

EMERSON MODEL 637C

TRADE NAME	Emerson, Models 614, B, BC, C, 637, B, BC, C (Ch. 120110, B, BC, C), 644, B, BC, C, 647, B, BC, C (Ch. 120113, B, BC, C), 648B (Ch. 120110E)	
MANUFACTURER	Emerson Radio and Phonograph Corp., 111 8th Ave., New York, New York	
TYPE SET	Television Receiver	
TUBES	Twenty Three or Twenty Four	
POWER SUPPLY	105-125 Volts AC-60 Cycle	
TUNING RANGE	Channels 2 thru 13	RATING 2 Amp. at 117 Volts AC

INDEX

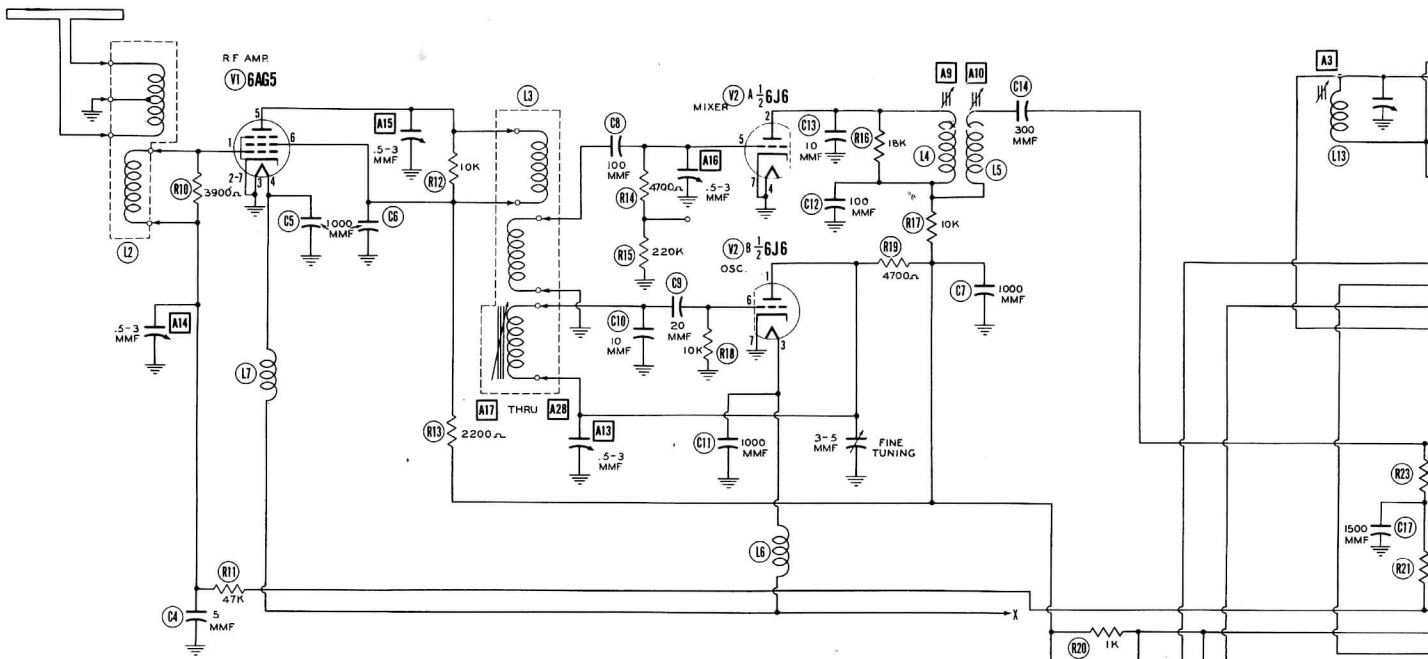
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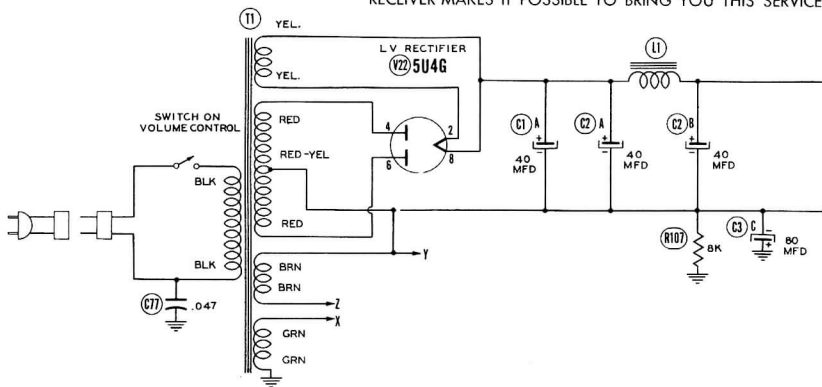
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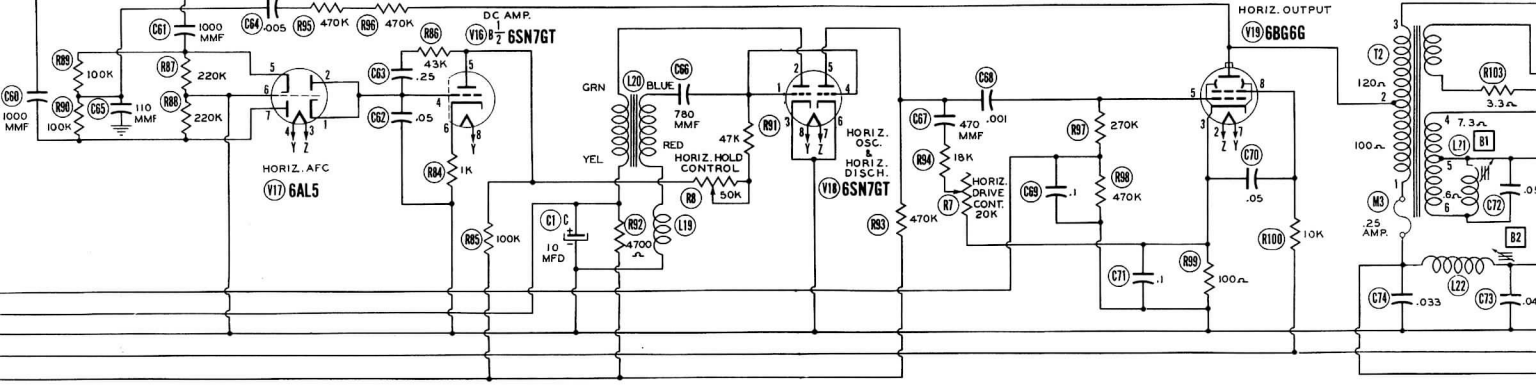
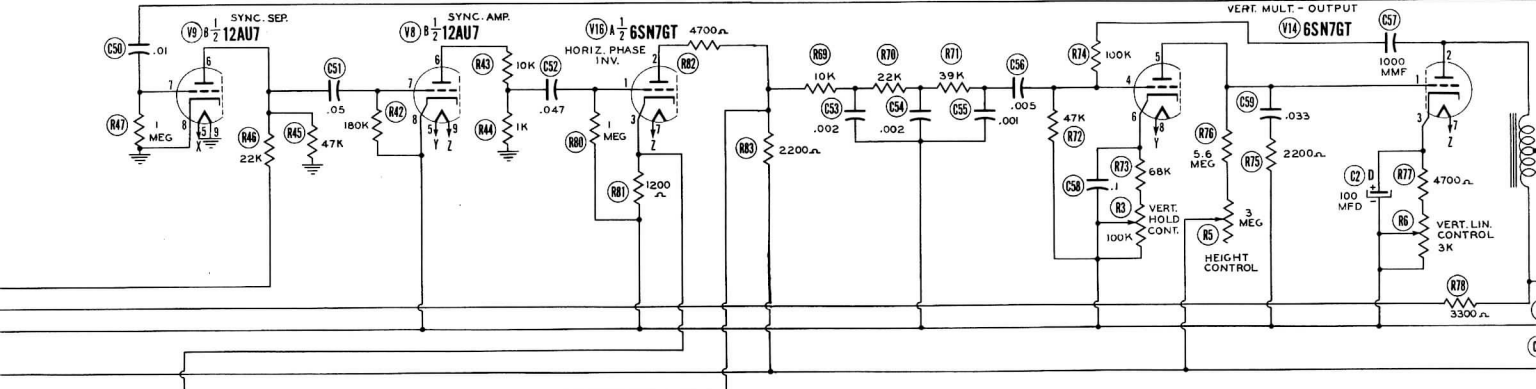
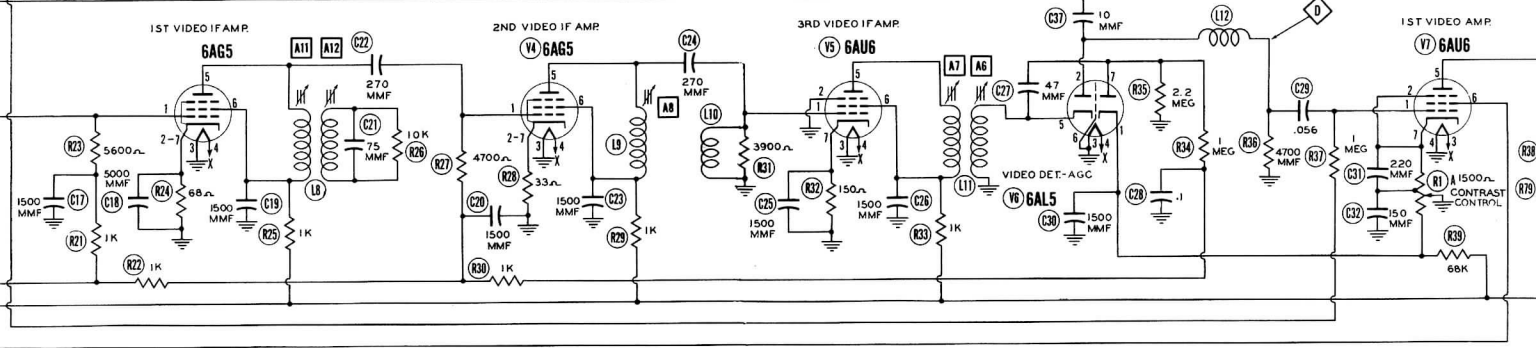
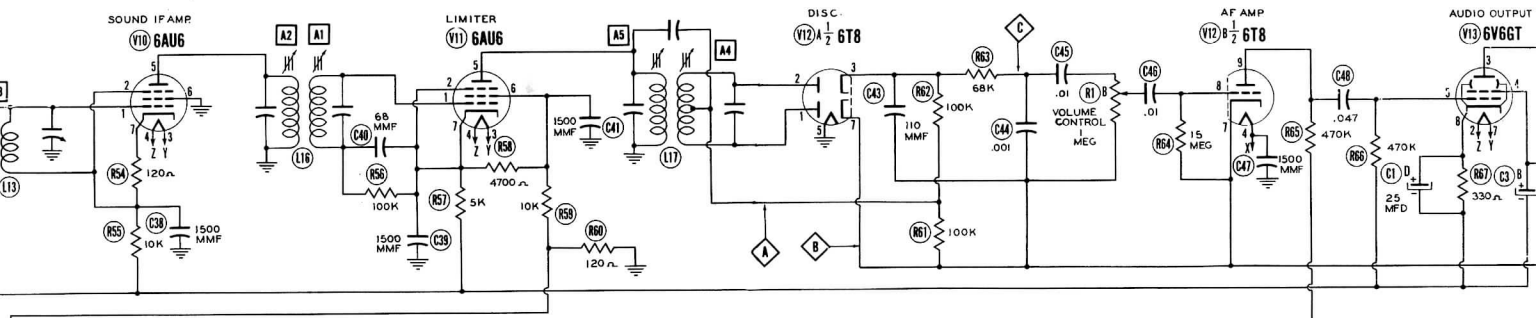


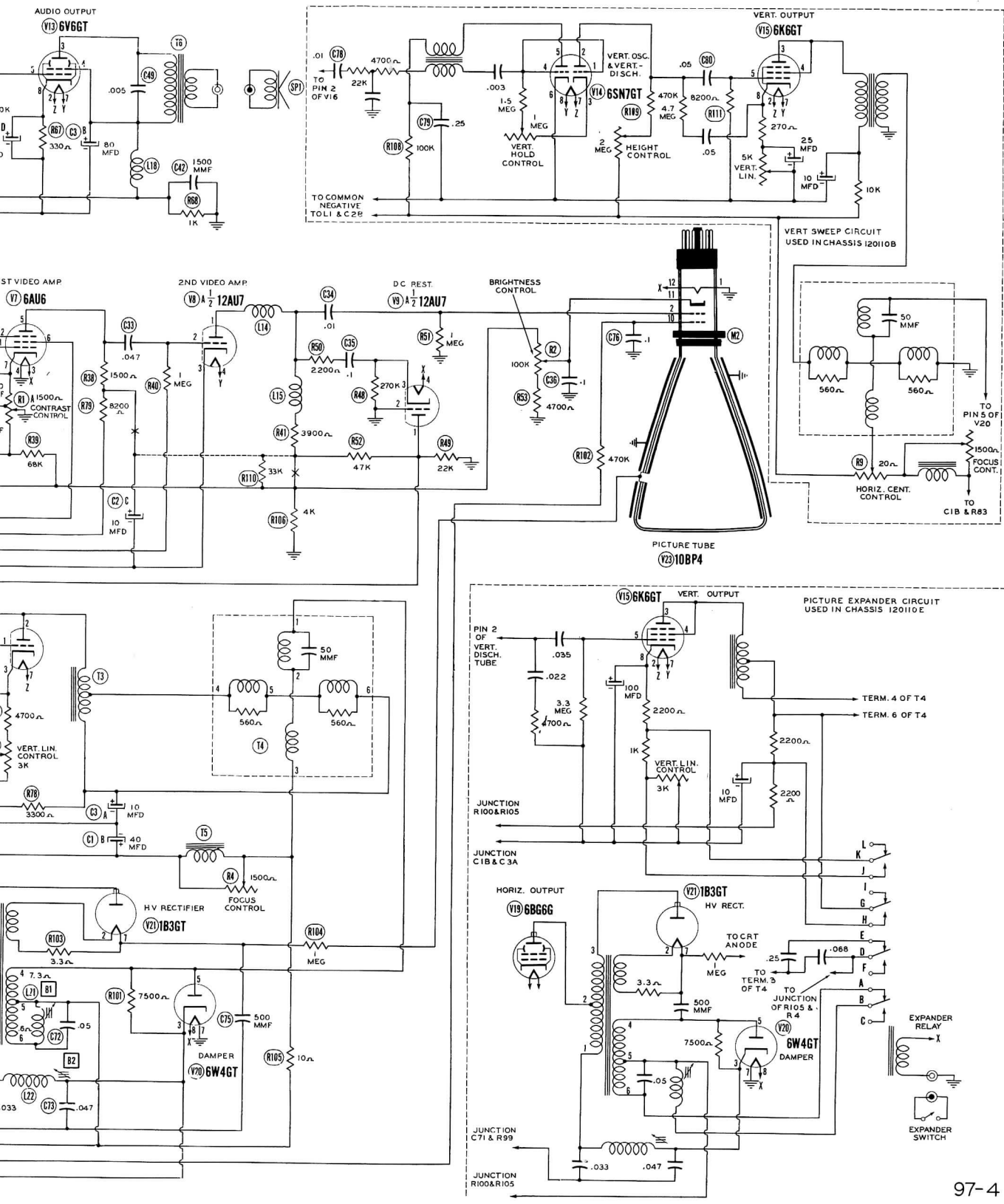
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE



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

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
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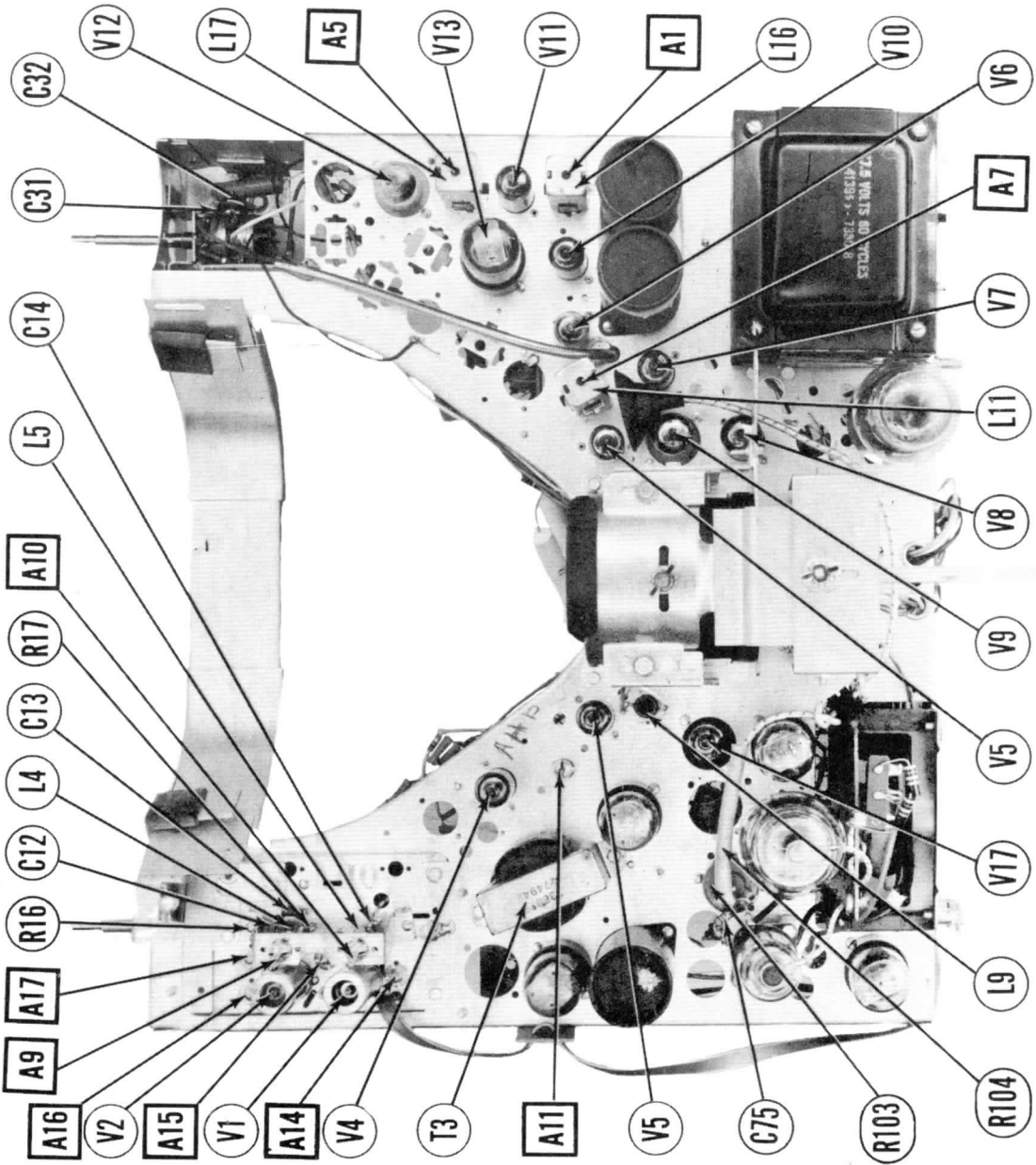


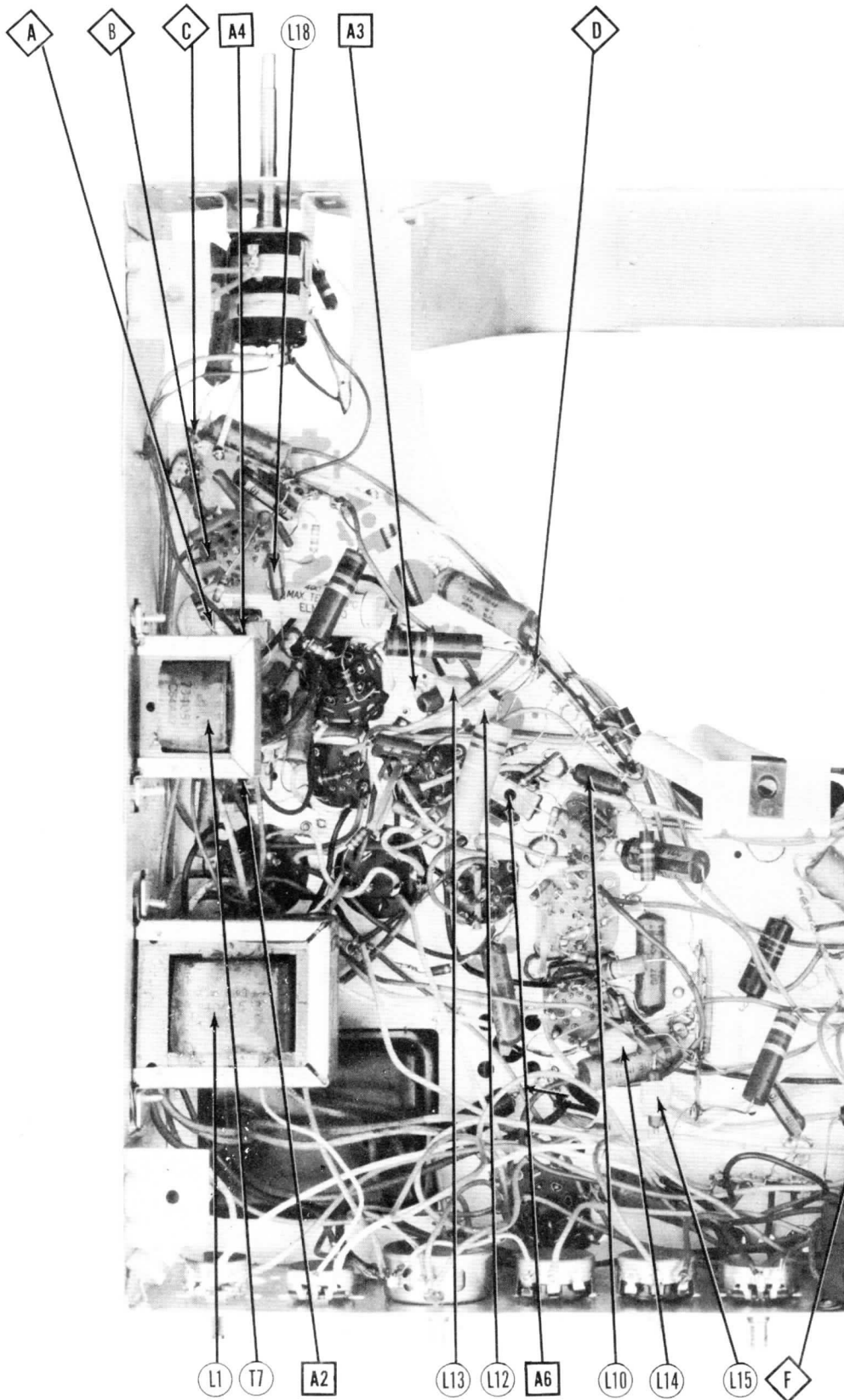


**EMERSON MODELS 614, B, BC, C, 637, B, BC, C, 644B, BC, C, 647B, BC, C, 648B**



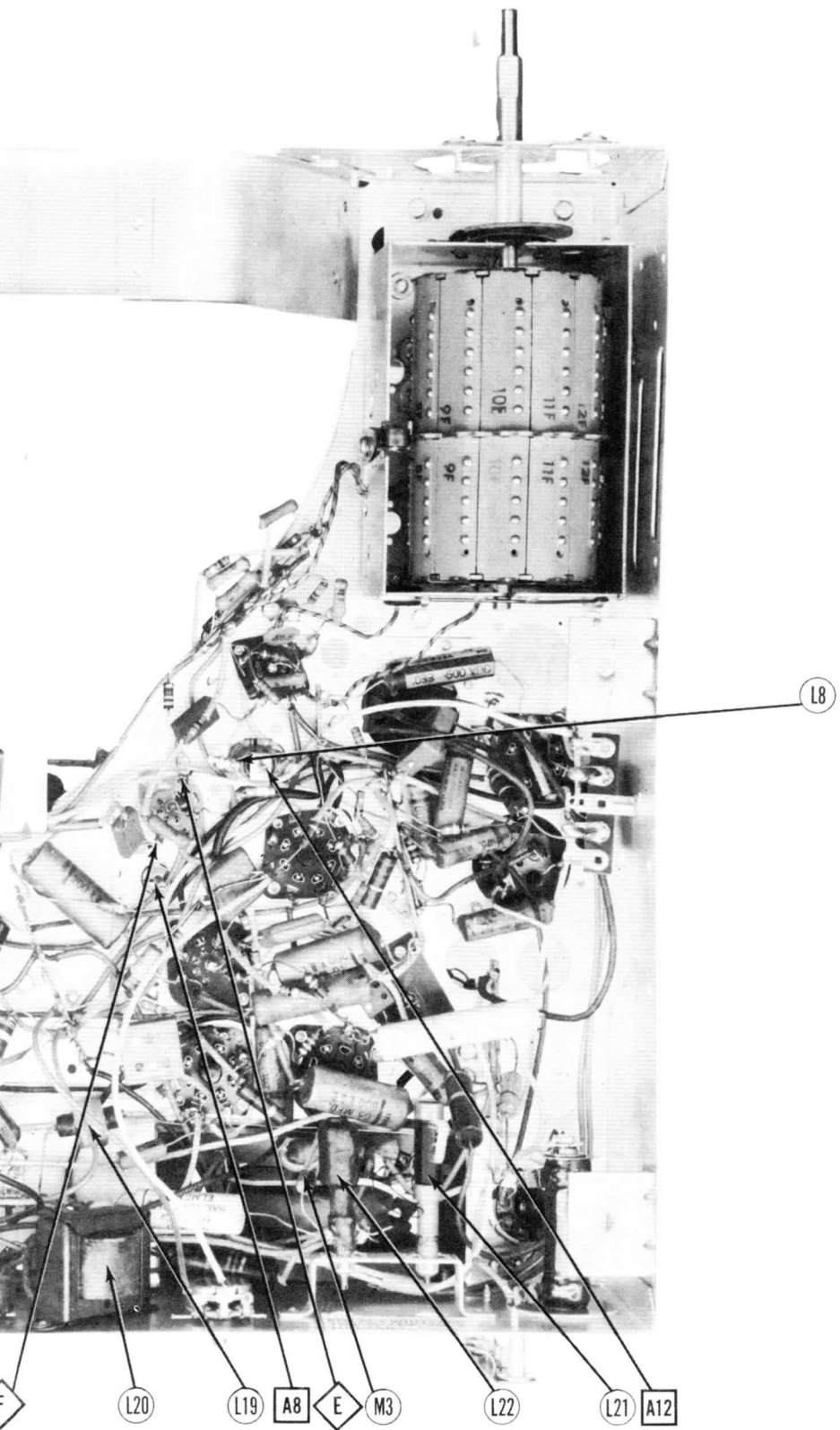
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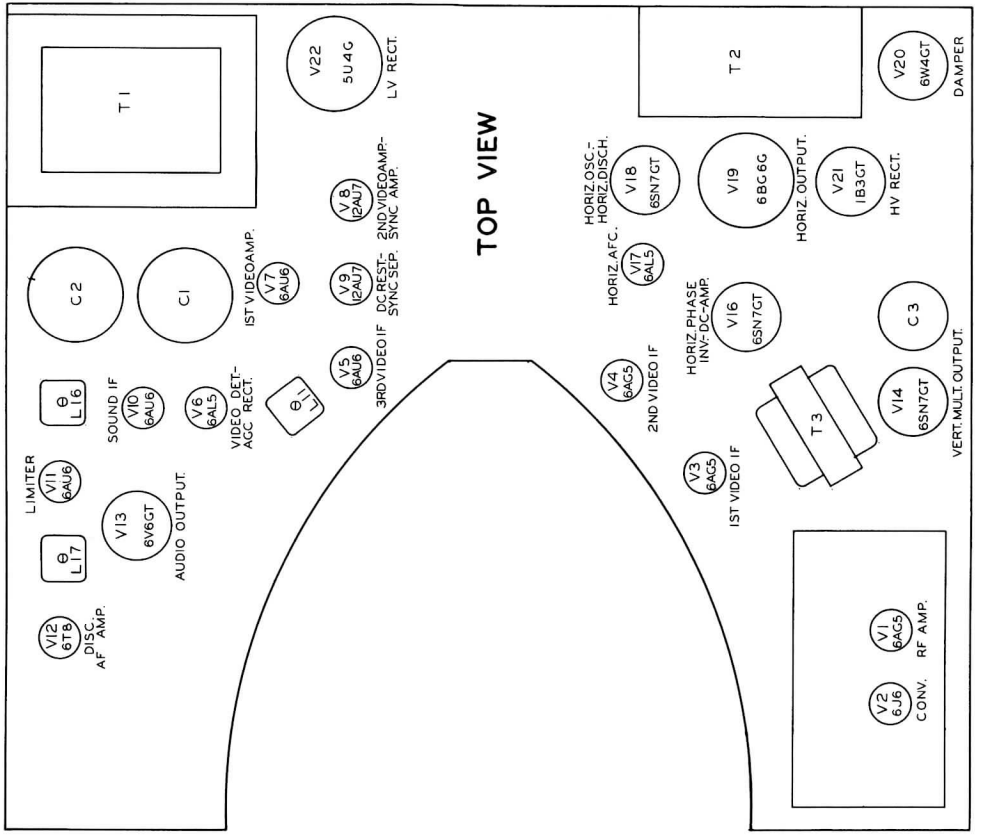
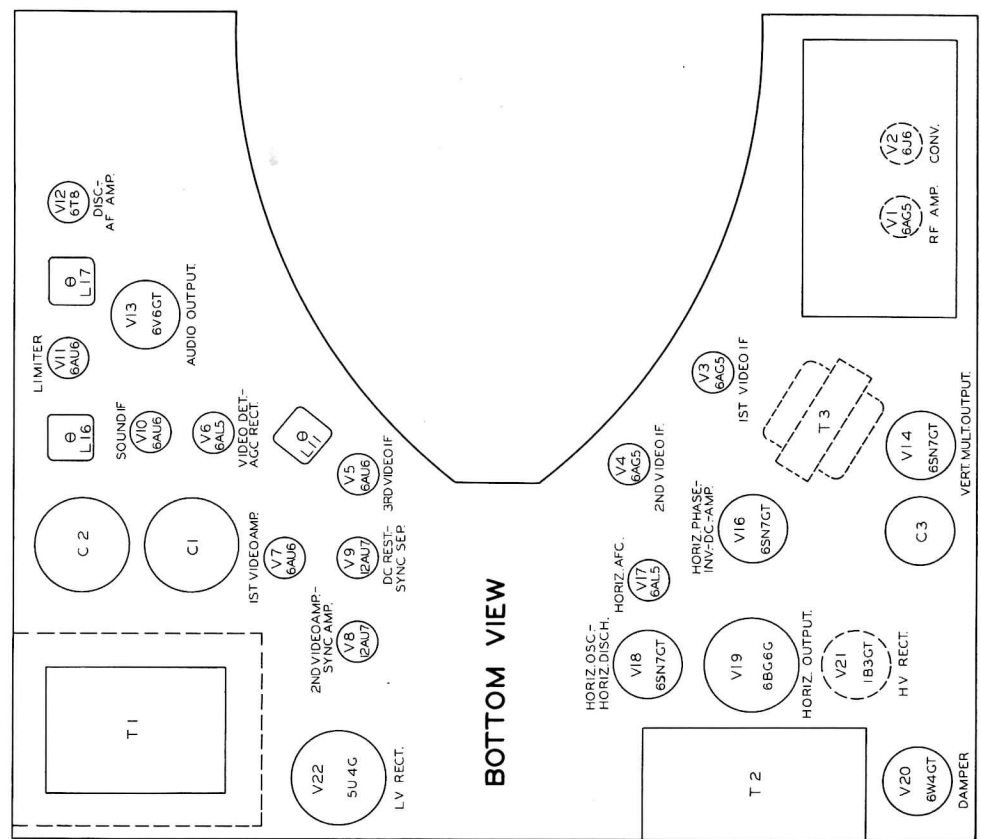


CHASSIS BOTTOM VIEW-TRANS., INDUCTO

EMERSON MODELS 614, B, BC, C, 637,  
B, BC, C, 644B, BC, C, 647B, BC, C, 648B



VECTOR AND ALIGNMENT IDENTIFICATION






TUBE PLACEMENT CHART

EMERSON MODELS 614, B, BC, C, 637, B, BC, C, 644B, BC, C, 647B, BC, C, 648B

# ALIGNMENT INSTRUCTIONS





## SOUND IF ALIGNMENT

Use frequency modulated signal with 60% modulation and 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection. Turn the contrast control to the mid-position of its range. Turn the channel selector to channel 3.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. .001MFD	High side to pin 2 (plate) of 6AL5 (V6). Low side to B-.	Not used	4.5MC (Unmod.)	3	Use VTVM. DC Probe to Point  Common to Point 	A1, A2, A3	Adjust for maximum amplitude and symmetry as per figure 1.
2. .001MFD	"	4.5MC (450KC Sweep)	4.5MC	"	Vert. Amp. to Point  . Low side to B-.	A4, A5	Adjust A4 to place 4.5MC at center of crossover lines as per figure 2. Adjust A5 for maximum amplitude and straightness of crossover lines.


## VIDEO IF ALIGNMENT

Remove the converter tube (V2) and replace it with a 6J6 which has pin 2 removed. Connect the negative lead of a 3 volt battery to the junction of R22 and R30. Connect the positive lead to chassis. During video IF alignment attenuate to the sweep generator to maintain 1 volt peak to peak deflection on the scope.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
3. .001MFD	High side to pin 1 (Grid) of 6AU6 (V5). Low side to chassis.	24MC (10MC SWP)	25.75MC	Any	Vert. Amp. thru 10KΩ to point  . Low side to chassis.	A6, A7	Adjust for response curve similar to figure 3 with marker as shown.
4. .001MFD	High side to pin 1 (Grid) of 6AG5 (V4). Low side to chassis.	"	"	"	"	A8	Adjust for response curve similar to figure 4 with marker as shown.
5. Direct	High side to ungrounded tube shield floating over dummy converter tube (V2). Low side to chassis.	"	"	"	Vert. Amp. thru detector probe (fig. 5) to point  . Low side to chassis.	A9, A10	Adjust for response curve similar to figure 6 with marker as shown.
6. Direct	"	"	21.25MC 22.8MC	"	Vert. Amp. thru detector probe to point  . Low side to chassis.	A11, A12	Adjust All to place 22.8MC marker as shown in figure 7. Adjust A12 for minimum marker indication at the 21.25MC point on response curve.
7. Direct	"	"	22.25MC 25.75MC	"	Vert. Amp. thru 10KΩ to point  . Low side to chassis.		Check for response curve similar to figure 8. If necessary retouch A8, A11 and A12 for proper response.

## RF ALIGNMENT (TUNER NOS. 470603, 470604, 470605, & 470607)

The overall oscillator circuit adjustment (A13) is pre-set at the factory and should not require adjustment in the field. Set the fine tuning control to the mid-position of its range. Remove the dummy converter tube and replace the original tube. 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
8. Two 120Ω carbon res.	Across antenna terminals with 120Ω in each lead.	207MC	209.75MC	12	Vert. Amp. thru 10KΩ to point  . Low side to chassis.	A17	Adjust to place sound marker as shown in figure 9.
9. "	"	"	"	"	"	A14, A15, A16	Adjust for maximum amplitude and bandwidth similar to figure 9.
10. "	"	213MC (10MC SWP)	215.75MC	13	"	A18	Adjust to place sound marker as shown in figure 9.
		201MC (10MC SWP)	203.75MC	11	"	A19	
		195MC (10MC SWP)	197.75MC	10	"	A20	
		189MC (10MC SWP)	191.75MC	9	"	A21	
		183MC (10MC SWP)	185.75MC	8	"	A22	
		177MC (10MC SWP)	179.75MC	7	"	A23	
		185MC (10MC SWP)	87.75MC	6	"	A24	
		79MC (10MC SWP)	81.75MC	5	"	A25	
		89MC (10MC SWP)	71.75MC	4	"	A26	
		83MC (10MC SWP)	65.75MC	3	"	A27	
		57MC (10MC SWP)	59.75MC	2	"	A28	

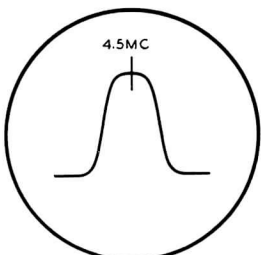


FIG. 1

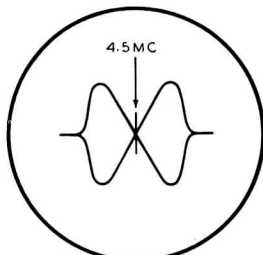


FIG. 2

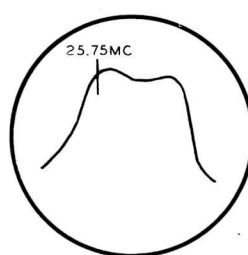


FIG. 3

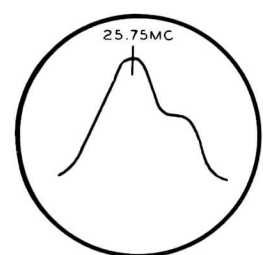


FIG. 4

# ALIGNMENT INSTRUCTIONS (CONT.)

## RF TUNER ALIGNMENT (TUNER NO. 470233)

Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection. 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
8. Two 150Ω carbon res.	Across antenna terminals with 150Ω in each lead.	213MC (10MC SWP)	211.25MC 215.75MC	13	Vert. Amp. to Point ↙ Low side to chassis.	A601, A602, A603, A604	Adjust for maximum amplitude and band-pass similar to figure 9. Keep slug pairs at approximately the same relative position.
9. "	"	"	"	"	"	A609, A610	Adjust to place sound marker as shown in figure 9. Keep slug pairs at approximately the same relative position.
10. "	"	207MC (10MC SWP) 201MC (10MC SWP) 195MC (10MC SWP) 189MC (10MC SWP) 183MC (10MC SWP) 177MC (10MC SWP)	209.75MC 203.75MC 197.75MC 191.75MC 185.75MC 179.75MC	12 11 10 9 8 7	"	A611 A612 A613 A614 A615 A616	Adjust to place sound marker as shown in figure 9.
11. "	"	85MC (10MC SWP)	83.25MC 87.75MC	6	"	A605, A606, A607, A608	Adjust for maximum amplitude and band-pass similar to figure 9.
12. "	"	"	"	"	"	A617, A618	Adjust to place sound marker as shown in figure 9. Keep slug pairs at approximately the same relative position.
13. "	"	79MC (10MC SWP) 69MC (10MC SWP) 63MC (10MC SWP) 57MC (10MC SWP)	81.75MC 71.75MC 65.25MC 59.75MC	5 4 3 2	"	A619 A620 A621 A622	Adjust to place sound marker as shown in figure 9.

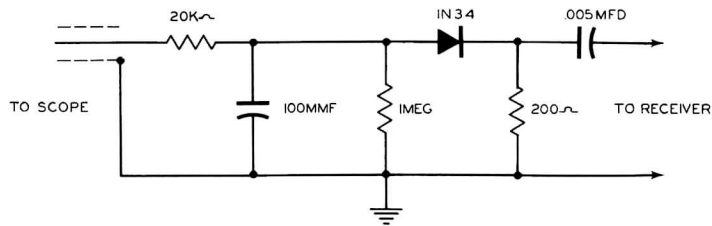


FIG. 5

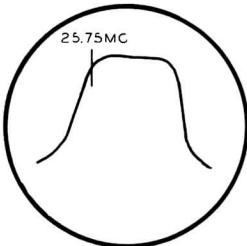


FIG. 6

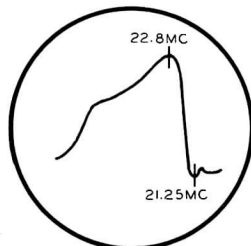


FIG. 7

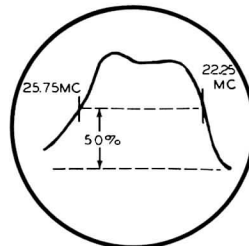


FIG. 8

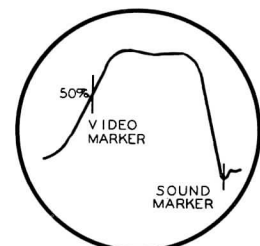
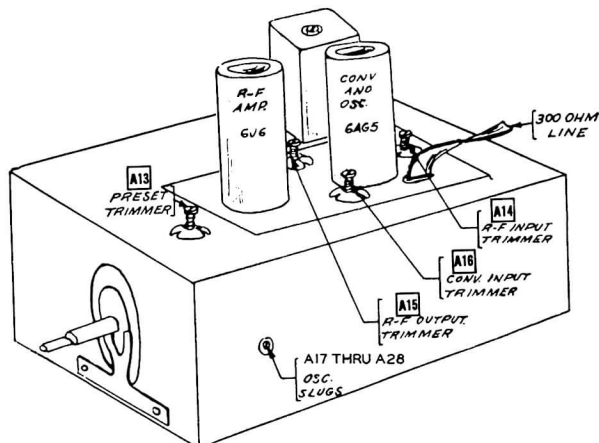


FIG. 9



RF ALIGNMENT POINTS - TUNER # 470605  
(See page 10 for Tuners 470603, 470604, & 470607)

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B, BC, C, 644B, BC, C, 647B, BC, C, 648B

# 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	6AG5	- .8VDC	0V.	0V.	6.3VAC	140VDC	140VDC	0V.		
V 2	6J6	80VDC	80VDC	6.3VAC	0V.	-3.4VDC	8-7.1VDC	0V.		
V 3	6AG5	-1.3VDC	.5VDC	0V.	6.3VAC	130VDC	130VDC	.5VDC		
V 4	6AG5	- .5VDC	.3VDC	0V.	6.3VAC	130VDC	130VDC	.3VDC		
V 5	6AU6	0V.	0V.	0V.	6.3VAC	130VDC	130VDC	1 VDC		
V 6	6AL5	.5VDC	- .5VDC	0V.	6.3VAC	0V.	0V.	- .5VDC		
V 7	6AU6	- .2VDC	2.2 VDC	6.3VAC	0V.	225VDC	150VDC	2.2 VDC		
V 8	12AU7	▲310VDC	▲-1.4VDC	▲0V.	▲0V.	▲145VDC	▲-2.2VDC	▲0V.	▲6.3VAC	
V 9	12AU7	43VDC	0V.	3.6VDC	6.3VAC	35VDC	35VDC	- .2VDC	0V.	0V.
V 10	6AU6	▲85VDC	▲85VDC	▲0V.	▲6.3VAC	▲215VDC	▲215VDC	▲85VDC		
V 11	6AU6	▲50VDC	▲55VDC	▲0V.	▲6.3VAC	▲215VDC	▲100VDC	▲55VDC		
V 12	6T8	-30VDC	-30VDC	-27VDC	6.3VAC	0V.	0V.	-29VDC	-30VDC	19VDC
V 13	6V8GT	▲0V.	▲6.3VAC	▲175VDC	▲185VDC	▲0V.	▲0V.	▲0V.	9.4VDC	
V 14	6SN7GT	▲17VDC	▲41VDC	▲17VDC	▲2.2VDC	▲2.2VDC	▲2.2VDC	▲2.2VDC		
V 15	6SN7GT	▲25VDC	▲440VDC	▲44VDC	▲-2VDC	▲25VDC	▲4VDC	▲6.3VAC	▲0V.	
NOT USED IN ALL MODELS.										
V 16	6SN7GT	▲0V.	▲300VDC	▲11VDC	▲-3VDC	▲43VDC	▲1.2VDC	▲6.3VAC	▲0V.	
V 17	6AL5	▲-4VDC	▲-4VDC	▲6.3VAC	▲0V.	▲12VDC	▲0V.	▲15VDC		
V 18	6SN7GT	▲-50VDC	▲320VDC	▲0V.	▲-55VDC	▲60VDC	▲0V.	▲6.3VAC	▲0V.	
V 19	6BG6G	▲0V.	▲6.3VAC	▲8.7VDC	▲-4.7VDC	▲-5.9VDC	▲-2VDC	▲0V.	▲250VDC	TOP CAP *
V 20	6W4GT	0V.	0V.	250VDC	0V.	150VDC	0V.	0V.	6.3VAC	
V 21	1B3GT	* DO NOT MEASURE.								
V 22	5U4G	0V.	180VDC	155VDC	400VAC	0V.	400VAC	155VDC	180VDC	
V 23	10BP4	0V.	0V.	220VDC	130VDC	6.3VAC	26VDC			

▲ MEASURED FROM PIN 3 OF V8  
\* DO NOT MEASURE.

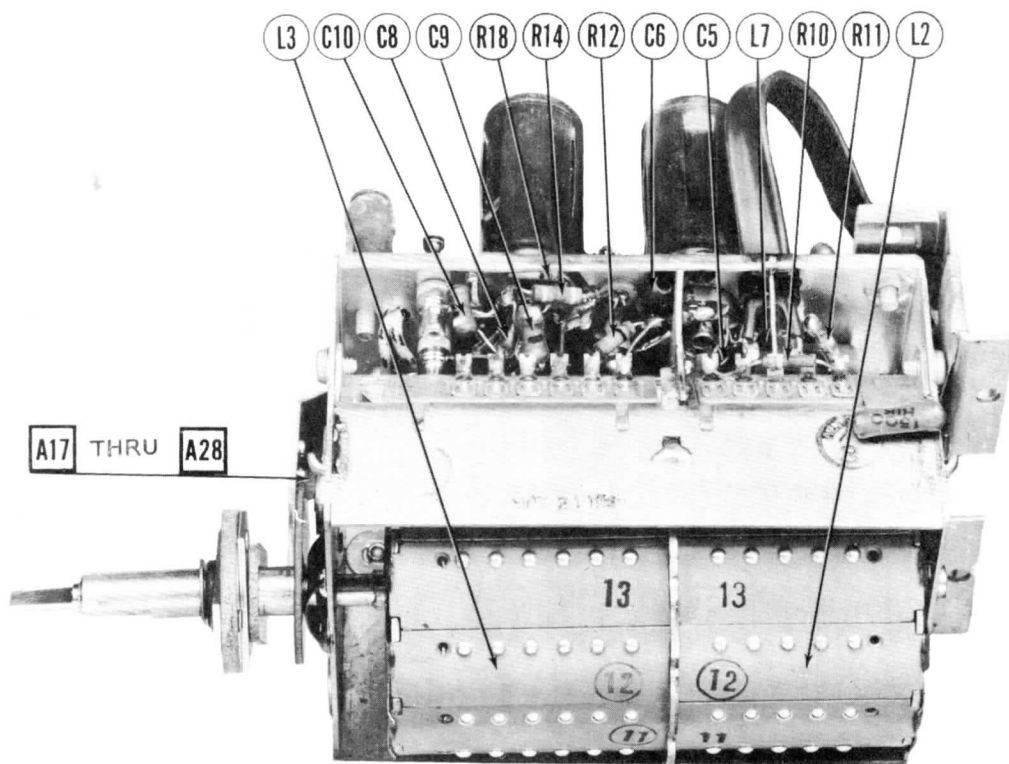
RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	
V 1	6AG5	3.2 Meg.	0Ω	0Ω	.1Ω	†3.3KΩ	†3.3KΩ	0Ω			
V 2	6J6	†5KΩ	†11KΩ	.1Ω	0Ω	225KΩ	10KΩ	0Ω			
V 3	6AG5	3.2 Meg.	68Ω	0Ω	.1Ω	†1.3KΩ	†1.3KΩ	68Ω			
V 4	6AG5	3.2 Meg.	33Ω	0Ω	.1Ω	†1.3KΩ	†1.3KΩ	33Ω			
V 5	6AU6	3Ω	0Ω	0Ω	.1Ω	†1.3KΩ	†1.3KΩ	150Ω			
V 6	6AL5	1Ω	4.7KΩ	0Ω	.1Ω	0Ω	0Ω	2.2 Meg.			
V 7	6AU6	1 Meg.	1.5KΩ	.1Ω	0Ω	#10KΩ	†10Ω	1.5KΩ			
V 8	12AU7	†4KΩ	1.5 Meg.	▲0Ω	▲0Ω	▲0Ω	11KΩ/	▲180KΩ	▲0Ω	▲.1Ω	
V 9	12AU7	†16KΩ	0Ω	270KΩ	.1Ω	.1Ω	†20KΩ	1 Meg.	0Ω	0Ω	
V 10	6AU6	▲10KΩ	▲10KΩ	▲0Ω	▲.1Ω	2.5Ω	0Ω	▲10KΩ			
V 11	6AU6	▲105KΩ	▲3.8KΩ	▲0Ω	▲.1Ω	2Ω	▲6KΩ	▲3.8KΩ			
V 12	6T8	100KΩ	100KΩ	200KΩ	.1Ω	0Ω	Inf.	100Ω	15 Meg.	†475KΩ	
V 13	6V8GT	Inf.	.1Ω	1.3KΩ	100Ω	▲470KΩ	▲0Ω	▲0Ω	▲330Ω		
V 14	6SN7GT	†8.6 Meg.	†4.3KΩ	▲6.3KΩ	▲47KΩ	†8.6KΩ	▲168KΩ	▲58KΩ	▲.1Ω	▲.0Ω	
V 15	NOT USED IN ALL MODELS.										
V 16	6SN7GT	▲1 Meg.	†7KΩ	▲1.2KΩ	Inf.	†100KΩ	▲100Ω	▲.1Ω	▲0Ω		
V 17	6AL5	Inf.	Inf.	.1Ω	▲0Ω	▲130KΩ	▲0Ω	▲130KΩ			
V 18	6SN7GT	†150KΩ	†200KΩ	▲0Ω	†150KΩ	†200KΩ	†470KΩ	▲.1Ω	▲0Ω	TOP CAP	
V 19	6BG6G	Inf.	.1Ω	▲100Ω	▲300KΩ	▲550KΩ	▲120KΩ	▲0Ω	†10KΩ	#135Ω	
V 20	6W4GT	Inf.	Inf.	#0Ω	Inf.	†120Ω	Inf.	0Ω	.1Ω	TOP CAP	
V 21	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	TOP CAP	
V 22	5U4G	Inf.	3KΩ	3KΩ	4.7KΩ	Inf.	4.7KΩ	3KΩ	3KΩ	#250Ω	
V 23	10BP4	0Ω	1 Meg.	▲470KΩ	29KΩ	.1Ω	▲4.7KΩ	3KΩ	3KΩ	3KΩ	

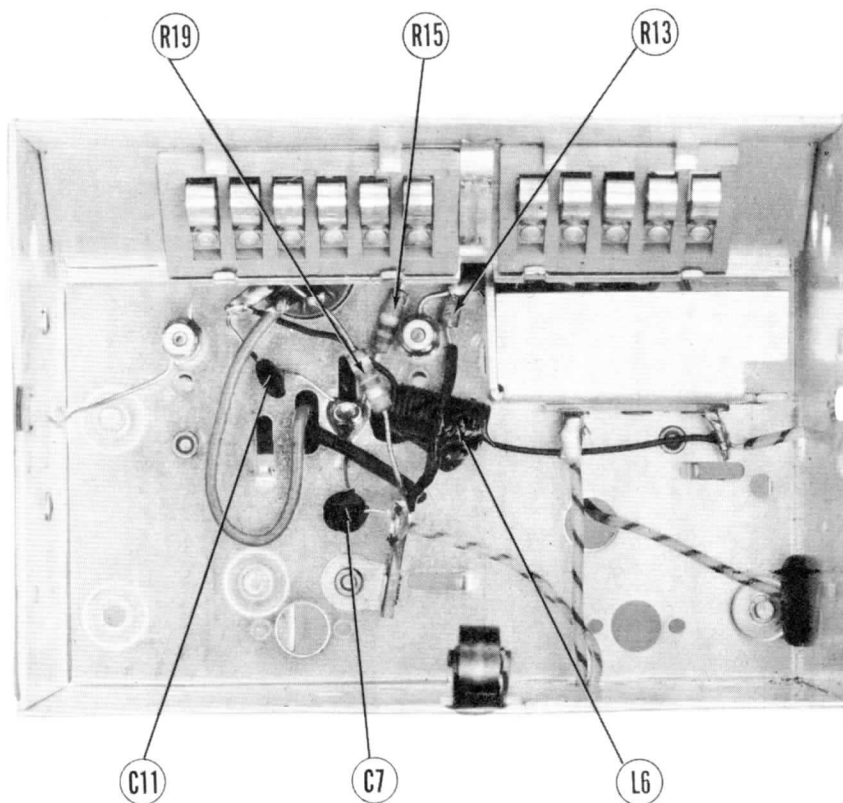
† MEASURED FROM PIN 8 OF V22.  
# MEASURED FROM PIN 3 OF V20.  
▲ MEASURED FROM PIN 3 OF V8.

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

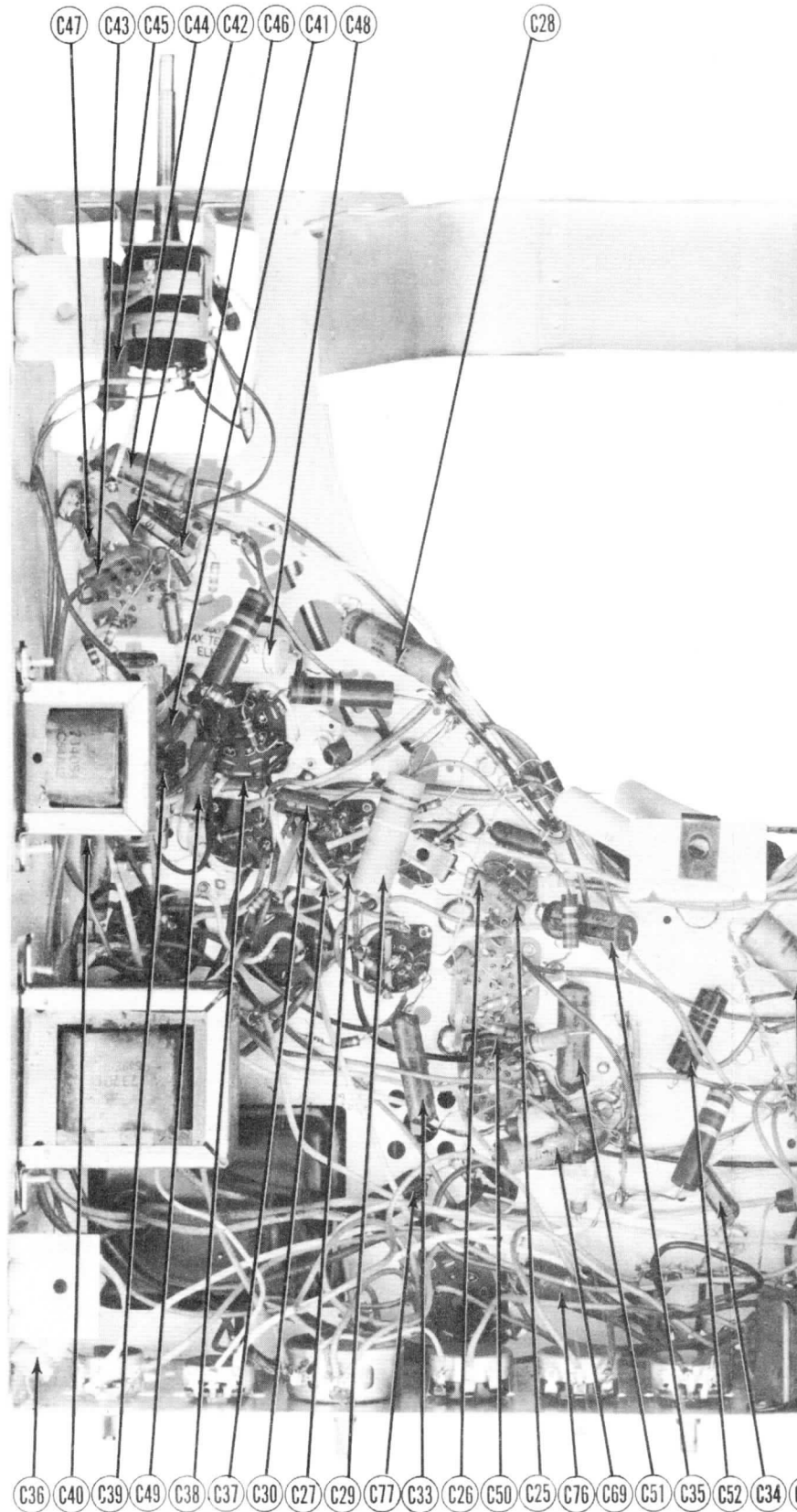




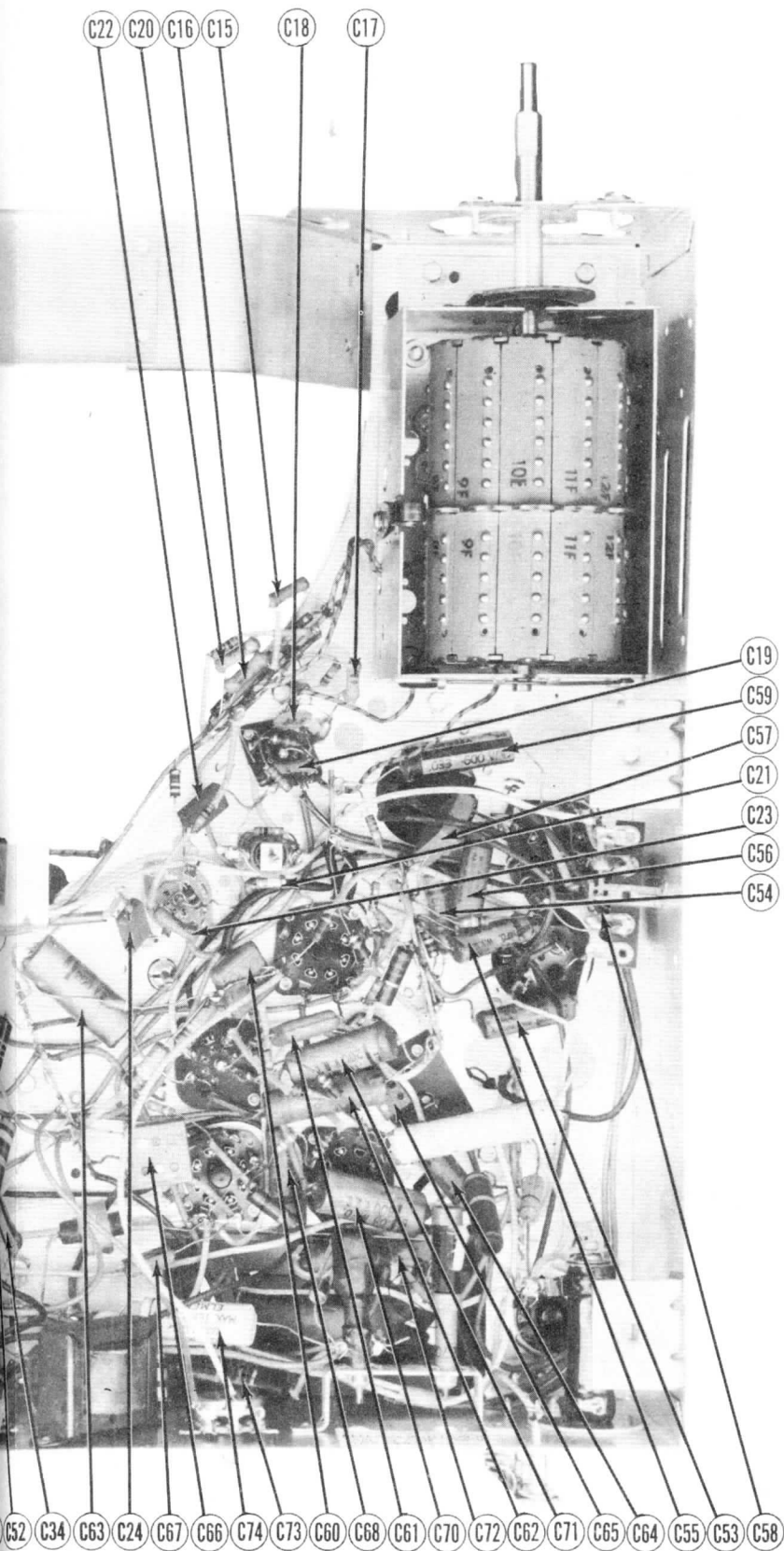
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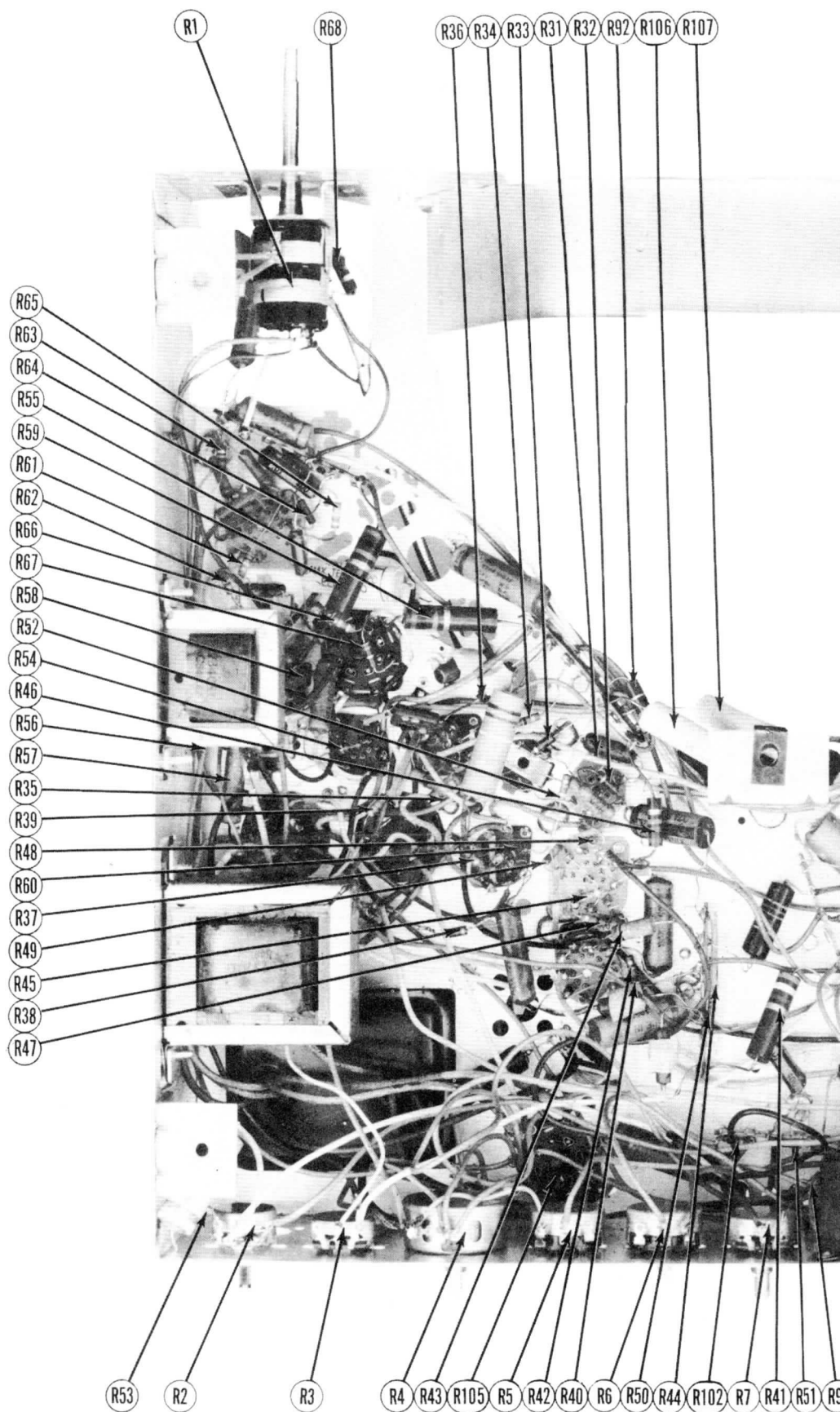
RF TUNER # 470603, 470604, 470607



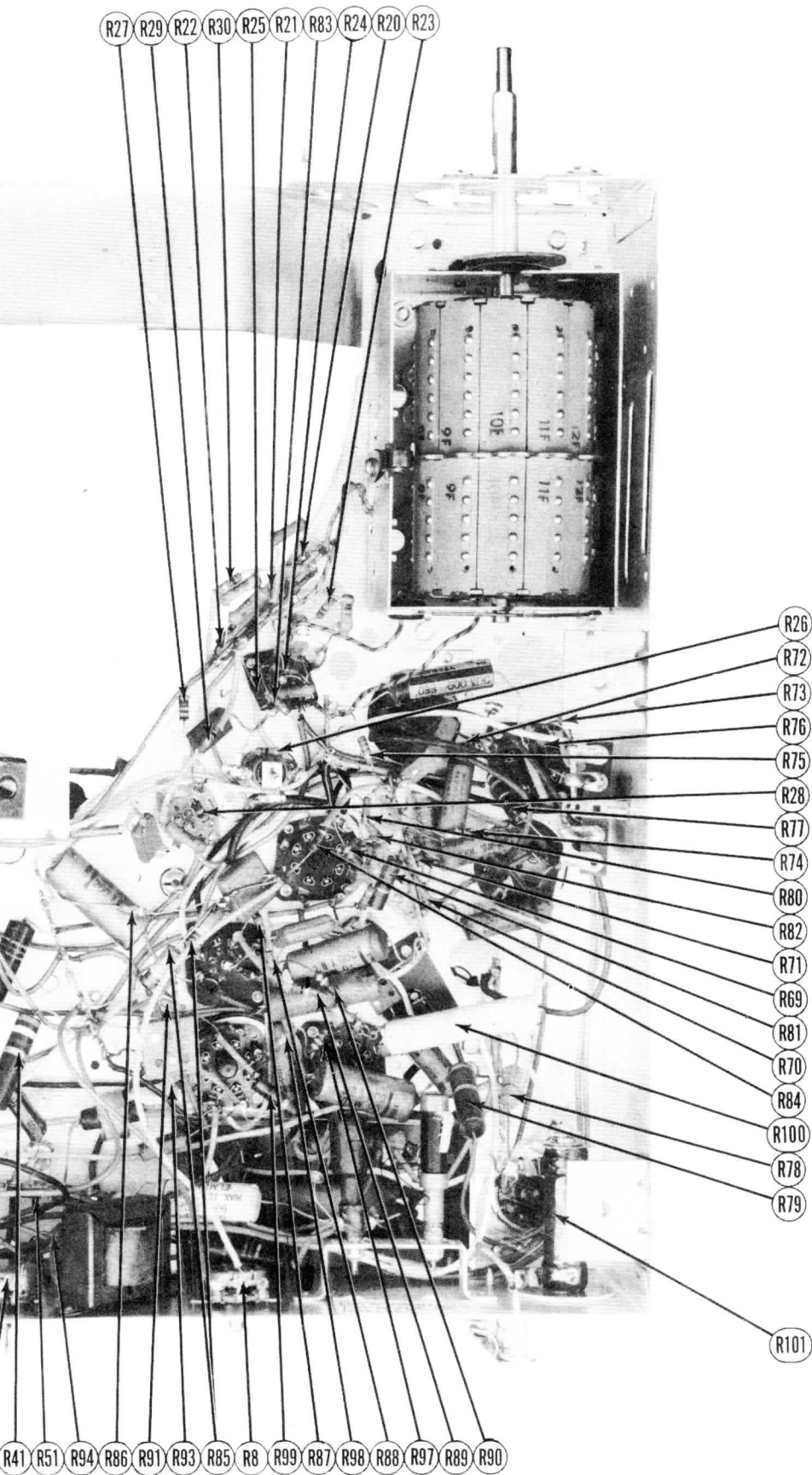
CHASSIS BOTTOM VIEW-CAPACITORS



CAPACITOR IDENTIFICATION



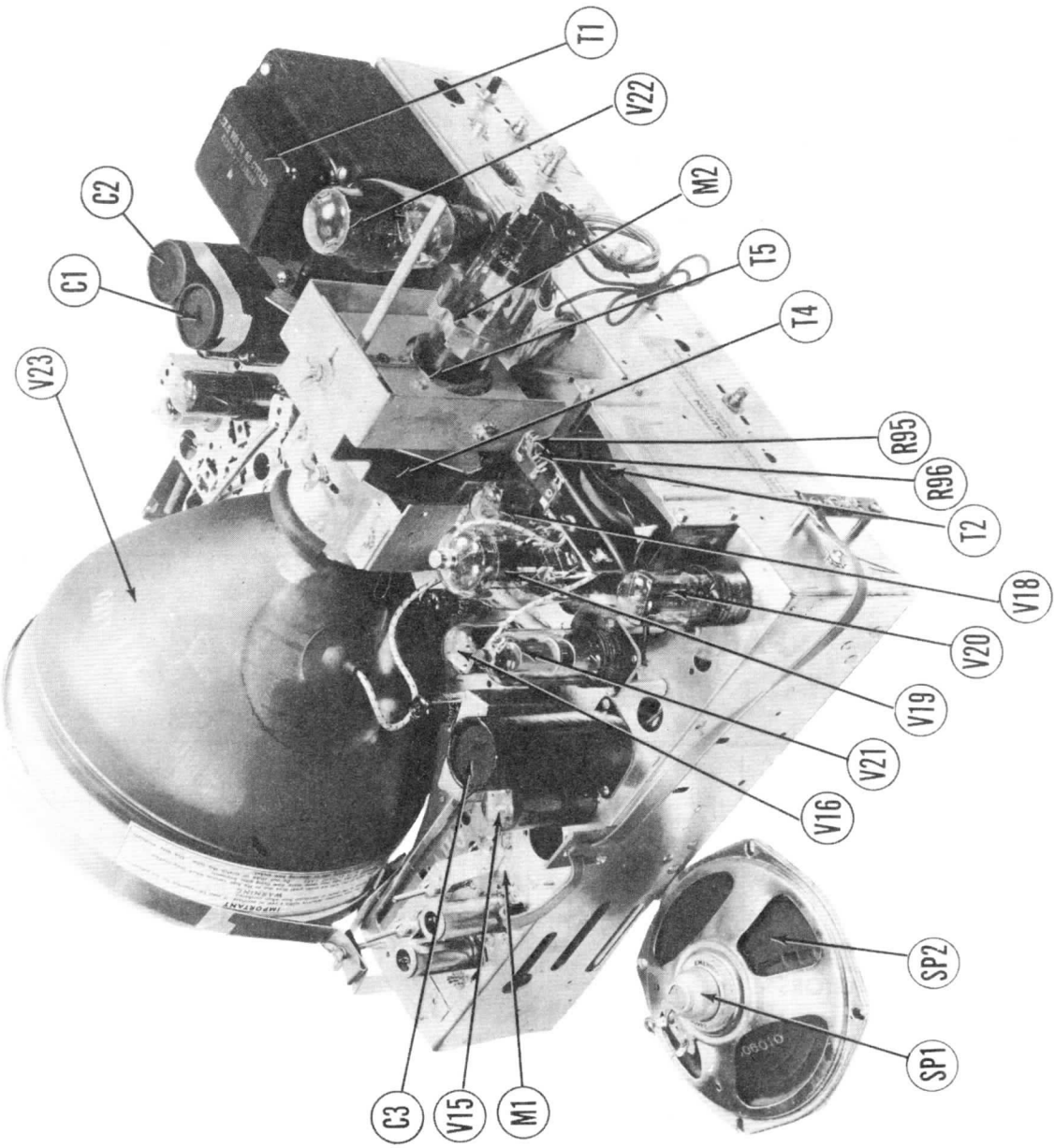
CHASSIS BOTTOM VIEW-RES



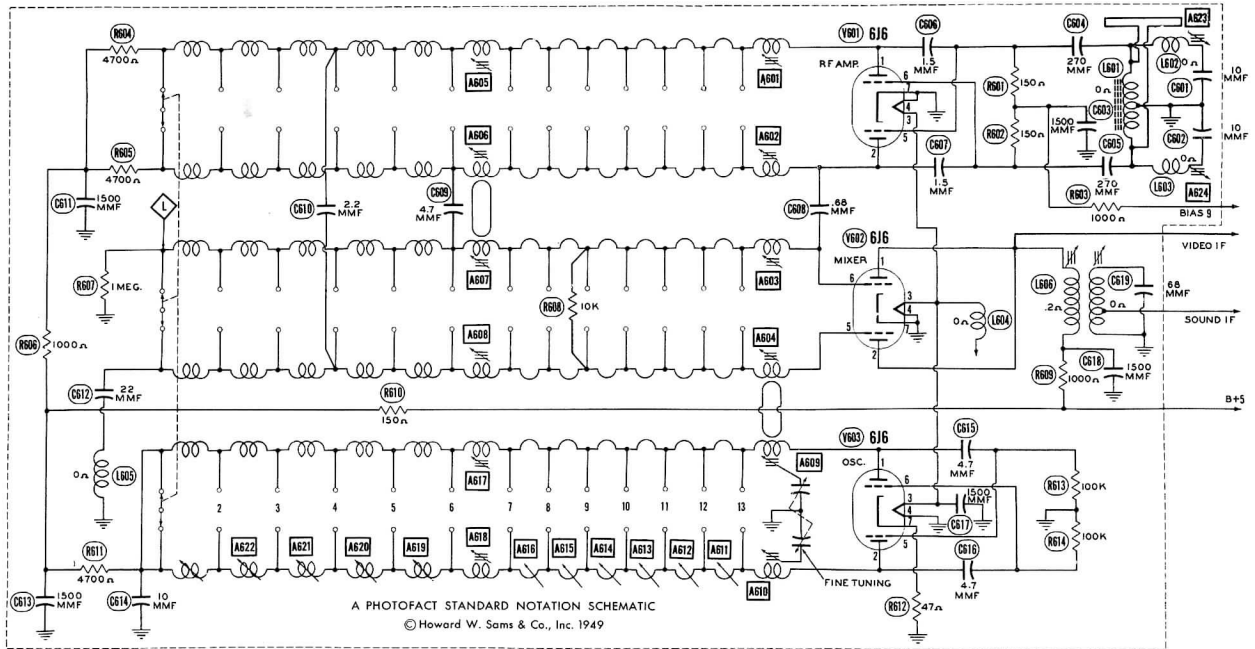
RESISTOR IDENTIFICATION

EMERSON MODELS 614, B, BC, C, 637,  
B, BC, C, 644B, BC, C, 647B, BC, C, 648B

MAIN TOP-SISSAHC







## RF TUNER

## PARTS LIST AND DESCRIPTIONS

### TUBES

ITEM No.	USE	REPLACEMENT DATA	
		STANDARD REPLACEMENT	RMA BASE TYPE
V601	R. F. Amp.	6J6	7BF
V602	Mixer	6J6	7BF
V603	Oscillator	6J6	7BF

### CAPACITORS

ITEM No.	RATING		IDENTIFICATION
	CAP.	VOLT	
C601	10		Fixed Trimmer
C602	10		Fixed Trimmer
C603	1500		RF Bypass
C604	270		RF Coupling
C605	270		RF Coupling
C606	1.5		Neutralizing
C607	1.5		Neutralizing
C608	.68		RF Coupling
C609	4.7		RF Coupling
C610	2.2		RF Coupling
C611	1500		RF Decoupling
C612	22		Fixed Trimmer
C613	1500		Osc. Decoupling
C614	10		Fixed Trimmer
C615	4.7		Osc. Feedback
C616	4.7		Osc. Feedback
C617	1500		Filament Bypass
C618	1500		Mixer Decoupling
C619	68		Fixed Trimmer

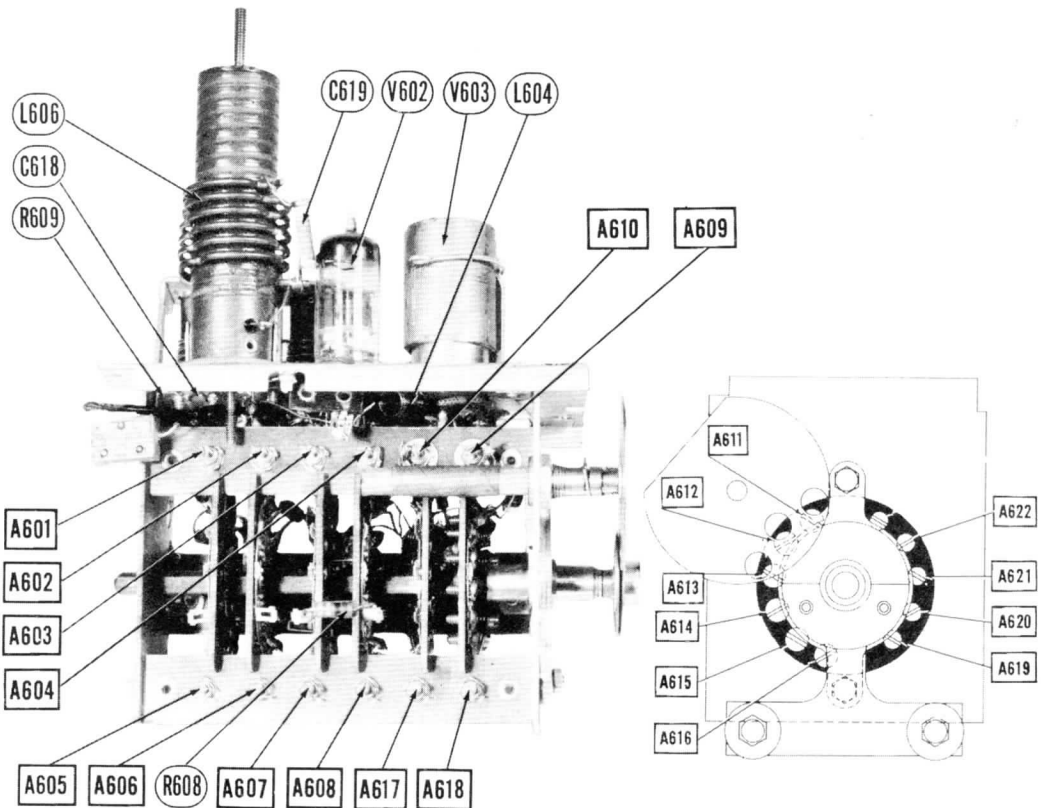
### RESISTORS

ITEM No.	RATING		IDENTIFICATION
	RESISTANCE	WATTS	
R601	150Ω		RF Grid
R602	150Ω		RF Grid
R603	1000Ω		Bias Filter
R604	4700Ω		RF Plate
R605	4700Ω		RF Plate
R606	1000Ω		RF Decoupling
R607	1 Meg.		Mixer Grid
R608	10KΩ		Mixer Grid Shunt
R609	1000Ω		Mixer Decoupling
R610	150Ω		Decoupling
R611	4700Ω		Osc. Plate
R612	47Ω		Osc. Cathode
R613	100KΩ		Osc. Grid
R614	100KΩ		Osc. Grid

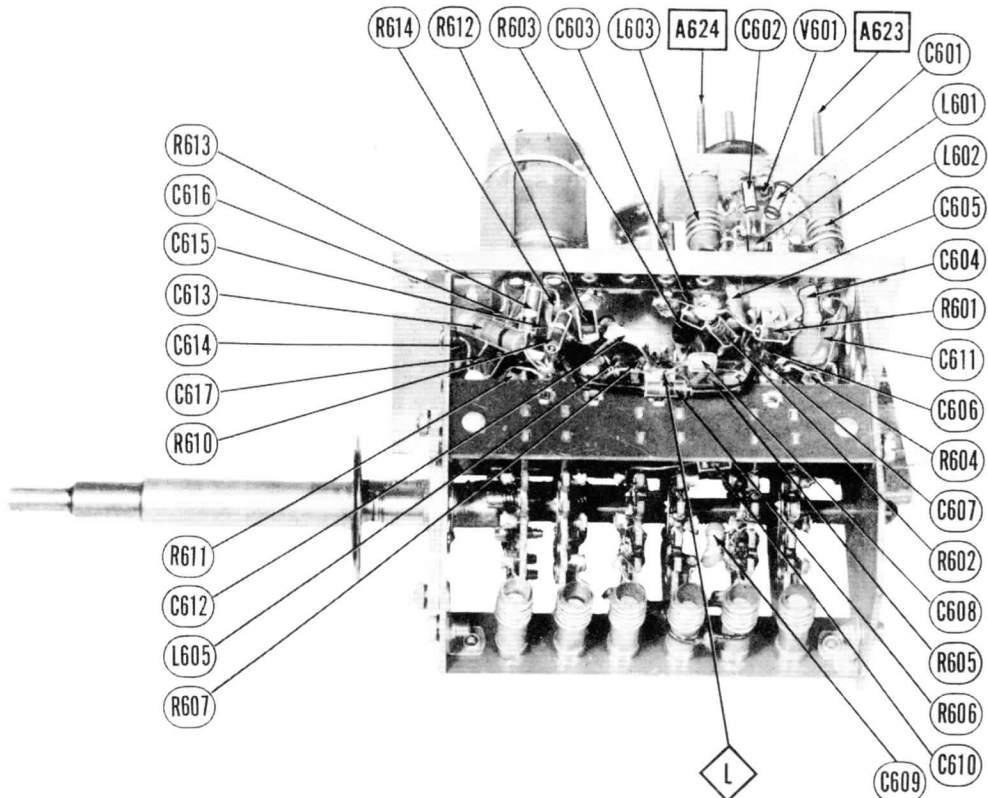
### COILS

ITEM No.	USE	DC RES.	
		PRI.	SEC.
L601	Ant. Input	0Ω	
L602	Interference Trap	0Ω	
L603	Interference Trap	0Ω	
L604	Filament Choke	0Ω	
L605	Mixer Grid Trap	0Ω	
L606	1st. Video IF and Sound Trap	.2Ω	0Ω





RF TUNER-LEFT SIDE



RF TUNER-RIGHT SIDE

EMERSON MODELS 614, B, BC, C, 637,  
B, BC, C, 644B, BC, C, 647B, BC, C, 648B

# PARTS LIST AND

## 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	6T6	7BF	
V3	Oscillator	800536	6T6	7BF	
V4	1st Video IF	800535	6AG5	7BD	
V5	2nd Video IF	800535	6AG5	7BD	
V6	3rd Video IF	800533	6AU6	7BK	
V7	Video Det. -AGC	800541	6AL5	6BT	
V8	1st Video Amp.	800533	6AU6	7BK	
V9	2nd Video Amp. - Sync. Amp.	800026	12AU7	9A	
V10	DC Rest. -Sync. Sep.	800026	12AU7	9A	
V11	Sound IF Amp.	800533	6AU6	7BK	
V12	Limiter	800533	6AU6	7BK	
V13	Disc. -AF Amp.	800035	6T8	9E	
V14A	Audio Output	800270	6V6GT	7AC	
B	Vert. Mult. & Output	800380	6SN7GT	8BD	Used in chassis #120113, B, BC, C
V15	Vert. Osc. & Disch.	800380	6SN7GT	8BD	Used in chassis #120110, B, BC, C
V16	Vert. Output Hor. Phase Inv. - DC Amp.	800016	6K6GT	7S	Used in chassis #120110, B, BC, C
V17	DC Amp.	800380	6SN7GT	8BD	
V18	Hor. AFC	800541	6AL5	6BT	
	Disch.	800380	6SN7GT	8BD	
V19	Hor. Output	800004	6BG6G	5BT	
V20	Damper	800037	6W4GT	4CG	
V21	HV Rect.	800450	1B3GT	3C	
V22	LV Rect.	800290	5U4G	5T	
V23A	Picture Tube	810000	10BP4	12D	Used in chassis #120110, B, BC, C, 120110E
B	Picture Tube	810003	12LP4	12D	Used in chassis #120113, B, BC, C
C	Picture Tube	810003	12QP4	12D	Used in chassis #120113, B, BC, C

## CAPACITOR

ITEM No.	RATING		REPLACEMENT DATA		
	CAP.	VOLT	EMERSON PART No.	AEROVOX PART No.	CENTRALAB PART No.
C52	.047	400	923062	P488-047	
C53	.002	600	923088	P688-002	D6-202
C54	.002	600	923088	P688-002	D6-202
C55	.001	600	923079	P688-001	D6-102
C56	.005	600	923078	P688-005	D6-502
C57	1000	500	910027	1467-001	D6-102
C58	.1	200	922014	P288-1	
C59	.033	600	922024	P688-033	
C60	1000	500	910027	1467-001	D6-102
C61	1000	500	910027	1467-001	D6-102
C62	.05	400	923068	P488-05	
C63	.25	200	923080	P488-25	
C64	.005	600	923077	P688-005	D6-502
C65	110	500	910010	1468-0001	D6-121
C66	780	500	910023	1464-00075	D6-751
C67	470	500	910017	1469-0005	D6-471
C68	.001	600	923079	P688-001	D6-102
C69	.1	200	923067	P288-1	
C70	.05	600	923073	P688-05	
C71	.1	200	923067	P288-1	
C72	.05	400	923062	P488-05	
C73	.047	600	923073	P688-047	
C74	.033	600	923074	P688-033	
C75	500	10000	923003	HV-500	TV1-501
C76	.1	400	923064	P488-1	
C77	.047	400	922101	P488-047	
C78	.01	600	923075	P688-01	D6-103
C79	.25	400	923066	P488-25	
C80	.05	600	923073	P688-033	

\* Not used in all models.  
 † Chassis 12010B and 12013B uses .005MFD in this application.  
 ‡ Chassis 12010B and 12013B uses .003MFD in this application.  
 § Chassis 12010B and 12013B uses .05MFD in this application.  
 ¶ Chassis 12010B and 12013B uses MFGR'S Part No. 925161.  
 # Used only in chassis 12010B and 12013C.  
 † Some models use .05MFD in this application.

## 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.	ERIE PART No.	SPRAGUE PART No.	
C1A	40	450	925161	AFH882J5D			D10229	Filter Filter Decoupling Output Cathode Bypass
B	40	450						
C	10	450						
D	25	50						
C2A	40	450	925166	AFH882J20C			D10231	Filter Filter Decoupling Vert. Output Cathode Bypass
B	40	450						
C	10	450						
D	100	100						
C3A	10	450	925165	AFH2J1616F			D10230	Decoupling Decoupling Filter Fixed Trimmer *
B	80	250						
C	80	250						
C4	5			SI5DNPO	D2-4.7	NPOK-5		RF Filament Bypass
C5	1000			GP1000M	D6-102	GP2L-001		RF Decoupling
C6	1000			GP1000M	D6-102	GP2L-001		RF Bypass
C7	1000			GP1000M	D6-102	GP2L-001	29C4	RF Coupling
C8	100			SI100KN750	DN-100	N750L-100		RF Coupling
C9	20			SI20KNPO	D2-20	NPOK-20		Osc. Grid Cap.
C10	10			SI100DN750	DN-10	N750K-10		Fixed Trimmer
C11	1000			GP1000M	D6-102	GP2L-001	29C4	Conv. Filament Bypass
C12	100			GP100K	D6-101	GP1K-100		Conv. Plate Decoupling
C13	10	200		1469-00001	D2-10	NPOK-10	MS-41	Fixed Trimmer
C14	300			GP300M	D6-301	GP2K-300		IF Coupling
C15	1500		928006	GP1500M	D6-152	GP2L-0015	1FM-215	RF Bypass
C16	1500		928006	GP1500M	D6-152	GP2L-0015	1FM-215	RF Bypass
C17	1500		928006	GP1500M	D6-152	GP2L-0015	1FM-215	AGC Filter
C18	5000		928109	BPD-5	D6-502	811-005	29C1	1st V. IF Cathode Bypass
C19	1500		928006	GP1500M	D6-152	GP2L-0015	1FM-215	1st V. IF Decoupling
C20	1500		928006	GP1500M	D6-152	GP2L-0015	1FM-215	AGC Filter
C21	75			GP75K	D6-750	GP1K-75		Fixed Trimmer
C22	270	500	910015	1468-00025	D6-271	GP2K-270	1FM-325	IF Coupling
C23	1500		928006	GP1500M	D6-152	GP2L-0015	1FM-215	2nd V. IF Decoupling
C24	270	500	910015	1468-00025	D6-271	GP2K-270	1FM-325	IF Coupling
C25	1500		928006	GP1500M	D6-152	GP2L-0015	1FM-215	3rd V. IF Cathode Bypass
C26	1500		928006	GP1500M	D6-152	GP2L-0015	1FM-215	3rd V. IF Decoupling
C27	47		910290	GP47K	D6-470	GP1K-47	1FM-45	IF Coupling
C28	.1	200	923067	P288-1			TM-1	AGC Filter
C29	.056	400	923062	P488-05			TM-15	Video Coupling
C30	1500		928006	GP1500M	D6-152	GP2L-0015	1FM-215	DAGC Decoupling
C31	220	500	910028	1468-00025	D6-221	GP2K-220	1FM-325	1st V. Amp. Cathode Bypass
C32	150	500	910027	1468-00015	D6-152	GP2K-150	1FM-315	1st V. Amp. Cathode Bypass
C33	.047	400	923062	P488-047			TM-15	Video Coupling
C34	.01	400	923061	P488-01	D6-103	811-01	TM-11	Video Coupling †
C35	.1	400	923064	P488-1			TM-1	Video Coupling
C36	.1	400	923064	P488-1			TM-1	Pic. Tube Cathode Bypass
C37	10	500	910130	1468-00001	D6-100	GP1K-10	MS-41	S. IF Coupling
C38	1500		928006	GP1500M	D6-152	GP2L-0015	1FM-215	1st S. IF Decoupling
C39	1500		928006	GP1500M	D6-152	GP2L-0015	1FM-215	Limiter Decoupling
C40	68	500	910031	1468-000075	D6-680	GP1K-68	1FM-475	Limiter Grid Filter
C41	1500		928006	GP1500M	D6-152	GP2L-0015	1FM-215	Limiter Screen Bypass
C42	1500		928006	GP1500M	D6-152	GP2L-0015	1FM-215	RF Bypass *
C43	110		910010	GP120M	D6-121	GP2K-120	1FM-31	RF Bypass
C44	.001	600	923079	P688-001	D6-102	GP2L-001	TM-21	De-emphasis
C45	.01	400	923061	P488-01	D6-103	811-01	TM-11	Audio Coupling
C46	.01	400	923061	P488-01	D6-103	811-01	TM-11	Audio Coupling
C47	1500		928006	GP1500M	D6-152	GP2L-0015	1FM-215	Disc.-AF Filament Bypass
C48	.047	400	923062	P488-047			TM-15	Audio Coupling
C49	.005	400	923078	P688-005	D6-502	811-005	TM-25	Output Plate Bypass
C50	.01	400	923061	P488-01	D6-103	811-01	TM-11	Sync. Coupling
C51	.05	200	923062	P288-05			TM-15	Sync. Coupling

ITEM No.	RATING		REPLACEMENT DATA		
	RESISTANCE	WATTS	EMERSON PART No.	IRC PART No.	CLAROSTA PART No.
R1A	1500Ω	2	390131		390131
B	1 Meg.				
R2A	100KΩ		390132	Q11-128	M-49-S
B	Shaft		Not Req.	Not Req.	Not Req.
R2A	100KΩ		390075		
B	50KΩ				
R3	100KΩ		390132	Q11-128	M-49-S
R4	1500Ω	4	390106		10-1500
R5A	3 Meg.		390138	Q11-140	390138
B	Shaft		Not Req.	Not Req.	Not Req.
R6	3000Ω	2	390135	W-3000	43-3000
R7A	20KΩ		390102	Q11-119	M-36-S
B	Shaft		Not Req.	Not Req.	Not Req.
R8A	50KΩ		390133	Q11-123	M-44-S
B	Shaft		Not Req.	Not Req.	Not Req.
R9	20Ω	2	390107		

Note 1. Not used in all chassis 120110C and 120113C, used as 1 Meg. control part N.  
 Note 2. Chassis 120110B and 120113B use 1 Meg. control part N.  
 Note 3. Chassis 120110B and 120113B use 2 Meg. control part N.  
 Note 4. Chassis 120110B and 120113B use 5000Ω control part N.  
 Note 5. Not used in chassis 120110B and 120113B and all versions.  
 Note 6. Used only in chassis 120110B and 120113B when chassis 120110C and 120113C are used.

## RESIS

ITEM No.	RATING		REPLACEMENT DATA	
	RESISTANCE	WATTS	EMERSON PART No.	IRC PART No.
R10	3900Ω			
R11	47KΩ			
R12	10KΩ			
R13	2200Ω			BTS-2200
R14	4700Ω			
R15	220KΩ			
R16	18KΩ			
R17	10KΩ			
R18	10KΩ			
R19	4700Ω			
R20	1000Ω		340492	BTS-1000
R21	1000Ω		340492	BTS-1000
R22	1000Ω		340492	BTS-1000
R23	5600Ω		340672	BTS-5600
R24	68Ω		340212	
R25	1000Ω		340492	BTS-1000
R26	10KΩ		340732	BTS-10K
R27	4700Ω		340652	
R28	33Ω		340132	
R29	1000Ω		340492	BTS-1000
R30	100			

# PARTS LIST AND DESCRIPTIONS

## CAPACITORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	EMERSON PART No.	AEROVOX PART No.	CENTRALAB PART No.	ERIE PART No.	SPRAGUE PART No.		
C52	.047	400	923062	P488-047				TM-15	Sync. Coupling
C53	.002	600	923088	P688-002	D6-202	GP2M-002	TM-22	TM-22	Integrator Net.
C54	.002	600	923088	P688-002	D6-202	GP2M-002	TM-22	TM-22	Integrator Net. †
C55	.001	600	923079	P688-001	D6-102	GP2L-001	TM-21	TM-21	Integrator Net. †
C56	.005	600	923078	P688-005	D6-502	811-005	TM-25	TM-25	Vert. MV Grid Cap. †
C57	1000	500	910027	1467-001	D6-102	GP2L-001	IFM-21	IFM-21	Vert. MV Feedback
C58	.1	200	922014	P288-1				TM-1	Vert. MV Cath. Bypass
C59	.033	600	922024	P688-033					Vert. Discharge ‡
C60	1000	500	910027	1467-001	D6-102	GP2L-001	IFM-21	IFM-21	Hor. Sync. Coupling
C61	1000	500	910027	1467-001	D6-102	GP2L-001	IFM-21	IFM-21	Hor. Sync. Coupling
C62	.05	400	923068	P488 05				TM-15	AFC Filter
C63	.25	200	923080	P488-25				TC-2	AFC Feedback
C64	.005	600	923077	P688-005	D6-502	811-005	TM-25	TM-25	Hor. Feedback
C65	110	500	910010	1468-0001	D6-121	GP2K-120	IFM-31	IFM-31	Voltage Divider
C66	780	500	910023	1464-00075	D6-751	GP2K-750			Hor. Osc. Grid Cap.
C67	470	500	910017	1469-0005	D6-471	GP2K-470	MS-35	MS-35	Hor. Discharge
C68	.001	600	923079	P688-001	D6-102	GP2L-001	TM-21	TM-21	Hor. Sweep Coupling
C69	.1	200	923067	P288-1				TM-1	Bias Filter
C70	.05	600	923073	P688-05				TM-15	Hor. Output Screen Bypass
C71	.1	200	923067	P288-1				TM-1	Hor. Output Cath. Bypass
C72	.05	400	923062	P488-05				TM-15	Fixed Trimmer
C73	.047	600	923073	P688-047				TM-15	Damper Filter
C74	.033	600	923074	P688-033				TM-15	Damper Filter
C75	500	10000	923003	HV-500	TV1-501				HV Filter
C76	.1	400	923064	P488-1				TM-1	Acc. Anode Bypass
C77	.047	400	922101	P488-047				TM-15	Line Filter
C78	.01	600	923075	P688-01	D6-103	811-01	TM-11	TM-11	Vert. Sync. Coupling †
C79	.25	400	923066	P488-25				TC-2	Vert. Osc. Decoupling #
C80	.05	600	923073	P688-033				TM-13	Vert. Sweep Coupling #

\* Not used in all models.  
 † Chassis 12010B and 12013B uses .005MFD in this application.  
 ‡ Chassis 12010B and 12013B uses .003MFD in this application.  
 § Chassis 12010B and 12013B uses .05MFD in this application.  
 ¶ Chassis 12010B and 12013B uses MFGR'S Part No. 925161 in this application.  
 # Used only in chassis 12010B and 12013C.  
 † Some models use .05MFD in this application.

ITEM No.	RATING		EMI PAI
	RESISTANCE	WATTS	
R39	68KΩ		34093
R40	1 Meg.		34121
R41	3900Ω	2	37063
R42	180KΩ		34103
R43	10KΩ	1	37073
R44	1000Ω		34049
R45	47KΩ		34089
R46	22KΩ	1	37081
R47	1 Meg.		34121
R48	270KΩ		34107
R49	22KΩ		34081
R50	2200Ω		34057
R51	1 Meg.		34121
R52	47KΩ		34089
R53	4700Ω		34065
R54	120Ω		34027
R55	10KΩ	2	39701
R56	100KΩ		34097
R57	5000Ω	2	39710
R58	4700Ω		34065
R59	10KΩ	2	39701
R60	120Ω		34027
R61	100KΩ		33097
R62	100KΩ		34097
R63	68KΩ		34093
R64	15 Meg.		35149
R65	470KΩ		34132
R66	470KΩ		34132
R67	330Ω		34037
R68	1000Ω	1	37049
R69	10KΩ		34073
R70	22KΩ		34081
R71	39KΩ		34087
R72	47KΩ		34089
R73	68KΩ		34093
R74	100KΩ		34097
R75	2200Ω		34057
R76	5.6 Meg.		33139
R77	4700Ω	1	37065
R78	3300Ω	1	37061
R79	8200Ω	2	34121
R80	1 Meg.		34121
R81	1200Ω		33051
R82	4700Ω 5%		33065
R83	2200Ω 5%		33075
R84	1000Ω		33049
R85	100KΩ	2	39702
R86	43KΩ 5%		34089
R87	22KΩ		34105
R88	2200Ω		34105
R89	100KΩ 5%		33097
R90	100KΩ 5%		33097
R91	47KΩ		34089
R92	4700Ω	1	37065
R93	470KΩ 5%		33133
R94	18KΩ		34079
R95	470KΩ	1	37133
R96	470KΩ	1	34132
R97	270KΩ		34107
R98	470KΩ		34132
R99	100Ω	1	37025
R100	10KΩ	10	39704
R101	7500Ω	25	39400
R102	470KΩ		34132
R103	3.3Ω		39406
R104	1 Meg.	1	37121
R105	10Ω		34001
R106	4000Ω	10	39407
R107	8000Ω	10	39407
R108	100KΩ		37097
R109	470KΩ		34132
R110	33KΩ	1	37085
R111	4.7 Meg.		34137

Note 7. Chassis 12010B and 12013C  
 Note 8. Chassis 12010B and 12013C  
 Note 9. Chassis 12010B and 12013C  
 Note 10. Chassis 12010B and 12013C  
 Note 11. Not used in chassis 12010B  
 Note 12. Chassis 12010B and 12013C  
 Note 13. Chassis 12010B and 12013C  
 Note 14. Chassis 12010B and 12013C  
 Note 15. Some models use two resistors  
 Note 16. Used in chassis 12010B and 12013C

## CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	EMERSON PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	
R1A	1500Ω	2	390131		390131		Contrast control-Wire Wound
B	1 Meg.						Volume control and switch
R2A	100KΩ		390132	Q11-128	M-49-S	AN-40	Brightness control
B	Shaft		Not Req.	Not Req.	Not Req.	AK-1	Attach to R2A per instructions
R2A	100KΩ		390075				Brightness control-See Note 1
B	50KΩ						Horiz. hold control-See Note 1
R3	100KΩ		390132	Q11-128	M-49-S		Vert. hold control-See Note 2
R4	1500Ω	4	390106		10-1500		Focus control-Wire Wound
R5A	3 Meg.		390138	Q11-140	390138	AN-84	Height control-See Note 3
B	Shaft		Not Req.	Not Req.	Not Req.	AK-1	Attach to R5A per instructions
R6	3000Ω	2	390135	W-3000	43-3000	V-133	Vert. linearity control-Wire Wound-See Note 4
R7A	20KΩ		390102	Q11-119	M-36-S	AN-22	Horiz. drive control
B	Shaft		Not Req.	Not Req.	Not Req.	AK-4	Attach to R7A per instructions
R8A	50KΩ		390133	Q11-123	M-44-S	AN-31	Horiz. hold control-See Note 5
B	Shaft		Not Req.	Not Req.	Not Req.	AK-1	Attach to R8A per instructions
R9	20Ω	2	390107				Horiz. centering control-See Note 6

Note 1. Not used in all chassis 12010C and 12013C, used as front panel control in chassis 12010B and 12013B.  
 Note 2. Chassis 12010B and 12013B use 1 Meg. control part No. 390112.  
 Note 3. Chassis 12010B and 12013B use 2 Meg. control part No. 390038 and is used as front panel control.  
 Note 4. Chassis 12010B and 12013B use 5000Ω control part No. 390039.  
 Note 5. Not used in chassis 12010B and 12013B and all versions of 12010C and 12013C.  
 Note 6. Used only in chassis 12010B and 12013B when chassis is not equipped with wobble plate and centering lever.

## RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	EMERSON PART No.	IRC PART No.	
R10	3900Ω				ALL RESISTORS ARE ± 10% UNLESS OTHERWISE STATED.
R11	47KΩ			BTS-3900	Ant. Coil Shunt
R12	10KΩ				AGC Network
R13	2200Ω			BTS-2200	RF Plate Coil Shunt
R14	4700Ω				RF Decoupling
R15	220KΩ				Conv. Grid
R16	18KΩ				Conv. Grid
R17	10KΩ				1st Video IF Transformer Shunt
R18	10KΩ				Conv. Plate Decoupling
R19	4700Ω				Osc. Grid
R20	1000Ω				Osc. Plate
R21	1000Ω		340492	BTS-1000	Decoupling
R22	1000Ω		340492	BTS-1000	AGC Network
R23	5600Ω		340672	BTS-5600	AGC Network
R24	68Ω		340212		1st Video IF Grid-See Note 7
R25	1000Ω		340492	BTS-1000	1st Video IF Cathode
R26	10KΩ		340732		1st Video IF Decoupling
R27	4700Ω		340652	BTS-10K	2nd Video IF Transformer Shunt
R28	33Ω		340132		2nd Video IF Grid
R29	1000Ω		340492	BTS-1000	2nd Video IF Cathode
R30	1000Ω		340492	BTS-1000	2nd Video IF Decoupling
R31	3900Ω		340632	BTS-3900	AGC Network
R32	150Ω		340292		RF Choke Coil Shunt
R33	1000Ω		340492	BTS-1000	3rd Video IF Cathode
R34	1 Meg.		341212	BTS-1 Meg.	3rd Video IF Decoupling
R35	2.2 Meg.		341292	BTS-2.2 Meg.	AGC Network
R36	4700Ω		340652	BTS-4700	AGC Rect. Diode Load
R37	1 Meg.		341212	BTS-1 Meg.	Video Det. Diode Load
R38	1500Ω 5%		330532	BTS-1500-5%	1st Video Amp. Grid
					1st Video Amp. Plate

ITEM No.	RATING		
	PRI.	SEC. 1	SEC. 2
T1	117VAC ② 2A	730VCT .230ADC	6.3VAC ④ 4.5A

① Drill new mounting holes.  
 ② Mount under chassis, and use...

is #120113, B, BC, C  
 is #120110, B, BC, C  
 is #120110, B, BC, C

or Electrolytic  
 ic Capacitors.

IDENTIFICATION CODES AND INSTALLATION NOTES

- Filter
- Filter
- Decoupling
- Output Cathode Bypass
- Filter
- Filter
- Decoupling
- Vert. Output Cathode Bypass
- Decoupling
- Decoupling
- Filter
- Fixed Trimmer \*
- RF Filament Bypass
- RF Decoupling
- RF Bypass
- RF Coupling
- Osc. Grid Cap.
- Fixed Trimmer
- Conv. Filament Bypass
- Conv. Plate Decoupling
- Fixed Trimmer
- IF Coupling
- RF Bypass
- RF Bypass
- AGC Filter
- 1st V. IF Cathode Bypass
- 1st V. IF Decoupling
- AGC Filter
- Fixed Trimmer
- IF Coupling
- 2nd V. IF Decoupling
- IF Coupling
- 3rd V. IF Cathode Bypass
- 3rd V. IF Decoupling
- IF Coupling
- AGC Filter
- Video Coupling
- DAGC Decoupling
- 1st V. Amp. Cathode Bypass
- 1st V. Amp. Cathode Bypass
- Video Coupling
- Video Coupling †
- Video Coupling
- Pic. Tube Cathode Bypass
- S. IF Coupling
- 1st S. IF Decoupling
- Limiter Decoupling
- Limiter Grid Filter
- Limiter Screen Bypass
- RF Bypass \*
- RF Bypass
- De-emphasis
- Audio Coupling
- Audio Coupling
- Disc.-AF Filament Bypass
- Audio Coupling
- Output Plate Bypass
- Sync. Coupling
- Sync. Coupling

# DESCRIPTIONS

RES (CONT.)

ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
GP2M-002	TM-15	Sync. Coupling
GP2M-002	TM-22	Integrator Net.
GP2L-001	TM-21	Integrator Net. †
811-005	TM-25	Vert. MV Grid Cap. †
GP2L-001	1FM-21	Vert. MV Feedback
	TM-1	Vert. MV Cath. Bypass
GP2L-001	1FM-21	Hor. Sync. Coupling
GP2L-001	1FM-21	Hor. Sync. Coupling
	TM-15	AFC Filter
	TC-2	AFC Feedback
811-005	TM-25	Hor. Feedback
GP2K-120	1FM-31	Voltage Divider
GP2K-750		Hor. Osc. Grid Cap.
GP2K-470	MS-35	Hor. Discharge
GP2L-001	TM-21	Hor. Sweep Coupling
	TM-1	Bias Filter
	TM-15	Hor. Output Screen Bypass
	TM-1	Hor. Output Cath. Bypass
	TM-15	Fixed Trimmer
	TM-15	Damper Filter
	TM-15	Damper Filter
	TM-1	HV Filter
	TM-15	Acc. Anode Bypass
811-01	TM-11	Vert. Sync. Coupling #
	TC-2	Vert. Osc. Decoupling #
	TM-13	Vert. Sweep Coupling #

on.  
on.  
on.  
in this application.

# ROLS

CENTRALAB PART No.	INSTALLATION NOTES
AN-40 AK-1	Contrast control-Wire Wound Volume control and switch Brightness control Attach to R2A per instructions Brightness control-See Note 1 Horiz. hold control-See Note 1 Vert. hold control-See Note 2 Focus control-Wire Wound
AN-84 AK-1 V-133	Height control-See Note 3 Attach to R5A per instructions Vert. linearity control-Wire Wound- See Note 4
AN-22 AK-4 AN-31 AK-1	Horiz. drive control Attach to RTA per instructions Horiz. hold control-See Note 5 Attach to R8A per instructions Horiz. centering control-See Note 6

front panel control in chassis 120110B and 120113B.  
o. 390112.  
o. 390038 and is used as front panel control.  
o. 390039.  
ns of 120110C and 120113C.  
is not equipped with wobble plate and centering lever.

# ORS

IDENTIFICATION CODES
ALL RESISTORS ARE ± 10% UNLESS OTHERWISE STATED.
Ant. Coil Shunt
AGC Network
RF Plate Coil Shunt
RF Decoupling
Conv. Grid
Conv. Grid
1st Video IF Transformer Shunt
Conv. Plate Decoupling
Osc. Grid
Osc. Plate
Decoupling
AGC Network
AGC Network
1st Video IF Grid-See Note 7
1st Video IF Cathode
1st Video IF Decoupling
2nd Video IF Transformer Shunt
2nd Video IF Grid
2nd Video IF Cathode
2nd Video IF Decoupling
AGC Network
RF Choke Coil Shunt
3rd Video IF Cathode
3rd Video IF Decoupling
AGC Network
AGC Rect. Diode Load
Video Det. Diode Load
1st Video Amp. Grid
1st Video Amp. Plate

# RESISTORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	EMERSON PART No.	IRC PART No.	
R39	68KΩ	1/2	340932	BTS-68K	Delayed AGC Network
R40	1 Meg.	1/2	341212	BTS-1 Meg.	2nd Video Amp. Grid
R41	3900Ω	2	370632	BT-2-3900	2nd Video Amp. Plate
R42	180KΩ	1	341032	BTS-180K	Sync. Amp. Grid
R43	10KΩ	1	370732	BTA-10K	Sync. Amp. Plate
R44	1000Ω	1	340492	BTS-1000	Sync. Amp. Plate
R45	47KΩ	1	340892	BTS-47K	Voltage Divider
R46	22KΩ	1	370812	BTA-22K	Sync. Sep. Plate
R47	1 Meg.	1	341212	BTS-1 Meg.	Sync. Sep. Grid
R48	270KΩ	1	341072	BTS-270K	DC Rest. Load
R49	22KΩ	1	340812	BTS-22K	Voltage Divider
R50	2200Ω	1	340572	BTS-2200	Isolation
R51	1 Meg.	1	341212	BTS-1 Meg.	Picture Tube Grid
R52	47KΩ	1	340892	BTS-47K	Voltage Divider
R53	4700Ω	1	340652	BTS-4700	Voltage Divider
R54	120Ω	1	340272		Sound IF Cathode
R55	10KΩ	2	397014		Sound IF Decoupling
R56	100KΩ	2	340972	BTS-100K	Limiter Grid
R57	5000Ω	2	397110	BT-2-4700	Limiter Decoupling
R58	4700Ω	2	340652	BTS-4700	Voltage Divider
R59	10KΩ	2	397014		Limiter Screen
R60	120Ω	2	340272		Voltage Divider
R61	100KΩ	2	330972	BTS-100K	Disc. Diode Load
R62	100KΩ	2	340972	BTS-100K	Disc. Diode Load
R63	68KΩ	2	340932	BTS-68K	De-emphasis
R64	15 Meg.	2	351492	BTS-15 Meg.	AF Amp. Grid
R65	470KΩ	2	341132	BTS-470K	AF Amp. Plate
R66	470KΩ	2	341132	BTS-470K	Output Grid
R67	330Ω	2	340372	BW-1/2-330	Output Cathode
R68	1000Ω	1	370492	BTA-1000	Feedback
R69	10KΩ	1	340732	BTS-10K	Integrator Network-See Note 8
R70	22KΩ	1	340812	BTS-22K	Integrator Network
R71	39KΩ	1	340872	BTS-39K	Integrator Network-See Note 9
R72	47KΩ	1	340892	BTS-47K	Vert. MV Grid-See Note 10
R73	68KΩ	1	340932	BTS-68K	Vert. MV Cathode-See Note 11
R74	100KΩ	1	340972	BTS-100K	Vert. MV Feedback-See Note 11
R75	2200Ω	1	340572	BTS-2200	Vert. Peaking-See Note 12
R76	5.6 Meg.	1	331392	BTS-5.6 Meg.	Voltage Divider-See Note 11
R77	4700Ω	1	370652	BTA-4700	Vert. MV Cathode-See Note 13
R78	3300Ω	1	370612	BTA-3300	Vert. MV Plate Decoupling-See Note 14
R79	8200Ω	1		BT-2-8200	Decoupling-See Note 11
R80	1 Meg.	1	341212	BTS-1 Meg.	Horiz. Phase Inv. Grid
R81	1200Ω	1	330512	BTS-1200	Horiz. Phase Inv. Cathode-See Note 15
R82	4700Ω 5%	1	330652	BTS-4700-5%	Horiz. Phase Inv. Plate
R83	2200Ω 5%	1	330572	BTS-2200-5%	Horiz. Phase Inv. Plate
R84	1000Ω	1	330492	BTS-1000	DC Amp. Cathode
R85	100KΩ	1	397029	BT-2-100K	DC Amp. Plate-See Note 15
R86	43KΩ 5%	1	340892		Phase Shifter
R87	220KΩ	1	341052	BTS-220K	Horiz. AFC Det. Load
R88	220KΩ	1	341052	BTS-220K	Horiz. AFC Det. Load
R89	100KΩ 5%	1	330972	BTS-100K-5%	Horiz. AFC Det. Load
R90	100KΩ 5%	1	330972	BTS-100K-5%	Horiz. AFC Det. Load
R91	47KΩ	1	340892	BTS-47K	Horiz. Osc. Grid
R92	4700Ω	1	370652	BTA-4700	Horiz. Osc. Plate Decoupling
R93	470KΩ 5%	1	331132	BTS-470K-5%	Horiz. Discharge Plate
R94	18KΩ	1	340792	BTS-18K	Horiz. Peaking
R95	470KΩ	1	371132	BTA-470K	Feedback Network
R96	470KΩ	1	341132	BTA-470K	Feedback Network
R97	270KΩ	1	341072	BTS-270K	Horiz. Output Grid
R98	470KΩ	1	341132	BTS-470K	Horiz. Output Grid
R99	100Ω	1	370252	BW-1-100	Horiz. Output Cathode
R100	10KΩ	10	397044	AB-10K	Horiz. Output Screen-Wire Wound
R101	7500Ω	25	394007		Damper Filter-Wire Wound
R102	470KΩ	1	341132	BTS-470K	Acc. Anode Load
R103	3.3Ω	1	394066		HV Rect. Filament-Wire Wound
R104	1 Meg.	1	371212		HV Filter
R105	10Ω	1	340012	BW-1/2-10	Horiz. Centering Network-See Note 11
R106	4000Ω	10	394078	AB-4000	Bleeder-Wire Wound
R107	8000Ω	10	394078	AB-8000	Voltage Divider-Wire Wound
R108	100KΩ	1	370972	BTA-100K	Vert. Osc. Plate Decoupling-See Note 16
R109	470KΩ	1	341132	BTS-470K	Vert. Osc. Plate Decoupling-See Note 16
R110	33KΩ	1	370852	BTA-33K	2nd Video Amp. Plate Decoupling-See Note 16
R111	4.7 Meg.	1	341372	BTS-4.7 Meg.	Vert. Output Grid-See Note 16

- Note 7. Chassis 120110B and 120113B use 10KΩ resistor in this application.
- Note 8. Chassis 120110B and 120113B use 22KΩ resistor in this application.
- Note 9. Chassis 120110B and 120113B use 4700Ω resistor in this application.
- Note 10. Chassis 120110B and 120113B use 1.5 Meg. resistor in this application.
- Note 11. Not used in chassis 120110B and 120113B.
- Note 12. Chassis 120110B and 120113B use 8200Ω resistor in this application.
- Note 13. Chassis 120110B and 120113B use 270Ω resistor in this application.
- Note 14. Chassis 120110B and 120113B use 10KΩ resistor in this application.
- Note 15. Some models use two resistors in parallel to obtain required resistance and wattage.
- Note 16. Used in chassis 120110B and 120113B only.

# TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	EMERSON PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	117VAC ④ 2A	730VCT .230ADC	6.3VAC ④ 4.5A	6.3VAC ④ 4.5A	730018	P-8159 ① and P-3064 ②	P-3066	

- ① Drill new mounting holes.
- ② Mount under chassis, and use for SEC. #4.

EMERSON MODELS 614, B, BC, C, 637, B, BC, C, 644B, BC, C, 647B, BC, C, 648B

# PARTS LIST AND DESCRIPTIONS (Continued)

## TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	DC RESISTANCE		EMERSON PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.					
T2	220Ω Tap @ 100Ω	7.9Ω Tap @ .6Ω SEC. 2 0Ω	738028	A-8117	HVO-1	TFB-1	Hor. Output Trans.
T3	1000Ω Tap @ 12Ω		738029 Alt. Pt. # 738026, 738026A, 738027 708130 Alt. Pt. #708130R 708025	A-8112	A-3037	TSO-5 ①	Vert. Output Transformer
T4A	14Ω			DY-1	MD-3		Hor. Deflection Coil
B	63Ω						Vert. Deflection Coil
T5	445Ω						Focus Coil

① Drill one new mounting hole.

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING			REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.	EMERSON PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.						
T6	5.8KΩ	3.6Ω	320Ω .6Ω	734051	A-3849	A-3019	RO-9	

## SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	EMERSON PART No.	JENSEN PART No.	QUAM PART No.	
SP1	PM	3.6Ω	180047	ST-108 MOD. P6-X	6A1	
SP2	5 7/8"	9/16"				

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 ~)	EMERSON PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
L1	.230A	110Ω	5.2 Henries	737011			C-2974	

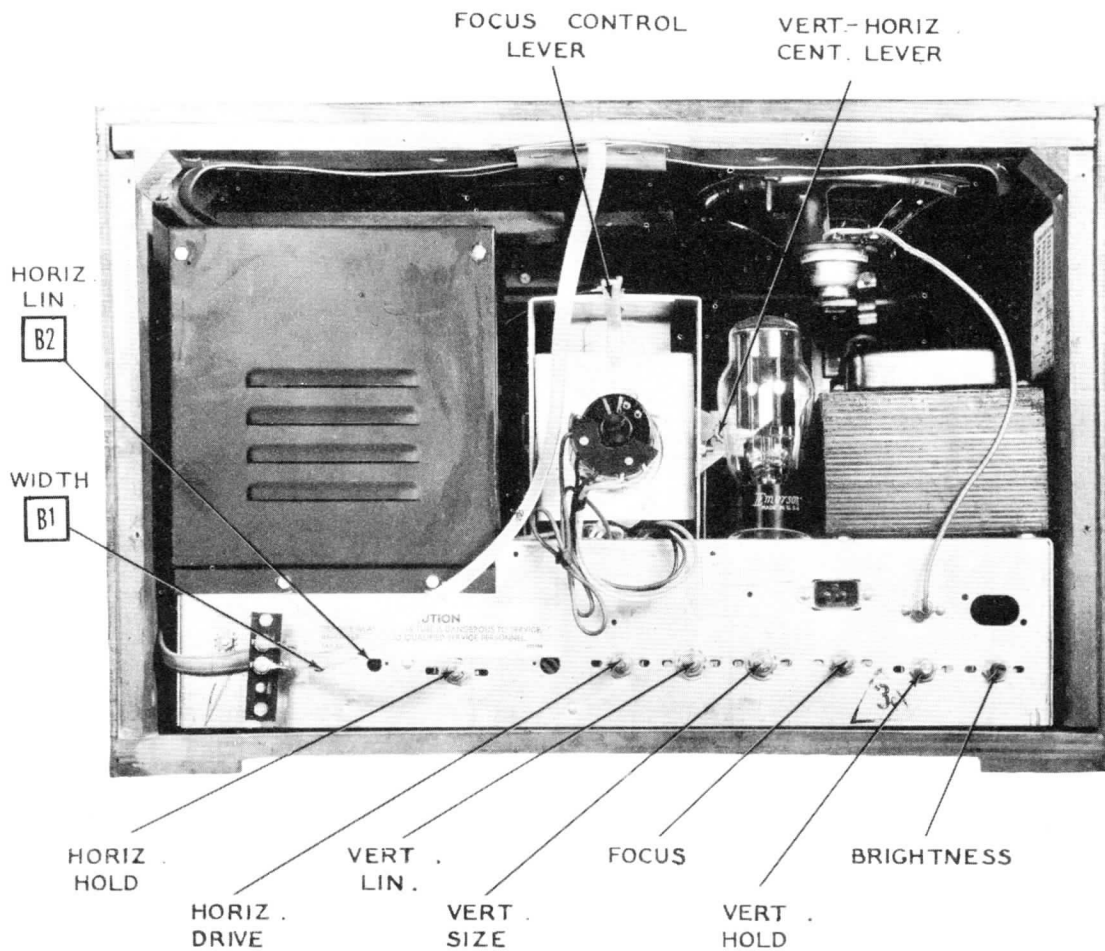
## COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	EMERSON PART No.	MEISSNER PART No.	
L2	Ant. Coil	0Ω	0Ω			Part of tuner #470607.
L3	RF Plate, Mixer Grid, Osc. Coils	0Ω	0Ω			Part of tuner #470607.
L4	1st Video IF Primary	2Ω		720056		
L5	1st Video IF Secondary	2Ω				Part of L4
L6	Fil. Choke	0Ω				
L7	Fil. Choke	0Ω				
L8	2nd Video IF	.4Ω	.1Ω	720042		
L9	3rd Video IF	.2Ω		720109		
L10	RF Choke	3Ω		705014		20 microhenries
L11	4th Video IF	.6Ω	.6Ω	720057		
L12	Peaking	6Ω		708096	19-1920	75 microhenries
L13	Peaking	3.8Ω		708097		45 microhenries
L14	Peaking	9.5Ω		708095	19-1921	180 microhenries
L15	Peaking	9.5Ω		708095	19-1921	180 microhenries
L16	Sound IF	2.1Ω	2.1Ω	720081		
L17	Disc. Trans.	1.7Ω	.9Ω	708018		Alternate Part #708017.
L18	RF Choke	.1Ω				
L19	RF Choke	50Ω		705009		3 millihenries
L20	Horiz. Osc. Trans.	3.2Ω	1.2Ω	738008		
L21	Width	.6Ω		708082		
L22	Horiz. Lin.	36Ω		708003		

## MISCELLANEOUS

ITEM No.	PART NAME	EMERSON PART No.	NOTES
M1A	RF Tuner	470233	
B	RF Tuner	470452	
C	RF Tuner	470604	
D	RF Tuner	470605	
M2	Ion Trap	708084	
M3A	Fuse	808050	.25A 250V
B	Fuse	808170	.25A 250V





## 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 synchronize the picture horizontally.

Turn the horizontal drive control clockwise as far as possible without crowding part of the picture.

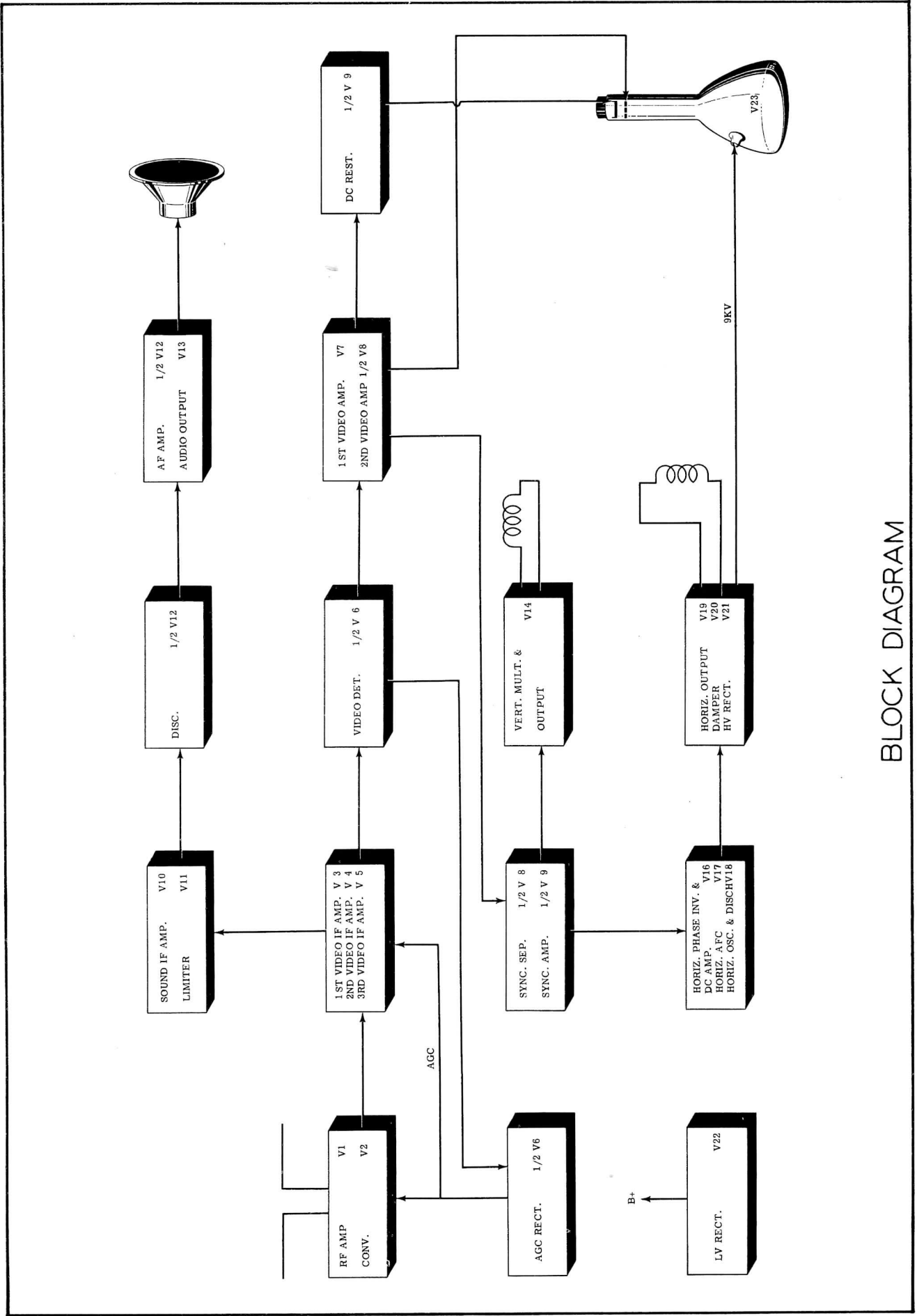
Adjust the horizontal size slug (B1) until the picture is of proper width.

Adjust the horizontal linearity slug (B2) until the picture is symmetrical from left to right.

Slight readjustment of the horizontal drive control may be necessary.

### DISASSEMBLY INSTRUCTIONS

1. Remove six phillips head screws holding rear cover.
2. Remove four push-on type control knobs.
3. Disconnect built-in antenna and speaker plug.
4. Remove five 7/16" hex head bolts holding chassis. Remove chassis.
5. Remove two 5/16" hex nuts holding speaker. Remove speaker.



BLOCK DIAGRAM