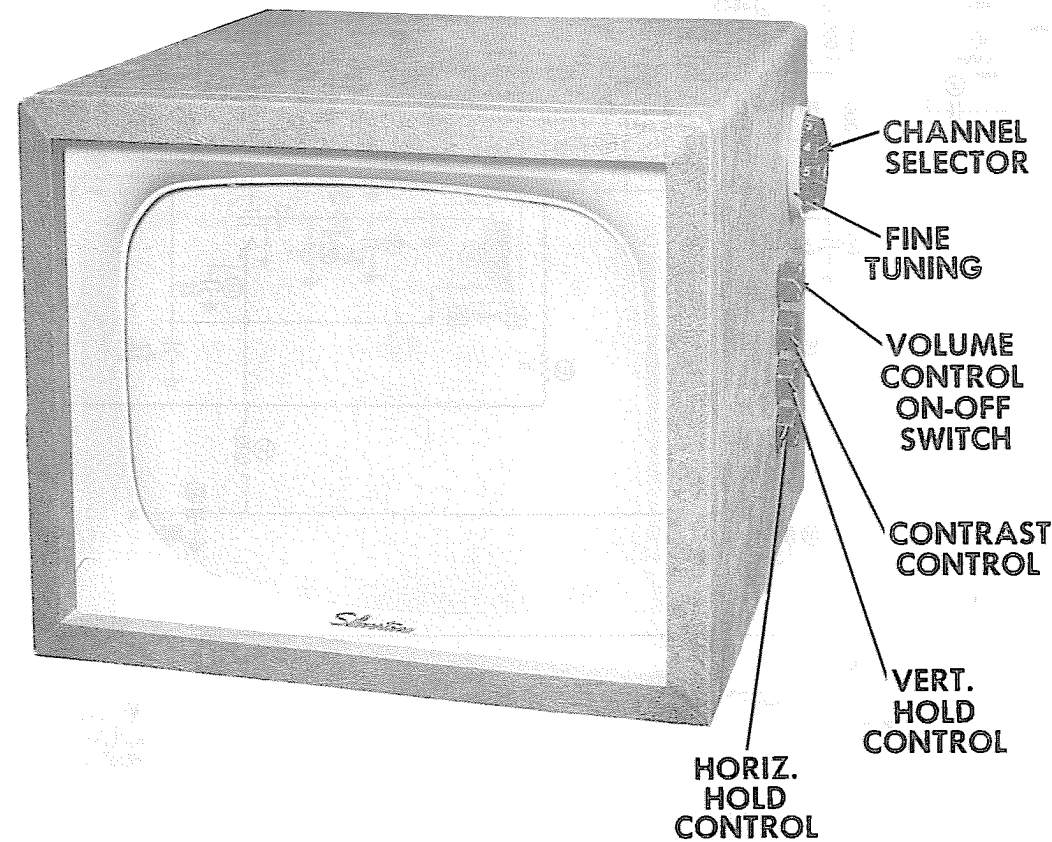


RESISTOR IDENTIFICATION

PHOTOFACT* Folder



SILVERTONE MODELS 5100, 5106, 5110, 5114, 5116, 5126, A, 5128, 5130 (Ch. 528.31300, 528.31301, 528.31400, 528.31401, 528.31700, 528.31701, 528.31800, 528.31801, 528.32800)



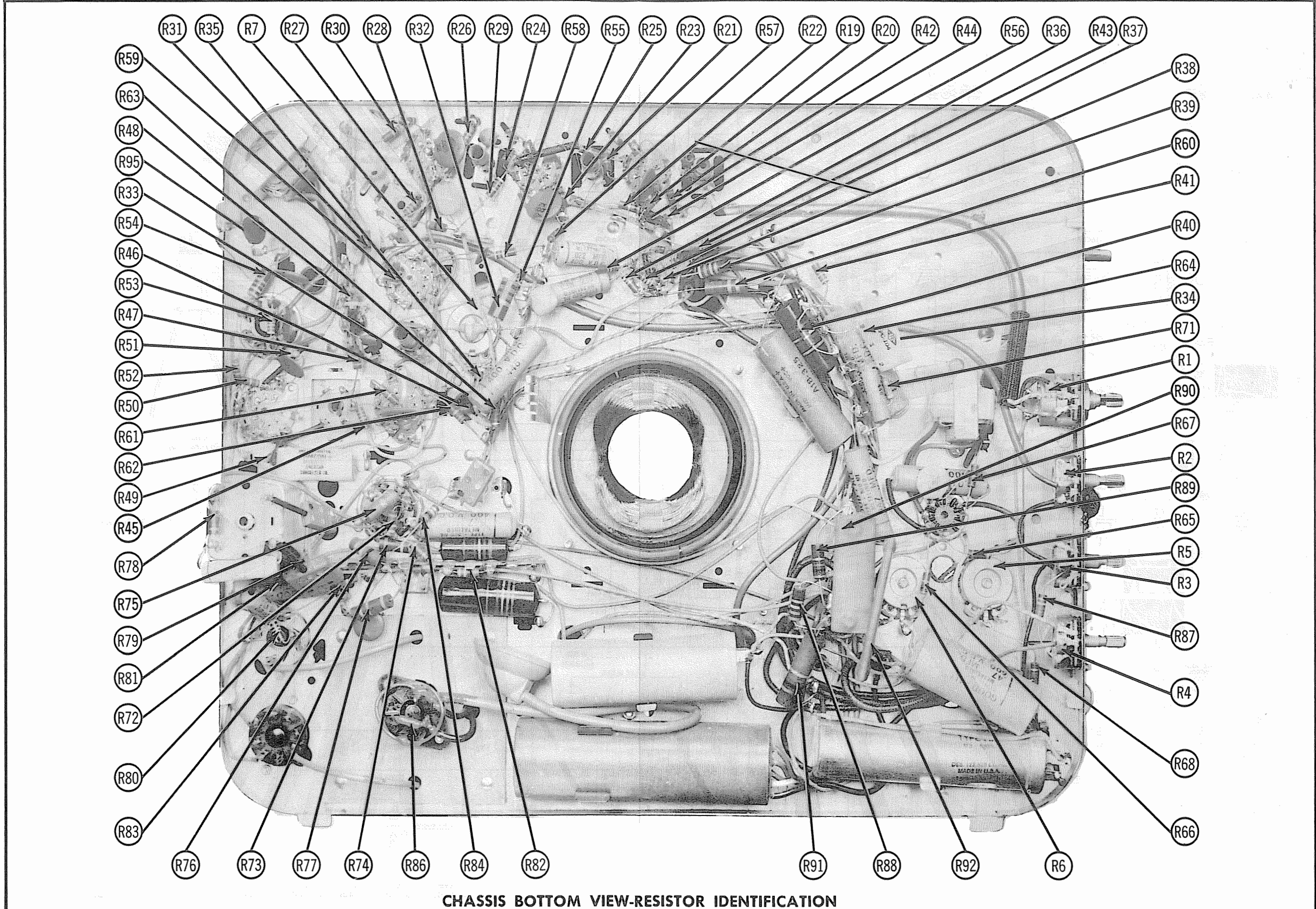
SILVERTONE MODELS 5100, 5106, 5110, 5114, 5116, 5126, A, 5128, 5130 (Ch. 528.31300, 528.31301, 528.31400, 528.31401, 528.31700, 528.31701, 528.31800, 528.31801, 528.32800)

TRADE NAME		SILVERTONE		SILVERTONE MODEL 5100 (Ch. 528.31300)	
		MODELS		CHASSIS	
		5100.....		528.31300	
		5100.....		528.31301	
		5110, 5126.....		528.31400	
		5110, 5126.....		528.31401	
		5106.....		528.31700	
		5106.....		528.31701	
		5114, 5116, 5128.....		528.31800	
		5130.....		528.31801	
		5126A.....		528.32800	
SUPPLIER		Sears Roebuck & Co., 925 S. Homan Ave., Chicago, Illinois			
TYPE SET		Television Receiver			
TUBES		Sixteen			
POWER SUPPLY		110-120 Volts AC - 60 Cycles		RATING 1.18 Amp. @ 117 Volts AC	
TUNING RANGE - Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 26.25MC, Sound IF 21.75MC (Intercarrier)					
INDEX					
Alignment Instructions		6, 7		Photographs (Cont)	
Disassembly Instructions		18		Trans., Inductor & Alignment Identification	
Horizontal Sweep Circuit Adjustments		11		Resistance Measurements	
Parts List and Descriptions		14, 15, 16		Servicing in the Field	
Photographs				Schematic (Alternate Tuners)	
Cabinet-Rear View		11		Schematic (TV)	
Capacitor Identification		4, 9		Trouble Shooting Aids	
Chassis-Top View		3		Tube Failure Check Chart	
RF Tuner		10		Tube Placement Chart (Bottom View)	
Resistor Identification		19, 20		Tube Placement Chart (Top View)	

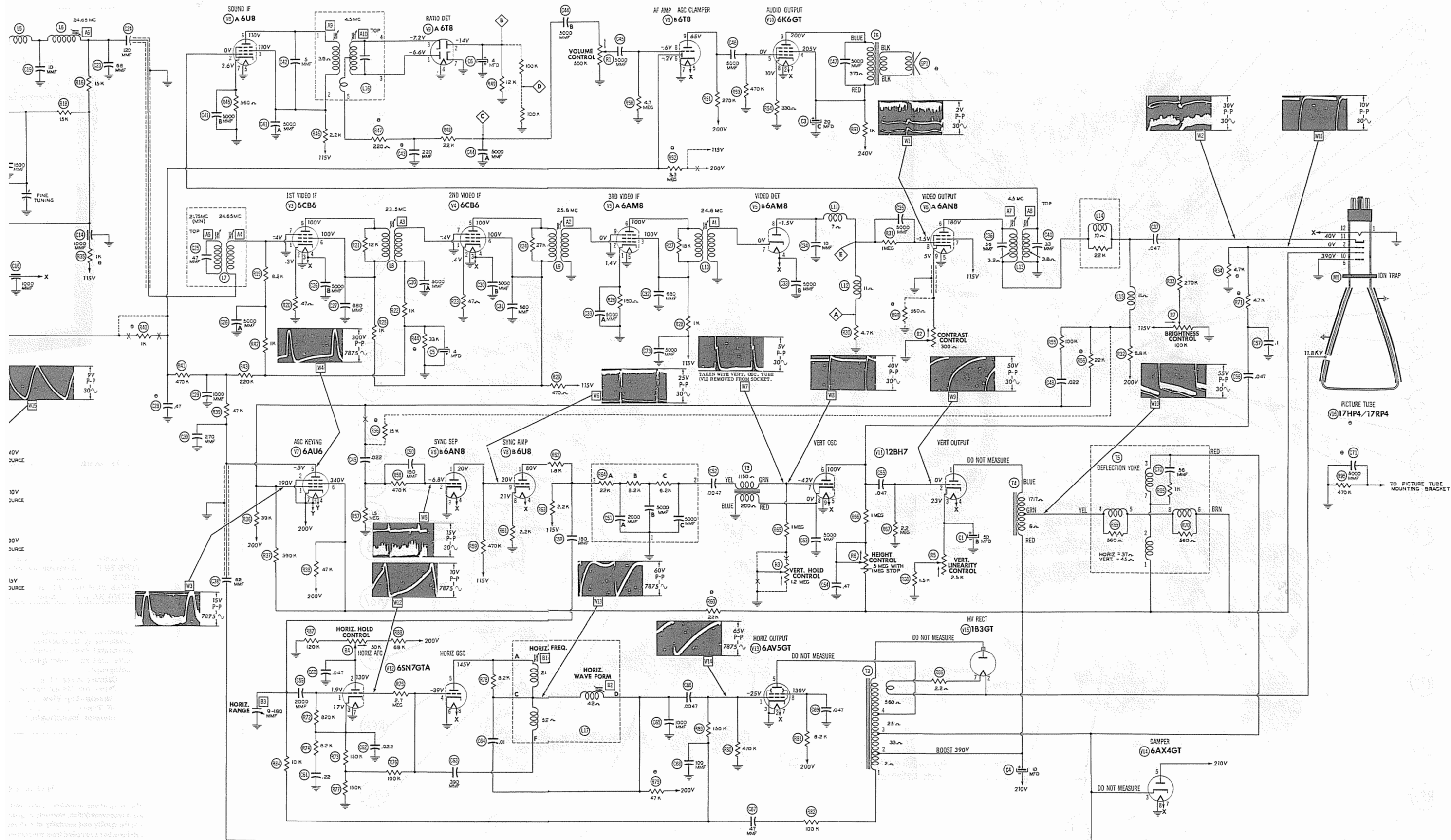
HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

"The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed."

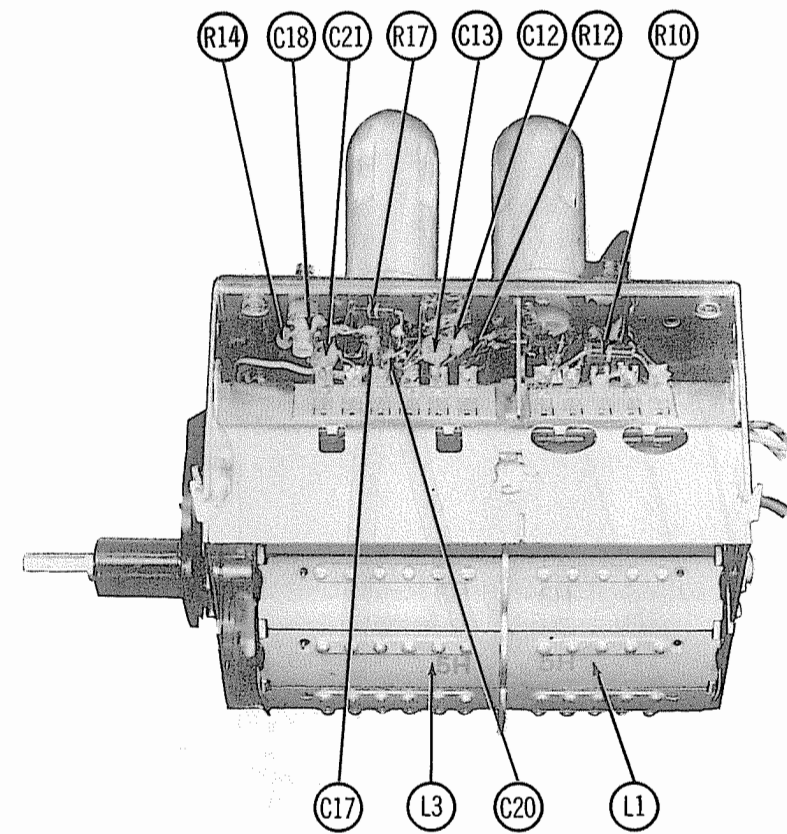
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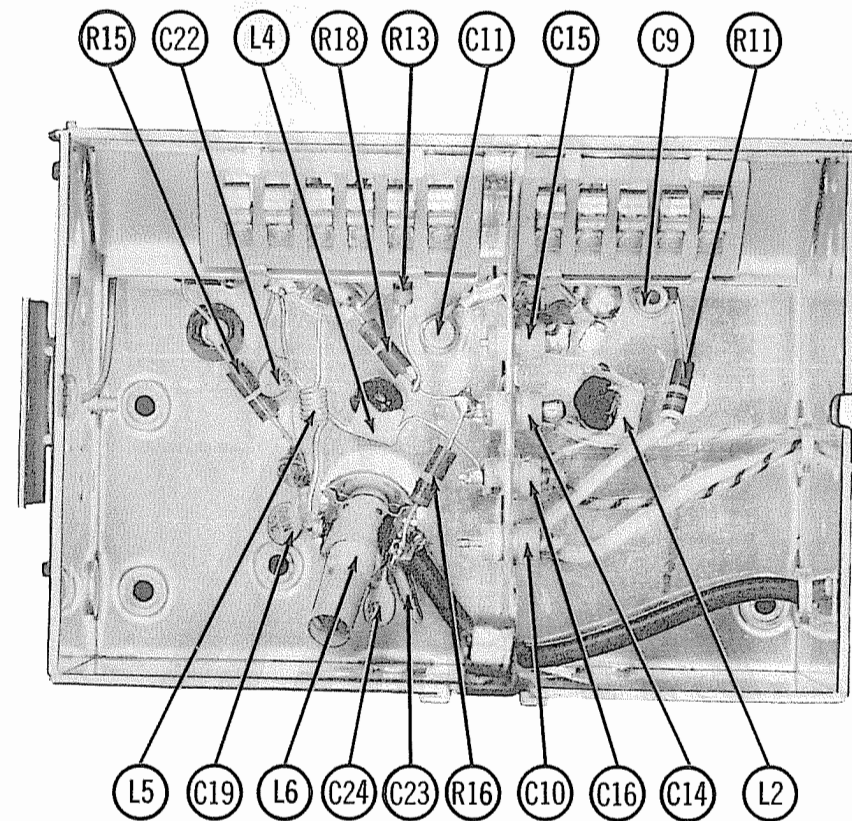
CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION



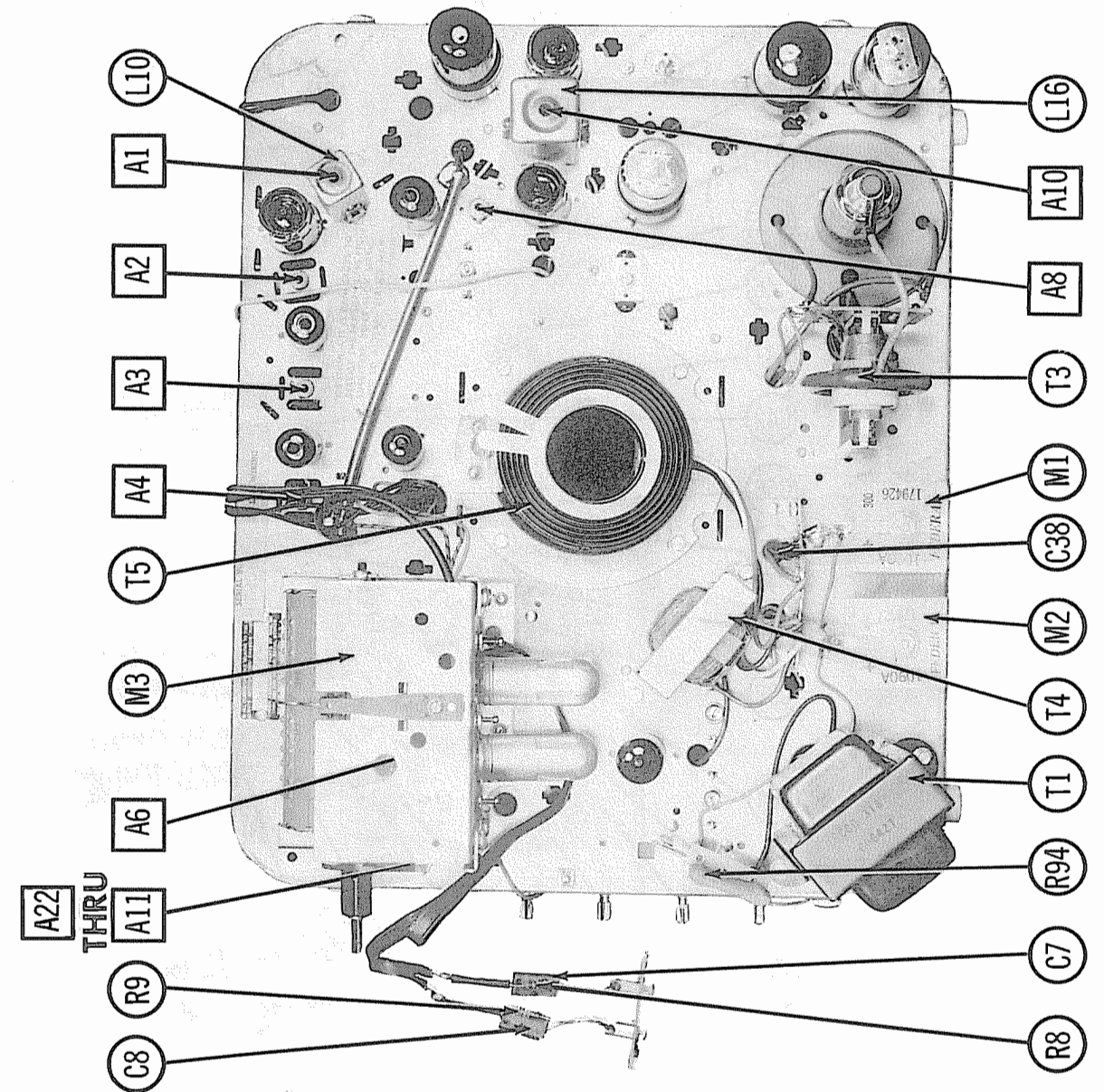
SILVERTONE MODELS 5100, 5106, 5110, 5114, 5116, 5126, A, 5128, 5130 (Ch. 528.31300, 528.31301, 528.31400, 528.31401, 528.31700, 528.31701, 528.31800, 528.31801, 528.32800)



RF TUNER-RIGHT SIDE



RF TUNER-BOTTOM VIEW

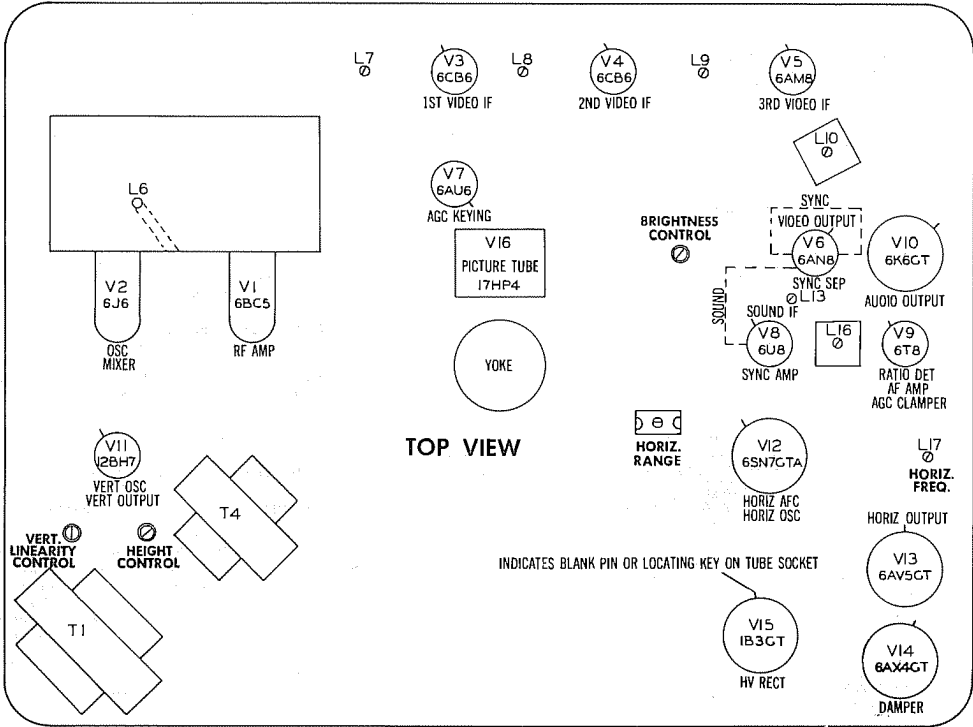


RESISTANCE MEASUREMENTS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6BC5	700KΩ	0Ω	.1Ω	0Ω	†4.1KΩ	†6.3KΩ	0Ω		
V 2	6J6	†18KΩ	†18KΩ	.1Ω	0Ω	225KΩ	10KΩ	0Ω		
V 3	6CB6	45KΩ	47Ω	0Ω	.1Ω	†3.6KΩ	†3.6KΩ	0Ω		
V 4	6CB6	35KΩ	47Ω	0Ω	.1Ω	†3.6KΩ	†3.6KΩ	0Ω		
V 5	6AM8	180Ω	.3Ω	†3.6KΩ	.1Ω	0Ω	†3.6KΩ	.3Ω	4.7KΩ	0Ω
V 6	6AN8	†470KΩ	2Meg	0Ω	.1Ω	0Ω	†7KΩ	†2.1KΩ	1Meg	100Ω
V 7	6AU6	†20KΩ	†1.3KΩ	†1.3KΩ	†1.3KΩ	350KΩ	22KΩ	†1.3KΩ		
V 8	6U8	†8KΩ	3.8Ω	†4.3KΩ	.1Ω	0Ω	†4.3KΩ	560Ω	2.2KΩ	†470KΩ
V 9	6T8	INF	12KΩ	INF	0Ω	.1Ω	700KΩ	0Ω	4.7Meg	†270KΩ
V 10	6K6GT	INF	0Ω	†1.4KΩ	†1KΩ	470KΩ	†1.3KΩ	.1Ω	330Ω	
V 11	12BH7	2KΩ	2.2Meg	2.8KΩ	.1Ω	.1Ω	2.6Meg	1.4Meg	200Ω	0Ω
V 12	6SN7GTA	1Meg	†70KΩ	300KΩ	250KΩ	†48KΩ	0Ω	0Ω	.1Ω	
V 13	6AU5GT	470KΩ	0Ω	0Ω	INF	25Ω	INF	.1Ω	†8.6KΩ	
V 14	6AX4GT	INF	INF	100KΩ	INF	†250Ω	INF	.1Ω	0Ω	
V 15	1B3GT	PINS		1 - 8	HAVE	INF	RESISTANCE			TOP CAP 585Ω
V 16	17HP4	0Ω	4.7KΩ	PIN 6 0Ω	PIN 10 20Ω	PIN 11 †300KΩ	PIN 12 .1Ω			

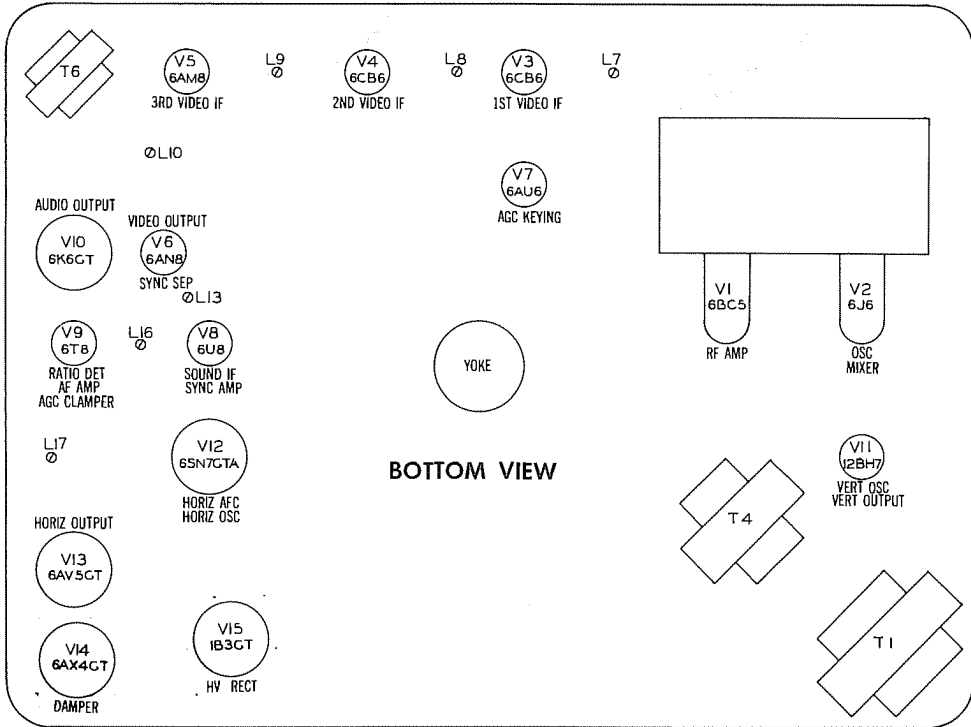
† MEASURED FROM OUTPUT OF M2.
Δ MEASURED FROM PIN 3 OF V14

TUBE PLACEMENT CHART



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TUBE PLACEMENT CHART



TUBE FAILURE CHECK CHART

The following chart lists tubes whose failures are most likely to produce the indicated symptoms. Refer to tube placement chart for location and type of tube.

- POWER SUPPLY FAILURE**
No raster, no sound - Selenium Rectifiers (M1 & M2)
- LOSS OF PICTURE OR SOUND**
No pic, no sound, has raster - V2, V3, V4, V5, V6
No pic, no sound, has snow - V1, V2, V3
No pic, has sound, has raster - V6, V7, V16
Has pic, no sound - V8, V9, V10
Overloaded picture - V7, V9
- SYNC FAILURE**
No vert. sync - V8, V11
No horiz. sync - V8, V12
No vert. or horiz. sync - V6, V8
- SWEEP FAILURE**
No raster, has sound - V12, V13, V14, V15, V16
No vertical deflection - V11
Poor vert. linearity or foldover - V11
Poor horiz. linearity or foldover - V12, V13, V14
Narrow picture - V12, V13, V14, V15, M1, M2
Vert. off freq. - V8, V11
Horiz. off freq. - V8, V12

SERVICING IN THE FIELD

TUNER OSCILLATOR ADJUSTMENTS

Touch-up adjustments of the VHF Tuner Oscillator Circuit may be accomplished by removing the Channel Selector and Fine Tuning knobs.

PICTURE TUBE SAFETY GLASS CLEANING

For picture tube safety glass cleaning, it is necessary to remove chassis. (See disassembly instructions.)

PICTURE TUBE REMOVAL

For picture tube removal it is necessary to remove chassis. (See disassembly instructions.)

SERVICE ADJUSTMENT LOCATION

See tube placement chart on page 5.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

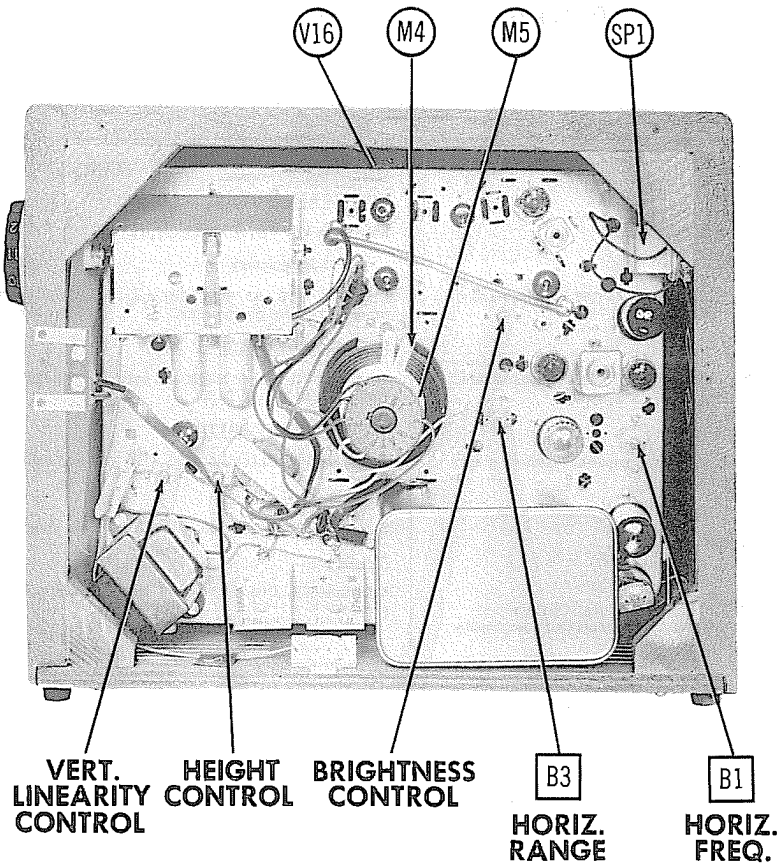
For adjustment of the Horiz. Oscillator, it is necessary to remove the rear cover and supply power to set. Adjustment is located on top of chassis. Set the Horiz. Hold Control at the center of its range and adjust the Horiz. Freq. slug L17 until picture synchronizes horizontally. (For location see tube placement chart.)

SOUND IF DETECTOR BUZZ ADJUSTMENT

To eliminate Sound IF Detector Buzz, adjust the Ratio Detector Secondary L16 located on top of chassis. (See tube placement chart.)

CENTERING

Centering is accomplished mechanically by adjusting two magnetic rings around the neck of the picture tube, located flush against the deflection yoke. Rotate the two rings around the neck of the tube until the picture is properly centered.



CABINET—REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

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

HORIZONTAL FREQUENCY ADJUSTMENT

1. Turn the horizontal range trimmer (B3) maximum clockwise.
2. If the picture cannot be synchronized with the horizontal hold control, set the control to its mid-range position and adjust the horizontal frequency slug (B1) until the picture is in sync. If the picture will not synchronize, turn the horizontal waveform slug (B2) several turns counter clockwise and readjust B1 until the picture synchronizes.

HORIZONTAL WAVEFORM ADJUSTMENT

Connect the vertical amplifier of oscilloscope through a low capacity probe (See Fig. 6) to terminal "C" of L17. If necessary, adjust B2 for waveform similar to Fig. 5 with broad and narrow peaks of equal height. Keep the picture in sync while making this adjustment with the horizontal hold control or B1. Remove scope.

HORIZONTAL RANGE ADJUSTMENT

1. Turn the horizontal hold control maximum counter clockwise. Switch off channel and then back again. If the picture does not lose sync, turn B1 counter clockwise until picture loses sync when switching off channel and back again. Adjust B1 clockwise until picture just pulls into sync.
2. Turn horizontal hold control maximum clockwise. Switch off channel then back again, If the picture does not pull into sync turn the horizontal range trimmer (B3) clockwise until the picture pulls into sync.
3. Due to reaction between B1 and B3 it may be necessary to repeat steps 1 and 2 several times before proper synchronization is obtained. When properly adjusted, the picture should remain in sync at both extreme settings of the horizontal hold control when switching off channel and back again.

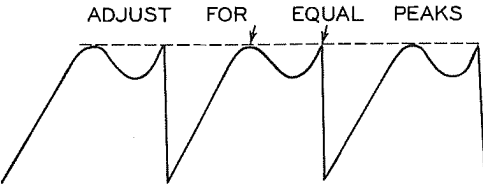


FIG. 5

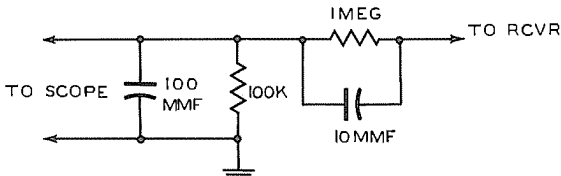


FIG. 6

DISASSEMBLY INSTRUCTIONS

1. Remove 6 push-on type control knobs from front panel.
2. Remove 6 metal screws. Remove rear cover.
3. Remove 2 wood screws from antenna bracket.
4. Disconnect 2 speaker leads. Remove 2 speaker nuts. Remove speaker
5. Remove 8 wood screws from underside of cabinet.
(4 located in rubber feet.)
6. Slide cabinet forward and lift from chassis mounting board.

TO REMOVE PICTURE TUBE

Remove picture tube socket.

Remove ion trap.

Remove 1 metal screw from front tube mount band.

Remove picture tube.

SILVERTONE MODELS 5100, 5106, 5110, 5114, 5116, 5126, A, 5128, 5130 (Ch. 528.31300, 528.31301, 528.31400, 528.31401, 528.31700, 528.31701, 528.31800, 528.31801, 528.32800)

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)								
ITEM No.	USE	DC RES.		REPLACEMENT DATA				NOTES
		PRI.	SEC.	SILVERTONE PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Ant. Coil	0ΩCT	0Ω					
L2	Fil. Choke	0Ω						
L3	RF, Mixer Grid.							
L4	Osc. Coil	0Ω						
L5	Fil. Choke	0Ω						
L6	RF Choke	0Ω						
L7	Conv. Plate	.6Ω						
L7	1st Video IF	.3Ω		T10-670			6246	Includes 2L 75MC trap
L8	2nd Video IF	.3Ω	.3Ω	T10-672	17-1063	TV-116	6249	
L9	3rd Video IF	.3Ω	.3Ω	T10-672	17-1064	TV-116	6250	
L10	4th Video IF	.3Ω	.3Ω	T10-675		TV-100*	6186	
L11	Series Peaking Coil	7Ω		T10-676	19-3125		6153	120 Microhenries
L12	Shunt Peaking Coil	11Ω		T10-590	19-3250	TV-185	6181	269 Microhenries
L13	Sound IF	3.2Ω	3.8Ω	T10-674				Includes 4.5MC trap
L14	Series Peaking Coil	10Ω		T10-671	19-4250	TV-185A	6173	220 Microhenries; Wound on 22KΩ resistor
L15	Shunt Peaking Coil	11Ω		T10-590	19-3250	TV-185	6181	269 Microhenries
L16	Ratio Det.	3.9Ω	.2ΩCT	T10-552	17-1033*	TV-110*	1468*	Tertiary winding= .7Ω
L17	Horiz. Osc.	73Ω		T10-669	20-1402	TV-162	6183	Waveform winding =48Ω

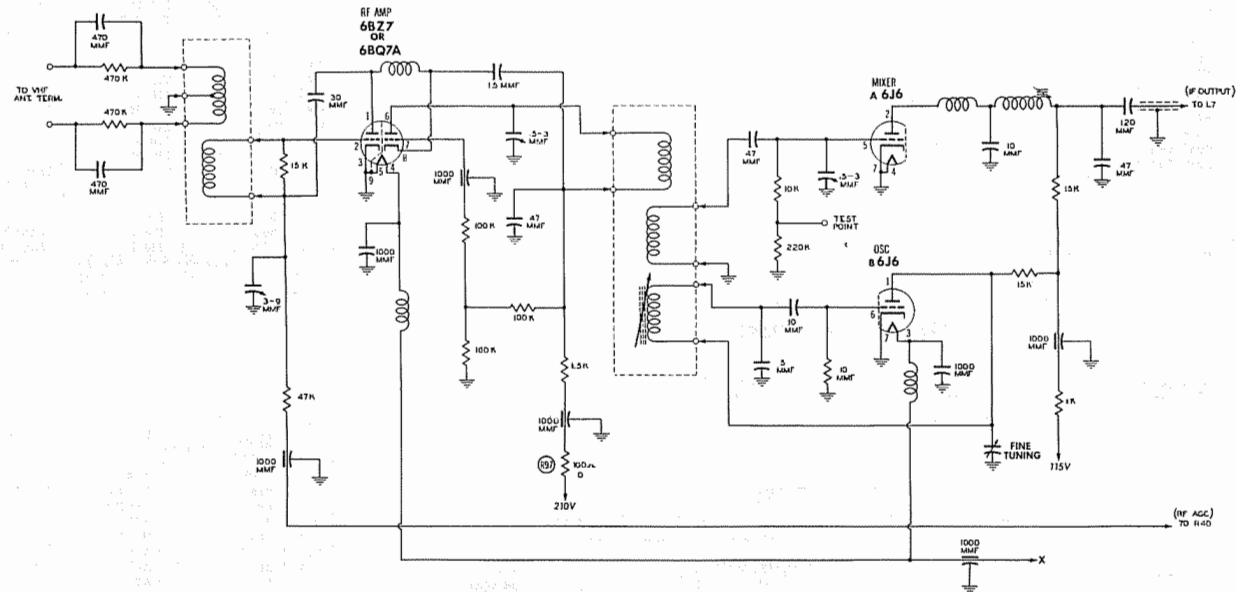
* Cut out chassis hole and drill mounting holes - detune trap.
Ω Cut out chassis hole and drill mounting holes.
Δ Parallel with 22KΩ resistor.
♦ Drill mounting holes and disconnect cap. across primary winding.

SELENIUM RECTIFIER

ITEM No.	RATING	REPLACEMENT DATA						NOTES
	CURRENT	SILVERTONE PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	MAILORY PART No.	SARKES TARZIAN PART No.	SELETRON PART No.	
M1	.220ADC	T80-829	1090A	RS300	6S300	300	6Q4	
M2	.220ADC	T80-829	1090A	RS300	6S300	300	6Q4	

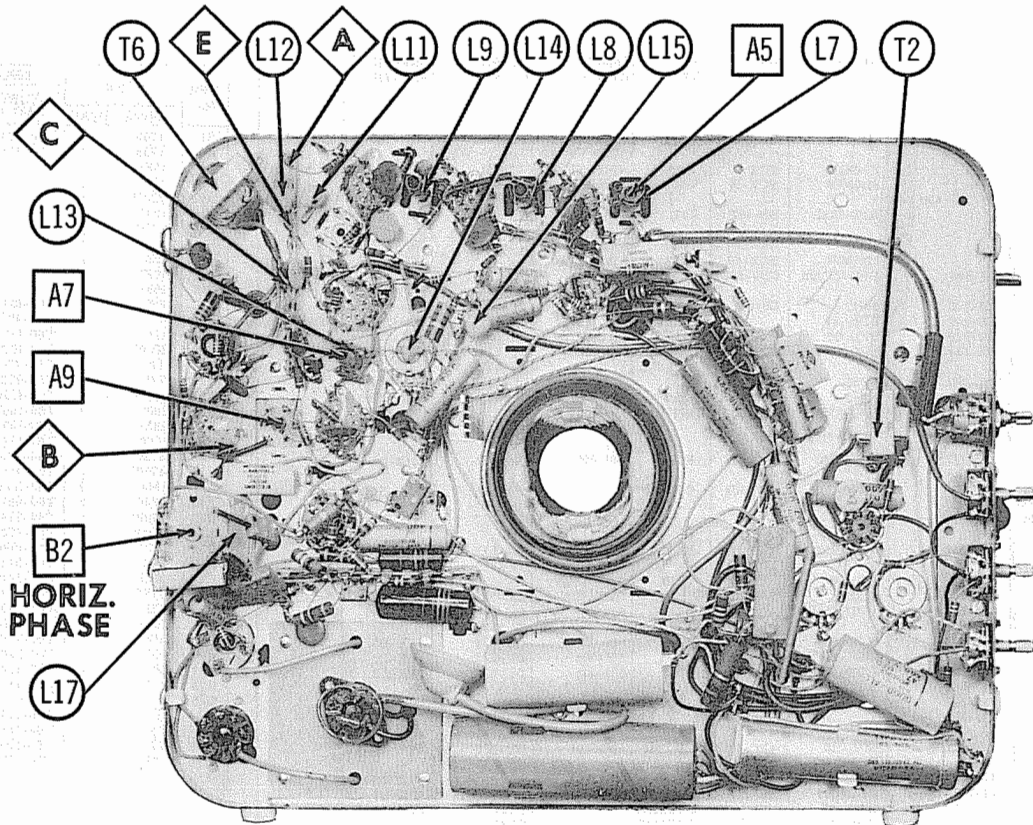
MISCELLANEOUS

ITEM No.	PART NAME	SILVERTONE PART No.	NOTES
M3A	Tuner	T95-38	Chassis 528.31300, 528.31400, 528.31401, 528.31301
B	Tuner	T95-39	Chassis 528.31700, 528.31701, 528.31800, 528.31801
C	Tuner	T95-42	Chassis 528.32800
M4	Centering Device		Part of yoke cover
M5	Ion Trap	T83-830	All chassis
B3	Trimmer cap.	T20-152	Horiz. Range (9-180MMF)
	Cabinet	T42-670	Model 5100
	Cabinet	T42-872	Model 5110
	Cabinet	T42-684	Models 5126, 5126A
	Cabinet	T42-671	Model 5108
	Cabinet	T42-673	Model 5114
	Cabinet	T42-676	Model 5116
	Cabinet	T42-683	Model 5128
	Cabinet	T42-692	Model 5130
	Knob	T52-469	Channel Selector - Models 5100, 5114, 5128, 5110, 5126, 5106, 5126A
	Knob	T52-480	Channel Selector - Models 5116, 5130
	Knob	T52-495	Channel Selector - Models 5100 Ch. 528.31301
	Knob	T52-468	Fine Tuning - Models 5100, 5110, 5126, 5126A
	Knob	T52-474	Fine Tuning - Models 5114, 5128, 5106
	Knob	T52-481	Fine Tuning - Models 5116, 5130
	Knob	T52-465	On-Off-Volume - Models 5114, 5100, 5128, 5110, 5126, 5106, 5126A
	Knob	T52-477	On-Off-Volume - Models 5116 5130
	Knob	T52-466	Contrast - Models 5100, 5114, 5128, 5110, 5126, 5106, 5126A
	Knob	T52-478	Contrast - Models 5116, 5130
	Knob	T52-464	Vert. Hold - Models 5100, 5114, 5128, 5110, 5126, 5106, 5126A
	Knob	T52-476	Vert. Hold - Models 5116, 5130
	Knob	T52-467	Horiz. Hold - Models 5100, 5114, 5128, 5110, 5126, 5106, 5126A
	Knob	T52-479	Horiz. Hold - Models 5116, 5130
	Safety Glass	T48-88	Model 5100
	Safety Glass	T48-90	Models 5114, 5116, 5128, 5130
	Safety Glass	T48-89	Models 5110, 5126, 5126A
	Safety Glass	T48-87	Model 5108
	Mask	T31-263	Model 5100
	Mask	T31-261	Models 5114, 5116, 5128, 5130
	Mask	T31-262	Models 5110, 5126A
	Mask	T31-268	Model 5126
	Mask	T31-264	Model 5106



VHF TUNER PART NO. T95-39 USE WITH CHASSIS 528.31700, 528.31701, 528.31800, AND 528.31801
A PHOTOFACT STANDARD NOTATION SCHEMATIC
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ALTERNATE TUNER SCHEMATIC



CHASSIS BOTTOM VIEW-TRANS., INDUCTOR AND ALIGNMENT IDENTIFICATION
SET 264 FOLDER 17

SILVERTONE MODELS 5100, 5106, 5110, 5114, 5116, 5126, A, 5128, 5130 (Ch. 528.31300, 528.31301, 528.31400, 528.31401, 528.31700, 528.31701, 528.31800, 528.31801, 528.32800)

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA		RETMA BASE TYPE	NOTES
		SILVERTONE PART No.	STANDARD REPLACEMENT		
V1	RF Amp.	6BC5	6BC5	7BD	
V2	Osc.-Mixer	0J6	0J6	7BF	
V3	1st Video IF Amp.	0CB6	6CB0	7CM	
V4	2nd Video IF Amp.	0CB6	6CB0	7CM	
V5	3rd Video IF Amp.				
V6	Video Det	6AM0	0AM8	9CY	
V7	Video Output-Sync Sep	6AN0	6AN8	9DA	
V8	AGC Keying	6AU6	6AU6	7BK	
V9	Sound IF Amp-Sync Amp.	6U0	0U8	9AE	
V10	Ratio Det-AF Amp-AGC Clamper	6T8	6T8	0E	
V11	Audio Output	6K6GT	6K6GT	7S	
V12	Vert. Osc. - Vert. Output	12BH7	12BH7	9A	
V13	Horiz. AFC-Horiz. Osc.	6SN7GTA	6SN7GTA	8BD	
V14	Horiz. Output	6AV5GT	6AV5GT	8CK	
V15	Damper	6AX4GT	6AX4GT	4CG	
V16	HV Rectifier	1B3GT	1B3GT	3C	

CATHODE-RAY TUBE

ITEM No.	REPLACEMENT DATA					RETMA BASE TYPE	NOTES
	SILVERTONE PART No.	CBS-HYTRON PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	WESTINGHOUSE PART No.		
V16	17HP4/17RP4	17HP4/17RP4	17HP4/17RP4	17HP4/17RP4	17HP4/17RP4	12L 12L	① Aluminized
	21XP4	21XP4	21XP4	21XP4	21XP4		

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							NOTES
	CAP.	VOLT	SILVERTONE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C1A	150	150	T18-322	AFH1-24		XA004		FP 117	TVL-1430	Red Yellow Blue Green
C1B	25	25		PRS25/50		BR502		TC29	TVA-1206	
C2	150	150	T18-323			CA004				
C3A	100	300	T18-324						TVA-4580	
C4	10	300	T18-325	PRS350/10		BR1235		TC62	TVA-1604	
C5	4	50	T18-202	PRS150/4		BR550		TC30	TVA-1303	
C6	4	50	T18-292	PRS150/4		BR550		TC30	TVA-1303	
C7	470	1000	T18-297							
C8	470	1000	T18-297							
C9	3-8	1000								
C10	1000									
C11	5-3	1500								
C12	1500									
C13	150			BPD-0915	DD-152	K071	801-0015	DC-5215	5HK-D15	
C14	1000			SI150	D6-151	TP37	GPIK-151	UC-5315	5GA-T15	
C15	1000									
C16	1000									
C17	120									
C18	5-3									
C19	10									
C20	10									
C21	5									
C22	1500			BPD-0015	DD-152	K071	801-0015	DC-5215	5HK-D15	
C23	68									
C24	120			SI120	D6-121	TP35	GPIK-121	UC-5312	5GA-T12	
C25	47			SI47NP0	TCZ-47	TP39	NP0K-470	5TCC-Q47	5TCC-Q47	
C26A	5000		T15-294	BPD-2X005	DD2-502	DK079	822-005	DC-525	5HK-2D5	
C27	680									
C28	47		T15-290	SI680	D6-681	TP50	GP2K-681	UC-5368	5GA-T68	
C29	1000			P288-47	DD-102	K069	801-001	DC-521	5HK-D1	
C30A	5000		T15-294	BPD-2X005	DD2-502	DK079	822-005	DC-525	5HK-2D5	
C31	500		T15-290	SI680	D6-681	TP50	GP2K-681	UC-5368	5GA-T68	Note 1
C32	680			SI680	D6-681	TP50	GP2K-681	UC-5368	5GA-T68	
C33A	5000		T15-294	BPD-2X005	DD2-502	DK079	822-005	DC-525	5HK-2D5	
C34	10		T16-251							
C35	5000		T16-177	BPD-005	DD-502	K080	801-005	DC-525	5HK-D5	
C36	56									
C37	.047	400	T16-245	P488-047	DF-503	CUB4S47		PT4147	4TM-S47	
C38	82	4000	T15-287							
C39	270	1000	T15-269							
C40	38									
C41A	5000		T15-294	BPD-2X005	DD2-502	DK079	822-005	DC-525	5HK-2D5	Note 2
C42	5		T15-222	SI5NP0	TCZ-4.7	TP39	NP0K-050	UC-5322	5TCCUB-V5	
C43	220		T15-301	SI220	D6-221	TP39	NP0K-221	UC-5322	5GA-T22	
C44A	5000		T15-294	BPD-2X005	DD2-502	DK079	822-005	DC-525	5HK-2D5	
C45	5000									
C46	5000		T16-177	BPD-005	DD-502	K080	801-005	DC-525	5HK-D5	
C47	5000		T16-177	BPD-005	DD-502	K080	801-005	DC-525	5HK-D5	
C48	.022	400	T16-248							
C49	.022	400	T16-248							
C50	150		T15-295							
C51A	2000									Note 3
C52	5000		*T17-109	*PA-110	*PC-100	*U5TMI	*1405-01	DC-522	*V-1	
C53	.0047	600	T16-220	P688-0047	D6-476	CUB6D47	GP2-333-472	PT6247	6TM-D47	
C54	.0047	600	T16-240	BPD-005	DD-502	K080	801-005	DC-525	5HK-D5	
C55	.047	600	T16-249	P688-47	DF-503	CUB6P47		PT6P47	6TM-P47	
				P488-047		CUB4S47		PT4147	4TM-S47	

PARTS LIST AND DESCRIPTIONS

CAPACITORS (cont)

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	SILVERTONE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C56	.047	400	T16-245	P488-047	DF-503	CUB4S47		PT4147	4TM-S47	Note 3
C57	.1	400	T16-264	P488-1	DF-104	CUB4P1		PT401	4TM-P1	
C58	180	500	T15-300			22R5T18				
C59	2000		T15-228	BPD-002	DD-202	K072	801-002	DC-522	5HK-D2	
C60	.047	400	T16-245	P488-047	DF-503	CUB4S47		PT4147	4TM-S47	
C61	.22	200	T16-253	P288-22		PJ2P22		PT4022	2TM-P22	
C62	.022	200	T16-263	P288-022		PJ2S22		PT4122	2TM-S22	
C63	390	500	T15-273	1468-0004		5R5T39		MCE243	MS-34	
C64	.01	000	T16-262	P688-01	D6-103	CUB6S1	GP2-333-103	PT611	6TM-S1	
C65	1000	500	T15-280	1468-001		1R5D1		MCE251	MS-21	
C66	.0047	600	T16-233	P688-005	D6-502	CUB6D5	GP2-333-502	PT625	6TM-D5	
C67	.47	500	T15-209			22R5Q47				Note 3
C68	100		T15-292	SI100	D6-101	TP34	GPIK-101	UC-531	5GA-T1	
C69	.047	400	T16-245	P488-047	DF-503	CUB4S47		PT4147	4TM-S47	
C70	56	2000					3KV-560		20GA-Q56	
C71	5000		T16-177	BPD-005	DD-502	K080	801-005	DC-525	5HK-D5	
C72	5000		T16-177	BPD-005	DD-502	K080	801-005	DC-525	5HK-D5	
C73	5000		T16-177	BPD-005	DD-502	K080	801-005	DC-525	5HK-D5	

Note 1: Chassis 528.31701, 528.31801 use 2MFD in this application (part #T16-267).
 Note 2: Chassis 528.31401, 528.31701, 528.31801, 528.32800 use 560MMF in this application.
 Note 3: Chassis 528.31401, 528.31700 and 528.31800 use 2000MMF in this application (part #T15-162).
 *Items C51A, C51B, C51C, R64A, R64B, R64C are combined in one unit.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA							INSTALLATION NOTES
	RESISTANCE	WATTS	SILVERTONE PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.			
R1A	500KΩ	1/2	A24-221	Q13-133	A47-500K-Z	BSK-60-S	U-48			Volume
B	Shaft		Not Req.	Not Req.	KSS-3	Not Req.	Not Req.			Attach to R1A
C	Switch		Not Req.	Not Req.	SWE-12	Not Req.	US-26			Attach to R1A
R2A	300KΩ	1/2	A25-41	Q11-103	A47-500-S	AB-2				Contrast
B	Shaft		Not Req.	Not Req.	KSS-3	AK-4				Attach to R2A
R3A	1.2Meg	1/2	A25-44	Q11-138	A47-1.5Meg-S	AB-69	U-155			Vertical Hold
B	Shaft		Not Req.	Not Req.	KSS-3	AK-4	Not Req.			Attach to R3A
R4A	50KΩ	1/2	A25-42	Q11-123	A47-50K-S	AB-31	U-35			Horiz. Hold
B	Shaft		Not Req.	Not Req.	KSS-3	AK-4	Not Req.			Attach to R4A
R5A	2500Ω	1/2	A25-45	Q11-112	A47-2500-S	AB-7	U-8			Vert. Linearity
B	Shaft		Not Req.	Not Req.	RQ	AK-1	Not Req.			Attach to R5A
R6A	5Meg	1/2	A25-43	Q11-141	A47-4Meg-S	AB-86	U-87			Height - Note
B	Shaft		Not Req.	Not Req.	RQ	AK-1	Not Req.			Attach to R6A
R7A	100KΩ	1/2	A25-40	Q11-128	A47-100K-S	AB-40	U-41			Brighness
B	Shaft		Not Req.	Not Req.	RQ	AK-1	Not Req.			Attach to R7A

Note: Connect a 1Meg resistor in series with the left hand terminal of the control & the lead connecting to the same terminal of the original control. (Control viewed from shaft end, terminals down.)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		NOTES
			SILVERTONE PART No.	IRC PART No.	
	OHMS	WATT			
R8	470KΩ	1/2	T60-4740K	BTS-470K	
R9	470KΩ	1/2	T60-4740K	BTS-470K	
R10	15KΩ	1/2		BTS-15K	
R11	47KΩ	1/2		BTS-47K	
R12	220Ω	1/2		BTS-220Ω	
R13	1000Ω	1/2		BTS-1000	
R14	4700Ω	1/2		BTS-4700	
R15	220KΩ	1/2		BTS-220K	
R16	15KΩ	1/2		BTS-15K	
R17	10KΩ	1/2		BTS-10K	
R18	15KΩ	1/2		BTS-15K	
R19	8200Ω	1/2	T60-8220K	BTS-8200	
R20	47Ω	1/2	T60-4700K	BTS-47	
R21	12KΩ	1/2	T60-1230K	BTS-12K	
R22	1000Ω	1/2	T60-1020K	BTS-1000	
R23	47Ω	1/2	T60-4700K	BTS-47	
R24	27KΩ	1/2	T60-2730K	BTS-27K	
R25	1000Ω	1/2	T60-1020K	BTS-1000	
R26	180Ω	1/2	T60-1810K	BTS-180	
R27	18KΩ	1/2	T60-1830K	BTS-18K	
R28	1000Ω	1/2	T60-1020K	BTS-1000	
R29	4700Ω	1/2	T60-4710K	BTS-470	
R30	4700Ω	1/2	T60-4720K	BTS-4700	
R31	1MΩ	1/2	T60-1050K	BTS-1MΩ	
R32	6800Ω	1/2	T60-6822K	BTB-6800	
R33	270KΩ	1/2	T60-2740K	BTS-270K	
R34	4700Ω	1/2	T60-4720K	BTS-4700	
R35	1000Ω	1/2	T60-1020K	BTS-1000	
R36	39KΩ	1/2	T60-3930K	BTS-39K	
R37	390KΩ	1/2	T60-3940K	BTS-390K	
R38	47KΩ	1/2	T60-4730K	BTS-47K	
R39	47KΩ	1/2	T60-4731K	BTA-47K	
R40	1000Ω	1/2	T60-1020K	BTS-1000	
R41	470KΩ	1/2	T60-4740K	BTS-470K	
R42	1000Ω	1/2	T60-1020K	BTS-1000	
R43	220KΩ	1/2	T60-2240K	BTS-220K	
R44	33KΩ	1/2	T60-3330K	BTS-33K	
R45	560Ω	1/2	T60-5610K	BTS-560	
R46	220Ω	1/2	T60-2220K	BTS-220Ω	
R47	220Ω	1/2	T60-2210K	BTS-220	
R48	22KΩ	1/2	T60-2230K	BTS-22K	
R49	12KΩ	1/2	T60-1230K	BTS-12K	
R50	4.7Meg	1/2	T60-4750K	BTS-4.7Meg	
R51	270KΩ	1/2	T60-2740K	BTS-270K	
R52	3.3Meg	1/2	T60-3350K	BTS-3.3Meg	Note 6
R53	470KΩ	1/2	T60-4740K	BTS-470K	
R54	330Ω	1/2	T60-3311K	BTA-330	
R55	100KΩ	1/2	T60-1040K	BTS-100K	
R56	22KΩ	1/2	T60-2230K	BTS-22K	Note 4
R57	1.5Meg	1/2	T60-1550K	BTS-1.5Meg	
R58	470KΩ	1/2	T60-4740K	BTS-470K	
R59	470KΩ	1/2	T60-4740K	BTS-470K	
R60	22KΩ	1/2	T60-2231K	BTA-22K	Note 7
R61	220Ω	1/2	T60-2220K	BTS-220	
R62	1800Ω	1/2	T60-1820K	BTS-1800	
R63	220Ω	1/2	T60-2220K	BTS-2200	
R64	22KΩ	1/2		BTS-22K	
R65	820Ω	1/2	*T17-100	BTS-8200	
R66	820Ω	1/2		BTS-8200	
R67	1MΩ	1/2	T60-1050K	BTS-1MΩ	
R68	1MΩ	1/2	T60-1050K	BTS-1MΩ	
R69	2.2Meg	1/2	T60-2250K	BTS-2.2Meg	
R70	1500Ω	1/2	T60-1520K	BTS-1500	
R71	560Ω	1/2		BTS-560	
R72	820Ω	1/2	T60-8220K	BTS-820	Note 8
R73	150KΩ	1/2	T60-1541K	BTA-150K	
R74	8200Ω	1/2	T60-8220K	BTS-8200	
R75	2.7Meg	1/2	T60-2751K	BTS-2.7Meg	
R76	100KΩ	1	T60-1041K	BTA-100K	
R77	150KΩ	1	T60-1541K	BTA-150K	
R78	8200Ω	1	T60-8220K	BTA-8200	
R79	47KΩ	1	T60-4731K	BTA-47K	Note 4
R80	470KΩ	1	T60-4740K	BTA-470K	
R81	8200Ω	2	T60-8222K	BTB-8200	
R82	100KΩ	1	T60-1040K	BTS-100K	
R83	150KΩ	1	T60-1540K	BTS-150K	
R84	10KΩ	1	T60-1030K	BTS-10K	
R85	1000Ω	1		BTS-1000	
R86	2.2Ω	1	T60-		
R87	120KΩ	1	T60-1240K	BTS-120K	
R88	68KΩ	1	T60-6831K	BTA-68K	
R89	1000Ω	1	T60-1021K	BTA-1000	
R90	250Ω	10			

TROUBLE SHOOTING AIDS

SWEEP

HORIZONTAL	VERTICAL				
<p>LOSS OF SWEEP</p> <p>Follow procedure outlined under "Loss of High Voltage".</p> <p>INSUFFICIENT SWEEP</p> <p>Check by substitution V13 and V14. Check R94, R81, C4, C66 and other associated components.</p> <p>DRIVE LINES</p> <p>Check by substitution V13 and V14. Check C65, C66, R81 and other associated components.</p> <p>COMPRESSED LEFT SIDE</p> <p>Check by substitution V13 and V14. Check horizontal output and damper stages for component failure or change of value.</p> <p>FOLDS</p> <p>Follow procedure outlined under "Drive Lines".</p> <p>PIE CRUST EFFECT</p> <p>Check by substitution V12, V13 and V14. Check C62 for open. Check adjustments B1, B2 and B3. Check L17, R78, C63 and other associated components.</p> <p>XMAS TREE EFFECT</p> <p>Check by substitution V12, V13 and V14. Check T3 and T5A for internal arcing. Check L17, R78, R79, C63, C64 and other associated components.</p>	<p>LOSS OF SWEEP</p> <p>Substitute V11. Check waveform W9.</p> <table border="1"> <tr> <td>If Satisfactory</td><td>If Unsatisfactory</td></tr> <tr> <td>Check T4, T5B, R5, R68, C1B and other associated components.</td><td>Check T2, R6, R66, C54, C55 and other associated components.</td></tr> </table> <p>INSUFFICIENT SWEEP</p> <p>Substitute V11. Check height and vertical linearity controls for proper operation. Check T4 and T5B.</p> <p>COMPRESSED AT BOTTOM</p> <p>Substitute V11. Check R6, R66, C54, C55 and other associated components.</p> <p>COMPRESSED AT TOP</p> <p>Substitute V11. Check R68, R5, C1B, T4 and other associated components.</p> <p>FOLDS</p> <p>Substitute V11. Check C54, C53, R68, T4, T5B and other associated components.</p>	If Satisfactory	If Unsatisfactory	Check T4, T5B, R5, R68, C1B and other associated components.	Check T2, R6, R66, C54, C55 and other associated components.
If Satisfactory	If Unsatisfactory				
Check T4, T5B, R5, R68, C1B and other associated components.	Check T2, R6, R66, C54, C55 and other associated components.				

SYNC

<p>LOSS OF VERTICAL AND HORIZONTAL SYNC</p> <p>Check by substitution V6 and V8. Check C48, C49, C50, R59, R56, R62, R63 and other associated components.</p> <p>LOSS OF VERTICAL SYNC - HORIZONTAL SYNC SATISFACTORY</p> <p>Substitute V11. Check waveform W7.</p> <table border="1"> <tr> <td>If Satisfactory</td><td>If Unsatisfactory</td></tr> <tr> <td>Check T2, R65, R3, C53 and other associated components.</td><td>Check vertical integrator network for component failure or change of value. Check IF alignment for overloading.</td></tr> </table>	If Satisfactory	If Unsatisfactory	Check T2, R65, R3, C53 and other associated components.	Check vertical integrator network for component failure or change of value. Check IF alignment for overloading.	<p>LOSS OF HORIZONTAL SYNC - VERTICAL SYNC SATISFACTORY</p> <p>Substitute V12. Check C58, C59, C60, L17, R88, R4, R78 and other associated components.</p> <p>HORIZONTAL BENDING</p> <p>Check by substitution V7, V6, V8 and V12. Check horizontal AFC network.</p>
If Satisfactory	If Unsatisfactory				
Check T2, R65, R3, C53 and other associated components.	Check vertical integrator network for component failure or change of value. Check IF alignment for overloading.				

VIDEO

<p>LOSS OF VIDEO</p> <p>Substitute V6. Check L14, L15, C37, R32 and other associated components.</p> <p>SOUND BARS (4.5MC BEAT)</p> <p>Adjust tuner fine tuning for best sound and picture. Check adjustment A7. Check video IF alignment.</p> <p>POOR CONTRAST</p> <p>Substitute V6. Check contrast control and picture tube. Check video detector network.</p>	<p>NEGATIVE PICTURE</p> <p>Substitute V6. Check picture tube. Check video detector network. Check C37, C35, L12 and L11. Check video IF alignment.</p> <p>SMEAR</p> <p>Substitute V6. Check L11, L12, L14, L15, C37 and other associated components.</p> <p>WIDE BLACK BAR ACROSS PICTURE</p> <p>Check by substitution V1, V3, V4, V5 and V6 for heater to cathode leakage.</p>
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AUDIO

<p>WEAK OR NO SOUND</p> <p>Check by substitution V8, V9 and V10. Check stages V9 and V10 using audio signal generator. Apply audio signal across R1.</p> <table border="1"> <tr> <td>If Satisfactory</td><td>If Unsatisfactory</td></tr> <tr> <td>Check ratio detector and audio IF stages for component failure or change of value.</td><td>Check C45, C46, C47, R51, R54, T6, speaker and other associated components.</td></tr> </table>	If Satisfactory	If Unsatisfactory	Check ratio detector and audio IF stages for component failure or change of value.	Check C45, C46, C47, R51, R54, T6, speaker and other associated components.	<p>BUZZ</p> <p>Adjust tuner fine tuning for best sound and picture. Check adjustment A10. If still unsatisfactory, check V9 and audio IF alignment.</p> <p>DISTORTED</p> <p>Follow procedure outlined under "Weak or No Sound".</p>
If Satisfactory	If Unsatisfactory				
Check ratio detector and audio IF stages for component failure or change of value.	Check C45, C46, C47, R51, R54, T6, speaker and other associated components.				

POWER

<p>DEAD SET</p> <p>If filaments fail to light, check AC interlock assembly. Check switch on volume control and T1. If filaments light, check R94, M1 and M2. Check B+ filter and decoupling network.</p>	<p>SMALL AND/OR DIM PICTURE</p> <p>Check R94, M1 and M2. Check B+ filter and decoupling network.</p>
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TROUBLE SHOOTING AIDS (cont)

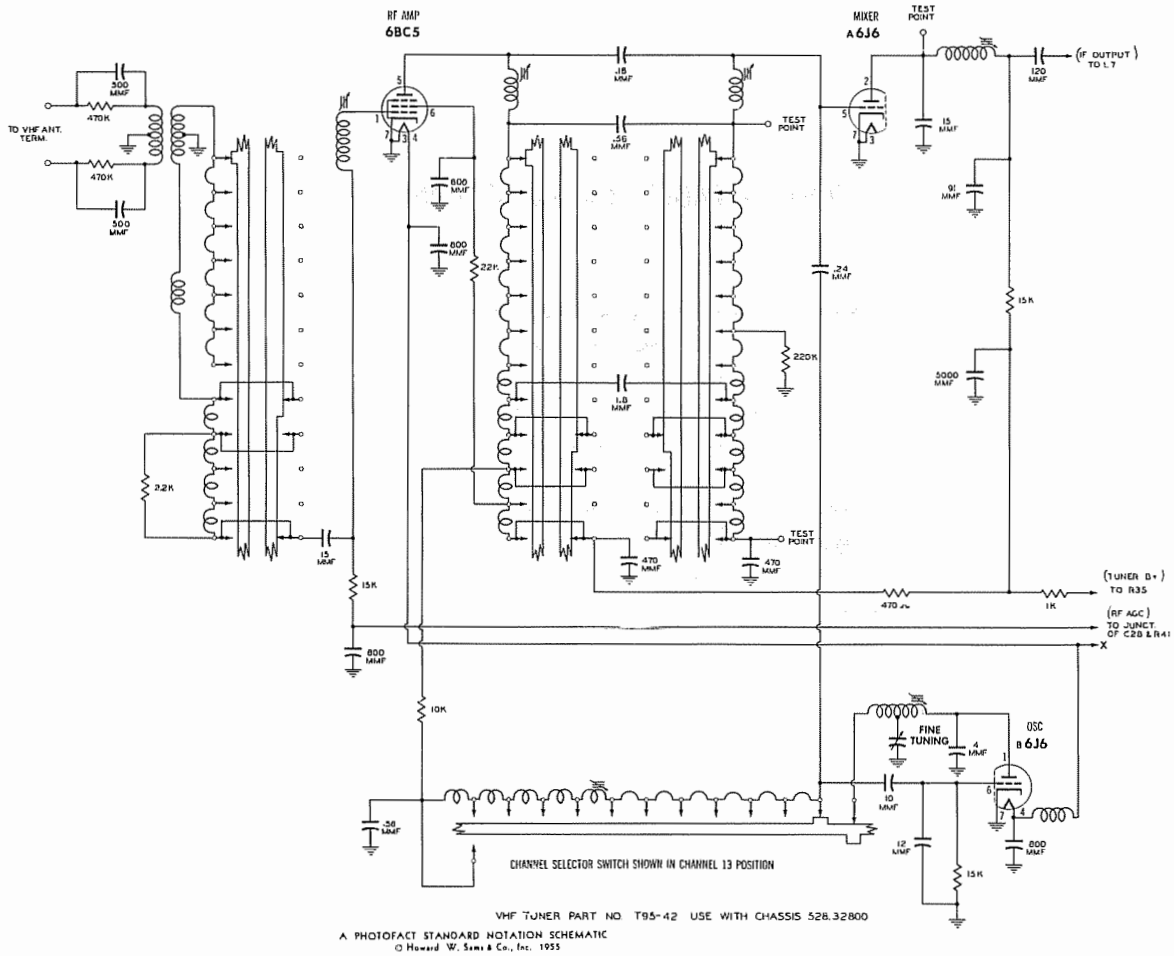
HIGH VOLTAGE

<p>LOSS OF HIGH VOLTAGE</p> <p>Check by substitution V12, V13, V14 and V15. Check waveform W14.</p> <table border="1"> <tr> <td>If Satisfactory</td><td>If Unsatisfactory</td></tr> <tr> <td>Check T3, T5A, C69, C4, R81 and other associated components.</td><td>Check C63, C64, C66, R79, R78, L17 and other associated components.</td></tr> </table>	If Satisfactory	If Unsatisfactory	Check T3, T5A, C69, C4, R81 and other associated components.	Check C63, C64, C66, R79, R78, L17 and other associated components.	<p>INSUFFICIENT HIGH VOLTAGE</p> <p>Check by substitution V12, V13 and V14. Check M1 and M2. Check R94, R79, R81, C66, C4 and other associated components.</p> <p>BLOOMING</p> <p>Check by substitution V13, V14 and V15. Check M1 and M2. Check R94, R81, C66 and other associated components.</p>
If Satisfactory	If Unsatisfactory				
Check T3, T5A, C69, C4, R81 and other associated components.	Check C63, C64, C66, R79, R78, L17 and other associated components.				

GENERAL

<p>RASTER, SOUND, NO PICTURE</p> <p>Follow procedure outlined under "Loss of Video".</p> <p>RASTER, PICTURE, NO SOUND</p> <p>Follow procedure outlined under "Weak or No Sound".</p> <p>RASTER, NO SOUND, NO PICTURE</p> <p>Check by substitution V1, V2, V3, V4, V5 and V6. Check video IF components for failure or change of value.</p>	<p>NO RASTER, NO SOUND</p> <p>Follow procedure outlined under "Dead Set".</p> <p>KEYSTONE EFFECT</p> <p>Check T5 and its associated components.</p> <p>INTERMITTENT STREAKS</p> <p>Check high voltage section for corona discharge and arcing.</p>
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Symptoms shown are assumed and are not indicative of the quality and workmanship of this equipment.



ALTERNATE TUNER SCHEMATIC

SILVERTONE MODELS 5100, 5106, 5110, 5114, 5116, 5126, A, 5128, 5130 (Ch. 528.31300, 528.31301, 528.31400, 528.31401, 528.31700, 528.31701, 528.31800, 528.31801, 528.32800)

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT						
Use an isolation transformer to protect the test equipment. The high voltage lead should be securely taped and kept away from the chassis. Do not remove the horizontal oscillator tube (V12) to disable the high voltage.						

VIDEO IF ALIGNMENT						
Connect the negative lead of a 4.5 volt bias battery to the ungrounded side of C5. Connect the positive side to chassis. Remove the converter tube (V2) and replace with a 6J6 which has pin 1 removed. This will disable the local oscillator and reduce the possibility of erroneous indications.						

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. Low side to chassis.	24.65MC (Unmod)	Any	DC probe thru 10KΩ to point Ⓢ. Common to chassis.	A1	Attenuate generator output to maintain not more than -2.5 volts at VTVM. Adjust for maximum deflection.
2. "	"	25.8MC	"	"	A2	"
3. "	"	23.5MC	"	"	A3	"
4. "	"	24.65MC	"	"	A4	Adjust A6 fully counter clockwise. Adjust A4 for maximum deflection.
5. "	"	21.75MC	"	"	A5	Increase generator output and adjust A5 for MINIMUM deflection. Repeat steps 4 and 5.
6. "	"	24.65MC	"	"	A6	Adjust for maximum deflection. Attenuate generator output to maintain -2.5 volts at VTVM.

OVERALL VIDEO IF RESPONSE CHECK						
Attenuate sweep generator output to maintain 2 volts peak to peak on scope (-.3 volt on VTVM). If a separate marker generator is used couple it loosely to sweep output cable near ungrounded converter tube shield. Connect the synchronized sweep voltage from the sweep 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
7. Direct	High side to an ungrounded tube shield floating over dummy converter tube. Low side to chassis.	24MC (10MC Swp)	21.75MC 23.25MC 23.5MC 24.65MC 25.8MC 26.25MC	Any	Vert. Amp. thru 10KΩ to point Ⓢ. Low side to chassis		Check for response curve similar to Fig.1. If necessary, retouch A1 thru A4 and A6 to obtain desired response. Increase sweep generator output and use high scope gain to view 21.75MC marker. If necessary, retouch A5 to place 21.75MC marker in center of trap notch.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM						
Connect two matched 100KΩ (±1%) resistors in series from point Ⓢ to chassis. The junction of these two resistors is alignment point Ⓢ as shown on the schematic.						

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
8. .001MFD	High side to point Ⓢ. Low side to chassis.	4.5MC	Any	DC probe to point Ⓢ. Common to chassis.	A7, A8, A9	Adjust for maximum deflection.
9. "	"	"	"	DC probe to point Ⓢ. Common to point Ⓢ.	A10	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE						
Use frequency modulated signal with 60% modulation and 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection.						

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
8. .001MFD	High side to point Ⓢ. Low side to chassis.	4.5MC (450KC Swp)	4.5MC	Any	Vert. Amp. to point Ⓢ. Low side to chassis.	A7, A8, A9	Disconnect stabilizing capacitor C6. Adjust for curve of maximum amplitude and symmetry similar to Fig. 2.
9. "	"	"	"	"	Vert. Amp. to point Ⓢ. Low side to chassis.	A10	Reconnect stabilizing capacitor C6. Adjust so that 4.5MC occurs at center of crossover lines as in Fig. 3. SLIGHTLY retouch A9 for maximum amplitude and straightness of crossover lines.

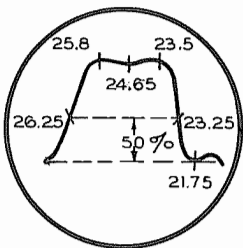


FIG. 1

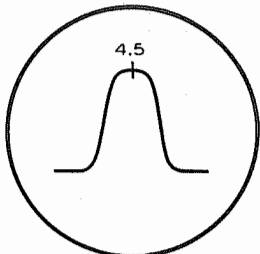


FIG. 2

ALIGNMENT INSTRUCTIONS (cont)

OSCILLATOR ALIGNMENT						
Remove the dummy converter tube and replace the original 6J6 in its socket. The channel oscillator adjustment screws are reached thru a hole just to the left of the channel switch shaft. The correct adjustment is accessible thru this hole as the channel switch is turned to each channel. Leave the bias supply connected as under "Video IF Alignment". Connect the synchronized sweep voltage from the sweep 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. Set the fine tuning control to the mid-position of its range.						

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
10. Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	213MC (10MC Swp)	211.25MC	13	Vert. Amp. thru 10KΩ to point Ⓢ. Low side to chassis.	A11	Adjust to place sound marker in trap notch as in Fig. 4. Video marker should be at 50%.
		207MC (10MC Swp)	205.25MC	12		A12	
		201MC (10MC Swp)	209.75MC	11		A13	
		195MC (10MC Swp)	189.25MC	10		A14	
		189MC (10MC Swp)	183.25MC	9		A15	
		183MC (10MC Swp)	187.75MC	8		A16	
		177MC (10MC Swp)	181.25MC	7		A17	
		171MC (10MC Swp)	175.25MC	6		A18	
		165MC (10MC Swp)	179.75MC	5		A19	
		159MC (10MC Swp)	83.25MC	4		A20	
		153MC (10MC Swp)	87.75MC	3		A21	
		147MC (10MC Swp)	77.25MC	2		A22	
		141MC (10MC Swp)	81.75MC				
		135MC (10MC Swp)	71.75MC				
		129MC (10MC Swp)	61.25MC				
		123MC (10MC Swp)	65.75MC				
		117MC (10MC Swp)	55.25MC				
		111MC (10MC Swp)	59.75MC				

RF AND MIXER ALIGNMENT						
The RF and Mixer portion of this receiver has been properly aligned at the factory and is very stable. Alignment of this portion of the receiver should not be required in the field.						

4.5MC TRAP ALIGNMENT						
Tune in a local TV station and inspect the picture for evidence of 4.5MC beat interference. If necessary, adjust A7 until the horizontal scanning lines are smooth and continuous.						

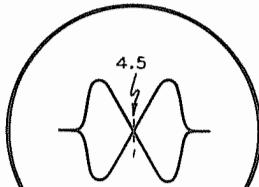


FIG. 3

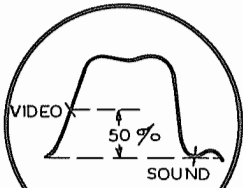
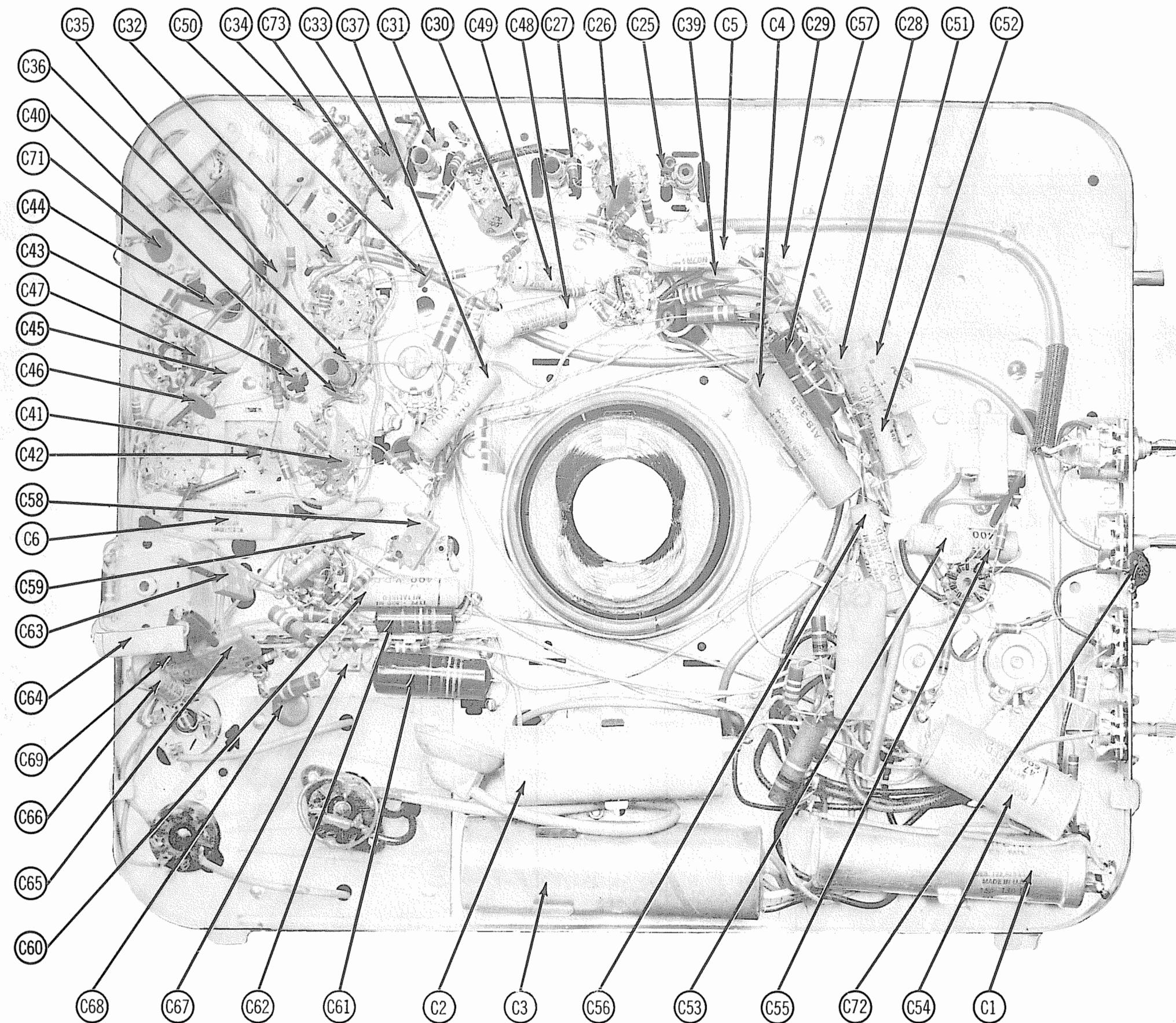


FIG. 4

SILVERTONE MODELS 5100, 5106, 5110, 5114, 5116, 5126, A, 5128, 5130 (Ch. 528.31300), 528.31301, 528.31400, 528.31401, 528.31700, 528.31701, 528.31800, 528.31801, 528.32800)



CHASSIS BOTTOM VIEW-CAPACITOR IDENTIFICATION

SILVERTONE MODELS 5100, 5106, 5110, 5114, 5116, 5126, A, 5128, 5130 (Ch. 528.31300, 528.31301, 528.31400, 528.31401, 528.31700, 528.31701, 528.31800, 528.31801, 528.32800)