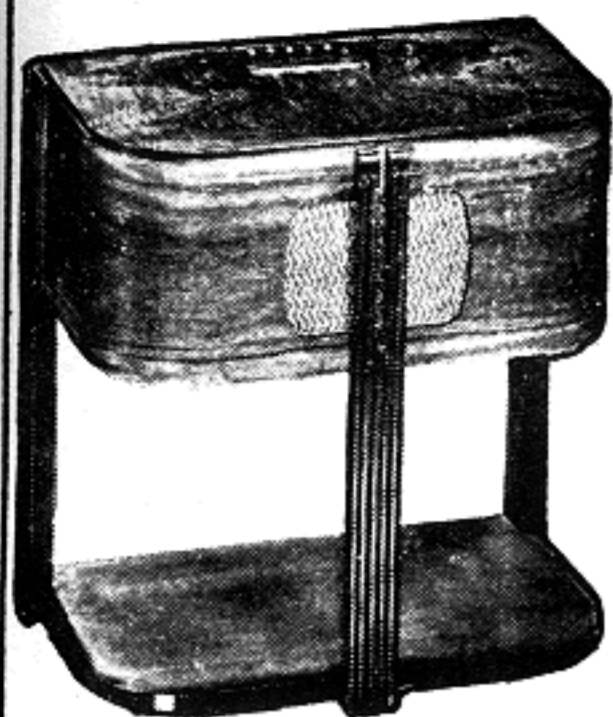


# MODELS 95T5, 96E, 96T and 96T1

## Five- and Six-Tube, Electric-Tuning, Single-Band, A-C, Superheterodyne Receivers



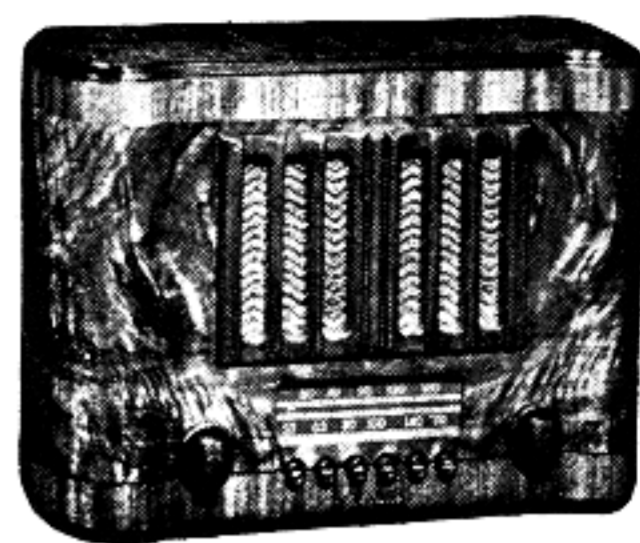
Model 96E



Model 95T5



Model 96T



Model 96T1

### Electrical Specifications

Frequency Range..... 540-1,720 kc

One Station between approximately 550-980 kc (Button No. 1—left)

Two Stations between approximately 650-1,080 kc (Buttons 2 and 3)

Two Stations between approximately 850-1,500 kc (Buttons 4 and 5)

R-F Alignment Frequency..... 1,500 kc (osc., ant.)

Intermediate Frequency..... 455 kc

#### RCA TUBE COMPLEMENT

##### Model 95T5

(1) RCA-6A8-G..... First Detector—Oscillator

(2) RCA-6K7..... I-F Amplifier

(3) RCA-6Q7-G.... Second Det., A.V.C., and A-F Amp.

(4) RCA-6K6-G..... Power Output

(5) RCA-5Y3-G..... Full-Wave Rectifier

##### Models 96E, 96T, and 96T1

(1) RCA-6A8-G..... First Detector—Oscillator

(2) RCA-6K7..... I-F Amplifier

(3) RCA-6H6..... Second Det., and A.V.C.

(4) RCA-6F5..... Audio Voltage Amplifier

(5) RCA-6K6-G..... Power Output

(6) RCA-5Y3-G..... Full-Wave Rectifier

Pilot Lamp (1)..... Mazda 44, 6.3 volts, .25 amp.

#### POWER OUTPUT

Undistorted..... Model 95T5 1.0 watts Models 96E, 96T, 96T1 2 watts

Maximum..... Model 95T5 1.5 watts Models 96E, 96T, 96T1 4 watts

#### POWER SUPPLY RATINGS

Rating A..... 105-125 volts, 50-60 cycles..... 50 watts 75 watts

Rating B..... 105-125 volts, 25-60 cycles..... 50 watts 75 watts

Rating C..... 105-125/200-250 volts, 50-60 cycles..... 50 watts 75 watts

#### LOUDSPEAKER (ELECTRODYNAMIC)

Diameter (inches)..... 95T5 5 96E 6 96T 5 96T1 6

V. C. Impedance at 400 cycles (ohms)..... 95T5 3.1 96E 2.6 96T 5.0 96T1 2.6

### MODELS 95T5, 96E, 96T, 96T1, 97X

#### Changes in 2nd and 3rd Production:

##### PUSH-BUTTON FREQUENCY RANGES

	1ST PRODUCTION	2ND PRODUCTION (Chassis Stamped "MOD")	3RD PRODUCTION (Chassis Stamped "M")
Button No. 1 (left).....	550- 980 kc	550- 980 kc	550- 980 kc
Button No. 2.....	650-1,080 kc	550- 980 kc	550- 980 kc
Button No. 3.....	650-1,080 kc	650-1,080 kc	690-1,225 kc
Button No. 4.....	850-1,500 kc	850-1,500 kc	850-1,500 kc
Button No. 5.....	850-1,500 kc	850-1,500 kc	850-1,500 kc

##### ANTENNA TRIMMER-BANK CAPACITANCE

	1ST PRODUCTION	2ND PRODUCTION	3RD PRODUCTION
C20 .....	100-400 mmfd.	100-400 mmfd.	100-400 mmfd.
C21 .....	70-290 mmfd.	100-400 mmfd.	100-400 mmfd.
C22 .....	70-290 mmfd.	70-290 mmfd.	40-250 mmfd.
C23 .....	20-160 mmfd.	20-160 mmfd.	20-160 mmfd.
C24 .....	20-160 mmfd.	20-160 mmfd.	20-160 mmfd.

	Stock No.	Stock No.	Stock No.
Capacitor—Antenna trimmer capacitor bank (includes C20, C21, C22, C23, C24) ..	31416	32066	32339
Capacitor—Electrolytic Capacitor* (C16, C17)			
5 and 5 mfd. (95T5 only).....	31423	31423	32341
8 and 8 mfd. (96T, 96T1, 96E only).....	31424	31424	.....
10 and 10 mfd. (96T, 96T1, 96E only).....	.....	.....	32342
16 and 16 mfd. (97X only).....	31479	31479	31479
Coil—Antenna coil (L1, L2)**.....	30894	30894	32338
Coil—Oscillator coil (L12).....	31415	31415	31415
Coil—Oscillator coil (L13).....	31384	31415	31415
Coil—Oscillator coil (L14).....	31384	31384	32340
Coil—Oscillator coil (L15).....	31383	31383	31383
Coil—Oscillator coil (L16).....	31383	31383	31383

\* Electrolytic capacitors Stock Nos. 31423, 31424 and 31479 have leads; Stock Nos. 32341 and 32342 have lug contacts, C16 identified by a triangle, and C17 identified by a square.

\*\* Stock No. 30894 antenna coil has a high-frequency primary (1 ohm d-c resistance) for use with a normal-length antenna. Stock No. 32338 antenna coil has a low-frequency primary (35 ohms d-c resistance) for use with a short antenna. No. 32338 may be used as replacement for No. 30894.



## Alignment Procedure

**Cathode-Ray Alignment** is the preferable method. Connections for the oscillograph are shown in the chassis drawing. Turn the receiver volume control to maximum.

**Output Meter Alignment.**—If this method is used, connect the meter across the voice coil, and turn the receiver volume control to maximum.

**Test-Oscillator.**—For all alignment operations, connect the low side of the test-oscillator to the receiver chassis, and keep the output as low as possible to avoid a-v-c action.

**Calibration Marks.**—The tuning dial is fastened in the cabinet and can not be used for reference during alignment. Therefore calibration marks corresponding to dial readings of 600 kc and 1,500 kc have been stamped in the plate on the front of the chassis, as shown in the accompanying drawing. These marks are used for reference during alignment.

**Drum and Dial Indicator Adjustment.**—As the first step in r-f alignment, check the position of the drum on the front

shaft of the gang condenser. With the gang at maximum (full mesh) the drum set-screw should be pointing directly down as shown in the drawing. With the drum in this position, and the gang at maximum, move the dial indicator along the drive cord to coincide with the left-hand line as shown. The indicator is held to the drive cord by means of spring clips.

After completion of alignment, and after the chassis has been fastened in the cabinet, turn the gang to maximum and note whether the dial indicator is at the left-hand end mark on the dial; if it is not, loosen the drum set-screw (which is accessible through a slot in the bottom of the cabinet), turn the drum slightly so that the indicator is at this mark, and then tighten the set-screw.

After completion of alignment, seal the i-f core-adjustment screws with household cement.

For additional details, refer to booklet, "RCA Victor Receiver Alignment."

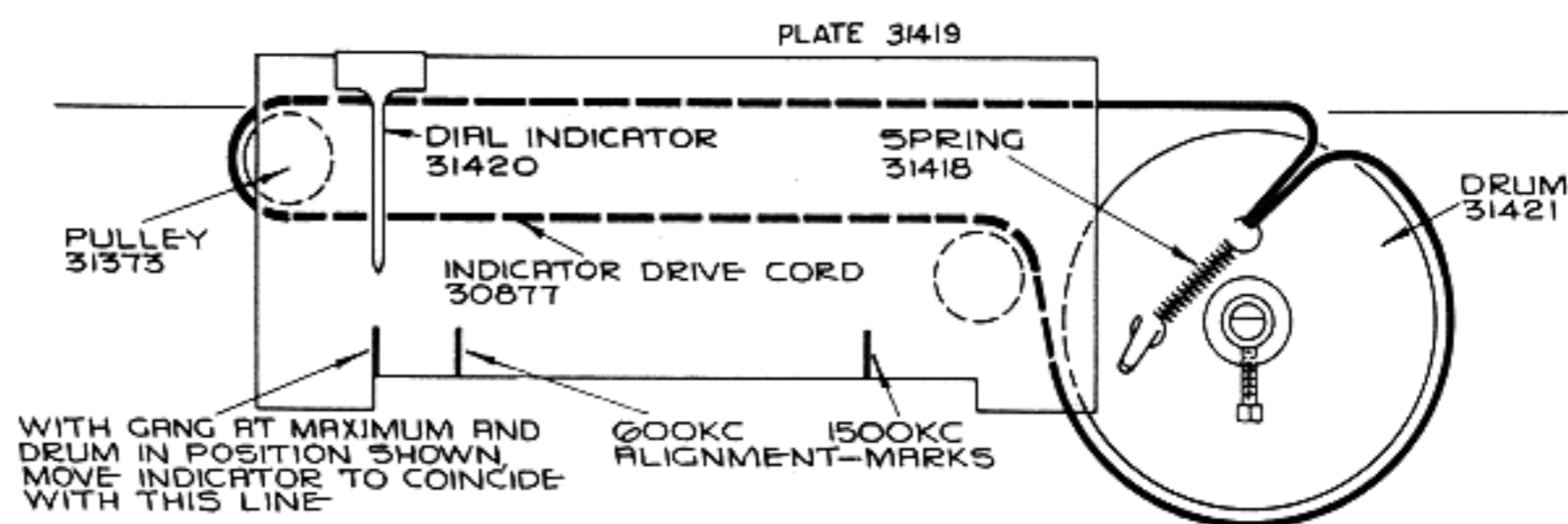
Steps	Connect the high side of test-osc. to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for max. peak output
1	6K7 I-F grid cap, in series with .01 mfd.	455 kc	Quiet point between 550-750 kc	L7 and L8 (2nd I-F Trans.)
2	6A8-G grid cap, in series with .01 mfd.	455 kc		L5 and L6 (1st I-F Trans.)
3	Antenna lead (blue) in series with 200 mmf.	1,500 kc	1,500 kc calibration mark.	C6 (osc.)* C3 (ant.)
4	Follow "Adjustments for Electric Tuning."			

\* The oscillator section of the gang condenser has two trimmers, one on top, accessible through a hole in the chassis, and the other on bottom. It may be necessary to adjust both of these trimmers to secure a peak on 1,500 kc.

### Low-Frequency Alignment:

Where additional sensitivity is desired on these single band receivers, it can be obtained by alignment of the tuning condenser at 600 KC and re-alignment of the trimmer at 1,500 KC as follows:

- Check alignment of antenna coil with "Tuning Wand" at 600 KC. If brass end gives increase in signal, bend rotor plates of antenna section of tuning condenser outward to produce maximum peak output. If magnetite end gives increase in signal, bend plates of oscillator section of tuning condenser to obtain maximum output.
- Re-align 1,500 KC antenna and oscillator trimmers in the usual manner.



**DRUM SHOWN WITH GANG AT MAXIMUM CAPACITY**

### Dial-Indicator and Drive Mechanism

Refer to "Alignment Procedure" for explanation of the "calibration marks" shown in this drawing

## Adjustments for Electric Tuning

These models have six push buttons. The right-hand button connects the gang condenser for dial tuning. The other five buttons are for electric tuning of five different stations in the standard-broadcast range. The station buttons connect to separate magnetite-core oscillator coils and separate antenna trimmers which must be adjusted for the desired stations. Use an insulated screwdriver or alignment tool such as RCA Stock No. 31031. Allow at least five minutes warm-up period before making adjustments. Use a regular antenna for the preliminary adjustments.

The procedure is as follows:

- Make a list of the five desired stations, arranged in order from low to high frequencies.
- Push in the dial-tuning (right-hand) button, and manually tune in the first station on the list.

### Precautionary Lead Dress.—

- Dress green lead from antenna coil to switch away from the chassis and gang.
- Dress green leads from oscillator coils away from the

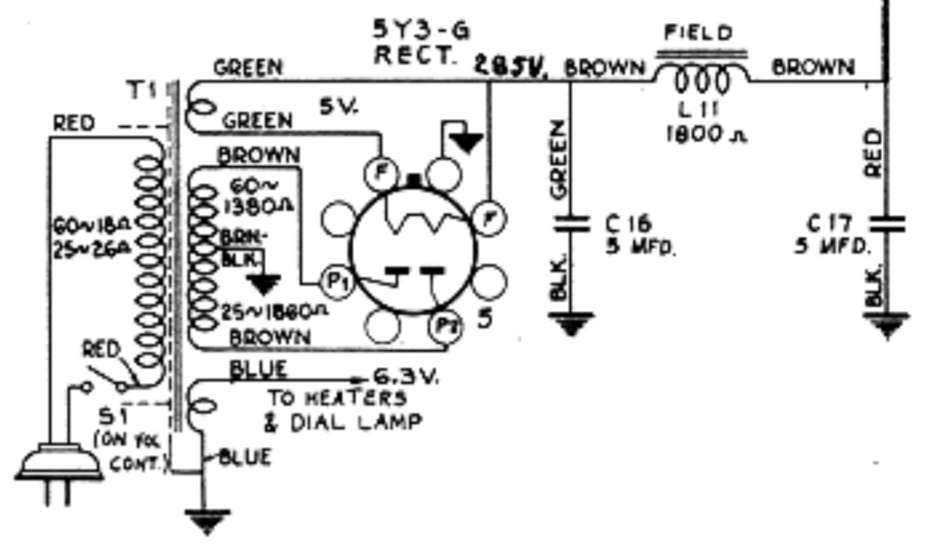
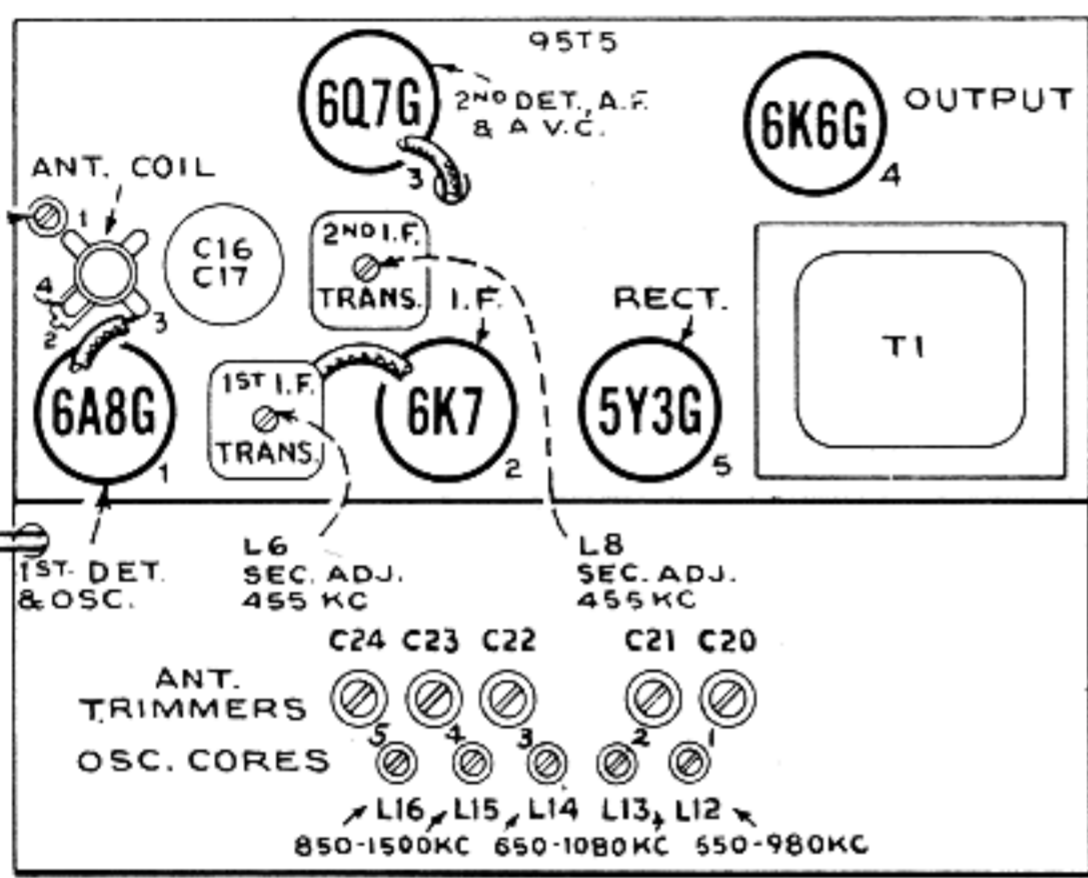
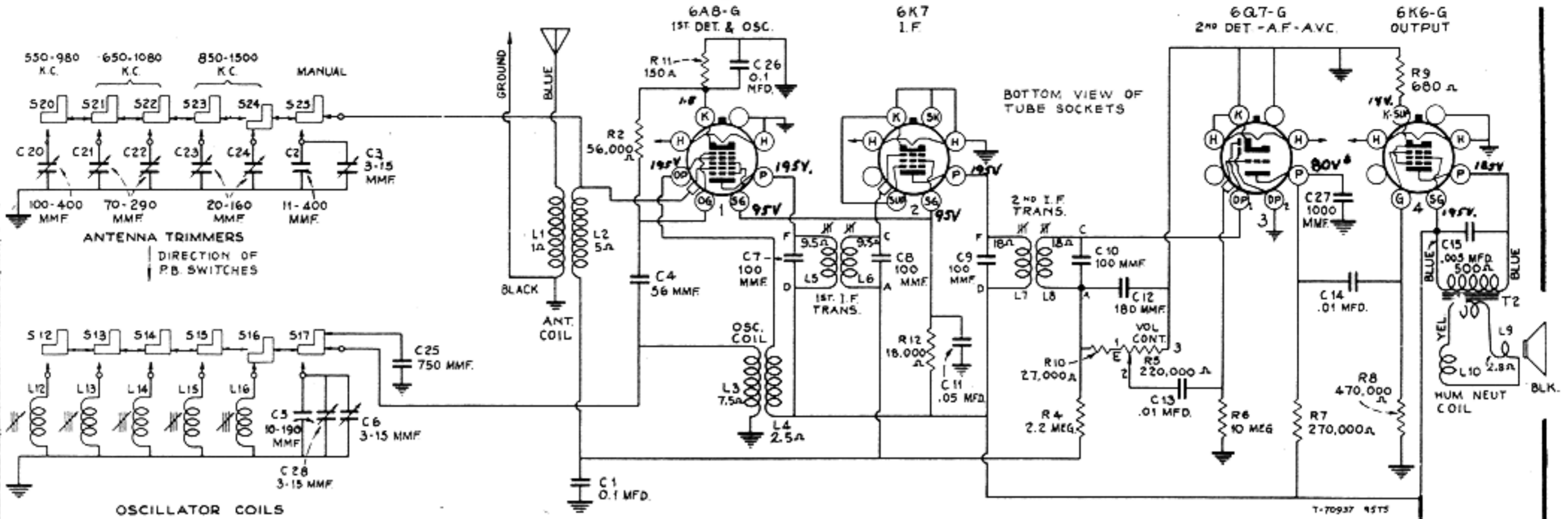
- Push in station-button No. 1 (left-hand) and adjust No. 1 oscillator core (L12) to receive this station. Screw the core all the way in, to lowest frequency, and then unscrew slowly until the station is received.
- Adjust No. 1 antenna trimmer (C20) for maximum output on this station.
- Adjust for each of the remaining four stations in the same manner.

(Clockwise adjustment of oscillator cores and antenna trimmers tunes the circuits to lower frequencies.)

- Make a final careful adjustment of the oscillator cores and antenna trimmers, using one or two feet of wire as an antenna to ensure sharp peaking.

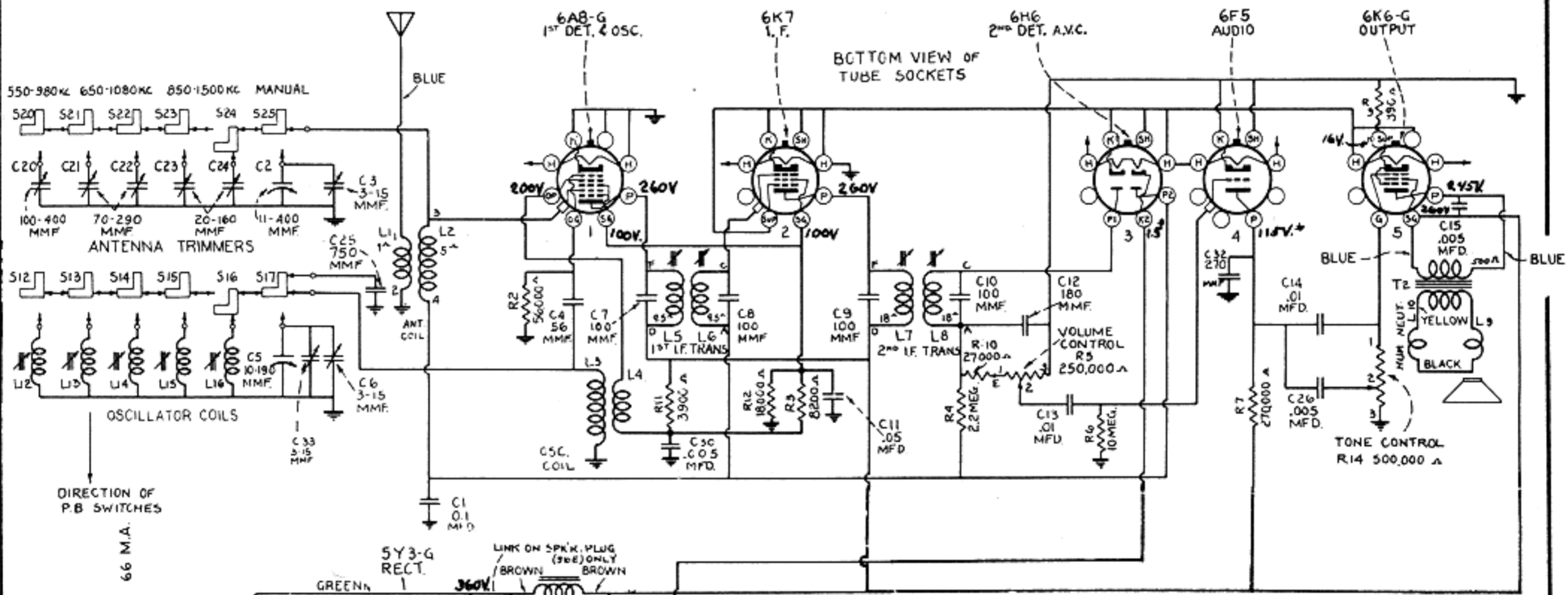
- Dress leads in power-transformer primary circuit to left end of chassis.
- In 95T5, C27 must be dressed close to chassis and clear of rotor.
- In 96E, 96T, and 96T1, dress ground bus from heater of 6H6 close to chassis, and dress blue lead from 2nd I-F transformer to volume control close to chassis.

95T5, 96E, 96T, 96T1

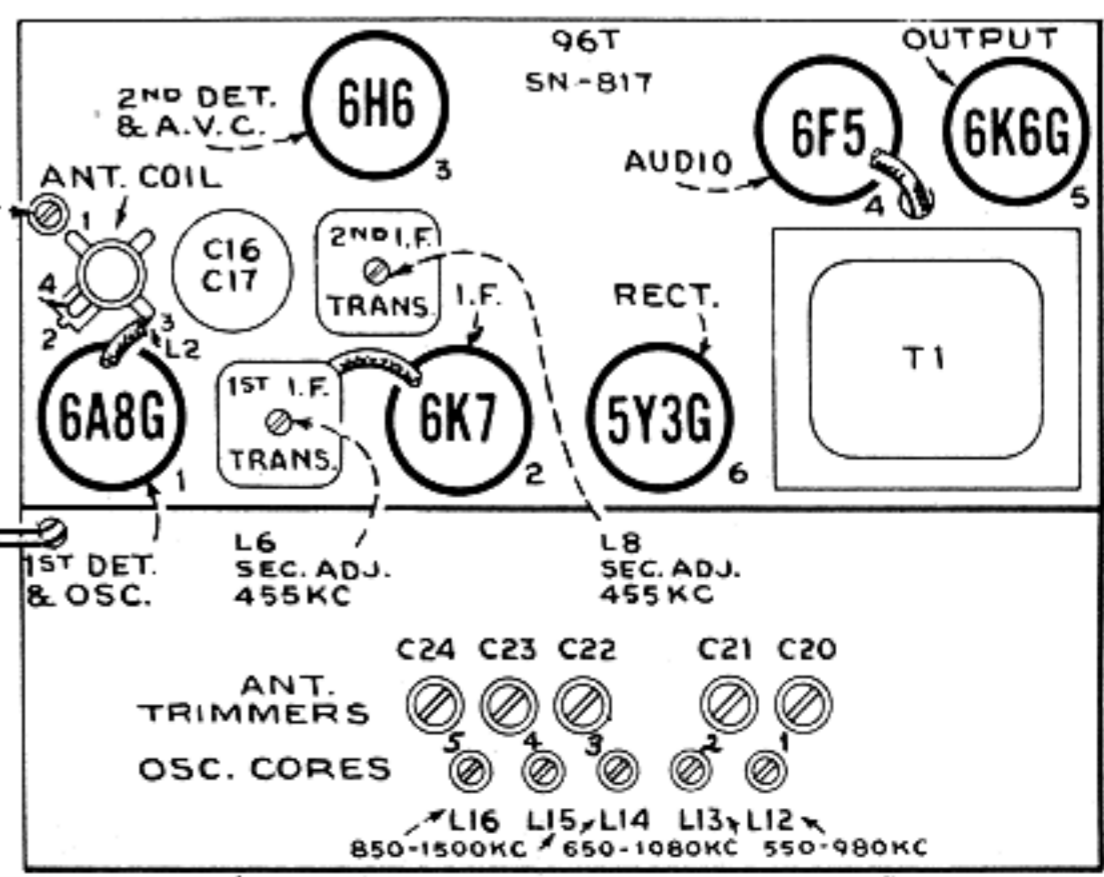


Model 95T5 Schematic Circuit Diagram

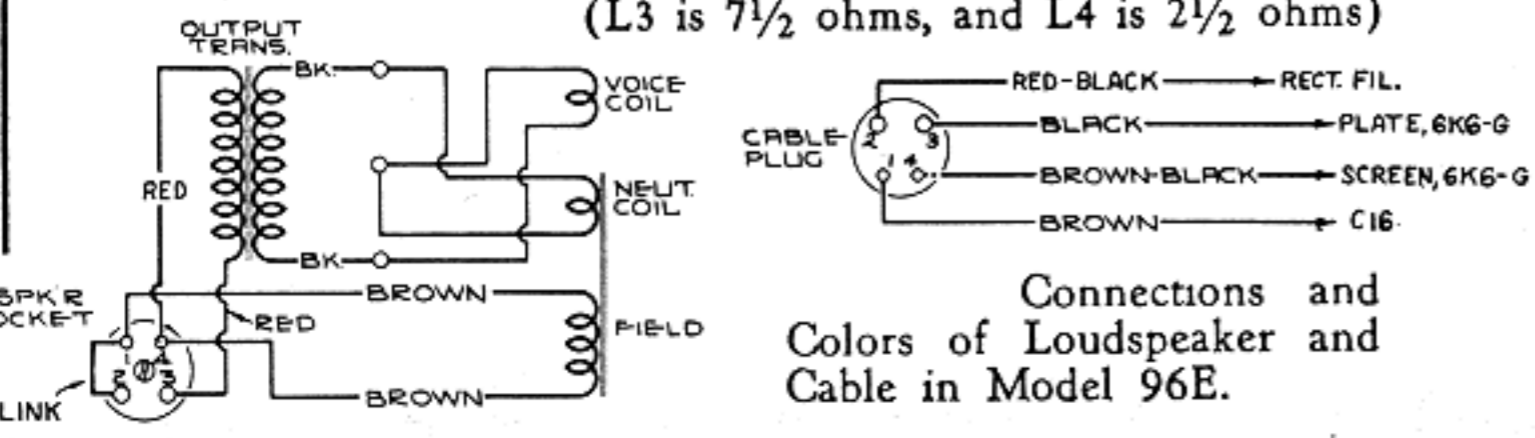
- CATHODE CURRENTS
- (1) 6A8-G----- 9 M.A.
  - (2) 6K7----- 12.1 M.A.
  - (3) 6Q7-G----- 0.48M.A.
  - (4) 6K6-G----- 22 M.A.
- TOTAL RECTIFIED "B" CURRENT 44 M.A.



Models 96E, 96T, and 96T1 Schematic Circuit Diagram  
(L3 is 7 1/2 ohms, and L4 is 2 1/2 ohms)



- CATHODE CURRENTS
- (1) 6A8-G----- 10.9 M.A.
  - (2) 6K7----- 10.5 M.A.
  - (3) 6H6----- 0.48 M.A.
  - (4) 6F5----- 39.0 M.A.
  - (5) 6K6-G----- 48.0 M.A.
- TOTAL RECTIFIED "B" CURRENT 66 M.A.

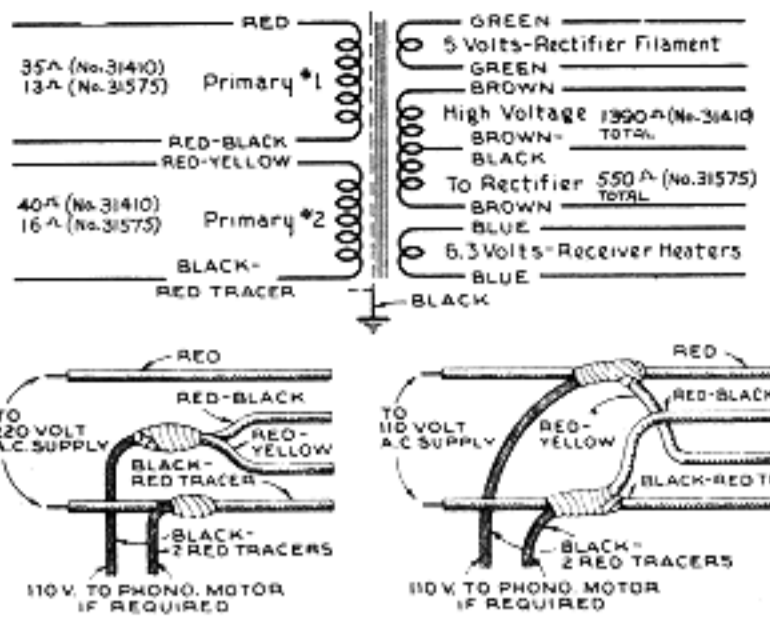


Connections and Colors of Loudspeaker and Cable in Model 96E.



95T5, 96E, 96T, 96T1

MODEL 96E



SPEAKER STAMPED 84308-4:

Replacement parts:

Stock No.

- 32918 Cone - Cone and voice coil
- 32919 Coil - Field coil
- 32920 Transformer - output trans.
- 31302 Plug - 4 contact male plug

Voice coil impedance 2.2 ohms  
Field coil resistance 1290 ohms

MODEL 96E

ADDITIONAL REPLACEMENT PART

Stock No.

14616 Coil - Field coil for speaker stamped 84308-1

MODEL 96T1

Speaker Stamped 84327-3:

The following replacement parts apply to speaker stamped 84327-3:

Stock No.

- 32586 Cone—Speaker cone and voice coil
- 32587 Coil—Field coil
- 31663 Speaker complete
- 32588 Transformer—Output transformer

Voice coil impedance 2.2 ohms at 400 cycles; field d.c. resistance 1,800 ohms.

Primary d.c. resistance of output transformer 500 ohms.

Replacement Universal Power Transformer. (Stock No. 31410 in 95T5. Stock No. 31575 in 96E, 96T, and 96T1.)

REPLACEMENT PARTS

Insist on genuine factory-tested parts, which are readily identified and may be purchased from authorized dealers.

STOCK No.	DESCRIPTION	STOCK No.	DESCRIPTION
<b>RECEIVER ASSEMBLIES</b>			
31416	Capacitor—trimmer capacitor bank (C20, C21, C22, C23, C24).....	31414	Switch—Push button station selector switch (S12, S13, S14, S15, S16, S17, S20, S21, S22, S23, S24, S25).....
12723	Capacitor—56 mmfd. (C4).....	31412	Volume control and power switch (R5, S1)—Model 95T5 only.....
30904	Capacitor—100 mmfd. (C7, C8, C9, C10)....	30957	Transformer—First i-f transformer (L5, L6, C7, C8).....
13003	Capacitor—180 mmfd. (C12).....	30903	Transformer—Second i-f transformer (L7, L8, C9, C10).....
12488	Capacitor—270 mmfd. (C32)—Models 96T, 96T1 and 96E only.....	31409	Transformer—Power transformer 100-120 volts, 25-60 cycle (T1)—Model 95T5 only.....
31435	Capacitor—750 mmfd. (C25).....	31574	Transformer—Power transformer 100-120 volts, 25-60 cycle (T1)—Models 96T, 96T1 and 96E only.....
12635	Capacitor—1,000 mmfd. (C27)—Model 95T5 only.....	31408	Transformer—Power transformer 100-120 volts, 50-60 cycle (T1)—Model 95T5 only.....
4838	Capacitor—.005 mfd. (C15, C26, C30) (C26, C30—Models 96T, 96T1 and 96E only)....	31380	Transformer—Power transformer 100-120 volts, 50-60 cycle (T1)—Models 96T, 96T1 and 96E only.....
14393	Capacitor—.01 mfd. (C13, C14).....	31410	Transformer—Power transformer 100-120 and 200-240 volts, 50-60 cycle (T1)—Model 95T5 only.....
4886	Capacitor—.05 mfd. (C11).....	31575	Transformer—Power transformer 100-120 and 200-240 volts, 50-60 cycle (T1)—Models 96T, 96T1 and 96E only.....
30899	Capacitor—.01 mfd. (C1, C26, C31) (C26 Model 95T5 only) (C31 Models 96T, 96T1 and 96E only).....	<b>SPEAKER ASSEMBLIES</b> Model 95T5 (Speaker 84326-2)	
31423	Capacitor—Comprising 2 sections 5 mfd. each (C16, C17)—Model 95T5 only.....	31473	Cone—Speaker cone and voice coil (L9).....
31424	Capacitor—Comprising 2 sections 8 mfd. each (C16, C17)—Models 96T, 96T1 and 96E only.....	31472	Speaker—Complete.....
31382	Clip—Oscillator coil and core mounting clip...	31474	Transformer—Output transformer (T2).....
30894	Coil—Antenna coil (L1, L2).....	<b>SPEAKER ASSEMBLIES</b> Model 96T (Speaker 84326-1)	
31098	Coil—Oscillator coil (L3, L4).....	31476	Cone—Speaker cone and voice coil (L9).....
31383	Coil—Oscillator coil (L15, L16).....	31475	Speaker—Complete.....
31384	Coil—Oscillator coil (L13, L14).....	31477	Transformer—Output transformer (T2).....
31415	Coil—Oscillator coil (L12).....	<b>SPEAKER ASSEMBLIES</b> Model 96T1 (Speaker 84327-1)	
31097	Condenser—2-gang variable tuning condenser (C2, C3, C5, C6, C28)—Model 95T5 only.....	31443	Cone—Speaker cone and voice coil (L9).....
31422	Condenser—2-gang variable tuning condenser (C2, C3, C5, C6, C33)—Models 96T, 96T1 and 96E only.....	31477	Transformer—Output transformer (T2).....
31413	Control—Volume control, tone control, and power switch (R5, R14, S1)—Models 96T, 96T1 and 96E only.....	<b>SPEAKER ASSEMBLIES</b> Model 96E (Speaker 84308-1)	
30877	Cord—Indicator drive cord.....	31443	Cone—Speaker cone and voice coil (L9).....
30905	Core—Adjustable core for i-f transformers.....	31442	Speaker—Complete.....
31386	Core—Adjustable core and stud for oscillator coils.....	31444	Transformer—Output transformer (T2).....
31421	Drum—Variable condenser drive cord drum...	<b>MISCELLANEOUS ASSEMBLIES</b>	
31420	Indicator—Station selector indicator pointer...	31428	Button—Station selector switch push button..
11891	Lamp—Dial lamp.....	31429	Dial—Station selector dial scale.....
31419	Plate—Dial color plate.....	31095	Discs—10 celluloid protector discs for call letter markers.....
5040	Plug—4-contact female plug for speaker cable—Model 96E only.....	31667	Escutcheon—Dial escutcheon—Model 96T1 only
31373	Pulley—Indicator drive cord pulley.....	30773	Knob—Volume control or tuning condenser large knob—Models 96T, 96T1 and 96E only....
31425	Resistor—Voltage divider comprising one 22 ohm, one 18,000 ohm, one 8,200 ohm, and one 3,900 ohm sections (R3, R11, R12, R15)—Models 96T, 96T1 and 96E only.....	31355	Knob—Tuning condenser small knob—Models 96T, 96T1 and 96E only.....
13428	Resistor—150 ohms, 1/2 watt (R11)—Model 95T5 only.....	30863	Knob—Volume control and power switch, or tuning condenser knob—Model 95T5 only.....
31388	Resistor—390 ohms, 1 watt (R9)—Models 96T, 96T1 and 96E only.....	31391	Knob—Tone control and power switch knob—Models 96T, 96T1 and 96E only.....
31024	Resistor—680 ohms, 1/2 watt (R9)—Model 95T5 only.....	30991	Marker—Station call letter markers.....
30151	Resistor—18,000 ohms, 1 watt (R12)—Model 95T5 only.....	14270	Spring—Retaining spring for knob Stock Nos. 30773 and 31355.....
12738	Resistor—27,000 ohms, 1/2 watt (R10).....	30330	Spring—Retaining spring for knob Stock No. 31391.....
12286	Resistor—56,000 ohms, 1/2 watt (R2).....	30900	Spring—Retaining spring for knob Stock No. 30863.....
13734	Resistor—120,000 ohms, 1/2 watt (R16)—Models 96T, 96T1 and 96E only.....		
12199	Resistor—270,000 ohms, 1/2 watt (R7).....		
12285	Resistor—470,000 ohms, 1/2 watt (R8)—Model 95T5 only.....		
12679	Resistor—2.2 meg., 1/2 watt (R4).....		
13601	Resistor—10 meg., 1/2 watt (R6).....		
14887	Retainer—Pulley retainer.....		
14350	Screw—No. 8-32 square head set screw for drum Stock No. 31421.....		
31364	Socket—Dial lamp socket.....		
31251	Socket—Radiotron socket.....		
31418	Spring—Indicator drive cord tension spring...		