

SPARTON MODEL 4940TV

**SPARTON MODELS
4900TV, 4939TV, 4940TV, 4941TV**

TRADE NAME Sparton Models 4900TV, 4939TV, 4940TV, 4941TV, (Chassis 24TV9, 24TV9C, 3TV9, 3TV9C, 9LSA.)
 MANUFACTURER Sparks-Withington Co., Jackson, Michigan
 TYPE SET Television-Receiver (TV-AM-FM-Phono Combination Model 4900TV only).
 TUBES Twenty-eight (Thirty-seven, Model 4900TV)
 POWER SUPPLY 117 Volts, 60 cycle AC RATING 1.95 Amps on TV, .55 Amps on Radio @ 117 Volts
 TUNING RANGE Channels 2 through 13, 540-1620KC FREQ. MOD. 88-108MC

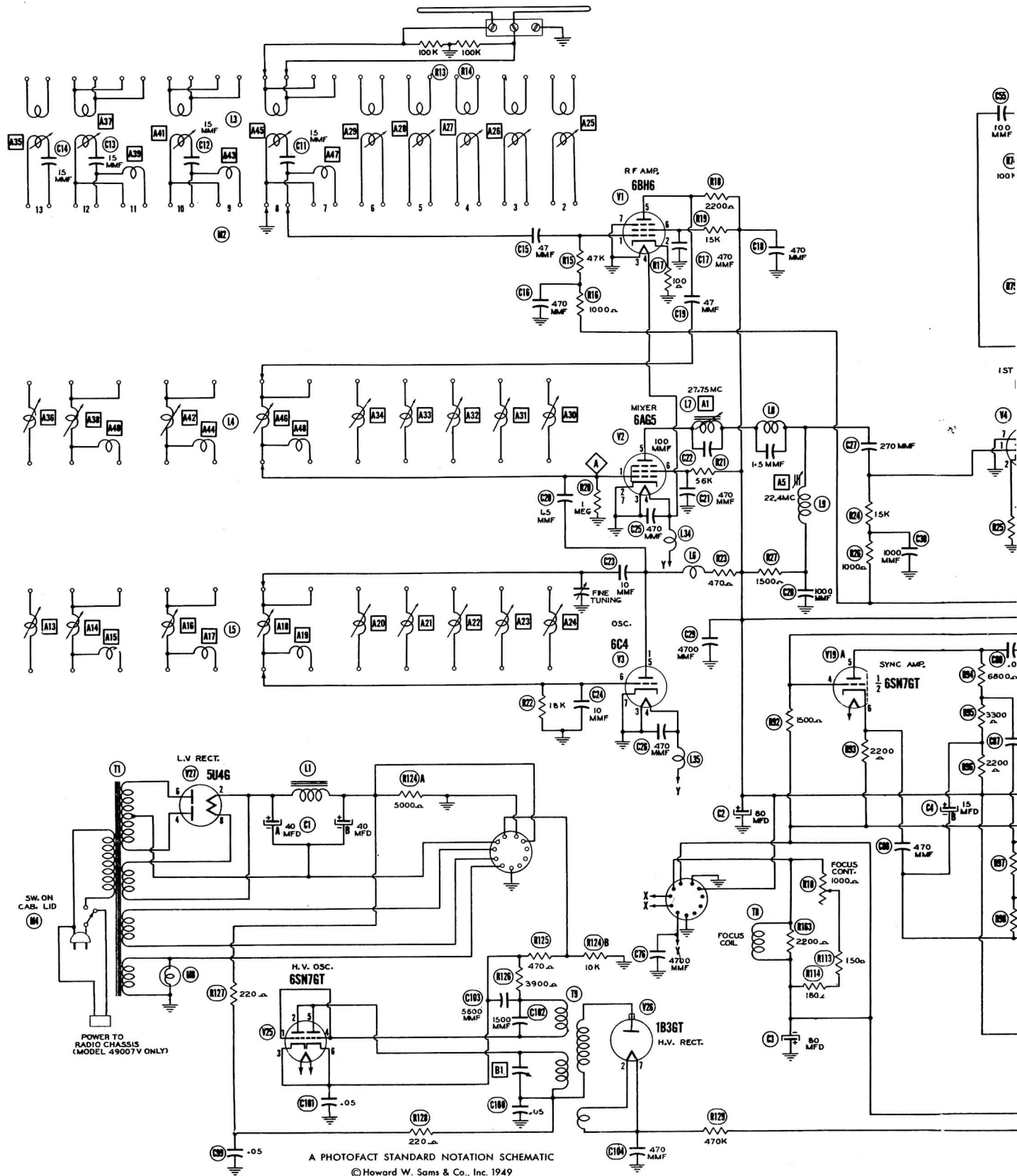
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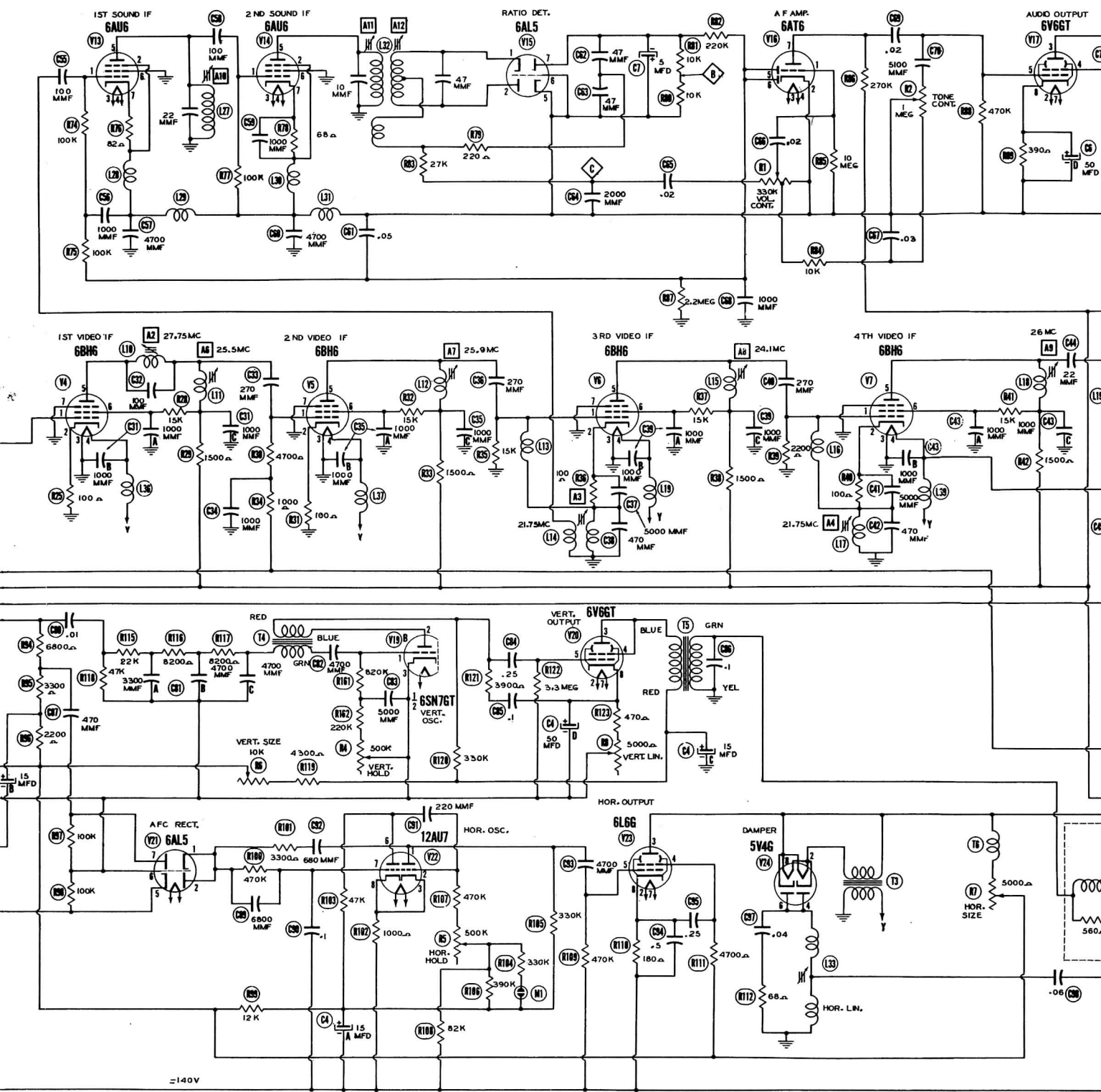
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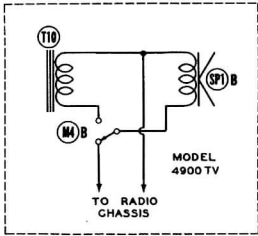
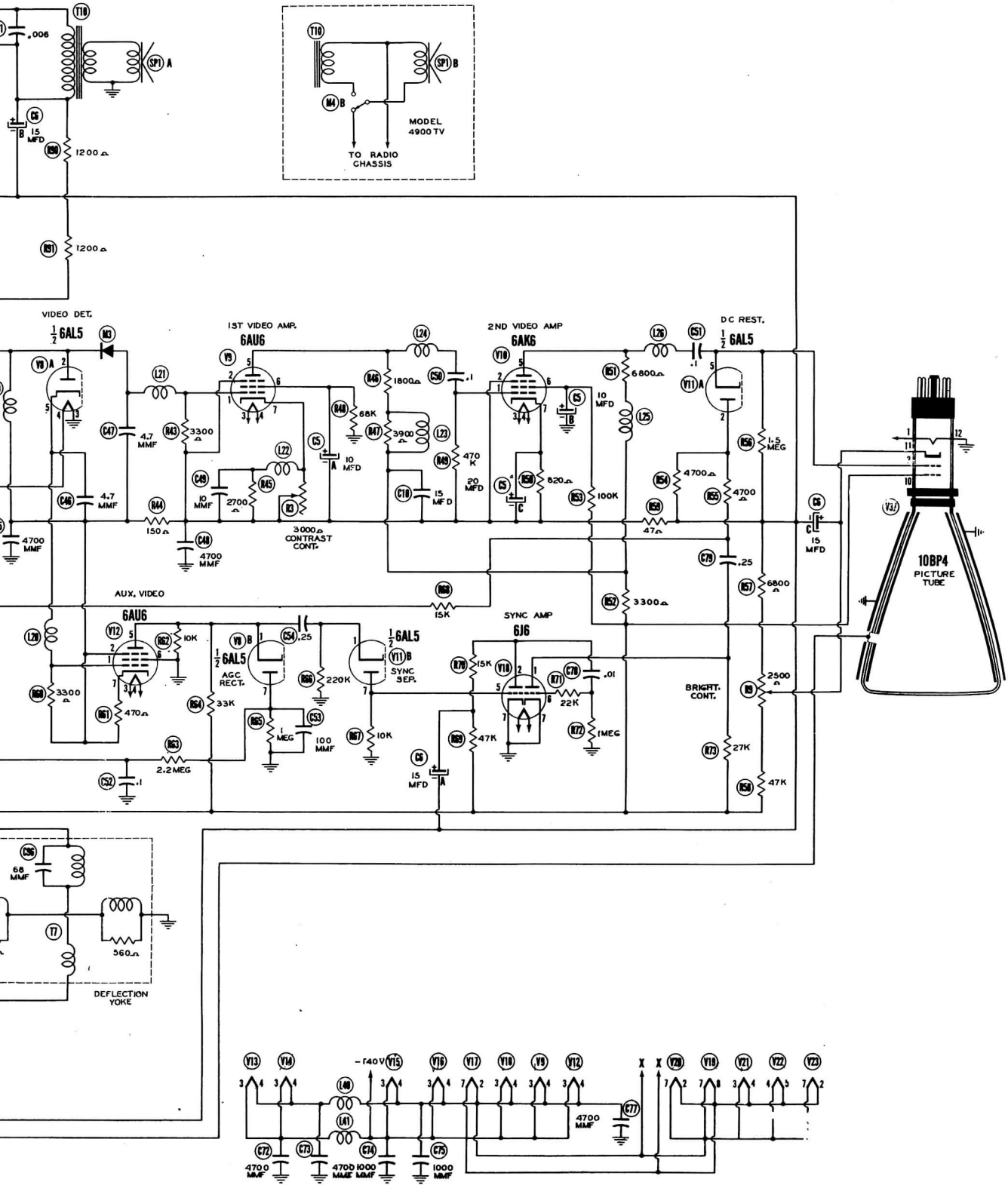


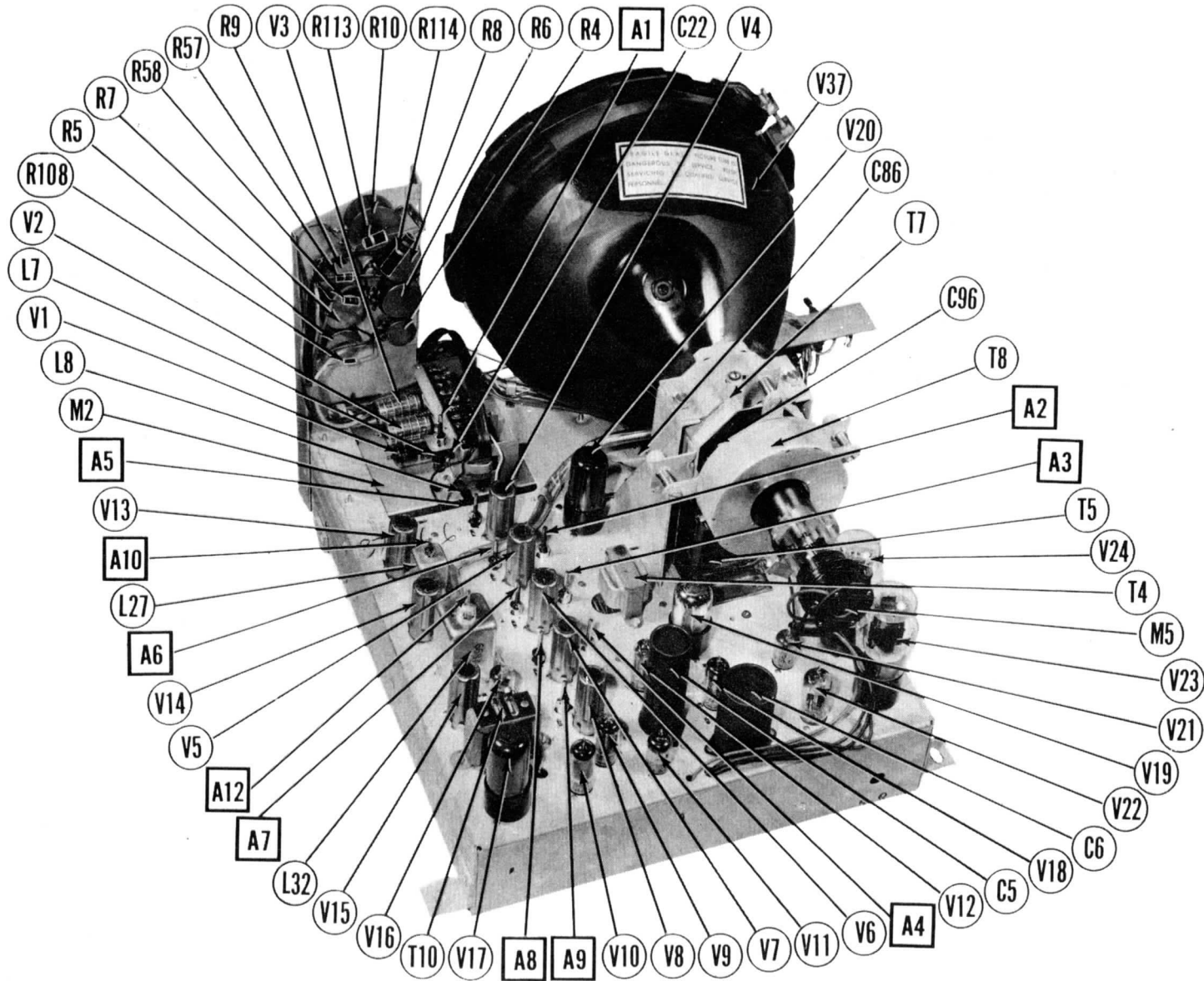
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THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

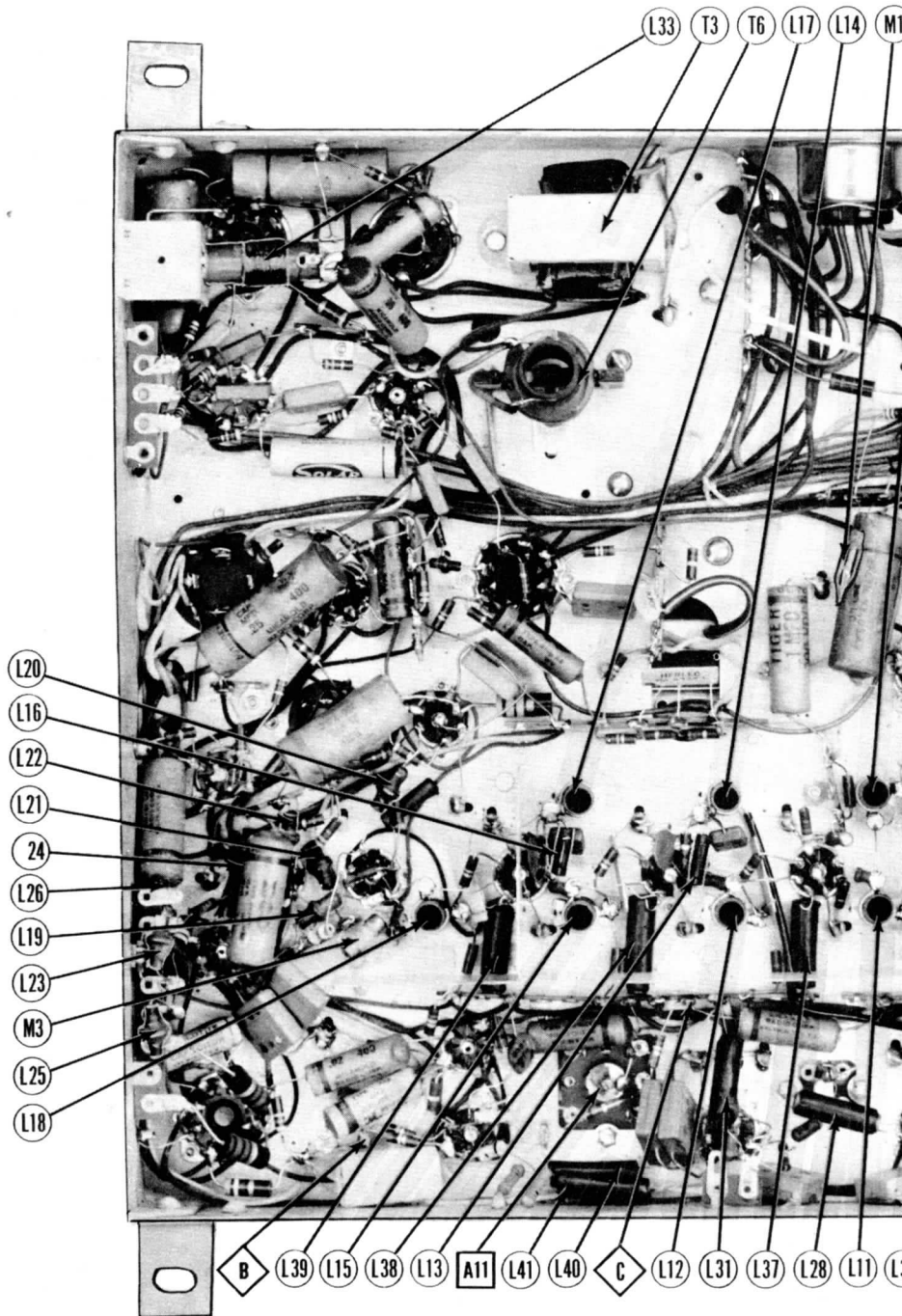
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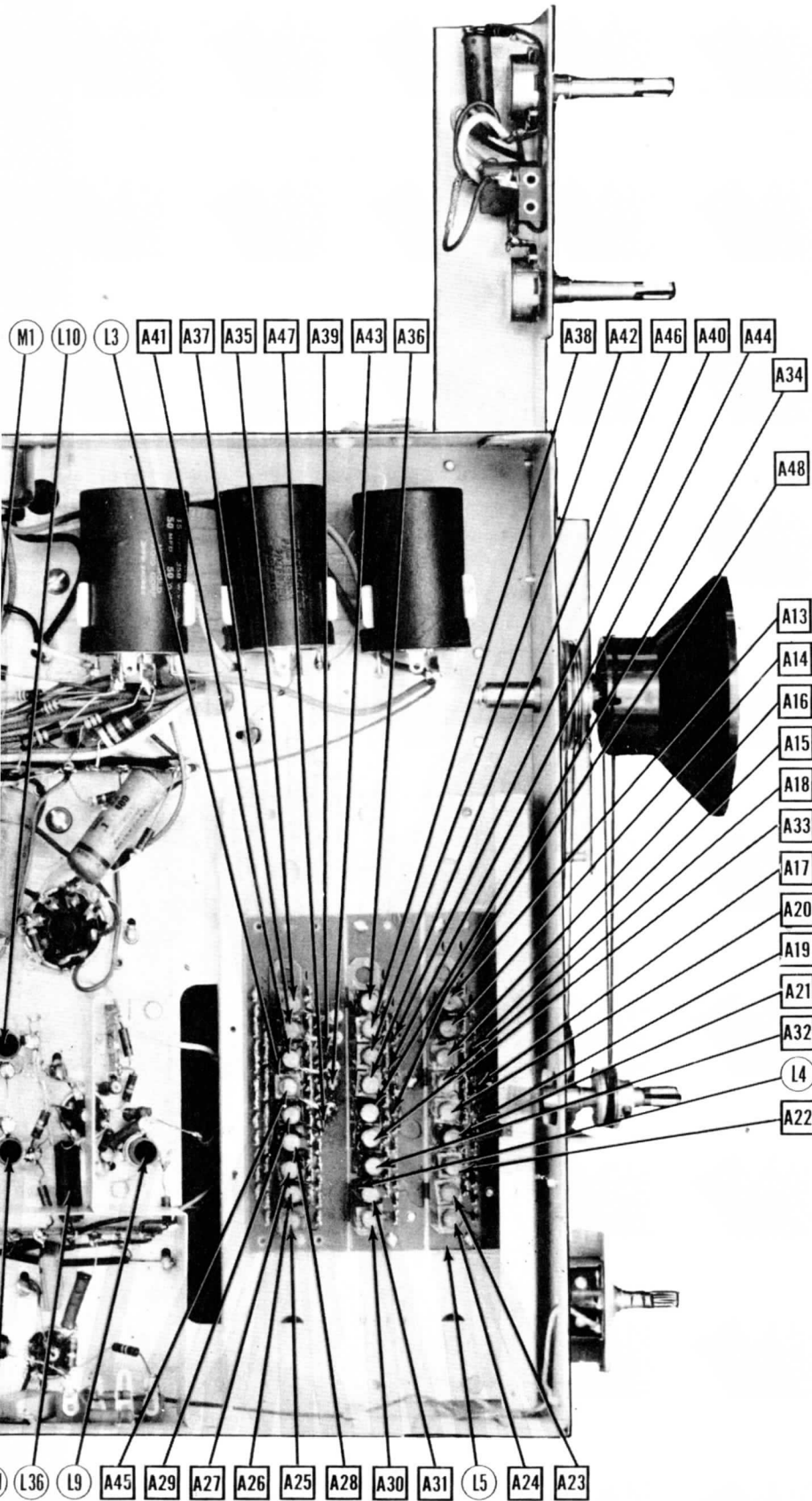


CHASSIS TOP VIEW

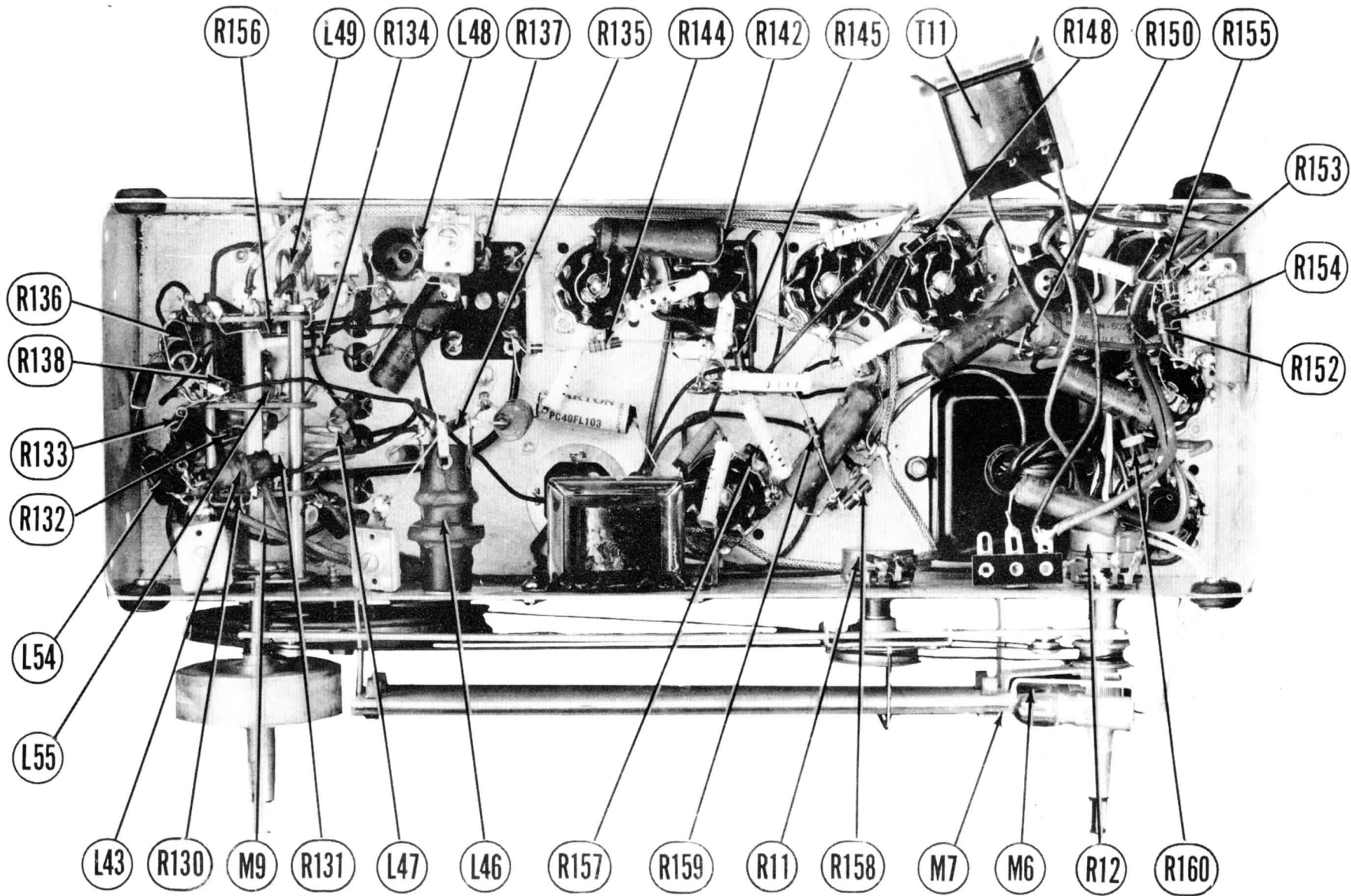
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CHASSIS BOTTOM VIEW-TRANS., INDUC

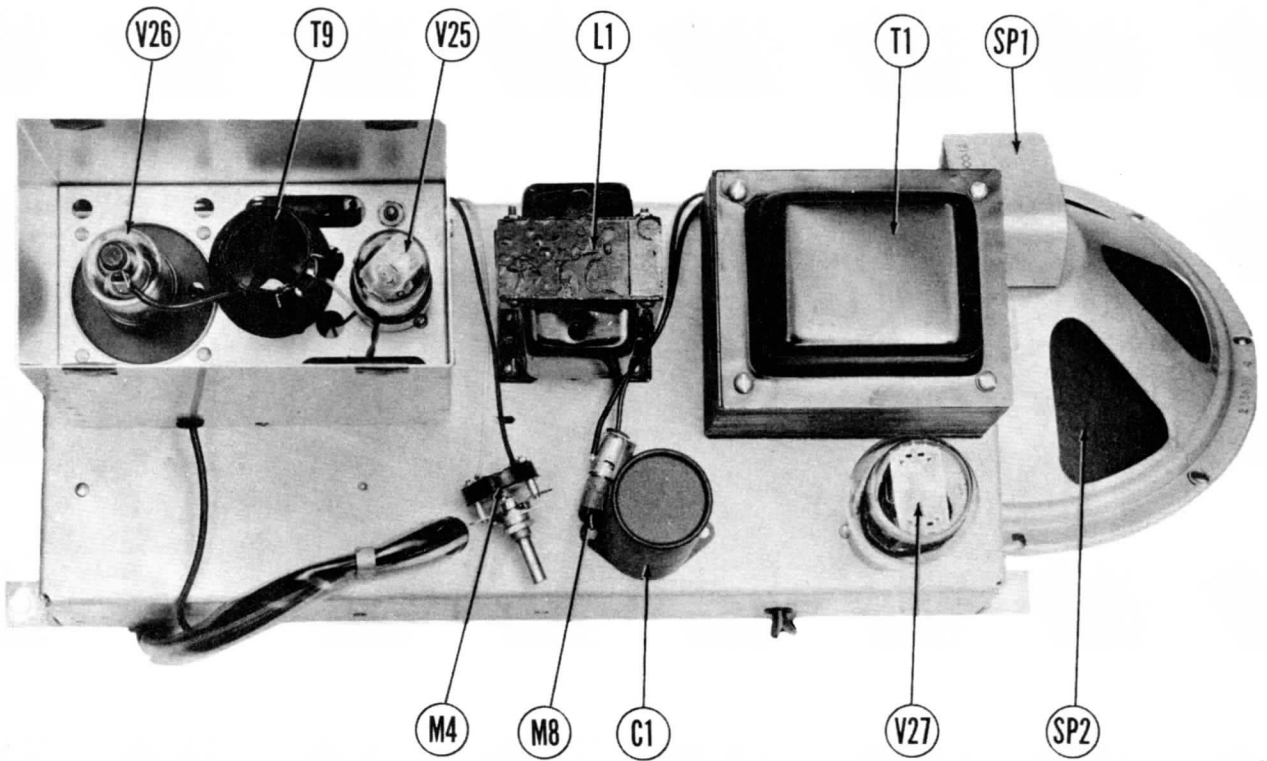


CTOR AND ALIGNMENT IDENTIFICATION

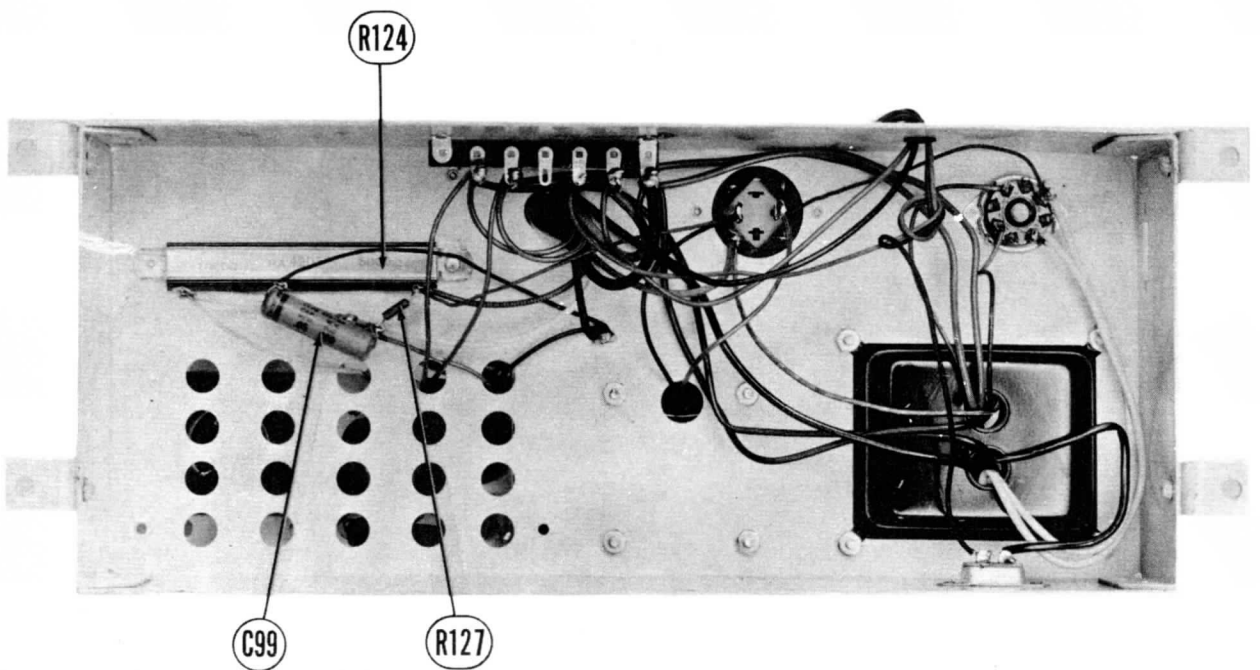


AM-FM CHASSIS - BOTTOM VIEW

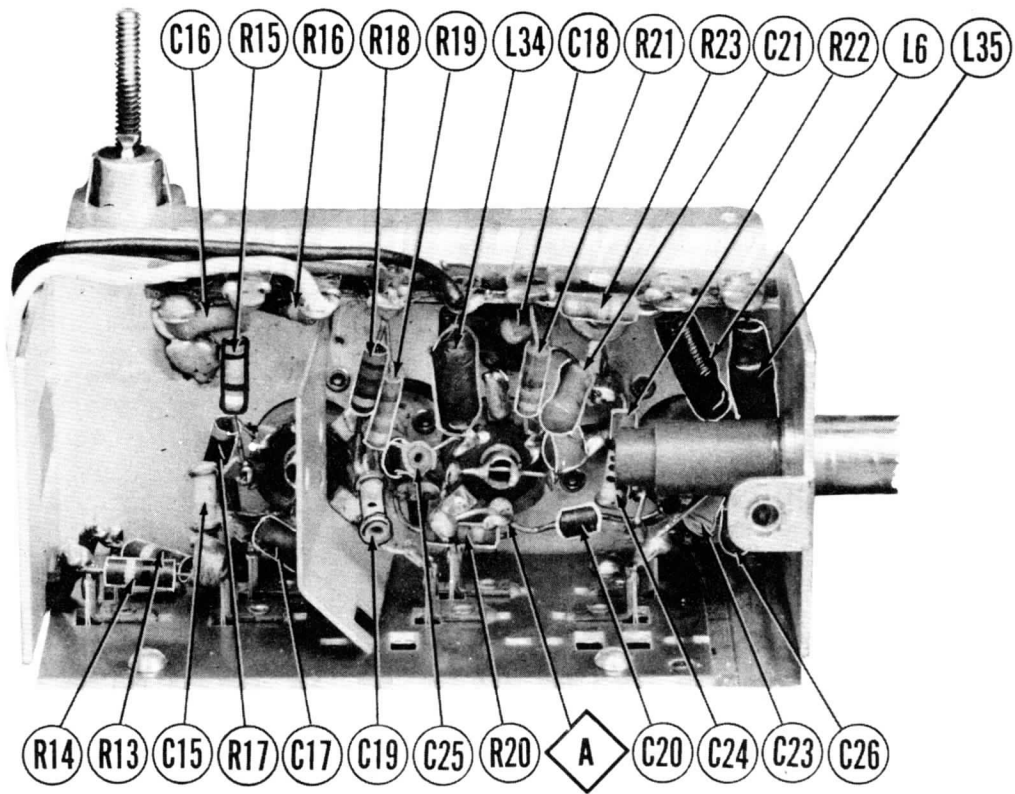
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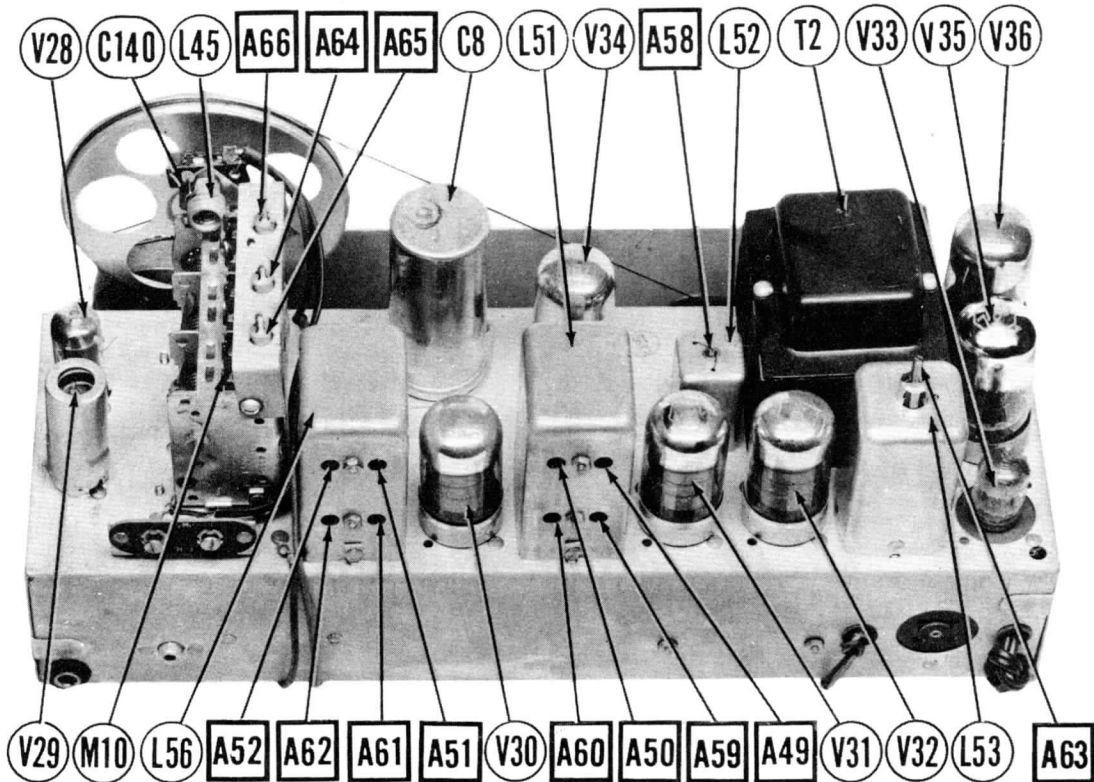
POWER SUPPLY CHASSIS-TOP VIEW



POWER SUPPLY CHASSIS-BOTTOM VIEW



RF TUNER-LEFT SIDE



AM-FM CHASSIS-TOP VIEW

TV ALIGNMENT INSTRUCTIONS

Before starting the alignment of this receiver, pre-set the controls as follows:
 Picture Control to center position, Brightness Control to position where raster is visible,
 Focus Control to position where focus is obtained, Vertical Hold to center position,
 Vertical Linearity center position, Vertical Size to normal raster height, Horizontal Hold center position,
 Horizontal Size, to normal raster width.
 If the video IF channel is badly out of alignment and oscillating, it is recommended to pre-set the adjustments as follows to stop the oscillations.

"A" Adjustments	Slug Position
A1	Out
A2	Out
A3	In
A4	In
A5	In
A6	In
A7	Out
A8	Out
A9	Out

Remove the RF Amp. tube V1 and the oscillator tube V3 and connect the signal generator to Point A thru the input adapter shown in Fig 1 keeping all leads as short as possible.

Also connect a 3 volt bias battery to the AGC buss. Negative to AGC line-positive to chassis.
CAUTION: If the common lead of the VTVM being used is grounded to the meter case it is necessary to insulated the meter case from the receiver chassis. If not, the -149V bias line will be shorted out.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS	
1	See Pre-alignment Instr.	High side thru input adapter to point A. Low side to chassis.	27.75MC	2	Across resistor R43	A1,A2	Adjust for <u>minimum</u> deflection.
2	"	"	21.75MC	"	"	A3,A4	" " " "
3	"	"	22.4MC	"	"	A5	Adjust for maximum deflection.
4	"	"	22.5MC	"	"	A6	" " " "
5	"	"	25.9MC	"	"	A7	Adjust for maximum deflection. If when making this adjustment, the IF strip should start oscillating, turn A7 to point where oscillation ceases. Adjust A8 and A9 at their proper frequencies and then realign A7.
6	"	"	24.1MC	"	"	A8	Adjust for maximum deflection.
7	"	"	26.0MC	"	"	A9	Adjust for maximum deflection. If overall IF response check is not being made, continue with step 9.

OVERALL TV IF RESPONSE CHECK

Connect the oscilloscope as shown in Fig 2. The filter circuit of two capacitors makes possible the grounding of the oscilloscope to the receiver chassis without shorting out the -140 volt bias supply.
 Small ripples may occur on pattern which is due to feedback from the horizontal oscillator circuit. However, never remove the horizontal oscillator tube (V22) or the damper tube (V24) as the removal of either of these tubes will result in excessive plate current in V23 (Horizontal output tube) and will eventually burn out R7 (Horizontal size control).

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
8	High side thru input filter of Fig. 1 to Point A. Low side to chassis.	24MC (10MC S Sweep)	21.75MC 22.7MC 25.5MC 26.5MC 27.75MC	2	See Instructions above	A1 thru A9	Observe pattern obtained to see that markers appear at proper points as per Fig. 3. Slight readjustments may be necessary to obtain the proper pattern.

SOUND IF ALIGNMENT

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS	
9	See Pre-alignment Instr.	High side thru input adapter to Point A. Low side to chassis.	21.75MC	2	Across capacitor C7	A10,A11	Adjust for maximum deflection.
10	"	"	"	DC Probe to Point C. Common to Point B.	A12	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. If A12 required much adjustment, All should be retouched for maximum.	

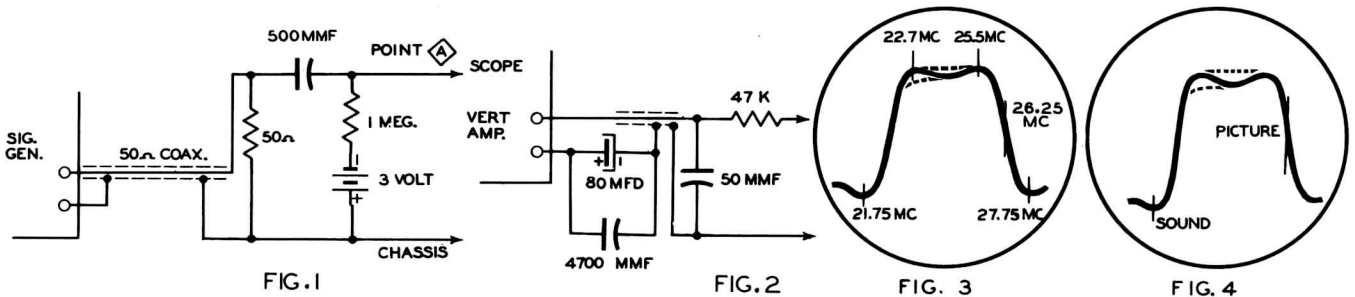
TV OSCILLATOR ALIGNMENT

It is necessary that the sound IF system be accurately aligned before attempting alignment of the oscillator circuits.

Since small inductances are connected in series with the tuned circuits for channels 7, 9 & 11, the order of alignment is important. It is necessary to align the higher channel of each pair (7 & 8, 9 & 10, 11 & 12) first.

Insert V1 and V3 in the tuner which were removed for the video and sound IF alignment and set the fine tuning control to the midpoint of its rotation.

The coils slugs are held in place with wax which must be removed when aligning the individual coil and should be replaced after alignment is completed.



	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
11	Two 125Ω carbon res.	Insert 125Ω resistor in each lead and connect to ant. terminals.	215.75MC	13	DC Probe to Point C. Common to Point ⓐ	A13	Adjust for zero reading.
12	"	"	209.75MC	12	"	A14	" " " "
13	"	"	203.75MC	11	"	A15	Mechanically distort coil position for zero reading.
14	"	"	197.75MC	10	"	A16	Adjust for zero reading.
15	"	"	191.75MC	9	"	A17	Mechanically distort coil position for zero reading.
16	"	"	185.75MC	8	"	A18	Adjust for zero reading.
17	"	"	179.75MC	7	"	A19	Mechanically distort coil position for zero reading.
18	"	"	87.75MC	6	"	A20	Adjust for zero reading.
19	"	"	81.75MC	5	"	A21	" " " "
20	"	"	71.75MC	4	"	A22	" " " "
21	"	"	65.75MC	3	"	A23	" " " "
22	"	"	59.75MC	2	"	A24	" " " "

TV RF & MIXER ALIGNMENT

In the event complete alignment of the RF Amp and Mixer circuits is necessary, it is recommended that the complete tuner be returned to the factory for a replacement unit. If only one or two channels require adjustments, alignment for those channels may be performed.

Short the AGC line to chassis while aligning the RF circuits.
Keep signal generator output as low as possible and still give reading

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
23	One 50Ω carbon res. & 2 125Ω carbon res.	Shunt generator with 50Ω resistor & insert 125Ω resistor in each lead. Connect across ant. terminal.	59.75MC	2	DC Probe to Point ⓐ Common to Point ⓑ		Adjust fine tuning control for zero reading.
24	"	"	"	2	Across cap. C7	A25	Adjust for maximum deflection.
25	"	"	65.75MC	3	DC Probe to Point ⓐ Common to Point ⓑ		Adjust fine tuning control for zero reading.
26	"	"	"	3	Across cap. C7	A26	Adjust for maximum deflection.
27	"	"	71.75MC	4	DC Probe to Point ⓐ Common to Point ⓑ		Adjust fine tuning control for zero reading.
28	"	"	"	4	Across cap. C7	A27	Adjust for maximum deflection.
29	"	"	81.75MC	5	DC Probe to Point ⓐ Common to Point ⓑ		Adjust fine tuning control for zero reading.
30	"	"	"	5	Across cap. C7	A28	Adjust for maximum deflection.
31	"	"	87.75MC	6	DC Probe to Point ⓐ Common to Point ⓑ		Adjust fine tuning control for zero reading.
32	"	"	"	6	Across cap. C7	A29	Adjust for maximum deflection.
33	"	"	55.25MC	2	Across Res. R43	A30	Adjust fine tuning control and A30 for maximum deflection.
34	"	"	61.25MC	3	"	A31	Adjust fine tuning control and A31 for maximum deflection.
35	"	"	67.25MC	4	"	A32	Adjust fine tuning control and A32 for maximum deflection.
36	"	"	77.25MC	5	"	A33	Adjust fine tuning control and A33 for maximum deflection.
37	"	"	83.25MC	6	"	A34	Adjust for fine tuning control and A34 for maximum deflection.
38	"	"	213MC	13	"	A35, A36	Adjust fine tuning control A35 and A36 for maximum deflection.
39	"	"	207MC	12	"	A37, A38	Adjust fine tuning control A37, and A38 for maximum deflection.
40	"	"	201MC	11	"	A39, A40	Adjust fine tuning control and mechanically distort A39 and A40 for maximum deflection.
41	"	"	195MC	10	"	A41, A42	Adjust fine tuning control A41 and A42 for maximum deflection.
42	"	"	189MC	9	"	A43, A44	Adjust fine tuning control and mechanically distort A43 and A44 for maximum deflection.
43	"	"	183MC	8	"	A45, A46	Adjust fine tuning control A45 and A46 for maximum deflection.
44	"	"	177MC	7	"	A47, A48	Adjust fine tuning control and mechanically distort A47 and A48 for maximum deflection.

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TV ALIGNMENT INSTRUCTIONS (CONT.)

TV RF RESPONSE CHECK

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE & VTVM	ADJUST	REMARKS
45	One 50Ω carbon res. & two 125Ω carbon res.	Shunt generator with 50Ω resistor and insert 125Ω resistor in each lead. Connect across ant. terminals.	Off	215.75MC	13	VTVM DC Probe to Point ⓐ Common lead to Point ⓑ	Adjust fine tuning control for zero reading.
46	"	"	213MC (10MC Sweep)	215.75MC and 211.25MC	13	Scope across R43 as per Fig 2.	A35, A36 If necessary, make slight adjustments to properly place markers as per Fig. 4.
47	"	"	Off	209.75MC	12	VTVM DC Probe to Point ⓐ Common to Point ⓑ	Adjust fine tuning control for zero reading.
48	"	"	207MC (10MC Sweep)	209.75MC and 205.25MC	12	Scope across R43 as per Fig 2.	A37, A38 If necessary, make slight adjustments to properly place markers as per Fig. 4.
49	"	"	Off	203.75MC	11	VTVM DC Probe to point ⓐ Common to Point ⓑ	Adjust fine tuning control for zero reading.
50	"	"	201MC (10MC Sweep)	203.75MC and 199.25MC	11	Scope across R43 as per Fig 2.	A39, A40 If necessary, mechanically distort the shape and position of coils A39, and A40 to properly place markers as per Fig 4.
51	"	"	Off	197.75MC	10	VTVM DC Probe to Point ⓐ Common to Point ⓑ	Adjust fine tuning control for zero reading.
52	"	"	195MC (10MC Sweep)	197.75MC and 193.25MC	10	Scope across R43 as per Fig 2.	A41, A42 If necessary, make slight adjustments to properly place markers as per Fig 4.
53	"	"	Off	191.75MC	9	VTVM DC Probe to Point ⓐ Common to Point ⓑ	Adjust fine tuning control for zero reading.
54	"	"	189MC (10MC Sweep)	191.75MC and 187.25MC	9	Scope across R43 as per Fig 2.	A43, A44 If necessary, mechanically distort the shape and position of coils A43, and A44 to properly place markers as per Fig 4.
55	"	"	Off	185.75MC	8	VTVM DC Probe to Point ⓐ Common to Point ⓑ	Adjust fine tuning control for zero reading.
56	"	"	183MC (10MC Sweep)	185.75MC and 181.25MC	8	Scope across R43 as per Fig 2.	A45, A46 If necessary, make slight adjustments to properly place markers as per Fig 4.
57	"	"	Off	179.75MC	7	VTVM DC Probe to Point ⓐ Common to Point ⓑ	Adjust fine tuning control for zero reading.
58	"	"	177MC (10MC Sweep)	179.75MC and 175.25MC	7	Scope across R43 as per Fig 2.	A47, A48 If necessary, mechanically distort the shape and position of coils A47 and A48 to properly place markers as per Fig 4.
59	"	"	Off	87.75MC	6	VTVM DC Probe to Point ⓐ Common to Point ⓑ	Adjust fine tuning control for zero reading.
60	"	"	85MC (10MC Sweep)	87.75MC and 83.25MC	6	Scope across R43 as per Fig 2.	A29, A34 If necessary, make slight adjustments to properly place markers as per Fig 4.
61	"	"	Off	81.75MC	5	VTVM DC Probe to Point ⓐ Common to Point ⓑ	Adjust fine tuning control for zero reading.
62	"	"	79MC (10MC Sweep)	81.75MC and 77.25MC	5	Scope across R43 as per Fig 2.	A28, A33 If necessary, make slight adjustments to properly place markers as per Fig 4.
63	"	"	Off	71.75MC	4	VTVM DC Probe to Point ⓐ Common to Point ⓑ	Adjust fine tuning control for zero reading.
64	"	"	69MC (10MC Sweep)	71.75MC and 67.25MC	4	Scope across R43 as per Fig 2.	A27, A32 If necessary, make slight adjustments to properly place markers as per Fig 4.
65	"	"	Off	65.75MC	3	VTVM DC Probe to Point ⓐ Common to Point ⓑ	Adjust fine tuning control for zero reading.
66	"	"	63MC (10MC Sweep)	65.75MC and 61.25MC	3	Scope across R43 as per Fig 2.	A26, A31 If necessary, make slight adjustments to properly place markers as per Fig 4.
67	"	"	Off	59.75MC	2	VTVM DC Probe to Point ⓐ Common to Point ⓑ	Adjust fine tuning control for zero reading.
68	"	"	57MC (10MC Sweep)	59.75MC and 55.25MC	2	Scope across R43 as per Fig 2.	A25, A30 If necessary, make slight adjustments to properly place markers as per Fig 4.

AM FM ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning cap. fully closed and set pointer to last reference mark at low frequency end of dial.
 Use insulated alignment screwdriver for adjusting.
 Dummy antenna consists of a 200MFD cap. in series with a 20millihenry choke, the choke being shunted by a 400MFD cap in series with a 100Ω carbon resistor.

AM ALIGNMENT

Loop should be maintained in same relative position to chassis as when receiver is in cabinet.
 Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
70. .02MFD	High side to pin 7 (Grid) of 6BE6 (V29). Low side to chassis.	456KC	AM (center position)	Tuning cap fully open	Across voice coil	A49, A50, A51, A52	Adjust for maximum output.
71. Dummy Ant.	High side to green antenna lead. Low side to chassis.	1500KC	"	1500KC	"	A53	" " " "
72. Dummy Ant.	"	"	"	Tune for maximum output.	"	A54, A55	" " " "
73. Dummy Ant.	"	600KC	"	"	"	A56	Rock tuning cap and adjust for maximum output. Repeat steps 71, 72, & 73 until no further improvement can be made.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60% modulation and 450KC sweep.
 Connect the synchronized sweep voltage from the signal generator to the horizontal input of scope. This voltage may be taken from the powerline if signal generator does not have a sync. voltage output. There may be some phase shift encountered between signal generator and scope horizontal sweep. If provision is made for this in the scope, rotate phase control until a single trace pattern is obtained. If no provision is made for this, the same thing may be accomplished by inserting a cap. of suitable value (.01 to .1MFD) in series with the horizontal sync. input.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	SCOPE CONNECT	ADJUST	REMARKS
74. .01MFD	High side to pin 6 (Grid) of 7A7 1st IF tube (V30) Low side to chassis.	10.7MC (freq. mod.)	FM (counter-clockwise)	Tuning cap fully open	Vertical input to point D. Ground to chassis.	A57, A58, A59, A60	Disconnect 3MFD cap (C9) from point D. Adjust A57 thru A60 for maximum amplitude and symmetry of pattern per Fig 5.
75. .01MFD	High side to pin 7 (Grid) of 6BE6 (V29). Low side to chassis.	"	"	"	"	A61, A62	Adjust for maximum amplitude and symmetry of pattern per Fig 5. Reconnect cap (C9) to Point D.
76. .01MFD	"	"	"	"	Vertical input to Point E. Ground to chassis.	A63	Adjust for maximum straightness of diagonal line with center of diagonal line on scope horizontal sweep line per Fig 6. Continue with FM-RF Alignment in step 79.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND OUTPUT METER

Use low range output meter and attenuate output of signal generator to maintain approximately maximum reading on meter.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
74. .05MFD	High side to pin 6 (Grid) of 7A7 FM driver (V32). Low side to chassis.	10.7MC (400% AM Mod.)	FM (counter-clockwise)	Tuning cap fully open	Across voice coil	A57, A63	Adjust for maximum output.
75. .05MFD	High side to pin 6 (Grid) of 7A7 2nd IF tube (V31) Low side to chassis.	"	"	"	"	A58	" " " "
76. .05MFD	High side to pin 6 (Grid) of 7A7 1st IF tube (V30) Low side to chassis.	"	"	"	"	A59, A60	" " " "
77. .05MFD	High side to pin 7 (Grid) of 6BE6 (V29). Low side to chassis.	"	"	"	"	A61, A62	Shunt 15KΩ carbon resistor from pin 6 (Grid) of 7A7 to chassis. Adjust A61 and A62 for maximum output. Remove 15KΩ resistor.
78. .05MFD	"	"	"	"	"	A63	Adjust for minimum output. Continue with FM-RF Alignment in step 79.

FM RF ALIGNMENT

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
79. 300Ω carbon res.	Each side to FM Antenna terminal	108MC (Unmod.)	FM	108MC	DC Probe to Point D. Common to Point F.	A64	Adjust for maximum deflection.
80. 300Ω carbon res.	"	"	"	Tune for maximum deflection	"	A65, A66	Rock tuning cap and adjust for maximum deflection. Check calibration at 88MC.

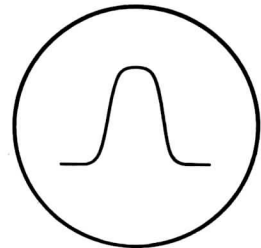


FIG. 5

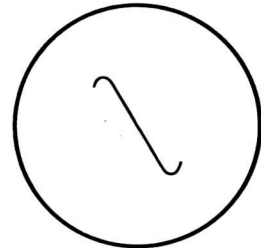
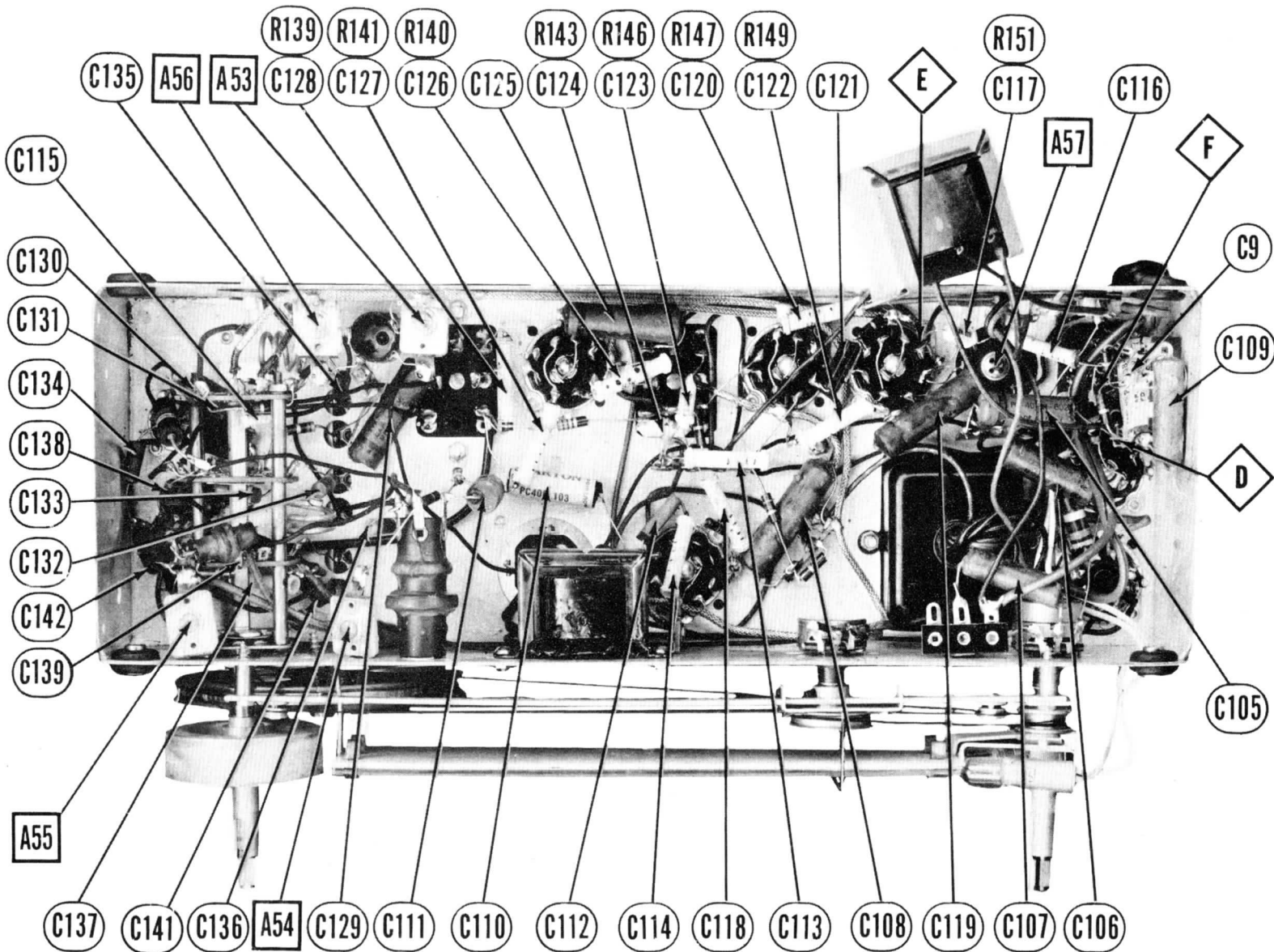
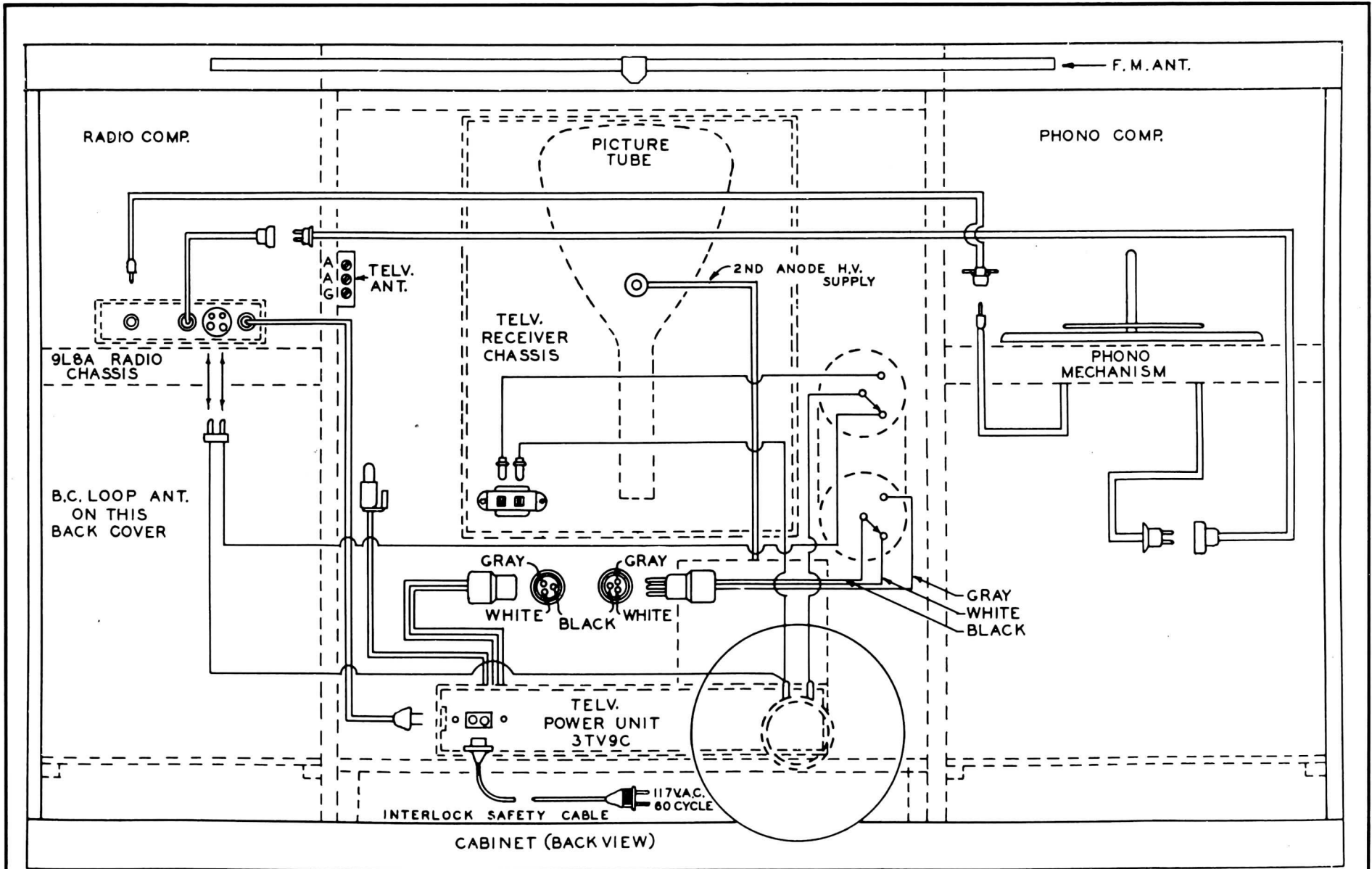


FIG. 6

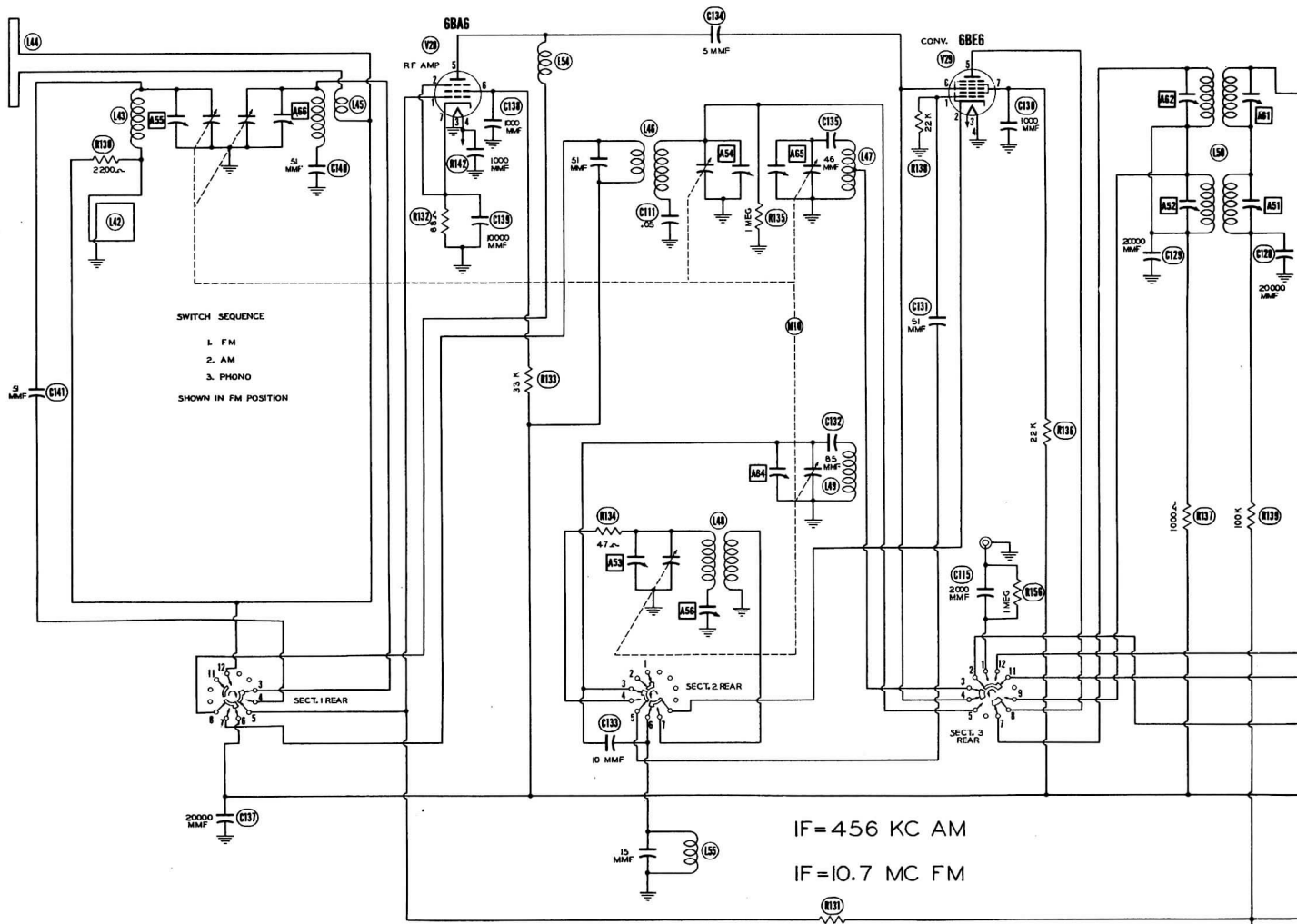
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AM-FM CHASSIS-BOTTOM VIEW



CABLE CONNECTIONS - MODEL 4900 TV

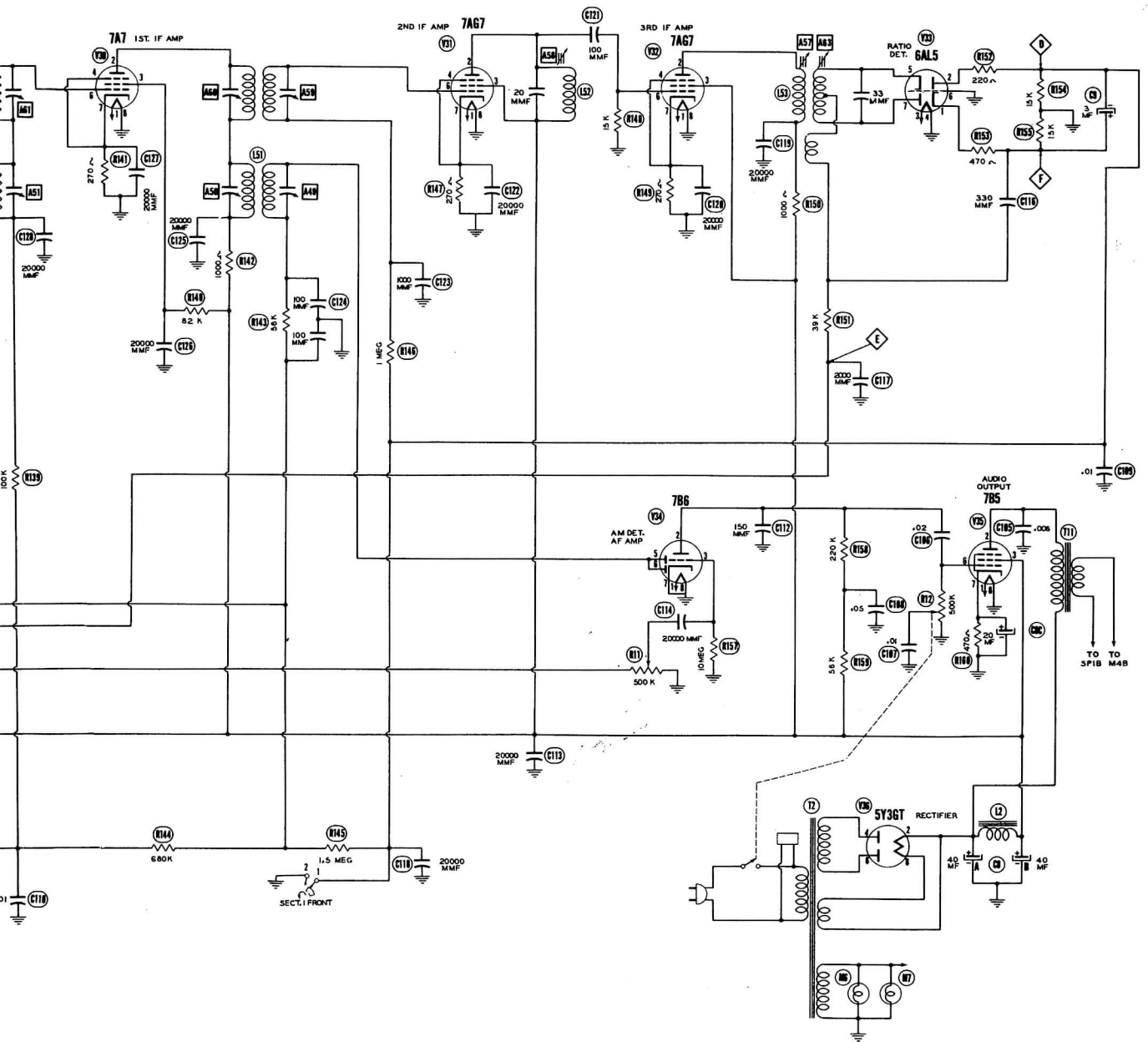


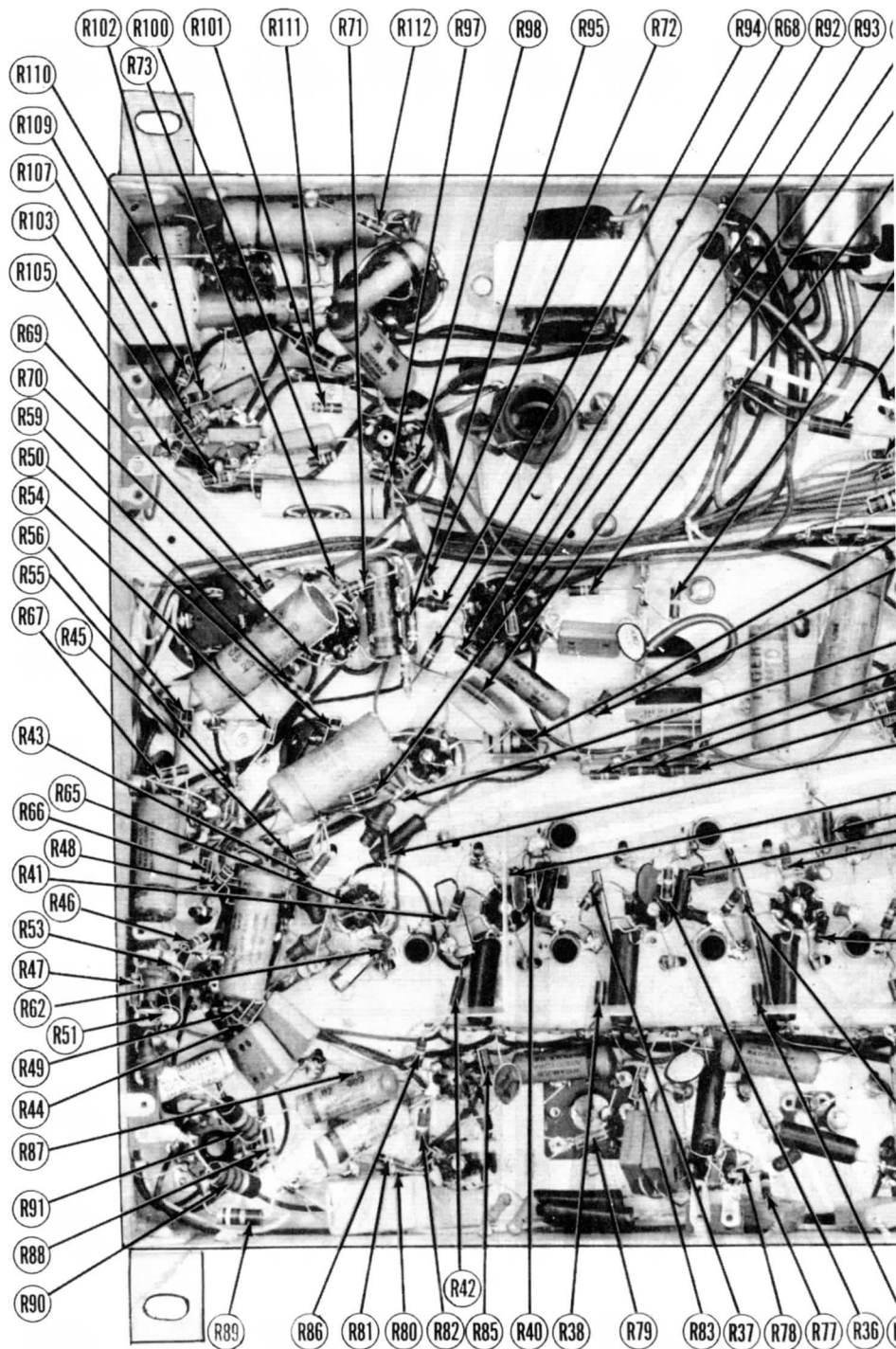
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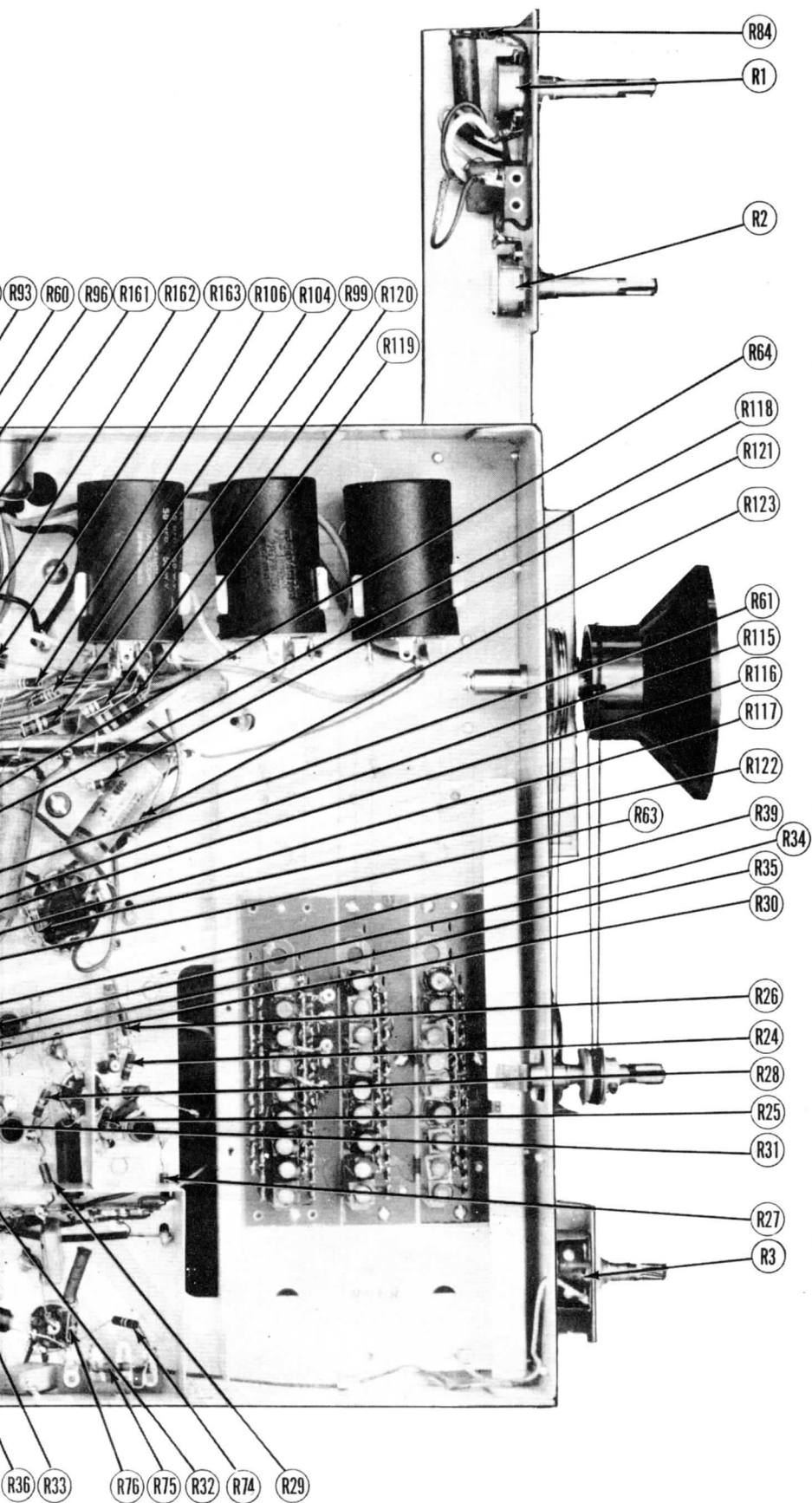
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SPARTON MODELS
4900TV, 4939TV, 4940TV, 4941TV

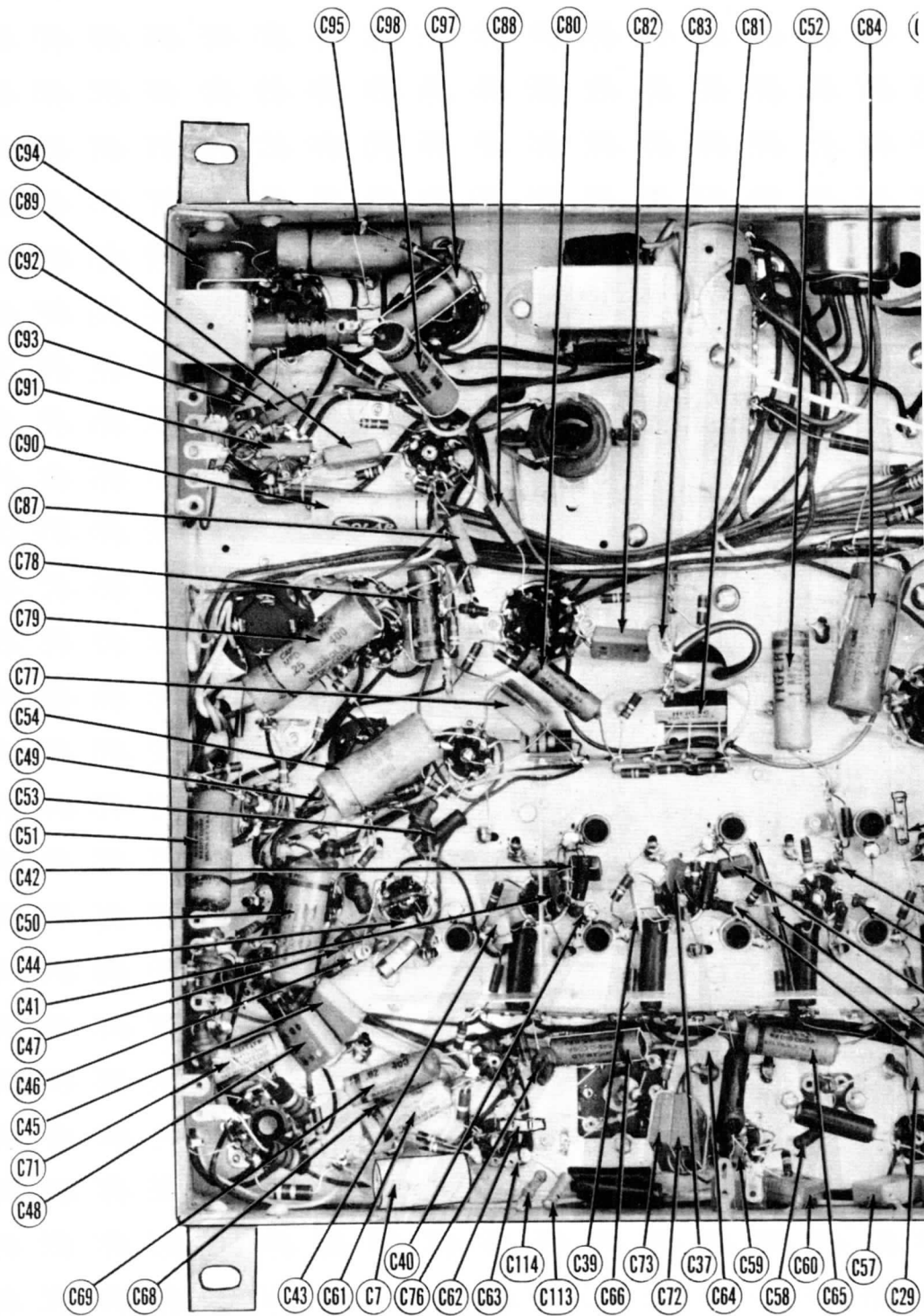




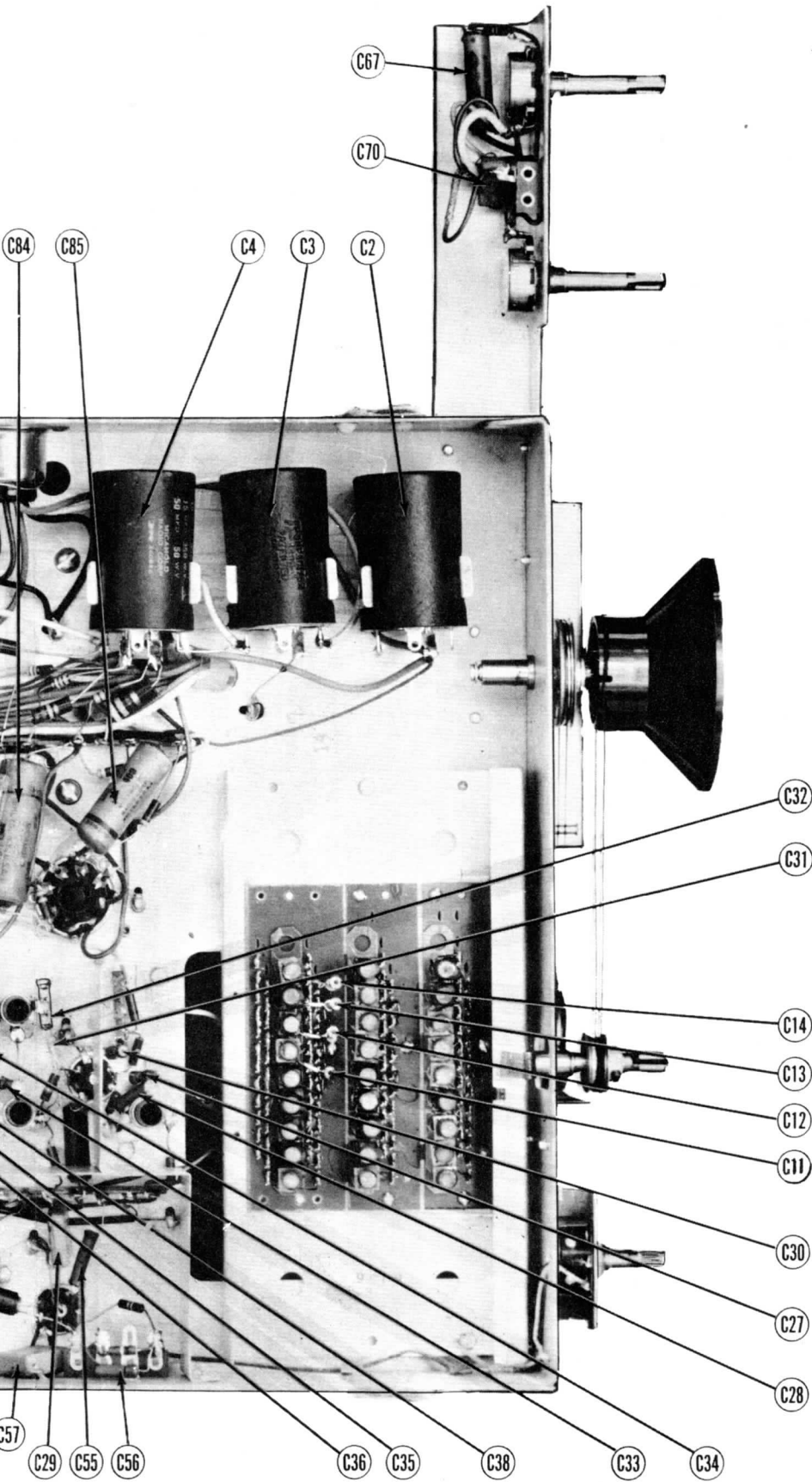
CHASSIS BOTTOM VIEW-RE



- RESISTOR IDENTIFICATION



CHASSIS BOTTOM VIEW-CAPA



CAPACITOR IDENTIFICATION

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	6BH6	-.3VDC	.7VDC	0V	6.3VAC	190VDC	130VDC	0V		
V 2	6AG5	-1.3VDC	0V	0V	6.3VAC	160VDC	72VDC	0V		
V 3	6C4	140VDC	0V	6.3VAC	0V	140VDC	§-4.7VDC	0V		
V 4	6BH6	0V	.7VDC	0V	6.3VAC	150VDC	120VDC	0V		
V 5	6BH6	0V	.7VDC	0V	6.3VAC	145VDC	115VDC	0V		
V 6	6BH6	0V	.8VDC	0V	6.3VAC	145VDC	110VDC	0V		
V 7	6BH6	0V	.8VDC	0V	6.3VAC	150VDC	115VDC	0V		
V 8	6AL5	-1VDC	1.8VDC	0V	6.3VAC	12.8VDC	0V	0V		
V 9	6AU6	1.7VDC	1.8VDC	**	6.3VAC	1300VDC	1125VDC	13.2VDC		
V 10	6AK6	1.2VDC	1.8VDC	**	6.3VAC	1250VDC	1160VDC	19.5VDC		
V 11	6AL5	0V	10V	**	6.3VAC	0V	11.6VDC	0V	0V	
V 12	6AU6	11VDC	1.8VDC	**	6.3VAC	1155VDC	0V	13.2VDC		
V 13	6AU6	1.1VDC	10V	**	6.3VAC	1150VDC	0V	11VDC		
V 14	6AU6	1-.1VDC	10V	**	6.3VAC	1150VDC	0V	1.5VDC		
V 15	6AL5	1-.7VDC	1-.5VDC	**	6.3VAC	10V	10V	1-.8VDC		
V 16	6AT6	1-.5VDC	10V	**	6.3VAC	10V	10V	195VDC		
V 17	6V6GT	0V	**	6.3VAC	1215VDC	1225VDC	10V	1260VDC	**	6.3VAC
V 18	6J6	80VDC	28VDC	6.3VAC	0V	-.2VDC	-.6VDC	0V		
V 19	6SN7GT	-20VDC	185VDC	10V	10V	1250VDC	110VDC	**	6.3VAC	**
V 20	6V6GT	0V	**	6.3VAC	1140VDC	1140VDC	1-.5VDC	10V	**	15.4VDC
V 21	6AL5	10V	10V	**	6.3VAC	11VDC	10V	1-1.2VDC		**
V 22	12AU7	150VDC	1-4VDC	1-7.4VDC	4VDC	6.3VAC	6.3VAC	195VDC	**	10V
V 23	6L6	10V	**	6.3VAC	1280VDC	1275VDC	10V	0V	**	6.3VAC
V 24	5V4G	0V	140VDC	0V	-.8VDC	0V	-.8VDC	0V	140VDC	0V
V 25	6SN7GT	1-35VDC	300VDC	14VDC	1-35VDC	300VDC	14VDC	**	6.3VAC	**
V 26	1B3GT									
V 27	5U4G	0V	180VDC	0V	350VAC	0V	350VAC	0V	180VDC	
V 28	6BA6	-.1VDC	.9VDC	6.4VAC	0V	240VDC	100VDC	-.1VDC		
V29A	6BE6	§-4.2VDC	0V	6.4VAC	0V	230VDC	90VDC	-.1VDC		
V29B	6BE6	§-3.6VDC	0V	6.4VAC	0V	230VDC	90VDC	0V		
V30	7A7	6.4VAC	230VDC	80VDC	2VDC	0V	-1.1VDC	2VDC	0V	
V31	7AG7	6.4VAC	240VDC	240VDC	.7VDC	0V	-.1VDC	.7VDC	0V	
V32	7AG7	6.4VAC	240VDC	240VDC	1.5VDC	0V	0V	1.5VDC	0V	
V33	6AL5	2.6VDC	-2.9VDC	0V	6.4VAC	-.6VDC	0V	1.9VDC		
V34	7B6	6.4VAC	90VDC	1-.6VDC	0V	0V	-.7VDC	0V	6.4VAC	
V35	7B5	0V	255VDC	240VDC	0V	0V	0V	16VDC	6.4VAC	
V36	5Y3GT	0V	270VDC	0V	250VAC	0V	250VAC	0V	270VDC	
V37	10BP4	0V	11.8VDC	PIN 10	PIN 11	PIN 12				

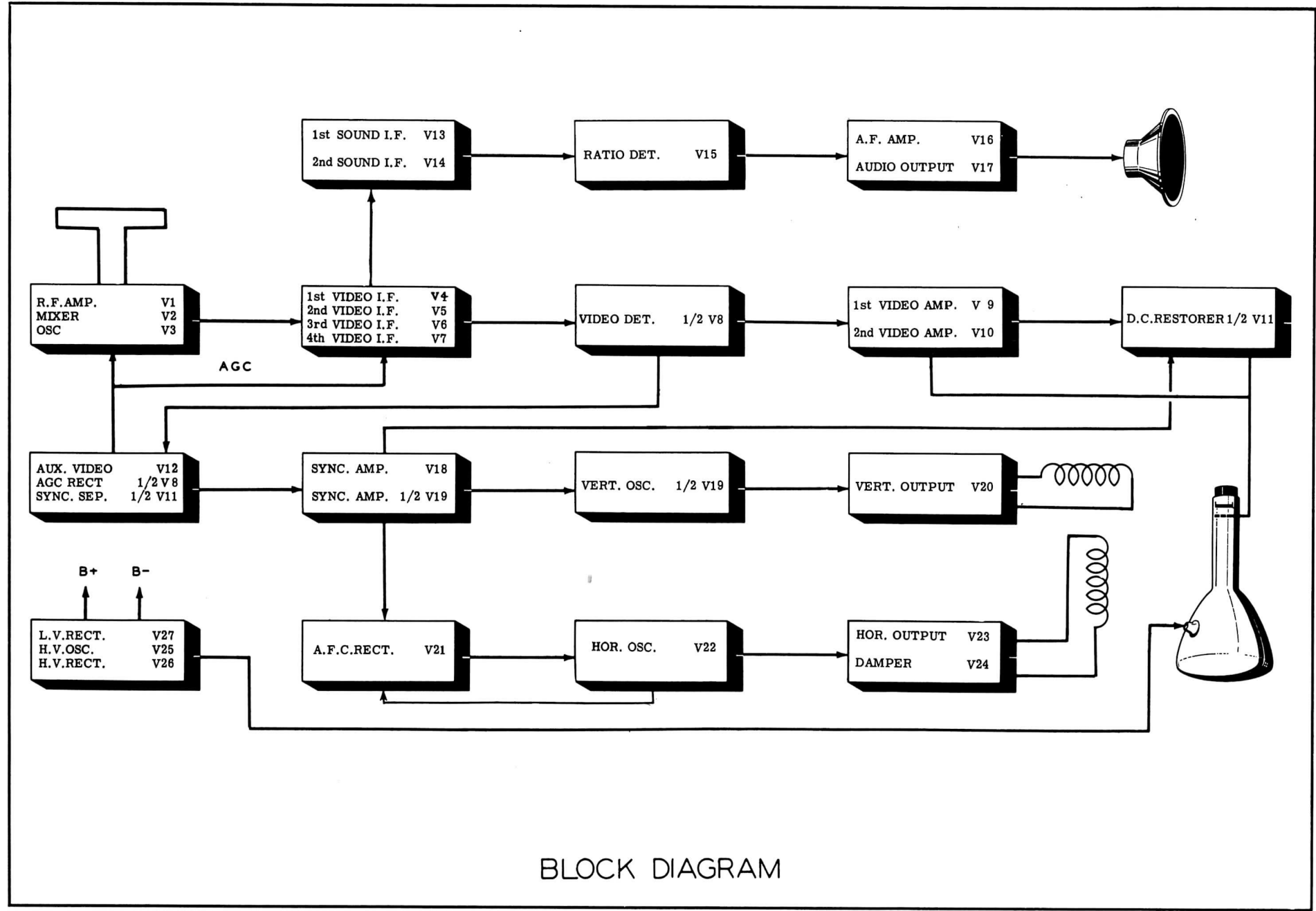
† Measured from pin 3 of V19
 ‡ Taken in FM position
 ** 6.3VAC measured between filaments
 § Taken with vacuum tube voltmeter

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6BH6	3 Meg.	100Ω	0Ω	.2Ω	*2.2KΩ	*15KΩ	0Ω		
V 2	6AG5	1 Meg.	0Ω	0Ω	.2Ω	*1500Ω	*56KΩ	0Ω		
V 3	6C4	*580Ω	Inf.	.2Ω	0Ω	*580Ω	18KΩ	0Ω		
V 4	6BH6	3 Meg.	100Ω	0Ω	.2Ω	*1500Ω	*17KΩ	0Ω		
V 5	6BH6	3 Meg.	100Ω	0Ω	.2Ω	*1500Ω	*17KΩ	0Ω		
V 6	6BH6	1.6Ω	100Ω	0Ω	.2Ω	*1500Ω	*17KΩ	0Ω		
V 7	6BH6	1.6Ω	100Ω	0Ω	.2Ω	*1500Ω	*17KΩ	0Ω		
V 8	6AL5	8KΩ	1200Ω	0Ω	.2Ω	13.3KΩ	0Ω	1 Meg.		
V 9	6AU6	13.3KΩ	147Ω	8KΩ	8KΩ	*1800Ω	68KΩ	11500Ω		
V 10	6AK6	1470KΩ	147Ω	8KΩ	8KΩ	*6.8KΩ	*100KΩ	1820Ω		
V 11	6AL5	220KΩ	14.7KΩ	.2Ω	0Ω	11.5Meg.	0Ω	10KΩ		
V 12	6AU6	13.3KΩ	147Ω	8KΩ	8KΩ	*10KΩ	0Ω	1470Ω		
V 13	6AU6	400KΩ	1.4Ω	8KΩ	8KΩ	.1Ω	0Ω	182Ω		
V 14	6AU6	100KΩ	1.2Ω	8KΩ	8KΩ	.1Ω	0Ω	168Ω		
V 15	6AL5	Inf.	Inf.	8KΩ	8KΩ	8KΩ	8KΩ	120KΩ		
V 16	6AT6	10 Meg.	10Ω	8KΩ	8KΩ	1220KΩ	1220KΩ	*270KΩ		
V 17	6V6GT	0Ω	8KΩ	*2800Ω	*2500Ω	1450KΩ	7KΩ	8KΩ	1390Ω	
V 18	6J6	*28KΩ	*60KΩ	.2Ω	0Ω	10KΩ	1 Meg.	0Ω		
V 19	6SN7GT	1 1 Meg.	*360KΩ	10Ω	11500Ω	*12KΩ	12.2KΩ	8KΩ	8KΩ	8KΩ
V 20	6V6GT	0Ω	8KΩ	*13KΩ	*13KΩ	13.3Meg.	10Ω	8KΩ	15KΩ	1400Ω
V 21	6AL5	Inf.	Inf.	8KΩ	8KΩ	1100KΩ	0Ω	1100KΩ		
V 22	12AU7	*350KΩ	1 Meg.	580KΩ	1000Ω	8KΩ	8KΩ	*60KΩ	Inf.	11000Ω
V 23	6L6	0Ω	8KΩ	*500Ω	*5.5KΩ	*4.7KΩ	1470KΩ	Inf.	8KΩ	1180Ω
V 24	5V4G	Inf.	*500Ω	Inf.	16Ω	68Ω	16Ω	Inf.	*500Ω	
V 25	6SN7GT	13.9KΩ	*450Ω	1470Ω	13.9KΩ	*450Ω	1470Ω	8KΩ	8KΩ	
V 26	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	TOP CAP *1000Ω
V 27	5U4G	Inf.	3.5KΩ	Inf.	8KΩ	Inf.	8KΩ	Inf.	3.5KΩ	
V 28	6BA6	2.1Meg.	68Ω	.1Ω	0Ω	**	**	**	**	**
V29A	6BE6	22KΩ	1Ω	.1Ω	0Ω	**	**	**	**	**
V29B	6BE6	22KΩ	0Ω	.1Ω	0Ω	**	**	**	**	**
V30	7A7	.1Ω	**	**	**	**	**	**	**	**
V31	7AG7	.1Ω	**60Ω	**60Ω	270Ω	0Ω	1 Meg.	270Ω	0Ω	
V32	7AG7	.1Ω	1000Ω	**60Ω	270Ω	0Ω	15KΩ	270Ω	0Ω	
V33	6AL5	16KΩ	15KΩ	0Ω	.1Ω	540KΩ	0Ω	540KΩ		
V34	7B6	.1Ω	**270KΩ	10 Meg.	Inf.	Inf.	500KΩ	0Ω	.1Ω	
V35	7B5	0Ω	**425Ω	**60Ω	Inf.	Inf.	500KΩ	470Ω	.1Ω	
V36	5Y3GT	0Ω	110KΩ	Inf.	65Ω	Inf.	70Ω	Inf.	110KΩ	
V37	10BP4	0Ω	*1.5 Meg.	*65Ω	PIN 10	PIN 11	PIN 12			

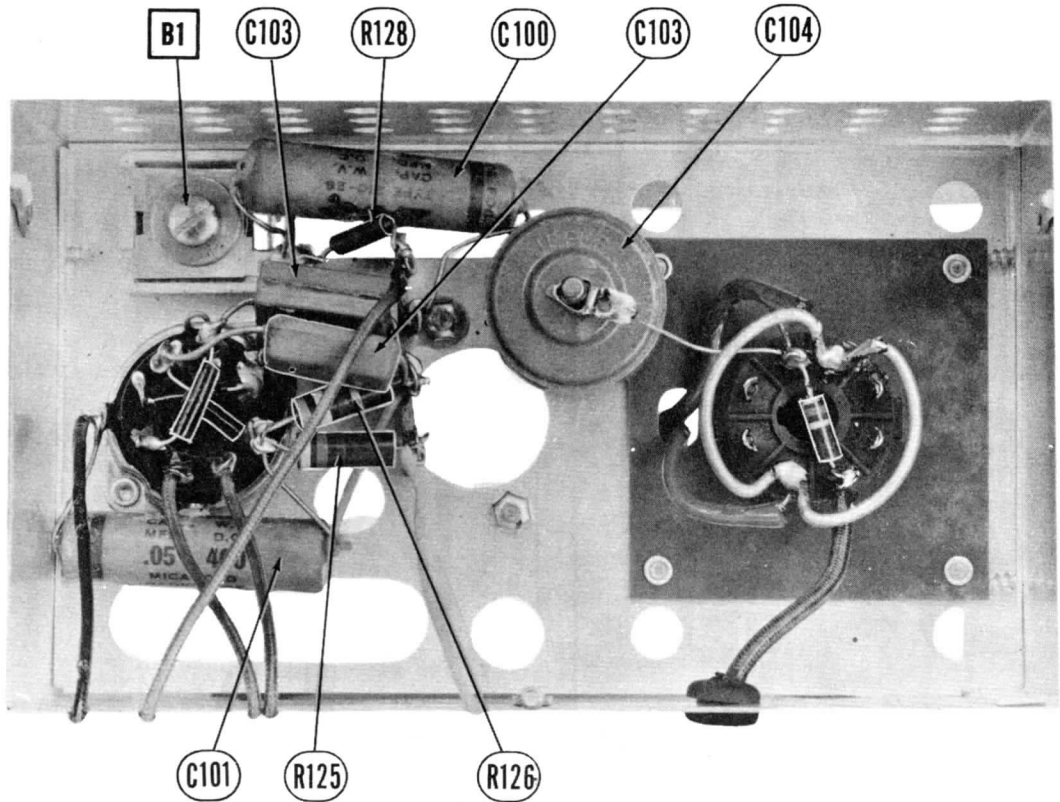
** Measured from pin 2 of V36
 ‡ Taken in FM position
 † Measured from pin 3 of V19
 * Measured from pin 2 of V27

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

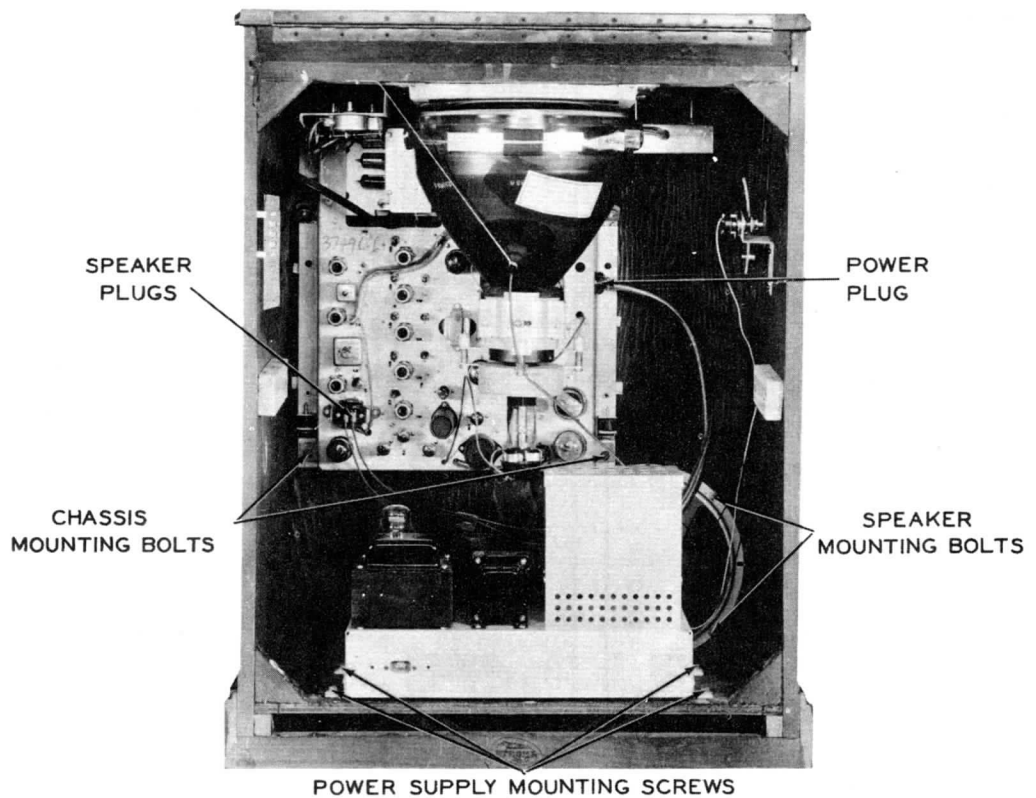


BLOCK DIAGRAM

SPARTON MODELS
4900TV, 4939TV, 4940TV, 4941TV

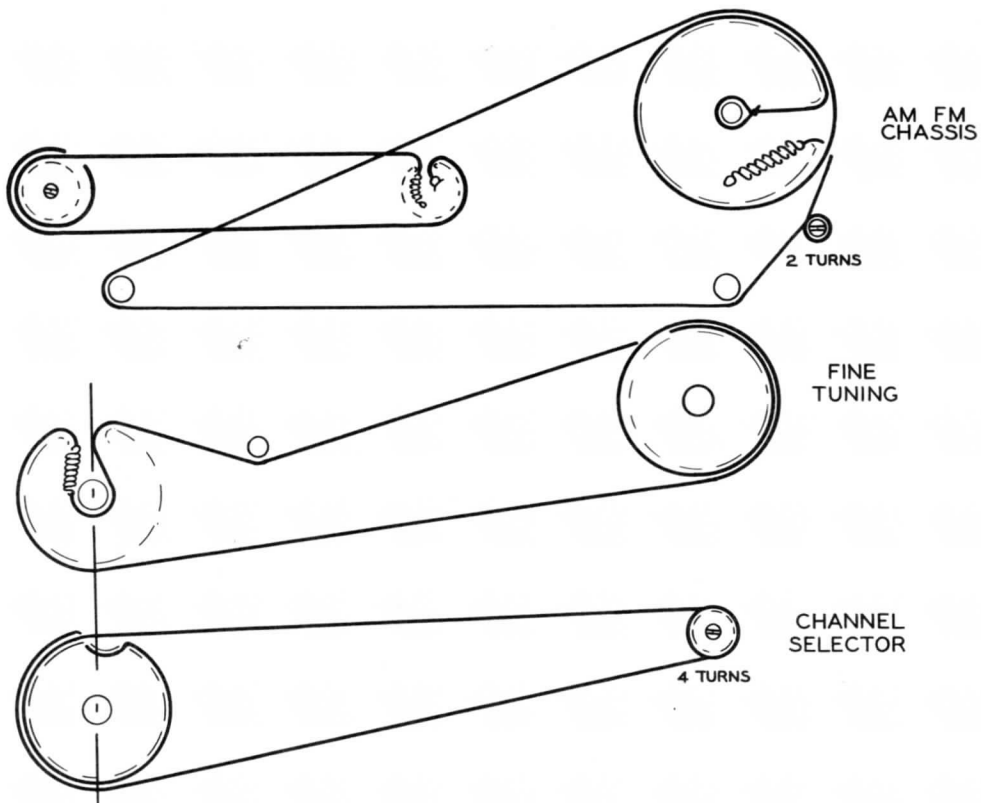


HIGH VOLTAGE SUPPLY -BOTTOM VIEW



CABINET-REAR VIEW

DIAL CORD STRINGING



DISASSEMBLY INSTRUCTIONS

MODEL 4900TV

1. Remove five push-on type control knobs.
2. Remove back cover from center compartment.
3. Remove speaker wires from transformer.
4. Remove HV lead from picture tube.
5. Remove power plug from TV chassis.
6. Disconnect AC plug to switch on door.
7. Remove radio AC plug from power supply.
8. Remove pilot light from mounting bracket.
9. Disconnect antenna lead at cabinet.
10. Remove four hex head screws holding power supply chassis. Remove power supply.
11. Lay cabinet front down on floor. CAUTION: The radio panel and phono unit must either be fastened or held while tipping cabinet.
12. Remove two hex head screws from bottom of chassis.
13. Slide chassis far enough back to unhook holding lugs then lift chassis straight up out of cabinet.

MODELS 4939TV, 4940TV, 4941TV.

1. Remove five push-on type control knobs.
2. Remove twelve phillips head wood screws and two 1/4" hex head self tapping screws holding back cover. Remove cover.
3. Disconnect power switch plug. And remove power plug from TV chassis, HV plug from picture tube, and remove cabinet light.
4. Remove four 3/8" hex head metal screws holding power supply chassis. Remove power supply chassis.
5. Remove power switch lever. Remove hex head nut holding power switch. Remove power switch.
6. Remove isolation lead from door hinge.
7. Remove speaker wires from output transformer.
8. Remove four 3/8" hex nuts holding speaker. Remove speaker.
9. Lay cabinet down on front.
10. Remove two phillips head wood screws holding antenna mounting strip. Remove strip.
11. Remove two 3/8" hex head metal bolts from bottom of chassis. Slide chassis back to unhook holding lugs then remove by lifting straight up.

HIGH VOLTAGE RF OSCILLATOR ADJUSTMENT

The high voltage output may be varied by adjustment of trimmer B1 which is located in the high voltage compartment.

This trimmer is adjusted for approximately 10KV on the high capacity side of the high voltage peak.

This setting gives maximum efficiency and regulation.

SPARTON MODELS
4900TV, 4939TV, 4940TV, 4941TV

PARTS LIST A

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		SPARTON PART No.	STANDARD REPLACEMENT		
V1	RF Amp.	6BH6	6BH6	7CM	
V2	Mixer	6AG5	6AG5	7BD	
V3	RF Osc.	6C4	6C4	6BG	
V4	1st Video IF	6BH6	6BH6	7CM	
V5	2nd Video IF	6BH6	6BH6	7CM	
V6	3rd Video IF	6BH6	6BH6	7CM	
V7	4th Video IF	6BH6	6BH6	7CM	
V8	Video DET-AGC				
	Rect.	6AL5	6AL5	6BT	
V9	1st Video Amp.	6AU6	6AU6	7BK	
V10	2nd Video Amp.	6AK6	6AK6	7BK	
V11	DC Restorer-Sync. Sep.	6AL5	6AL5	6BT	
V12	Aux. Video	6AU6	6AU6	7BK	
V13	1st Sound IF	6AU6	6AU6	7BK	
V14	2nd Sound IF	6AU6	6AU6	7BK	
V15	Ratio Detector	6AL5	6AL5	6BT	
V16	AF Amp.	6AT6	6AT6	7BT	
V17	Audio Output	6V6GT	6V6GT	7AC	
V18	Sync. Amp.	6J6	6J6	7BF	
V19	Sync. Amp.-Vert. Osc.	6SN7GT	6SN7GT	8BD	
V20	Vert. Output	6V6GT	6V6GT	7AC	
V21	AFC Rectifier	6AL5	6AL5	6BT	
V22	Horiz. Osc.	12AU7	12AU7	9A	
V23	Horiz. Output	6L6G	6L6G	7AC	
V24	Damper	5V4G	5V4G	5L	
V25	HV Osc.	6SN7GT	6SN7GT	8BD	
V26	HV Rectifier	1B3GT	1B3GT	3C	
V27	LV Rectifier	5U4G	5U4G	6T	
V28	RF Amp.	6BA6	6BA6	7BK	
V29	Converter	6BE6	6BE6	7CH	
V30	1st IF Amp.	7A7	7A7	8V	
V31	FM 2nd IF Amp.	7AG7	7AG7	8V	
V32	FM 3rd IF Amp.	7AG7	7AG7	8V	
V33	Ratio Det.	6AL5	6AL5	6BT	
V34	DET.-AVC-AF	7B6	7B6	8W	
V35	Power Output	7B5	7B5	6AE	
V36	Rectifier	5Y3GT	5Y3GT	5T	
V37	Picture Tube	10BP4	10BP4		

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	SPARTON PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SOLAR PART No.		SPRAGUE PART No.
C1A	40	450	PA4304-3	AFH88J	UP4445			TVL-64	▲ Filter
B	40	450							▲ Filter
C2	80	300	PA4309-1	AF88J	UP7AJ 1060			TVL-5	Filter
C3	80	300	PA4309-1	AF88J	UP7AJ 1060			TVL-5	Filter
C4A	15	350	PA4307-6	AF444J	UP7DJ 1044				Decoupling
B	15	350							Sync. Amp. Plate Decoup.
C	15	350							Decoupling
D	50	50							Vert. Output Cath. Byp.
C5A	10	450	PA4300-10	AF22J4A	UP1145			TVL-52	1st Video Amp. Screen Byp.
B	10	450							2nd Video Amp. Screen Byp.
C	20	25							2nd Video Amp. Cath. Byp.
C6A	15	350	PA4307-6	AF444J	UP7DJ 1044				Sync. Amp. Decoup.
B	15	350							Sound Output Decoup.
C	15	350							Brightness Cont. Bypass
D	50	50							Sound Output Cath. Bypass
C7	5	50	PA4303-12	PRS150/4	BR550		M-TV-4-50	TVA-13	Stabilizing Cap.
C8A	40	400	PA4307-3	AF88J4A	UP4445			TVL-54	▲ Filter
B	40	400					DY-314		▲ Filter
C	20	25							▲ Output Cath. Bypass
C9	5	50	PA4308-1	PRS150/4	BR415		M-4-150	TVA-13	Stabilizing Cap.
C10	5	450	PA4309-2						Decoupling
C11	15					GP1K-15			RF Coupling
C12	15					GP1K-15			" "
C13	15					GP1K-15			" "
C14	15					GP1K-15			" "
C15	47					GP1K-50			" "
C16	470					GP2K-500			AGC Filter
C17	470					GP2K-500			RF Screen Bypass
C18	470					GP2K-500			RF Bypass
C19	47					GP1K-50			RF Coupling
C20	1.5					NPOK-1.5			Osc. Coupling
C21	470					GP2K-500			Mixer Screen Bypass
C22	100								Fixed Trimmer
C23	10					GP1K-10			Osc. Feedback
C24	10					GP1K-10			Osc. Grid Cap.
C25	470					GP2K-500			Mixer Fil. Bypass
C26	470					GP2K-500			Osc. Fil. Bypass
C27	270		HK36M-271	1468-00025	5W5T25	GP2K-250	MO.5-325	1FM-325	IF Coupling
C28	1000		HK36H-102	1468-001	1W5D1	GP2L-001	MW.5-21	1FM-21	Mixer Decoupling
C29	4700	500	MC61F-472	1467-005	1D5D5	GP2M-005	MW.5-25	1FM-25	RF Bypass
C30	1000		HK36H-102	1468-001	1D5D1	GP2L-001	MW.5-21	1FM-21	AGC Filter
C31A	1000		PA4339-2	1468-001	1D5D1	GP2L-001	MW.5-21	1FM-21	1st IF Screen Bypass
B	1000			1468-001	1D5D1	GP2L-001	MW.5-21	1FM-21	1st IF Fil. Bypass
C	1000			1468-001	1D5D1	GP2L-001	MW.5-21	1FM-21	1st IF Decoupling
C32	100		CC30A-101F	1468-0001	5R5T1	NPOM-100	MOS.5-31	1FM-31	Fixed Trimmer
C33	270		HK36M-271	1468-00025	5W5T25	GP2K-250	MO.5-325	1FM-325	IF Coupling
C34	1000		HK36H-102	1468-001	1W5D1	GP2L-001	MW.5-21	1FM-21	AGC Filter
C35A	1000		PA4339-2	1468-001	1W5D1	GP2L-001	MW.5-21	1FM-21	2nd IF Screen Bypass
B	1000			1468-001	1W5D1	GP2L-001	MW.5-21	1FM-21	2nd IF Fil. Bypass
C	1000			1468-001	1W5D1	GP2L-001	MW.5-21	1FM-21	2nd IF Decoupling
C36	270		HK36M-271	1468-00025	5W5T25	GP2K-250	MO.5-325	1FM-325	IF Coupling
C37	5000		PA4334-1	1467-005	1D5D5	GP2M-005	MW.5-25	1FM-25	3rd IF Cath. Bypass
C38	470	500	MC60E-471			GP2K-500			Fixed Trimmer
C39A	1000		PA4339-2	1468-001	1W5D1	GP2L-001	MW.5-21	1FM-21	3rd IF Screen Bypass
B	1000			1468-001	1W5D1	GP2L-001	MW.5-21	1FM-21	3rd IF Fil. Bypass
C	1000			1468-001	1W5D1	GP2L-001	MW.5-21	1FM-21	3rd IF Decoupling

ITEM No.	RATING		REPLACEMENT DATA		REPLAC CORN DUBIL PART
	CAP.	VOLT	SPARTON PART No.	AEROVOX PART No.	
C40	270		HK36M-271	1468-00025	5W5T
C41	5000		PA4334-1	1467-005	1D5D
C42	470	500	MC60E-471		
C43A	1000		PA4339-2	1468-001	1W5D
	1000			1468-001	1W5D
	1000			1468-001	5W5C
C44	22		CC30A-220K	1467-005	1D5D
C45	4700	500	MC61F-472	1468-001	1D5D
C46	4.7		PA4328-11	1468-000005	5W5V
C47	4.7		PA4328-11	1468-000005	5W5V
C48	4700		MC61F-472	1467-005	1D5D
C49	10		CC30A-100F	1468-00001	5W5C
C50	.1	400		P488-1	GT4F
C51	.1	400		P488-1	GT4F
C52	.1	200		P288-1	GT2P
C53	100		CC32A-101A	1468-0001	5W5T
C54	.25	200		P488-25	GT2P
C55	100		CC32A-101A	1468-0001	5W5T
C56	1000		HK36H-102	1468-001	1W5D
C57	4700	500	MC61F-472	1467-005	1D5D
C58	100		CC32A-101A	1468-0001	5W5T
C59	1000		HK36H-102	1468-001	1W5D
C60	4700	500	MC61F-472	1467-005	1D5D
C61	.05	200		P288-05	GT2S
C62	47		CC30A-470F	1468-00005	5W5Q
C63	47		CC30A-470F	1468-00005	5W5Q
C64	2000		PA4334-3	1467-002	1W5D
C65	.02	400		P488-02	GT4S
C66	.02	400		P488-02	GT4S
C67	.03	200		P488-03	GT6S
C68	1000		HK36H-102	1468-001	1W5D
C69	.02	400		P488-02	GT4S
C70	5100	500	MC61G-512	1468-005	1D5D
C71	.006	600		P688-006	GT6D
C72	4700	500	MC61F-472	1467-005	1D5D
C73	4700	500	MC61F-472	1467-005	1D5D
C74	1000		HK36H-102	1468-001	1W5D
C75	1000		HK36H-102	1468-001	1W5D
C76	4700	500	MC61F-472	1467-005	1D5D
C77	4700	500	MC61F-472	1467-005	1D5D
C78	.01	600		P688-01	GT6S
C79	.25	400		P488-25	GT4P
C80	.01	400		P488-01	GT4S
C81A	3300		PA4339-1		
B	4700				
C	4700				
C82	4700	500	MC61F-472	1467-005	1D5D
C83	5000		PA4334-1	1468-25	GT4P
C84	.25	400		P488-25	GT4P
C85	.1	400		P288-1	GT2P
C86	.1	200		P288-1	GT2P
C87	470	500	MC60E-471	1468-0005	5W5T
C88	470	500	MC60E-471	1468-0005	5W5T
C89	6800	500	MC61F-682		1D3D
C90	.1	200		P288-1	GT2P
C91	220	500	MC60E-221	1468-0002	5W5T
C92	680	500	MC60F-681		1W5T
C93	4700	500	MC61F-472	1467-005	1D5D
C94	.5	200		P288-5	GT2P
C95	.25	400		P488-25	GT4P
C96	68	500			
C97	.04	200		P288-04	GT6S
C98	.06	400		P488-05	GT4S
C99	.05	400		P488-05	GT4S
C100	.05	400		P488-05	GT4S
C101	.05	400		P488-05	GT4S
C102	1500	500	MC61E-152	1464-0015	1R5D
C103	5600	500	MC61F-562		
C104	470	10000	PA4338		
C105	.006	1000	PC40GN-602	F1088-006	GT16
C106	.02	400	PC40GL-203	P488-02	GT4S
C107	.01	200	PC40GK-103	P488-01	GT2S
C108	.05	400	PC40GL-503	P488-05	GT4S
C109	.01	400	PC40GK-103	P488-01	GT4S
C110	.01	400	PC40FL-103	P488-01	GT4S
C111	.05	200	PC40GK-503	P288-05	GT2S
C112	150	500	MC60F-151	1468-00015	5W5T
C113	20000		HK35G-203	P488-02	GT4S
C114	20000		HK35G-203	P488-02	GT4S
C115	2000		HK35G-202	P688-002	GT6D
C116	330		HK35F-331	1468-00003	3W5T
C117	2000			See Note 1	1W5D
C118	20000		HK35G-203	P488-02	GT4S
C119	20000		HK35G-203	P488-02	GT4S
C120	20000		HK35G-203	P488-02	GT4S
C121	100	500	MC60G-101	1468-0001	5W5T
C122	20000			See Note 2	GT4S
C123	1000			See Note 3	1W5D
C124A	100			See Note 4	5W5T
B	100			See Note 4	5W5T
C125	20000		HK35G-203	P488-02	GT4S
C126	20000			See Note 5	GT4S
C127	20000			See Note 6	GT4S
C128	20000			See Note 7	GT4S
C129	20000		HK35G-203	P488-02	GT4S
C130	1000	500	PA4325-2	1468-001	1W5D
C131	51	500	MC60G-510	1468-00005	5W5Q
C132	85		PA4328-6		
C133	10		CC31H-100K	1468-00001	

PARTS LIST AND DESCRIPTIONS

ITEM No.	RATING CAP.	VOLT	SPARTON PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C40	270		HK36M-271	1468-00025	5W5T25	GP2K-250	MO.5-325	IFM-325	IF Coupling
C41	5000		PA4334-1	1467-005	1D5D5	GP2M-005	MW.5-25	IFM-25	4th IF Cath. Bypass
C42	470	500	MC60E-471			GP2K-500			Fixed Trimmer
C43A	1000		PA4339-2	1468-001	1W5D1	GP2L-001	MW.5-21	IFM-21	4th IF Screen Bypass
C44	1000			1468-001	1W5D1	GP2L-001	MW.5-21	IFM-21	4th IF Fil. Bypass
C45	4700	500	CC30A-220K			GP2L-001	MW.5-21	IFM-21	4th IF Decoupling
C46	4.7		MC61F-472	1467-005	1D5D5	GP2M-005	MW.5-25	IFM-25	RF Bypass
			PA4328-11	1468-000005	5W5V5	NPOK-5	MO.5-55	MS-55	" "
C47	4.7		PA4328-11	1468-000005	5W5V5	NPOK-5	MO.5-55	MS-55	" "
C48	4700		MC61F-472	1467-005	1D5D5	GP2M-005	MW.5-25	IFM-25	" "
C49	10		CC30A-100F	1468-00001	5W5Q1	GPIK-10	MO.5-41	MS-41	1st Video Amp. Cath. Byp
C50	.1	400		P488-1	GT4P1		ST-4-1	TM-1	Video Coupling
C51	.1	400		P488-1	GT4P1		ST-4-1	TM-1	" "
C52	.1	200		P288-1	GT2P1		ST-2-1	TM-1	AGC Filter
C53	100		CC32A-101A	1468-0001	5W5T1	GPIK-100	MO.5-31	IFM-31	RF Bypass
C54	.25	200		P488-25	GT2P25		ST-2-25	TC-2	Video Coupling
C55	100		CC32A-101A	1468-0001	5W5T1	GPIK-100	MO.5-31	IFM-31	Sound Coupling
C56	1000		HK36H-102	1468-001	1W5D1	GP2L-001	MW.5-21	IFM-21	AVC Filter
C57	4700	500	MC61F-472	1467-005	1D5D5	GP2M-005	MW.5-25	IFM-25	RF Bypass
C58	100		CC32A-101A	1468-0001	5W5T1	GPIK-100	MO.5-31	IFM-31	Sound Coupling
C59	1000		HK36H-102	1468-001	1W5D1	GP2L-001	MW.5-21	IFM-21	2nd S. IF Cath. Bypass
C60	4700	500	MC61F-472	1467-005	1D5D5	GP2M-005	MW.5-25	IFM-25	RF Bypass
C61	.05	200		P288-05	GT2S5		ST-4-05	TM-15	AVC Filter
C62	47		CC30A-470F	1468-00005	5W5Q5	GPIK-50	MO.5-45	IFM-45	Diode Load Cap.
C63	47		CC30A-470F	1468-00005	5W5Q5	GPIK-50	MO.5-45	IFM-45	" "
C64	2000		PA4334-3	1467-002	1W5D2	GP2M-002	MW.5-22	IFM-22	De-emphasis
C65	.02	400		P488-02	GT4S2		ST-4-02	TM-12	Audio Coupling
C66	.02	400		P488-02	GT4S2		ST-4-02	TM-12	" "
C67	.03	200		P488-03	GT6S3		ST-6-03	TM-13	Tone Compensation
C68	1000		HK36H-102	1468-001	1W5D1	GP2L-001	MW.5-21	IFM-21	AVC Filter
C69	.02	400		P488-02	GT4S2		ST-4-02	TM-12	Audio Coupling
C70	5100	500	MC61G-512	1468-005	1D5D1	GP2M-005	MW.5-25	IFM-25	Tone Compensation
C71	.006	600		P688-006	GT6D6		ST-6-006	TM-26	Output Plate Bypass
C72	4700	500	MC61F-472	1467-005	1D5D5	GP2M-005	MW.5-25	IFM-25	Filament Bypass
C73	4700	500	MC61F-472	1467-005	1D5D5	GP2M-005	MW.5-25	IFM-25	" "
C74	1000		HK36H-102	1468-001	1W5D1	GP2L-001	MW.5-21	IFM-21	" "
C75	1000		HK36H-102	1468-001	1W5D1	GP2L-001	MW.5-21	IFM-21	" "
C76	4700	500	MC61F-472	1467-005	1D5D5	GP2M-005	MW.5-25	IFM-25	" "
C77	4700	500	MC61F-472	1467-005	1D5D5	GP2M-005	MW.5-25	IFM-25	" "
C78	.01	600		P688-01	GT6S1	GP2-335-01	ST-6-01	TM-11	Sync. Coupling
C79	.25	400		P488-25	GT4P25		ST-4-25	TC-2	" "
C80	.01	400		P488-01	GT4S1	GP2-335-01	ST-4-01	TM-11	" "
C81A	3300		PA4339-1						Integrator Net.
C81B	4700								" "
C81C	4700								" "
C82	4700	500	MC61F-472	1467-005	1D5D5	GP2M-005	MW.5-25	IFM-25	Vert. Osc. Grid. Cap.
C83	5000		PA4334-1	1467-005	1D5D5	GP2M-005	MW.5-25	IFM-25	Vert. Hold Bypass
C84	.25	400		P488-25	GT4P25		ST-4-25	TC-2	Vert. Coupling
C85	.1	400		P488-1	GT4P1		ST-4-1	TM-1	Vert. Discharge
C86	.1	200		P288-1	GT2P1		ST-2-1	TM-1	Fixed Trimmer
C87	470	500	MC60E-471	1468-0005	5W5T5	GP2K-500	MO.5-35	IFM-35	Sync. Coupling
C88	470	500	MC60E-471	1468-0005	5W5T5	GP2K-500	MO.5-35	IFM-35	" "
C89	6800	500	MC61F-682	1468-0005	1D3D7		MW.5-27	IFM-27	" "
C90	.1	200		P288-1	GT2P1		ST-2-1	TM-1	AFC Filter
C91	220	500	MC60E-221	1468-0002	5W5T2	GP2K-200	MO.5-32	IFM-32	Hor. Osc. Feedback
C92	680	500	MC60F-681		1W5T7		MW.5-37	IFM-37	AFC Feedback
C93	4700	500	MC61F-472	1467-005	1D5D5	GP2M-005	MW.5-25	IFM-25	Hor. Coupling
C94	.5	200		P288-5	GT2P5		ST-2-5	TC-5	Hor. Output Cath. Byp.
C95	.25	400		P488-25	GT4P25		ST-4-25	TC-2	Hor. Output Screen Byp.
C96	68	500							Fixed Trimmer
C97	.04	200		P288-04	GT6S4		ST-6-04	TM-12	" "
C98	.06	400		P488-05	GT4S5		ST-6-06	TM-16	Hor. Coupling
C99	.05	400		P488-05	GT4S5		ST-4-05	TM-15	HV Osc. Decoup.
C100	.05	400		P488-05	GT4S5		ST-4-05	TM-15	" "
C101	.05	400		P488-05	GT4S5		ST-4-05	TM-15	HV Osc. Cath. Byp.
C102	1500	500	MC61E-152	1464-0015	1R5D15		MW.5-215	IFM-215	Fixed Trimmer
C103	5600	500	MC61F-562						HV Osc. Grid Cap.
C104	470	10000	PA4339						HV Filter
C105	.006	1000	PC40GN-602	P1088-006	GT16D6		STM-16-006	MB-26	Output Plate Bypass
C106	.02	400	PC40GL-203	P488-02	GT4S2		ST-4-02	TM-12	Audio Coupling
C107	.05	200	PC40GL-103	P488-01	GT2S1	GP2-335-01	ST-4-01	TM-11	Tone Compensation
C108	.05	400	PC40GL-503	P488-05	GT4S5		ST-4-05	TM-15	Decoupling
C109	.01	400	PC40GL-103	P488-01	GT4S1	GP2-335-01	ST-4-01	TM-11	RF Bypass
C110	.01	400	PC40FL-103	P488-01	GT4S1	GP2-335-01	ST-4-01	TM-11	AVC Filter
C111	.05	200	PC40GL-503	P288-05	GT2S5		ST-4-05	TM-15	RF Coil Isolation
C112	150	500	MC60F-151	1468-00015	5W5T15	GP2K-150	MO.5-315	IFM-315	AF Plate Bypass
C113	20000		HK35G-203	P488-02	GT4S2		ST-4-02	TM-12	Decoupling
C114	20000		HK35G-203	P488-02	GT4S2		ST-4-02	TM-12	Audio Coupling
C115	2000		HK35G-202	P688-002	GT6D2	GP2M-002	ST-6-002	TM-22	Phono Tone Comp.
C116	114	330	HK35F-331	1468-0003	5W5T3	GP2K-300	MO.5-33	IFM-335	Diode Load Cap.
C117	2000		See Note 1	1467-002	1W5D2	GP2M-002	MW.5-22	IFM-22	De-emphasis
C118	20000		HK35G-203	P488-02	GT4S2		ST-4-02	TM-12	AVC Filter
C119	20000		HK35G-203	P488-02	GT4S2		ST-4-02	TM-12	3rd IF Plate Decoup.
C120	20000		See Note 8	P488-02	GT4S2		ST-4-02	TM-12	3rd IF Cath. Bypass
C121	100	500	MC60G-101	1468-0001	5W5T1	GPIK-100	MO.5-31	IFM-31	3rd IF Coupling
C122	20000		See Note 2	P488-02	GT4S2		ST-4-02	TM-12	2nd IF Cath. Bypass
C123	1000		See Note 3	1468-001	1W5D1	GP2L-001	MW.5-21	IFM-21	AVC Filter
C124	100		See Note 4	1468-0001	5W5T1	GPIK-100	MO.5-31	IFM-31	Diode Filter
C125	20000		See Note 4	1468-0001	5W5T1	GPIK-100	MO.5-31	IFM-31	" "
C126	20000		HK35G-203	P488-02	GT4S2		ST-4-02	TM-12	1st IF Plate Decoupling
C127	20000		See Note 5	P488-02	GT4S2		ST-4-02	TM-12	1st IF Screen Bypass
C128	20000		See Note 6	P488-02	GT4S2		ST-4-02	TM-12	1st IF Cath. Bypass
C129	20000		See Note 7	P488-02	GT4S2		ST-4-02	TM-12	AVC Filter
C130	1000	500	PA4325-2	1468-001	1W5D1	GP2L-001	MW.5-21	IFM-21	Conv. Plate Decoup.
C131	51	500	MC60G-510	1468-00005	5W5Q5	GPIK-50	MO.5-45	IFM-45	Osc. Anode Bypass
C132	85		PA4328-6						Osc. Grid Cap.
C133	10		CC31H-100K	1468-00001	5W5Q1	GPIK-10	MO.5-41	MS-41	Fixed Padder
C134	5		PA4328-5	1468-000005	5W5V5	NPOK-5	MO.5-55	MS-55	Osc. Feedback
C135	46		PA4328-2						RF Coupling
C136	51		CC31H-510K	1469-00005	5R5Q5	GPIK-50	MOS.5-45	MS-45	Fixed Padder
C137	20000		HK35G-203	P488-02	GT4S2		ST-4-02	TM-12	Fixed Trimmer
C138	1000	500	PA4325-2	1468-001	1W5D1	GP2L-001	MW.5-21	IFM-21	RF Bypass
C139	10000	500	PA4325-1	1467-001	1D3S1	GP2-335-01	MW.3-11	IFM-11	RF Screen Bypass
C140	51								RF Cath. Bypass

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES	
	CAP.	VOLT	SPARTON PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SOLAR PART No.	SPRAGUE PART No.	INSTALLATION NOTES	
C140	51								IF Coupling	
C141	51								4th IF Cath. Bypass	
C142	1000	500							Fixed Trimmer	
C143	1000	500							4th IF Screen Bypass	
C144	1000	500							4th IF Fil. Bypass	
C145	1000	500							4th IF Decoupling	
C146	1000	500							RF Bypass	
C147	1000	500							" "	
C148	1000	500							" "	
C149	1000	500							1st Video Amp. Cath. Byp	
C150	1000	500							Video Coupling	
C151	1000	500							" "	
C152	1000	500							AGC Filter	
C153	1000	500							RF Bypass	
C154	1000									

DESCRIPTIONS

CAPACITORS (CONT.)

ITEM No.	SOLAR PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
00	MW.5-25	1FM-25	4th IF Cath. Bypass
01			Fixed Trimmer
01	MW.5-21	1FM-21	4th IF Screen Bypass
01	MW.5-21	1FM-21	4th IF Fil. Bypass
01	MW.5-21	1FM-21	4th IF Decoupling
05	MOS.5-42	MS-42	IF Coupling
05	MW.5-25	1FM-25	RF Bypass
05	MO.5-55	MS-55	" "
05	MO.5-55	MS-55	" "
05	MW.5-25	1FM-25	" "
0	MO.5-41	MS-41	1st Video Amp. Cath. Byp
0	ST-4-1	TM-1	Video Coupling
0	ST-4-1	TM-1	" "
0	ST-2-1	TM-1	AGC Filter
00	MO.5-31	1FM-31	RF Bypass
00	ST-2-25	TC-2	Video Coupling
00	MO.5-31	1FM-31	Sound Coupling
001	MW.5-21	1FM-21	AVC Filter
00	MW.5-25	1FM-25	RF Bypass
00	MO.5-31	1FM-31	Sound Coupling
001	MW.5-21	1FM-21	2nd S. IF Cath. Bypass
001	MW.5-25	1FM-25	RF Bypass
0	ST-4-05	TM-15	AVC Filter
0	MO.5-45	1FM-45	Diode Load Cap. §
0	MW.5-45	1FM-45	" "
002	MW.5-22	1FM-22	De-emphasis
0	ST-4-02	TM-12	Audio Coupling
0	ST-4-02	TM-12	" "
001	ST-6-03	TM-13	Tone Compensation
001	MW.5-21	1FM-21	AVC Filter
001	ST-4-02	TM-12	Audio Coupling
005	MW.5-25	1FM-25	Tone Compensation
005	ST-6-006	TM-26	Output Plate Bypass
005	MW.5-25	1FM-25	Filament Bypass
005	MW.5-25	1FM-25	" "
001	MW.5-21	1FM-21	" "
001	MW.5-21	1FM-21	" "
005	MW.5-25	1FM-25	" "
005	MW.5-25	1FM-25	" "
35-01	ST-6-01	TM-11	Sync. Coupling
35-01	ST-4-25	TC-2	" "
35-01	ST-4-01	TM-11	" "
			Integrator Net.
			" "
			" "
005	MW.5-25	1FM-25	Vert. Osc. Grid. Cap.
	ST-4-25	TC-2	Vert. Hold Bypass
	ST-4-1	TM-1	Vert. Coupling
	ST-2-1	TM-1	Vert. Discharge
	ST-2-1	TM-1	Fixed Trimmer
500	MO.5-35	1FM-35	Sync. Coupling
500	MO.5-35	1FM-35	" "
	MW.5-27	1FM-27	" "
	ST-2-1	TM-1	AVC Filter
200	MO.5-32	1FM-32	Hor. Osc. Feedback
	MW.5-37	1FM-37	AGC Feedback
005	MW.5-25	1FM-25	Hor. Coupling
	ST-2-5	TC-5	Hor. Output Cath. Byp.
	ST-4-25	TC-2	Hor. Output Screen Byp
	ST-6-04	TM-12	Fixed Trimmer
	ST-6-06	TM-16	Hor. Coupling
	ST-4-05	TM-15	HV Osc. Decoup.
	ST-4-05	TM-15	" "
	ST-4-05	TM-15	HV Osc. Cath. Byp.
	MWS.5-215	1FM-215	Fixed Trimmer
			HV Osc. Grid Cap.
			HV Filter
	STM-16-006	MB-26	Output Plate Bypass
	ST-4-02	TM-12	Audio Coupling
35-01	ST-4-01	TM-11	Tone Compensation
	ST-4-05	TM-15	Decoupling
35-01	ST-4-01	TM-11	RF Bypass
35-01	ST-4-01	TM-11	AVC Filter
150	ST-4-05	TM-15	RF Coil Isolation
	MO.5-315	1FM-315	AF Plate Bypass
	ST-4-02	TM-12	Decoupling
	ST-4-02	TM-12	Audio Coupling
002	ST-6-002	TM-22	Phono Tone Comp.
300	MO.5-33	1FM-335	Diode Load Cap.
002	MW.5-22	1FM-22	De-emphasis
	ST-4-02	TM-12	AVC Filter
	ST-4-02	TM-12	3rd IF Plate Decoup.
	ST-4-02	TM-12	3rd IF Cath. Bypass
100	MO.5-31	1FM-31	3rd IF Coupling
	ST-4-02	TM-12	2nd IF Cath. Bypass
001	MW.5-21	1FM-21	AVC Filter
100	MO.5-31	1FM-31	Diode Filter
100	MO.5-31	1FM-31	" "
	ST-4-02	TM-12	1st IF Plate Decoupling
	ST-4-02	TM-12	1st IF Screen Bypass
	ST-4-02	TM-12	1st IF Cath. Bypass
	ST-4-02	TM-12	AVC Filter
	ST-4-02	TM-12	Conv. Plate Decoup.
001	MW.5-21	1FM-21	Osc. Anode Bypass
50	MO.5-45	1FM-45	Osc. Grid Cap.
			Fixed Padder
			Osc. Feedback
10	MO.5-41	MS-41	Osc. Feedback
5	MO.5-55	MS-55	RF Coupling
			Fixed Padder
50	MOS.5-45	MS-45	Fixed Trimmer
	ST-4-02	TM-12	RF Bypass
001	MW.5-21	1FM-21	RF Screen Bypass
35-01	MW.3-11	1FM-11	RF Cath. Bypass

ITEM No.	RATING		REPLACEMENT DATA				IDENTIFICATION CODES AND INSTALLATION NOTES		
	CAP.	VOLT	SPARTON PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.		SOLAR PART No.	SPRAGUE PART No.
C140	51	500	PA4328-9	1469-00005	5R545	NPOM-50	MOS.5-45	MS-45	Fixed Padder
C141	51	500	MC603-510	1468-00005	5W545	GP1K-50	MO.5-45	1FM-45	RF Coupling
C142	1000	500	PA4325-2	1468-001	1W5D1	GP2L-001	MW.5-21	1FM-21	Filament Bypass

§ When either item C62 or C63 are replaced, replace both with capacitors of equal value.
 † When either item C124A or C124B are replaced, replace both with capacitors of equal value.
 Note 1. Item C117 and R151 are combined into one unit obtainable under MFGRS Pt. No. PA4330-7
 Note 2. Item C122 and R149 are combined into one unit obtainable under MFGRS Pt. No. PA4330-6
 Note 3. Item C123 and R146 are combined into one unit obtainable under MFGRS Pt. No. PA4330-8
 Note 4. Item C124A, B & R145 are combined into one unit obtainable under MFGRS Pt. No. PA4329-3
 Note 5. Item C126 and R140 are combined into one unit obtainable under MFGRS Pt. No. PA4330-5
 Note 6. Item C127 and R141 are combined into one unit obtainable under MFGRS Pt. No. PA4330-6
 Note 7. Item C128 and R139 are combined into one unit obtainable under MFGRS Pt. No. PA4330-4
 Note 8. Item C120 and R147 are combined into one unit obtainable under MFGRS Pt. No. PA4330-6

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA			INSTALLATION NOTES
	RESISTANCE	WATTS	SPARTON PART No.	IRC PART No.	CLAROSTAT PART No.	
R1A	330KΩ	½	PA4418	D18-132X	AT-70	Volume control tapped @ 60KΩ
B	Shaft		Not Req.	E	KSS-3	Attach to R1A Per Instructions
R2A	1 Meg.	½	PA4414	D11-137	AM-61-S	Tone control
B	Shaft		Not Req.	E	KSS-3	Attach to R2A Per Instructions
R3	3000Ω	1	PA4417			Contrast control
R4A	500KΩ	½	PA4415	D11-133	M-58-S	Vert. hold control
B	Shaft		Not Req.	A	Not Req.	Attach to R4A Per Instructions
R5A	500KΩ	½	PA4416	D11-133	M-58-S	Horiz. hold control
B	Shaft		Not Req.	A	Not Req.	Attach to R5A Per Instructions
R6	10KΩ	1	PA4413	W-10K	43-10K	Vert. size control
R7	5000Ω	1	PA4411	W-5000	43-5000	Horiz. size control
R8	5000Ω	1	PA4411	W-5000	43-5000	Vert. linearity control
R9	2500Ω	1	PA4412		M-15-S	Brightness control
R10	1000Ω	2	PA4410	W-1000	58-1000	Focus control
R11A	500KΩ	½	PA4407-2	D13-133	M-60-Z	Volume control (AM-FM Chassis)
B	Shaft		Not Req.	A	Not Req.	Attach to R11A Per Instructions
R12A	500KΩ	½	PA4400-7	D13-133*	AM-60-Z*	Tone control (AM-FM Chassis)
B	Shaft		Not Req.	E	KSS-3	Attach to R12A Per Instructions
C	Switch		Not Req.	41	SW-A	" "

* Use original sleeve on control shaft

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	SPARTON PART No.	IRC PART No.	
R13	100KΩ	½			Ant. Shunt
R14	100KΩ	½			" "
R15	47KΩ	½			BTS-47K
R16	1000Ω	½			BTS-1000
R17	100Ω	½			BTS-2200-5%
R18	2200Ω	½			BTS-15K
R19	15KΩ	½			BTS-1 Meg.
R20	1 Meg.	½			BTS-56K
R21	56KΩ	½			BTS-18K
R22	18KΩ	½			BTS-470
R23	470Ω	½			BR120-153
R24	15KΩ	½	BR120-153		1st Video IF Grid
R25	100Ω	½	BR12S-101		1st Video IF Cathode
R26	1000Ω	½	BR12N-102		AGC Network
R27	1500Ω	½	BTS-1500		Mixer Decoupling
R28	15KΩ	½	BR12S-153		1st Video IF Screen Decoupling
R29	1500Ω	½	BTS-1500		1st Video IF Decoupling
R30	4700Ω	½	BR120-472		2nd Video IF Grid
R31	100Ω	½	BR12S-101		2nd Video IF Cathode
R32	15KΩ	½	BR12S-153		2nd Video IF Screen Decoupling
R33	1500Ω	½	BR12N-152		2nd Video IF Decoupling
R34	1000Ω	½	BR12N-102		AGC Network
R35	15KΩ	½	BR120-153		3rd Video IF Grid
R36	100Ω	½	BR12S-101		3rd Video IF Cathode
R37	15KΩ	½	BR12S-153		3rd Video IF Screen Decoupling
R38	1500Ω	½	BR12N-152		3rd Video IF Decoupling
R39	2200Ω	½	BR120-222		4th Video IF Grid
R40	100Ω	½	BR12S-101		4th Video IF Cathode
R41	15KΩ	½	BR12S-153		4th Video IF Screen Decoupling
R42	1500Ω	½	BR12N-152		4th Video IF Decoupling
R43	3300Ω	½	BR120-332		1st Video Amp. Grid
R44	150Ω	½	BR12N-151		Video Det. Load
R45	2700Ω	½	BR12S-272		1st Video Amp. Cathode
R46	1800Ω	½	BR120-182		1st Video Amp. Plate
R47	3900Ω	½	BR12S-392		Peaking Coil Shunt
R48	68KΩ	½	BR12S-683		1st Video Amp. Screen Dropping
R49	470KΩ	½	BR12N-474		2nd Video Amp. Grid
R50	820Ω	½	BR12S-821		2nd Video Amp. Cathode
R51	6800Ω	½	DR120-682		2nd Video Amp. Plate
R52	3300Ω	1	CR12S-332		2nd Video Amp. Decoupling See Note 9
R53	100KΩ	1	CR12S-104		2nd Video Amp. Screen Decoupling
R54	4700Ω	1	BR12S-472		Video Divider
R55	4700Ω	1	BR12S-472		" "
R56	1.5 Meg.	1	BR12N-155		Picture Tube Grid
R57	6800Ω	1	CR12S-682		Voltage Divider
R58	47KΩ	1	CR12S-473		" "
R59	47Ω	1			Decoupling
R60	3300Ω	1	BR120-332		Aux. Video Grid
R61	470Ω	1	BR12S-471		Aux. Video Cathode
R62	10KΩ	1	BR120-103		Aux. Video Plate Bleeder
R63	2.2 Meg.	1	BR12N-225		AGC Network
R64	33KΩ	2	DR120-333		Aux. Video Plate Load
R65	1 Meg.	2	BR12N-105		AGC Load
R66	220KΩ	2	BR12N-224		Sync. Sep. Load
R67	10KΩ	2	BR12N-103		Sync. Sep. Load
R68	15KΩ	2	BR12S-153		Voltage Divider
R69	47KΩ	2	BR12N-473		Sync. Amp. Decoupling
R70	15KΩ	2	BR12N-153		Sync. Amp. Plate
R71	22KΩ	2	BR12N-223		Sync. Amp. Grid
R72	1 Meg.	2	BR12N-105		" "
R73	27KΩ	2	BR12S-273		Sync. Amp. Plate
R74	100KΩ	2	BR12S-104		1st Sound IF Grid
R75	100KΩ	2	BR12N-104		AVC Network
R76	82Ω	2	BR12S-820		1st Sound IF Cathode
R77	100KΩ	2	BR12S-104		2nd Sound IF Grid

SPARTON MODELS
4900TV, 4939TV, 4940TV, 4941TV

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	SPARTON PART No.	IRC PART No.	
R78	68Ω	1/2	BR12S-680		2nd Sound IF Cathode
R79	220Ω	1/2	BR12S-221		Balancing
R80	10KΩ	1/2	BR12S-103	BTS-10K	Ratio Det. Diode Load
R81	10KΩ	1/2	BR12S-103	BTS-10K	" " " "
R82	220KΩ	1/2	BR12N-224	BTS-220K	AVC Network
R83	27KΩ	1/2	BR12S-273	BTS-27K	De-emphasis
R84	10KΩ	1/2	BR12S-103	BTS-10K	Tone Compensation
R85	10 Meg.	1/2	BR12N-106	BTS-10 Meg.	AF Grid
R86	270KΩ	1/2	BR12S-274	BTS-270K	AF Plate
R87	2.2 Meg.	1/2	BR12N-225	BTS-2.2 Meg.	AVC Network
R88	470KΩ	1/2	BR12S-474	BTS-470K	Output Grid
R89	390Ω	1	CR12S-391	BTA-390	Output Cathode
R90	1200Ω	2	DR12S-122	BT-2-1200	Filter
R91	1200Ω	2	DR12S-122	BT-2-1200	" " " "
R92	1500Ω	2	BR12S-152	BTS-1500	Sync. Amp. Grid
R93	2200Ω	2	BR12G-222	BTS-2200	Sync. Amp. Cathode
R94	6800Ω	2	BR12G-682	BTS-6800-5%	Sync. Amp. Plate
R95	3300Ω	2	BR12G-332	BTS-3300-5%	Sync. Amp. Plate
R96	2200Ω	2	BR12G-222	BTS-2200	Sync. Amp. Decoupling
R97	100KΩ	2	BR12G-104	BTS-100K-5%	AFC Diode Load
R98	100KΩ	2	BR12G-104	BTS-100K-5%	" " " "
R99	12KΩ	2	CR12S-123	BTA-12K-5%	Horiz. Osc. Decoupling
R100	470KΩ	2	BR12S-474	BTS-470K	Horiz. AFC Filter
R101	3300Ω	2	BR12S-332	BTS-3300	AFC Feedback
R102	1000Ω	2	BR12S-102	BTS-1000	Horiz. Osc. Cathode
R103	47KΩ	2	BR12S-473	BTS-47K	Horiz. Osc. Plate
R104	330KΩ	2	BR12G-334	BTS-330K-5%	Series Neon
R105	330KΩ	2	BR12S-334	BTS-330K	Horiz. Osc. Plate
R106	390KΩ	2	BR12G-394	BTS-390K-5%	Voltage Divider
R107	470KΩ	2	BR12S-474	BTS-470K	Horiz. Osc. Grid
R108	82KΩ	2	BR12G-823	BTS-82K-5%	Voltage Divider
R109	470KΩ	2	BR12S-474	BTS-470K	Horiz. Output Grid
R110	180Ω	2	DR12S-181	BTS-470K	Horiz. Output Cathode
R111	4700Ω	2	CR12S-472	BTS-4700	Horiz. Output Screen Decoupling
R112	68Ω	2			Linearity Network
R113	150Ω	2	DR12S-151	BW-2-150	Focus Coil Shunt
R114	180Ω	2	DR12S-181	BW-2-180	" " " "
R115	22KΩ	2	BR12S-223	BTS-22K	Integrator Network
R116	8200Ω	2	BR12S-822	BTS-8200	" " " "
R117	8200Ω	2	BR12S-822	BTS-8200	" " " "
R118	47KΩ	2	BR12S-473	BTS-47K	Differenator
R119	4300Ω	2	DR12G-432		Voltage Dropping
R120	330KΩ	2	BR12N-334	BTS-330K	Vert. Osc. Plate
R121	3900Ω	2	BR12S-392	BTS-3900	Vert. Peaking
R122	3.3 Meg.	2	BR12N-335	BTS-3.3 Meg.	Vert. Output Grid
R123	470Ω	2	BR12N-471	BTS-470	Vert. Output Cathode
R124A	5000Ω	2	PA4205	AB-5000	Bleeder
R124B	10KΩ	2		BW-2-10K	Bias Network
R125	470Ω	1	CR12N-471	BTA-470	HV Osc. Cathode
R126	3900Ω	1	CR12N-392	BTA-3900	HV Osc. Grid
R127	220Ω	1	BR12N-221	BW-2-220	HV Osc. Decoupling
R128	220Ω	1	BR12N-221	BW-2-220	" " " "
R129	470KΩ	1	BR12N-474	BTA-470K	HV Filter
R130	2200Ω	1	BR12S-222	BTS-2200	Ant. Loading
R131	1 Meg.	1	BR12S-105	BTS-1 Meg.	RF Grid
R132	68Ω	1	BR12S-680		RF Cathode
R133	33KΩ	1	BR12S-333	BTS-33K	RF Screen
R134	47Ω	1	BR12S-470		Parasitic Suppressor
R135	1 Meg.	1	BR12S-105	BTS-1 Meg.	Converter Grid
R136	22KΩ	1	DR12S-223	BT-2-22K	Converter Screen
R137	1000Ω	1	BR12S-102	BTS-1000	Converter Plate Decoupling
R138	22KΩ	1	BR12S-223	BTS-22K	Osc. Grid
R139	100KΩ	1	See Note 1	BTS-100K	AVC Network
R140	82KΩ	1	See Note 2	BTS-82K	1st IF Screen
R141	270Ω	1	See Note 3		1st IF Cathode
R142	1000Ω	1	BR12S-102	BTS-1000	1st IF Plate Decoupling
R143	56KΩ	1	See Note 4	BTS-56K	Diode Filter
R144	680KΩ	1		BTS-680K	AVC Network
R145	1.5 Meg.	1		BTS-1.5 Meg.	" " " "
R146	1 Meg.	1	See Note 5	BTS-1 Meg.	2nd IF Grid
R147	270Ω	1	See Note 6		2nd IF Cathode
R148	15KΩ	1	BR12S-153	BTS-15K	3rd IF Grid
R149	270Ω	1	See Note 7		3rd IF Cathode
R150	1000Ω	1	BR12S-102	BTS-1000	3rd IF Plate Decoupling
R151	39KΩ	1	See Note 8	BTS-39K	De-emphasis
R152	220Ω	1	BR12S-201		Balancing
R153	470Ω	1	BR12S-471	BTS-470	" " " "
R154	15KΩ	1	BR12S-153	BTS-15K	Ratio Det. Diode Load
R155	15KΩ	1	BR12S-153	BTS-15K	" " " "
R156	1 Meg.	1	BR12S-105	BTS-1 Meg.	Phono Tone Compensation
R157	10 Meg.	1	BR12S-106	BTS-10 Meg.	AF Grid
R158	220KΩ	1	BR12S-224	BTS-220K	AF Plate
R159	56KΩ	1	BR12S-563	BTS-56K	AF Plate Decoupling
R160	470Ω	1	DR12S-471	BW-2-470	Output Cathode
R161	820KΩ	1	BR12S-824	BTS-820K	Vert. Osc. Grid
R162	220KΩ	1	BR12N-224	BTS-220K	Vert. Osc. Grid
R163	2200Ω	1		BTA-2200	Focus Coil Shunt See Note 9

- Note 1. Item R139 and C128 are combined into one unit obtainable under MFGRS Pt. PA4330-4
 Note 2. Item R140 and C126 are combined into one unit obtainable under MFGRS Pt. PA4430-5
 Note 3. Item R141 and C127 are combined into one unit obtainable under MFGRS Pt. PA4430-6
 Note 4. Item R143 and C124 (A & B) are combined into one unit obtainable under MFGRS Pt. PA4329-3
 Note 5. Item R146 and C123 are combined into one unit obtainable under MFGRS Pt. PA4330-8
 Note 6. Item R147 and C120 are combined into one unit obtainable under MFGRS Pt. PA4330-6
 Note 7. Item R149 and C122 are combined into one unit obtainable under MFGRS Pt. PA4330-6
 Note 8. Item R151 and C117 are combined into one unit obtainable under MFGRS Pt. PA4330-7
 Note 9. Not used in all models.

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	SPARTON PART No.	STANCOR PART No.	CHICAGO PART No.	MERIT PART No.
T1	117VAC @ 1.96A	750VAC CT @ .240ADC	5VAC @ 3A	6.6VAC @ 5.6A SEC. 4 6.6VAC @ 5.4A 6.4VAC @ 2.6A	AB44014-1			
T2	117VAC @ .55A	500VAC CT @ .07ADC	5VAC @ 2A		AB44010-1	P-6011*		P-2451*

* Add series resistor to reduce plate voltage.

TRANSFORMER (FILAMENT)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	SPARTON PART No.	STANCOR PART No.	CHICAGO PART No.	MERIT PART No.
T3	6.6VAC @ 2.16A	5VAC @ 2A			AB47002-1†			

† This transformer is especially designed for low shunt capacity. Replace with factory unit only.

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	DC RESISTANCE		SPARTON PART No.	STANCOR PART No.	CHICAGO PART No.	MERIT PART No.	
PRI.	SEC.						
T4	90Ω	500Ω	AB47003-1	A-8121	TB0-1	A-4000	Vert. Block Osc. Trans. Vert. Output Trans. Hor. Output Plate Hor. Deflection Yoke Vert. Deflection Yoke Focus Coil
T5	520Ω	4.5Ω	AB44062-1	A-8115	TS0-1	A-3035	
T6	475Ω		AA6660-1				
T7A	30Ω		AB43525-1				
B	65Ω						
T8	180Ω		PC70001				

TRANSFORMER (H.V. OSC.)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	DC RESISTANCE		SPARTON PART No.	STANCOR PART No.	CHICAGO PART No.	MERIT PART No.	
PRI.	SEC.						
T9	1.2Ω	15Ω SEC. 2 500Ω SEC. 3 0Ω	AB43521-1				

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		SPARTON PART No.	STANCOR PART No.	CHICAGO PART No.	MERIT PART No.	
PRI.	SEC.	PRI.	SEC.						
T10	7000Ω	3.4Ω	365Ω	.4Ω	AB44063-1	A-3823	RO-303	A-2901	
T11	6200Ω	3.5Ω	345Ω	.4Ω	AB44056-2	A-3877	RO-301	A-2931	

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
	FIELD	V. C. IMP.	SPARTON PART No.	JENSEN PART No.	QUAM PART No.	
SP1A	PM	3.4Ω	PC63000-12	ST-120 MOD.P10-S#	10A31	Models 4939TV, 4940TV, 4941TV
B	PM	3.5Ω	PC63000-21	ST-120*# MOD.P10-S	10A31*	Model 4900TV
SP2A	CONE DIA.	V. C. DIA.				* Drill new mounting holes. # Replace output transformer to match 6-8Ω voice coil.
B	9 1/2"	1"				
	9 1/4"	1"				

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 cps)	SPARTON PART No.	STANCOR PART No.	CHICAGO PART No.	MERIT PART No.	
L1	.240A	60Ω	4 Henry	AB77001-1	C-2326*		C-2991*	* Drill new mtg. holes
L2				AB47004-1				

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	SPARTON PART No.	MEISSNER PART No.	
L3	Ant. Coils	0Ω	0Ω			Part of Tuner Assy.
L4	RF Coils	0Ω				" " " "
L5	Osc. Coils	0Ω				" " " "
L6	Osc. Plate	0Ω				" " " "

SPARTON MODELS
4900TV, 4939TV, 4940TV, 4941TV

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES	
		PRI.	SEC.	SPARTON	MEISSNER		
				PART No.	PART No.		
L7	Adjacent Sound IF Trap					Part of Tuner Assy.	
L8	RF Trap	0Ω		AA6654-1			
L9	1st Video IF		.1Ω	AB43523-1			
L10	Adjacent Sound IF Trap	0Ω		AB43524-1			
L11	2nd Video IF		.1Ω	AB43523-1			
L12	3rd Video IF		.1Ω	AB43523-2			
L13	IF Grid Chk.	1.5Ω		AA6644-1			Inductance-11 Microhenries
L14	Sound IF Trap	0Ω		AB43524-4			
L15	4th Video IF		.1Ω	AB43523-2			Inductance-11 Microhenries
L16	IF Grid Chk.	1.5Ω		AB6644-1			
L17	IF Trap	0Ω		AB43524-2			Inductance-25 Microhenries Inductance-95 Microhenries Inductance-95 Microhenries Inductance-83 Microhenries Inductance-235 Microhenries Inductance-150 Microhenries Inductance-135 Microhenries Inductance-200 Microhenries
L18	5th Video IF		.1Ω	AB43523-2			
L19	Peaking	2.8Ω		AA6650-1			
L20	Peaking	6Ω		AA6650-3			
L21	Peaking	6Ω		AA6650-3			
L22	Peaking	5.5Ω		AA6650-6			
L23	Peaking	10Ω		AA6650-7			
L24	Peaking	8Ω		AA6650-2			
L25	Peaking	7Ω		AA6650-5			
L26	Peaking	10Ω		AA6650-4			
L27	1st Sound IF		.2Ω	AA6663-2			
L28	RF Choke	.2Ω		AA6646-1			
L29	RF Choke	.2Ω		AA6651-1			
L30	RF Choke	.2Ω		AA6646-1			
L31	RF Choke	.2Ω		AA6651-1			
L32	Ratio Det.	.2Ω	0Ω	AA6684-2			
L33	Horiz. Linearity Control		16Ω	AA6659-1			Part of Tuner Assy. Part # PD93150-2
L34	Fil. Choke	.2Ω					
L35	Fil. Choke	.2Ω					
L36	Fil. Choke	.2Ω					
L37	Fil. Choke	.2Ω					
L38	Fil. Choke	.2Ω					
L39	Fil. Choke	.2Ω					
L40	Fil. Choke	.2Ω					
L41	Fil. Choke	.2Ω					
L42	AM Loop Ant.	.2Ω		AC67008-4			
L43	Loop Loading Coil	2Ω		AA6686-2			
L44	FM Dipole Ant.	0Ω		AB41923			
L45A	FM Ant. Primary	0Ω		AA6786-1			
B	FM Ant. Secondary	0Ω		A6767-1			
L46	AM RF	62Ω	4.5Ω	AA6756-7			
L47	FM RF	0Ω		AA6767-5			
L48	AM Osc.	.8Ω	7Ω	AA6759-4	14-1060		
L49	FM Osc.	0Ω		AA6767-4			
L50A	AM 1st IF	11Ω	*9Ω	AA6768-3	* Includes FM-IF Secondary Winding		
B	FM 1st IF	.8Ω					
L51A	AM 2nd IF	19.5Ω	8Ω	AA6768-4	† Includes FM-IF Primary Winding		
B	FM 2nd IF	.8Ω					
L52	FM 3rd IF	.5Ω	.8Ω	AA6720-5			
L53	Ratio Det.	1.5Ω		AA6684-1			
L54	RF Choke	0Ω		AA6769-2			
L55	RF Choke	0Ω		AA6798-1	Wound on 15MMF cap.		

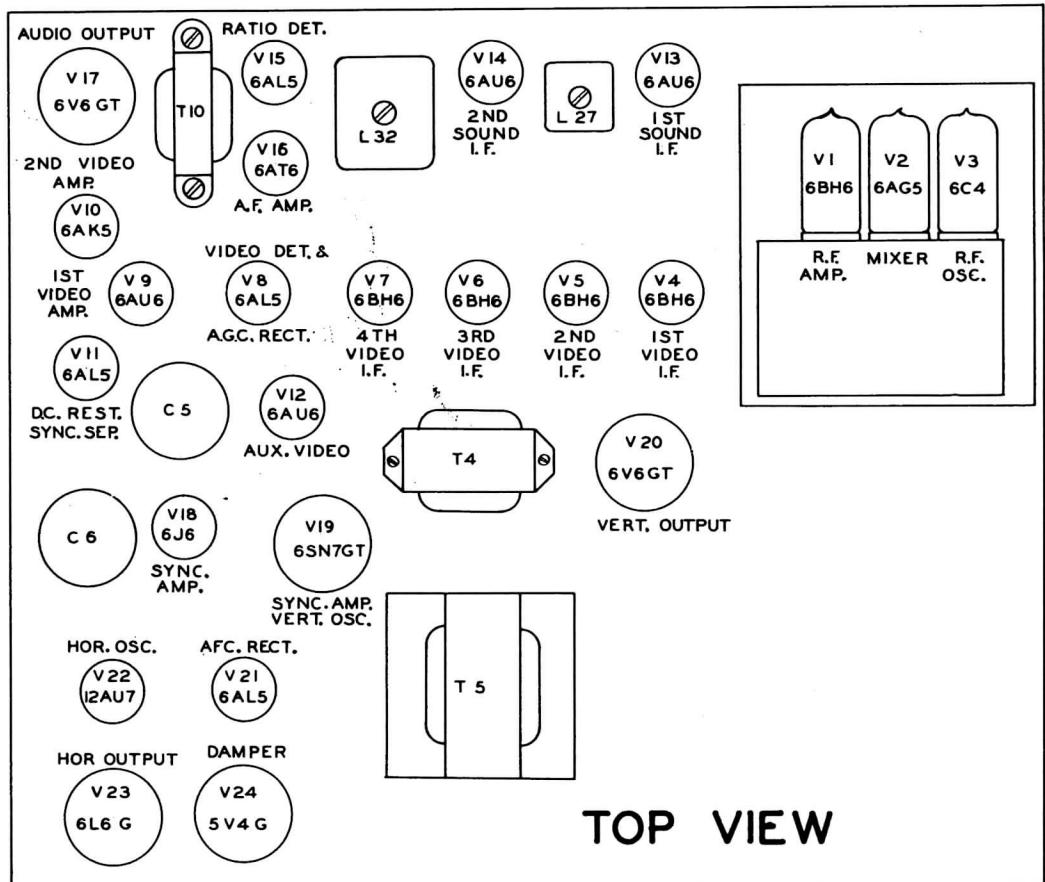
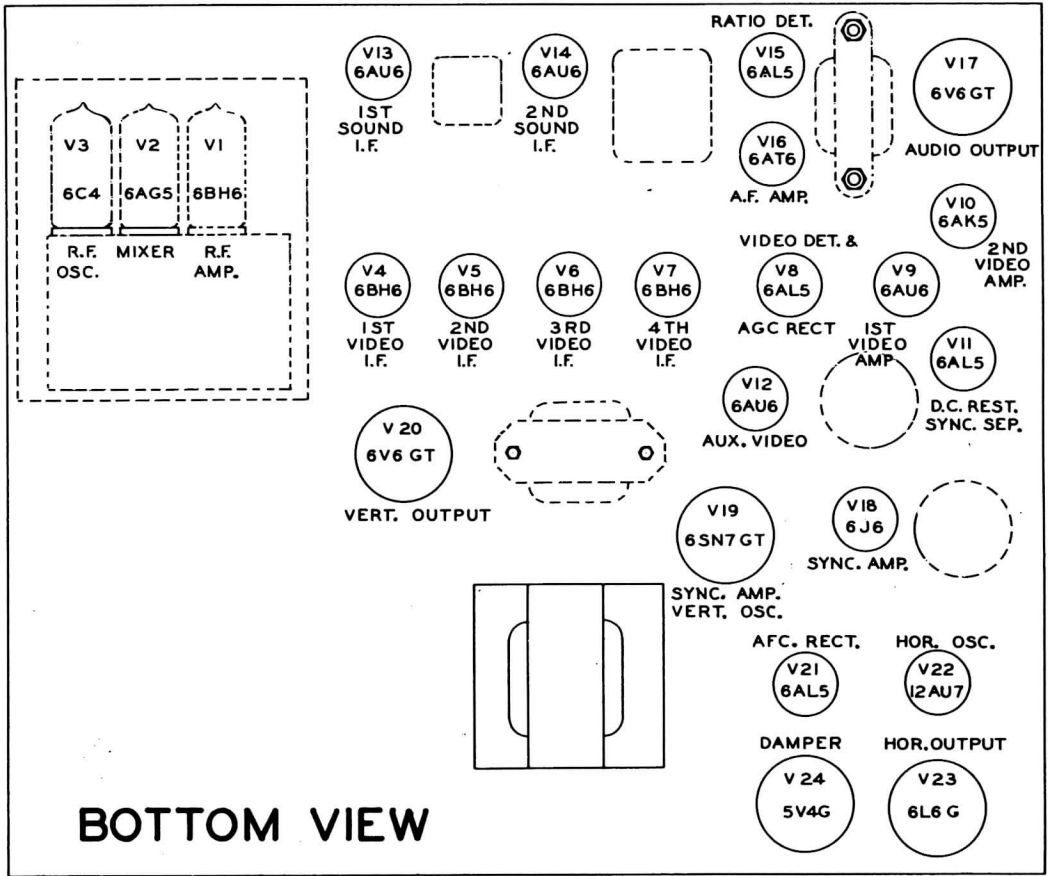
MISCELLANEOUS

ITEM No.	PART NAME	SPARTON PART No.	NOTES
M1	Neon Lamp	PA4103	Complete with tubes Diode crystal-1N34 Used in models #4939, 4940, and 4941 Used in model #4900 Picture tube (17-422MMF) (17-422MMF) (17-422MMF) 3 Gang Power interlock Channel indicator Tuning Picture control Tone control Channel selector Volume control Used on models # 4934, 4940, and 4941 Used on model #4900
M2	RF Tuner Assy.	PD93150-2	
M3	Crystal	PA4206	
M4A	AC Switch	PB42008	
B	AC Switch	PB42007	
M5	Socket	PB40202	
M9	Band Switch	PB42005	
M10	Tuning Cap. Cord	PC-65001	
	Escutcheon	PA4004	
	Channel Indicator	PB40002	
	Channel Indicator	PB40003	
	Knob	AA6641-3	
	Knob	AA6641-4	
	Knob	AA6641-1	
	Knob	AA6641-5	
	Knob	AA6641-2	
	Mask 10" Tube	PC63047	
	Mask 12" Tube	PC63048	

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					SPARTON PART No.		
M6	Bayonet	6-8V	0.25A	Blue	PA4100-3		Type #44
M7	Bayonet	6-8V	0.25A	Blue	PA4100-3		Type #44
M8	Bayonet	6-8V	0.25A	Blue	PA4100-3		Type #44

TUBE PLACEMENT CHART



SPARTON MODELS
4900TV, 4939TV, 4940TV, 4941TV