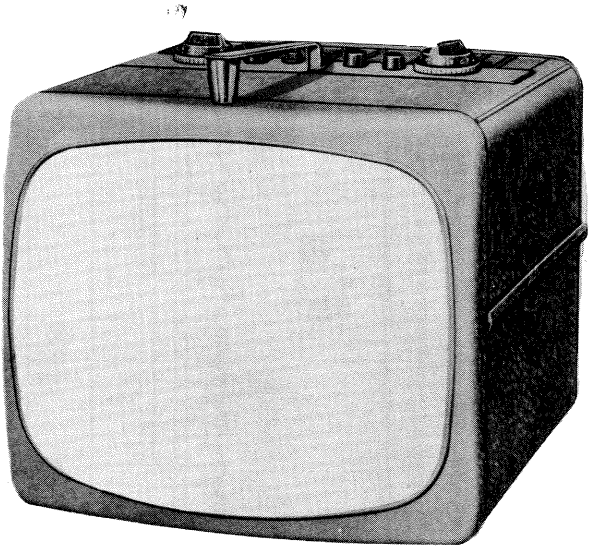




DISASSEMBLY
INSTRUCTIONS

CHASSIS REMOVAL

1. Remove the 2 side trim strips by sliding off toward the back.
2. Remove 6 metal screws and the rear cover.
3. Remove the bolt holding the handle at the front, the metal screw in the center of the handle and the handle.
4. Remove 7 push-on type control knobs from the top.
5. Remove speaker leads, picture tube socket, ion trap, yoke clamp, yoke and HV lead.
6. Remove 4 metal screws and remove the cabinet top.
7. Remove 4 chassis bolts from the bottom and remove the chassis.
8. Remove 4 speaker nuts and the speaker.



CAUTION NOTE

ONE SIDE OF AC LINE CONNECTED TO CHASSIS

Care should be exercised when connecting test equipment or physically contacting chassis.

SERVICING IN THE FIELD

TUNER OSCILLATOR ADJUSTMENTS

For touch-up adjustment of the VHF oscillator it is necessary to remove the chassis from the cabinet. (See disassembly instructions).

PICTURE TUBE SAFETY GLASS CLEANING

For picture tube and safety glass cleaning, see steps 1, 2 and 3 of "Disassembly Instructions". Remove 1 metal screw from the bottom of the front and remove the entire front of cabinet.

FOCUS

The focus may be varied by the position of a wire from pin 6 of the picture tube to pin 36 or 38 on the printed board. Adjust Ion trap for the best focus consistent with maximum brightness.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

The horizontal frequency coil is used as the horizontal hold control. Adjust the horizontal hold until the picture synchronizes horizontally. For location, see tube placement chart.

FUSES

A 5Ω fusible resistor R73 is used for LV power supply protection. (For location see tube placement chart).

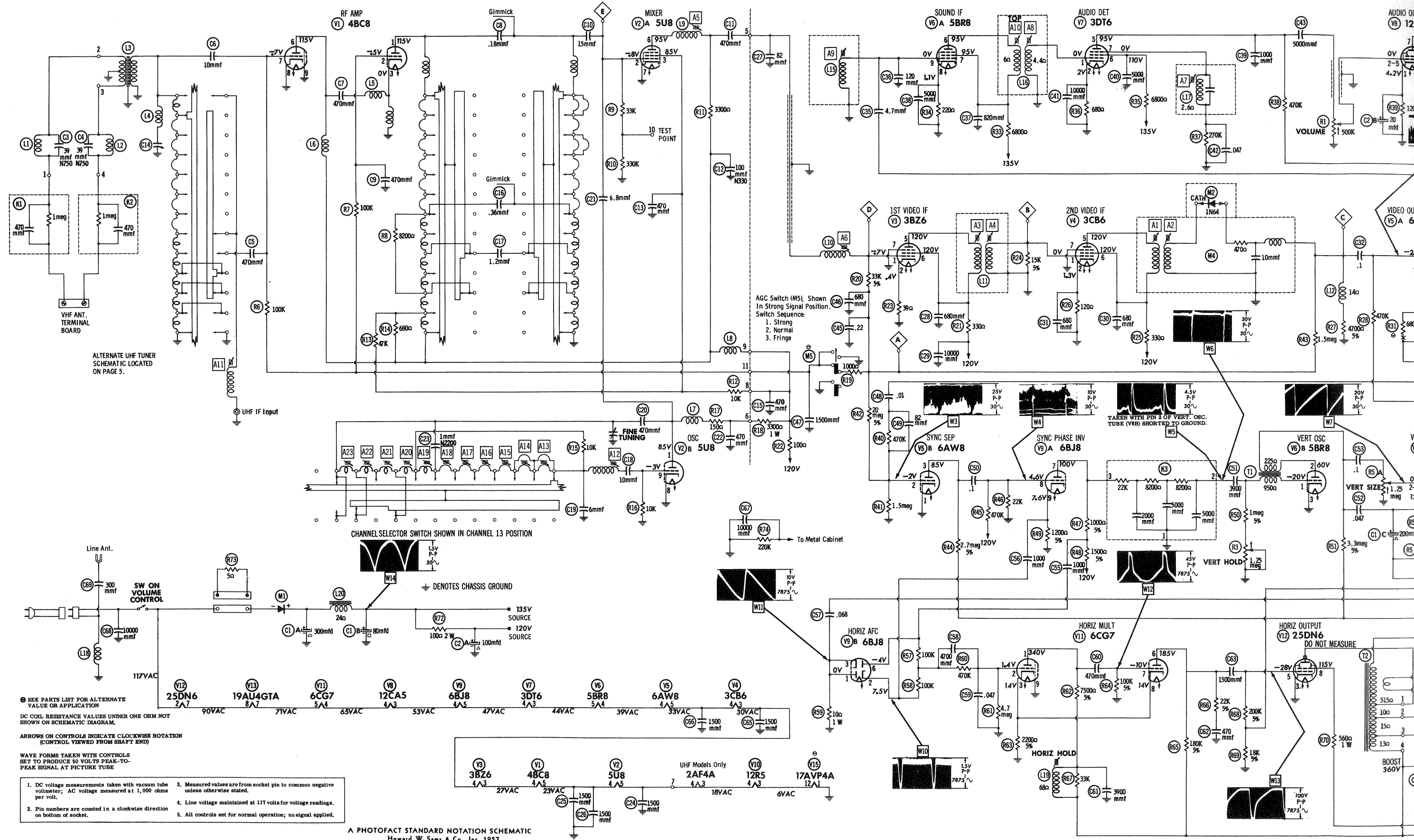
CENTERING

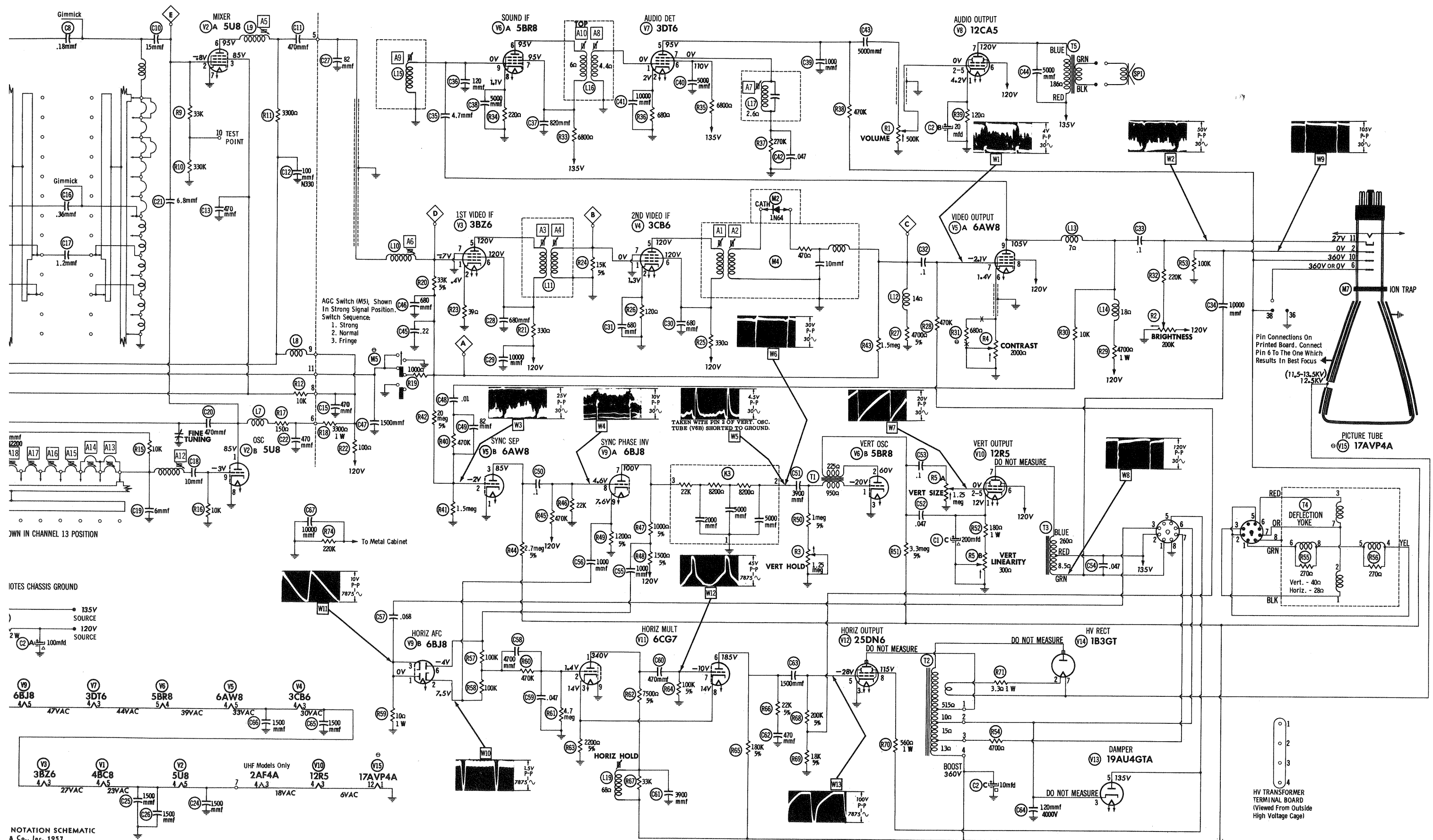
Centering is accomplished mechanically by adjusting two magnetic rings around the neck of the picture tube. Rotate the two rings around the neck of the tube until the picture is properly centered.

SENTINEL CHASSIS U19-01AA, U19-02AA,
V19-01AA, V19-02AA (19 Series)

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

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SENTINEL CHASSIS U19-01AA, U19-02AA,
V19-01AA, V19-02AA (19 Series)

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	4BC8	† 225Ω	1.6Meg	2.5Ω	6Ω	5.5Ω	† 225Ω	1.6Meg	0Ω	0Ω
V2	5U8	† 3600Ω	360K	† 9K	5.5Ω	4Ω	† 3500Ω	0Ω	0Ω	10K
V3	3BZ6	1.5Meg	39Ω	6Ω	7Ω	† 450Ω	† 450Ω	0Ω		
V4	6CB6	.1Ω	120Ω	7Ω	7.5Ω	† 450Ω	† 450Ω	0Ω		
V5	6AW8	0Ω	1.5Meg	† 2.7Meg	9Ω	7.5Ω	● 15Ω	470K	† 125Ω	† 4800Ω
V6	5BR8	● 1.5Meg	† 3.3Meg	0Ω	9Ω	10Ω	† 6800Ω	† 6800Ω	220Ω	.6Ω
V7	3DT6	4.4Ω	680Ω	10Ω	11Ω	† 470K	† 6800Ω	270K		
V8	12CA5	120Ω	50K	12.5Ω	15Ω	50K	† 125Ω	† 210Ω		
V9	6BJ8	10Ω	5.3Meg	10Ω	12.5Ω	11Ω	5.3Meg	† 2600Ω	18K	1200Ω
V10	12R5	● 350Ω	● 700K	1.5Ω	4Ω	● 700K	† 125Ω	† 280Ω		
V11	6CG7	† 7500Ω	4.7Meg	2200Ω	15Ω	16.5Ω	† 180K	100K	2200Ω	0Ω
V12	25DN6	TP	25Ω	0Ω	NC	220K	NC	20Ω	† 585Ω	TOP CAP † 10Ω
V13	19AU4GT A	NC	NC	9	NC	† 25Ω	NC	16.5Ω	20Ω	
V14	1B3GT	PINS 1 THRU 8 HAVE INF RESISTANCE								TOP CAP † 525Ω
V15	17AVP4A	0Ω	100K	PIN 6 † 26Ω	PIN 10 † 26Ω	PIN 11 1.5Ω	PIN 12 1.5Ω			

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 - Fusible Resistor (R73), Rectifier (M1)

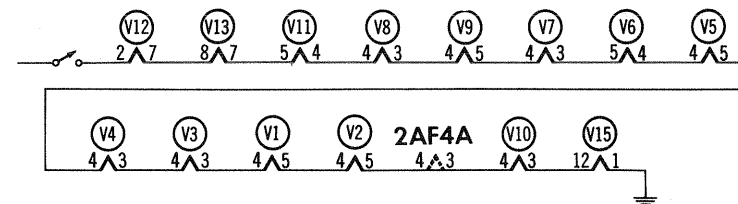
No raster, no sound - Fusible Resistor (R73), Rectifier (M1)

LOSS OF PICTURE OR SOUND
No pic, no sound, has raster - V3, V4, Diode (M2), V5
No pic, no sound, has snow - V1, V2
No pic, has sound, has raster - V5, V15
Has pic, no sound - V6, V7, V8

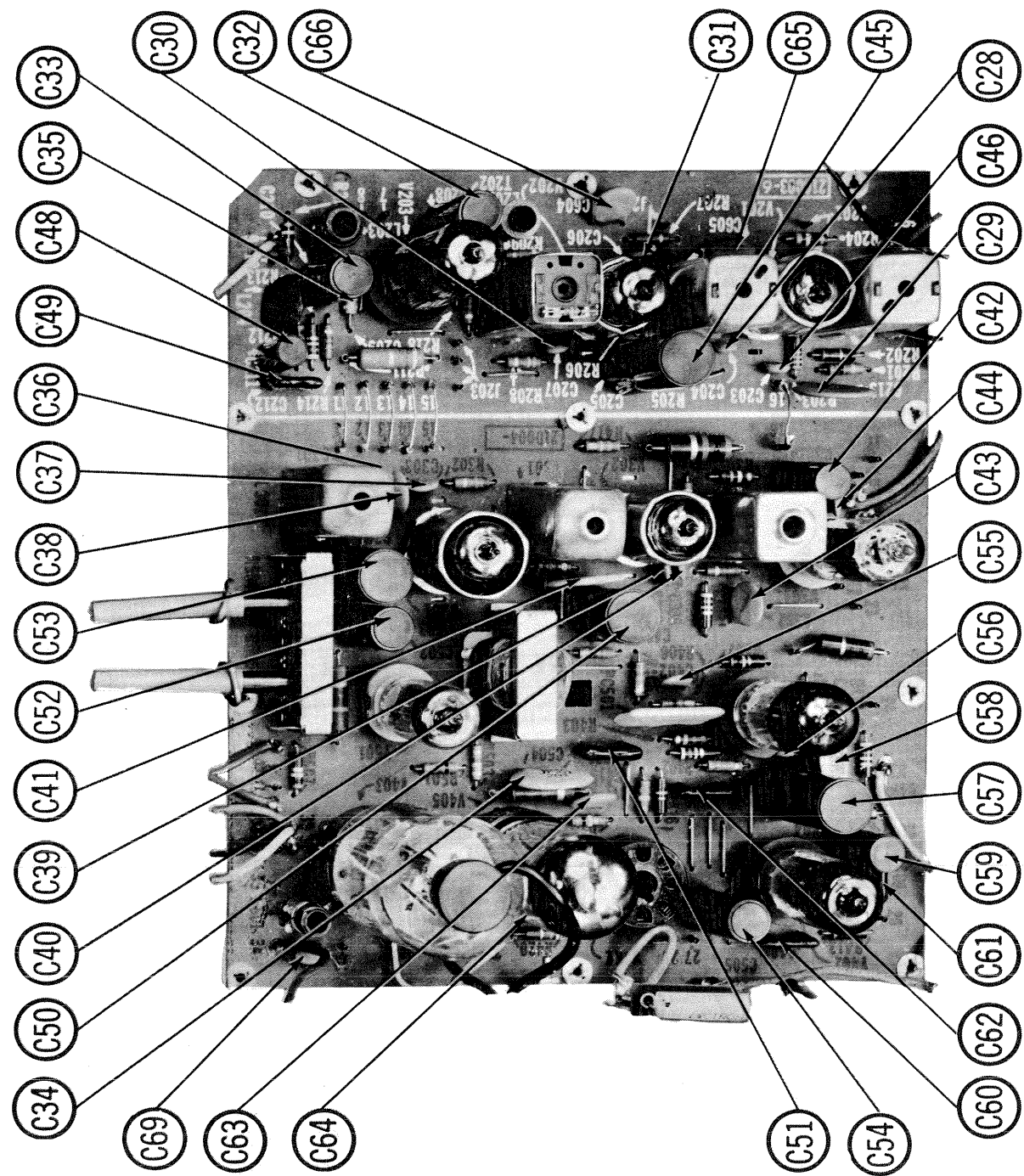
No vert. sync - V5, V9
No horiz. sync - V5, V9
No vert. or horiz. sync - V5, V9

SWEEP FAILURE
No raster, has sound - V9, V11, V12, V13, V14, V15
No vertical deflection - V8, V10
Poor vert. linearity or foldover - V6, V10
Poor horiz. linearity or foldover - V11, V12, V13
Narrow picture - V11, V12, V13, M1
Vert. off freq. - V6
Horiz. off freq. - V11

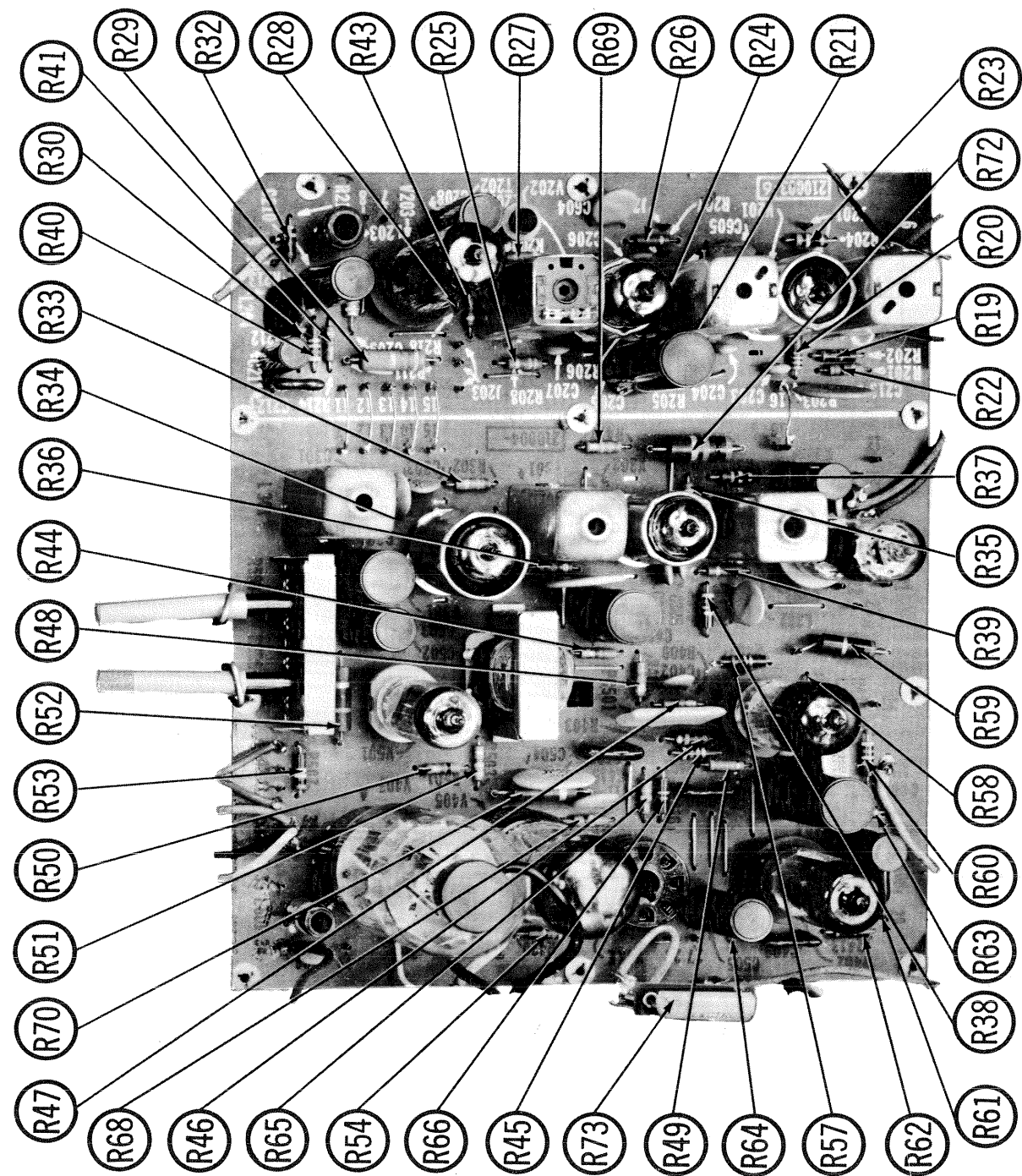
This receiver employs tubes used in a series filament network, an open filament in any tube in the series will cause the set to be inoperative (See circuit below).



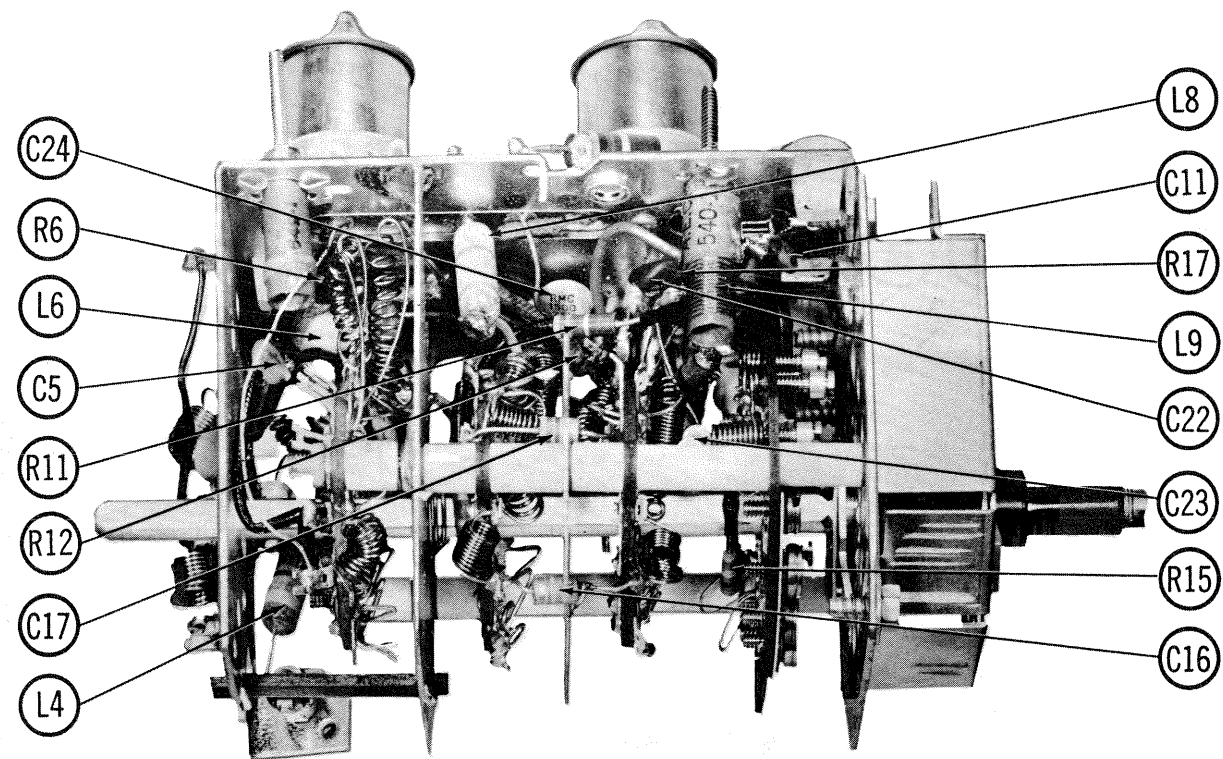
PAGE 3



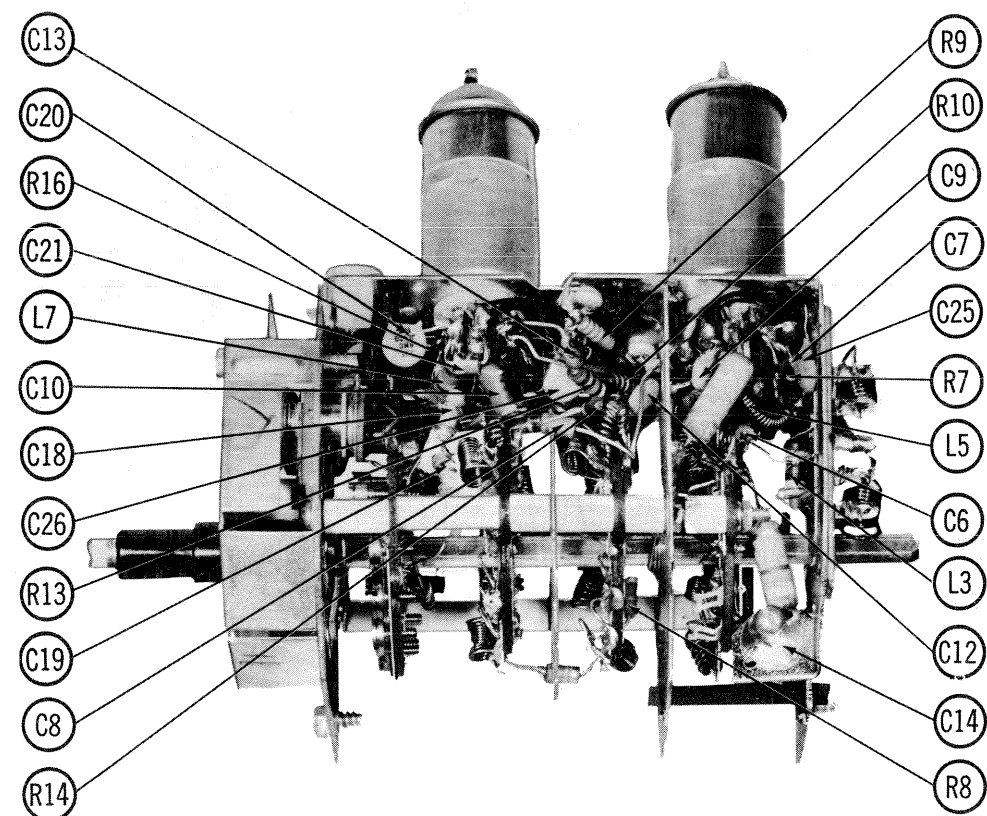
CAPACITOR IDENTIFICATION



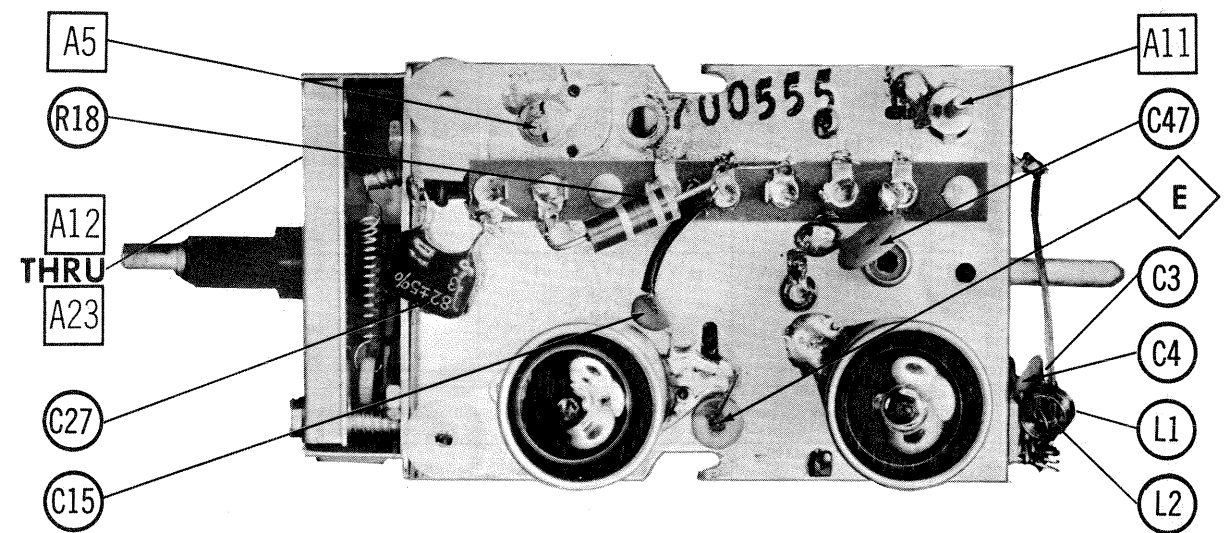
SENTINEL CHASSIS U19-01AA, U19-02AA,
V19-01AA, V19-02AA (19 Series)
RESISTOR IDENTIFICATION



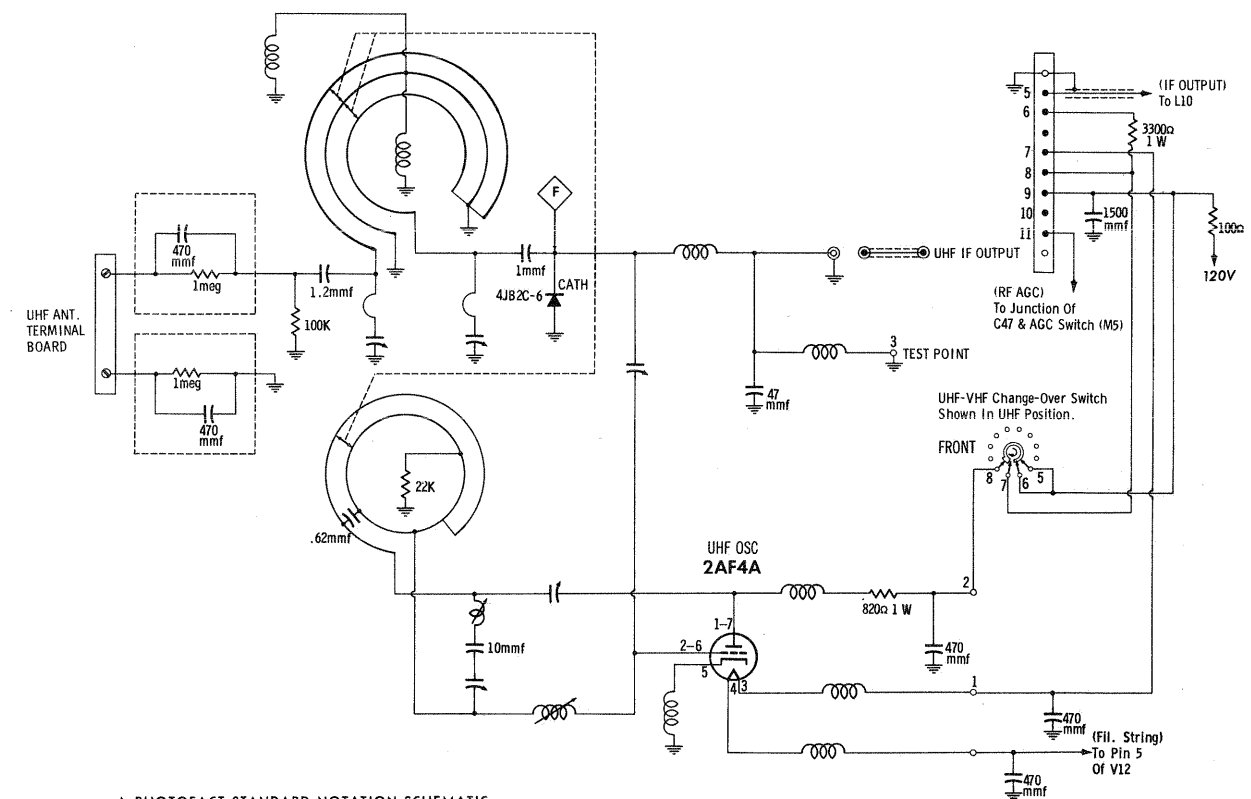
RF TUNER-LEFT SIDE



RF TUNER-RIGHT SIDE



RF TUNER - TOP VIEW



A PHOTOFACT STANDARD NOTATION SCHEMATIC
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ALTERNATE UHF TUNER SCHEMATIC

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

USE AN ISOLATION TRANSFORMER TO PROTECT THE TEST EQUIPMENT.
Allow a 20 minute warm-up period for the receiver and test equipment.

VIDEO IF ALIGNMENT

Set "Local-Distant" switch to "Local" position.
Set contrast control fully counter clockwise.
Connect the negative lead of a 3 volts bias supply to point \diamond . Positive to chassis.
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.
Use only enough sweep generator output to provide usable pattern on scope.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. .001MFD	High side to point \diamond . Low side to chassis.	43MC (10MC Swp)	42.75MC 45.75MC	Any non-interfering channel	Vert. Amp. thru 10K to point \diamond . Low side to chassis.	A1, A2	Adjust for response curve similar to Fig. 1 with markers as indicated. Adjust A1 for maximum gain between markers. Adjust A2 for proper bandwidth.
2. "	High side to point \diamond . Low side to chassis.	"	"	"	"	A3, A4	Adjust input to provide 3 volts peak to peak. Adjust for response similar to Fig. 2 with markers as indicated.
3. "	High side to point \diamond . Low side to chassis.	"	42.75MC 45.0MC 45.75MC	12	"	A5, A6	Adjust A5 for maximum gain while placing 45.75MC marker at 50% on curve as in Fig. 3. Adjust A6 for maximum gain and symmetry with markers as indicated in Fig. 3. If necessary, retouch A1 thru A4 for desired response.

UHF IF ALIGNMENT

Connect bias as under "Video IF Alignment".
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
Use only enough sweep generator output to provide usable pattern on scope.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4. 1000Ω Carbon Resistor	High side to point \diamond . Low side to tuner chassis.	43MC (10MC Swp)	42.75MC 45.0MC 45.75MC	UHF	Vert. Amp. thru 10K to point \diamond . Low side to chassis.	All	Adjust for maximum gain and MINIMUM tilt.

SOUND IF ALIGNMENT

1. Tune in a strong TV signal and adjust A7 for maximum sound output with MINIMUM distortion.
2. Reduce the signal strength, by using an attenuation pad, so that with the volume control set fully clockwise, the sound is just audible. Adjust A8 for MINIMUM noise and clearest sound. (If no attenuator is available, disconnect antenna and place leads in vicinity of antenna terminals.
3. Using same weak signal, adjust A9 and A10 for MINIMUM noise and clearest sound.
4. Reduce the signal further until noise is present and retouch A10 for MINIMUM noise and clearest sound.

VHF OSCILLATOR ALIGNMENT

Connect bias 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 center of its range.
Use only enough sweep generator output to provide usable pattern on scope.

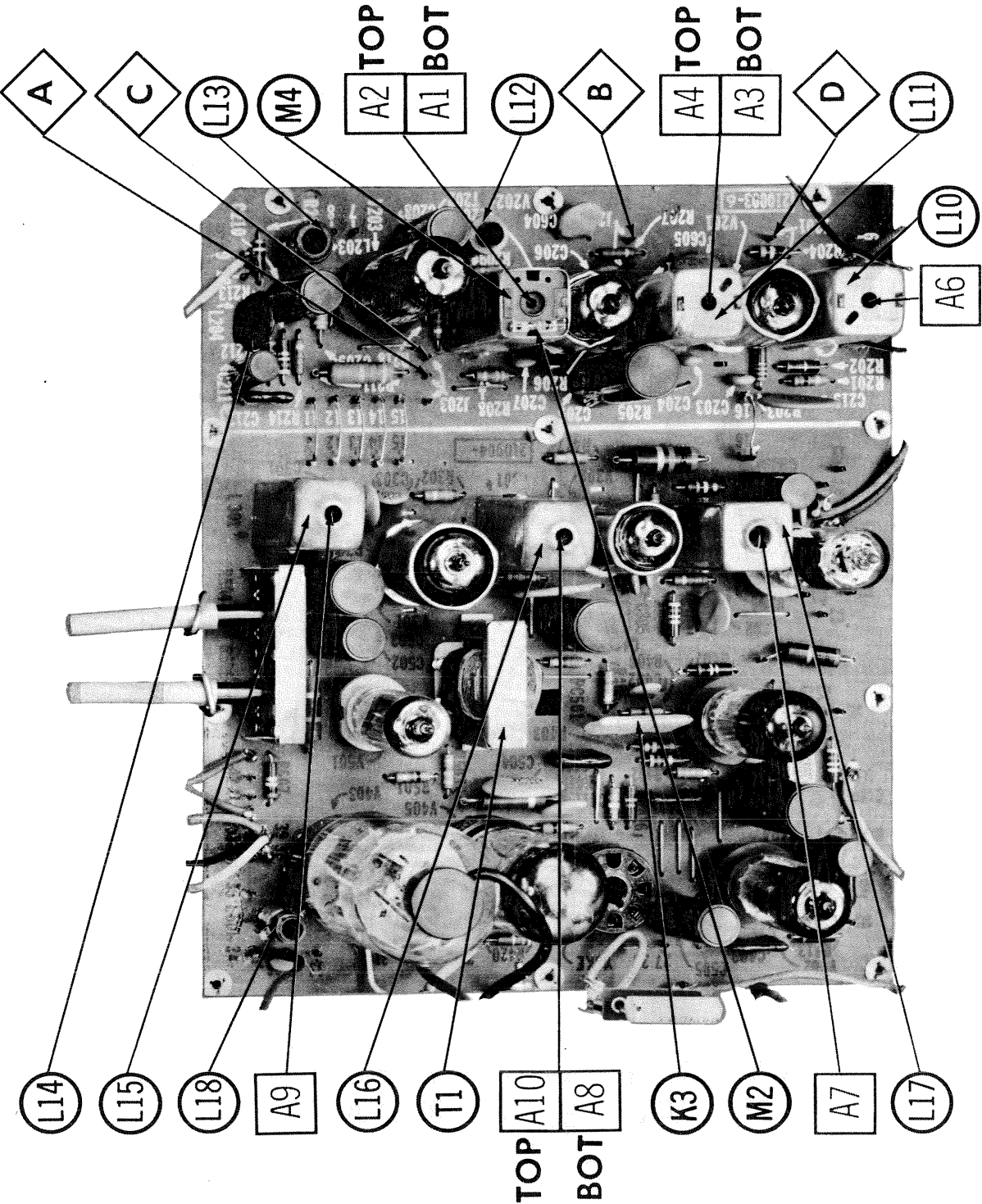
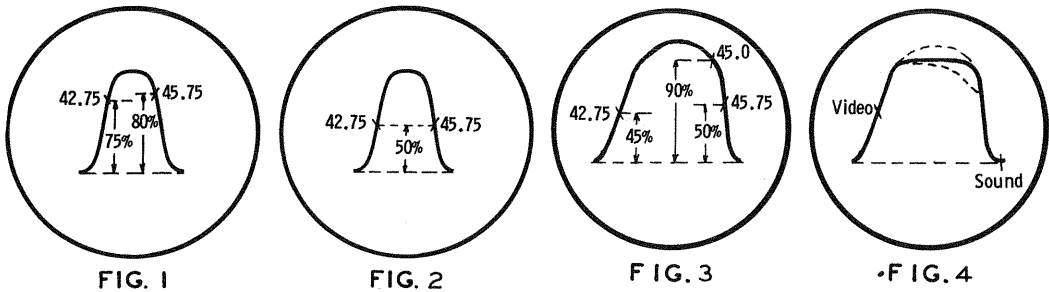
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
5. Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	213MC (10MC Swp)	211.25MC 215.75MC	13	Vert. Amp. thru 47K to point \diamond . Low side to chassis.	A12	Adjust to place sound marker in trap notch as in Fig. 4. Video marker should fall at 50%.
		207MC (10MC Swp)	205.25MC 209.75MC	12		A13	
		201MC (10MC Swp)	199.25MC 203.75MC	11		A14	
		195MC (10MC Swp)	193.25MC 197.75MC	10		A15	
		189MC (10MC Swp)	187.25MC 191.75MC	9		A16	
		183MC (10MC Swp)	181.25MC 185.75MC	8		A17	
		177MC (10MC Swp)	175.25MC 179.75MC	7		A18	
		171MC (10MC Swp)	169.25MC 173.75MC	6		A19	
		165MC (10MC Swp)	163.25MC 167.75MC	5		A20	
		159MC (10MC Swp)	157.25MC 161.75MC	4		A21	
		153MC (10MC Swp)	151.25MC 155.75MC	3		A22	
		147MC (10MC Swp)	145.25MC 149.75MC	2		A23	
		141MC (10MC Swp)	139.25MC 143.75MC				
		135MC (10MC Swp)	133.25MC 137.75MC				
		129MC (10MC Swp)	127.25MC 131.75MC				
		123MC (10MC Swp)	121.25MC 125.75MC				
		117MC (10MC Swp)	115.25MC 119.75MC				
		111MC (10MC Swp)	109.25MC 113.75MC				
		105MC (10MC Swp)	103.25MC 107.75MC				
		99MC (10MC Swp)	97.25MC 101.75MC				

VHF RF AND MIXER ALIGNMENT

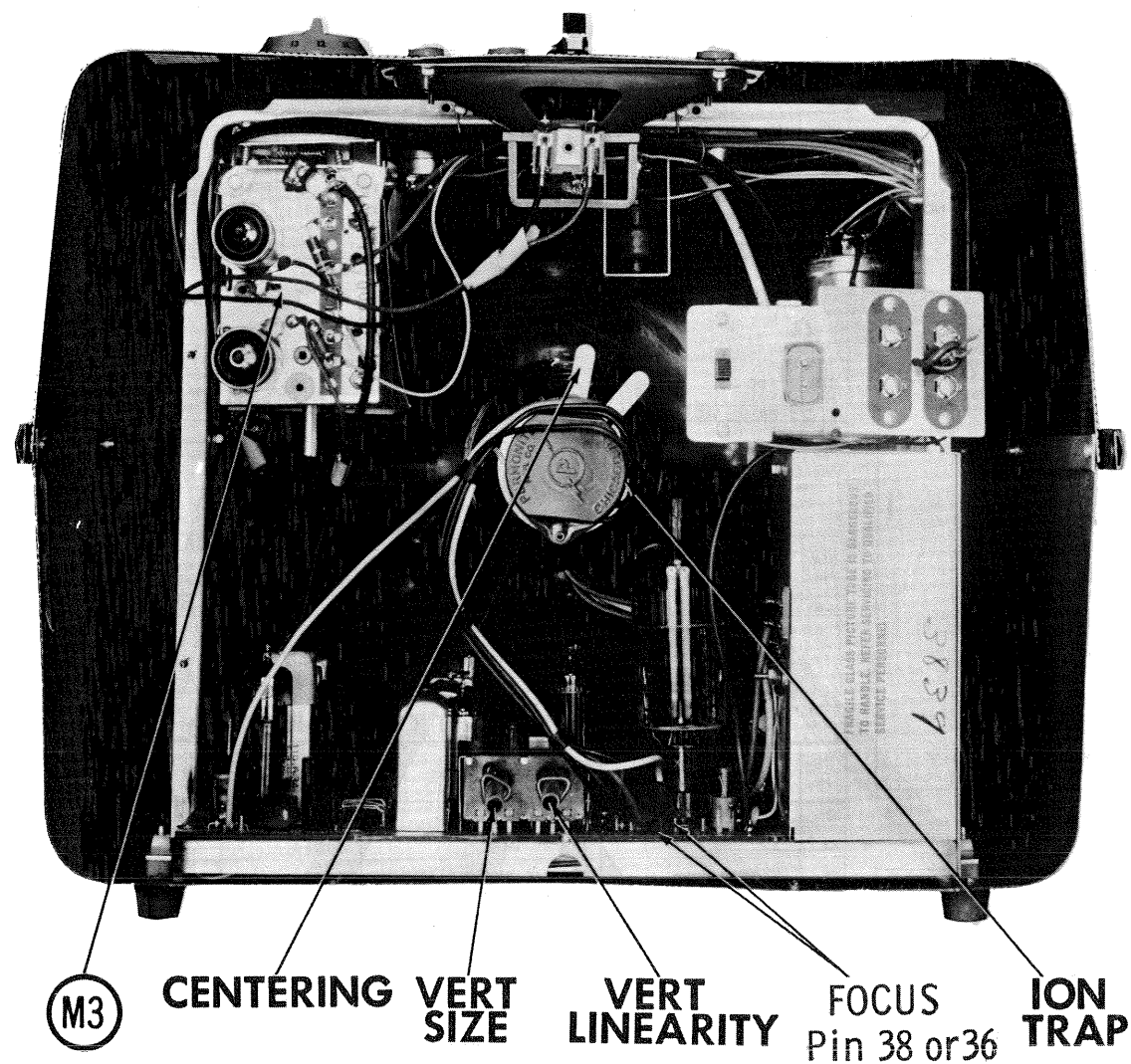
This portion of the receiver has been properly aligned at the factory and is very stable. Alignment of this portion should not be required in the field.

UHF ALIGNMENT

This portion of the receiver has been properly aligned at the factory and is very stable. Alignment of this portion should not be required in the field.



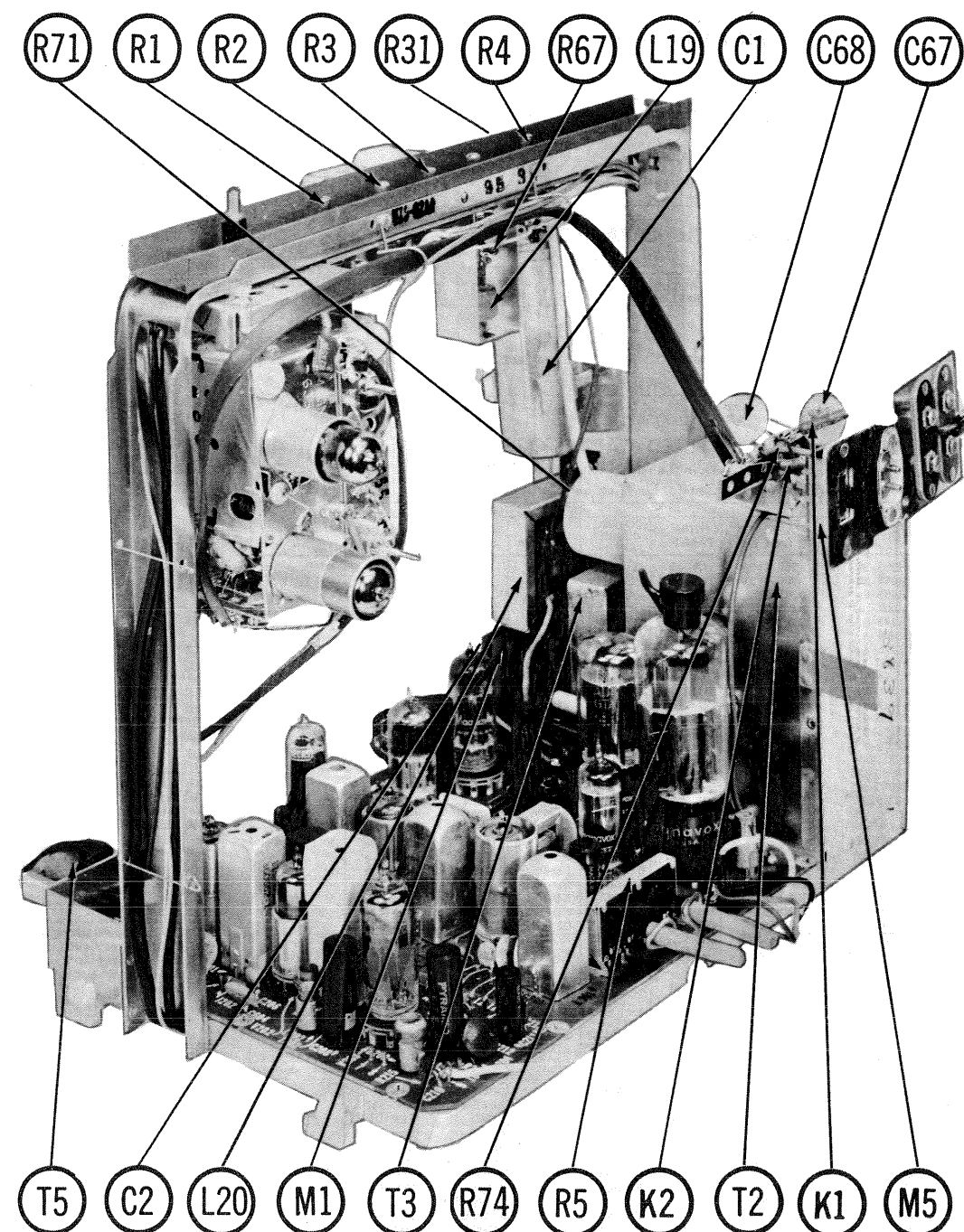
SENTINEL CHASSIS U19-01AA, U19-02AA,
V19-01AA, V19-02AA (19 Series)
TRANSFORMER IDENTIFICATION



CABINET—REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

1. Turn the set on and tune in a TV station, preferably with a test pattern.
2. Set the brightness and contrast controls for a normal picture.
3. Loosen set screw and turn the horizontal hold clockwise until the picture loses sync. It may be necessary to switch off channel and back again for picture to lose sync.
4. Turn the horizontal hold slowly counter clockwise until the picture just falls into sync. Tighten set screw.



CHASSIS TOP VIEW

PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	RF Amplifier	4BC8	
V2	Mixer-Oscillator	6U8	
V3	1st. Video IF Amp.	3CZ6	
V4	2nd. Video IF Amp.	3CB6	
V5	Video Output-Sync Sep.	6AW8	
V6	Sound IF Amp. -Vert. Osc.	5BR8	
V7	Audio Det.	3DT6	
V8	Audio Output	12CA5	

PICTURE TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	SENTINEL PART No.	CBS PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	
V15	17AVP4A 14SP4 14RP4A	17AVP4A ②	17AVP4A ② 17AVP4 14RP4A ② 14RP4	17AVP4A① 17AVP4 17ATP4A/ 17AVP4A① 14RP4A ①	① Silver screen "85" ② Aluminized

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	SENTINEL PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
CLA	▲300	150	27002L-63	AFHS3-83-95		FP411.8			R2370 *
B	■80	150				TC492			
C	▲200	50	270023-25	AFH3-188	Cl450	WQ775	TMT-151	T-770	TVL-3903
C2A	▲100	150				TC48			
B	20	50							
C	■10	450							

FIXED CAPACITORS

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

ITEM No.	RATING		SENTINEL PART No.	AEROVOX PART No.	CENTRALAB PART No.	REPLACEMENT DATA				NOTES
	CAP.	VOLT				ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.		
C3	39		250175-20	N750-SI 39	TCN-39	C10Q39U	TC7-39			N750
C4	39		250175-20	N750-SI 39	TCN-39	C10Q39U	TC7-39			N750
C5	470		250175-8	BPD-00047	DD-47I	BYAIOT47	ED-470	UC-5347	5GA-T47	
C6	10		250221-127	NP0-SI 10	D6-100	L10QI	ED-10	UC-54I	5GA-QI	
C7	470		250175-8	BPD-00047	DD-47I	BYAIOT47	ED-470	UC-5347	5GA-T47	
C8	.18		250216-4							
C9	470		250175-8	BPD-00047	DD-47I	BYAIOT47	ED-470	UC-5347	5GA-T47	
C10	15		250207-5	NP0-SI 15	TCZ-15	L10Q5	ED-15	UC-5415	5GA-Q15	
C11	470		250175-8	BPD-00047	DD-47I	BYAIOT47	ED-470	UC-5347	5GA-T47	
C12	100		250175-24		TC A-100					N330
C13	470		250175-8	BPD-00047	DD-47I	BYAIOT47	ED-470	UC-5347	5GA-T47	
C14			250188-6							
C15	470		250175-8	BPD-00047	DD-47I	BYAIOT47	ED-470	UC-5347	5GA-T47	Note 1
C16	.36		250216-5							
C17	1, 1.2		250221-115	NP0-SI 1	TCZ-1	L10QI	ED-10	ZT-54I	5GA-QI	
C18	10		250088-136	SI 10	D6-100					
C19	6		250088-143							
C20	470		250218-15	BPD-00047	DD-47I	BYAIOT47	ED-470	UC-5347	5GA-T47	
C21	6, 8		250221-125	NP0-SI 6, 8	TCZ-6R8	C10V68C	TCO-6, 8	ZT-5568	5TCCB-V68	
C22	470		250175-8	BPD-00047	DD-47I	BYAIOT47	ED-470	UC-5347	5GA-T47	
C23	1		250088-144							N2200
C24	1500		250175-10	BPD-0015	DD-152	BYAIOD15	ED-0015	DC5215	5HK-D15	
C25	1500		250175-10	BPD-0015	DD-152	BYAIOD15	ED-0015	DC5215	5HK-D15	
C26	1500		250175-10	BPD-0015	DD-152	BYAIOD15	ED-0015	DC5215	5HK-D15	
C27	82		250226-328	BPD-000082	D6-820	L10Q82	ED-82	UC-5482	5GA-Q82	
C28	680		250234-138	BPD-00068	DD-68I	BYAIOT68	ED-680	UC-5368	5GA-T68	
C29	10000		250234-66	BPD-01	DD-103	BYAS61	GP-10000	DC511	5HK-SI	
C30	680		250234-138	BPD-00068	DD-68I	BYAIOT68	ED-680	UC-5368	5GA-T68	
C31	680		250234-138	BPD-00068	DD-68I	BYAIOT68	ED-680	UC-5368	5GA-T68	
C32	.1	200	250240-13			BC2P15		ACEA01	2SE-P10	
C33	.1	200	250240-13			BC2P15		ACEA01	2SE-P10	
C34	10000		250234-66	BPD-01	DD-103	BYAS61	ED-01	DC511	5HK-SI	
C35	4		250234-123	NP0-SI 4, 7	TCZ-4R7	C10V47C	TCO-4, 7	ZT-5547	5TCCB-V47	
C36	120		250236-3	BPD-00012	DD-12I	L10T12	ED-120	UC-5312	5GA-T12	
C37	820		250234-140	BPD-00082	D6-82I	BYAIOT82	ED-820	UC-5382	5GA-T82	
C38	5000		250236-1	BPD-005	DD-502	BYAIOD5	ED-005	DC525	5HK-D5	
C39	1000		250234-42	BPD-001	DD-102	BYASD1	ED-1000	DC521	5HK-D1	
C40	5000		250236-1	BPD-005	DD-502	BYAIOD5	ED-005	DC525	5HK-D5	
C41	10000		250234-66	BPD-01	DD-103	BYAS61	ED-01	DC511	5HK-SI	
C42	.047	200	250240-11			BC2847J		ACE6147	2SE-847	
C43	5000		250236-1	BPD-005	DD-502	BYAIOD5	ED-005	DC525	5HK-D5	
C44	5000		250236-1	BPD-005	DD-502	BYAIOD5	ED-005	DC525	5HK-D5	
C45	.22	200	250240-15			BC2P22J		ACE6022	2SE-P22	
C46	680		250234-138	BPD-00068	D6-68I	BYAIOT68	ED-680	UC-5368	5GA-T68	
C47	1500		250218-18	BPD-0015	DD-152	BYAIOD15	ED-0015	DC5215	5HK-D15	
C48	.01	200	250240-11			BC281J		ACE611	2SE-SI	
C49	82		250229-534	BPD-000082	DD-820	L10Q82	ED-82	UC-5482	5GA-Q82	
C50	.1	400	250242-13			BC6P1J		ACE601	5HK-P10	
C51	3900		250228-468	BPD-004	D6-402	BYAIOD4	ED-004	UC-5239	5ED-D39	
C52	.047	400	250242-11			BC6847J		ACE6147	ED-847	
C53	.1	400	250242-13			BC6P1J		ACE601	5HK-P10	
C54	.047	800	250244-11			BC6847J		ACE6147	6SE-847	
C55	1000		250234-24	BPD-001	DD-102	BYASD1	ED-1000	DC521	5HK-D1	
C56	1000		250234-24	BPD-001	DD-102	BYASD1	ED-1000	DC521	5HK-D1	
C57	.068	400	250243-23			BC6868J			ED-868	
C58	4700		250234-158	BPD-0047	D6-472	BYAIOD47	ED-0047	DC5247	5GA-D47	
C59	.047	200	250240-11			BC2847J		ACE6147	2SE-847	
C60	470		250229-346	BPD-00047	DD-47I	BYAIOT47	ED-470	UC-5347	5GA-T47	
C61	3900		250228-468	BPD-004	D6-402	BYAIOD4	ED-004	UC-5239	5GA-D39	
C62	470		250229-346	BPD-00047	DD-47I	BYAIOT47	ED-470	UC-5347	5GA-T47	
C63	1500		250234-146	BPD-0015	DD-152	BYAIOT15	ED-0015	DC5215	5HK-D15	
C64	.22	4000	250236-2		DD-12I					
C65	1500		250234-46	BPD-0015	DD-152	BYAIOD15	ED-0015	DC5215	5HK-D15	
C66	1500		250234-46	BPD-0015	DD-152	BYAIOD15	ED-0015	DC5215	5HK-D15	
C67	10000		250219-2	BPD-01	DD-103	BYAS61	ED-01	DC511	5HK-SI	
C68	10000		250219-2	BPD-01	DD-103	BYAS61	ED-01	DC511	5HK-SI	
C69	300		250235-2		DD-301	L10T3	ED-300	UC-533	5GA-T3	

Note 1. A 1500MMF may be used in this application.

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		REPLACEMENT DATA		NOTES	ITEM No.	RATING		REPLACEMENT DATA		NOTES
			SENTELINEL PART No.	IRC PART No.					SENTELINEL PART No.	IRC PART No.	
	OHMS	WATT	OHMS	WATT			OHMS	WATT			
R6	100K		230104-86	BTS-100K		R42	20Meg 5%	230094-262	BTS-20Meg 5%		
R7	100K		230104-86	BTS-100K		R43	1.5Meg	230104-100	BTS-1.5Meg		
R8	5200Ω		230104-73	BTS-8200		R44	2.7Meg 5%	230094-241	BTS-2.7Meg 5%		
R9	33K		230104-80	BTS-33K							
R10	330K		230104-92	BTS-330K		R45	470K	230104-94	BTS-470K		
R11	3300Ω		230104-68	BTS-3300		R46	22K	230104-78	BTS-22K		
R12	10K		230104-74	BTS-10K		R47	1000Ω 5%	230094-159	BTS-1000 5%		
R13	47K		230104-82	BTS-47K		R48	1500Ω 5%	230094-183	BTS-1500 5%		
R14	680Ω		230104-60	BTS-680		R49	1200Ω 5%	230094-161	BTS-1200 5%		
R15	10K		230104-74	BTS-10K		R50	1Meg 5%	230094-231	BTS-1Meg 5%		
R16	10K		230104-74	BTS-10K		R51	3.5Meg 5%		BTS-3.5Meg 5%		
R17	150Ω		230104-52	BTS-150		R52	180Ω	1	230105-53	BTA-180	
R18	3300Ω	1	230105-68	BTA-3300		R53	100K		230104-86	BTS-100K	
R19	1000Ω		230104-62	BTS-1000		R54	4700Ω		230104-70	BTS-4700	
R20	33K 5%		230094-195			R55	270Ω		230104-55		
R21	330Ω		230104-56	BTS-330		R56	270Ω		230104-55		
R22	100Ω		230104-50	BTS-100		R57	100K		230104-86		
R23	39Ω		230104-45	BTS-39		R58	100K		230104-86		
R24	15K 5%		230094-187	BTS-15K 5%		R59	10Ω	1	230105-38		
R25	330Ω		230104-56	BTS-330		R60	470K		230104-94		
R26	120Ω		230104-51	BTS-120		R61	4.7Meg		230104-106		
R27	4700Ω 5%		230094-175	BTS-4700 5%		R62	7500Ω 5%		230094-180		
R28	470K		230104-94	BTS-470K		R63	2200Ω 5%		230094-167		
R29	4700Ω	1	230105-70	BTA-4700		R64	100K 5%		230094-207	BTS-100K 5%	
R30	10K		230104-74	BTS-10K		R65	180K 5%		230094-213	BTS-180K 5%	
R31	680Ω		230104-60	BTS-680		R66	22K 5%		230094-191	BTS-22K 5%	
R32	220K		230104-90	BTS-220K		R67	33K		230104-80		
R33	6800Ω		230104-72	BTS-6800		R68	200K 5%		230094-214	BTS-200K 5%	
R34	220Ω		230104-54	BTS-220		R69	18K 5%		230094-169	BTS-18K 5%	
R35	6800Ω		230104-72	BTS-6800		R70	560Ω	1	230105-59	BTA-560	
R36	680Ω		230104-60	BTS-680		R71	3.3Ω	1	230107-4	BW1-3.3	
R37	270K		230104-91	BTS-270K		R72	100Ω	2	230146-50	BTB-100	
R38	470K		230104-94	BTS-470K		R73	5Ω		240074-1	FR5.6	
R39	120Ω		230104-51	BTS-120		R74	220K		230104-90	BTS-220K	
R40	470K		230104-94	BTS-470K							
R41	1.5Meg		230104-100	BTS-1.5Meg							

Note 1. Not used in some versions.

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA							
		SENTINEL PART No.	Holldorson PART No.	Merit PART No.	RCA TYPE No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	Vert. Osc. Trans.	320270-1							
T3	Horiz. Output Trans.	360659-1		HVC-133					
T4	Vert. Output Trans.	320269-1	Z1900①②	A-2821 ③		V314 ⑤	HO-266 * A-B149 ③	26S75①②③	A-118X ④
	Yoke (90°) Horiz.								
	(20MH)	360680-1	DF607⑥⑦	MDF-92	235D1 ⑥⑦	Y90F19/43	DY-16A ⑥	Y-16 ⑥	Y-41 ⑥
B	Vert. (48.5MH)	360658-1 ⑤		⑤⑦		⑥⑦	⑦		YCI ⑤ CLI ③

- ① Use 7 to 1 turns ratio.
- ② Connect as auto transformer.
- ③ Drill new mounting hole(s).
- ④ Cut and tape blanking lead.
- ⑤ Yoke rear cover and centering device.
- ⑥ Use original yoke damping network.
- ⑦ Use original rear cover and centering device.
- ⑧ Yoke clamp.

*HORIZONTAL OUTPUT TRANSFORMER CONNECTION DATA

Use Original Width Coil Unless Replacement Type Is Listed

	ORIGINAL TERMINAL CONNECTIONS	Halldorson Replacement Connections	Merit Replacement Connections	RCA Replacement Connections	Ram Replacement Connections	Stancor Replacement Connections	Thordarson Replacement Connections	Triad Replacement Connections
	1					1		
	2					2		
	3					3		
	4					4		

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
			Sentinel Part No.	Halldorson Part No.	Merit Part No.	Stancor Part No.	Thordarson Part No.	Triad Part No.	
	PRI.	SEC.							
T5	3400Ω	3-4Ω	320266-1	Z1105①②	A-2998	A-2332	22S46①	S-16X ①③	① Drill one new mtg. hole. ② Tape taps on primary windings ③ Tape tap on primary winding

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	SENTINEL PART No.	QUAM PART No.	
SP1	4" x 6"	PM	3-4Ω	C580045-1	46A1	

COILS (RF-IF)

ITEM No.	USE	SENTINEL PART No.	NOTES	ITEM No.	USE	SENTINEL PART No.	NOTES
L1	IF Trap Coil	360415-36		L6	RF Choke	360601-6	
L2	IF Trap Coil	360415-36		L7	RF Choke	360601-8	
L3	Ant. Trans.	360492-1		L8	RF Choke	360601-6	
L4	RF Choke	360601-8		L9	Mixer Plate Coil	360540-1	
L5	RF Choke	360415-66					
REPLACEMENT DATA							
ITEM No.	USE	SENTINEL PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	NOTES	
L10	1st. Video IF	360661-1					
L11	2nd. Video IF	360662-1					
L12	Shunt Peaking Coil	360667-3	19-4400			430 Microhenries	
L13	Series Peaking Coil	360667-1	19-4201		6136	215 Microhenries	
L14	Shunt Peaking Coil	360667-2	19-3250	TV-185	6154	235 Microhenries	
L15	1st. Sound IF	360664-1			6161		
L16	2nd. Sound IF	360665-1					
L17	Quadrature Coil	360666-1					
L18	Line Choke	360670-1				1.7 Microhenries	

TRANSFORMER (HORIZ. OSC.)

ITEM No.	DC RES.		REPLACEMENT DATA							NOTES
			SENTINEL PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	RCA TYPE No.	Ram PART No.	Thordarson PART No.	
	PRI.	SEC.								
I19	68Ω		360669-1							

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					
	TOTAL CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 \sim)	SENTINEL PART No.	Halldorson PART No.	Merit PART No.	Slancor PART No.	Thordarson PART No.	Triad PART No.
L20	.285A	240	.9 HY	320268-1	C5037 ①	C-2996 ①	C-2328 ①	26C44	C-23X

① Drill one new mounting hole.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	SENTINEL PART No.	REPLACEMENT DATA
K1	Ant. Input	470MMF, 1Meg	250233-1	
K2	Ant. Input	470MMF, 1Meg	250233-1	
K3	Vert. Integrator	2000MMF, 5000MMF, 5000MMF, 22K, 8200Ω, 8200Ω	250232-1	Aerovox PA-110 Centralab PC-100 Cornell-Dubilier 115TMI Erie 1405-01 Sprague V-1

RECTIFIERS

ITEM No.	RATING	REPLACEMENT DATA					NOTES
	CURRENT (Measured)	SENTINEL PART No.	FEDERAL PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL PART No.	MALLORY PART No.	
MI	.285 A	C530041-1 ①	1023 A ①	IN1007 ②	MR350 ①	6S350 ①	350A ①

① Selenium type . ② Germanium type.

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA		NOTES
		SENTINEL PART No.	SYLVANIA PART No.	
M2	1N64		1N60	Video Detector (Clip-in)

MISCELLANEOUS

ITEM No.	PART NAME	SENTINEL PART No.	NOTES
M3	Tuner	700555-1	VHF
M4	Tuner Video Det. Assy.	700556-1 380663-1	UHF Includes 3rd. Video IF, Series Peaking Coil, Cap., resistor and M2
M5	Switch	160273-1	Strong-Normal-Distant, Slide Type (DPDT) Not used in early versions.
M6	Centering Device	380658-1	Includes Yoke fear cover
M7	Ion Trap	380482-5	
	Printed Board	210003-6	Video
	Printed Board	210004	Sound-Sync

**SENTINEL CHASSIS U19-01AA, U19-02AA,
V19-01AA, V19-02AA (19 Series)**