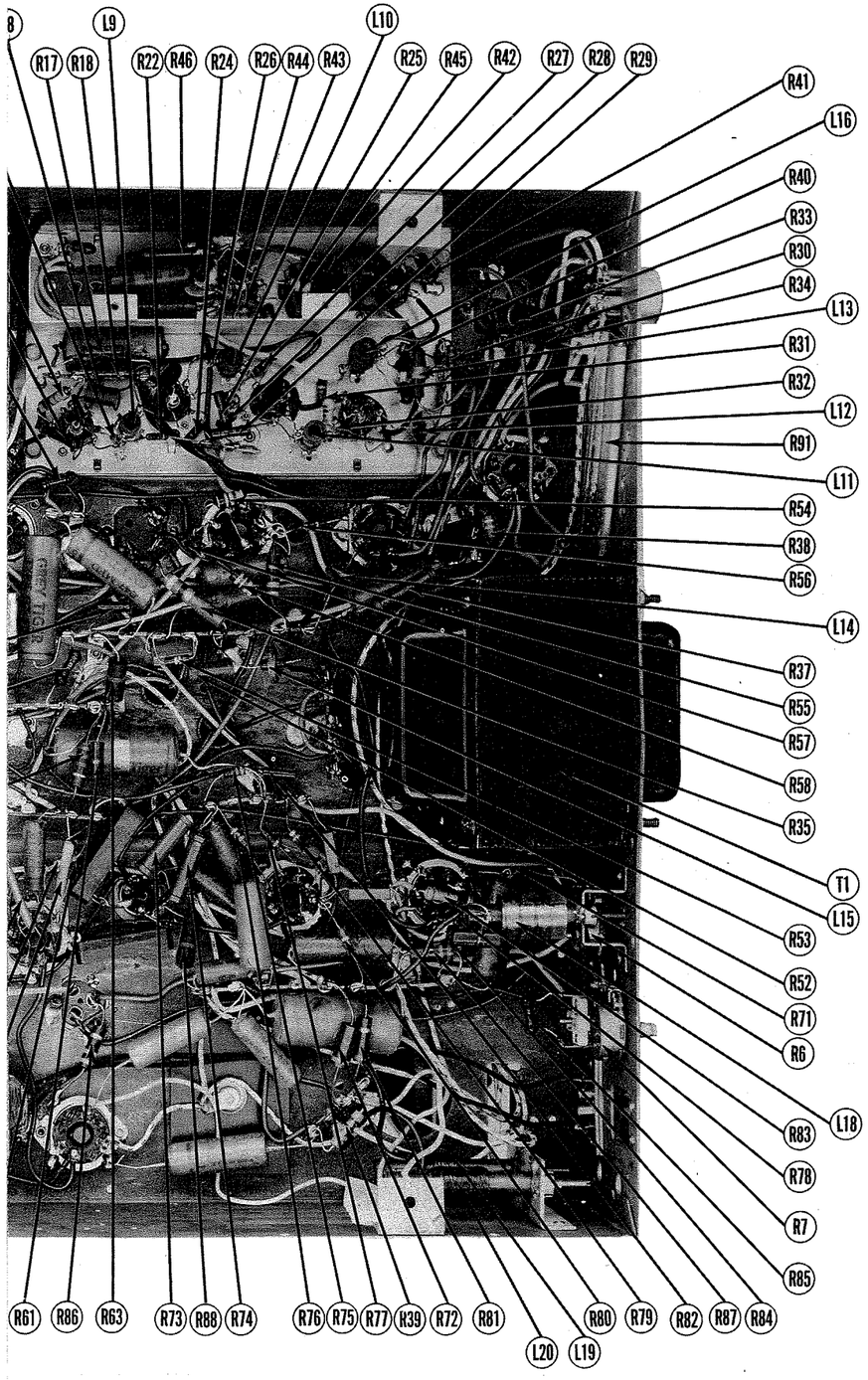
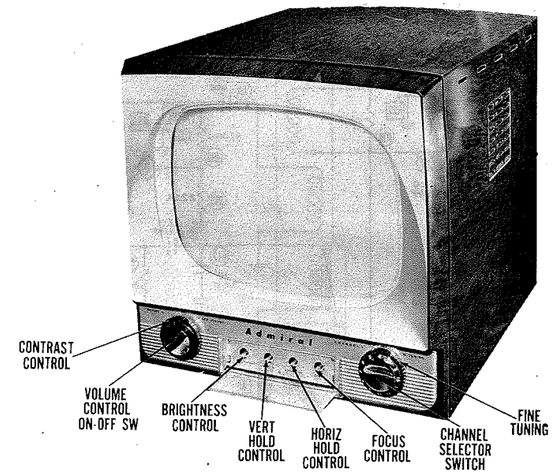


...R AND INDUCTOR IDENTIFICATION

PHOTOFACT* Folder

*TRADE MARK

ADMIRAL CHASSIS 21F1, 21G1, 21K1, 21L1, 21P1, 21Q1



ADMIRAL MODEL 17K12

TRADE NAME	ADMIRAL, MODELS	TV CHASSIS	PICTURE TUBE	TYPE
	17K11, 17K12, 27K12	21F1	17BP4 or 17RP4	TV Only
	27K15, 27K16, 27K17, 27K25, 27K26, 27K27, 27K35, 27K36, 27K46	21F1 or 21P1	17BP4 or 17RP4 / 17CP4	TV Only
	37K15, 37K16, 37K27, 37K28, 37K35, 37K36	21G1 or 21Q1	17BP4 or 17RP4 / 17CP4	TV-Radio - Phono
	221K16, 221K16A, 221K26, 221K28, 221K35, 221K36	21K1	20CP4 or 20DP4	TV Only
	321K15, 321K16, 321K18, 321K27, 321K35, 321K36, 321K46, 321K47, 321K49	21L1	20CP4 or 20DP4	TV-Radio -Phono

NOTE:
1. All the models listed above contain the letter "K". In combination receivers, the letter "K" designates the use of Radio Chassis 3C1 (AM Only). A receiver employing Radio Chassis 5D2 (AM-FM) will have the same model number except the letter "K" will be replaced by the letter "F". For example, Model 37K15 is a combination receiver with a "AM Only" radio chassis, while a Model 37F15 would be a combination receiver with "AM-FM" radio chassis.
2. Some receivers employing 17" picture tubes will have model numbers with the suffix letter "A" or "B". This suffix indicates a difference in type picture window and / or control panel employed.
3. Any of the models numbers may have an additional suffix letter "N" which does not have any service significance.

INDEX

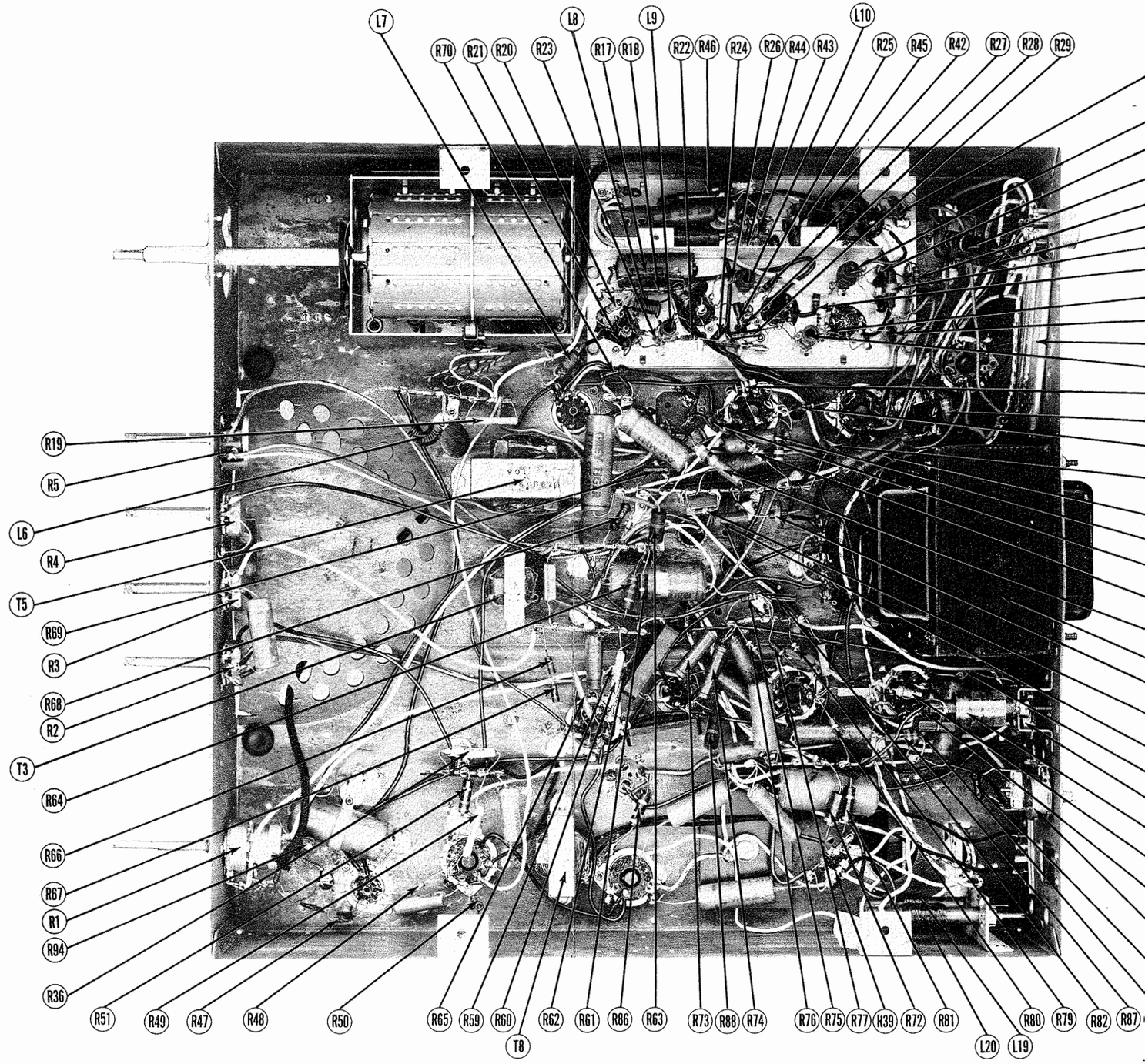
MANUFACTURER	Admiral Corp., 3800 W. Cortland St., Chicago (47), Illinois
TUBES	Twenty One (TV Chassis Only)
POWER SUPPLY	110 - 120 Volts AC - 60 Cycle RATING 1.65 Amp. @ 117 Volts AC (TV Operation)
TUNING RANGE	Channels 2 thru 13

FOR SERVICE INFORMATION ON: RADIO CHASSIS 3C1 - SEE PHOTOFACT FOLDER # 2 - SET #117.
RADIO CHASSIS 5D2 - SEE PHOTOFACT FOLDER # 2 - SET #118.

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

DATE 6-51 SET 135 FOLDER 2

ADMIRAL CHASSIS 21F1, 21G1, 21K1, 21L1, 21P1, 21Q1



CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

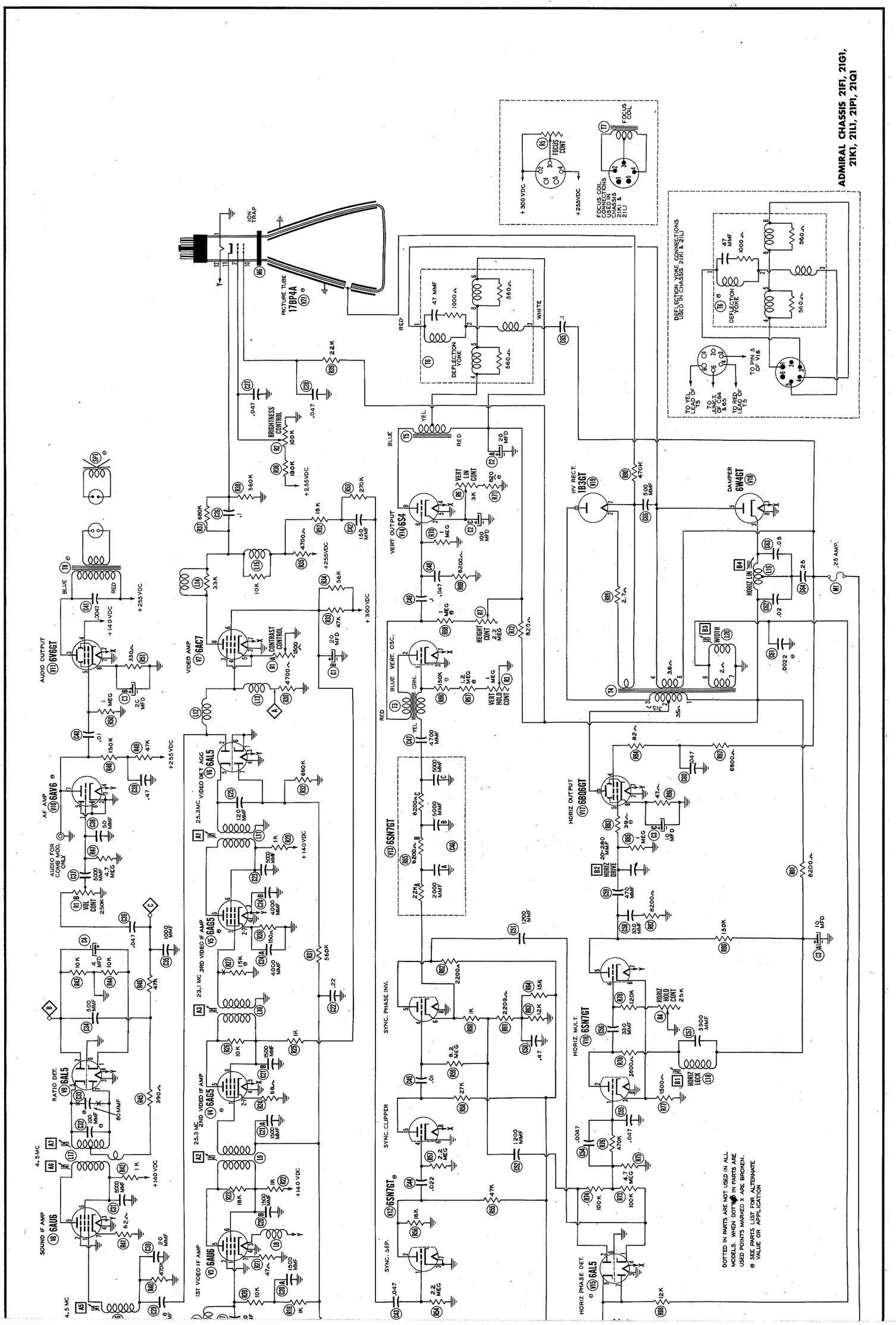
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

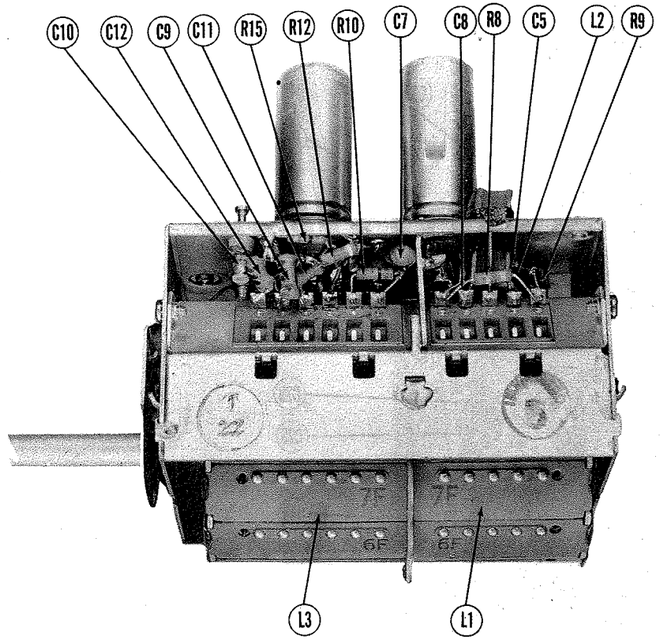
A PHOTOFACT STANDARD NOTATION SCHEMATIC

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

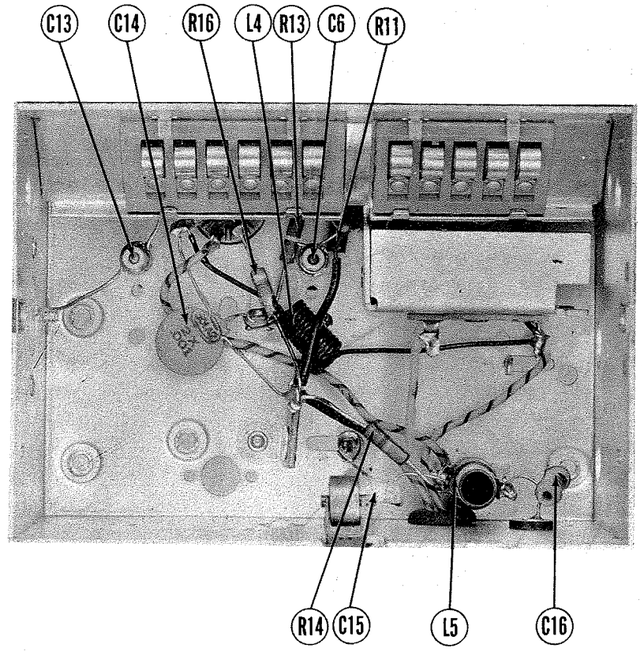
e SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

ADMIRAL CHASSIS 21F1, 21G1, 21K1, 21L1, 21P1, 21Q1

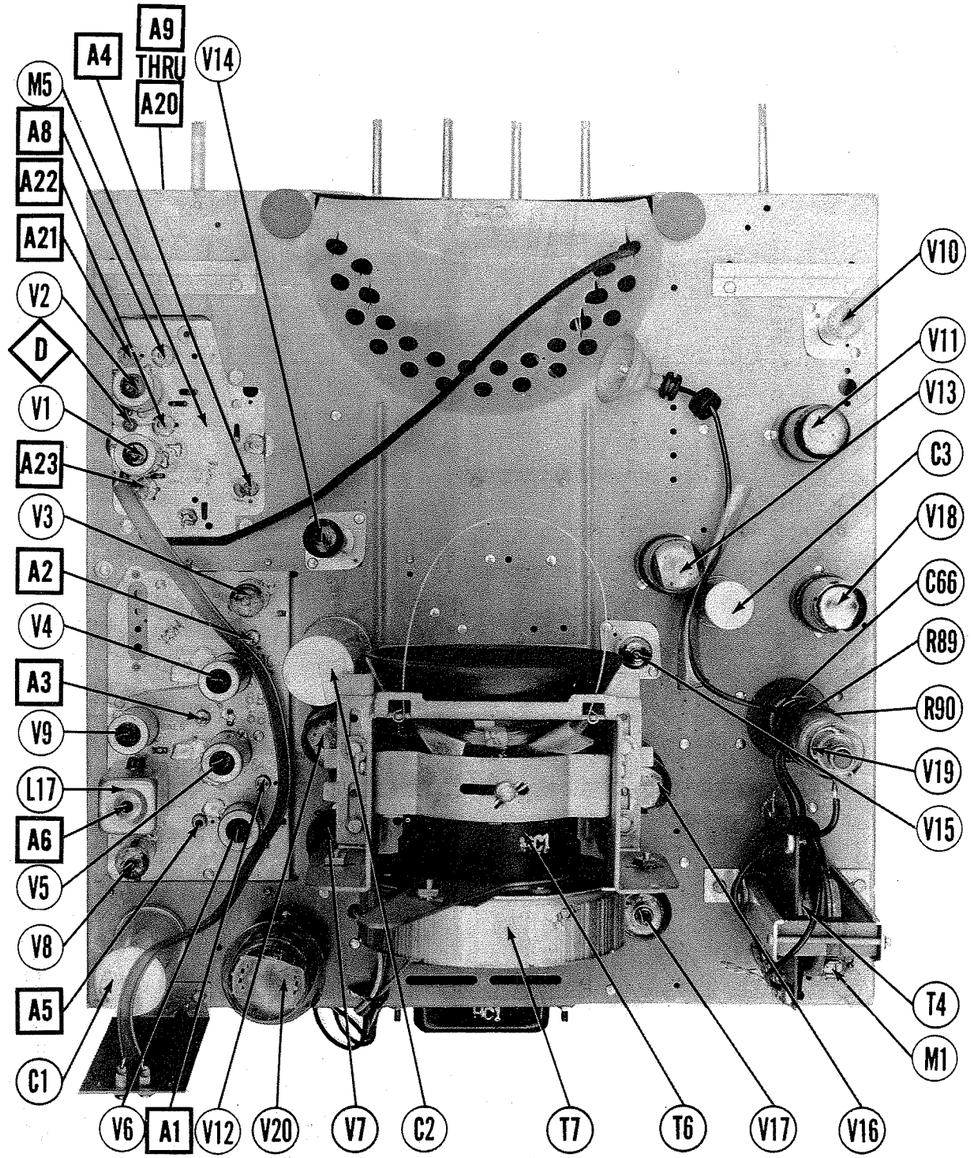




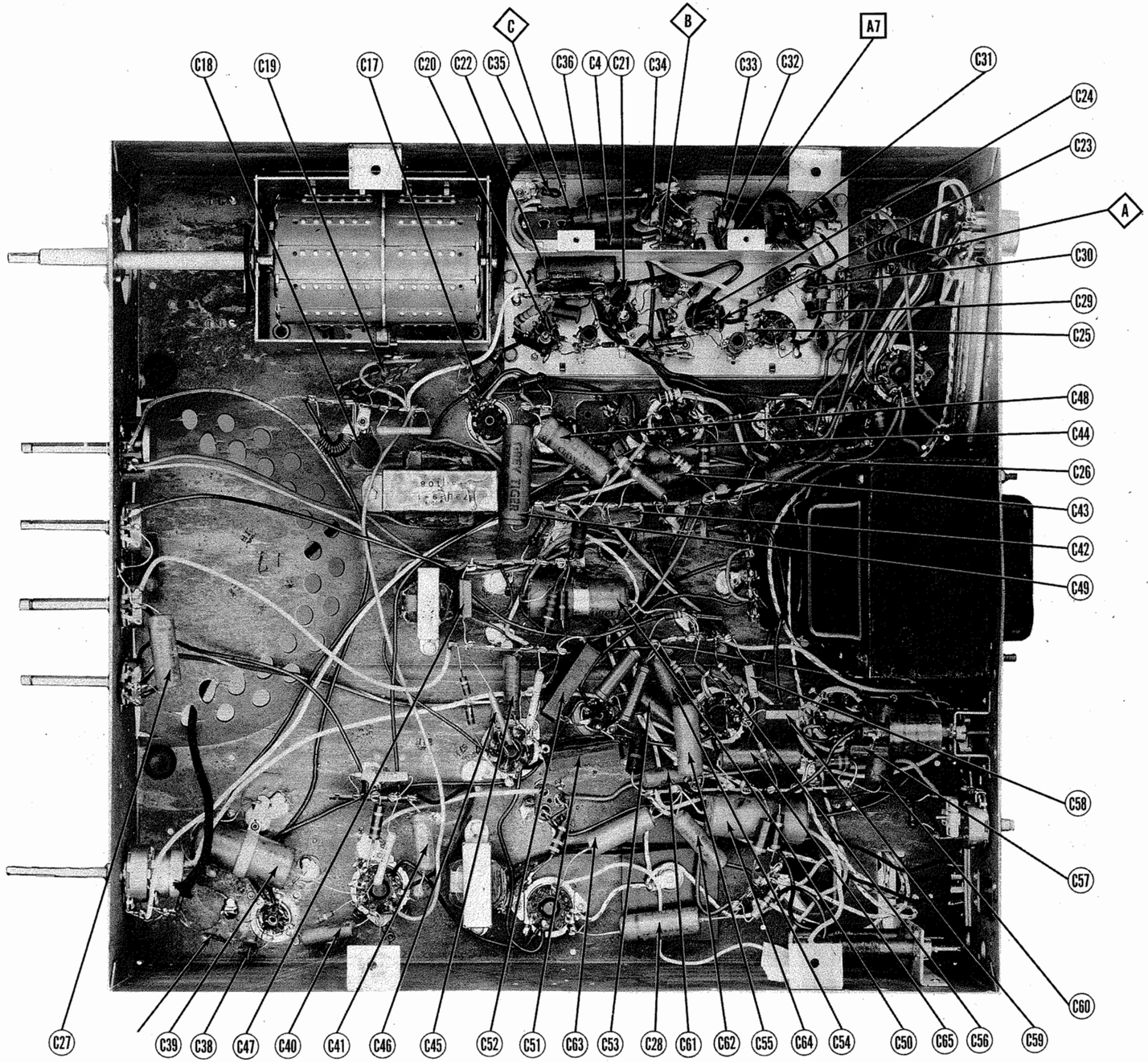
RF TUNER-RIGHT SIDE



RF TUNER-BOTTOM VIEW



CHASSIS TOP VIEW



CHASSIS BOTTOM VIEW-CAPACITOR AND ALIGNMENT IDENTIFICATION

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	6CB6	-.4VDC	0V§/	6.3VAC	0V	90VDC	90VDC	0V		
V 2	6J6	75VDC	70VDC	6.3VAC	0V	-1.2VDC	§-2.8VDC	0V		
V 3	6AU6	-.4VDC	0V	6.3VAC	0V	125VDC	125VDC	.2VDC		
V 4	6AG5	-.4VDC	.3VDC	6.3VAC	0V	115VDC	115VDC	.3VDC		
V 5	6AG5	0V	1.2VDC	6.3VAC	0V	125VDC	125VDC	1.2VDC		
V 6	6AL5	0V	-.4VDC	6.3VAC	0V	0V	0V	-1VDC		
V 7	6AC7	0V	0V	2.4VDC	-.4VDC	2.4VDC	130VDC	6.3VAC	255VDC	
V 8	6AU6	-.8VDC	0V	6.3VAC	0V	125VDC	125VDC	.8VDC		
V 9	6AL5	.3VDC	-.3VDC	0V	6.3VAC	0V	0V	0V		
V 10	6AV6	-.4VDC	0V	0V	6.3VAC	0V	0V	105VDC		
V 11	6V6GT	0V	6.3VAC	260VDC	140VDC	0V	220VDC	0V		
V 12	6SN7GT	-2.2VDC	28VDC	0V	-.9VDC	80VDC	0V	0V	6.3VAC	
V 13	6SN7GT	-10VDC -33VDC	240VDC 70VDC	0V	1 6VDC	130VDC	60VDC	6.3VAC	0V	
V 14	6S4	0V	6VDC 2.2VDC	0V	6.3VAC	0V	0V	0V	0V	400VDC 370VDC
V 15	6AL5	4.2VDC	-4.2VDC	0V	6.3VAC	.1VDC	0V	.1VDC		
V 16	6SN7GT	0V	305VDC	12VDC	-5.3VDC -6.2VDC	165VDC	12VDC	6.3VAC	0V	
V 17	6BQ6GT	-18VDC	0V	0V	170VDC	-18VDC	305VDC	6.3VAC	5.6VDC	TOP CAP *
V 18	6W4GT	0V	0V	415VDC	0V	260VDC	0V	6.3VAC	0V	
V 19	1B3GT	* DO NOT MEASURE								
V 20	5U4G	0V	300VDC	0V	300VAC	0V	300VAC	135VDC	300VDC	
V 21	17BP4A	0V	125VDC 0V	PIN 10 410VDC	PIN 11 105VDC	PIN 12 6.3VAC				

ALL MEASUREMENTS TAKEN WITH PICTURE TUBE REMOVED
FOCUS CONTROL FULLY COUNTER CLOCKWISE
§ TAKEN WITH VACUUM TUBE VOLTMETER
* DO NOT MEASURE

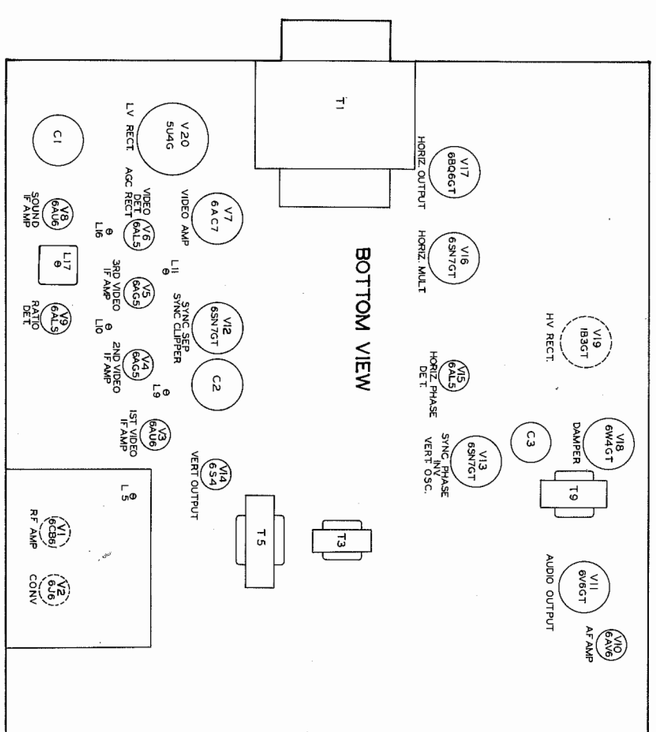
RESISTANCE READINGS

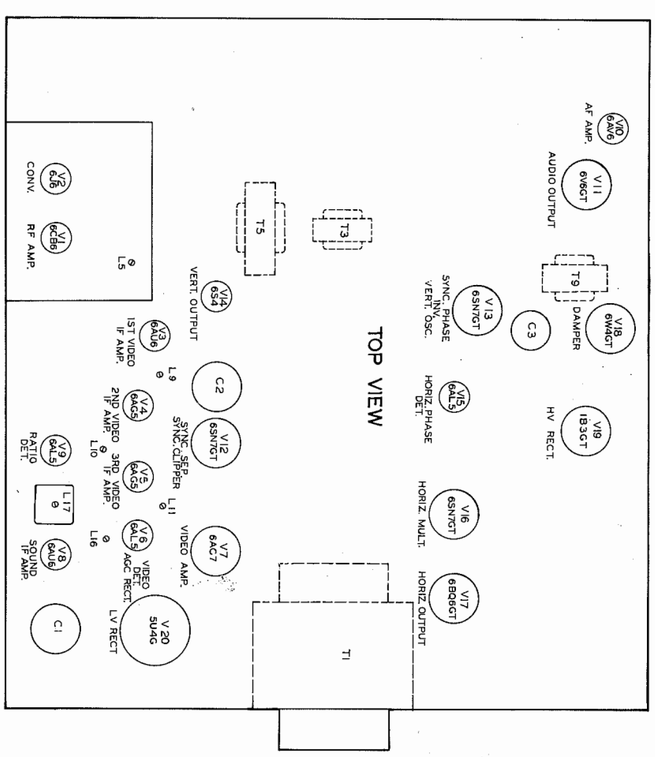
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6CB6	1.2Meg	0Ω	.1Ω	0Ω	†6.2KΩ	†6.2KΩ	0Ω		
V 2	6J6	†8.7KΩ	†19KΩ	.1Ω	0Ω	225KΩ	10KΩ	0Ω		
V 3	6AU6	1.2Meg	0Ω	.1Ω	0Ω	†4KΩ	†4KΩ	47Ω		
V 4	6AG5	1.2Meg	68Ω	.1Ω	0Ω	†25KΩ	†25KΩ	68Ω		
V 5	6AG5	.5Ω	150Ω	.1Ω	0Ω	†4KΩ	†4KΩ	150Ω		
V 6	6AL5	0Ω	4.7KΩ	.1Ω	0Ω	.5Ω	0Ω	680KΩ		
V 7	6AC7	0Ω	0Ω	1.5KΩ	4.7KΩ	1.5KΩ	†24KΩ	.1Ω	†5KΩ	
V 8	6AU6	470KΩ	0Ω	.1Ω	0Ω	†4KΩ	†4KΩ	82Ω		
V 9	6AL5	10KΩ	10KΩ	0Ω	.1Ω	Inf.	0Ω	Inf.		
V 10	6AV6	4.7Meg	0Ω	0Ω	.1Ω	0Ω	0Ω	†200KΩ		
V 11	6V6GT	Inf.	.1Ω	† 530Ω	†3KΩ	1Meg	†50KΩ	0Ω	330Ω	
V 12	6SN7GT	2.2Meg	†27KΩ	0Ω	2.2Meg	†30KΩ	0Ω	0Ω	.1Ω	
V 13	6SN7GT	1.3Meg 2.3Meg	#1Meg #3.5Meg	0Ω	8.2Meg	†5.2KΩ	12KΩ	.1Ω	0Ω	
V 14	6S4	Inf.	3.8KΩ 820Ω	1Meg	.1Ω	0Ω	1Meg	Inf.	Inf.	#2.2KΩ
V 15	6AL5	4.8Meg	4.8Meg	0Ω	.1Ω 120KΩ	12KΩ	0Ω	12KΩ		
V 16	6SN7GT	5.2Meg	#14KΩ	1.5KΩ	145KΩ	#160KΩ	1.5KΩ	.1Ω	0Ω	
V 17	6BQ6GT	1Meg	0Ω	Inf.	†7KΩ	1Meg	#14KΩ	.1Ω	47Ω	TOP CAP #55Ω
V 18	6W4GT	Inf.	Inf.	1Meg	Inf.	†275Ω	Inf.	.1Ω	0Ω	
V 19	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	TOP CAP #470Ω
V 20	5U4G	Inf.	25KΩ	Inf.	16Ω	Inf.	16Ω	†3KΩ	25KΩ	
V 21	17BP4A	0Ω	50KΩ 0Ω	PIN 10 #22KΩ	PIN 11 350KΩ	PIN 12 .1Ω				

ALL MEASUREMENTS TAKEN WITH PICTURE TUBE REMOVED
FOCUS CONTROL FULLY COUNTER CLOCKWISE
† MEASURED FROM PIN 2 OF V20
# MEASURED FROM PIN 3 OF V18

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

TUBE PLACEMENT CHART





ADMIRAL CHASSIS 21F1, 21G1,
21K1, 21L1, 21P1, 21Q1

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The end of the high voltage lead should be securely taped and kept away from the chassis. Do not remove the horizontal oscillator tube to disable the high voltage.

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.
Connect the negative lead of a 1 1/2 volt battery to the junction of R31 and C22. Connect the positive lead to chassis.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Direct	High side to an 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.	"	"	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 an ungrounded tube shield floating over dummy converter tube (V2). Low side to chassis.	24MC (10MC SWP)	21.25MC 22MC 24.3MC 25.75MC	Any	Vert. amp. to Point (A). Low side to chassis.		Check for response curve similar to figure 1. If necessary retouch A1 thru 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 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.	"	"	"	"	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 60% modulation and 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4.	.01MFD	High side to 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 figure 2.
5.	"	"	"	"	"	Vert. amp. to Point (C). Low side to chassis.	A7	Reconnect capacitor C4. Adjust A7 so 4.5MC occurs at center of crossover lines as per figure 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 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 well within the range of the fine tuning control it will be necessary to adjust the channel strip adjustment for each channel that is off frequency. The channel strip adjustments 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 channel switch 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 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	213MC (10MC SWP)	211.25MC 215.75MC	13	Vert. amp to Point (A). Low side to chassis.	A9	Adjust to place sound marker as shown in figure 4. The video marker should be at 50%.
			207MC (10MC SWP)	205.25MC 209.75MC	12		A10	
			201MC (10MC SWP)	199.25MC 203.75MC	11		A11	
			195MC (10MC SWP)	193.25MC 197.75MC	10		A12	
			189MC (10MC SWP)	187.25MC 191.75MC	9		A13	
			183MC (10MC SWP)	181.25MC 185.75MC	8		A14	
			177MC (10MC SWP)	175.25MC 179.75MC	7		A15	
			85MC (10MC SWP)	83.25MC 87.75MC	6		A16	
			79MC (10MC SWP)	77.25MC 81.75MC	5		A17	
			69MC (10MC SWP)	67.25MC 71.75MC	4		A18	
			63MC (10MC SWP)	61.25MC 65.75MC	3		A19	
			57MC (10MC SWP)	55.25MC 59.75MC	2		A20	

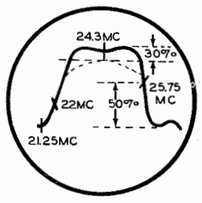


FIG. 1

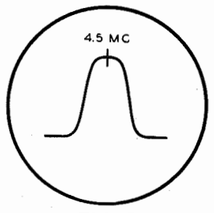


FIG. 2

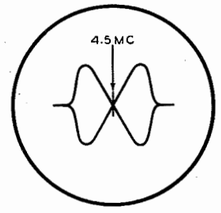


FIG. 3

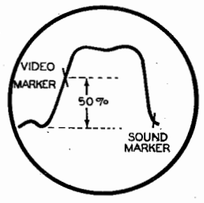


FIG. 4

ALIGNMENT INSTRUCTIONS (CONT.)

RF AND MIXER ALIGNMENT

	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. thru 10KΩ to Point (D). Low side to chassis.	A21, A22, A23	Adjust for response curve similar to figure 5 with markers above 90%.
8.	"	"	213MC (10MC SWP)	211.25MC 215.75MC	13	"		Check all channels for response similar to figure 5. If markers fall below 70% on any channel make slight adjustments of A21, A22 and A23 with channel switch set for that channel. Recheck all channels to see that they have not been seriously effected.
			201MC (10MC SWP)	199.25MC 203.75MC	11			
			195MC (10MC SWP)	193.25MC 197.75MC	10			
			189MC (10MC SWP)	187.25MC 191.75MC	9			
			183MC (10MC SWP)	181.25MC 185.75MC	8			
			177MC (10MC SWP)	175.25MC 179.75MC	7			
			85MC (10MC SWP)	83.25MC 87.75MC	6			
			79MC (10MC SWP)	77.25MC 81.75MC	5			
			69MC (10MC SWP)	67.25MC 71.75MC	4			
			63MC (10MC SWP)	61.25MC 65.75MC	3			
			57MC (10MC SWP)	55.25MC 59.75MC	2			

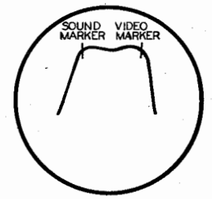
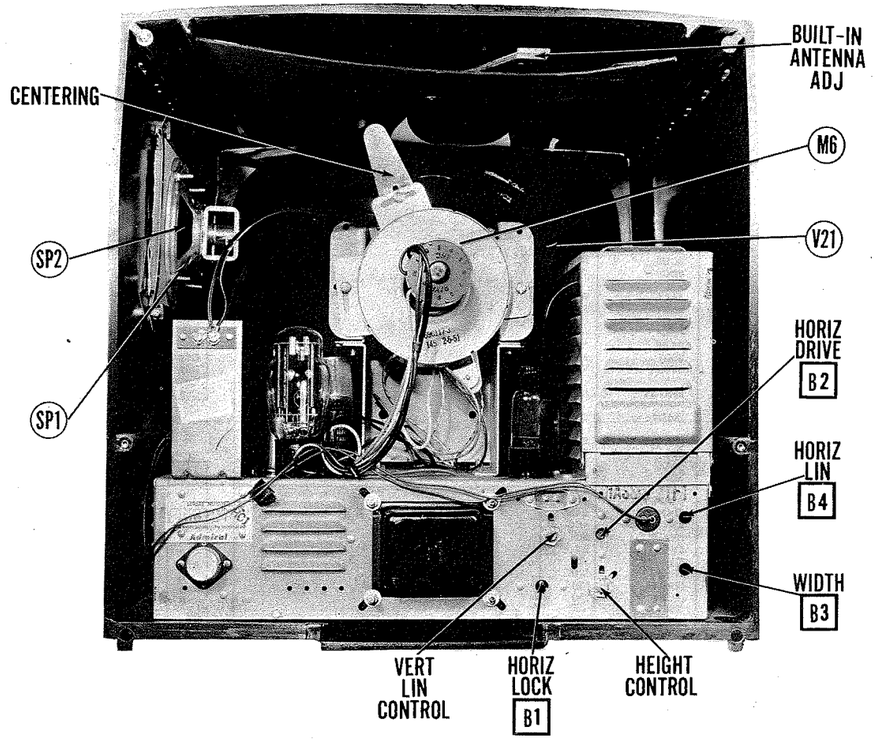


FIG.5



CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

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

Turn the hold control to fully counter-clockwise. If the picture falls out of sync, adjust the horizontal lock slug (B1) until the picture synchronizes.

Slowly turn B1 counter-clockwise until the picture just falls out of sync, and the clockwise to the point where the picture just falls into sync.

The picture should now fall into sync after momentary interruption of the signal, over at least half of the hold control range.

Adjust the horizontal drive trimmer, (B2), counter-clockwise as far as possible without bright vertical lines appearing in the picture.

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. Slight readjustment of B2 may be required for optimum results.

DISASSEMBLY INSTRUCTIONS

1. Remove four push-on type control knobs.
2. Remove four wood screws and two hex head screws from rear cover. Remove rear cover.
3. Disconnect speaker.
4. Remove four hex nuts from speaker. Remove speaker.
5. Remove four hex head bolts from chassis. Remove chassis.

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

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA ADMIRAL PART No.	REPLACEMENT DATA MEISSNER PART No.	NOTES
L1	Ant. Coil	0Ω	0Ω			Refer to Misc. Section for Part Number
L2	Fil. Choke	0Ω		98A45-13		
L3	RF, Mixer Grid and Osc. Coils	0Ω				Refer to Misc. Section For Part Number
L4	Fil. Choke	0Ω		98A45-14		
L5	1st Video IF	1Ω		98A45-77		
L6	Fil. Choke	0Ω		73A2-5		
L7	Adj. Channel Sound Trap	0Ω		72A102		Includes C17
L8	Fil. Choke	0Ω		73A2-5		
L9	2nd Video IF	.5Ω	.5Ω	72C96-6		Includes R22, R23 and C21
L10	3rd Video IF	.5Ω	.5Ω	72C96-7		Includes R26
L11	4th Video IF	.5Ω	.5Ω	72C96-8		Includes C25
L12	Peaking	7.5Ω		73A5-12		Red Dot
L13	Peaking	17Ω		73A5-7		Yellow Dot
L14	Peaking	8Ω		73A5-13		Wound on 33KΩ Resistor
L15	Peaking	8.5Ω		73A5-9		Wound on 10KΩ Resistor
L16	Sound IF	5Ω		72B99-1		Includes R40, C29 and C30
L17	Ratio Det. Trans.	3.7Ω	.3Ω	72B68		
L18	Horiz. Lock Coil	55Ω		94A17		Includes R78 and C57
L19	Horiz. Lin.	19Ω		94A28		Tap at 7Ω
L20	Width Coil	8.5Ω		94A29-1		

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA ADMIRAL PART No. FUSE	ADMIRAL PART No. HOLDER	LITTELFUSE PART No. FUSE	LITTELFUSE PART No. HOLDER	REMARKS
M1	8AG	.250	84A4-2	84A5-1	362.250	387001	

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA ADMIRAL PART No.		NOTES
M2	Bayonet	6-8	.15	Brown	81A1-8		Type #47 (Not used in all models)
M3	Bayonet	117VAC			81A2-4		Phono Compartment Light (Not used in all models)

MISCELLANEOUS

ITEM No.	PART NAME	ADMIRAL PART No.	NOTES
M4	Switch	77A29	Dial Light (Not used in all models)
M5	RF Tuner	94C18-4	Complete
M6	Ion Trap	94A15-2	
B2	Trimmer	66A30-1	Horizontal Drive (20-280MMF)
	Antenna Coil	98A62-2	Channel 2
		98A62-3	Channel 3
		98A62-4	Channel 4
		98A62-5	Channel 5
		98A62-6	Channel 6
		98A62-7	Channel 7
		98A62-8	Channel 8
		98A62-9	Channel 9
		98A62-10	Channel 10
		98A62-11	Channel 11
		98A62-12	Channel 12
		98A62-13	Channel 13
	RF, Mixer Grid and Osc. Coils	98A63-2	Channel 2
		98A63-3	Channel 3
		98A63-4	Channel 4
		98A63-5	Channel 5
		98A63-6	Channel 6
		98A63-7	Channel 7
		98A63-8	Channel 8
		98A63-9	Channel 9
		98A63-10	Channel 10
		98A63-11	Channel 11
		98A63-12	Channel 12
		98A63-13	Channel 13
	Safety Glass	23D83	Plastic (Models 17K11, 17K12)
	Safety Glass	23D73	Plastic (Model 27K12)
	Safety Glass	23E76	Plastic (Model 221K16A)
	Safety Glass	21B49-1	Glass (Models 221K16, 221K26, 221K28, 221K35, 221K36, 321K15, 321K16, 321K18, 321K27, 321K35, 321K36, 321K46, 321K47, 321K49)
	Safety Glass	23D84-2	Plastic (Use with 21P1, 21Q1 Chassis)(17CP4 Metal Tube) Where Model Numbers Do Not Use Suffix "A" Or "B"
	Safety Glass	23D84-1	Plastic (Use with 21F1, 21G1 Chassis) Where Model Numbers Do Not Use Suffix "A" Or "B")
	Safety Glass	23E72-1	Plastic (Use with 17 Inch Sets With Model Numbers Having Suffix "A")
	Safety Glass	21B49-3	Plastic (Use with 17 Inch Sets With Model Numbers Having Suffix "B")
	Knob	33C53-9	Channel Selector (Maroon)
	Knob	33C53-13	Channel Selector (Ebony)
	Knob	33C53-10	Fine Tuning (Maroon)
	Knob	33C53-14	Fine Tuning (Ebony)
	Knob	33C53-12	Contrast (Maroon)
	Knob	33C53-16	Contrast (Ebony)
	Knob	33C53-11	Volume (Maroon)
	Knob	33C53-15	Volume (Ebony)

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: ADMIRAL PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	NOTES
V1A	RF Amplifier	6CB6	6CB6	6CK	
B	RF Amplifier	6BC5	6BC5	7BD	
C	RF Amplifier	6AG5	6AG5	7BD	
V2	Converter	6J6	6J6	7BF	
V3	1st Video IF Amp.	6AU6	6AU6	7BK	
V4A	2nd Video IF Amp.	6AG5	6AG5	7BD	
B	2nd Video IF Amp.	6AU6	6AU6	7BK	
C	2nd Video IF Amp.	6CB6	6CB6	6CK	
D	2nd Video IF Amp.	6BC5	6BC5	7BD	
V5A	3rd Video IF Amp.	6AG5	6AG5	7BD	
B	3rd Video IF Amp.	6AU6	6AU6	7BK	
C	3rd Video IF Amp.	6CB6	6CB6	6CK	
D	3rd Video IF Amp.	6BC5	6BC5	7BD	
V6	Video Detector - AGC Rectifier	6AL5	6AL5	6BT	
V7	Video Amplifier	6AC7	6AC7	8N	
V8	Sound IF Amp.	6AU6	6AU6	6BK	
V9	Ratio Detector	6AL5	6AL5	6BT	
V10A	AF Amplifier	6AV6	6AV6	7BT	
B	AF Amplifier	6SQ7	6SQ7	8Q	
V11	Audio Output	6V6GT	6V6GT	7AC	
V12A	Sync. Separator - Sync. Clipper	6SN7GT	6SN7GT	8BD	
B	Sync. Separator - Sync. Clipper	12AU7	12AU7	9A	
V13	Sync. Phase Inv. - Vert. Oscillator	6SN7GT	6SN7GT	8BD	
V14	Vert. Output	6S4	6S4	9AC	
V15A	Horiz. Phase Det.	6AL5	6AL5	6BT	
B	Horiz. Phase Det.	6H6	6H6	7Q	
C	Horiz. Phase Det.	12H6	12H6	7Q	
V16	Horiz. Mult.	6SN7GT	6SN7GT	8BD	
V17	Horiz. Output	6BQ6GT	6BQ6GT	6AM	
V18	Damper	6W4GT	6W4GT	4CG	
V19	H. V. Rectifier	1B3GT	1B3GT	3C	
V20	L. V. Rectifier	5U4G	5U4G	5T	
V21A	Picture Tube	17BP4A	17BP4A	12D	
B	Picture Tube	17BP4	17BP4	12D	
C	Picture Tube	17RP4	17RP4	12D	
D	Picture Tube	17CP4	17CP4	12D	
E	Picture Tube	20CP4	20CP4	12D	
F	Picture Tube	20RP4	20RP4	12D	

CAPACITORS

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

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: ADMIRAL PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C1A	60	450	67C15-17	AFH12144H		UPT62245		{TVL-3782 {TVA-1608	▲ Filter ■ Filter
B	20	350							▲ Filter
C	20	350							▲ Filter
C2A	20	450	67C15-18	AFH4J16H		UPT317		{TVL-2730 {TVA-1310	▲ Decoupling ■ Filter
B	80	350		20B					▲ Vert. Output Cathode
C	100	50							■ Decoupling
C3A	10	450	67C15-19	AFH22J4A		{UP1045C {BR102A		TVL-3737	▲ Output Cathode
B	20	25							Horiz. Output Cathode
C	10	25							
C4	4	50	67A4-9	PRS150/4		BBR4-50T		TVA-1303	Stabilizing Cap
C5	3-9		98A45-96						Variable Trimmer
C6	.5-3		98A45-23		829-3				Variable Trimmer
C7	120		98A45-25	SII20	D6-121		GP2K-120	19C29	RF Amp. Dec.
C8	1000		98A45-24	BPD-001	DD-102		801-001	19C1	RF Amp. Fil.
C9	100		98A45-26	SII00N750	TCN-100		N750L-100	29C16	RF Coupling
C10	.5-3		98A45-23		829-3				Variable Trimmer
C11	20		98A45-27	SI20NPO	TCZ-20		NPOK-20		Osc. Grid Cap
C12	10		98A45-79	SI0N750	TCN-10		N750K-10	19C4	Fixed Trimmer
C13	.5-3		98A45-23		829-3				Variable Trimmer
C14A	1000		98A45-93	BPD-2X001	DD-2-102		812-2X001	29C7	RF Bypass
B	1000								Conv. Fil. Bypass
C15	10		98A45-64	SII0NPO	TCZ-10		NPOK-10	19C3	Fixed Trimmer
C16	120		98A45-78	SII20	D6-121		GP2K-120	19C29	IF Coupling
C17	120		65B11-10		TCZ-120		NPOM-120		Fixed Trimmer
C18A	4000		65A17-1	BPD-2X004	DD-2-502	1D5D4	822-2X004	36C2	RF Bypass
B	4000					1D5D4			Filament Bypass
C19	1000		65B6-41	BPD-001	DD-102	1W5D1	801-001	19C1	AGC Filter
C20A	1500		65A17-2	BPD-2X0015	DD-2-152	1W5D15	812-2X0015	29C6	AGC Filter
B	1500					1W5D15			1st V. IF Dec.
C21A	1500		65A17-2	BPD-2X0015	DD-2-152	1W5D15	812-2X0015	29C6	AGC Filter
B	1500					1W5D15			2nd V. IF Dec.
C22	.22	200	64B8-37	P488-22		GT2P25		2TM-P22	AGC Filter
C23	5000		65A10-1	BPD-005	DD-502	1D5D5	811-005	29C1	3rd V. IF Dec.
C24A	4000		65A17-1	BPD-2X004	DD-2-502	1D5D4	822-2X004	36C2	3rd V. IF Cathode
B	4000					1D5D4			3rd V. IF Fil.
C25	120		65B6-66	SII20	D6-121	5W5T15	GP2K-120	19C29	IF Coupling
C26	.1	400	64B5-20	P488-1	DF-104	PTE4P1		4TM-P1	Video Coupling
C27	.047*	400	64B9-28	P488-047	DF-503	PTE6S5		4TM-S47	Pic. Tube Grid
C28	.047	600	64B8-9	P688-047	DF-503	PTE6S5		6TM-S47	Pic. Tube Accel. Anode
C29	6.8		65B6-71	SI6.8NPO	TCZ-6.8		NPOK-6.8		S. IF Coupling
C30	20		65B6-51	SI20NPO	TCZ-20	5R5Q2	NPOK-20	MS-42	Fixed Trimmer
C31	5000		65A10-1	BPD-005	DD-502	1D5D5	811-005	29C1	S. IF Dec.
C32	100			SI100NPO	TCZ-100		NPOM-100	36C10	Fixed Trimmer ‡
C33	80						N150L-80		Fixed Trimmer ‡
C34	500		65B6-6	SI500	D6-501	5W5T5	GP2K-500	19C32	Diode Load Cap
C35	1000		65B6-41	SII000	D6-102	1W5D1	GP2L-001	19C1	De-emphasis
C36	.047	200	64B9-41	P288-047	DF-503	PTE4S5		2TM-S47	Audio Coupling
C37	5000		65A10-1	BPD-005	DD-502	1D5D5	811-005	29C1	Audio Coupling
C38	50		65B6-4	SI50	D6-500	5W5Q5	GP1K-50	19C28	AF Amp. Grid
C39	.47	400	64B8-72	484-5		GT4P5		4TM-P5	AF Amp. Dec.
C40	.01	400	64B5-25	P488-01	D6-103	PTE4S1	821-01	4TM-S1	Audio Coupling
C41	.0047	600	64B5-12	P688-0047	D6-472	PTE6D5	GP2M-0047	6TM-D47	Output Plate
C42	150	500	65B21-151	1468-00015	D6-151	5W5T15	GP2K-150	1FM-315	Sync. Coupling
C43	.047	400	64B9-28	P488-047	DF-503	PTE4S5		4TM-S47	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	821-01	4TM-S1	Sync. Coupling

CAPACITORS (CONT.)

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: ADMIRAL PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C46A	2000		† 63A3-1	{ P688-002	†	PTE6D2	GP2M-002	6TM-D2	Integrator Net
B	5000			{ P688-005	PC-100	PTE6D5	811-005	6TM-D5	Integrator Net
C	5000			{ P688-005		PTE6D5	811-005	6TM-D5	Integrator Net
C47	4700	500	65B21-472	1467-005	D6-472	1D5D5	GP2M-0047	6TM-25	Vert. Osc. Grid
C48	.047	600	64B8-9	P688-047		PTE6S5		6TM-S47	Vert. Discharge
C49	.1	600	64B5-5	P688-1	DF-104	PTE6P1		6TM-P1	Vert. Sweep Coupling
C50	.47	200	64B9-85	P288-47		GT2P5		2TM-P47	Decoupling
C51	1200	500	65B21-102	SII200	D6-122		GP2L-0012		Horiz. Sync. Coupling
C52	1200	500	65B21-102	SII200	D6-122		GP2L-0012		Horiz. Sync. Coupling
C53	.01	400	64B5-25	P488-01	D6-103	PTE4S1	821-01	4TM-S1	AFC Filter
C54	.0047	600	64B5-12	P688-0047	D6-472	PTE6D5	GP2M-0047	6TM-D47	AFC Filter
C55	.047	400	64B9-28	P488-047	DF-503	PTE4S5		4TM-S47	AFC Filter
C56	330	500	65B21-331	1468-00035	D6-331	5W5T3	GP2K-330	19C14	Horiz. MV Feedback
C57	3900	500	65B1-63	1464-004		1DR5D4		MS-24	Fixed Trimmer
C58	330	500	65B21-331	SI330	D6-331	5R5T3	GP2K-330	19C14	Horiz. Discharge
C59	470	500	65B21-471	1468-0005	D6-471	5W5T5	GP2K-470	1FM-35	Horiz. Sweep Coupling
C60	.047	600	64B5-7	P688-047	DF-503	PTE6S5		6TM-S47	Horiz. Output Screen
C61	.0022	600	64B9-11	P688-0022	D6-222	PTE6D2	GP2M-0022	6TM-D22	Fixed Trimmer *
C62	.02	400	64A2-9	P488-02	DF-203	PTE4S2		4TM-S2	Damper Filter
C63	.05	200	64A2-8	P288-05	DF-503	PTE4S5		2TM-S5	Damper Filter
C64	.25	600	64B5-3	684-25		GT6P25		6TM-P25	Damper Filter
C65	.1	400	64A2-10	P488-1	DF-104	PTE4P1		4TM-P1	Horiz. Sweep Coupling
C66	500	20000	65B18-5	HV20C	TV3-502				H. V. Filter

* Some models use .0047MFD in this application.
† Items C46A, C46B, C46C, R65A, R65B and R65C are combined into one unit.
‡ Some models use 180MMF capacitor in place of C32 and C33.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ADMIRAL PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	INSTALLATION NOTES
R1A	1500Ω		75B11-16		RTV-214	SBB-580-S	Contrast Control - Front
B	250KΩ						Volume Control And SW - Rear
R2A	100KΩ		75B13-12	Q11-128	AG-49-S	AN-40	Brightness Control
B	Shaft		Not req.	Not req.	RS-2	AK-4	Attach to R2A Per Instructions
R3A	1Meg		75B13-14	Q11-137	AG-61-S	AN-69	Vertical Hold Control
B	Shaft		Not req.	Not req.	RS-2	AK-4	Attach to R3A Per Instructions
R4A	25KΩ		75B13-13	Q11-120	AG-40-S	AN-26	Horizontal Hold Control
B	Shaft		Not req.	Not req.	RS-2	AK-4	Attach to R4A Per Instructions
R5	750Ω	2	75B13-16				Focus Control - Wire Wound
R6A	300Ω		75B13-7	Q11-112	AG-15-S	B-8	Vertical Linearity Control
B	Shaft		Not req.	Not req.	FKS-1/4	Not req.	Attach to R6A Per Instructions
R7A	2.5Meg		75B13-3	Q11-239	AG-84-S	AN-83	Height Control
B	Shaft		Not req.	Not req.	FKS-1/4	AK-1	Attach to R7A Per Instructions

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ADMIRAL PART No.	IRC PART No.	IDENTIFICATION CODES ALL RESISTORS ± 10% UNLESS OTHERWISE SPECIFIED
R8	3900Ω		98A45-16	BTS-3900	Antenna Coil Shunt
R9	47KΩ 20%		98A45-17	BTS-47K	AGC Network
R10	10KΩ 20%		98A45-18	BTS-10K	RF Coil Shunt
R11	2200Ω 20%		98A45-19	BTS-2200	RF Amp. Decoupling
R12	4700Ω		98A45-20	BTS-4700	Mixer Grid
R13	220KΩ 20%		98A45-21	BTS-220K	Mixer Grid
R14	15KΩ 20%		98A45-67	BTS-15K	Mixer Plate
R15	10KΩ		98A45-18	BTS-10K	Osc. Grid
R16	4700Ω		98A45-20	BTS-4700	Osc. Plate
R17	1000Ω		60B8-102	BTS-1000	AGC Network
R18	1000Ω		60B8-102	BTS-1000	AGC Network
R19	1000Ω		60B8-102	BTS-1000	Decoupling
R20	10KΩ 5%		60B7-103		1st Video IF Amp. Grid
R21	47Ω		60B28-45		1st Video IF Amp. Cathode
R22	1000Ω		60B8-102	BTS-1000	1st Video IF Amp. Decoupling
R23	18KΩ		60B8-183	BTS-18K	2nd Video IF Transformer Shunt
R24	68Ω 20%		60B28-44		2nd Video IF Amp. Cathode
R25	1000Ω		60B8-102	BTS-1000	2nd Video IF Amp. Decoupling
R26	10KΩ 5%		60B7-103		3rd Video IF Transformer Primary Shunt
R27	15KΩ		60B8-153		3rd Video IF Transformer Secondary Shunt - See Note 1
R28	150Ω		60B8-151	BTS-150	3rd Video IF Amp. Cathode
R29	1000Ω		60B8-102	BTS-1000	3rd Video IF Amp. Decoupling
R30	4700Ω 5%		60B7-472	BTS-4700-5%	Video Det. Diode Load
R31	560KΩ 20%		60B8-564	BTS-560K	AGC Network
R32	680KΩ		60B8-684	BTS-680K	AGC Network
R33	47KΩ	2	60B20-473	BTB-47K	Video Amp. Screen
R34	56KΩ	2	60B20-563	BTB-56K	Video Amp. Screen
R35	4700Ω	2	60B20-472	BTB-4700	Video Amp. Plate
R36	100KΩ		60B8-104	BTS-100K	Voltage Divider
R37	680KΩ		60B8-684	BTS-680K	Isolation
R38	560KΩ		60B8-564	BTS-560K	Picture Tube Cathod
R39	22KΩ		60B8-223	BTS-22K	Acc. Anode Load
R40	470KΩ		60B8-474	BTS-470K	Sound IF Amp. Grid
R41	82Ω	1	60B28-31		Sound IF Amp. Cathode
R42	1000Ω		60B8-102	BTS-1000	Decoupling
R43	10KΩ 5%		60B7-103	BTS-10K-5%	Ratio Det. Diode Load
R44	10KΩ 5%		60B7-103	BTS-10K-5%	Ratio Det. Diode Load
R45	390Ω		60B8-391	BTS-390	Balancing
R46	47KΩ		60B8-473	BTS-47K	De-emphasis
R47	4.7Meg		60B8-475	BTS-4.7Meg	AF Amp. Grid
R48	150KΩ		60B8-154	BTS-150K	AF Amp. Plate
R49	47KΩ		60B8-473	BTS-47K	AF Amp. Plate Decoupling
R50	1Meg		60B8-105	BTS-1Meg	Output Grid
R51	330Ω	1	60B14-331	BTA-330	Output Cathode
R52	18KΩ		60B8-183	BTS-18K	Isolation
R53	270KΩ		60B8-274	BTS-270K	Isolation
R54	2.2Meg		60B8-225	BTS-2.2Meg	Sync. Sep. Grid
R55	47KΩ	1	60B14-473	BTA-47K	Sync. Sep. Plate
R56	18KΩ		60B8-183	BTS-18K	Voltage Divider
R57	2.2Meg		60B8-225	BTS-2.2Meg	Sync. Clipper Grid
R58	27KΩ	2	60B20-273	BTB-27K	Sync. Clipper Plate
R59	8.2Meg		60B8-825	BTS-8.2Meg	Sync. Phase Inv. Grid
R60	1000Ω		60B8-102	BTS-1000	Sync. Phase Inv. Cathode
R61	2200Ω 5%	1	60B8-222	BTA-2200-5%	Sync. Phase Inv. Cathode
R62	2200Ω 5%	½	60B8-222	BTS-2200-5%	Sync. Phase Inv. Plate
R63	12KΩ 20%	2	60B20-123	BTB-12K	Voltage Divider
R64	15KΩ	1	60B14-153	BTA-15K	Voltage Divider

RESISTORS (CONT.)

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ADMIRAL PART No.	IRC PART No.	IDENTIFICATION CODES
R65A	22KΩ	½	†63A3-1	BTS-22K	Integrator
B	8200Ω	½		BTS-8200	Integrator
C	8200Ω	½		BTS-8200	Integrator
R66	150KΩ 20%	½	60B8-154	BTS-150K	Vert. Osc. Grid - See Note 1
R67	1.2Meg 20%	½	60B8-125	BTS-1.2Meg	Vertical Osc. Grid - See Note 2
R68	1Meg	½	60B8-105	BTS-1Meg	Vertical Osc. Plate - See Note 3
R69	8200Ω	½	60B8-822	BTS-8200	Vertical Peaking
R70	1Meg	½	60B8-105	BTS-1Meg	Vertical Output Grid
R71	820Ω	½	60B8-821	BTS-820	Vertical Output Cathode - See Note 4
R72	820Ω	2	60B20-821	BTB-820	Decoupling
R73	100KΩ 5%	½	60B7-104	BTS-100K-5%	Horizontal Phase Det. Diode Load
R74	100KΩ 5%	½	60B7-104	BTS-100K-5%	Horizontal Phase Det. Diode Load
R75	4.7Meg 20%	½	60B8-475	BTS-4.7Meg	Horizontal Phase Det. Diode Load
R76	470KΩ 20%	½	60B8-474	BTS-470K	Horizontal AFC Filter
R77	1500Ω	½	60B8-152	BTS-1500	Horizontal MV Cathode
R78	5600Ω	½	60B8-562	BTS-5600	Horizontal MV Plate
R79	120KΩ	½	60B8-124	BTS-120K	Horizontal MV Grid
R80	150KΩ 20%	½	60B8-154	BTS-150K	Horizontal MV Plate
R81	8200Ω	½	60B14-822	BTA-8200	Horizontal MV Decoupling
R82	8200Ω	½	60B8-822	BTS-8200	Horizontal Peaking
R83	39Ω	½			Parasitic Suppressor - See Note 5
R84	82Ω	½	60B28-31	BTS-82	Parasitic Suppressor
R85	1Meg	½	60B8-105	BTS-1Meg	Horizontal Output Grid
R86	47Ω	1	60B28-45	BW-1-47	Horizontal Output Cathode
R87	6800Ω	2	60B20-682	BTB-6800	Horizontal Output Screen
R88	12KΩ 20%	2	60B20-123	BTB-12K	Horizontal Feedback
R89	2.7Ω	½	60B28-47	BW-½-2.7	HV Rectifier Filament - Wire Wound
R90	470KΩ	1	60B28-43	BTA-470K	HV Filter
R91	3000Ω	15	61A3-14	2D-3000	Voltage Divider
R92A	2725Ω	2½	61A5-8		Voltage Divider - Wire Wound - See Note 7
B	2650Ω	10			Voltage Divider - Wire Wound - See Note 7
R93	4.7Ω	½	60B28-11	BW-½-4.7	Series Pilot Light - Wire Wound - See Note 1
R94	350KΩ	1		BTA-330K	Isolation - See Note 6

† Items R65A, R65B, R65C, C46A, C46B and C46C are combined into one unit.
Note 1. Not used in all models.
Note 2. Some models use 1.5 meg resistor in this application.
Note 3. Some models use 2.4 meg resistor in this application.
Note 4. Some models use 680Ω resistor in this application.
Note 5. Some models use 68Ω resistor in this application.
Note 6. Some models use 270KΩ resistor in this application.
Note 7. Used only in chassis 21G1, 21L1, and 21Q1.

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	RATING: SEC. 3	REPLACEMENT DATA: ADMIRAL PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	117VAC ⓖ1.65A	580VCT .225ADC	5VAC ⓖ 3A	6.3VAC ⓖ 9A	80C26-1			

TRANSFORMER (FILAMENT)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	RATING: SEC. 3	REPLACEMENT DATA: ADMIRAL PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T2	6.3VAC	12.6VAC			80B-32 ⑤			

⑤ Used only in when tube V15 is 12H6.

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING: DC RESISTANCE PRI.	RATING: DC RESISTANCE SEC.	REPLACEMENT DATA: ADMIRAL PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	NOTES
T3	200Ω	1100Ω	79A18-2	A-8111 ⑥	A-3000 ⑥	TB0-1	Vertical Block Osc. Trans.
T4	350Ω	2Ω	79C30-2		HV0-6 ⑧		Horizontal Output Trans.
	Tap 35Ω	SEC. 2 3.6Ω					
		SEC. 3 0Ω					
T5	1.3KΩ		79B29-1	A-8123	A-3037	TS0-1 ⑥	Vertical Output Trans.
	Tap 13Ω						
T6A	10Ω		A-3222	DY-7	MDF-70		Horizontal Deflection Coil
B	46.5Ω		A-3412 ⑦				Vertical Deflection Coil
T7	270Ω		69C117-3				Focus Coil
	Tap 173Ω						

⑥ Drill one new mounting hole.
⑦ Used with 20" picture tubes.
⑧ Use MWC-1 for acc. winding.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: ADMIRAL PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	INSTALLATION NOTES
T8	4.2KΩ	3Ω	260Ω	2.8Ω	79C33-1 ⑤	A-3877 ⑥	A-2930	R0-9 ⑥	⑤ Used in chassis 21G1, 21Q1, 21L1 ⑥ Drill one new mounting hole.

SPEAKER

ITEM No.	RATINGS: FIELD RES.	RATINGS: V. C. IMP.	REPLACEMENT DATA: ADMIRAL PART No.	VIKING PART No.	QUAM PART No.	NOTES
SP1A	PM	3Ω	78B59-1 ①	5J4	5A1	① Used with chassis 21F1
B	PM	3Ω	78B49-1 ①	8J9	8A21	② Used with chassis 21F1, 21G1, 21P1, 21Q1
C	PM	3Ω	78B47-2,-3 ②	10J12	10A4A	③ Used with chassis 21L1, 21K1
D	PM	3Ω	78B56-3,-4 ③	12J12	12A4A	
	CONE DIA.	V. C. DIA				
SP2A	5"	9/16"				
B	8"	1"				
C	10"	1"				
D	12"	1"				