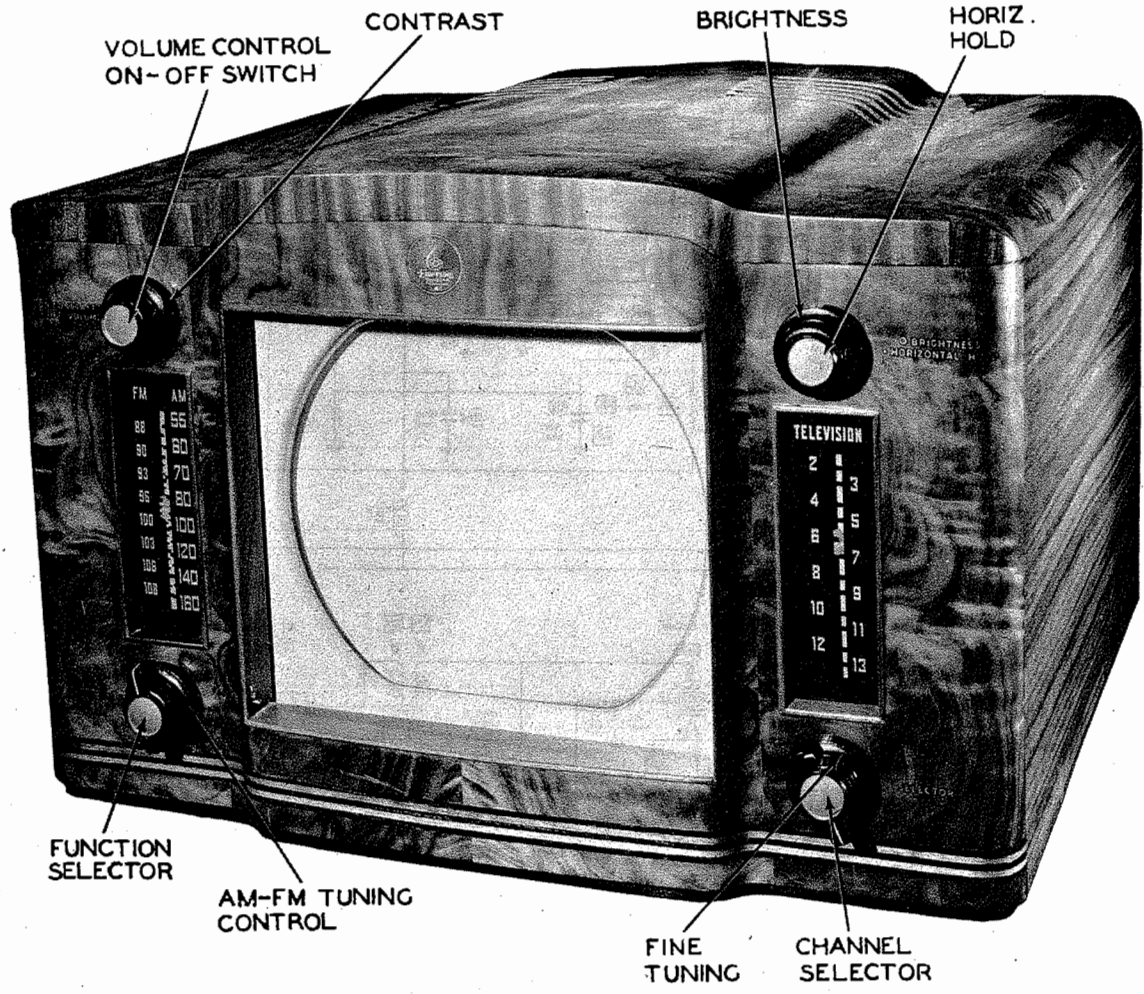


DIAL CORD STRINGING

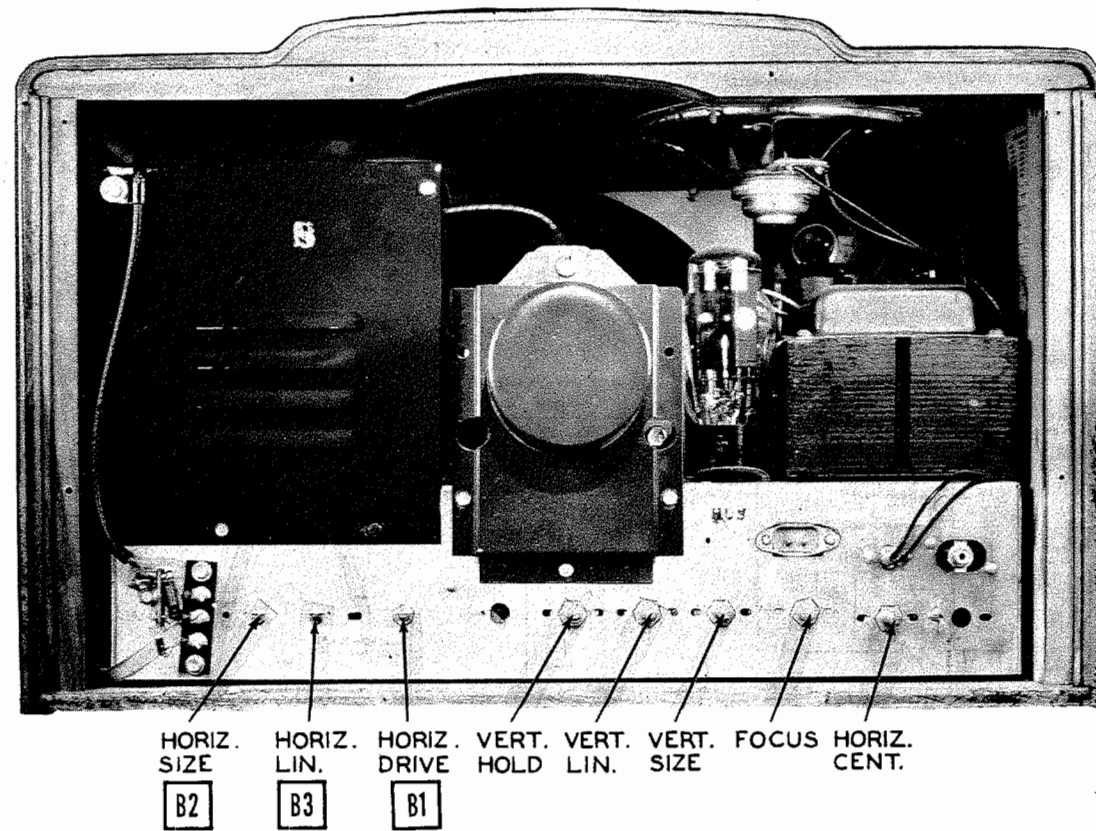


EMERSON MODEL 628	
TRADE NAME	Emerson, Models 621 (Ch. 120098B), 622 (Ch. 120098P), 628 (Ch. 120098B), 630 (Ch. 120098B)
MANUFACTURER	Emerson Radio and Phono Corp., 111 Eighth Ave., New York 11, New York
TYPE SET	TV-AM-FM-Phono Combination Receiver (Models 621 and 628 "TV" only)
TUBES	Twenty Eight (Models 622 and 630) Twenty Five (Models 621 and 628)
POWER SUPPLY	110-120 Volts AC-60 Cycle
TUNING RANGE	TV Channels 2 thru 13, AM 540-1620KC, FM 88-108MC
RATING	(TV) 2.1' Amp. at 117 Volts AC
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CABINET-REAR VIEW

## HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

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

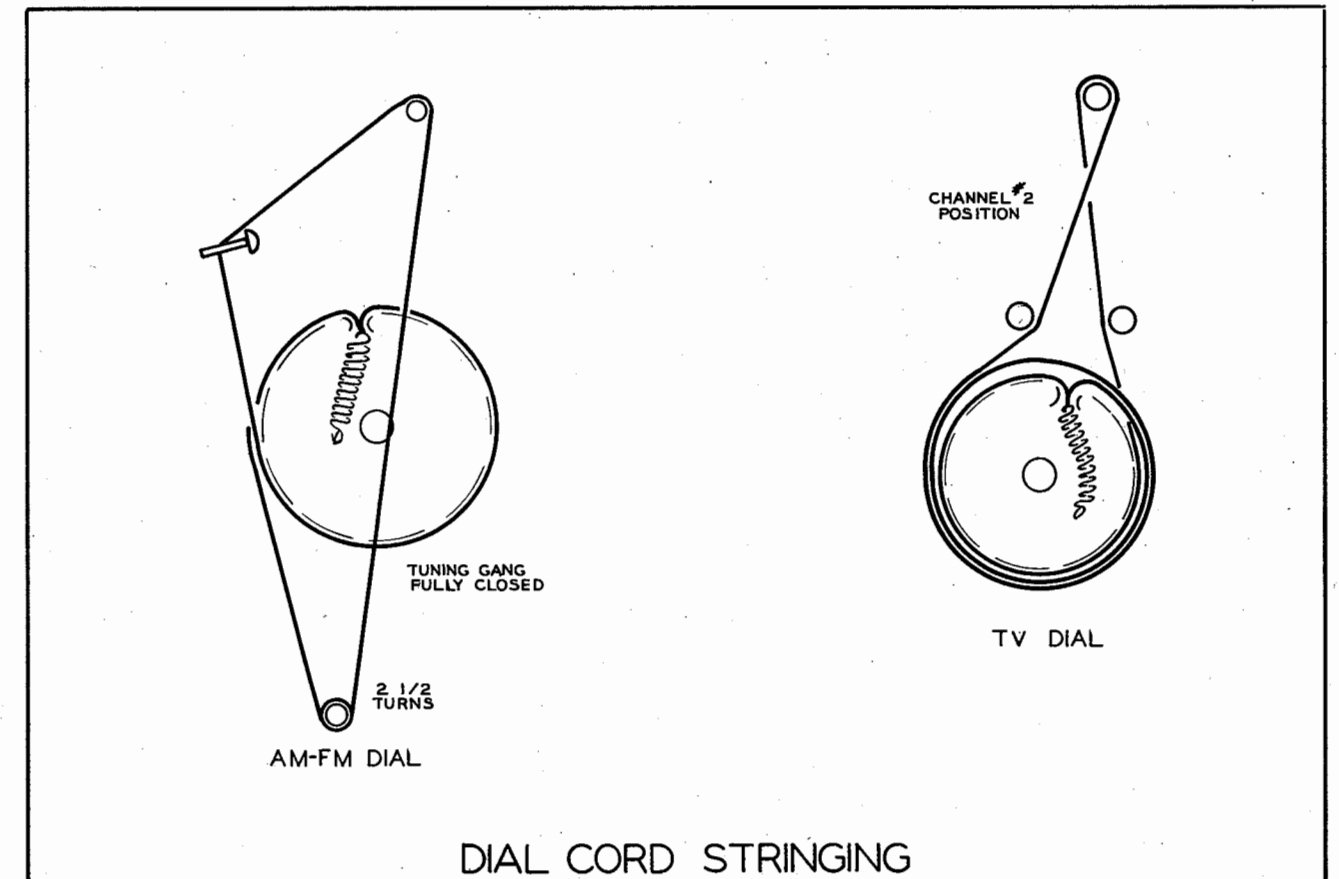
Turn the horizontal drive trimmer (B1) clockwise as far as possible without crowding the right side of the picture.

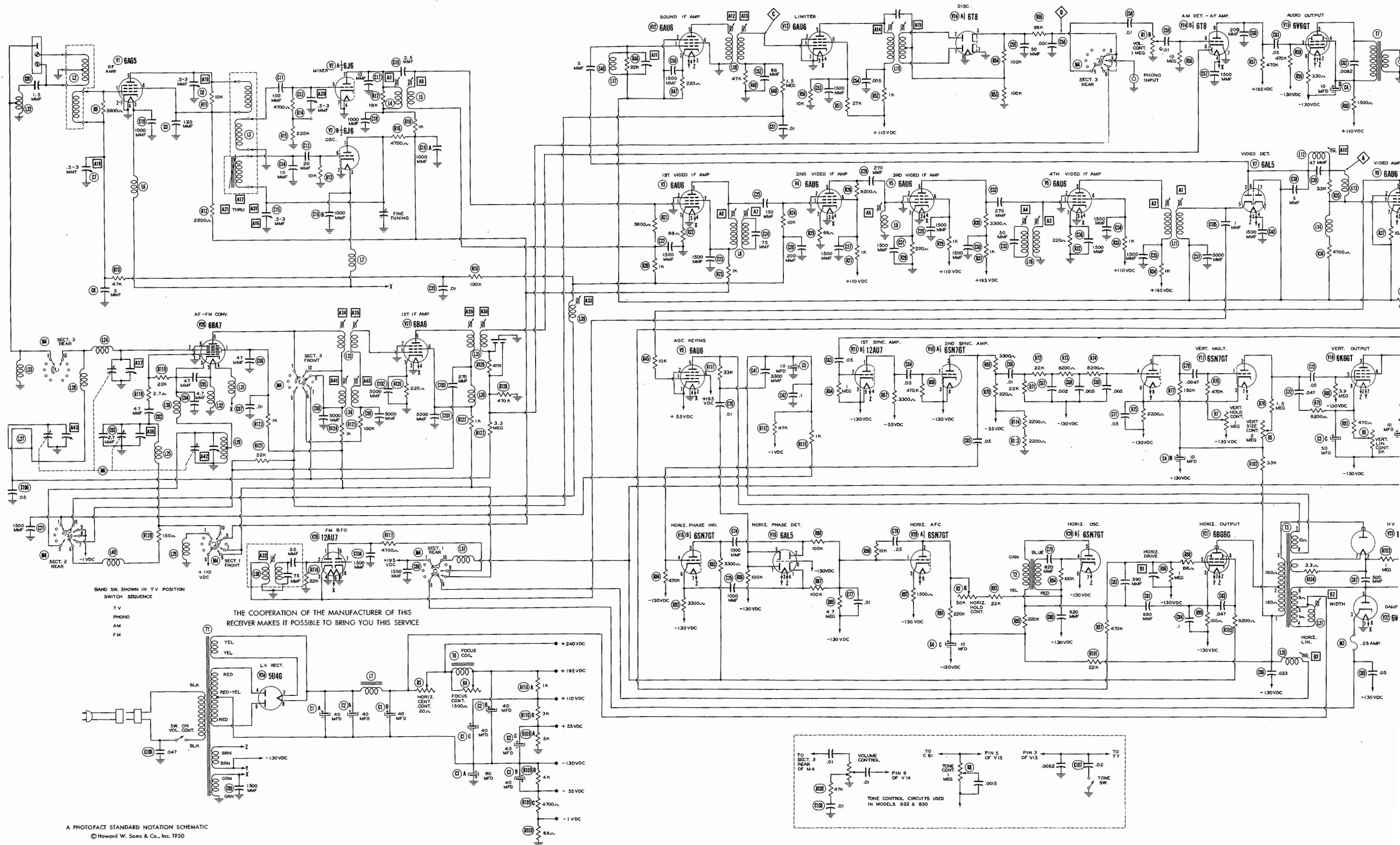
Adjust the horizontal size slug (B2) until picture fills the mask horizontally.

Adjust horizontal linearity slug (B3) for best linearity from left to right. A slight readjustment of B1 may be necessary for optimum results.

## DISASSEMBLY INSTRUCTIONS

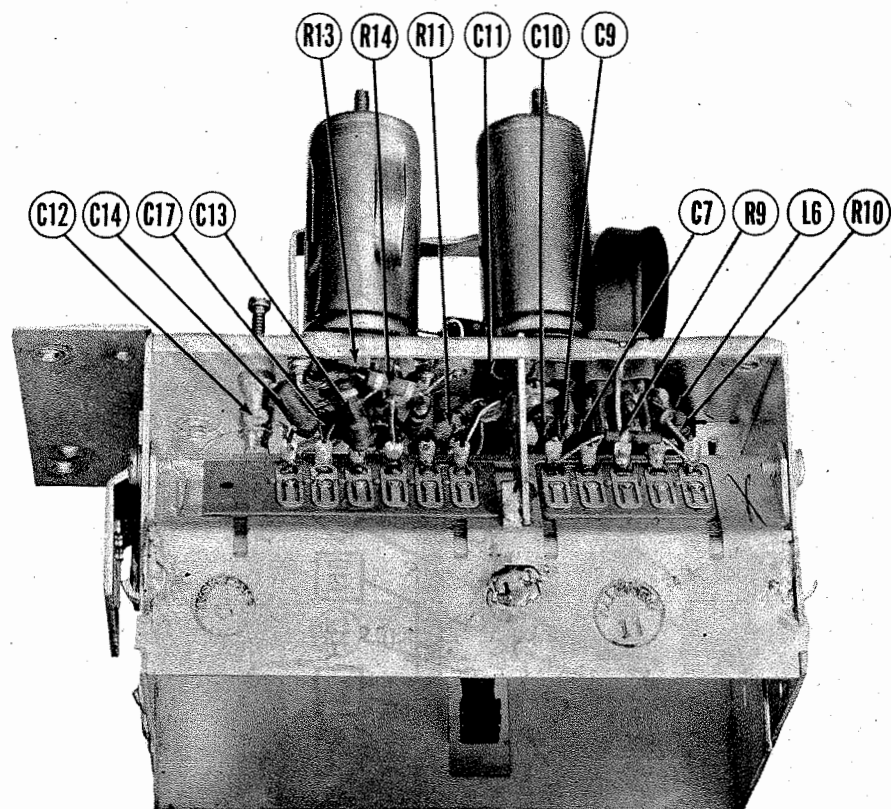
1. Remove eight push-on type control knobs located on front of cabinet.
2. Remove six phillips head wood screws from rear cover. Remove rear cover.
3. Remove four 5/8" hex head bolts holding chassis in cabinet. Remove chassis.
4. Remove three 1/4" hex head front shield guarding rear of CRT. Remove guard.



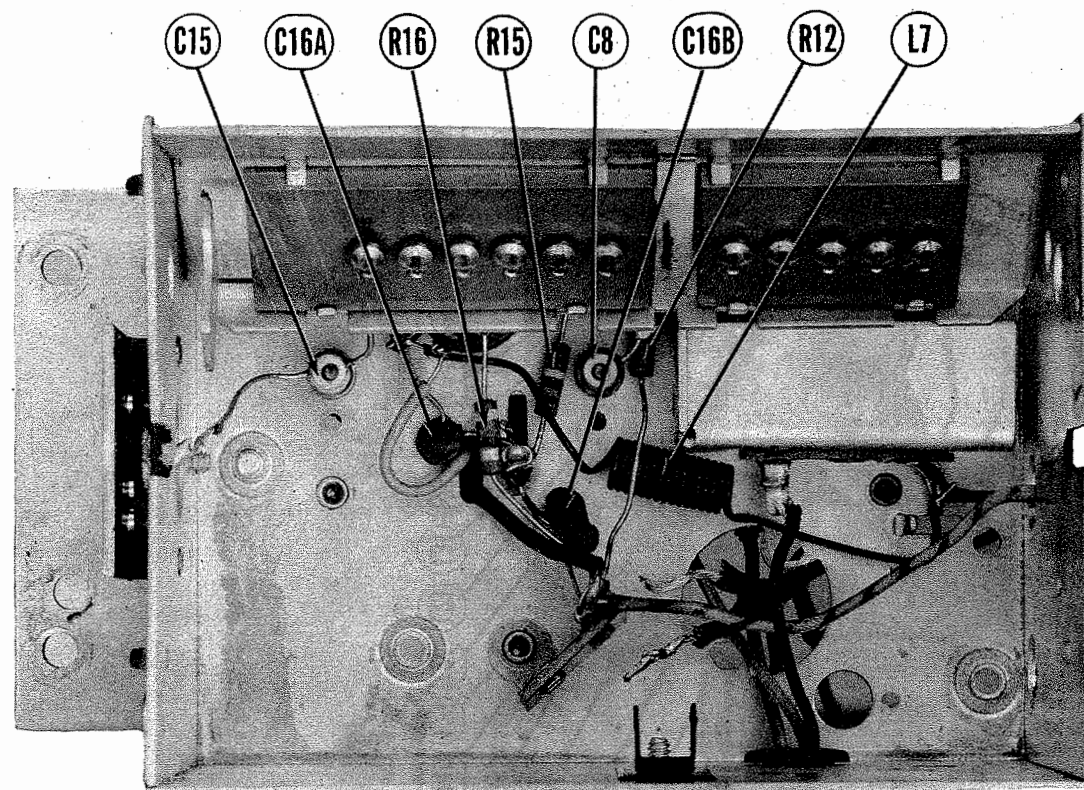




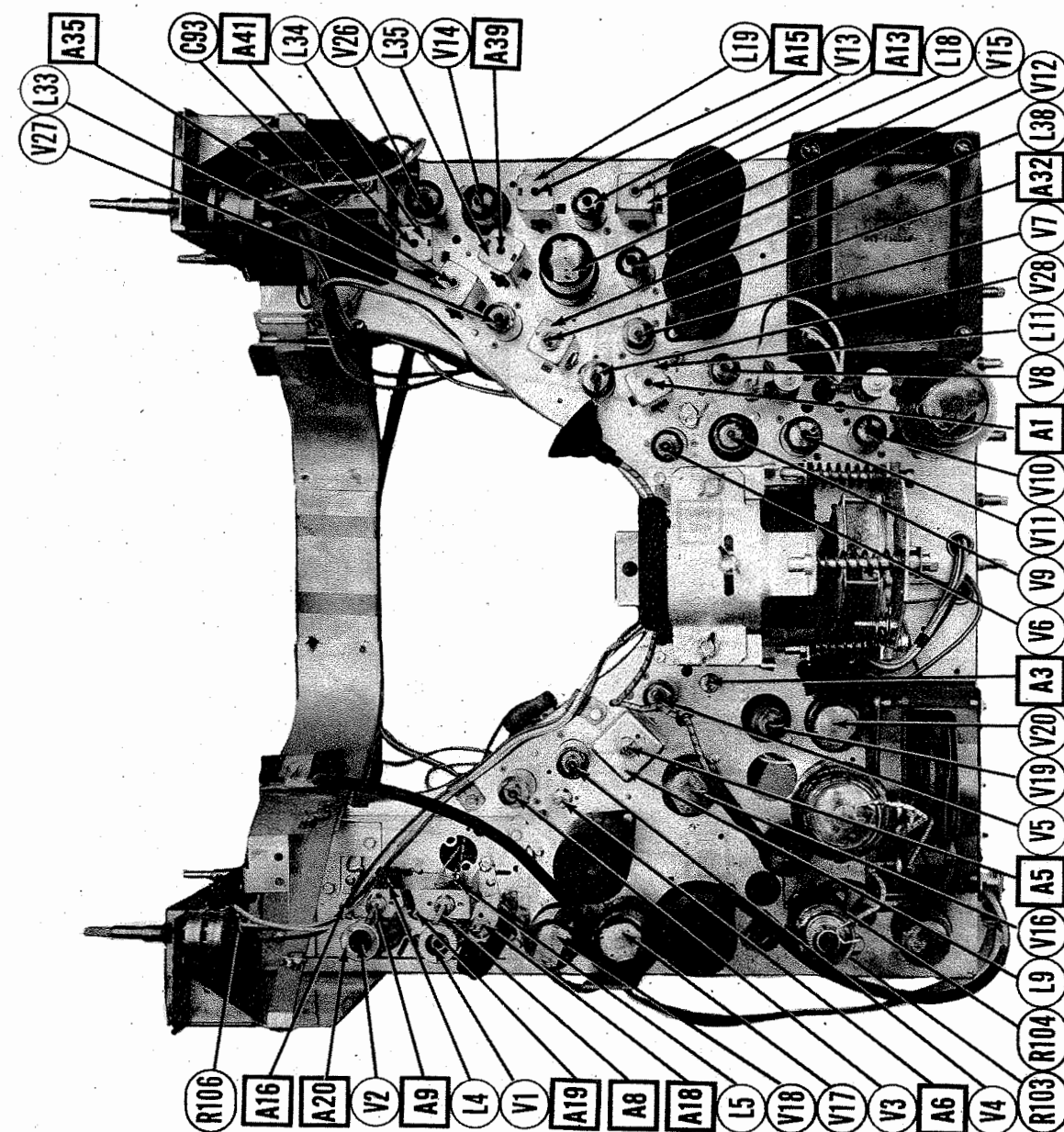


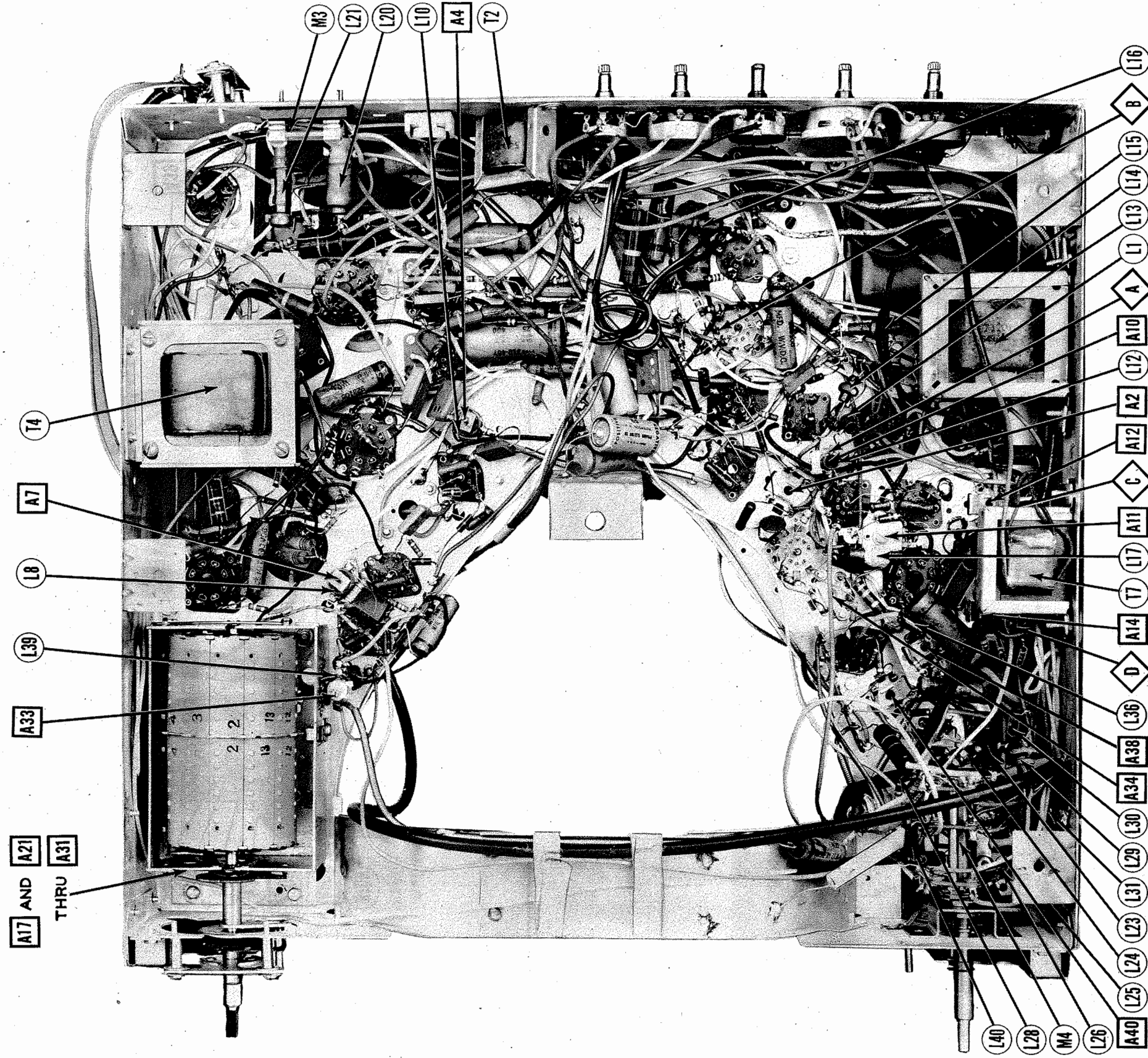


RF TUNER-RIGHT SIDE



RF TUNER-BOTTOM VIEW





CHASSIS BOTTOM VIEW-TRANS., INDUCTOR AND ALIGNMENT IDENTIFICATION

EMERSON  
MODELS 621, 622, 628, 630



VOLTAGE AND RESISTANCE MEASUREMENTS

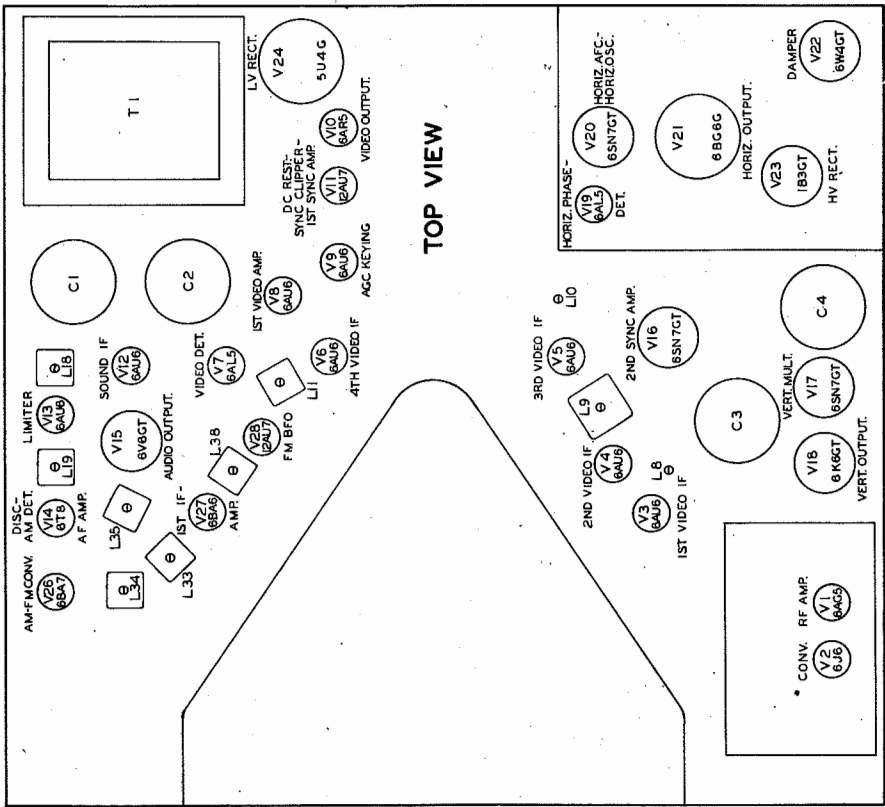
VOLTAGE READINGS									
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V 1	6AG5	-4VDC	0V.	6.3VAC	0V.	85VDC	85VDC	0V.	
V 2	6B6	85VDC	100VDC	6.3VAC	0V.	-1VDC	5-4.5VDC	0V.	
V 3	6AU6	-1.7VDC	0V.	0V.	6.3VAC	100VDC	100VDC	.3VDC	
V 4	6AU6	-1.7VDC	0V.	0V.	6.3VAC	75VDC	100VDC	.3VDC	
V 5	6AU6	0V.	0V.	0V.	6.3VAC	175VDC	100VDC	1.2VDC	
V 6	6AU6	0V.	0V.	0V.	6.3VAC	185VDC	100VDC	1.2VDC	
V 7	6AL5	0V.	.2VDC	6.3VAC	0V.	.2VDC	.2VDC	0V.	
V 8	6AU6	-1.1VDC	.2VDC	0V.	6.3VAC	135VDC	130VDC	.3VDC	
V 9	6AU6	1-43VDC	40V.	6.3VAC	0V.	1-42VDC	1145VDC	10V.	
V 10	6AR5	-1.4VDC	9.5VDC	0V.	6.3VAC	225VDC	130VDC	0V.	
V 11	12AU7	55VDC	-2VDC	0V.	6.3VAC	6.3VAC	9.5VDC	0V.	1.2VDC
V 12	6AU6	.2VDC	.2VDC	6.3VAC	0V.	130VDC	130VDC	1.5VDC	
V 13	6AU6	-3VDC	0V.	0V.	6.3VAC	105VDC	28VDC	0V.	
V 14	6B8	-5VDC	-5VDC	-1VDC	6.3VAC	0V.	-4VDC	0V.	-5VDC
V 15	6V6GT	0V.	6.3VAC	185VDC	0V.	0V.	0V.	0V.	11VDC
V 16	6SN7GT	-1.5VDC	85VDC	0V.	0V.	280VDC	13VDC	6.3VAC	0V.
V 17	6SN7GT	-2VDC	35VDC	4.2VDC	0V.	110VDC	4.2VDC	6.3VAC	0V.
V 18	6K6GT	360VDC	6.3VAC	285VDC	265VDC	0V.	0V.	0V.	37VDC
V 19	6AL5	3VDC	-3.7VDC	0V.	6.3VAC	0V.	0V.	0V.	
V 20	6SN7GT	.2VDC	35VDC	1.5VDC	-36VDC	120VDC	0V.	6.3VAC	0V.
V 21	6B6G3	0V.	6.3VAC	7VDC	-1VDC	0V.	0V.	230VDC	TOP CAP
V 22	6W4GT	0V.	0V.	300VDC	0V.	230VDC	0V.	6.3VAC	
V 23	1B3GT	* DO NOT MEASURE.							
V 24	5U4G	0V.	255VDC	125VAC	360VAC	0V.	360VAC	0V.	255VDC
V 25	10B9P4	#0V.	-110VDC	190VDC	PIN 12 #6.3VAC	0V.	0V.	0V.	115VDC
V 26	6BA7	105VDC	5-3.2VDC	0V.	6.3VAC	0V.	0V.	0V.	125VDC
V 27	6BA6	115VDC	5-5.3VDC	0V.	6.3VAC	0V.	0V.	0V.	
V 28	12AU7	80VDC	8-4.9VDC	0V.	0V.	0V.	0V.	0V.	6.3VAC

‡ TAKEN WITH VACUUM TUBE VOLTMETER.  
# MEASURED FROM -130VDC LINE.  
† TAKEN IN "FM" POSITION.  
\* DO NOT MEASURE.  
FOCUS CONTROL SET FULLY COUNTERCLOCKWISE.




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 panel controls set of minimum.  
6. Where readings may vary according to the setting of the service controls, both minimum and maximum readings are given.

RESISTANCE READINGS									
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V 1	6AG5	200KΩ	0Ω	.1Ω	0Ω	13.7KΩ	13.7KΩ	0Ω	
V 2	6B6	16.2KΩ	12.5KΩ	.1Ω	0Ω	225KΩ	10KΩ	0Ω	
V 3	6AU6	50KΩ	0Ω	0Ω	.1Ω	12.5KΩ	12.5KΩ	68Ω	
V 4	6AU6	58KΩ	0Ω	0Ω	.1Ω	110.7KΩ	12.5KΩ	68Ω	
V 5	6AU6	.1Ω	0Ω	0Ω	.1Ω	14.8KΩ	12.5KΩ	220Ω	
V 6	6AU6	.1Ω	0Ω	0Ω	.1Ω	11.5KΩ	12.5KΩ	220Ω	
V 7	6AL5	Inf.	#4.7KΩ	#.1Ω	#0Ω	#11Ω	#10Ω	Inf.	
V 8	6AU6	#4.7KΩ	#10Ω	#0Ω	#.1Ω	19.5KΩ	0Ω	#20Ω	
V 9	6AU6	120KΩ	14.5KΩ	.1Ω	0Ω	50KΩ	1450Ω	14.5KΩ	
V 10	6AR5	#1 Meg.	#2.5KΩ	#0Ω	#.1Ω	14.2KΩ	0Ω	0Ω	
V 11	12AU7	#6KΩ	#1 Meg.	#0Ω	#.1Ω	#.1Ω	#14KΩ	#0Ω	#220KΩ
V 12	6AU6	#14Ω	#10Ω	#.1Ω	#0Ω	2Ω	0Ω	#230Ω	
V 13	6AU6	47KΩ	0Ω	0Ω	.1Ω	12.5KΩ	112KΩ	0Ω	
V 14	6B8	100KΩ	100KΩ	200KΩ	.1Ω	0Ω	500KΩ	0Ω	10 Meg.
V 15	6V6GT	Inf.	#.1Ω	13.3KΩ	1300Ω	#470KΩ	#0Ω	#0Ω	#330Ω
V 16	6SN7GT	#470KΩ	#6.5KΩ	#0Ω	#470KΩ	13.8KΩ	13.3KΩ	#.1Ω	#0Ω
V 17	6SN7GT	#470KΩ	#1.5 Meg.	#3.5 Meg.	#2.2KΩ	#0KΩ	#18KΩ	#2.2KΩ	#.1Ω
V 18	6K6GT	#35KΩ	#.1Ω	14KΩ	14KΩ	#3.9 Meg.	Inf.	#0Ω	#10Ω
V 19	6AL5	#4.8 Meg.	#4.8 Meg.	#0Ω	#.1Ω	#100KΩ	#0Ω	#100KΩ	
V 20	6SN7GT	#4.7 Meg.	#245KΩ	#1.5KΩ	#4.5KΩ	#250KΩ	#0Ω	#.1Ω	#0Ω
V 21	6B6G3	Inf.	#.1Ω	#100Ω	#750KΩ	#750KΩ	#0Ω	#0Ω	18.7KΩ
V 22	6W4GT	Inf.	Inf.	1.4 Meg.	Inf.	1120Ω	Inf.	0Ω	1Ω
V 23	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	TOP CAP #400Ω
V 24	5U4G	Inf.	10KΩ	#2.5KΩ	#28Ω	Inf.	#28Ω	Inf.	10KΩ
V 25	10B9P4	#0Ω	#690KΩ	1450Ω	PIN 12 #1Ω	0Ω	0Ω	0Ω	12.5KΩ
V 26	6BA7	12.5KΩ	22KΩ	.5Ω	.1Ω	0Ω	0Ω	0Ω	12.5KΩ
V 27	6BA6	12.5KΩ	22KΩ	.5Ω	.1Ω	0Ω	0Ω	4 Meg.	12.5KΩ
V 28	12AU7	16.2KΩ	22KΩ	0Ω	.1Ω	12.5KΩ	12.5KΩ	220Ω	

FOCUS CONTROL SET FULLY COUNTERCLOCKWISE.  
‡ MEASURED FROM PIN 8 OF V24.  
# MEASURED FROM -130VDC LINE.  
† TAKEN IN "FM" POSITION.  
\* TAKEN IN "AM" POSITION.



TV ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT							
To eliminate the high voltage shock hazard remove the horizontal output tube V21 from its socket. To set pointer turn channel selector to channel 2 and set pointer to reference mark at low channel end of dial backplate.							
VIDEO IF ALIGNMENT							
Remove the converter tube V2 and replace with a 6J6 with pin 1 removed to prevent erroneous indications. Connect the negative terminal of a 3 volt battery from the junction of R115 and C42 and positive terminal to ground. Turn the contrast control to the mid-position of its range. Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection. Turn the function switch to TV position (fully counter-clockwise).							
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
.001MFD	High side to pin 1 (Grid) of 6AU6 (V6). Low side to chassis.	23.5MC (10MC SWP)	25.75MC 21.9MC	Any	Vert. Amp. thru 10KΩ to Point  . Low side to chassis.	A1, A2	Adjust to place 25.75MC and 21.9MC markers as shown in figure 1. Markers should be at 90% of response.
Direct	High side to ungrounded tube shield floating over "dummy" converter tube (V2). Low side to chassis.	Not used	23.6MC (Unmod.)	"	Use VTVM. DC Probe to Point  . Low side to chassis.	A3	Adjust for maximum deflection. Attenuate signal generator to maintain a maximum -1 volt reading.
Direct	"	"	27.25MC	"	"	A4	Adjust for MINIMUM deflection. Repeat step 2.
Direct	"	"	25.7MC	"	"	A5	Adjust for maximum deflection.
Direct	"	"	21.9MC	"	"	A6	"
Direct	"	"	21.25MC	"	"	A7	Adjust for MINIMUM deflection.
Direct	"	23.5MC (10MC SWP)	25.75MC 21.9MC	"	Vert. Amp. thru detector network as shown in figure 2 to pin 1 (Grid) of 6AU6 (V4). Low side to chassis.	A8, A9	Adjust to place markers as in step 1 for response curve similar to figure 1.
Direct	"	"	25.75MC 21.9MC	"	Vert. Amp. thru 10KΩ to Point  . Low side to chassis.		Check for response curve similar to figure 3. The 25.75MC and 21.9MC markers should be at 50% response. If necessary retouch A3, A5 and A6 for proper response.

4.5MC TRAP ADJUSTMENT						
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
9. .001MFD	High side to pin 2 (plate) of 6AL5 (V7). Low side to chassis.	4.5MC (400 % Mod.)	Any	DC Probe thru 10KΩ to Point B. Common to chassis.	A10	Adjust for MINIMUM deflection with contrast control set at extreme clockwise position.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
.001MFD	High side to pin 2 (Plate) of 6AL5 (V7). Low side to chassis.	4.5MC (450KC SWP)	4.5MC	Any	Vert. Amp. thru 10KΩ to Point C. Low side to chassis.	A11, A12, A13	Adjust for maximum amplitude and symmetry as per figure 4.
.001MFD	"	"	"	"	Vert. Amp. thru 10KΩ to Point C. Low side to chassis.	A14, A15	Adjust A15 to place 4.5MC at center of diagonal line as per figure 5. Adjust A14 for maximum amplitude and straightness of diagonal line.

Replace the converter tube (V2) with original 6J6 in its socket. Set the fine tuning control to the mid-position of its range. The overall oscillator circuit adjustment A16 is pre-set at factory, and normally should not require adjustment in the field. The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.							
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
Two 120Ω carbon res.	Across antenna terminals with 120Ω in each lead.	207MC (10MC SWP)	209.75MC	12	Vert. Amp. thru 10KΩ to Point A. Low side to chassis.	A17	Adjust to place 21.25MC marker as shown in figure 3.
"	"	"	"	12	"	A18, A19, A20	Adjust shape of response curve similar to figure 3 for maximum amplitude and bandwidth.
"	"	213MC (10MC SWP)	215.75MC	13	"	A21	Adjust to place markers as in step 12.
		201MC (10MC SWP)	203.75MC	11		A22	
		195MC (10MC SWP)	197.75MC	10		A23	
		189MC (10MC SWP)	191.75MC	9		A24	
		183MC (10MC SWP)	185.75MC	8		A25	
		177MC (10MC SWP)	179.75MC	7		A26	
		85MC (10MC SWP)	87.75MC	6		A27	
		79MC (10MC SWP)	81.75MC	5		A28	
		69MC (10MC SWP)	71.75MC	4		A29	
		63MC (10MC SWP)	65.75MC	3		A30	
		57MC (10MC SWP)	59.75MC	2		A31	

TV ALIGNMENT INSTRUCTIONS (CONT.)

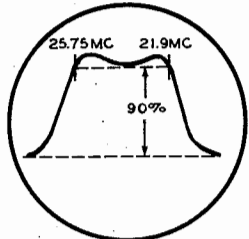


FIG. 1

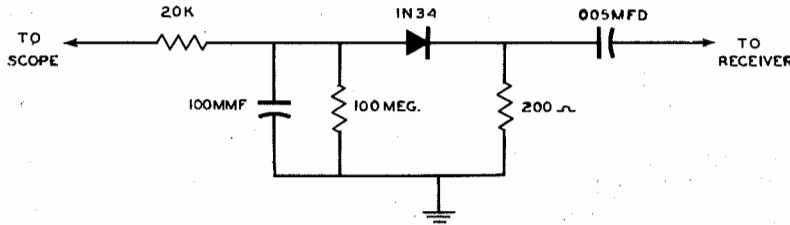


FIG. 2

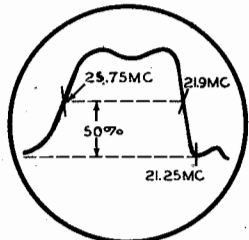


FIG. 3

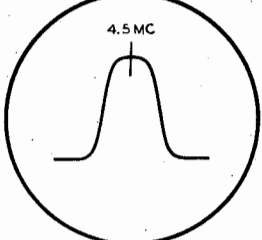


FIG. 4

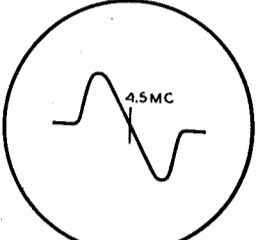


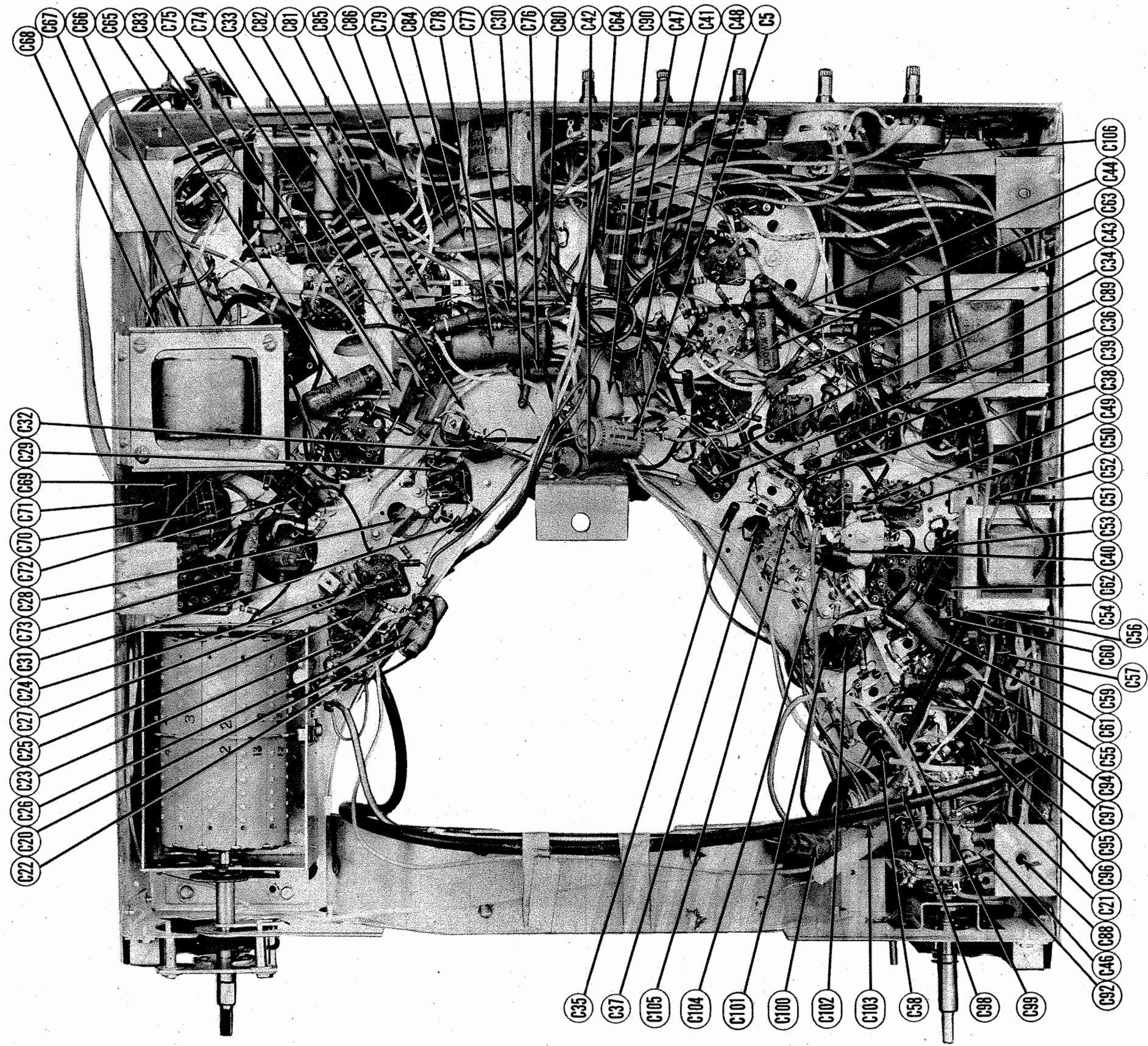


FIG. 5

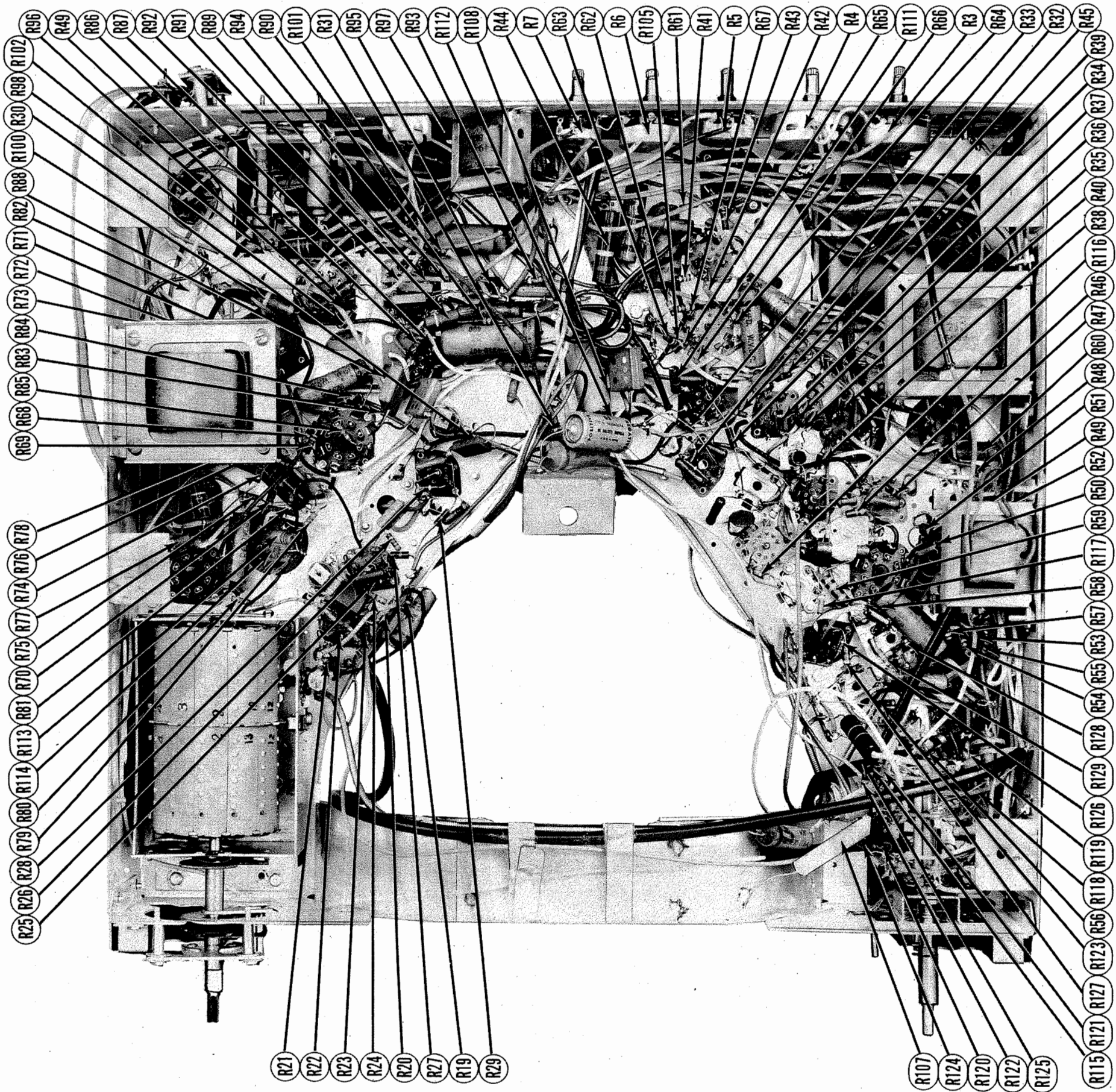
RADIO ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT							
To set pointer turn tuning gang fully closed and set pointer to last reference mark on low frequency end of dial backplate.							
FM OSCILLATOR AND IF ALIGNMENT							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
15. .001MFD	High side to pin 1 (Grid) 6AU6 (V4). Low side to chassis.	23.5MC (Unmod.)	FM (fully CW)	Tuning gang fully open	DC Probe to to Point  Common to chassis.	A32	Adjust for maximum deflection.
16. .001MFD	High side to pin 2 (Grid) of 6BA7 (V26). Low side to chassis.	"	"	"	"	A33, A34, A35	"
FM RF ALIGNMENT							
The signal generator output lead should be terminated with its characteristic impedance, usually 50 ohms.							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
17. Two 120Ω carbon res.	Across antenna terminals with 120Ω in each lead.	108MC	FM (fully CW)	Turn dial pointer to 2nd reference mark from right hand edge of dial backplate.	DC Probe to Point  Common to chassis.	A36	Adjust for maximum deflection.
18. "	"	106MC	"	Tune for max. deflection.	"	A37	"
AM ALIGNMENT							
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
19. .001MFD	High side to pin 2 (Grid) of 6BA7 (V26). Low side to chassis.	456KC (400 % Mod.)	AM (2nd position from fully CW)	Tuning gang fully open	Across voice coil	A38, A39, A40, A41	Adjust for maximum output.
20.	Loop	1600KC	"	Turn pointer to first reference mark from right hand edge of dial backplate.	"	A42	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
21.	Loop	1400KC	"	Tune for max. output.	"	A43	"





EMERSON  
MODELS 621, 622, 628, 630  
CHASSIS BOTTOM VIEW-CAPACITOR IDENTIFICATION



CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION

EMERSON  
MODELS 621, 622, 628, 630



PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF) CONT.

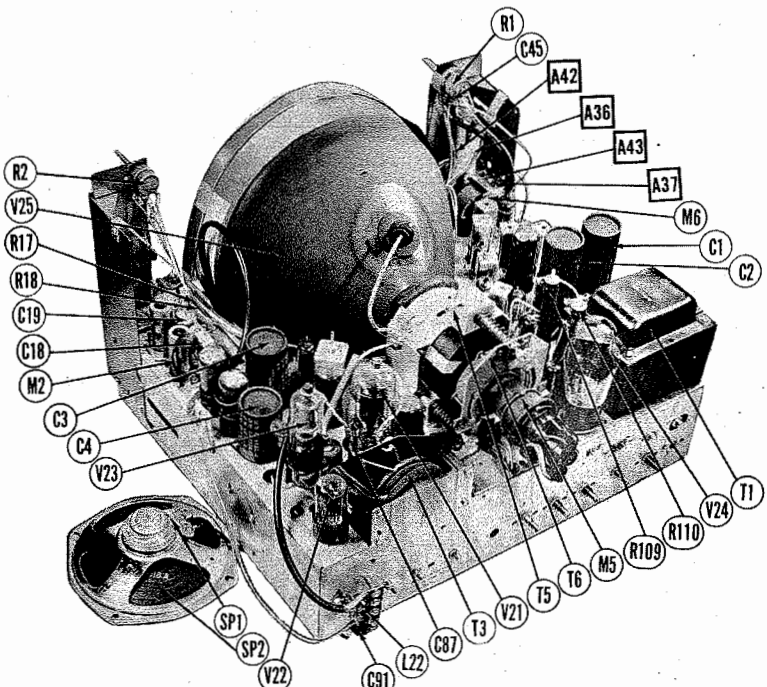
ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	EMERSON PART No.	MEISSNER PART No.	
L22	FM Ant. Matching	0Ω		716041		
L23	FM Ant. Coil	0Ω		410696		
L24	Ground Strap	0Ω		710021		
L25	FM Osc.	0Ω		716034		
L26	FM Osc. Coil	0Ω		410722		
L27	Loop Ant.	2.8Ω		700043		
L28	RF Choke	1.2Ω		705002		
L29	AM Osc.	9.2Ω		716015		Tap at 1Ω
L30	RF Choke	1.2Ω		705002		
L31	Fil. Choke	1.2Ω		705002		
L32	Fil. Choke	1.2Ω		705002		
L33	FM IF	.5Ω	.5Ω	720093		
L34	1st AM IF	16Ω	16Ω	720075		Alternate 720084
L35	2nd AM IF	15Ω	15Ω	720076		Alternate 720085
L36	RF Choke	.3Ω		705002		
L37	RF Choke	1.2Ω		705002		Not used in all models.
L38	FM Beat Freq. Osc.		0Ω	716036		
L39	2nd FM IF	.1Ω		720108		
L40	RF Choke	.2Ω		705002		

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					EMERSON PART No.		
M1	Bayonet	7.5	.2	Blue	807020		Type #51

MISCELLANEOUS

ITEM No.	PART NAME	EMERSON PART No.	NOTES
M2	RF Tuner	470489	
M3	Fuse	808050	.25A 250V Type AGC Alternate part #808170
M4	Switch	510054	Function (TV-Phono-AM-FM)
M5	Ion Trap	708086	
M6	Tuning Cap.	900055	AM-FM
	Trimmer	900028	FM Osc. 1-8MMF
	Trimmer	900054	Horiz. drive 25-300MMF
	Safety Glass	635023	Model 628
	Safety Glass	635020	Models 621, 622
	Safety Glass	520112	Model 630
	Dial Glass	520106	TV Models 628, 620, 621
	Dial Glass	520107	AM-FM Models 628, 620, 621
	Knob	450044	TV, AM-FM Tuning
	Knob	450045	Contrast, Brightness
	Knob	450051S	Channel Selector
	Knob	450051S	Off-Volume, Horiz. Hold, Model 621
	Knob	450041S	Off-Volume, Horiz. Hold, Models 628, 622, 630
	Knob	460041	Phono Selector Model 622
	Knob	460470S	Tone Model 622
	Switch	510063	Tone Model 622



CHASSIS-TOP VIEW

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		EMERSON PART No.	STANDARD REPLACEMENT		
V1	RF Amp.	800535	6AG5	7BD	
V2	Converter	800536	6J6	7BF	
V3	1st Video IF	800533	6AU8	7BK	
V4	2nd Video IF	800533	6AU6	7BK	
V5	3rd Video IF	800533	6AU6	7BK	
V6	4th Video IF	800533	6AU6	7BK	
V7	Video Det.	800541	6AL5	6BT	
V8	Video Amp.	800533	6AU6	7BK	
V9	AGC Keying	800533	6AU6	7BK	
V10	Video Output	8 00038	6AR5	6CC	
V11	DC Rest.-Sync. Clipper-1st Sync. Amp.	800036	12AU7	9A	
V12	Sound IF Amp.	800533	6AU6	7BK	
V13	Limiter	800533	6AU6	7BK	
V14	Disc.-AM Det.-AF Amp.	800035	6T8	9E	
V15	Audio Output	800270	6V6GT	7AC	
V16	2nd Sync. Amp.	800380	6SN7GT	8BD	
V17	Vert. Mult.	800380	6SN7GT	8BD	
V18	Vert. Output	800016	6K6GT	7S	
V19	Hor. Phase Det.	800541	6AL5	6BT	
V20	Hor. AFC-Hor. Osc.	800016	6SN7GT	8BD	
V21	Hor. Output	800004	6BG6G	5BT	
V22	Damper	800037	6W4GT	4CG	
V23	HV Rect.	800450	1B3GT	3C	
V24	LV Rect.	800290	5U4G	5T	
V25	Picture Tube	810000	10BP4	12D	
V26	AM-FM Conv.	800036	6BA7	8CT	
V27	1st IF Amp.	800531	6BA6	7BK	
V28	FM Beat Freq. Osc.	800036	12AU7	9A	

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	EMERSON PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.		
C1A	40	450	925148	AFH888J		UP444445		TVL-3787	▲ Filter	
B	40	450							▲ Filter	
C	40	450							▲ Filter	
C2A	40	450	925148	AFH888J		UP444445		TVL-3787	▲ Filter	
B	40	450							▲ Filter	
C	40	450							▲ Filter	
C3A	80	250	925149	AFH16F8D10B		UP8DJ1226			▲ Filter	
B	40	150							▲ Filter	
C	50	50							▲ Filter	
C4A	10	450	925151	AFH2222J		UP111145		TVL-4760	▲ Vert. Output Cath.	
B	10	450							▲ Vert. Output Dec.	
C	10	450							▲ Decoupling	
D	10	450							▲ Decoupling	
C5	10	50	925072	PRS50/10 S15DNPO		BR105		TVA-1304	Output Dec.	
C6	5				D2-4.7				AGC Filter	
C7	.5-3				829-3		NPOK-5		Fixed Trimmer	
C8	.5-3				829-3				Variable Trimmer	
C9	120			GP120K	D6-121		GP2K-120		Variable Trimmer	
C10	1000			GP1000M	D6-102		811-001		RF Decoupling	
C11	100			S1100KN750	DN-100		N750L-100		RF Fil. Bypass	
C12	.5-3				829-3				RF Coupling	
C13	20			S120JNPO	D2-20		NPOK-20		Variable Trimmer	
C14	10			S110DN750	DN-10		N750K-10		Osc. Grid Cap.	
C15	.5-3				829-3				Fixed Trimmer	
C16A	1000			GP1000M	D6-102		882-2 x 0015	29C7	Variable Trimmer	
B	1000			GP1000M	D6-102				RF Bypass	
C17	10	500		1469-00001	D2-10		NPOK-10		Conv. Fil. Bypass	
C18	1000			GP1000M	D6-102		GP2L-001		Fixed Trimmer	
C19	2.5				D6-102				Conv. Plate Dec.	
C20	.01	200	923100	P488-01	D6-103	PTE4S1	811-01	TM-11	IF Coupling	
C21	1500		928006	GP1500M	D6-152	1W5D15	GP2L-0015	IFM-215	AGC Filter	
C22	1500		928006	GP1500M	D6-152	1W5D15	GP2L-0015	IFM-215	AGC Filter	
C23	1500		928006	GP1500M	D6-152	1W5D15	GP2L-0015	IFM-215	AGC Filter	
C24	75			CN75KN750	DN-75		GP2L-0015	IFM-215	1st V. IF Dec.	
C25	150	500	910215	1468-00015	DN-75	5W5T15	N750L-75		Fixed Trimmer	
C26	200	500	910225	1468-0002	D6-151	5W5T15	GP2K-150	IFM-315	IF Coupling	
C27	1500		928006	GP1500M	D6-152	1W5D15	GP2K-200	IFM-32	AGC Filter	
C28	270	500	910214	1468-00025	D6-152	5W5T25	GP2L-0015	IFM-215	2nd V. IF Dec.	
C29	1500		928006	GP1500M	D6-152	1W5D15	GP2K-270	IFM-325	IF Coupling	
C30	1500		928006	GP1500M	D6-152	1W5D15	GP2L-0015	IFM-215	IF Coupling	
C31	1500		928006	GP1500M	D6-152	1W5D15	GP2L-0015	IFM-215	3rd V. IF Screen	
C32	270	500	910214	1468-00025	D6-271	5W5T25	GP2L-0015	IFM-215	3rd V. IF Plate Dec.	
C33	50			CN50JN080	D6-271	5W5T25	GP2L-0015	IFM-215	3rd V. IF Cath.	
C34	1500		928006	GP1500M	D6-152	1W5D15	GP2K-270	IFM-325	IF Coupling	
C35	1500		928006	GP1500M	D6-152	1W5D15	N080-338-50		Fixed Trimmer	
C36	1500		928006	GP1500M	D6-152	1W5D15	GP2L-0015	IFM-215	4th V. IF Screen	
C37	5000		928109	BPD-5	D6-502	1D5D5	GP2L-0015	IFM-215	4th V. IF Plate Dec.	
C38	5		928017	GP5K	D2-4.7	5W5V5	GP2L-0015	IFM-215	4th V. IF Cath.	
C39	47			CN47JNPO	D2-47		811-005	29C1	RF Bypass	
C40	1500		928006	GP1500M	D6-152	1W5D15	GP1K-5	MS-55	V. Diode Filter	
C41	3300	500	910219	GP3300K	D6-332		NPOL-47		Fixed Trimmer	
C42	.1	200	923101	P288-1		PTE4P1	GP2L-0015	IFM-215	V. Det. Fil. Byp.	
C43	470	500	910017	1468-0005	D6-471	5W5T5	GP2M-0033		Fixed Trimmer	
C44	.05	400	922025	P488-05		PTE4S5			AGC Filter	
C45	1500		928006	GP1500M	D6-152	1W5D15	TM-1		Peaking	
C46	1500		928006	GP1500M	D6-152	1W5D15	GP2K-470	IFM-35	Video Coupling	
C47	.05	400	922025	P488-05		PTE4S5	GP2L-0015	IFM-215	RF Bypass	
C48	.1	400	922008	P488-1		PTE4P1	GP2L-0015	IFM-215	RF Bypass	
C49	5		928017	GP5K	D2-4.7	5W5V5	TM-15		Video Coupling	
C50	1500		928006	GP1500M	D6-152	1W5D15	TM-15		Video Coupling	
C51	.01	400	923104	P488-01	D6-103	PTE4S1	GP1K-5	MS-55	S. IF Coupling	
C52	68	500	910221	1468-00075	D6-680	5W5Q7	GP2L-0015	IFM-215	1st S. IF Cath.	
C53	1500		928006	GP1500M	D6-152	1W5D15	811-01	TM-11	AVC Filter	
							GP1K-68	IFM-475	Limiter Grid Filter	
							GP2L-0015	IFM-215	Limiter Screen	

EMERSON  
MODELS 621, 622, 628, 630



## PARTS LIST AND DESCRIPTIONS (Continued)

## CAPACITORS (CONT.)

ITEM No.	RATING		EMERSON PART No.	REPLACEMENT DATA				ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT		AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.				
C54	.005	600	923110	P688-005	D6-502	PTE6D5	811-005	TM-25	Limiter Plate Dec.	
C55	.50	500	910222	1468-00005	D6-500	5W5Q5	GP1K-50	IFM-45	RF Bypass	
C56	.001	400	923109	P688-001	D6-102	PTE6D1	GP2L-001	TM-21	De-emphasis	
C57	1500		928006	GP1500M	D6-152	1W5D15	GP2L-0015	IFM-215	Discr.-AF Fil. Byp.	
C58	.01	400	923104	P488-01	D6-103	PTE4S1	811-01	TM-11	Audio Coupling	
C59	.01	400	922015	P488-01	D6-103	PTE4S1	811-01	TM-11	Audio Coupling	
C60	200	500	910225	1468-0002	D6-201	5W5T2	GP2K-200	IFM-32	AF Amp. Plate	
C61	.05	600	923111	P688-05		PTE685		TM-15	Audio Coupling	
C62	.0082	600	923110	P688-0075		PTE1808		MB-28	Output Plate *	
C63	.05	400	922025	P488-05		PTE4S5		TM-15	Sync. Coupling	
C64	.05	400	922025	P488-05		PTE4S5		TM-15	Sync. Coupling	
C65	.05	400	922025	P488-05		PTE4S5		TM-15	Sync. Coupling	
C66	.01	400	923104	P488-01	D6-103	PTE4S1	811-01	TM-11	Vert. Sync. Coupling	
C67	.002	600	923107	P688-002	D6-202	PTE6D2	GP2M-002	TM-22	Integrator Net.	
C68	.005	600	923108	P688-005	D6-502	PTE6D5	811-005	TM-25	Integrator Net.	
C69	.005	600	923108	P688-005	D6-502	PTE6D5	811-005	TM-25	Integrator Net.	
C70	.0047	600	922001	P688-0047	D6-472	PTE6D5	811-005	TM-25	Vert. MV Feedback	
C71	.05	400	923105	P488-05		PTE4S5		TM-15	Vert. MV Cath.	
C72	.047	600	922002	P688-047		PTE4S5		TM-15	Vert. Discharge	
C73	.05	600	922002	P688-05		PTE4S5		TM-15	Vert. Sweep Coupling	
C74	1000	500	910211	1467-001	D6-102	1W5D1	GP2L-001	IFM-21	Hor. Sync. Coupling	
C75	1000	500	910211	1467-001	D6-102	1W5D1	GP2L-001	IFM-21	Hor. Sync. Coupling	
C76	.01	200	922015	P488-01	D6-103	PTE4S1	811-01	TM-11	Hor. Feedback	
C77	.01	400	922015	P488-01	D6-103	PTE4S1	811-01	TM-11	AFC Filter	
C78	.25	400	922018	P488-25		GT4P25		TC-2	Hor. AFC Feedback	
C79	820	500	910218			1W5T8		MS-38	Hor. Osc. Grid Cap.	
C80	820	500	910218			1W5T8		MS-38	Hor. Osc. Grid Cap.	
C81	680	500	910037		D6-681	1W5T7	GP2K-680	MS-37	Hor. Discharge	
C82	390	500	910212	1468-0004	D6-391	5W5T4	GP2K-390	IFM-34	Hor. Sweep Coupling	
C83	.047	600	922002	P688-047		PTE4S5		TM-15	Hor. Output Screen	
C84	.1	200	923101	P288-1		PTE4P1		TM-1	Hor. Output Cath.	
C85	.05	600	922002	P688-05		PTE8S5		TM-15	Damper Filter	
C86	.033	600	922003	P688-033					Damper Filter	
C87	500	20000			TV1-502				HV Filter	
C88	1500		928006	GP1500M	D6-152	1W5D15	GP2L-0015	IFM-215	RF Bypass	
C89	1500		928006	GP1500M	D6-152	1W5D15	GP2L-0015	IFM-215	Filament Bypass	
C90	.1	400	923106	P488-1		PTE4P1		TM-1	Pic. Tube Cath. Byp.	
C91	1.5				D2-1.5		NPOK-1.5		Ant. Coupling	
C92	.47		928038	GP47M	D6-470	5W5Q5	GP1K-47	IFM-45	Osc. Grid Cap.	
C93	2.7		928043	SI2.7DN750					Fixed Trimmer	
C94	4.7		928017	SI4.7CN750			N750K-4.7		Osc. Feedback	
C95	.47		928038	GP47M	D6-470	5W5Q5	GP1K-47	IFM-45	Conv. Cath. Bypass	
C96	.47		928038	GP47M	D6-470	5W5Q5	GP1K-47	IFM-45	Osc. Anode Byp.	
C97	.01	400	923104	P488-01	D6-103	PTE4S1	811-01	TM-11	Osc. Anode Byp.	
C98	5000		928109	BPD-5	D6-502	1D5D5	811-005	29C1	Conv. Plate Dec.	
C99	5000		928109	BPD-5	D6-502	1D5D5	811-005	29C1	AFC Filter	
C100	.05	400	922019	P488-05		PTE4S5		TM-15	AVC Filter	
C101	5000		928109	BPD-5	D6-502	1D5D5	811-005	29C1	IF Decoupling	
C102	5000		928109	BPD-5	D6-502	1D5D5	811-005	29C1	IF Cath. Byp.	
C103	270	500	910214	1468-00025	D6-271	5W5T25	GP2K-270	IFM-325	IF Coupling	
C104	1500		928006	GP1500M	D6-152	1W5D15	GP2L-0015	IFM-215	Osc. Plate Bypass	
C105	.1		915023		D2-1				Osc. Coupling	
C106	.047	400	922004	P488-05		PTE4S5		TM-15	Line Filter	
C107	.02	1000	923119	P1088-02		PTE1682		MB-12	Tone Comp. † ‡	
C108	.01	400	923104	P488-01	D6-103	PTE4S1	811-01	TM-11	Tone Comp. † ‡	

\* Chassis 120098P and 120099B use .005MFD in this application. Migr's part #923110.

† Used only on chassis 120098P.

‡ Chassis 120099B uses .01MFD in this application. Migr's part #923104.

§ Chassis 120099B uses 1500MMF in this application. Migr's part # 928006.

## CONTROLS

ITEM No.	RATING RESISTANCE WATTS	EMERSON PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	INSTALLATION NOTES
RIA	2500Ω	2	390074	RTV-69		Contrast control-front-Wire Wound
B	1 Meg.	1				Volume control and switch-rear-See Note 1
R2A	100KΩ	1	390075	RTV-68	SBB-609	Brightness control-front
R3	50KΩ	1				Horiz. hold control-rear
C	20Ω	2	390107	RTV-4	V-110	Attach per instr. in "Concentrik"
R4	1500Ω	3	390106	RTV-70	V-129	Horiz. centering control-Wire Wound
R5A	2 Meg.	2	390077	AM-83-S	AK-75	Focus control-Wire Wound
B	Shaft	Not Req.		KSS-3	AK-1	Vert. size control
R6	5000Ω	2	390078	W-5000	V-135	Attach to R5A per instructions
R7A	1 Meg.	1	390076	Q11-137	AG-61-S	Vert. linearity control-Wire Wound
B	Shaft	Not Req.		KSS-3	AK-1	Attach to R7A per instructions
R8	1 Meg.	1	390103			Tone control-See Note 2

\* Additional parts to be used with "Concentrik".

Note 1. Chassis 120098P and 120099B use 1 Meg. control ganged with contrast control part #390098.

Note 2. Used in chassis 120099B only.

## RESISTORS

ITEM No.	RATING RESISTANCE WATTS	EMERSON PART No.	IRC PART No.	IDENTIFICATION CODES
R9	3900Ω		BTS-3900	Antenna Coil Shunt
R10	47KΩ	340892		AGC Network
R11	10KΩ	340732		RF Amp. Plate Coil Shunt
R12	2200Ω	340572	BTS-2200	RF Amp. Decoupling
R13	10KΩ	340732		Osc. Grid
R14	4700Ω	340652	BTS-4700	Conv. Grid
R15	220KΩ	341052		Conv. Grid
R16	4700Ω	340652	BTS-4700	Osc. Plate
R17	18KΩ	340792		Conv. Plate Coil Shunt
R18	1000Ω	340492	BTS-1000	Conv. Plate Decoupling
R19	100KΩ 20%	350972		AGC Network
R20	1000Ω 20%	350492	BTS-1000	AGC Network
R21	5800Ω	340672		1st Video IF Amp. Transformer Shunt
R22	68Ω	340212		1st Video IF Amp. Cathode
R23	1000Ω 20%	350492	BTS-1000	1st Video IF Amp. Decoupling

## RESISTORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	EMERSON PART No.	IRC PART No.	
R24	10KΩ	1	340732		2nd Video IF Amp. Grid
R25	68Ω		340212		2nd Video IF Amp. Cathode
R26	8200Ω	1	340712		2nd Video IF Amp. Plate
R27	1000Ω 20%		350492	BTS-1000	2nd Video IF Amp. Decoupling
R28	220Ω	1	340332		3rd Video IF Amp. Cathode
R29	1000Ω 20%		350492	BTS-1000	3rd Video IF Amp. Screen
R30	3300Ω	1	340612	BTS-3300	3rd Video IF Amp. Plate
R31	1000Ω		340492	BTS-1000	3rd Video IF Amp. Plate Decoupling
R32	220Ω	1	340332		4th Video IF Amp. Cathode
R33	1000Ω 20%		350492	BTS-1000	4th Video IF Amp. Screen
R34	1000Ω 20%	1	350492	BTS-1000	4th Video IF Amp. Plate
R35	33KΩ		340852	BTS-33K	Video Peaking
R36	4700Ω	1	340652	BTS-4700	1st Video Amp. Grid
R37	10Ω		340012	BW-1-10	1st Video Amp. Cathode
R38	10Ω	1	340012	BW-1-10	Bias Network
R39	2700Ω		340582	BTS-2700	Video Peaking
R40	2200Ω	1	340572	BTS-2200	1st Video Amp. Plate
R41	470KΩ		341132	BTS-470K	Voltage Divider
R42	2.2 Meg.	2	341292	BTS-2.2 Meg.	2nd Video Amp. Grid
R43	68Ω		340212	BW-1-68	2nd Video Amp. Cathode
R44	2700Ω	2	397049	BT-2-2700	2nd Video Amp. Plate
R45	10KΩ		340732	BTS-10K	AGC Keying Grid
R46	22KΩ	2	340812		Sound IF Amp. Transformer Shunt
R47	220Ω		340332		Sound IF Amp. Cathode
R48	1.5 Meg.	2	341252	BTS-1.5 Meg.	AVC Network
R49	47KΩ		340892		Limiter Grid
R50	10KΩ	1	340732		Voltage Divider
R51	27KΩ		370832		Limiter Screen Decoupling
R52	1000Ω 20%	1	350492	BTS-1000	Limiter Plate Decoupling
R53	100KΩ		340972	BTS-100K	Disc. Diode Load
R54	100KΩ	1	340972	BTS-100K	Disc. Diode Load
R55	68KΩ 20%		350932	BTS-68K	De-emphasis
R56	10 Meg.	1	351452	BTS-10 Meg.	AF Amp. Grid
R57	470KΩ		341132	BTS-470K	AF Amp. Plate
R58	470KΩ 20%	1	351132	BTS-470K	Audio Output Grid
R59	330Ω		370372	BTA-330	Audio Output Cathode
R60	1500Ω	2	390753	BT-2-1500	Audio Output Decoupling
R61	2200Ω		340572	BTS-2200	Phase Correction
R62	470KΩ	2	341132	BTS-470K	Picture Tube Grid
R63	220KΩ		341052	BTS-220K	DC Rest. Load
R64	1 Meg.	1	351212	BTS-1 Meg.	1st Sync. Amp. Grid
R65	100KΩ		340972	BTS-100K	Sync. Clipper Plate
R66	18KΩ	1	340792	BTS-18K	Voltage Divider
R67	3300Ω		340612	BTS-3300	1st Sync. Amp. Plate
R68	470KΩ 20%	1	351132	BTS-470K	2nd Sync. Amp. Grid
R69	3300Ω		340612	BTS-3300	2nd Sync. Amp. Plate
R70	220Ω	1	340332	BW-1-220	2nd Sync. Amp. Plate
R71	22KΩ		340812	BTS-22K	Voltage Divider
R72	22KΩ	1	340812	BTS-22K	Integrator
R73	8200Ω		340712	BTS-8200	Integrator
R74	8200Ω	1	340712	BTS-8200	Integrator
R75	2200Ω		34572	BTS-2200	Vert. Mult. Cathode
R76	470KΩ	1	341132	BTS-470K	Vert. Mult. Grid
R77	150KΩ		371012	BTA-150K	Vert. Mult. Plate
R78	1.5 Meg.	1	341252	BTS-1.5 Meg.	Vert. Mult. Plate
R79	8200Ω		340712	BTS-8200	Vert. Peaking
R80	3.9 Meg.	1	341352	BTS-3.9 Meg.	Vert. Output Grid
R81	470Ω		340412	BTS-470	Vert. Output Cathode
R82	3300Ω	4	394074		Vert. Output Decoupling-Wire Wound
R83	3300Ω 5%		330612	BTS-3300-5%	Horiz. Phase Inv. Cathode
R84	470KΩ	1	341132	BTS-470K	Horiz. Phase Inv. Grid
R85	3300Ω 5%		330612	BTS-3300-5%	Horiz. Phase Inv. Plate
R86	100KΩ	1	340972	BTS-100K	Horiz. Phase Det. Diode Load
R87	100KΩ		340972	BTS-100K	Horiz. Phase Det. Diode Load
R88	100KΩ	1	340972	BTS-100K	Horiz. Phase Det. Diode Load
R89	4.7 Meg.		341372	BTS-4.7 Meg.	Horiz. Phase Det. Diode Load
R90	10KΩ	1	340732	BTS-10K	Horiz. AFC Filter Network
R91	220KΩ		371052	BTA-220K	Horiz. AFC Plate
R92	1500Ω	1	340532	BTS-1500	Horiz. AFC Cathode
R93	22KΩ		340812	BTS-22K	Horiz. Osc. Grid-See Note 3
R94	100KΩ	1	340972	BTS-100K	Horiz. Osc. Grid
R95	220KΩ		361052	BTA-220K	Horiz. Osc. Plate
R96	1 Meg.	1	351212	BTS-1 Meg.	Horiz. Output Grid
R97	470KΩ 20%		351132	BTS-470K	Voltage Divider
R98	68Ω 20%	1	350212		Parasitic Suppressor
R99	100Ω		370252	BW-1-100	Horiz. Output Cathode
R100	8200Ω	2	397059	BT-2-8200	Horiz. Output Screen
R101	22KΩ		340812	BTS-22K	Filter
R102	33KΩ	1	340852	BTS-33K	Decoupling
R103	1 Meg. 20%		381212		HV Filter
R104	3.3Ω	1	394066		HV Filament-Wire Wound
R105	10KΩ		340732	BTS-10K	Voltage Divider
R106	39KΩ	1	340872	BTA-39K	Voltage Divider
R107	7500Ω		394068	AB-7500	Isolation-Wire Wound
R108	68Ω	1	340212	BW-1-68	Filter
R109A	5000Ω		8		
B	4000Ω	394064			
C	4700Ω	5			Filter-Wire Wound
R110A	1000Ω		394065		
B	3000Ω	15			Filter-Wire Wound
R111	33KΩ		1		
R112	47KΩ	1	370852	BTA-33K	AGC Keying Plate
R113	2200Ω		340892	BTS-47K	Voltage Divider
R114	2200Ω	1	370572	BTA-2200	Voltage Divider
R115	1000Ω		340492	BTS-1000	AGC Network
R116	22KΩ	1	340812	BTS-22K	FM Osc. Grid
R117	4700Ω 20%		350652	BTS-4700	FM Osc. Plate
R118	2.7Ω	1	397032		Parasitic Suppressor
R119	22KΩ		340812	BTS-22K	AM Osc. Grid
R120	150Ω	2	340292		Parasitic Suppressor
R121	22KΩ		340812	BTS-22K	AVC Network
R122	3.3 Meg.	1	341332	BTA-3.3 Meg.	AVC Network
R123	1000Ω		340492	BTS-1000	Osc. Anode
R124	1000Ω	1	340492	BTS-1000	Osc. Decoupling
R125	100KΩ		340972		IF Amp. Grid
R126	220Ω	1	340332		IF Amp. Cathode
R127	1000Ω		340492	BTS-1000	IF Amp. Decoupling
R128	470KΩ	1	341132	BTS-470K	Def. Diode Load