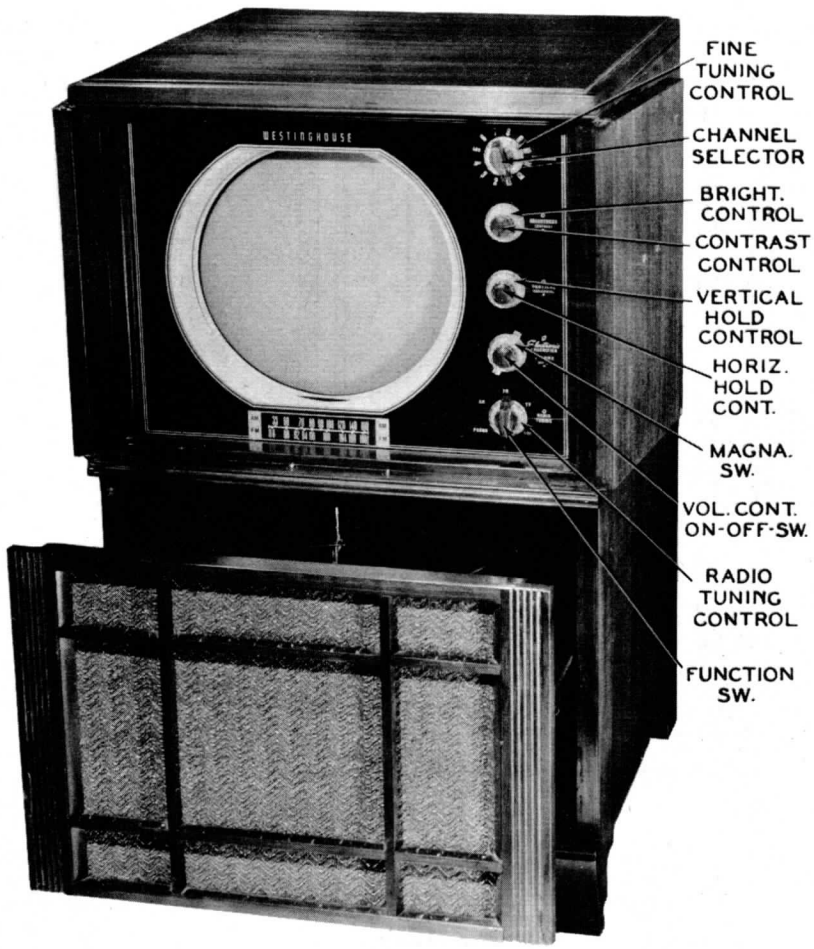
WESTINGHOUSE MODEL H-611C12, H-615C12 (Ch. V-2152-16)



WESTINGHOUSE MODEL H-611C12

TRADE NAME	Westinghouse, Models H-611C12, H-615C12 (Chassis V-2152-16)
MANUFACTURER	Westinghouse Electric Corp., Home Radio Div., Sunbury, Pa.
TYPE SET	TV-FM-AM-Phono Combination Receiver
TUBES	Thirty
POWER SUPPLY	110 - 120 Volts AC - 60 Cycle
RATINGS	2.6 Amp. @ 117Volts AC (TV) , 1.8 Amp. @ 117 Volts AC (Radio)
TUNING RANGE	TV Channels 2 thru 13
	FM 88 - 108 MC
	AM 540 - 1600 KC

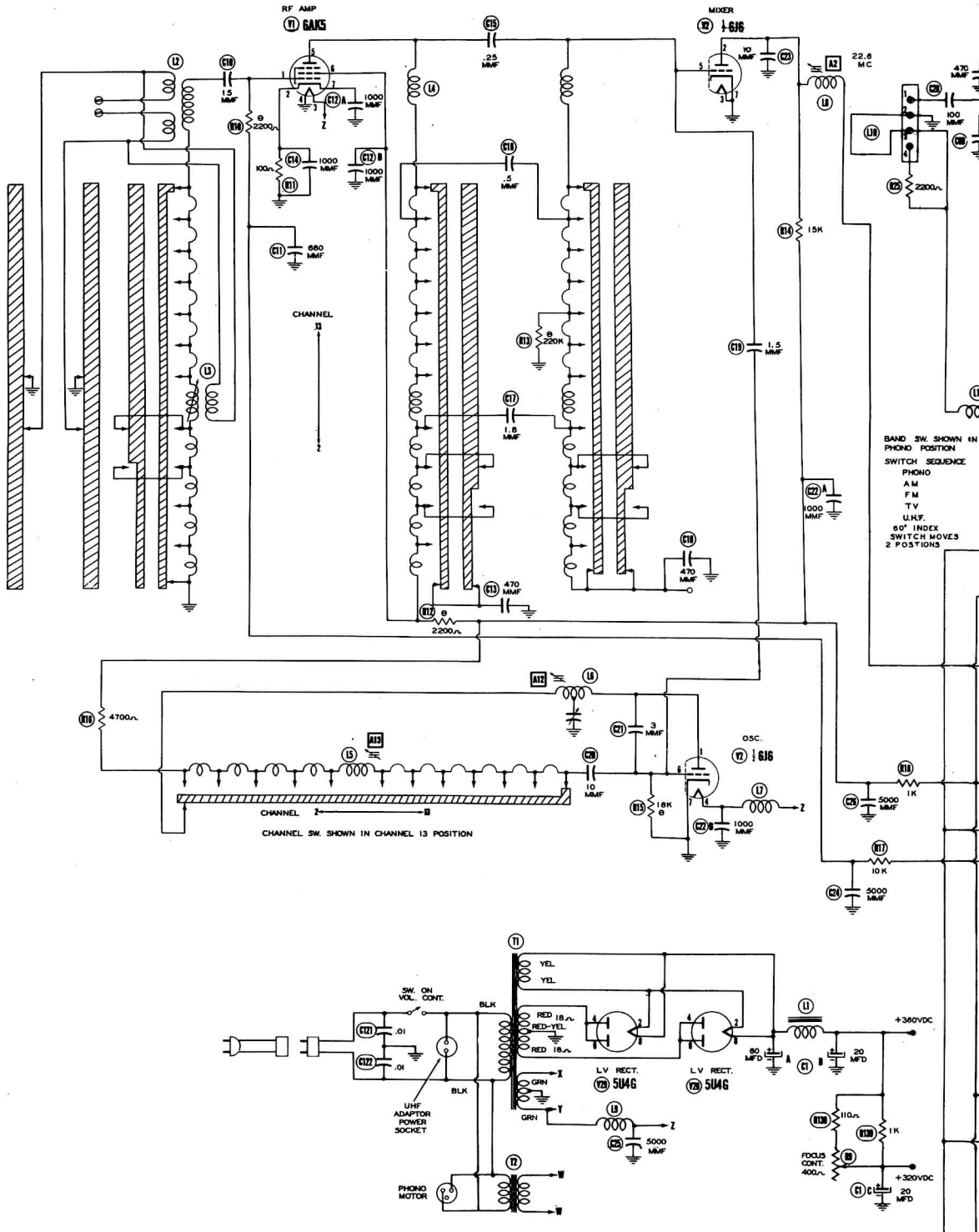
INDEX

FOR RECORD CHANGER UNIT V-9022 SEE PHOTOFACT SET # 102 - FOLDER 16.

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

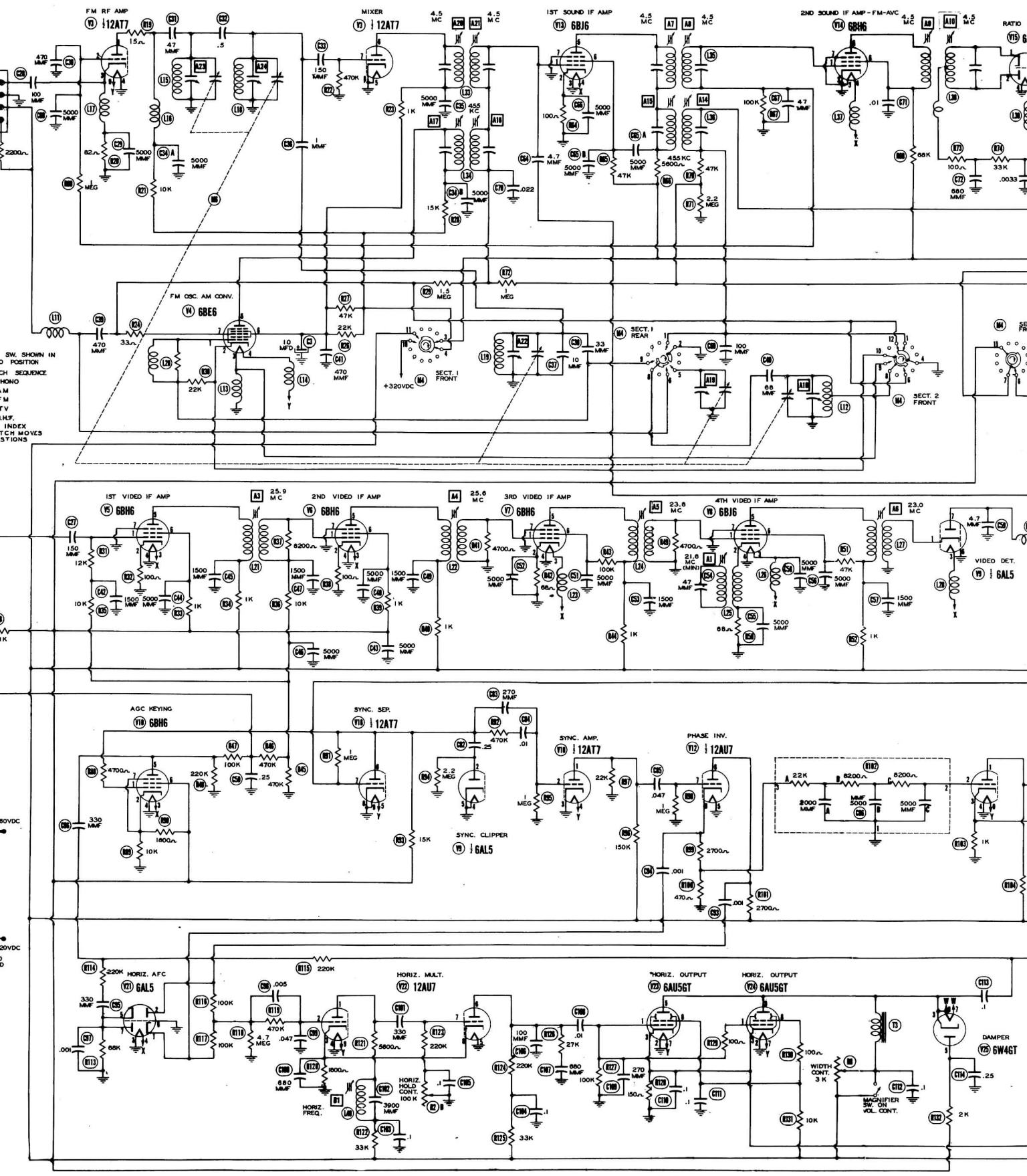
DATE 11-50 SET 112 FOLDER 14

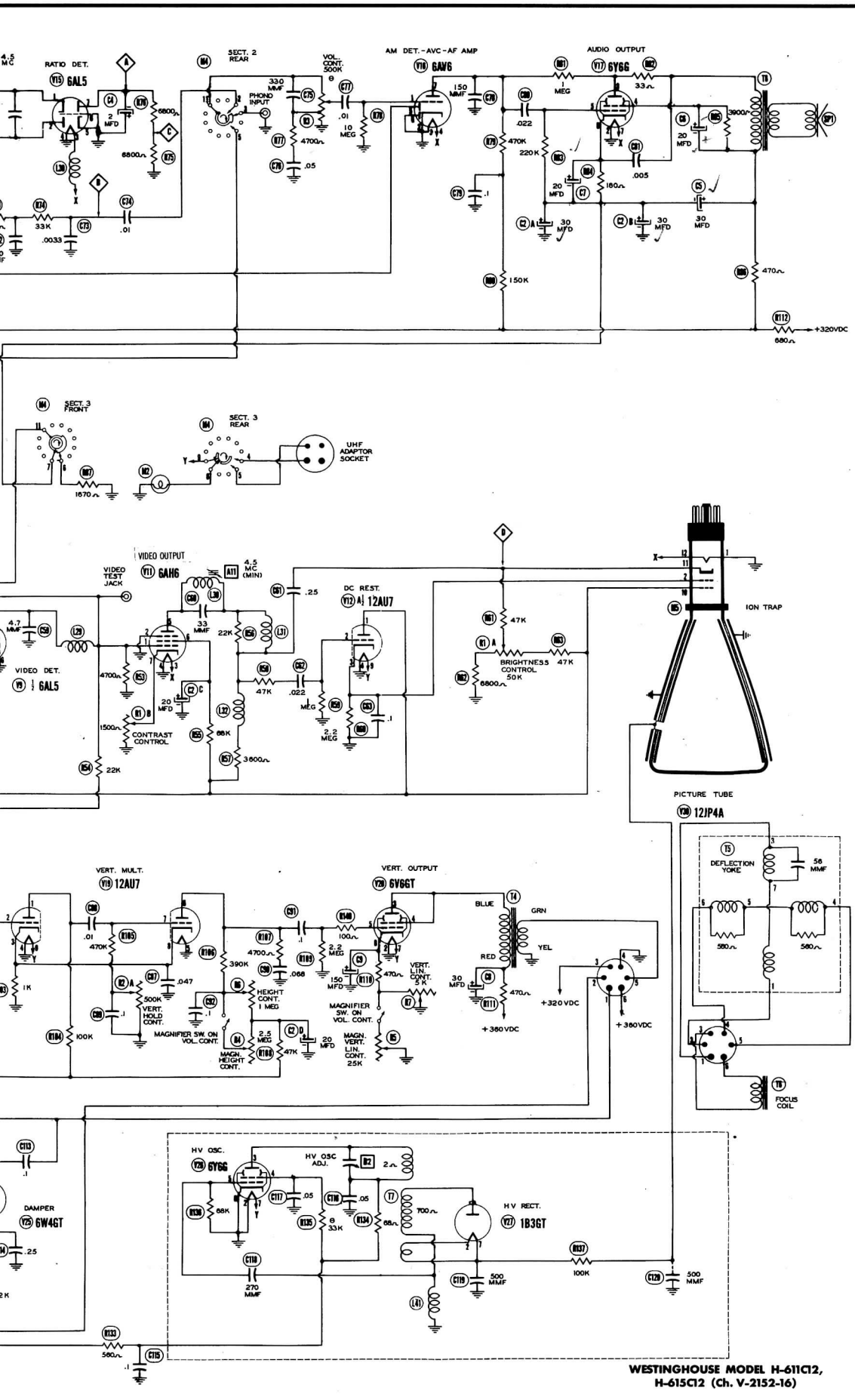
WESTINGHOUSE MODEL H-611C12, H-615C12 (Ch. V-2152-16)



A PHOTOFACT STANDARD NOTATION SCHEMATIC

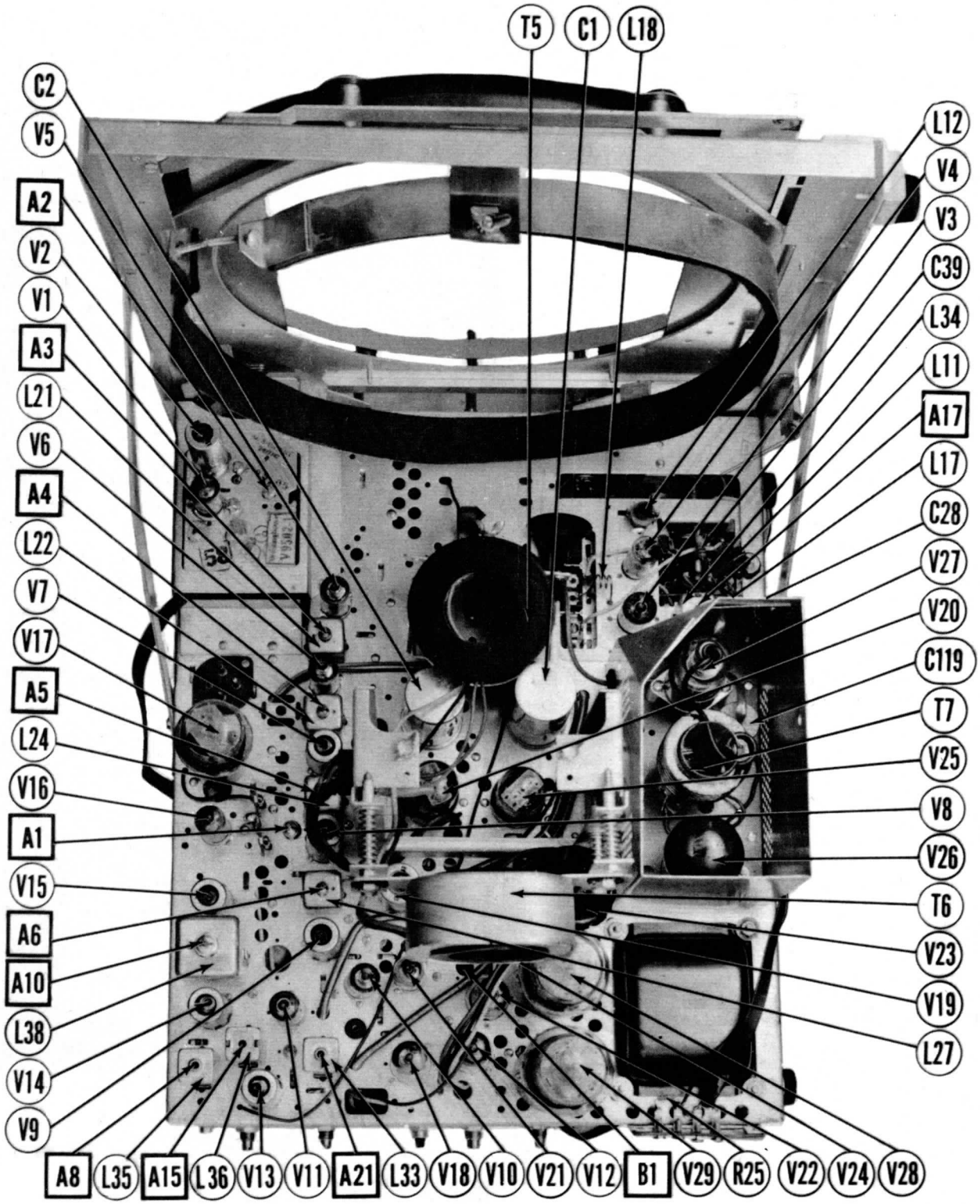
θ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION


FM RF AMP
Y3 12AT7
MIXER
Y3 12AT7
4.5 MC
1ST SOUND IF AMP
Y13 6BJ6
2ND SOUND IF AMP - FM-AVC
Y14 6BH6
RATIO
FM OSC. AM CONV.
Y4 6BE6
+320VDC
SECT. 1 FRONT
SECT. 1 REAR
SECT. 2 FRONT
1ST VIDEO IF AMP
Y5 6BH6
25.9 MC
2ND VIDEO IF AMP
Y6 6BH6
25.6 MC
3RD VIDEO IF AMP
Y7 6BH6
23.8 MC
4TH VIDEO IF AMP
Y8 6BJ6
23.0 MC
VIDEO DET.
Y9 6AL5
AGC KEYING
Y10 6BH6
SYNC. SEP.
Y10 12AT7
SYNC. CLIPPER
Y9 6AL5
SYNC. AMP.
Y10 12AT7
PHASE INV.
Y12 12AU7
HORIZ. AFC
Y21 6AL5
HORIZ. MULT.
Y22 12AU7
HORIZ. OUTPUT
Y23 6AU5GT
HORIZ. OUTPUT
Y24 6AU5GT
DAMPER
Y25 6W4GT
HORIZ. FREQ.
HORIZ. HOLD CONT. 100 K
WIDTH CONT. 3 K
MAGNIFIER SW. ON VOL. CONT.
SW. SHOWN IN O POSITION
CH SEQUENCE
HONO
M
TV
LH.F.
INDEX
TCH MOVES
STIONS

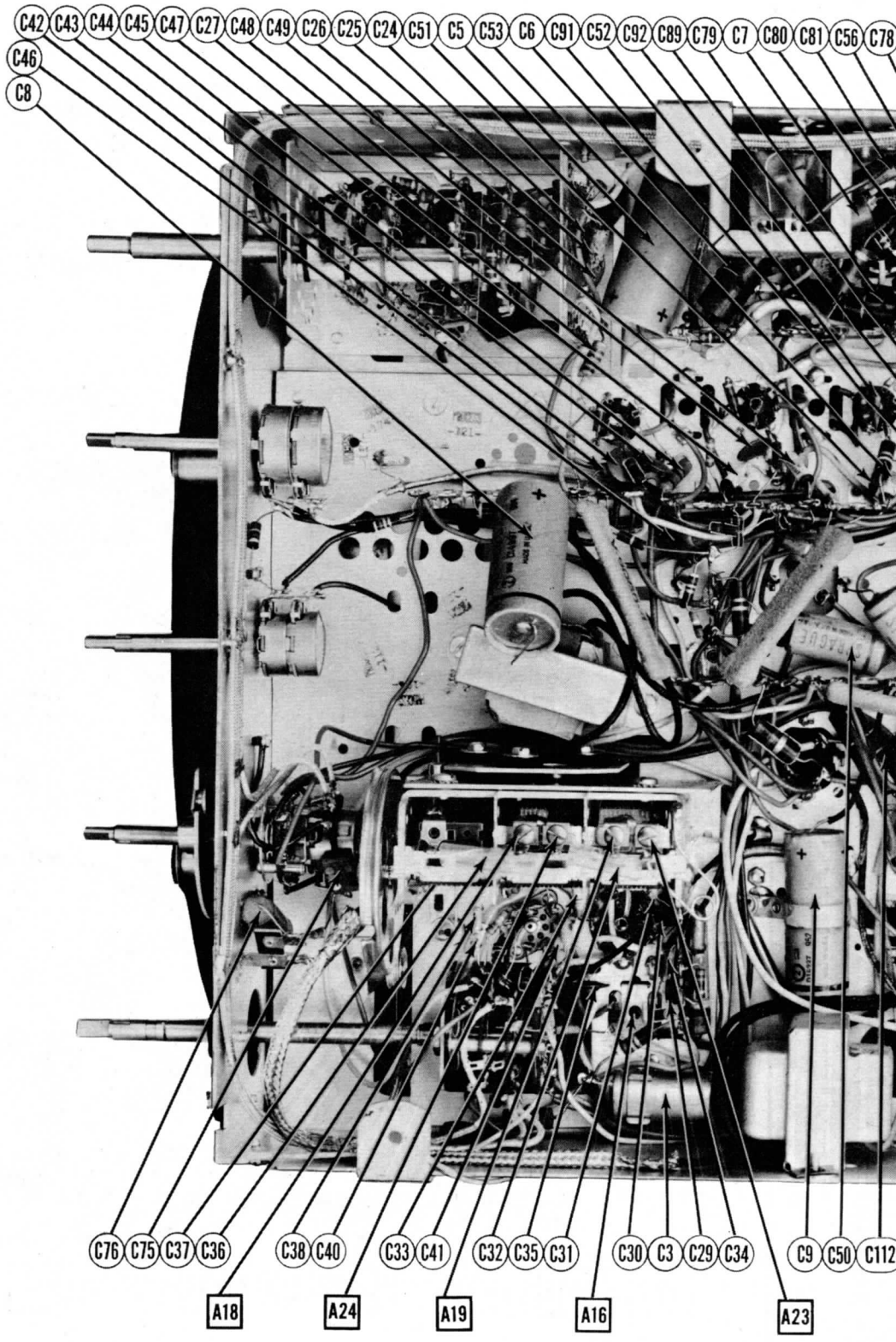


WESTINGHOUSE MODEL H-611C12, H-615C12 (Ch. V-2152-16)

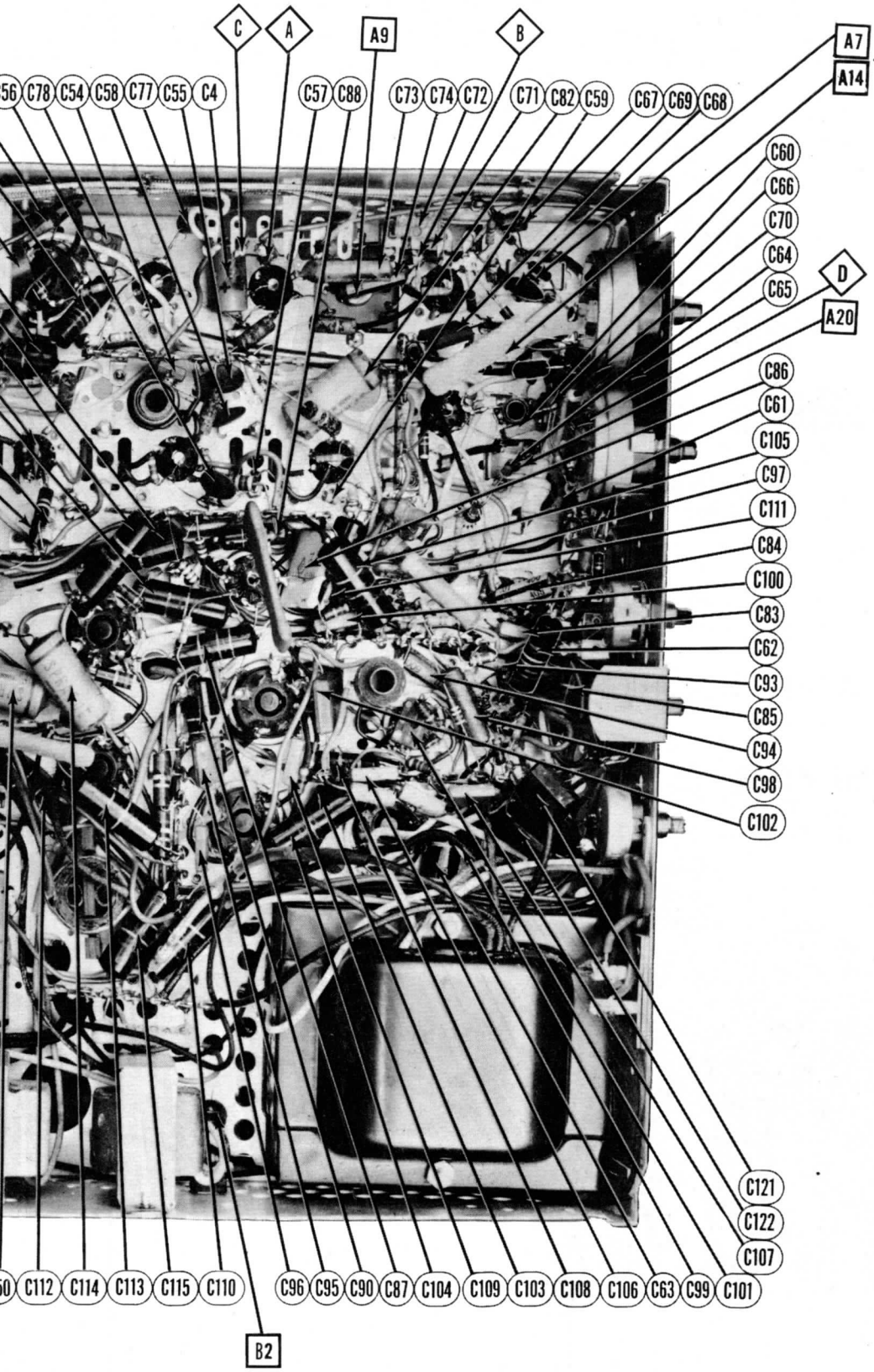
WESTINGHOUSE MODEL H-611C12, H-615C12 (Ch. V-2152-16)



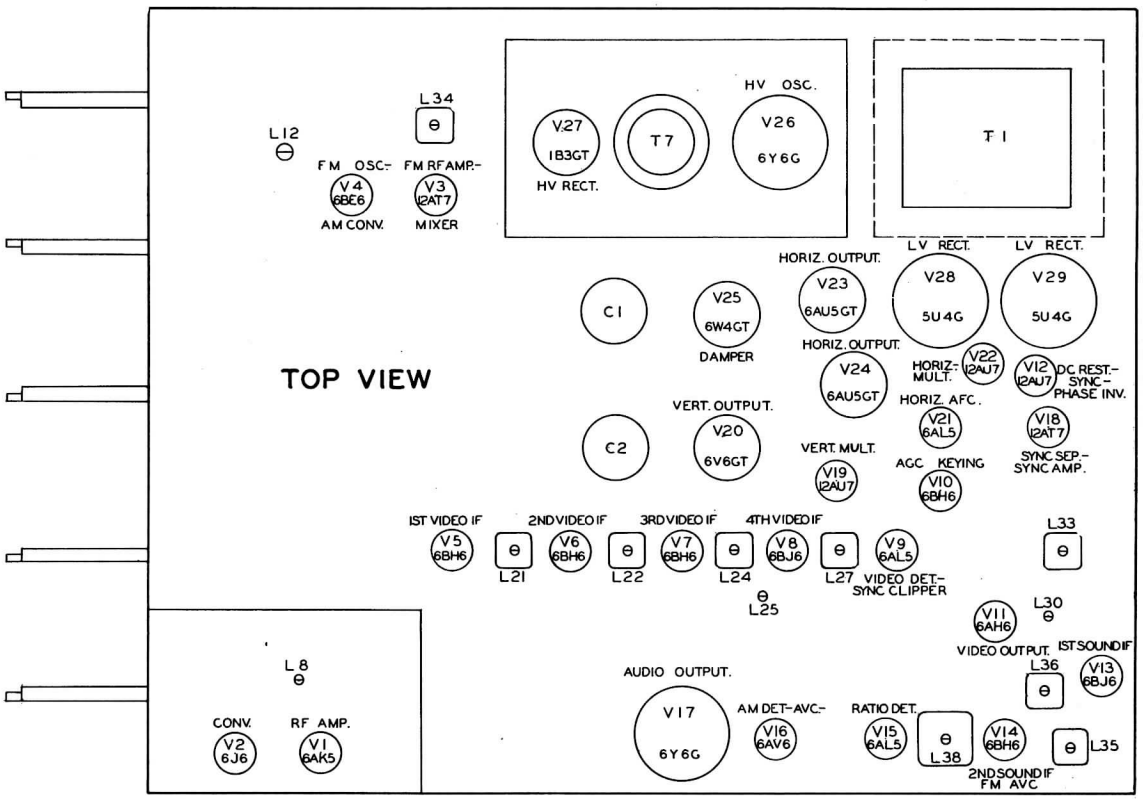
CHASSIS TOP VIEW

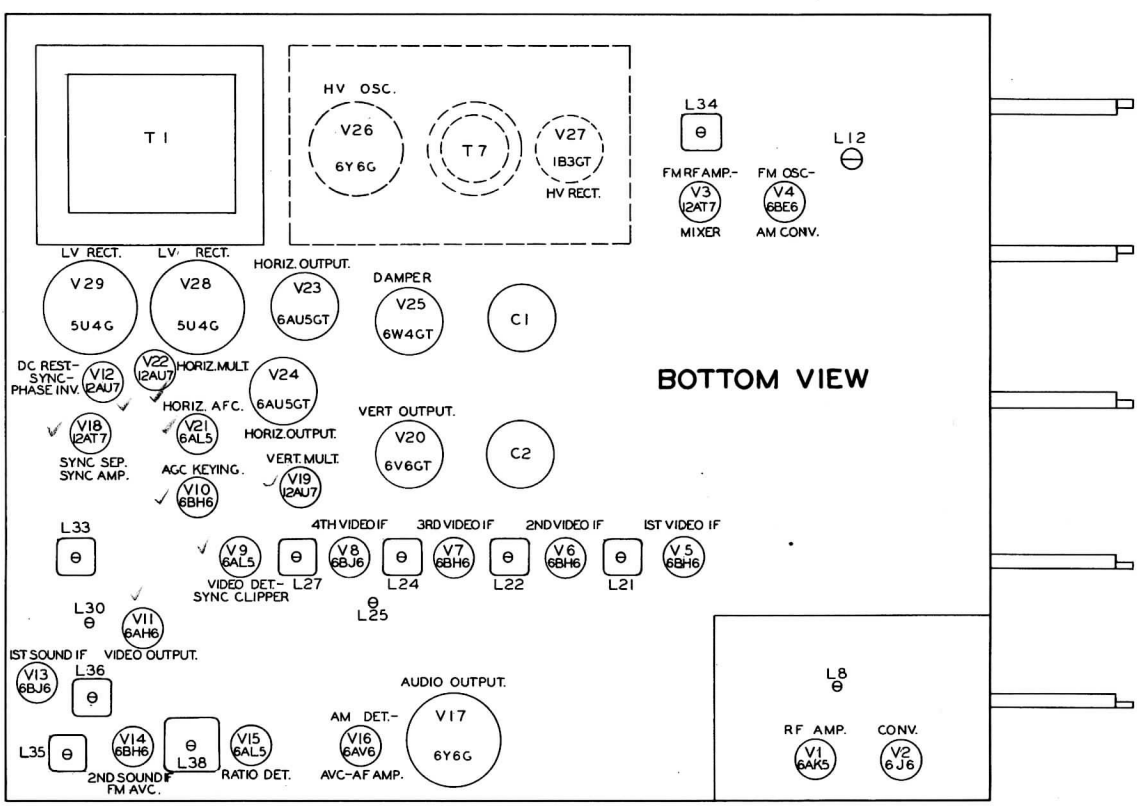


CHASSIS BOTTOM VIEW-CAPACITOR A



R AND ALIGNMENT IDENTIFICATION





TUBE PLACEMENT CHART

TV ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

If the picture tube is to be removed during alignment, the high voltage lead should be securely taped and dressed away from the chassis.

VIDEO IF ALIGNMENT

Turn the function switch to TV position (3rd position clockwise).
Remove the converter tube (V2) from its socket and replace with a 6J6 with pin 1 removed to prevent erroneous indications.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Direct	High side to ungrounded tube shield floating over "dummy" converter tube (V2). Low side to chassis.	21.6MC (Unmod.)	Any	DC Probe to Video Test Jack. Common to chassis.	A1	Adjust for minimum deflection.
2.	Direct	"	22.6MC	"	"	A2	Adjust for maximum deflection. Attenuate signal generator to maintain a maximum -2 volts reading.
3.	Direct	"	25.9MC	"	"	A3	"
4.	Direct	"	25.6MC	"	"	A4	"
5.	Direct	"	23.8MC	"	"	A5	"
6.	Direct	"	23MC	"	"	A6	"

OVERALL VIDEO IF RESPONSE CHECK

Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection.
Construct a filter for oscilloscope consisting of a 200KΩ resistor in series with the vertical input lead of the oscilloscope, and a 500MMF capacitor across the vertical input terminals.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
7.	Direct	High side to ungrounded tube shield floating over "dummy" converter tube (V2). Low side to chassis.	25.3MC (10MC SWP)	21.6MC 22.5MC 23.5MC 25.3MC 26.1MC	Any	Vert. Amp. to Video Test Jack. Low side to chassis.		Check for response curve similar to figure 1. The 22.5MC and 26.1MC markers should be at 40-50% of response. If necessary, slightly retouch A2 thru A6 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
8.	.01MFD	High side to Video Test Jack. Low side to chassis.	4.5MC (Unmod.)	Any	DC Probe to Point (A). Common to chassis.	A7, A8, A9	Adjust for maximum deflection.
9.	.01MFD	"	"	"	DC Probe to Point (B). Common to Point (C).	A10	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
8.	.01MFD	High side to Video Test Jack. Low side to chassis.	4.5MC (450KC SWP)	4.5MC	Any	Vert. Amp. to Point (A). Low side to chassis.	A7, A8, A9	Disconnect stabilizer capacitor C4. Adjust for maximum amplitude and symmetry as per figure 2.
9.	.01MFD	"	"	"	"	Vert. Amp. to Point (B). Low side to chassis.	A10	Reconnect capacitor C4. Adjust A10 to place 4.5MC at center of crossover lines as per figure 3. SLIGHTLY retouch A9 for maximum amplitude and straightness of crossover lines.

4.5MC TRAP ADJUSTMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
10.	.001MFD	High side to Video Test Jack. Low side to chassis.	4.5MC (Unmod.)	Any	DC Probe thru detector probe as shown in figure 4 to Point (D). Low side to chassis.	A11	Adjust for MINIMUM deflection.

OSCILLATOR ALIGNMENT

Remove the dummy converter tube and replace the original 6J6 in its socket.
Set the fine tuning control to the mid-position of its range.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
11.	Two 120Ω carbon res.	Across antenna terminals with 120Ω in each lead.	213MC (10MC SWP)	211.25MC 215.75MC	13	Vert. Amp. to Video Test Jack. Low side to chassis.	A12	Adjust to place sound marker as shown in figure 5. The video marker should be at 50% response.
12.	"	"	207MC (10MC SWP)	205.25MC 209.75MC	12	"		Check all high band channels to set that the sound marker can be placed well within the range of the fine tuning control. If not, a compromise adjustment of A12 may be necessary.
			201MC (10MC SWP)	199.25MC 203.75MC	11			
			195MC (10MC SWP)	193.25MC 197.75MC	10			
			189MC (10MC SWP)	187.25MC 191.75MC	9			
			183MC (10MC SWP)	181.25MC 185.75MC	8			
			177MC (10MC SWP)	175.25MC 179.75MC	7			
13.	"	"	85MC (10MC SWP)	83.25MC 87.75MC	6	"	A13	Adjust to place sound marker as shown in figure 5. The video marker should be at 50% of response.
14.	"	"	79MC (10MC SWP)	77.25MC 81.75MC	5	"		Check all low band channels to set that sound marker can be placed well within the tuning range of the fine tuning control. If not, a compromise adjustment of A13 may be necessary.
			69MC (10MC SWP)	67.25MC 71.75MC	4			
			63MC (10MC SWP)	61.25MC 65.75MC	3			
			57MC (10MC SWP)	55.25MC 59.75MC	2			

THE RF AND MIXER PORTIONS OF THIS RECEIVER HAVE BEEN PROPERLY ALIGNED AT THE FACTORY AND ARE VERY STABLE. THEY WILL NOT NORMALLY REQUIRE ALIGNMENT IN THE FIELD.

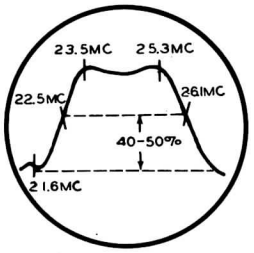


FIG.1

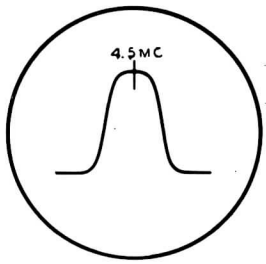


FIG. 2

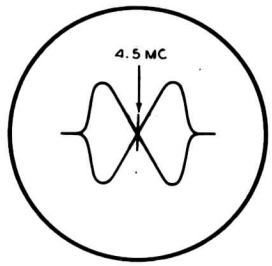


FIG. 3

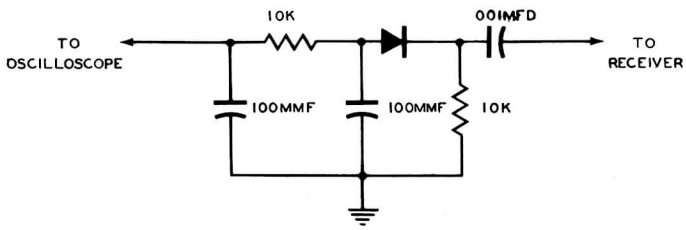


FIG.4

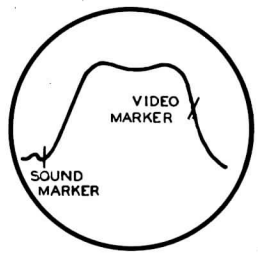


FIG.5

RADIO ALIGNMENT INSTRUCTIONS

AM ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

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.
Loop should be maintained in same relative position to chassis as when receiver is in cabinet:

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
15.	.1MFD	High side to pin 7 (Grid) of 6BE6 (V4). Low side to chassis.	455KC (400 ∿ Mod.)	AM (1st position clock-wise)	Tuning gang fully open	Across voice coil	A14, A15, A16, A17	Adjust for maximum output.
16.	.1MFD	"	1615KC	"	"	"	A18	"
17.		Loop	1400KC	"	Tune for max.	"	A19	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output. Adjust for maximum output while rocking tuning gang.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

If FM IF Alignment is to be performed only, refer to steps 8 and 9 of TV Sound IF Alignment.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
18.	.01MFD	High side to pin 7 (Grid) of 12AT7 (V3). Low side to chassis.	4.5MC (Unmod.)	FM (3rd position CW)	Tuning gang fully open	DC Probe to Point (A). Common to chassis.	A20, A21	Adjust for maximum deflection.

FM 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	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
18.	.01MFD	High side to pin 7 (Grid) of 12AT7 (V3). Low side to chassis.	4.5MC (450KC SWP)	FM (3rd position CW)	Tuning gang fully open	Vert. Amp. to Point (A). Low side to chassis.	A20, A21	Disconnect stabilizer capacitor C4. Adjust for maximum amplitude and symmetry as per figure 2 as in TV sound IF alignment. Reconnect capacitor C4.

FM RF ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
19.	300Ω carbon res.	High side thru 300Ω to #1 antenna terminal. Low side to chassis.	108.5MC (Unmod.)	FM (3rd position CW)	Tuning gang fully open	DC Probe to Point (A). Common to chassis.	A22	Adjust for maximum deflection.
20.	"	"	105MC	"	Tune for max. deflection	"	A23, A24	Adjust for maximum deflection while rocking tuning gang.

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	6AK5	-.4VDC	.7VDC	6.3VAC	0V.	100VDC	100VDC	.7VDC		
V 2	6J6	90VDC	75VDC	0V.	6.3VAC	-1.5VDC	§-5.4VDC	0V.		
† V 3	12AT7	230VDC	0V.	.9VDC	0V.	0V.	120VDC	-.4VDC	0V.	6.3VAC †
V 4	6BE6	†§-3.6VDC #§-4VDC	0V.	0V.	6.3VAC	†210VDC #220VDC	†120VDC #115VDC	† 0V. #-.2VDC		
V 5	6BH6	-.2VDC	.7VDC	6.3VAC	0V.	340VDC	130VDC	0V.		
V 6	6BH6	-.2VDC	.7VDC	6.3VAC	0V.	340VDC	130VDC	0V.		
V 7	6BH6	0V.	.6VDC	6.3VAC	0V.	340VDC	120VDC	0V.		
V 8	6BJ6	0V.	1.1VDC	6.3VAC	0V.	340VDC	130VDC	0V.		
V 9	6AL5	0V.	-.8VDC	6.3VAC	0V.	0V.	0V.	-.4VDC		
V 10	6BH6	▲-75VDC	▲-20VDC	6.3VAC	0V.	▲-125VDC	▲0V.	▲-20VDC		
V 11	6AH6	-.4VDC	0V.	6.3VAC	0V.	320VDC	300VDC	7.3VDC		
V 12	12AU7	350VDC	0V.	11VDC	0V.	0V.	330VDC	0V.	6VDC	6.3VAC
V 13	6BJ6	-.2VDC	1.4VDC	0V.	6.3VAC	270VDC	175VDC	0V.		
V 14	6BH6	-.5VDC	0V.	0V.	6.3VAC	85VDC	85VDC	0V.		
V 15	6AL5	-1.2VDC	-1.2VDC	6.3VAC	0V.	0V.	0V.	4.8VDC		
# V 16	6AV6	-.5VDC	0V.	0V.	6.3VAC	-.4VDC	0V.	95VDC		#
V 17	6Y6G	0V.	0V.	▲165VDC	▲165VDC	▲0V.	▲170VDC	6.3VAC	▲15VDC	
V 18	12AT7	26VDC	-.6VDC	0V.	6.3VAC	6.3VAC	55VDC	0V.	0V.	0V.
V 19	12AU7	65VDC	.9VDC	3VDC	0V.	0V.	120VDC 75VDC	-22VDC	3VDC	6.3VAC
V 20	6V6GT	.4VDC 35VDC	0V.	350VDC	350VDC	0V.	0V.	6.3VAC	20VDC 40VDC	
V 21	6AL5	3.2VDC	-3.2VDC	0V.	6.3VAC	0V.	0V.	0V.		
V 22	12AU7	185VDC	.3VDC	8.2VDC	0V.	0V.	110VDC	7.5VDC	8.2VDC	6.3VAC
V 23	6AU5GT	3VDC	0V.	18VDC	0V.	*	0V.	6.3VAC	185VDC	
V 24	6AU5GT	3VDC	0V.	18VDC	0V.	*	0V.	6.3VAC	185VDC	
V 25	6W4GT	0V.	0V.	*	0V.	45VDC	0V.	*	*	
V 26	6Y6G	0V.	0V.	320VDC	130VDC	-55VDC	0V.	6.3VAC	0V.	
V 27	1B3GT	* DO NOT MEASURE.								
V 28	5U4G	0V.	380VDC	350VDC	340VAC	0V.	340VAC	0V.	380VDC	
V 29	5U4G	0V.	380VDC	0V.	340VAC	0V.	340VAC	0V.	380VDC	
V 30	12LP4A	0V.	13VDC	PIN 10 350VDC	PIN 11 180VDC	PIN 12 6.3VAC				

RESISTANCE READINGS

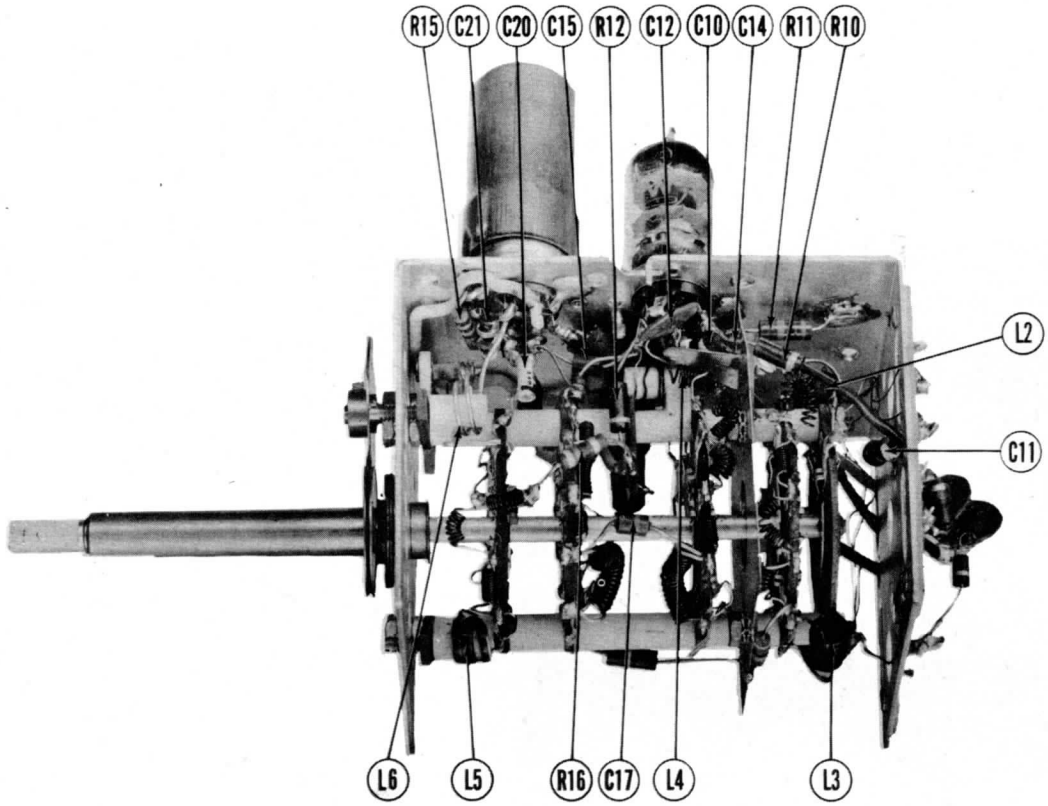
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6AK5	270KΩ	100Ω	.6Ω	0Ω	▲3.2KΩ	▲3.2KΩ	100Ω		
V 2	6J6	▲5.7KΩ	▲16KΩ	0Ω	.6Ω	270KΩ	18KΩ	0Ω		
† V 3	12AT7	†10KΩ	1.1 Meg.	85Ω	0Ω	0Ω	†23KΩ	470KΩ	0Ω	.1Ω †
V 4	6BE6	22KΩ	† 0Ω #.6Ω	.1Ω	.2Ω	†15KΩ	†17KΩ	† 33Ω #2.7 Meg		
V 5	6BH6	350KΩ	100Ω	.1Ω	0Ω	†1.1KΩ	▲1000Ω	0Ω		
V 6	6BH6	350KΩ	100Ω	.1Ω	0Ω	†1.1KΩ	▲1000Ω	0Ω		
V 7	6BH6	.9Ω	68Ω	.9Ω	0Ω	†1.1KΩ	†100KΩ	0Ω		
V 8	6BJ6	.9Ω	68Ω	.9Ω	0Ω	†1.1KΩ	†48KΩ	0Ω		
V 9	6AL5	.9Ω	2.2 Meg.	1.7Ω	0Ω	0Ω	0Ω	4.7KΩ		
V 10	6BH6	▲20KΩ	▲1.8KΩ	.1Ω	0Ω	200KΩ	▲0Ω	▲1.8KΩ		
V 11	6AH6	4.7KΩ	0Ω	.1Ω	0Ω	†3.7KΩ	†70KΩ	1.5KΩ		
V 12	12AU7	†110Ω	1 Meg.	2.2 Meg.	0Ω	0Ω	†2.8KΩ	1 Meg.	3.1KΩ	.1Ω
V 13	6BJ6	1 Meg.	100Ω	0Ω	.1Ω	†6KΩ	†47KΩ	0Ω		
V 14	6BH6	100KΩ	0Ω	0Ω	.9Ω	†68KΩ	†68KΩ	0Ω		
V 15	6AL5	Inf.	Inf.	.9Ω	0Ω	0Ω	0Ω	14KΩ		
# V 16	6AV6	10 Meg.	0Ω	0Ω	.1Ω	550KΩ	0Ω	†400KΩ		#
V 17	6Y6G	Inf.	0Ω	†530Ω	†5KΩ	▲220KΩ	†500Ω	.1Ω	▲180Ω	
V 18	12AT7	†60KΩ	1 Meg.	0Ω	.1Ω	.1Ω	▲15KΩ	27KΩ	0Ω	0Ω
V 19	12AU7	†100KΩ	39KΩ	1000Ω	0Ω	0Ω	†450KΩ †1.5 Meg	470KΩ	1000Ω	.1Ω
V 20	6V6GT	5KΩ 0Ω	0Ω	†1.1KΩ	†1.1KΩ	2.2 Meg.	2.2 Meg.	.1Ω	5.5KΩ 470Ω	
V 21	6AL5	4.8 Meg.	4.8 Meg.	0Ω	.1Ω	68KΩ	0Ω	68KΩ		
V 22	12AU7	†38KΩ	5 Meg.	1.8KΩ	0Ω	0Ω	†250KΩ	320KΩ	1.8KΩ	.1Ω
V 23	6AU5GT	100KΩ	0Ω	150Ω	Inf.	†500Ω †3.5KΩ	Inf.	.1Ω	†10KΩ	
V 24	6AU5GT	100KΩ	0Ω	150Ω	Inf.	†500Ω †3.5KΩ	Inf.	.1Ω	†10KΩ	
V 25	6W4GT	Inf.	† Inf.	†500Ω †3.5KΩ	Inf.	▲2000Ω	Inf.	†500Ω †3.5KΩ	†500Ω †3.5KΩ	
V 26	6Y6G	0Ω	0Ω	†740Ω	†33KΩ	68KΩ	16Ω	.1Ω	0Ω	
V 27	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	TOP CAP 710Ω
V 28	5U4G	Inf.	50KΩ	†110Ω	18Ω	Inf.	18Ω	Inf.	50KΩ	
V 29	5U4G	Inf.	50KΩ	Inf.	18Ω	Inf.	18Ω	Inf.	50KΩ	
V 30	12LP4A	0Ω	2.2 Meg.	PIN 10 †110Ω	PIN 11 100KΩ	PIN 12 .1Ω				

ALL MEASUREMENTS MADE IN "TV" POSITION UNLESS OTHERWISE NOTED.

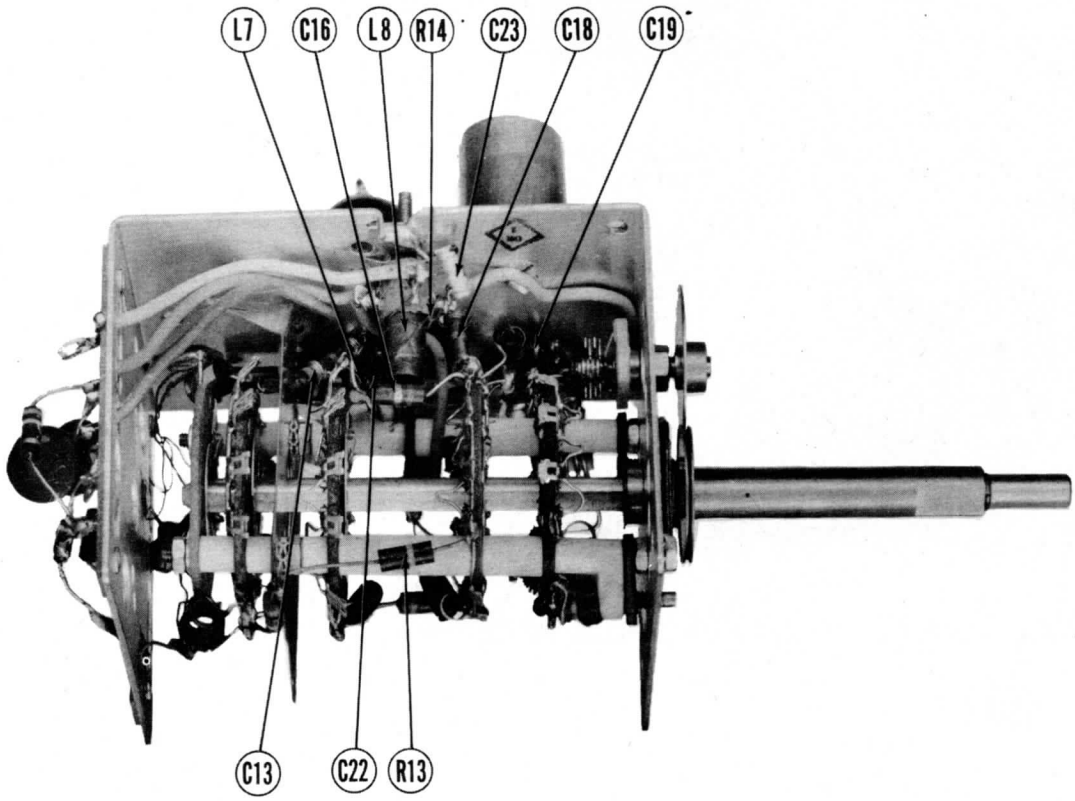
FOCUS CONTROL SET FULLY COUNTERCLOCKWISE.
PICTURE EXPANDER SWITCH IN "NORMAL" POSITION.
§ TAKEN WITH VACUUM TUBE VOLTMETER.
† TAKEN IN "FM" POSITION.
# TAKEN IN "AM" POSITION.
* DO NOT MEASURE.
▲ MEASURED FROM JUNCTION OF R83, R84, C5 and C7.

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.

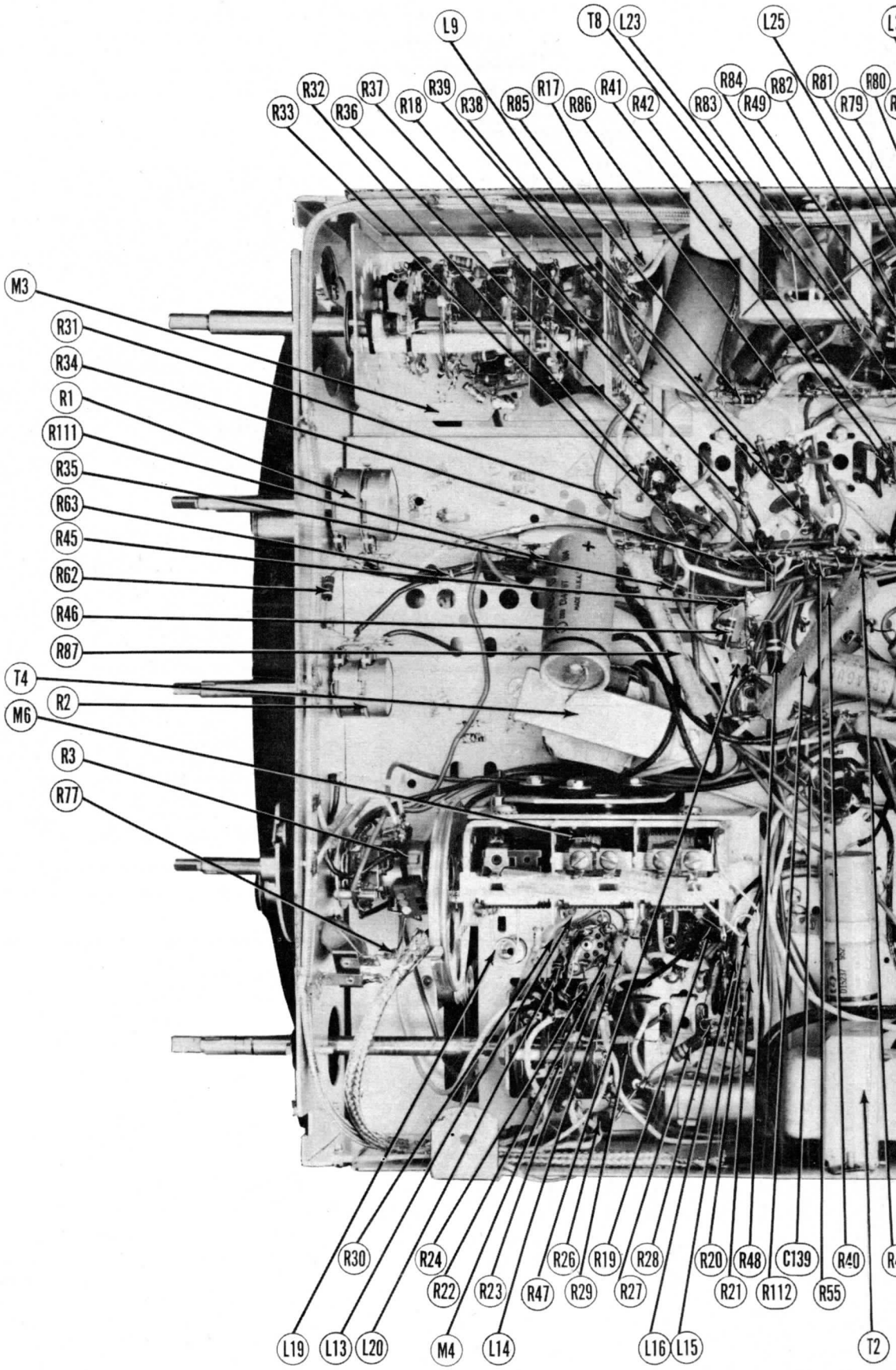
FOCUS CONTROL SET FULLY COUNTERCLOCKWISE.
PICTURE EXPANDER SWITCH IN "NORMAL" POSITION.
† TAKEN IN FM" POSITION.
# TAKEN IN "AM" POSITION.
▲ MEASURED FROM JUNCTION OF R83, R84, C5, and C7.
† MEASURED FROM PIN 8 OF V28.



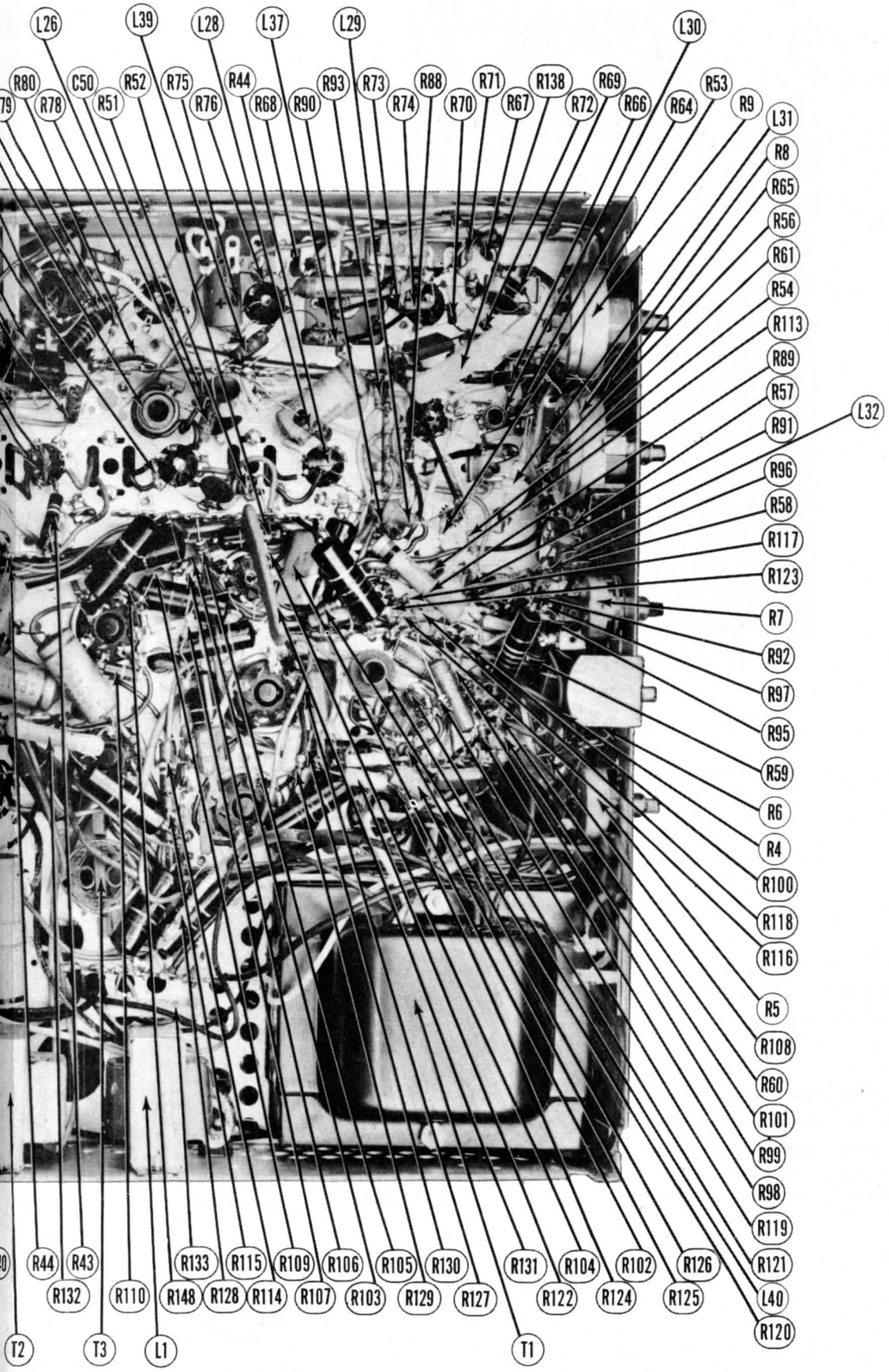
RF TUNER-RIGHT SIDE



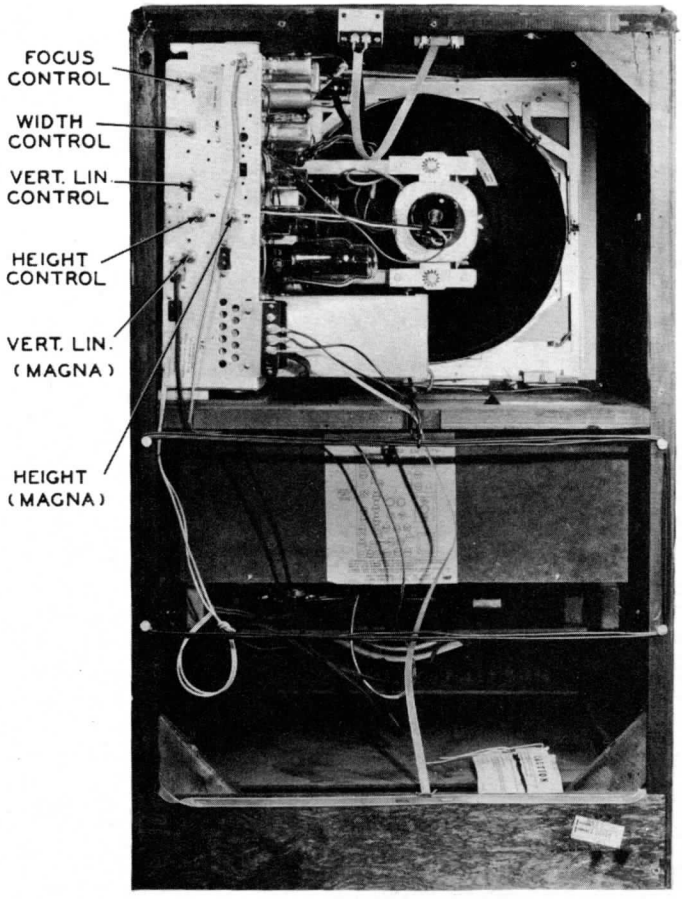
RF TUNER-LEFT SIDE



CHASSIS BOTTOM VIEW-RESISTOR A



R AND INDUCTOR IDENTIFICATION



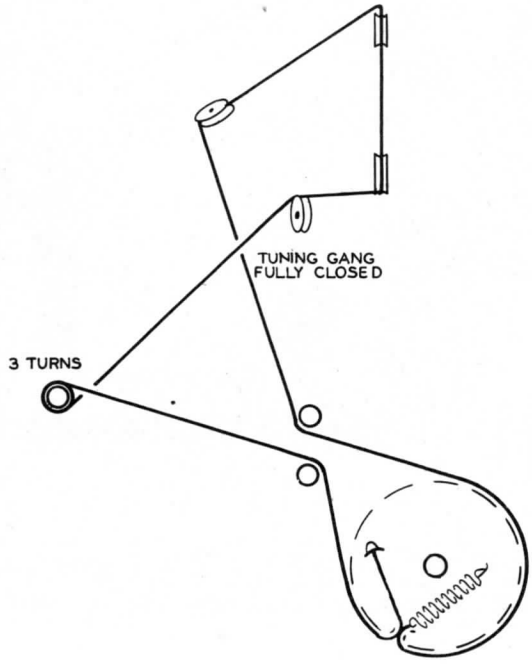
CABINET–REAR VIEW

DISASSEMBLY INSTRUCTIONS

1. Remove ten push-on type control knobs from front of cabinet.
2. Disconnect speaker leads.
3. Disconnect built-in antenna leads.
4. Remove antenna terminal strip.
5. Remove pilot light located beneath chassis.
6. Disconnect phonograph jack from chassis.
7. Remove wooden block holding chassis in place.
8. Remove bolt from brace holding picture tube in place.
9. Remove two hex head bolts holding chassis in cabinet. Remove chassis.
10. Remove nine wood screws holding screen to phono section of cabinet.
11. Remove four wood screws holding bottom plate to phono compartment.
12. Remove four wood screws holding speaker in cabinet. Remove speaker.

NOTE: Chassis must be removed from cabinet for picture tube removal.

DIAL CORD STRINGING



PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		WESTINGHOUSE PART No.	STANDARD REPLACEMENT		
V1	RF Amp.	6AK5	6AK5	7BD	
V2	Converter	6J6	6J6	7BF	
V3	FM RF Amp. - Mixer	12AT7	12AT7	9A	
V4	FM Osc. -AM Conv.	6BE6	6BE6	7CH	
V5	1st Video IF	6BH6	6BH6	7CM	
V6	2nd Video IF	6BH6	6BH6	7CM	
V7	3rd Video IF	6BH6	6BH6	7CM	
V8	4th Video IF	6BJ6	6BJ6	7CM	
V9	Video Det. -Sync. Clipper	6AL5	6AL5	6BT	
V10	AGC Keying	6BH6	6BH6	7CM	
V11	Video Output	6BH6	6BH6	7CM	
V12	DC Rest. -Phase Inv.	12AU7	12AU7	9A	
V13	1st Sound IF	6BJ6	6BJ6	7CM	
V14	2nd Sound IF-FM AVC	6BH6	6BH6	7CM	
V15	Ratio Det.	6AL5	6AL5	6BT	
V16	Det. -AM AVC-AF Amp.	6AV6	6AV6	7BT	
V17	Audio Output	6Y6G	6Y6G	7AC	
V18	Sync. Sep. -Sync. Amp.	12AT7	12AT7	9A	
V19	Vert. Mult.	12AU7	12AU7	9A	
V20	Vert. Output	6V6GT	6V6GT	7AC	
V21	Hor. AFC	6AL5	6AL5	6BT	
V22	Hor. Mult.	12AU7	12AU7	9A	
V23	Hor. Output	6AU5GT	6AU5GT	6CK	
V24	Hor. Output	6AU5GT	6AU5GT	6CK	
V25	Damper	6W4GT	6W4GT	4CG	
V26	HV Osc.	6Y6G	6Y6G	7AC	
V27	HV Rect.	1B3GT	1B3GT	3C	
V28	LV Rect.	5U4G	5U4G	5T	
V29	LV Rect.	5U4G	5U4G	5T	
V30	Picture Tube	12LP4A	12LP4A	12D	

CAPACITORS

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

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	WESTINGHOUSE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	
C1A	60	450	V-9575	AFH1244J		UP6245		TVL-3790	▲ Filter
B	20	450				BR2045A			■ Filter
C	20	450							▲ Filter
C2A	30	400	V-9577	AFH3666J		UP32245		TVL-4763	▲ Decoupling
B	30	400				BR3045A		TVA-2722	■ Decoupling
C	20	400							▲ V. Amp. Screen Decoupling
D	20	400							
C3	10	350	V-9351	PRS350/10		BR1235A		TVA-1604	Decoupling
C4	2	50	V-4880	PRS150/4		BBR2-50		TVA-1301	Stabilizing Cap.
C5	30	450	V-6570	PRS450/30		BR3045A		TVA-1711	Output Decoupling
C6	20	25	V-3236	PRS25/25		BR202A		TVA-1205	Output Screen
C7	20	25	V-3236	PRS25/25		BR202A		TVA-1205	Output Cathode
C8	30	450	V-6570	PRS450/30		BR3045A		TVA-1711	Vert. Output Dec.
C9	150	50	V-9009-1	PRS50/100 PRS50/50		BRH15015		TVA-1311	Vert. Output Cath.
C10	15			GP15K	D6-150		GP1K-15		RF Coupling
C11	680			GP680M	D6-681		GP2K-680		AGC Filter
C12A	1000			BPD-2 x 001	DD-2-102		882-2 x 0015	29C7	RF Suppressor
B	1000								RF Decoupling
C13	470			GP470M	D6-471		GP2K-470		RF Decoupling
C14	1000			BPD-001	DD-102		811-001	29C4	RF Cathode
C15	.25								RF Coupling
C16	.5				TCZ-.5				RF Coupling
C17	1.8								RF Coupling
C18	470			GP470M	D6-471		GP2K-470		Mixer Grid Filter
C19	1.5			SIL.5DNPO	TCZ-1.5		NPOK-1.5		Osc. Coupling
C20	10			CN10FNPO	TCZ-10		NPOK-10		Osc. Grid Cap.
C21	3			CN3DNPO	TCZ-3.3		NPOK-3		Osc. Feedback
C22A	1000			BPD-2 x 001	DD-2-102		882-2 x 0015	29C7	RF Bypass
B	1000								Conv. Fil. Bypass
C23	10			CN10DNPO	TCZ-10		NPOK-10		Fixed Trimmer
C24	5000		V-5596	BPD-005	DD-502		811-005	29C1	AGC Filter
C25	5000		V-5596	BPD-005	DD-502		811-005	29C1	Fil. Bypass
C26	5000		V-5596	BPD-005	DD-502		811-005	29C1	RF Bypass
C27	150		R5CC21ZY151M	GP150M	D6-151	5W5T15	GP2K-150	1FM-315	IF Coupling
C28	100		R3CC30SL101M	GP100M	D6-101	5W5T1	GP1K-100	1FM-31	RF Coupling
C29	5000		V-5596	BPD-005	D6-502	1D5D5	811-005	29C1	FM RF Cath.
C30	470		R5CC21ZY471M	GP470M	D6-471	5W5T5	GP2K-470	1FM-35	FM RF Grid Filter
C31	47		R3CC30SL470M	GP47M	D6-470	5W5Q5	GP1K-47	1FM-45	RF Coupling
C32	.5		R3CC20SLR50C		TCZ-.5				RF Coupling
C33	150		R3CC32SL151M	GP150M	D6-151	5W5T15	GP2K-150	1FM-315	RF Coupling
C34A	5000		V-9044-1	BPD-2 x 005	DD-2-502	1D5D5	882-2 x 005	36C2	FM RF Decoup.
B	5000					1D5D5			AM Conv. Decoup.
C35	5000		V-5596	BPD-005	DD-502	1D5D5	811-005	29C1	FM Mixer Decoup.
C36	1		R3CC20SL1ROC		TCZ-1				Osc. Coupling
C37	10		R2CC30CK100D	CN10DNPO	TCZ-10	5R5Q1	NPOK-10	MS-42	Fixed Trimmer
C38	33		R3CC30SL330M	GP33M	D6-330	5W5Q3	GP1K-33	MS-43	Osc. Grid Cap.
C39	470		R5CC21ZY471M	GP470M	D6-471	5W5T5	GP2K-470	1FM-35	IF Coupling
C40	68		R3CC30SL680M	GP68M	D6-680	5W5Q7	GP1K-68	MS-47	Osc. Grid Cap.
C41	470		R5CC21ZY471M	GP470M	D6-471	5W5T5	GP2K-470	1FM-35	Osc. Anode Bypass
C42	1500		R5CC26ZY152M	GP1500M	D6-152	1W5D15	GP2L-0015	1FM-215	AGC Filter
C43	5000		V-5596	BPD-005	DD-502	1D5D5	811-005	29C1	RF Bypass
C44	5000		V-5596	BPD-005	DD-502	1D5D5	811-005	29C1	1st V. IF Screen
C45	1500		R5CC26ZY152M	GP1500M	D6-152	1W5D15	GP2L-0015	1FM-215	1st V. IF Plate Dec.
C46	5000		V-5596	BPD-005	DD-502	1D5D5	811-005	29C1	AGC Filter
C47	1500		R5CC26ZY152M	GP1500M	D6-152	1W5D15	GP2L-0015	1FM-215	AGC Filter
C48	5000		V-5596	BPD-005	DD-502	1D5D5	811-005	29C1	2nd V. IF Screen
C49	1500		R5CC26ZY152M	GP1500M	D6-152	1W5D15	GP2L-0015	1FM-215	2nd V. IF Plate Dec.

CAPACITORS (CONT.)

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA WESTINGHOUSE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C50	.25	400	V-6066-4254M	P488-25		GT4P25		TC-2	AGC Filter
C51	5000		V-5596	BPD-005	DD-502	1D5D5	811-005	29C1	3rd V. IF Screen
C52	5000		V-5596	BPD-005	DD-502	1D5D5	811-005	29C1	3rd V. IF Cath.
C53	1500		R5CC26ZY152M	GP1500M	D6-152	1W5D15	GP2L-0015	1FM-215	3rd V. IF Dec.
C54	47	500			TCZ-47		NPOM-47		Fixed T_1rimmer
C55	5000		V-5596	BPD-005	DD-502	1D5D5	811-005	29C1	4th V. IF Cath.
C56	5000		V-5596	BPD-005	DD-502	1D5D5	811-005	29C1	4th V. IF Screen
C57	1500		R5CC26ZY152M	GP1500M	D6-152	1W5D15	GP2L-0015	1FM-215	4th V. IF Decoup.
C58	5000		V-5596	BPD-005	DD-502	1D5D5	811-005	29C1	4th V. IF Fil.
C59	4.7		V-5658-6	GP5K	TCZ-4.7	5W5V5	GP1K-5	MS-55	V. Diode Filter
C60	33	500			TCZ-33		NPOL-33		Fixed Trimmer
C61	.25	400	V-6066-4254M	P488-25		GT4P25		TC-2	Video Coupling
C62	.022	400	V-6023-4223K	P488-022	DF-203	PTE4S2		TM-12	Video Coupling
C63	.1	400	V-6023-4104M	P488-1	DF-104	PTE4P1		TM-1	DC Res. Cath. Byp.
C64	4.7		V-5658-6	GP5K	TCZ-4.7	5W5V5	NPOK-4.7	MS-55	S. IF Coupling
C65A	5000		V-9044-1	BPD-2 x 005	DD-2-502	1D5D5	882-2 x 005	36C2	1st S. IF Plate Dec.
B	5000					1D5D5			1st S. IF Screen
C66	5000		V-5596	BPD-005	DD-502	1D5D5	811-005	29C1	1st S. IF Cath.
C67	47	500	RCM20B470K	1468-00005	D6-470	5W5Q5	GP1K-47	1FM-45	2nd S. IF Grid Filter
C68	5000		V-5596	BPD-005	DD-502	1D5D5	811-005	29C1	AVC Filter
C69	100	500		1468-0001	D6-101	5W5T1	GP1K-100	1FM-31	Diode RF Filter
C70	.022	400	V-6023-4223K	P488-022	DF-203	PTE4S2		TM-12	AVC Filter
C71	.01	400	V-6023-4103M	P488-01	D6-103	PTE4S1	811-01	TM-11	2nd S. IF Dec.
C72	680	500	RCM20B681M	1468-00075	D6-681	5W5T7	GP2K-680	MS-37	Diode Load Cap.
C73	.0033	600	V-6023-6202M	P688-0033	D6-332	PTE6D3	GP2M-0033	TM-23	De-emphasis
C74	.01	400	V-6023-4103M	P488-01	D6-103	PTE4S1	811-01	TM-11	Audio Coupling
C75	330	500	V-6023-4103M	1468-00035	D6-331	5W5T3	GP2K-330	1FM-335	Tone Compensation
C76	.05	200	V-6023-4503M	P288-05	DF-503	PTE4S5		TM-15	Tone Compensation
C77	.01	400	V-6023-4103M	P488-01	D6-103	PTE4S1	811-01	TM-11	Audio Coupling
C78	150	500	RCM20B151K	1468-00015	D6-151	5W5T15	GP2K-150	1FM-315	AF Amp. Plate Byp.
C79	.1	400	V-6023-4104M	P488-1	DF-104	PTE4P1		TM-1	AF Amp. Dec.
C80	.022	400	V-6023-4223K	P488-022	DF-203	PTE4S2		TM-12	Audio Coupling
C81	.005	600	V-6023-4472M	P688-005	D6-502	PTE6D5	811-005	TM-25	Output Plate
C82	.25	400	V-6066-4254M	P488-25		GT4P25		TC-2	Sync. Coupling
C83	270	500	RCM20B271K	1468-00025	D6-271	5W5T25	GP2K-270	1FM-325	Sync. Coupling
C84	.01	400	V-6023-4103M	P488-01	D6-101	PTE4S1	811-01	TM-11	Sync. Coupling
C85	.047	400	V-6023-4503M	P488-047	DF-503	PTE4S5		TM-15	Sync. Coupling
C86A	2000		V-9213 *	P688-002	PC-100 *	PTE6D2	GP2M-002	TM-22	Integrator Net.
B	5000			P688-005		PTE6D5	811-005	TM-25	Integrator Net.
C	5000			P688-005		PTE6D5	811-005	TM-25	Integrator Net.
C87	.047	400	V-6023-4503M	P488-047	DF-503	PTE4S5		TM-15	Vert. MV Cath.
C88	.01	400	V-6023-4103K	P488-01	D6-103	PTE4S1	811-01	TM-11	Vert. MV Feedback
C89	.1	400	V-6023-4104M	P488-1	DF-104	PTE4P1		TM-1	Vert. MV Grid
C90	.068	400	V-6023-4683K	P488-068					Vert. Disch.
C91	.1	400	V-6023-4104M	P488-1	DF-104	PTE4P1		TM-1	Vert. Sweep Coup.
C92	.1	400	V-6023-4104M	P488-1	DF-104	PTE4P1		TM-1	Decoupling
C93	.001	600	V-6023-6102M	P688-001	D6-102	PTE6D1	GP2L-001	TM-21	Hor. Sync. Coupling
C94	.001	600	V-6023-6102M	P688-001	D6-102	PTE6D1	GP2L-001	TM-21	Hor. Sync. Coupling
C95	330	500	RCM20C331J	1469-00035	D6-331	5R5T3	GP2K-330	1FM-335	Hor. Feedback
C96	330	500	RCM20C331J	1469-00035	D6-331	5R5T3	GP2K-330	1FM-335	Hor. Feedback
C97	.001	600	V-6023-6102M	P688-001	D6-102	PTE6D1	GP2L-001	TM-21	Voltage Divider
C98	.005	600	V-6023-4472M	P688-005	D6-502	PTE6D1	811-005	TM-25	AFC Filter
C99	.047	400	V-6023-4503M	P488-047	DF-503	PTE4S5		TM-15	AFC Filter
C100	680	500	RCM20B68K	1479-0007	D6-681	5W5T7	GP2K-680	MS-37	Hor. MV Cath.
C101	330	500	RCM20C331J	1469-00035	D6-331	5R5T3	GP2K-330	MS-33	Hor. MV Feedback
C102	3900	500	RCM30C392K	1464-004		1DR5D4		MS-24	Fixed Trimmer
C103	.1	400	V-6023-4104M	P488-1	DF-104	PTE4P1		TM-1	Hor. MV Dec.
C104	.1	400	V-6023-4104M	P488-1	DF-104	PTE4P1		TM-1	Hor. MV Dec.
C105	.1	400	V-6023-4104M	P488-1	DF-104	PTE4P1		TM-1	Hor. MV Grid
C106	100	500	RCM20B101K	1468-0001	D6-101	5W5T1	GP1K-100	1FM-31	Hor. MV Plate Byp.
C107	680	500	RCM20B681M	1479-0007	D6-681	2R5T7	GP2K-680	MS-37	Hor. Discharge
C108	.01	400	V-6023-4103M	P488-01	D6-103	PTE4S1	811-01	TM-11	Hor. Sweep Coupling
C109	270	500	RCM20B271K	1468-00025	D6-271	5W5T25	GP2K-270	1FM-325	Hor. Grid Bypass
C110	.1	400	V-6023-4104M	P488-1	DF-104	PTE4P1		TM-1	Hor. Output Cath.
C111	.1	400	V-6023-4104M	P488-1	DF-104	PTE4P1		TM-1	Hor. Output Screen
C112	.1	400	V-6023-4104M	P488-1	DF-104	PTE4P1		TM-1	Hor. Output Plate Dec.
C113	.1	400	V-6023-4104M	P488-1	DF-104	PTE4P1		TM-1	Hor. Sweep Coupling
C114	.25	400	V-6066-4254M	P488-25		GT4P25		TC-2	Damper Filter
C115	.1	400	V-6023-4104M	P488-1	DF-104	PTE4P1		TM-1	Decoupling
C116	.05	400	V-6023-4503M	P488-05	DF-503	PTE4S5		TM-15	HV Osc. Plate Dec.
C117	.05	400	V-6023-4503M	P488-05	DF-503	PTE4S5		TM-15	HV Osc. Screen
C118	270	500	RCM20B271K	1468-00025	D6-271	5W5T25	GP2K-270	1FM-325	HV Osc. Grid
C119	500	20K	V-5895	HV20C	TV2-502				HV Filter
C120	500	20K	V-5895	HV20C	TV2-502				HV Filter
C121	.01	600		P688-01	D6-103	PTE6S1	811-01	TM-11	Line Filter
C122	.01	600		P688-01	D6-103	PTE6S1		TM-11	Line Filter

* Items C86A, C86B, C86C, R102A, R102B, and R102C are combined into one unit obtainable under Mfgr's Part No. V-9213-1.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA WESTING. PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	INSTALLATION NOTES
R1A	50KΩ	½	V-9235-2		RTV-56	SBB-513	Brightness control-front
B	1500Ω	½					Contrast control-rear
				Concentrikit			
R2A	500KΩ	½		B11-133 †			Vert. hold control-front
B	100KΩ	½	V-9233	B11-128 †	RTV-57	SBB-514	Horiz. hold control-rear
C	Shaft End			E-202 †			Attach per instr. in "Concentrikit".
R3A	Switch		9558-2 ‡				Magnifier switch-front
B	500KΩ	½					Volume control and switch-rear
R4A	2.5 Meg.	½	V-5909	Q11-239	AG-84-S	AN-83	Magnifier height control
B	Shaft		Not Req.	RQ	FKS-1/4	AK-1	Attach to R4A per instructions
R5A	25KΩ	½	V-5910	Q11-120	AM-40-S	AN-26	Magnifier vert. linearity control
B	Shaft		Not Req.	RQ	FKS-1/4	AK-1	Attach to R5A per instructions
R6A	1 Meg.	½	V-6462	Q11-137	AG-61-S	AN-69	Height control
B	Shaft		Not Req.	RQ	FKS-1/4	AK-1	Attach to R6A per instructions
R7A	5000Ω	½	V-6463	Q11-114	AM-19-S	AN-10	Vert. linearity control
B	Shaft		Not Req.	RQ	FKS-1/4	AK-1	Attach to R7A per instructions
R8	3000Ω	4	V-6500-2		RTV-61	SVP-989	Width control-Wire Wound
R9	400Ω	4	V-5908		RTV-94	VK-126	Focus control-Wire Wound

† Additional parts to be used with "Concentrikit".
‡ Some models use volume control and switch assembly Part No. V-9607-2.

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA WESTINGHOUSE PART No.	IRC PART No.
R10	2200Ω	½	RC20AE222K	BTS-2200
R11	100Ω 20%	½	RC20AE101M	
R12	2200Ω	½	RC20AE222K	BTS-2200
R13	220KΩ 20%	½	RC20AE224M	
R14	15KΩ 20%	½	RC20AE153M	
R15	18KΩ 20%	½	RC20AE183M	
R16	4700Ω	½	RC20AE472K	BTS-4700
R17	10KΩ 20%	½	RC20AE103M	BTS-10K
R18	1000Ω 20%	½	RC20AE102M	BTS-1000
R19	15Ω 20%	½	RC20AE150M	
R20	82Ω	½	RC20AE820K	
R21	10KΩ	2	RC40AE103K	BT-2-10K
R22	470KΩ 20%	½	RC20AE474M	BTS-470K
R23	1000Ω	½	RC20AE102K	BTS-1000
R24	33Ω	½	RC20AE330K	
R25	2200Ω	½	RC20AE222K	BTS-2200
R26	22KΩ	2	RC40AE223K	BTS-22K
R27	47KΩ	1	RC30AE473K	BTA-47K
R28	15KΩ	½	RC20AE103K	BTS-15K
R29	1.5 Meg. 20%	½	RC20AE155M	BTS-1.5 Meg.
R30	22KΩ	½	RC20AE223K	BTS-22K
R31	12KΩ	½	RC20AE123K	BTS-12K
R32	100Ω	½	RC20AE101K	
R33	1000Ω 20%	½	RC20AE102M	BTS-1000
R34	1000Ω 20%	½	RC20AE102M	BTS-1000
R35	10KΩ 20%	½	RC20AE103M	BTS-10K
R36	10KΩ 20%	½	RC20AE103M	BTS-10K
R37	8200Ω	½	RC20AE822K	
R38	100Ω	½	RC20AE101K	
R39	1000Ω 20%	½	RC20AE102M	BTS-1000
R40	1000Ω 20%	½	RC20AE102M	BTS-1000
R41	4700Ω	½	RC20AE472K	BTS-4700
R42	68Ω	½	RC20AE680K	
R43	100KΩ	1	RC30AE104K	
R44	1000Ω 20%	½	RC20AE102M	BTS-1000
R45	470KΩ	½	RC20AE474K	BTS-470K
R46	470KΩ	½	RC20AE474K	BTS-470K
R47	100KΩ 20%	½	RC20AE104M	BTS-100K
R48	220KΩ	1	RC20AE224K	BTA-220K
R49	4700Ω	½	RC20AE472K	BTS-4700
R50	68Ω	½	RC20AE680K	
R51	47KΩ	1	RC30AE473K	
R52	1000Ω 20%	½	RC20AE102M	BTS-1000
R53	4700Ω	½	RC20AE472K	BTS-4700
R54	22KΩ 20%	½	RC20AE223M	BTS-22K
R55	68KΩ	1	RC30AE683K	BTA-68K
R56	22KΩ	½	RC20AE223K	BTS-22K
R57	3600Ω 5%	1	RC30AE362J	
R58	47KΩ	½	RC20AE473K	BTS-47K
R59	1 Meg.	½	RC20AE105K	BTS-1 Meg.
R60	2.2 Meg.	½	RC20AE225K	BTS-2.2 Meg.
R61	47KΩ	½	RC20AE473K	BTS-47K
R62	6800Ω	½	RC20AE682K	BTS-6800
R63	47KΩ	½	RC20AE473K	BTS-47K
R64	100Ω	½	RC20AE101K	
R65	47KΩ	1	RC30AE473K	BTA-47K
R66	5600Ω	1	RC30AE562K	BTA-5600
R67	100KΩ	½	RC20AE104K	BTS-100K
R68	68KΩ	1	RC30AE683K	BTA-68K
R69	1 Meg.	½	RC20AE105K	BTS-1 Meg.
R70	47KΩ	½	RC20AE473K	BTS-47K
R71	2.2 Meg.	½	RC20AE225K	BTS-2.2 Meg.
R72	1 Meg.	½	RC20AE105K	BTS-1 Meg.
R73	100Ω	½	RC20AE101K	
R74	33KΩ	½	RC20AE333K	BTS-33K
R75	6800Ω 5%	½	RC20AE682J	BTS-6800-5%
R76	6800Ω 5%	½	RC20AE682J	BTS-6800-5%
R77	4700Ω	½	RC20AE472K	BTS-4700
R78	10 Meg. 20%	½	RC20AE106M	BTS-10 Meg.
R79	470KΩ	½	RC20AE474K	BTS-470K
R80	150KΩ	½	RC20AE154K	BTS-150K
R81	1 Meg.	½	RC20AE105K	BTS-1 Meg.
R82	33Ω 20%	½	RC20AE330M	BW-½-33
R83	220KΩ	½	RC20AE224K	BTS-220K
R84	180Ω	2	RC40AE181K	BW-2-180
R85	3900Ω	½	RC20AE392K	BTS-3900
R86	470Ω	4	V-6067-6	
R87	1670Ω	10	V-9085-4	
R88	4700Ω	½	RC20AE472K	BTS-4700
R89	10KΩ	2	RC40AE103K	BT-2-10K
R90	1800Ω 5%	½	RC20AE182J	BTS-1800-5%
R91	1 Meg.	½	RC20AE105K	BTS-1 Meg.
R92	470KΩ	½	RC20AE474K	BTS-470K
R93	15KΩ	½	RC20AE153K	BTS-15K
R94	2.2 Meg.	½	RC20AE225K	BTS-2.2 Meg
R95	1 Meg.	½	RC20AE105K	BTS-1 Meg.
R96	150KΩ	½	RC20AE154K	BTS-150K
R97	22KΩ	½	RC20AE223K	BTS-22K
R98	1 Meg.	½	RC20AE105K	BTS-1 Meg.
R99	2700Ω	½	RC20AE272K	BTS-2700
R100	470Ω	½	RC20AE471K	BTS-470
R101	2700Ω	½	RC20AE272K	BTS-2700
R102A	22KΩ	½		
B	8200Ω	½	*	
C	8200Ω	½		
R103	1000Ω	½	RC20AE102K	BTS-1000
R104	100KΩ	½	RC20AE104K	BTS-100K
R105	470KΩ	½	RC20AE474K	BTS-470K
R106	390KΩ	½	RC20AE394K	BTS-390K
R107	4700Ω	½	RC20AE472K	BTS-4700
R108	47KΩ	½	RC20AE473K	BTS-47K
R109	2.2 Meg.	½	RC20AE225K	BTS-2.2 Meg
R110	470Ω	1	RC30AE471K	BTA-470
R111	470Ω	1	RC30AE471K	BTA-470
R112	6800Ω	10	V-9085-5	
R113	68KΩ	½	RC20AE683K	BTS-68K

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
TC-2	AGC Filter
29C1	3rd V. IF Screen
29C1	3rd V. IF Cath.
1FM-215	3rd V. IF Dec.
	Fixed T_1 trimmer
29C1	4th V. IF Cath.
29C1	4th V. IF Screen
1FM-215	4th V. IF Decoup.
29C1	4th V. IF Fil.
MS-55	V. Diode Filter
	Fixed Trimmer
TC-2	Video Coupling
TM-12	Video Coupling
TM-1	DC Res. Cath. Byp.
MS-55	S. IF Coupling
	1st S. IF Plate Dec.
36C2	1st S. IF Screen
29C1	1st S. IF Cath.
1FM-45	2nd S. IF Grid Filter
29C1	AVC Filter
1FM-31	Diode RF Filter
TM-12	AVC Filter
TM-11	2nd S. IF Dec.
MS-37	Diode Load Cap.
TM-23	De-emphasis
TM-11	Audio Coupling
1FM-335	Tone Compensation
TM-15	Tone Compensation
TM-11	Audio Coupling
1FM-315	AF Amp. Plate Byp.
TM-1	AF Amp. Dec.
TM-12	Audio Coupling
TM-25	Output Plate
TC-2	Sync. Coupling
1FM-325	Sync. Coupling
TM-11	Sync. Coupling
TM-15	Sync. Coupling
TM-22	Integrator Net.
TM-25	Integrator Net.
TM-25	Integrator Net.
TM-15	Vert. MV Cath.
TM-11	Vert. MV Feedback
TM-1	Vert. MV Grid
	Vert. Disch.
TM-1	Vert. Sweep Coup.
TM-1	Decoupling
TM-21	Hor. Sync. Coupling
TM-21	Hor. Sync. Coupling
1FM-335	Hor. Feedback
1FM-335	Hor. Feedback
TM-21	Voltage Divider
TM-25	AFC Filter
TM-15	AFC Filter
MS-37	Hor. MV Cath.
MS-33	Hor. MV Feedback
MS-24	Fixed Trimmer
TM-1	Hor. MV Dec.
TM-1	Hor. MV Dec.
TM-1	Hor. MV Grid
1FM-31	Hor. MV Plate Byp.
MS-37	Hor. Discharge
TM-11	Hor. Sweep Coupling
1FM-325	Hor. Grid Bypass
TM-1	Hor. Output Cath.
TM-1	Hor. Output Screen
TM-1	Hor. Output Plate Dec.
TM-1	Hor. Sweep Coupling
TC-2	Damper Filter
TM-1	Decoupling
TM-15	HV Osc. Plate Dec.
TM-15	HV Osc. Screen
1FM-325	HV Osc. Grid
	HV Filter
	HV Filter
TM-11	Line Filter
TM-11	Line Filter

le under Mfgr's Part No. V-9213-1.

TALLATION NOTES
ghtness control-front
trast control-rear
t. hold control-front
iz. hold control-rear
ch per instr. in "Concentrikit".
nifier switch-front
me control and switch-rear
nifier height control
ch to R4A per instructions
nifier vert. linearity control
ch to R5A per instructions
ght control
ch to R6A per instructions
t. linearity control
ch to R7A per instructions
th control-Wire Wound
us control-Wire Wound

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	WESTINGHOUSE PART No.	IRC PART No.	ALL RESISTORS ARE ± 10% UNLESS OTHERWISE STATED.
R10	2200Ω	1/2	RC20AE222K	BTS-2200	RF Amp. Grid -See Note 1
R11	100Ω 20%	1/2	RC20AE101M		RF Amp. Cathode
R12	2200Ω	1/2	RC20AE222K	BTS-2200	RF Amp. Decoupling - See note 2.
R13	220KΩ 20%	1/2	RC20AE224M		Mixer Grid-See Note 3
R14	15KΩ 20%	1/2	RC20AE153M		Mixer Plate Load
R15	18KΩ 20%	1/2	RC20AE183M		Osc. Grid-See Note 4
R16	4700Ω	1/2	RC20AE472K	BTS-4700	Osc. Plate Load
R17	10KΩ 20%	1/2	RC20AE103M	BTS-10K	AGC Network
R18	1000Ω 20%	1/2	RC20AE102M	BTS-1000	Decoupling
R19	15Ω 20%	1/2	RC20AE150M		Parasitic Suppressor
R20	82Ω	1/2	RC20AE820K		FM-RF Amp. Cathode
R21	10KΩ	2	RC40AE103K	BT-2-10K	FM-RF Amp. Plate Decoupling
R22	470KΩ 20%	1/2	RC20AE474M	BTS-470K	FM Mixer Grid
R23	1000Ω	1/2	RC20AE102K	BTS-1000	FM Mixer Decoupling
R24	33Ω	1/2	RC20AE330K		Parasitic Suppressor
R25	2200Ω	1/2	RC20AE222K	BTS-2200	AM Ant. Loading
R26	22KΩ	2	RC40AE223K	BTS-22K	AM Conv. Screen Dropping
R27	47KΩ	1	RC30AE473K	BTA-47K	AM Conv. Screen Dropping
R28	15KΩ	1/2	RC20AE103K	BTS-15K	AM Conv. Plate Decoupling
R29	1.5 Meg. 20%	1/2	RC20AE155M	BTS-1.5 Meg.	AVC Network
R30	22KΩ	1/2	RC20AE223K	BTS-22K	Oscillator Grid
R31	12KΩ	1/2	RC20AE123K	BTS-12K	1st Video IF Grid
R32	100Ω	1/2	RC20AE101K		1st Video IF Cathode
R33	1000Ω 20%	1/2	RC20AE102M	BTS-1000	1st Video IF Screen Dropping
R34	1000Ω 20%	1/2	RC20AE102M	BTS-1000	1st Video IF Plate Decoupling
R35	10KΩ 20%	1/2	RC20AE103M	BTS-10K	AGC Network
R36	10KΩ 20%	1/2	RC20AE103M	BTS-10K	AGC Network
R37	82000Ω	1/2	RC20AE822K		2nd Video IF Transformer Shunt
R38	100Ω	1/2	RC20AE101K		2nd Video IF Cathode
R39	1000Ω 20%	1/2	RC20AE102M	BTS-1000	2nd Video IF Screen Dropping
R40	1000Ω 20%	1/2	RC20AE102M	BTS-1000	2nd Video IF Plate Decoupling
R41	4700Ω	1/2	RC20AE472K	BTS-4700	3rd Video IF Transformer Shunt
R42	68Ω	1/2	RC20AE680K		3rd Video IF Cathode
R43	100KΩ	1	RC30AE104K		3rd Video IF Screen Dropping
R44	1000Ω 20%	1/2	RC20AE102M	BTS-1000	3rd Video IF Plate Decoupling
R45	470KΩ	1/2	RC20AE474K	BTS-470K	AGC Network
R46	470KΩ	1/2	RC20AE474K	BTS-470K	AGC Network
R47	100KΩ 20%	1/2	RC20AE104M	BTS-100K	AGC Network
R48	220KΩ	1	RC20AE224K	BTA-220K	AGC Network
R49	4700Ω	1/2	RC20AE472K	BTS-4700	4th Video IF Transformer Shunt
R50	68Ω	1/2	RC20AE680K		4th Video IF Cathode
R51	47KΩ	1	RC30AE473K		4th Video IF Screen Dropping
R52	1000Ω 20%	1/2	RC20AE102M	BTS-1000	4th Video IF Plate Decoupling
R53	4700Ω	1/2	RC20AE472K	BTS-4700	Video Detector Diode Load
R54	22KΩ 20%	1/2	RC20AE223M	BTS-22K	Sync. Coupling
R55	68KΩ	1	RC30AE683K	BTA-68K	Video Output Screen Dropping
R56	22KΩ	1/2	RC20AE223K	BTS-22K	Peaking Coil Shunt
R57	3600Ω 5%	1	RC30AE362J		Video Output Plate Load
R58	47KΩ	1/2	RC20AE473K	BTS-47K	Isolation
R59	1 Meg.	1/2	RC20AE105K	BTS-1 Meg.	DC Restorer Grid
R60	2.2 Meg.	1/2	RC20AE225K	BTS-2.2 Meg.	Picture Tube Grid
R61	47KΩ	1/2	RC20AE473K	BTS-47K	Voltage Divider
R62	6800Ω	1/2	RC20AE682K	BTS-6800	Voltage Divider
R63	47KΩ	1/2	RC20AE473K	BTS-47K	Voltage Divider
R64	100Ω	1/2	RC20AE101K		1st Sound IF Cathode
R65	47KΩ	1	RC30AE473K	BTA-47K	1st Sound IF Screen Dropping
R66	5600Ω	1	RC30AE562K	BTA-5600	1st Sound IF Plate Decoupling
R67	100KΩ	1/2	RC20AE104K	BTS-100K	2nd Sound IF Grid
R68	68KΩ	1	RC30AE683K	BTA-68K	2nd Sound IF Decoupling
R69	1 Meg.	1/2	RC20AE105K	BTS-1 Meg.	AVC Network
R70	47KΩ	1/2	RC20AE473K	BTS-47K	Diode RF Filter
R71	2.2 Meg.	1/2	RC20AE225K	BTS-2.2 Meg.	Diode Load
R72	1 Meg.	1/2	RC20AE105K	BTS-1 Meg.	AVC Network
R73	100Ω	1/2	RC20AE101K		Balancing
R74	33KΩ	1/2	RC20AE333K	BTS-33K	De-emphasis
R75	6800Ω 5%	1/2	RC20AE682J	BTS-6800-5%	Ratio Detector Diode Load
R76	6800Ω 5%	1/2	RC20AE682J	BTS-6800-5%	Ratio Detector Diode Load
R77	4700Ω	1/2	RC20AE472K	BTS-4700	Tone Compensation
R78	10 Meg. 20%	1/2	RC20AE106M	BTS-10 Meg.	AF Amp. Grid
R79	470KΩ	1/2	RC20AE474K	BTS-470K	AF Amp. Plate Load
R80	150KΩ	1/2	RC20AE154K	BTS-150K	AF Amp. Plate Decoupling
R81	1 Meg.	1/2	RC20AE105K	BTS-1 Meg.	Feedback
R82	33Ω 20%	1/2	RC20AE330M	BW-$\frac{1}{2}$-33	Parasitic Suppressor
R83	220KΩ	1/2	RC20AE224K	BTS-220K	Output Grid
R84	180Ω	2	RC40AE181K	BW-2-180	Output Cathode
R85	3900Ω	1/2	RC20AE392K	BTS-3900	Output Screen Dropping
R86	470Ω	4	V-6067-6		Output Decoupling-Wire Wound
R87	1670Ω	10	V-9085-4		Bleeder-Wire Wound
R88	4700Ω	1/2	RC20AE472K	BTS-4700	AGC Amp. Grid
R89	10KΩ	2	RC40AE103K	BT-2-10K	AGC Amp. Cathode
R90	1800Ω 5%	1/2	RC20AE182J	BTS-1800-5%	Voltage Divider
R91	1 Meg.	1/2	RC20AE105K	BTS-1 Meg.	Voltage Divider
R92	470KΩ	1/2	RC20AE474K	BTS-470K	Charge Limiting
R93	15KΩ	1/2	RC20AE153K	BTS-15K	Sync. Sep. Plate Load
R94	2.2 Meg.	1/2	RC20AE225K	BTS-2.2 Meg.	Noise Clipper Diode Load
R95	1 Meg.	1/2	RC20AE105K	BTS-1 Meg.	Sync. Amp. Grid
R96	150KΩ	1/2	RC20AE154K	BTS-150K	Sync. Amp. Plate Load
R97	22KΩ	1/2	RC20AE223K	BTS-22K	Voltage Divider
R98	1 Meg.	1/2	RC20AE105K	BTS-1 Meg.	Phase Inv. Grid
R99	2700Ω	1/2	RC20AE272K	BTS-2700	Phase Inv. Cathode
R100	470Ω	1/2	RC20AE471K	BTS-470	Phase Inv. Cathode
R101	2700Ω	1/2	RC20AE272K	BTS-2700	Phase Inv. Plate Load
R102A	22KΩ	1/2			Integrator Network
B	8200Ω	1/2	*		Integrator Network
C	8200Ω	1/2			Integrator Network
R103	1000Ω	1/2	RC20AE102K	BTS-1000	Vert. MV Cathode
R104	100KΩ	1/2	RC20AE104K	BTS-100K	Vert. MV Plate Load
R105	470KΩ	1/2	RC20AE474K	BTS-470K	Vert. MV Grid
R106	390KΩ	1/2	RC20AE394K	BTS-390K	Vert. MV Plate Load
R107	4700Ω	1/2	RC20AE472K	BTS-4700	Vert. Peaking
R108	47KΩ	1/2	RC20AE473K	BTS-47K	Decoupling
R109	2.2 Meg.	1/2	RC20AE225K	BTS-2.2 Meg.	Vert. Output Grid
R110	470Ω	1	RC30AE471K	BTA-470	Vert. Output Cathode
R111	470Ω	1	RC30AE471K	BTA-470	Vert. Output Decoupling
R112	680Ω	10	V-9085-5		Decoupling-Wire Wound
R113	68KΩ	1/2	RC20AE683K	BTS-68K	Hor. AFC Diode Load

ITEM No.	RATING		RE WESTING PART
	RESISTANCE	WATTS	
R114	220KΩ	1	RC30AE
R115	220KΩ	1	RC30AE
R116	100KΩ 5%	1/2	RC20AE
R117	100KΩ 5%	1/2	RC20AE
R118	4.7 Meg. 20%	1/2	RC20AE
R119	470KΩ	1/2	RC20AE
R120	1800Ω	1/2	RC20AE
R121	5600Ω	1/2	RC20AE
R122	33KΩ	1	RC30AE
R123	220KΩ 5%	1/2	RC20AE
R124	220KΩ	1/2	RC20AE
R125	33KΩ	1	RC30AE
R126	27KΩ	1/2	RC20AE
R127	100KΩ	1/2	RC20AE
R128	150Ω	3	V-6067-
R129	100Ω	1/2	RC20AE
R130	100Ω	1/2	RC20AE
R131	10KΩ	5	V-6984-
R132	2KΩ	5	V-6984-
R133	560Ω	5	V-6984-
R134	68Ω	1/2	RC20AE
R135	33KΩ	2	RC40AE
R136	68KΩ	1/2	RC20AE
R137	100KΩ	1/2	RC20AE
R138	110Ω	3	V-4758
R139	1000Ω	2	RC40AE
R140	100Ω	1/2	RC20AE

Note 1. Some models use 1000Ω res
Note 2. Some models use 4700Ω res
Note 3. Some models use 270KΩ res
Note 4. Some models use 22KΩ resi
Note 5. Some models use 68KΩ resi
* Items R102A, R102B, R102C, C86A

ITEM No.	RATING		
	PRI.	SEC. 1	SEC. 2
T1	117VAC @ 2.5A	660VCT .300ADC	5VAC @ 6A

ITEM No.	RATING			
	PRI.	SEC. 1	SEC. 2	
T2	117VAC @ .1A	6.3VAC @ 1.2A		

② Drill one new mounting hole.

TR

ITEM No.	RATING		WESTING PART
	DC RESISTANCE		
	PRI.	SEC.	
T3	440Ω		V-9230-2
T4	650Ω	8.7Ω	V-9584-1
T5A	37Ω		V-6486-4
B	60Ω		
T6	240Ω		V-9590-3
T7	2Ω	700Ω	V-9278
		SEC. 2	
		0Ω	

TI

ITEM No.	RATING				
	IMPEDANCE		DC RES.		
	PRI.	SEC.	PRI.	SEC.	
T8	2000Ω	4.5Ω	140Ω	.5Ω	

ITEM No.	RATINGS		WI
	FIELD RES.	V. C. IMP.	
SP1	PM	4Ω	V
	CONE DIA.	V. C. DIA.	
SP2	9 1/4"	1"	

ITEM No.	RATINGS		INDI (0
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	
L1	.300ADC	41.5Ω	1.4

PTIONS (Continued)

TORS

IDENTIFICATION CODES ALL RESISTORS ARE ± 10% UNLESS OTHERWISE STATED.
RF Amp. Grid -See Note 1
RF Amp. Cathode
RF Amp. Decoupling - See note 2.
Mixer Grid-See Note 3
Mixer Plate Load
Osc. Grid-See Note 4
Osc. Plate Load
AGC Network
Decoupling
Parasitic Suppressor
FM-RF Amp. Cathode
FM-RF Amp. Plate Decoupling
FM Mixer Grid
FM Mixer Decoupling
Parasitic Suppressor
AM Ant. Loading
AM Conv. Screen Dropping
AM Conv. Screen Dropping
AM Conv. Plate Decoupling
AVC Network
Oscillator Grid
1st Video IF Grid
1st Video IF Cathode
1st Video IF Screen Dropping
1st Video IF Plate Decoupling
AGC Network
AGC Network
2nd Video IF Transformer Shunt
2nd Video IF Cathode
2nd Video IF Screen Dropping
2nd Video IF Plate Decoupling
3rd Video IF Transformer Shunt
3rd Video IF Cathode
3rd Video IF Screen Dropping
3rd Video IF Plate Decoupling
AGC Network
AGC Network
AGC Network
AGC Network
4th Video IF Transformer Shunt
4th Video IF Cathode
4th Video IF Screen Dropping
4th Video IF Plate Decoupling
Video Detector Diode Load
Sync. Coupling
Video Output Screen Dropping
Peaking Coil Shunt
Video Output Plate Load
Isolation
DC Restorer Grid
Picture Tube Grid
Voltage Divider
Voltage Divider
Voltage Divider
1st Sound IF Cathode
1st Sound IF Screen Dropping
1st Sound IF Plate Decoupling
2nd Sound IF Grid
2nd Sound IF Decoupling
AVC Network
Diode RF Filter
Diode Load
AVC Network
Balancing
De-emphasis
Ratio Detector Diode Load
Ratio Detector Diode Load
Tone Compensation
AF Amp. Grid
AF Amp. Plate Load
AF Amp. Plate Decoupling
Feedback
Parasitic Suppressor
Output Grid
Output Cathode
Output Screen Dropping
Output Decoupling-Wire Wound
Bleeder-Wire Wound
AGC Amp. Grid
AGC Amp. Cathode
Voltage Divider
Voltage Divider
Charge Limiting
Sync. Sep. Plate Load
Noise Clipper Diode Load
Sync. Amp. Grid
Sync. Amp. Plate Load
Voltage Divider
Phase Inv. Grid
Phase Inv. Cathode
Phase Inv. Cathode
Phase Inv. Plate Load
Integrator Network
Integrator Network
Integrator Network
Vert. MV Cathode
Vert. MV Plate Load
Vert. MV Grid
Vert. MV Plate Load
Vert. Peaking
Decoupling
Vert. Output Grid
Vert. Output Cathode
Vert. Output Decoupling
Decoupling-Wire Wound
Hor. AFC Diode Load

RESISTORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	WESTINGHOUSE PART No.	IRC PART No.	
R114	220KΩ	1	RC30AE224K	BTA-220K	Hor. Feedback
R115	220KΩ	1	RC30AE224K	BTA-220K	Hor. Feedback
R116	100KΩ 5%	½	RC20AE104J	BTS-100K-5%	Hor. AFC Diode Load
R117	100KΩ 5%	½	RC20AE104J	BTS-100K-5%	Hor. AFC Diode Load
R118	4.7 Meg. 20%	½	RC20AE475M	BTS-4.7 Meg.	Hor. AFC Diode Load
R119	470KΩ	½	RC20AE474K	BTS-470K	Hor. AFC Filter Network
R120	1800Ω	½	RC20AE182K	BTS-1800	Hor. MV Cathode
R121	5600Ω	½	RC20AE562K	BTS-5600	Hor. MV Plate Load
R122	33KΩ	1	RC30AE333K	BTA-33K	Hor. MV Plate Decoupling
R123	220KΩ 5%	½	RC20AE224J	BTS-220K-5%	Hor. MV Grid
R124	220KΩ	½	RC20AE224K	BTS-220K	Hor. MV Plate Load
R125	33KΩ	1	RC30AE333K	BTA-33K	Hor. MV Plate Decoupling
R126	27KΩ	½	RC20AE273K	BTS-27K	Hor. Peaking
R127	100KΩ	½	RC20AE104K	BTS-100K	Hor. Output Grid
R128	150Ω	3	V-6067-4	AB-150	Hor. Output Cathode-Wire Wound
R129	100Ω	½	RC20AE101K		Parasitic Suppressor
R130	100Ω	½	RC20AE101K		Parasitic Suppressor
R131	10KΩ	5	V-6984-5	AB-10K	Hor. Output Screen Dropping-Wire Wound
R132	2KΩ	5	V-6984-1	AB-2000	Damper Filter-Wire Wound
R133	560Ω	5	V-6984-6		Decoupling-Wire Wound
R134	68Ω	½	RC20AE680K	BW-½-68	HV Osc. Plate Decoupling
R135	33KΩ	2	RC40AE333K	BT-2-33K	HV Osc. Screen Dropping-See Note 5
R136	68KΩ	½	RC20AE683K	BTS-68K	HV Osc. Grid
R137	100KΩ	½	RC20AE104K		HV Filter
R138	110Ω	3	V-4758		Focus Coil Shunt-Wire Wound
R139	1000Ω	2	RC40AE102K	BT-2-1000	Focus Coil Shunt
R140	100Ω	½	RC20AE101K		Parasitic Suppressor

Note 1. Some models use 1000Ω resistor in this application.
Note 2. Some models use 4700Ω resistor in this application.
Note 3. Some models use 270KΩ resistor in this application.
Note 4. Some models use 22KΩ resistor in this application.
Note 5. Some models use 68KΩ resistor in this application.
* Items R102A, R102B, R102C, C86A, C86B and C86C are combined into one unit. See C86 for parts listings.

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	WESTINGHOUSE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	117VAC @ 2.5A	660VCT .300ADC	5VAC @ 6A	12.6VCT @ 6A	V-6988		P-3061	TP-365

TRANSFORMER (FILAMENT)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	WESTINGHOUSE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T2	117VAC @ .1A	6.3VAC @ 1.2A			V-6481-2	P-6134 ②	P-2945 ②	F-633 ②

② Drill one new mounting hole.

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	DC RESISTANCE		WESTINGHOUSE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.					
T3	440Ω		V-9230-2				Hor. Output Choke
T4	650Ω	8.7Ω	V-9584-1	A-8113	A-3036	TSO-5 ②	Vert. Output Trans.
T5A	37Ω		V-6486-4				Hor. Deflection Coil
B	60Ω						Vert. Deflection Coil
T6	240Ω		V-9590-3		MF-1		Focus Coil
T7	2Ω	700Ω	V-9278				HV Trans.
		SEC. 2					
		0Ω					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		WESTING. PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T8	2000Ω	4.5Ω	140Ω	.5Ω	V-9685	A-3876 ②	A-3018	RO-2	② Drill one new mounting hole.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	WESTINGHOUSE PART No.	JENSEN PART No.	QUAM PART No.	
SP1	PM	4Ω	V-9335		10A31	
	CONE DIA.	V. C. DIA.				
SP2	9 1/4"	1"				

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 ~)	WESTING. PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
L1	.300ADC	41.5Ω	1.4 Henries	V-6471	C-2996 ②	C-2326 ③	TR-3300②	② Drill one new mounting hole. ③ Cut off tips of mounting feet and drill new holes as required.

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	WESTINGHOUSE PART No.	MEISSNER PART No.	
L2	Ant. Coil	0Ω				Part of tuner #V-8210
L3	Ant. Coil	0Ω				Part of tuner #V-8210
L4	RF Coil	0Ω				Part of tuner #V-8210
L5	Osc. Coil	0Ω				Channel 6, part of tuner #V-8210
L6	Osc. Coil	0Ω				Channel 13, part of tuner #V-8210
L7	Fil. Choke	.5Ω				Part of tuner,#V-8210
L8	1st Video IF	.5Ω				Part of tuner #V-8210
L9	Fil. Choke	.1Ω		V-9099-1		
L10	AM Loop Ant.	3Ω		V-5982-2		
L11	Ant. Loading	1.8Ω		V-6157		
L12	AM Osc.	9.5Ω		V-9352		Tap at .6Ω
L13	Fil. Choke	.1Ω		V-4886-2		
L14	Fil. Choke	.1Ω		V-4886-2		
L15	FM Ant.	0Ω		V-9355		
L16	RF Choke	1.9Ω		V-4886-4		
L17	RF Choke	.1Ω		V-4886-10		
L18	FM Mixer Grid Coil	0Ω		V-9317-2		
L19	FM Osc. Coil	0Ω		V-9353		
L20	Para. Supp.	0Ω		V-4886-7		Wound on 22Ω resistor
L21	2nd Video IF	.9Ω	.9Ω	V-9586-3		
L22	3rd Video IF	.9Ω	.9Ω	V-9586-2		
L23	Fil. Choke	.5Ω		V-9099-1		
L24	4th Video IF	.9Ω	.9Ω	V-9586-2		
L25	Sound Trap	0Ω	0Ω	V-9592		
L26	Fil. Choke	.5Ω		V-9099-1		
L27	5th Video IF	.9Ω	.9Ω	V-9586-3		
L28	Fil. Choke	1.7Ω		V-9099-2		
L29	Peaking	4.7Ω		V-5902-4	19-1920	100 microhenries
L30	Sound Trap	1.9Ω		V-9591		
L31	Peaking	5.7Ω		V-5902-1	19-1921	140 microhenries
L32	Peaking	7.8Ω		V-5902-5	19-1922	250 microhenries
L33	1st TV-FM Sound IF	2.4Ω	2.4Ω	V-9370		
L34	1st AM IF	17Ω	17Ω	V-6130-1		
L35	2nd TV-FM Sound IF	2.4Ω	2.4Ω	V-9371		
L36	2nd AM IF	17Ω	17Ω	V-6130-2		
L37	Fil. Choke	.5Ω		V-9099-1		
L38	Ratio Det. Trans.	5.6Ω	.8Ω	V-9340		
L39	Fil. Choke	.5Ω		V-9099-1		
L40	Ringing Coil	100Ω		V-6764		
L41	RF Choke	16Ω		V-9279-1		

PHONO CARTRIDGE and NEEDLE

ITEM No.	REPLACEMENT DATA					REMARKS
	WESTINGHOUSE PART No.	ASTATIC PART No.		SHURE PART No.		
		CARTRIDGE	NEEDLE	CARTRIDGE	NEEDLE	
M1		ACD-J	A-1 A-3	W22AB	A62A A65MG	

ASTATIC AND SHURE NEEDLE LISTINGS SHOWN ABOVE ARE SPECIFIED FOR THE RESPECTIVE REPLACEMENT CARTRIDGES LISTED.

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					WESTINGHOUSE PART No.		
M2	Bayonet	6-8	.25	Blue	W#44		Type #44

MISCELLANEOUS

ITEM No.	PART NAME	WESTINGHOUSE PART No.	NOTES
M3	RF Tuner	V-8210	Alternate part #V-9502-1
M4	Switch	V-9618	Function, Phono-AM-FM-TV-UHF
M5	Ion Trap	V-6573-4	
M6	Tuning Cap.	V-9349-2	
	Trimmer	V-6454	HV Osc.
	Safety Glass	V-9536-2	Mahogany cabinet
	Safety Glass	V-9536-3	Blonde cabinet
	Cabinet	V-1202-1	Mahogany
	Cabinet	V-1202-2	Blonde
	Dial	V-9316	AM-FM
	Knob	V-6284-7	Channel selector, mahogany
	Knob	V-6284-9	Channel selector, blonde
	Knob	V-6284-2	Function switch, mahogany
	Knob	V-6284-3	Function switch, blonde
	Knob	V-6146-1	Contrast, volume, Horiz. hold, mahogany
	Knob	V-6146-6	Contrast, volume, Horiz. hold, blonde
	Knob	V-9731-1	TV antenna, mahogany
	Knob	V-9731-2	TV antenna, blonde
	Knob	V-9104-1	Brightness, Vert. hold
	Knob	V-9471-1	Picture expander
	Knob	V-9104-2	AM-FM tuning
	Knob	V-9104-4	Fine tuning

HORIZONTAL RINGING COIL ADJUSTMENT

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

Trun the magnifier switch to the "magnified" position (clockwise).

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

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

HORIZONTAL WIDTH ADJUSTMENT

Turn the magnifier switch to the "magnified" position (clockwise) and adjust the horizontal hold control until the picture synchronizes horizontally.

Turn the magnifier switch to the "normal' position (counterclockwise) and without touching the horizontal hold control turn the width control until the picture synchronizes and is of proper width.

VERTICAL HEIGHT AND LINEARITY ADJUSTMENTS

Turn the magnifier switch to the "normal' position (counterclockwise).

Adjsut the height control and the vertical linearity control until the picture is of proper height and is symmetrical from top to bottom.

These two controls are interacting and will require alternate adjustment to obtain proper results.

Turn the magnifier switch to the "magnified" position (clockwise).

Adjust the vertical linearity magnifier control and the height magnifier control alternately until the picture is symmetrical from left to right.

Each time the "normal" height and linearity controls are changed, the magnified controls will require adjustment.

HIGH VOLTAGE OSCILLATOR ADJUSTMENT

Turn off the receiver and disconnect the high voltage lead from the picture tube.

Connect 18 one megohm , one watt, resistors in series from the high voltage lead to chassis.

Connect the high voltage multiplier probe of a VTVM to the high voltage lead and connect the commom lead to chassis.

Turn the receiver on and adjust the high voltage oscillator trimmer (B2) until the meter reads approximately 9.3KV.