

CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Tune to a TV station and set all controls for normal operation. Connect a jumper from point ① off pin 2 of V3B to ground. Set the Horizontal Hold Control to the center of its range. Adjust Horizontal Stabilizer Coil Slug (B1) until the picture tends to float slowly across the screen. Remove the jumper from point ①.

DISASSEMBLY INSTRUCTIONS

TV CHASSIS REMOVAL

1. Remove 4 screws holding back cover and remove back cover. On some models it may be necessary to disconnect antenna leads. Remove all knobs.
2. Disconnect yoke, high-voltage anode lead, picture-tube socket, and ground wire.
3. Remove 7 screws holding chassis, tuner and controls.
4. Lift out chassis and tuner.

NOTE: Most components may be serviced without removing chassis.

PICTURE TUBE REMOVAL

1. Follow "Chassis Removal" procedure.
2. Lay set face down on soft protective surface.
3. Remove 8 screws holding picture-tube retainer wire and lift out picture tube. Do not lift out by the neck of the tube.

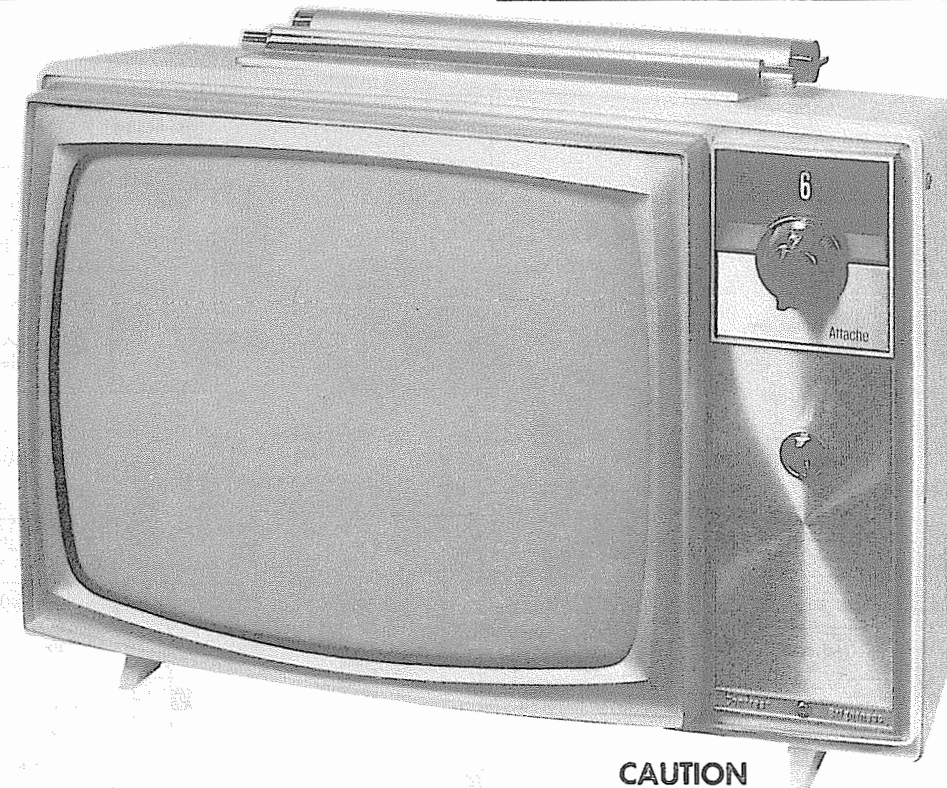
SET 934 FOLDER 2

WESTINGHOUSE  
CHASSIS V-2490-8/-10/-11

PHOTOFACT® Folder

with CIRCUITRACE®

WESTINGHOUSE  
CHASSIS V-2490-8/-10/-11



MODEL BP 12A570

CAUTION  
ONE SIDE OF AC LINE CONNECTED TO CHASSIS

TRADE NAME	Westinghouse Models	Chassis	Westinghouse Models	Chassis
	BP12A570 .....	V-2490-8 (Revised)	BP12A57C, BP12A67C ...	V-2490-11
	BP12A17C, BP12B17C ..	V-2490-10	H-P8030C, H-P8031C ....	V-2490-11
SUPPLIER	For current address, see Annual Index.			
TYPE SET	Television Receiver			
TUBES	VHF: Thirteen, UHF: One Transistor			
POWER SUPPLY	110-120 Volts AC, 60 Cycles			
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75 MC, Sound IF 41.25 MC (Intercarrier)			

SERVICING IN THE FIELD

SAFETY GLASS

The safety glass is an integral part of the picture tube.

FUSE OR FUSE DEVICE

A 2-amp. fuse is used for low-voltage power-supply protection. (See "Tube Placement Chart" for location.)

VHF OSCILLATOR ADJUSTMENT

Set Fine Tuning at the center of its range and adjust oscillator slug (one for each channel) for best sound and picture.

AGC

The AGC may be varied by means of an AGC Trimmer. (See "Tube Placement Chart" for location.)

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

Adjustment of the horizontal hold is accomplished by the proper setting of the Horizontal Hold control and Horizontal Stabilizer coil. (See "Tube Placement Chart" for location.)

WIDTH

For width, connect jumper from ground to Terminal 6 or 7 on Horizontal Output transformer for best width.

FOCUS

No provision is made to vary the focus on this receiver.

CENTERING

Centering is accomplished by 2 magnetic rings located on yoke rear cover.

HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

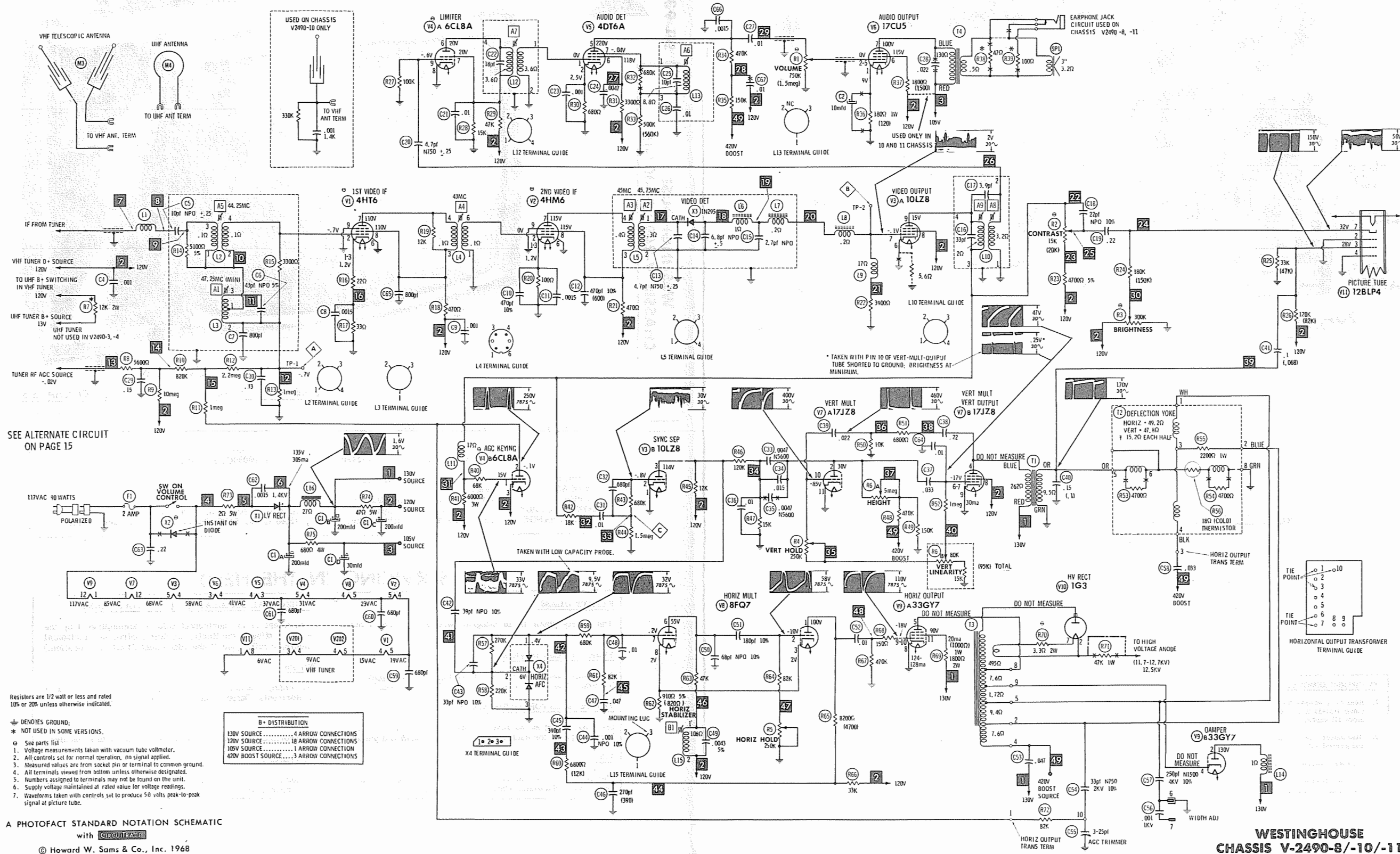
The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. SA512

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DATE 1 -68 SET 934 FOLDER 2

WESTINGHOUSE  
CHASSIS V-2490-8/-10/-11

SET 934 FOLDER 2

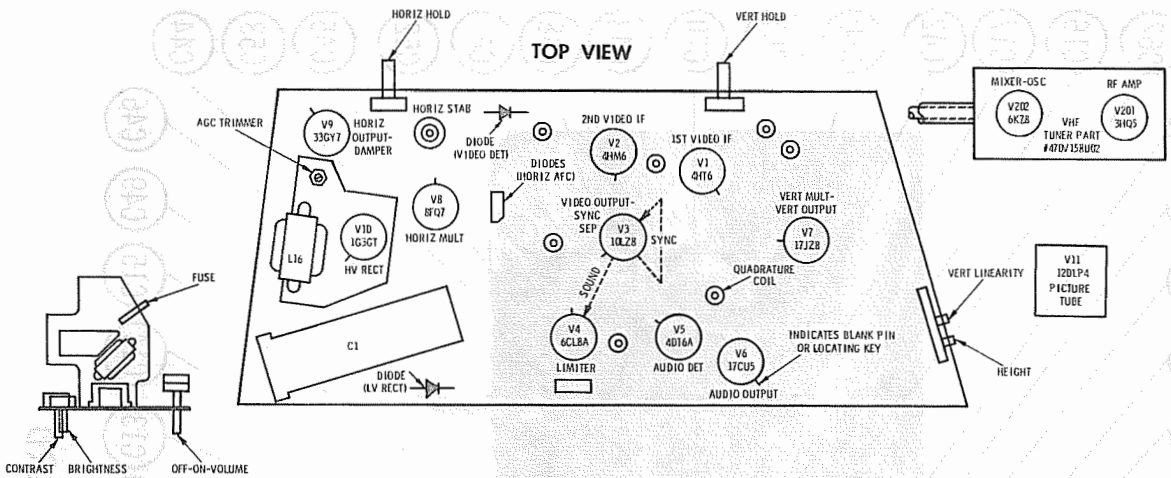


RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Pin 11	Pin 12
V1	4HT6	55Ω	800K	55Ω	5Ω	7Ω	0Ω	†500Ω	†500Ω	0Ω			
V2	4HM6	100Ω	.1Ω	100Ω	7Ω	9Ω	0Ω	†500Ω	†500Ω	0Ω			
V3	10LZ8	0Ω	2.2meg	†10K	22Ω	26Ω	0Ω	250Ω	†70Ω	†4800Ω			
V4	6CL8A	74K	3.5meg	†70Ω	13Ω	15Ω	†24K	†24K	0Ω	100K			
V5	4DT6A	3.6Ω	680Ω	15Ω	17Ω	†620K	†3300Ω	560K					
V6	17CU5	180Ω	250K	22Ω	17Ω	250K	†1800Ω	†750Ω					
V7	17JZ8	32Ω	†1.6meg	NC	†290Ω	NC	1meg	1meg	†70Ω	0Ω	170K	0Ω	26Ω
V8	8FQ7	†41K	170K	910Ω	13Ω	9Ω	†47K	1.1meg	910Ω	0Ω			
V9	33GY7	32Ω	†30Ω	NC	600K	†7.6Ω	NC	NC	0Ω	470K	470K	†1800Ω	45Ω
V10	1B3GT	PINS 1 THRU 7 HAVE INFINITE RESISTANCE											
V11	12BLP4	0Ω	0Ω	26K	0Ω	NC	NC	240K	2Ω				† Plate Cap †502.6Ω
V201	3HQ5	3meg	0Ω	2Ω	3Ω	†1800Ω	0Ω	0Ω					
V202	6KZ8	†12K	150K	0Ω	3Ω	5Ω	†1000Ω	†22K	0Ω	10K			

† MEASURED FROM OUTPUT OF X1 ‡ MEASURED FROM PIN 4 OF V9 NC NO CONNECTION  
◉ READING DEPENDS ON POLARITY OF METER CONNECTIONS.

TUBE PLACEMENT CHART



TUBE FAILURE CHECK CHART

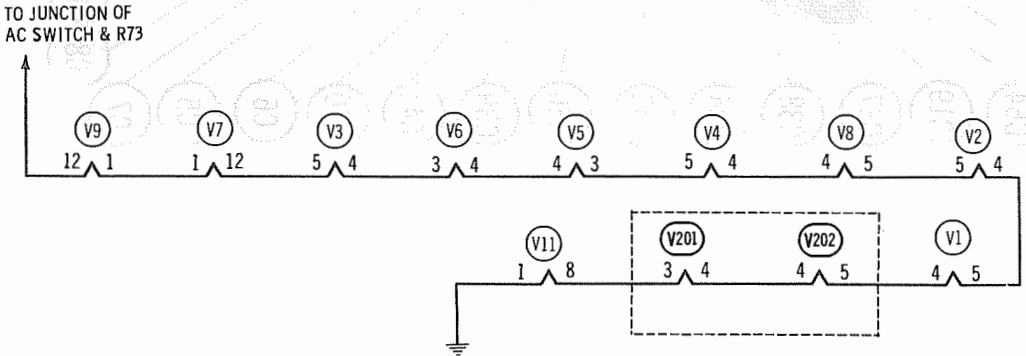
The following chart lists tubes whose failures are most likely to produce indicated symptoms. Refer to tube placement chart for location and type of tube.

- POWER SUPPLY FAILURE**  
No raster, no sound X1 Rect. F1 Fuse

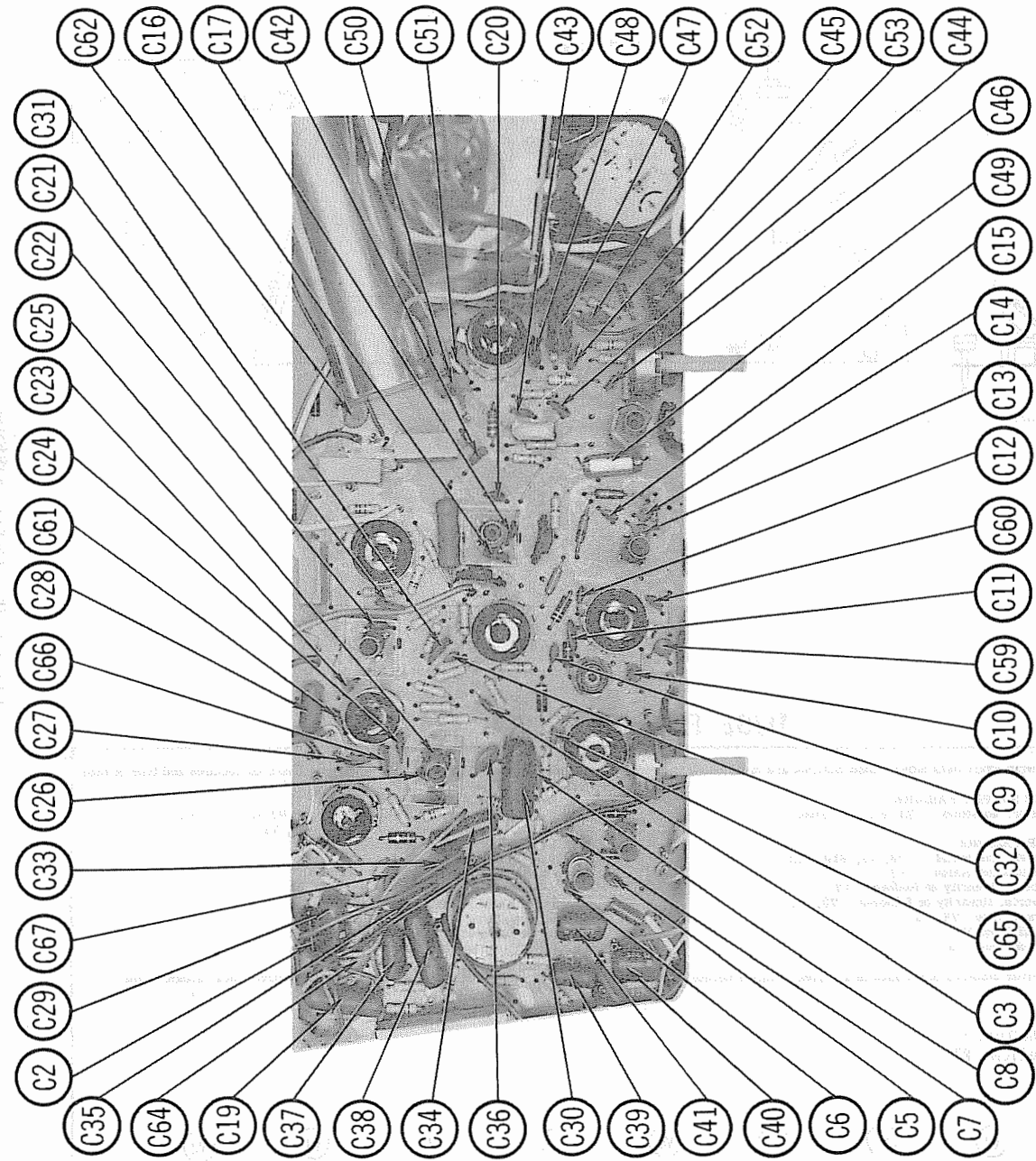
**SWEEP FAILURE**  
No raster, has sound V8, V9, V10, V11  
No vertical deflection V7  
Poor vert. linearity or foldover V7  
Poor horiz. linearity or foldover V8, V9  
Narrow picture V8, V9  
Vert. off freq. V7  
Horiz. off freq. V8
- LOSS OF PICTURE OR SOUND**  
No pic, no sound, has raster V1, V2 V3 X3 Video Det.  
No pic, no sound, has snow V201, V202, V1  
No pic, has sound, has raster V3, V11  
Has pic, no sound V4, V5, V6  
Overloaded picture V4

**SYNC FAILURE**  
No vert. sync V3  
No horiz. sync V3  
No vert. or horiz. sync V3

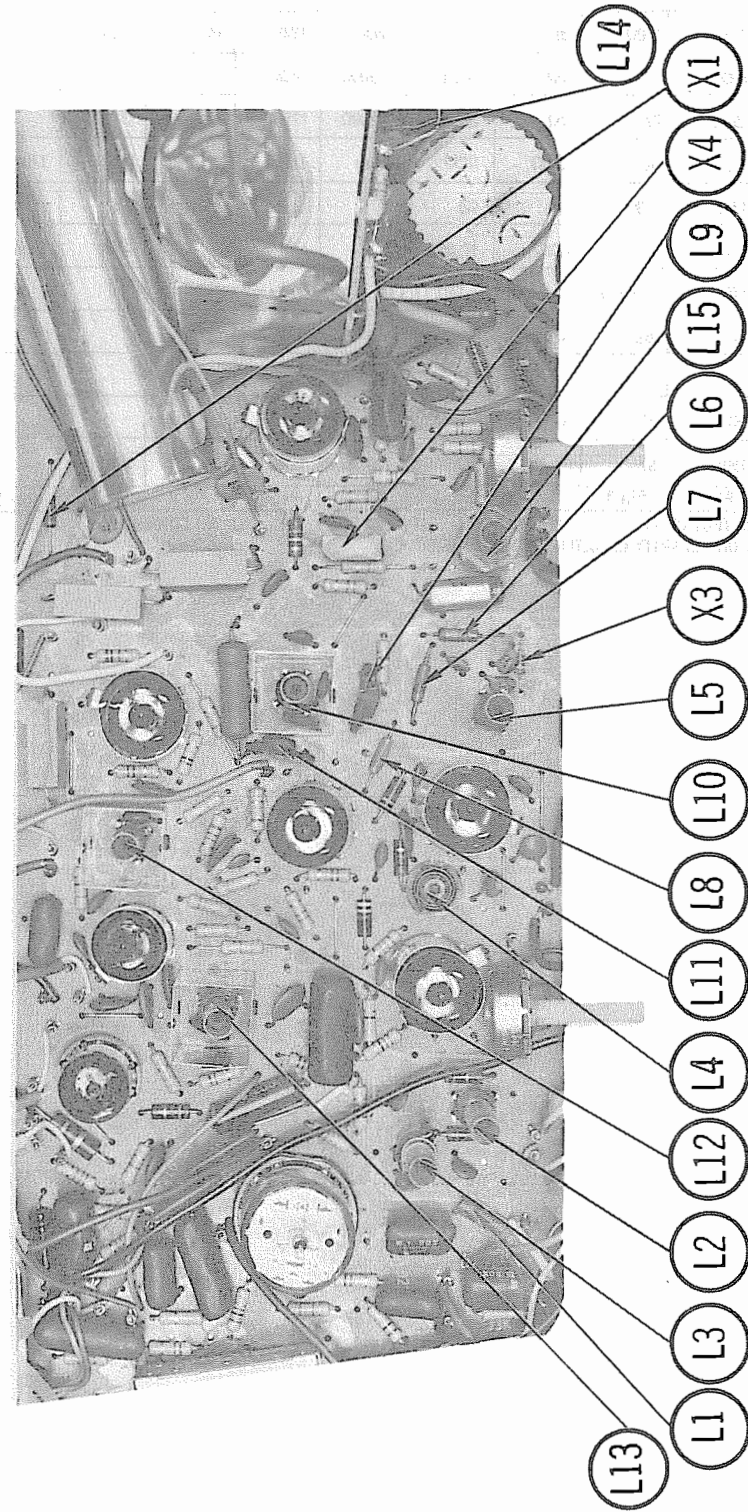
This receiver employs tubes used in a series filament network, an open filament in any tube will cause the set to be inoperative. (See circuit below.)





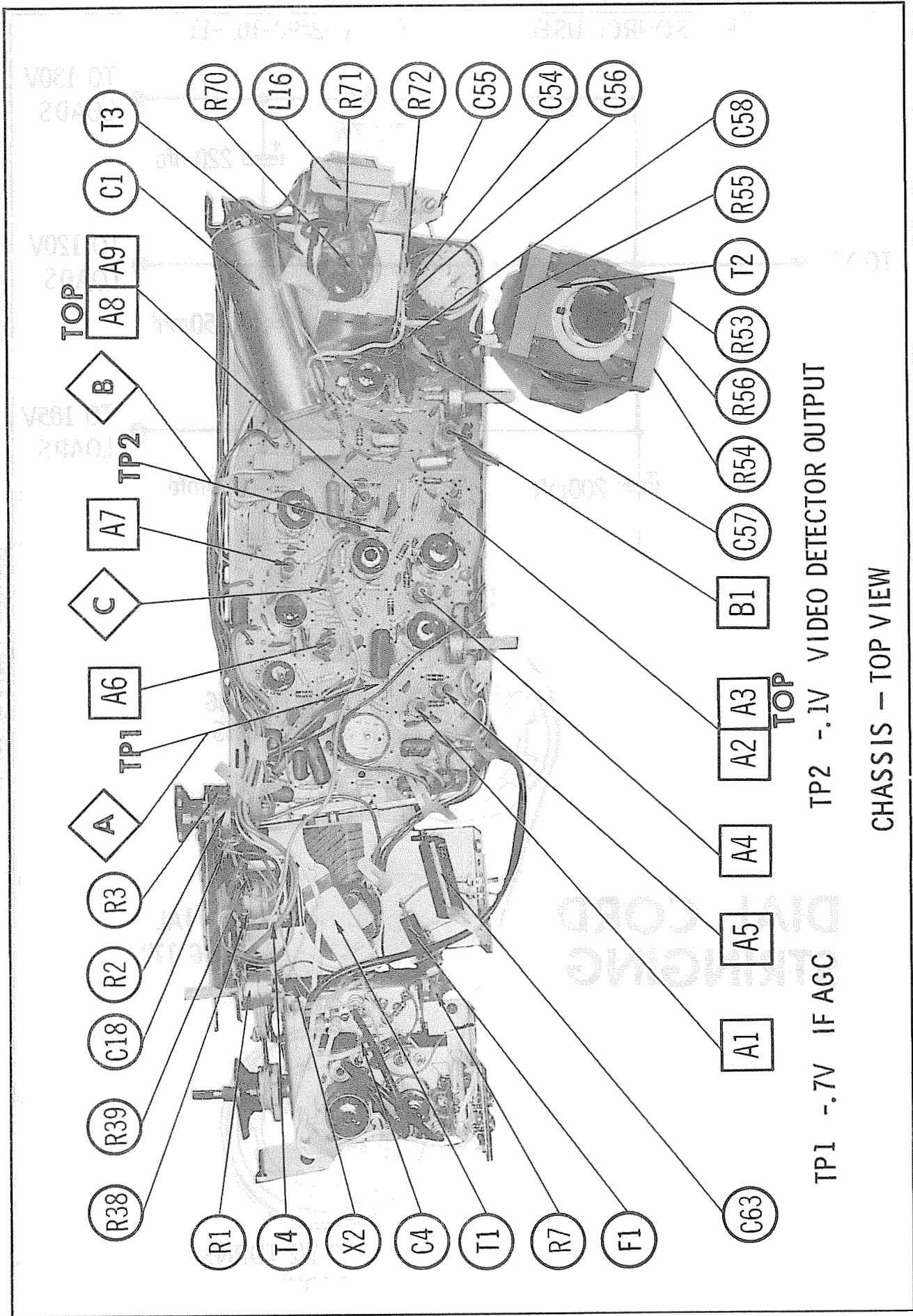


PRINTED CIRCUIT BOARD



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WESTINGHOUSE  
CHASSIS V-2490-8/-10/-11



# ALIGNMENT INSTRUCTIONS

Use an isolation transformer and maintain voltage at 117 volts. Allow a 20-minute warm-up period for the receiver and test equipment.  
Suggested Alignment Tools: A1 thru A9..... GENERAL CEMENT #8608, 8606L, 8869. WALSCO #2543, 2544, 2588  
Mixer Plate Coll..... GENERAL CEMENT #9296, 9297, 9300. WALSCO #2510, 2546, 2547

## 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 generator output to provide a usable indication. Note: Response may vary slightly from those shown. Connect a variable bias supply to the IF AGC line ( point A ) and adjust to obtain a response curve which shows no indication of overload. Disable Oscillator section of Mixer-Osc. Set the Channel Selector to any non-interfering channel.

INDICATOR	GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	ADJUST	REMARKS
1. Connect DC probe of a VTVM thru a 47K resistor to point B. Common to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.		47.25MC	A1	Adjust for MINIMUM.
2. Connect DC probe of a VTVM thru a 47K resistor to point B. Common to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.		45.75MC 45MC 43MC 44.25MC	A2 A3 A4 A5 Mixer Plate Coll	Adjust for maximum.
3. Connect vertical input of a scope to point B. Low side to ground.	Connect high side to pin 2 (grid) of V2. Low side to ground.	44MC (10MC Sweep)	45MC 45.75MC	A3 A2	Adjust for maximum amplitude and MINIMUM tilt with markers as shown in Figure 1.
4. Connect vertical input of a scope to point B. Low side to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.	44MC (10MC Sweep)	42.25MC 44MC 45.75MC 47.25MC	A4 A5 Mixer Plate Coll	Adjust for maximum gain and symmetry of response with markers as shown in Figure 2. In order to obtain a proper response, it may be necessary to slightly retouch A2 and A3.

## 4.5 MC TRAP ALIGNMENT

Tune in a strong TV signal and set the Contrast at maximum. Adjust the Fine Tuning until a beat pattern is visible on the screen. Adjust A9 for MINIMUM beat interference.

## SOUND IF ALIGNMENT

Tune in a station and adjust A6 for maximum sound. Reduce signal strength at the antenna terminals until distortion appears. Continue to reduce signal while aligning for undistorted output by adjusting A7 and A8.

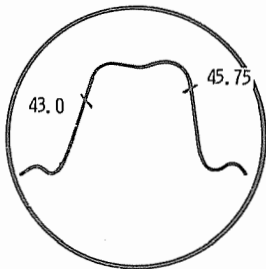


FIG. 1

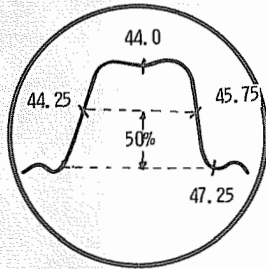
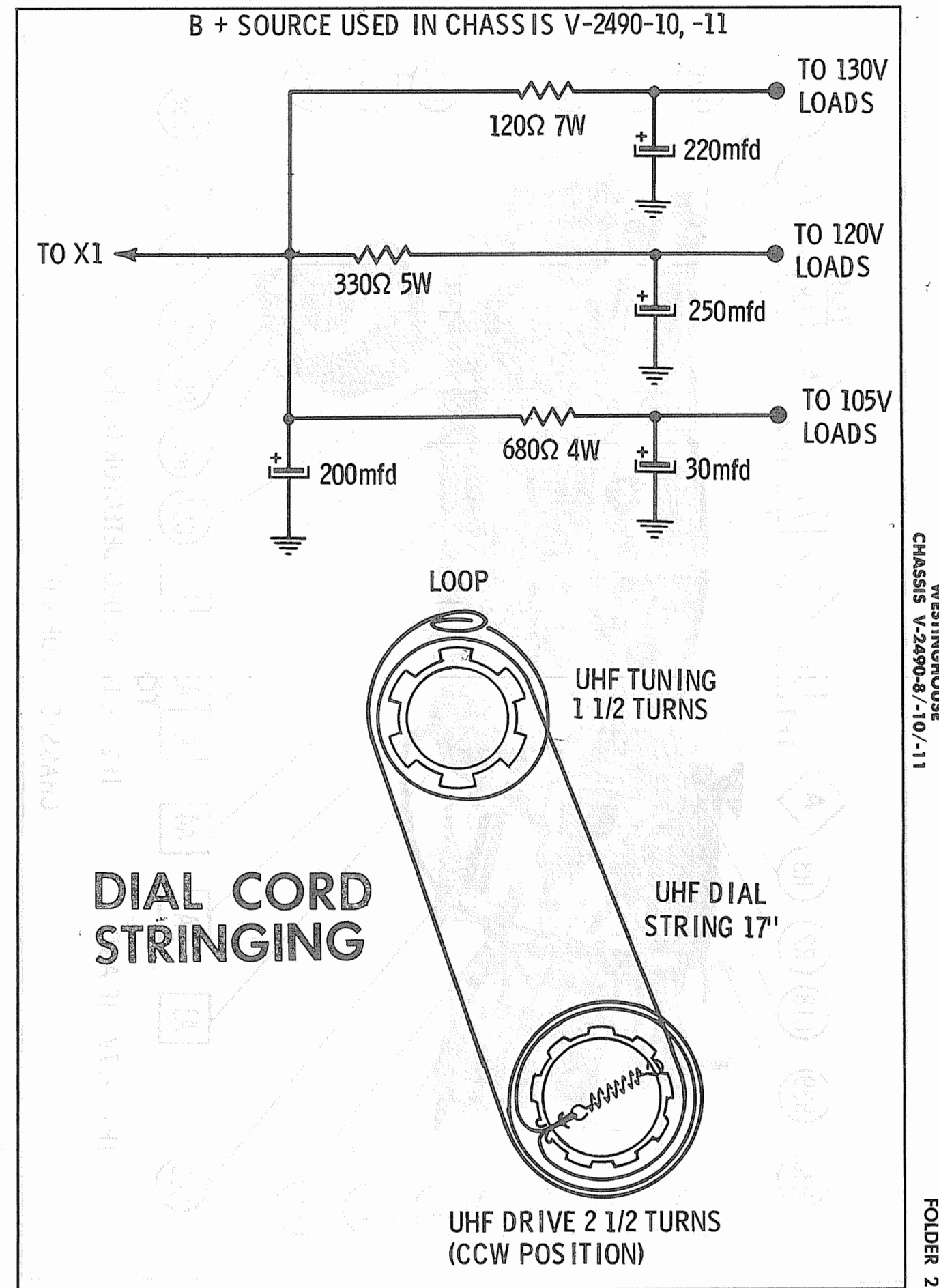
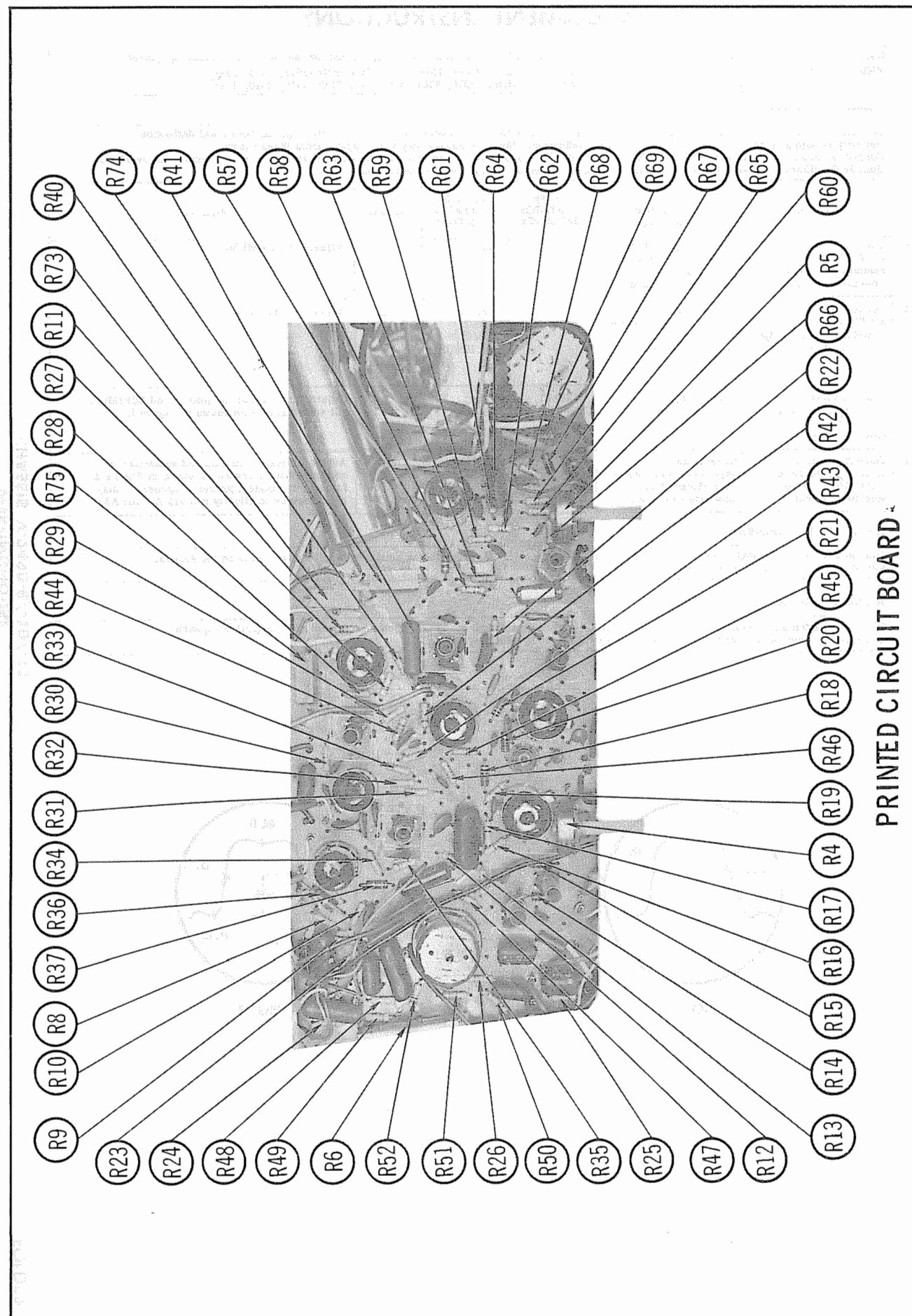


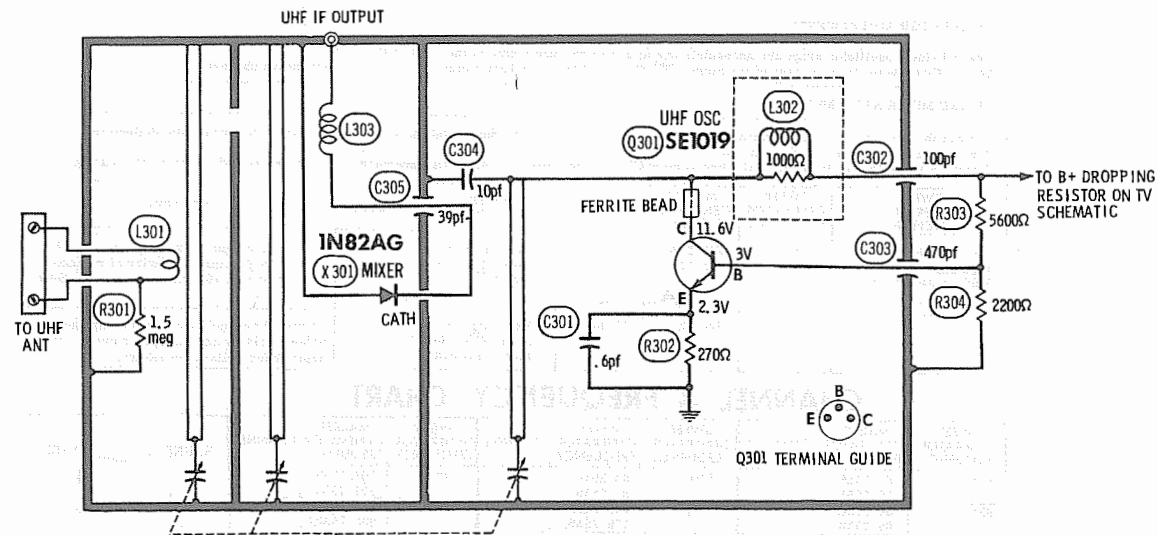
FIG. 2

WESTINGHOUSE  
CHASSIS V-2490-8/-10/-11

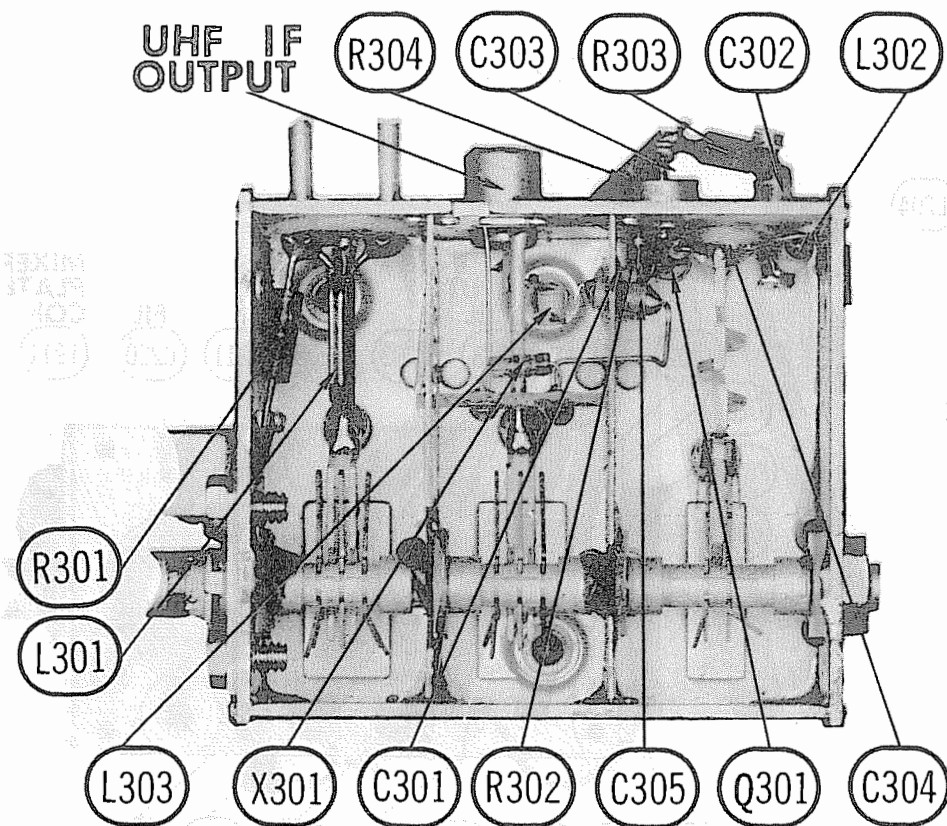
FOLDER 2



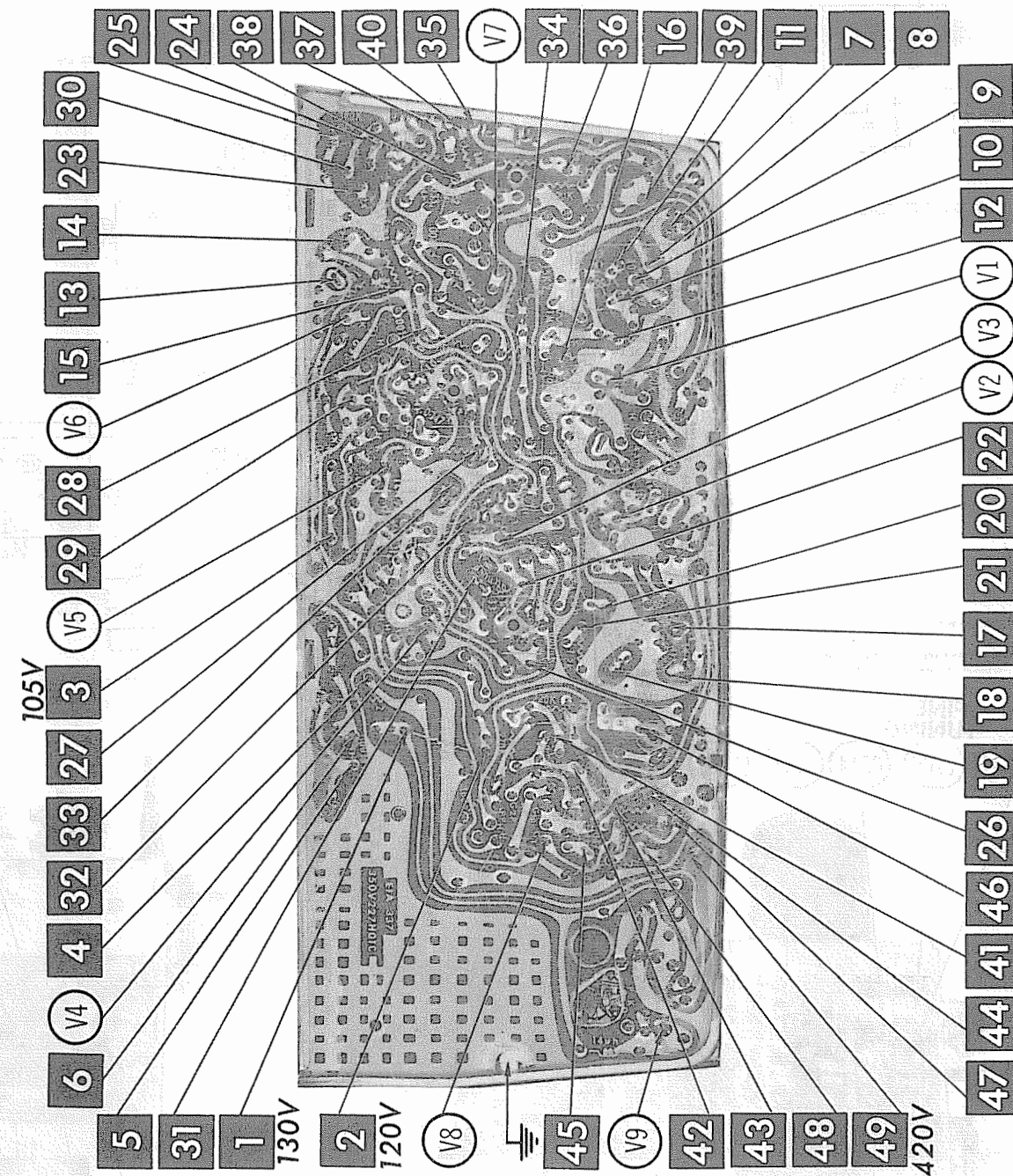




A PHOTOFAC STANDARD NOTATION SCHEMATIC  
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UHF TUNER 472V056D01



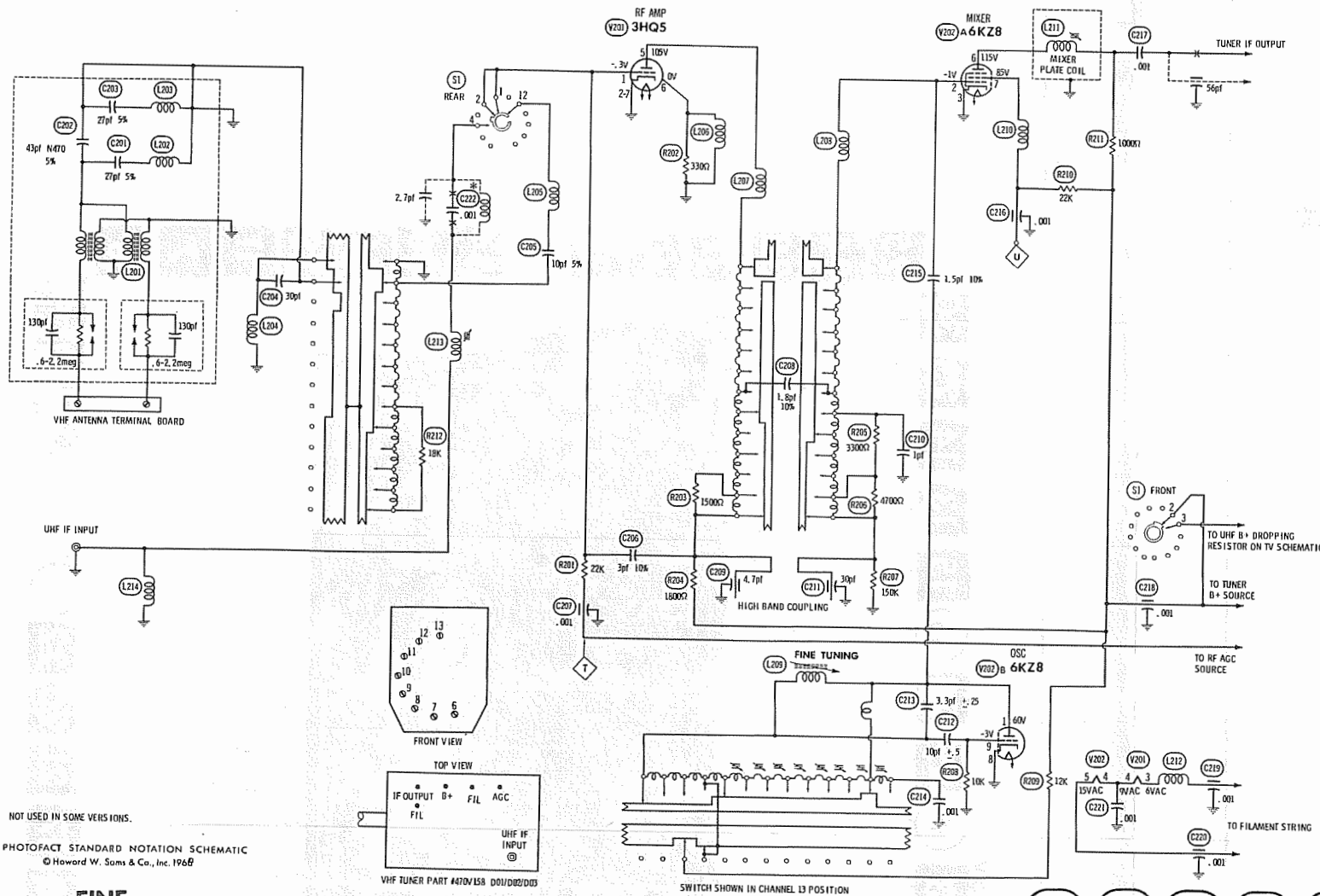
A Howard W. Sams PHOTO CIRCUIT PHOTO

PRINTED CIRCUIT BOARD

WESTINGHOUSE  
CHASSIS V-2490-8/-10/-11

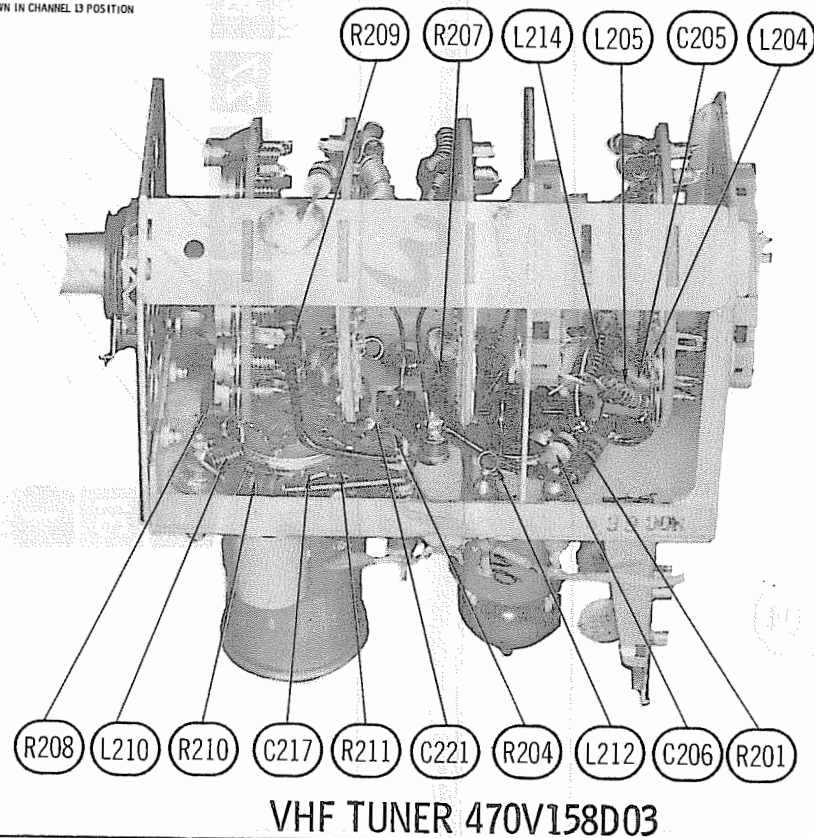
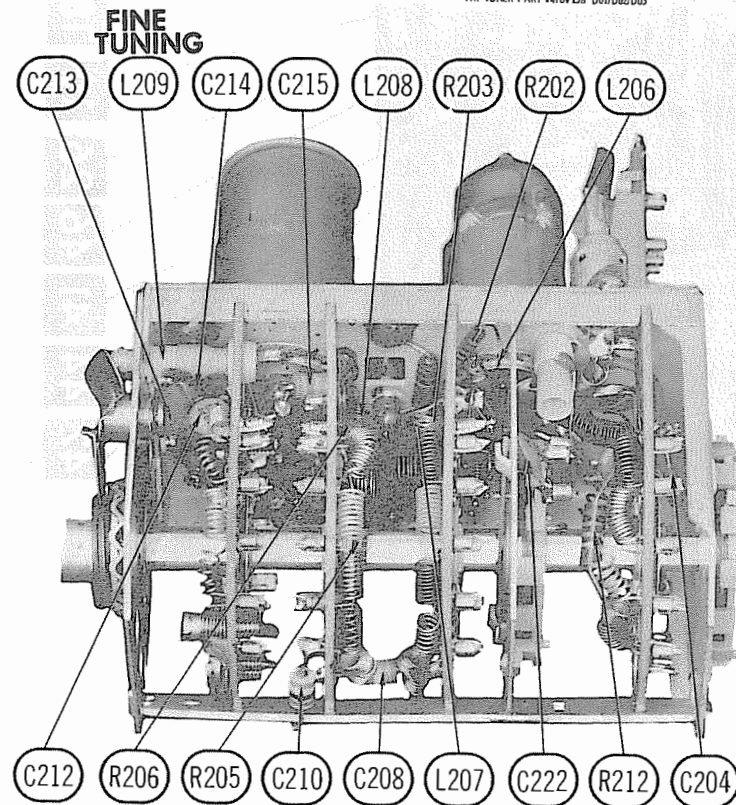
FOLDER 2

ARROWS INDICATING TUBE LOCATIONS ARE  
POINTING TO PIN 1 UNLESS OTHERWISE INDICATED



\* NOT USED IN SOME VERSIONS.

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## VHF TUNER ALIGNMENT INSTRUCTIONS

### OSCILLATOR ADJUSTMENTS

The individual oscillator slugs are accessible one at a time through a hole in the front of the tuner.  
Set the Fine Tuning to the center of its range and adjust oscillator for best picture and sound on each active channel.

### RF AND MIXER ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.  
Use 10MC sweep unless otherwise noted.  
Connect a variable bias to the RF AGC line at point T. Adjust bias to obtain response curve which shows no indication of overloading.

SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. Across antenna terminals with 120Ω in each lead.	213MC	211.25MC 215.75MC	13	Vert. Input to Point U, low side to ground		Expand or compress appropriate coils for maximum gain and symmetry of response similar to Fig. 201 with markers as shown.
2. "	See Chart	See Chart	12 thru 2	Vert. Input to Point T, low side to ground.		Check all channels and make compromise adjustments by expanding or compressing appropriate coils if necessary.

### CHANNEL & FREQUENCY CHART

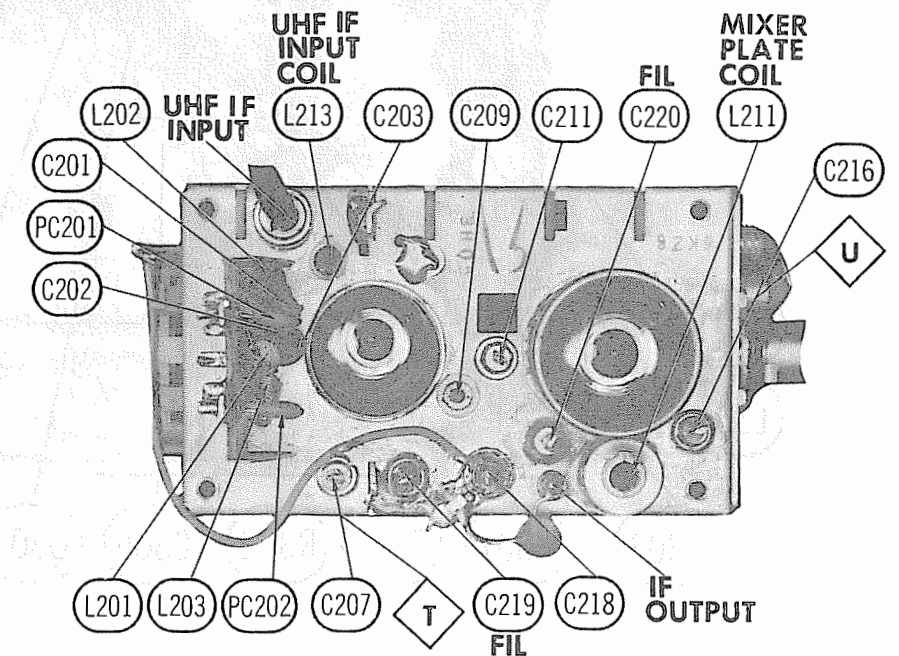
SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	SOUND	VIDEO
57MC	55. 25MC 59. 75MC	2	85MC	83. 25MC 87. 75MC	6	195MC	193. 25MC 197. 75MC	10		
63MC	61. 25MC 65. 75MC	3	177MC	175. 25MC 179. 75MC	7	201MC	199. 25MC 203. 75MC	11		
69MC	67. 25MC 71. 75MC	4	183MC	181. 25MC 185. 75MC	8	207MC	205. 25MC 209. 75MC	12		
79MC	77. 25MC 81. 75MC	5	189MC	187. 25MC 191. 75MC	9	213MC	211. 25MC 215. 75MC	13		

FIG. 201

FIG. 201

## UHF TUNER ALIGNMENT INSTRUCTIONS

Tune to a UHF station and adjust UHF IF input coil for best picture and sound.





• AMPEREX • GENERAL ELECTRIC • RCA • SYLVANIA •			
ITEM No.	USE	ITEM No.	TYPE
V201	RF Amp.	3HQ5	
V202	Mixer - Osc.		6KZ8

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DEICO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
Q301	SE1019	UHF Oscillator		GE-11	SK-3019	NPN

COILS (RF-IF)

ITEM No.	USE	Westinghouse PART No.	NOTES	ITEM No.	USE	Westinghouse PART No.	NOTES
L201	Balun			L208	RF Choke	690V070H38	
L202	RF Choke			L209	Fine Tuning RF Choke	690V070H37	
L203	RF Choke			L210	Mixer Plate		
L204	RF Choke			L211	RF Choke		
L205	RF Choke			L212	UHF IF Input		
L206	RF Choke			L213	UHF IF Input		
L207	RF Choke						

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES			NOTES
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	
X301		-1N92AG				SARKES TARZIAN PART No.

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA			
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	SPRAGUE PART No.
C201	27 5%		DI-27	DD-270		10TS-Q27
C202	43 5%		DI-27	DD-270		10TS-Q27
C203	27 5%		DI-30	DD-300		10TS-Q30
C204	30 5%		NPO-DI 10	DTZ-10		10TCC-V30
C205	10 5%		NPO-DI 3	MFT-1000		10TCC-V30
C206	3 10%		EF-001			10TCC-V30
C207	.001					10TCC-V18
C208	1.8 10%					10TCC-V10
C209	47					10TCC-V10
C210	1					10TCC-V10
C211	30					10TCC-V10
C212	10					10TCC-V10
C213	3.3					10TCC-V10
C214	.001					10TCC-V10
C215	1.5 10%					10TCC-V15
C216	.001					10TCC-V15
C217	.001					10TCC-V15
C218	.001					10TCC-V15
C219	.001					10TCC-V15
C220	.001					10TCC-V15
C221	.001					10TCC-V15
C222	.001					10TCC-V15

\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Westinghouse PART NO.	REPLACEMENT DATA
PC201	Antenna Isolation	.6-2.2meg, 130pf (includes Spark Gap)	690V060H00	Aerovox Centralab RC-821
PC202	Antenna Isolation	.6-2.2meg, 130pf (includes Spark Gap)	690V060H00	Aerovox Centralab RC-821

COILS (RF-IF)

ITEM No.	USE	Westinghouse PART No.	NOTES	ITEM No.	USE	Westinghouse PART No.	NOTES
L301	RF Choke	690V070H46		L303	RF Choke	690V070H48	
L302	RF Choke	690V070H45					

MISCELLANEOUS

ITEM No.	PART NAME	Westinghouse PART No.	NOTES
	Bushing	690V070H13	
	Ball, Detent	690V010H15	
	Cam, Clutch	701V845B01	
	Cover, Bottom	690V070H14	
	Cover, Side	690V010H17	
	Plate	690V070H15	
	Plunger & Core Ass'y	690V070H16	
	Roller	701V841C01	
	Shut Assembly	690V070H17	
	Sleeve	690V070H19	

PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements. Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

WIRING DATA

High Voltage Lead .....	Use BELDEN No. 8869 (17KV) or 8868 (25KV)
Shielded Hook-up Wire .....	Use BELDEN No. 8885 (Single Conductor) 8738 (Two Conductor)
General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Power Cord (Interlock Type) .....	Use BELDEN No. 8874 (Rubber) or 8895 (Plastic)
3000 Tuner Input Lead .....	Use BELDEN No. 8225
3000 Antenna Lead-in .....	Use BELDEN No. 8230 or 8275
Antenna Rotor Cable .....	Use BELDEN No. 8464 (Flat) or 8484 (Round) - 4 Conductor 8485 (Round) - 5 Conductor 8488 (Round) - 8 Conductor

TUBES

ITEM No.	USE	TYPE	REPLACEMENT DATA		
			AMPEREX	GENERAL ELECTRIC	SYLVANIA
Q301	UHF Osc. (Transistor)	SE1019			
V201	RF Amp.	3HQ5			
V202	Mixer - Osc.	6KZ8			
V1	1st Video IF	4HT6 (4JD6) *			
V2	2nd Video IF	4HM6 (4JC6) *			
V3	Video Output - Sync Sep.	10LZ8			
V4	Sound IF - AGC Keying	6CL8A (6FV8A) *			
V5	Audio Detector				4DT6A
V6	Audio Output				17CU5
V7	Vert. Mult. - Vert. Output				17JZ8
V8	Horiz. Mult.				8FQ7
V9	Horiz. Output - Damper				33GY7
V10	HV Rectifier				1G3GT (1K3GT) *

\* Alternate

PICTURE TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	Westinghouse PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SYLVANIA PART No.	
V11	12BLP4				

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS		
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1	.305A	295V006H03	GE-504A	8D4 or 5A4-D	1N2070 or 1N540	SK-3016 or SK-3017A	F-4 or 40C
X2	.22A	295V006H03 ①	GE-504A	8D4 or 5A4-D	1N2070 or 1N540	SK-3016 or SK-3017A	F-4 or 40C
X3		296V006H02 (1N295A)	1N295	1N295			
X4		296V004H01	6GC1	DD04			

① Used in Chassis V2490-8/-11.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA					
		Westinghouse PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.
C1A	200 175V	218V054H30 ①	AFH54-01-58		DD0016	XC4-77	FP412.14
C1B	200 175V	(218V054C30)				QT1-18	
C1C	200 175V						
C1D	30 175V						
C2	10 15V	218V012H06 ②	CRE457A	EA15-10	NLW10-15	MT1-5	TT15X10
							TE-1155

① Alternate Part #218V054H33 is used in Chassis V-2490-10/-11.

② Not used in Chassis V-2490-10/-11.

## CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOPART No.	MALLORY PART No.	SPRAGUE PART No.	
C4	.001	#215V134A30	DI-1000	DD-102	JBS601Y P102K	CCD-102	GP210	10TS-D10	
C5	10		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10	
C6	43								
C7	800		DI-820	DD-821	JBY601Y P821K	CCD-821	GP382	10TS-T82	
C8	.0015		DI-1500	DD-152		CCD-152	GP215	10TS-D15	
C9	.001		DI-1000	DD-102	JBS601Y P102K	CCD-102	GP210	10TS-D10	
C10	470		DI-470	DD-471	JBY601Y P471K	CCD-471	GP347	10TS-T47	
C11	.0015		DI-1500	DD-152		CCD-152	GP215	10TS-D15	
C12	470		DI-470	DD-471	JBY601Y P471K	CCD-471	GP347	10TS-T47	
C13	4.7		N750 ±.25				CN7547	10TCU-V47	
C14	6.8	#215V543A99	NPO-DI 6.8	DTZ-6R8	CZ601CH6R8D	CCTO-6R8	DNJ568	10TCC-V68	
C15	2.7		NPO					10TCC-V27	
C16	33		NPO-DI 33	DTZ-33	CS601CG330K	CCTO-330	CNO433	10TCC-Q33	
C17	3.9							10TCC-V39	
C18	22		NPO 10%					10TCC-Q22	
C19	.22		NPO 10%					4PS-P22	
C20	4.7		N750 ±.25					10TCU-V47	
C21	.01							10TS-S10	
C22	18							10TCC-Q18	
C23	.001		DI-1000	DD-102	JBS601Y P102K	CCD-102	GP210	10TS-D10	
C24	.0047	#215V318H14	DI-4700	DD-472	JBT601Y P472K	CCD-472	GP247	10TS-D47	
C25	10		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10	
C26	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10	
C27	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10	
C28	.022		600V		DMF6S22	6DP-2-223	PVC8122	6PS-S22	
C29	.15		200V		DMF4 P15	4DP-4-154	PVC6015	4PS-P15	
C30	.33		200V		DMF2 P15	2DP-2-334	PVC2033	2PS-P33	
C31	.01				BYX601ZU103M	CCD-103	GP110	10TS-S10	
C32	680				JBY601Y P681K	CCD-681	GP368	10TS-T68	
C33	.0047	#215V318H14	N5600						
C34	.015		200V						
C35	.0047		N5600						
C36	.01								
C37	.033		400V						
C38	.22		200V						
C39	.022		600V						
C40	.15		200V						
C41	.1		200V						
C42	39		NPO 10%						
C43	33		NPO 10%						
C44	.001	#215V318H10	DI-1000	DD-102	JBS601Y P102K	CCD-102	GP210	10TS-D10	
C45	390		10%						
C46	270		10V						
C47	.047		400V						
C48	.01								
C49	.0043		5%						
C50	68		NPO 10%						
C51	180		10%						
C52	.01								
C53	.047		400V						
C54	33	#217V511H02	N750/2KV/10%						
C55	3-25								
C56	.001		1KV						
C57	250		N1500						
C58	.033		4KV 10%						
C59	680		400V						
C60	680								
C61	680								
C62	.0015	#215V160A03	1.4KV						
C63	.22		400V						
C64	.01		200V						
C65	800								
C66	.0015								
C67	.01								

\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.  
† Alternate Value # Westinghouse Part Number

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			Westinghouse PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	Volume & Switch	750K	270V159H13 (270V159C13)	F2-1meg, SN200, KR-1	A47-750K-Z, RN-3 (1), SWE-12 TT-2 or (NP-750K-Z, NML-A-300 (1), NWE-12, TT-2)	BU11, CF26, SS6 (1), GC*	RU16A, SL37, SN1375 (1), US41 or (UA754A, SN1375 (1), US41)	
R2	Contrast	15K	270V159H15 (270V159C15)	F1-15K, SN100	A47-15K-S, RN-3 (1), TT-2 or (NP-15K-S, NML-A-300, TT-2)	BU11-118, TM4 (1) or (BU11, CF10, SS6 (1))*	RU153L, SL37, SN750 (1) or (UA24L, SN750 (1))	
R3	Brightness	300K	270V159H05 (270V159C05)	F1-250K, SN100	A47-300K-S, RN-3 (1), TT-2 or (NP-300K-S, NML-A-300 (1), TT-2)	BU11-131, TM4 (1) or (BU11, CF15, SS6 (1))	RU35L, SL37, SN750 (1) or (UA254L, SN750 (1)) or (PTA35L (1))	
	Brightness	300K	270V159H14 (270V159C14)	F1-250K, SN100	A47-300K-S, RN-3 (1), TT-2 or (NP-300K-S, NML-A-300 (1), TT-2)	BU11-131, TM4 (1) or (BU11, CF15, SS6 (1))*	PTA35L (1) or (RU35L, SL37, SN750 (1)) or (UA254L, SN750 (1))	

## PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements. Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R4	Vert. Hold	250K	270V179B01	F1-250K (1), SNK104	A47-250K-S (1), RN-3 or (NP-250K-S (2), NML-A-300)	BU11-130, TM4 (2)	RU254L, SL37 (2), SN1250 or (UA254L (2), SN1250) or (PTA35L (2))
R5	Horiz. Hold	250K	270V179B01	F1-250K (1), SNK104	A47-250K-S (1), RN-3 or (NP-250K-S (2), NML-A-300)	BU11-130, TM4 (2)	RU254L, SL37 (2), SN1250 or (UA254L (2), SN1250) or (PTA35L (2))
R6A B	Height Vert. Linearity	5meg 80K with built in 15K resistor	270V178C01 (1)				

\* "SNAPTROL"

① File Flat

② Use Original Mounting Bracket.

③ Part #270V198C02 (1.5meg) used in Chassis V-2490-10 & V-2490-11.

④ Part #270V198C01 (20K) used in Chassis V-2490-10 & V-2490-11.

⑤ Alternate Part, Used in Chassis V-2490-10 & V-2490-11.

⑥ Part #270V178C02 used in Chassis V-2490-10 & V-2490-11.

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	Westinghouse PART No.			IRC PART No.	WORKMAN PART No.	Westinghouse PART No.
R41	6000Ω 3W	PW5-6000	5W-SQ-6K	251V014H41	R73	2Ω 5W	PW5-2	5W-SQ-2	251V033H14
R56	Thermistor (18Ω Cold)	BW18-3.3	WS-3.3		R74	47Ω 5W	PW5-50	5W-SQ-47.5	251V020H79
R70	3.3Ω 2W (1)	BW18-3.3	WS-3.3		R75	680Ω 4W	PW5-700	5W-SQ-700	251V020H78

① Some versions may use 3.3Ω, 1W, Part #251V003A39; or 2.7Ω, 2W, Part #251V002A79.

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		Westinghouse PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	IF Input (15 turns)	230V065H06				
L2	1st Video IF	235V049H02			7544	TE239
L3	47.25MC Trap	230V076H01			7542	TE259
L4	2nd Video IF	235V048H04	17-3419		7511-W	TB644
L5	3rd Video IF	235V094H06			7510-W	
L6	RF Choke (14uh)	230V130H02	19-1008	BC-566	4624	TA825
L7	RF Choke (4.7uh)	230V130H01	19-1008	SW-631	74F476A P	T819
L8	RF Choke (4.7uh)	230V130H01	19-1008	SW-631	74F476A P	T819
L9	Peaking (600uh)	230V141H02	19-3600	TV-205	6146	T326
L10	Sound Takeoff/ 4.5MC Trap	235V076H04			SI-188	
L11	Peaking (600uh)	230V141H02	19-3600	TV-205	6146	T326
L12	Sound Interstage	235V046H01			7120-W	TB643
L13	Quadrature	230V031H01 †	20-1055		7119-W	TE234
L14	Damper Choke (14uh)	230V130H02	19-1006	BC-566	4624	TA825

† Alternate Part #230V031C06

## COILS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA						
		Westinghouse PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	THORDARSON MEISSNER PART No.	TRIAD PART No.	WORKMAN PART No.
L15	Horiz. Stabilizer	230V032H01 (230V032A01)		6213				TA140

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (O CURRENT 1000~)	Westinghouse PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L16	.26ADC	27Ω	.46 H	430V165B01 †			26C80	C-36X	

† Not used in Chassis V-2490-10/-11.

## TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Westinghouse PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	Vert. Output	430V039H12 (430V039C12)					
T2	Yoke (Horiz. 25 mh) 110° (Vert. 83 mh)	490V025C01 (490V025C01D) (490V025C02) (490V025C02)					
T3	Horiz. Output	493V021C01 (493V021C01A)					

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Westinghouse PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T4	2370Ω	3-4Ω	570V156C01 (AT-199)	A-3025	A-3332	24SS3	S-12X	① Includes Speaker

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		Westinghouse PART No.	JENSEN PART No.	QUAM PART No.	
SP1	3" PM 3-4Ω	570V156C01	P3W3	30A05	Includes Transformer T4.

## FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA					
		PART No.		BUSS PART No.		LITTELFUSE PART No.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER
F1	"N" 2 Amp. @ 125V	758V001H09		N2	HN 1 3/4 to 2 1/2	333002	346017

## MISCELLANEOUS

ITEM No.	PART NAME	Westinghouse PART No.	NOTES
M1	VHF Tuner	470V158D03	Two (2) used - Models BP12A570, BP12A57C, BP12A67C. One (1) used - Models BP12A17C, BP12B17C JFD Replacement TA-544
M2	UHF Tuner	472V056D01	
M3	VHF Antenna	318V024C01	
M4	UHF Antenna	310V097H01	

## CABINETS &amp; CABINET PARTS