ABRIDGED

C7C5
C7C7
C7T2

SERVICE INSTRUCTIONS

GENERAL ELECTRIC

MODELS C7C5, C7C7 and C7T2
TELEVISION RECEIVERS

C7T2

C7C7

C7C5

SPECIFICATIONS

OVER-ALL DIMENSIONS	Model	Height Inches	Width Inches	Depth Inches	LOUDSPEAKER:	PM Alnico		
	C7C5	37 1/2	22 5/8	21 1/8		Model	C7C5 C7C7	C7T2
	C7C7	37 1/4	25 1/8	22 7/16		Cone Diameter Size.....	12 in.	5½ in.
	C7T2	20 1/4	20	20 1/8		Voice Coil Imp. at 400 Cycles.	3.2 ohms	3.2 ohms
ELECTRICAL RATING	Frequency.....25-60 cycles Voltage.....115 v. a-c Watts.....165 watts				AUDIO POWER OUTPUT:	Undistorted.....1.0 watt Maximum.....2.0 watts		
INTERMEDIATE FREQUENCIES:	Television video.....45.75 MC Television audio.41.25 and 4.5 MC				ANTENNA REQUIREMENTS:	Built-in Antenna System		
						For External Antenna Use: Type.Ribded dipole, or equivalent Impedance.....300 ohms		

R-F FREQUENCY RANGE:	Selector Switch Position	Frequency Range MC	Picture Carrier MC	Sound Carrier MC
	No. 2	54-60	55.25	59.75
	No. 3	60-66	61.25	65.75
	No. 4	66-72	67.25	71.75
	No. 5	76-82	77.25	81.75
	No. 6	82-88	83.25	87.75
	No. 7	174-180	175.25	179.75
	No. 8	180-186	181.25	185.75
	No. 9	186-192	187.25	191.75
	No. 10	192-198	193.25	197.75
	No. 11	198-204	199.25	203.75
	No. 12	204-210	205.25	209.75
	No. 13	210-216	211.25	215.75

TUBES:	Symbol	Purpose	Type
	V1	1st RF Amplifier	6AB4
	V2	2nd RF Amplifier	6BC5
	V3	Converter-Oscillator	12AT7
	V4	1st Video IF Amplifier	6BC5
	V5	2nd Video IF Amplifier	6BC5
	V6	3rd Video IF Amplifier	6BC5
	V7	Video Amplifier	12AT7
	V8	Picture Tube	17BP4A
	V9	Vertical Sweep Generator and Blanking	12SN7GT
	V10	Vertical Sweep Output	12AU7
	V11	Sync Amplifier and Clipper	6SL7GT
	V12	Horizontal Frequency Discriminator	6AL5
	V13	Horizontal AFC and Sweep Oscilator	12SN7GT
	V14	Horizontal Sweep Output	25BQ6 or 19BG6G
	V15	High Voltage Rectifier	1X2A
	V16	Horizontal Damper Tube	25W4GT
	V17	Audio IF Amplifier	6AU6
	V18	Audio IF Amplifier-Limiter	6AU6
	V19	Audio Detector	6AL5
	V20	Audio Amplifier	6SQ7
	V21	Audio Output	25L6GT
	Y1	Video Detector	1N64

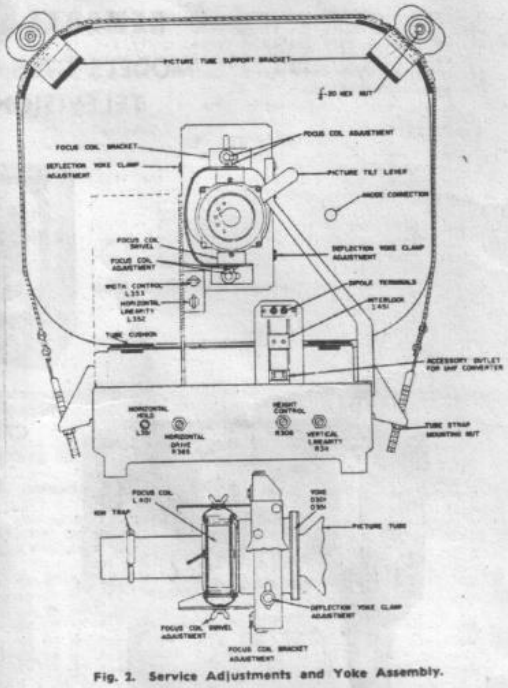


Fig. 1. Service Adjustments and Yoke Assembly.

CAUTION NOTICE

THE REGULAR B+ VOLTAGES ARE DANGEROUS AND PRECAUTIONS SHOULD BE OBSERVED WHEN THE CHASSIS IS REMOVED FROM THE CABINET FOR SERVICING. THE HIGH VOLTAGE SUPPLY (10,000 VOLTS) AT THE PICTURE TUBE ANODE WILL GIVE AN UNPLEASANT SHOCK BUT DOES NOT SUPPLY ENOUGH CURRENT TO GIVE A FATAL BURN OR SHOCK. HOWEVER, SECONDARY HUMAN REACTIONS TO OTHERWISE HARMLESS SHOCKS HAVE BEEN KNOWN TO CAUSE INJURY. SINCE THE HIGH VOLTAGE IS OBTAINED FROM THE B+ VOLTAGE, CERTAIN PORTIONS OF THE HIGH VOLTAGE GENERATING CIRCUIT ARE DANGEROUS AND EXTREME PRECAUTIONS SHOULD BE OBSERVED.

THE PICTURE TUBE IS HIGHLY EVACUATED AND IF BROKEN, GLASS FRAGMENTS WILL BE VIOLENTLY EXPELLED. IF IT IS NECESSARY TO CHANGE THE PICTURE TUBE OR TO REMOVE CHASSIS FROM CABINET ALWAYS WEAR SAFETY GOGGLES.

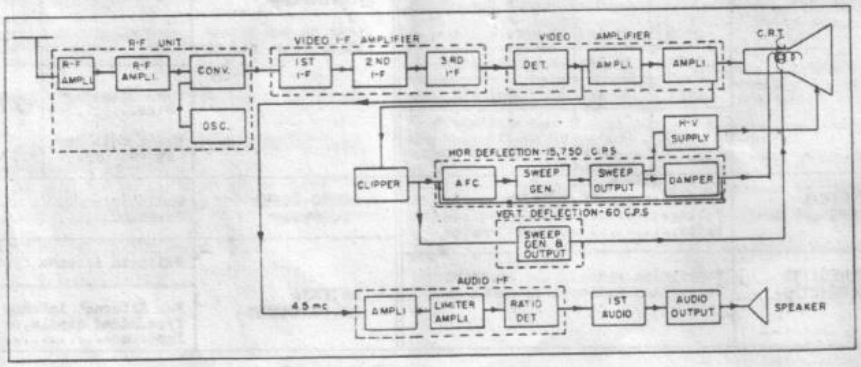


Fig. 1. Block Diagram

SERVICE CONTROLS AND ADJUSTMENT PROCEDURE

It will be noted that some adjustments react upon each other and therefore should be adjusted alternately and as a final step all adjustments rechecked.

Power should not be applied to the receiver for any great length of time without the ion trap adjusted for some illumination.

The ion trap, deflection yoke, focus coil and the installation adjustment controls are adjusted in the procedure given below. These are described in greater detail under their respective titles immediately following this procedure.

Reference is made to Figure 2 for the service adjustments and yoke assembly.

1. Adjust ion trap to get brightest raster.
2. Adjust for no tilt of raster and tighten yoke clamp screws.
3. Tune in a television signal.
4. Adjust Horizontal Hold controls.
5. Adjust Drive control.
6. Adjust for good Horizontal and Vertical linearity.
7. Adjust Horizontal and Vertical size controls.
8. Adjust Focus coil for centering of test pattern, removal of neck shadow and for most uniform focus.
9. Readjust ion trap.
10. Recheck adjustments of steps 6,7,8 and 9.
11. Tighten Focus Coil adjustment screws and wing nuts.

ION TRAP- Power should not be applied to the receiver for any great length of time without the ion trap adjusted for some illumination. Set the Brightness control to maximum (clockwise). To adjust ion trap, rotate the trap on the neck of the tube and move it forward and backward to give maximum brightness. Reduce the picture Brightness during ion trap adjustment, if raster becomes too bright as maximum brightness with the trap is approached. Always make certain the ion trap is finally set to give maximum brightness of the raster.

PICTURE TILT - If the picture or raster does not lie squarely within the picture tube mask, loosen one of the Yoke Adjustment Clamp screws and by grasping the Picture Tilt Lever, turn lever to rotate yoke until picture or raster squares with the mask. Tighten the yoke clamp screws after squaring picture with mask.

HORIZONTAL HOLD - Set the front panel Horizontal Hold control (R365) to the center of its range. Adjust the core of the Horizontal Hold control (L351) at the rear of chassis, until the picture is synchronized and is phased at the center of the raster--a slight rotation of the front panel control in either direction will move the picture slightly to the left or right without losing synchronization.

The pull-in to synchronization range should be equally distributed each side of the front panel Horizontal Hold control's center range and may be checked with the control set at center, observing the pull-in to synchronization sensitivity as the Channel Selector switch is flipped alternately back and forth from the received channel to an adjacent channel having no signal. For any other setting of the front panel Horizontal Hold control, the pull-in to synchronization time will be longer.

HORIZONTAL DRIVE-Adjust the Horizontal Drive control (R369) for optimum drive indicated by a maximum width of picture.

If any compression of picture is noted on the right-hand side of the raster, the condition may be corrected by a slight decrease of drive (clockwise rotation). If a vertical beaded line appears in the picture at this setting, a further clockwise adjustment should be made to eliminate it.

HORIZONTAL LINEARITY- The Horizontal Linearity control (L352) adjusts the picture for correct horizontal proportions. For best adjustment, use a test pattern and adjust the Horizontal Linearity control until the distances from the center of the test pattern to the left- and right-hand edges of the test pattern measure approximately the same. The adjustment of this control is very broad and it should be made simultaneously with the adjustment of the Width control (L353) to get proper picture width and correct horizontal linearity.

VERTICAL LINEARITY- This control (R311) should be adjusted to give best symmetry to the test pattern for correct vertical proportions in the picture. The adjustment should be made on a test pattern so that the distances from the center to the top and bottom edges of the test pattern measure approximately the same. This adjustment will alter the height of the picture slightly.

WIDTH- Adjust the Width control (L353) so that the edges of the picture extend approximately one-eighth inch past the right- and left-hand edge of the mask so that raster edges are not visible.

HEIGHT- The Height control (R308) changes the picture height and should be adjusted so that the picture extends approximately 1/8 inch beyond the top and bottom edges of the mask. This adjustment should be made simultaneously with the Vertical Linearity control (R311).

FOCUS COIL ADJUSTMENT- The Focus coil bracket adjustment screws and the swivel wing nuts are loosened in preparation for adjustment of the focus coil. These should not be too loose but should allow movement of the coil and yet retain each new position of coil adjustment.

The focus coil and bracket may be moved up and down, to the right or left, or the coil may be tilted in any direction by the swivel mounting. In addition, the coil may be moved forward or backward.

Adjust position of the focus coil to center test pattern within picture tube mask and to eliminate neck shadow. The focus coil should be as far back toward the base of the picture tube as possible for best focus consistent with maximum picture brightness.

PICTURE TUBE AND CHASSIS REPLACEMENT-

1. The deflection yoke clamp screws and focus coil adjustments should be loosened before attempting to install the picture tube- this will prevent any strain upon the tube neck when positioning and fastening the tube later.
2. Install the picture tube as shown in Figure 2. The bottom rim of tube should be forward against rubber stop on chassis front apron.
3. Place picture tube strap around rim of tube, inserting the picture tube anchor lugs between tube rim and strap as shown in Figure 2. Center tube approximately with regard to front of chassis and install tube strap mounting nuts to hold tube lightly.
4. Place chassis and tube into the receiver cabinet, repositioning tube anchor lugs to fit over stud screws in top corners of cabinet.
5. Install chassis mounting screws and tighten to fasten chassis securely.
6. Move picture tube if necessary to center tube in mask, as viewed from front of the cabinet.
7. Tighten tube strap mounting nuts, accessible from bottom of cabinet.
8. Install washer and 1/4 inch-20 hex nut over picture tube anchor lug screws and tighten to hold lugs securely to cabinet.
9. Push deflection yoke forward to set against bell of picture tube and tighten yoke clamp screws.
10. Place ion trap on picture tube neck as shown in figure 2.
11. Connect picture tube socket to base of tube and high voltage lead to anode connection.
12. Install control knobs.

HIGH CHANNEL TRAP- This receiver incorporates a trap circuit (C206, L203, S202D) on the head-end unit which is switched into the antenna circuit on the low band channels. The trap may be used to eliminate any one of the following high channel interferences on the corresponding lower channel shown.

Channel #8 on Channel #4
Channel #11 on Channel #5
Channel #13 on Channel #6

The receiver is adjusted at the factory approximately for rejection of Channel #11 interference on Channel #5. It may be necessary to readjust the trap slightly, if Channel #11 interference is experienced when operating the receiver on Channel #5.

High channel interference manifests itself as horizontal bars, a herringbone pattern in the picture, or the high channel station picture superimposed upon the low channel picture for which the receiver has been tuned.

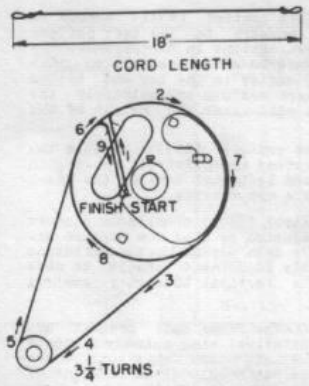
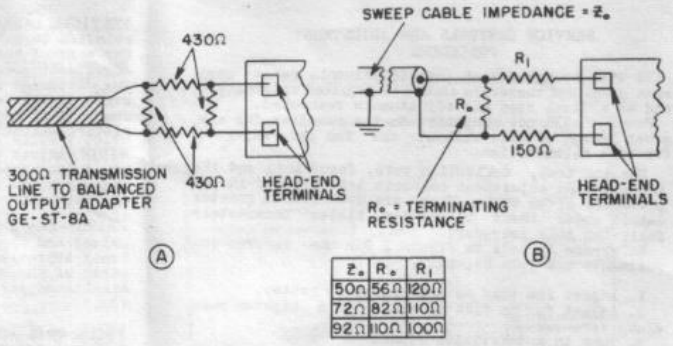


Fig. 19. Tuning Control Drive Cord Stringing



Z_0	R_0	R_1
50Ω	56Ω	120Ω
72Ω	82Ω	110Ω
92Ω	110Ω	100Ω

Fig. 20. Sweep Generator Termination

CIRCUIT ALIGNMENT

CAUTION: TO PROTECT TEST EQUIPMENT ALWAYS USE AN ISOLATION TRANSFORMER

GENERAL - A complete alignment of the receiver tuned circuits is given in the following charts. Read all alignment notes prior to making an alignment. The procedure shown in the charts is based upon the use of the G-E test equipment specified and if other equipment is used which has different characteristics, the charts may have to be modified slightly. A diagram showing the location of adjustments used in alignment is shown in Figure 22. Use the alignment service diagram, Figure 29, with the charts.

The illustrations of Figure 30 and 33 show the alignment equipment connection points given in the alignment charts.

It is necessary to connect the low side of the test equipment to the B- bus of the receiver keeping the lead as short as possible.

Dress signal generator and oscilloscope cables away from both vertical and horizontal oscillator sweep circuits to prevent their interference from influencing the output response curve.

Always permit a 15 minute warm-up period for the receiver and test equipment prior to attempting alignment.

To align the receiver with the picture tube removed, a Type 6SN7 tube with all pins clipped off except pins #7 and #8 may be used to complete the filament circuit. Plug pins #7 and #8 of the 6SN7 into pins #1 and #12 of the picture tube socket.

To protect the test equipment, always use an isolation transformer between the power line and the TV receiver. ***See caution notice, page 2.***

TEST EQUIPMENT - The following test equipment is necessary.

1. *R-F Sweep Generator (G-E Type ST-4A or Equivalent).*

   a. *Frequency Requirements.*

      4.5 MC with 500 KC and 2 MC sweep width.
      40-50 MC with approximately 10 MC sweep width.
      50-90 MC, 170-220 MC with 15 MC sweep width.

   b. *Constant output in the sweep range.*

   c. *At least 0.1 volt output.*

2. *Marker Generator (G-E Type ST-5A or Equivalent).*

The marker generator must have good frequency stability, must be accurately calibrated and must cover the following frequencies.

41.25 MC for video I-F
42.50 MC for video I-F
44.20 MC for video I-F
44.50 MC for video I-F
45.00 MC for video I-F
45.75 MC for video I-F
47.25 MC for video I-F
4.5 MC for sound I-F and trap alignment

Picture and sound carrier frequencies for Channels #2 through #13.

3. *Balanced Output Adapter G-E ST-8A or Equivalent (See Figure 20 and RF Alignment, Note 1).*

4. *Oscilloscope (G-E Type ST-2A or Equivalent)* - The oscilloscope should have good sensitivity and preferably a 5-inch screen with a good wide-band frequency response on the vertical deflection circuits. Although the high frequency response is not necessary for alignment, it is important when making waveform measurements shown in Figure 29.

5. *Vacuum Tube Voltmeter*- A vacuum tube voltmeter is necessary to measure the bias of -2.7 volts required for video and r-f alignments.

6. *Detector Network*- A crystal detector network as shown in Figure 27 is necessary to detect the video output response when aligning L260, the 4.5 mc trap.

7. *Miscellaneous*- One 10,000 ohm resistor to isolate the scope as noted in the charts.

One .01 mfd. capacitor to isolate the sweep generator as noted in the chart.

Impedance matching pad for r-f alignment as shown in Figure 20.

Bias battery to supply -2.7 volts as noted for video i-f and r-f alignment.

Resistor, 680 ohms, to shunt L226 described in note 3 of R-F Alignment.

Capacitor, 400 mf., 350-volt, to reduce hum on R-F response curve. See note 3 of R-F Alignment.

VIDEO I-F ALIGNMENT

1. Connect a bias battery from junction of C261, R263 and the Picture control to B-. Connect positive of battery to B-. Adjust the Picture control to give a -2.7 volts bias at the grid, pin 1, of V4 as measured with a vacuum tube voltmeter. Adjust the signal generator for a $\frac{1}{2}$ volt video output response on a calibrated oscilloscope. Disconnect VTVM leads during alignment.

2. The sweep generator should be properly terminated in its characteristic impedance. Couple the signal to the point of input through a .01 mf. capacitor.

3. The traps L227 and L253 must be detuned before aligning the amplifier by turning the cores all the way out of the coil. These traps are to be retuned for minimum amplitude at 47.25 mc in step 6 of the procedure. This adjustment is greatly enhanced by increasing the scope gain.

4. Set the Channel switch to Channel #12 or #13. Check for oscillator influence by turning the tuning control. If the shape of the response curve changes, switch to another channel where oscillator influence is not noted.

5. In most cases it is only necessary to perform an over-all alignment of the video i-f, as in Step 7 of the Video Alignment Chart, to obtain i-f response curve of Figure 21-E.

When aligning the i-f coils, L251 will adjust the audio or low frequency side of the i-f response curve, while L252 will adjust the video or high frequency side of the i-f response curve. L226 and L254 should be adjusted simultaneously to reduce the saddleback at the peak of the curve and to give maximum gain and retain 45.75 mc and 42.50 mc markers at the 50% mark.

6. It is necessary to detune the i-f coils by shorting as noted in the alignment chart to prevent the coil preceding the signal input point from influencing the response curve.

7. The 45.75 mc marker should fall at the 50% point to give proper sideband response. See Fig. 21E.

8. After adjustment of the two adjacent sound traps, make the final adjustments to obtain the proper curve and markers as illustrated in Fig. 21E, in step 7.

VIDEO I-F ALIGNMENT CHART

Step	Marker Generator Frequency	Sweep Generator Frequency	Signal Input Points Between	Connect Oscilloscope Between	Adjust	See Note No.
1		40 to 50 MC		Junction L256, R265, C268 and R266 thru 10K ohms and B- on V7 socket.	Detune L227 and L253 by turning cores out of coil	3
2	44.50 MC		V6 grid (pin 1) thru .01 mf. cap. and B- on head-end shield. Short L252.		Core of L254 for curve of Fig. 21-A.	
3	45.75 MC		V5 grid (pin 1) thru .01 mf. cap. and B- on head-end shield. Short L251. Remove short on L252.		Core of L252 for curve of Fig. 21-B.	1,2,4,6
4	42.50 MC, 45.75 MC		V4 grid (pin 1) thru .01 mf. cap. and B- on head-end shield. Short L226. Remove short on L251.		Core of L251 for curve of Fig. 21-C.	
5	44.2 MC		Junction L215 and L216 on second r-f switch wafer thru .01 mf. cap. and B- on head-end shield. Remove short on L226.		Core of L226 for curve of Fig. 21-D.	
6	47.25 MC				Cores of L227 and L253 for min. output at 47.25 MC (Fig. 21-E).	1,2,3,4,7
7	41.25 MC, 42.50 MC, 45.00 MC, 45.75 MC, 47.25 MC				Cores of L251, L252 and L254 and L226 for curve of Fig. 21-E.	1,2,4,5,7,8

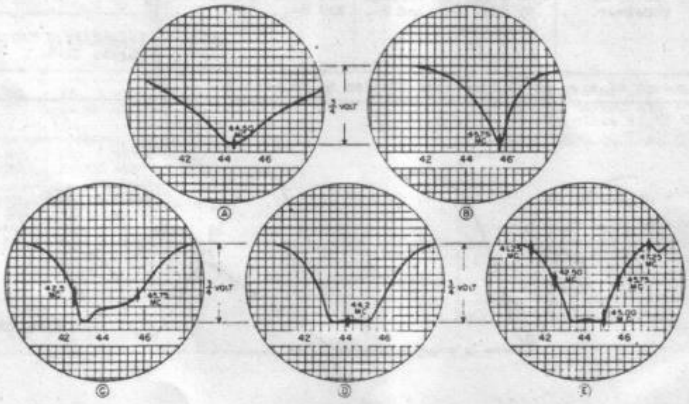


Fig. 21. Video I-F Curves

AUDIO I-F ALIGNMENT

1. Audio i-f alignment is performed by putting in a 4.5 mc ±500 kc sweep and viewing the response curve as noted in the audio i-f chart.

2. As a final check, step 12, the secondary of T402 adjustment, should be checked on a television signal if possible. Try several operating television stations and if buzz in the audio is heard, the secondary of T402 should be readjusted as follows.
Tune in the station and adjust the contrast control for a weak sound output. Readjust the secondary of T402 until the buzz is a minimum or disappears and the best quality audio is obtained.

3. Keep the input of the sweep generator low enough so that limiting does not take place, otherwise the response curve will broaden out resulting in a slight misadjustment. Check by increasing the output of the sweep generator; the response curve should increase in amplitude.

4. T401 is adjusted for maximum amplitude and symmetry of the response curve about the 4.5 mc marker as shown in Fig. 23-A.

5. The secondary of T402 is adjusted for the curve of Figure 23-B. This adjustment should give as straight a slope as possible between the positive and negative peaks of the curve with the center of the 4.5 mc marker falling midway between the peaks.

6. The primary of T402 is adjusted for maximum amplitude of the positive and negative peaks with as straight a trace as possible between the peaks. If necessary, readjust the secondary of T402 so that the marker falls midway between the peaks.

7. An alternate method to the visual alignment is the sound output method using an operating television station, preferably when transmitting tone modulation during the test pattern.
(a) Tune the receiver for optimum detail.
(b) Keep the input below limiting level by reducing the contrast by the Picture control or by using a resistor pad in the antenna circuit.
(c) Adjust primary and secondary of T401 for maximum sound output. Adjust primary of T402 for maximum audio output.
(d) Adjust the secondary of T402 for best quality audio (low distortion, least noise) and for minimum buzz in the output.

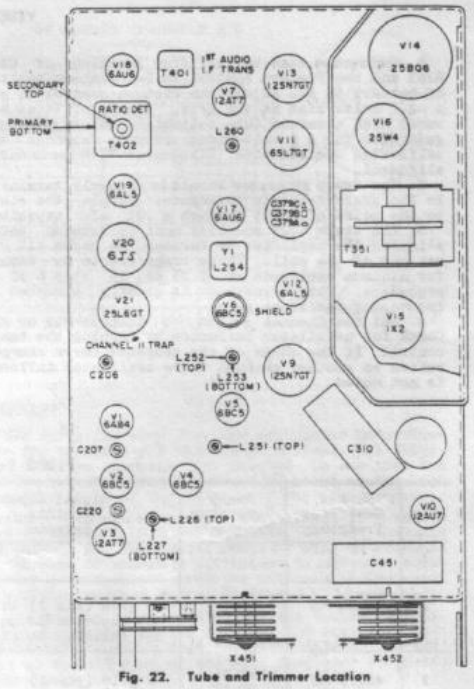


Fig. 22. Tube and Trimmer Location

AUDIO I-F ALIGNMENT CHART

Step	Marker Generator Frequency	Sweep Generator Frequency	Signal Input Points Between	Connect Oscilloscope Between	Adjust	See Note No.
8	4.5 MC	4.5 MC ±500 KC keep signal below limiting level of receiver.	Pin 1 of V17 through .01 mfd. cap. and B-.	Junction of R404 and C404 & sec. of T401 through 10K and B-.	Primary and secondary of T401. See Figure 23-A.	1,3,4
9			Pin 1 of V18 through .01 mfd. cap. and B-.	Junction of R408, C411 and R411 through 10K and B-.	Secondary of T402. See Fig. 23-B.	1,3,5
10					Primary of T402. See Figure 23-B.	1,3,6
11					Secondary of T402. See Figure 23-B.	1,3,5
12	Recheck alignment of step 11 on operating station as in note 2.					

Fig. 23. Audio I-F Curve

R-F Alignment Notes

1. Disconnect the transmission line to the antenna terminals at the head-end. Couple the output of the sweep generator to the balanced output adapter G-E ST-8A, or an equivalent adapter for the particular type sweep generator used. Couple the adapter to the head-end terminals through a piece of 300 ohm transmission line and the pad network shown in Figure 20A.

If a balanced output adapter is not available for the sweep generator, a matching network as shown in Figure 20B may be used. A balanced output is recommended, since a matching network as shown in Figure 20B may introduce frequency shift and cause a misleading tilt to the response curve. Ro shown in Figure 20B is the terminating resistor. If this resistor is not already incorporated in the output of the sweep generator, it should be added to the matching network as shown in the table for the impedance Zo of the particular signal generator used.

2. It is necessary to connect a bias battery from the junction of the Picture control, C261, and R263 to B-. Connect plus of bias battery to B-. Adjust the Picture control to give a -2.7 volts bias measured from pin 1 of V2 to the head-end chassis B-.

3. Shunt L226 with a 680-ohm, 1/2 watt resistor during r-f alignment to prevent the oscillator from influencing the response curve. In order to reduce the effect of hum on the response curve, connect a 100-ohm resistor in series with the B+ line to the head-end chassis and connect an electrolytic capacitor of approximately 400 mf, 350-volt from head-end B+ to head-end B-.

4. On all channels the picture carrier marker should not be less than 75% of the peak of the r-f response curve. The sound carrier marker should not be less than 50% of the peak of the response curve. However, the two minimum values should not occur simultaneously. On the high channels the picture carrier marker should ride up nearer to the top of the curve provided the sound carrier marker does not go below 50%. On the low channels the picture carrier marker should ride as high up on the curve as possible and still keep the sound carrier marker above 50%.

5. Coils for Channel No. 12 through No. 7 are fixed inductances. Check the alignment of these channels as in steps 16 through 21 for proper response curve. Readjust L210 and L217 on Channel No. 13 and C207 and C220 on Channel No. 7 if necessary.

6. Coils for Channels No. 5 and No. 4 are fixed inductances. Check the alignment on these channels for proper curve. Readjust coils L208 and L215 if necessary to give proper curve on Channels No. 6, No. 5 and No. 4.

7. The coil for Channel No. 2 is a fixed inductance. Check the alignment on this channel for proper curve. Readjust L205 and L212 if necessary to give proper curve on Channels No. 3 and No. 2.

8. The trimmers C207 and C220 may be used to compensate for differences in tube capacities which affect tracking when it is necessary to change the tubes V1 or V2. The variations in tube capacities normally have little effect on the overall performance of the head-end.

R-F ALIGNMENT CHART

Step No.	Marker Generator Frequency	Sweep Generator Frequency	Signal Input Point	Connect Oscilloscope	Channel Switch	Adjust	See Note
13	211.25 MC, 215.75 MC	No. 13 with 15 MC sweep	Antenna terminals at head-end (see Note 1).	Junction of L226, C217 and R218 thru 10K resistor and B- at head-end chassis.	No. 13	Screw of L210, screw of L217, for Fig. 24-A.	1,2,3,4
14	175.25 MC, 179.75 MC	No. 7 with 15 MC sweep			No. 7	Trimmers C207 and C220 for response curve, Fig. 24-A.	1,2,3,4, 8
15	211.25 MC, 215.75 MC	No. 13 with 15 MC sweep			No. 13	Readjust screw of L210 and screw of L217 for curve, Fig. 24-A.	1,2,3,4
16	205.25 MC, 209.75 MC	No. 12 with 15 MC sweep			No. 12	No adjustment.	1,2,3,4,5
17	199.25 MC, 203.75 MC	No. 11 with 15 MC sweep			No. 11		
18	193.25 MC, 197.75 MC	No. 10 with 15 MC sweep			No. 10		
19	187.25 MC, 191.75 MC	No. 9 with 15 MC sweep			No. 9		
20	181.25 MC, 185.75 MC	No. 8 with 15 MC sweep			No. 8		
21	175.25 MC 179.75 MC	No. 7 with 15 MC sweep			No. 7		
22	83.25 MC, 87.75 MC	No. 6 with 15 MC sweep			No. 6	Screw of L208 to place 83.25 MC marker and screw to L215 to place 87.75 MC marker as shown in Fig. 24-B.	1,2,3,4
23	77.25 MC, 81.75 MC	No. 5 with 15 MC sweep			No. 5	No adjustments.	1,2,3,4 6
24	67.25 MC, 71.75 MC	No. 4 with 15 MC sweep			No. 4		
25	61.25 MC, 65.75 MC	No. 3 with 15 MC sweep			No. 3	Screw of L205 to place 61.25 MC marker and screw of L212 to place 65.75 MC marker, as shown in Fig. 24-B.	1,2,3,4
26	55.25 MC 59.75 MC	No. 2 with 15 MC sweep			No. 2	No adjustment.	1,2,3,4, 7

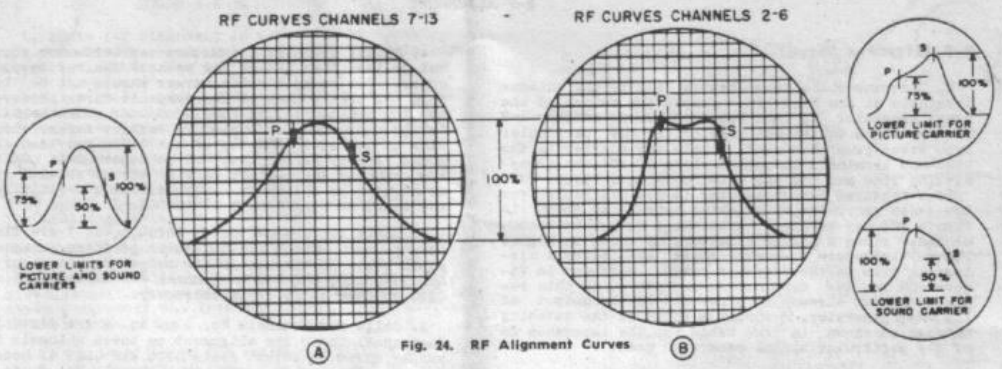


Fig. 24. RF Alignment Curves

OSCILLATOR ALIGNMENT

Before attempting this oscillator alignment, it must be certain that the video i-f stages and r-f stages are properly aligned as outlined previously.

1. Disconnect the 300-ohm line from the r-f head-end terminals and connect sweep generator to head-end properly terminating sweep generator output cable as shown in Figure 20. See RF Alignment Note 1.
2. Alignment is made by viewing the response curve at the output of the video i-f detector.
3. Use a video carrier marker as shown in each step of the Alignment Chart.
4. Set the tuning control C213 at the center of its rotation. Adjust L225 to place the video carrier marker at the 50% point on the high frequency slope of the curve for step 27. The oscillator inductance L224 for channels #12 through #7 is fixed. The alignment on these channels is checked to see that the picture marker falls at the 50% point on the high frequency slope of the curve. If the picture marker position does not meet these conditions, it is necessary to readjust L225 for a compromise on channels #13 through #7. The tuning range of C213 on channels #13 through #7 should be sufficient to move the video carrier marker up and down the entire high frequency side of the response curve. Readjust L225 if necessary.
5. On Channel #6 through #2 set the tuning control C213 at the center of its rotation and make the indicated adjustment so that the video carrier marker falls at the 50% mark on the high frequency slope of the response curve.

OSCILLATOR ALIGNMENT CHART

Step No.	Marker Generator Frequency	Sweep Generator Frequency for Channel	Signal Input Point	Connect Oscilloscope Between	Channel Switch Setting	Adjust	See Note
27	211.25 MC	No. 13 with 15 MC sweep	Antenna terminals of head-end. See note 1.	Junction of L256, R265, and C268 through 10K ohms and B- at V7 socket (pin 3).	No. 13	L225 by squeezing or spreading turns slightly.	
28	205.25 MC	No. 12 with 15 MC sweep			No. 12	No Adjustment	1,2,3,4
29	199.25 MC	No. 11 with 15 MC sweep			No. 11		
30	193.25 MC	No. 10 with 15 MC sweep			No. 10		
31	187.25 MC	No. 9 with 15 MC sweep			No. 9		
32	181.25 MC	No. 8 with 15 MC sweep			No. 8		
33	175.25 MC	No. 7 with 15 MC sweep			No. 7		
34	83.25 MC	No. 6 with 15 MC sweep			No. 6	Screw of L223.	1,2,3,5
35	77.25 MC	No. 5 with 15 MC sweep			No. 5	Screw of L222.	
36	67.25 MC	No. 4 with 15 MC sweep			No. 4	Screw of L221.	
37	61.25 MC	No. 3 with 15 MC sweep			No. 3	Screw of L220.	
38	55.25 MC	No. 2 with 15 MC sweep			No. 2	Screw of L219.	

C7C5
C7C7
C7T2

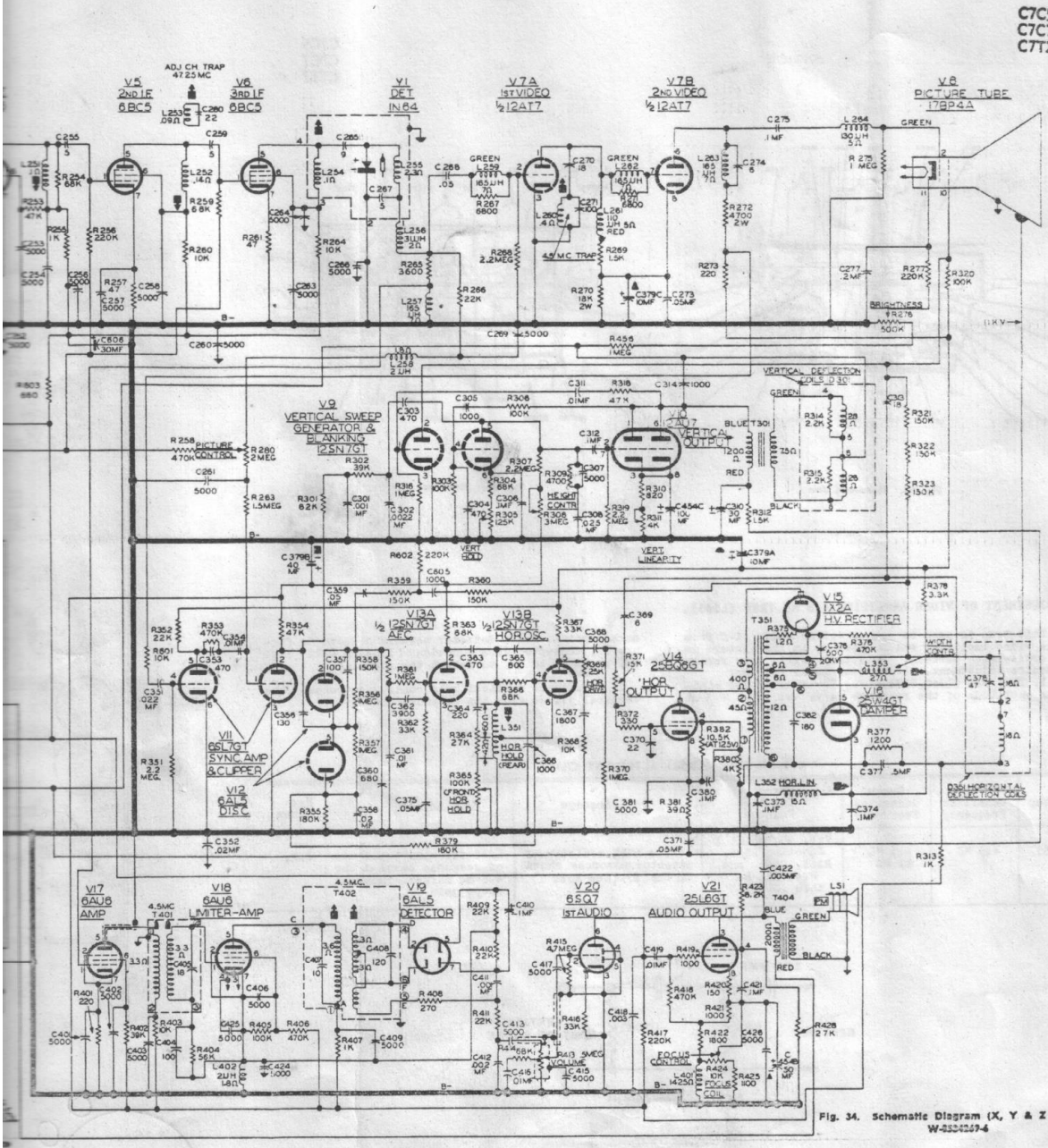
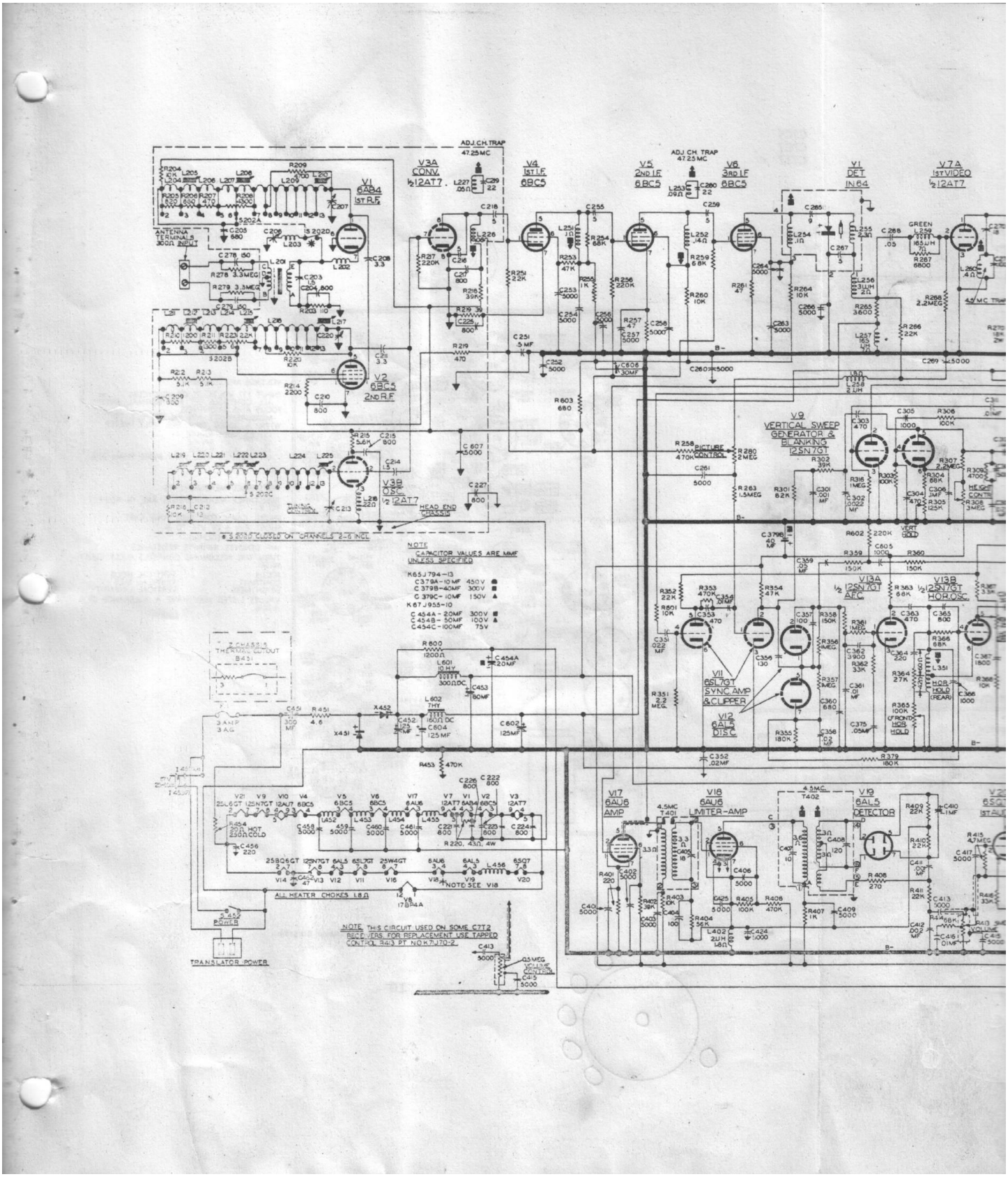


Fig. 34. Schematic Diagram (X, Y & Z Chassis)
W-8324269-4


V1 6AB4 1ST R.F.
V3A CONV. ½12AT7
V4 1ST I.F. 6BC5
V5 2ND I.F. 6BC5
V6 3RD I.F. 6BC5
V1 DET IN64
V7A 1ST VIDEO ½12AT7
V2 6BC5 2ND R.F.
V3B OSC ½12AT7
V9 VERTICAL SWEEP GENERATOR & BLANKING 12SN7GT
V13A ½12SN7GT AFC
V13B ½12SN7GT HOR. OSC.
V11 6SL7GT SYNC. AMP & CLIPPER
V12 6AL5 DISC
V17 6AU6 AMP
V18 6AU6 LIMITER-AMP
V19 6AL5 DETECTOR
ADJ. CH. TRAP 47.25MC
ANTENNA TERMINALS 300Ω INPUT
PICTURE CONTROL
HEIGHT CONTROL
VERT. HOLD
HOR. HOLD (REAR)
HOR. HOLD (FRONT)
VOLUME CONTROL
POWER
TRANSLATOR POWER
ALL HEATER CHOKES 1.8Ω
NOTE THIS CIRCUIT USED ON SOME C7T2 RECEIVERS. FOR REPLACEMENT USE TAPPED CONTROL 9413 PT NO K7J70-2
NOTE CAPACITOR VALUES ARE MMF UNLESS SPECIFIED
K65J794-13
C379A-10 MF 450V
C379B-40 MF 300V
C379C-10 MF 150V
K67J955-10
C454A-20 MF 300V
C454B-50 MF 100V
C454C-100 MF 75V

C7C5
C7C7
C7T2

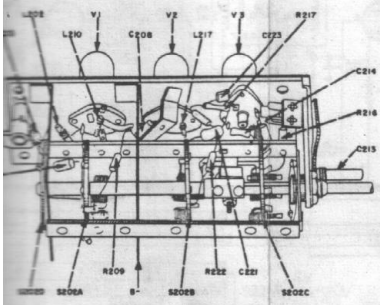


Fig. 26. Head-and Unit

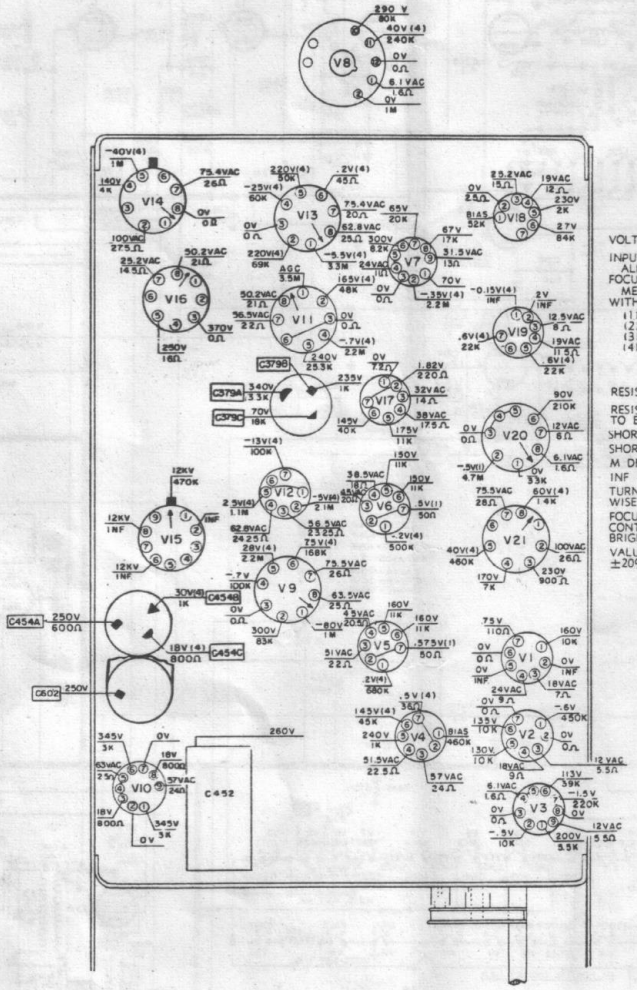
point. Use a detector network as shown in fig-
connected from junction of L264 and C275 (Fig.
nt K) to B-, to detect the signal.

djust the vertical hold control to remove the
al pulses from the response curve.

T CHART

scope	Adjust	See Notes
sistor of as shown Note 1).	L260 for min. amplitude of response curve at the 4.5 mc marker. Increase scope gain.	1,2,

TO VERTICAL
PUT OF SCOPE



VOLTAGE MEASUREMENTS

INPUT 117 VOLTS, 25 OR 60 CYCLES
ALL CONTROLS SET FOR NORMAL SWEEPS
FOCUS AND BRIGHTNESS.
MEASUREMENTS ARE IN RESPECT TO B-
WITH A 20,000 OHM PER VOLT METER.
(1) 2.5 VOLT RANGE
(2) 10 VOLT RANGE
(3) 25 VOLT RANGE
(4) VOLTAGE WILL VARY MORE THAN 20%.

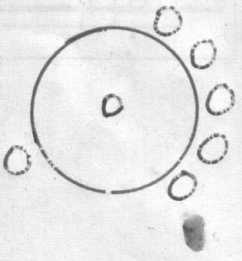
RESISTANCE MEASUREMENTS

RESISTANCE MEASUREMENTS ARE IN RESPECT TO B-
SHORT CAPACITOR C602 AND C453
SHORT PIN 3 OF V16 TO B-
M DENOTES MEGOHMS
INF DENOTES INFINITE RESISTANCE
TURN THE FOLLOWING CONTROLS FULLY CLOCKWISE:

FOCUS	VERTICAL HOLD
CONTRAST	VERTICAL SIZE
BRIGHTNESS	VERTICAL LINEARITY

VALUES LISTED MAY HAVE A TOLERANCE OF ±20%.

Fig. 32. Socket Voltage and Resistance Diagram.



C7C5
C7C7
C7T2

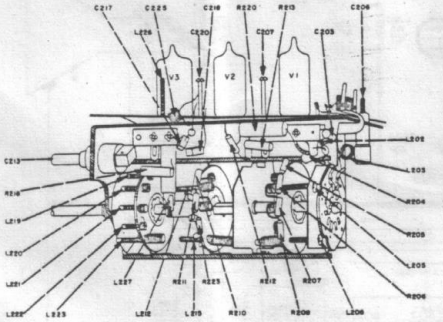


Fig. 25. Head-end Unit

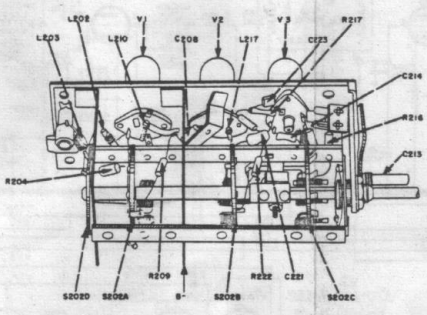


Fig. 26. Head-end Unit

ADJUSTMENT OF VIDEO AMPLIFIER 4.5 MC TRAP (L260).

This trap is used to remove 4.5 mc audio i-f from the video amplifier which shows up in the picture as a cross-hatch pattern. This trap will very rarely require adjustment. Adjustment is as follows:

1. The trap (L260,C271,C270) is adjusted for minimum amplitude of the response curve at the 4.5 mc marker point. Use a detector network as shown in figure 27, connected from junction of L264 and C275 (Fig. 30, point K) to B-, to detect the signal.

2. Adjust the vertical hold control to remove the vertical pulses from the response curve.

4.5 MC TRAP (L260) ALIGNMENT CHART

Step	Marker Generator Frequency	Sweep Generator Frequency	Signal Input Point	Oscilloscope	Adjust	See Notes
39	4.5 MC	4.5 MC ±1 MC	Fig. 30, point A Junction L256, R265, C268, and R266 and B- thru .01 mf.	Across 100K resistor of detector network as shown in Fig. 27.(See Note 1).	L260 for min. amplitude of response curveat the 4.5 mc marker. Increase scope gain.	1,2,

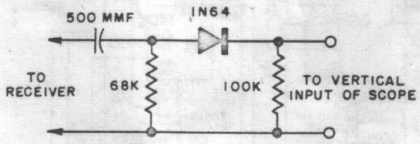
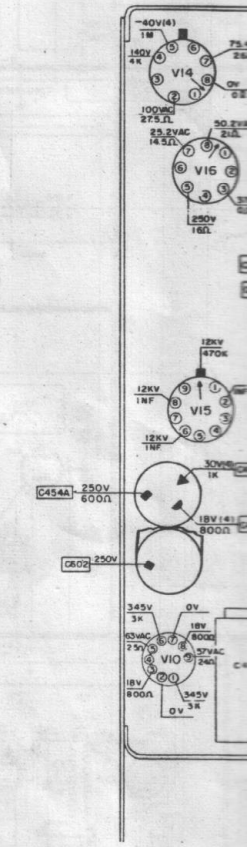
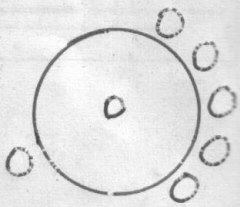
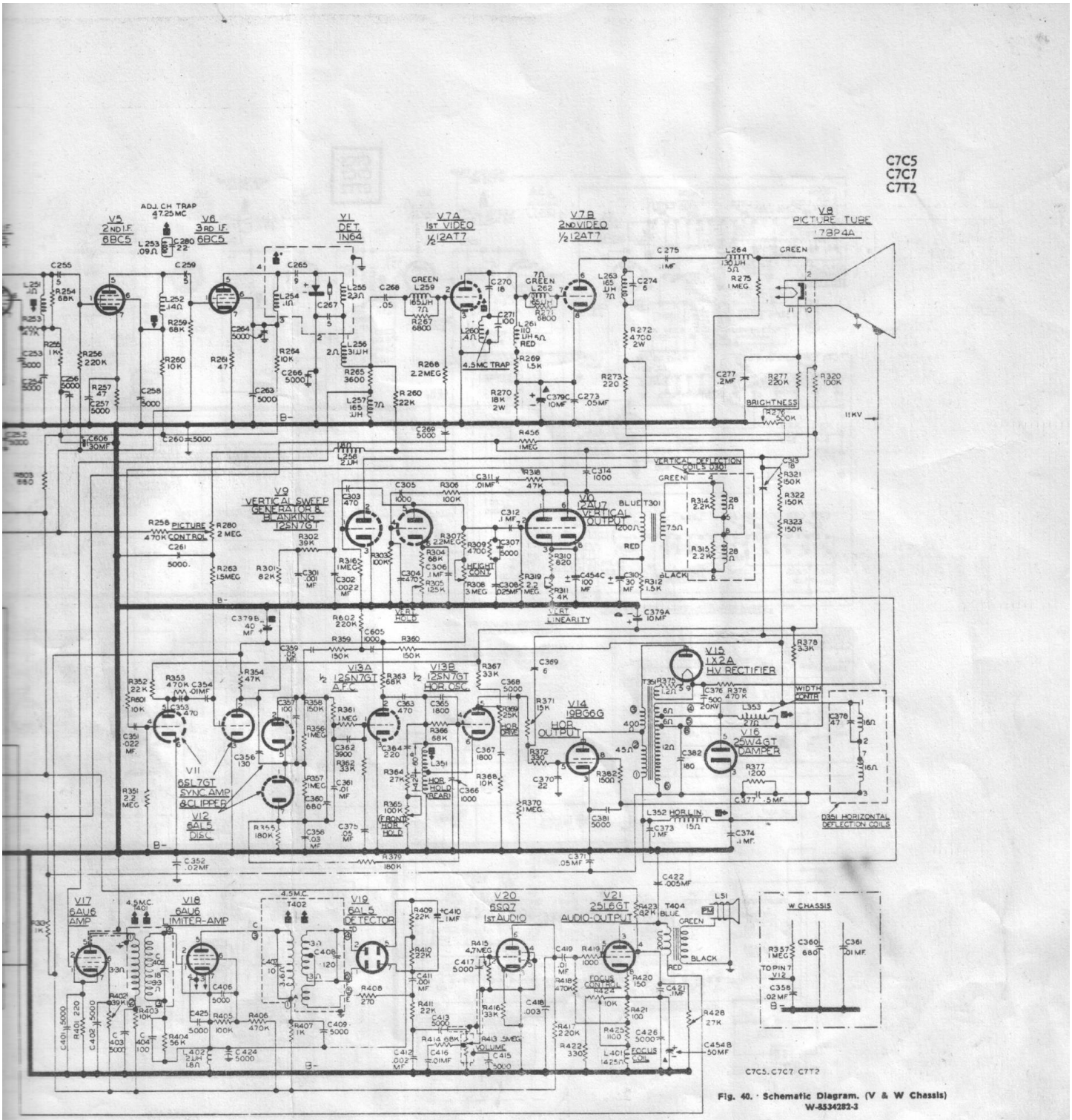


Fig. 27. Detector Network



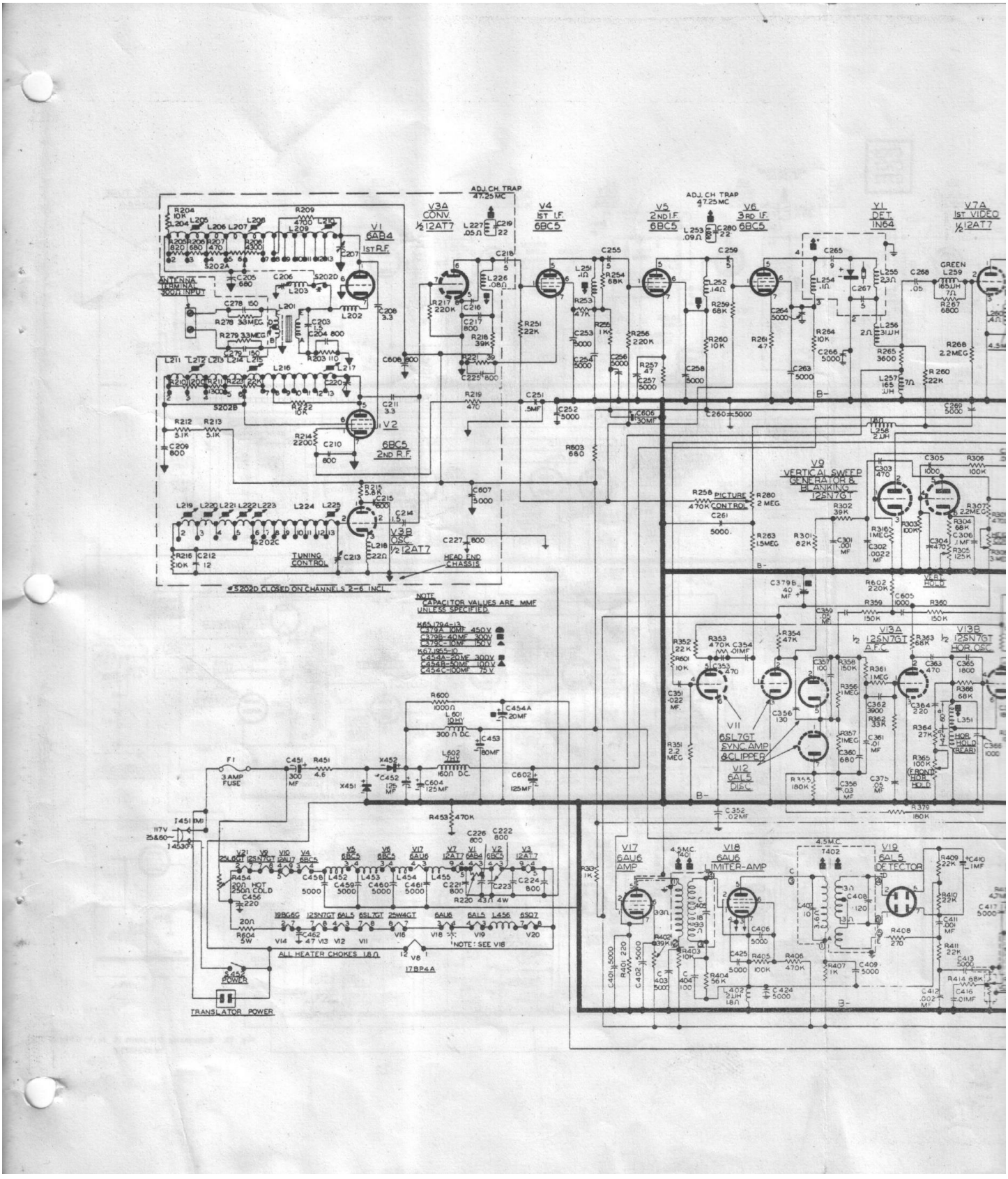


C7C5
C7C7
C7T2



C7C5, C7C7, C7T2

Fig. 40. · Schematic Diagram. (V & W Chassis)
W-8534282-3


V1 6AB4 1ST R.F.
V2 6BC5 2ND R.F.
V3A CONV. ½12AT7
V3B 12AT7 OSC.
V4 1ST I.F. 6BC5
V5 2ND I.F. 6BC5
V6 3RD I.F. 6BC5
V7A 1ST VIDEO ½12AT7
V7B 12SN7GT HOR. OSC.
V9 VERTICAL SWEEP GENERATOR & BLANKING 12SN7GT
V11 6SL7GT SYNC AMP & CLIPPER
V12 6AL5 DISC.
V13A 12SN7GT A.F.C.
V13B 12SN7GT HOR. OSC.
V17 6AU6 AMP
V18 6AU6 LIMITER-AMP
V19 6AL5 DETECTOR
ADJ. CH. TRAP 47.25 MC
ANTENNA TERMINAL 300Ω INPUT
S202A
S202B
S202C
S202D CLOSED ON CHANNELS 2-6 INCL.
TUNING CONTROL
HEAD END CHASSIS
PICTURE 470K CONTROL
VERT. HOLD
HOR. HOLD
FRONT HOR. HOLD
NOTE: CAPACITOR VALUES ARE MMF UNLESS SPECIFIED.
NOTE: SEE V18
3 AMP FUSE
117V 25&60~
TRANSLATOR POWER
ALL HEATER CHOKES 1.8Ω
17BP4A
B-

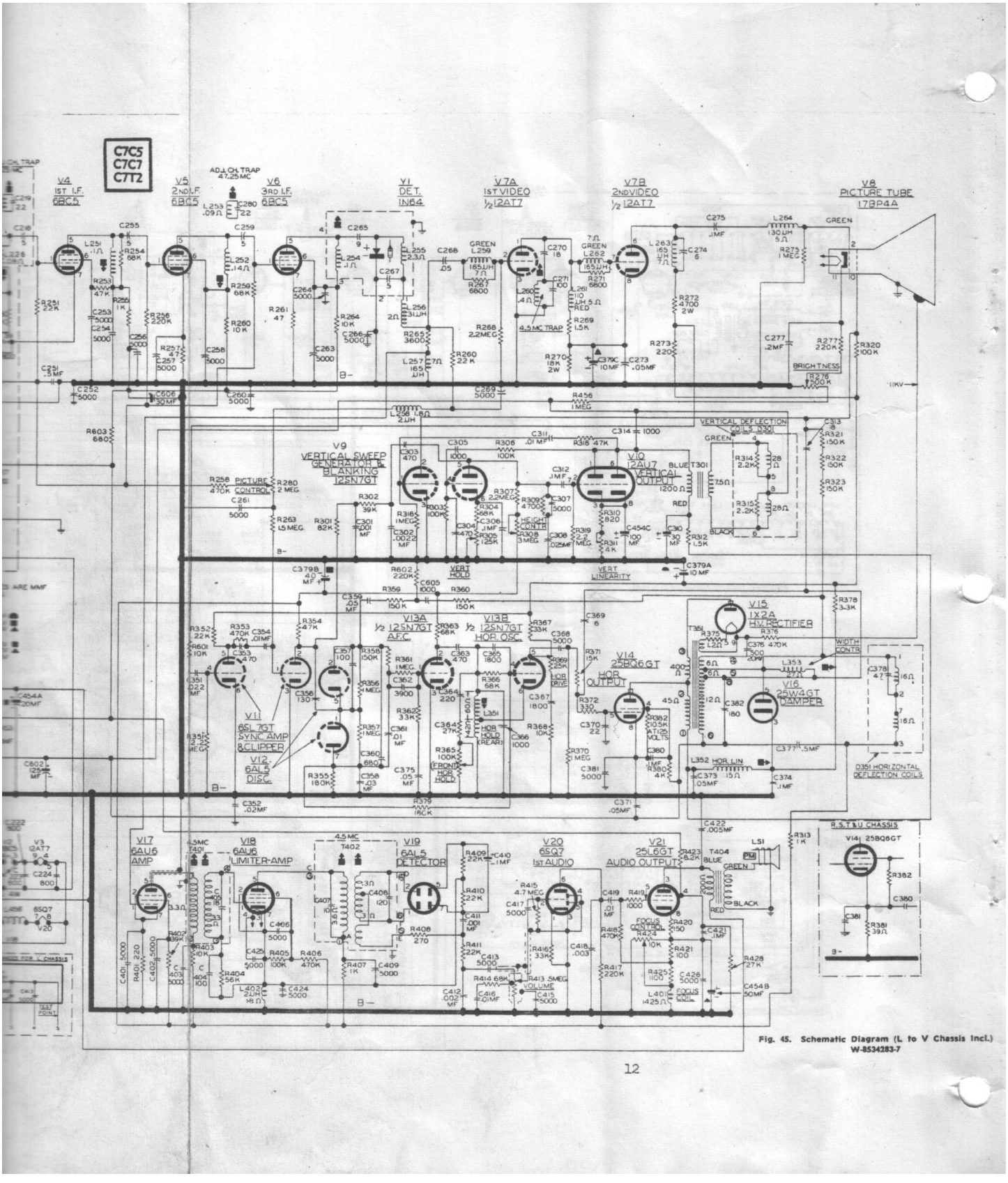
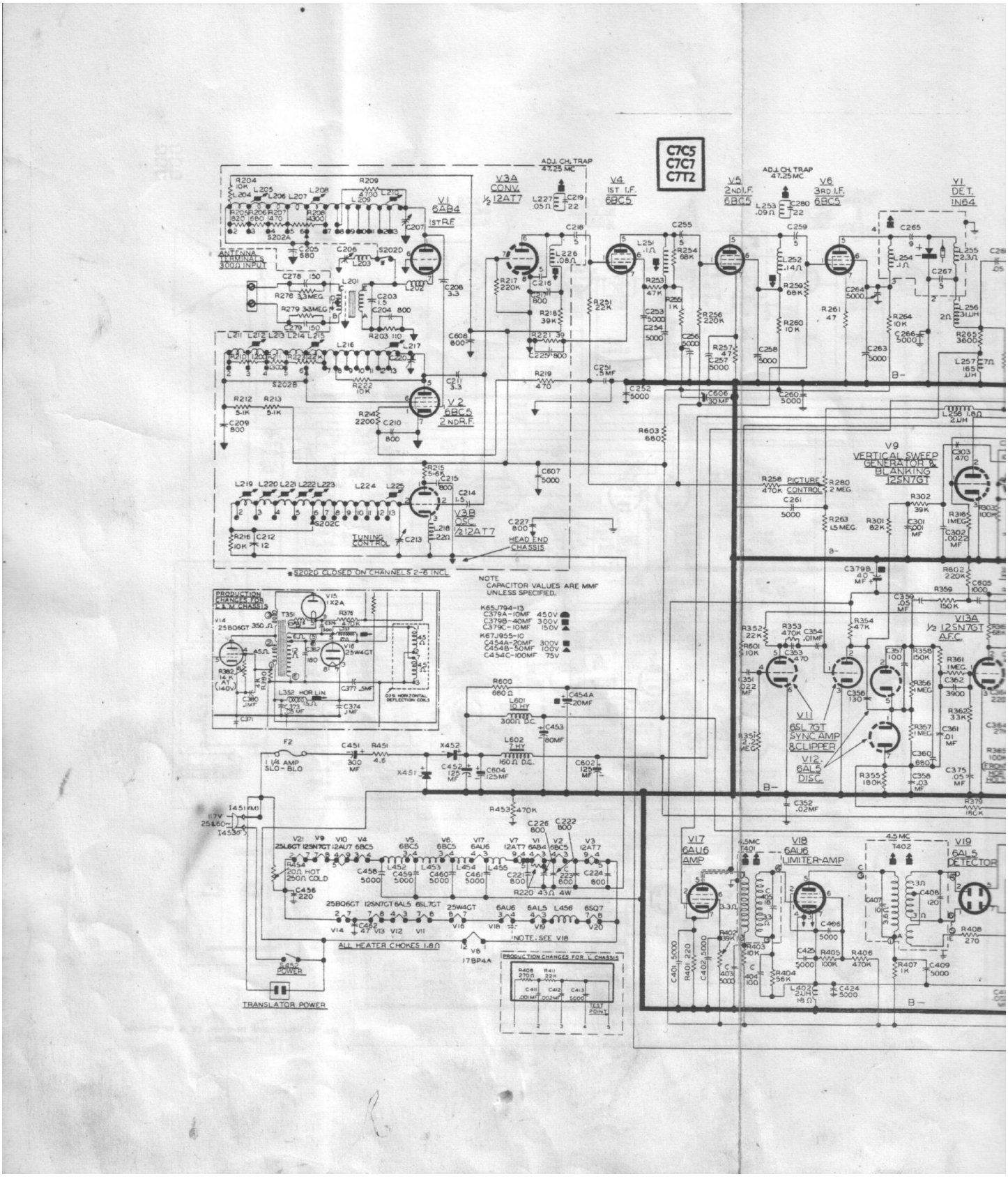


Fig. 45. Schematic Diagram (L to V Chassis Incl.)
W-8534283-7


C7C5
C7C7
C7T2
V1 6AB4 1ST RF
V3A CONV. ½ 12AT7
V4 1ST I.F. 6BC5
V5 2ND I.F. 6BC5
V6 3RD I.F. 6BC5
V1 DET. IN64
V2 6BC5 2ND R.F.
V3B OSC. ½ 12AT7
V9 VERTICAL SWEEP GENERATOR & BLANKING 12SN7GT
V13A ½ 12SN7GT A.F.C.
V11 6SL7GT SYNC AMP & CLIPPER
V12 6AL5 DISC
V17 6AU6 AMP
V18 6AU6 LIMITER-AMP
V19 6AL5 DETECTOR
ANTENNA TERMINALS 300Ω INPUT
TUNING CONTROL
HEAD END CHASSIS
PICTURE CONTROL
NOTE CAPACITOR VALUES ARE MMF UNLESS SPECIFIED.
ALL HEATER CHOKES 1.8Ω
TRANSLATOR POWER
PRODUCTION CHANGES FOR "L" CHASSIS
PRODUCTION CHANGES FOR "M" CHASSIS
TEST POINT

PRODUCTION CHANGES

For all chassis coded "X", "Y", and "Z" use Schematic Diagram Figure 34.

For chassis coded "Y" use the schematic as printed.

For chassis coded "Z" the fuse F1 is replaced by a thermal cut-out, B451, as shown in the insert over the fuse. The thermal cut-out is a protective device which operates in a manner similar to a fuse, removing the line voltage from the receiver in case of excessive current drain due to circuit overload. A five-minute period should be allowed, after the cut-out has tripped, before depressing the reset button to restore power to the receiver.

For chassis coded "X" the circuitry of the cathode of the audio output tube, V21, and of the focus control is as shown in the schematic diagram, Figure 40, on page 23.

For all chassis coded "V" and "W" use the Schematic Diagram Figure 40.

For chassis coded "V" use the schematic as printed.

For chassis coded "W" the 0.03 mf. capacitor C358 is 0.02 mf. and capacitors C360 and C361 are connected directly to B- bus in place of to pin 7 of V12. This is shown in the insert in the schematic.

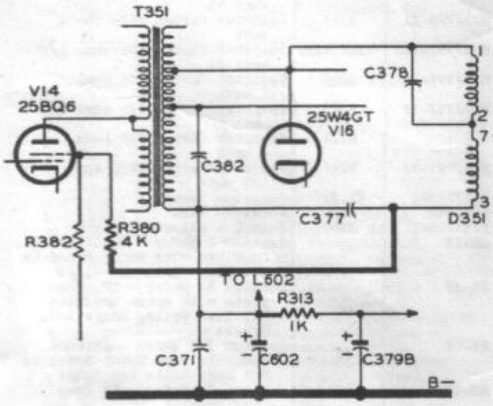


Fig. 28A

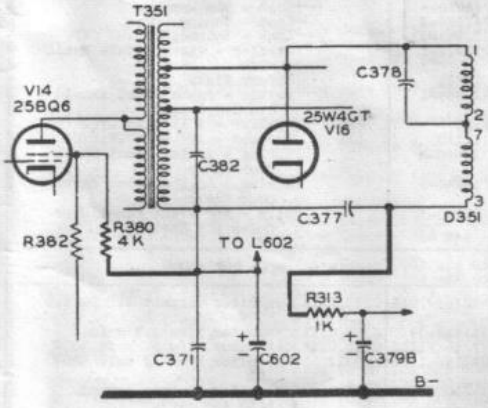


Fig. 28B

For all chassis coded "L", "M", "N" "O", "P", "R", "S", "T", and "U" use Schematic Diagram Figure 45.

For chassis coded "O", "P", and "Q" use the schematic as printed. Chassis coded "O" and "P" use an improved video detector diode 1N64. Chassis coded "O" have a number of 20% tolerance resistors substituted for the standard 10% tolerance resistors. For replacement purposes refer to Replacement Parts List for correct tolerance values.

For chassis coded "L", "M" and "N" the two 150 mmf. capacitors, C278 and C279, are changed to 180 mmf. 3000-volt rating.

For chassis coded "L" and "M" the following parts are used in the horizontal output circuit as shown in the insert at the left.

SYMBOL	DESCRIPTION	PART NO.
D301, D351	Deflection Coil Assembly	M77J11-22
T351	Horizontal Output Transformer	M77J1-15
R382	Globar Resistor	K71J388-4

These units are matched and must be used only as a complete assembly. The Globar Resistor can be identified by a white paint mark near the leads.

For chassis coded "L" a detector couplate shown in the insert replaces R408, R411, C411, C412 and C413 in the schematic diagram shown in Figure 45. Lead 3 from C412 connects to the junction of R409, R410 and C409 in place of to B- as shown in the schematic. Lead 5 is the test point for alignment in place of the junction of R411, R408 and C411.

For chassis coded "R", "S", "T" and "U" the 0.05 mf. capacitor C373 in the linearity control circuit is 0.1 mf. and a 39-ohm 1 watt resistor R381 is added in the 25BQ6GT cathode circuit from the junction of the cathode, C381, C380 and R382 to the B- bus as shown in the insert at the right.

For chassis coded "S" through "Z" some chassis are connected as shown in Figure 28A, while other chassis are wired as shown in Figure 28B. The circuit of Figure 28B gives improved horizontal centering.

For chassis coded "T" and "U" the audio filter resistor R600 has a value of 1000 ohms or 1200 ohms.

For chassis coded "U", a 330-ohm 1 watt resistor R422 is added in series with the focus control R424 to the B- bus.

REPLACEMENT PARTS LIST

MODELS C7C5, C7C7 and C7T2

Part No.	Symbol	Description
CABINET ASSEMBLY		
8379		Caster (including insert)
M8533882-1	1453	Cord - Power Cord
T75J875-1		Escutcheon - For Picture Screen
T75J840-1		Escutcheon - For Control Knob Panel (Less Trap Door)
T75J840-2		Door - Trap Door For Control Knob Escutcheon
P74J850-6		Knob - Focus and Horizontal Hold
M77J364-4		Knob - Channel Selector
P74J850-5		Knob - Brightness and Vertical Hold
P74J850-4		Knob - Picture
P74J850-3		Knob - Tuning
M77J364-3		Knob - Volume, On and Off
T75J877-1		Overlay - Picture Tube Metal Mask
K71J871		Safety Glass
K82J349-1		Shield - Rubber Dust Shield - Overlay Gasket
3552D	LS1	Speaker - 5 1/4" PM C7T2
12C1330	LS1	Speaker - 12" PM C7C5,C7C7
T75J840-4		Spring - RH for Front Panel Door Cover
T75J840-5		Spring - LH for Front Panel Door Cover
T75J840-3		Clip - For Front Panel Door Cover Pin Springs
R.F. HEAD END UNIT		
K59J365-7056	C203,C214	Capacitor Ceramic 1.5 mmfd. 500V
K63J885-29	C208,C211	Capacitor Mica 3.3 mmfd.
M77J166-1101	C216,C218	Capacitor Mica 5. mmfd 500V
M77J166-1103	C212	Capacitor Mica 12 mmfd 500V 10%
K69J100-2	C205	Capacitor Ceramic (stand-off) 680 mmfd.
K71J737-2	11 used	Capacitor Ceramic 800 mmfd. 350V
K68J68-1	C607	Capacitor Ceramic 5000 mmfd
K67J790-1	C207	Capacitor Trimmer
K67J790-3	C220	Capacitor Trimmer
K69J271-5	C206	Capacitor Trimmer
M76J921-2	C213	Capacitor Trimmer
K65J478-1	L218	Coil Choke - Cathode 1.4 UH
K65J478-2	L202	Coil Choke
M77J119-2	L226,L227 C219	Coil Converter Plate Coil Assembly
M76J772-31	L219	Coil Oscillator Channel 2
M76J772-32	L220	Coil Oscillator Channel 3
M76J772-33	L221	Coil Oscillator Channel 4
M76J772-34	L222	Coil Oscillator Channel 5
M76J772-35	L223	Coil Oscillator Channel 6
M76J772-37	L225	Coil Oscillator Channel 13
M76J772-52	L204	Coil 1st RF Channel 2
M76J772-15	L205	Coil 1st RF Channel 3
M76J772-10	L206	Coil 1st RF Channel 4
M76J772-32	L207	Coil 1st RF Channel 5
M76J772-51	L208	Coil 1st RF Channel 6
M76J772-55	L210	Coil 1st RF Channel 13
M76J772-54	L211	Coil 2nd RF Channel 2
M76J772-10	L212	Coil 2nd RF Channel 3
M76J772-53	L213	Coil 2nd RF Channel 4
M76J772-32	L214	Coil 2nd RF Channel 5
M76J772-51	L215	Coil 2nd RF Channel 6
M76J772-56	L217	Coil 2nd RF Channel 13
M76J772-50	L203	Coil - High Channel Trap
M73-1		Head End Complete - Aligned with Tubes
	R221	Resistor Carbon 39 ohms 1/2 watt
K71J186-1	R220	Resistor Carbon 43 ohms 4 watt
M73J797-136	R207	Resistor Carbon 110 ohm 1/2 watt 5%
M73J797-58	R207,R219	Resistor Carbon 470 ohm 1/2 watt
M73J797-60	R206	Resistor Carbon 680 ohm 1/2 watt

Part No.	Symbol	Description
R.F. HEAD UNIT (Continued)		
M73J797-61	R205	Resistor Carbon 820 ohm 1/2 watt
M73J797-63	R210	Resistor Carbon 1200 ohm 1/2 watt
M73J797-162	R211	Resistor Carbon 1300 ohm 1/2 watt 5%
M73J797-66	R214	Resistor Carbon 2200 ohm 1/2 watt
M73J797-174	R208	Resistor Carbon 4300 ohm 1/2 watt 5%
M73J797-70	R209	Resistor Carbon 4700 ohm 1/2 watt
M73J796-176	R212,R213	Resistor Carbon 5100 ohm 1 watt 5%
M73J796-71	R215	Resistor Carbon 5600 ohm 1 watt
M73J797-183	R216,R222	Resistor-Carbon 10K ohms 1/2 watt 5%
M73J796-74	R204	Resistor-Carbon 10K ohms 1 watt
M73J797-78	R223	Resistor-Carbon 22K ohms 1/2 watt
	R218	Resistor-Carbon 39K ohms 1 watt
M73J797-90	R217	Resistor-Carbon 220K ohms 1/2 watt
K66J755-2	V1,V2	Socket - Tube
K68J752	V3	Socket - Tube
T75J796-3	S202	Switch - Selector Switch
HE-1F		Section I Wafer - Oscillator, Complete with Rotor Brackets But less Coils and Slugs
HE-2F		Section II Wafer - RF, Complete with Rotor Brackets But less Coils, Slugs and Screws
HE-3F		Section III Wafer - Antenna, Complete with Rotor Brackets But Less Coils and Slugs
HE-10F		Section IV Wafer - HF Trap Less Bracket
P74J838-1	L201	Transformer - Input
CHASSIS		
M77J124-9	7 Used	Coil - Choke - Heater 2 UH
K68J786-4	L256	Coil - Choke - Video 31 UH
M77J3-9	L401	Coil - Focus
M77J4-4	L352	Coil - Horizontal Linearity
M77J5-1	L351	Coil - Horizontal Oscillator
M77J185-1	L260	Coil - Trap 4.5 Mcs - Includes C270,C271
M77J201-2	L261	Coil - Video Compensating 110 UH
M77J201-1	L264	Coil - Video Compensating 130 UH
M77J164-2	L259,L262	Coil - Video Compensating 165 UH (includes R267, R271)
M77J201-8	L257,L263	Coil - Video Compensating 165 UH
M77J119-3	L251	Coil - 1st Video Plate
M77J119-5	L252,L253 C280	Coil - 2nd Video Plate Assembly
M77J4-1	L353	Coil - Width
K66J674-6		Connector - High Voltage Anode
V24J101		Cord - For Tuning
K8532428		Couplate,Detector - Includes R408,R411,C411,C412,C413 (See Production Change)
K71J883-2		Cushion - Picture Tube (Bottom) 2 Used
K71J318-2		Cushion - Picture Tube (Front)
K69J819	B451	Cutout - Thermal Cutout (See Production Change)
M8531021-1	Y1	Detector - Video Detector Assembly (Includes L254, L255,C265,C267,1N64)

Part No.	Symbol	Description
		CHASSIS (Continued)
	F1	Fuse - 3 AG 3 amps 250V (Located in High Voltage Compartment)
MDL 1.25	F2	Fuse - Slow Blow Bussman 1 1/4 amps 125V (Located on Chassis) (See production change)
M8531113-1	L602	Reactor - Filter
K8532296-1	L601	Reactor - Filter
K82J186	I451	Receptacle - Power Cord
K71J85-1		Receptacle - Translator Power
K71J128-1	X451,X452	Rectifier - Selenium - 350 MA
K69J356		Shaft - Extension for L352 and L353
K59J383-2	V21	Socket
K65J187-1	V16	Socket
K65J356-1	V14	Socket
K65J356-2	V13	Socket (Shock Mounted)
K68J481-1	V12,V19	Socket
K68J837	V5,V6,V18	Socket
K69J528-6	V8	Socket (Picture Tube)
K69J607-1	V7	Socket
K69J668-1	V10	Socket
K71J471-1	V4,V17	Socket
K71J622	V15	Socket
UCF60636	V9,V11,V20	Socket
K66J617-2		Spring - For Tuning Cord
M77J165-1	T401	Transformer - 1st Audio I.F. Includes C405
M8531118-1	T404	Transformer - Output - Audio
M77J1-13	T351	Transformer - Output - Horizontal Sweep (See Production Changes)
M77J1-15	T351	Transformer - Output - Horizontal Sweep (See Production Changes)
K68J489-1	T301	Transformer - Output - Vertical Sweep
M76J725-1	T402	Transformer - Ratio Detector (Includes C407, C408)
K71J405-1		Trap - Ion Trap
M77J11-8	D301,D351	Yoke - Deflection Yoke Assembly (Includes R314, R315,C378)
M77J11-22	D301,D351	Yoke - Deflection Yoke Assembly (See Production Changes)
		CAPACITORS
K65J365-33	C410	Capacitor - Electrolytic 1 Mfd. 50V
K69J283-1	C310,C606	Capacitor - Electrolytic 30 Mfd. 450V
K67J955-9	C453	Capacitor - Electrolytic 80 Mfd. 350V
K71J73-2	C452,C602 C604	Capacitor - Electrolytic 125 Mfd. 350V
K71J73-1	C451	Capacitor - Electrolytic 300 Mfd. 150V
K65J794-13	C379A,C379B C379C	Capacitor - Electrolytic 10 Mfd, 450V, 40 Mfd. 300V. 10 Mfd. 150V
K67J955-10	C454A,C454B C454C	Capacitor - Electrolytic 20 Mfd. 350V, 50 Mfd. 100V 100 Mfd. 75V
M77J166-1101	C255,C259	Capacitor Silver Mica 5 mmfd 500V 10%
K58J954-2	C274	Capacitor Mica 6 mmfd 500V 25%
K8532315-2	C369	Capacitor Mica 6 mmfd 2000V 25%
K66J332-9	C313	Capacitor Mica 18 mmfd 1500V 10%
M77J166-107	C370	Capacitor Mica 22 mmfd 500V 10%
K58J954-1512	C462	Capacitor Mica 47 mmfd 800V 10%
	C378	Capacitor Mica 47 mmfd 1500V 10%
	C357,C404	Capacitor Mica 100 mmfd 500V 20%
K58J954-1127	C356	Capacitor Mica 130 mmfd 800V 5%
K83J184-1	C278,C279 C382	Capacitor Ceramic 180 mmfd 3000V 10% In Early Production C278 and C279 Capacitors were 150 mmfd 800V (See Production Change)
K58J954-520	C364	Capacitor Mica 220 mmfd 500V 10%
K58J954-1520	C456	Capacitor Mica 220 mmfd 800V 10%
K58J954-524	C303,C304 C353,C363	Capacitor Mica 470 mmfd 500V 10%
K66J425-4	C376	Capacitor Ceramic 500 mmfd 20,000V
	C360	Capacitor Mica 680 mmfd 500V 20%
	C366,C605	Capacitor Mica 1000 mmfd 500V 10%
K66J332-3	C305,C314	Capacitor Mica 1000 mmfd 1000V 20%
K68J68-1	(25 Used)	Capacitor Ceramic 5000 mmfd 450V
K8532412-1	C252,C260 C264,C266 C381,C424	Capacitor Ceramic 5000 mmfd
	C301,C411	Capacitor Paper .001 mfd 600V
K67J700-18	C365,C367	Capacitor Paper .0018 mfd 600V 10%
	C302,C412	Capacitor Paper .002 mfd 600V
	C418	Capacitor Paper .003 mfd 600V
K67K700-19	C362	Capacitor Paper .0039 mfd 600V 10%
	C422	Capacitor Paper .005 mfd 1000V
	C416	Capacitor Paper .01 mfd 200V
K67J700-17	C361,C419	
	C354	Capacitor Paper .01 mfd 400V
K67J701-7	C311	Capacitor Paper .01 mfd 1000V
K63J786-6113	C352	Capacitor Paper .02 mfd 600V
K67J701-9	C351	Capacitor Paper .022 mfd 1000V
K62J443-116	C308	Capacitor Paper .025 mfd 600V
	C358	Capacitor Paper .03 mfd 200V
K59J346-11	C268,C273 C375	Capacitor Paper .05 mfd 200V
	C359,C371 C373	Capacitor Paper .05 mfd 600V
	C306 C312,C380	Capacitor Paper .1 mfd 200V
	C421	Capacitor Paper .1 mfd 400V
	C374,C375	Capacitor Paper .1 mfd 600V
	C277	Capacitor Paper .2 mfd 200V
	C251,C377	Capacitor Paper .5 mfd 200V
		RESISTORS (Variable)
K71J112-1	R311	Control 4,000 ohms, Vertical Linearity
K71J442-1	R369	Control 25,000 ohms Horizontal Drive
K68J766	R308	Control 3 megohms Vertical Size
K71J565-1	R424	Control (Dual) 10K ohms Focus
	R276	500K ohms Brightness
K71J568-1	R305	Control (Dual) 125K ohms Vertical Hold
	R365	100K ohms Horizontal Hold
K71J70-2	R413	Control (Dual) 500K ohms Volume Control (Tapped)
	R280	2 meg ohms Picture Control
	S452	On-Off Switch

REPLACEMENT PARTS LIST

MODELS C7C5, C7C7 and C7T2

Part No.	Symbol	Description
		RESISTORS (Fixed)
K54J521-3	R375	Resistor Wire Wound 1.2 ohms 10%
K69J936-1	R451	Resistor Wire Wound 4.6 ohms 5W
K71J281-1	R454	Resistor Wire Wound 20, ohms Glo-Bar
	R381	Resistor Carbon 39 ohms 1W 10%
	R257,R261	Resistor Carbon 47 ohms 1/2 W
	R421	Resistor Carbon 150 ohms 1/2 W 10%
	R420	Resistor Carbon 100 ohms 1/2 W 10% (Production Change)
	R273,R401	Resistor Carbon 220 ohms 1/2 W 10%
	R408	Resistor Carbon 270 ohms 1/2 W 10%
	R372	Resistor Carbon 330 ohms 1/2 W 20%
	R422	Resistor Carbon 330 ohms 1 W 10% (Production Change)
	R603	Resistor Carbon 680 ohms 1 W 20%
	R600	Resistor Carbon 680 ohms 2 watt 20% (Production Change)
	R310	Resistor Carbon 820 ohms 1 watt 5%
	R421	Resistor Carbon 1000 ohms 1/2 watt 10% (Prod. Change)
	R255,R407 R419	Resistor Carbon 1000 ohms 1/2 watt 20%
	R313	Resistor Carbon 1000 ohms 1 watt 20%
	R425	Resistor Carbon 1100 ohms 2 watt 5%
	R377	Resistor Carbon 1200 ohms 1/2 watt 10% (Production Change)
	R269	Resistor Carbon 1500 ohms 1/2 watt 10%
	R312	Resistor Carbon 1500 ohms 1 watt 20%
	R422	Resistor Carbon 1800 ohms 1 watt 10% (Production Change)
	R314,R315	Resistor Carbon 2200 ohms 1/2 watt 10%
	R378	Resistor Carbon 3300 ohms 2 watt 20%
	R265	Resistor Carbon 3600 ohms 1/2 watt 5%
K68J423-5	R380	Resistor Wire Wound 4000 ohms 7 watt 10%
	R309	Resistor Carbon 4700 ohms 1/2 watt 20%
	R272	Resistor Carbon 4700 ohms 2 watt 10%
	R423	Resistor Carbon 8200 ohms 1 watt 10%
	R368,R403	Resistor Carbon 10K ohms 1/2 watt 10%
	R601	Resistor Carbon 10K ohms 1/2 watt 20%
	R260,R264	Resistor Carbon 10K ohms 2 watt 10%
K71J388-1	R382	Resistor Wire Wound 10,500 ohms Glo-Bar (See Production Changes)
K71J388-4	R382	Resistor Wire Wound 14,000 ohms Glo-Bar (See Production Changes)
	R371	Resistor Carbon 15K ohms 1/2 watt 10%
	R270	Resistor Carbon 18K ohms 2 watt 10%
	R409,R410	Resistor Carbon 22K ohms 1/2 watt 5%
	R251,R266, R411	Resistor Carbon 22K ohms 1/2 watt 10%
	R352	Resistor Carbon 22K ohms 1 watt 10%
	R364	Resistor Carbon 27K ohms 1/2 watt 10%
	R428	Resistor Carbon 27K ohms 2 watt 10%
	R362,R416	Resistor Carbon 33K ohms 1/2 watt 10%
	R367	Resistor Carbon 33K ohms 1 watt 10%
	R302,R402	Resistor Carbon 39K ohms 1/2 watt 10%
	R404	Resistor Carbon 56K ohms 1/2 watt 10%
	R254,R259	Resistor Carbon 68K ohms 1/2 watt 10%
	R304,R366 R414	Resistor Carbon 68K ohms 1/2 watt 10%
	R363	Resistor Carbon 68K ohms 1 watt 10%
	R301	Resistor Carbon 82K ohms 1/2 watt 10%
	R303,R306, R320,R405	Resistor Carbon 100K ohms 1/2 watt 10%
	R358	Resistor Carbon 150K ohms 1/2 watt 10%
	R321,R322 R323 R359,R360	Resistor Carbon 150K ohms 1 watt 10%
	R355,R379	Resistor Carbon 180K ohms 1/2 watt 10%
	R256,R277 R417,R602	Resistor Carbon 220K ohms 1/2 watt 10%
	R353,R406 R418	Resistor Carbon 470K ohms 1/2 watt 10%
	R258,R453	Resistor Carbon 470K ohms 1/2 watt 20%
	R376	Resistor Carbon 470K ohms 1 watt 20%
	R275,R316, R356 R357,R361 R370 R456	Resistor Carbon 1 meg ohms 1/2 watt 10%
	R263	Resistor Carbon 1.5 meg ohms 1/2 watt 20%
	R268,R307 R319,R351	Resistor Carbon 2.2 meg ohms 1/2 watt 10%
	R278,R279	Resistor Carbon 3.3 meg ohms 1/2 watt 20%
	R415	Resistor Carbon 4.7 meg ohms 1/2 watt 10%

Capacitors and Resistors listed without a part number are readily available at your local parts jobber.

Data Subject To Change Without Notice

NOTE: Always mention Model No. of Receiver when ordering parts.

RADIO AND TELEVISION DEPARTMENT

CANADIAN GENERAL ELECTRIC COMPANY LIMITED

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