounting, Rubber (2 used)
R14	39374-25	Resistor, 1000 ohm, 10%, 1/2 w.		45580-2	Mounting, Rubber (1 used)
R16	39374-1	Resistor, 10 ohm, 10%, 1/2 w.		94704-19	Nut (Push-On), Escutcheon
CA1	132300-1	Cable & Plug Assy., Power		153380-2	Pointer, Dial (E15BE, E15TN, E15SL, E15CE)
CO1	136998	Connector, Phono		153380-1	Pointer, Dial (E15WE)
L1	153571	Loop & Back Assy. (E15WE, E15BE, E15TN, E15SL, E15CE)		151854	Pointer, Dial (E20MN, E20GN, E20GY, E20TN)
L1	152994	Loop & Back Assy. (E20MN, E20GN, E20GY, E20TN)		151946	Pulley, & Shaft Assy., Dial Pointer
L2	153405	Coil, Oscillator		39482-18CL	Screw, Bridge Mtg. (E15WE)
SP1	145956-2	Speaker (5-1/4" P.M.)		39178-29CL	Screw, Bridge Mtg. (E20MN, E20GN, E20GY, E20TN)
SW1	Part of R6	Switch, Power		39462-2	Socket, Tube
SW2	148260	Switch, Phono		51752	Spring, Drive Cord
T1	139919-3	Transformer, 1st I.F.		136830	Stud, Trimount (E20MN, E20GN, E20GY, E20TN)
T2	139919-3	Transformer, 2nd I.F.		153582	Stud, Trimount (E15WE, E15BE, E15TN, E15SL, E15CE)
T3	147171	Transformer, Output		147216	Suction Cup
TS1	147784	Shield, Tube (V2)		148775-2	Support & Bushing Assy., Pointer Pulley
TS2	147784	Shield, Tube (V3)			
	147934	Bottom, Chassis			
	153290-1	Bridge (E15WE)			
	153290-2	Bridge (E15BE, E15TN, E15SL, E15CE)			
	151773-1	Bridge (E20MN)			
	151773-3	Bridge (E20GN)			