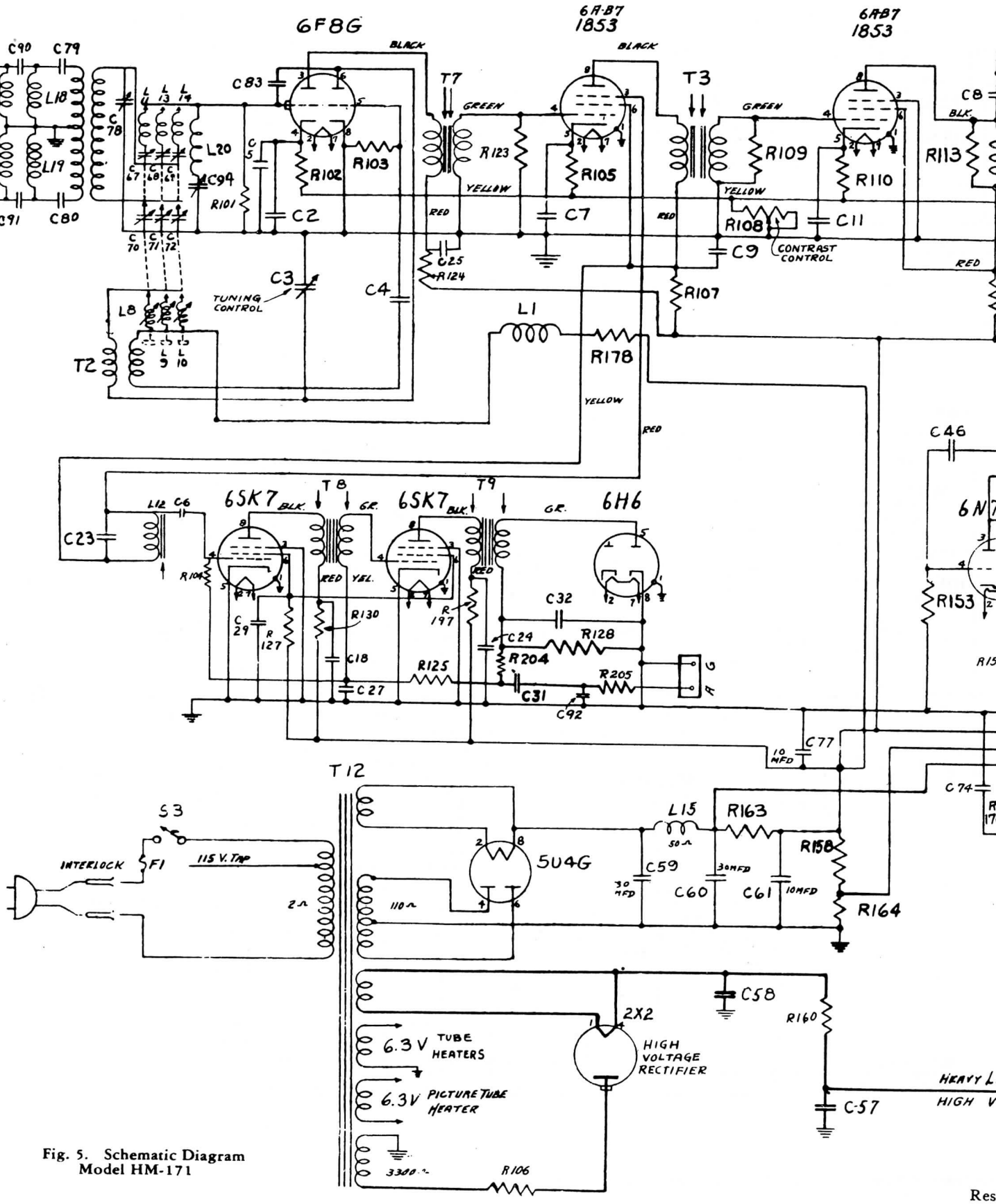
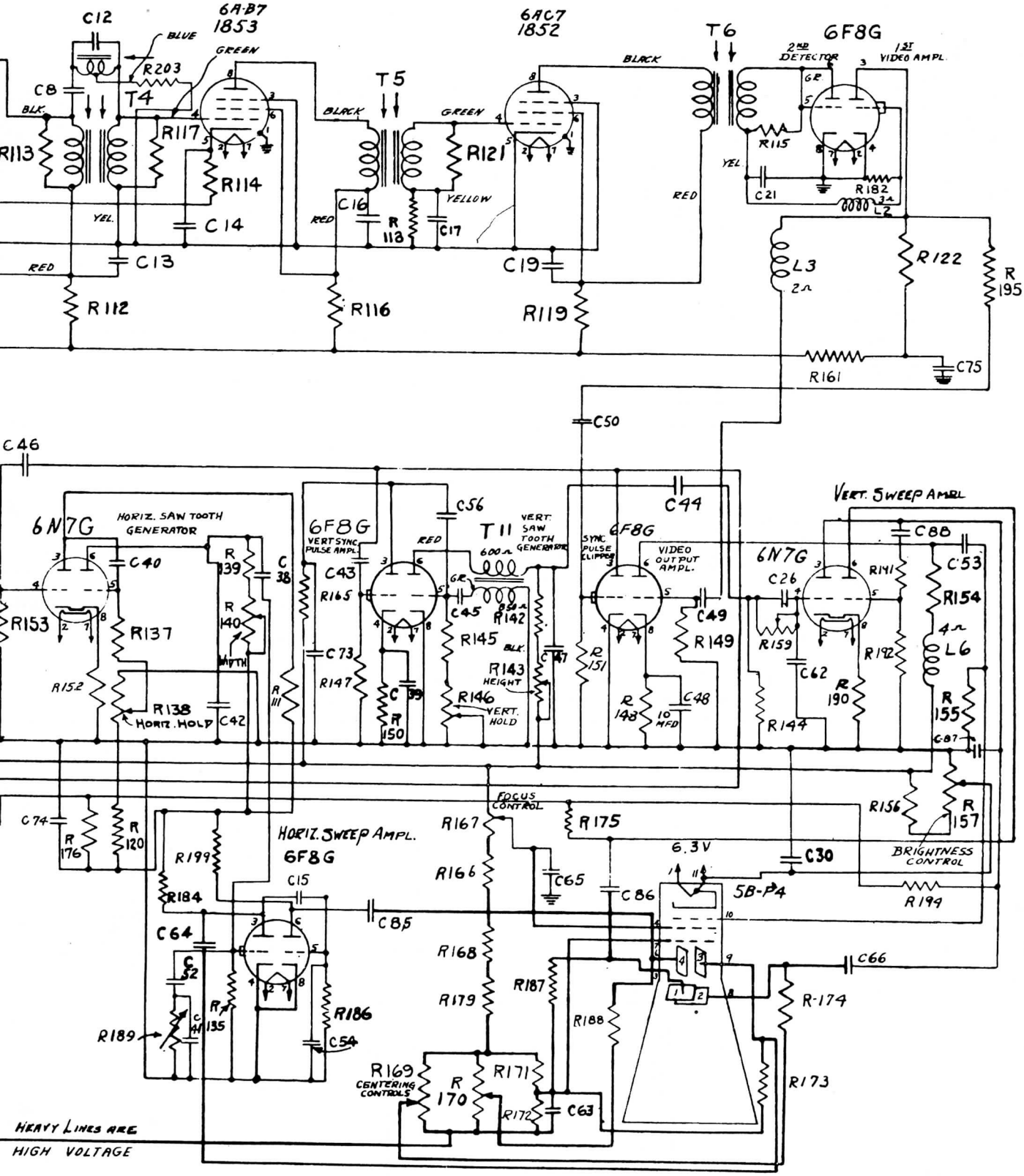



Fig. 5. Schematic Diagram
Model HM-171

Res

ELECTRIC CO.




Resistance of Video and Audio I.F. Transformer Windings Approximately Equal to One Ohm

For test patterns see back of Manual

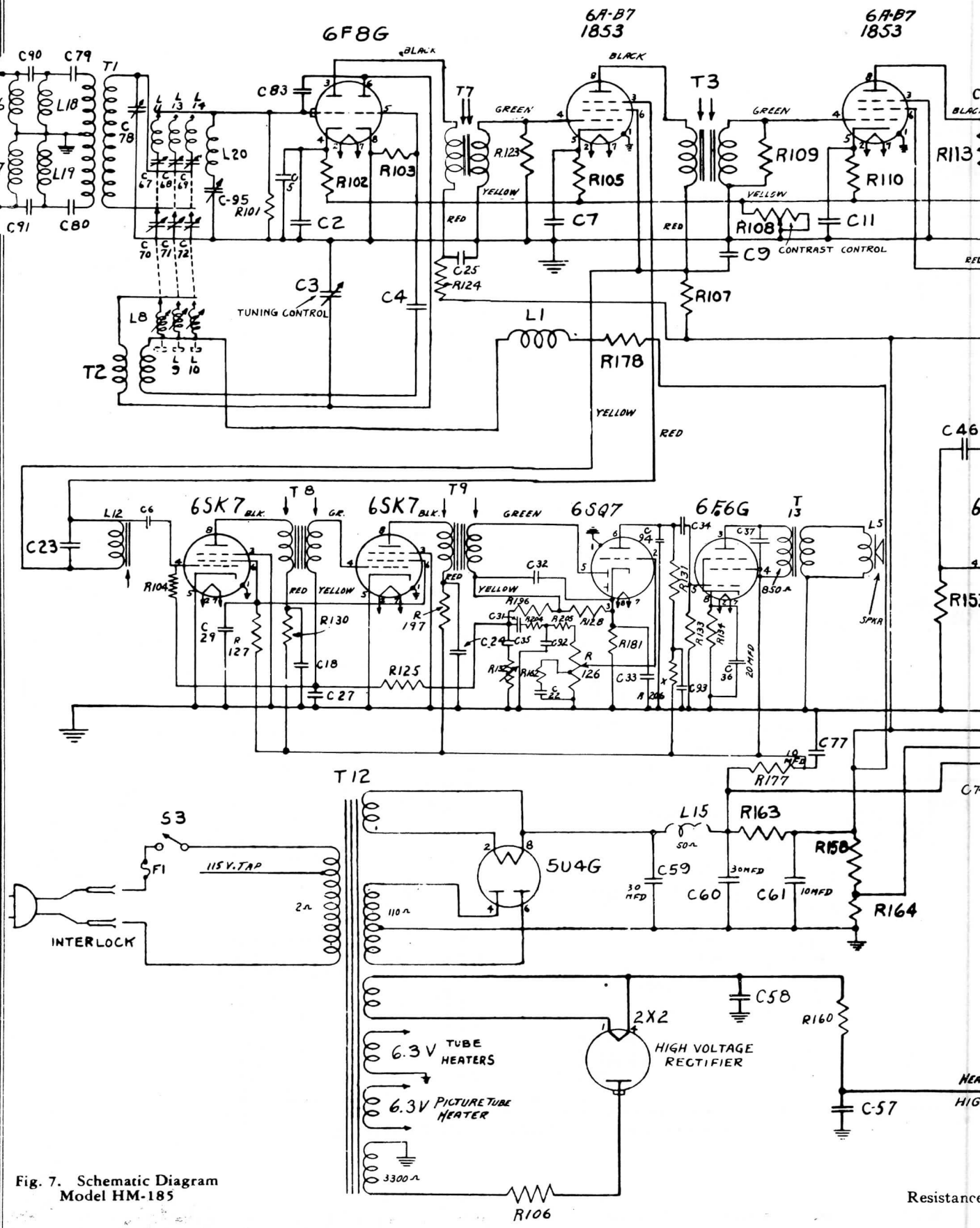
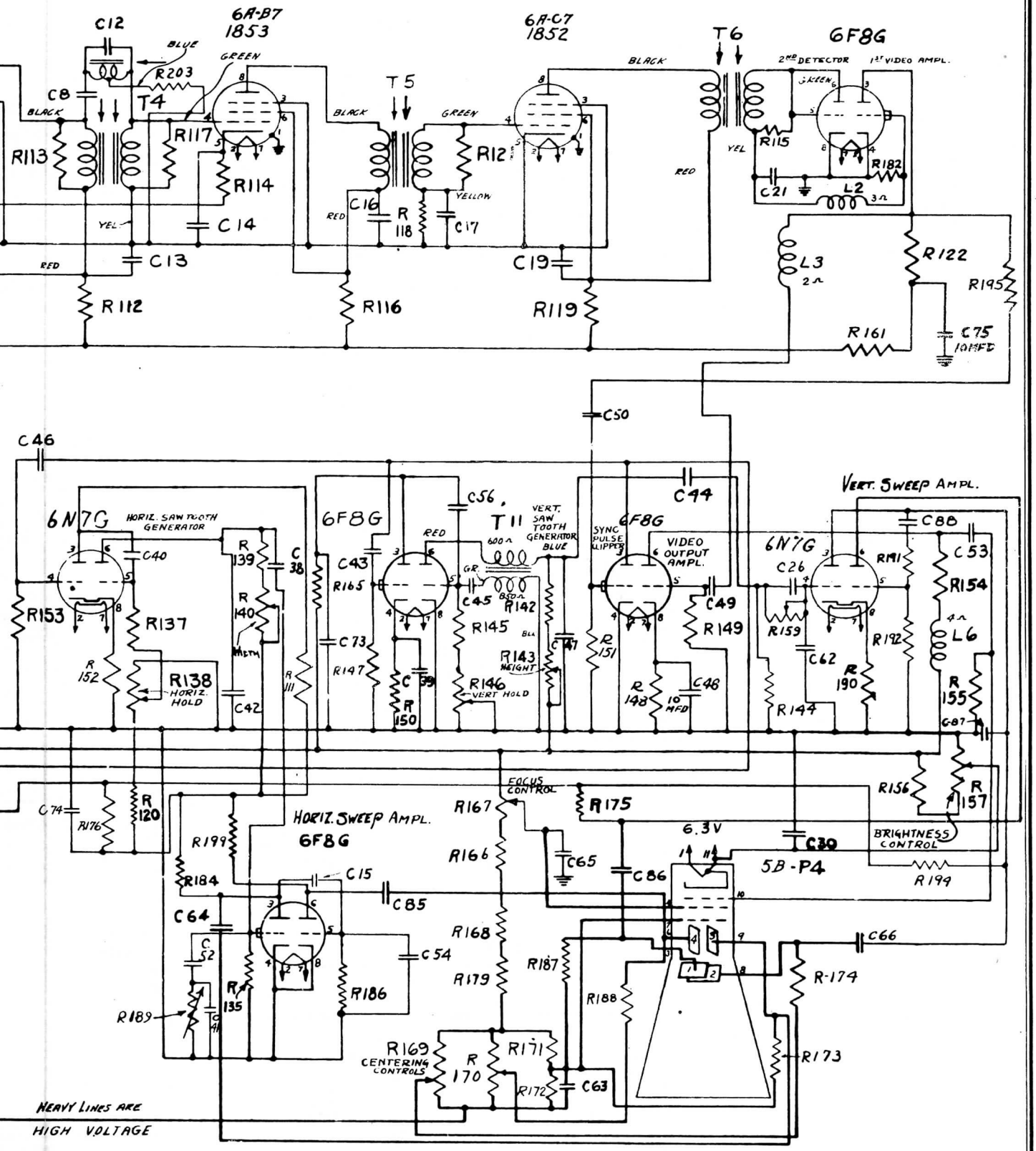



Fig. 7. Schematic Diagram
Model HM-185

Resistance




esistance of Video and Audio I.F. Transformer Windings Approximately Equal to One Ohm

For test patterns see back of Manual

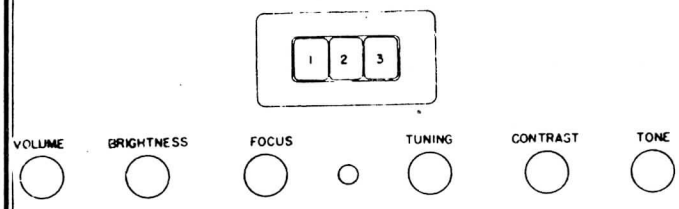



**Fig. 2. Front Panel Control Location Model HM-185**

**(Note—Model HM-171 Control Location is same as above with Volume and Tone Controls removed.)**

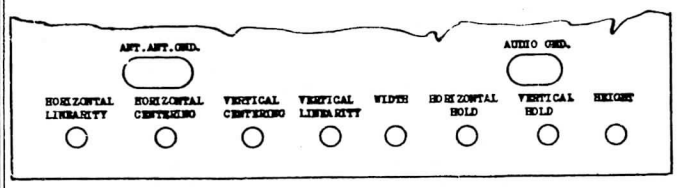



**Fig. 3. Rear Cover Control Location Models HM-171 and HM-185**

## RECEIVER CIRCUIT DESCRIPTION

### *R.F. Unit*

Starting at the antenna terminal posts, there follows a single-stage high-pass filter in the antenna primary to reduce video I.F. interference, a shunt capacity coupled secondary (C-78), and a video I.F. wave trap (C-95, L-20). The wave trap is broadly tuned at 11.75 MC. Any one of the three tuned circuits for each of the three television transmission bands can be connected into the secondary circuit by pressing appropriate button. The secondary circuit when properly tuned gives a broad, flat response curve.

### *Converter-Oscillator and Amplifier*

The 6F8G converter employs one half as the oscillator and the other half as the biased first detector. The oscillator is plate-tuned with vernier tuning permitted from the front control panel through trimmer (C-3). The resultant video I.F. signal of 12.75 MC and the audio I.F. signal of 8.25 MC developed in the converter-oscillator tube circuit is coupled through transformer T-7 to the first 1853 amplifier tube.

### *Audio Unit*

The audio I.F. signal is taken off the suppressor of this first 1853 tube. Two stages of 8.25 MC audio I.F. using 6SK7's follow. In the case of the HM-171 the audio I.F. signal is then detected and the resultant audio signal is made available at terminals for insertion into a radio output circuit. In Model HM-185 the 6SK7 stages are followed by a 6SQ7 detector and driver, and a 6F6G output stage.

### *Video Unit*

Four stages of video I.F. follow the converter stage. The third stage incorporates a wave trap for the adjacent audio channel at 14.25 MC. The nominal pass band for these amplifiers is 12.75 to 10.75 MC. The second detector uses one half of a 6F8G connected as a diode. The other half of the 6F8G is used as the first video amplifier. The video output is coupled directly to the picture tube grid.

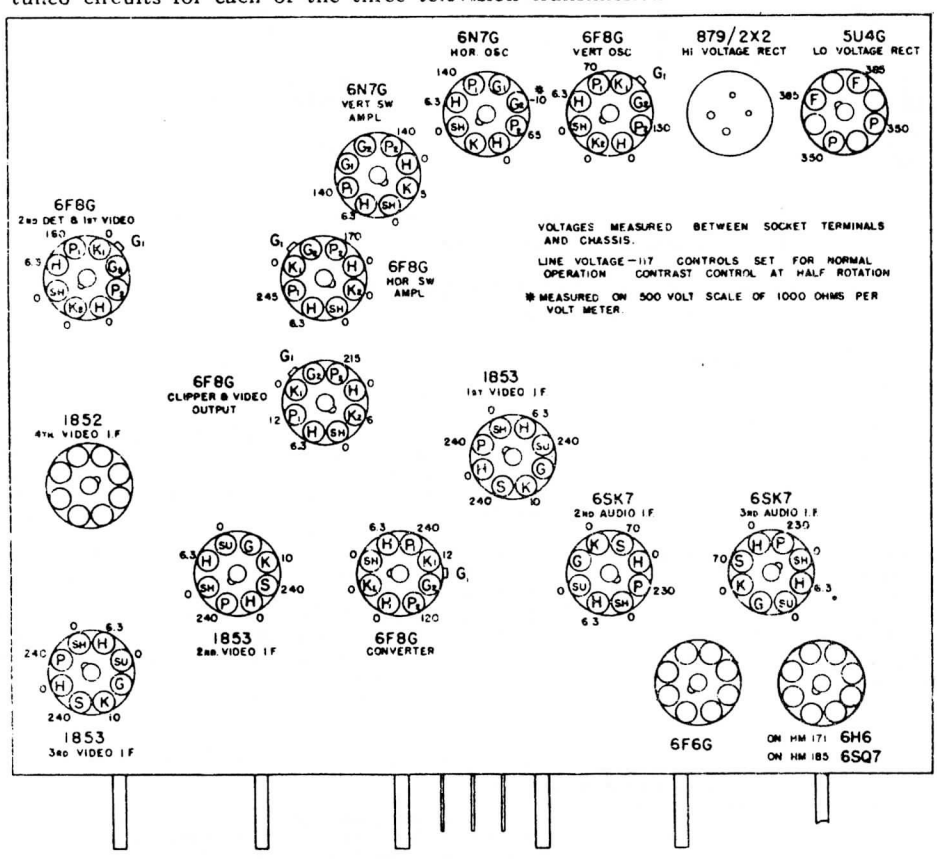



**Fig. 9. Socket Voltages Models HM-171 and HM-185**

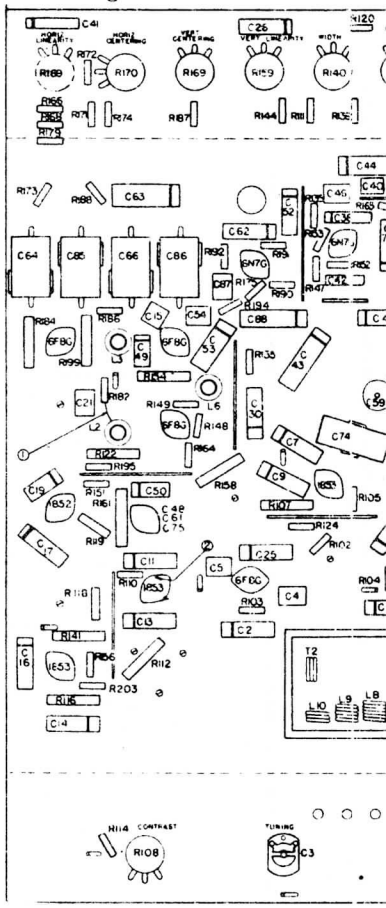


**Fig. 1. Chassi Model H**

### *Sync Pulse Clipper*

Sync-pulses are taken off the plate of the clipper section of the clipper and video output tube. The video signals are separate by tube cut-off since the plate voltage is only about 12 volts.

### *Horizontal Oscillator-output*

The clipper feeds the horizontal multivibrator 6N7G directly with needle-point, negative sync pulses. C-46 blocks the flow of vertical sync pulses, into the horizontal multivibrator since they are of a low order of frequency. The horizontal sync pulses which are amplified by the first section of the 6N7G are coupled to the grid of the second section and drive the circuit into violent oscillation. Resulting plate and grid current flow sends the tube to cut-off. The sawtooth wave so generated is applied to the horizontal sweep amplifier one section of which is a phase inverter. This push-pull sweep is coupled to the horizontal deflecting plates of the picture tube. Horizontal hold is controlled by varying the charging rate of the generator circuit, through (R-138). Compensating for high frequency loss adds a means of controlling horizontal linearity which is done through R-189. Width is varied by regulating the magnitude of the charge through R-140.

### *Vertical Oscillator-output*

The sync pulses are also coupled into the vertical oscillator 6F8G where the circuits composed of C-73 and R-165 bypasses the horizontal sync pulses. The vertical sync pulses are coupled into the vertical sweep generator circuit causing violent oscillatory swings which result in sawtooth waves. The height control (R-146) determines the magnitude of the charge before the next oscillation thus governing the height of the picture. R-146, the horizontal hold control, governs the rate of charging. The vertical linearity control (R-159) accomplishes results similar to the horizontal linearity control. The vertical sweep amplifier produces push-pull output by phase inversion and this output is applied to the vertical deflecting plates of the picture tube.

### *Low Voltage Rectifier*

Low voltage power is obtained from a 5U4G using one stage of choke filtering and the remaining of the resistance filter type.

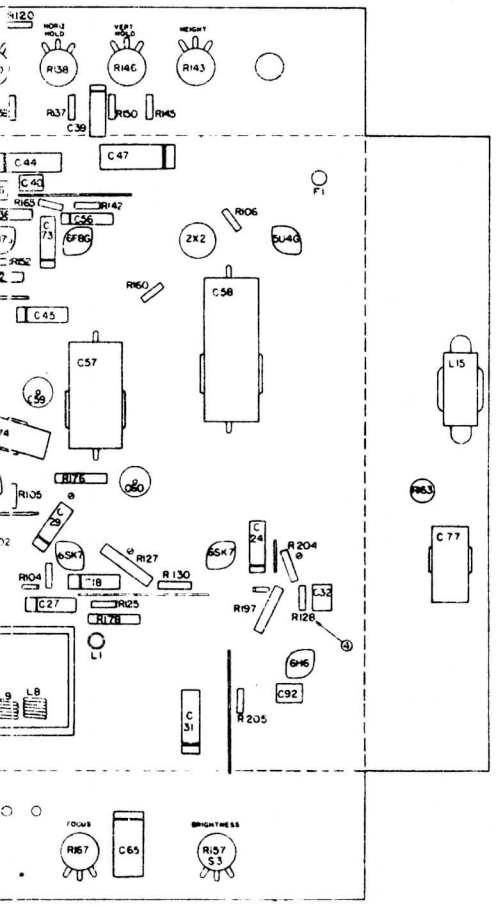
### *High Voltage Rectifier*

The anode voltage of the picture tube is obtained from a single half-wave rectifier with a protective resistor in series with the transformer plate lead.

### *Loudspeaker*

The voice coil is accurately and permanently centered at the factory and should seldom give trouble. In case a voice coil needs recentering it will be necessary to replace the entire cone and voice coil assembly.

NOTE—In no case should the magnet be removed from the assembled position without remagnetizing after replacing it



hassis Parts Layout
del HM-171

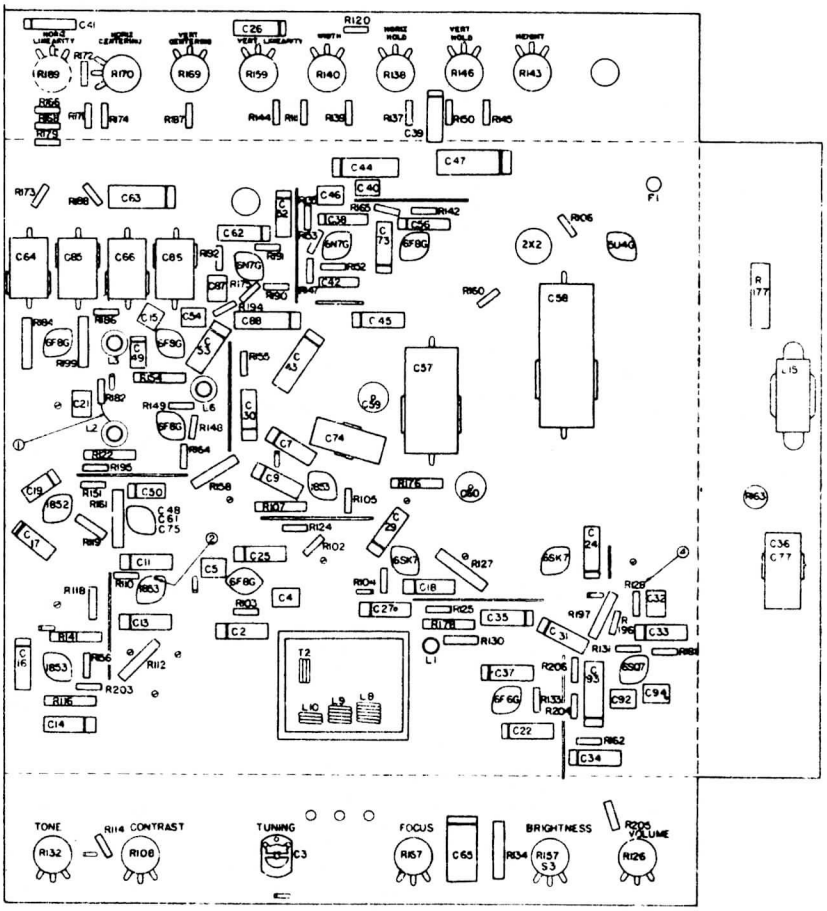



Fig. 4. Chassis Parts Layout
Model HM-185

MODELS HM-171, HM-185

GENERAL ELECTRIC CO.

# TELEVISION RECEIVERS
## (REVISED FOR NEW STANDARDS)

CHANGES IN THE SCHEMATIC DIAGRAM

1- A RESISTOR OF 4700 OHMS IS CONNECTED ACROSS THE PRIMARY OF THE I.F. TRANSFORMER T7.
2- THE RESISTOR R123 IS CHANGED FROM 3900 TO 4700 OHMS.
3- A RESISTOR OF 4700 OHMS IS CONNECTED ACROSS THE PRIMARY OF THE I.F. TRANSFORMER T6.
4- A RESISTOR OF 220,000 OHMS IS CONNECTED BETWEEN THE JUNCTION OF R145 AND R146 AND GROUND.
5- A RESISTOR OF 330 OHMS IS INSERTED IN THE CONTROL GRID LEAD OF THE PICTURE TUBE.

## REVISED TELEVISION ALIGNMENT PROCEDURE

The problem of aligning the several circuits in a television receiver is much more involved and requires more specialized equipment than the alignment of conventional radio receivers. Fortunately, the use of stable components in carefully engineered circuits of wide-band characteristic reduces to a minimum the necessity for alignment under normal operating conditions. Should alignment become necessary the following equipment will be needed:

(A) For Video I. F. Alignment
  (1) Cathode ray oscilloscope.
  (2) Wide-band sweep oscillator capable of sweeping from 7.5 to 15 MC.
  (3) Marker system either provided in sweep oscillator or from separate signal generator for locating 12.75 and 10.75 MC points.

(B) Sound I.F. Alignment
  (1) Cathode ray oscilloscope.
  (2) Wide-band sweep oscillator capable of sweeping from 7.75 to 8.75 MC.
  (3) Marker system either provided in sweep oscillator or from separate signal generator for locating 8.15 and 8.35 MC points.

(C) R.F. Alignment
  (1) Cathode ray oscilloscope
  (2) Wide-band sweep oscillator capable of sweeping the following bands:
    (a) 50 to 56 MC
    (b) 60 to 66 MC
    (c) 66 to 72 MC
    * (d) 78 to 84 MC

* Those receivers which were aligned at the factory for Band No. 4 must use this r-f sweep frequency.

### VIDEO I.F. ALIGNMENT

| | Input Freq. | Point of Input | Adjustments | Comments |
|---|---|---|---|---|
| 1. | | | | Connect vertical input cable of cathode ray oscilloscope across resistor R-182 of 6F8G video detector. |
| 2. | 7.5–15 MC Sweep | Control grid of 6AB7 (2nd video I.F.) | | Connect output tap of video I.F. sweep oscillator to control grid of 6AB7 (2nd video I.F.). Connect ground lead to chassis. Turn contrast control (R-108) to about half of maximum or to a point which gives satisfactory vertical deflection without overloading. Set horizontal centering and gain controls on oscilloscope to give suitable horizontal deflection. Adjust sweep phase to give curve similar to Fig. 7, curve 1. |

NOTE: If sweep oscillator has marker points internally supplied, steps 3 and 4 may be omitted.

| | Signal Input | Point of Input | Adjustments | Comments |
|---|---|---|---|---|
| 3. | Same as in No. 2 plus 12.75 MC | Same as in No. 2 | | Superimpose an accurately calibrated 12.75 MC signal in parallel with sweep signal. Signal will appear on sweep curve in oscilloscope as a wiggle, the center of which is a thin black line. With a pen or crayon mark this point on the screen of the oscilloscope. (NOTE: Hereafter the horizontal controls on the oscilloscope must not be touched.) |
| 4. | Same as in No. 2 plus 10.75 MC | Same as in No. 2 | | Superimpose an accurately calibrated 10.75 MC signal in parallel with sweep signal. Mark screen at point where signal appears on curve as in No. 3 above. |
| 5. | 7.5–15 MC Sweep | Control grid 6AC7 (4th video IF) | Iron cores of detector transformer T-6 | Do not touch horizontal controls of oscilloscope. Adjust iron cores of T-6 until curve appears similar to Fig. 7, curve 1, with relatively flat top, 12.75 MC mark at corner of one side and 10.75 MC mark at corner of other side. These conditions plus maximum amplitude insure correct alignment. |
| 6. | 7.5–15 MC Sweep | Control grid 6AB7-3rd video IF | Iron cores of 4th video transformer T-5 | Adjust iron cores for maximum gain, flatness and proper centering between markers as described in step No. 5 and illustrated in Fig. 7, curve 1. |
| 7. | 7.5–15 MC Sweep | Control grid 6AB7 (2nd video IF) | Iron cores of 3rd video transformer T-4 | Adjust primary and secondary iron cores for maximum gain, flatness and proper centering. See Fig. 7, curve 1. |
| 8. | 7.5–15 MC Sweep | Converter grid, 6F8G | Iron cores of 2nd video transformer T-3 & 1st video transformer T-4 | Connect low tap to grid (on top of tube). Adjust primary and secondary iron cores for maximum gain, flatness and proper centering. See Fig. 7, curve 1. |
| 9. | 14.25 MC | Converter grid, 6F8G | Series iron core of 3rd video transformer T-4 | Connect low tap to grid. Reduce horizontal gain to minimum. Adjust iron core for minimum line length. |

MODELS HM-171, HM-185

# GENERAL ELECTRIC CO.

## REVISED TELEVISION ALIGNMENT PROCEDURE CONT.

### AUDIO I.F. ALIGNMENT

NOTE: In order to obtain frequency modulation detection in the sound channel with good fidelity, the audio I.F. amplifiers must be aligned to give a satisfactory selectivity curve for slope detection. For this reason a sweep generator and oscilloscope are necessary to obtain the resultant curve shown in Fig. 7, curve 3.

| | Signal Input | Point of Input | Adjustments | Comments |
|---|---|---|---|---|
| 1. | 8.25 MC with 30% tone modulation | 6F8G converter grid | Tune all audio I.F. iron cores | Use an oscilloscope or high resistance voltmeter across —audio output terminals of HM171 or volume control, R126, of the Model HM185. Set tone control for maximum high frequency response. Peak all trimmers for a maximum output. |
| 2. | 7.75 to 8.75 MC sweep | Grid of 2nd audio I.F., 6SK7 | | Connect oscilloscope input to chassis ground and junction of resistors (R204 and R125 in HM-171) (R125 and R196 in HM185) at diode load. Superimpose an accurately calibrated 8.15 MC signal in parallel with sweep signal. This signal will appear on sweep curve in oscilloscope as a wiggle at the center of which a mark should be made with pen or crayon on oscilloscope screen. (Hereafter the horizontal controls on the oscilloscope must not be adjusted.) Next an 8.35 MC signal mark should similarly be made. |

NOTE: If sweep oscillator has marker points internally supplied, omit step 2.

| | | | | |
|---|---|---|---|---|
| 3. | 7.75 to 8.75 MC sweep | Converter grid 6F8G | Adjust iron cores of 1st audio I.F. coil L12 and the 2nd audio I.F. transformer T-9 | With oscilloscope connected as in step 2, adjust cores until curve appears as in Fig. 7, curve 3 being sure that the steep side of curve lies between the 8.15 and 8.35 MC markers as indicated. NOTE: The shape of the curve between 8.15 and 8.35 MC must be straight, otherwise distortion will result in FM reception. |

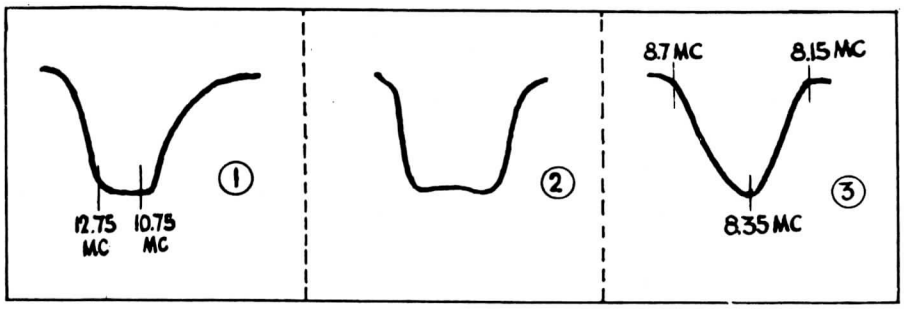



**Fig. 7. Television Alignment Curves**

## TELEVISION ALIGNMENT PROCEDURE

### R.F. ALIGNMENT

| | Signal Input | Point of Input | Adjustments | Comments |
|---|---|---|---|---|
| 1. | | | Band width adjustment coupling condenser | Turn C-78 in until tight, then open approximately 1/16 of a turn. |
| 2. | 50 to 56 MC Sweep | Antenna terminals | (L-8), (C-70), (C-67) | Connect oscilloscope to junction R124 and C25; open circuit R178, short R102 to ground. Depress No. 1 push button. Set tuning control to mid-rotation. Adjust L-8 until curve is centered between maximum horizontal sweep points. Adjust C-70 and C-67 for maximum amplitude. See Fig. 7, curve 2. |
| 3. | 60 to 66 MC Sweep | Antenna terminals | (L-9), (C-71), (C-68) | Depress No. 2 push button. Leave tuning control at mid-rotation point. Adjust L-9 for centering; C-71 and C-68 for maximum amplitude. See Fig. 7, curve 2. |
| 4. | 66 to 72 MC Sweep* | Antenna terminals | (L-10), (C-72), (C-69) | Depress No. 3 push button. Adjust L-10 for centering; C-72, C-69 for maximum amplitude. See Fig. 7, curve 2. |
| 5. | Calibrated signal generator 55.75 MC, 65.75 MC, 71.75 MC** with 30% tone modulation. | Antenna terminals | (L8), (L9), (L10) | To align oscillator for various bands, set tuning control (C-3) at mid-rotation; then set brass slugs of coils L8, L9, L10 until maximum audio tone is heard. |

* In some localities this sweep will be 78 to 84 megacycles. ** 83.75 Megacycles when Band No. 4 is set up on the No. 3 key.

### WAVE TRAP ALIGNMENT

| | | | | |
|---|---|---|---|---|
| 1. | 11.75 MC with 400 cycle modulation | Antenna terminals | Wave trap trimmer, C-95 | Adjust for minimum signal response as seen on oscilloscope after connections made in Step 2 are re-established; then connect oscilloscope across R182. |

## RECOMMENDED PROCEDURE FOR READJUSTING THE R.F. CIRCUITS TO CONFORM TO THE NEW TELEVISION FREQUENCY ALLOCATIONS ON THE LOWER CHANNELS.

Necessary Equipment:

(1) Oscilloscope - G.E. Model CRO-5-S or equivalent.

(2) Wide-band sweep oscillator capable of sweeping the following bands:

(a) 54 to 60 MC
(b) 66 to 72 MC
(c) 76 to 82 MC

(3) Accurately calibrated absorption wave meter with a frequency range of at least 54 to 82 MC.

(4) Accurately calibrated signal generator with a frequency range of at least 59.75 to 81.75 MC with 30% tone modulation.

(5) 50,000 ohm 1/2-W resistor.

PROCEDURE FOR CIRCUITS ASSOCIATED WITH #1 PUSH BUTTON.

1. Disconnect low side of R-102 and connect a 50,000 ohm resistor in series with it to ground.

2. Remove all rectifier tubes.

3. Connect vertical input of oscilloscope across R-102 and the 50,000 ohm resistor.

4. Connect wide band sweep generator to antenna terminals and adjust for a 54-60 MC Sweep. Output of generator should be set near maximum.

5. Depress the #1 push-button (heaters should be on) and adjust sweep and sync controls on scope to give a curve similar to Fig. 1.

6. Turn band width adjustment coupling condenser C-78 in until tight, then open approximately 1/16 of a turn.

7. Check location of the 54 and 60 MC points on the curve with the absorption wave meter.

8. Adjust trimmers C-67 and C-70 until the 54 and 60 MC points appear on the curve as shown in Fig. 2. It will probably be necessary to decrease the inductance of L-11 somewhat by spreading the coil, before the 54 and 60 MC points come in at the proper place.

9. Remove the 50,000 ohm resistor, connect R-102 back to normal, remove scope and replace rectifier tubes.

10. Disconnect wide band sweep generator from antenna terminals and connect in its place the modulated signal generator adjusted to exactly 59.75 MC.

11. Set tuning control C-3 to mid-rotation. Adjust brass slug of L-8 until maximum audio tone is heard, with volume control turned partially up. If slug does not have sufficient range, it will be necessary to decrease the inductance of L-8 somewhat by spreading the coil.

PROCEDURE FOR CIRCUITS ASSOCIATED WITH #2 P.B.

1. Same as for the #1 P. B.
2. ditto
3. "
4. " except that the oscillator is adjusted for a 66-72 MC sweep.
5. Depress the #2 push button.
6. Do not re-adjust C-78. Check location of the 66-72 MC points on curve with absorption meter.
7. Adjust trimmers C-68 and C-71 until the 66-72 MC points appear on curve as shown in Fig. 4. It may be necessary to decrease the inductance of L-13 by spreading the coil in order to bring the 66-72 MC points at the proper place on the curve.
8. Same as in step #9 for the #1 P. B.
9. " " " " #10 " " " " except that the modulated signal generator is adjusted to exactly 71.75 MC.
10. Same as in step #11 for the #1 push button, except that the brass slug of L-9 is adjusted and it will be necessary to decrease the inductance of L-9 by spreading the coil.

PROCEDURE FOR CIRCUITS ASSOCIATED WITH #3 P.B.

1. Same as for the #1 P.B.
2. ditto
3. "
4. " , except that the oscillator is adjusted for a 76-82 MC sweep.
5. Depress the #3 push button.
6. Check location of the 76-82 MC points on curve with absorption wavemeter.
7. Adjust trimmers C-69 and C-72 until the 76-82 MC points appear on curve as shown in Fig. 5. It will be necessary to increase the inductance of L-14 somewhat by squeezing the coil together in order to bring the 76-82 MC points at the proper place on the curve.
8. Same as in step #9 for the #1 P.B.
9. " " " " #10 " " " " except that the modulated signal generator is adjusted to exactly 81.75 MC.
10. Same as in step #11 for the #1 P.B. - except that the brass slug of L-10 is adjusted, and it will be necessary to increase the inductance of L-10 by squeezing the coil together.

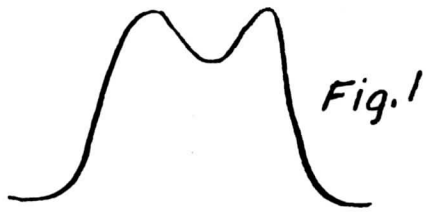


Fig. 1

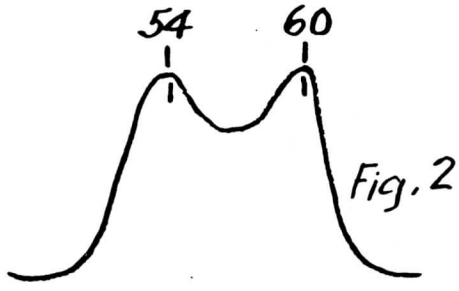


Fig. 2

Fig. 3

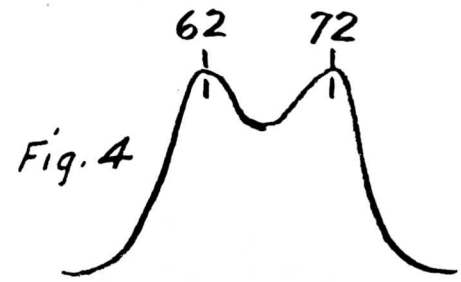


Fig. 4

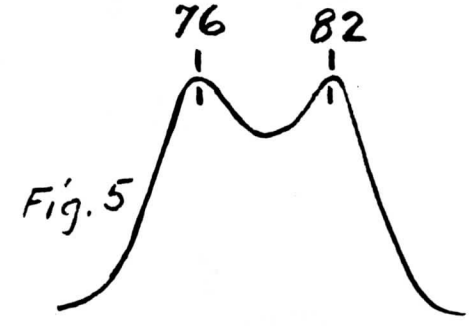


Fig. 5

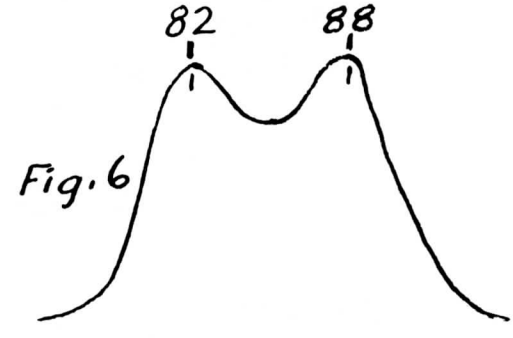


Fig. 6

## GENERAL INFORMATION

General Electric Picture Receiver and Sound Converter Model HM-171, is a table type, 17-tube, superheterodyne receiver equipped with a 5-inch, electrostatic-deflected, picture tube. The receiver works in conjunction with any radio receiver, which is designed for phonograph reproduction, to reproduce the sound portion of the television broadcast.

General Electric Television Receiver, Model HM-185 is a console type, 18-tube, superheterodyne receiver with a complete sound channel and using a 5-inch, electrostatic-deflected picture tube.

Additional design features include iron-core I.F. tuning, automatic tone compensation, automatic volume control and constant high-gain antenna coupling circuit.

### *Electrical Specifications*

| Model | Power Supply (Volts) | Frequency (Cycles per Second) | Power Consumption (Watts) |
|---|---|---|---|
| HM-171 | 115–125 | 60 | 170 |
| HM-185 | 115–125 | 60 | 170 |

### *Tuning Frequency Range*

Band No. 1 ..... 44–50 MC.
Band No. 2 ..... 50–56 MC.
Band No. 3 ..... 66–72 MC.

### *Intermediate Frequencies*

Television Video (Picture) ..... 12.75 MC.
Television Audio ..... 8.25 MC.

### *Maximum Electrical Output*

Model HM-171. (Dependent upon radio receiver output)
Model HM-185 ..... 5 watts

### *Loudspeaker—"Alnico" Magnetic Dynamic*

Model ..... HM-185
Cone Diameter ..... 12 inches
Voice Coil Impedance (400 cycles) ..... 3.5 ohms

### *Picture Size*

Height ..... 3¼ inches
Width ..... 4¼ inches

### *Tubes*

Converter-Oscillator ..... GE-6F8G
Audio & Video I.F. Amplifier ..... GE-1853/6AB7
2nd and 3rd Audio I.F. Amplifiers ... (2)GE-6SK7
Det., Audio, AVC (HM-185) ..... GE-6SQ7
Det. and AVC (HM-171) ..... GE-6H6
Audio Output (HM-185) ..... GE-6F6G
2nd and 3rd Video I.F. Amplifiers ... (2)GE-1853/6AB7
4th Video I.F. Amplifier ..... GE-1852/6AC7
Video Det. and 1st Video Amplifier .... GE-6F8G
Video Output and Sync. Clipper ..... GE-6F8G
Vertical Oscillator ..... GE-6F8G
Vertical Output ..... GE-6N7G
Horizontal Oscillator ..... GE-6N7G
Horizontal Output ..... GE-6F8G
High Voltage Rectifier ..... GE-879/2X2
Low Voltage Rectifier ..... GE-5U4G
Picture Tube ..... GE-5BP4

# GENERAL ELECTRIC CO.

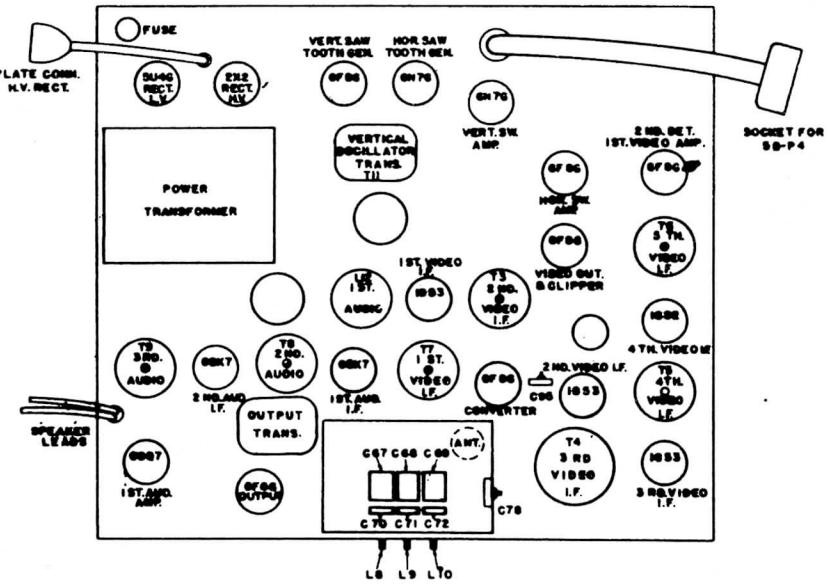



**Fig. 8. Chassis Trimmer Location**
**Models HM-171 and HM-185**

## ANTENNA

In general, the television antenna should be of the dipole type located as high as is practical and in an area where the horizon in the direction of the television transmitter is not obstructed by buildings or structures. A noticeable gain in signal strength will be obtained as antenna height is increased. Since television radiation reacts similarly to light waves, reflection problems arise which often modify otherwise ideal installation locations. Consideration must also be given noise sources within buildings, or ignition noises from vehicles on adjacent streets. It is usually best to locate the dipole antenna on the side of the building away from the street thus allowing the building to shield the antenna from ignition noises.

The dipole should be erected with arms parallel to the ground and at right angles to the direction of the television station. If noise or reflection interference exist it may be better to point the dipole arms in the direction of the interference.

Noise interference and poor signal strength may dictate the use of a reflector. A reflector will increase the signal strength appreciably as well as increase the horizontal directivity.

## CAUTIONARY INSTRUCTIONS

Extremely high voltages (2500 volts or more) are used in the operation of this receiver; therefore, every precaution must be exercised to insure safety to the service engineer and to the customer.

The back cover while in place, protects the user and should never be removed except by a qualified television service engineer.

The power-cord plug should not be inserted in a power supply outlet until a good, solid ground connection has been properly made to the receiver chassis.

For safety, the following operations must be performed with the power plug disconnected before working on the receiver with the back cover removed:

1. Locate the 879/2X2 high voltage rectifier tube socket.
2. Unsolder the lead (color-coded brown and yellow and measuring 3300 ohms to chassis) which is connected to the 879/2X2 tube socket.
3. Thoroughly insulate the exposed end of this lead.

All adjustments not accessible with the back cover in place can be made without energizing the high-voltage circuits.

Servicing of the high-voltage circuits can be satisfactorily performed with the power-cord removed from any power supply outlet. A resistance check of the circuit components will indicate any trouble existing. (HIGH VOLTAGES SHOULD NEVER BE MEASURED.)

The "picture tube" is highly evacuated and is consequently subject to a very great air pressure. If it is broken, glass fragments will be violently expelled. Handle with care, using safety goggles and gloves.

The large end of the "picture tube" particularly that part at the rim of the viewing surface—must not be struck, scratched, or subjected to more than moderate pressure. DO NOT FORCE THE SOCKET ONTO THE TUBE OR STRAIN ANY EXTERNAL CONNECTIONS. If it fails to slip into place smoothly, investigate and remove the cause of the trouble.

# REPLACEMENT PARTS LIST

## Models HM-171 and HM-185

**Parts Common to Both Radio and Television**

**Insist on Genuine Factory-tested Parts, Available from Authorized Dealers**

| Stock No. | Description |
|---|---|
| *RB-008 | BOARD—Terminal board (2 lug) |
| *RB-009 | BOARD—Terminal board (1 lug) |
| *RB-058 | BOARD—Terminal board (8 lug) |
| *RB-060 | BOARD—Antenna terminal board |
| *RB-096 | BOARD—Terminal board (3 lug) |
| *RB-621 | BEZEL—Molded indicator bezel |
| *RC-006 | CAPACITOR—.0015 mfd. 600 V. paper (C-42) |
| *RC-009 | CAPACITOR—.001 mfd. 600 V. paper (C-41, 52) |
| *RC-011 | CAPACITOR—.002 mfd. 600 V. paper (C-56) |
| *RC-023 | CAPACITOR—.005 mfd. 600 V. paper (C-22) |
| *RC-028 | CAPACITOR—.006 mfd. 600 V. paper (C-26, 37) |
| *RC-039 | CAPACITOR—.01 mfd. 600 V. paper (C-38, 62) |
| *RC-048 | CAPACITOR—.02 mfd. 600 V. paper (C-9, 13, 16, 18, 19, 24, 25, 29, 31, 34, 39, 45, 50) |
| *RC-049 | CAPACITOR—.004 mfd. 600 V. paper (C-35) |
| *RC-072 | CAPACITOR—.05 mfd. 200 V. paper (C-2, 7, 11, 14, 17, 27) |
| *RC-090 | CAPACITOR—.04 mfd. 600 V. paper (C-73) |
| *RC-096 | CAPACITOR—0.1 mfd. 200 V. paper (C-30, 33) |
| *RC-123 | CAPACITOR—0.1 mfd. 400 V. paper (C-43, 44, 49, 53, 88, 93) |
| RC-5139 | CAPACITOR—10 mfd. 300 V., 10 mfd. 450 V., 10 mfd. 450 V., dry electrolytic (C-48, 61, 75) |
| RC-5140 | CAPACITOR—10 mfd. 450 V. dry electrolytic (C-74) (Also C-77 on HM-171) |
| *RG-016 | GRID CLIP—6F8G grid clip (Pkg. 5) |
| RK-044 | KNOB—Control knob (Pkg. 2) |
| *RQ-525 | RESISTOR—150,000 ohms 1 W. carbon (R-158) |
| RQ-645 | RESISTOR—680 ohms 2 W. carbon (R-134) |
| *RQ-670 | RESISTOR—3300 ohms 2 W. carbon (R-161) (Pkg. 5) |
| *RQ-695 | RESISTOR—39,000 ohms 2 W. carbon (R-127) |
| RQ-774 | RESISTOR—12,000 ohms 3 W. carbon (R-119) |
| *RQ-1243 | RESISTOR—220 ohms ½ W. carbon (R-105, 110, 114) (Pkg. 5) |
| *RQ-1245 | RESISTOR—270 ohms ½ W. carbon (R-129) (Pkg. 5) |
| *RQ-1251 | RESISTOR—470 ohms ½ W. carbon (R-148, 181) (Pkg. 5) |
| *RQ-1259 | RESISTOR—1000 ohms ½ W. carbon (R-102, 150, 152) (Pkg. 5) |
| *RQ-1267 | RESISTOR—2200 ohms ½ W. carbon (R-124, 130 on HM-171, 153, 182) (Pkg. 5) |
| *RQ-1269 | RESISTOR—2700 ohms ½ W. carbon (R-109) (Pkg. 5) |
| *RQ-1271 | RESISTOR—3300 ohms ½ W. carbon (R-113) (Pkg. 5) |
| *RQ-1273 | RESISTOR—3900 ohms ½ W. carbon (R-117, 123, 190, 203) (Pkg. 5) |
| *RQ-1283 | RESISTOR—10,000 ohms ½ W. carbon (R-164) (Pkg. 5) |
| *RQ-1285 | RESISTOR—12,000 ohms ½ W. carbon (R-115) (Pkg. 5) |
| *RQ-1289 | RESISTOR—18,000 ohms ½ W. carbon (R-101, 195) (Pkg. 5) |
| *RC-132 | CAPACITOR—0.1 mfd. 2000 V. paper (C-58) |
| *RC-133 | CAPACITOR—.06 mfd. 2000 V. paper (C-57) |
| RC-134 | CAPACITOR—0.1 mfd. 1000 V. paper (C-65) |
| RC-147 | CAPACITOR—.25 mfd. 400 V. paper (C-47) |
| *RC-157 | CAPACITOR—0.5 mfd. 200 V. paper (C-63) |
| RC-192 | CAPACITOR—.003 mfd. 2000 V. paper (C-64, 66, 85, 86) |
| *RC-213 | CAPACITOR—12 mmf. mica (C-15) |
| *RC-220 | CAPACITOR—6 mmf. mica (C-83) |
| *RC-224 | CAPACITOR—22 mmf. mica (C-4, 21) |
| *RC-227 | CAPACITOR—82 mmf. mica (C-79, 80) |
| RC-232 | CAPACITOR—47 mmf. mica (C-32, 95) |
| *RC-235 | CAPACITOR—100 mmf. mica (C-6, 46) |
| RC-238 | CAPACITOR—68 mmf. mica (C-54) |
| *RC-242 | CAPACITOR—150 mmf. mica (C-23) |
| RC-246 | CAPACITOR—180 mmf. mica (C-40) |
| *RC-274 | CAPACITOR—330 mmf. mica (C-5, 8, 87) |
| *RC-293 | CAPACITOR—470 mmf. mica (C-92) |
| *RC-429 | CAPACITOR—30 mfd. 500 V. wet electrolytic (C-59, 60) |
| *RC-698 | CAPACITOR—R.F. padder (C-78) |
| RC-1995 | CLAMP—Ant. coil mounting clamp (Pkg. 5) |
| RC-5138 | CAPACITOR—20 mfd. 25 V., 10 mfd. 450 V., dry electrolytic (C-36, 77) |
| *RQ-1335 | RESISTOR—1.5 megohms ½ W. carbon (R-191) (Pkg. 5) |
| *RQ-1339 | RESISTOR—2.2 megohms ½ W. carbon (R-125, 149, 155, 166, 186) (Pkg. 5) |
| *RQ-1341 | RESISTOR—2.7 megohm ½ W. carbon (R-147) (Pkg. 5) |
| *RQ-1349 | RESISTOR—5.6 megohms ½ W. carbon (R-173, 174, 187, 188) (Pkg. 5) |
| RQ-1420 | RESISTOR—33 ohms 1 W. carbon (R-141) |
| RQ-1460 | RESISTOR—1200 ohms 1 W. carbon (R-122) |
| *RQ-1461 | RESISTOR—1500 ohms 1 W. carbon (R-176) |
| *RQ-1471 | RESISTOR—3300 ohms 1 W. carbon (R-154) |
| *RQ-1475 | RESISTOR—4700 ohms 1 W. carbon (R-107, 112, 116) |
| RQ-1476 | RESISTOR—5600 ohms 1 W. carbon (R-130 on HM-185, 197) |
| *RQ-1485 | RESISTOR—12,000 ohms 1 W. carbon (R-119) |
| *RQ-1489 | RESISTOR—18,000 ohms 1 W. carbon (R-178) |
| *RQ-1499 | RESISTOR—47,000 ohms 1 W. carbon (R-184, 199) |
| *RS-179 | SHIELD—6F8G tube shield |
| RS-252 | SOCKET—Octal tube socket |
| RS-257 | SOCKET—Electrolytic mounting socket |
| RS-265 | SOCKET—Light socket assembly |
| RS-1011 | SPEAKER—12-inch permanent magnet |
| RS-1803 | SHIELD—6N7G tube shield and clip |
| RT-471 | TRANSFORMER—Output transformer (T-13) |
| RT-954 | TERMINAL—Speaker lead comtact clip (Pkg. 10) |
| *RW-101 | WASHER—Felt washer for control shafts (Pkg. 10) |
| RW-112 | WASHER—Transformer shaft tension washer (Pkg. 10) |
| RX-062 | ASSEMBLY—Speaker mounting assembly |

*Used on previous receivers.

# REPLACEMENT PARTS LIST (Continued)

| Stock No. | Description |
|---|---|
| RTC-5006 | CONTROL—500,000 ohm tone control (R-132) |
| RTC-5007 | CONTROL—2.0 megohm variable control (R-143, 146, 159) |
| RTC-5008 | CONTROL—2.0 megohm volume control (R-126) |
| RTC-5009 | CONTROL—0.5 megohm width control (R-140) |
| RTC-5010 | CONTROL—3-20 mmf. tuning control (C-3) |
| RTC-6000 | CARD—Television station tab No. 1 (Pkg. 10) |
| RTC-6001 | CARD—Television station tab No. 2 (Pkg. 10) |
| RTC-6002 | CARD—Television station tab No. 3 (Pkg. 10) |
| RTC-7000 | CABLE—Power cable with plugs |
| RTC-7001 | CABLE—Picture tube cable and 11 prong socket |
| RTC-8000 | CLAMP—Picture tube clamp (upper section) |
| RTC-8001 | CUSHION—Picture tube face cushion |
| RTE-100 | ESCUTCHEON—Push button escutcheon |
| RTF-100 | FUSE HOLDER—Power line fuse holder |
| RTG-100 | GRID CLIP—Insulated 2 x 2 grid clip |
| RTG-201 | GROMMET—Rubber grommet for insulating chassis hole from picture tube cable |
| RTG-200 | GROMMET—Rubber bumper on picture tube shield funnel (Pkg. 5) |
| RTL-1000 | COIL—R.F. coil (Band No. 1) (L-11) |
| RTL-1001 | COIL—R.F. coil (Band No. 2) (L-13) |
| RTL-1002 | COIL—R.F. coil (Band No. 3) (L-14) |
| RTL-2000 | COIL—Converter grid oscillator coil (T-2) |
| RTL-2001 | COIL—Converter plate oscillator coil (T-2) |
| RTL-3000 | COIL—Oscillator tuning coil (Band No. 1) (L-8) |
| RTL-3001 | COIL—Oscillator tuning coil (Band No. 2) (L-9) |
| RTL-3002 | COIL—Oscillator tuning coil (Band No. 3) (L-10) |
| RTL-4000 | CHOKE—Oscillator Plus B choke (L-1) |
| RTL-4001 | CHOKE—1st Video choke (L-3) |
| RTL-4002 | CHOKE—Video diode choke (L-2) |
| RTL-4003 | CHOKE—Video output choke (L-6) |
| RTL-5000 | REACTOR—Plus B reactor (L-15) |
| RTM-1000 | MASK—Picture tube mask |
| *RQ-1293 | RESISTOR—27,000 ohms ½ W. carbon (R-103) (Pkg. 5) |
| *RQ-1295 | RESISTOR—33,000 ohms ½ W. carbon (R-165) (Pkg. 5) |
| *RQ-1297 | RESISTOR—39,000 ohms, ½ W. carbon (R-106) (Pkg. 5) |
| *RQ-1299 | RESISTOR—47,000 ohms ½ W. carbon (R-192, 196) (Pkg. 5) |
| *RQ-1301 | RESISTOR—56,000 ohms ½ W. carbon (R-205) (Pkg. 5) |
| *RQ-1303 | RESISTOR—68,000 ohms ½ W. carbon (R-206) (Pkg. 5) |
| *RQ-1305 | RESISTOR—82,000 ohms ½ W. carbon (R-204) (Pkg. 5) |
| *RQ-1307 | RESISTOR—100,000 ohms ½ W. carbon (R-111) (Pkg. 5) |
| *RQ-1311 | RESISTOR—150,000 ohms, ½ W. carbon (R-131, 137, 145) (Pkg. 5) |
| *RQ-1313 | RESISTOR—180,000 ohms ½ W. carbon (R-162) (Pkg. 5) |
| *RQ-1315 | RESISTOR—220,000 ohms ½ W. carbon (R-104, 118, 128, 142, 171, 172) (Pkg. 5) |
| *RQ-1317 | RESISTOR—270,000 ohms ½ W. carbon (R-160) (Pkg. 5) |
| *RQ-1319 | RESISTOR—330,000 ohms ½ W. carbon (R-175) (Pkg. 5) |
| *RQ-1321 | RESISTOR—390,000 ohms ½ W. carbon (R-194) (Pkg. 5) |
| *RQ-1323 | RESISTOR—470,000 ohms ½ W. carbon (R-139) (Pkg. 5) |
| *RQ-1327 | RESISTOR—680,000 ohms ½ W. carbon (R-156) (Pkg. 5) |
| *RQ-1331 | RESISTOR—1.0 megohms ½ W. carbon (R-120, 133, 135, 144, 151, 168, 179) (Pkg. 5) |

*Used on previous receivers.

| Stock No. | Description |
|---|---|
| RTQ-1000 | RESISTOR—350 ohms 10 W. wire wound (R-177) |
| RTQ-1001 | RESISTOR—1100 ohms 16 W. wire wound (R-163 on HM-185) |
| RTQ-1002 | RESISTOR—1300 ohms 16 W. wire wound (R-163 on HM-171) |
| RTS-100 | SOCKET—Chassis power receptacle |
| RTS-101 | SOCKET—2 x 2 tube socket (4 prong) |
| RTS-300 | SHAFT—Focus control insulated shaft |
| RTS-301 | SHAFT—Coil tuning core shaft |
| RTS-500 | SWITCH—Station selector switch (S-1) |
| RTS-700 | STUD—4⅛-in. lg. stud for mounting R-163 |
| RTS-701 | SETSCREW—Headless setscrew for focus control shaft assembly (Pkg. 5) |
| RTT-0010 | TRANSFORMER—Power transformer (T-12) |
| RTT-2000 | TRANSFORMER—Antenna transformer (T-1) |
| RTT-3000 | TRANSFORMER—1st Video I.F. transformer (T-7) |
| RTT-3500 | TRANSFORMER—2nd Video I.F. transformer (T-3) |
| RTT-4000 | TRANSFORMER—3rd Video I.F. transformer (T-4) |
| RTT-4500 | TRANSFORMER—4th Video I.F. transformer (T-5) |
| RTT-5000 | TRANSFORMER—5th Video I.F. transformer (T-6) |
| RTT-7000 | TRANSFORMER—1st Audio I.F. transformer (L-12) |
| RTT-7500 | TRANSFORMER—2nd Audio I.F. transformer (T-8) |
| RTT-8000 | TRANSFORMER—3rd Audio I.F. transformer (T-9) |
| RTT-9000 | TRANSFORMER—Vert. oscillator transformer (T-11) |
| RTW-100 | WASHER—Picture tube rear support washer (rubber) |
| RTW-500 | WINDOW—Picture tube safety window (HM-185) |
| RTW-501 | WINDOW—Celluloid station letter window (Pkg. 5) |
| RTW-502 | WINDOW—Picture tube safety window (HM-171) |
| RTX-1000 | ASSEMBLY—Wave trap assembly (L-16, 17, 18, 19) |
| RTX-1003 | ASSEMBLY—Wave trap assembly (L-20, C-94) |
| | **Parts Used in Television Only** |
| RTB-500 | PUSH BUTTON—Station selector push button |
| RTB-1000 | BOARD—Focus control insulator mounting board |
| RTB-1001 | BOARD—Centering controls insulator mounting board |
| RTB-1002 | BOARD—I.F. terminal board (8-hole-square) |
| RTB-1500 | BACK COVER—Cabinet back cover (HM-185) |
| RTB-1501 | BACK COVER—Cabinet back cover (HM-171) |
| RTB-2000 | BUSHING—Insulating bushing for mounting R-163 |
| RTB-2001 | BUSHING—Station trimmer shaft bushing |
| RTC-1000 | TRIMMER STRIP—20-200 mmf. trimmers (C-70, 71,72) |
| RTC-1001 | TRIMMER STRIP—20-200 mmf. trimmers (C-67, 68, 69) |
| RTC-5000 | CONTROL—.25 megohm brightness control and power switch (R-157) |
| RTC-5001 | CONTROL—2.0 megohm centering control (R-169, 170) |
| RTC-5002 | CONTROL—2000 ohm tapered contrast control (R-108) |
| RTC-5003 | CONTROL—2.0 megohm focus control (R-167) |
| RTC-5004 | CONTROL—50,000 ohm horizontal speed control (R-138) |
| RTC-5005 | CONTROL—100,000 ohms hor. linearity control (R-189) |