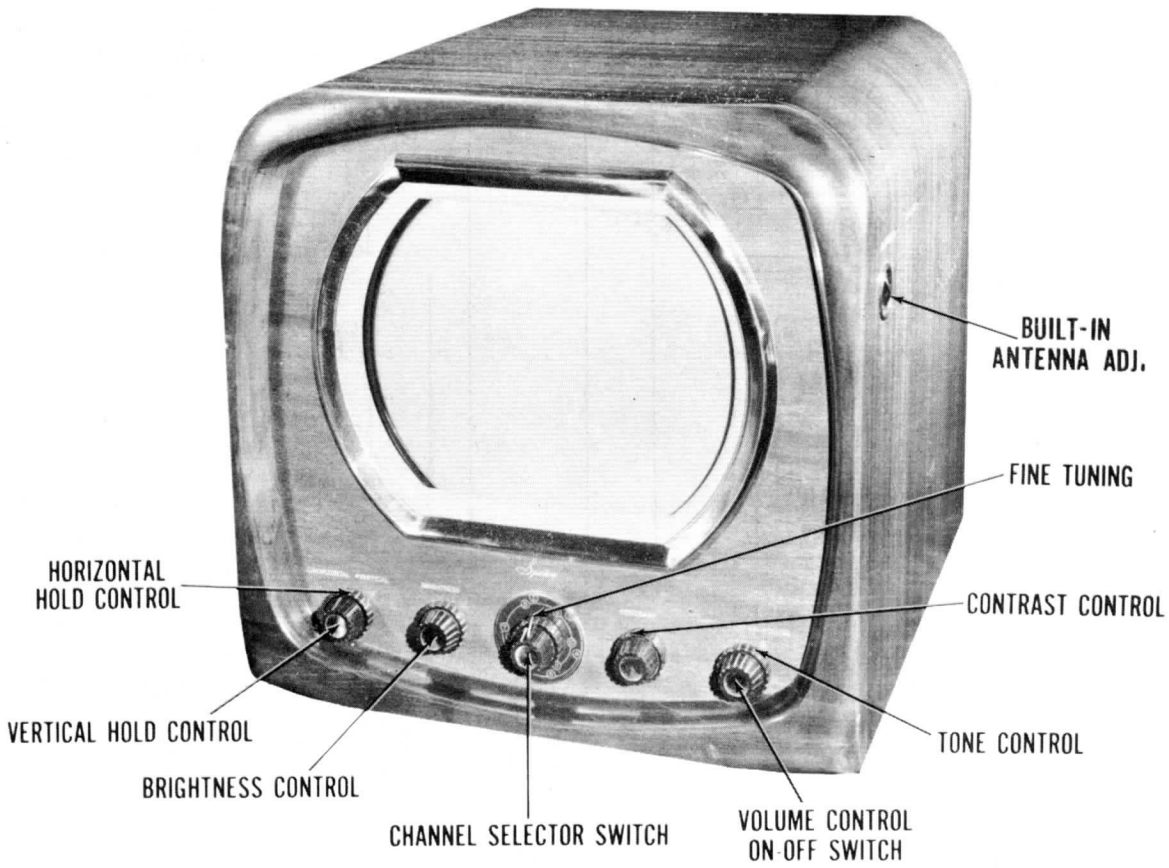
SPARTON
MODELS 5006X, 5007X



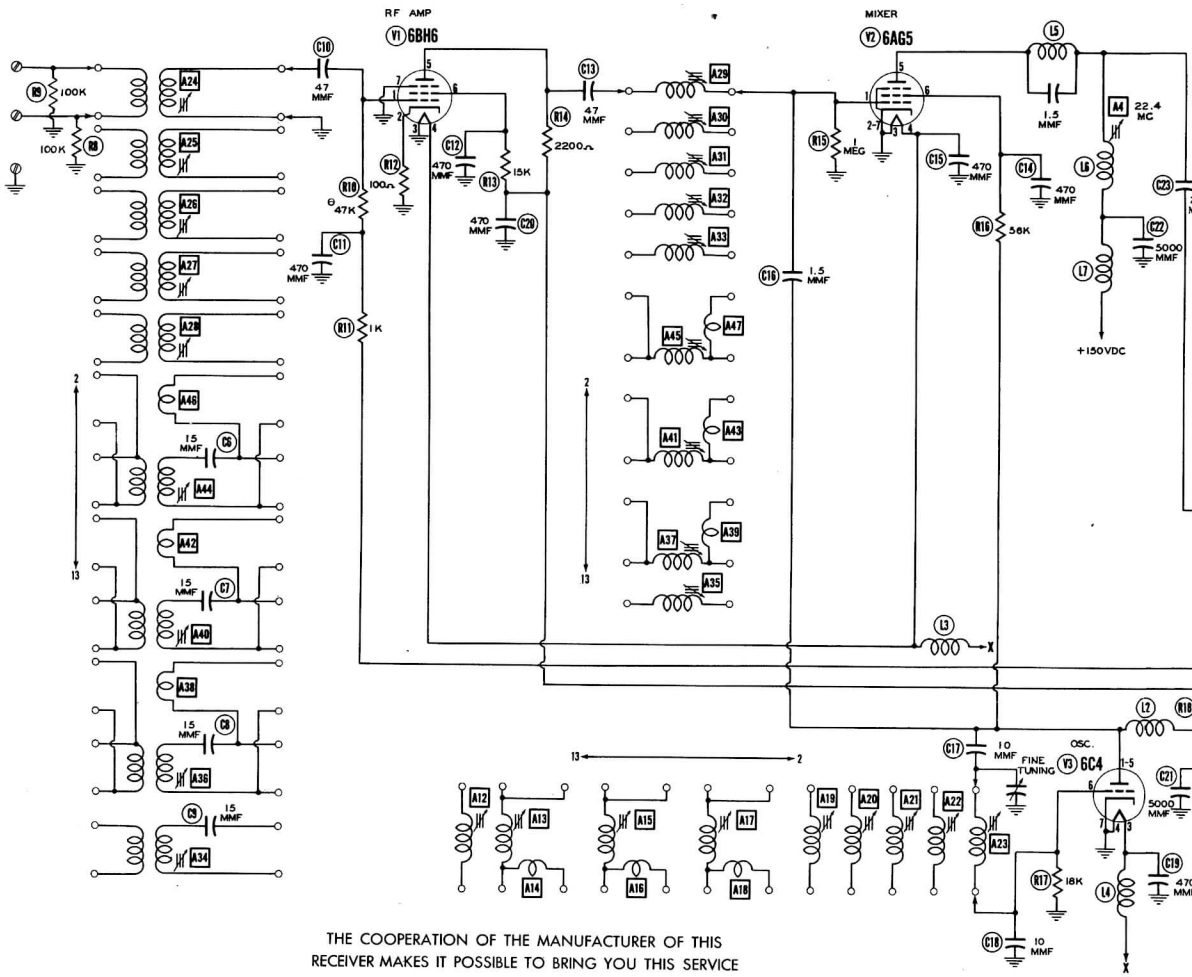
SPARTON
MODELS 5006X, 5007X

SPARTON MODEL 5006X

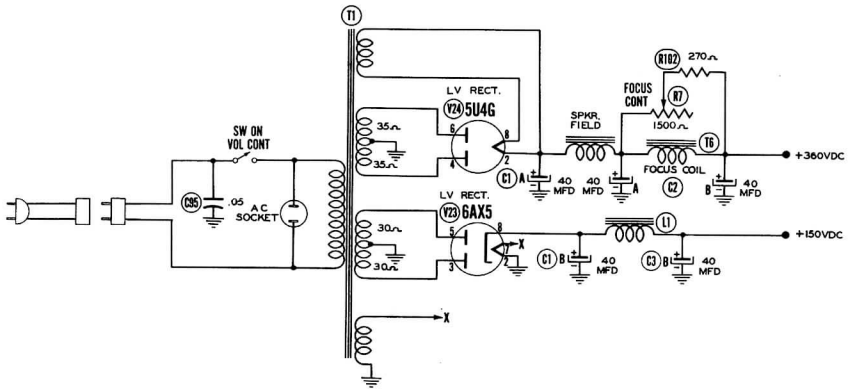
TRADE NAME	Sparton Models 5006X, 5007X (Ch. 25TK10A)
MANUFACTURER	Sparks - Withington Co., Jackson, Michigan
TYPE SET	Television Receiver
TUBES	Twenty Five
POWER SUPPLY	110-120 Volts AC-60 Cycle
RATING	1.8 Amp. @ 117 Volts AC
TUNING RANGE—Channels 2 thru 13	

INDEX

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



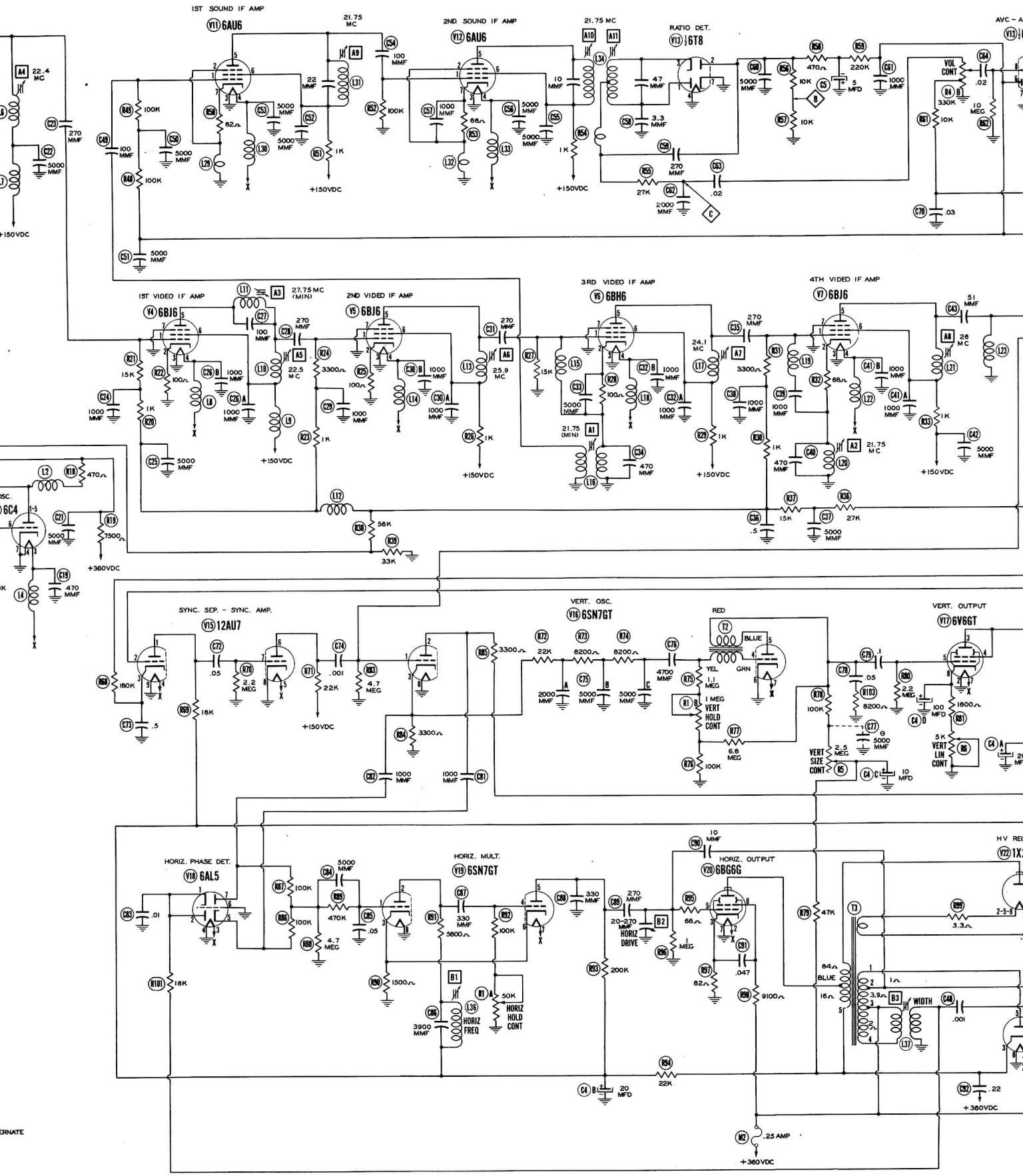
THE COOPERATION OF THE MANUFACTURER OF THIS
RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

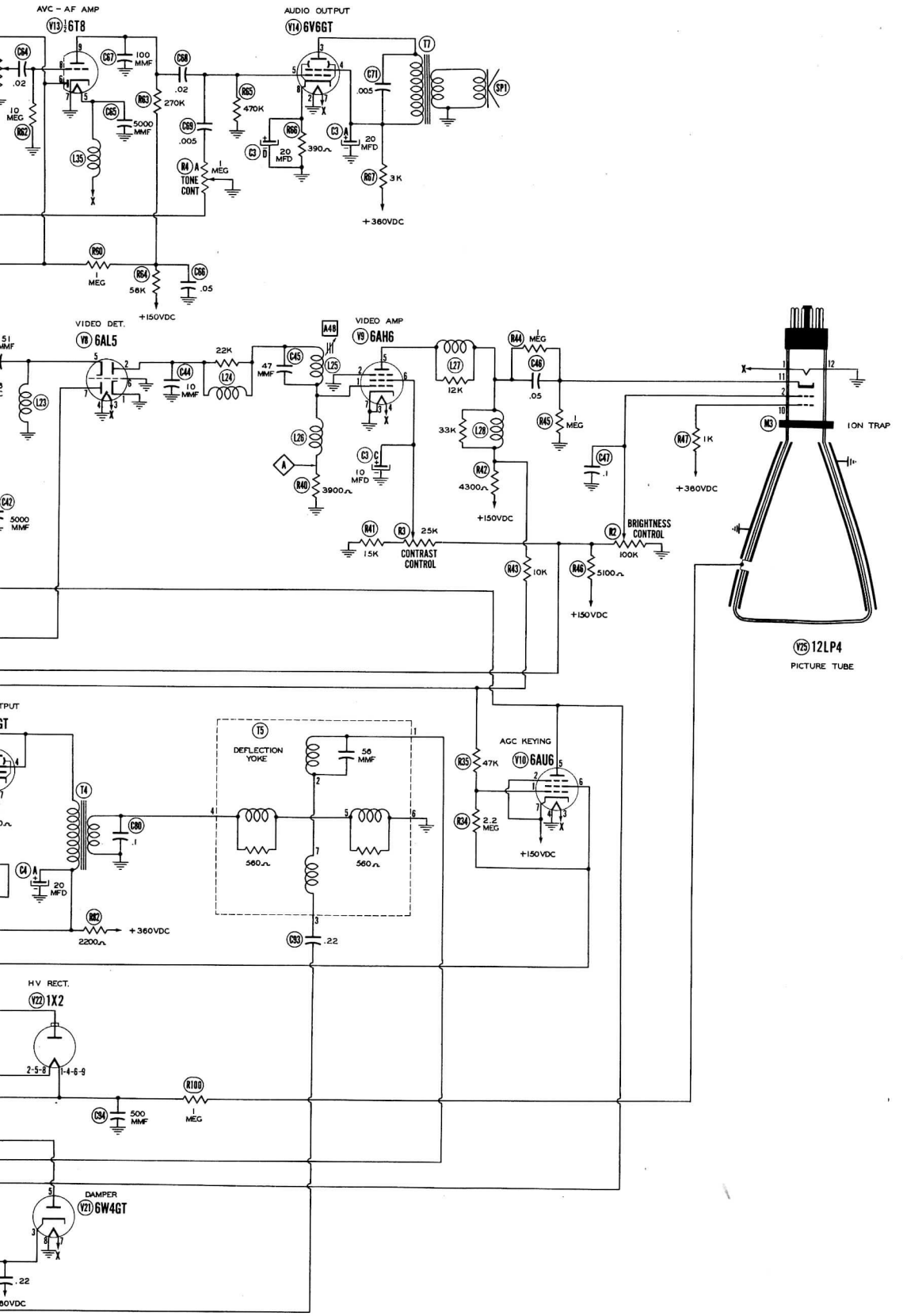


A PHOTOFACT STANDARD NOTATION SCHEMATIC

DOTTED IN PARTS ARE NOT USED IN ALL MODELS. WHEN DOTTED IN PARTS ARE USED POINTS MARKED X ARE BROKEN.

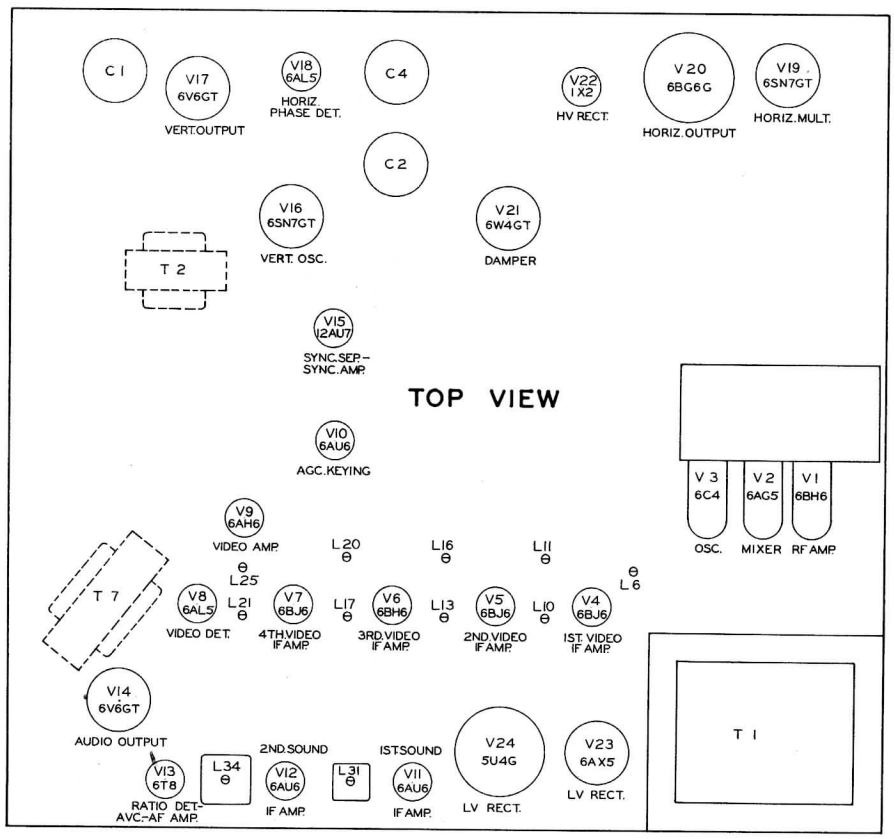
θ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

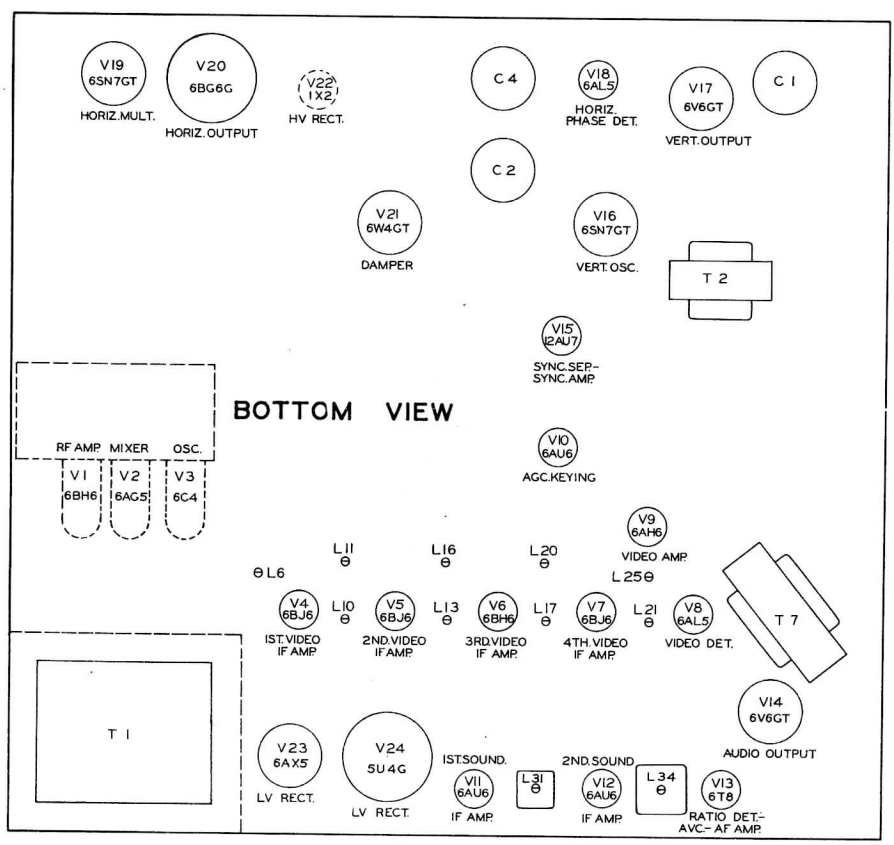

1ST SOUND IF AMP
V11 6AU6
21.75 MC
2ND SOUND IF AMP
V12 6AU6
21.75 MC
RATIO DET.
V13 ½ 6T8
AVC - A
VOL CONT
1ST VIDEO IF AMP
V4 6BJ6
27.75 MC (MIN)
2ND VIDEO IF AMP
V5 6BJ6
3RD VIDEO IF AMP
V6 6BH6
4TH VIDEO IF AMP
V7 6BJ6
+150VDC
+360VDC
SYNC. SEP. - SYNC. AMP.
V15 12AU7
VERT. OSC.
V16 6SN7GT
VERT. OUTPUT
V17 6V6GT
VERT HOLD CONT
VERT SIZE CONT
VERT LIN CONT
HORIZ. PHASE DET.
V18 6AL5
HORIZ. MULT.
V19 6SN7GT
HORIZ. OUTPUT
V20 6BG6G
HORIZ DRIVE
HORIZ HOLD CONT
HORIZ FREQ
WIDTH
HV REC
V22 1X2
.25 AMP



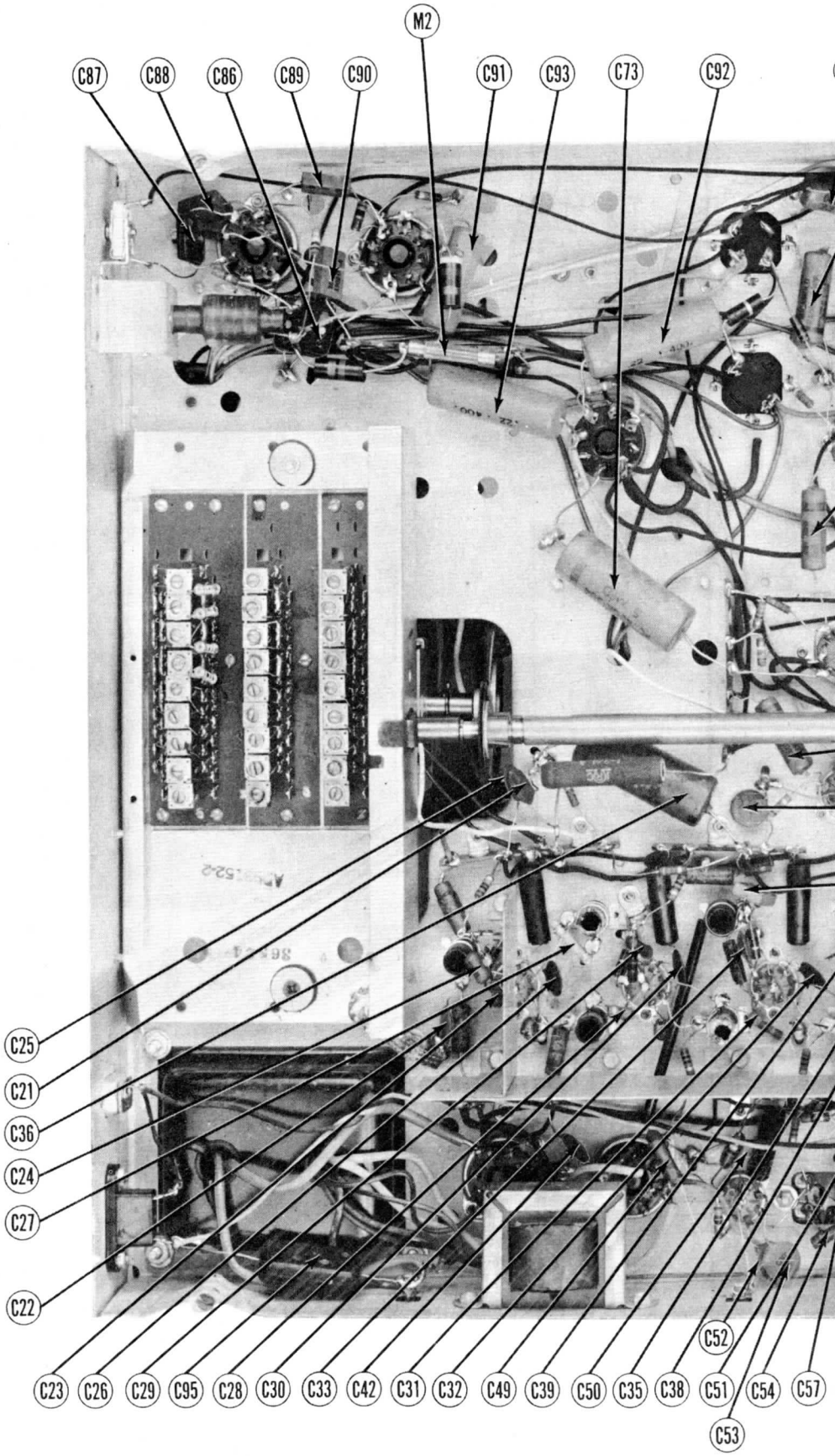
SPARTON
MODELS 5006X, 5007X

SPARTON
MODELS 5006X, 5007X

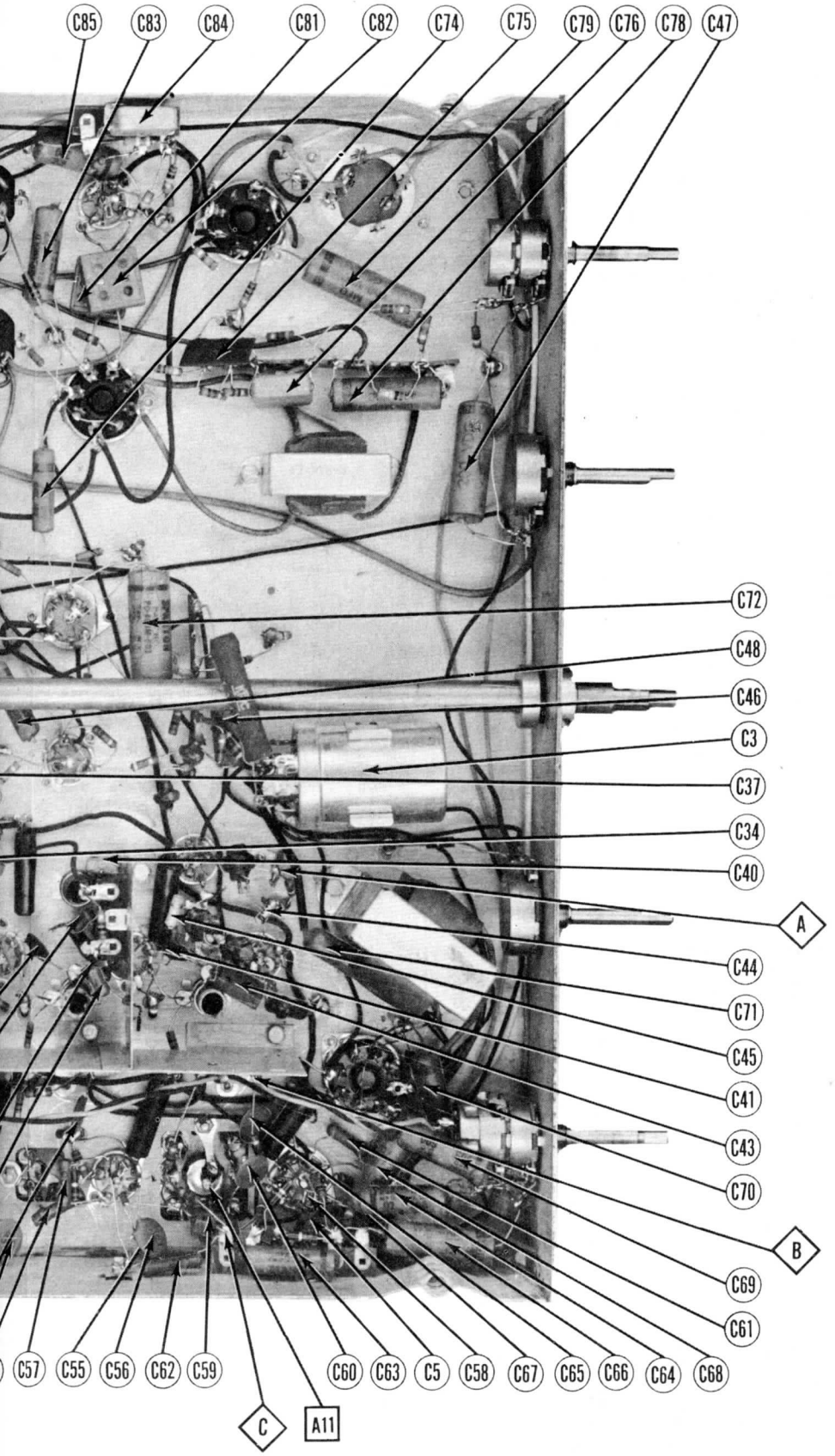




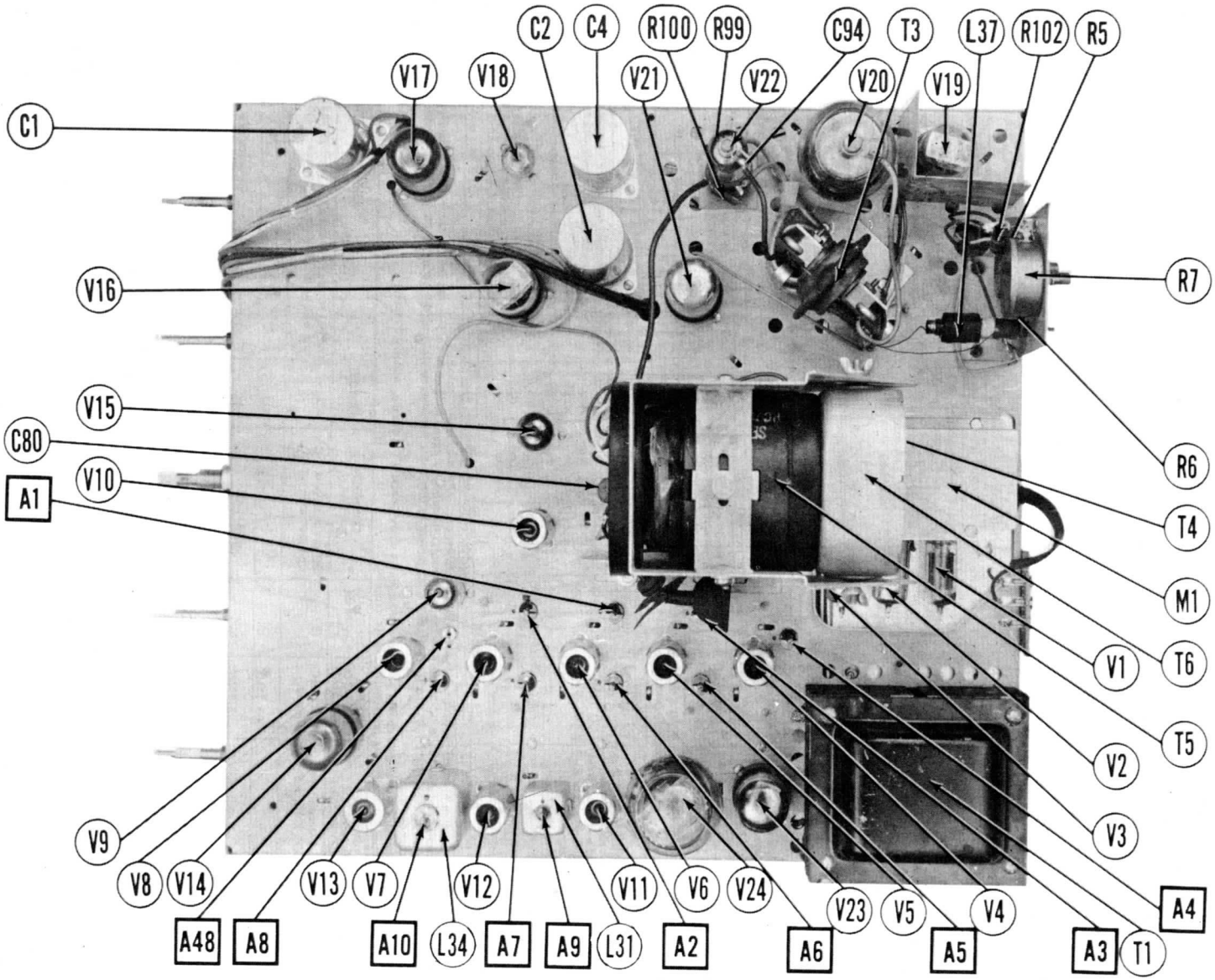
TUBE PLACEMENT CHART



CHASSIS BOTTOM VIEW-CAPACITOR



OR AND ALIGNMENT IDENTIFICATION



CHASSIS TOP VIEW

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The high voltage shock hazard may be eliminated by removing the horizontal oscillator tube (V19) from its socket.

VIDEO IF ALIGNMENT

Connect the negative lead of a 3 volts battery to the junction of R37 and C36, connect the positive lead to chassis. Remove the local oscillator tube (V3) from its socket to prevent the possibility of erroneous indications.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Direct	High side to an ungrounded tube shield floating over mixer tube (V2). Low side to chassis.	21.75MC (Unmod.)	Any	DC probe to point (A). Common to chassis	A1, A2	Adjust for MINIMUM deflection.
2.	"	"	27.75MC	"	"	A3	"
4.	"	"	22.4MC	"	"	A4	Adjust for maximum deflection.
5.	"	"	22.5MC	"	"	A5	"
6.	"	"	25.9MC	"	"	A6	"
7.	"	"	24.1	"	"	A7	"
8.	"	"	26.0	"	"	A8	"

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 an ungrounded tube shield floating over mixer tube(V2). Low side to chassis.	24MC (10MC SWP)	22.7MC 25.5MC 26.25MC	Any	Vert. amp. to point (A). Low side to chassis.		Check for response curve similar to fig. 1. If necessary retouch A3 thru A8 for proper response.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
10.	Direct	High side to an ungrounded tube shield floating over mixer tube (V2) Low side to chassis.	21.75MC (Unmod.)	Any	DC probe to point (B). Common to chassis.	A9, A10	Adjust for maximum deflection.
11.	"	"	"	"	DC probe to point (C). Common to point (B).	A11	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

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.	Direct	High side to an ungrounded tube shield floating over mixer tube (V2). Low side to chassis.	21.75MC (10 MC SWP)	21.75MC	Any	Vert. amp. to point (B). Low side to chassis.	A9, A10	Disconnect stabilizor capacitor C5. Adjust for maximum amplitude and symmetry as per figure 2.
12.	"	"	"	"	Any	Vert. amp. to point (C). Low side to chassis.	A-11	Reconnect capacitor C5. Ajust A-11 so 21.75 MC occurs at center of crossover lines as per fig. 3. SLIGHTLY retouch A10 for maximum amplitude and straightness of crossover lines.

OSCILLATOR ALIGNMENT

The sound IF section must be properly aligned before attempting oscillator alignment.

Replace the oscillator tube (V3) in its socket. Since incremental inductances are connected in series with the tuned circuits of channels 8, 10, and 12 to form tuned circuits for channels 7, 9, and 11, the order of alignment is important. It is essential that the higher of the paired channels, (7 and 8, 9 and 10, 11 and 12) be aligned first.

The signal generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

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

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
13.	Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	215.75MC (Unmod.)	13	DC probe ot 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.
14.	"	"	209.75MC	12	"	A13	"
15.	"	"	203.75MC	11	"	A14	Expand or compress coil turns for zero reading.
16.	"	"	197.75MC	10	"	A15	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
17.	"	"	191.75 MC	9	"	A16	Expand or compress coil turns for zero reading.
18.	"	"	185.75 MC	8	"	A17	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
19.	"	"	179.75MC	7	"	A18	Expand or compress coil turns for zero reading
20.	"	"	87.75 MC	6	"	A19	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
21.	"	"	81.75 MC	5	"	A20	"
22.	"	"	71.75 MC	4	"	A21	"
23.	"	"	65.75 MC	3	"	A22	"
24.	"	"	59.75 MC	2	"	A23	"

ALIGNMENT INSTRUCTIONS (CONT.)

RF AND MIXER ALIGNMENT

In the event that completed alignment of the RF 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 adjustment, alignment of those channels may be performed.
Short the AGC line to chassis while adjusting the RF circuits.
Output of signal generator should be no higher than necessary to obtain an output reading.
The signal generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
25.	Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	59.75MC (Unmod.)	2	DC probe to point ◇C. Common to point ◇D.		Adjust fine tuning control for zero reading.
26.	"	"	"	2	Across capacitor C5.	A24	Adjust for maximu deflection.
27.	"	"	65.75MC	3	DC probe to point ◇C. Common to point ◇D.		Adjust fine tuning control for zero reading.
28.	"	"	"	3	Across capacitor C5.	A25	Adjust for maximum deflection.
29.	"	"	7175MC	4	DC probe to point ◇C. Common to point ◇D.		Adjust fine tuning control for zero reading
30	"	"	"	4	Across capacitor C5.	A26	Adjust for maximum deflection.
31.	"	"	81.75MC	5	DC probe to point ◇C. Common to point ◇D.		Adjust fine tuning control for zero reading.
32.	"	"	81.75MC	5	Across capacitor C5.	A27	Adjust for maximum deflection.
33.	"	"	87.75MC	6	DC probe to point ◇C. Common to point ◇D		Adjust fine tuning control for zero reading.
34.	"	"	87.75MC	6	Across capacitor C5.	A28	Adjust for maximum deflection.
35.	"	"	55.25MC	2	DC probe to point ◇A. Common to chassis.	A29	Adjust fine tuning control and A29 for maximum deflection.
36.	"	"	61.25MC	3	"	A30	Adjust fine tuning control and A30 for maximum deflection.
37.	"	"	67.25MC	4	"	A31	Adjust fine tuning control and A31 for max. deflection.
38.	"	"	77.25MC	5	"	A32	Adjust fine tuning control and A32 for max. deflection.
39.	"	"	83.25MC	6	"	A33	Adjust fine tuning control and A33 for max. deflection.
40.	"	"	213MC	13	"	A34, A35	Adjust fine tuning control, A34, and A35 for maximum deflection.
41.	"	"	207MC	12	"	A36, A37	Adjust fine tuning control, A36, and A37 for maximum deflection.
42.	"	"	201MC	11	"	A38, A39	Adjust fine tuning control, A38, and A39 for maximum deflection.
43.	"	"	195MC	10	"	A40, A41	Adjust fine tuning control, A40, and A41 for maximum deflection.
44.	"	"	189MC	9	"	A42, A43	Adjust fine tuning control, A42, and A43 for maximum deflection.
45.	"	"	183MC	8	"	A44, A45	Adjust fine tuning control, A44, and A45 for maximum deflection.
46.	"	"	177MC	7	"	A46, A47	Adjust fine tuning control, A46, and A47 for maximum deflection.

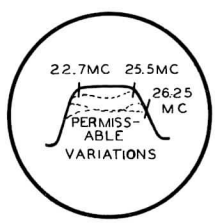


FIG. 1

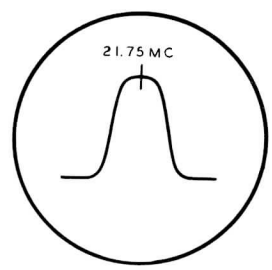


FIG. 2

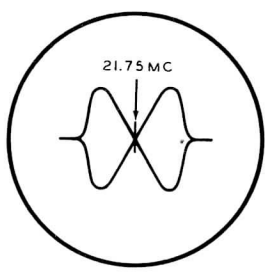


FIG. 3

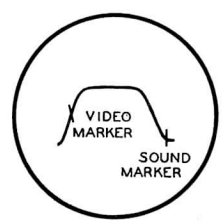


FIG. 4

ALIGNMENT INSTRUCTIONS (CONT.)

RF RESPONSE CHECK

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE OR VTVM	ADJUST	REMARKS
47.	Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	Off	215.75	13	VTVM DC probe to point (C). Common to point (B).		Adjust fine tuning for zero voltage.
48.	"	"	213MC (10MC SWP)	211.25MC 215.75MC	13	SCOPE Vert. amp. to point (A). Low side to chassis.	A34, A35	If necessary make slight adjustments to place markers as shown in fig. 4.
49.	"	"	Off	209.75MC	12	VTVM DC probe to point (C) Common to point (B)		Adjust fine tuning for zero voltage.
50.	"	"	207MC (10MC SWP)	205.25MC 209.75MC	12	SCOPE Vert. amp. to point (A). Low side to chassis.	A36, A37	If necessary make slight adjustments to place markers as shown in fig. 4.
51.	"	"	Off	203.75MC	11	VTVM DC probe to point (C) Common to point (B)		Adjust fine tuning for zero voltage.
52.	"	"	201MC (10MC SWP)	199.25MC 203.75MC	11	SCOPE Vert. amp to point (A) Low side to chassis	A38, A39	If necessary make slight adjustments to place markers as shown in figure 4.
53.	"	"	Off	197.75	10	VTVM DC probe to point (C) Common to point (D).		Adjust fine tuning for zero voltage.
54.	"	"	195MC (10MC SWP)	193.25MC 197.75MC	10	SCOPE Vert. amp.to point (A) Low side to chassis.	A40, A41	If necessary make slight adjustments to place markers as shown in fig. 4.
55.	"	"	Off	191.75MC	9	VTVM DC probe to point (B) Common to point (C)		Adjust fine tuning for zero voltage.
56.	"	"	189MC (10MC SWP)	187.25MC 191.75MC	9	SCOPE Vert. amp. to point (A) Low side to chassis.	A42, A43	If necessary make slight adjustments to place markers as shown in figure 4.
57.	"	"	Off	185.75	8	VTVM DC probe to point (C) Common to point (B)		Adjust fine tuning for zero voltage.
58.	"	"	183MC (10MC SWP)	181.25MC 185.75MC	8	SCOPE Vert. amp. to point (A) Low side to chassis.	A44, A45	If necessary make slight adjustments to place markers as shown in figure 4.
59.	"	"	Off	179.75MC	7	VTVM DC probe to point (C) Common to point (B).		Adjust fine tuning for zero voltage.
60.	"	"	177MC (10MC SWP)	175.25MC 179.75MC	7	SCOPE Vert. amp. to point (A) Low side to chassis.	A46, A47	If necessary make slight adjustments to place markers as shown in figure 4.
61.	"	"	Off	87.75MC	6	VTVM DC probe to point (B). Common to point (C)		Adjust fine tuning for zero voltage.
62.	"	"	85MC (10MC SWP)	83.25MC 87.75MC	6	SCOPE Vert. amp. to point (A) Low side to chassis.	A28, A33	If necessary make slight adjustments to place markers as shown in figure 4.
63.	"	"	Off	81.75	5	VTVM DC probe to point (C). Common to point (D).		Adjust fine tuning for zero voltage.
64.	"	"	79MC (10MC SWP)	77.25MC 81.75MC	5	SCOPE Vert. amp. to point (A) Low side to chassis.	A27, A32	If necessary make slight adjustments to place markers as shown in figure 4.
65.	"	"	Off	71.75MC	4	VTVM DC probe to point (C) Common to point (B).		Adjust fine tuning for zero voltage.
66.	"	"	69MC	67.25MC 71.75MC	4	SCOPE Vert. amp. to point (A) Common to chassis.	A26, A31	If necessary make slight adjustments to place markers as shown in figure 4.
67.	"	"	Off	65.75MC	3	VTVM DC probe to point (C). Common to point (B).		Adjust fine tuning for zero voltage.
68.	"	"	63MC (10MC SWP)	61.25MC 65.75MC	3	SCOPE Vert. amp. to point (A) Low side to chassis.	A25, A30	If necessary make slight adjustments to place markers as shown in figure 4.
69	"	"	Off	59.75MC	2	VTVM DC probe to point (C) Common to point (B)		Adjust fine tuning for zero voltage
70.	"	"	57MC (10MC SWP)	55.25MC 59.75MC	2	SCOPE Vert. amp. to point (A) Low side to chassis.	A24, A29	If necessary make slight adjustments to place markers as shown in figure 4.

4.5MC TRAP ADJUSTMENT

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
71.	.01MFD	High side to pin 5 (cathode) of 6AL5 (V8). Low side to chassis.	Not used	4.5MC (400 ∿ Mod.)	Any channel not used locally	Vert. amp. to pin 11 of picture tube. Low to chassis.	A48	Adjust for MINIMUM 400 ∿ indication on scope.

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	-.1VDC	1VDC	0V	6.3VAC	220VDC	210VDC	0V		
V 2	6AG5	-2VDC	0V	0V	6.3VAC	147VDC	110VDC	0V		
V 3	6C4	165VDC	0V	6.3VAC	0V	165VDC	§-3.7VDC	0V		
V 4	6BJ6	-.1VDC	2VDC	0V	6.3VAC	147VDC	147VDC	0V		
V 5	6BJ6	-.1VDC	2VDC	0V	6.3VAC	135VDC	135VDC	0V		
V 6	6BH6	0V	1.2VDC	0V	6.3VAC	135VDC	135VDC	0V		
V 7	6BJ6	-.1VDC	1.4VDC	0V	6.3VAC	135VDC	135VDC	0V		
V 8	6AL5	0V	-.3VDC	6.3VAC	0V	0V	0V	-1.5VDC		
V 9	6AH6	-.3VDC	0V	0V	6.3VAC	135VDC	40VDC	0V		
V 10	6AU6	135VDC	150VDC	6.3VAC	0V	-.2VDC	300VDC	150VDC		
V 11	6AU6	-.4VDC	0V	0V	6.3VAC	130VDC	130VDC	1VDC		
V 12	6AU6	-.1VDC	0V	0V	6.3VAC	130VDC	130VDC	1.1VDC		
V 13	6T8	-.4VDC	-1.1VDC	-.4VDC	0V	6.3VAC	-.3VDC	0V	-.6VDC	55VDC
V 14	6V6GT	0V	0V	235VDC	245VDC	0V	0V	6.3VAC	14VDC	
V 15	12AU7	275VDC	135VDC	140VDC	6.3VAC	6.3VAC	80VDC	-.4VDC	0V	0V
V 16	6SN7GT	-1.5VDC	320VDC	13VDC	-25VDC	410VDC 130VDC	0V	6.3VAC	0V	
V 17	6V6GT	0V	0V	320VDC	320VDC	0V	35VDC 0V	6.3VAC	45VDC 25VDC	
V 18	6AL5	1.6VDC	1.6VDC	6.3VAC	0V	5VDC	0V	-2.6VDC		
V 19	6SN7GT	.5VDC	255VDC	13VDC	-6.4VDC	115VDC	13VDC	6.3VAC	0V	
V 20	6BG6G	0V	6.3VAC	6.8VDC	-2.8VDC	-6.8VDC	-6.8VDC	0V	255VDC	TOP CAP *
V 21	6W4GT	0V	360VDC	490VDC	470VDC	360VDC	0V	6.3VAC	0V	
V 22	1X2	* DO NOT MEASURE								
V 23	6AX5	0V	0V	185VAC	0V	185VAC	0V	6.3VAC	160VDC	
V 24	5U4G	0V	400VDC	0V	370VAC	0V	370VAC	0V	400VDC	
V 25	12LP4	6.3VAC	0V	PIN 10 355VDC	PIN 11 50VDC	PIN 12 0V				

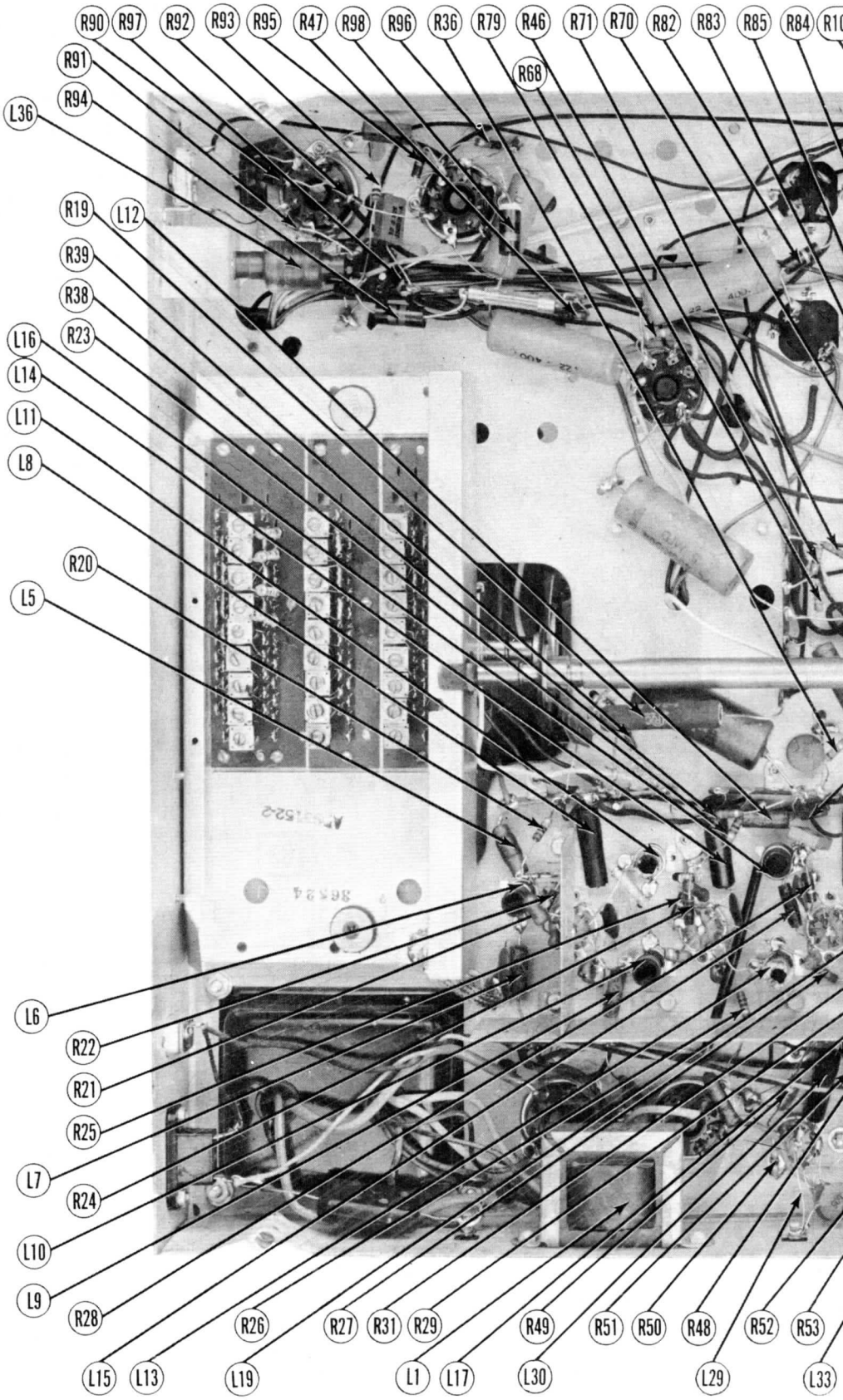
FOCUS CONTROL COUNTERCLOCKWISE
§ TAKEN WITH VACUUM TUBE VOLTMETER
* DO NOT MEASURE

RESISTANCE READINGS

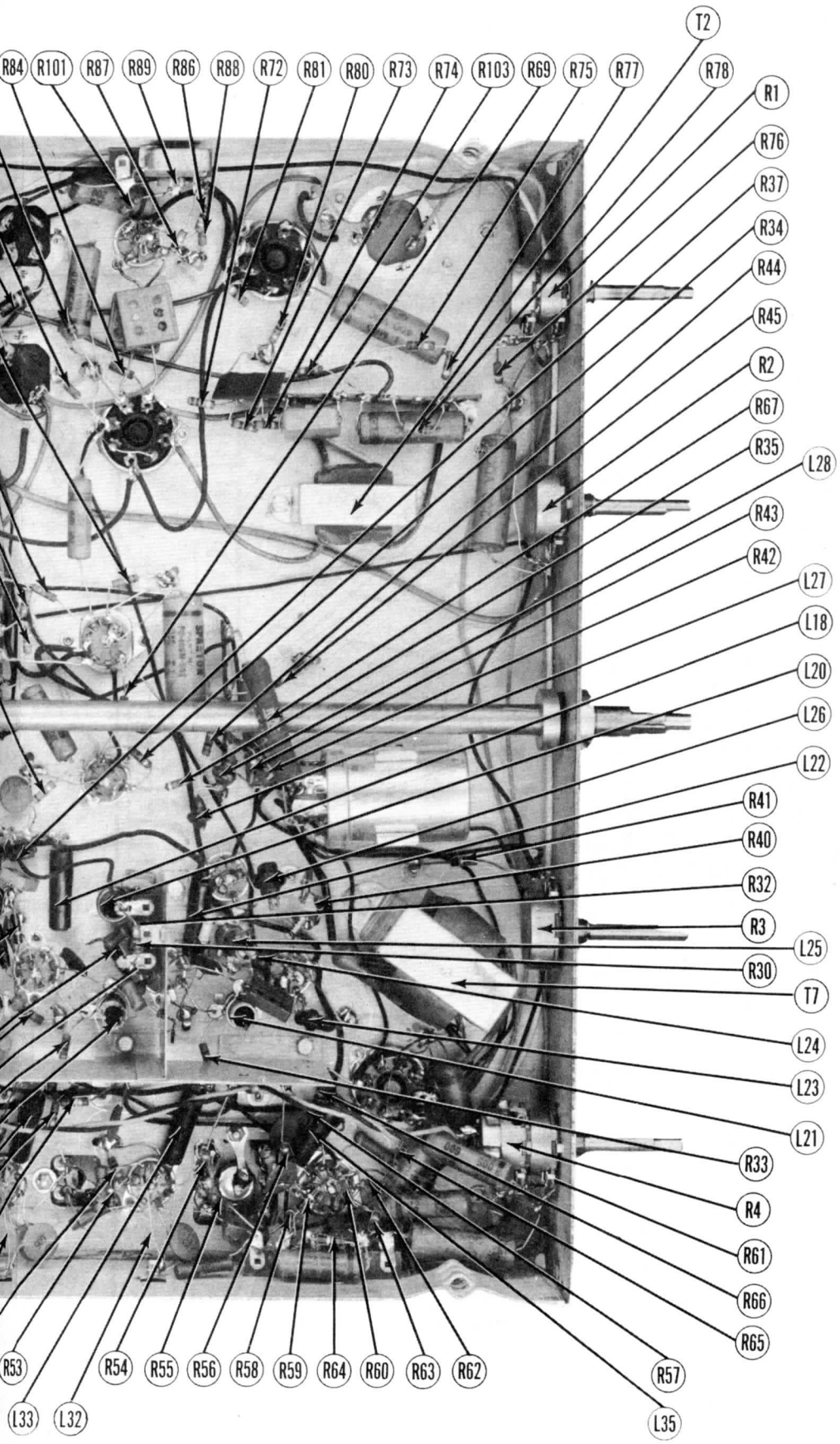
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6BH6	80KΩ	100Ω	0Ω	.1Ω	#10KΩ	#23KΩ	0Ω		
V 2	6AG5	1 Meg.	0Ω	0Ω	.2Ω	†135Ω	#65KΩ	0Ω		
V 3	6C4	#8.3KΩ	Inf.	.2Ω	0Ω	#8.3KΩ	18KΩ	0Ω		
V 4	6BJ6	105KΩ	100Ω	0Ω	.2Ω	†135Ω	†135Ω	0Ω		
V 5	6BJ6	95KΩ	100Ω	0Ω	.2Ω	†1.1KΩ	†1.1KΩ	0Ω		
V 6	6BH6	2.2Ω	100Ω	0Ω	.2Ω	†1.1KΩ	†1.1KΩ	0Ω		
V 7	6BJ6	95KΩ	68Ω	0Ω	.2Ω	†1.1KΩ	†1.1KΩ	0Ω		
V 8	6AL5	0Ω	3.9KΩ	.1Ω	0Ω	3.3Ω	0Ω	4.7 Meg.		
V 9	6AH6	3.9KΩ	0Ω	0Ω	.2Ω	†4.4KΩ	†25KΩ	0Ω		
V 10	6AU6	†65KΩ	†130Ω	.1Ω	0Ω	130KΩ	▲22KΩ	†130Ω		
V 11	6AU6	440KΩ	0Ω	0Ω	.2Ω	†1.1KΩ	†1.1KΩ	82Ω		
V 12	6AU6	100KΩ	0Ω	0Ω	.2Ω	†1.1KΩ	†1.1KΩ	68Ω		
V 13	6T8	Inf.	20KΩ	Inf.	0Ω	.2Ω	240KΩ	0Ω	10 Meg.	†325Ω
V 14	6V6GT	0Ω	0Ω	#3.6KΩ	#3.4KΩ	470KΩ	0Ω	.1Ω	390Ω	
V 15	12AU7	▲40KΩ	†15KΩ	220KΩ	.1Ω	.1Ω	†22KΩ	2.2 Meg.	0Ω	0Ω
V 16	6SN7GT	4.7 Meg.	#6KΩ	3.3KΩ	2.2Meg.	▲150KΩ ▲1.6 Meg.	0Ω	.1Ω	0Ω	
V 17	6V6GT	Inf.	0Ω	#3.4KΩ	#3.4KΩ	2.2Meg.	5KΩ 0Ω	.1Ω	6.8KΩ 1.8KΩ	
V 18	6AL5	18KΩ	18KΩ	.1Ω	0Ω	4.8Meg.	0Ω	4.8Meg.		
V 19	6SN7GT	520KΩ	▲28KΩ	1.5KΩ	150KΩ	▲220KΩ	1.5KΩ	.1Ω	0Ω	
V 20	6BG6G	Inf.	.1Ω	82Ω	50KΩ	1 Meg.	1 Meg.	0Ω	#9.5KΩ	TOP CAP ▲84Ω
V 21	6W4GT	Inf.	#280Ω	200KΩ	▲47KΩ	#275Ω	Inf.	.1Ω	0Ω	
V 22	1X2	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	TOP CAP ▲700Ω
V 23	6AX5	Inf.	0Ω	30Ω	Inf.	30Ω	Inf.	.1Ω	50KΩ	
V 24	5U4G	Inf.	80KΩ	Inf.	35Ω	Inf.	35Ω	Inf.	80KΩ	
V 25	12LP4	.1Ω	0Ω	PIN 10 #1.4KΩ	PIN 11 500KΩ	PIN 12 0Ω				

FOCUS CONTROL COUNTERCLOCKWISE
† MEASURED FROM PIN 8 OF V23
▲ MEASURED FROM PIN 3 OF V21
MEASURED FROM PIN 2 OF V24

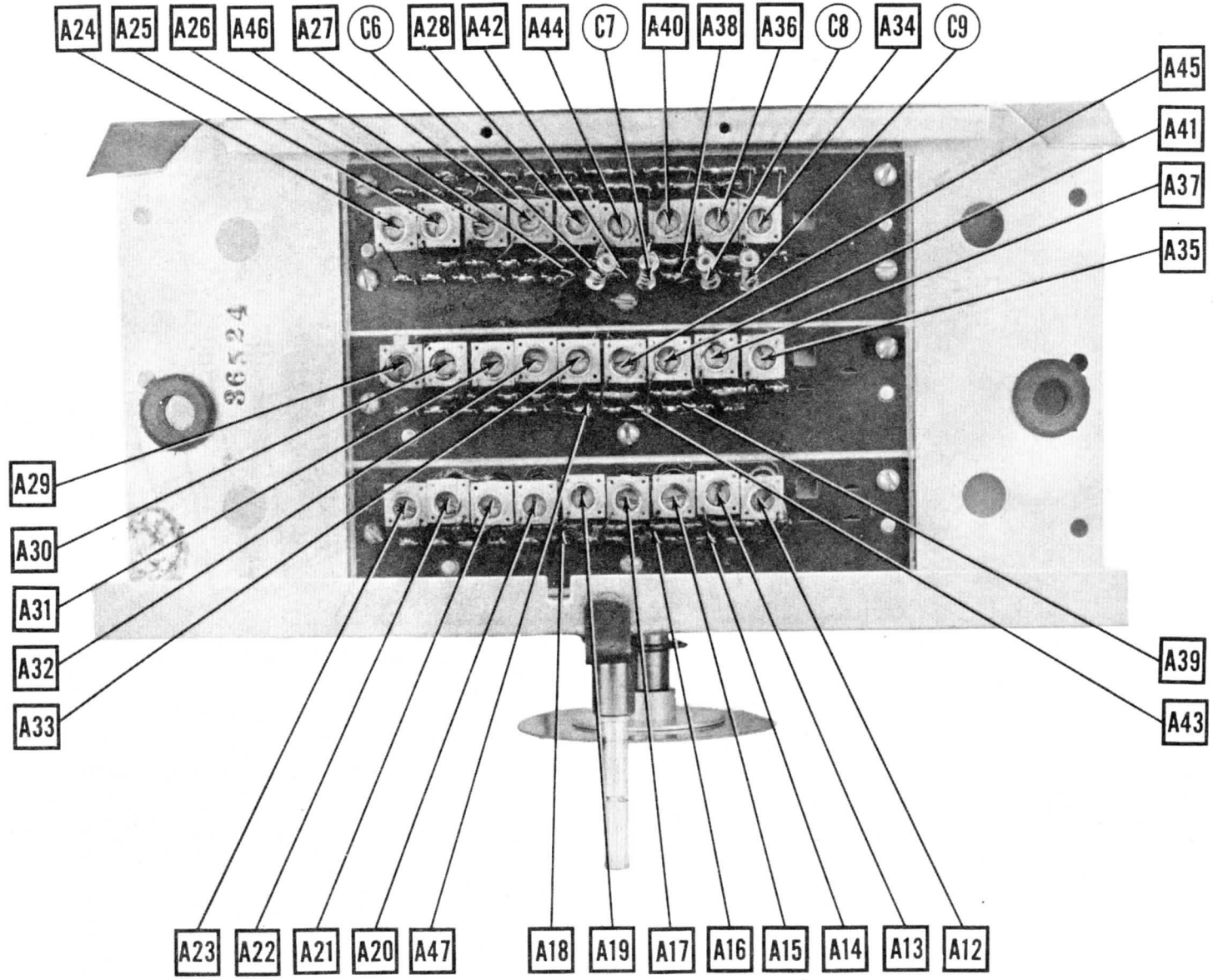
1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltage measured at 1,000 ohms.
2. Pin numbers are counted in a clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line voltage maintained at 117 volts for voltage readings.
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.



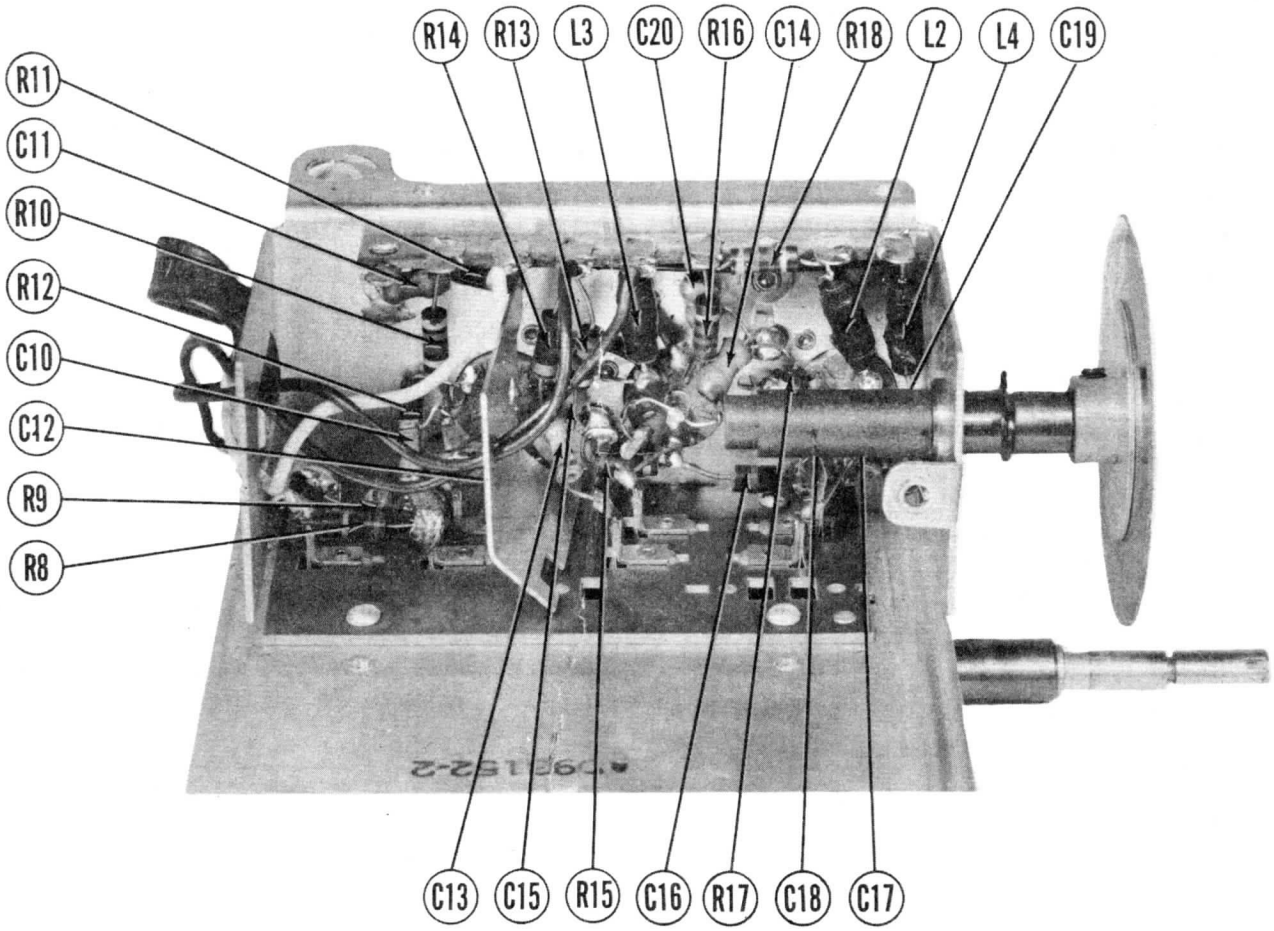
CHASSIS BOTTOM VIEW-RESISTOR



OR AND INDUCTOR IDENTIFICATION



RF TUNER-BOTTOM VIEW



RF TUNER

DISASSEMBLY INSTRUCTIONS

1. Remove eight push-on type control knobs.
2. Remove ten wood screws holding rear cover in place. Remove rear cover.
3. Disconnect built-in antenna.
4. Disconnect speaker leads.
5. Remove two 11/32" hex nuts holding speaker in place. Remove speaker.
6. Remove four 3/8" hex head bolts holding chassis in cabinet. Remove chassis.

NOTE: FOR PICTURE TUBE REMOVAL, IT IS NECESSARY TO REMOVE CHASSIS AS OUTLINED ABOVE.

PARTS LIST AND

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: SPARTON PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	NOTES
V1	RF Amp.	6BH6	6BH6	7CM	
V2	Mixer	6AG5	6AG5	7BD	
V3	RF Oscillator	6C4	6C4	6BG	
V4	1st Video IF Amp.	6BJ6	6BJ6	7CM	
V5	2nd Video IF Amp.	6BJ6	6BJ6	7CM	
V6	3rd Video IF Amp.	6BH6	6BH6	7CM	
V7	4th Video IF Amp.	6BJ6	6BJ6	7CM	
V8	Video Det.	6AL5	6AL5	6BT	
V9	Video Amp.	6AH6	6AH6	7BK	
V10	AGC Keying	6AU6	6AU6	7BK	
V11	1st Sound IF Amp.	6AU6	6AU6	7BK	
V12	2nd Sound IF Amp.	6AU6	6AU6	7BK	
V13	Ratio Det.-AVC-AF Amp.	6T8	6T8	9E	
V14	Audio Output	6V6GT	6V6GT	7AC	
V15	Sync. Sep.-Sync. Amp.	12AU7	12AU7	9A	
V16	Vert. Oscillator	6SN7GT	6SN7GT	8BD	
V17	Vert. Output	6V6GT	6V6GT	7AC	
V18	Hor. Phase Det.	6AL5	6AL5	6BT	
V19	Hor. Mult.	6SN7GT	6SN7GT	8BD	
V20	Hor. Output	6BG6G	6BG6G	5BT	
V21	Damper	6W4GT	6W4GT	4CG	
V22	HV Rectifier	1X2	1X2	7CB	
V23	LV Rectifier	6AX5	6AX5	6S	
V24	LV Rectifier	5U4G	5U4G	5T	
V25	Picture Tube	12LP4	12LP4	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: CAP.	RATING: VOLT	REPLACEMENT DATA: SPARTON PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C1A	40	475	PA4307-19	AF8X8I		UPT450-4		TVL-2830	▲ Filter
B	40	250				40C2			▲ Filter
C2A	40	475	PA4307-13	AF88K		UP4450		TVL-2830	▲ Filter
B	40	475							▲ Filter
C3A	20	450	PA4307-16	AF832J5A		UPT42145C		TVL-4734	▲ Output Decoupling
B	40	250							■ Filter
C	10	200							▲ V. Amp. Screen
D	20	25							Output Cathode
C4A	20	450	PA4307-18	AF842J20B		UPT22245		TVL-3780	▲ Decoupling
B	20	450				V10		TVA-1207	■ Decoupling
C	10	450							▲ Vert. Osc. Dec.
D	100	25							Vert. Output Cathode
C5	5	50	PA4308-2	PRS150/4		BR550		TVA-1303	Stabilizing Cap.
C6	15				TCZ-15		NPOK-15	19C5	Fixed Padder
C7	15				TCZ-15		NPOK-15	19C5	Fixed Padder
C8	15				TCZ-15		NPOK-15	19C5	Fixed Padder
C9	15				TCZ-15		NPOK-15	19C5	Fixed Padder
C10	47			SI47N750	TCN-47		N750L-47	19C9	RF Coupling
C11	470			SI470	D6-471		GP2K-470	19C15	AGC Filter
C12	470			SI470	D6-471		GP2K-470	19C15	RF Amp. Screen
C13	47			SI47	D6-470		GP1K-47	19C25	RF Coupling
C14	470			SI470	D6-471		GP2K-470	19C15	Mixer Screen
C15	470			SI470	D6-471		GP2K-470	19C15	Mixer Filament
C16	1.5			SI1.5NPO	TCZ-1.5		NPOK-1.5		Osc. Coupling
C17	10			SI10N750	TCN-10		N750K-10	19C4	Osc. Feedback
C18	10			SI10	D6-100		GP1K-10	19C19	Osc. Grid Cap.
C19	470			SI470	D6-471		GP2K-470	19C15	Osc. Fil. Bypass
C20	470			SI470	D6-471		GP2K-470	19C15	RF Bypass
C21	5000		PA4334-1	BPD-005	DD-502	1D5D5	811-005	29C1	RF Bypass
C22	5000		PA4334-1	BPD-005	DD-502	1D5D5	811-005	29C1	Mixer Plate Dec.
C23	270		HK36M-271	SI270	D6-271	5W5T25	GP2K-270	19C31	IF Coupling
C24	1000		HK36H-102	SI1000	D6-102	1W5D1	GP2L-001	19C1	AGC Filter
C25	5000		PA4334-1	BPD-005	DD-502	1D5D5	811-005	29C1	AGC Filter
C26A	1000		PA4345-1	BPD-2X001	DD-2-102	1W5D1	812-2X001	29C7	1st V. IF Dec.
B	1000					1W5D1			1st V. IF Dec.
C27	100		CC30A-101F	SI100NPO	TCZ-100		NPOM-100	36C10	Fixed Trimmer
C28	270		HK36M-271	SI270	D6-271	5W5T25	GP2K-270	19C31	IF Coupling
C29	1000		HK36H-102	SI1000	D6-102	1W5D1	GP2L-001	19C1	AGC Filter
C30A	1000		PA4345-1	BPD-2X001	DD-2-102	1W5D1	812-2X001	29C7	2nd V. IF Dec.
B	1000					1W5D1			2nd V. IF Fil.
C31	270		HK36M-271	SI270	D6-271	5W5T25	GP2K-270	19C31	IF Coupling
C32A	1000		PA4345-1	BPD-2X001	DD-2-102	1W5D1	812-2X001	29C7	3rd V. IF Dec.
B	1000					1W5D1			3rd V. IF Fil.
C33	5000		PA4334-1	BPD-005	DD-502	1D5D5	811-005	29C1	3rd V. IF Cath.
C34	470	500	MC60E-471						Fixed Trimmer
C35	270		HK36M-271	SI270	D6-271	5W5T25	GP2K-270	19C31	IF Coupling
C36	.5	200	PC40GK-504	P288-5		GT2P5		2TM-P5	AGC Filter
C37	5000		PA4334-1	BPD-005	DD-502	1D5D5	811-005	29C1	AGC Filter
C38	1000		HK36H-102	SI1000	D6-102	1W5D1	GP2L-001	19C1	AGC Filter
C39	1000		HK36H-102	SI1000	D6-102	1W5D1	GP2L-001	19C1	RF Bypass
C40	470	500	MC60E-471						Fixed Trimmer
C41A	1000		PA4345-1	BPD-2X001	DD-2-102	1W5D1	812-2X001	29C7	4th V. IF Dec.
B	1000					1W5D1			4th V. IF Fil.
C42	5000		PA4334-1	BPD-005	DD-502	1D5D5	811-005	29C1	RF Bypass
C43	51	500		1468-00005	D6-500	5W5Q5	GP1K-51	1FM-45	IF Coupling
C44	10		CC30A-100F	SI10NPO	TCZ-10	5W5Q1	NPOK-10	19C3	V. Diode Filter
C45	47			SI47NPO	TCZ-47	5R5Q5	NPOM-47	29C14	Fixed Trimmer
C46	.05	400	PC40GL-503	P488-05	DF-503	PTE4S5		4TM-S5	Video Coupling
C47	.1	200	PC40GK-104	P288-1	DF-104	PTE4P1		2TM-P1	Pic. Tube Grid
C48	.001	600	PC40GM-102	P688-001	D6-102	PTE6D1	GP2L-001	6TM-D1	Hor. Sweep Coupling
C49	100		CC32A-101A	SI100	D6-101	5W5T1	GP1K-100	19C11	S. IF Coupling
C50	5000		PA4334-1	BPD-005	DD-502	1D5D5	811-005	29C1	AVC Filter
C51	5000		PA4334-1	BPD-005	DD-502	1D5D5	811-005	29C1	AVC Filter
C52	5000		PA4334-1	BPD-005	DD-502	1D5D5	811-005	29C1	1st S. IF Dec.
C53	5000		PA4334-1	BPD-005	DD-502	1D5D5	811-005	29C1	1st S. IF Fil.
C54	100		CC32A-101A	SI100	D6-101	5W5T1	GP1K-100	19C11	S. IF Coupling
C55	5000		PA4334-1	BPD-005	DD-502	1D5D5	811-005	29C1	2nd S. IF Dec.

CAPACITOR

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT: SPARTON PART No.	AEROVOX PART No.	CENTRALAB PART No.
C56	5000		PA4334-1	BPD-005	DD-502
C57	1000		HK36H-102	SI1000	D6-102
C58	3.3		PA4326-4	SI3.3NPO	TCZ-3.3
C59	270	500	HK36M-271	1468-00025	D6-271
C60	5000		PA4334-1	BPD-005	DD-502
C61	1000		HK36H-102	SI1000	D6-102
C62	2000		HK36G-202	SI2000	D6-202
C63	.02	200	PC40GK-203	P488-02	DF-203
C64	.02	200	PC40GK-203	P488-02	DF-203
C65	5000		PA4334-1	BPD-005	DD-502
C66	.05	400	PC40GL-503	P488-05	DF-503
C67	100	500	MC60E-101	1468-0001	D6-101
C68	.02	600	PC40GM-203	P688-02	DF-203
C69	.005	600	PC40GM-502	P688-005	D6-502
C70	.03	200	PC40GK-303	P488-03	
C71	.005	600	PC40GM-502	P688-005	D6-502
C72	.05	600	PC40GL-503	P688-05	DF-503
C73	.5	200	PC40GK-504	P288-5	
C74	.001	600	PC40GM-102	P688-001	D6-102
C75A	2000		PA4339-4	P688-002	D6-202
B	5000			P688-005	D6-502
C	5000			P688-005	D6-502
C76	4700	500		1467-005	D6-472
C77	5000		PA4334-1	BPD-005	DD-502
C78	.05	400	PC40GL-503	P488-05	
C79	.1	400	PC40GL-104	P488-1	DF-104
C80	.1	200	PC40GK-104	P288-1	DF-104
C81	1000	500	MC61E-102	1467-001	D6-102
C82	1000	500	MC61E-102	1467-001	D6-102
C83	.01	600		P688-01	D6-103
C84	5000	500	MC61E-512	1467-005	D6-502
C85	.05	200		P288-05	DF-503
C86	3900	500	MC63F-392	1464-004	
C87	330	500	MC60E-331	1469-00035	D6-331
C88	330	500	MC60E-331	1469-00035	D6-331
C89	270	500	HK36M-271	1468-00025	D6-271
C90	10	1500	PA4327-2	1469-HV-00001	
C91	.047	400	PC42GL-473	P488-047	DF-503
C92	.22	400	PC42GL-224	P488-22	
C93	.22	400	PC42GK-224	P488-22	
C94	500	20000	PA4346	HV20C	TV2-502
C95	.05	600	PC42GM-473	P688-05	DF-503

* Not Used In All Models.

CONT

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: SPARTON PART No.	IRC PART No.	CLAROST PART N
				Concentrikit	
R1A	50KΩ	1/2	PA4430-1	B11-123 *	RTV-84
B	1Meg	1/2		B11-137 *	
C	Shaft End			E-187 *	
R2A	100KΩ	1/2	PA4432	Q11-128	AM-49-S
B	Shaft		Not req.	Not req.	FS-3
R3A	25KΩ	1/2	PA4442	Q11-120	AM-40-S
B	Shaft		Not req.	Not req.	FS-3
				Concentrikit	
R4A	1Meg	1/2	PA4428-1	B11-137 *	RTV-200
B	330KΩ	1/2		B18-132 *	
C	Shaft End			E-187 *	
D	Switch			76-1 *	
R5A	2.5Meg	1/2	PA4431	Q11-239	AG-84-S
B	Shaft		Not req.	Not req.	FKS-1/4
R6	5000Ω	2	PA4411	W-5000	43-5000
R7	1500Ω	4	PA4426-1		RTV-6

* Additional Parts To Be Used With Concentrikit.

RESIST

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: SPARTON PART No.	IRC PART No.
R8	100KΩ 20%	1/2		
R9	100KΩ 20%	1/2		
R10	47KΩ	1/2		
R11	1000Ω	1/2		BTS-1000
R12	100Ω	1/2		BTS-100
R13	15KΩ	1/2		
R14	2200Ω 5%	1/2		BTS-2200-5%
R15	1Meg	1/2		
R16	56KΩ	1/2		
R17	18KΩ	1/2		
R18	470Ω	1/2		BTS-470
R19	7500Ω	10		1 3/4A-7500
R20	1000Ω	1/2		BTS-1000
R21	15KΩ 5%	1/2		
R22	100Ω	1/2		BTS-100
R23	1000Ω	1/2		BTS-1000
R24	3300Ω	1/2		BTS-3300
R25	100Ω	1/2		BTS-100
R26	1000Ω	1/2		BTS-1000
R27	15KΩ	1/2		
R28	100Ω	1/2		BTS-100
R29	1000Ω	1/2		BTS-1000
R30	1000Ω	1/2		BTS-1000
R31	3300Ω 5%	1/2		BTS-3300-5%
R32	68Ω 5%	1/2		
R33	1000Ω	1/2		BTS-1000
R34	2.2Meg	1/2		BTS-2.2Meg
R35	47KΩ	1/2		BTS-47K
R36	27KΩ	1/2		BTS-27K
R37	15KΩ 5%	1/2		BTS-15K-5%

PARTS LIST AND DESCRIPTIONS

CAPACITORS (CONT.)

NOTES

Electrolytic Capacitors.

PRAGUE ART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
VL-2830	▲ Filter
	▲ Filter
VL-2830	▲ Filter
	▲ Filter
VL-4734	▲ Output Decoupling
	■ Filter
	▲ V. Amp. Screen
	Output Cathode
VL-3780	▲ Decoupling
VA-1207	■ Decoupling
	▲ Vert. Osc. Dec.
	Vert. Output Cathode
VA-1303	Stabilizing Cap.
C5	Fixed Padder
C5	Fixed Padder
C5	Fixed Padder
C5	Fixed Padder
C9	RF Coupling
C15	AGC Filter
C15	RF Amp. Screen
C25	RF Coupling
C15	Mixer Screen
C15	Mixer Filament
	Osc. Coupling
C4	Osc. Feedback
C19	Osc. Grid Cap.
C15	Osc. Fil. Bypass
C15	RF Bypass
C1	RF Bypass
C1	Mixer Plate Dec.
C31	IF Coupling
C1	AGC Filter
C1	AGC Filter
C7	lst V. IF Dec.
C7	lst V. IF Dec.
C10	Fixed Trimmer
C31	IF Coupling
C1	AGC Filter
	2nd V. IF Dec.
C7	2nd V. IF Fil.
C31	IF Coupling
C7	3rd V. IF Dec.
	3rd V. IF Fil.
C1	3rd V. IF Cath.
	Fixed Trimmer
C31	IF Coupling
TM-P5	AGC Filter
C1	AGC Filter
C1	AGC Filter
C1	RF Bypass
	Fixed Trimmer
C7	4th V. IF Dec.
	4th V. IF Fil.
C1	RF Bypass
M-45	IF Coupling
C3	V. Diode Filter
C14	Fixed Trimmer
TM-S5	Video Coupling
TM-P1	Pic. Tube Grid
TM-D1	Hor. Sweep Coupling
C11	S. IF Coupling
C1	AVC Filter
C1	AVC Filter
C1	lst S. IF Dec.
C1	lst S. IF Fil.
C11	S. IF Coupling
C1	2nd S. IF Dec.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA SPARTON PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C56	5000		PA4334-1	BPD-005	DD-502	1D5D5	811-005	29C1	2nd S. IF Fil.
C57	1000		HK36H-102	S11000	D6-102		GP2L-001	19C1	2nd S. IF Cath.
C58	3.3		PA4326-4	SI3.3NPO	TCZ-3.3		NPOK-3.3		Balancing
C59	270	500	HK36M-271	1468-00025	D6-271	5W5T25	GP2K-270	1FM-325	Diode Load Cap
C60	5000		PA4334-1	BPD-005	DD-502	1D5D5	811-005	29C1	RF Bypass
C61	1000		HK36H-102	S11000	D6-102	1W5D1	GP2L-001	19C1	DAVC Dec.
C62	2000		HK36G-202	S12000	D6-202	1W5D2	GP2M-002	29C2	De-emphasis
C63	.02	200	PC40GK-203	P488-02	DF-203	PTE4S2		2TM-S2	Audio Coupling
C64	.02	200	PC40GK-203	P488-02	DF-203	PTE4S2		2TM-S2	Audio Coupling
C65	5000		PA4334-1	BPD-005	DD-502	1D5D5	811-005	29C1	Ratio Det.-AF Fil.
C66	.05	400	PC40GL-503	P488-05	DF-503	PTE4S5		4TM-S5	Decoupling
C67	100	500	MC60E-101	1468-0001	D6-101	5W5T1	GP1K-100	1FM-31	AF Amp. Plate
C68	.02	600	PC40GM-203	P688-02	DF-203	PTE6S2		6TM-S2	Audio Coupling
C69	.005	600	PC40GM-502	P688-005	D6-502	PTE6D5	811-005	6TM-D5	Tone Comp.
C70	.03	200	PC40GK-303	P488-03		PTE6S3		6TM-S3	Tone Comp.
C71	.005	600	PC40GM-502	P688-005	D6-502	PTE6D5	811-005	6TM-D5	Output Plate Bypass
C72	.05	600	PC40GL-503	P688-05	DF-503	PTE6S5		6TM-S5	Sync. Coupling
C73	.5	200	PC40GK-504	P288-5		GT2P5		2TM-P5	Sync. Amp. Cath.
C74	.001	600	PC40GM-102	P688-001	D6-102	PTE6D1	GP2L-001	6TM-D1	Sync. Coupling
C75A	2000		PA4339-4	P688-002	D6-202	PTE6D2	GP2M-002	6TM-D2	Integrator Net
B	5000			P688-005	D6-502	PTE6D5	811-005	6TM-D5	Integrator Net
C	5000			P688-005	D6-502	PTE6D5	811-005	6TM-D5	Integrator Net
C76	4700	500		1467-005	D6-472	1D5D5	GP2M-0047	1FM-25	Vert. Osc. Grid
C77	5000		PA4334-1	BPD-005	DD-502	1D5D5	811-005	29C1	Vert. Osc. Dec. *
C78	.05	400	PC40GL-503	P488-05		PTE4S5		4TM-S5	Vert. Discharge
C79	.1	400	PC40GL-104	P488-1	DF-104	PTE4P1		4TM-P1	Vert. Sweep Coupling
C80	.1	200	PC40GK-104	P288-1	DF-104	PTE4P1		2TM-P1	Fixed Trimmer
C81	1000	500	MC61E-102	1467-001	D6-102	1W5D1	GP2L-001	1FM-21	Hor. Sync. Coupling
C82	1000	500	MC61E-102	1467-001	D6-102	1W5D1	GP2L-001	1FM-21	Hor. Sync. Coupling
C83	.01	600		P688-01	D6-103	PTE6S1	821-01	6TM-S1	Voltage Divider
C84	5000	500	MC61E-512	1467-005	D6-502	1D5D5	811-005	1FM-25	AFC Filter
C85	.05	200		P288-05	DF-503	PTE4S5		2TM-S5	AFC Filter
C86	3900	500	MC63F-392	1464-004		1DR5D4		MS-24	Fixed Trimmer
C87	330	500	MC60E-331	1469-00035	D6-331	5R5T3	GP2K-330	MS-33	Hor. MV Feedback
C88	330	500	MC60E-331	1469-00035	D6-331	5R5T3	GP2K-330	MS-33	Hor. Discharge
C89	270	500	HK36M-271	1468-00025	D6-271	5W5T25	GP2K-270	1FM-325	Hor. Sweep Coupling
C90	10	1500	PA4327-2	1469-HV-00001					Horiz. Feedback
C91	.047	400	PC42GL-473	P488-047	DF-503	PTE4S5		4TM-S47	Hor. Output Screen
C92	.22	400	PC42GL-224	P488-22		GT4P25		4TM-P22	Damper Filter
C93	.22	400	PC42GK-224	P488-22		GT4P25		4TM-P22	Hor. Sweep Coupling
C94	500	20000	PA4346	HV20C	TV2-502				H.V. Filter
C95	.05	600	PC42GM-473	P688-05	DF-503	PTE6S5		6TM-S5	Line Filter

* Not Used In All Models.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA SPARTON PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	INSTALLATION NOTES
				Concentrikit			
R1A	50KΩ	½	PA4430-1	B11-123 *	RTV-84	SBB-630	Horiz. hold control - panel
B	1Meg	½		B11-137 *			Vert. hold control - rear
C	Shaft End			E-187 *			Attach per instructions in concentrikit
R2A	100KΩ	½	PA4432	Q11-128	AM-49-S	B-40	Brightness control
B	Shaft		Not req.	Not req.	FS-3		Attach to R2A per instructions
R3A	25KΩ	½	PA4442	Q11-120	AM-40-S	B-26	Contrast control
B	Shaft		Not req.	Not req.	FS-3		Attach to R3A per instructions
				Concentrikit			
R4A	1Meg	½	PA4428-1	B11-137 *	RTV-200	SBBT-629-S	Tone control - panel
B	330KΩ	½		B18-132 *			Volume control - tapped @ 50KΩ - rear
C	Shaft End			E-187 *			Attach per instructions in concentrikit
D	Switch			76-1 *			Attach per instructions in concentrikit
R5A	2.5Meg	½	PA4431	Q11-239	AG-84-S	AN-83	Vert. size control
B	Shaft		Not req.	Not req.	FKS-1/4	AK-1	Attach to R5A per instructions
R6	5000Ω	2	PA4411	W-5000	43-5000	VK-135	Vert. linearity control
R7	1500Ω	4	PA4426-1		RTV-6		Focus control - wire wound

* Additional Parts To Be Used With Concentrikit.

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA SPARTON PART No.	IRC PART No.	IDENTIFICATION CODES ALL RESISTORS ± 10% UNLESS OTHERWISE STATED
R8	100KΩ 20%	½			Antenna Coil Shunt
R9	100KΩ 20%	½			Antenna Coil Shunt
R10	47KΩ	½			RF Amp. Grid - See Note
R11	1000Ω	½		BTS-1000	AGC Network
R12	100Ω	½		BTS-100	RF Amp. Cathode
R13	15KΩ	½			RF Amp. Screen
R14	2200Ω 5%	½		BTS-2200-5%	RF Amp. Plate
R15	1Meg	½			Converter Grid
R16	56KΩ	½			Converter Screen
R17	18KΩ	½			Osc. Grid
R18	470Ω	½		BTS-470	Osc. Plate
R19	7500Ω	10		1 3/4A-7500	Decoup. - Wire Wound
R20	1000Ω	½		BTS-1000	AGC Network
R21	15KΩ 5%	½			lst Video IF Amp. Grid
R22	100Ω	½		BTS-100	lst Video IF Amp. Cathode
R23	1000Ω	½		BTS-1000	AGC Network
R24	3300Ω	½		BTS-3300	2nd Video IF Amp. Grid
R25	100Ω	½		BTS-100	2nd Video IF Amp. Cathode
R26	1000Ω	½		BTS-1000	2nd Video IF Amp. Decoup.
R27	15KΩ	½			3rd Video IF Amp. Grid
R28	100Ω	½		BTS-100	3rd Video IF Amp. Cathode
R29	1000Ω	½		BTS-1000	3rd Video IF Amp. Decoup.
R30	1000Ω	½		BTS-1000	AGC Network
R31	3300Ω 5%	½		BTS-3300-5%	4th Video IF Amp. Grid
R32	68Ω 5%	½			4th Video IF Amp. Cathode
R33	1000Ω	½		BTS-1000	4th Video IF Amp. Decoup.
R34	2.2Meg	½		BTS-2.2Meg	AGC Keying Grid
R35	47KΩ	½		BTS-47K	Voltage Divider
R36	27KΩ	½		BTS-27K	AGC Network
R37	15KΩ 5%	½		BTS-15K-5%	AGC Network

ITEM No.	RATING RESISTANCE	RATING WATTS	SPAR PAR
R38	56KΩ 5%	½	
R39	33KΩ 5%	½	
R40	3900Ω 5%	½	
R41	15KΩ	½	
R42	4300Ω 5%	1	
R43	10KΩ	½	
R44	1Meg	½	
R45	1Meg	½	
R46	5100Ω 5%	½	
R47	1000Ω	½	
R48	100KΩ	½	
R49	100KΩ	½	
R50	82Ω 5%	½	
R51	1000Ω	½	
R52	100KΩ	½	
R53	68Ω	½	
R54	1000Ω	½	
R55	27KΩ	½	
R56	10KΩ	½	
R57	10KΩ	½	
R58	470Ω	½	
R59	220KΩ	½	
R60	1Meg 20%	½	
R61	10KΩ	½	
R62	10Meg	½	
R63	270KΩ	½	
R64	56KΩ	½	
R65	470KΩ 20%	½	
R66	390Ω	1	
R67	3000Ω	10	
R68	180KΩ 5%	½	
R69	18KΩ	½	
R70	2.2Meg 20%	½	
R71	22KΩ 5%	½	
R72	22KΩ	½	
R73	8200	½	
R74	8200	½	
R75	1.1Meg 5%	½	
R76	100KΩ	½	
R77	6.8Meg	½	
R78	100KΩ	½	
R79	47KΩ	½	
R80	2.2Meg	½	
R81	1800Ω	½	
R82	2200Ω	1	
R83	4.7Meg 20%	½	
R84	3300Ω	½	
R85	3300Ω 5%	½	
R86	100KΩ	½	
R87	100KΩ	½	
R88	4.7Meg	½	
R89	470KΩ 20%	½	
R90	1500Ω 5%	½	
R91	5600Ω 5%	½	
R92	100KΩ 5%	½	
R93	200KΩ 5%	½	
R94	22KΩ 5%	2	
R95	68Ω 5%	½	
R96	1Meg	½	
R97	82Ω	1	
R98	9100Ω	2	
R99	3.3Ω	½	
R100	1Meg 20%	1	
R101	18KΩ	½	
R102	270Ω	2	
R103	8200 5%	½	

Note: Some Models Use 1Meg I

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2
T1	117VAC @1.8A	760VCT @.170 ADC	400VCT @.112 ADC

T

ITEM No.	RATING DC RESISTANCE PRI.	RATING DC RESISTANCE SEC.	SPART PART
T2	150Ω	780Ω	AB47006
T3	700Ω Tapped @84Ω	5.1Ω Tapped @ 4.1Ω And .2Ω	PC7007
		SEC.2 0Ω	
T4	660Ω	6.5Ω	AB44062
T5A	14Ω		PC7004
B	62Ω		
T6	300Ω		PC70005

DESCRIPTIONS

S (CONT.)

DATA			IDENTIFICATION CODES AND INSTALLATION NOTES
CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	
1D5D5	811-005	29C1	2nd S. IF Fil.
	GP2L-001	19C1	2nd S. IF Cath.
	NPOK-3.3		Balancing
5W5T25	GP2K-270	1FM-325	Diode Load Cap
1D5D5	811-005	29C1	RF Bypass
1W5D1	GP2L-001	19C1	DAVC Dec.
1W5D2	GP2M-002	29C2	De-emphasis
PTE4S2		2TM-S2	Audio Coupling
PTE4S2		2TM-S2	Audio Coupling
1D5D5	811-005	29C1	Ratio Det.-AF Fil.
PTE4S5		4TM-S5	Decoupling
5W5T1	GP1K-100	1FM-31	AF Amp. Plate
PTE6S2		6TM-S2	Audio Coupling
PTE6D5	811-005	6TM-D5	Tone Comp.
PTE6S3		6TM-S3	Tone Comp.
PTE6D5	811-005	6TM-D5	Output Plate Bypass
PTE6S5		6TM-S5	Sync. Coupling
GT2P5		2TM-P5	Sync. Amp. Cath.
PTE6D1	GP2L-001	6TM-D1	Sync. Coupling
PTE6D2	GP2M-002	6TM-D2	Integrator Net
PTE6D5	811-005	6TM-D5	Integrator Net
PTE6D5	811-005	6TM-D5	Integrator Net
1D5D5	GP2M-0047	1FM-25	Vert. Osc. Grid
1D5D5	811-005	29C1	Vert. Osc. Dec. *
PTE4S5		4TM-S5	Vert. Discharge
PTE4P1		4TM-P1	Vert. Sweep Coupling
PTE4P1		2TM-P1	Fixed Trimmer
1W5D1	GP2L-001	1FM-21	Hor. Sync. Coupling
1W5D1	GP2L-001	1FM-21	Hor. Sync. Coupling
PTE6S1	821-01	6TM-S1	Voltage Divider
1D5D5	811-005	1FM-25	AFC Filter
PTE4S5		2TM-S5	AFC Filter
1DR5D4		MS-24	Fixed Trimmer
5R5T3	GP2K-330	MS-33	Hor. MV Feedback
5R5T3	GP2K-330	MS-33	Hor. Discharge
5W5T25	GP2K-270	1FM-325	Hor. Sweep Coupling
			Horiz. Feedback
PTE4S5		4TM-S47	Hor. Output Screen
GT4P25		4TM-P22	Damper Filter
GT4P25		4TM-P22	Hor. Sweep Coupling
			H.V. Filter
PTE6S5		6TM-S5	Line Filter

ROLS

AT	CENTRALAB PART No.	INSTALLATION NOTES
	SBB-630	Horiz. hold control - panel Vert. hold control - rear Attach per instructions in concentrikit
	B-40	Brightness control Attach to R2A per instructions
	B-26	Contrast control Attach to R3A per instructions
	SBBT-629-S	Tone control - panel Volume control - tapped @ 50KΩ - rear Attach per instructions in concentrikit Attach per instructions in concentrikit
	AN-83	Vert. size control
	AK-1	Attach to R5A per instructions
	VK-135	Vert. linearity control Focus control - wire wound

ORS

IDENTIFICATION CODES
ALL RESISTORS ± 10% UNLESS OTHERWISE STATED
tenna Coil Shunt
tenna Coil Shunt
Amp. Grid - See Note
C Network
Amp. Cathode
Amp. Screen
Amp. Plate
nverter Grid
nverter Screen
c. Grid
c. Plate
coup. - Wire Wound
C Network
Video IF Amp. Grid
Video IF Amp. Cathode
C Network
l Video IF Amp. Grid
l Video IF Amp. Cathode
l Video IF Amp. Decoup.
l Video IF Amp. Grid
l Video IF Amp. Cathode
l Video IF Amp. Decoup.
C Network
Video IF Amp. Grid
Video IF Amp. Cathode
Video IF Amp. Decoup.
C Keying Grid
ltage Divider
C Network
C Network

RESISTORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	SPARTON PART No.	IRC PART No.	
R38	56KΩ 5%	½		BTS-56K-5%	AGC Network
R39	33KΩ 5%	½		BTS-33K-5%	AGC Network
R40	3900Ω 5%	½		BTS-3900-5%	Video Amp. Grid
R41	15KΩ	½		BTS-15K	Voltage Divider
R42	4300Ω 5%	1			Video Amp. Plate
R43	10KΩ	½		BTS-10K	Voltage Divider
R44	1Meg	½		BTS-1Meg	Video Peaking
R45	1Meg	½		BTS-1Meg	Picture Tube Cathode
R46	5100Ω 5%	½			Voltage Divider
R47	1000Ω	½		BTS-1000	ACC Anode Load
R48	100KΩ	½		BTS-100K	AVC Network
R49	100KΩ	½			1st Sound IF Amp. Grid
R50	82Ω 5%	½		BTS-82-5%	1st Sound IF Amp. Cathode
R51	1000Ω	½		BTS-1000	1st Sound IF Amp. Decoup.
R52	100KΩ	½			2nd Sound IF Amp. Grid
R53	68Ω	½			2nd Sound IF Amp. Cathode
R54	1000Ω	½		BTS-1000	2nd Sound IF Amp. Decoup.
R55	27KΩ	½		BTS-27K	De-emphasis
R56	10KΩ	½		BTS-10K	Ratio Det. Diode Load
R57	10KΩ	½		BTS-10K	Ratio Det. Diode Load
R58	470Ω	½		BTS-470	Balancing
R59	220KΩ	½		BTS-220K	AVC Network
R60	1Meg 20%	½		BTS-1Meg	Voltage Divider
R61	10KΩ	½		BTS-10K	Tone Compensation
R62	10Meg	½		BTS-10Meg	AF Amp. Grid
R63	270KΩ	½		BTS-270K	AF Amp. Plate
R64	56KΩ	½		BTS-56K	AF Amp. Plate Decoup.
R65	470KΩ 20%	½		BTS-470K	Output Grid
R66	390Ω	1		BTA-390	Output Cathode
R67	3000Ω	10		1 3/4A-3000	Output Decoup. - Wire Wound
R68	180KΩ 5%	½		BTS-180K-5%	Voltage Divider
R69	18KΩ	½		BTS-18K	Sync. Sep. Plate
R70	2.2Meg 20%	½		BTS-2.2Meg	Sync. Clipper
R71	22KΩ 5%	½		BTS-22K-5%	Sync. Clipper Plate
R72	22KΩ	½		BTS-22K	Integrator
R73	8200	½		BTS-8200	Integrator
R74	8200	½		BTS-8200	Integrator
R75	1.1Meg 5%	½			Voltage Divider
R76	100KΩ	½		BTS-100K	Voltage Divider
R77	6.8Meg	½		BTS-6.8Meg	Voltage Divider
R78	100KΩ	½		BTS-100K	Vert. Osc. Plate
R79	47KΩ	½		BTS-47K	Vert. Osc. Plate Decoup.
R80	2.2Meg	½		BTS-2.2Meg	Vert. Output
R81	1800Ω	½		BTS-1800	Vert. Output Cathode
R82	2200Ω	1		BTA-2200	Decoup.
R83	4.7Meg 20%	½		BTS-4.7Meg	Phase Inv. Grid
R84	3300Ω	½		BTS-3300	Phase Inv. Cathode
R85	3300Ω 5%	½		BTS-3300-5%	Phase Inv. Plate
R86	100KΩ	½		BTS-100K	Horiz. Phase Det. Diode Load
R87	100KΩ	½		BTS-100K	Horiz. Phase Det. Diode Load
R88	4.7Meg	½		BTS-4.7Meg	Horiz. Phase Det. Diode Load
R89	470KΩ 20%	½		BTS-470K	Horiz. AFC Filter
R90	1500Ω 5%	½		BTS-1500-5%	Horiz. MV Cathode
R91	5600Ω 5%	½		BTS-5600-5%	Horiz. MV Plate
R92	100KΩ 5%	½		BTS-100K-5%	Horiz. MV Grid
R93	200KΩ 5%	½			Horiz. MV Plate
R94	22KΩ 5%	2		BTB-22K-5%	Decoup.
R95	68Ω 5%	½			Parasitic Supp.
R96	1Meg	½		BTS-1Meg	Horiz. Output Grid
R97	82Ω	1		BW-1-82	Horiz. Output Cathode
R98	9100Ω	2			Horiz. Output Screen
R99	3.3Ω	½			HV Rectifier Filament
R100	1Meg 20%	1			HV Filter
R101	18KΩ	½		BTS-18K	Horiz. Feedback
R102	270Ω	2		BW-2-270	Focus Coil Shunt
R103	8200 5%	½		BTS-8200-5%	Vert. Peaking

Note: Some Models Use 1Meg Resistor In This Application.

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	SPARTON PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	117VAC @1.8A	760VCT @.170 ADC	400VCT @.112 ADC	5VAC @ 3A SEC. 4 6.3VAC @9.6A	AB44018-1	P-8157	P3067	

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	DC RESISTANCE		SPARTON PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.					
T2	150Ω	780Ω	AB47006-4	A-8111	A-3000	TBO-1	Vert. Osc. Block Trans.
T3	700Ω Tapped @84Ω	5.1Ω Tapped @ 4.1Ω And .2Ω SEC.2 0Ω	PC7007		HVO-6		Horiz. Output Trans.
T4	660Ω	6.5Ω	AB44062-4	A-8115	A-3035	TSO-1	Vert. Output Trans.
T5A	14Ω		PC7004	DY-7	MD-3		Horiz. Deflection Coil
B	62Ω						Vert. Deflection Coil
T6	300Ω		PC70005-1	FC-10	MF-1		Focus Coil

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		SPARTON PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO* PART No.	
	PRI.	SEC.	PRI.	SEC.					
T7	6.3KΩ	3.8Ω	250Ω	.8Ω	AB44066-2	A-3823	A-3019	RO-9 ①	① Drill one new mtg. hole.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	SPARTON PART No.	JENSEN PART No.	QUAM PART No.	
SP1	160Ω	3.8Ω	PC63000-29		57E160S	
	CONE DIA.	V. C. DIA.				
SP2	4 3/4"X 7"	3/4"				

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 ∽)	SPARTON PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
L1	.112A	130Ω	5 Henries	AB47000-1	C-2303 ①	C2994		① Drill one new mtg. hole

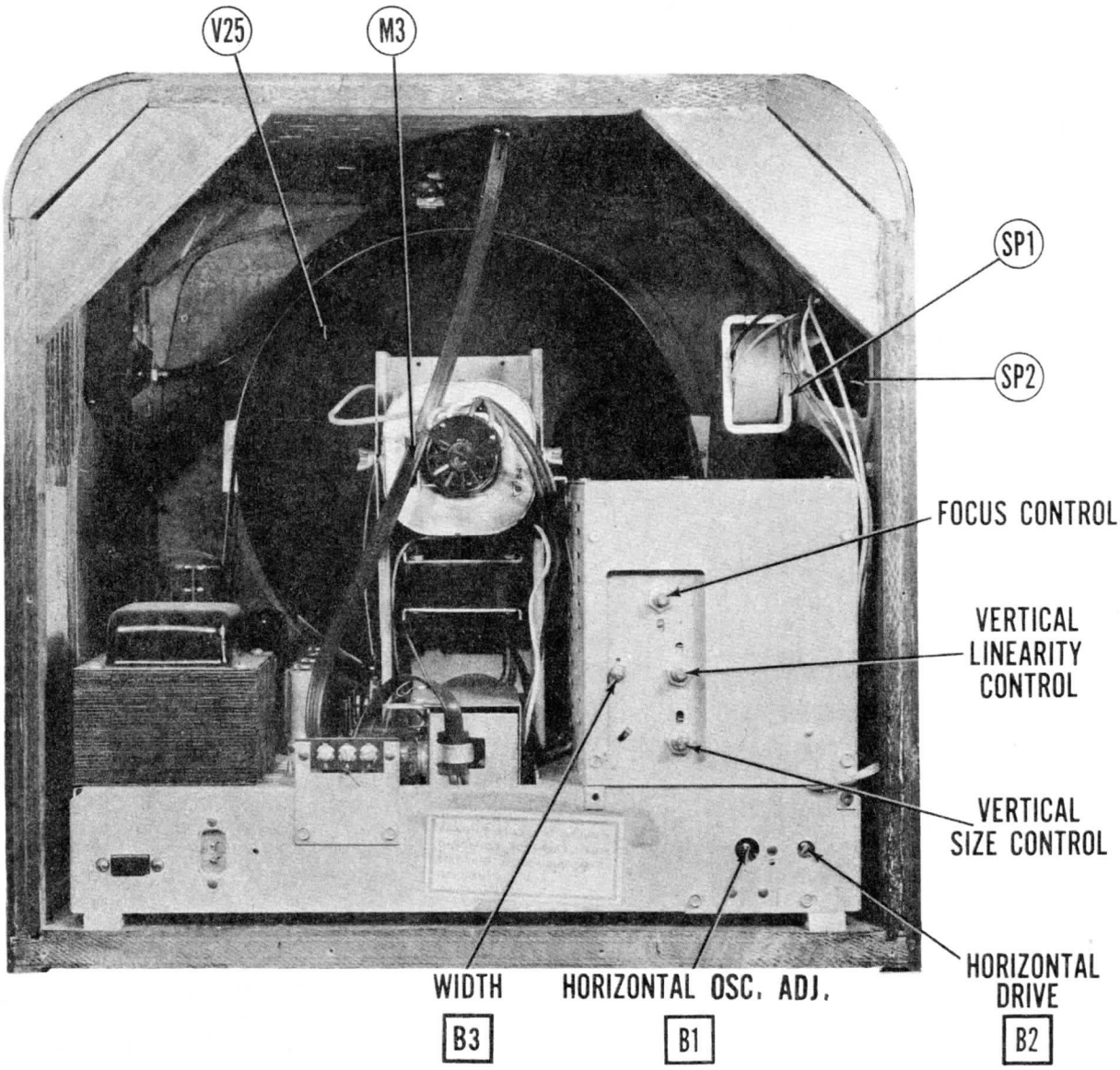
COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA			NOTES
		PRI.	SEC.	SPARTON PART No.	MEISSNER PART No.	IRC PART No.	
L2	RF Choke	.1Ω		*			1.4 Microhenries
L3	Fil. Choke	.1Ω		*			1.6 Microhenries
L4	Fil. Choke	.1Ω		*			1.6 Microhenries
L5	IF Trap	.1Ω		AA6654-1			
L6	lst Video IF	.1Ω		AB43523-8			
L7	RF Choke	3Ω		PA4225-3		CLA	3.3 Microhenries
L8	Fil. Choke	.1Ω		AA6651-1			3 Microhenries
L9	RF Choke	3Ω		PA4225-3		CLA	3.3 Microhenries
L10	2nd Video IF	.1Ω		AB43523-6			
L11	Adj. Channel Sound Trap	.1Ω		AB43524-10			
L12	RF Choke	3Ω		PA4225-3		CLA	3.3 Microhenries
L13	3rd Video IF	.2Ω		AB43523-10			
L14	Fil. Choke	.1Ω		AA6651-1			3 Microhenries
L15	Grid Choke	2Ω		AA6644-1			11 Microhenries
L16	Sound Take Off Coil	.1Ω	.2Ω	AB43524-8			
L17	4th Video IF	.2Ω		AB43523-10			
L18	Fil. Choke	.1Ω		AA6651-1			3 Microhenries
L19	Grid Choke	2Ω		AA6644-1			11 Microhenries
L20	Sound Trap	.1Ω		AB43524-9			
L21	5th Video IF	.2Ω		AB43523-11			
L22	Fil. Choke	.1Ω		AA6651-1			3 Microhenries
L23	Peaking	3.3Ω		AA6650-1			25 Microhenries
L24	Peaking	7.7Ω		AA6402-2	19-1921 ①		120 Microhenries Wound On 22KΩ Resistor
L25	4.5 MC Trap	2.6Ω		AA6404-1			
L26	Peaking	11Ω		AA6613-7	19-1922		243 Microhenries
L27	Peaking	10Ω		AA6402-5	19-1921 ②		180 Microhenries Wound On 12KΩ Resistor
L28	Peaking	10Ω		AA6402-4	19-1922 ③		200 Microhenries Wound On 33KΩ Resistor
L29	RF Choke	0Ω					Length of #22 Wire
L30	Fil. Choke	.1Ω		AA6651-1			3 Microhenries
L31	Sound IF	.4Ω		AA6663-2			
L32	RF Choke	0Ω					Length of #22 Wire
L33	Fil. Choke	.1Ω		AA6651-1			3 Microhenries
L34	Ratio Det. Trans.	.6Ω	.1Ω	AA6684-3			
L35	Fil. Choke	.1Ω		AA6651-1			3 Microhenries
L36	Horiz. Osc. Coil	50Ω		AA6403-2			
L37	Width Coil	.7Ω		AA6405-3			

* Part Of Tuner Part No. AD93152-2
① Parallel With 22KΩ Resistor
② Parallel With 12KΩ Resistor
③ Parallel With 33KΩ Resistor

MISCELLANEOUS

ITEM No.	PART NAME	SPARTON PART No.	NOTES
M1	RF Tuner	AD93152-2	Complete With Tubes
M2	Fuse		.25A 250V Type GJV
M3	Ion Trap	PA1175	
B2	Trimmer	PA4368	Horiz. Drive 20-270MMF
	Safety Glass	PC63078-1	
	Knob	PA5631-1	Channel Selector
	Knob	PA5630-1	Fine Tuning
	Knob	PA5632-1	Volume-Vert.Hold
	Knob	PA5633-1	Tone - Horizontal Hold
	Knob	PA5634-1	Contrast - Brightness
	Knob	PA5650	Antenna
	Band	PA6572-2	Indicator Dial



CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably a test pattern.

Turn the horizontal hold control to the mid-position of its range.

Adjust the horizontal oscillator coil (B1) until the picture synchronizes horizontally.

Adjust the horizontal drive trimmer (B2) counter-clockwise until one or more vertical white lines appear in the picture and then clockwise just far enough to remove the lines.

Turn the channel switch to channel 13 and check for Barkhausen oscillations as indicated by black lines or smudges in the raster.

If indications of oscillations are present adjust B2 for best compromise between the vertical white lines and Barkhausen oscillations.

Adjust the width slug B3 until the picture fills the mask horizontally.