RCA Victor

MODEL TRK-9 and MODEL TRK-12

Chassis Nos. KC-4A, KK-7A, RC-427A, RS-83E; Chassis Nos. KC-4, KK-7, RC-427, RS-83E

AC, Superheterodyne, High-Picture-Definition, Five-Television-Channel, Receiver

and

Twelve-Tube, Three-Band, Electric Tuning, AC, Superheterodyne Broadcast Receiver

TECHNICAL INFORMATION AND SERVICE DATA

—1939 No. 17—

SERVICE DIVISION • RCA MANUFACTURING COMPANY, INC. • CAMDEN, N. J., U. S. A.

A Service of the Radio Corporation of America

General Specifications

	Model TRK-9		Model TRK-12	
Height	47½ in.	Depth	40⅝ in.	19⅞ in.
Width	31½ in.	Weight	34⅝ in.	198 lb.
Shipping Weight	283 lb.		275 lb.	
Power Supply Rating	105-125 volts, 60 cycles, 420 watts (Total)			
Fuse Rating	3 amperes			

Model TRK-9

Model TRK-12

General Description

The TRK-12 consists of a console-type, high-picture definition, mirror-viewing, five channel, Television Receiver and a twelve-tube, three-band broadcast radio receiver enclosed in a handsomely styled modern cabinet. Features of the Television receiver include: Twelve-inch Kinescope; Styrol (humidity-resisting) r-f and i-f transformer forms; black and white pictures; single station selector switch; temperature compensated condensers; iron core i-f and r-f tuning; double safety switch protection; safety-glass viewing shield; extra large viewing mirror for wide angle viewing; automatic brightness control; and automatic volume control.

The TRK-9 is a direct viewing, high-picture-definition, console-type, five channel, Television Receiver and a twelve-tube, three-band broadcast radio receiver in a deluxe upright modern cabinet. Television features of this receiver are the same as for the TRK-12, except that a nine-inch Kinescope is used.

First Edition

Printed in U. S.

TELEVISION RECEIVER

Electrical Specifications

RCA Tube Complement

In KC-4 (TRK-12), and KC-4A (TRK-9) Video Chassis

(1) RCA-1852	(5) RCA-1853	(9) RCA-6F8-G	(13) RCA-6SK7	(17) RCA-6Y6-G	(21) RCA-5V4-G
(2) RCA-6J5	(6) RCA-1853	(10) RCA-1852	(14) RCA-1853	(18) RCA-6N7	(22) RCA-6N7
(3) RCA-1853	(7) RCA-1852	(11) RCA-6H6	(15) RCA-6H6	(19) RCA-6N7	(23) RCA-6J5
(4) RCA-1853	(8) RCA-6H6	(12) Kinescope*	(16) RCA-6N7	(20) RCA-6L6	

* RCA-1804-P4 used in TRK-9. * RCA-1803-P4 used in TRK-12.

In KK-7 (TRK-12) and KK-7A (TRK-9) Socket Power Units

(24) RCA-5T4 ..... Low Voltage Rectifier (25) RCA-2V3-G ..... High Voltage Rectifier

Television Channels (Selector Switch Positions)

1	84 to 90 mc.	3	66 to 72 mc.
2	78 to 84 mc.	4	50 to 56 mc.
5	44 to 50 mc.		

Over-all Video Band Width ..... 4 mc.
Scanning ..... Interlaced, 441 Line
Horizontal (Line) Scanning Frequency (Sawtooth Wave) ..... 13,230 cps
Vertical (Field) Scanning Frequency (Sawtooth Wave) ..... 60 cps
Frame Frequency (Picture Repetition Rate) ..... 30 cps

Picture Size (Approx. Mask Dimensions)

TRK-9 ..... 5½ x 7¼ in. TRK-12 ..... 7⅜ x 9¾ in.

Mechanical Specifications

Video Chassis Base Dimensions ..... 17 in. x 16 in. Max. Height ..... 8½ in.
SPU Chassis Base Dimensions ..... 15 in. x 13¼ in. Max. Height ..... 10 in.

IMPORTANT PRECAUTIONS

Do not attempt to measure the high voltage (7,500 volts).

ALWAYS replace the red can over the 2V3-G high voltage rectifier. The most dangerous portion of the H.V. supply is the plate lead of the 2V3-G tube.

Do not eliminate the protection afforded by the interlock switches, or measure any voltages on the video chassis unless the primary leads of the high voltage transformer have been unsoldered from the supply line, and taped.

A good ground should be connected to the receiver at all times.

Always wear gloves and shatter-proof goggles when handling Kinescope tubes.

Use only one hand when working on the high voltage SPU chassis, and always connect a shorting lead to ground (first), then to the high side of the first high voltage filter capacitor.

Precautions in Handling Kinescopes

The Kinescope bulb encloses a high vacuum and, due to its large surface area, is subjected to considerable air pressure. For these reasons, Kinescopes must be handled with more care than ordinary receiving tubes.

The large end of the Kinescope bulb — particularly that part at the rim of the viewing surface — must not be struck, scratched or subjected to more than moderate pressure at any time. If the tube sticks, or fails to slip into its socket or deflecting yoke smoothly, investigate and remove the cause of trouble. Do not force the tube.

All RCA Kinescopes are shipped in special cartons and should always be left in the cartons until ready for installation in the receiver. Keep the carton for future use.

The RCA-1803-P4 (12-inch) Kinescope is equipped with a protective lid and shield. Do not at any time remove the close-fitting cone-shaped section of the protective shield from the Kinescope. This section should be installed with the tube in the cabinet and is designed to protect the user while handling the glass bulb.

CAUTION: Do not open the shipping carton, install, move, or handle the Kinescope in any manner, unless shatter proof goggles and heavy gloves are worn. People not so equipped should be kept away while handling Kinescopes. Keep Kinescope away from the body while handling.

Important Notes

1. Detailed explanations of the receiver circuit operation may be found in the booklet: **Practical Television by RCA.**

2. Because of the special equipment and procedure necessary for the proper alignment of these receivers, the alignment will be covered in a supplementary booklet.

Operation

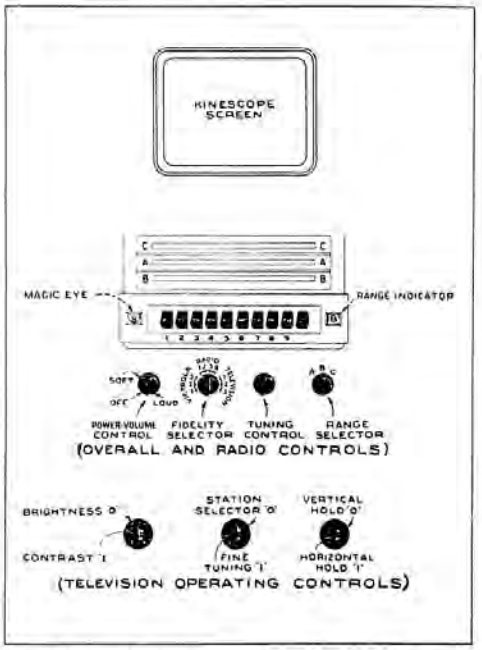


Figure 1—Operating Controls, TRK-9

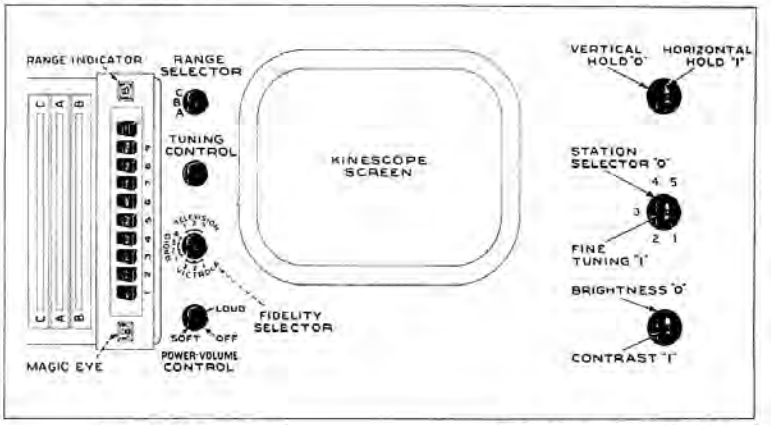


Figure 2—Operating Controls, TRK-12

The "Power-Volume" control on the radio receiver turns on the power for the complete receiver. The "Victrola, Radio, Television" control selects the type of operation desired. There are three Victrola fidelity positions, four radio fidelity positions and three Television sound fidelity positions on this switch. The furthermost clockwise position being the highest fidelity position for Television sound.

Television Operation:

Station Selector and Fine Tuning.—The outer ring **"O"** section of the central dual control knob on the Television panel selects the station from which it is desired to receive television transmissions.

Five television channels are covered as follows:

(1) 84 to 90 mc.
(2) 78 to 84 mc.
(3) 66 to 72 mc.
(4) 50 to 56 mc.
(5) 44 to 50 mc.

Set the station selector to the number corresponding to the frequency of the station from which it is desired to receive Television broadcasts.

The inner section **"I"** of this knob is used for fine tuning and may eliminate moving ripples or distortion if due to interfering radio signals. A slight downward pressure must be exerted on the knob while turning.

Before the Television portion of the receiver is turned "ON" it is advisable to turn the Brightness and Contrast controls completely counter-clockwise to reduce the illumination of the spot which appears on the Kinescope before the sweep circuits have started functioning.

Contrast and Brightness Controls.—The inner **"I"** section of the "Contrast"-"Brightness" controls is the "Contrast" control and varies the black and white tones of the picture being received. Too much contrast gives blurred details and a lack of half-tones, while too little contrast makes it all half-tones or grays. Turning clockwise increases contrast from grays, to black and white. See Operating Instructions for this receiver.

The outer ring **"O"** is the Brightness Control and affects the average illumination of the picture. Turning clockwise increases the brightness. See Operating Instructions for this receiver.

An approximate adjustment for proper contrast is to turn the "Contrast" control fully counter-clockwise, then turn the "Brightness" control until the screen is slightly illuminated. Then reduce the Brightness control just sufficient to make the screen dark, then bring up the Contrast Control until the picture appears. A slight further adjustment of the Brightness or Contrast control may be necessary in some cases.

Hold Controls.—The dual knobs on the Television panel marked "Horizontal" and "Vertical" Hold, control the picture stability. The inner section designated by a **"I"** is the Horizontal Hold Control and when being set should be turned slowly to the point at which the picture "locks in" horizontally. See Operating Instructions for this receiver.

The outer ring section designated by **"O"** is the vertical Hold Control and when being set should be turned to the point where the picture "locks in" vertically.

These two controls on this dual knob should not ordinarily require readjustment after good picture reception has once been obtained. An occasional resetting may be necessary due to changing to a different station, and to the gradual aging of the tubes.

SERVICE DATA

Kinescope Installation (TRK-9).

1. Remove back cover of cabinet.
2. Remove the two screws which secure the wooden block, on which the yoke is mounted, to the upper shelf, and drop this block and yoke away from the shelf.
3. Loosen the thumb screw in the center of the slotted block of wood on the top shelf, pull this block of wood towards the rear of the cabinet and turn it so that the "V" slot on the front end of the block is to your right.
4. Wearing gloves and goggles, carefully slide the Kinescope on the "V" in the block, and turn both the block and the Kinescope so that the Kinescope faces the viewing window. Slide the Kinescope up to the mask in the window and fasten loosely in place by sliding the "V" block up to the bottom of the Kinescope face, and fastening it with the thumb screw.
5. Place the yoke and the wooden block on which it is mounted, on the Kinescope neck, rotate the block 90° from its original mounting position in order to have it clear the top of the cabinet and slide it into position on the Kinescope neck. DO NOT FORCE YOKE. In some cases where the yoke lead is too short it may be necessary to loosen the "V" block and swing the Kinescope neck to the left in order to be able to place the yoke on the Kinescope neck without forcing.
6. Fit the upper part of the wooden yoke mounting block into the slot on the underside of the cabinet top and fasten the lower end of the block securely by means of the two screws. The Kinescope should be mounted loosely in place, so that the yoke is not forced on the Kinescope neck at any time.

7. Loosen the wing nuts on the yoke mounting bracket, and move the yoke forward on the neck of the Kinescope so that it pushes the Kinescope against the mask. Tighten the wing nuts to hold the Kinescope and yoke securely in this position.

8. It may be necessary to rotate the Kinescope, within the limits allowed by the high voltage second anode lead, with respect to the mask in order to obtain proper masking of the edges on the Kinescope screen. Before rotating the Kinescope, the screws holding the yoke mounting block should be loosened, so that the Kinescope neck will not be forced.

9. Move the "V" block forward so that it holds the bottom of the Kinescope in place. Tighten the thumb screw.

10. Place the second anode lead on the second anode cap at the side of the Kinescope.

11. After the receiver is operating, and if the picture is not squared with the mask, using a screw driver loosen the clamping screws on the band around the yoke and rotate the yoke until the picture is squared with the mask, then tighten these clamping screws securely.

CAUTION: When removing the back cover of the cabinet, after the screws have been removed do not allow the cover to slide down on the neck of the Kinescope, or the neck of the Kinescope may be snapped off.

Kinescope Installation (TRK-12). Refer to figure 5.

1. Remove back cabinet cover.

2. Remove the top safety glass cover by removing the three wing nuts "E" at the two front corners and right rear corner of the cover and loosening the wing nut "E" at the left rear corner of the cover.

3. Lift the cover straight upwards, taking care not to scratch the cabinet finish with the protruding screws or the cover itself.

4. Loosen the two wing nuts "F" on the yoke holding frame, and allow the yoke to drop down as far as possible.

5. Using gloves and goggles, open the Kinescope shipping carton and remove the top cover on the Kinescope.

6. Remove the Kinescope from the shipping carton (do not remove the close fitting cardboard shield from the Kinescope), and insert the Kinescope into the cabinet, guiding the neck of the Kinescope into the yoke. Do not force the neck of the Kinescope into the yoke, as the tube is likely to break. Let the Kinescope down slowly so that it finally rests on the yoke.

7. Rotate the Kinescope and cardboard container (but not the yoke), so that the second anode cap at the side of the tube is towards the front of the cabinet.

8. Place the white rubber mask on the face of the Kinescope, with the ribs on the mask facing upwards toward the mirror. Line up the mask so that it masks the edges on the Kinescope face. Then, if necessary, lift the Kinescope and rotate it so the mask is approximately squared up with the cover opening. The second anode cap should be kept towards the front of the cabinet.

9. Replace the safety glass cover and wing nuts. Tighten wing nuts to hold the cover securely.

10. Loosen the wing nuts "F" on the yoke mounting bracket and push the two metal brackets, on which the bottom of the yoke rests, upward, until the rubber mask rests against the top cover. If the mask and the cover opening do not line up, rotate the cone-shaped Kinescope shield until they do. Tighten the wing nuts to hold the yoke and tube in this position. In some cases it may be necessary to loosen the four screws holding the yoke support to the wooden frame and shift the yoke support to make the mask and Kinescope line up symmetrically with the cover opening.

11. Place the second anode lead on the second anode cap at the side of the Kinescope.

12. After the receiver is operating, and if the picture is not squared up with the cover opening, the two screws "H" on the band around the yoke should be loosened, and the yoke rotated to square up the picture, then these screws should be tightened with a screw driver.

Focusing Control.—On early production receivers a knob located on the bottom rear of the cabinet is the "Focus" control. On later production receivers this has been changed to a screw driver adjustment at the bottom of the right side of the cabinet.

Adjustments.—There are a series of screw driver slot adjustments at the rear of the TRK-12 (at the side of the TRK-9), used to obtain the proper picture size, centering, and vertical distribution. These adjustments are explained fully in the receiver operating instructions, and also in the booklet: "Practical Television by RCA."

When the receiver is moved from one location to another some readjustment of these controls may be necessary.

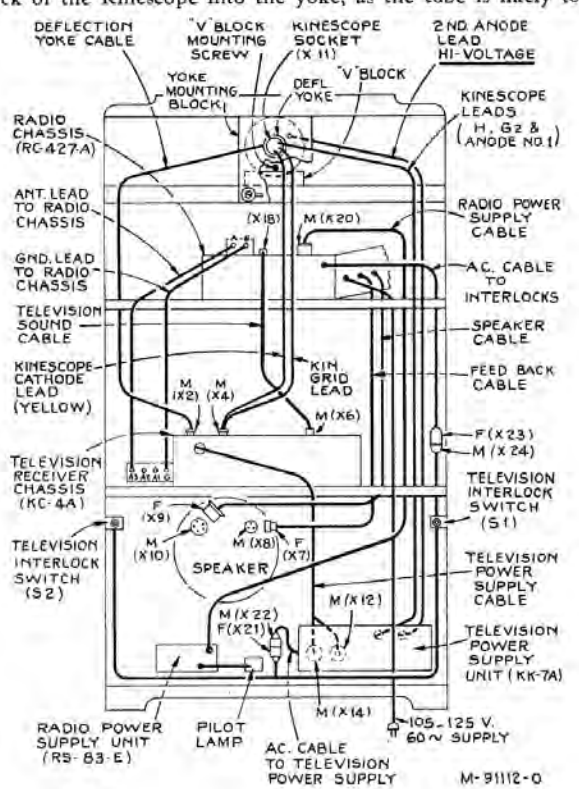


Figure 3—Cabinet Wiring—Model TRK-9

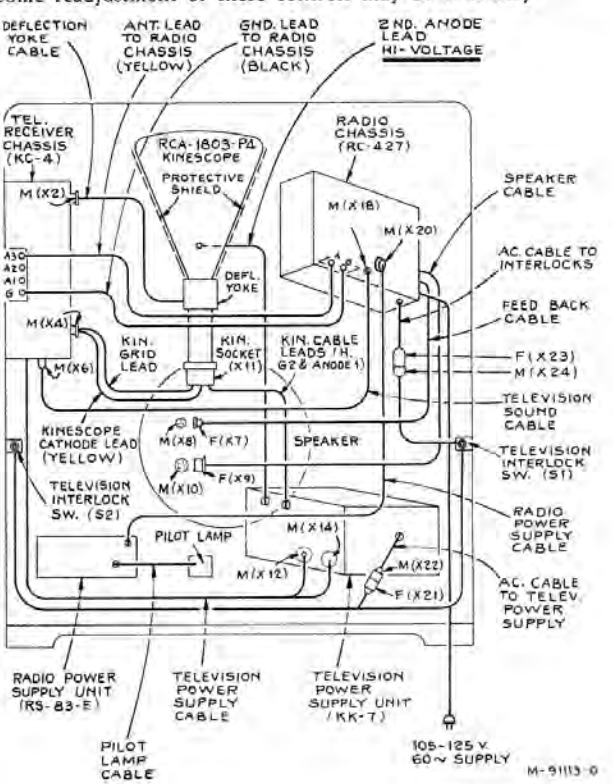


Figure 3a—Cabinet Wiring—Model TRK-12

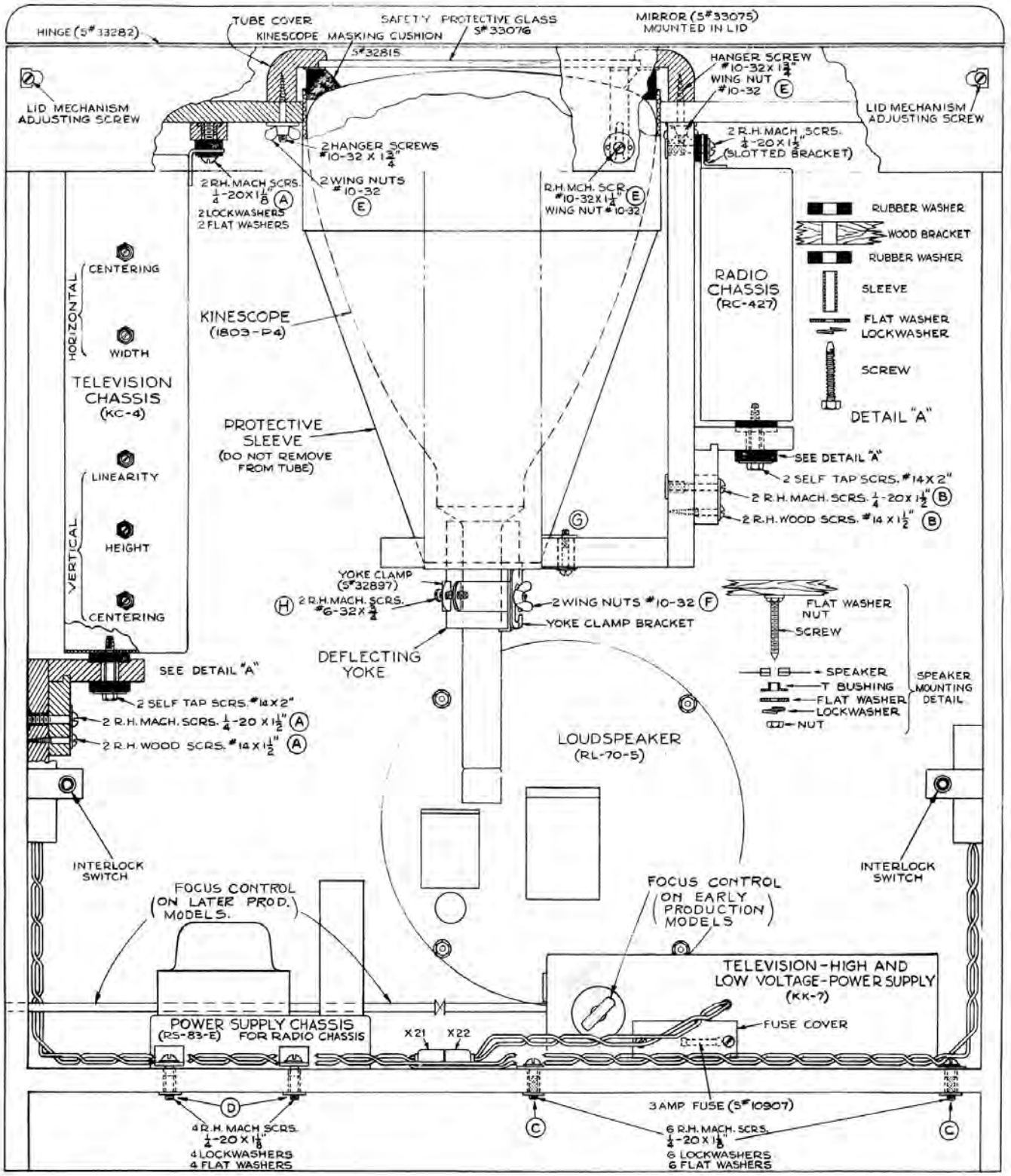
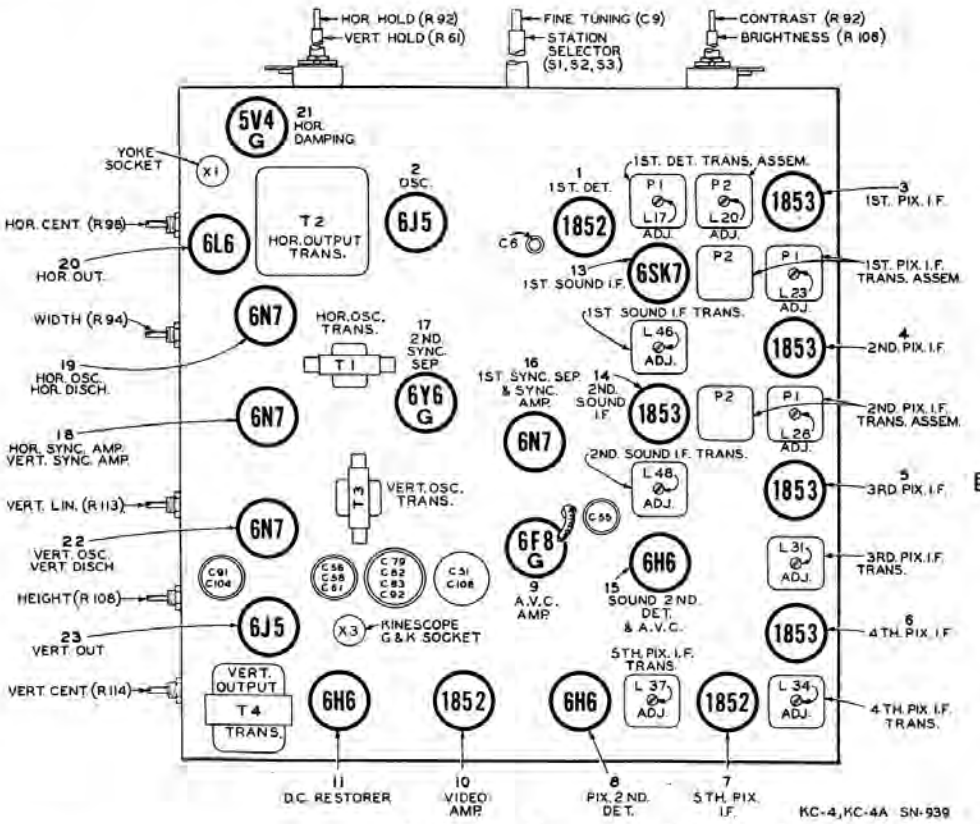
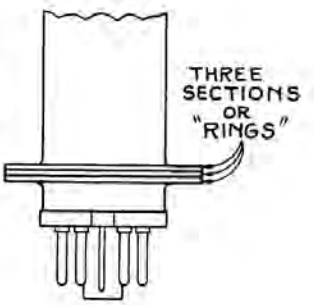


Figure 4—TRK-12 Assembly



At Left—Figure 5
Top View Video Chassis



(Above) Figure 6
Recommended Type 6L6 Identification

Video Chassis KC-4, KC4A

When it is desired to measure any voltages on this chassis, the primary leads of the high voltage transformer T6 should be disconnected and taped together.

When any changes have to be made in the Video chassis, the lead and part locations should be replaced as closely as possible to the original positions.

Service Hints:

1. In some cases the horizontal sweep oscillator circuit will radiate energy to nearby broadcast receiving antennas and lead-ins, causing interference with standard broadcast receivers. It has been found that this trouble has been cleared up in some cases by use of an RCA "Magic Wave" antenna for the broadcast receiver receiving the interference.

2. Poor Horizontal Distribution of the picture elements may be due to a 6L6 tube. RCA-6L6 tubes of known recent manufacture are the only tubes recommended for the Horizontal sweep output circuit. By careful scrutiny, these tubes can be identified by the three "rings" or sections welded together at the base ring of the tube, as shown in Figure 6. If any other 6L6 tube is used in this position it will break down in a very short time.

3. If the picture "tears out" when the receiver is jarred it may be due to microphonic 1852, 1853 or 6J5 tubes.

4. The 6J5 oscillator tube should be removed without rocking it in its socket to loosen it, as the motion may cause the 80.5 mmf capacitor to break off.

5. The coils in oscillator circuit should not be touched or moved or the alignment of the receiver will be disturbed.

6. The insulator on the filter capacitors may become dirty and break down to short out the high voltage.

7. The Video coupling capacitors C50, 53, 59 should be kept clear of chassis.

8. A gassy 2V3-G tube may cause resistor R-137 to burn. Replace 2V3-G tube, and resistor, if necessary.

Socket Power Units KK7, KK7A

No attempt should ever be made to measure the high (7,500 volts) voltage because of the difficulties and dangers involved. If, at any time it becomes necessary to service the SPU, the suspected parts should be replaced by parts known to be in good operating condition.

These precautions should be observed when any work on the SPU is being done:

1. Remove power supply cord from the power supply socket.

2. Use only one hand at a time. It is advisable to keep the other hand in one's pocket.

3. Connect a shorting lead between ground (first) and the high voltage side of C-114.

4. Whenever working with the oil-filled capacitors, keep a constant short across the capacitor, as these capacitors do not completely lose their charge after being discharged a single or several subsequent times.

5. Only one person at a time should work on the unit to prevent any misunderstanding which may result in an accident.

Antenna

The finest television receiver built may be said to be only as good as the antenna design and installation. It is therefore important to use a correctly designed antenna, and use care in its installation.

The RCA Double Dipole Antenna, Stock No. 9871, is recommended for use with these receivers. Both this antenna and the "V" antenna described below are especially designed for a sufficient broad frequency response to cover the contemplated television spectrum with good efficiency and are therefore superior to a single Dipole type antenna.

When greater signal pickup, or where a shielding effect from noise sources or image reflections are desired, a reflector assembly, Stock No. 9872, may be added to the Stock No. 9871 Antenna to obtain an improved signal-to-noise ratio.

The RCA Double "V" Wire Type Television Antenna is an alternative type of antenna designed for television sight and sound reception. Two points of support are necessary. It serves adequately in suburban areas, but may not be sufficiently flexible in congested city areas where bad reflections and interference are encountered.

Antenna Installation.

In most cases, the antenna should not be installed permanently on the apartment or residence roof until the quality of the picture reception has been observed on a Television receiver. A temporary transmission line can be run between receiver and the antenna allowing sufficient slack to permit moving the antenna. Then, with a telephone system connecting an observer at the receiver and an assistant on the roof to find an antenna location, the antenna can be positioned to give the most satisfactory results on the received signal. A shift of only a few feet in antenna position or direction may effect a tremendous difference in picture reception.

Whenever possible, the antenna location should be chosen or erected so the antenna is not only broadside to the transmitter but removed as far as possible from highways, hospitals and doctors' offices and similar sources of interference. Auto ignition and diathermy apparatus may cause noise interference spoiling the picture.

In mounting any antenna, care must be taken to keep the antenna rods or pickup wires proper at least ¼ wave length (at least 6 feet) away from other antennas, metal roofs and gutters or metal objects. Under certain extremely unusual conditions, it may be possible to rotate or position the antenna so it receives the cleanest picture over a reflected path. If such is the case, the antenna should be so positioned. However, such a position may give variable results as the nature of reflecting surfaces may vary with weather conditions, as a wet surface has been known to have different reflecting characteristics than a dry surface.

In short, a television receiving antenna and its installation must conform to much higher standards than an antenna for reception of International Short Wave and Standard Broadcast signals because:

(1) Intervening obstacles have a pronounced shielding effect on the ultra-high frequency waves producing low intensity signals. Severe trouble with multi-path transmissions may be experienced, especially in congested city areas.

(2) The picture signal is comprised of a very wide band or range of frequencies, all of which must be received with good efficiency.

(3) It must be continually remembered that the discernment for the eye is much more critical than that of the ear.

For further information on antennas and antenna installation see RCA Booklet entitled: **"Practical Television by RCA,"** and also the specific instructions accompanying the RCA Television Antenna.

Transmission Line

RCA Victor has made available two types of exterior transmission lines. One is a special low loss weather-proofed line having the correct surge impedance to match the RCA Victor Television antennas and the RCA Victor Television receivers. It is carried as Stock No. 9882 in 1,000-foot rolls. The second type is a standard weather-proofed line, also having the correct surge impedance for proper antenna and receiver matching. It is carried as Stock No. 12430 in 90-foot rolls, Stock No. 12429 in 45-foot rolls and is available in 1,000-foot spools as Stock No. 9881. Use of improper lines may result in excessive loss or may lead to line reflections, resulting in multiple images or "ghosts," thus marring the reception.

For transmission line runs up to 200 feet, and where the signal strength on the antenna is relatively high, the Stock No. 12430, or Stock No. 12429 transmission line may be used. For all other applications the Stock No. 9882 transmission line is recommended.

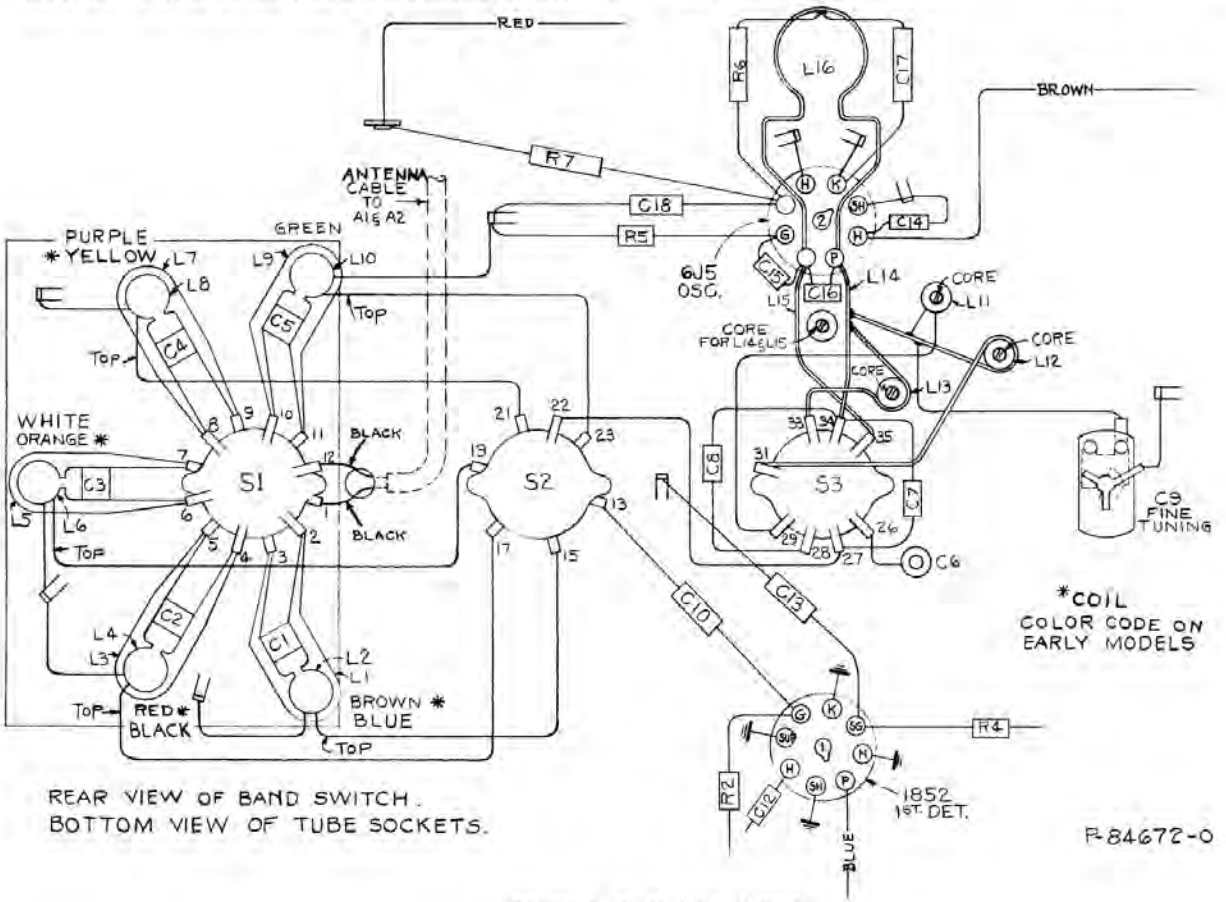
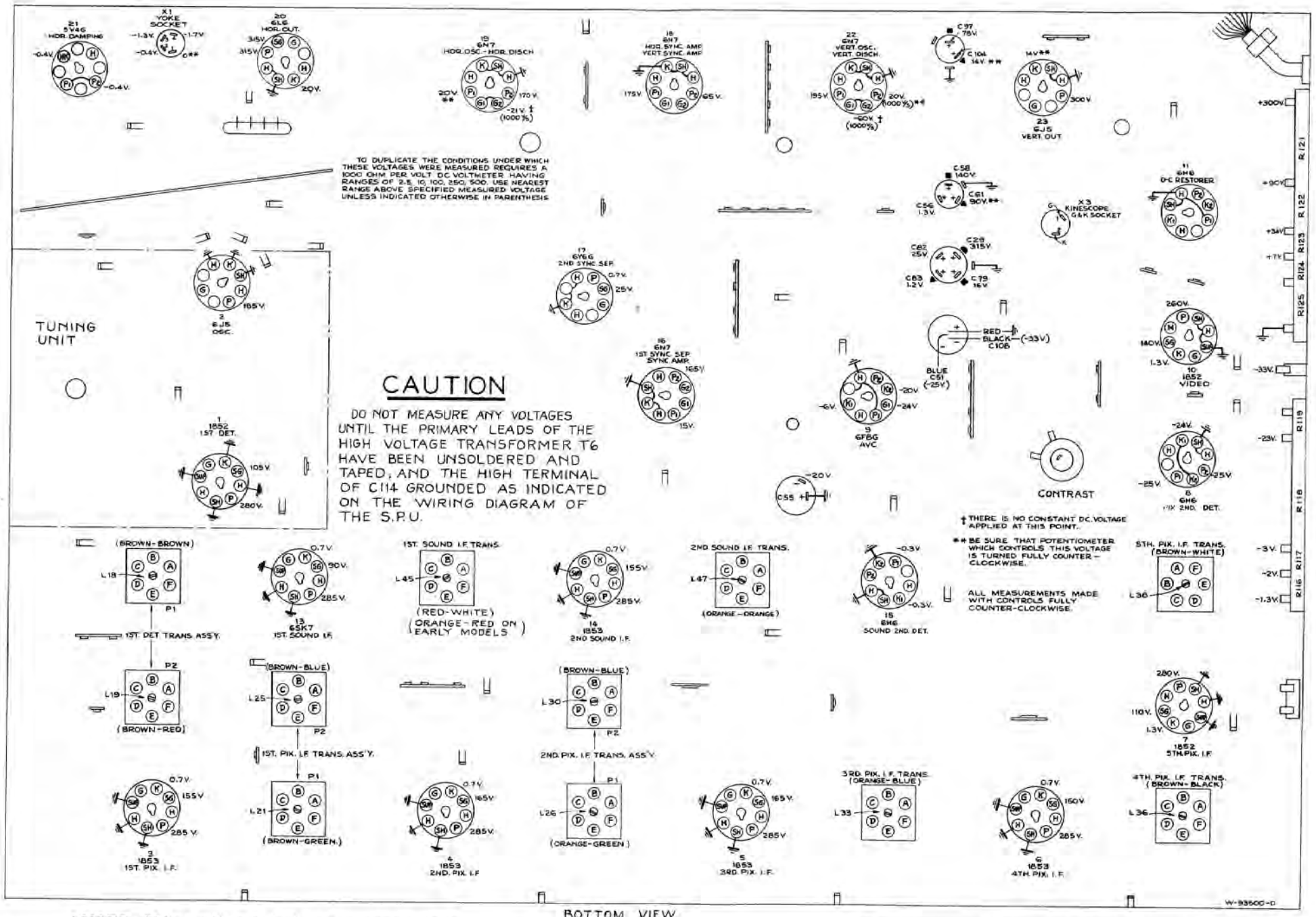


Figure 7—R. F. Unit Wiring



* **NOTE:** Values with star (*) are operating voltages in circuits with high series-resistance. The actual measured voltages will be lower, depending on the voltmeter loading.

Figure 8—Voltage Diagram

Measurements made to chassis unless otherwise indicated, with set tuned to quiet point and all controls and adjustments full counter-clockwise. Values should hold within ±20% with 117-volt a-c supply.

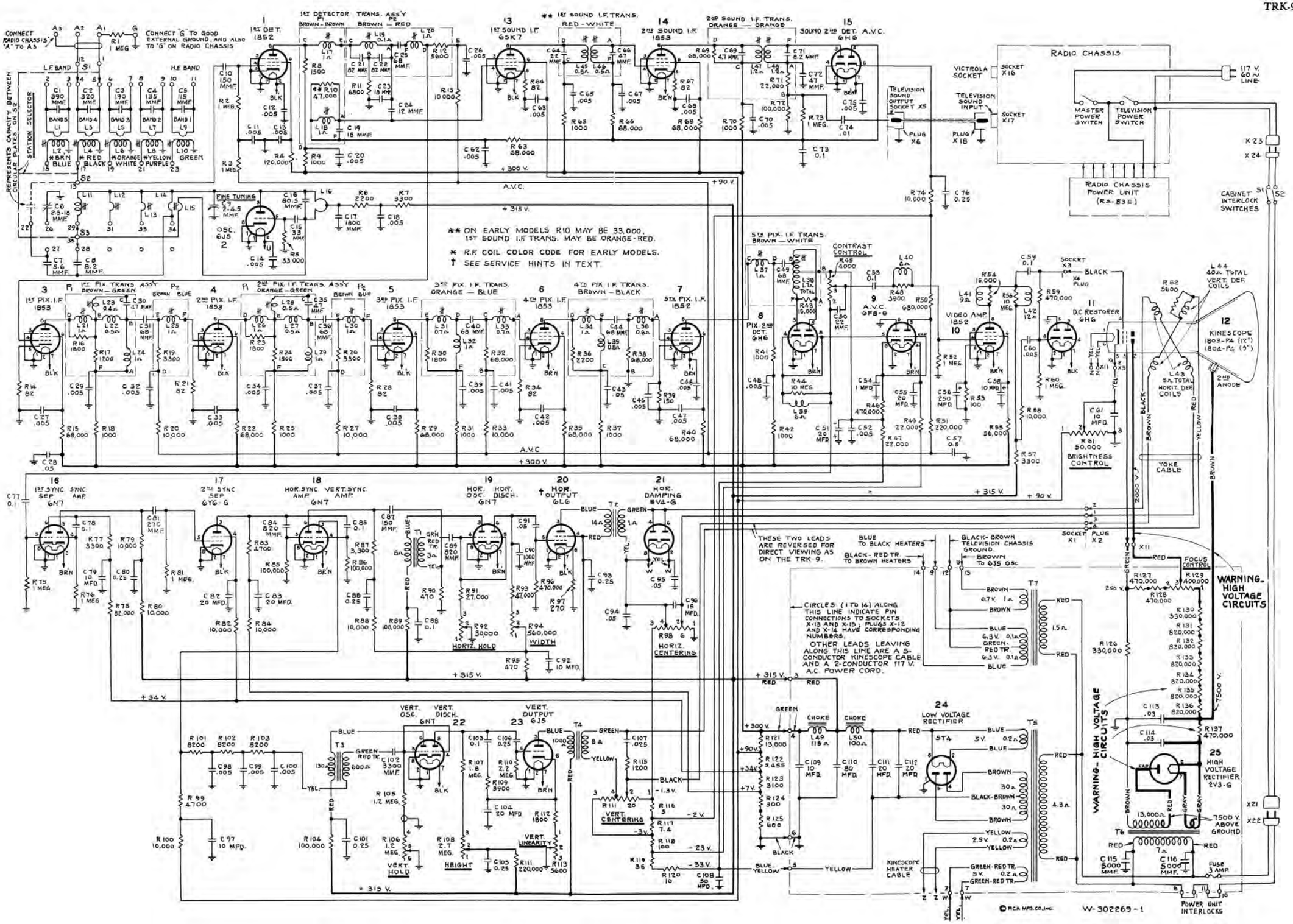


Figure 9—Schematic Diagram, TRK-9 and TRK-12

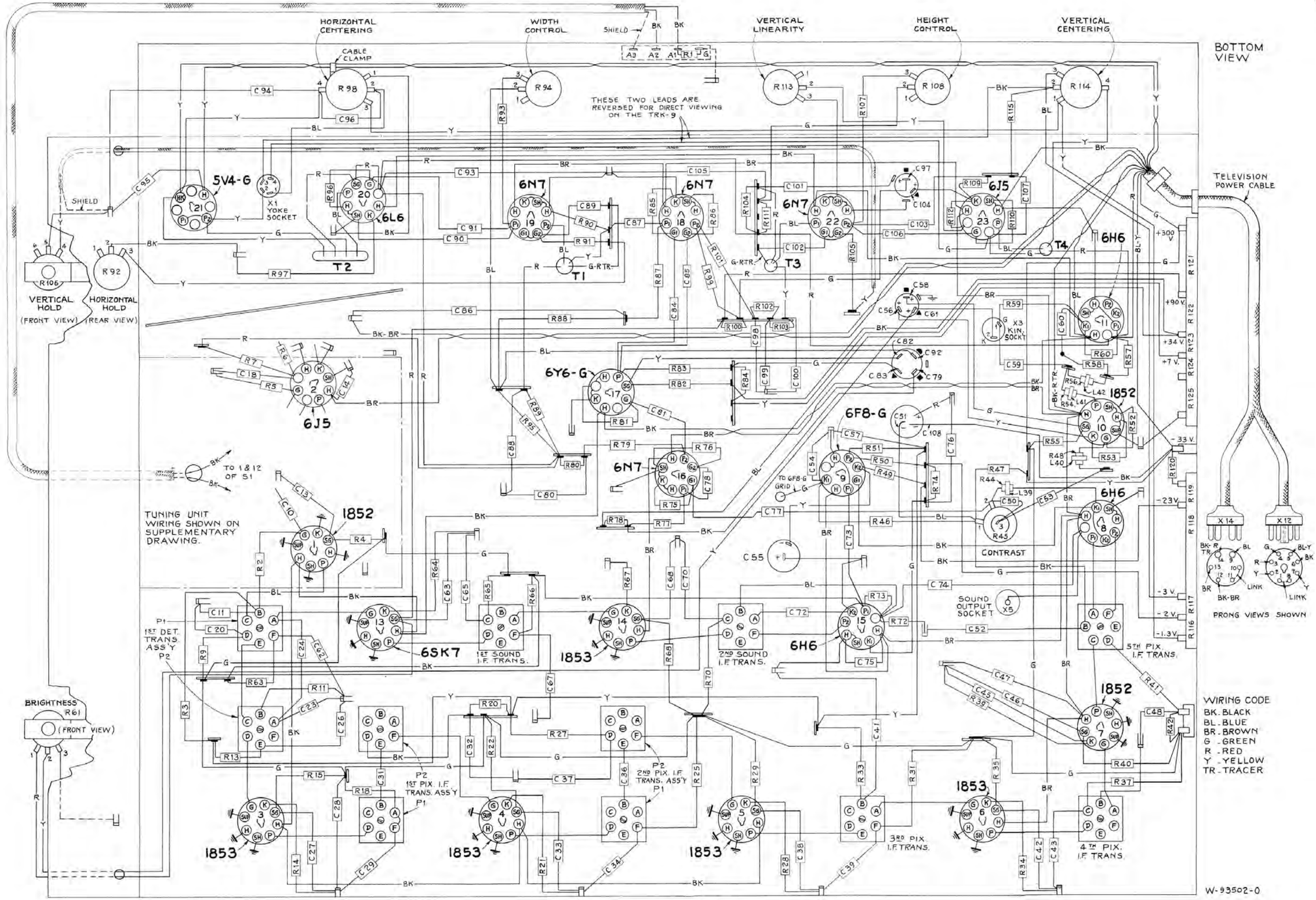


Figure 10—Video Chassis Wiring

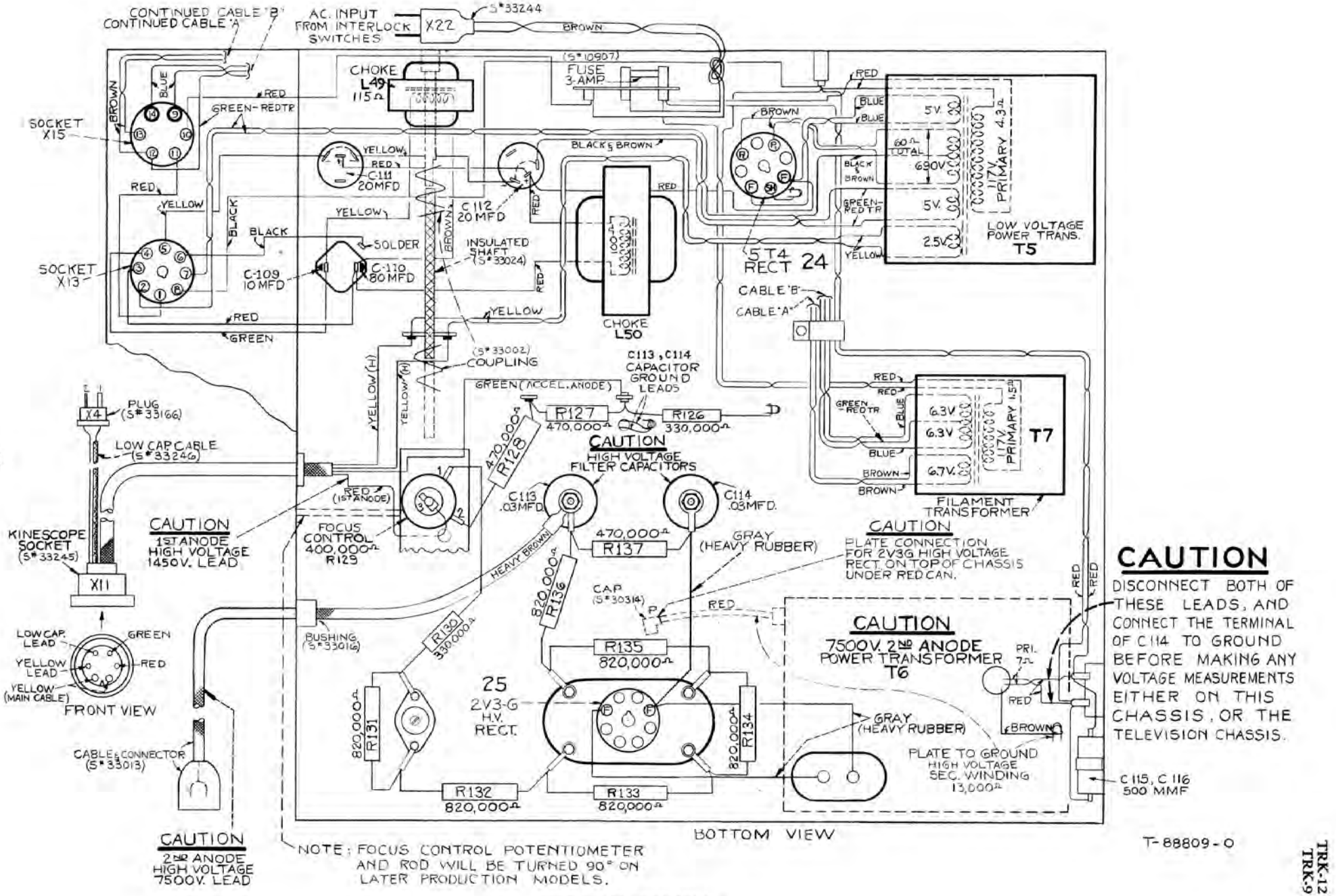


Figure 11—SPU Wiring

Radio Receiver Chassis No. RC-427, RC-427A and Socket Power Unit No. RS-83E

Twelve-Tube, Three-Band, Electric-Tuning, A-C, Superheterodyne Receiver

Electrical Specifications

FREQUENCY RANGES

Standard Broadcast ("A" band)	540-1,720 kc
Medium Wave ("B" band)	2.3-7.0 mc
Short Wave ("C" band)	7.0-22 mc
Intermediate Frequency	455 kc

TUBE COMPLEMENT

(1)	RCA-6K7	R-F Amplifier	
(2)	RCA-6A8	1st Detector	
(3)	RCA-6J7	Oscillator	
(4)	RCA-6K7	1st I-F Amplifier	
(5)	RCA-6K7	2nd I-F Amplifier	
(6)	RCA-6R7	2nd—Det., A.F., A.V.C., and Muting	
(7)	RCA-6J5	2nd A-F Amplifier	
(8)	RCA-6J5	Phase Inverter	
(9)	RCA-6F6	Power Output	
(10)	RCA-6F6	Power Output	
(11)	RCA-6U5	Magic Eye	
(12)	RCA-5U4G (In RS-83E SPU)	Full-Wave Rectifier	

Dial Lamps ..... { Two Mazda No. 44, 6.3 volts, .25 amp.
One Mazda No. 47, 6.3 volts, .15 amp.

(The Mazda No. 47 is the electric tuning set-up lamp, located at center of dial.)

Power Supply Rating ..... 105-125 volts, 60 cycles, 120 watts

POWER OUTPUT

Undistorted	10 watts
Maximum	12 watts

LOUDSPEAKER (RL-70F-5)

Type	12-inch electrodynamic
Voice-Coil Impedance	2.2 ohms at 400 cycles

Mechanical Specifications

RC-427 CHASSIS BASE DIMENSIONS

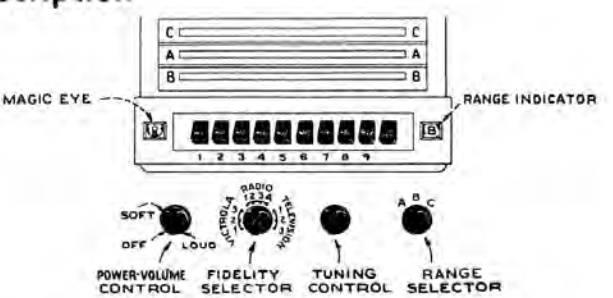
Height	3 inches
Width	15½ inches
Depth	8½ inches
Overall Chassis Height	8½ inches
Tuning Drive Ratio	20 to 1

General Description

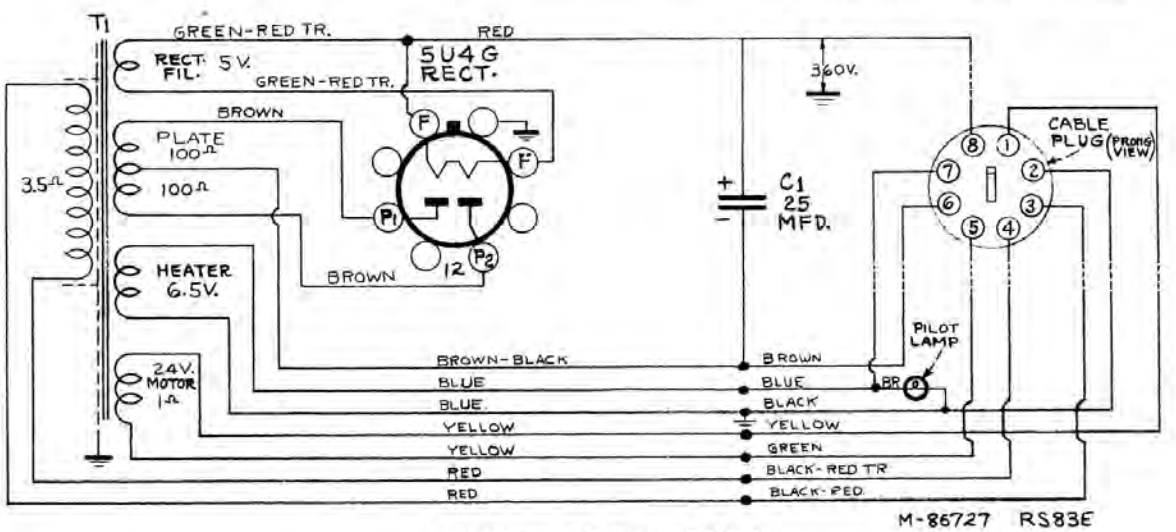
Radio receiver chassis No. RC-427 is used in RCA Victor Television Console Models TRK-9 and TRK-12.

The audio output of the television chassis is connected to the audio input of the radio chassis by means of jack X-17 and section S7 of the fidelity switch. The functions of this switch are tabulated on the following page.

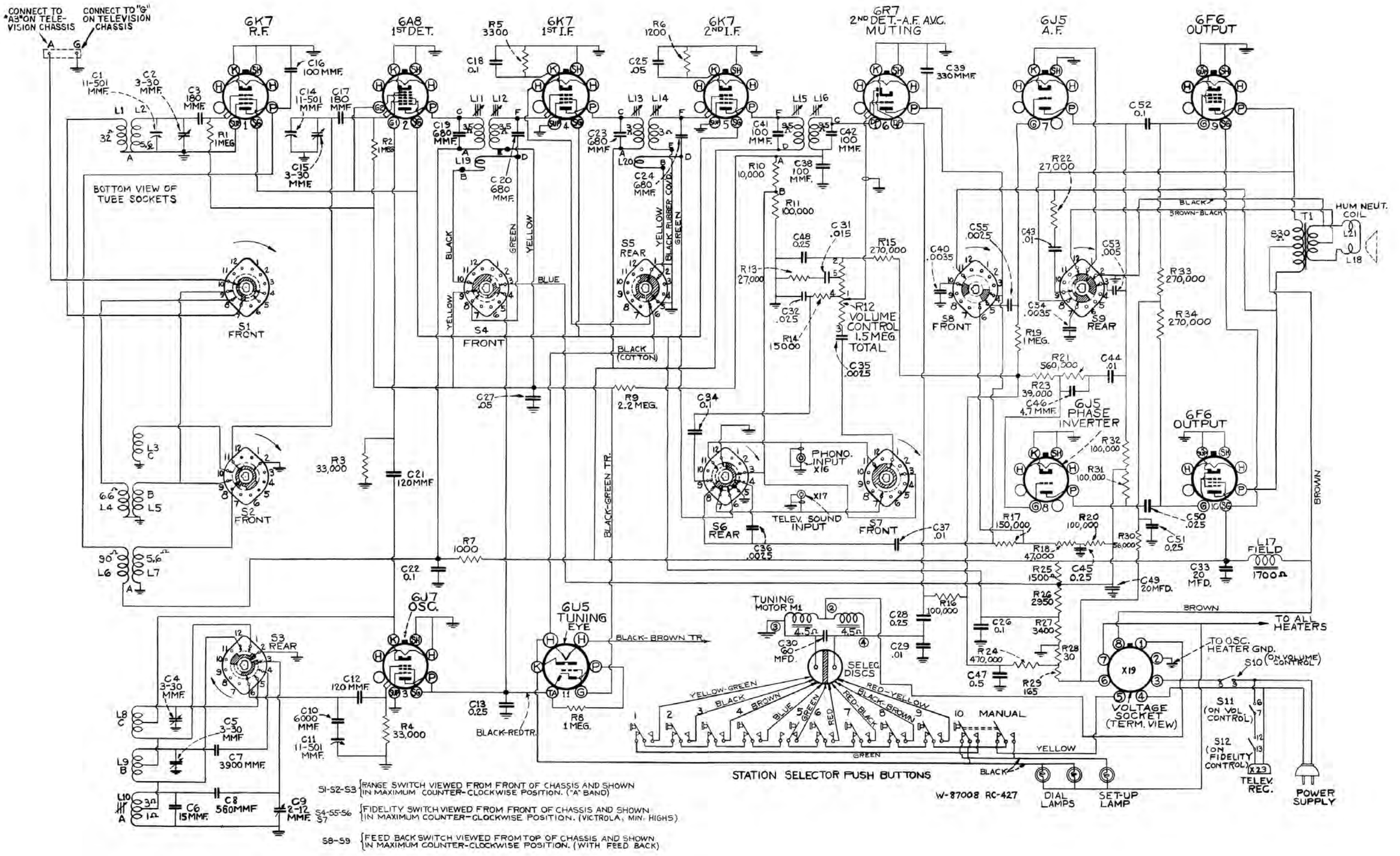
A separate plug-in power unit, RS-83E, is used to supply heater and plate voltages to the radio chassis. Service data and diagram for this power unit are shown below.



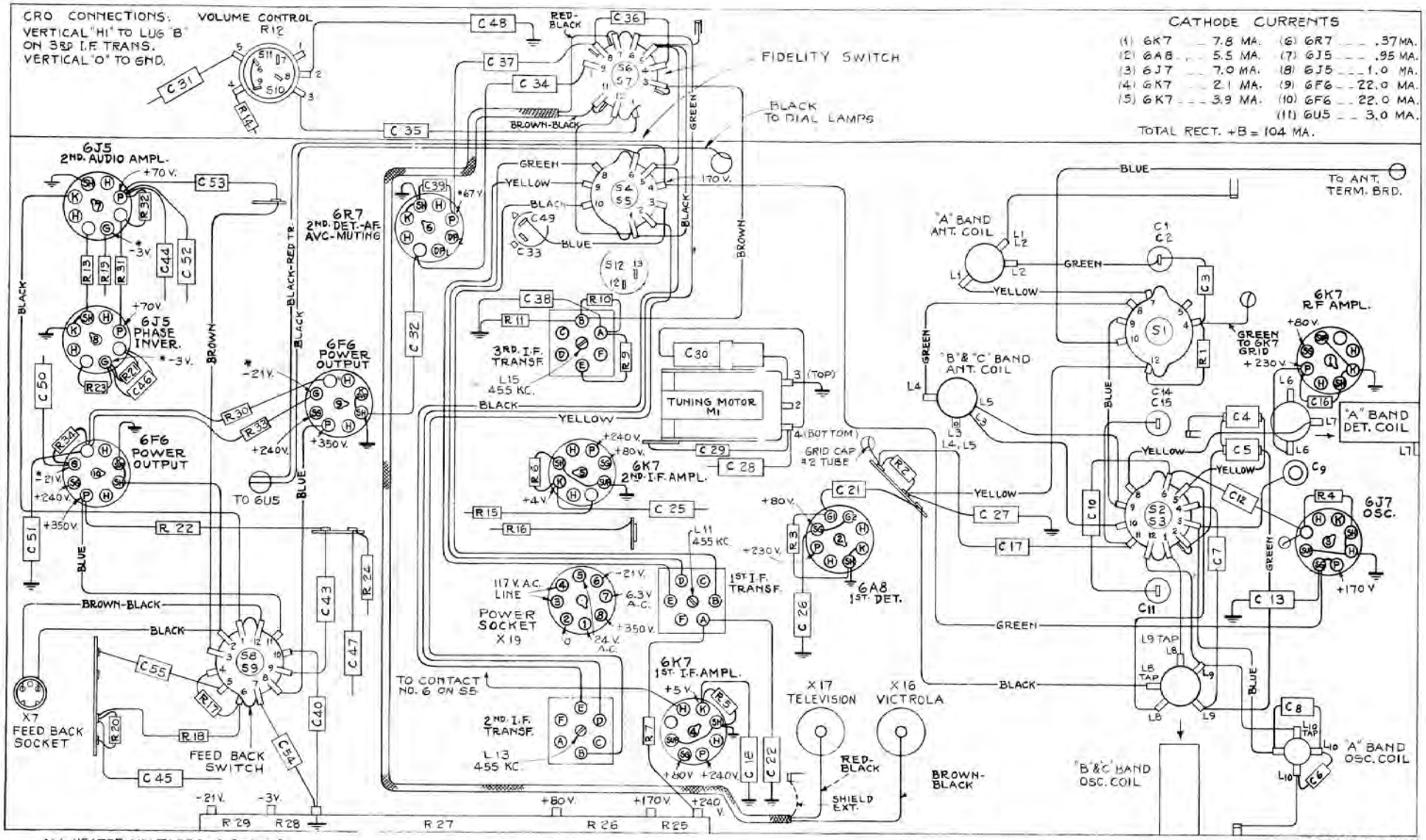
At Right—Location of Controls (Radio)



SPU Schematic Diagram, RS-83E



Schematic Circuit Diagram, Radio Chassis



BOTTOM VIEW - REAR OF CHASSIS

R-F Wiring Diagram and Socket Voltages (Radio Chassis)

Measurements made to chassis unless otherwise indicated, with set tuned to quiet point, volume control at minimum. Values should hold within approximately ±20% with 117-volt a-c supply.

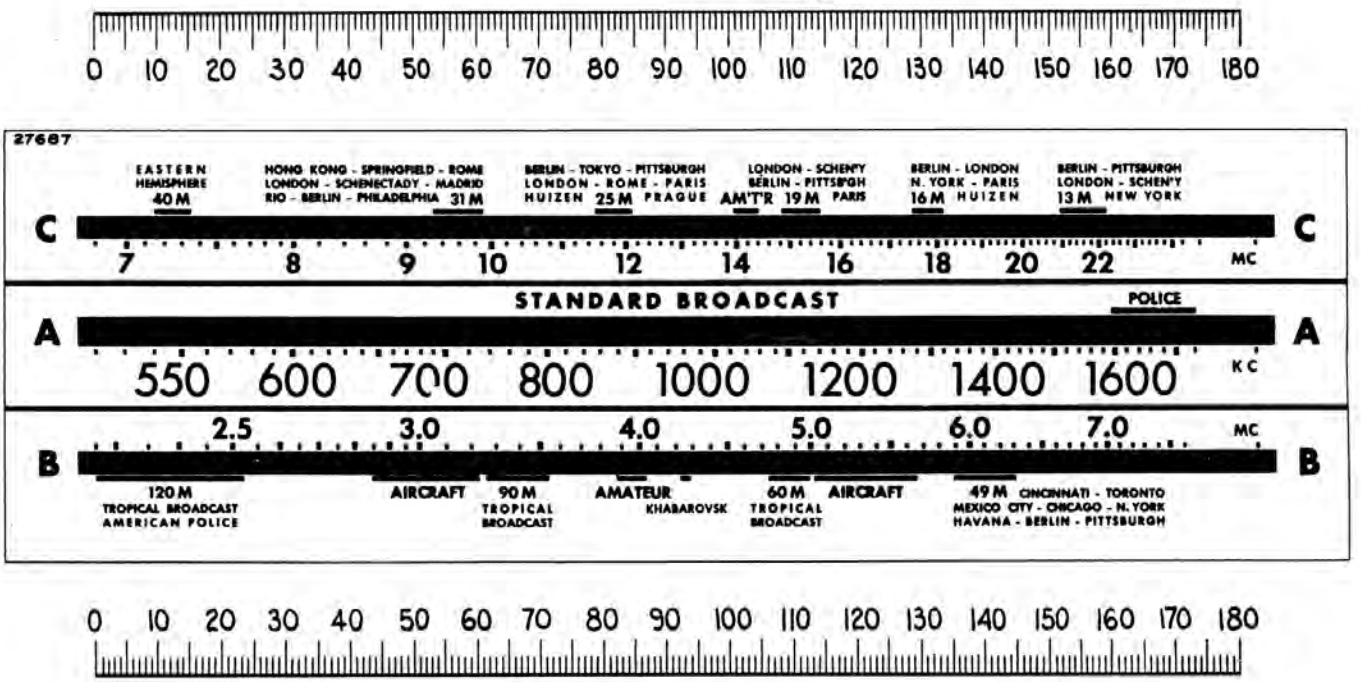
***NOTE:** Values with star (*) are operating voltages in circuits with high series-resistance, and when measured will read lower depending on the voltmeter loading.

Fidelity Switch (S4, S5, S6, S7)

Switch Position	For	I-F Amp.	Audio Amp.	110-V. Supply for Tele. Chassis *	Magic Eye	Osc. and Eye +B Supply	Dial Lamps **
No. 1 (Counter-clockwise)	Victrola	—	Min. Highs	Off	—	Off	On
No. 2	Victrola	—	Max. Highs Reduced Lows	Off	—	Off	On
No. 3	Victrola	—	Full Range	Off	—	Off	On
No. 1	Radio	Sharp	Min. Highs Max. Lows	Off	On	On	On
No. 2	Radio	Sharp	Max. Highs Reduced Lows	Off	On	On	On
No. 3	Radio	Sharp	Max. Highs Full Lows	Off	On	On	On
No. 4	Radio	Broad	Full Range	Off	On	On	On
No. 1	Television	—	Min. Highs	On	Off	Off	Off
No. 2	Television	—	Med. Highs Reduced Lows	On	Off	Off	Off
No. 3	Television	—	Full Range	On	Off	Off	Off

* Controlled by switch (S12) on rear of fidelity switch.
** The 1st-I.F. heater is opened on positions 8, 9, and 10.

Calibration Scale



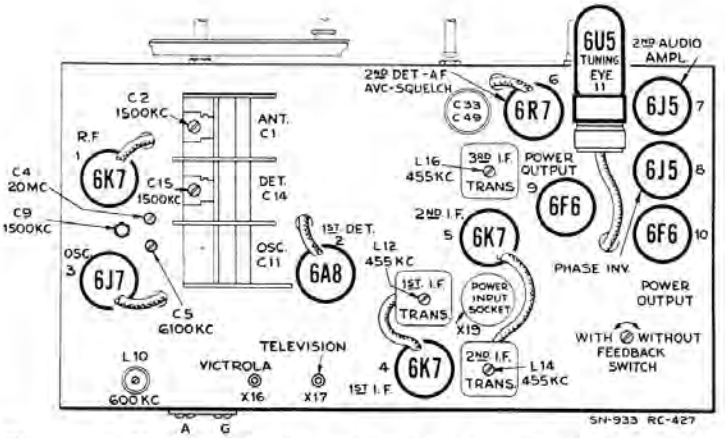
Tuning Dial, and Corresponding 0-180° Calibration Scale

The corresponding dial setting for any reading of the calibration scale can be determined by drawing a line straight up from this point; for example, 151° on the calibration scale corresponds to a dial reading of 1,500 kc on "A" band. Read instructions under "Alignment Procedure."

Alignment Procedure

(RADIO CHASSIS)

At Right—Tube and Trimmer Locations



Cathode-Ray Alignment is the preferable method. Connections for the oscillograph are shown in the chassis drawing.

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 Scale on Indicator-Drive-Cord Drum.—The tuning dial is fastened in the cabinet and cannot be used for reference during alignment, therefore a calibration scale is attached to the rear of the indicator-drive-cord drum which is mounted on the front shaft of the gang condenser. The setting of the gang condenser is read on this scale, which is calibrated in degrees. The correct setting of the gang in degrees, for each alignment frequency, is given in the alignment table.

As the first step in r-f alignment, check the position of the drum. The "O" mark on the drum scale must be vertical, and directly over the center of the gang-condenser shaft when the plates are fully meshed. The drum is held to the shaft by means of two set screws, which must be tightened securely when the drum is in the correct position.

To determine the corresponding frequency for any setting of the calibration scales, refer to the accompanying drawing which shows the dial with O-180° calibration scales drawn at top and bottom.

Pointer for Calibration Scale.—Improvise a pointer for the calibration scale by fastening a piece of wire to the gang-condenser frame, and bend the wire so that it points to the "O" mark on the calibration scale when the plates are fully meshed.

Dial-Indicator Adjustment.—After fastening the chassis in the cabinet, attach the dial indicator to the drive cable with indicator approximately 1/16-inch above end dots at low-frequency ends of bands with gang condenser fully meshed. See that pointer does not rub background screen or dial face. The indicator has a spring clip for attachment to the cable.

Steps	Connect the high side of test-osc. to—	Tune test-osc. to—	Set tuning gang to—	Adjust the following—	To obtain—
1	Turn fidelity switch to No. 3 radio (sharp).				
2	6K7 2nd I-F grid cap, in series with .01 mfd.	455 kc	Quiet point on "B" band	L15, L16 (3rd I-F Trans.)	Coincidental images on cathode-ray oscillograph, or max. output on output meter.
3	6K7 1st I-F grid cap, in series with .01 mfd.			L13, L14 (2nd I-F Trans.)	
4	6A8 1st Det. grid cap, in series with .01 mfd.			L11, L12 (1st I-F Trans.)	
5	Turn fidelity switch to No. 4 radio (broad). The curve on CRO should broaden out to a double peak and reduce gain nearly 50%.				
6	Turn fidelity switch to No. 3 radio for the following adjustments. Back out the "B" and "C" oscillator trimmers, C5 and C4. Preset "A" band oscillator trimmer, C9, approximately an inch out.				
7	Antenna terminal, in series with 100 mmf.	600 kc	600 kc (31°) "A" band	L10 (osc.)	Max. Output
8		1,500 kc	1,500 kc (151°) "A" band	C9 (osc.) C2 (ant.) C15 (det.)	Max. Output
9		600 kc	600 kc "A" band	L10 (osc.)	Rock in for Max. Output
10	Repeat step No. 8.				
11	Antenna terminal, in series with 300 ohms	6,100 kc	6,100 kc (140°) "B" band	C5 (osc.)	Max. Output *
12		20 mc	20 mc (146°) "C" band	C4 (osc.)	Rock in for Max. Output *
	Follow "Adjustments for Electric Tuning."				

* Use minimum capacitance peak if two peaks can be obtained.
Note: The oscillator tracks 455 kc **above** the signal on all bands.

Electric Tuning Mechanism

When a station button is pushed in, it completes the 24-volt circuit through the corresponding station-setting contact and one-half of the brass selector disc, which is connected to one side of the motor field coil. This energizes the motor, and the rotor is pulled forward, engaging with the gear train that drives the tuning condenser and selector disc. The condenser and disc rotate until the insulation line comes under the particular station-setting contact, and the motor circuit is broken.

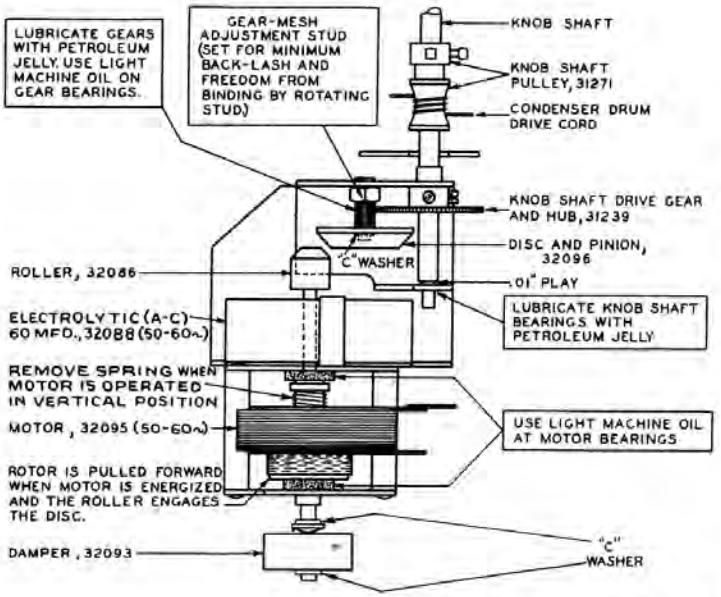
When the electric tuning mechanism is in action, the motor-supply voltage is fed into a diode rectifier circuit which applies a high bias to the first-audio amplifier. This prevents audio amplification and makes the set quiet or "mute" while the mechanism is operating.

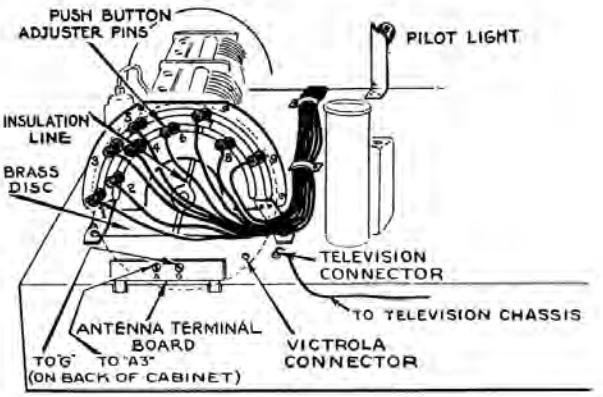
The brass selector disc is fastened to the rear shaft of the tuning condenser by means of two set-screws. When the condenser is at maximum (plates fully meshed) the insulation line should be horizontal, with the operating-end at the left (viewed from rear). The brass is beveled at this end.

The selector disc should be set so that the contact-tip plungers in the station-setting contacts project not more than 1/16-in. from the body of the contacts.

LUBRICATION

Motor bearings and **gear bearings;** use light machine oil.
Gear faces; use "Pure Oil No. 611" or petroleum jelly.
Dial-indicator pulleys and **rails;** use "Castordag" or petroleum jelly.
Selector disc; apply ***thin*** film of petroleum jelly.





Station Button	Color of Lead To Station-Setting Contact	Station Button	Color of Lead To Station-Setting Contact
No. 1	Yellow-green	No. 6	Red
No. 2	Black	No. 7	Red-black
No. 3	Brown	No. 8	Brown-black
No. 4	Blue	No. 9	Red-yellow
No. 5	Green		

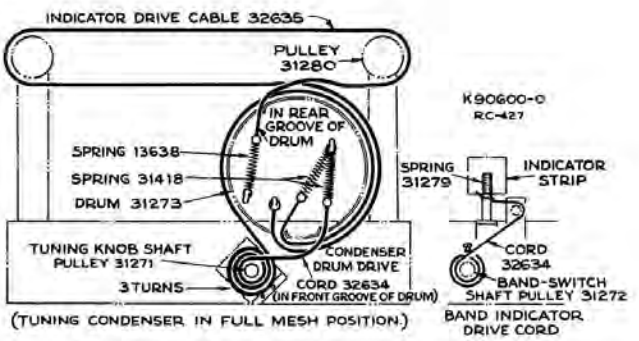
Adjustments for Electric Tuning

With power turned off, disconnect the antenna transmission line and ground connection, turn fidelity control to radio (3rd radio position—6th position from full counter-clockwise). Remove the back from the cabinet and reconnect the antenna transmission line and ground connection. The two interlock switches on the side panels should not be touched and care should be taken not to press on them when making the push-button set-up. Then turn on power, set range selector to "A," allow a few moments warm-up period and proceed as follows:

1. Make a list of the desired nine stations, arranged in order from low to high frequencies.
2. Turn on power-volume control, turn range selector to "A" band, and allow a few minutes for warming up.
3. Press down the "dial-tuning" (right-hand) button.
4. Manually tune in the first station on the list, using the "Magic Eye" for accurate tuning.
5. Hold down the "dial-tuning" button and press down station button No. 1 (left-hand). Both buttons will stay down. Move station adjuster contact pin No. 1 to the insulating line on the disc at rear of gang. When the pin is correctly centered on the insulating line, the central dial lamp will go out completely.
6. Press down any other button in order to release the dial-tuning button and station button No. 1. Tune to some other section on the dial, and then press down station button No. 1 again; the electric tuning mechanism will function to tune in the first station, and the central dial lamp will stay on.
7. Repeat this process for the remaining stations.

Components of Station Setting Contact

At Right—Dial Mechanism



Miscellaneous Data for Radio Chassis

Feedback Switch (S8 and S9)

Counter-clockwise position (with feedback)	Clockwise position (without feedback)
1. Provides inversed feedback by connecting part of secondary of output transformer in cathode of 6J5 2nd-audio tube.	1. Removes reversed feedback and grounds cathode of 2nd-audio tube.
2. Disconnects compensating network (R22, C43, C54, C40) from plate circuit of output tubes.	2. Connects compensating network (R22, C43, C54, C40) to plate circuit of output tubes.
3. Connects grid of 2nd audio to high side of 1st A-F plate resistor R17, for maximum input.	3. Connects grid of 2nd audio to low side of 1st A-F plate resistor R17, for reduced input.
4. Connects capacitor C53 (.005) from plate of 2nd audio to chassis.	4. Disconnects C53 from plate of 2nd audio.

Precautionary Lead Dress

(1) All A-C leads should be twisted together and dressed away from parts in chassis to prevent hum pickup.

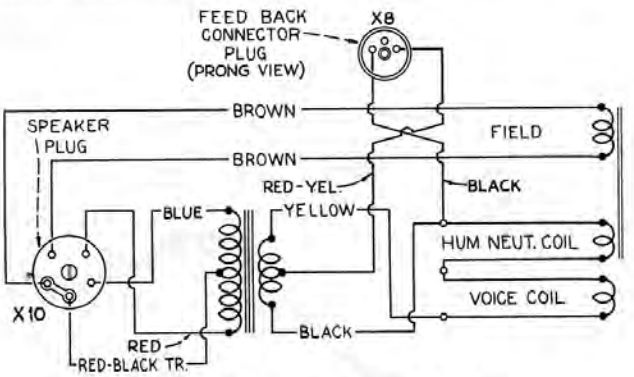
(2) Keep pilot light leads away from 6R7 grid.

(3) Yellow, green, and black leads from fidelity switch to 1st i-f transformer must be twisted together and dressed away from chassis.

(4) Yellow, green, and black leads from fidelity switch to 2nd i-f transformer must be twisted together and dressed away from chassis.

Victrola Attachment

A jack (X-16) is located near the antenna terminal board for convenience in plugging in a Victrola Attachment. The cable from the Victrola Attachment should be terminated in a Stock No. 31048 plug to fit the jack.



Connections and Colors of Loudspeaker and Cable

REPLACEMENT PARTS

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

STOCK No.	DESCRIPTION	Unit List Price
	TELEVISION CHASSIS ASSEMBLIES	
	KC-4 in TRK-12	
	KC-4A in TRK-9	
33387	Adjuster—Magnetite core and stud in tube for high frequency oscillator circuit adjustment (Used with L11, L12, L14, L15)	.55
33835	Adjuster—Magnetite core and stud in tube, for high frequency oscillator circuit adjustment (Used with L13)	.60
31253	Board—4 terminal antenna-ground terminal board	.25
12884	Capacitor—Adjustable plunger type air trimmer (C6)	.60
33097	Capacitor—4.7 mmfd., (neg. temp. coeff.) (C69)	.35
33478	Capacitor—5.6 mmfd., 500 volts (C7)	.40
33476	Capacitor—8.2 mmfd., 500 volts (C8)	.40
33381	Capacitor—8.2 mmfd. (neg. temp. coeff.) (C71)	.40
33380	Capacitor—12 mmfd., 500 volts (C24)	.40
33100	Capacitor—18 mmfd., 500 volts (neg. temp. coeff.) (C19, C23)	.40
14021	Capacitor—22 mmfd. (C50)	.35
33101	Capacitor—22 mmfd. (neg. temp. coeff.) (C64)	.40
33111	Capacitor—33 mmfd., 500 volts (C15)	.35
33102	Capacitor—47 mmfd. (neg. temp. coeff.) (C30, C35, C66)	.45
33103	Capacitor—68 mmfd., 500 volts (C31, C36, C25, C40, C44, C49) (neg. temp. coeff)	.35
33477	Capacitor—80.5 mmfd., 500 volts (C16)	.45
33104	Capacitor—82 mmfd. (neg. temp. coeff.) (C21, C22)	.45
33106	Capacitor—115 mmfd. (C5)	.30
33107	Capacitor—135 mmfd. (C4)	.30
12725	Capacitor—150 mmfd., 400 volts (C10, C87)	.35
33108	Capacitor—190 mmfd. (C3)	.30
12488	Capacitor—270 mmfd. (C81)	.35
33109	Capacitor—320 mmfd. (C2)	.30
33110	Capacitor—390 mmfd. (C1)	.30
32788	Capacitor—820 mmfd., 400 volts (C84, C89)	.40
12635	Capacitor—1000 mmfd., 400 volts (C90)	.50
13580	Capacitor—1800 mmfd., 400 volts (C17)	.50
4881	Capacitor—3300 mmfd., 400 volts (C102)	.60
33584	Capacitor—.005 mfd., 1200 volts (C11, C12, C13, C14, C18, C20, C26, C27, C29, C32, C33, C34, C37, C38, C39, C41, C42, C43, C45, C46, C47, C48, C52, C60, C62, C63, C65, C67, C68, C70, C75, C98, C99, C100)	.25
4937	Capacitor—.01 mfd., 1000 volts (C74)	.25
4870	Capacitor—.025 mfd., 400 volts (C107)	.20
30882	Capacitor—.05 mfd., 200 volts (C94, C95)	.20
32787	Capacitor—.05 mfd., 400 volts (C28)	.20
4886	Capacitor—.05 mfd., 400 volts (C91)	.20
4839	Capacitor—0.1 mfd., 400 volts (C73, C53, C77, C78, C85, C59, C88, C103)	.30
12484	Capacitor—0.25 mfd., 350 volts (C86, C93, C101, C106, C80, C76, C105)	.30
12741	Capacitor—.5 mfd. (C57)	.30
32015	Capacitor—1.0 mfd., 150 volts (C54)	.60
33158	Capacitor—10 mfd., 150 volts, 20 mfd., 25 volts, (C97, C104)	1.00
33159	Capacitor—10 mfd., 350 volts, 10 mfd., 150 volts, 250 mfd., 15 volts (C58, C61, C56)	1.60
33160	Capacitor—10 mfd., 350 volts, 10 mfd., 150 volts, 20 mfd., 25 volts, 20 mfd., 25 volts (C92, C79, C82, C83)	1.60
32045	Capacitor—15 mfd. (C96)	.70
33475	Capacitor—20 mfd., 25 volts (C55)	.75
33161	Capacitor—20-50 mfd., 35 volts (C51, C108)	1.45
33243	Coil—Oscillator coil with core and stud (L11)	.65
33234	Coil—1-¾ turn antenna coil, core, stud and capacitor assembly (C5, L9, L10) (green)	1.10
33647	Coil—2 turn antenna coil, core, stud and capacitor assembly (C4, L7, L8) (yellow or purple)	1.10
33646	Coil—3 turn antenna coil, core, stud and capacitor assembly (C3, L5, L6) (orange or white)	1.10
33645	Coil—5-¾ turn antenna coil, core, stud and capacitor assembly (C2, C3, L4) (red or black)	1.10
33644	Coil—7-½ turn antenna coil, core, stud and capacitor assembly (C1, L1, L2) (brown or blue)	1.10
33535	Coil—Peaking coil and 10 megohm resistor assembly (L39, R44)	.55
33534	Coil—Peaking coil and 3900 ohm resistor assembly (L40, R48)	.55
33536	Coil—Peaking coil and 15,000 ohm resistor assembly (L41, R54)	.55
33537	Coil—Peaking coil and 10 megohm resistor assembly (L42, R56)	.55
33228	Condenser—Oscillator "Fine tuning" condenser, located on range switch (C9)	2.10
33164	Control—Dual 1.2 meg. and 30,000 ohms "Vertical hold" and "Horizontal hold" controls (R106, R92)	2.00
33206	Control—6 ohm tapped "Horizontal centering" control (R98)	1.50
33210	Control—20 ohm tapped "Vertical centering" control (R114)	1.50
33162	Control—4000 ohm, "Contrast" control (R45)	1.00
33209	Control—5600 ohm, "Vertical linearity" control (R113)	1.00
33163	Control—50,000 ohms "Brightness" control (R61)	1.00
33207	Control—560,000 ohm "Width" control (R94)	1.00
33208	Control—2.7 meg. "Height" control (R108)	1.00
33002	Coupling—Flexible Bronze coupling, located on control shaft end of "contrast" control	.10
33003	Coupling—Flexible Bronze coupling located on panel shaft end of "contrast" control	.10
4574	Plug—6-prong male plug for Television chassis power supply cable (X14)	.48
16836	Plug—8-prong male plug for Television chassis power supply cable (X12)	.25
32723	Resistor—10 ohms, 1 watt (R120)	.22
33325	Resistor—Voltage divider comprising a 36-100-7.4 and 5 ohm section (R119, R118 R117, R116)	.80
14074	Resistor—82 ohms, ½ watt (R64, R67, R14, R21, R28, R34)	.20
14439	Resistor—100 ohms, ½ watt (R53)	.20
13428	Resistor—150 ohms, ½ watt (R39)	.20
13219	Resistor—270 ohms, 2 watts (R97)	.25
30499	Resistor—470 ohms, ½ watt (R90, R95)	.20
33326	Resistor—Voltage divider comprising a 600-300-3100-5455 and 13,000 ohm section (R125, R124, R123, R122, R121)	1.20
14720	Resistor—1000 ohms, ½ watt (R9, R65, R70, R18, R41, R25, R31, R37, R42)	.20
14993	Resistor—1200 ohms, 1/10 watt (R17)	.15
12267	Resistor—1200 ohms, ½ watt (R115)	.20
14499	Resistor—1500 ohms, ½ watt (R8, R24)	.20
31920	Resistor—1800 ohms, 1/10 watt (R16, R23, R30)	.15
12194	Resistor—1800 ohms, ½ watt (R112)	.20
11863	Resistor—2200 ohms, 1/10 watt (R36)	.15
13486	Resistor—2200 ohms, 1 watt (R6)	.22
13031	Resistor—3300 ohms, 1/10 watt (R19, R26)	.15
12312	Resistor—3300 ohms, ½ watt (R77, R87)	.20
30150	Resistor—3300 ohms, 1 watt (R7, R57)	.22
12955	Resistor—3900 ohms, ½ watt (R109)	.20
30146	Resistor—4700 ohms, ½ watt (R83, R99)	.20
31789	Resistor—5600 ohms, 1/10 watt (R12)	.15
12265	Resistor—6800 ohms, ½ watt (R11)	.20
14075	Resistor—8200 ohms, ½ watt (R101, R102, R103)	.20
14559	Resistor—10,000 ohms, ½ watt (R20, R27, R33, R13, R58, R82, R84, R88, R100, R74)	.20
13097	Resistor—10,000 ohms, 1 watt (R79, R80)	.22
13594	Resistor—15,000 ohms, 1/10 watt (R43)	.15
14281	Resistor—22,000 ohms, 1/10 watt (R71)	.15
13998	Resistor—22,000 ohms, ½ watt (R47, R49)	.20
12738	Resistor—27,000 ohms, ½ watt (R91)	.20
11300	Resistor—33,000 ohms, 1/10 watt (R10) (early production only)	.15
12454	Resistor—33,000 ohms, ½ watt (R5)	.20
12412	Resistor—47,000 ohms, ½ watt (R93) (R10—Late production only)	.20
30650	Resistor—56,000 ohms, ½ watt (R55)	.20
12010	Resistor—68,000 ohms, 1/10 watt (R32, R38, R69)	.15
13715	Resistor—68,000 ohms, ½ watt (R63, R66)	.20
14138	Resistor—68,000 ohms, ½ watt (R15, R22, R29, R35, R40, R68)	.20
14023	Resistor—82,000 ohms, ½ watt (R78)	.20
14560	Resistor—100,000 ohms, ½ watt (R72, R85, R86, R89, R104)	.20
30180	Resistor—120,000 ohms, ½ watt (R4)	.20
12264	Resistor—220,000 ohms, ½ watt (R51, R111)	.20
12285	Resistor—470,000 ohms, ½ watt (R46, R59, R96)	.20
12413	Resistor—680,000 ohms, ½ watt (R50)	.20
13730	Resistor—1 meg., ½ watt (R1, R2, R76, R75, R73, R52, R60, R81)	.20
2546	Resistor—1 meg., 1 watt (R3)	.22
30208	Resistor—1.2 meg., ½ watt (R105)	.20
5028	Resistor—1.8 meg., ½ watt (R107)	.20
12679	Resistor—2.2 meg., ½ watt (R110)	.20
33229	Roller—Rubber friction roller for oscillator condenser drive. Part of range switch assembly	.10
33165	Socket—2-prong female socket for Video output to Kinescope (X3)	.25
33011	Socket—4-contact female socket for Kinescope deflecting yoke (X1)	.25
31251	Socket—8-contact octal type socket	.25
18007	Socket—Ceramic octal socket for 6L6 "Hor. out" and 6J5 "Osc."	.65
14278	Socket—Television audio output pin socket (X5)	.25
33227	Switch—Range switch with shield plate and mounting studs—less coils, condenser and friction roller (S1, S2, S3)	4.65

REPLACEMENT PARTS (Continued)

STOCK No.	DESCRIPTION	Unit List Price
33330	Transformer—"1st det. P1" I-F transformer (L17, L18) (br. and br.)	2.60
33331	Transformer—"1st det. P2" I-F transformer (L19, L20) (Brown and red)	2.80
33334	Transformer—"1st pix P1" I-F transformer (L21, L22, L23, L24) (Brown and green)	2.50
33335	Transformer—"1st pix P2" (L25) or "2nd pix P2" (L30) I-F transformer (brown and blue)	1.65
33338	Transformer—"1st sound" I-F transformer (L45, L46) (orange and red) (Used in early production)	2.40
33526	Transformer—"1st sound" I-F transformer (L45, L46) (red and white) (Used in late production)	2.50
33516	Transformer—"2nd pix P1" I-F transformer (L26, L27, L28, L29) (orange and orange)	2.60
33339	Transformer—"2nd sound" I-F transforme (L47, L48) (orange and orange)	2.60
33333	Transformer—"3rd pix" I-F transformer (L31, L32, L33) (orange and blue)	2.40
33336	Transformer—"4th pix" I-F transformer (L34, L35, L36) (brown and black)	2.00
33337	Transformer—"5th pix" I-F transformer (L37, L38) (brown and white)	1.80
32899	Transformer—Horizontal oscillation transformer (T1)	1.75
9862	Transformer—Horizontal output transformer (T2)	17.50
32900	Transformer—Vertical output transformer (T4)	5.50
32898	Transformer—Vertical oscillation transformer (T3)	1.75
	3-BAND RADIO RECEIVER CHASSIS RC-427 IN TRK-12 RC-427A IN TRK-9	
31863	Board—Antenna-ground terminal board	.20
32232	Body—Station setting contact body and spring	.15
32090	Bracket—Motor mounting bracket	.40
31282	Bracket—Magic Eye mounting bracket and clip	.22
32635	Cable—Indicator pointer drive cable—60-in. length	.24
30766	Cap—"Magic Eye" cap	.15
14392	Capacitor—4.7 mmfd. (C46)	.35
31353	Capacitor—15 mmfd. (C6)	.40
31270	Capacitor—100 mmfd. (C41, C42)	.35
12720	Capacitor—100 mmfd. (C38, C16)	.35
12724	Capacitor—120 mmfd. (C12, C21)	.35
13003	Capacitor—180 mmfd. (C3, C17)	.35
12952	Capacitor—330 mmfd. (C39)	.35
31433	Capacitor—560 mmfd. (C8)	.35
31552	Capacitor—680 mmfd. (C19, C20, C23, C24)	.40
32197	Capacitor—3900 mmfd., 500 volts (C7)	.55
31405	Capacitor—6000 mmfd., 500 volts (C10)	.75
5107	Capacitor—.0025 mfd., 700 volts (C35, C36, C55)	.20
30303	Capacitor—.0035 mfd., 700 volts (C40, C54)	.40
33584	Capacitor—.005 mfd., 1200 volts (C53)	.25
4937	Capacitor—.01 mfd., 1000 volts (C37, C44, C43, C29)	.25
11315	Capacitor—.015 mfd., 400 volts (C31)	.20
4870	Capacitor—.025 mfd., 400 volts (C32, C50)	.20
32787	Capacitor—.05 mfd., 400 volts (C27, C25)	.20
4839	Capacitor—0.1 mfd., 400 volts (C22, C18, C26, C34, C52)	.30
12484	Capacitor—.25 mfd., 350 volts (C13, C28, C48, C45, C51)	.30
12741	Capacitor—0.5 mfd., 150 volts (C47)	.30
18530	Capacitor—20-20 mfd., 350 volts (C33, C49)	3.00
32088	Capacitor—Motor capacitor 60 mfd., 40 volts (C30)	.90
31263	Coil—"A" Band antenna coil (L1, L2)	.95
31265	Coil—"A" Band detector coil (L6, L7)	1.20
31296	Coil—"A" Band oscillator coil (L10)	1.05
31980	Coil—"B" and "C" Band antenna coil (L3, L4, L5)	.80
31783	Coil—"B" and "C" band oscillator coil (L8, L9)	1.05
31234	Condenser—3-gang variable condenser (C1, C11, C14, C2, C15)	6.45
12714	Condenser—Air trimmer condenser (C9)	.50
31292	Condenser—Double section trimmer capacitor 3-30 mmfd., each section (C4, C5)	.40
31971	Contact—Push button switch contacts comprising 11 contacts riveted on insulating strip	.65
31972	Contact—Push button switch contacts—comprising 14 contacts riveted on insulating strip	1.25
31231	Contact—Station setting contact tip	.06
33446	Control—"Power-volume control"—1-½ meg. (R12, S10, S11)	2.00
32634	Cord—Band indicator and variable condenser drive cord	.10
31269	Core—Core and stud for 1st, 2nd, or 3rd I-F transformer	.15
32093	Damper—Flywheel for rear end of motor shaft	.25
32096	Disc—Friction disc and pinion gear	.35
32091	Drive—Friction drive gear assembly	1.50
31273	Drum—Variable condenser drive drum	.70
31239	Gear—Knob shaft drive gear and hub	.65
31532	Indicator—Band indicating strip (Model TRK-12 only)	.15
31304	Indicator—Band indicating strip (Model TRK-9 only)	.15
31480	Lamp—6.3 volt electric tuning set-up lamp Mazda No. 47	.20
11891	Lamp—6.3 volt dial lamp Mazda No. 44	.17
31969	Lockplate—Push button switch lockplate comprising 10 contact locks in 1 strip	.75
32095	Motor—Electric tuning drive motor complete (M1)	5.25
31228	Plate—Station selector contact plate—less plungers	.45
31227	Plate—Station selector mounting plate—mounts on rear of variable condenser	.50
12493	Plug—Female connector for speaker cable (X9)	.30
31271	Pulley—Drive pulley fastens on station selector knob shaft	.25
31280	Pulley—Indicator pointer drive cord pulley	.10
31272	Pulley—Range switch pulley	.20
14720	Resistor—1000 ohms, ½ watt (R7)	.20
12267	Resistor—1200 ohms, ½ watt (R6)	.20
12312	Resistor—3300 ohms, ½ watt (R5)	.20
14559	Resistor—10,000 ohms, ½ watt (R10)	.20
12695	Resistor—15,000 ohms, ½ watt (R14)	.20
12738	Resistor—27,000 ohms, ½ watt (R13)	.20
13477	Resistor—27,000 ohms, 1 watt (R22)	.22
12454	Resistor—33,000 ohms, ½ watt (R3, R4)	.20
12266	Resistor—39,000 ohms, ½ watt (R23)	.20
12412	Resistor—47,000 ohms, ½ watt (R18)	.20
12286	Resistor—56,000 ohms, ½ watt (R30)	.20
14560	Resistor—100,000 ohms, ½ watt (R11, R16, R20, R32, R31)	.20
14020	Resistor—150,000 ohms, ½ watt (R17)	.20
12199	Resistor—270,000 ohms, ½ watt (R15, R33, R34)	.20
18020	Resistor—470,000 ohms, 1 watt (R24)	.22
12486	Resistor—560,000 ohms, ½ watt (R21)	.20
12013	Resistor—1 meg., 1/10 watt (R8)	.15
13730	Resistor—1 meg., ½ watt (R1, R2, R19)	20
12679	Resistor—2.2 meg., ½ watt (R9)	.20
31548	Resistor—Voltage divider consisting of one 1500, one 2950, one 3400, one 30 and one 3165 ohm section (R25, R26, R27, R28, R29)	.90
14887	Retainer—Drive cord pulley retainer	.01
32086	Roller—Rubber friction roller for front end of motor shaft	.10
31233	Rotor—Station selector rotor disc—mounts on rear of variable condenser shaft	1.16
5042	Screw—No. 8-32 set screw for drive pulley	.03
14350	Screw—No. 8-32 square head set screw for rotor disc stock No. 31233	.03
31681	Shaft—Dial drive knob shaft	.20
31364	Socket—Dial or electric tuning set-up lamp socket	.20
13871	Socket—"Magic Eye" socket	.45
31251	Socket—Octal type Radiotron or power supply socket	.25
14278	Socket—Pin socket for phono or television input with mounting plates (X16) (X17)	.25
31279	Spring—Band indicator tension spring	.03
13638	Spring—Indicator drive cord tension spring	.08
31970	Spring—Push button switch lock bar spring	.05
31232	Spring—Station setting tip spring	.01
12007	Spring—Stud retaining spring for I-F adjuster	.02
31418	Spring—Variable condenser drive cord tension spring	.05
33448	Switch—Feed-back switch (S8, S9)	1.40
33447	Switch—H. F. tone control phono-radio-Television and power switch (S4, S5, S6, S7, S12)	2.65
31979	Switch—Range switch (S1, S2, S3)	1.55
31968	Switch—Station selector push button switch complete	3.95
31565	Transformer—1st I-F transformer complete (L11, L12, C19, C20, L19)	2.40
31551	Transformer—2nd I-F transformer complete (L13 L14, C23, C24, L20)	2.40
31549	Transformer—3rd I-F transformer complete (L15, L16, C41, C42)	2.10
32231	Washers—Comprising one metal washer, two fibre washers and one solder lug or retainer for station setting body	.03
32094	Washers—Assorted washers for mounting damper on motor shaft	.10
	POWER SUPPLY UNIT (TELEVISION AUDIO RECEIVER) (RS-83E)	
14531	Capacitor—25 mfd. filter capacitor (C1)	1.55
33606	Plug—8-contact male plug for power supply cable (X20)	.45
31251	Socket—5U4G Radiotron socket	.25
33445	Transformer—110 V. 60 cycle power transformer (T1)	10.30

REPLACEMENT PARTS (Continued)

STOCK No.	DESCRIPTION	Unit List Price
	7,500 VOLT TELEVISION POWER UNIT	
	TRK-12—KK-7	
	TRK-9—KK-7A	
33016	Bushing—Porcelain bushing and spring	.25
33288	Cable—Insulated connector complete with cable for Kinescope (2nd anode)	2.10
33995	Capacitor—.005-.005 mfd., 1,000 v. (C115, C116)	xx
32901	Capacitor—0.03 mfd., 7,500 volt (C113, C114)	3.25
32400	Capacitor—20 mfd., 450 volt (C111, C112)	1.05
33023	Capacitor—80-10-mfd., 400 volt (C110, C109)	2.80
14854	Choke—Filter choke (L49)	1.80
32940	Choke—Filter choke (L50)	3.75
30314	Clip—Plate connector for 2V3G Radiotron	.03
33037	Control—Focus control, 400,000 ohms (R129) (Used in 1st production)	1.00
33971	Control—Focus control, 400,000 ohms (R129) (Used in 2nd production)	1.00
33002	Coupling—Flexible bronze coupling	.10
10907	Fuse—3 ampere, 250 volt	.08
33015	Insulator—Stand-off insulator only—less hardware	.30
32937	Knob—Focus control knob	.20
33244	Plug—2-prong male connector for A.C. power cord (X22)	.45
33166	Plug—Two prong male plug for Kinescope grid-cathode cable (X4)	.20
33501	Resistor—330,000 ohms, 1W (1,000V.) (R126, R130)	.20
33502	Resistor—470,000 ohms, 1W (1,000V.) (R127, R128, R137)	.20
33554	Resistor—820,000 ohms, 1W (1,000V.) (R131, R132, R133, R134, R135, R136)	.20
33024	Shaft—Bakelite shaft for focus control	.50
18007	Socket—Ceramic octal base socket and retaining ring for high voltage rectifier	.65
33245	Socket—Kinescope socket, less cable (X11)	.35
31251	Socket—Octal base 5T4 rectifier, or television power supply socket (X13)	.25
12143	Socket—6-prong television power supply socket (X15)	.50
32909	Support—Rectifier socket, plate, and stand-off insulator assembly	2.00
32939	Transformer—Filament power transformer (T7)	5.65
9861	Transformer—High voltage power transformer (T6)	22.50
32938	Transformer—Low voltage power transformer (T5)	10.00
	SPEAKER ASSEMBLY	
	RL-70F-5	
31825	Cap—Cone center dust cap	.05
11469	Coil—Hum neutralizing coil (L21)	.30
11234	Coil—Speaker field coil (L17)	3.85
31275	Cone—Speaker cone assembly (L18)	1.75
31567	Plug—3-prong male feed back cable plug (X8)	.15
31539	Plug—5-prong speaker plug (X10)	.25
31556	Speaker—Speaker complete (RL-70F-5)	13.45
31557	Transformer—Speaker output transformer (T1)	3.20
	MISCELLANEOUS ASSEMBLIES	
	TRK-12	
	TRK-9	
31358	Button—Station selector push button	.15
33676	Cable—17½-inch shielded audio lead with plugs (X6, X18) (Model TRK-9 only)	.85
33480	Cable—38-inch shielded audio lead with plugs (Model TRK-12 only) (X6, X18)	1.30
33246	Cable—Low capacity Kinescope grid cable (Model TRK-12 only)	1.25
33605	Cable—Low capacity Kinescope grid cable (Model TRK-9 only)	1.35
33597	Cap—Blue pilot lamp "Bulls Eye"	.20
32897	Clamp—Deflecting yoke clamp assembly	.65
4573	Connector—2-prong female connector for power supply circuit (X23)	.30
33363	Connector—2-prong female connector, used on interlock cable (X21)	.45
33002	Coupling—Flexible bronze coupling (Used in 2nd production receivers)	.10
31456	Cover—Eight protective covers for push button markers	.08
32815	Cushion—Kinescope masking cushion (Model TRK-12 only)	2.30
33019	Cushion—Kinescope masking cushion (Model TRK-9 only)	1.90
33643	Cushion—Television chassis mounting cushion with screw, spacer and washer (sufficient for one chassis)	.40
33442	Dial—Three-band glass dial scale	1.25
33329	Escutcheon—Dial escutcheon less buttons, button shaft and dial scale	2.60
32083	Frame—Dial frame with screen less pointer, carriage and rod	1.20
10907	Fuse—3 ampere line fuse	.08
33074	Glass—6¾ by 8¾ inch safety protective glass (Model TRK-9 only)	2.40
33076	Glass—8¾ by 11⅛ inch safety protective glass (Model TRK-12 only)	3.90
33282	Hinge—Piano type lid hinge and screws	2.50
33468	Knob—Radio tuning, volume or range selector knob	.15
33470	Knob—Television "Contrast," "Hor. hold" or "Fine Tuning" knob	.20
33471	Knob—Television "Brightness" or "Vert. hold" knob	.25
33472	Knob—Television "Station selector" knob	.25
33469	Knob—"Victrola—Radio—Television—Fidelity selection" knob	.20
11891	Lamp—6.3 V. pilot lamp, Mazda No. 44	.17
31589	Marker—Complete set of call letter markers	.35
31458	Marker—"Dial Tuning" push button marker	.01
31457	Marker—"Victrola" push button marker	.01
33075	Mirror—20½ by 14¾ in. viewing mirror	9.00
33225	Nut—Speed nut for mounting high frequency coil assemblies	.01
4577	Plug—2-prong male plug for power supply circuit (X24)	.45
33244	Plug—2-prong male plug, used on interlock cable (X22)	.45
33166	Plug—2-prong male plug for Kinescope grid-cathode cable (X4)	.20
32816	Plug—4-prong male plug for deflecting yoke cable (X2)	.20
12493	Plug—5-prong female speaker cable plug (X9)	.30
4574	Plug—6-prong male plug for Television chassis power supply cable (X14)	.48
16836	Plug—8-prong male plug for Television chassis power supply cable (X12)	.25
31542	Pointer—Station selector pointer with carriage	.35
31287	Rod—Dial frame pointer slide rod	.15
32083	Screen—Dial frame difusing screen with rivets	1.20
4560	Screw—#20 by 1¼ in. long, machine screw, washer and lockwasher for chassis mounting (12 required)	.06
33517	Sleeve—Bell mouth sleeve for screw-driver adjustments (Model TRK-9 only)	.05
14270	Spring—Knob spring for stock Nos. 33468, 33471, 33472, 33469 knobs	.05
30330	Spring—Knob spring for stock Nos. 33470, knob	.03
33362	Switch—Interlock switch with leads	1.80
31522	Support—Left hand lid support	2.25
31478	Support—Right hand lid support	2.20
9857	Yoke—Deflecting yoke complete with cable and 4-prong plug (L43, L44, R62)	17.50

XX—Price upon application to your RCA Parts Distributor

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