SERVICE NOTES

SPECIFICATIONS

FREQUENCY RANGES:

Channel Number	Channel Frequency (mc.)	Video Carrier Frequency (mc.)	Audio Carrier Frequency (mc.)	Receiver H-F Oscillator Frequency (mc.)
1	not used	....	....	....
2	54 - 60	55.25	59.75	81.35
3	60 - 66	61.25	65.75	87.35
4	66 - 72	67.25	71.75	93.35
5	76 - 82	77.25	81.75	103.35
6	82 - 88	83.25	87.75	109.35
7	174 - 180	175.25	179.75	201.35
8	180 - 186	181.25	185.75	207.35
9	186 - 192	187.25	191.75	213.35
10	192 - 198	193.25	197.75	219.35
11	198 - 204	199.25	203.75	225.35
12	204 - 210	205.25	209.75	231.35
13	210 - 216	211.25	215.75	237.35

FINE TUNING RANGE:
Plus or minus 400 kc. on Channel 2; Plus or minus 2 mc. on Channel 13.

OPERATING VOLTAGE:
105 to 120 volts, 60 cycles.

POWER CONSUMPTION: .....185 watts

AUDIO POWER OUTPUT:
Undistorted .....1.2 watts
Maximum .....1.5 watts

LOUDSPEAKER:
Type .....4" E. M.
Voice Coil Impedance....3.2 ohms at 400 cycles

RECEIVER ANTENNA INPUT IMPEDANCE:
300 ohms balanced or 72 ohms unbalanced

TUBE COMPLEMENT:

1	1B3/GT	.....High Voltage Rectifier
1	5U4G	.....Low Voltage Rectifier
1	6AH6	.....Video Output
1	6AG5	.....Mixer
1	6AG5	.....R. F. Amplifier
1	6AL5	....Video Detector and Noise Clipper
1	6AL5	..... Ratio Detector
1	6AL5	.....Horizontal A. F. C.
1	6K6GT	.....Audio Output
1	6AQ5	..... Vertical Output
1	6AV6	.....1st Audio Amplifier

1	6BH6	1st I. F. Amplifier
1	6BH6	2nd I. F. Amplifier
1	6BH6	3rd I. F. Amplifier
1	6BH6	1st Audio I. F. Amplifier
1	6BH6	2nd Audio I. F. Amplifier
1	6BJ6	4th I. F. Amplifier
1	6C4	H. F. Oscillator
1	6V6/GT	High Voltage Oscillator
1	6W4/GT	Horizontal Damper
1	6BQ6/GT	Horizontal Output
1	12AT7	1st Sync. Amp. & Sync. Separator
1	12AU7	Vertical Multivibrator
1	12AU7	Horizontal Multivibrator
1	12AU7	2nd Sync. Amp. & Phase Inverter
1	10BP4	Cathode Ray Tube

VIDEO CARRIER INTERMEDIATE FREQUENCY: ..... 26.1 mc.

VIDEO RESPONSE ..... 4.0 mc.

AUDIO CARRIER INTERMEDIATE FREQUENCY: ..... 4.5 mc.

AUDIO DISCRIMINATOR BAND WIDTH: (between peaks) ..... 150 kc.

FOCUS: ..... Magnetic

SWEEP DEFLECTION: ..... Magnetic

SCANNING: ..... Interlaced 525 line.

HORIZONTAL SCANNING FREQUENCY: ..... 15,750 CPS

VERTICAL SCANNING FREQUENCY: ..... 60 CPS

FRAME FREQUENCY (picture repetition rate): ..... 30 CPS

CATHODE RAY TUBE HANDLING PRECAUTIONS

Shatterproof goggles and heavy gloves should be worn at all times when handling the cathode ray tube. The tube should not be handled in the vicinity of any person not so equipped. When handling the cathode ray tube, always keep it away from the body.

The cathode ray tube bulb, due to its large surface area and high vacuum contained within, is subjected to high air pressure. More than ordinary care is required to prevent shattering the tube. The large end of the bulb, particularly 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 smoothly into place during installation, remove the tube and determine the cause of the trouble — DO NOT FORCE THE TUBE.

HIGH VOLTAGE WARNING

The danger accompanying shock is always present when the receiver is operated outside the cabinet or when the rear cover is removed from the cabinet. Only a person familiar with the precautions to be observed when working with high-voltage equipment should service this receiver.

INSTALLATION INSTRUCTIONS

TO PREPARE THE RECEIVER FOR OPERATION:

Models H-604T10 and H-604T10A are shipped in operating condition. There is no shipping material to be removed. Simply remove the receiver from its carton, and connect the A-C plug to a 105 to 120 volt 60 cycle A-C outlet.

However, it is desirable that the adjustment of the ion trap magnet be checked in order to obtain best performance from the receiver. A check of this adjustment will also avoid the possibility of C. R. T. damage resulting from prolonged operation with an incorrectly adjusted ion trap magnet. To check the adjustment, proceed as follows:

1. Remove the screws that secure the rear cover to the cabinet.
2. Remove the rear cover by pulling it straight out from the cabinet.
3. Apply power to the receiver using a temporary line cord connected between the A-C receptacle on the chassis and an A-C outlet.
4. Adjust the ion trap magnet as explained under ADJUSTMENTS.

With Model H-604T10, an external antenna must be used. The lead-in from the antenna should be connected to the antenna terminals on the back of the receiver.

Model H-604T10A contains a built-in antenna for use in areas of normal reception. In such areas when the built-in antenna provides good reception, no antenna connections are required. However, in weak signal areas or under adverse conditions, it may be necessary to use an external antenna. In this event, the antenna lead-in can be connected to the antenna terminals on the back of the receiver after disconnecting the built-in antenna wires that normally connect to these terminals. The lugs on the built-in antenna should then be insulated and dressed in such a position that they do not touch the chassis or components. If desired, the clamp located on the left side (facing the rear) of the cabinet can be used to hold the built-in antenna feeder out of the way.

TO CHECK THE OPERATION OF THE RECEIVER:

1. Rotate the BRIGHTNESS and CONTRAST controls completely counterclockwise.
2. Turn on the receiver by rotating the OFF-ON-VOLUME control clockwise.
3. Rotate the CHANNEL SELECTOR to the channel number of the desired station.
4. Rotate the BRIGHTNESS control clockwise until the screen is well lighted.
5. Rotate the CONTRAST control clockwise until a picture appears on the screen.
6. If the built-in antenna is in use, adjust the TELEVISION ANTENNA control for maximum picture contrast. If an external antenna is in use, this step is not required.
7. If the picture is moving up or down or quivering, adjust the VERTICAL HOLD control to stabilize the image.
8. If horizontal or diagonal bars or a folded-over picture appears on the screen, adjust the HORIZONTAL HOLD control to obtain a clear picture.
9. Adjust the FINE TUNING control for the best picture detail.
10. Readjust the BRIGHTNESS and CONTRAST controls until pleasing shades ranging from clear white to intense black are attained.
11. Adjust the VOLUME control for the desired sound volume.
12. Check the operation on all available television stations. Note that if the built-in antenna is in use, the TELEVISION ANTENNA control must be readjusted for maximum picture contrast each time the receiver is tuned to a different channel.
13. If necessary, adjust the vertical linearity, height, width, and focus controls as explained under ADJUSTMENTS.

ADJUSTMENTS

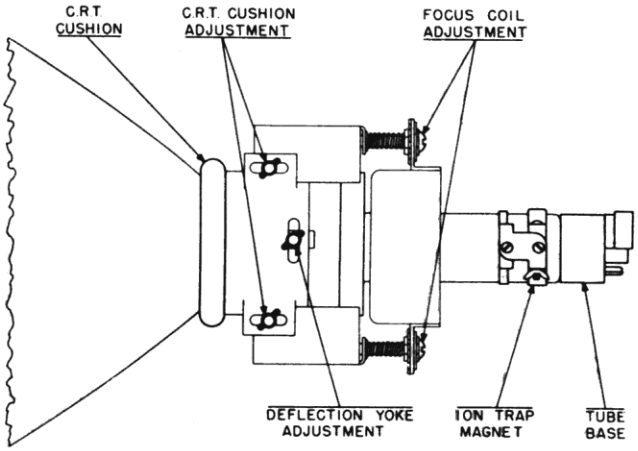


FIG. 1—TOP VIEW OF C. R. T.

The picture adjustments are located on the rear of the chassis and are accessible through cut-outs in the back cover.

ION TRAP MAGNET

CAUTION: When adjusting the ion trap magnet, care must be exercised to avoid breaking the neck of the C. R. T.

The ion trap magnet must always be adjusted for maximum picture brightness. With the mag-

net oriented approximately as shown in Fig. 1, rotate it around the neck of the tube and move it forward and backward until the position is found where the brightest raster is obtained.

FOCUS COIL

Incorrect centering of the picture or a shadow on one corner of the picture may indicate that the focus coil is in need of adjustment. If only a slight adjustment is required, it can be made by turning the focus coil adjustment screws in or out as required.

If a major adjustment of the focus coil is required, the procedure is as follows:

1. Turn the focus coil adjustment screws in or out until the focus coil is positioned at right angles to the neck of the C. R. T. and there is a slight separation between the deflection yoke and the focus coil.

2. Loosen the lock nuts located under the heads of the adjustment screws and slide the focus coil up or down or sideways until the picture is correctly centered. Large holes in the focus coil brackets permit this movement of the coil.

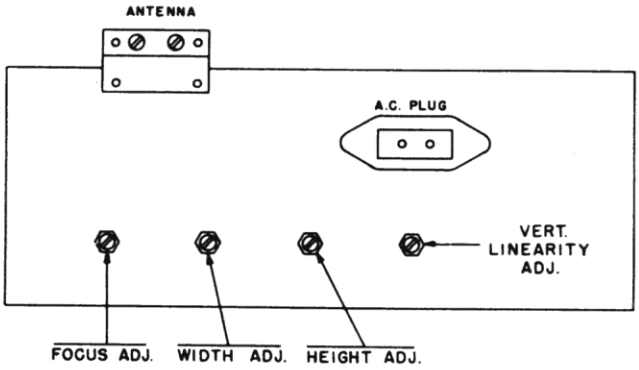


FIG. 2—REAR VIEW OF CHASSIS

3. Tighten the lock nuts while taking care that the screws do not turn during the process.

4. Fine centering adjustments can be made by turning one or more of the screws in or out.

CATHODE RAY TUBE CUSHION

The cushion must fit snugly against the flare of the cathode ray tube in order that the rear of the tube will be supported firmly.

DEFLECTION YOKE

This adjustment controls the angle of the picture with respect to the horizontal. If the picture is not squared in the picture mask, loosen the wing nut and move it to the left or right so as to rotate the deflection yoke. The picture will tilt to the left or right with the deflection yoke rotation.

FOCUS CONTROL

The focus control (Fig. 2) should be adjusted with the brightness and contrast controls in their normal positions. If correct focusing cannot be obtained, the high voltage oscillator may require adjustment.

HEIGHT AND VERTICAL LINEARITY

The height adjustment controls the overall height of the picture, while the vertical linearity adjustment governs contraction or expansion of the upper portion only. For this reason, a balance between the two controls is necessary to make the picture symmetrical and fill the mask vertically.

WIDTH

The width control should be adjusted so that the picture fills the mask horizontally.

HORIZONTAL RINGING COIL

To adjust the horizontal ringing coil (L403), tune in the weakest station in the area, set the horizontal hold control at approximately the middle of its range, and adjust L403 (location shown on Fig. 8) until the picture is properly "locked-in."

HIGH VOLTAGE OSCILLATOR

1. *Turn off the receiver* and disconnect the high voltage lead from the C. R. T.

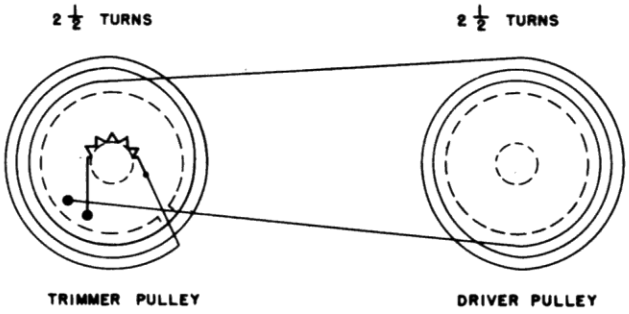
2. Connect 13 one megohm, one watt resistors in series between the high voltage lead and the chassis.

3. Connect a kilovoltmeter across the 13 megohms of resistance.

4. Turn on the receiver and adjust C507 (location shown on Fig. 8) for maximum voltage indication on the meter.

5. *Turn off the receiver,* disconnect the kilovoltmeter, remove the 13 megohms of resistance, and connect the high voltage lead to the C. R. T.

BUILT-IN ANTENNA MECHANISM — MODEL H-604T10A



SIDE VIEW—TRIMMER CLOSED

FIG. 3—DRIVE STRING ARRANGEMENT

The antenna trimmer control is designed to rotate through a range of 2½ turns. At one extreme of rotation the trimmer is completely closed, thus serving as a stop. A collar locked on the threaded portion of the trimmer shaft serves as a stop at the other extreme of rotation. When the trimmer shaft is rotated 2½ turns from the completely closed position, the collar on the shaft should bear against the metal shoulder on the trimmer and stop rotation in that direction.

If the collar becomes loosened and no longer stops the trimmer rotation at 2½ turns, it should be re-positioned on the shaft. Loosen the set screw in the collar, completely close the trimmer, and then open the trimmer 2½ turns. Position the collar so that it bears tightly against the metal shoulder of the trimmer, and tighten the set screw in the collar.

The drive string arrangement for the built-in antenna trimmer is shown in Fig. 3.

CHASSIS REMOVAL — MODEL H-604T10A

Removal of the chassis from Model H-604T10A is complicated somewhat by the built-in antenna. The recommended procedure is as follows:

1. Remove the control knobs from the front of the receiver.

2. Remove the wood screws that secure the back cover, and remove the back cover by pulling it away from the cabinet.

3. Remove the built-in antenna feeder from the antenna terminals on the rear of the chassis.

4. Remove the thumb tack that secures the end of the antenna tuning stub to the top of the cabinet.

5. Remove the two screws that secure the antenna trimmer brackets to the top of the cabinet.

6. Using care to avoid bending the antenna tuning stub, pull the trimmer shaft and rubber coupling off the pulley shaft thus detaching the trimmer and tuning stub assembly.

7. Remove the hex-head chassis mounting bolts from the bottom of the cabinet.

8. Remove the chassis from the cabinet. The pulley shaft is sufficiently flexible to allow passage of the chassis.

To replace the chassis, the above procedure should be reversed.

ALIGNMENT

TEST EQUIPMENT—To properly service these chassis, the following test equipment should be available:

1. R-F sweep generator which meets the following requirements:
   a. Frequency range from 18 to 30 mc. with a sweep width of 10 mc.
   b. Output adjustable with at least 100,000 microvolts maximum and a very low minimum.
   c. Output "flat" on all attenuator positions.

2. Cathode-ray oscilloscope, preferably one with a wide band vertical deflection amplifier and a low-capacitance input probe.

3. Signal generator capable of providing output frequencies listed below.

21.6 mc. 4th I-F trap
22.6 mc. 1st I-F
25.9 mc. 2nd I-F
25.6 mc. 3rd I-F
23.8 mc. 4th I-F
23.0 mc. 5th I-F

4.5 mc. Audio I-F and ratio detector (the frequency must be extremely accurate, preferably crystal controlled.)

NOTE: The R-F output level on all the above frequencies should be adjustable with at least 100,000 microvolts maximum and a very low minimum.

4. Heterodyne frequency meter with crystal calibrator (if the signal generator does not include a crystal calibrator).

5. Electronic voltmeter (vacuum tube voltmeter), with a high voltage multiplier probe for measurements up to 15,000 volts and an R-F probe for measuring R-F voltages.

GENERAL INFORMATION—All test equipment and the chassis should be bonded together by short lengths of heavy (½ inch) braided copper ribbon. The interconnecting leads should be shielded (72 ohm coaxial cable) and should be as short as possible consistent with ease of making connections. The effectiveness of the bonding can be checked during alignment by placing the hand on the metal chassis or test equipment case. If the response pattern or meter reading changes visibly, the bonding must be improved before the circuits are aligned.

COMMON I-F ALIGNMENT PROCEDURE

1. Rotate the channel selector switch to channel 3.

2. Connect the signal generator to the mixer tube through the coupling device shown in Fig. 4. The device is constructed by squeezing together a miniature tube shield until it fits the tube snugly and does not ground to the chassis. A .005 mfd capacitor is then soldered to the side of the shield. By sliding the tube shield up or down on the tube, the capacitance between the shield and the tube elements can be varied to obtain additional control of the coupling over that provided by the attenuator in the generator itself. The ground side of the generator output cable should be connected to the receiver chassis.

3. Connect a vacuum tube voltmeter to the video test jack on the receiver chassis, and set the meter to its 5 volt scale.

4. Set the signal generator to 21.6 mc. (unmodulated), and adjust C329 for *minimum* voltage on the VTVM. Use a strong signal for this adjustment.

5. Set the signal generator to 22.6 mc. (unmodulated), and adjust L306 for maximum voltage on the VTVM. *During this adjustment, keep the signal generator output adjusted so that the VTVM reading does not exceed 2 volts.*

6. Set the signal generator to 25.9 mc. (unmodulated), and adjust L307 for maximum voltage on the VTVM. *During this adjustment, keep the signal generator output adjusted so that the VTVM reading does not exceed 2 volts.*

7. Set the signal generator to 25.6 mc. (unmodulated), and adjust L308 for maximum voltage on the VTVM. *During this adjustment, keep the signal generator output adjusted so that the VTVM reading does not exceed 2 volts.*

8. Set the signal generator to 23.8 mc. (unmodulated), and adjust L309 for maximum voltage on the VTVM. *During this adjustment, keep the signal generator output adjusted so that the VTVM reading does not exceed 2 volts.*

9. Set the signal generator to 23.0 mc. (unmodulated), and adjust L313 for maximum voltage on the VTVM. *During this adjustment, keep the signal generator output adjusted so that the VTVM reading does not exceed 2 volts.*

10. Connect the *sweep* generator to the mixer tube through the coupling device previously described. The *signal* generator will be used in the following steps to provide marker indications at various frequencies on the response curve. In this application, the signal generator input to the set must be low in amplitude to avoid distorting the response curve. To reduce the signal generator input accordingly, the signal generator should be *loosely* coupled to the set by wrapping a few turns of insulated wire around the coupling capacitor "pigtail" and connecting the signal generator to this wire.

11. Connect the vertical input of the oscilloscope to the video test jack through the de-coupling network shown in Fig. 5. The oscilloscope horizontal input should be connected to the sweep output from the sweep generator; turn the sweep control on the oscilloscope to the "X" or "OFF" position.

12. Adjust the sweep generator for a center frequency of 25.3 mc. with a 10 mc. deviation. Adjust the sweep generator output until a setting is found where there is very little noise on the oscilloscope pattern.

The oscilloscope pattern obtained should be similar to that shown in Fig. 6. Use the signal generator as a marker to check at the frequencies indicated. If the pattern obtained is not similar to Fig. 6, L306, L307, L308, L309, and L313 should be re-adjusted to produce the correct pat-

tern. The affect of the adjustments will be as follows:

L306 affects the low frequency side of the curve.

L307 affects the high frequency side of the curve and the position of the video I-F carrier.

L308 affects the center of the curve.

L309 affects the tilt of the "shelf" of the curve.

L313 affects the center and the low frequency side of the curve.

AUDIO I-F AND 4.5 MC. TRAP ALIGNMENT PROCEDURE

1. Connect the "high" side of the signal generator to the video test jack through a .001 mfd capacitor, and ground the "low" side to the chassis.

2. Connect the vacuum tube voltmeter to the points indicated on the bottom view of the chassis, Fig. 8. The common lead should connect to point "C", and the "high" lead should connect to point "A". Set the meter on its 5 volt (-DC) scale.

3. Adjust the signal generator to 4.5 mc. (unmodulated). The accuracy of this frequency is very important. If a crystal controlled signal generator is not available, the frequency should be checked using a frequency meter with a crystal calibrator.

4. Adjust L201 and L202 for maximum voltage on the VTVM. *During this adjustment, keep the signal generator output adjusted so that the VTVM reading does not exceed 5 volts.*

5. Connect the common lead from the VTVM to point "A" (Fig. 8), and connect the "high" lead to point "B". Here it is important that the case and components of the VTVM are *not* grounded to the receiver chassis; otherwise, point "A" would be shorted to the chassis through the common lead.

6. Using the same signal generator amplitude and frequency as in step 4, adjust L203 for *zero* voltage on the VTVM. As the adjustment is tuned through resonance, the voltage will rapidly change from one polarity to the opposite polarity. The point where the voltage is zero is the correct setting.

7. Connect the common lead from the VTVM to the chassis, and connect the *R-F probe* from the VTVM to the junction of R324 and R325. This point is shown as point "D" on Fig. 8. *Note that point "D" is 150 volts above ground and, therefore, the R-F probe must contain a blocking capacitor.*

8. Using a strong 4.5 mc. signal applied as in step 1, adjust C321 for *minimum* voltage on the meter.

H. F. OSCILLATOR ALIGNMENT PROCEDURE FOR V-2150-91A CHASSIS

The -91A chassis utilizes a V-6771-2 tuner assembly: If the 6C4 H-F oscillator tube is replaced in this tuner, the different inter-electrode capacitance of the new tube may change the oscillator frequency enough to necessitate re-alignment of the oscillator.

The oscillator adjusting screws are located on the front of the tuner assembly, and this procedure should be followed for their adjustment:

1. Remove the channel selector and fine tuning knobs. Remove the selector escutcheon plate and escutcheon mounting plate by removing the Phillips head screws securing them to the cabinet. The adjustments are accessible through the hole in the cabinet.

2. Set the fine tuning control to the middle of its range, and leave it in this position during the following adjustments.

3. Set the channel selector switch to the highest of the low band (channels 2 through 6) stations operating in your locality.

4. Peak the appropriate oscillator slug for the best picture detail.

5. Repeat step 4 for each progressively lower channel on which a station transmits in your area.

6. Set the channel selector switch to the highest of the high band (channels 7 through 13) stations operating in your locality.

7. Peak the appropriate oscillator slug for the best picture detail.

8. Repeat step 7 for each progressively lower channel in the high band on which a nearby station transmits.

9. Check the previously made low band adjustments, and if the tuning has changed repeat steps 3 through 8.

H. F. OSCILLATOR ALIGNMENT PROCEDURE FOR V-2150-94 AND V-2150-94A CHASSIS

The V-6238 and V-6238A tuner assemblies used in the -94 and -94A chassis have several screw-adjusted slugs and trimmers located on the top and rear of the tuner. These adjustments affect the R-F band-pass of the tuner and are provided for production purposes only. They should not be used by the service technician. The H-F oscillator slugs are accessible through the front of the

tuner and are the only adjustments that should be used when servicing the tuner.

Replacement of the 6C4 H-F oscillator tube may in some instances necessitate readjustment of the H-F oscillator slugs. All of the channels should be checked, and if the stations cannot be tuned-in correctly within the range of the fine tuning control, the oscillator slugs on the front of the tuner assembly should be adjusted as follows:

1. Remove the channel selector and fine tuning knobs. Remove the selector escutcheon plate and escutcheon mounting plate by removing the Phillips head screws that secure them to the cabinet. The adjustments are then accessible through the hole in the cabinet.

2. Set the fine tuning control to the middle of its range, and leave it in this position during the following adjustments.

3. Set the channel selector switch to the highest channel on which a station transmits in your area.

4. If in the preceding step the channel selector was set to a high band (channels 7 through 13) station, adjust the slug marked "13" for best picture detail. *NOTE: If stations in your locality transmit on more than one of the high-band channels, a compromise setting of slug "13" must be made that will allow all high-band stations to be tuned-in using the fine tuning control. Slug "13" is the only adjustment for high-band stations.*

If in the preceding step the channel selector was set to a low band (channels 2 through 6) station, adjust the appropriate (3, 4, 5, or 6) slug for best picture detail.

5. Set the channel selector to the next lower channel on which a station transmits in your area, and adjust the appropriate oscillator slug for best picture detail. *NOTE: Since there is no adjustment labeled "2", a compromise setting of slug "3" must be made to allow channels 2 and 3 to be tuned in using the fine tuning control.*

6. Repeat step 5 for each progressively lower channel used in your area.

7. Check back at the highest channel and then each progressively lower channel to make certain that the slugs are still correctly adjusted. There is some interaction between coils, and "touch up" adjustments may be required during the checking procedure.

Replacement of the 6AG5 R-F amplifier tube may change the characteristics of the tuner. To compensate for this, different tubes should be tried until one is found that matches the characteristics of the original tube and functions normally.

I-F ALIGNMENT CHART

Turn the channel selector to channel 3 to avoid undesirable beat response during alignment.

COMMON I-F SECTION

Couple the sweep and marker generators to the mixer tube as shown in Fig. 4.

Step	*Sweep Gen. Frequency*	*Marker Gen. Frequency*	*Remarks*	*Indicator Connection*	*Adjust*
1.	Not used	21.6 mc. unmodulated	Use a strong signal	Connect VTVM to video test jack	C329 for *minimum* voltage
2.	Not used	22.6 mc. unmodulated	Keep marker output adjusted so VTVM reading does not exceed 2 v.	Same as step 1	L306 for maximum voltage
3.	Not used	25.9 mc. unmodulated	Same as step 2	Same as step 1	L307 for maximum voltage
4.	Not used	25.6 mc. unmodulated	Same as step 2	Same as step 1	L308 for maximum voltage
5.	Not used	23.8 mc. unmodulated	Same as step 2	Same as step 1	L309 for maximum voltage
6.	Not used	23.0 mc. unmodulated	Same as step 2	Same as step 1	L313 for maximum voltage
7.	25.3 mc. with 10 mc. deviation	check at: 21.6 mc. 22.5 mc. 23.5 mc. 25.3 mc. 26.1 mc.	Keep sweep output low enough so that very little noise appears on the oscilloscope trace	Connect oscilloscope to video test jack. See Fig. 5.	If necessary, adjust L306, L307, L308, L309, and L313 to obtain correct response curve. See Fig. 6.

AUDIO I-F SECTION AND 4.5 MC. TRAP

Connect the signal generator to the video test jack through a .001 mfd mica capacitor.

Step	*Signal Gen. Frequency*	*VTVM Connection*	*Remarks*	*Adjust*
1.	4.5 mc. unmodulated	See Fig. 8. Common lead to point "C" and high lead to point "A".	Use 5 v. (−DC) scale on meter. Set sig. gen. output accordingly.	L201 and L202 for maximum voltage
2.	4.5 mc. unmodulated	See Fig. 8. Common lead to point "A" and high lead to point "B".	Use same sig. gen. output as in step 1.	L203 for *zero* voltage
3.	4.5 mc. unmodulated	See Fig. 8. R-F probe to point "D" and common lead to chassis.	Use strong signal from generator	C321 for *minimum* voltage

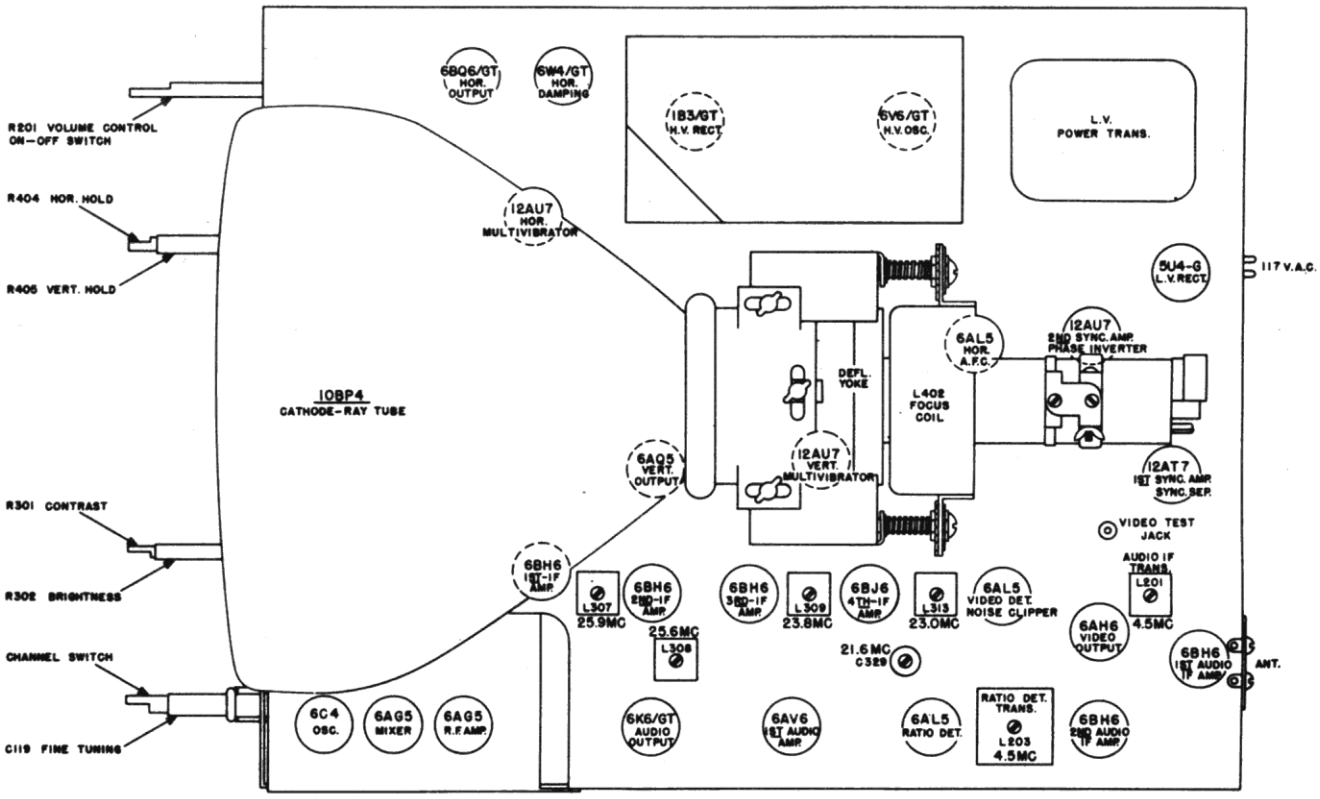


FIG. 7—TOP VIEW OF CHASSIS

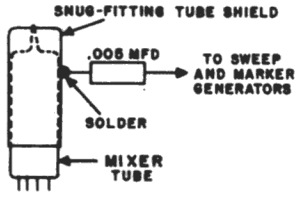


FIG. 4—COUPLING SIGNAL GENERATORS TO MIXER TUBE

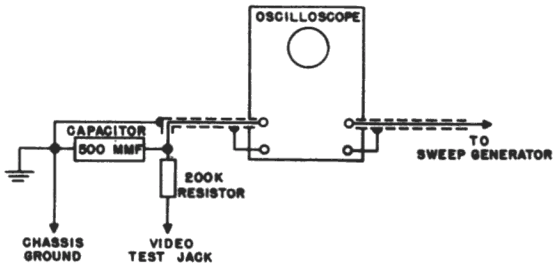


FIG. 5—OSCILLOSCOPE ISOLATION NETWORK

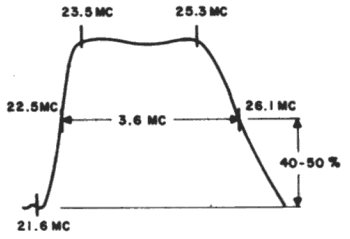


FIG. 6—I-F RESPONSE CURVE

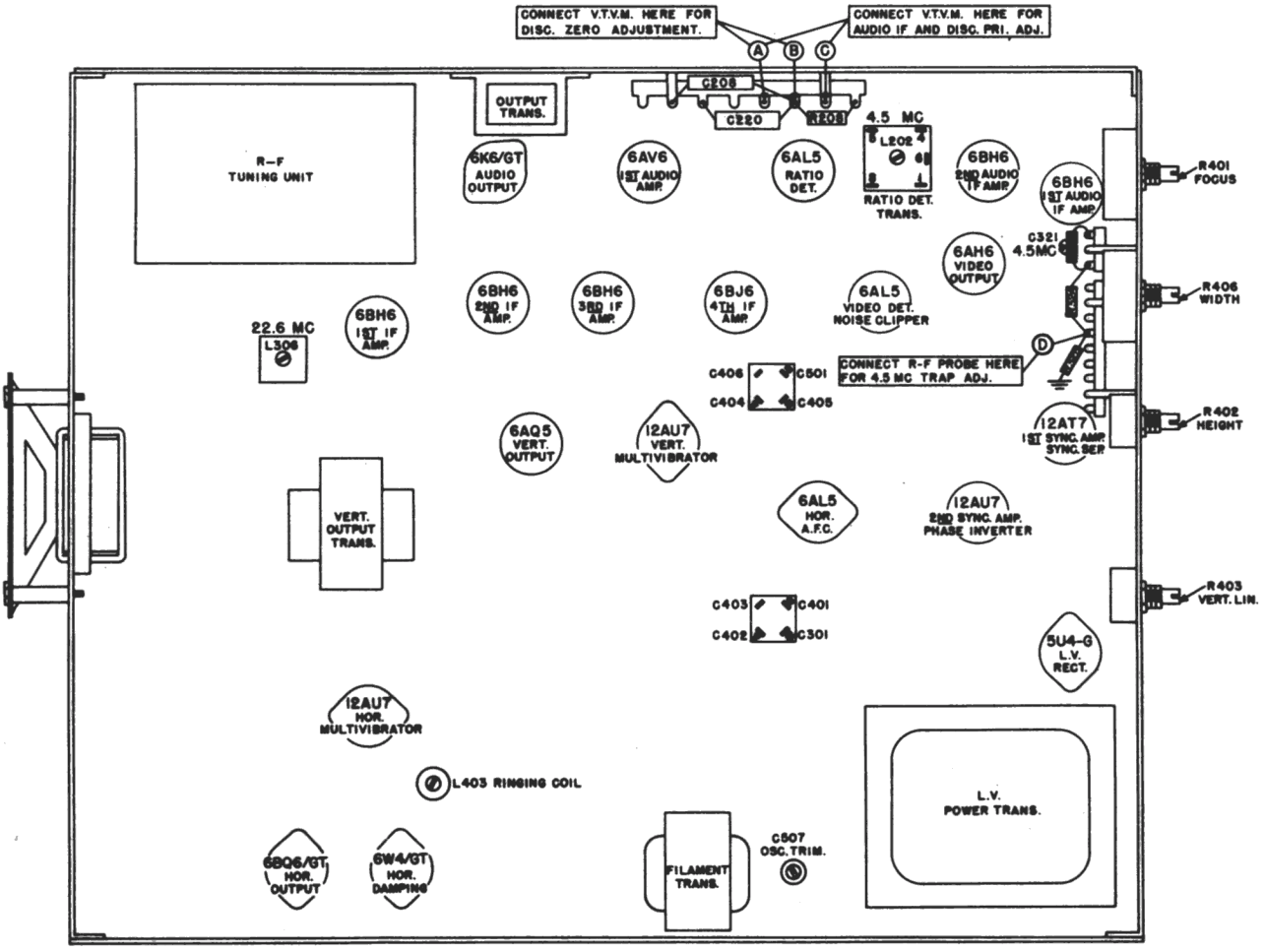
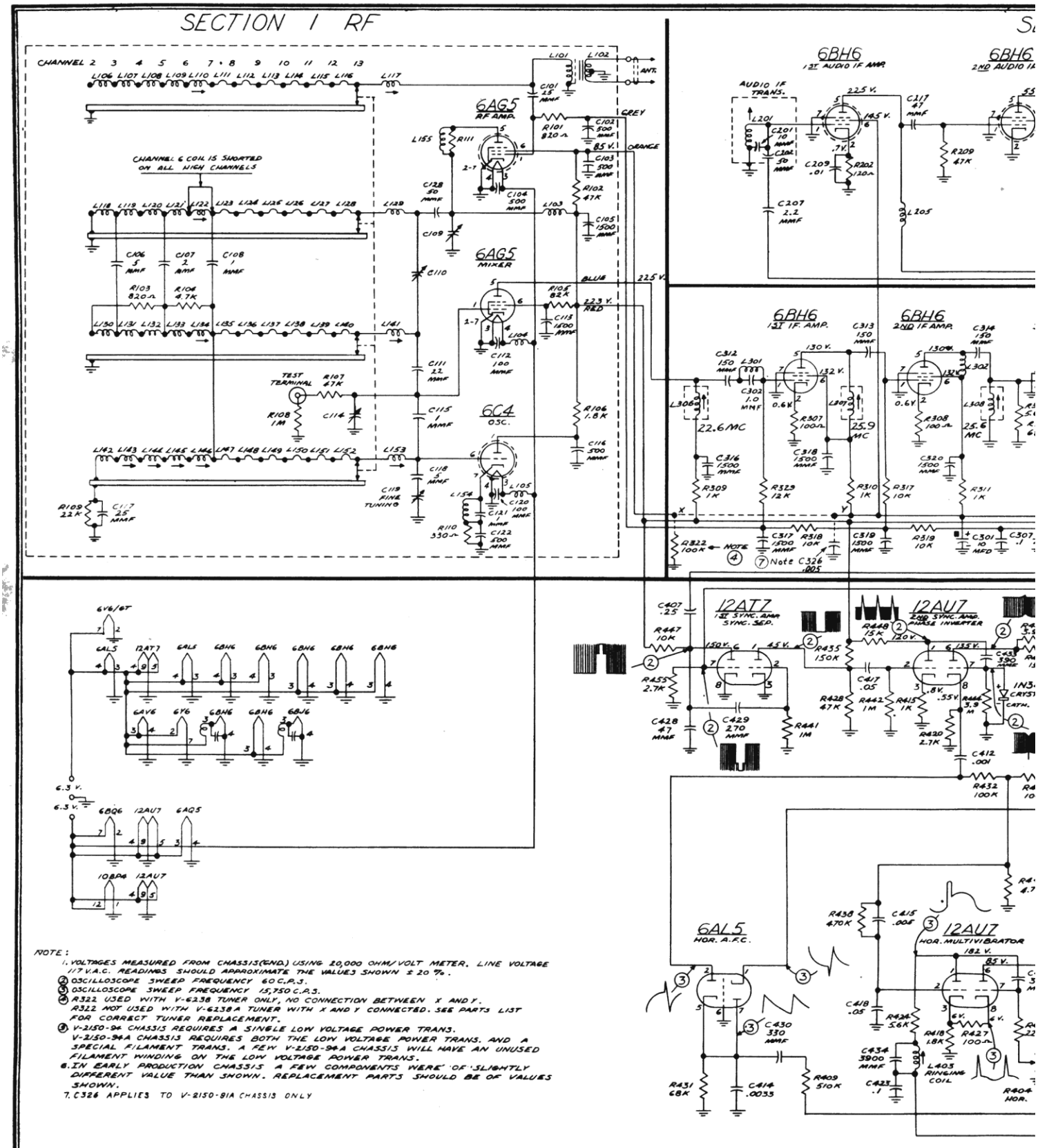


FIG. 8—BOTTOM VIEW OF CHASSIS

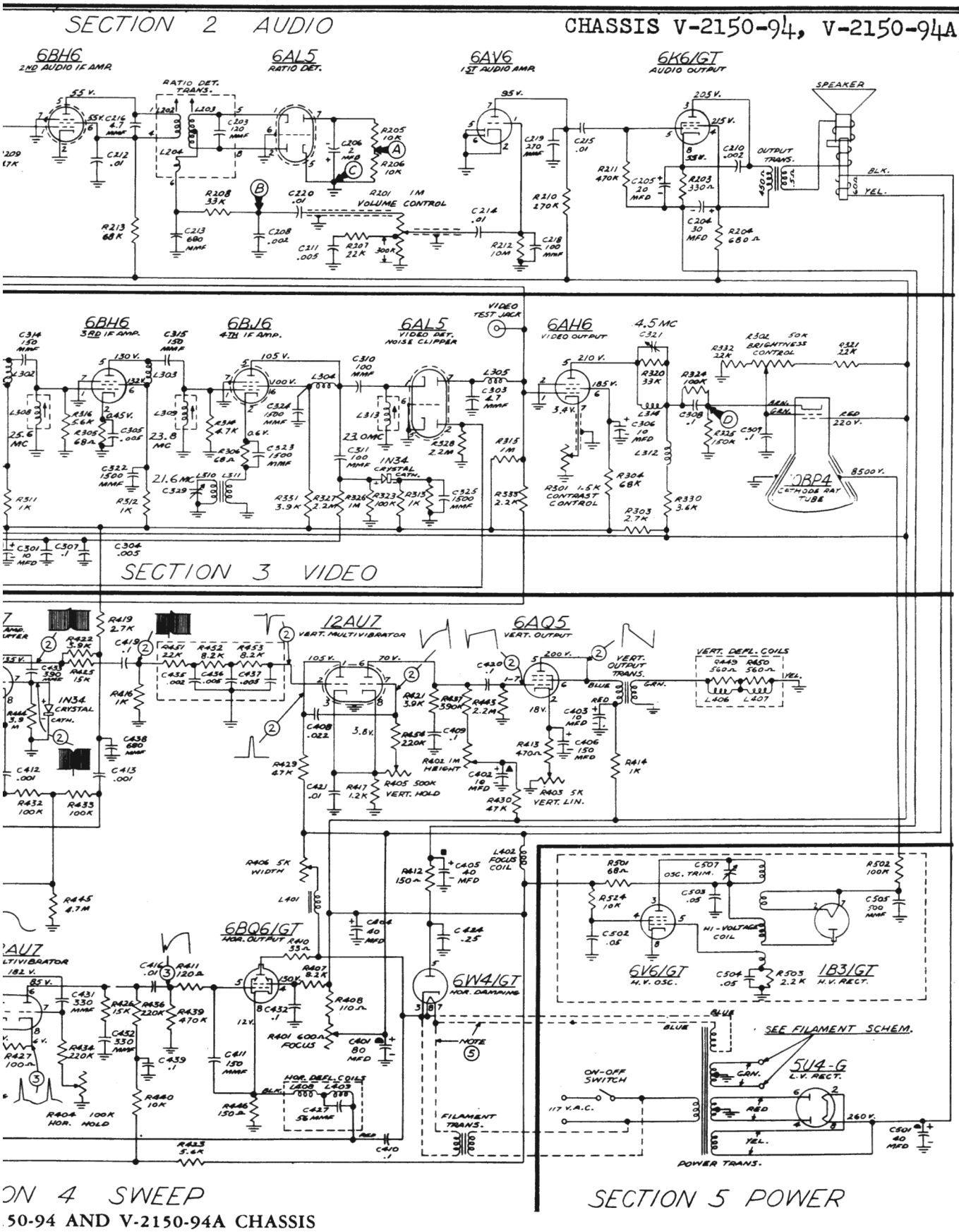


SECTION 4

FIG. 9—SCHEMATIC DIAGRAM OF V-2150-94 A

NOTE—The V-2150-91A chassis is the same as the V-2150-94A chassis except that a different R-F tuner is
also to chassis V-2150-91A. The V-6771-2 tuner used in the V-2150-91A chassis is shown schematically i

IMPORTANT—Since many of the components are very critical, exact duplicates must be used for replacem



50-94 AND V-2150-94A CHASSIS

F tuner is used. Therefore, this schematic with the exception of the R-F section applies matically in Fig. 29 of the H-231 service notes.

r replacement purposes.

CABINET

Part No.	Description
V-1191-1	Cabinet
V-9221-1	Cover assembly, back
V-9103-2	Escutcheon, channels (H-604T10)
V-6982-2	Escutcheon, selector (H-604T10A)
V-6146-1	Knob, contrast, horizontal hold (front)
V-9104-1	Knob, brightness, vertical hold (rear)
V-9104-3	Knob, volume—on-off (rear)
V-6146-5	Knob, volume—on-off (front)
V-9104-4	Knob, fine tuning (rear)
V-6284-1	Knob, channel selector (front)
V-5100-1	Knob, television antenna (H-604T10A)
V-9251-1	Mask, 10" television tube
V-6935	Plate, escutcheon
V-6288-8	Plate, front glass
V-6936-2	Screw, #2 Phillips recessed flat head (selector escutcheon)
V-6049-2	Screw, #2 Phillips recessed flat head (escutcheon plate)
V-5421-5	Washer, felt (vertical and brightness knobs)
V-3267S-10	Washer, flat (mounting chassis)

MISCELLANEOUS

V-9376-1	Antenna assembly (H-604T10A)
V-6511-2	Adapter plate (tuner to chassis V-2150-94, -94A)
V-6451-1	Adapter plate (tuner to chassis V-2150-91A)
V-4169-1	Base, miniature tube (6BH6, 6AL5, 6BJ6)
V-6602-1	Base, miniature tube (12AU7 vertical MV)
V-6453-2	Bracket rivet assembly, deflection yoke
V-5426	Clip, I-F mounting
V-9242	Clip, tube cap
V-5906-1	Connector assembly, hi-voltage
V-5522	Cord, power A-C
V-3449	Drive shaft, bearing (focus coil mounting)
V-9234	Hood, yoke mounting
V-5917-2	Insulator, stand off
V-6573-3	Magnet, ion trap
V-5549	Plug, A-C male
V-5926	Screw, #8-32 wing (hood and yoke)
V-6602-2	Shield, miniature tube (12AU7 vertical MV)
V-4169-2	Shield, miniature tube (6BH6, 6AL5, 6BJ6)
V-9440-3	Socket assembly, cathode ray tube
V-5929	Socket, molded octal tube (1B3 hi-voltage)
V-4292S-1	Socket, miniature molded (6BH6, 6BJ6, 6AV6, 6AL5, 6AQ5)
V-6878-1	Socket, miniature wafer (6AL5 horizontal AFC)
V-6997-2	Socket, miniature shock mounted (6AH6)
V-5556-1	Socket, miniature molded (12AU7 2nd sync amp, 12AT7)
V-6089-1	Socket, miniature molded (12AU7) vertical MV)
V-4514	Socket, molded octal (6BQ6, 6W4)
V-4195	Socket, molded octal (6K6, 5U4)
V-9236	Speaker, 4" EM
V-6477-1	Spring, focus coil mounting
V-6478	Strap assembly, CRT
V-5977	Tip jack, (video test)
V-6294	Terminal board, antenna
V-3274S	Tube holder, 5U4G

V-2150-94, V-2150-91A AND V-2150-94A CHASSIS

Section 1—R-F Unit

V-8215	Tuner assembly (V-2150-94 and -94A)
V-8209	Tuner assembly (V-2150-91A)

PARTS LIST FOR MODELS H-604T10 AND H-604T10A

When ordering parts, specify model number of set in addition to part number and description of part.

Section 2—Audio

Ref. No.	Part No.	Description	Function
C-201	Part of V-6517 assy	Capacitor, 10 mmf (assy consists of L-201, C-201, C-202)	I-F tuning
C-202	Part of V-6517 assy	Capacitor, 50 mmf (assy consists of L-201, C-201, C-202)	I-F tuning
C-203	Part of V-6483 assy	Capacitor, 120 mmf (assy consists of L-202, L-203)	Ratio det. tuning
C-204	V-6570	Capacitor, electrolytic, 30 mfd 450 v	Audio decoupling
C-205	V-3236	Capacitor, electrolytic, 20 mfd 25 v	Audio cathode by-pass
C-206	V-4880	Capacitor, electrolytic, 2 mfd 50 v	Ratio det, stabilizer
C-207	V-5658-2	Capacitor, 2.2 mfd	Sound take off
C-208	RCP10W6202M	Capacitor, .002 mfd	De-emphasis
C-209	V-6066-4103M	Capacitor, .01 mfd	Cathode by-pass
C-210	RCP10W6202M	Capacitor, .002 mfd	Plate by-pass
C-211	RCP10W4502M	Capacitor, .005 mfd	Bass compensation
C-212	RCP10W4103M	Capacitor, .01 mfd	Screen by-pass
C-213	RCM20B681M	Capacitor, 680 mmf	De-emphasis
C-214	RCP10W4103M	Capacitor, .01 mfd	A-F coupling
C-215	RCP10W4103M	Capacitor, .01 mfd	A-F coupling
C-216	V-5658-6	Capacitor, 4.7 mmf	Tuning capacitor
C-217	RCM20B470M	Capacitor, 47 mmf	A-F coupling
C-218	RCM20B101M	Capacitor, 100 mmf	Grid by-pass
C-219	RCM20B271M	Capacitor, 270 mmf	R-F by-pass
C-220	RCP10W4103M	Capacitor, .01 mfd	A-F coupling
L-201	Part of V-6517 assy	Coil (assy consists of L-201, C-201 and C-202)	I-F tuning
L-202	Part of V-6483 assy	Coil (assy consists of L-202, L-203, L-204 and C-203)	
L-203	Part of V-6483 assy	Coil (assy consists of L-202, L-203, L-204, and C-203)	
L-204	Part of V-6483 assy	Coil (assy consists of L-202, L-203, L-204, and C-203)	
L-205	V-5902-4	Coil, 100 microhenries	Video peaking
R-201	Part of V-6465-1 assy	Control, 1 meg. (assy consists of R-201 and switch)	Volume control
R-202	RC20AE121K	Resistor, 120 ohms ½ w.	Cathode bias
R-203	RC20AE331K	Resistor, 330 ohms ½ w.	Cathode bias
R-204	RC20AE681K	Resistor, 680 ohms ½ w.	Audio decoupling
R-205	RC20AE103J	Resistor, 10,000 ohms ½ w.	Ratio det. load
R-206	RC20AE103J	Resistor, 10,000 ohms ½ w.	Ratio det. load
R-207	RC20AE223K	Resistor, 22,000 ohms ½ w.	Bass boost
R-208	RC20AE333K	Resistor, 33,000 ohms ½ w.	De-emphasis
R-209	RC20AE473K	Resistor, 47,000 ohms ½ w.	Grid return
R-210	RC20AE274K	Resistor, 270,000 ohms ½ w.	Plate load
R-211	RC20AE474K	Resistor, 470,000 ohms ½ w.	Grid bias
R-212	RC20AE106M	Resistor, 10 megs ½ w.	Grid return
R-213	RC30AE683K	Resistor, 68,000 ohms 1 w.	Plate load
	V-6517	Transformer, audio I-F	
	V-9238	Transformer, output	

Section 3—Video

C-301	Part of V-5891 assy	Capacitor, electrolytic 10 mfd 350 v (assy consists of C-403, C-402, C-401 and C-301)	Filter
C-302	V-5658-1	Capacitor, 1.0 mmf (V-2150-94-94A)	H. F. osc. trap
C-303	V-5658-6	Capacitor, 4.7 mmf	Plate by-pass
C-304	V-5596	Capacitor, hi-kap, .005 mfd	AGC filter
C-305	V-5596	Capacitor, hi-kap, .005 mfd	Cathode by-pass
C-306	V-5985	Capacitor, electrolytic, 10 mfd, 350 v	Screen filter
C-307	RCP10W4104M	Capacitor, .1 mfd	AGC filter
C-308	RCP10W4104M	Capacitor, .1 mfd	Video coupling
C-309	RCP10W4104M	Capacitor, .1 mfd	Grid by-pass
C-310	R5CC21ZY101M	Capacitor, 100 mmf	I-F coupling

Ref. No.	Part No.	Description	Function
C-311	R5CC21ZY101M	Capacitor, 100 mmf	AGC coupling
C-312	R5CC21ZY151M	Capacitor, 150 mmf	I-F coupling
C-313	R5CC21ZY151M	Capacitor, 150 mmf	I-F coupling
C-314	R5CC21ZY151M	Capacitor, 150 mmf	I-F coupling
C-315	R5CC21ZY151M	Capacitor, 150 mmf	I-F coupling
C-316	R5CC26ZY152M	Capacitor, 1500 mmf	Plate decoupling
C-317	R5CC26ZY152M	Capacitor, 1500 mmf	AGC decoupling
C-318	R5CC26ZY152M	Capacitor, 1500 mmf	Screen by-pass
C-319	R5CC26ZY152M	Capacitor, 1500 mmf	AGC decoupling
C-320	R5CC26ZY152M	Capacitor, 1500 mmf	Screen by-pass
C-321	R5CC26ZY152M	Capacitor, 1500 mmf	Trap tuning
C-322	R5CC26ZY152M	Capacitor, 1500 mmf	Screen by-pass
C-323	R5CC26ZY152M	Capacitor, 1500 mmf	Cathode by-pass
C-324	R5CC26ZY152M	Capacitor, 1500 mmf	Screen dropping
C-325	R5CC26ZY152M	Capacitor, 1500 mmf	AGC cathode bias
C-326	V-5596	Capacitor, hi-kap, .005 mfd (V2150-91A)	Screen by-pass
C-329	V-3713-3	Capacitor, ceramic variable	21.6 mc. trap
	V-6962-1	Crystal, 1N34	AGC detector
L-301	V-9501-1	Coil, reactor, 1.1 microhenries V-2150-94-94A	HF osc. trap
L-302	V-5902-7	Coil, 40 microhenries	Plate load
L-303	V-5902-7	Coil, 40 microhenries	Plate load
L-304	V-5902-7	Coil, 40 microhenries	Plate load
L-305	V-5902-4	Coil, 100 microhenries	Video peaking
L-306	V-9231	Coil	I-F peaking
L-307	V-6459	Coil	I-F peaking
L-308	V-6459	Coil	I-F peaking
L-309	V-6459	Coil	I-F peaking
L-310	Part of V-5899 assy	Coil (assy consists of L-310, L-311, and C-329)	Cathode trap
L-311	Part of V-5899 assy	Coil (assy consists of L-310, L-311 and C-329)	Cathode trap
L-312	V-5902-5	Coil, 250 microhenries	Video peaking
L-313	V-6459	Coil	I-F peaking
L-314	V-5902-1	Coil, 140 microhenries	Video peaking
R-301	Part of V-9235-2 assy	Control, 15,000 ohms (assy consists of R-301, R-302)	Contrast control
R-302	Part of V-9235-2 assy	Control, 50,000 ohms (assy consists of R-301 and R-302)	Brightness control
R-303	V-6984-8	Resistor, 2700 ohms 5 w.	Screen bus dropping
R-304	RC20AE683K	Resistor, 68,000 ohms ½ w.	Screen dropping
R-305	RC20AE680K	Resistor, 68 ohms ½ w.	Cathode bias
R-306	RC20AE680K	Resistor, 68 ohms ½ w.	Cathode bias
R-307	RC20AE101K	Resistor, 100 ohms ½ w.	Cathode bias
R-308	RC20AE101K	Resistor, 100 ohms ½ w.	Cathode bias
R-309	RC20AE102M	Resistor, 1000 ohms ½ w.	I-F decoupling
R-310	RC20AE102M	Resistor, 1000 ohms ½ w.	Plate decoupling
R-311	RC20AE102M	Resistor, 1000 ohms ½ w.	Plate decoupling
R-312	RC20AE102M	Resistor, 1000 ohms ½ w.	Plate decoupling
R-313	RC20AE102K	Resistor, 1000 ohms ½ w.	Cathode bias
R-314	RC20AE472K	Resistor, 4700 ohms ½ w.	Grid return
R-315	RC20AE105K	Resistor, 1 meg ½ w.	AGC load
R-316	RC20AE562K	Resistor, 5600 ohms ½ w.	Grid return
R-317	RC20AE103K	Resistor, 10,000 ohms ½ w.	Grid return
R-318	RC20AE103K	Resistor, 10,000 ohms ½ w.	AGC decoupling
R-319	RC20AE103K	Resistor, 10,000 ohms ½ w.	AGC decoupling
R-320	RC20AE333K	Resistor, 33,000 ohms ½ w.	4.5 mc trap load
R-321	RC20AE223K	Resistor, 22,000 ohms ½ w.	DC divider
R-322	RC20AE104K	Resistor, 100,000 ohms ½ w.	Tuner screen drop
R-323	RC20AE104K	Resistor, 100,000 ohms ½ w.	DC divider
R-324	RC20AE104K	Resistor, 100,000 ohms ½ w.	DC divider
R-325	RC20AE154K	Resistor, 150,000 ohms ½ w.	Cathode bias
R-326	RC20AE105K	Resistor, 1 meg ½ w.	AGC det. load
R-327	RC20AE225K	Resistor, 2.2 megs ½ w.	DC divider
R-328	RC20AE225K	Resistor, 2.2 megs ½ w.	DC return

Ref. No.	Part No.	Description	Function
R-329	RC20AE123K	Resistor, 12,000 ohms ½ w.	Grid return
R-330	RC30AE362J	Resistor, 3600 ohms 1 w.	Plate load
R-331	RC30AE392K	Resistor, 3900 ohms 1 w.	Screen drop
R-332	RC20AE223K	Resistor, 22,000 ohms ½ w.	Bass Boost
R-333	RC20AE222K	Resistor, 2200 ohms ½ w.	Isolating
		Section 4—Sweep	
C-401	Part of V-5891 assy	Capacitor, electrolytic 80 mfd 350 v (assy consists of C-401, C-402, C-403, C-301)	Filter
C-402	Part of V-5891 assy	Capacitor, electrolytic 10 mfd 350 v (assy consists of C-401, C-402, C-403, C-301)	Filter
C-403	Part of V-5891 assy	Capacitor, electrolytic 10 mfd 350 v (assy consists of C-401, C-402, C-403, C-301)	Filter
C-404	Part of V-6509 assy	Capacitor, electrolytic 40 mfd 350 v (assy consists of C-404, C-405, C-406, C-501)	Filter
C-405	Part of V-6509 assy	Capacitor, electrolytic 40 mfd 350 v (assy consists of C-404, C-405, C-406, C-501)	Filter
C-406	Part of V-6509 assy	Capacitor, electrolytic 150 mfd 50 v (assy consists of C-404, C-405, C-406, C-501)	Cathode by-pass
C-407	V-6066-4254M	Capacitor, midget .25 mfd	Sync clip coupling
C-408	V-6023-4223K	Capacitor, hi-temp .022 mfd	Vertical MV coupling
C-409	V-6023-4104K	Capacitor, hi-temp 0.1 mfd	Vertical discharge
C-410	V-6023-4104M	Capacitor, hi-temp 0.1 mfd	Yoke coupling
C-411	R5CC21ZY151M	Capacitor, hi-temp 150 mmf	Grid by-pass
C-412	RCP10W6102M	Capacitor, .001 mfd	AFC coupling
C-413	RCP10W6102M	Capacitor, .001 mfd	AFC coupling
C-414	V-6023-6332M	Capacitor, .0033 mfd	Plate by-pass
C-415	RCP10W4502M	Capacitor, .005 mfd	AFC delay
C-416	RCP10W4103M	Capacitor, .01 mfd	Horizontal output coupling
C-417	RCP10W4503M	Capacitor, .05 mfd	Coupling
C-418	RCP10W4503M	Capacitor, .05 mfd	AFC delay
C-419	RCP10W4104M	Capacitor, .1 mfd	Integrator input
C-420	RCP10W4104M	Capacitor, .1 mfd	Vertical output coupling
C-421	RCP10W4103M	Capacitor, .01 mfd	Cathode by-pass
C-422	RCP10W4104M	Capacitor, 0.1 mfd	Screen by-pass
C-423	RCP10W4104M	Capacitor, 0.1 mfd	Horizontal discharge
C-424	RCP10W4254M	Capacitor, .25 mfd	Plate by-pass
C-425	R5CC26ZY152M	Capacitor, 1500 mmf	Heater by-pass
C-426	R5CC26ZY152M	Capacitor, 1500 mmf	Heater by-pass
C-427	R2CC26SL560J	Capacitor, 56 mmf	Transient by-pass
C-428	RCM20B470M	Capacitor, 47 mmf	Plate by-pass
C-429	RCM20B271M	Capacitor, 270 mmf	Sync. coupling
C-430	RCM20C331J	Capacitor, 330 mmf	Error voltage coupling
C-431	RCM20C331J	Capacitor, 330 mmf	MV coupling
C-432	RCM20C331J	Capacitor, 330 mmf	Horizontal discharge
C-433	RCM20B391M	Capacitor, 390 mmf	Coupling
C-434	RCM30C392K	Capacitor, 3900 mmf	Ringing coil tuning
C-435	Part of V-9213-1 assy	Capacitor .002 (assy consists of C-435, C-436, C-437, R-451, R-452, R-453)	Vertical integrating
C-436	Part of V-9213-1 assy	Capacitor .002 mfd (assy consists of C-435, C-436, C-437, R-451, R-452, R-453)	Vertical integrating
C-437	Part of V-9213-1 assy	Capacitor .005 mfd (assy consists of C-435, C-436, C-437, R-451, R-452, R-453)	Vertical integrating
C-438	RCM20B681M	Capacitor, 680 mmf	Plate by-pass
C-439	RCP10W4104M	Capacitor, .1 mfd	Plate by-pass
	V-6962-1	Crystal, 1N34	Sync clipper
L-401	V-9230-1	Coil	Plate load
L-402	V-6639-2	Coil	Focus coil
L-403	V-6764	Coil, ringing	Horizontal coarse tuning
L-406	Part of V-6486-3 assy	Coil, (assy consists of L-406, L-407, L-408, L-409, C-427, R-449, R-450)	Deflection yoke
L-407	Part of V-6486-3 assy	Coil, (assy consists of L-406, L-407, L-408, L-409, C-427, R-449, R-450)	Deflection yoke
L-408	Part of V-6486-3 assy	Coil, (assy consists of L-406, L-407, L-408, L-409, C-427, R-449, R-450)	Deflection yoke
L-409	Part of V-6486-3 assy	Coil, (assy consists of L-406, L-407, L-408, L-409, C-427, R-449, R-450)	Deflection yoke
R-401	V-9232	Control, 600 ohms	Focus control
R-402	V-6462	Control, 1 meg.	Height control
R-403	V-6463	Control, 5000 ohms	Vertical linearity control
R-404	Part of V-9233 assy	Control, 100,000 ohms (assy consists of R-404, R-405)	Horizontal hold control
R-405	Part of V-9233 assy	Control, 500,000 ohms (assy consists of R-404, R-405)	Vertical hold control
R-406	V-6500-1	Control, 5000 ohms	Width control
R-407	V-9002-4822K	Resistor, 8200 ohms 2 w.	Horiz. output screen drop
R-408	V-4758	Resistor, 110 ohms 3 w.	Focus coil shunt
R-409	V-9016-2514J	Resistor, 510,000 ohms ½ w.	Horiz. error take off
R-410	RC20AE330M	Resistor, 33 ohms ½ w.	Plate load

MODELS H-604T10, H-604T10A, Ch. V-2150-94, V-2150-91A, V-2150-94A

AND H-604T10A (Continued)

Ref. No.	Part No.	Description	Function
R-411	RC20AE121K	Resistor, 120 ohms ½ w.	Grid parasitic suppressor
R-412	RC20AE151K	Resistor, 150 ohms ½ w.	Damper diode decoupling
R-413	RC20AE471K	Resistor, 470 ohms ½ w.	Cathode bias
R-414	RC20AE102M	Resistor, 1,000 ohms ½ w.	Vertical output decoupling
R-415	RC20AE102K	Resistor, 1,000 ohms ½ w.	Cathode bias
R-416	RC20AE102K	Resistor, 1,000 ohms ½ w.	Vertical integrator input
R-417	RC20AE122K	Resistor, 1,200 ohms ½ w.	Cathode bias
R-418	RC20AE182K	Resistor, 1,800 ohms ½ w.	Cathode bias
R-419	RC20AE272K	Resistor, 2,700 ohms ½ w.	Plate load
R-420	RC20AE272K	Resistor, 2,700 ohms ½ w.	Cathode bias
R-421	RC20AE392K	Resistor, 3,900 ohms ½ w.	Plate load
R-422	RC20AE392K	Resistor, 3,900 ohms ½ w.	Plate load
R-423	RC20AE562K	Resistor, 5,600 ohms ½ w.	Horizontal MV decoupling
R-424	RC20AE562K	Resistor, 5,600 ohms ½ w.	Plate load
R-425	RC20AE153K	Resistor, 15,000 ohms ½ w.	Limiting
R-426	RC20AE153K	Resistor, 15,000 ohms ½ w.	Waveform correction
R-427	RC20AE101K	Resistor, 100 ohms ½ w.	Cathode bias
R-428	RC20AE473K	Resistor, 47,000 ohms ½ w.	Plate load
R-429	RC20AE473K	Resistor, 47,000 ohms ½ w.	MV plate load
R-430	RC20AE473K	Resistor, 47,000 ohms ½ w.	Plate decoupling
R-431	RC20AE683K	Resistor, 68,000 ohms ½ w.	Phase reference
R-432	RC20AE104J	Resistor, 100,000 ohms ½ w.	Diode load
R-433	RC20AE104J	Resistor, 100,000 ohms ½ w.	Diode load
R-434	RC20AE224J	Resistor, 220,000 ohms ½ w.	Grid return
R-435	RC20AE154K	Resistor, 150,000 ohms ½ w.	DC divider
R-436	RC20AE224K	Resistor, 220,000 ohms ½ w.	Plate load
R-437	RC20AE394K	Resistor, 390,000 ohms ½ w.	Plate load
R-438	RC20AE474K	Resistor, 470,000 ohms ½ w.	AFC delay
R-439	RC20AE474K	Resistor, 470,000 ohms ½ w.	Grid return
R-440	RC20AE103K	Resistor, 10,000 ohms ½ w.	Plate load
R-441	RC20AE105K	Resistor, 1 meg ½ w.	Grid return
R-442	RC20AE105K	Resistor, 1 meg ½ w.	Grid return
R-443	RC20AE225K	Resistor, 2.2 meg ½ w.	Grid return
R-444	RC20AE395K	Resistor, 3.9 meg ½ w.	Grid return
R-445	RC20AE475M	Resistor, 4.7 meg ½ w.	Grid return
R-446	V-9002-4151K	Resistor, 150 ohms 2 w.	Cathode bias
R-447	RC40AE103K	Resistor, 10,000 ohms 2 w.	Plate load
R-448	RC40AE153K	Resistor, 15,000 ohms 2 w.	Plate load
R-449	Part of V-6486-3 assy	Resistor, 560 ohms ½ w. (assy consists of R-449, R-450, L-406, L-407, L-408, L-409, C-427)	Transient damping
R-450	Part of V-6486-3 assy	Resistor, 560 ohms ½ w. (assy consists of R-449, R-450, L-406, L-407, L-408, L-409, C-427)	Transient damping
		Section 5—Power	
R-451	Part of V-9213-1 assy	Resistor, 2200 ohms ½ w. (assy consists of R-451, R-452, R-453, C-435, C-436, C-437)	Integrator
R-452	Part of V-9213-1 assy	Resistor, 8200 ohms ½ w. (assy consists of R-451, R-452, R-453, C-435, C-436, C-437)	Integrator
R-453	Part of V-9213-L assy	Resistor, 8200 ohms ½ w. (assy consists of R-451, R-452, R-453, C-435, C-436, C-437)	Integrator
R-454	RC20AE224J	Resistor, 220,000 ohms ½ w.	Grid return
	V-6981-2	Transformer	Vertical output
	V-6481-3	Transformer (V-2150-94A and -91A)	Filament
C-501	Part of V-6509 assy	Capacitor, electrolytic, 40 mfd 350 v. (assy consists of C-501, C-404, C-405, C-406)	Filter HV
C-502	V-6023-4503M	Capacitor, Hi-temp .05	Screen by-pass
C-503	V-6023-4503M	Capacitor, Hi-temp .05	Plate decoupling
C-504	V-6023-4503M	Capacitor, Hi-temp .05	Grid bias
C-505	V-5895	Capacitor, Hi-voltage, 500 mmf	HV filter
C-507	V-6454	Capacitor, osc. trimmer	HV osc. trimmer
	V-6457	Coil, Hi-voltage	
	V-6465-1	Switch, on-off	
R-501	RC20AE680K	Resistor, 68 ohms ½ w.	Plate decoupling
R-502	RC20AE104K	Resistor, 100,000 ohms ½ w.	HV filter
R-503	RC20AE222K	Resistor, 2,200 ohms ½ w.	Grid return
R-504	RC30AE103K	Resistor, 10,000 ohms 1 w.	Screen dropping
	V-9395	Transformer (V-2150-94A-91A)	Power L.V.
	V-9445	Hi-voltage supply assy, RF	
	V-9454	Transformer (V-2150-94)	Power L.V.