

TRADE NAME	Admiral	MODELS	TV CHASSIS	RADIO CHASSIS
		16R11, 16R12 .....	21B1	
		26R11, 26R12, 26R25A, 26R26A, 26R35A, 26R36A, 26R37A .....	21B1	
		26X55A, 26X56A, 26X57A, 26X65A, 26X66A, 26X67A, 26X75A, 26X76A .....	21D1	
		29X25A .....	21H1	
		36R37, 36R45, 36R46 .....	21C1	5D2
		39X17C, 39X25A, 39X26A .....	21J1	
		39X35, 39X36, 39X37 .....	21J1	3C1
MANUFACTURER	Admiral Corp., 3800 Cortland St., Chicago 47, Illinois			
TYPE SET	TV-AM-FM-Phono Combination Receiver (Some models "TV Only" and some models "TV-AM Only")			
TUBES	Twenty One (TV Only Models) Twenty Four (TV-AM Only Models) Twenty Six (TV-AM-FM Models)			
POWER SUPPLY	110-120 Volts AC-60 Cycle			
RATINGS	1.6 Amp. at 117 Volts AC (TV Operation), 1.2 Amp. at 117 Volts AC (Radio Operation)			
TUNING RANGE	TV-Channels 2 thru 13, FM- 88-108MC, AM-540-1620KC			

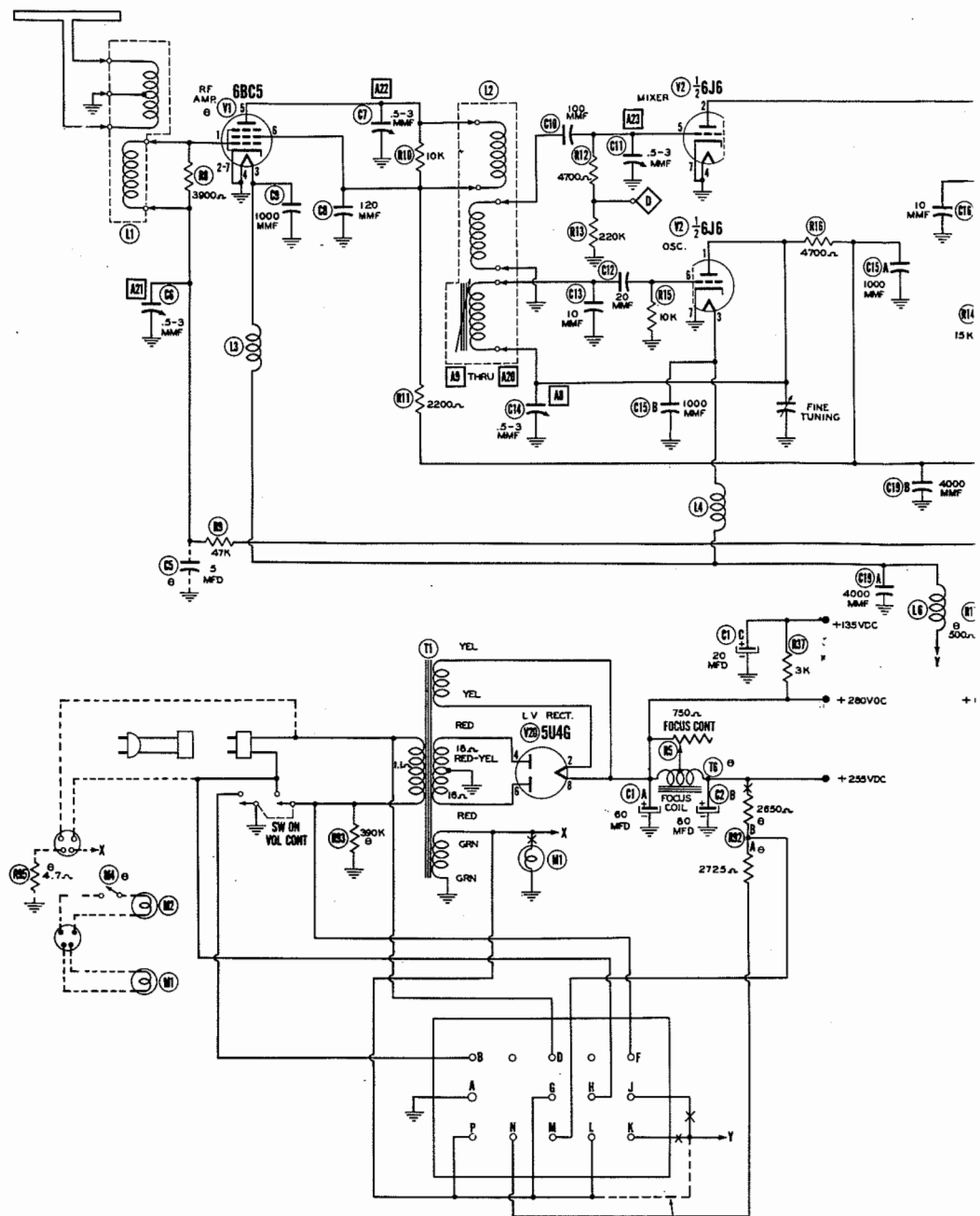
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RECORD CHANGER UNIT - ADMIRAL MODEL RC-550  
FOR SERVICE INFORMATION ON RADIO CHASSIS 3C1 SEE PHOTOFACT SET #117 FOLDER # 2.

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

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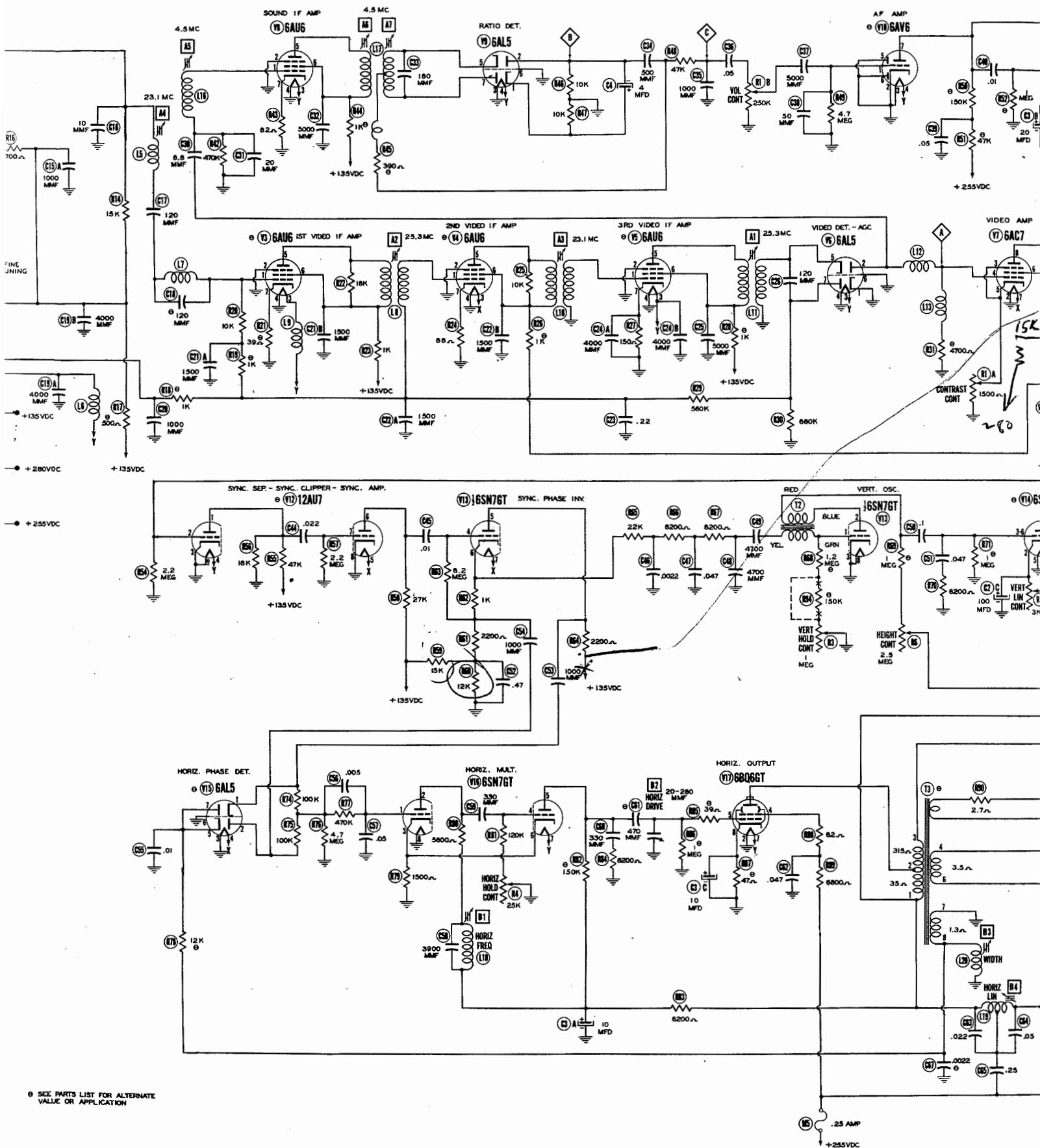
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

USED IN TV ONLY MODELS.

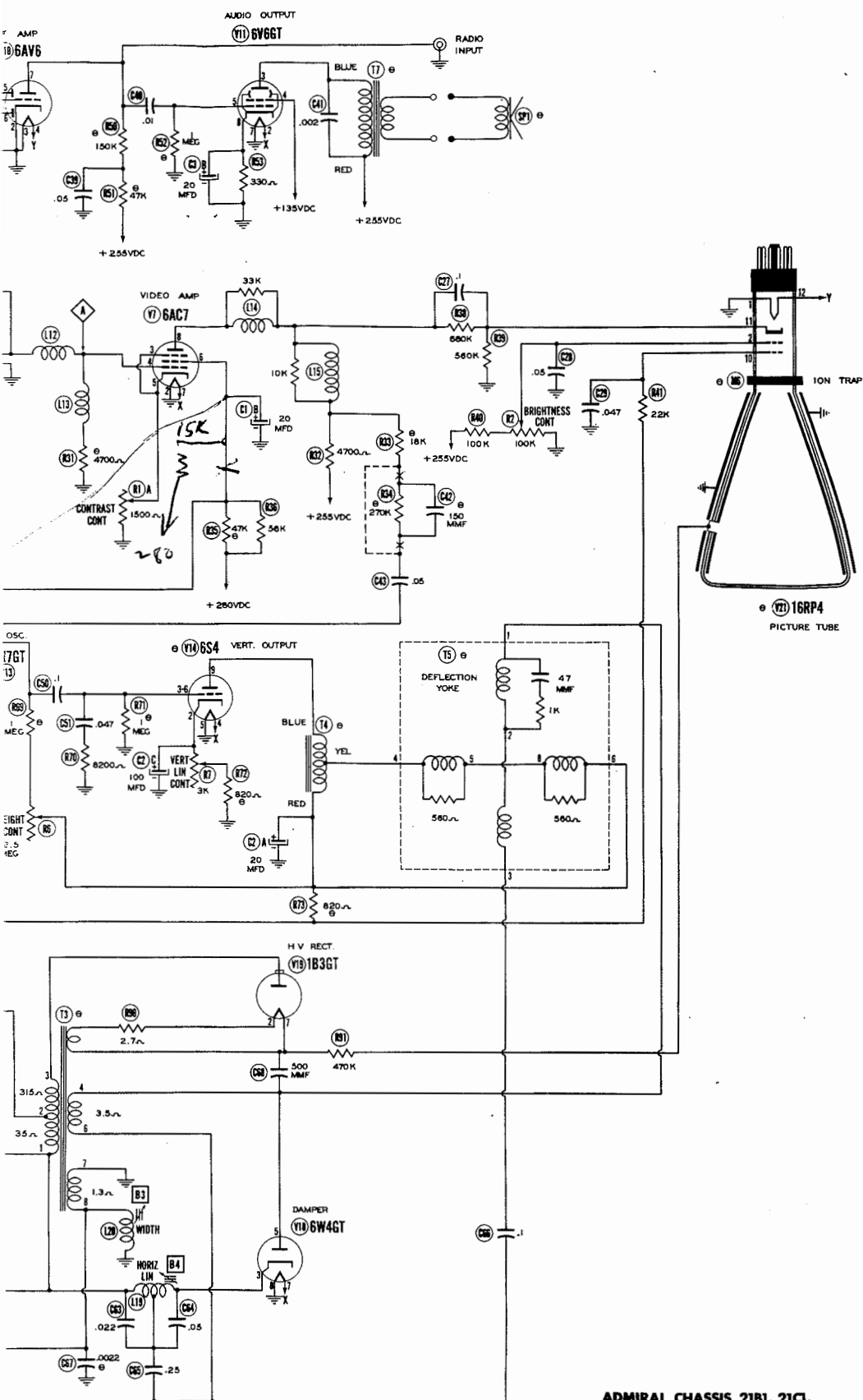
A PHOTOFAC STANDARD NOTATION SCHEMATIC  
© Howard W. Sams & Co., Inc. 1950

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

SEE PARTS LIST FOR AL VALUE OR APPLICATION



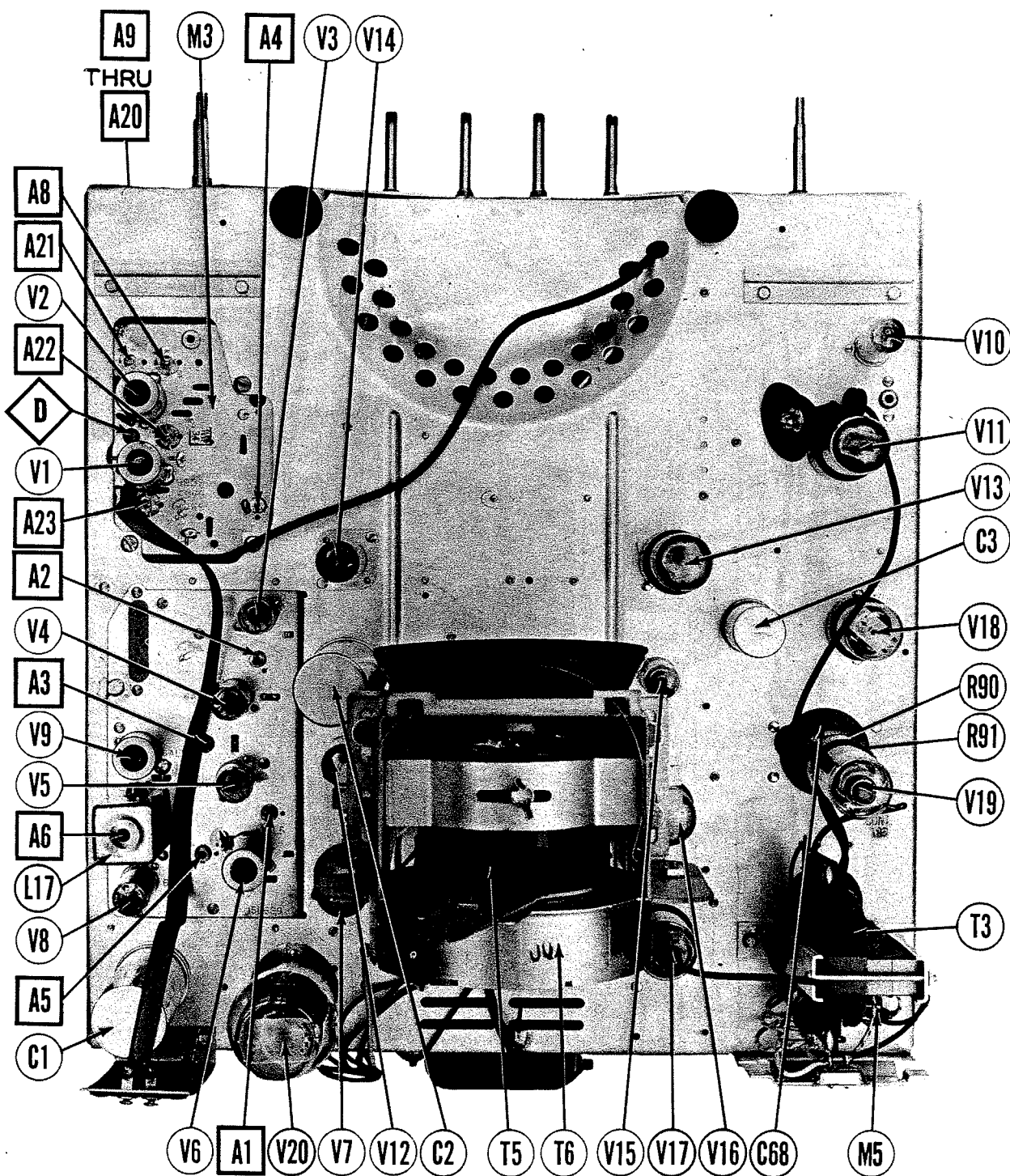
SEE PARTS LIST FOR ALTERNATE  
 VALUE OR APPLICATION



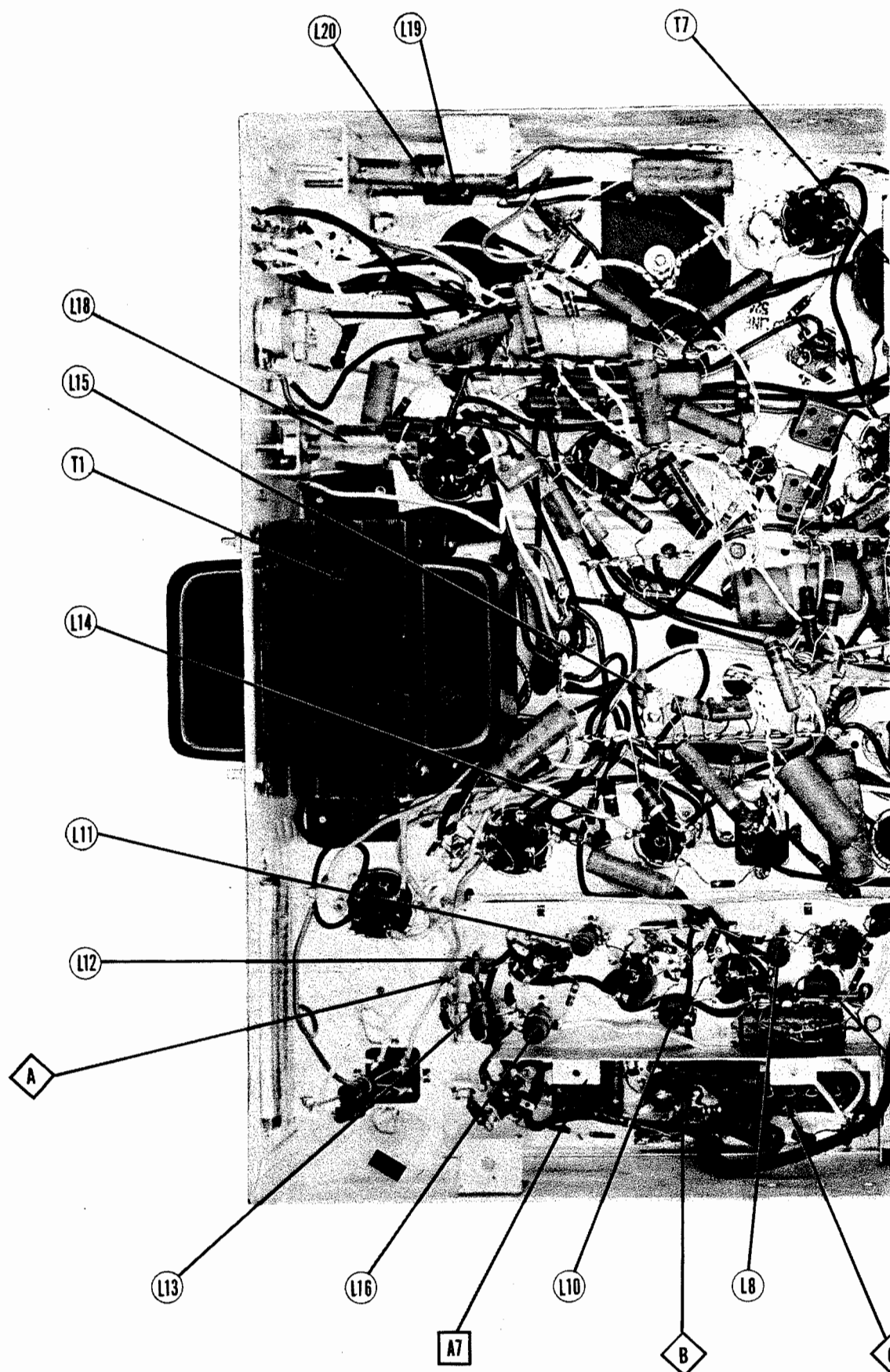
ADMIRAL CHASSIS 21B1, 21C1,  
 21D1, 21H1, 21J1 and Radio Ch. 5D2

ADMIRAL CHASSIS 21B1, 21C1,  
 21D1, 21H1, 21J1 and Radio Ch. 5D2

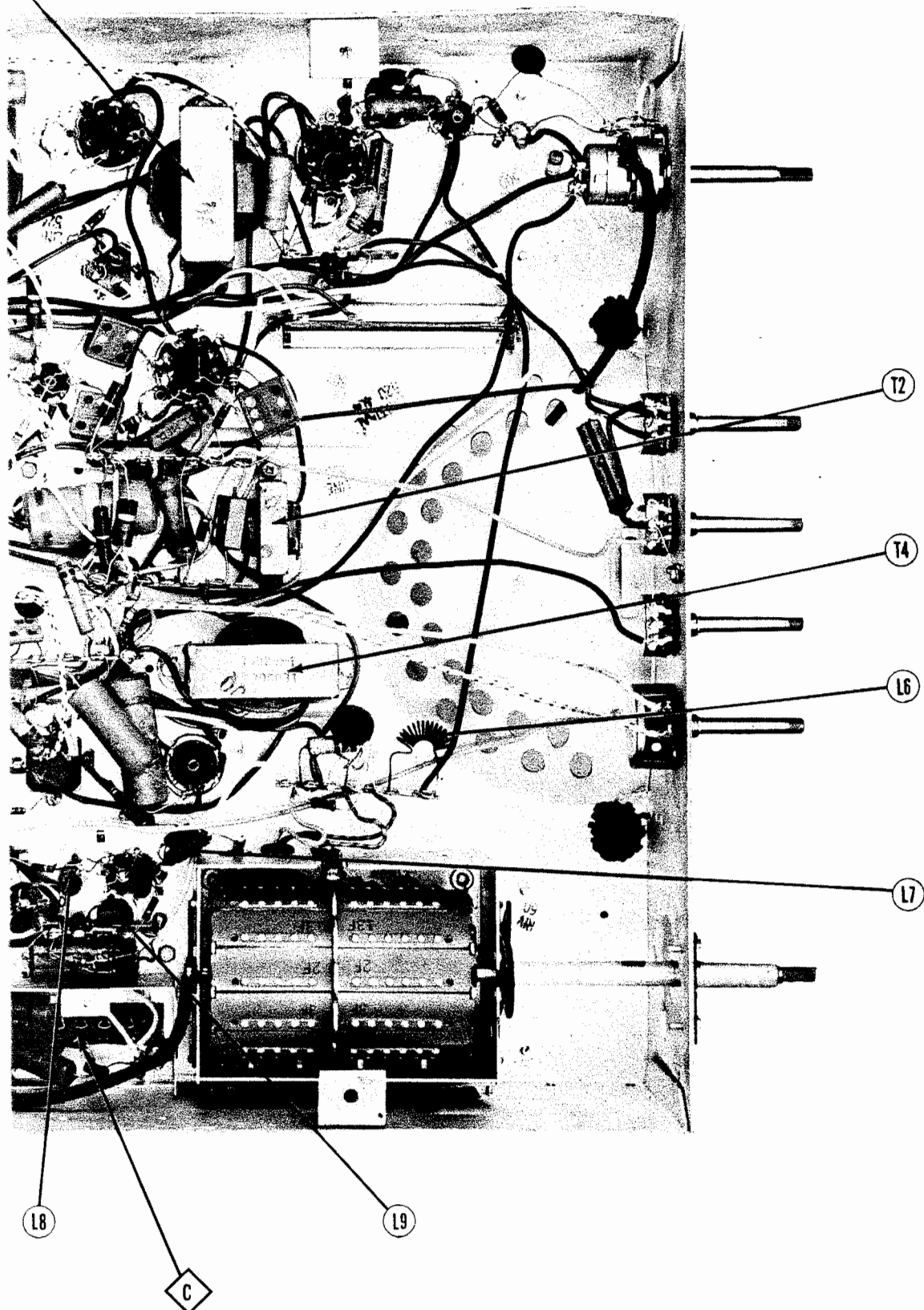
**ADMIRAL CHASSIS 21B1, 21C1,  
21D1, 21H1, 21J1 and Radio Ch. 5D2**



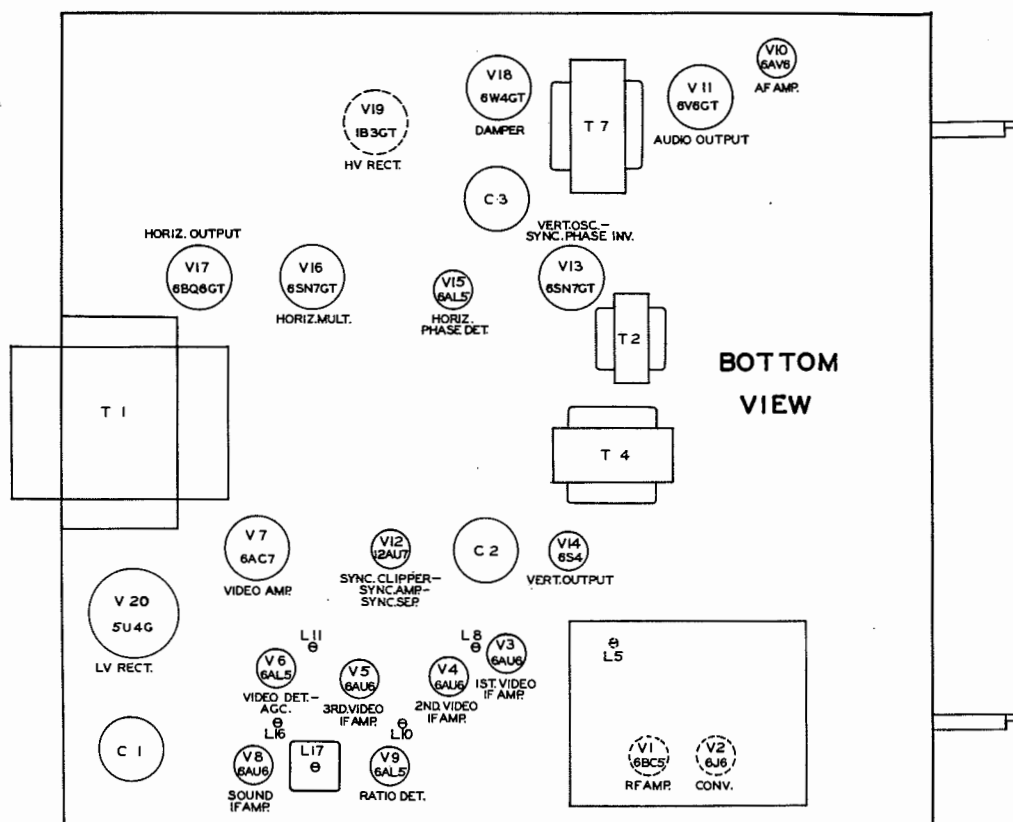
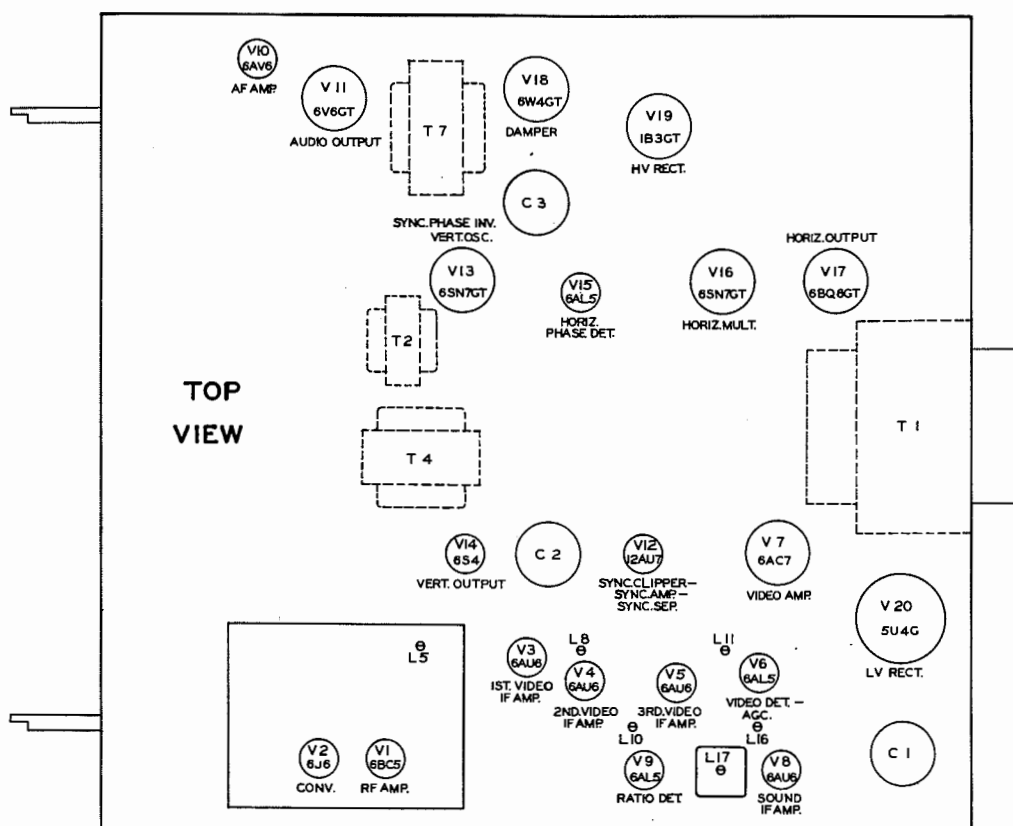
**CHASSIS TOP VIEW**



CHASSIS BOTTOM VIEW-TRANS., INDUCTO



S., INDUCTOR AND ALIGNMENT IDENTIFICATION



TUBE PLACEMENT CHART



# TV ALIGNMENT INSTRUCTIONS

## ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

If the set is to be aligned with the picture tube removed, the end of the high voltage lead should be securely taped and kept away from the chassis. Do not remove the horizontal oscillator tube, or the horizontal output tube to disable the high voltage. On those models which have a radio it will be necessary to short pins Land K on the interconnecting cable socket, if the radio chassis is not plugged in.

### VIDEO IF ALIGNMENT

Remove the converter tube (V2) and replace it with a 6J6 which has pin 1 removed. This will disable the local oscillator and prevent the possibility of 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.	25.3MC (Unmod.)	Any	DC Probe to Point A. Common to chassis.	A1, A2	Adjust for maximum deflection.
2. Direct	"	23.1MC	"	"	A3, A4	"

### OVERALL VIDEO IF RESPONSE CHECK

Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
3. Direct	High side to ungrounded tube shield floating over dummy converter tube (V2). Low side to chassis.	25MC (10MC Swp.)	25.75 MC 24.3MC 22.0MC 21.25MC	Any	Vert. amp. to point A. Low side to chassis.		Check for response curve similar to fig. 1. If necessary retouch A1, A2, A3, and A4 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
4. .01MFD	High side to alignment point A. Low side to chassis.	4.5MC (Unmod.)	Any	DC probe to point B. Common to chassis.	A5, A6	Adjust for maximum deflection.
5. .01MFD	"	"	"	DC Probe to Point C. Common to chassis.	A7	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 80% modulation and 450KC sweep. Use 120v sawtooth voltage in scope for horizontal deflection.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4. .01MFD	High side to alignment point A. Low side to chassis.	4.5MC (450KC swp.)	4.5MC	Any	Vert. Amp. to Point B. Low side to chassis.	A5, A6	Disconnect stabilizer capacitor C4. Adjust for maximum amplitude and symmetry as per fig. 2.
5. .01MFD	"	"	"	"	Vert. Amp. to Point C. Low side to chassis.	A7	Reconnect capacitor C4. Adjust A7 so 4.5 MC occurs at center of crossover lines as per fig. 3. Slightly retouch A6 for maximum amplitude and straightness of crossover lines.

### OSCILLATOR ALIGNMENT

Remove the dummy converter tube and replace the original 6J6 in its socket.

Complete oscillator alignment may not be necessary. If the oscillator seems to be off frequency approximately the same amount for a majority of the channels, it may be possible to correct them in one step using A8. It should be noted that this is an all channel oscillator circuit adjustment and should not be adjusted for any individual channel. If adjustment of A8 will not bring all channels within the range of the fine tuning control, it will be necessary to adjust the individual channel oscillator adjustment screw for each channel that is off frequency. The individual channel oscillator adjustment screws are reached through a hole just to the right of the channel switch shaft. The correct adjustment screw is accessible through this hole as the selector is turned to each channel.

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
6. Two 1200 carbon resistors.	Across antenna terminals with 120Ω in each lead.	213MC (10MC SWP) 207MC (10MC SWP) 201MC (10MC SWP) 195MC (10MC SWP) 189MC (10MC SWP) 183MC (10MC SWP) 177MC (10MC SWP) 85MC (10MC SWP) 79MC (10MC SWP) 69MC (10MC SWP) 63MC (10MC SWP) 57MC (10MC SWP)	211.25 MC 215.75MC 205.25MC 209.75MC 199.25MC 203.75MC 193.25MC 197.75MC 183.25MC 191.75MC 181.25MC 185.75MC 175.25MC 179.75MC 83.25MC 87.75MC 77.25MC 81.75MC 67.25MC 71.75MC 61.25MC 65.75MC 55.25MC 59.75MC	13 12 11 10 9 8 7 6 5 4 3 2	Vert. Amp. to Point A. Low side to chassis.	A9 A10 A11 A12 A13 A14 A15 A16 A17 A18 A19 A20	Adjust to place sound marker as shown in fig. 4. The video marker should be at 50%.

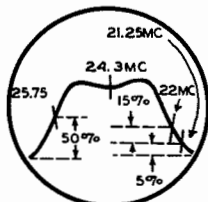


FIG. 1

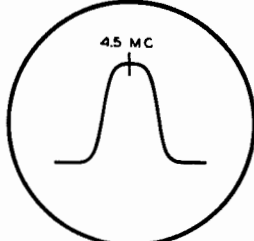


FIG. 2

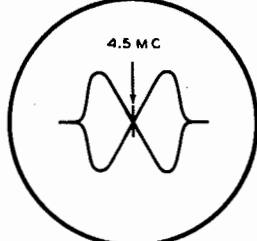


FIG. 3

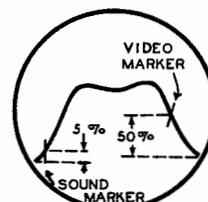



FIG. 4

# TV ALIGNMENT INSTRUCTIONS (CONT.)

## RF ALIGNMENT

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
7. Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	207MC (10MC Swp.)	205.25MC 209.75MC	12	Vert. Amp. to Point  Low side to chasis.	A21, A22, A23	Adjust for response curve similar to fig. 5 with markers above 90%.
8. Two 120Ω carbon resistors.	"	213MC (10MC Swp.) 201MC (10 MC Swp.) 195MC (10MC Swp.) 189MC (10MC Swp.) 183MC (10 MC Swp.) 177MC (10MC Swp.) 171MC (10MC Swp.) 165MC (10MC Swp.) 159MC (10MC Swp.) 153MC (10MC Swp.) 147MC (10MC Swp.) 141MC (10MC Swp.) 135MC (10MC Swp.) 129MC (10MC Swp.) 123MC (10MC Swp.) 117MC (10MC Swp.) 111MC (10MC Swp.) 105MC (10MC Swp.) 99MC (10MC Swp.) 93MC (10MC Swp.) 87MC (10MC Swp.) 81MC (10MC Swp.) 75MC (10MC Swp.) 69MC (10MC Swp.) 63MC (10MC Swp.) 57MC (10MC Swp.)	211.25MC 215.75MC 199.25MC 203.75MC 193.25MC 197.75MC 187.25 MC 191.75 MC 181.25 MC 185.75MC 175.25MC 179.75MC 169.25MC 173.75MC 163.25MC 167.75MC 157.25MC 161.75MC 151.25MC 155.75MC 145.25MC 149.75MC 139.25MC 143.75MC 133.25MC 137.75MC 127.25MC 131.75MC 121.25MC 125.75MC 115.25MC 119.75MC 109.25MC 113.75MC 103.25MC 107.75MC 97.25MC 101.75MC 91.25MC 95.75MC 85.25MC 89.75MC 79.25MC 83.75MC 73.25MC 77.75MC 67.25MC 71.75MC 61.25MC 65.75MC 55.25MC 59.75MC	13 11 10 9 8 7 6 5 4 3 2			Check all channels for response similar to fig. 5. If markers fall below 70% on any channel, make slight adjustment of A21, A22, and A23 with channel selector set for that channel. Recheck all channels to see that they have not been seriously effected.

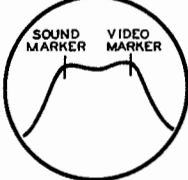


FIG. 5

## RADIO ALIGNMENT INSTRUCTIONS

### ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT



To set pointer turn tuning cap fully closed and set pointer to last reference mark at low frequency end of dial.

#### AM ALIGNMENT

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



DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
9. .01MFD	High side to pin 7 (grid) of 12AT7 (V22). Low side to chassis.	455KC (400% Mod.)	AM (center)	Tuning gang fully open.	Across voice coil.	A24, A25, A26, A27	Adjust for maximum output.
10.	Loop	1620KC	"	"	"	A28	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
11.	Loop	1400KC	"	Tune for max. output	"	A29	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.

#### FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
12. .01MFD	High side to pin 7 (grid) of 12AT7 (V22). Low side to chassis.	10.7MC (Unmod.)	FM (clockwise)	Tuning gang fully open	DC Probe to Point  Common to chasis.	A30, A31, A32, A33, A34	Adjust for maximum deflection.
13. .01MFD	"	"	"	"	DC Probe to Point  Common to chasis.	A35	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. Continue with step 15.


#### FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60% modulation and 450KC sweep. Use 120V 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
12. .01MFD	High side to pin 1 (grid) of 6BA6 (V23). Low side to chassis.	10.7MC 450KC Swp.	FM clockwise	Point of non-interference	Vert. Amp. to Point  Common to chasis.	A30, A31, A32	Disconnect stabilizer capacitor C69. Adjust for maximum amplitude and symmetry as per fig. 6.
13. .01MFD	High side to pin 7 (grid) of 12AT7 (V22). Low side to chassis	"	"	"	"	A33, A34	"
14. .01MFD	"	"	"	"	Vert. Amp. to Point  Low side to chasis	A35	Reconnect capacitor C69. Adjust A35 so 10.7MC occurs at center of crossover lines as per fig. 7. Slightly retouch A30 for maximum amplitude and straightness of crossover lines.

#### FM RF ALIGNMENT

Replace the dial on the radio and check the pointer setting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
15. Two 120Ω carbon resistors.	High side thru 120Ω to ungrounded "FM" antenna terminal. Low side thru 120Ω to grounded "FM" and terminal.	108MC (Unmod.)	FM	108MC	DC Probe to Point  Common to chasis.	A36	Adjust for maximum output.
16. Two 120Ω carbon resistors	"	98MC	"	Tune for max. deflection	"	A37	Adjust for maximum output.

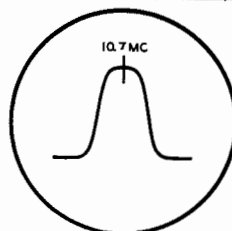


FIG. 6

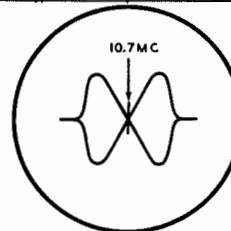


FIG. 7

# 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	6BC5	-1VDC	0V	6.3VAC	0V	105VDC	105VDC	0V		
V 2	6J6	95VDC	85VDC	6.3VAC	0V	-2.3VDC	8-6.7VDC	0V		
V 3	6AU6	-1VDC	0V	6.3VAC	0V	130VDC	130VDC	.3VDC		
V 4	6AU6	-.7VDC	0V	6.3VAC	0V	120VDC	120VDC	.5VDC		
V 5	6AU6	0V	0V	6.3VAC	0V	125VDC	125VDC	1.3VDC		
V 6	6AL5	0V	-.6VDC	6.3VAC	0V	0V	0V	-2.2VDC		
V 7	6AC7	0V	0V	2.4VDC	-.6VDC	2.4VDC	125VDC	6.3VAC	250VDC	
V 8	6AU6	-1.6VDC	0V	6.3VAC	0V	125VDC	125VDC	.8VDC		
V 9	6AL5	.4VDC	-.4VDC	0V	6.3VAC	0V	0V	0V		
V 10	6AV6	-1VDC	0V	0V	6.3VAC	0V	0V	100VDC		
V 11	6V8GT	0V	6.3VAC	250VDC	135VDC	0V	205VDC	0V	7.2VDC	
V 12	12AU7	25VDC	-1.7VDC	0V	6.3VAC	6.3VAC	85VDC	-3.2VDC	0V	0V
V 13	6SN7GT	-20VDC	190VDC 95VDC	0V	1.5VDC	130VDC	70VDC	6.3VAC	0V	
V 14	6S4	0V	26VDC 14VDC	0V	6.3VAC	0V	0V	0V	0V	350VDC
V 15	6AL5	0V	0V	0V	6.3VAC	.2VDC	0V	.2VDC		
V 16	6SN7GT	0V	270VDC	12VDC	-5.3VDC	155VDC	12VDC	6.3VAC	0V	
V 17	6BQ6GT	-23VDC	0V	0V	165VDC	-23VDC	275VDC	6.3VAC	5.3VDC	TOP CAP
V 18	6W4GT	0V	0V	390VDC	0V	250VDC	0V	6.3VAC	0V	
V 19	1B3GT	* DO NOT MEASURE								
V 20	5U4G	0V	280VDC	0V	290VAC	0V	290VAC	0V	280VDC	
V 21	16RP4	0V	0V	PIN 10 380VDC	PIN 11 80VDC	PIN 12 6.3VAC				

‡ TAKEN WITH VACUUM TUBE VOLTMETER  
 • DO NOT MEASURE

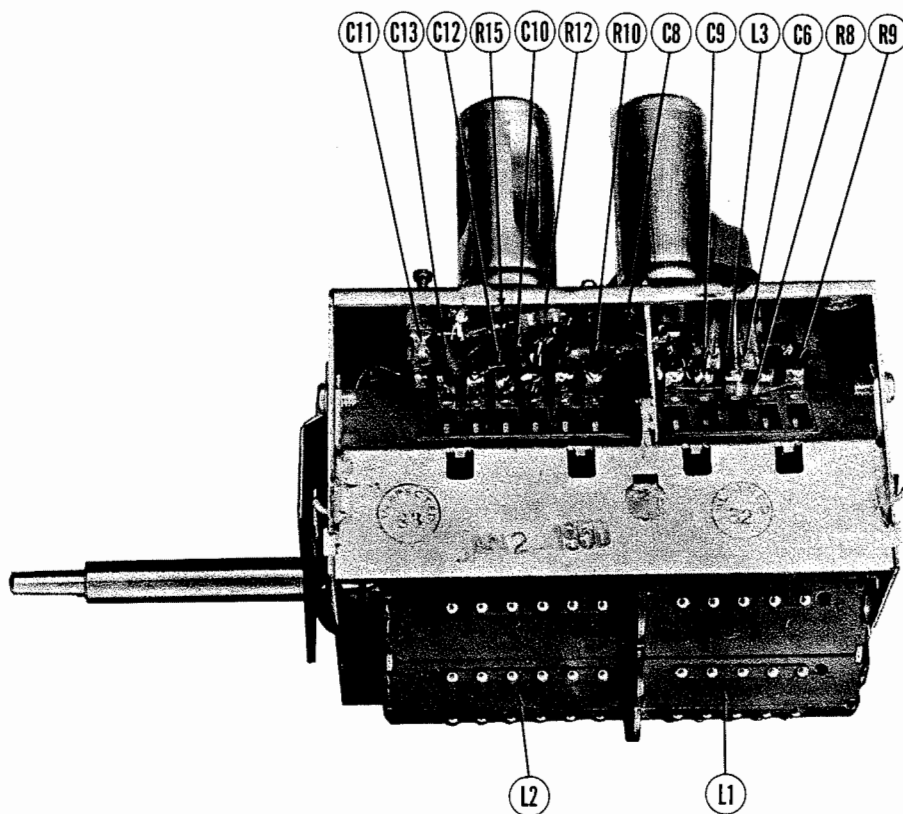
RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6BC5	1.2 Meg.	0Ω	.1Ω	0Ω	†5.7KΩ	†5.7KΩ	0Ω		
V 2	6J6	†8.2KΩ	†18KΩ	.1Ω	0Ω	225KΩ	10KΩ	0Ω		
V 3	6AU6	1.2 Meg.	0Ω	.1Ω	0Ω	†4KΩ	†4KΩ	39Ω		
V 4	6AU6	1.2 Meg.	0Ω	.1Ω	0Ω	†23KΩ	†23KΩ	68Ω		
V 5	6AU6	.4Ω	0Ω	.1Ω	0Ω	†4KΩ	†4KΩ	150Ω		
V 6	6AL5	0Ω	4.7KΩ	.1Ω	0Ω	.4Ω	0Ω	880KΩ		
V 7	6AC7	0Ω	0Ω	1.5KΩ	4.7KΩ	1.5KΩ	†22KΩ	.1Ω	†4.9KΩ	
V 8	6AU6	470KΩ	0Ω	.1Ω	0Ω	†4KΩ	†4KΩ	82Ω		
V 9	6AL5	10KΩ	10KΩ	0Ω	.1Ω	Inf.	0Ω	Inf.		
V 10	6AV6	4.7 Meg.	0Ω	0Ω	.1Ω	0Ω	0Ω	†200KΩ		
V 11	6V8GT	Inf.	.1Ω	†455Ω	†3KΩ	1 Meg.	†47KΩ	0Ω	330Ω	
V 12	12AU7	†25KΩ	2.2 Meg.	0Ω	.1Ω	.1Ω	†28KΩ	2.2 Meg.	0Ω	0Ω
V 13	6SN7GT	2.3 Meg.	#1 Meg. #3.5Meg.	0Ω	8.2 Meg.	†5KΩ	15KΩ	.1Ω	0Ω	
V 14	6S4	Inf.	3.8KΩ 820Ω	1 Meg.	.1Ω	0Ω	1 Meg.	Inf.	Inf.	#2.4KΩ
V 15	6AL5	4.8 Meg.	4.8 Meg.	0Ω	.1Ω	12KΩ	0Ω	12KΩ		
V 16	6SN7GT	5.2 Meg.	#14KΩ	1.5KΩ	145KΩ	#160KΩ	1.5KΩ	.1Ω	0Ω	
V 17	6BQ6GT	1 Meg.	0Ω	Inf.	†7KΩ	1 Meg.	#14KΩ	.1Ω	47Ω	TOP CAP #42Ω
V 18	6W4GT	Inf.	Inf.	70KΩ	Inf.	†180Ω	Inf.	.1Ω	0Ω	
V 19	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	TOP CAP #355Ω
V 20	5U4G	Inf.	20KΩ	Inf.	16Ω	Inf.	16Ω	Inf.	20KΩ	
V 21	16RP4	0Ω	0Ω	PIN 10 #22KΩ	PIN 11 320KΩ	PIN 12 .1Ω				

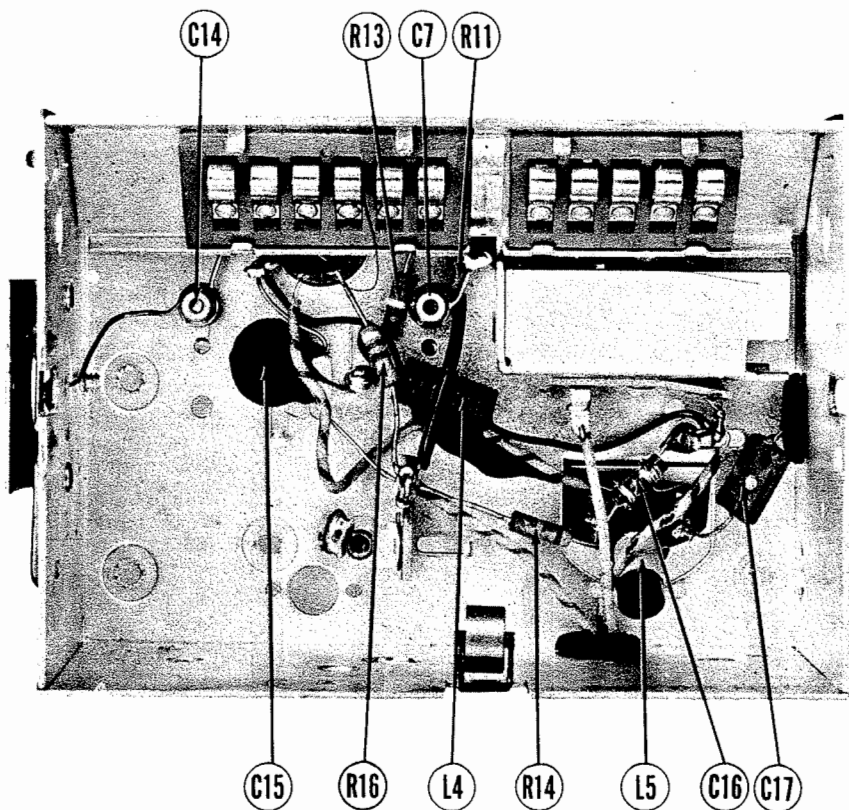
† MEASURED FROM PIN 8 OF V20  
 # MEASURED FROM PIN 3 OF V18

- 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.

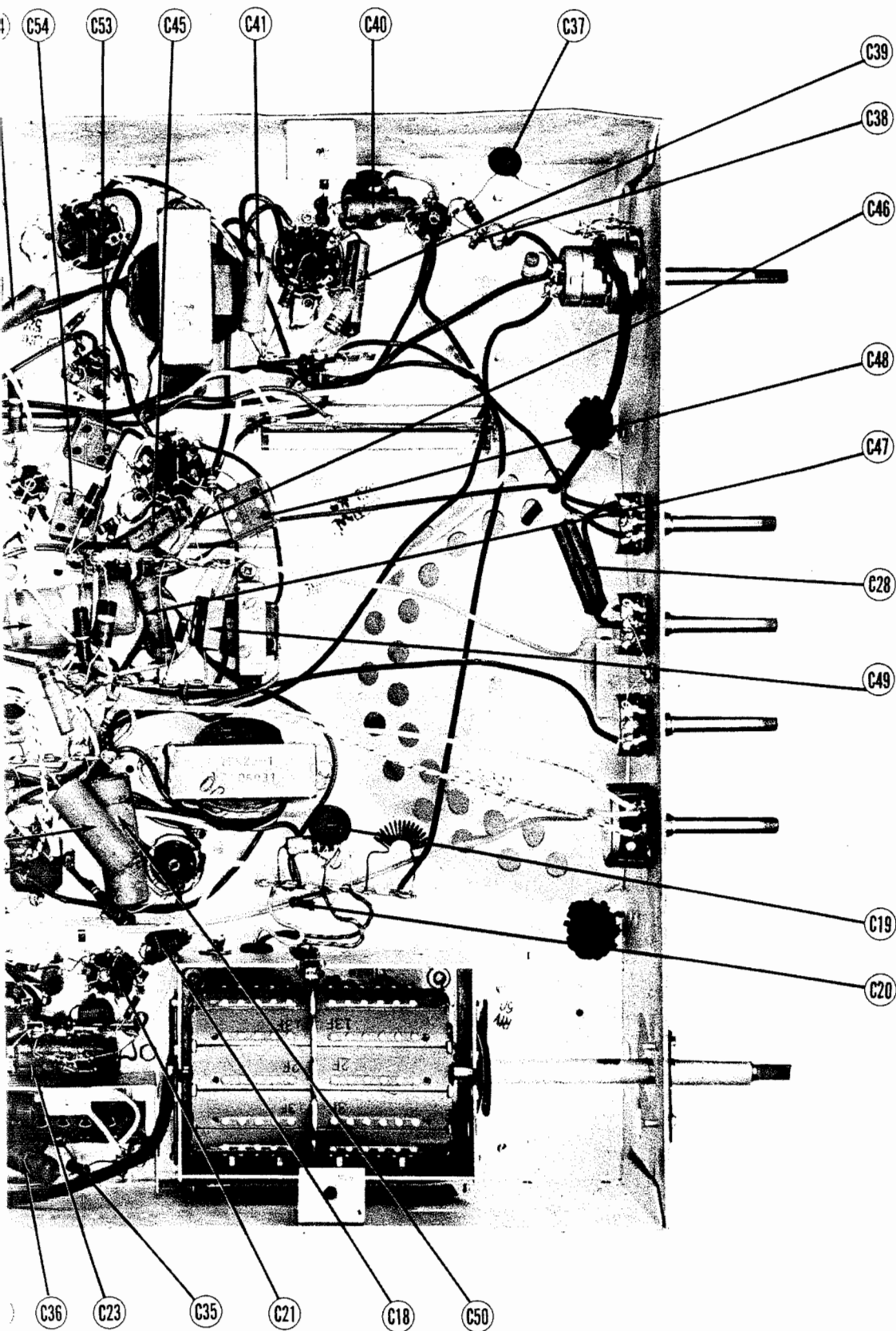


RF TUNER-RIGHT SIDE

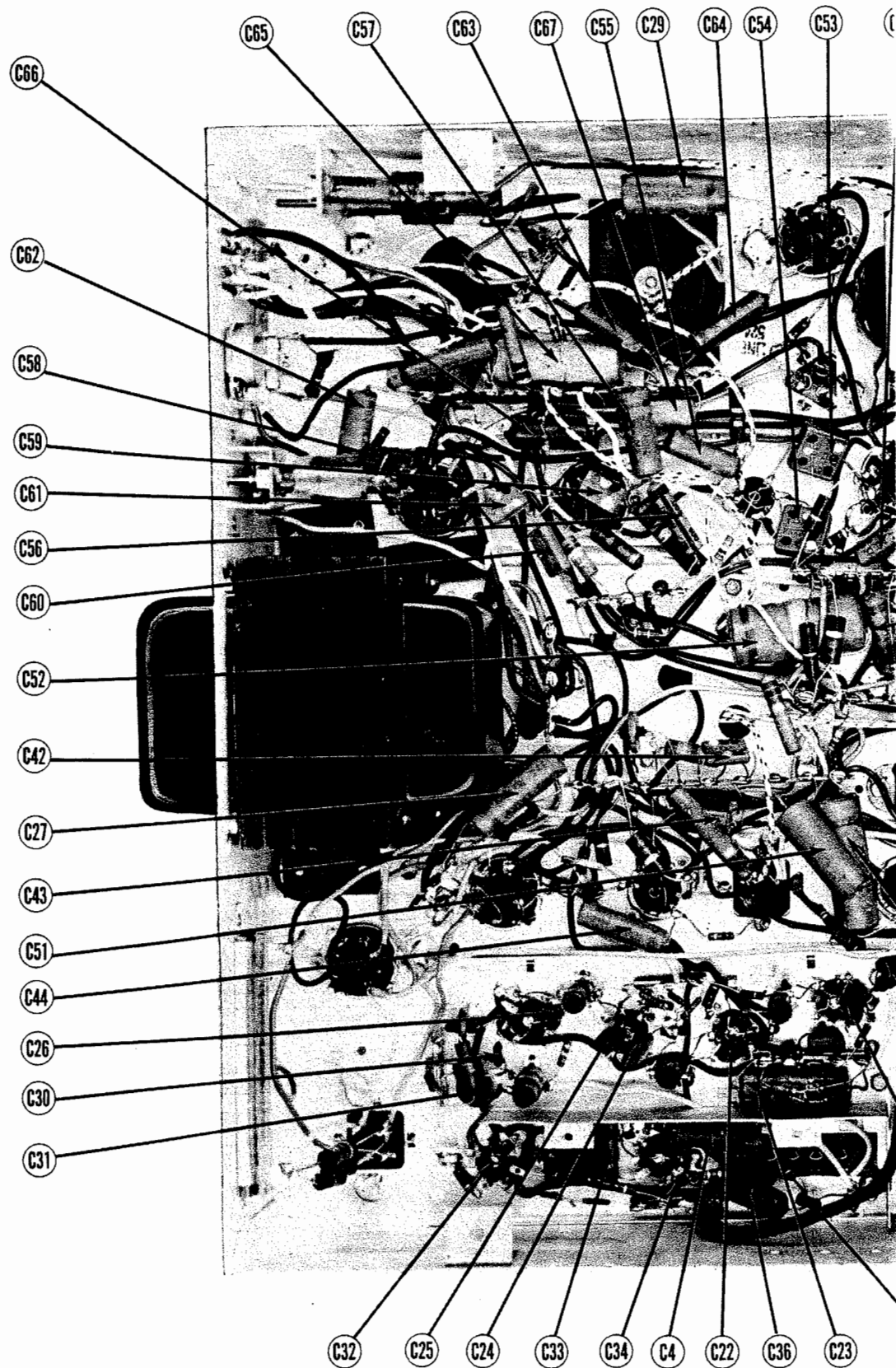


RF TUNER-BOTTOM VIEW

ADMIRAL CHASSIS 21B1, 21C1,  
21D1, 21H1, 21J1 and Radio Ch. 5D2



EW-CAPACITOR IDENTIFICATION



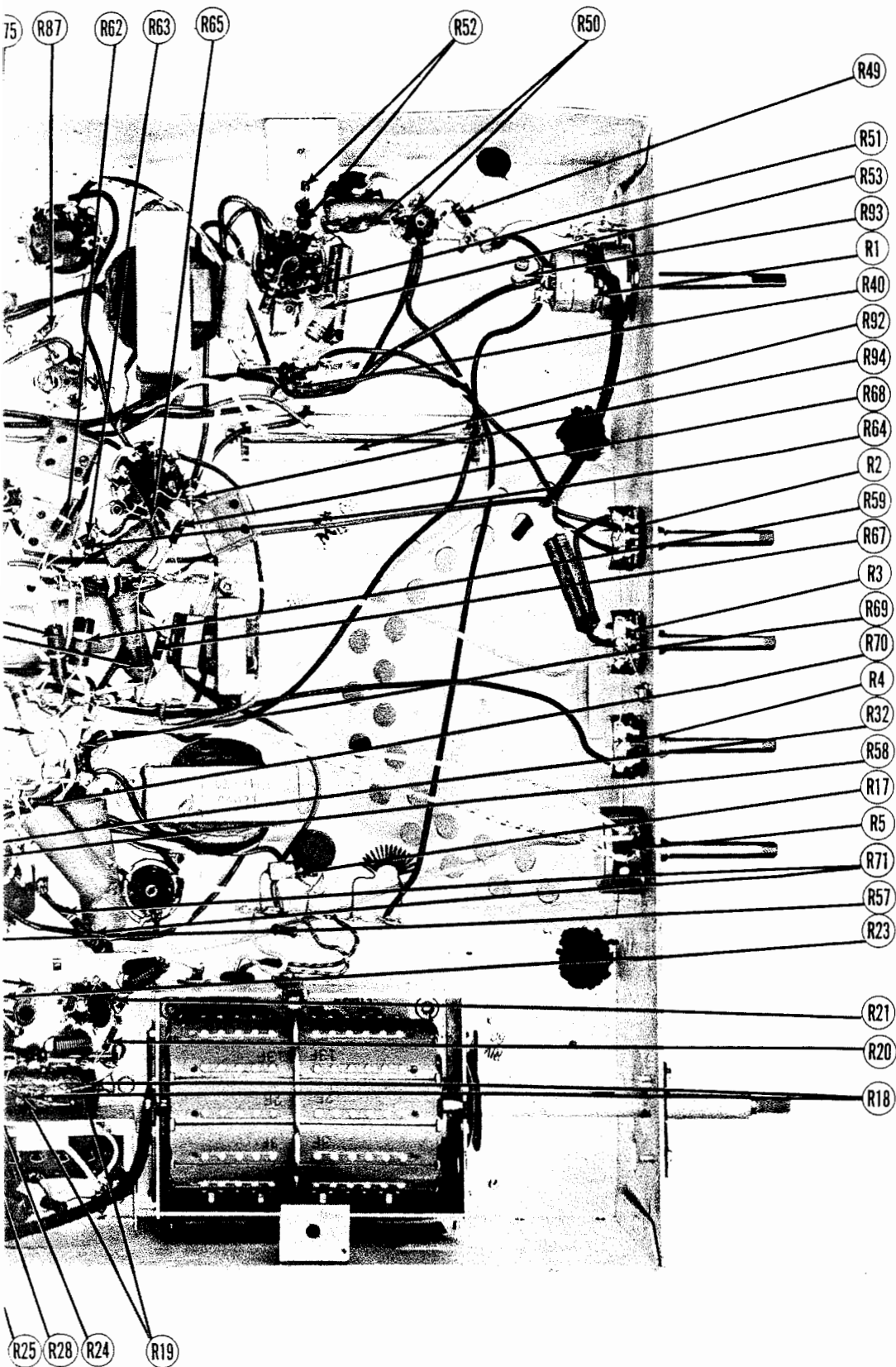
CHASSIS BOTTOM VIEW-CAPAC





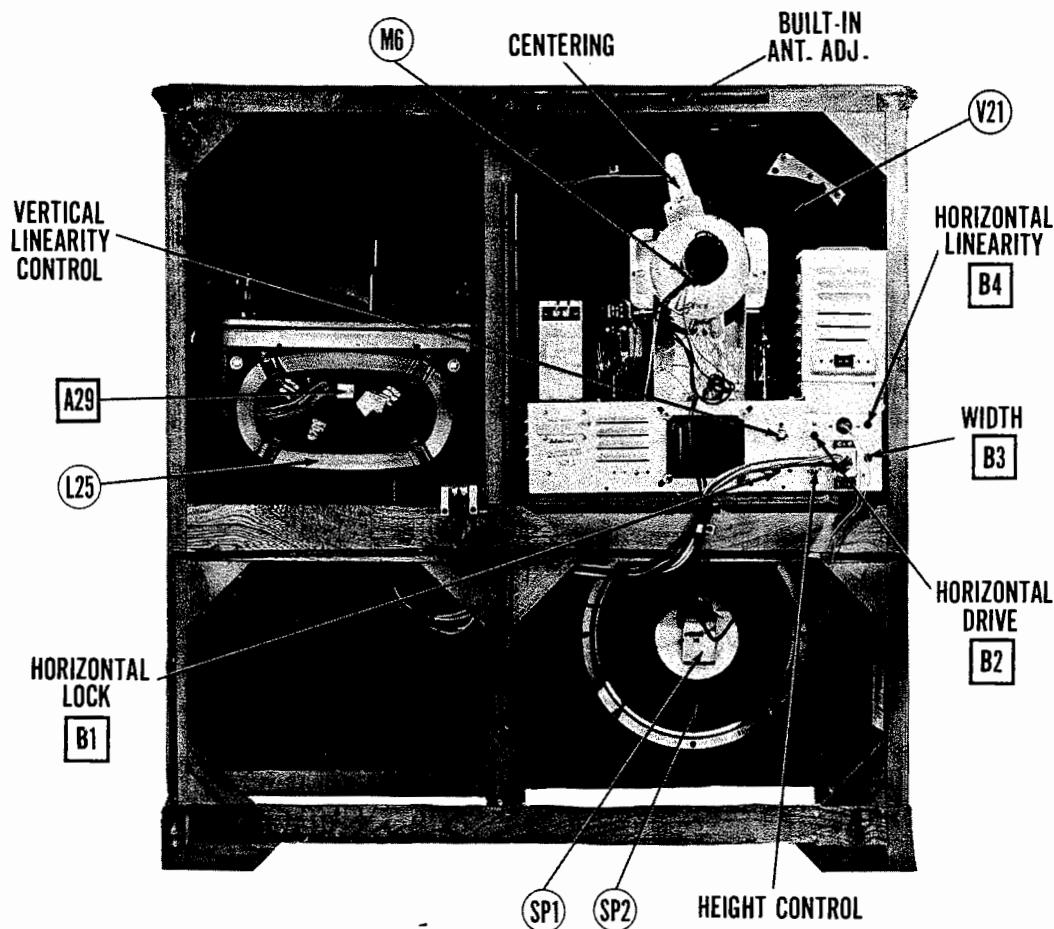
CHASSIS BOTTOM VIEW-RESIST

ADMIRAL CHASSIS 21B1, 21C1,  
21D1, 21H1, 21J1 and Radio Ch. 5D2



VIEW-RESISTOR IDENTIFICATION

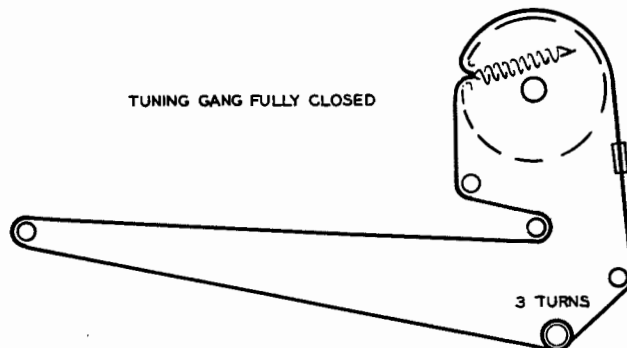




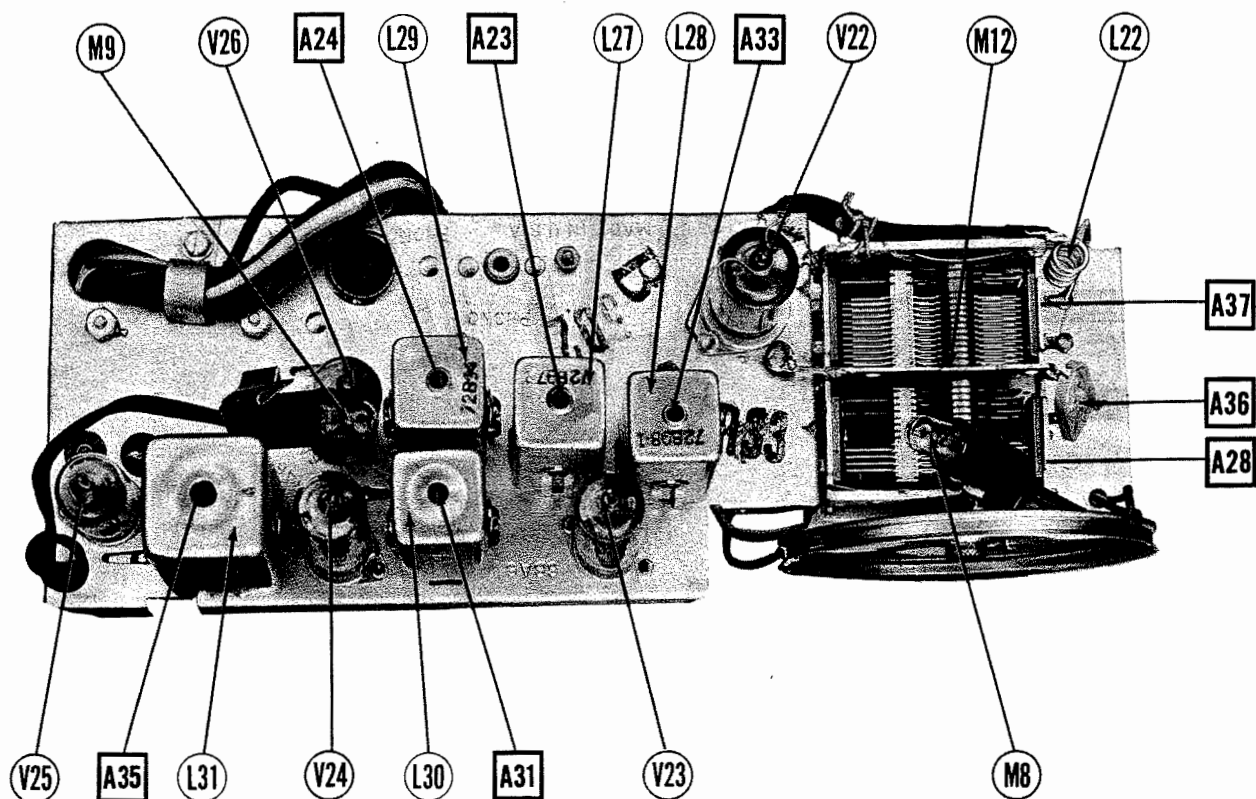
## CABINET-REAR VIEW

### HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

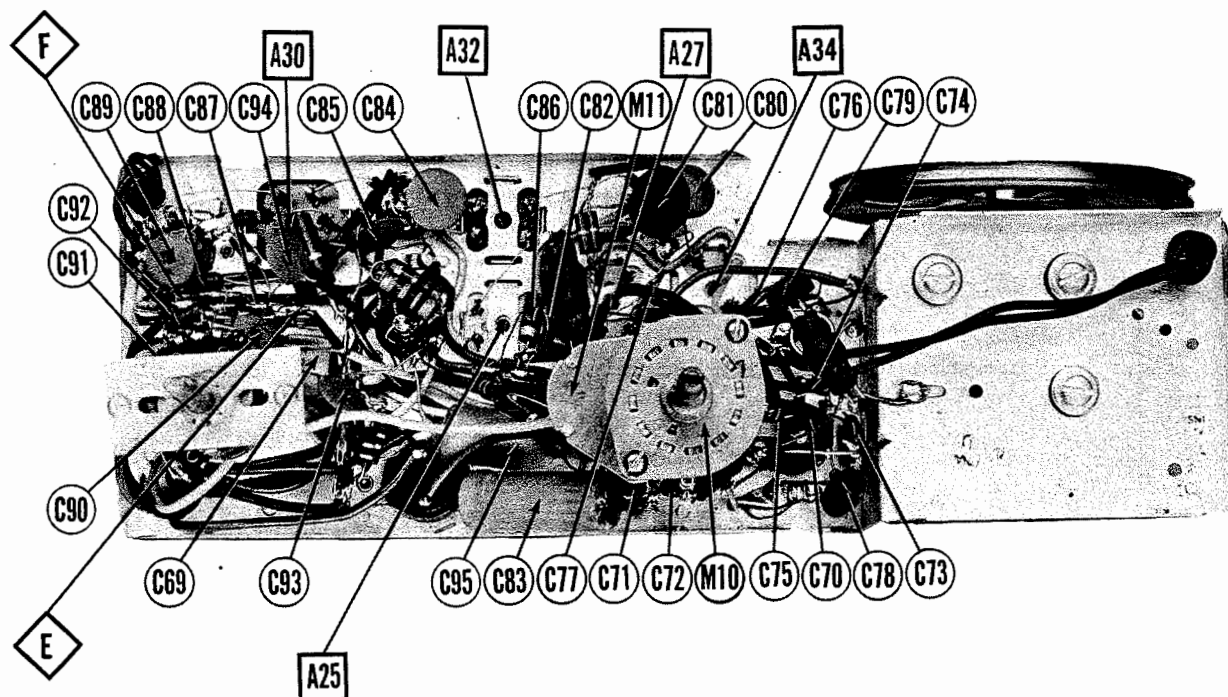
Turn the set on and tune in a TV station, preferably a test pattern.  
 Turn the horizontal hold control to maximum counter-clockwise. Note: In some early models, the wiring to the hold control was reversed. If difficulty is experienced with the horizontal oscillator adjustment, try turning the hold control to maximum clockwise.  
 Turn the horizontal lock slug (B1) counter-clockwise until the picture falls out of sync and then clockwise, until the picture just synchronizes.  
 Check to see that the picture will remain in synchronization for at least 1/2 rotation of the hold control.  
 Turn the channel selector switch to an unused channel, and set the brightness control to slightly less than normal.  
 Turn the horizontal hold control to fully counter-clockwise.  
 Adjust the horizontal drive trimmer (B2) counter-clockwise until one, or more, vertical lines appear in the picture. Then, turn B2 clockwise just far enough to make the lines disappear. Do not use B2 to adjust the width or linearity of the picture.  
 Turn the channel switch back to a TV station.  
 Adjust the width slug (B3) until the picture fills the mask horizontally.  
 Adjust the horizontal linearity slug (B4) until the picture is symmetrical from left to right.



### DIAL CORD STRINGING



RADIO CHASSIS-TOP VIEW



RADIO CHASSIS-BOTTOM VIEW-CAPACITOR IDENTIFICATION

# TV PARTS LIST AND DESCRIPTIONS

## TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		ADMIRAL PART No.	STANDARD REPLACEMENT		
V1A	RF Amp.	6BC5	6BC5	7BD	
B	RF Amp.	6CB6	6CB6	6CK	
C	RF Amp.	6AG5	6AG5	7BD	
V2	Converter	6J6	6J6	7BF	
V3A	1st Video IF	6AU6	6AU6	7BK	
B	1st Video IF	6AG5	6AG5	7BD	
V4A	2nd Video IF	6AU6	6AU6	7BK	
B	2nd Video IF	6AG5	6AG5	7BD	
V5A	3rd Video IF	6AU6	6AU6	7BK	
B	3rd Video IF	6AG5	6AG5	7BD	
V6	Video Det. -AGC	6AL5	6AL5	6BT	
V7	Video Amp.	6AC7	6AC7	8N	
V8	Sound IF Amp.	6AU6	6AU6	7BK	
V9	Ratio Det.	6AL5	6AL5	6BT	
V10A	AF Amp.	6AV6	6AV6	7BT	
B	AF Amp.	6SQ7	6SQ7	8Q	
V11	Audio Output	6V6GT	6V6GT	7AC	
V12A	Sync. Sep. -Sync.				
	Clipper-Sync. Amp.	12AU7	12AU7	9A	
B	Sync. Sep. -Sync.				
	Clipper-Sync. Amp.	6SN7GT	6SN7GT	8BD	
V13	Sync. Phase Inv. -				
	Vert. Osc.	6SN7GT	6SN7GT	8BD	
V14A	Vert. Output	6S4	6S4	9AC	
B	Vert. Output	6SN7	6SN7	8BD	
V15A	Hor. Phase Det.	6AL5	6AL5	6BT	
B	Hor. Phase Det.	6H6	6H6	7Q	
V16	Hor. Mult.	6SN7GT	6SN7GT	8BD	
V17	Hor. Output	6BQ6GT	6BQ6GT	6AM	
V18	Damper	6W4GT	6W4GT	4CG	
V19	HV Rect.	1B3GT	1B3GT	3C	
V20	LV Rect.	5U4G	5U4G	5T	
V21A	Picture Tube	16RP4	16RP4	12D	
B	Picture Tube	16TP4	16TP4	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	ADMIRAL PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.		SPRAGUE PART No.
C1A	60	400	67C15-17	AFH12144H		UPT62245			▲ Filter
B	20	350							■ Decoupling
C	20	350							▲ Decoupling
C2A	20	450	67C15-18	AFH4J16H20E		UPT317			■ Decoupling
B	80	350							■ Filter
C	100	50							▲ Vert. Output Cath.
C3A	10	450	67C15-19	AFH22J4A		UPI045C BR102A		TVL-3737	■ Decoupling
B	20	25							▲ Output Cath. Byp.
C	10	25							Hor. Output Cath.
C4	4	50	67A4-9	PRSI50/4 SI5NPO		BBR4-50T		TVA-1303	Stabilizing Cap.
C5	5		98A45-22		TCZ-4.7		NPOK-5		Fixed Trimmer *
C6	.5-3		98A45-87		829-3				Variable Trimmer
C7	.5-3		98A45-23		829-3				Variable Trimmer
C8	120		98A45-25	SI120	D6-121		GP2K-120	19C29	RF Amp. Dec.
C9	1000		98A45-24	SI1000	D6-102		GP2L-001	19C1	RF Amp. Fil.
C10	100		98A45-26	SI100N750	TCN-100		GPIK-100	29C16	RF Coupling
C11	.5-3		98A45-23		829-3				Variable Trimmer
C12	20		98A45-27	SI20NPO	TCZ-20		NPOK-20		Osc. Grid Cap.
C13	10		98A45-79	SI10N750	TCN-10		N750K-10	19C4	Fixed Trimmer
C14	.5-3		98A45-23		829-3				Variable Trimmer
C15A	1000		98A45-24	BPD-2 x 001	DD-2-102		882-2 x 0015	29C7	RF Bypass
B	1000		98A45-24						Conv. Fil. Byp.
C16	10		98A45-64	SI10NPO	TCZ-10		NPOK-10	19C3	Fixed Trimmer
C17	120	500	98A45-78	SI120	D6-121		GP2K-120	19C29	IF Coupling
C18	120	500	65B1-10		TCZ-120		NPOM-120		Fixed Trimmer †
C19A	4000		65A17-1	BPD-2 x 004	DD-2-502	1D5D4 1D5D4	882-2 x 004	36C2	Filament Bypass
B	4000					1D5D4			RF Bypass
C20	1000		65B6-41	SI1000	D6-102	1W5D1	GP2L-001	19C1	AGC Filter
C21A	1500		65A17-2	BPD-2 x 0015	DD-2-152	1W5D15 1W5D15	882-2 x 0015	29C6	AGC Filter
B	1500					1W5D15			1st V. IF Dec.
C22A	1500		65A17-2	BPD-2 x 0015	DD-2-152	1W5D15 1W5D15	882-2 x 0015	29C6	AGC Filter
B	1500					1W5D15			2nd V. IF Dec.
C23	.22	200	64B8-37	P488-22		GT2P25		2TM-P22	AGC Filter
C24A	4000		65A17-1	BPD-2 x 004	DD-2-502	1D5D4 1D5D4	882-2 x 004	36C2	3rd V. IF Cath.
B	4000					1D5D5			3rd V. IF Fil.
C25	5000		65A10-1	BPD-005	DD-502	1D5D5	811-005	29C1	3rd V. IF Dec.
C26	120		65B6-66	SI120	D6-121	5W5T15	GP2K-120	19C29	IF Coupling
C27	.1	400	64B5-20	P488-1	DF-104	PTE4P1		4TM-P1	Video Coupling
C28	.05	400	64B9-28	P488-05	DF-503	PTE4S5		4TM-S5	Pic. Tube Grid
C29	.047	600	64B8-9	P688-047	DF-503	PTE6S5		6TM-S47	Acc. Anode Bypass
C30	6.8		65B6-71	SI6.8NPO	TCZ-6.8		NPOK-6.8		S. IF Coupling
C31	20		65B6-51	SI20NPO	TCZ-20	5R5Q2	NPOK-20	M5-42	Voltage Divider
C32	5000		65A10-1	BPD-005	DD-502	1D5D5	811-005	29C1	S. IF Coupling
C33	180		65B6-59		TCN-180		N750L-180		Fixed Trimmer
C34	500		65B6-6	SI500	D6-501	5W5T5	GP2K-500	19C32	Diode Load Cap.
C35	1000		65B6-41	SI1000	D6-102	1W5D1	GP2L-001	19C1	De-emphasis
C38	.05	200	64B9-41	P288-05	DF-503	PTE4S5		2TM-S5	Audio Coupling
C37	5000		65A10-1	BPD-005	DD-502	1D5D5	811-005	29C1	Audio Coupling
C38	50		65B6-4	SI50	D6-500	5W5Q5	GPIK-50	19C28	AF Amp. Grid
C39	.05	400	64B9-28	P488-05	DF-503	PTE4S5		4TM-S5	AF Amp. Plate Dec.
C40	.01	400	64B5-25	P488-01	D6-103	PTE4S1	811-01	4TM-S1	Audio Coupling
C41	.002	600	64B5-12	P688-002	D6-202	PTE6D2	GP2M-002	6TM-D2	Output Plate Byp.
C42	150	500		1468-00015	D6-151	5W5T15	GPIK-150	1FM-315	Sync. Coupling *
C43	.05	400	64B9-28	P488-05	DF-503	PTE4S5		4TM-S5	Sync. Coupling
C44	.022	400	64B5-24	P488-022	DF-203	PTE4S2		4TM-S22	Sync. Coupling
C45	.01	400	64B5-25	P488-01	D6-103	PTE4S1	811-01	4TM-S1	Sync. Coupling
C46	.0022	600	64B5-14	P688-0022	D6-222	PTE6D2	GP2M-0022	6TM-D22	Integrator Net.
C47	.005	600	64B5-12	P688-005	D6-502	PTE6D5	811-005	6TM-D5	Integrator Net.
C48	4700	500	65B21-472	1467-005	D6-472	1D5D5	GP2M-0047	1FM-25	Integrator Net.
C49	4700	500	65B21-472	1467-005	D6-472	1D5D5	GP2M-0047	1FM-25	Vert. Osc. Grid Cap.
C50	.1	600	64B5-5	P688-1	DF-104	PTE6P1		6TM-P1	Vert. Sweep Coupling
C51	.047	600	64B8-9	P688-047		PTE6S5		6TM-S47	Vert. Discharge
C52	.47	400	64B9-72	P488-47		GT4P5		4TM-P5	Sync. Phase Inv. Dec.

ADMIRAL CHASSIS 21B1, 21C1,  
21D1, 21H1, 21J1 and Radio Ch. 5D2

## CAPACITORS (CONT.)

ITEM No.	RATING CAP. VOLT	REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES
		ADMIRAL PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNEILL-DUBILIER PART No.	ERIE PART No.	
C53	1000	500	65B21-102	1467-001	D6-102	1W5D1	Hor. Sync. Coupling
C54	1000	500	65B21-102	1467-001	D6-102	1W5D1	Hor. Sync. Coupling
C55	.01	400	64B5-25	P468-01	D6-103	PTE4S1	Integrator Net.
C56	.005	600	64B5-12	P468-005	D6-502	PTE6D5	AFC Filter
C57	.05	400	64B9-28	P468-05	DF-503	PTE4S5	AFC Filter
C58	3900	500	65B1-63	1464-004		LDR5D4	Fixed Trimmer
C59	330	500	65B21-331	1468-00035	D6-331	5W573	Hor. MV Feedback
C60	330	500	65B21-331	S1330	D6-331	5W573	Hor. Discharge
C61	470	500	65B21-471	1468-0005	D6-471	5W575	Hor. Sweep Coupling
C62	.047	600	64B5-7	P468-047	DF-503	PTE6S5	Hor. Output Screen
C63	.022	400	64A2-9	P468-022	DF-203	PTE4S2	Damper Filter
C64	.05	200	64A2-8	P288-05	DF-503	PTE4S5	Damper Filter
C65	.25	600	64B5-3	684-25		GTP6P25	Damper Filter
C66	.1	400	64A2-10	P468-1	DF-104	PTE4P1	Hor. Sweep Coupling
C67	.0022	800	64B9-11	P688-0022	D6-222	PTE6D2	Fixed Trimmer
C68	500	20000	65B18-5	HV20C	TV3-502	GP2M-0022	HV Filter

\* Not used in all models.

† Used in late production models.

‡ Used in chassis 21C1 after run 2. In some 21D1, 21H1 and 21J1 chassis a .004MFD capacitor is used, part No. 64B8-15.

§ Chassis 21D1 uses 330MMF in this application.

## CONTROLS

ITEM No.	RATING RESISTANCE WATTS	REPLACEMENT DATA				INSTALLATION NOTES
		ADMIRAL PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	
RIA	1500K	75B11-16		RTV-214	SBB-580-S	Contrast control-front
R2A	250K					Volume control and switch-rear
R2B	100K	75B13-12	Q11-128	AG-49-S	AN-40	Brightness control
R3A	1 Meg.	Not Req.	Not Req.	RS-2	AK-4	Attach to R2A per instructions
R3B	1 Meg.	75B13-14	Q11-137	AG-61-S	AN-69	Vert. hold control
R4A	25K	75B13-13	Not Req.	RS-2	AK-4	Attach to R3A per instructions
R4B	25K	75B13-13	Q11-120	AG-40-S	AN-26	Horiz. hold control
R5	750K	75B13-16	Not Req.	RS-2	AK-4	Attach to R4A per instructions
R6A	2.5 Meg.	75B13-3	Q11-239	AG-84-S	AN-83	Focus control-Wire Wound
R6B	1 Meg.	Not Req.	Not Req.	FKS-1/4	AK-1	Height control
R7A	3000K	75B13-7	Q11-12	AG-15-S	B-8	Attach to R6A per instructions
R7B	3000K	Not Req.	Not Req.	FKS-1/4	Not Req.	Vert. linearity control
R7C	3000K	Not Req.	Not Req.	FKS-1/4	Not Req.	Attach to R7A per instructions

## RESISTORS

ITEM No.	RATING RESISTANCE WATTS	REPLACEMENT DATA		IDENTIFICATION CODES
		ADMIRAL PART No.	IRC PART No.	
R8	3900K	98A45-16	BTS-3900	Antenna Coil Shunt
R9	47K	98A45-17	BTS-47K	AGC Network
R10	10K	98A45-18	BTS-10K	RF Plate Coil Shunt
R11	2200K 20%	98A45-19	BTS-2200	RF Decoupling
R12	4700K	98A45-20	BTS-4700	Converter Grid
R13	220K 20%	98A45-21	BTS-220K	Converter Grid
R14	15K	98A45-67	BTS-15K	Converter Plate
R15	10K	98A45-18	BTS-10K	Osc. Grid
R16	4700K	98A45-20	BTS-4700	Osc. Plate
R17	500K		BTA-470	Decoupling- See Note 1
R18	1000K 20%	60B8-102	BTS-1000	AGC Network-See Note 2
R19	1000K 20%	60B8-102	BTS-1000	AGC Network-See Note 2
R20	10K 5%	60B7-103	BTS-10K-5%	1st Video IF Grid
R21	39K	60B8-390		1st Video IF Cathode-See Note 3
R22	18K	60B8-183		2nd Video IF Transformer Shunt
R23	1000K	60B8-102	BTS-1000	1st Video IF Decoupling
R24	68K	60B8-680		2nd Video IF Cathode
R25	10K 5%	60B7-103		3rd Video IF Transformer Shunt
R26	1000K 20%	60B8-102	BTS-1000	2nd Video IF Decoupling-See Note 2
R27	150K	60B8-151	BTS-150	3rd Video IF Cathode
R28	1000K 20%	60B8-102	BTS-1000	3rd Video IF Decoupling-See Note 2
R29	580K	60B8-584	BTS-580K	AGC Network
R30	880K 20%	60B8-684	BTS-880K	AGC Rect. Diode Load
R31	4700K 5%	60B7-472	BTS-4700-5%	Video Det. Diode Load-See Note 2
R32	4700K	60B20-472	BTS-4700	Video Amp. Plate
R33	18K	60B8-183	BTS-18K	Isolation-See Note 4
R34	270K	60B8-274	BTS-270K	Isolation-See Note 5
R35	47K	60B20-473	BTB-47K	Decoupling-See Note 6
R36	58K	60B20-583	BTS-58K	Decoupling
R37	3000K	61A3-14	2D-3000	Filter-Wire Wound
R38	680K 20%	60B8-684	BTS-680K	Voltage Divider
R39	580K	60B8-584	BTS-580K	Picture Tube Cathode
R40	100K 20%	60B8-102	BTS-100K	Voltage Divider
R41	22K 20%	60B8-223	BTS-22K	Acc. Anode Decoupling
R42	470K	60B7-474		Sound IF Grid
R43	82K	60B8-820	BTS-82	Sound IF Cathode
R44	1000K 20%	60B8-102	BTS-1000	Sound IF Decoupling-See Note 2
R45	390K	60B8-391	BTS-390	Balancing-See Note 2
R46	10K	60B7-103	BTS-10K	Ratio Det. Diode Load
R47	10K	60B7-103	BTS-10K	Ratio Det. Diode Load
R48	47K	60B8-473	BTS-47K	De-emphasis
R49	4.7 Meg. 20%	60B8-475	BTS-4.7 Meg.	AF Amp. Grid
R50	150K	60B8-154	BTS-150K	AF Amp. Plate-See Notes 2 and 15
R51	47K	60B8-473	BTS-47K	AF Amp. Plate Decoupling-See Note 16
R52	1 Meg.	60B8-105	BTS-1 Meg.	Audio Output Grid-See Note 2
R53	330K	60B14-331	BTA-330	Audio Output Cathode
R54	2.2 Meg.	60B8-225	BTS-2.2 Meg.	Sync. Sep. Grid
R55	47K	60B14-473	BTA-47K	Sync. Sep. Plate
R56	18K	60B8-183	BTS-18K	Voltage Divider
R57	2.2 Meg.	60B8-225	BTS-2.2 Meg.	Sync. Amp. Grid
R58	27K	60B20-273	BTB-27K	Sync. Amp. Plate
R59	15K	60B14-153	BTA-15K	Voltage Divider
R60	12K	60B20-123	BTB-12K	Voltage Divider
R61	2200K	60B14-222	BTA-2200	Voltage Divider
R62	1000K	60B8-102	BTA-1000	Sync. Phase Inv. Cathode
R63	8.2 Meg.	60B8-825	BTS-8.2 Meg.	Sync. Phase Inv. Grid
R64	220K	60B8-222	BTS-220K	Sync. Phase Inv. Plate
R65	22K	60B8-223	BTS-22K	Integrator Network
R66	8200K 20%	60B8-822	BTS-8200	Integrator Network
R67	8200K 20%	60B8-822	BTS-8200	Integrator Network

## TV PARTS LIST AND DESCRIPT

## RESISTORS (CONT.)

ITEM No.	RATING RESISTANCE WATTS	REPLACEMENT DATA		IDENTIFICATION CODES AND INSTALLATION NOTES
		ADMIRAL PART No.	IRC PART No.	
R68	1.2 Meg.	60B8-125	BTS-1.2 Meg.	Vert. Osc.
R69	1 Meg.	60B8-105	BTS-1 Meg.	Vert. Osc.
R70	8200K 20%	60B8-822	BTS-8200	Vert. Peak
R71	1 Meg.	60B8-105	BTS-1 Meg.	Vert. Output
R72	820K	60B8-821	BTA-820	Vert. Output
R73	820K	60B8-821	BTS-820	Decoupling
R74	100K 5%	60B7-104	BTS-100K-5%	Horiz. Phas
R75	100K 5%	60B7-104	BTS-100K-5%	Horiz. Phas
R76	4.7 Meg.	60B8-475	BTS-4.7 Meg.	Horiz. Phas
R77	470K	60B20-474	BTB-470K	Horiz. AFC
R78	12K	60B20-123	BTB-12K	Feedback N
R79	1500K	60B8-152	BTS-1500	Horiz. MV
R80	5800K 20%	60B8-582	BTS-5800	Horiz. MV
R81	120K	60B8-124	BTA-120K	Horiz. MV
R82	150K	60B8-154	BTS-150K	Horiz. MV
R83	8200K 20%	60B8-822	BTA-8200	Decoupling
R84	8200K 20%	60B8-822	BTS-8200	Horiz. Peak
R85	39K	60B8-390		Parasitic S
R86	1 Meg.	60B8-105	BTS-1 Meg.	Horiz. Outp
R87	47K	60B14-470	BW-1-47	Horiz. Outp
R88	82K	60B8-820		Parasitic S
R89	6800K 20%	60B20-682	BTB-6800	Horiz. Outp
R90	2.7K	60B28-47		HV Rect. F
R91	470K	60B14-474		HV Filter
R92A	2725	61A6-8		Voltage Div
R92B	2650			Voltage Div
R93	3900K	60B14-394	BTA-390K	Line Filter
R94	150K	60B8-154	BTS-150K	Vert. Osc.
R95	4.7K			Series Dial

Note 1. Some models may use a 1000K resistor in this application.

Note 2. Some models may use a two resistors in series to obtain required

Note 3. Some models may use a 47K resistor in this application.

Note 4. Those models produced before run 2 of 21B1 chassis, and before r

Note 5. Not used in models produced before run 2 of 21B1 chassis, and be

Note 6. Some models use two resistors in parallel to obtain required res

Note 7. Those models employing a 6SN7 vert. output tube use 1.5 meg res

Note 8. Some model may use a 68K resistor in this application.

Note 9. Not used in television models only.

Note 10. Some models use 270K resistor in this application.

Note 11. Used only in those models employing a 684 vertical output tube.

Note 12. Used in chassis 21J1 only.

Note 13. Those models employing a 6SN7 vertical output tube uses a 2.5 M

Note 14. Chassis 21D1 uses 680K resistor in this application.

Note 15. Those models produced before run 2 of 21C1 chassis uses 270K

Note 16. Those models produced before run 2 of 21C1 chassis uses 150K

## TRANSFORMER (POV)

ITEM No.	RATING				ADMIRAL PART No.	STA PAR
	PRI.	SEC. 1	SEC. 2	SEC. 3		
T1	117VAC 1.6A	600VCT .210ADC	5VAC 3A	6.3VAC 9.6A	80C26-1	

## TRANSFORMER (SWEEP)

ITEM No.	RATING		REPLACEMENT DATA		
	DC RESISTANCE		ADMIRAL PART No.	STANCOR PART No.	MERIT PART No.
T2	210K	1100K	79A18-2	A-8111 ①	A-3000 ①
T3A	350K	3.5K	79C30-2 ②		
	Tap ④	SEC. 2			
	35K	1.3K			
		SEC. 3			
		0K	79C30-3 ③		
B	1400K		79B29-1 ②	A-8123	A-3037
T4A	Tap ④				
	14K		79B34-1 ③		
B	14K		A3222 ④	DY-7	MD-70F
T5A	48K		A3178 ⑤		
T5B	13K		A3197 ⑥		
	46K		69C117-3 ②		
C	275K				
T6A	Tap ④				
	100K		69C117-4 ③		

① Drill one new mounting hole.

② Used in chassis 21B1, 21C1, 21H1, 21J1.

③ Used in chassis 21D1, 21E1.

④ Used in chassis 21B1, 21C1 (16" rect. plx tube)

⑤ Used in chassis 21D1, (16" round picture tube)

⑥ Used in chassis 21H1, 21J1 (19" round picture tube)

## TRANSFORMER (AUDIO)

ITEM No.	RATING		REPLACEMENT DATA		
	IMPEDANCE	DC RES.	ADMIRAL PART No.	STANCOR PART No.	MERIT PART No.
T7A	5000K	3.7K	79C33-2 ⑦	A-3877 ①	A-3019 ①
B		.5K	79C33-1 ⑧		

# ND DESCRIPTIONS (Continued)

## RESISTORS (CONT.)

IRC PART No.	IDENTIFICATION CODES
BTS-1.2 Meg.	Vert. Osc. Grid-See Note 7
BTS-1 Meg.	Vert. Osc. Plate-See Note 13
BTS-8200	Vert. Peaking
BTS-1 Meg.	Vert. Output Grid-See Note 2
BTA-820	Vert. Output Cathode-See Note 14
BTS-820	Decoupling-See Note 2
BTS-100K-5%	Horiz. Phase Det. Load
BTS-100K-5%	Horiz. Phase Det. Load
BTS-4.7 Meg.	Horiz. Phase Det. Load
BTB-470K	Horiz. AFC Filter Network
BTB-12K	Feedback Network-See Note 2
BTS-1500	Horiz. MV Cathode
BTS-5600	Horiz. MV Plate
BTA-120K	Horiz. MV Grid
BTS-150K	Horiz. MV Plate-See Note 2
BTA-8200	Decoupling
BTS-8200	Horiz. Peaking
BTS-1 Meg.	Parasitic Suppressor-See Note 8
BW-1-47	Horiz. Output Grid-See Note 2
	Horiz. Output Cathode-See Note 6
BTB-6800	Parasitic Suppressor
	Horiz. Output Screen
	HV Rect. Filament
	HV Filter
BTA-390K	Voltage Dropping-Wire Wound-See Note 9
BTS-150K	Voltage Dropping-Wire Wound
	Line Filter-See Note 10
	Vert. Osc. Grid-See Note 11
	Series Dial Lamp-See Note 12

istor in this application.  
rs in series to obtain required resistance and wattage.  
r in this application.  
of 21B1 chassis, and before run 5 of 21C1 chassis use a 8200Ω resistor in this

run 2 of 21B1 chassis, and before run 5 of 21C1 chassis.

parallel to obtain required resistance and wattage.

output tube use 1.5 meg resistor in this application.

r in this application.

n this application.

g a 6S4 vertical output tube.

tical output tube uses a 2.5 Meg. resistor in this application.

this application.

2 of 21C1 chassis uses 270KΩ in this application.

2 of 21C1 chassis uses 150KΩ in this application.

## TRANSFORMER (POWER)

REPLACEMENT DATA			
ADMIRAL PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
80C26-1			TP-225

## FORMER (SWEEP CIRCUITS)

REPLACEMENT DATA			NOTES
STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
A-8111 ①	A-3000 ①	TBO-3 ①	Vert. Block Osc. Trans. Hor. Output Trans.
A-8123	A-3037		Hor. Output Trans. Vert. Output Trans.
BY-7	MD-70F		Vert. Output Trans. Hor. Deflection Coil Vert. Deflection Coil Hor. Deflection Coil Vert. Deflection Coil Deflection Yoke Focus Coil
			Focus Coil

(tube)  
(tube)  
(tube tube)

## FORMER (AUDIO OUTPUT)

REPLACEMENT DATA			INSTALLATION NOTES
STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
A-3877 ①	A-3019 ①	RO-9	① Drill one new mounting hole. ② Used in chassis 21C1. ③ Used in chassis 21D1.

## SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			ADMIRAL PART No.	JENSEN PART No.	QUAM PART No.	
SP1A B C D	FIELD RES.	V. C. IMP.	78B56-2 ③		12A4A	③ Used in models, 36R37, 36R45, 36R46.
	PM	3.7Ω	78B59-1 ①②			①② Used in models 16R11, 16R12
	PM		78B49-1 ①②			①② Used in models 26R11, 26R12, 26R35A
	PM		78B47-2 ①②			①② Used in models 26R35A, 26R36A, 26R37A
SP2A B C D	CONE DIA.	V. C. DIA.				
	1 1/2"	3/4"				
	5"					
	8"					
D	10"					

## COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
				ADMIRAL PART No.	MEISSNER PART No.	
L1	Ant. Coil	0Ω	0Ω	*		* Refer misc.
L2	RF, Mixer Grid & Osc. Coils	0Ω				* Refer misc.
L3	Fil. Choke	0Ω		98A45-13		
L4	Fil. Choke	0Ω		98A45-14		
L5	1st Video IF	1.1Ω		98A45-77		
L6	Fil. Choke	0Ω		73A2-5		
L7	Adj. Channel Trap	0Ω		72A102		
L8	2nd Video IF	.4Ω	.4Ω	72C96-6		Includes C18, not used in all models. Includes R22, R23 and C22
L9	Fil. Choke	0Ω		73A2-5		
L10	3rd Video IF	.4Ω	.4Ω	72C96-7		Includes R25
L11	4th Video IF	.4Ω	.4Ω	72C96-8		Includes C26
L12	Peaking	5.5Ω		73A5-12		
L13	Peaking	17Ω		73A5-7		
L14	Peaking	6.8Ω		73A5-13		
L15	Peaking	7.6Ω		73A5-9		
L16	Sound IF	5Ω		72B89-1		Wound on 33KΩ resistor Wound on 10KΩ resistor Includes C30, C31 and R42
L17	Ratio Det.					
L18	Trans. Horiz. Freq. Coil	3.5Ω	.3Ω	72B68		
L19	Horiz. Lin.	40Ω		94A17		
L20	Width Coil	6.5Ω		94A28		
		1.2Ω		94A29-1		Includes C58 and R80

## DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					ADMIRAL PART No.		
M1	Bayonet	6-8	.15	Brown	81A1-8		Type #47
M2	Bayonet	117			81A2-4		117V 7W (Chassis 21J1 only)

## MISCELLANEOUS

ITEM No.	PART NAME	ADMIRAL PART No.	NOTES
M3	RF Tuner	94A18-4	
M4	Switch		
M5	Fuse	64A4-2	Phono compartment light (Chassis 21J1 only)
M6A	Ion Trap	94A15-1	.25A 250V Type AGX
B	Ion Trap	94A15-2	For 16RP4 picture tube
	Antenna Coil	98A62-2	For 16TP4 picture tube
	Antenna Coil	98A62-3	Channel 2
	Antenna Coil	98A62-4	Channel 3
	Antenna Coil	98A62-5	Channel 4
	Antenna Coil	98A62-6	Channel 5
	Antenna Coil	98A62-7	Channel 6
	Antenna Coil	98A62-8	Channel 7
	Antenna Coil	98A62-9	Channel 8
	Antenna Coil	98A62-10	Channel 9
	Antenna Coil	98A62-11	Channel 10
	Antenna Coil	98A62-12	Channel 11
	Antenna Coil	98A62-13	Channel 12
	RF, Mixer & Osc. Coils	98A63-2	Channel 13
	RF, Mixer & Osc. Coils	98A63-3	Channel 2
	RF, Mixer & Osc. Coils	98A63-4	Channel 3
	RF, Mixer & Osc. Coils	98A63-5	Channel 4
	RF, Mixer & Osc. Coils	98A63-6	Channel 5
	RF, Mixer & Osc. Coils	98A63-7	Channel 6
	RF, Mixer & Osc. Coils	98A63-8	Channel 7
	RF, Mixer & Osc. Coils	98A63-9	Channel 8
	RF, Mixer & Osc. Coils	98A63-10	Channel 9
	RF, Mixer & Osc. Coils	98A63-11	Channel 10
	RF, Mixer & Osc. Coils	98A63-12	Channel 11
	RF, Mixer & Osc. Coils	98A63-13	Channel 12
	Safety Glass	23D67	Channel 13
	Safety Glass	23E62	Models 36R37, 36R45 36R46
	Safety Glass	23E62-1	Models 39X35, 39X36 (Round holes)
	Safety Glass	23D68	Models 39X35, 39X36 (Oblong holes)
	Knob	33C53-9	TV only models
	Knob	33C53-10	Channel selector
	Knob	33C53-11	Fine tuning
	Knob	33C53-12	TV volume
			Contrast

## PHONO CARTRIDGE and NEEDLE

ITEM No.	REPLACEMENT DATA				REMARKS
	ADMIRAL PART No.	ASTATIC PART No.	SHURE PART No.		
		CARTIDGE	NEEDLE	CARTIDGE	NEEDLE
M7	409A13	AC-AG-J	A-AG	W26B	A66U

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

ADMIRAL CHASSIS 21B1, 21C1,  
21D1, 21H1, 21J1 and Radio Ch. 5D2

# RADIO PARTS LIST AND DESCRIPTIONS

## TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		ADMIRAL PART No.	STANDARD REPLACEMENT		
V22	Converter	12AT7	12AT7	9A	
V23	1st FM -AM IF Amp	6BA6	6BA6	7BK	
V24	2nd FM IF Amp. - AM Det.	6BA6	6BA6	7BK	
V25	Ratio Det.	6AL5	6AL5	6BT	
V26	AF Amp.	6AU6	6AU6	7BK	

## 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	ADMIRAL PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	
C69	4	150	67A4-2	PRS150/4		BR415		TVA-1402	Stabilizing Cap.
C70	10000		65B6-41	SI1000	D6-102	1W5D1	GP2L-001	19C1	RF Coupling
C71	10000		65A10-3	BPD-01	DD-103	PTE4S1	811-01	36C1	AVC Filter
C72	10000		65A10-3	BPD-01	DD-103	PTE4S1	811-01	36C1	Conv. Cath. Byp.
C73	.68		65A16-1		TCZ-68				Osc. Coupling
C74	40		65B6-67	SI39	D6-390	5W5Q4	GPIK-39	1FM-44	Osc. Grid Cap.
C75	10000		65B6-41	SI1000	D6-102	1W5D1	GP2L-001	19C1	Osc. Plate Byp.
C76	10000		65A10-3	BPD-01	DD-103	PTE4S1	811-01	36C1	Decoupling
C77	10000		65A10-3	BPD-01	DD-103	PTE4S1	811-01	36C1	Decoupling
C78	10000		65A10-3	BPD-01	DD-103	PTE4S1	811-01	36C1	Conv. Fil. Byp.
C79	30		65B1-69		TCZ-30	5R5Q3	NPOM-30	MS-43	Fixed Trimmer *
C80	10000	500	65A10-3	BPD-01	DD-103	PTE4S1	811-01	36C1	1st IF Screen
C81A	4000		65A17-1						1st IF Fil.
B	4000			BPD-2 x 004	DD-2-502	ID5D4	882-2 x 004	36C2	1st IF Fil.
C82	10000		65A10-3	BPD-01	DD-103	PTE4S1	811-01	36C1	Decoupling
C83	.1	400	64B1-20	P488-1	DF-104	PTE4P1		4TM-P1	Decoupling
C84	10000		65A10-3	BPD-01	DD-103	PTE4S1	811-01	36C1	2nd IF Screen
C85	10000		65A10-3	BPD-01	DD-103	PTE4S1	811-01	36C1	2nd IF Plate Dec.
C86	250		65B6-5	SI250	D6-251	5W5T25	GP2K-250	1FM-325	AM Det. Grid Filter
C87A	100		63A7-1	SI100	D6-101	5W5T1	GPIK-100	19C11	Diode Load Cap. †
B	100			SI100	D6-101	5W5T1	GPIK-100	19C11	Diode Load Cap. †
C88	10000		65B6-41	SI1000	D6-102	1W5D1	GP2L-001	19C1	De-emphasis
C89	10000		65A10-3	BPD-01	DD-103	PTE4S1	811-01	36C1	Ratio Det. Fil.
C90	10000		65A10-3	BPD-01	DD-103	PTE4S1	811-01	36C1	Audio Coupling
C91	100		65B6-68	SI100	D6-101	5W5T1	GPIK-100	19C11	Tone Comp.
C92	1000		65B6-41	SI1000	D6-102	1W5D1	GP2L-001	19C1	Tone Comp.
C93	5000		65A10-1	BPD-005	DD-502	ID5D5	811-005	29C1	Tone Comp.
C94	10000		65A10-3	BPD-01	DD-103	PTE4S1	811-01	36C1	Audio Coupling
C95	.1	400	64B1-20	P488-1	DF-104	PTE4P1		4TM-P1	AF Amp. Screen
C96	45		65B6-61	SI5	TCZ-4.7	5W5V5	GPIK-5	MS-55	Ext. Ant. Coupling

\* Early production models using IF transformer (part 72B98) used 40MMF in this application. Migr's part No. 68B1-65.

† When either items C87A or C87B are replaced, replace with capacitors of equal value.

## CONTROLS

ITEM No.	RATING		REPLACEMENT DATA			INSTALLATION NOTES
	RESISTANCE	WATTS	PART No.	IRC PART No.	CLAROSTAT PART No.	
R96A	2 Meg.			Concentrikrit		
B	2 Meg.			B11-139 *		
C	Shaft End			B18-139X *		
D	Switch			E-202 *		
			75B11-12		RTV-46	SBST-531-S
				76-2 *		

\* Additional parts to be used in "Concentrikrit".

## RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	ADMIRAL PART No.	IRC PART No.	
R97	1.5 Meg.		60B8-155	BTS-1.5 Meg.	AVC Network
R98	1500Ω		60B8-152	BTS-1500	Conv. Cathode-See Note 17
R99	22KΩ		60B8-223	BTS-22K	Osc. Grid
R100	470Ω		60B8-471	BTS-470	Osc. Plate
R101	470Ω		60B8-471	BTS-470	Conv. Plate Decoupling
R102	22Ω		60B8-220	BW- $\frac{1}{2}$ -22	Decoupling
R103	6200Ω		60B7-622		1st IF Screen-See Note 18
R104	1 Meg.		60B8-105	BTS-1 Meg.	AVC Network
R105	10KΩ		60B8-103	BTS-10K	2nd FM IF Screen
R106	1000Ω		60B8-102	BTS-1000	2nd FM IF Plate Decoupling-See Note 18
R117	1000Ω	1	60B14-102	BTA-1000	Decoupling
R108	470KΩ		60B8-474	BTS-470K	Diode Load
R109	47KΩ		60B8-473	BTS-47K	Diode Filter
R110	390Ω		60B8-391	BTS-390	Balancing-See Note 19
R111	15KΩ		60B8-153	BTS-15K	Ratio Det. Diode Load
R112	15KΩ		60B8-153	BTS-15K	Ratio Det. Diode Load
R113	27KΩ		60B8-273	BTS-27K	De-emphasis
R114	100KΩ		60B8-104	BTS-100K	Tone Compensation
R115	10 Meg.		60B8-106	BTS-10 Meg.	AF Amp. Grid-See Note 18
R116	560KΩ		60B8-564	BTS-560K	AF Amp. Screen
R117	22Ω		60B8-220	BW- $\frac{1}{2}$ -22	Isolation-See Note 18

Note 17. Early production models uses a 240Ω resistor in this application.

Note 18. Some models use two resistors in parallel to obtain required resistance and wattage.

Note 19. Some models use two resistors in series to obtain required resistance and wattage.

# RADIO PARTS LIST AND DESCRIPTIONS (Continued)

## COILS (RF-IF)

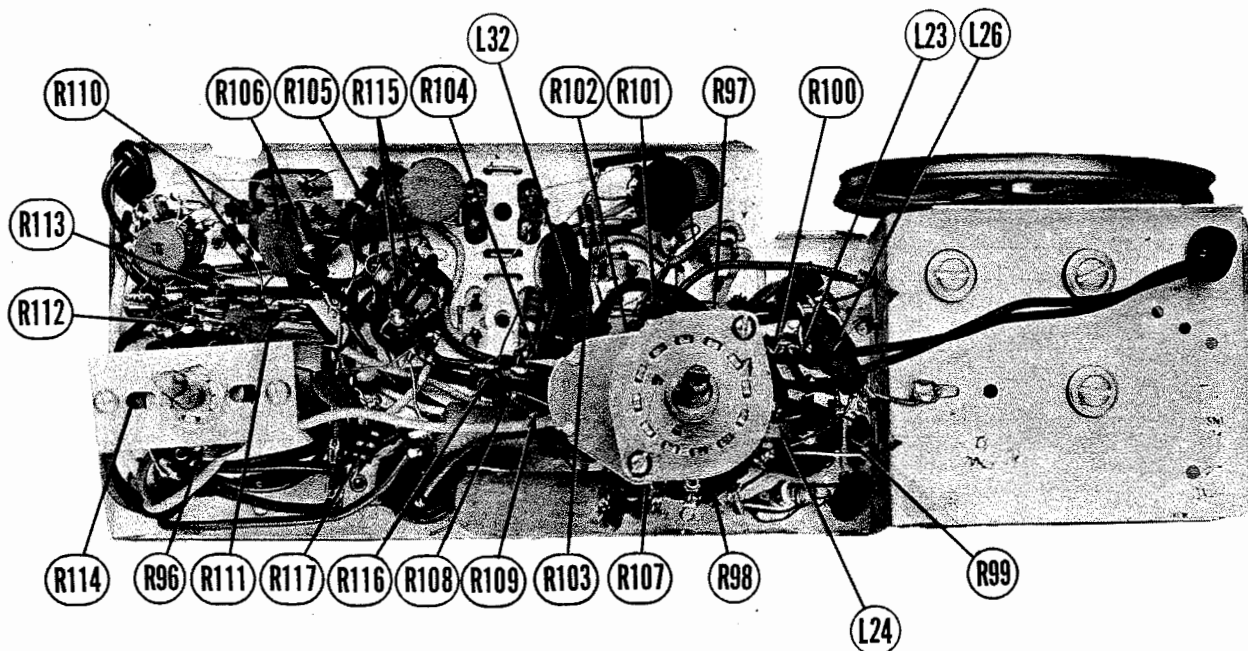
ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
				ADMIRAL	MEISSNER	
		PRI.	SEC.	PART No.	PART No.	
L21	FM Ant.	0Ω		AB195		Wound on 820Ω resistor
L22	FM Ant. Coll	0Ω		69A85		
L23	FM Osc. Coll	0Ω		69A87		
L24	FM Peaking	16Ω		73A5-II		
L25	Loop Ant.	1.3Ω		69C116-1		Late production Early production Late production Early production
L26	AM Osc. Coll	7Ω		69A86-1		
L27A	1st AM IF			72B97-1		
B	1st AM IF	3.1Ω	6Ω	72B97	16-6758	
L28A	1st FM IF			72B98-1		
B	1st FM IF	.1Ω	.5Ω	72B98		
L29	2nd AM IF	8.5Ω	8.5Ω	72B94	16-6758	
L30	2nd FM IF	3Ω	.1Ω	72B76		
L31	Ratio Det.					
	Trans.	2Ω	.2Ω	72B39		
L32	Fl. Choke	0Ω	0Ω	69A102		

## DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					ADMIRAL		
					PART No.		
M8	Bayonet	6-8	.15	Brown	81A1-8		Type #47
M9	Bayonet	6-8	.15	Brown	81A1-8		Type #47

## MISCELLANEOUS

ITEM No.	PART NAME	ADMIRAL PART No.	NOTES
M10	Switch	76B22	Function (includes phono motor switch)
M11	Switch	76B23	Phono motor
M12	Tuning Cap	68B24	
	Knob	33D55-1	Radio-Phono, Tuning
	Knob	33D55-4	Radio volume
	Knob	33D55-5	Tone



RADIO CHASSIS-RESISTOR IDENTIFICATION

ADMIRAL CHASSIS 21B1, 21C1,  
21D1, 21H1, 21J1 and Radio Ch. 5D2





⑥ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

VOLTAGE READINGS

I TAKEN WITH VACUUM TUBE VOLTMETER

### RESISTANCE READING

† MEASURED FROM PIN 8 OF V20

A PHOTOFACT STANDARD NOTATION SCHEMATIC  
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# RADIO SCHEMATIC





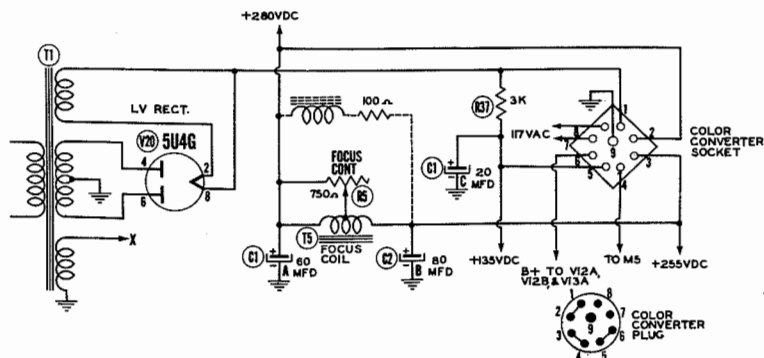
#### SUPPLEMENTAL DATA TO PHOTOFACT FOLDER 2 IN SET 118.

The following production changes were made on Admiral chassis 21B1, 21C1, 21D1, 21E1, 21H1, 21J1.

#### ADDITION OF SOCKET AND PLUG FOR ATTACHMENT OF A COLOR CONVERTER.

Run 6 in 21B1.  
Run 9 in 21C1.  
Run 7 in 21D1.  
Run 5 in 21J1.  
Run 2 in 21H1.

A 9 contact socket was added at the rear of the TV chassis to provide B+ voltages and 110VAC for attachment of a color converter. A plug fits into the socket to complete the B+ circuits when a color converter is not used. The partial schematic below shows the addition of the color converter socket.



#### CHANGE IN FOCUS CIRCUIT.

Run 10 in 21B1.

Run 10 of 21B1 chassis uses a PM focusing assembly (Part # 94C35-1). The parts eliminated when this assembly is used are the focus control and the focus coil. These parts have been replaced with a filter choke (Part # 74B18-4) and a 100Ω, 7.5watt resistor. The filter choke and resistor are connected in the circuit as shown in the partial schematic above.

#### TYPE 12H6 TUBE USED FOR HORIZ. PHASE DETECTOR.

A type 12H6 tube may be used in place of a 6AL5 or 6H6 tube (V15) for the horizontal phase detector. When the 12H6 tube is used an auto-transformer (Part # 80B32) to provide 12.6 volts for the heater of the tube. The low end (black lead) connects to chassis ground, the center tap (green lead) connects to pin 7 of V18, and the high end (yellow lead) connects to pin 7 of the 12H6.

ADMIRAL CHASSIS 21B1,  
21C1, 21D1, 21E1, 21J1, 21H1.

#### SUPPLEMENTAL DATA TO PHOTOFACT FOLDER 9 IN SET 124.

Sentinel Models 429, 430, 431, IU429, IU430 and IU431 are identical to Model 420B covered in Photofact Folder 9, Set 124 except for the differences noted below.

"Series YA"  
Chassis

A 3 amp fuse was added in series with the primary winding of the power transformer T1.  
The fuse holder for the 3 amp fuse was added to back of chassis.  
V19 was changed to a type 1B3GT.  
V6 may be either a 6CB6 or 6AG5. However they are not interchangeable since difference in the tube capacities would necessitate realignment of this IF stage.

"Series YB"  
Chassis

The 3 amp fuse noted above was changed to a 3/8 amp 250 V Slo-Blo and placed in series with the B-circuit.

"Series YC"  
chassis.

V4, V5 and V6 changed to 6CB6 tubes.  
In the 1st IF stage the jumper from pin 2 of the socket shield was removed.  
C27 was grounded to socket shield instead of pin 2 of socket.  
A 27Ω resistor was added from pin 2 of the socket to chassis ground.  
In the 2nd IF stage pin 7 of the socket was grounded to socket shield.  
In the 3rd IF stage a jumper was connected from pin 7 of the socket to pin 2 of the socket.

SENTINEL MODELS  
IU429, IU430, IU431,  
429, 430, 431.

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