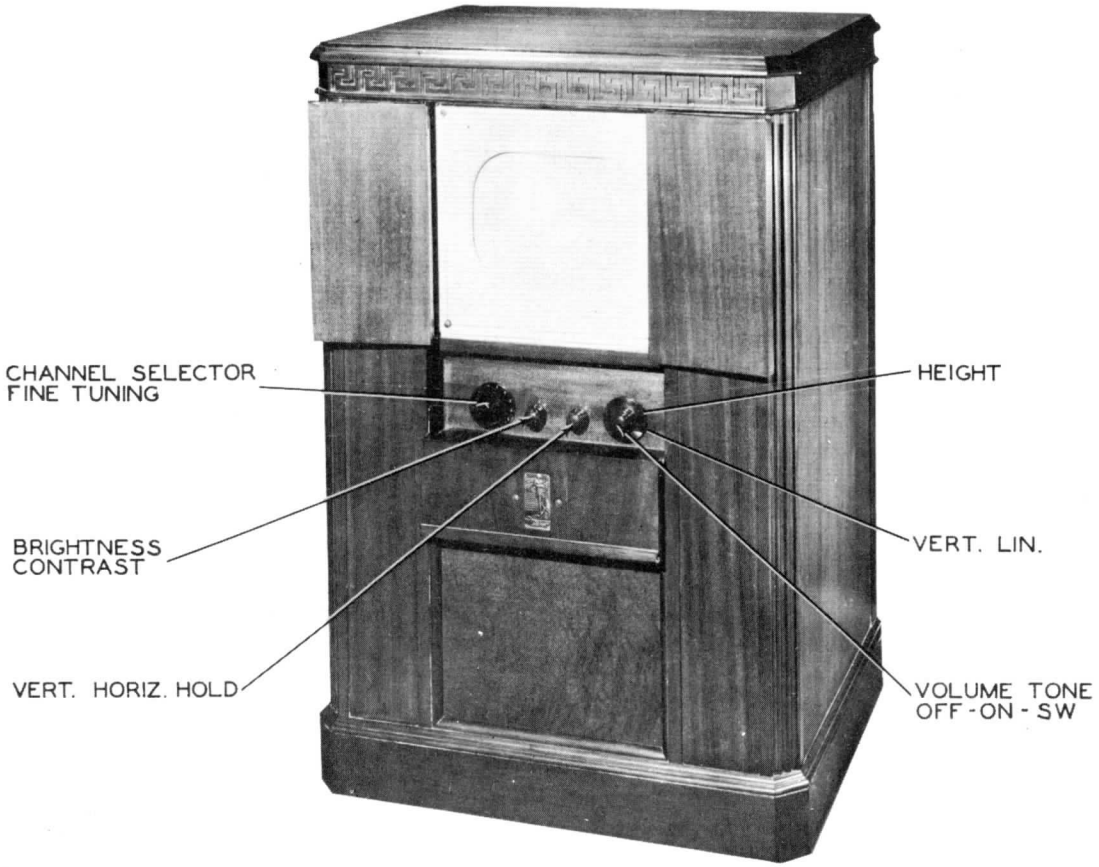


CAPEHART
MODELS 461-P, 462-P12

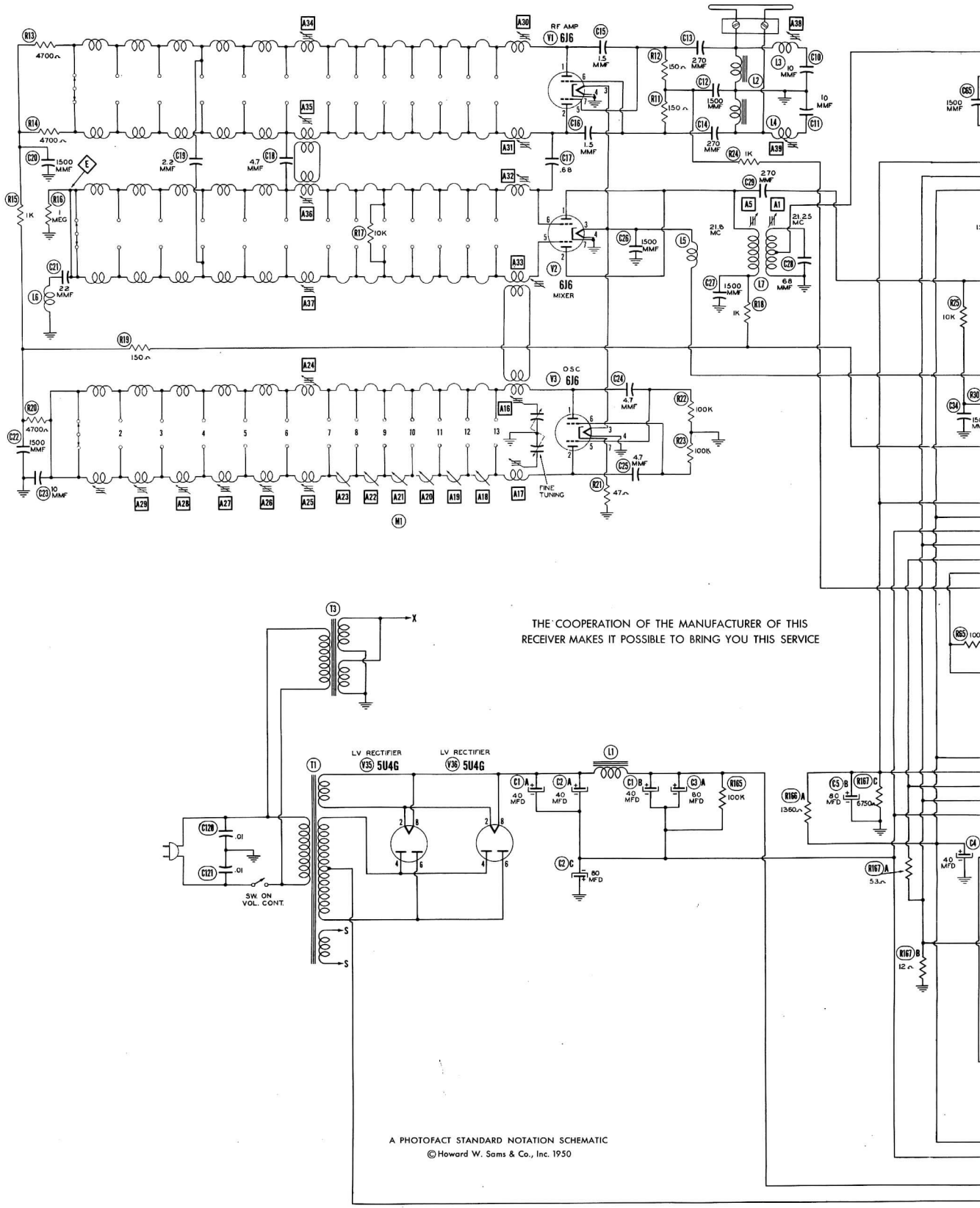
CAPEHART MODEL 461-P

TRADE NAME	Capehart Model 461-P, 462-P12 (Ch. A13, C-255, C-263, C-265, C-266, C-267, C-271,U-12, U-12-A)
MANUFACTURER	Farnsworth Tel. and Radio Corp., Fort Wayne (1), Indiana
TYPE SET	Television Receiver
TUBES	Thirty Seven

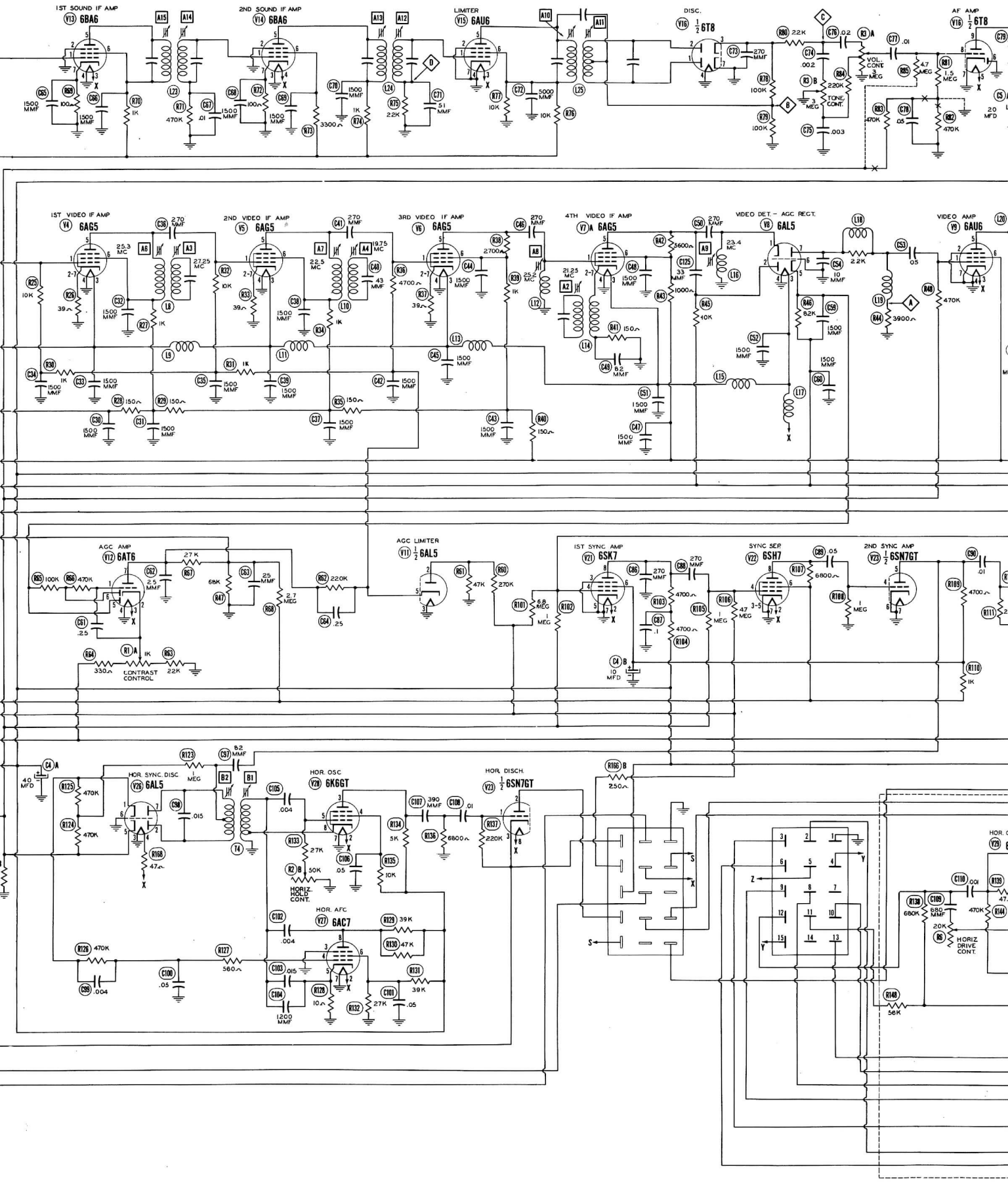
POWER SUPPLY 110-120 Volts AC-60 Cycle RATING 3.8 Amp. at 117 Volts AC
TUNING RANGE—Channels 2 thru 13

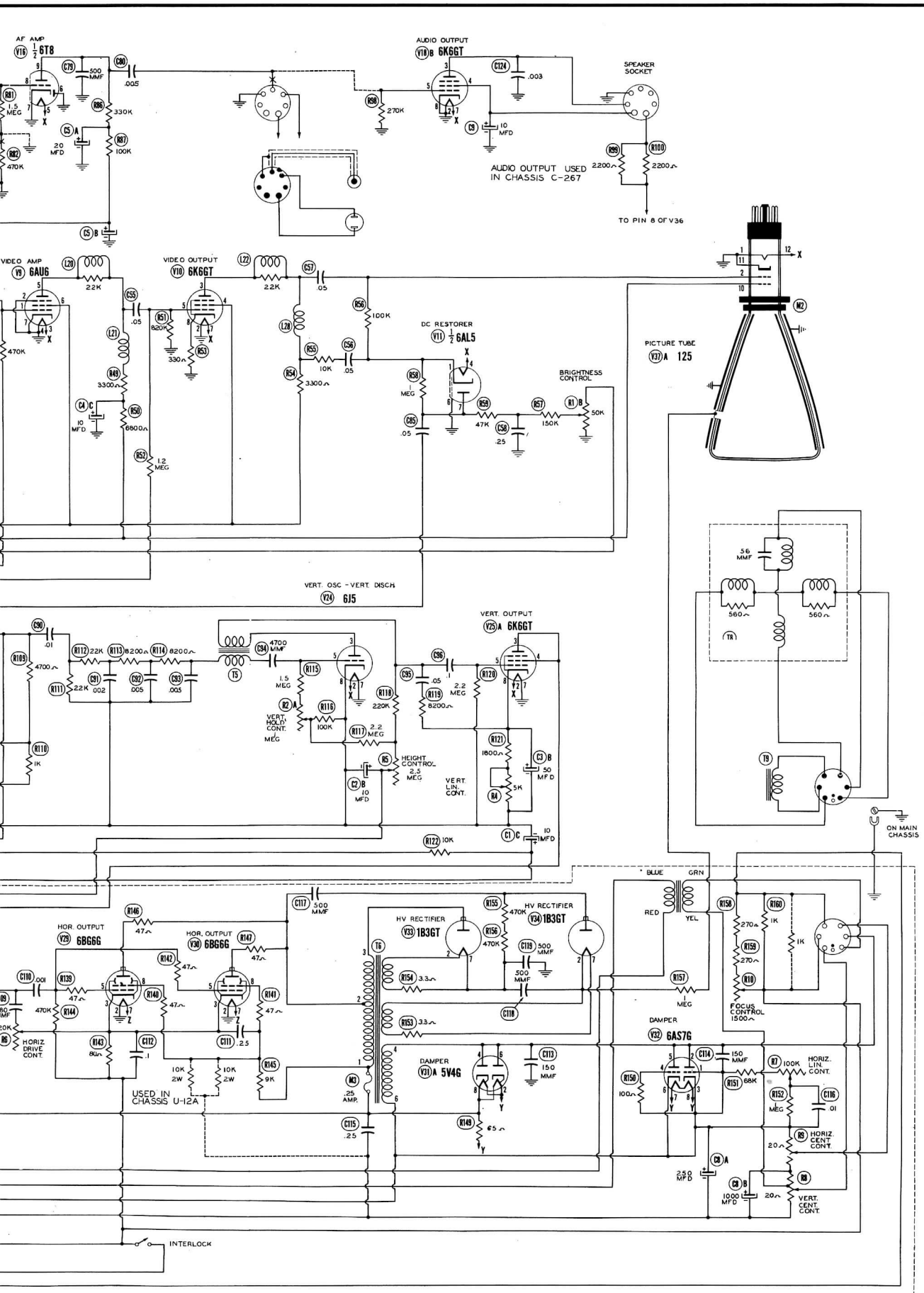
INDEX

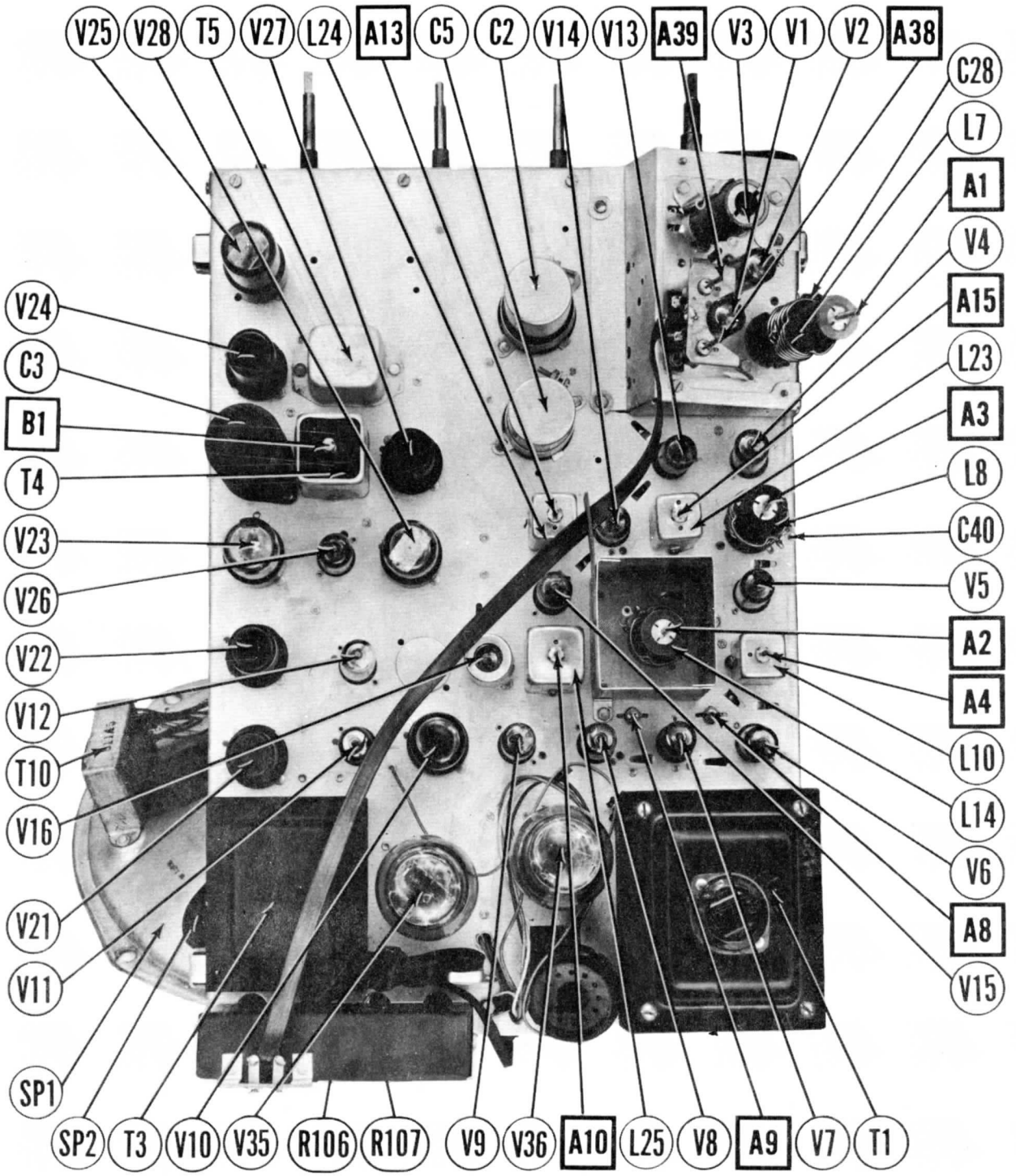
HOWARD W. SAMS & CO., INC. • Indianapolis 1, Indiana



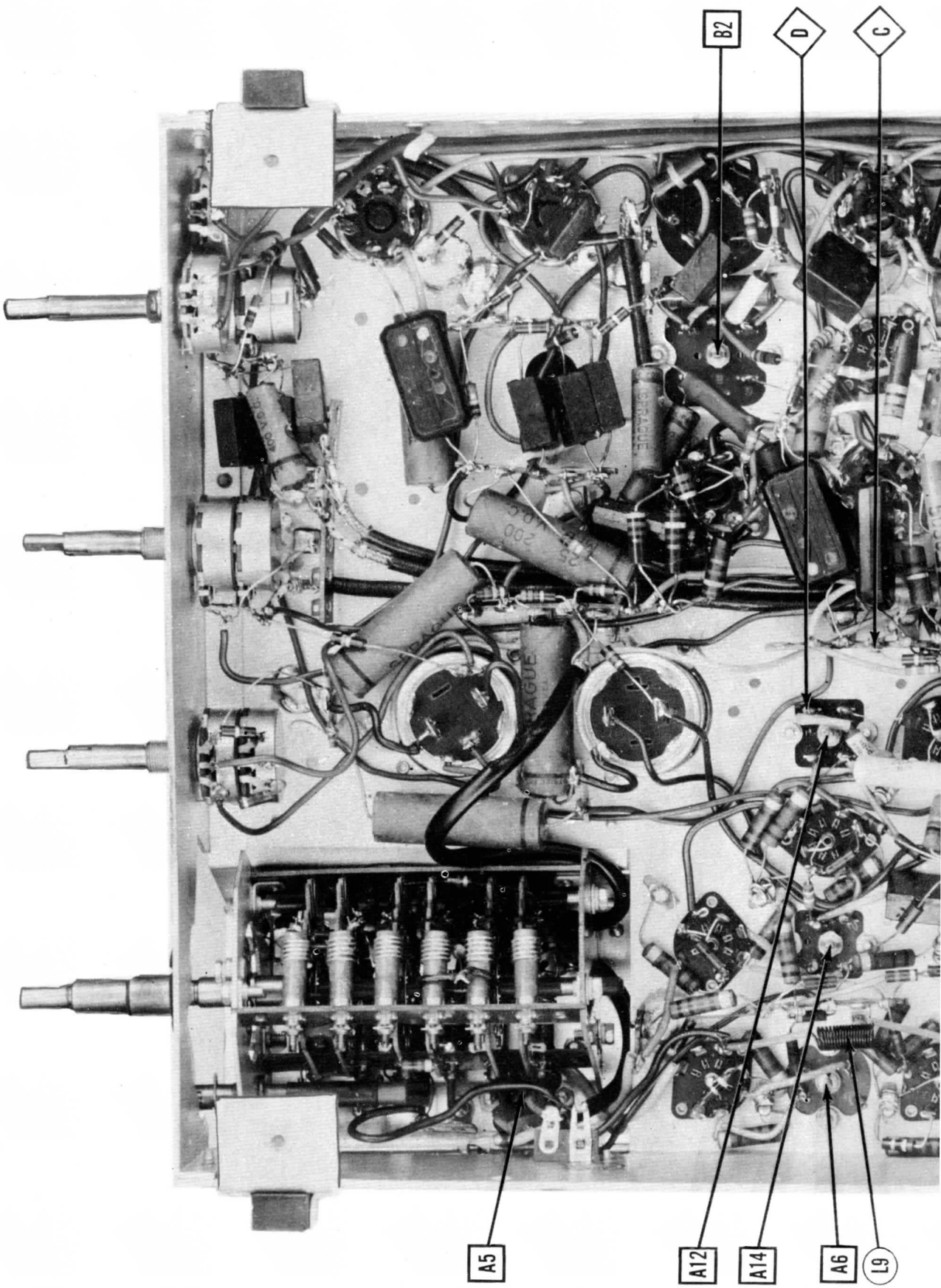
A PHOTOFACT STANDARD NOTATION SCHEMATIC

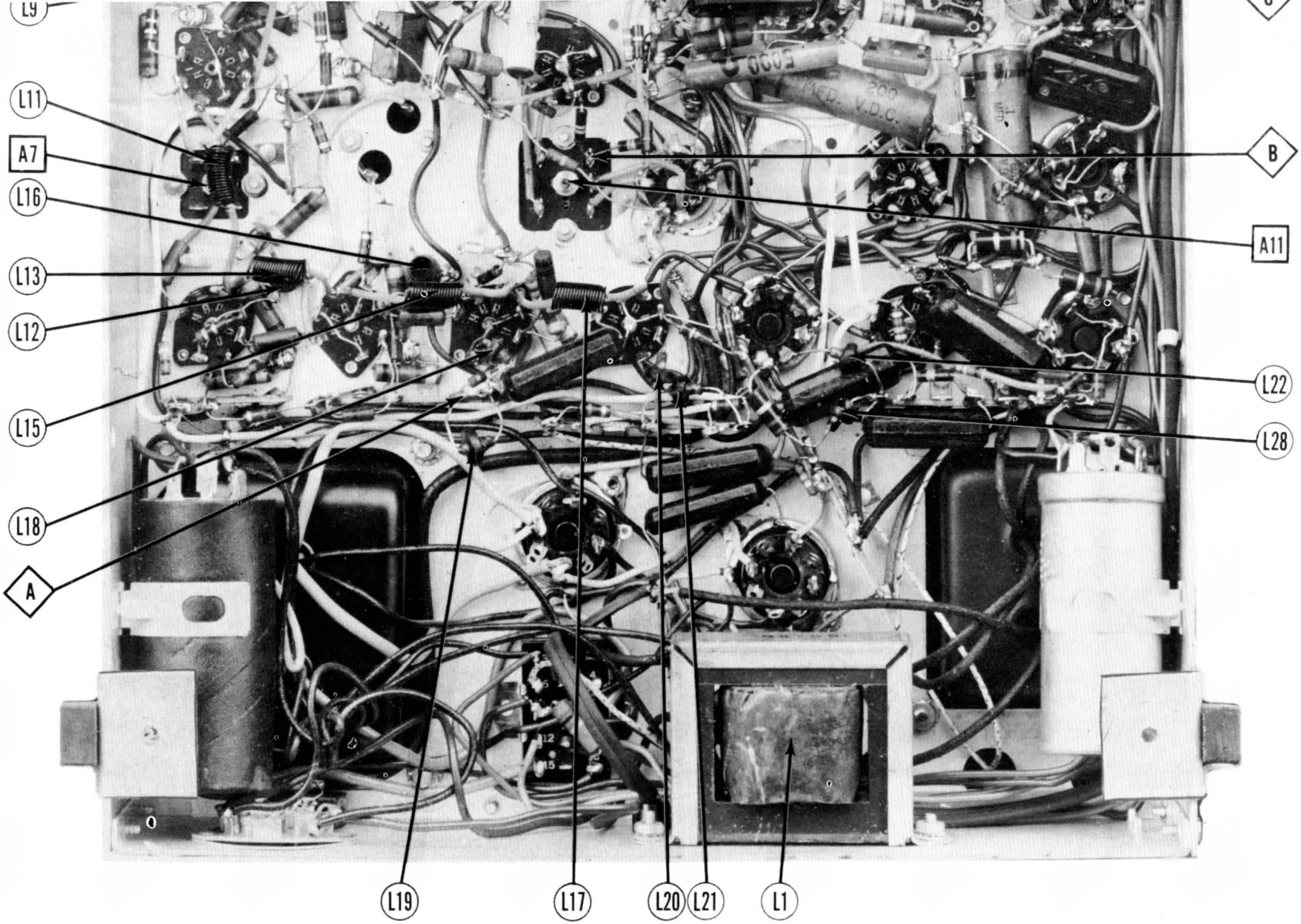

1ST SOUND IF AMP
V13 6BA6
2ND SOUND IF AMP
V14 6BA6
LIMITER
V15 6AU6
DISC.
V16 ½ 6T8
AF AMP
V16 ½ 6T8
1ST VIDEO IF AMP
V4 6AG5
2ND VIDEO IF AMP
V5 6AG5
3RD VIDEO IF AMP
V6 6AG5
4TH VIDEO IF AMP
V7A 6AG5
VIDEO DET. – AGC REGT.
V8 6AL5
VIDEO AMP
V9 6AU6
AGC AMP
V12 6AT6
AGC LIMITER
V11 ½ 6AL5
1ST SYNC AMP
V21 6SK7
SYNC SEP.
V22 6SH7
2ND SYNC AMP
V23 ½ 6SN7GT
HOR. SYNC. DISC.
V26 6AL5
HOR. OSC.
V28 6K6GT
HOR. DISCH.
V23 ½ 6SN7GT
HOR. AFC
V27 6AC7
CONTRAST CONTROL
HORIZ. HOLD CONT.
VOL. CONT.
TONE CONT.
HORIZ. DRIVE CONT.


AF AMP
V16 1/2 6T8
AUDIO OUTPUT
V18B 6K6GT
SPEAKER SOCKET
AUDIO OUTPUT USED IN CHASSIS C-267
TO PIN 8 OF V36
VIDEO AMP
V9 6AU6
VIDEO OUTPUT
V10 6K6GT
DC RESTORER
V11 1/2 6AL5
BRIGHTNESS CONTROL
PICTURE TUBE
V37A 125
VERT. OSC - VERT. DISCH.
V24 6J5
VERT. OUTPUT
V25A 6K6GT
VERT. HOLD CONT.
HEIGHT CONTROL
VERT. LIN. CONT.
HOR. OUTPUT
V29 6BG6G
HOR. OUTPUT
V30 6BG6G
HOR. DRIVE CONT.
USED IN CHASSIS U-12A
HV RECTIFIER
V33 1B3GT
HV RECTIFIER
V34 1B3GT
DAMPER
V31A 5V4G
DAMPER
V32 6AS7G
FOCUS CONTROL
HORIZ. LIN. CONT.
HORIZ. CENT. CONT.
VERT. CENT. CONT.
ON MAIN CHASSIS
INTERLOCK

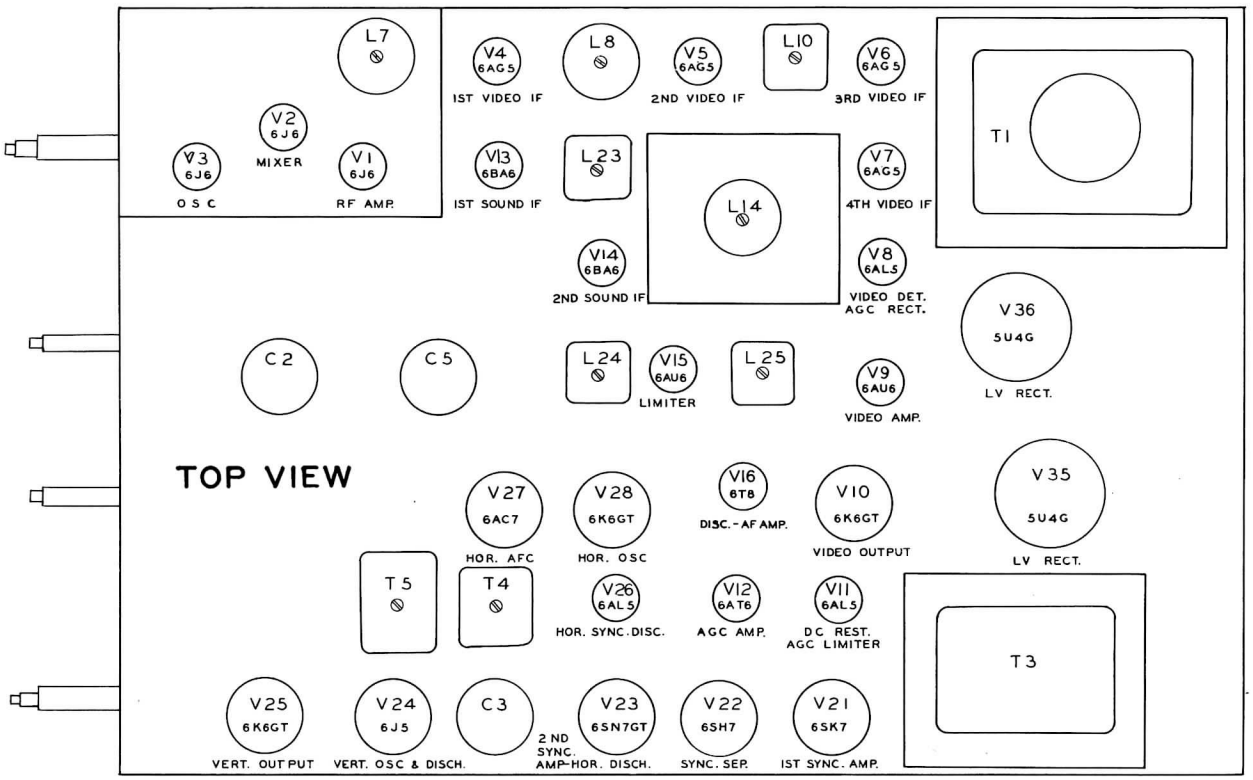


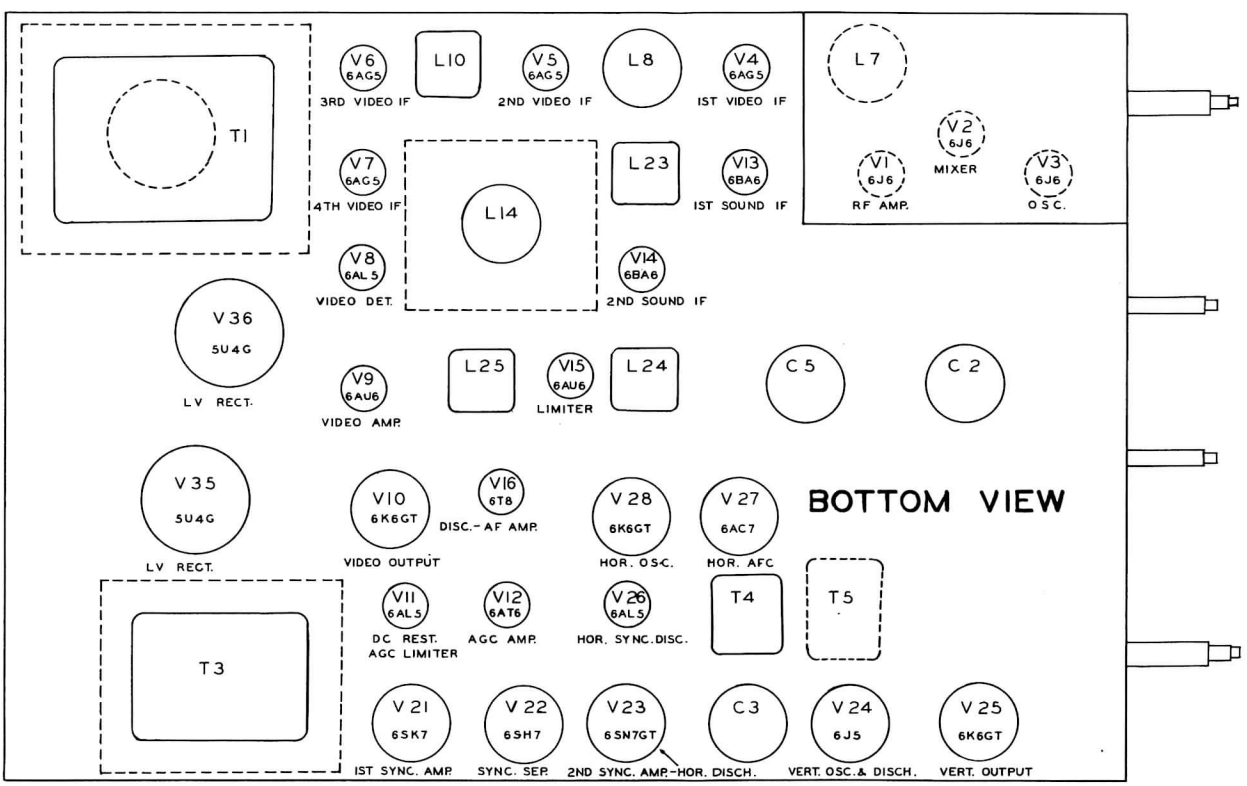
CHASSIS TOP VIEW


B2
D
C
A5
A12
A14
A6
L9

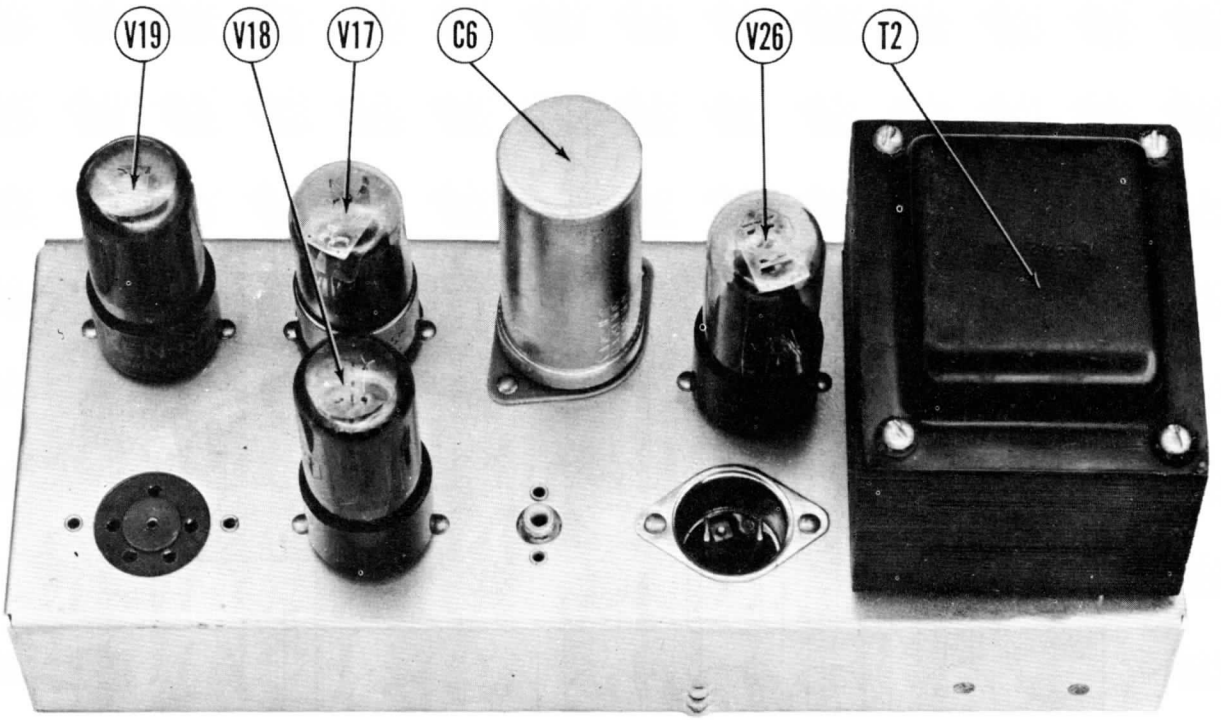


CHASSIS BOTTOM VIEW-TRANS., INDUCTOR AND ALIGNMENT IDENTIFICATION

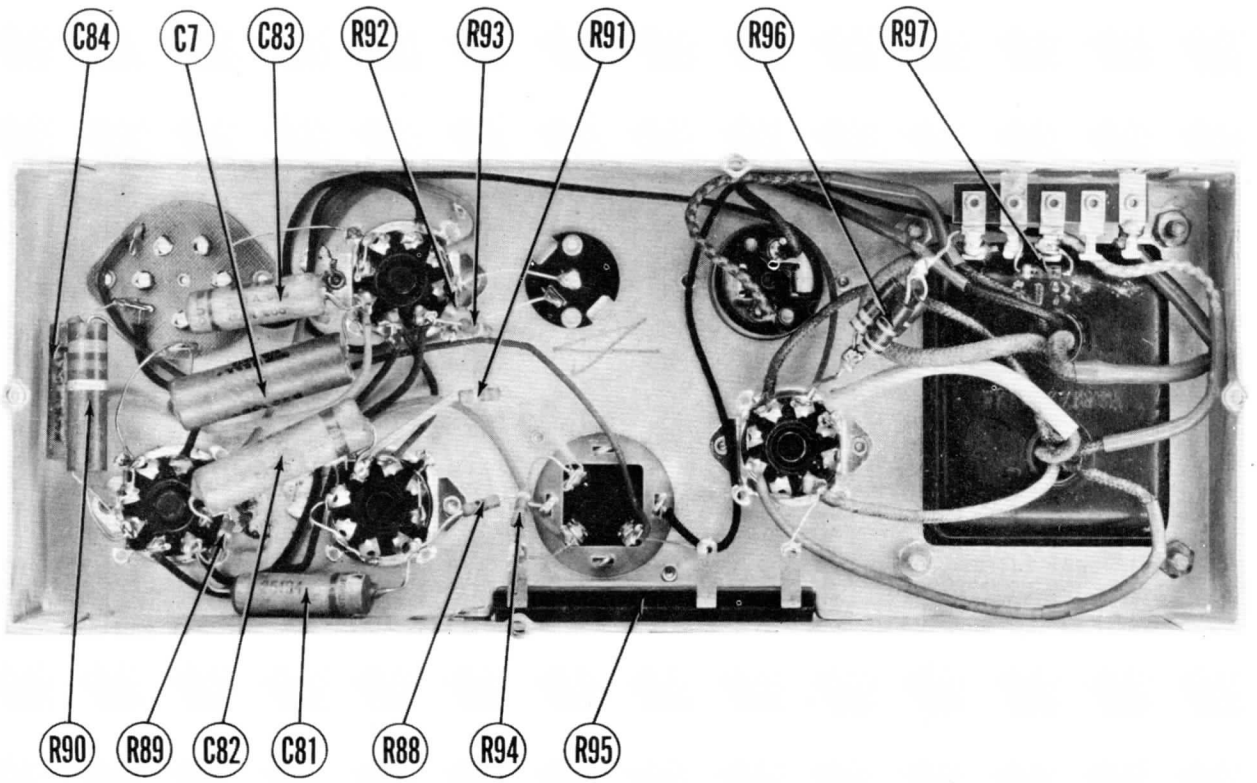




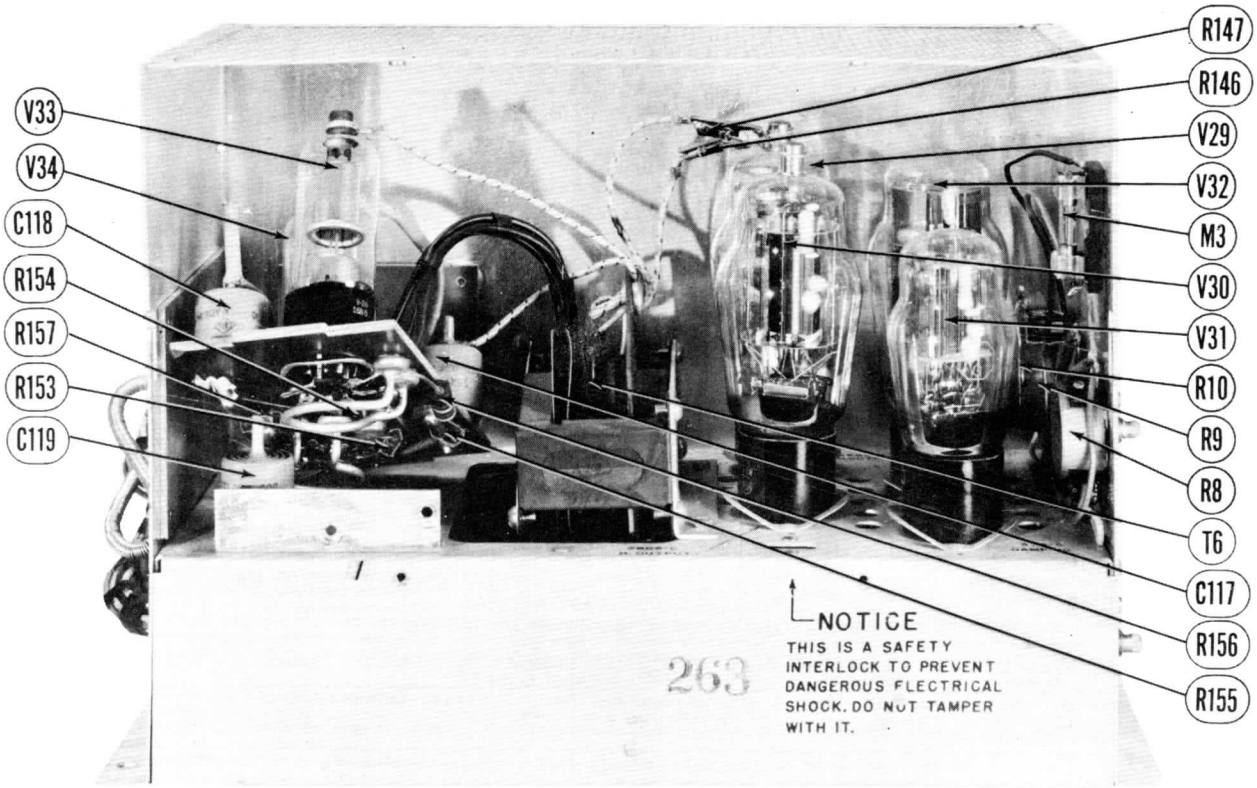
TUBE PLACEMENT CHART



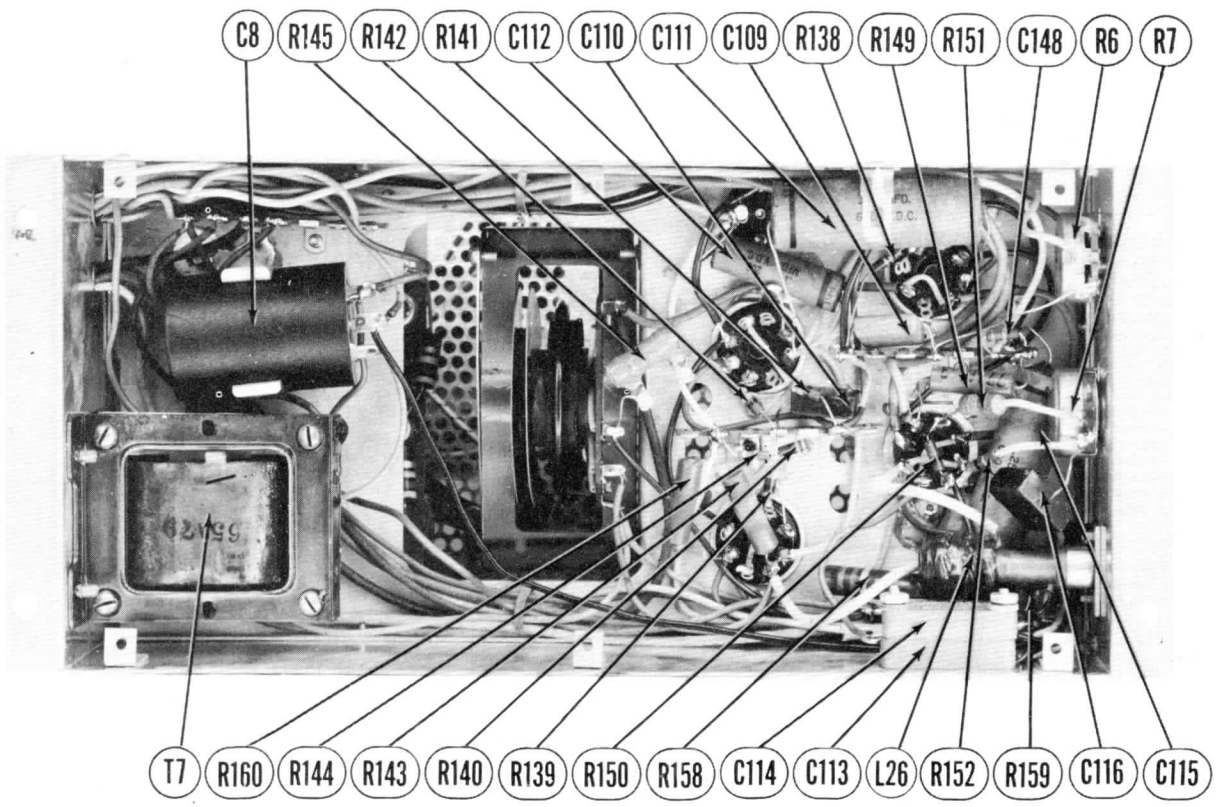
POWER SUPPLY CHASSIS-TOP VIEW



POWER SUPPLY CHASSIS-BOTTOM VIEW



HIGH VOLTAGE SUPPLY - TOP VIEW



HIGH VOLTAGE SUPPLY - BOTTOM VIEW

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

During alignment the connecting cable between the main chassis and the high voltage power supply must be in place. Make sure the high voltage lead is well isolated from the chassis.

VIDEO IF ALIGNMENT

To disable the AGC circuit, connect a short between pin 6 of the 6AT6 (V12) and pin 3 of the 6SN7GT (V23). Remove the local oscillator tube V2.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Direct	High side to ungrounded tube shield floating over mixer tube (V2). Low side to chassis.	21.25MC (Unmod.)	Any	DC Probe to Point (A) Common to chassis.	A1, A2	Adjust for MINIMUM deflection.
2.	Direct	"	27.25MC	"	"	A3	"
3.	Direct	"	19.75MC	"	"	A4	"
4.	Direct	"	21.8MC	"	"	A5	Adjust for maximum deflection.
5.	Direct	"	25.3MC	"	"	A6	"
6.	Direct	"	22.3MC	"	"	A7	"
7.	Direct	"	25.2MC	"	"	A8	"
8.	Direct	"	23.4MC	"	"	A9	"

OVERALL VIDEO IF RESPONSE CHECK

Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
9.	Direct	High side to ungrounded tube shield floating over mixer tube (V2). Low side to chassis.	24MC (10MC Sweep)	21.25MC 22.3MC 25.75MC 27.25MC	Any	Vert. Amp. to Point (A) Low side to chassis.		Check for response curve similar to Fig 1 with markers as shown. If necessary slightly retouch A5, A6, A8 and A9 for optimum response. Do not change A7 or traps A1 thru A4.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
10.	.01MFD	High side to pin 1 (Grid) of 6AU6 (V10). Low side to chassis.	21.25MC (Unmod.)	Any	DC Probe thru 1 Meg. to point (B) Common to chassis.	A10	Adjust for maximum deflection.
11.	.01MFD	"	"	"	DC Probe to Point (C) Common to chassis.	A11	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
12.	.01MFD	"	"	"	DC Probe to Point (D) Common to chassis.	A12, A13, A14, A15	Adjust for maximum deflection.

SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

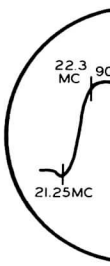
Use frequency modulated signal with 60 ~ modulation and 450KC sweep. Use 120 ~ sawtooth voltage in scope for horizontal deflection.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
10.	.01MFD	High side to pin 1 (Grid) of 6BA6 (V14). Low side to chassis.	21.25MC (1MC Sweep)	21.25MC	Any	Vert. Amp. to Point (D) Low side to chassis.	A12, A13	Adjust for maximum amplitude and symmetry as per Fig 2.
11.	.01MFD	High side to pin 1 (Grid) of 6BA6 (V13). Low side to chassis.	"	"	"	"	A14, A15	"
12.	.01MFD	"	"	"	"	Vert. Amp. to Point (B) Low side to chassis.	A11, A10	Adjust A11 so 21.25MC occurs at center of crossover lines as per Fig 3. Adjust A10 for maximum amplitude and straightness of crossover lines.

OSCILLATOR ALIGNMENT (TUNER NO. 13872)

Replace the local oscillator tube (V2).
Set the fine tuning control approximately 140° from maximum counter-clockwise. This aligns the holes in the drive disc with the adjustment screws.
The signal generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
The sound IF system must be properly aligned before beginning oscillator alignment.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
13.	Two 120Ω carbon res.	Across antenna terminals with 120Ω in each lead.	215.75MC (Unmod.)	13	DC Probe to Point (B) Common to chassis.	A16, A17	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. Keep slug pairs at approximately the same relative position.
14.	"	"	209.75MC	12	"	A18	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
			203.75MC	11		A19	
			197.75MC	10		A20	
			191.75MC	9		A21	
			185.75MC	8		A22	
			179.75MC	7		A23	
15.	"	"	87.75MC (Unmod.)	6	"	A24, A25	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. Keep slug pairs at approximately the same relative position.
16.	"	"	81.75MC (Unmod.)	5	"	A26	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
			71.75MC	4		A27	
			65.75MC	3		A28	
			59.75MC	2		A29	



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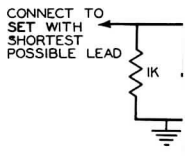


FIG.

FI

TRUCTIONS

BEFORE ATTEMPTING ALIGNMENT

tage power supply must be in place. Make sure the high voltage lead

pin 3 of the 6SN7GT (V23).

	ADJUST	REMARKS
A	A1, A2	Adjust for MINIMUM deflection.
	A3	"
	A4	"
	A5	Adjust for maximum deflection.
	A6	"
	A7	"
	A8	"
	A9	"

CHECK

ntal input of the oscilloscope for horizontal deflection.

CONNECT SCOPE	ADJUST	REMARKS
Amp. to Point w side to is.		Check for response curve similar to Fig 1 with markers as shown. If necessary slightly retouch A5, A6, A8 and A9 for optimum response. Do not change A7 or traps A1 thru A4.

GNAL GENERATOR AND VTVM

	ADJUST	REMARKS
eg. n to	A10	Adjust for maximum deflection.
C	A11	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
D	A12, A13, A14, A15	Adjust for maximum deflection.

ERATOR AND OSCILLOSCOPE

0 ~ sawtooth voltage in scope for horizontal deflection.

CONNECT SCOPE	ADJUST	REMARKS
Amp. to Point w side to is.	A12, A13	Adjust for maximum amplitude and symmetry as per Fig 2.
"	A14, A15	"
Amp. to Point w side to is.	A11, A10	Adjust A11 so 21.25MC occurs at center of crossover lines as per Fig 3. Adjust A10 for maximum amplitude and straightness of crossover lines.

ER NO. 13872)

e. This aligns the holes in the drive disc with the adjustment screws.
npedance, usually 50 ohms.
ment.

	ADJUST	REMARKS
B	A16, A17	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. Keep slug pairs at approximately the same relative position.
	A18	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
	A19	
	A20	
	A21	
	A22	
	A23	
	A24, A25	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. Keep slug pairs at approximately the same relative position.
	A26	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
	A27	
	A28	
	A29	

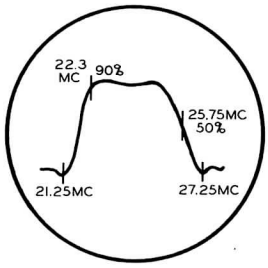


FIG. 1

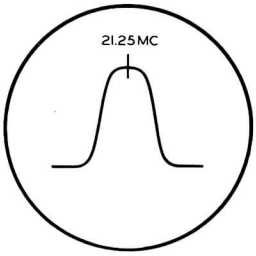


FIG. 2

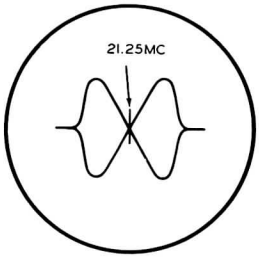


FIG. 3

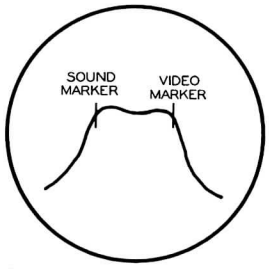


FIG. 4

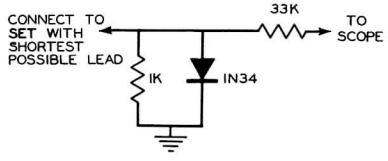


FIG. 5

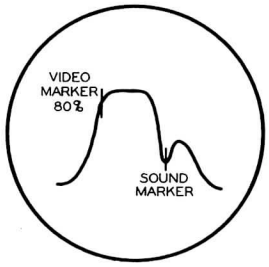


FIG. 6

ALIGNMENT INS

RF AND MIXER ALIGN

The RF and mixer lines in this tuner are normally very stable. A alignment.

Set the contrast control to read -1 1/2 volts on VTVM connected be

Connect a .001MFD capacitor from the grid (pin 1) of the first vide

Terminate the sweep generator lead with its characteristic impeda

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHA
17.	Two 120Ω carbon res.	Across antenna terminals with 120Ω in each lead.	213MC (10MC Sweep)	211.25MC 215.75MC	13
18.	"	"	207MC (10MC SWP)	205.25MC 209.75MC	12
			201MC (10MC SWP)	199.25MC 203.75MC	11
			195MC (10MC SWP)	193.25MC 197.75MC	10
			189MC (10MC SWP)	187.25MC 191.75MC	9
			183MC (10MC SWP)	181.25MC 185.75MC	8
			177MC (10MC SWP)	175.25MC 179.75MC	7
19.	"	"	85MC (10MC SWP)	83.25MC 87.75MC	6
20.	"	"	79MC (10MC SWP)	77.25MC 81.75MC	5
			69MC (10MC SWP)	67.25MC 71.75MC	4
			63MC (10MC SWP)	61.25MC 65.75MC	3
			57MC (10MC SWP)	55.25MC 59.75MC	2

WAVE TRAP ADJUS

Wave traps A38 and A39 are used for specific types of interference to the channel having the interference, set fine tuning control until int picture and sound, keeping the cores at approximately the same rela

RF AND OSCILLATO

Replace the local oscillator tube (V2).

Set the fine tuning control to the mid-position of its range.

Construct a detector probe as shown in figure 5, connect the detec leads.

The trap on the converter output transformer must be properly alig

The coupling adjustment rings (A305 and A306) are pre-set at the f

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHA
13.	Two 120Ω carbon res.	Across antenna terminals with 120Ω in each lead.	213MC (10MC SWP)	211.25MC 215.75MC	13
14.	"	"	207MC (10MC SWP)	205.25MC 209.75MC	12
			201MC (10MC SWP)	199.25MC 203.75MC	11
			195MC (10MC SWP)	193.25MC 197.75MC	10
			189MC (10MC SWP)	187.25MC 191.75MC	9
			183MC (10MC SWP)	181.25MC 185.75MC	8
			177MC (10MC SWP)	175.25MC 179.75MC	7
15.	"	"	85MC (10MC SWP)	83.25MC 87.75MC	6
16.	"	"	79MC (10MC SWP)	77.25MC 81.75MC	5
			69MC (10MC SWP)	67.25MC 71.75MC	4
			63MC (10MC SWP)	61.25MC 65.75MC	3
			57MC (10MC SWP)	55.25MC 59.75MC	2

WAVE TRAP AD

Wave traps A313 and A314 are used for specific types of inte receiver tuned to the channel having the interference, set the for minimum interference in both the sound and picture, kee other for minimum interference.

ALIGNMENT INSTRUCTIONS (CONT.)

RF AND MIXER ALIGNMENT (TUNER NO. 13872)

The RF and mixer lines in this tuner are normally very stable. Alignment should not be attempted unless they are definitely known to be out of alignment.

Set the contrast control to read -1 1/2 volts on VTVM connected between the junction of R67 and R68, and chassis.

Connect a .001MFD capacitor from the grid (pin 1) of the first video IF amplifier (V4) to chassis, using the shortest possible leads.

Terminate the sweep generator lead with its characteristic impedance, usually 50 ohms.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
17.	Two 120Ω carbon res.	Across antenna terminals with 120Ω in each lead.	213MC (10MC Sweep)	211.25MC 215.75MC	13	Vert. Amp. thru 10KΩ to Point (E) Low side to chassis.	A30, A31, A32, A33	Adjust for response curve similar to Fig 4 with markers above 70%.
18.	"	"	207MC (10MC SWP)	205.25MC 209.75MC	12	"		Check for response curve similar to Fig 4. If markers are below 70% on any channel, make slight adjustment of A30, A31, A32 and A33 with channel selector set for that channel. Recheck all high band channels to see that they have not been seriously effected.
			201MC (10MC SWP)	199.25MC 203.75MC	11			
			195MC (10MC SWP)	193.25MC 197.75MC	10			
			189MC (10MC SWP)	187.25MC 191.75MC	9			
			183MC (10MC SWP)	181.25MC 185.75MC	8			
			177MC (10MC SWP)	175.25MC 179.75MC	7			
19.	"	"	85MC (10MC SWP)	83.25MC 87.75MC	6	"	A34, A35, A36, A37	Adjust for response curve similar to Fig 4 with markers above 70%.
20.	"	"	79MC (10MC SWP)	77.25MC 81.75MC	5	"		Check for response curve similar to Fig 4. If markers are below 70% on any channel, make slight adjustment of A34, A35, and A36, A37 with channel selector set for that channel. Recheck all low band channels to see that they have not been seriously effected.
			69MC (10MC SWP)	67.25MC 71.75MC	4			
			63MC (10MC SWP)	61.25MC 65.75MC	3			
			57MC (10MC SWP)	55.25MC 59.75MC	2			

WAVE TRAP ADJUSTMENT (TUNER NO. 13872)

Wave traps A38 and A39 are used for specific types of interference and their alignment will depend upon the type encountered. With the receiver tuned to the channel having the interference, set fine tuning control until interference is at maximum. Adjust A38 and A39 for minimum interference in the picture and sound, keeping the cores at approximately the same relative position. Turn one core 1/2 turn, adjust the other for minimum interference.

RF AND OSCILLATOR ALIGNMENT (TUNER NO. 13900)

Replace the local oscillator tube (V2).

Set the fine tuning control to the mid-position of its range.

Construct a detector probe as shown in figure 5, connect the detector probe to pin 1 (Grid) of the first video IF amp. (V4), using the shortest possible leads.

The trap on the converter output transformer must be properly aligned before attempting RF and oscillator alignment.

The coupling adjustment rings (A305 and A306) are pre-set at the factory and sealed and should not normally require adjustment in the field.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
13.	Two 120Ω carbon res.	Across antenna terminals with 120Ω in each lead.	213MC (10MC SWP)	211.25MC 215.75MC	13	Vert. Amp. thru detector probe to point (F) Low side to chassis. (See note above).	A311, A301, A302, A303, A304	Adjust A311 to place sound marker at bottom of dip as per Fig 6. The video marker should be above 80%. If necessary adjust A301, A302, A303 and A304 to place video marker as shown in Fig 5. Keep trimmer pairs at approximately the same relative position.
14.	"	"	207MC (10MC SWP)	205.25MC 209.75MC	12	"		Check all high band channels to see that the sound marked can be tuned to the bottom of the dip well within the range of the fine tuning control. If not compromise adjustment of A311 may be made to obtain optimum results. If the video marker falls below 70% on any channel, make slight adjustment of A301, A302, A303 and A304 with selector switch set for that channel. Recheck all high band channels to see that they have not been seriously effected.
			201MC (10MC SWP)	199.25MC 203.75MC	11			
			195MC (10MC SWP)	193.25MC 197.75MC	10			
			189MC (10MC SWP)	187.25MC 191.75MC	9			
			183MC (10MC SWP)	181.25MC 185.75MC	8			
			177MC (10MC SWP)	175.25MC 179.75MC	7			
15.	"	"	85MC (10MC SWP)	83.25MC 87.75MC	6	"	A312, A307, A308, A309, A310	Adjust A312 to place sound marker at bottom of dip as per Fig 5. The video marker should be at 80%. If necessary adjust A307, A308, A309 and A310 to place video marker as shown. Keep trimmer pairs at approximately the same relative position.
16.	"	"	79MC (10MC SWP)	77.25MC 81.75MC	5	"		Check all low band channels to see that the sound marker can be tuned to the bottom of the dip well within the range of the fine tuning control. If not compromise adjustment of A312 may be made to obtain optimum results. If the video marker falls below 70% on any channel, make slight adjustment of A307, A308, A309 and A310 with channel selector set for that channel. Recheck all low band channels to see that they have not been seriously effected.
			69MC (10MC SWP)	67.25MC 71.75MC	4			
			63MC (10MC SWP)	61.25MC 65.75MC	3			
			57MC (10MC SWP)	55.25MC 59.75MC	2			

WAVE TRAP ADJUSTMENT (TUNER NO. 13900)

Wave traps A313 and A314 are used for specific types of interference and their adjustment will depend upon the type encountered. With the receiver tuned to the channel having the interference, set the fine tuning control until the interference is at maximum. Adjust A313 and A314 for minimum interference in both the sound and picture, keeping the cores in the same relative position. Turn one core 1/2 turn, adjust the other for minimum interference.

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

HORIZONTAL OSCILLATOR ALIGNMENT CHECK:

After turning the horizontal hold control to the maximum counter clockwise position, the picture should remain in horizontal sync. Remove the picture momentarily by turning the contrast control fully counter-clockwise and then return it to the normal operating position. This should pull the picture back into synchronization.

Now turn the horizontal hold control fully clockwise. The picture should remain in sync. Momentarily remove the signal and again the picture should pull into sync. if receiver is functioning properly.

If the receiver functions properly under these checks it is not necessary to align the horizontal oscillator circuit. However, if the picture is not normal or stable the horizontal oscillator must be aligned.

SLIGHT RETOUCH ALIGNMENT:

If the receiver failed in the above check to hold sync at either extreme of the hold control or after momentary removal of the signal, it may be possible to align the horizontal oscillator by making slight adjustments. If this fails it will be necessary to completely re-align the horizontal oscillator circuit.

Tune in a TV station and adjust tuning for best sound quality. Sync the picture and adjust the contrast control to slightly less than normal position. Turn the horizontal hold control to the point where the horizontal oscillator fails to hold or pull in. Remove signal. Turn B1 frequency adjustment (located at rear of chassis) until oscillator pulls into sync. Now check the pull-in and hold for the other extreme of the horizontal hold control.

COMPLETE ALIGNMENT:

Tune in a TV station for the best SOUND quality. Adjust VERTICAL hold control to vertically sync the picture and adjust the contrast control to slightly less than normal. Turn B1 frequency adjustment until picture syncs horizontally. If blanking bar is present on picture adjust B2 (phasing adjust screw) until blanking bar moves to the right and off the raster. If ripples occur in the raster turn B2 in a clockwise direction until the unstable condition is removed. The length of this adjustment screw in its correct position is usually about 1/2 inch beyond the bushing.

Turn horizontal hold control fully counter-clockwise and adjust B1 until picture fails to sync. Now slowly turn B1 to the point where the picture syncs again. Readjust B2 so that the left side of picture is close to the left side of the raster but does not fold over.

Turn horizontal hold fully clockwise. Right side of picture should be close to right side of raster but does not fold over. If picture does fold over, readjust B2.

When signal is restored after momentary removal of the signal, the picture should fall into sync. If picture fails to fall into sync. turn B1 counter-clockwise until picture syncs in.

Turn horizontal hold fully counter-clockwise. Picture should fall back into sync. after momentary removal of signal.

If picture fails to pull in sync after momentary removals of the signal in both extremes of the horizontal hold control, there may not be a sufficient pull-in range, though not necessarily. A pull-in of 3/4 of the hold control range should be satisfactory.

Excessive pull-in is objectionable because high control circuit sensitivity gives greater reaction to noise pulses. This may also affect the vertical sync and equalizing pulses which tend to cause a bend in the top portion of the raster.

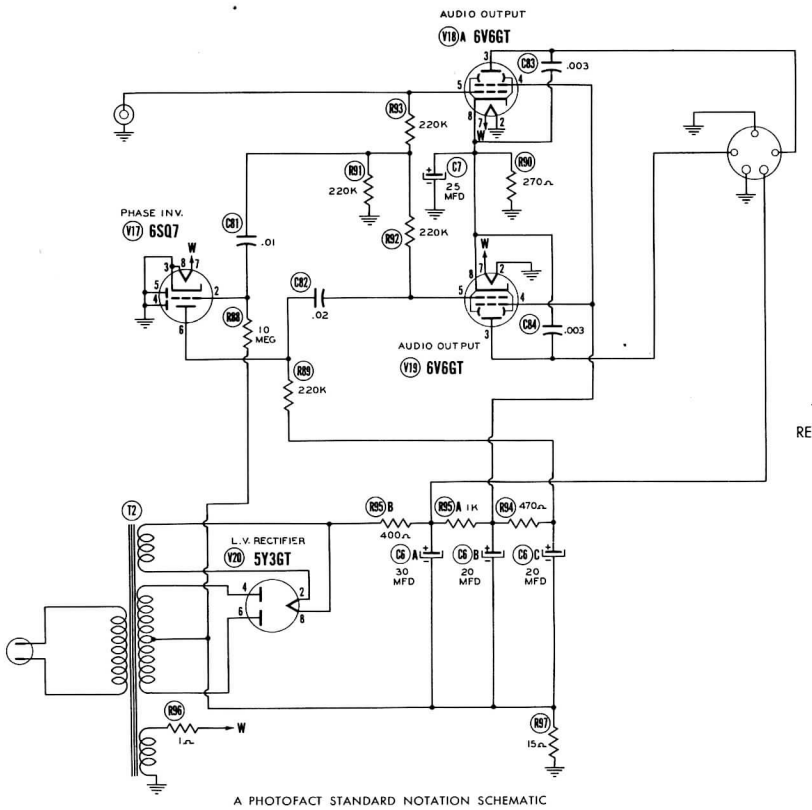
HORIZONTAL LINEARITY ADJUSTMENTS

On some models of these sets, the horizontal width and horizontal linearity adjustments are slugs, on other models the horizontal linearity is a potentiometer. The latter may or may not have a horizontal width adjustment.

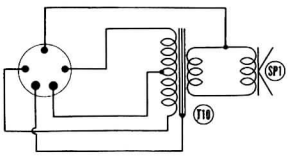
Turn the horizontal drive control clockwise as far as possible without crowding the right side of the picture. If the set has a width adjustment, adjust it so picture fills the mask horizontally. Adjust the horizontal linearity for best linearity of the right half of the picture. (readjustment of the horizontal drive control may be necessary for proper results). Center the picture with the centering control.

DISASSEMBLY INSTRUCTIONS - MODEL 461-P

1. Remove four push-on type control knobs.
2. Remove six screws holding rear cover. Open cover.
3. Remove two 3/16" hex head bolts holding interlock on rear cover. Remove interlock.
4. Disconnect picture tube HV cap, bare socket and yoke plug.
5. Disconnect two plugs on rear of TV chassis.
6. Loosen 1/4" hex head bolt holding ground wire on yoke. Remove wire.
7. Remove four 5/16" hex head bolts holding TV chassis. Remove chassis.
8. Free cabling from clamps and feed thru holes to their respective chassis.
9. Remove four screws holding HV chassis. Remove chassis.
10. Disconnect speaker plug.
11. Remove four screws holding audio chassis mounting board to cabinet. Remove chassis on mounting board.
12. Remove four 3/8" hex nuts holding speaker. Remove speaker.
13. Remove four 3/8" hex nuts holding picture tube. Remove tube.



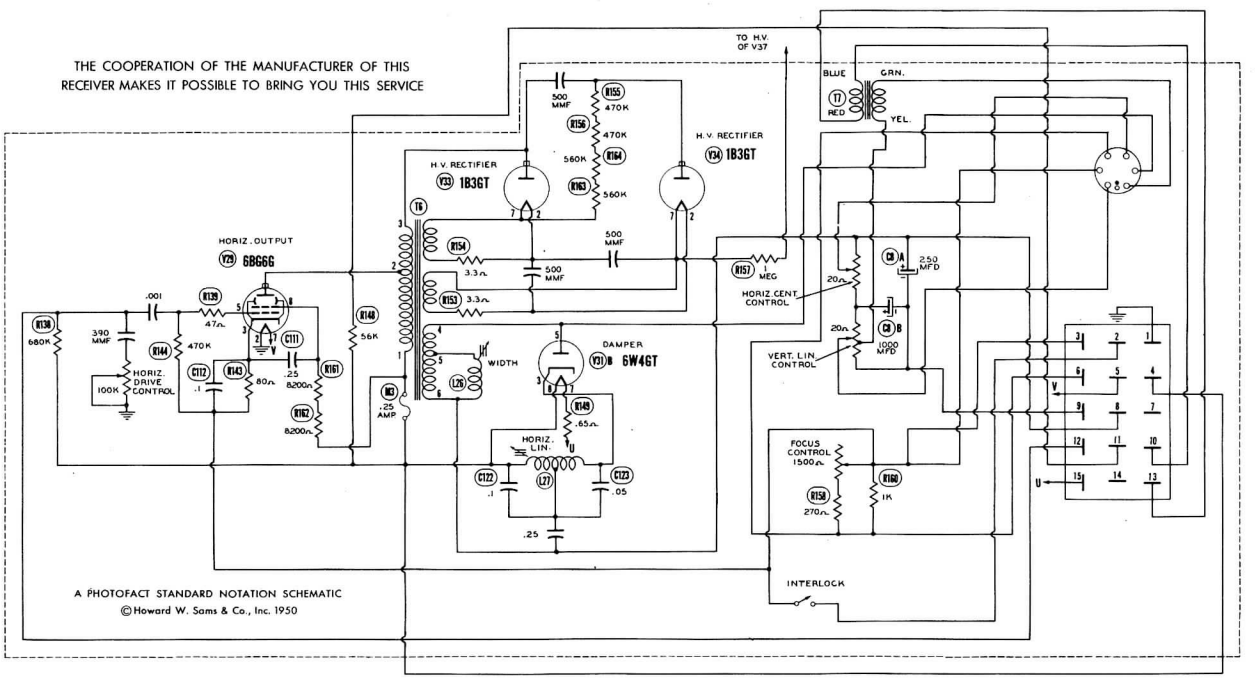
A PHOTOFACT STANDARD NOTATION SCHEMATIC



THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

AUDIO AMPLIFIER CHASSIS A-13

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE



A PHOTOFACT STANDARD NOTATION SCHEMATIC

HIGH VOLTAGE SUPPLY USED IN CHASSIS C-265&266

VOLTAGE AND RESISTANCE MEASUREMENTS

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6J6	125VDC	125VDC	6.3VAC	0V.	-.1VDC	-.1VDC	0V.		
V 2	6J6	120VDC	120VDC	6.3VAC	0V.	-2.7VDC	-2VDC	0V.		
V 3	6J6	70VDC	70VDC	6.3VAC	0V.	§-3.4VDC	§-3.2VDC	.2VDC		
V 4	6AG5	-2VDC	.2VDC	6.3VAC	0V.	92VDC	92VDC	.2VDC		
V 5	6AG5	-.5VDC	.2VDC	6.3VAC	0V.	97VDC	97VDC	.2VDC		
V 6	6AG5	-.6VDC	.2VDC	6.3VAC	0V.	85VDC	100VDC	.2VDC		
V 7	6AG5	0V.	1VDC	6.3VAC	0V.	85VDC	105VDC	1VDC		
V 8	6AL5	0V.	-95VDC	6.3VAC	0V.	-95VDC	0V.	-.3VDC		
V 9	6AU6	-.7VDC	0V.	6.3VAC	0V.	225VDC	110VDC	0V.		
V 10	6K6GT	0V.	0V.	87VDC	112VDC	-2VDC	-10VDC	6.3VAC	2.7VDC	
V 11	6AL5	-80VDC	-2.2VDC	0V.	6.3VAC	-.6VDC	0V.	-92VDC		
V 12	6AT6	-90VDC	-92VDC	6.3VAC	0V.	-95VDC	-90VDC	-.1VDC		
V 13	6BA6	0V.	0V.	6.3VAC	0V.	100VDC	100VDC	1.1VDC		
V 14	6BA6	0V.	0V.	0V.	6.3VAC	100VDC	100VDC	1.2VDC		
V 15	6AU6	-.3VDC	0V.	6.3VAC	0V.	45VDC	45VDC	0V.		
V 16	6T8	-.4VDC	-.4VDC	0V.	0V.	6.3VAC *	0V.	0V.	0V.	75VDC
V 17	6SQ7GT	0V.	-.4VDC	0V.	0V.	0V.	145VDC	5.7VAC	0V.	
V 18	6V6GT	0V.	0V.	315VDC	320VDC	0V.	0V.	5.7VAC	20VDC	
V 19	6V6GT	0V.	0V.	315VDC	320VDC	0V.	0V.	5.7VAC	20VDC	
V 20	5Y3GT	0V.	350VDC	0V.	350VAC	0V.	350VAC	0V.	350VDC	
V 21	6SK7	0V.	6.3VAC	0V.	-.7VDC	0V.	105VDC	0V.	205VDC	
V 22	6SH7	0V.	6.3VAC	0V.	-1.4VDC	0V.	112VDC	0V.	110VDC	
V 23	6SN7GT	¶-.2VDC	¶11VDC	¶0V.	-.9VDC	75VDC	0V.	0V.	6.3VAC	
V 24	6J5	0V.	6.3VAC	¶80VDC ¶320VDC	¶0V.	¶-3.4VDC	¶2.6VDC	0V.	¶0V.	
V 25	6K6GT	0V.	6.3VAC	¶290VDC	¶290VDC	¶0V.	¶27VDC ¶37VDC	0V.	¶27VDC ¶37VDC	
V 26	6AL5	-.7VDC	-5.4VDC	0V.	5.1VAC	-1.9VDC	0V.	-6.8VDC		
V 27	6AC7	0V.	6.3VAC	0V.	-1VDC	.1VDC	90VDC	0V.	200VDC	
V 28	6K6GT	0V.	6.3VAC	190VDC	215VDC	-30VDC	-20VDC	0V.	.2VDC	
V 29	6BG6G	0V.	0V.	17VDC	375VDC	0V.	37VDC	6.3VAC	295VDC	TOP CAP *
V 30	6BG6G	0V.	0V.	17VDC	0V.	0V.	295VDC	6.3VAC	295VDC	TOP CAP *
V31	5V4G	0V.	320VDC	200VDC	280VDC	0V.	280VDC	0V.	320VDC	
V32	6AS7G	205VDC	280VDC	280VDC	205VDC	280VDC	280VDC	315VDC	315VDC	
V33	1B3GT	* DO NOT MEASURE								
V34	1B3GT	* DO NOT MEASURE								
V35	5U4G	0V.	290VDC	0V.	380VAC	0V.	380VAC	0V.	290VDC	
V36	5U4G	0V.	290VDC	0V.	380VAC	0V.	380VAC	0V.	290VDC	
V37	12LP4	0V.	-75VDC	PIN 10 270VDC	PIN 11 0V.	PIN 12 6.3VAC				

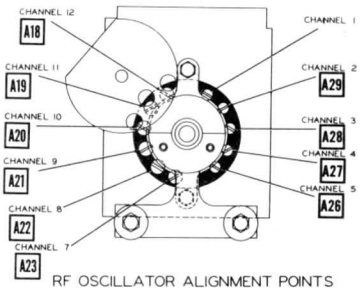
§ TAKEN WITH VACUUM TUBE VOLTMETER.
* DO NOT MEASURE.
¶ MEASURED FROM PIN 3 OF V23.
NOTE: CONTRAST CONTROL SET AT MAXIMUM FOR THESE MEASUREMENTS.

RESISTANCE READINGS

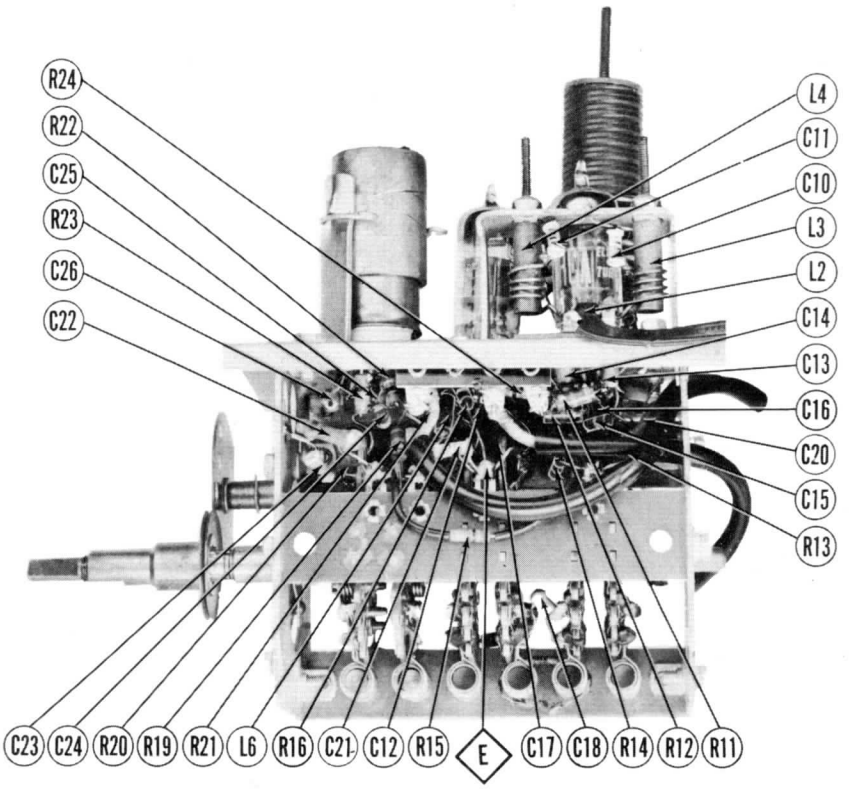
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6J6	†5.5KΩ	†5.5KΩ	.1Ω	0Ω	70KΩ	†70KΩ	0Ω		
V 2	6J6	†3KΩ	†3KΩ	.1Ω	0Ω	1 Meg.	1 Meg.	0Ω		
V 3	6J6	†6.8KΩ	†6.8KΩ	.1Ω	0Ω	100KΩ	100KΩ	47Ω		
V 4	6AG5	320KΩ	39Ω	.1Ω	0Ω	†2.8KΩ	†2.6KΩ	39Ω		
V 5	6AG5	320KΩ	39Ω	.1Ω	0Ω	†2.6KΩ	†2.5KΩ	39Ω		
V 6	6AG5	320KΩ	39Ω	.1Ω	0Ω	†5KΩ	†2.2KΩ	39Ω		
V 7	6AG5	.1Ω	150Ω	.1Ω	0Ω	†7.5KΩ	†2.2KΩ	150Ω		
V 8	6AL5	.1Ω	¶10KΩ	.1Ω	0Ω	¶82KΩ	0Ω	4KΩ		
V 9	6AU6	470KΩ	0Ω	.1Ω	0Ω	†10KΩ	†1.2KΩ	0Ω		
V 10	6K6GT	Inf	0Ω	†4.7KΩ	†1.2KΩ	500KΩ	65Ω	.1Ω	330Ω	
V 11	6AL5	1.2Meg.	47KΩ	0Ω	.1Ω	320KΩ	0Ω	200KΩ		
V 12	6AT6	¶650KΩ	¶330Ω	.1Ω	0Ω	¶82KΩ	¶82KΩ	†100KΩ		
V 13	6BA6	0Ω	0Ω	.1Ω	0Ω	†2.2KΩ	†2.2KΩ	100Ω		
V 14	6BA6	470KΩ	0Ω	0Ω	.1Ω	†2.2KΩ	†4.7KΩ	100Ω		
V 15	6AU6	22KΩ	0Ω	.1Ω	0Ω	†7KΩ	†7KΩ	0Ω		
V 16	6T8	100KΩ	100KΩ	200KΩ	0Ω	.1Ω	0Ω	0Ω	2 Meg.	†430KΩ
V 17	6SQ7GT	0Ω	10Meg.	0Ω	0Ω	0Ω	#220KΩ	.5Ω	0Ω	
V 18	6V6GT	0Ω	0Ω	#580Ω	#1.4KΩ	440KΩ	220KΩ	.5Ω	270Ω	
V 19	6V6GT	0Ω	0Ω	#580Ω	#1.4KΩ	440KΩ	220KΩ	.5Ω	270Ω	
V 20	5Y3GT	Inf.	200KΩ	Inf.	7Ω	Inf.	68Ω	.5Ω	200KΩ	
V 21	6SK7	0Ω	.1Ω	0Ω	1Meg.	0Ω	†2.2KΩ	0Ω	†9.5KΩ	
V 22	6SH7	0Ω	.1Ω	0Ω	1 Meg.	0Ω	†1.2KΩ	0Ω	†8KΩ	
V 23	6SN7GT	¶220KΩ	▲680KΩ	¶0Ω	1 Meg.	†7KΩ	0Ω	0Ω	.1Ω	
V 24	6J5	0Ω	.1Ω	▲2.7Meg. ▲300KΩ	¶65KΩ	¶2.6 Meg.	¶100KΩ	0Ω	¶0Ω	
V 25	6K6GT	Inf.	.1Ω	†11KΩ	†11KΩ	¶2.2Meg.	¶15KΩ ¶10KΩ	0Ω	¶6.8KΩ ¶1.8KΩ	
V 26	6AL5	1 Meg.	1.5Meg.	0Ω	2Ω	12Ω	0Ω	1.5 Meg.		
V 27	6AC7	0Ω	.1Ω	0Ω	1.5Meg	10Ω	†18KΩ	0Ω	†23KΩ	
V 28	6K6GT	Inf.	.1Ω	†5KΩ	†10KΩ	80KΩ	50KΩ	0Ω	9Ω	
V 29	6BG6G	Inf.	0Ω	¶80Ω	†27Ω	¶470KΩ	▲9KΩ	.1Ω	▲9KΩ	TOP CAP ▲86Ω
V 30	6BG6G	Inf.	0Ω	¶80Ω	Inf.	¶470KΩ	¶200Ω	.1Ω	▲9KΩ	TOP CAP ▲86Ω
V31	5V4G	Inf.	700KΩ	†23KΩ	†30Ω	Inf.	†30Ω	Inf.	700KΩ	
V32	6AS7G	†1.1 Meg.	†30Ω	†27Ω	†1.1Meg.	†30Ω	†27Ω	700KΩ	700KΩ	
V33	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	TOP CAP ▲160Ω
V34	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	TOP CAP Inf.
V35	5U4G	Inf.	5.5KΩ	Inf.	♦11Ω	Inf.	♦10Ω	Inf.	5.5KΩ	
V36	5U4G	Inf.	5.5KΩ	Inf.	♦11Ω	Inf.	♦10Ω	Inf.	5.5KΩ	
V37	12LP4	0Ω	1.4Meg.	PIN 10 †68Ω	PIN 11 0Ω	PIN 12 .1Ω				

♦ MEASURED FROM CENTER-TAP OF T1.
† MEASURED FROM PIN 8 OF V35.
# MEASURED FROM PIN 2 OF V20.
▲ MEASURED FROM PIN 8 OF V31.
¶ MEASURED FROM PIN 3 OF V23.

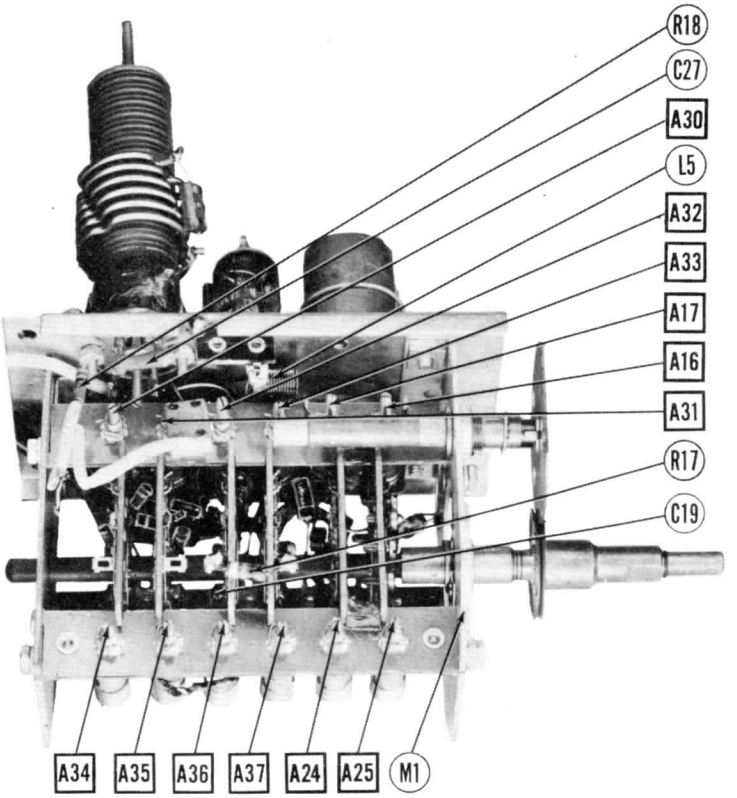
1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltage measured at 1,000 ohms.
2. Pin numbers are counted in a clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line voltage maintained at 117 volts for voltage readings.
5. Front panels controls set at minimum.
6. Where readings may vary according to the setting of the service controls, both minimum and maximum readings are given.



RF OSCILLATOR ALIGNMENT POINTS



RF TUNER (NO. 13872) - RIGHT SIDE



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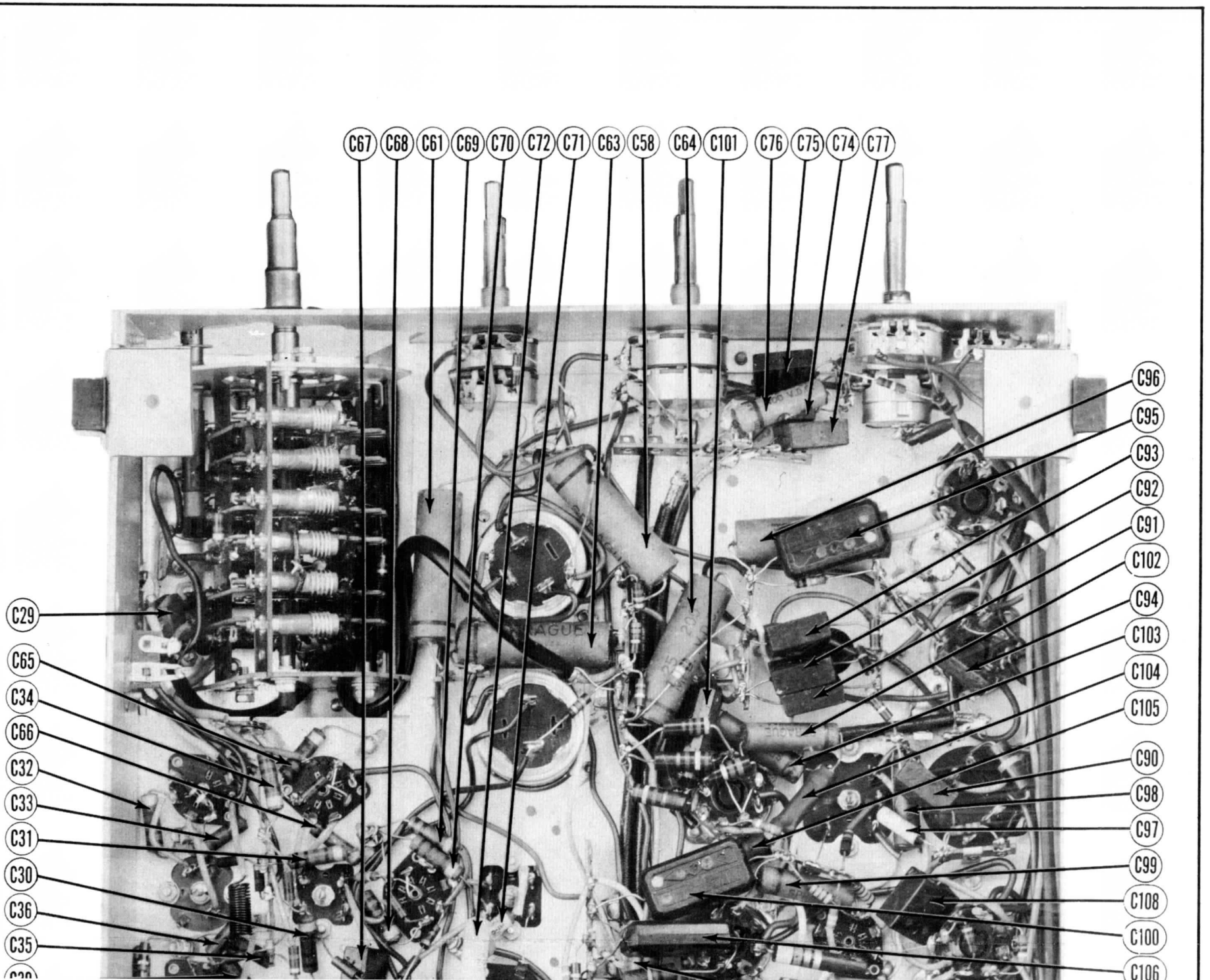
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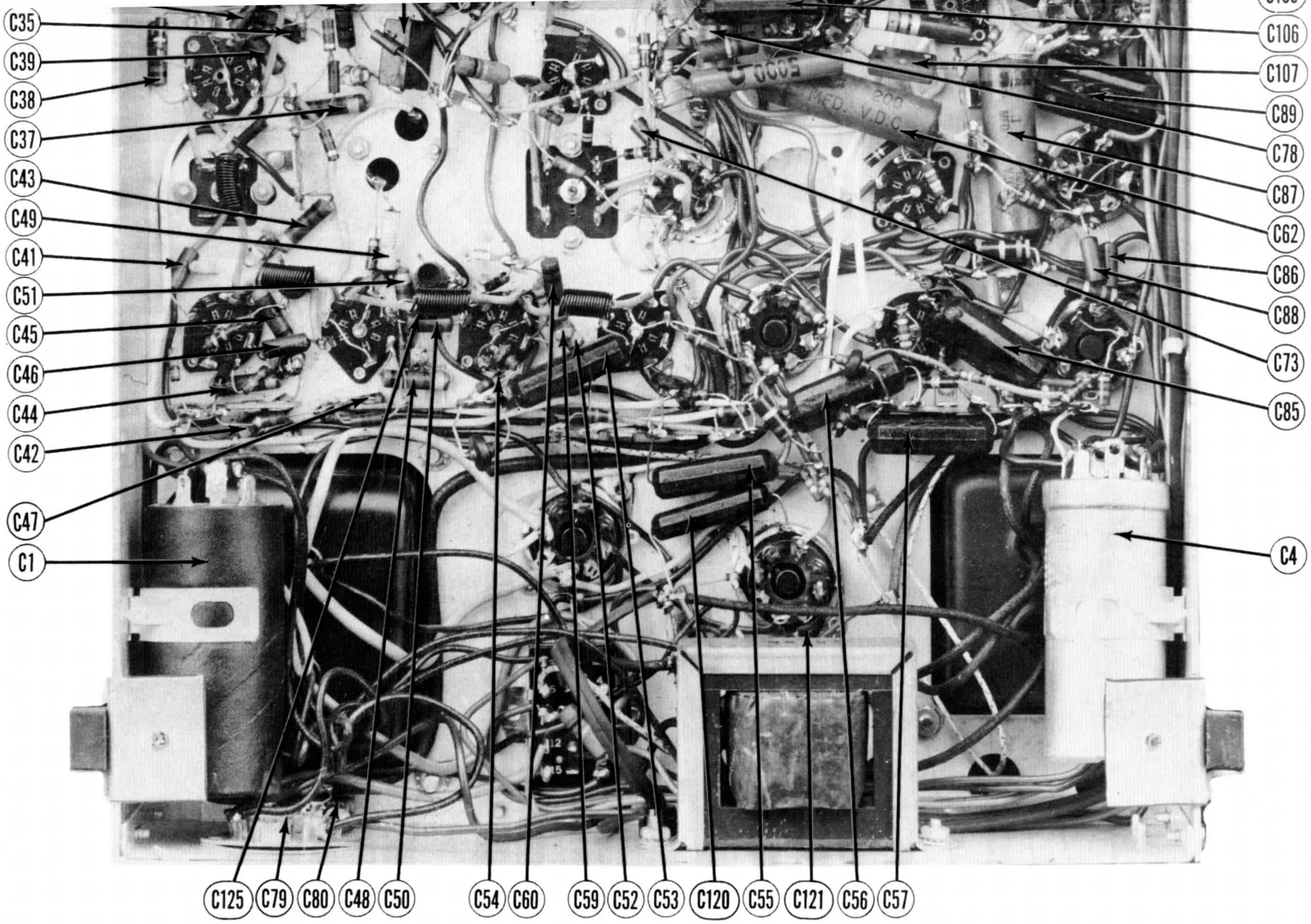
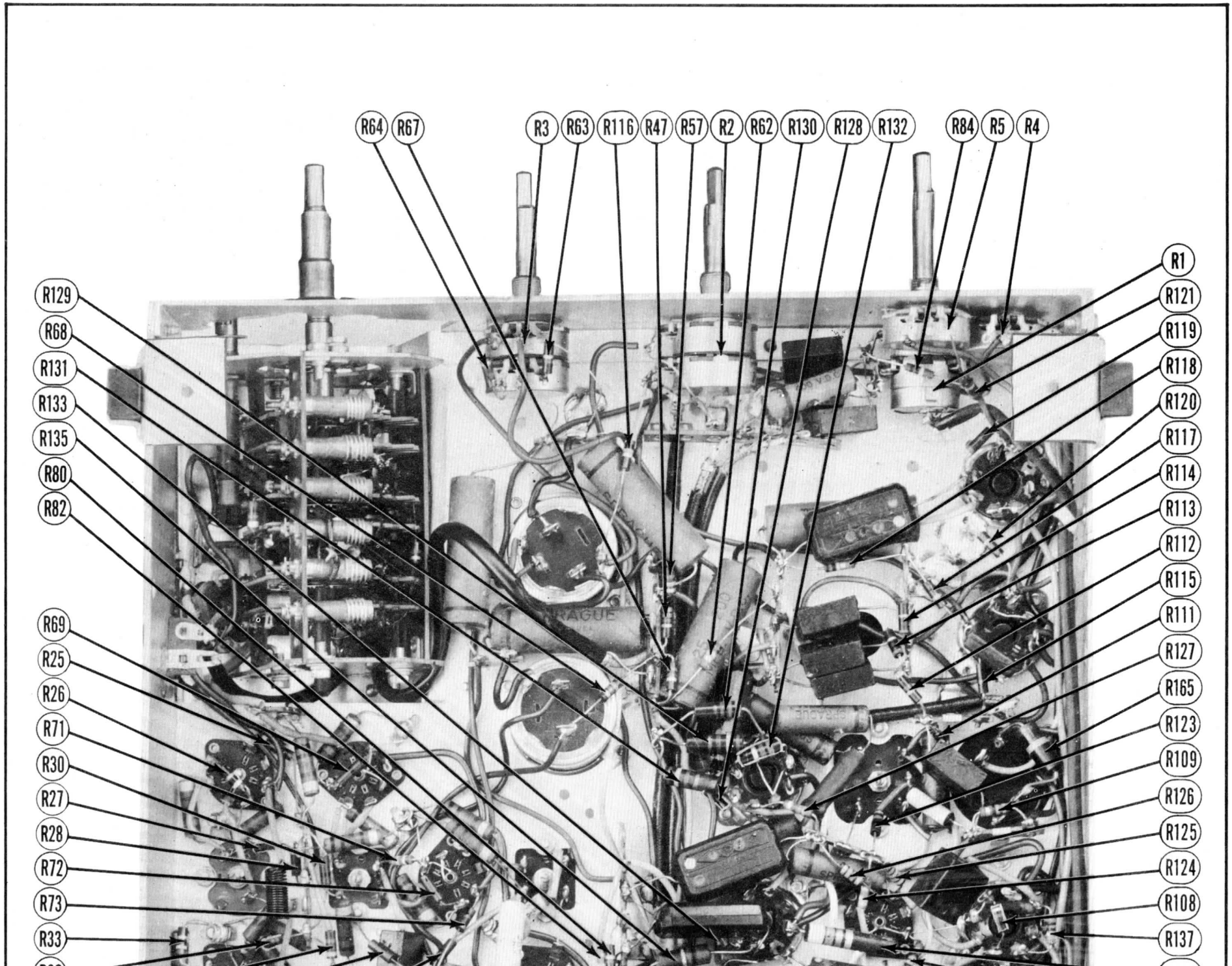


CHASSIS BOTTOM VIEW-CAPACITOR IDENTIFICATION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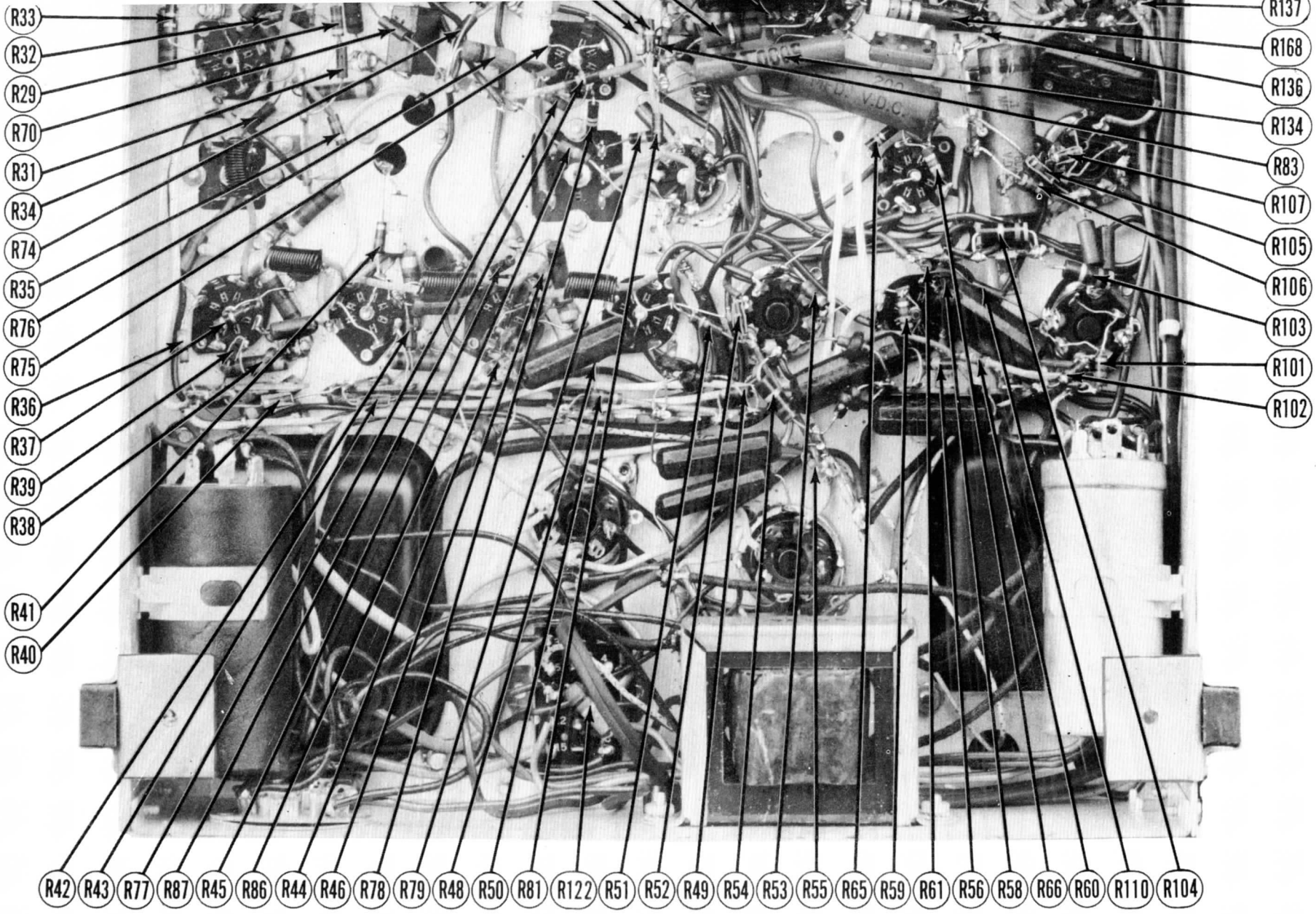

CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		CAPEHART PART No.	STANDARD REPLACEMENT		
V1	RF Amp.	6J6	6J6	7BF	
V2	Mixer	6J6	6J6	7BF	
V3	Oscillator	6J6	6J6	7BF	
V4	lst Video IF	6AG5	6AG5	7BD	
V5	2nd Video IF	6AG5	6AG5	7BD	
V6	3rd Video IF	6AG5	6AG5	7BD	
V7A	4th Video IF	6AG5	6AG5	7BD	
B	4th Video IF	6AH6	6AH6	7BK	
V8	Video Det.-AGC Rectifier	6AL5	6AL5	6BT	
V9	Video Amp.	6AU6	6AU6	7BK	
V10	Video Output	6K6GT	6K6GT	7S	
V11	DC Restorer-AGC Limiter	6AL5	6AL5	6BT	
V12	AGC Amp.	6AT6	6AT6	7BT	
V13	lst Sound IF	6BA6	6BA6	7BK	
V14	2nd Sound IF	6BA6	6BA6	7BK	
V15	Limiter	6AU6	6AU6	7BK	
V16	Disc.-AF Amp.	6T8	6T8	9E	
V17	Phase Inv.	6SQ7GT	6SQ7GT	8Q	
V18A	Audio Output	6V6GT	6V6GT	7AC	Chassis A-13
B	Audio Output	6K6GT	6K6GT	7S	Chassis C-267
V19	Audio Output	6V6GT	6V6GT	7AC	
V20	LV Rectifier	5Y3GT	5Y3GT	5T	
V21	lst Sync. Amp.	6SK7	6SK7	8N	
V22	Sync. Sep.	6SH7	6SH7	8BK	
V23	2nd Sync. Amp.-Hor. Disch.	6SN7GT	6SN7GT	8BD	
V24	Vert. Osc. & Disch.	6J5	6J5	6Q	
V25A	Vert. Output	6K6GT	6K6GT	7S	Chassis U-12, U-12A
B	Vert. Output	6V6GT	6V6GT	7AC	Chassis C-267
V26	Hor. Sync. Disc.	6AL5	6AL5	6BT	
V27	Hor. AFC	6AC7	6AC7	8N	
V28	Hor. Osc.	6K6GT	6K6GT	7S	
V29	Hor. Output	6BG6G	6BG6G	5BT	
V30	Hor. Output	6BG6G	6BG6G	5BT	Chassis C-271, C-255
V31A	Damper	5V4G	5V4G	5L	Chassis C-271, C-255
B	Damper	6W4GT	6W4GT	4CG	Chassis C-265, C-266
V32	Damper	6AS7G	6AS7G	8BD	
V33	HV Rectifier	1B3GT	1B3GT	3C	
V34	HV Rectifier	1B3GT	1B3GT	3C	
V35	LV Rectifier	5U4G	5U4G	5T	
V36	LV Rectifier	5U4G	5U4G	5T	
V37A	Picture Tube	125	12LP4	12D	
B	Picture Tube	10FP4	10FP4	12D	
C	Picture Tube	100	10BP4	12D	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	CAPEHART PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	
C1A	40	450	25467	AFH882J	UP9CJ897		TVL-30	▲ Filter
B	40	450						■ Filter
C	10	450						▲ Vert. Output Decoupling
C2A	40	450	25466	AFH82J16D	UP9CJ915		TVL-25	▲ Filter
B	10	450						■ Vert. Osc. Decoupling
C	80	200						▲ Filter
C3A	80	450	25468	AFH16J10B	UP9BJ730		TVL-18	▲ Filter
B	50	50						▲ Vert. Output Decoupling
C4A	40	450	25469	AFH82J2H	UP9CJ731		TVL-53	▲ Filter
B	10	450						■ Decoupling
C	10	350						▲ Low Pass Filter
C5A	20	450	25470	AFH4J16H	UP9BJ337		TVL-16	▲ AF Plate Decoupling
B	80	350						▲ Filter
C6A	30	450	25424	AF644J	UP32245		EL-420 ♦	▲ Filter
B	20	450						■ Filter
C	20	450						▲ Filter
C7	25	25	25128	PRS25/25	BR252A		TVA-6	Output Cathode Bypass
C8A	250	10	25471	PRS12/250	UP7BJ808		TVL-66	▲ Hor. Cent. Cont. Bypass
B	1000	6		PRS6/1000				▲ Vert. Cent. Cont. Bypass
C9	10	450		PRS450/10	BR1045		TVA-21	Output Decoupling *
C10	10					NPOK-10		Fixed Trimmer
C11	10					NPOK-10		Fixed Trimmer
C12	1500					GP2L-0015		AGC Filter
C13	270					GP2K-270		RF Coupling
C14	270					GP2K-270		RF Coupling
C15	1.5					NPOK-1.5		Neutralizing
C16	1.5					NPOK-1.5		Neutralizing
C17	.68							RF Coupling
C18	4.7					NPOK-4.7		RF Coupling
C19	2.2							RF Coupling
C20	1500					GP2L-0015		RF Decoupling
C21	22							Fixed Trimmer
C22	1500					GP2L-0015		Osc. Decoupling
C23	10					NPOK-10		Fixed Trimmer
C24	4.7					NPOK-4.7		Osc. Feedback
C25	4.7					NPOK-4.7		Osc. Feedback
C26	1500					GP2L-0015		Filament Bypass
C27	1500					GP2L-0015		Mixer Decoupling
C28	68	300						Fixed Trimmer
C29	270	500		1468-00025	5W5T25	GP2K-270	1FM-325	IF Coupling
C30	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	RF Bypass
C31	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	RF Bypass
C32	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	lst V. IF Decoupling
C33	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	lst V. IF Fil. Bypass
C34	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	AGC Filter
C35	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	AGC Filter
C36	270		25475	1468-00025	5W5T25	GP2K-270	1FM-325	IF Coupling
C37	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	RF Bypass
C38	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	2nd V. IF Decoupling

CAPACITORS (CONT.)

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA CAPEHART PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C39	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	2nd V. IF Fil ament Bypass
C40	43							Fixed Trimmer
C41	270		25475	1468-00025	5W5T25	GP2K-270	1FM-325	IF Coupling
C42	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	AGC Filter
C43	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	RF Bypass
C44	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	3rd V. IF Decoupling
C45	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	3rd V. IF Fil. Bypass
C46	270		25475	1468-00025	5W5T25	GP2K-270	1FM-325	IF Coupling
C47	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	RF Bypass
C48	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	4th V. IF Decoupling
C49	82		25476	1468-0001	5W5T1	GP1K-100	1FM-31	4th V. IF Cath. Bypass
C50	270		25475	1468-00025	5W5T25	GP2K-270	1FM-325	IF Coupling
C51	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	4th V. IF Fil. Bypass
C52	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	V. Det. Fil. Bypass
C53	.05	600	25482-1	P688-05	GT6S5		TM-15	Video Coupling
C54	10		25479	1468-00001	5W5Q1	GP1K-10	MS-41	V. Diode Filter
C55	.05	600	25482-1	P688-05	GT6S5		TM-15	Video Coupling
C56	.05	600	25482-1	P688-05	GT6S5		TM-15	Video Coupling
C57	.05	600	25482-1	P688-05	GT6S5		TM-15	Video Coupling
C58	.25	200	25480-1	P488-25	GT2P25		TC-2	DC Res. Diode Dec.
C59	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	AGC Filter
C60	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	RF Bypass
C61	.25	200	25480-1	P488-25	GT2P25		TC-2	AGC Filter
C62	.25	200	25480-1	P488-25	GT2P25		TC-2	AGC Filter
C63	.25	200	25480-1	P488-25	GT2P25		TC-2	AGC Filter
C64	.25	200	25480-1	P488-25	GT2P25		TC-2	AGC Filter
C65	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	1st S. IF Cath. Bypass
C66	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	1st S. IF Decoupling
C67	.01	600	25482-4	P688-01	GT6S1	GP2-335-01	TM-11	2nd S. IF Grid Filter
C68	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	2nd S. IF Cath. Bypass
C69	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	2nd S. IF Screen Bypass
C70	1500		25273	1467-0015	1W5D15	GP2L-0015	1FM-215	2nd S. IF Plate Decoupling
C71	51		25477	1468-.00005	5W5Q5	GP1K-50	1FM-45	Limiter Grid Filter
C72	5000		25473	1467-005	1D5D5	GP2M-005	1FM-25	Limiter Decoupling
C73	270		25475	1468-00025	5W5T25	GP2K-270	1FM-325	RF Bypass
C74	.002	600	25482-9	P688-002	GT6D2	GP2M-002	TM-22	Tone Compensation
C75	.003	600	25482-7	P688-003	GT6D3	GP2M-003	TM-23	Tone Compensation
C76	.02	400	25480-15	P488-02	GT4S2		TM-12	Audio Coupling
C77	.01	600	25482-4	P688-01	GT6S1	GP2-335-01	TM-11	Audio Coupling
C78	.05	200	25482-1	P288-05	GT2S5		TM-15	Bias Filter †
C79	500		25474	1468-0005	5W5T5	GP2K-500	1FM-35	AF Plate Bypass
C80	.005	600	25482-5	P688-005	GT6D5	GP2M-005	TM-25	Audio Coupling
C81	.01	600	25194	P688-01	GT6S1	GP2-335-01	TM-11	Audio Coupling ‡
C82	.02	600	25195	P688-02	GT6S2		TM-12	Audio Coupling ‡
C83	.003	600	25184	P688-003	GT6D3	GP2M-003	TM-23	Output Plate Bypass ‡
C84	.003	600	25184	P688-003	GT6D3	GP2M-003	TM-23	Output Plate Bypass †
C85	.05	600	25482-2	P688-05	GT6S5		TM-15	Sync. Coupling
C86	270		25475	1468-00025	5W5T25	GP2K-270	1FM-325	1st Sync. Amp. Plate Bypass
C87	.1	600	25480-2	P688-1	GT6P1		TM-1	1st Sync. Amp. Plate Decoupling
C88	270		25475	1468-00025	5W5T25	GP2K-270	1FM-325	Sync. Coupling
C89	.05	600	25482-2	P688-05	GT6S5		TM-15	Sync. Coupling
C90	.01	600	25482-4	P688-01	GT6S1	GP2-335-01	TM-11	Vert. Sync. Coupling
C91	.002	600	25482-9	P688-002	GT6D2	GP2M-002	TM-22	Integrator Net.
C92	.005	600	25482-5	P688-005	GT6D5	GP2M-005	TM-25	Integrator Net.
C93	.005	600	25482-5	P688-005	GT6D5	GP2M-005	TM-25	Integrator Net.
C94	4700	500	25472	1467-005	1D5D5	GP2M-0047	1FM-25	Vert. Osc. Grid Cap.
C95	.05	600	25482-2	P688-05	GT6S5		TM-15	Vert. Discharge
C96	.1	600	25480-2	P688-1	GT6P1		TM-1	Vert. Sweep Coupling
C97	82		25476					Hor. Sync. Coupling
C98	.015	400	25480-5	P488-015	GT6S15			Fixed Trimmer
C99	.004	600	25480-8	P688-004	GT6D4		TM-24	AFC Filter
C100	.05	600	25482-1	P688-05	GT6S5		TM-15	AFC Filter
C101	.05	600	25482-1	P688-05	GT6S5		TM-15	AFC Filter
C102	.004	600	25480-8	P688-004	GT6D4		TM-24	AFC Coupling
C103	.015	400	25480-5	P488-015	GT6S15			Phase Shifter
C104	1200		25454-2					Phase Shifter
C105	.004	600	25480-8	P688-004	GT6D4		TM-24	Hor. Osc. Grid Cap.
C106	.05	600	25482-1	P688-05	GT6S5		TM-15	Hor. Osc. Screen Bypass
C107	390	500	25446	1468-0004	5W5T4	GP2K-390	1FM-34	Differentiator Net.
C108	.01	600	25482-4	P688-01	GT6S1	GP2-335-01	TM-11	Hor. Sweep Coupling
C109	680	500	25503		2R5T7	GP2K-680	MS-37	Hor. Discharge #
C110	.001	600	25482-3	P688-001	GT6D1	GP2L-001	TM-21	Hor. Sweep Coupling
C111	.25	600	25480-14	P688-25	GT6P25		TC-2	Hor. Output Screen Bypass
C112	.1	200	25480-12	P288-1	GT2P1		TM-1	Hor. Output Cath. Bypass
C113	150	1200	25508-1	1456-00015				Fixed Trimmer
C114	150	1200	25508-1	1456-00015				Hor. Sweep Coupling
C115	.25	600	25480-14	P688-25	GT6P25		TC-2	Damper Filter
C116	.01	600	25482-4	P688-01	GT6S1	GP2-335-01	TM-11	Hor. Sweep Coupling
C117	500	15000	25498			410-500		Voltage Doubler Cap.
C118	500	15000	25498			410-500		HV Filter
C119	500	15000	25498			410-500		HV Filter
C120	.01	600	25209	P688-01	GT6S1	GP2-335-01	TM-11	Line Filter
C121	.01	600	25209	P688-01	GT6S1	GP2-335-01	TM-11	Line Filter
C122	.1	600		P688-1	GT6P1		TM-1	Damper Filter §
C123	.05	600		P688-05	GT6S5		TM-15	Damper Filter §
C124	.003	600	25184	P688-003	GT6D3	GP2M-003	TM-23	Output Plate Bypass *
C125	33		25478	1468-00004	5W5Q4	GP1K-33	1FM-44	IF Coupling

* Used only in model 462P12.
† Used only in chassis U12 and C-267.
‡ Used only in chassis U12 and U12A.
§ Used only in chassis C265 and C266.
# Chassis C265 and C266 use 390MMF in this application.
♦ Parallel sections to obtain desired capacity.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA CAPEHART PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
R1A	1000Ω	½	78161	B11-108 *		Contrast control, rear
B	50KΩ	½		B11-123 *		Brightness control, panel
C	Shaft End			E202 *		Attach per instructions in "Concentrikit".

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA CAPEHART PART No.	IRC PART No.	C
R2A	1 Meg.	½	78160	B11-137 *	
B	50KΩ	½		B11-123 *	
C	Shaft End			E202 *	
R3A	3 Meg.	½	78164		
B	3 Meg.	½			
R4A	5000Ω	½	78163	Q11-114	A1
B	Shaft		Not Req.	RQ	K5
R5A	2.5 Meg.	½	78162	Q11-239	A1
B	Shaft		Not Req.	RQ	K5
R6	20KΩ	½	78167	Q11-119	M
R6	100KΩ	½			
R7	100KΩ	½	78163	Q11-128	M
R8	20Ω	2	78166-1	W-20X10	43
R9	20Ω	2	78166-2	W-20	43
R10	1500Ω	4	78165		10

* Additional parts to be used with "Concentrikit".
Note 1. Used only in HV power supply chassis C265 an
Note 2. Not used in HV power supply chassis C265 and

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ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA CAPEHART PART No.	IRC PART No
R11	150Ω	½		
R12	150Ω	1		
R13	4700Ω 20%	2		
R14	4700Ω 20%	2		
R15	1000Ω 20%	2		BTS-1000
R16	1 Meg. 20%	2		
R17	10KΩ	2		
R18	1000Ω 20%	2		BTS-1000
R19	150Ω	2		
R20	4700Ω 20%	2		BTS-4700
R21	47Ω 20%	2		
R22	100KΩ 20%	2		
R23	100KΩ 20%	2		
R24	1000Ω 20%	2		BTS-1000
R25	10KΩ 5%	2	77212	
R26	39Ω	2	77478	
R27	1000Ω 20%	2	77233	BTS-1000
R28	150Ω	2	77188	
R29	150Ω	2	77188	
R30	1000Ω 20%	2	77233	BTS-1000
R31	1000Ω 20%	2	77233	BTS-1000
R32	10KΩ 5%	2	77212	
R33	39Ω	2	77478	
R34	1000Ω 20%	2	77233	BTS-1000
R35	150Ω	2	77188	
R36	4700Ω 5%	2	77211	BTS-4700-5%
R37	39Ω	2	77478	
R38	2700Ω 5%	2	77420	BTS-2700-5%
R39	1000Ω 20%	2	77233	BTS-1000
R40	150Ω	2	77188	
R41	150Ω	2	77188	
R42	5600Ω 5%	2	77474	
R43	1000Ω 20%	2	77233	BTS-1000
R44	3900Ω 5%	2	77475	BTS-3900-5%
R45	10KΩ 5%	2	77212	BTS-10K-5%
R46	82KΩ	2	77468	BTS-82K
R47	68KΩ	2	77068	BTS-68K
R48	470KΩ	2	77204	BTS-470K
R49	3300Ω	2	77195	BTS-3300
R50	6800Ω	2	77148	BTS-6800
R51	820KΩ 5%	2	77466	BTS-820K-5%
R52	1.2 Meg. 5%	2	77465	BTS-1.2 Meg
R53	330Ω	2	77191	
R54	3300Ω	1	77476	BTA-3300
R55	10KΩ	2	77212	BTS-10K
R56	100KΩ	2	77201	BTS-100K
R57	150KΩ	2	77252	BTS-150K
R58	1 Meg.	2	77205	BTS-1 Meg.
R59	47KΩ	2	77200	BTS-47K
R60	270KΩ	2	77327	BTS-270K
R61	47KΩ	2	77200	BTS-47K
R62	220KΩ	2	77202	BTS-220K
R63	22KΩ	2	77198	BTS-22K
R64	330Ω	2	77191	BW-½-330
R65	100KΩ	2	77201	BTS-100K
R66	470KΩ	2	77204	BTS-470K
R67	27KΩ	2	77410	BTS-27K
R68	2.7 Meg.	2	77396	BTS-2.7 Meg
R69	100Ω 20%	2	77176	
R70	1000Ω 20%	2	77233	BTS-1000
R71	470KΩ	2	77204	BTS-470K
R72	100Ω 20%	2	77176	
R73	3300Ω	2	77195	BTS-3300
R74	1000Ω 20%	2	77233	BTS-1000
R75	22KΩ	2	77198	
R76	10KΩ	1	77022	BTA-10K
R77	10KΩ	2	77212	BTS-10K
R78	100KΩ	2	77201	BTS-100K
R79	100KΩ	2	77201	BTS-100K
R80	22KΩ	2	77198	BTS-22K
R81	1.5 Meg.	2	77464	BTS-1.5 Meg
R82	470KΩ	2	77204	BTS-470K
R83	470KΩ	2	77204	BTS-470K
R84	220KΩ 20%	2	77202	BTS-220K
R85	4.7 Meg.	2	77253	BTS-4.7 Meg
R86	330KΩ	2	77222	BTS-330K
R87	100KΩ	2	77201	BTS-100K
R88	10 Meg. 20%	2	77182	BTS-10 Meg.
R89	220KΩ 20%	½	77178	BTS-220K
R90	270Ω	2	77495	BW-2-270

PARTS LIST AND DESCRIPTIONS (Continued)

CONTROLS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA			INSTALLATION NOTES
	RESISTANCE	WATTS	CAPEHART PART No.	IRC PART No.	CLAROSTAT PART No.	
R2A	1 Meg.	½	78160	B11-137 *		Vert. hold control, rear
B	50KΩ	½		B11-123 *		Horiz. hold control, panel
C	Shaft End			E202 *		Attach per instructions in "Concentrikit".
R3A	3 Meg.	½	78164			Volume control and switch, tapped at 1.5 Meg.
B	3 Meg.	½				Tone control
R4A	5000Ω	½	78163	Q11-114	AM-19-S	Vert. linearity control
B	Shaft		Not Req.	RQ	KSS-3 #	Attach to R4A per instructions
R5A	2.5 Meg.	½	78162	Q11-239	AM-84-S	Height control
B	Shaft		Not Req.	RQ	KSS-3 #	Attach to R5A per instructions
R6	20KΩ	½	78167	Q11-119	M-36-S	Horiz. drive control
R6	100KΩ	½				Horiz. drive control See note 1
R7	100KΩ	½	78163	Q11-128	M-49-S	Horiz. linearity control See note 2
R8	20Ω	2	78166-1	W-20X10	43-20CT	Vert. centering control tapped at 10Ω
R9	20Ω	2	78166-2	W-20	43-20	Horiz. centering control, Wire Wound
R10	1500Ω	4	78165		10-1500	Focus control, Wire Wound

* Additional parts to be used with "Concentrikit".

Note 1. Used only in HV power supply chassis C265 and C266.

Note 2. Not used in HV power supply chassis C265 and C266.

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	CAPEHART PART No.	IRC PART No.	ALL RESISTORS ARE ± 10% UNLESS OTHERWISE STATED.
R11	150Ω	½			RF Grid
R12	150Ω	½			RF Grid
R13	4700Ω 20%	½			RF Plate
R14	4700Ω 20%	½			RF Plate
R15	1000Ω 20%	½		BTS-1000	RF Plate Decoupling
R16	1 Meg. 20%	½			Mixer Grid
R17	10KΩ	½			Mixer Grid Shunt
R18	1000Ω 20%	½		BTS-1000	Mixer Plate Decoupling
R19	150Ω	½			Decoupling Network
R20	4700Ω 20%	½		BTS-4700	Osc. Plate
R21	47Ω 20%	½			Osc. Cathode
R22	100KΩ 20%	½			Osc. Grid
R23	100KΩ 20%	½			Osc. Grid
R24	1000Ω 20%	½		BTS-1000	AGC Network
R25	10KΩ 5%	½	77212		1st Video IF Grid
R26	39Ω	½	77478		1st Video IF Cathode
R27	1000Ω 20%	½	77233	BTS-1000	1st Video IF Decoupling
R28	150Ω	½	77188		Decoupling Network
R29	150Ω	½	77188		Decoupling Network
R30	1000Ω 20%	½	77233	BTS-1000	AGC Network
R31	1000Ω 20%	½	77233	BTS-1000	AGC Network
R32	10KΩ 5%	½	77212		2nd Video IF Grid
R33	39Ω	½	77478		2nd Video IF Cathode
R34	1000Ω 20%	½	77233	BTS-1000	2nd Video IF De coupling
R35	150Ω	½	77188		Decoupling Network
R36	4700Ω 5%	½	77211	BTS-4700-5%	3rd Video IF Grid
R37	39Ω	½	77478		3rd Video IF Cathode
R38	2700Ω 5%	½	77420	BTS-2700-5%	3rd Video IF Plate
R39	1000Ω 20%	½	77233	BTS-1000	3rd Video IF Decoupling
R40	150Ω	½	77188		Decoupling Network
R41	150Ω	½	77188		4th Video IF Cathode
R42	5600Ω 5%	½	77474		4th Video IF Plate
R43	1000Ω 20%	½	77233	BTS-1000	4th Video IF Decoupling
R44	3900Ω 5%	½	77475	BTS-3900-5%	Video Det. Diode Load
R45	10KΩ 5%	½	77212	BTS-10K-5%	AGC Rect. Plate
R46	82KΩ	½	77468	BTS-82K	AGC Rect. Cathode
R47	68KΩ	½	77068	BTS-68K	AGC Network
R48	470KΩ	½	77204	BTS-470K	Video Amp. Grid
R49	3300Ω	½	77195	BTS-3300	Video Amp. Plate
R50	6800Ω	½	77148	BTS-6800	Video Amp. Plate Decoupling
R51	820KΩ 5%	½	77466	BTS-820K-5%	Video Output Grid
R52	1.2 Meg. 5%	½	77465	BTS-1.2 Meg. 5%	Bias Network
R53	330Ω	½	77191		Video Output Cathode
R54	3300Ω	1	77476	BTA-3300	Video Output Plate
R55	10KΩ	½	77212	BTS-10K	Isolation
R56	100KΩ	½	77201	BTS-100K	Picture Tube Grid
R57	150KΩ	½	77252	BTS-150K	Voltage Divider
R58	1 Meg.	½	77205	BTS-1 Meg.	Voltage Divider
R59	47KΩ	½	77200	BTS-47K	DC Rest. Load
R60	270KΩ	½	77327	BTS-270K	Voltage Divider
R61	47KΩ	½	77200	BTS-47K	Voltage Divider
R62	220KΩ	½	77202	BTS-220K	AGC Filter Network
R63	22KΩ	½	77198	BTS-22K	AGC Amp. Cathode
R64	330Ω	½	77191	BW-½-330	Bias Network
R65	100KΩ	½	77201	BTS-100K	AGC Network
R66	470KΩ	½	77204	BTS-470K	AGC Network
R67	27KΩ	½	77410	BTS-27K	AGC Amp. Plate
R68	2.7 Meg.	½	77396	BTS-2.7 Meg.	Voltage Divider
R69	100Ω 20%	½	77176		1st Sound IF Cathode
R70	1000Ω 20%	½	77233	BTS-1000	1st Sound IF Decoupling
R71	470KΩ	½	77204	BTS-470K	2nd Sound IF Grid
R72	100Ω 20%	½	77176		2nd Sound IF Cathode
R73	3300Ω	½	77195	BTS-3300	2nd Sound IF Screen
R74	1000Ω 20%	½	77233	BTS-1000	2nd Sound IF Plate Decoupling
R75	22KΩ	½	77198		Limiter Grid
R76	10KΩ	1	77022	BTA-10K	Limiter Decoupling
R77	10KΩ	½	77212	BTS-10K	Voltage Divider
R78	100KΩ	½	77201	BTS-100K	Disc. Diode Load
R79	100KΩ	½	77201	BTS-100K	Disc. Diode Load
R80	22KΩ	½	77198	BTS-22K	De-emphasis
R81	1.5 Meg.	½	77464	BTS-1.5 Meg.	AF Grid
R82	470KΩ	½	77204	BTS-470K	AF Grid See Note 3
R83	470KΩ	½	77204	BTS-470K	Bias Network See Note 3
R84	220KΩ 20%	½	77202	BTS-220K	Tone Compensation
R85	4.7 Meg.	½	77253	BTS-4.7 Meg.	Bias Network See Note 4
R86	330KΩ	½	77222	BTS-330K	AF Plate
R87	100KΩ	½	77201	BTS-100K	AF Plate Decoupling See Note 3
R88	10 Meg. 20%	½	77182	BTS-10 Meg.	Phase Inv. Grid See Note 5
R89	220KΩ 20%	½	77178	BTS-220K	Phase Inv. Plate See Note 5
R90	270Ω	2	77495	BW-2-270	Output Cathode See Note 5

ITEM No.	RATING		C
	RESISTANCE	WATTS	
R91	220KΩ 20%	½	7
R92	220KΩ 20%	½	7
R93	220KΩ 20%	½	7
R94	470Ω	½	7
R95A	1000Ω	5	7
B	400Ω	5	
R96	1Ω	5	7
R97	15Ω	½	7
R98	270KΩ	½	7
R99	2200Ω	2	
R100	2200Ω	2	
R101	6.8 Meg.	½	7
R102	1 Meg.	½	7
R103	4700Ω	1	7
R104	4700Ω	1	7
R105	1 Meg.	½	7
R106	4.7 Meg.	½	7
R107	6800Ω	½	7
R108	1 Meg.	½	7
R109	4700Ω	½	7
R110	1000Ω 20%	½	7
R111	22KΩ	½	7
R112	22KΩ	½	7
R113	8200Ω	½	7
R114	8200Ω	½	7
R115	1.5 Meg. 5%	½	7
R116	100KΩ	½	7
R117	2.2 Meg.	½	7
R118	220KΩ	½	7
R119	8200Ω 5%	½	7
R120	2.2 Meg.	½	7
R121	1800Ω	½	7
R122	10KΩ	1	7
R123	1 Meg.	½	7
R124	470KΩ	½	7
R125	470KΩ	½	7
R126	470KΩ	½	7
R127	560Ω	½	7
R128	10Ω 5%	½	7
R129	39KΩ 5%	1	7
R130	47KΩ 5%	1	7
R131	39KΩ 5%	1	7
R132	27KΩ	1	7
R133	27KΩ	½	7
R134	5000Ω	7	7
R135	10KΩ	1	7
R136	6800Ω	½	7
R137	220KΩ	½	7
R138	680KΩ	½	7
R139	47Ω 20%	½	7
R140	47Ω 20%	½	7
R141	47Ω 20%	½	7
R142	47Ω 20%	½	7
R143	80Ω	4	7
R144	470KΩ 20%	½	7
R145	9000Ω	5	6
R146	47Ω 20%	½	7
R147	47Ω 20%	½	7
R148	56KΩ 20%	½	7
R149	.65Ω	4	7
R150	100Ω 20%	½	7
R151	68KΩ	1	7
R152	1 Meg.	½	7
R153	3.3Ω	1	7
R154	3.3Ω	1	7
R155	470KΩ	2	7
R156	470KΩ	2	7
R157	1 Meg.	1	7
R158	270Ω	2	7
R159	270Ω	2	7
R160	1000Ω	4	7
R161	8200Ω	2	
R162	8200Ω	2	
R163	560KΩ	1	
R164	560KΩ	1	
R165	100KΩ 20%	2	7
R166A	1360Ω	25	7
B	250Ω	25	
R167A	53Ω	2	7
B	12Ω	1	
C	6750Ω	20	
R168	4.7Ω	1	7

Note 3. Not used on chassi
Note 4. Used only in chass
Note 5. Used only on audio
Note 6. Some models use t
Note 7. Used only on chass
Note 8. HV chassis C265 a
Note 9. Not used on HV cha
Note 10. HV chassis C265 a
Note 11. HV chassis C265 a
Note 12. Not used with 10 p
Note 13. When using 10" pic
Note 14. Used only on HV c

ITEM No.	RATING		
	PRI.	SEC. 1	SEC. 2
T1	117VAC at 2.66A	730VCT .375ADC	5VAC at 6A
T2	117VAC at .55A	700VCT .072ADC	5VAC at 2A

UE No.	IDENTIFICATION CODES AND INSTALLATION NOTES
15	2nd V. IF Fil ament Bypass
	Fixed Trimmer
25	IF Coupling
15	AGC Filter
15	RF Bypass
15	3rd V. IF Decoupling
15	3rd V. IF Fil. Bypass
25	IF Coupling
15	RF Bypass
15	4th V. IF Decoupling
1	4th V. IF Cath. Bypass
25	IF Coupling
15	4th V. IF Fil. Bypass
15	V. Det. Fil. Bypass
	Video Coupling
	V. Diode Filter
	Video Coupling
	Video Coupling
	Video Coupling
	DC Res. Diode Dec.
15	AGC Filter
15	RF Bypass
	AGC Filter
	AGC Filter
	AGC Filter
	AGC Filter
15	1st S. IF Cath. Bypass
15	1st S. IF Decoupling
	2nd S. IF Grid Filter
15	2nd S. IF Cath. Bypass
15	2nd S. IF Screen Bypass
15	2nd S. IF Plate Decoupling
5	Limiter Grid Filter
5	Limiter Decoupling
25	RF Bypass
2	Tone Compensation
3	Tone Compensation
	Audio Coupling
	Audio Coupling
	Bias Filter †
5	AF Plate Bypass
5	Audio Coupling
	Audio Coupling ‡
	Audio Coupling ‡
3	Output Plate Bypass ‡
3	Output Plate Bypass †
	Sync. Coupling
25	1st Sync. Amp. Plate Bypass
	1st Sync. Amp. Plate Decoupling
25	Sync. Coupling
	Sync. Coupling
	Vert. Sync. Coupling
2	Integrator Net.
5	Integrator Net.
5	Integrator Net.
25	Vert. Osc. Grid Cap.
	Vert. Discharge
	Vert. Sweep Coupling
	Hor. Sync. Coupling
	Fixed Trimmer
4	AFC Filter
5	AFC Filter
5	AFC Filter
4	AFC Coupling
	Phase Shifter
	Phase Shifter
4	Hor. Osc. Grid Cap.
5	Hor. Osc. Screen Bypass
14	Differentiator Net.
	Hor. Sweep Coupling
7	Hor. Discharge #
1	Hor. Sweep Coupling
	Hor. Output Screen Bypass
	Hor. Output Cath. Bypass
	Fixed Trimmer
	Hor. Sweep Coupling
	Damper Filter
	Hor. Sweep Coupling
	Voltage Doubler Cap.
	HV Filter
	HV Filter
	Line Filter
	Line Filter
	Damper Filter §
5	Damper Filter §
3	Output Plate Bypass *
14	IF Coupling

ISTALLATION NOTES
ear
panel
ions in "Concentrikit".

IPTIONS (Continued)

IT.)

	INSTALLATION NOTES
	Vert. hold control, rear
	Horiz. hold control, panel
	Attach per instructions in "Concentrikit".
	Volume control and switch, tapped at 1.5 Meg.
	Tone control
	Vert. linearity control
	Attach to R4A per instructions
	Height control
	Attach to R5A per instructions
	Horiz. drive control
	Horiz. drive control See note 1
	Horiz. linearity control See note 2
	Vert. centering control tapped at 10Ω
	Horiz. centering control, Wire Wound
	Focus control, Wire Wound

ORS

IDENTIFICATION CODES
L RESISTORS ARE ± 10% UNLESS OTHERWISE STATED.
F Grid
F Grid
F Plate
F Plate
F Plate Decoupling
ixer Grid
ixer Grid Shunt
ixer Plate Decoupling
ecoupling Network
sc. Plate
sc. Cathode
sc. Grid
sc. Grid
GC Network
t Video IF Grid
t Video IF Cathode
t Video IF Decoupling
ecoupling Network
ecoupling Network
GC Network
GC Network
d Video IF Grid
d Video IF Cathode
d Video IF De coupling
ecoupling Network
rd Video IF Grid
rd Video IF Cathode
rd Video IF Plate
rd Video IF Decoupling
ecoupling Network
h Video IF Cathode
h Video IF Plate
h Video IF Decoupling
ideo Det. Diode Load
GC Rect. Plate
GC Rect. Cathode
GC Network
ideo Amp. Grid
ideo Amp. Plate
ideo Amp. Plate Decoupling
ideo Output Grid
ias Network
ideo Output Cathode
ideo Output Plate
olation
icture Tube Grid
oltage Divider
oltage Divider
C Rest. Load
oltage Divider
oltage Divider
GC Filter Network
GC Amp. Cathode
ias Network
GC Network
GC Network
GC Amp. Plate
oltage Divider
t Sound IF Cathode
t Sound IF Decoupling
d Sound IF Grid
d Sound IF Cathode
d Sound IF Screen
d Sound IF Plate Decoupling
miter Grid
miter Decoupling
oltage Divider
sc. Diode Load
sc. Diode Load
e-emphasis
F Grid
F Grid See Note 3
as Network See Note 3
ne Compensation
as Network See Note 4
F Plate
F Plate Decoupling See Note 3
ase Inv. Grid See Note 5
ase Inv. Plate See Note 5
itput Cathode See Note 5

RESISTORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	CAPEHART PART No.	IRC PART No.	
R91	220KΩ 20%	1/2	77178	BTS-220K	Output Grid See Note 5
R92	220KΩ 20%	1/2	77178	BTS-220K	Output Grid See Note 5
R93	220KΩ 20%	1/2	77178	BTS-220K	Output Grid See Note 5
R94	470Ω	1/2	77170	BTS-470	Filter See Note 5
R95A	1000Ω	5	77463	AB-1000	Filter-Wire Wound See Note 5
B	400Ω	5			Surge Limiter-Wire Wound See Note 5
R96	1Ω	5	77510	AB-1	Filament Dropping See Note 5 and 6
R97	15Ω	1/2	77491	BW-1/2-15	Bias Network See Note 5
R98	270KΩ	1/2	77327	BTS-270K	Output Grid See Note 7
R99	2200Ω	2		BT-2-2200	Voltage Dropping See Note 7
R100	2200Ω	2		BT-2-2200	Voltage Dropping See Note 7
R101	6.8 Meg.	1/2	77254	BTS-6.8 Meg.	Voltage Divider
R102	1 Meg.	1/2	77205	BTS-1 Meg.	1st Sync. Amp. Grid
R103	4700Ω	1	77429	BTA-4700	1st Sync. Amp. Plate
R104	4700Ω	1	77429	BTA-4700	1st Sync. Amp. Plate Decoupling
R105	1 Meg.	1/2	77205	BTS-1 Meg.	Sync. Sep. Grid
R106	4.7 Meg.	1/2	77253	BTS-4.7 Meg.	Voltage Divider
R107	6800Ω	1/2	77148	BTS-6800	Sync. Sep. Plate
R108	1 Meg.	1/2	77205	BTS-1 Meg.	2nd Sync. Amp. Grid
R109	4700Ω	1/2	77211	BTS-4700	2nd Sync. Amp. Plate
R110	1000Ω 20%	1/2	77233	BTS-1000	Decoupling
R111	22KΩ	1/2	77198	BTS-22K	Voltage Divider
R112	22KΩ	1/2	77198	BTS-22K	Integrator
R113	8200Ω	1/2	77473	BTS-8200	Integrator
R114	8200Ω	1/2	77473	BTS-8200	Integrator
R115	1.5 Meg. 5%	1/2	77464	BTS-1.5Meg. 5%	Vert. Osc. Grid
R116	100KΩ	1/2	77201	BTS-100K	Voltage Divider
R117	2.2 Meg.	1/2	77206	BTS-2.2 Meg.	Voltage Divider
R118	220KΩ	1/2	77202	BTS-220K	Vert. Osc. Grid
R119	8200Ω 5%	1/2	77473	BTS-8200-5%	Vert. Peaking
R120	2.2 Meg.	1/2	77206	BTS-2.2 Meg.	Vert. Output Grid
R121	1800Ω	1/2	77506	BTS-1800	Vert. Output Cathode
R122	10KΩ	1	77022	BTA-10K	Vert. Output Plate Decoupling
R123	1 Meg.	1/2	77205	BTS-1 Meg.	Horiz. Sync. Disc. Load
R124	470KΩ	1/2	77204	BTS-470K	Horiz. Sync. Disc. Load
R125	470KΩ	1/2	77204	BTS-470K	Horiz. Sync. Disc. Load
R126	470KΩ	1/2	77204	BTS-470K	Horiz. AFC Filter Network
R127	560Ω	1/2	77414	BTS-560	Horiz. AFC Grid
R128	10Ω 5%	1/2	77455	BW-1/2-10-5%	Horiz. AFC Cathode
R129	39KΩ 5%	1	77470	BTA-39K-5%	Horiz. AFC Plate
R130	47KΩ 5%	1	77469	BTA-47K-5%	Horiz. AFC Plate
R131	39KΩ 5%	1	77470	BTA-39K-5%	Horiz. AFC Screen
R132	27KΩ	1	77456	BTA-27K	Voltage Divider
R133	27KΩ	1/2	77410	BTS-27K	Horiz. Osc. Grid
R134	5000Ω	7	77484	AB-5000	Horiz. Osc. Plate-Wire Wound
R135	10KΩ	1	77022	BTA-10K	Horiz. Osc. Screen
R136	6800Ω	1/2	77148	BTS-6800	Differentiator
R137	220KΩ	1/2	77202	BTS-220K	Horiz. Discharge Grid
R138	680KΩ	1/2	77381	BTS-680K	Horiz. Discharge Plate See Note 8
R139	47Ω 20%	1/2	77219		Parasitic Supp.
R140	47Ω 20%	1/2	77219		Parasitic Supp. See Note 9
R141	47Ω 20%	1/2	77219		Parasitic Supp. See Note 9
R142	47Ω 20%	1/2	77219		Parasitic Supp. See Note 9
R143	80Ω	4	77461-2		Horiz. Output Cathode-Wire Wound
R144	470KΩ 20%	1/2	77173	BTS-470K	Horiz. Output Grid
R145	9000Ω	5	650023A-1	AB-9000	Horiz. Output Screen-Wire Wound See Note 9
R146	47Ω 20%	1/2	77219		Parasitic Supp. See Note 9
R147	47Ω 20%	1/2	77219		Parasitic Supp. See Note 9
R148	56KΩ 20%	1/2	77346	BTS-56K	Filter
R149	.65Ω	4	77461-3		Filament Dropping-Wire Wound
R150	100Ω 20%	1/2	77176		Parasitic Supp. See Note 9
R151	68KΩ	1	77010	BTA-68K	Damper Grid See Note 9
R152	1 Meg.	1/2	77205	BTS-1 Meg.	Voltage Divider See Note 9
R153	3.3Ω	1	77492		HV Rect. Filament See Note 10
R154	3.3Ω	1	77492		HV Rect. Filament See Note 10
R155	470KΩ	2	77507		HV Rect. Load See Note 11
R156	470KΩ	2	77507		HV Rect. Load See Note 11
R157	1 Meg.	1	77388		HV Filter
R158	270Ω	2	77495	BW-2-270	Focus Coil Shunt
R159	270Ω	2	77495	BW-2-270	Focus Coil Shunt See Note 12
R160	1000Ω	4	77461-1	AB-1000	Focus Coil Shunt See Note 13
R161	8200Ω	2		BT-2-8200	Horiz. Output Screen See Note 14
R162	8200Ω	2		BT-2-8200	Horiz. Output Screen See Note 14
R163	560KΩ	1			HV Rect. Load See Note 14
R164	560KΩ	1			HV Rect. Load See Note 14
R165	100KΩ 20%	2	77483	BT-2-100K	Bleeder Network
R166A	1360Ω	25	77481		Filter-Wire Wound
B	250Ω	25			Bias Network-Wire Wound
R167A	53Ω	2	77480		Bias Network-Wire Wound
B	12Ω	1			Bias Network-Wire Wound
C	6750Ω	20			Bleeder-Wire Wound
R168	4.7Ω	1	77505	BW-1-4.7	Horiz. Sync. Disc. Filament-Wire Wound

Note 3. Not used on chassis U12A.
Note 4. Used only in chassis U12A.
Note 5. Used only on audio chassis A13.
Note 6. Some models use three resistors in parallel to obtain required resistance and wattage.
Note 7. Used only on chassis C-267.
Note 8. HV chassis C265 and C266 use 390KΩ resistor in this application.
Note 9. Not used on HV chassis C265 and C266.
Note 10. HV chassis C265 and C266 use a 4.7Ω, 1 watt resistor in this application.
Note 11. HV chassis C265 and C266 use 560KΩ, 1 watt resistor in this application.
Note 12. Not used with 10 picture tube.
Note 13. When using 10" picture tube, a 1000Ω, 4 watt resistor is added in parallel.
Note 14. Used only on HV chassis C265 and C266.

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	CAPEHART PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	117VAC at 2.66A	730VCT .375ADC	5VAC at 6A	6.3VAC at 4.5A	94269			
T2	117VAC at .55A	700VCT .072ADC	5VAC at 2A	6.3VAC at 1.2A	94231	P-6013	P-2953	PH-90

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (FILAMENT)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	CAPEHART PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T3	117VAC at .59A	6.3VAC at 10.8A			94264	P-6308 ③	P-2948 ③	F-610 ③

③ Drill new mounting holes.

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING DC RESISTANCE PRI.	RATING DC RESISTANCE SEC.	REPLACEMENT DATA CAPEHART PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	NOTES
T4	42Ω CT	39Ω Tap at 9.5Ω	38972				Hor. Disc. Transformer
T5	160Ω	1370Ω	38973	A-8121	A-4000	TBO-1	Vert. Block Osc. Trans.
T6	168Ω Tap at 29Ω	SEC. 1 3.1Ω Tap at .4Ω	750002A	A-8119		TFB-4	Hor. Output Trans.
		SEC. 2 0Ω					
		SEC. 3 0Ω					
T7	535Ω	6.6Ω	94273	A-8116	A-3035	TSO-4	Vert. Output Trans.
T8A	13.4Ω		38986	DY-1			Hor. Deflection Coil
B	60Ω						Vert. Deflection Coil
T9A	820Ω		650001A-2 ④				Focus Coil
B			650001A-1 ⑤				Focus Coil
C	355Ω		38955 ⑥				Focus Coil

④ Used in 12" models.
⑤ Used in 10" models.
⑥ Used in 10" or 12" models.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING IMPEDANCE PRI.	RATING IMPEDANCE SEC.	RATING DC RES. PRI.	RATING DC RES. SEC.	REPLACEMENT DATA CAPEHART PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	INSTALLATION NOTES
T10	7500Ω CT	4Ω	430Ω CT	.3Ω	Part of 81192	A-3824	A-2936 ⑦	RO-305 ⑦	⑦Drill one new mounting hole.

SPEAKER

ITEM No.	RATINGS FIELD RES.	RATINGS V. C. IMP.	REPLACEMENT DATA CAPEHART PART No.	JENSEN PART No.	QUAM PART No.	NOTES
SP1	PM	4Ω	81192	ST-102 ① MOD. P12-S	12A6A ②	① Replace output transformer to match 6-8Ω voice coil. ② Remount output transformer.
	CONE DIA.	V. C. DIA.				
SP2	11 1/2"	1"				

FILTER CHOKE

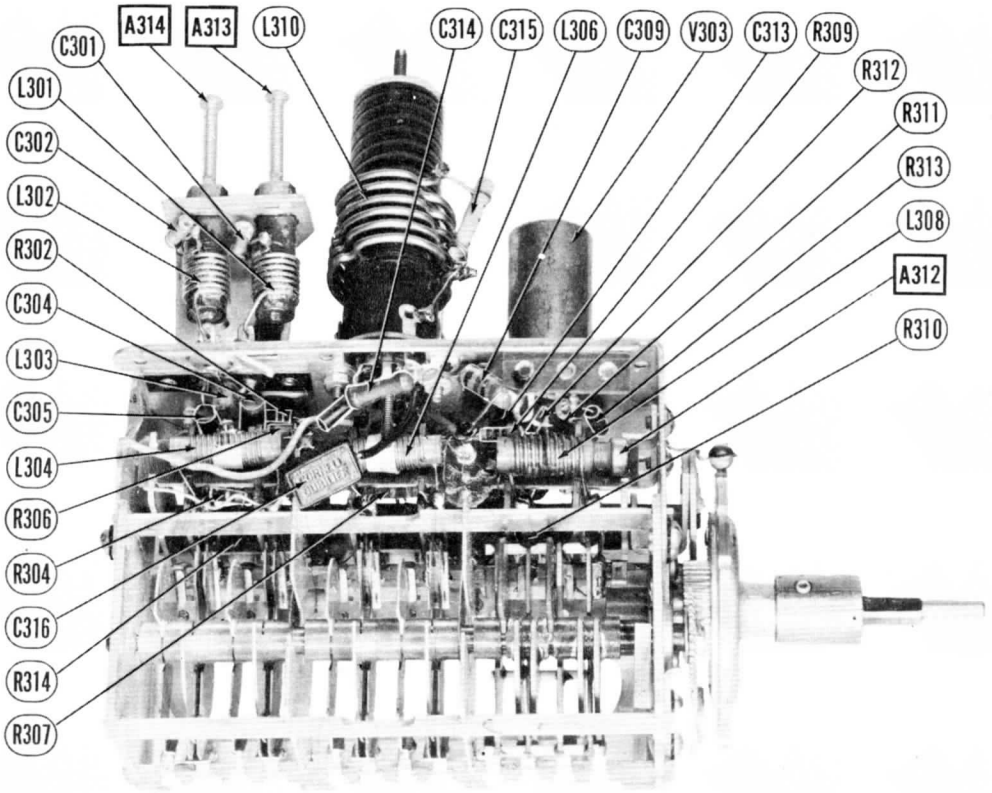
ITEM No.	RATINGS TOTAL DIRECT CURRENT	RATINGS D. C. RESISTANCE	RATINGS INDUCTANCE (0 CURRENT 1000 ∿)	REPLACEMENT DATA CAPEHART PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	INSTALLATION NOTES
L1	.375A	27Ω	.7 Henries	94265	C-2326⑦			⑦ Drill one new mounting hole.

COILS (RF-IF)

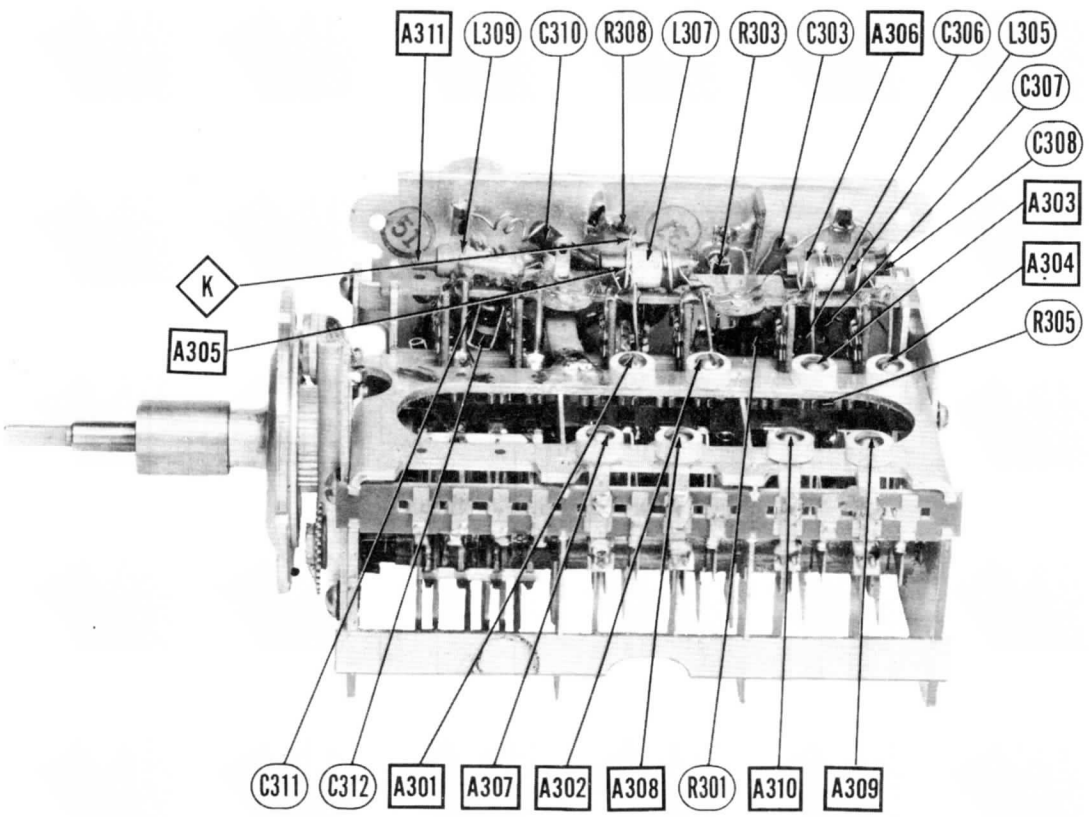
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA CAPEHART PART No.	MEISSNER PART No.	NOTES
L2	Ant. Input	0Ω				Part of tuner.
L3	Interference Trap	0Ω				Part of tuner.
L4	Interference Trap	0Ω				Part of tuner.
L5	Fil. Choke	0Ω				Part of tuner.
L6	Mixer Grid Trap	0Ω				Part of tuner.
L7	1st Video IF & Sound Trap	.2Ω	0Ω			Part of tuner.
L8	2nd Video IF	.1Ω		38966		
L9	Fil. Choke	0Ω		38977		
L10	3rd Video IF	.1Ω		38967		
L11	Fil. Choke	0Ω		38977		
L12	4th Video IF	.1Ω		38968		
L13	Fil. Choke	0Ω		38977		
L14	Sound Trap	0Ω		38969		
L15	Fil. Choke	0Ω		38977		
L16	5th Video IF	.1Ω		38968		
L17	Fil. Choke	0Ω		38977		
L18	Peaking	9Ω		38975		120 microhenries. Wound on 22KΩ resistor.
L19	Peaking	8Ω		38974		250 microhenries.
L20	Peaking	9Ω		38975		120 microhenries. Wound on 22KΩ resistor.
L21	Peaking	5Ω		38975		93 microhenries
L22	Peaking	9Ω		38975		120 microhenries. Wound on 22KΩ resistor.
L23	1st Sound IF	.1Ω	.1Ω	38970		
L24	2nd Sound IF	.1Ω	.1Ω	38970		
L25	Disc. Trans.	.1Ω	.1Ω	38971		
L26	Width Cont.	.1Ω		39249		Used on HV chassis C-263 and C-266 only.
L27	Hor. Linearity	36Ω		78173		Used on HV chassis C-265 and C266 only.
L28	Peaking	5Ω		38976		93 microhenries

MISCELLANEOUS

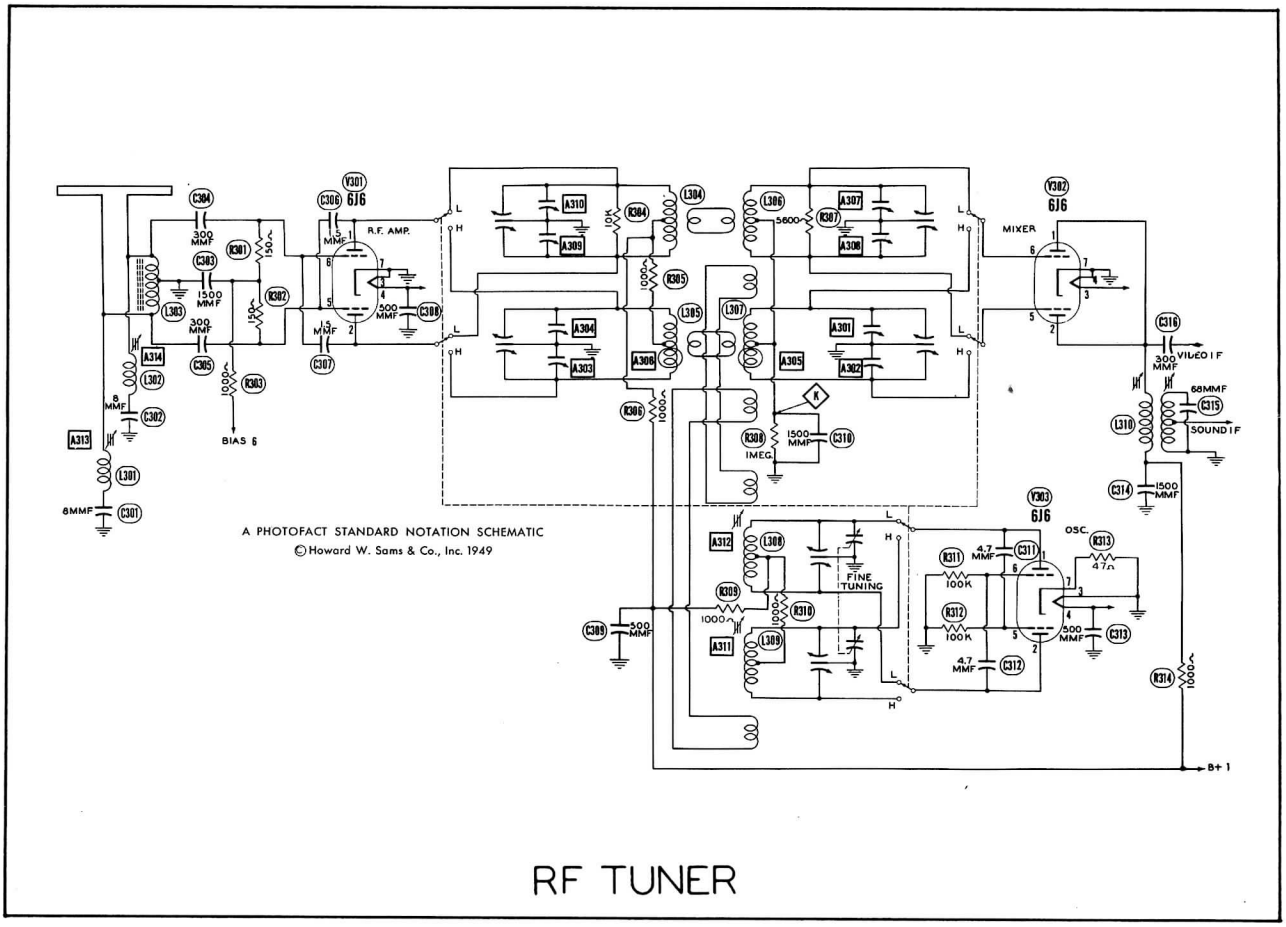
ITEM No.	PART NAME	CAPEHART PART No.	NOTES
M1A	RF Tuner	13872	13 Channel
B	RF Tuner	13900	12 Channel
M2	Ion Trap		
M3	Fuse	48016	Type 3AG .25A
	Plug	80144-2	Jones Plug and cover.
	Socket	80089	Jones socket
	Ant. Terminal Strip	80498	



RF TUNER-LEFT SIDE



RF TUNER-RIGHT SIDE



RF TUNER

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA STANDARD REPLACEMENT	RMA BASE TYPE	
V301	RF Amp.	6J6	7BF	
V302	Mixer	6J6	7BF	
V303	Oscillator	6J6	7BF	

CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT	IDENTIFICATION
C301	8		Fixed Trimmer
C302	8		Fixed Trimmer
C303	1500		Bias Filter
C304	300		RF Coupling
C305	300		RF Coupling
C306	1.5		Neutralizing
C307	1.5		Neutralizing
C308	500		Filament Bypass
C309	500		RF Bypass
C310	1500		Mixer Grid Filter
C311	4.7		Osc. Feedback
C312	4.7		Osc. Feedback
C313	500		Filament Bypass
C314	1500		Mixer Decoupling
C315	68		Fixed Trimmer
C316	300		IF Coupling

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	IDENTIFICATION
R301	150Ω	½	RF Grid
R302	150Ω	½	RF Grid
R303	1000Ω	½	Bias Filter
R304	10KΩ	½	RF Coil Shunt
R305	1000Ω	½	RF Plate
R306	1000Ω	½	RF Plate
R307	5600Ω	½	Mixer Coil Shunt
R308	1 Meg	½	Mixer Grid
R309	1000Ω	½	Osc. Plate
R310	1000Ω	½	Osc. Plate
R311	100KΩ	½	Osc. Grid
R312	100KΩ	½	Osc. Grid
R313	47Ω	½	Osc. Cathode
R314	1000Ω	½	Mixer Decoup.

COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	
L301	Interference Trap	0Ω		
L302	Interference Trap	0Ω		
L303	Ant. Input	0Ω		
L304	RF Low Band	0Ω		
L305	RF High Band	0Ω		
L306	Mixer Low Band	0Ω		
L307	Mixer High Band	0Ω		
L308	Osc. Low Band	0Ω		
L309	Osc. High Band	0Ω		
L310	IF Trans.	.2Ω	0Ω	