

CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Tune to a TV station and set all controls for normal operation. Set the Horizontal Hold Control, R8, to the center of its range. Adjust the Horizontal Stabilizer Coil Slug, B1, until the picture is in proper hori-

zontal sync. Interrupt signal momentarily to see if picture remains in sync.

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

1. Remove rear cover (4 screws). Remove 8 knobs from front.
2. Disconnect picture tube socket, yoke, speaker, and picture tube ground.
3. Remove 4 screws holding tuner assembly to front of cabinet and 3 screws holding control panel below tuners.
4. Remove 2 screws from bracket at left side of cabinet. Remove 2 screws at bottom edge of chassis and 2 at top.

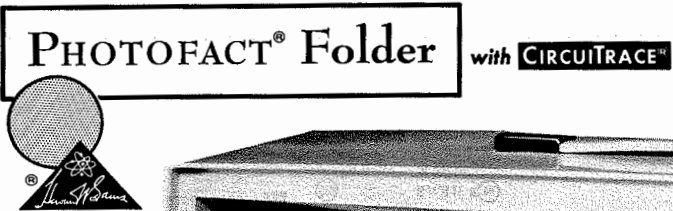
5. Pull chassis back slightly and disconnect high voltage lead. Remove chassis.

PICTURE TUBE REMOVAL

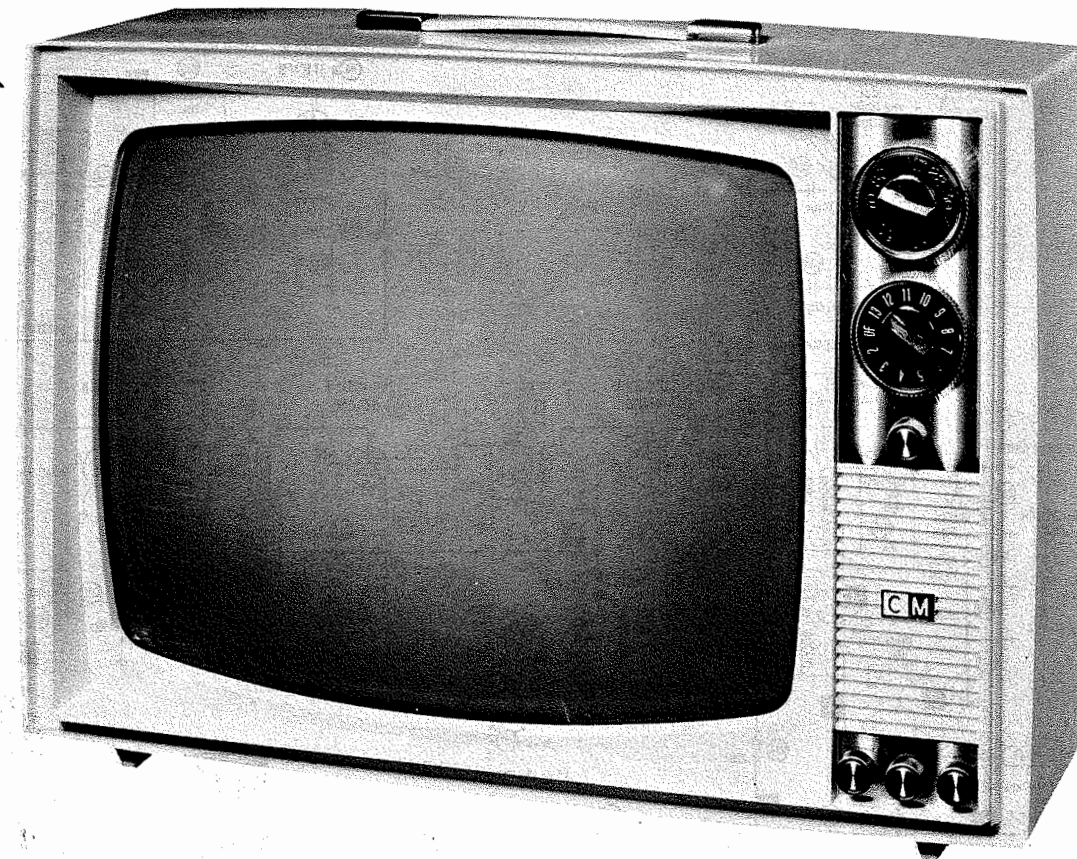
1. Follow steps of "Chassis Removal" and lay cabinet face down on a soft protective surface.
2. Remove 8 screws from corners of filled rim. Remove picture tube.

SET 733 FOLDER 1

CURTIS MATHES
CHASSIS TV-17



**CURTIS MATHES
CHASSIS TV-17**



MODEL CM227

CAUTION
ONE SIDE OF AC LINE CONNECTED TO CHASSIS

TRADE NAME	Curtis Mathes Chassis TV-17
SUPPLIER	For current address, see Master Index.
TYPE SET	Television Receiver
TUBES	VHF - Fifteen, UHF - Sixteen
POWER SUPPLY	110-120 Volts AC, 60 Cycles
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Inter-carrier)
	RATING 140 Watts, 1.6 Amps. @ 117 Volts AC

SERVICING IN THE FIELD

SAFETY GLASS

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

FUSE OR FUSE DEVICE

A Circuit Breaker is used for low voltage power supply protection and may be reset by depressing the reset button. (See "Tube Placement Chart" for location.)

VHF OSCILLATOR ADJUSTMENT

Set fine tuning at the center of its range and adjust osc. slug (one for each channel) for best sound and picture.

AGC

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

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

Coarse adjustment of the horizontal hold is accomplished by the proper setting of the Horizontal Stabilizer Coil, L18. (See "Tube Placement Chart" for location.)

FOCUS

The focus may be varied by means of a Focus Control. (See "Tube Placement Chart" for location.)

CENTERING

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

HOWARD W. SAMS & CO., INC. Indianapolis 6, 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. NA007 10 9 8 7 6 5 4 3 2 1 0

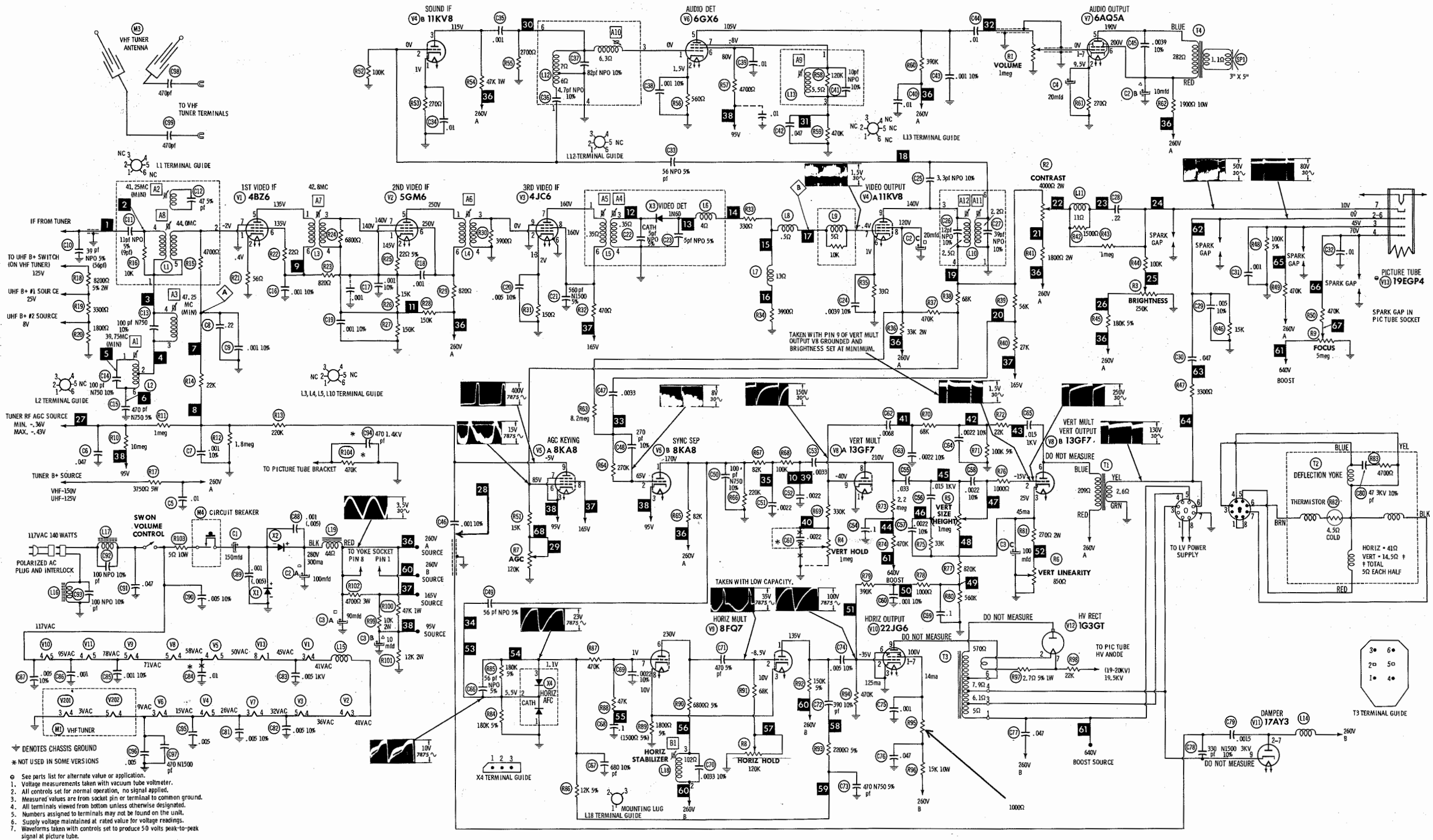
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DATE 1 -65

SET 733 FOLDER 1

CURTIS MATHES
CHASSIS TV-17

SET 733 FOLDER 1



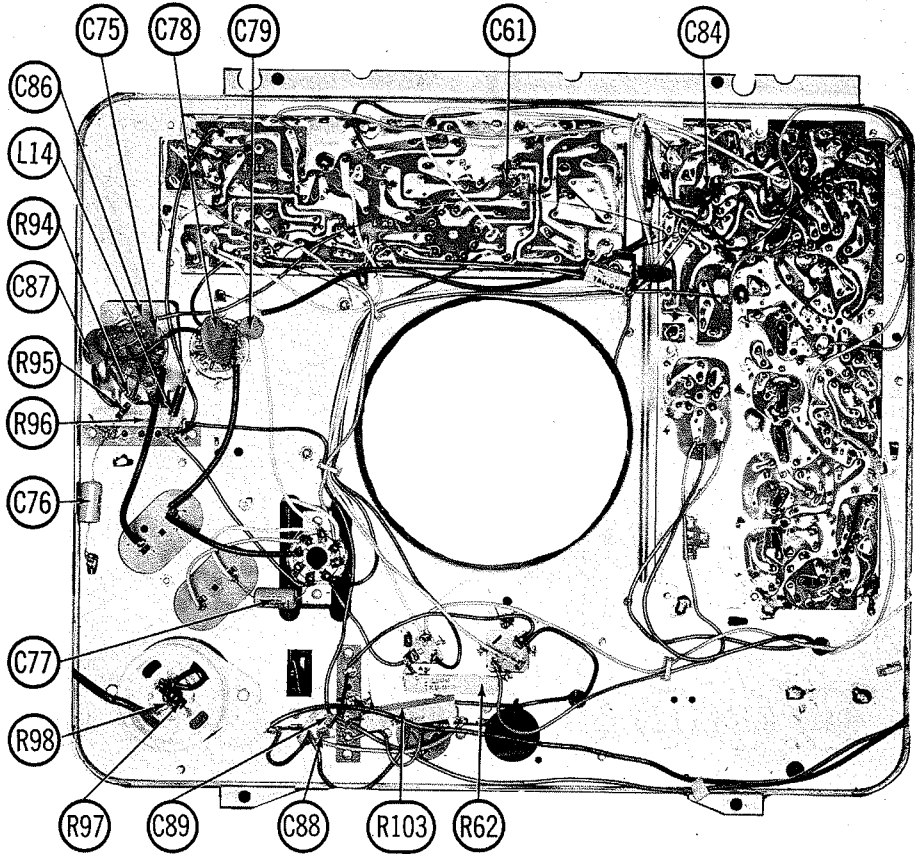
CURTIS MATHES
CHASSIS TV-17

FOLDER 1

RESISTANCE MEASUREMENTS

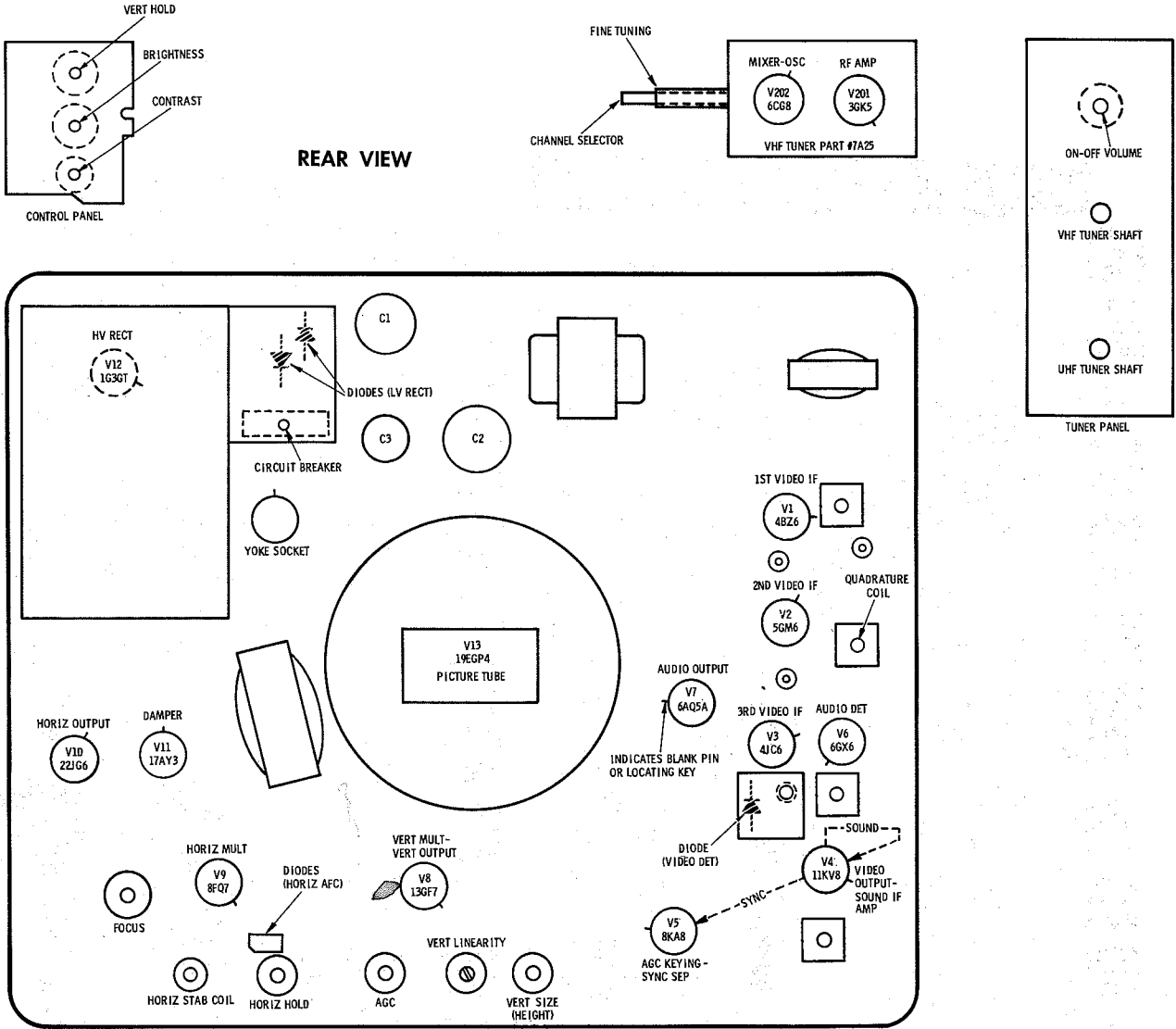
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	4BZ6	1.8meg	56Ω	18Ω	15Ω	▲ 844Ω	▲ 866Ω	0Ω		
V2	5GM6	90K	110K	15Ω	13Ω	† 865Ω	† 865Ω	▲ 22Ω		
V3	4JC6	150Ω	0Ω	150Ω	13Ω	12Ω	0Ω	† 5200Ω	† 5200Ω	0Ω
V4	11KV8	270Ω	100K	† 44K	5Ω	10Ω	33Ω	● 1500Ω	† 32K	† 4900Ω
V5	8KA8	† 63K	† 8.5meg	# 6000Ω	22Ω	19Ω	47K	# 6000Ω	† 3800Ω	1.9meg
V6	6GX6	13Ω	560Ω	3Ω	5Ω	† 390K	† 15K	470K		
V7	6AQ5A	NC	270Ω	10Ω	12Ω	† 2200Ω	† 1900Ω	50K		
V8	13GF7	0Ω	1.7meg	540Ω	22Ω	28Ω	† 253Ω	NC	† 2.6meg	500K
V9	8FQ7	† 150K	120K	1800Ω	28Ω	32Ω	† 6800Ω	550K	1800Ω	NC
V10	22JG6	NC	330K	0Ω	46Ω	38Ω	0Ω	† 16K	NC	† 7.9Ω
V11	17AY3	NC	† 44Ω	NC	38Ω	32Ω	TP	TP	NC	# 5.6meg
V12	1G3GT		PINS	1 THRU 8	HAVE	INFINITE	RESISTANCE			TOP CAP
V13	19EGP4	18Ω	15K	90K	1.2meg	NC	NC	90K	19Ω	† 578Ω
V201	3GK5	0Ω	2.4meg	0Ω	1Ω	† 5000Ω	0Ω	0Ω		
V202	6CG8	15K	† 19K	0Ω	3Ω	1Ω	† 4700Ω	† 19K	0Ω	

THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
† MEASURED FROM OUTPUT OF X2.
▲ MEASURED FROM PIN 2 OF V2.
● MEASURED FROM PIN 9 OF V11.
NC NO CONNECTION
TP TIE POINT
READING DEPENDS ON POLARITY OF METER CONNECTIONS.

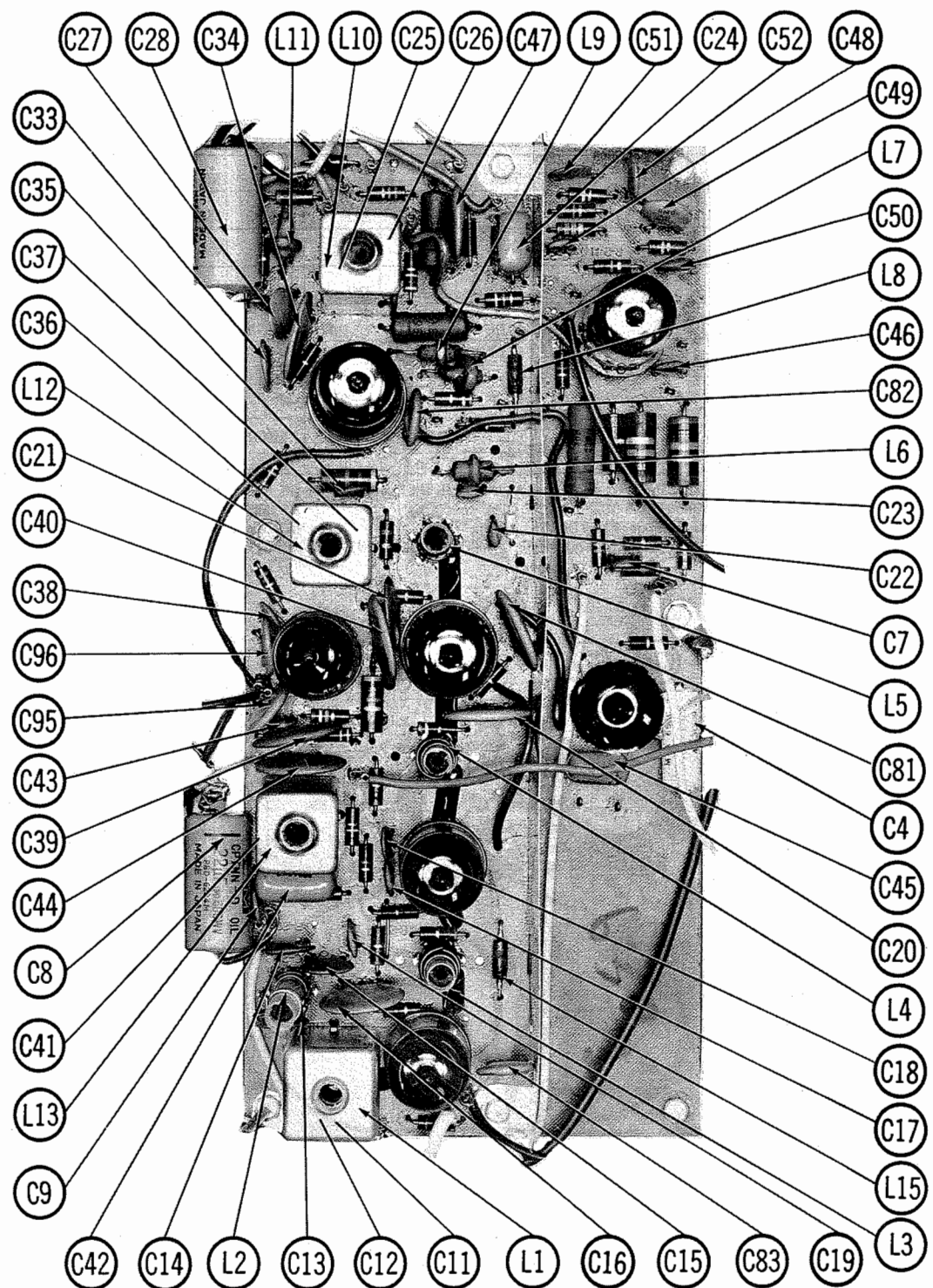
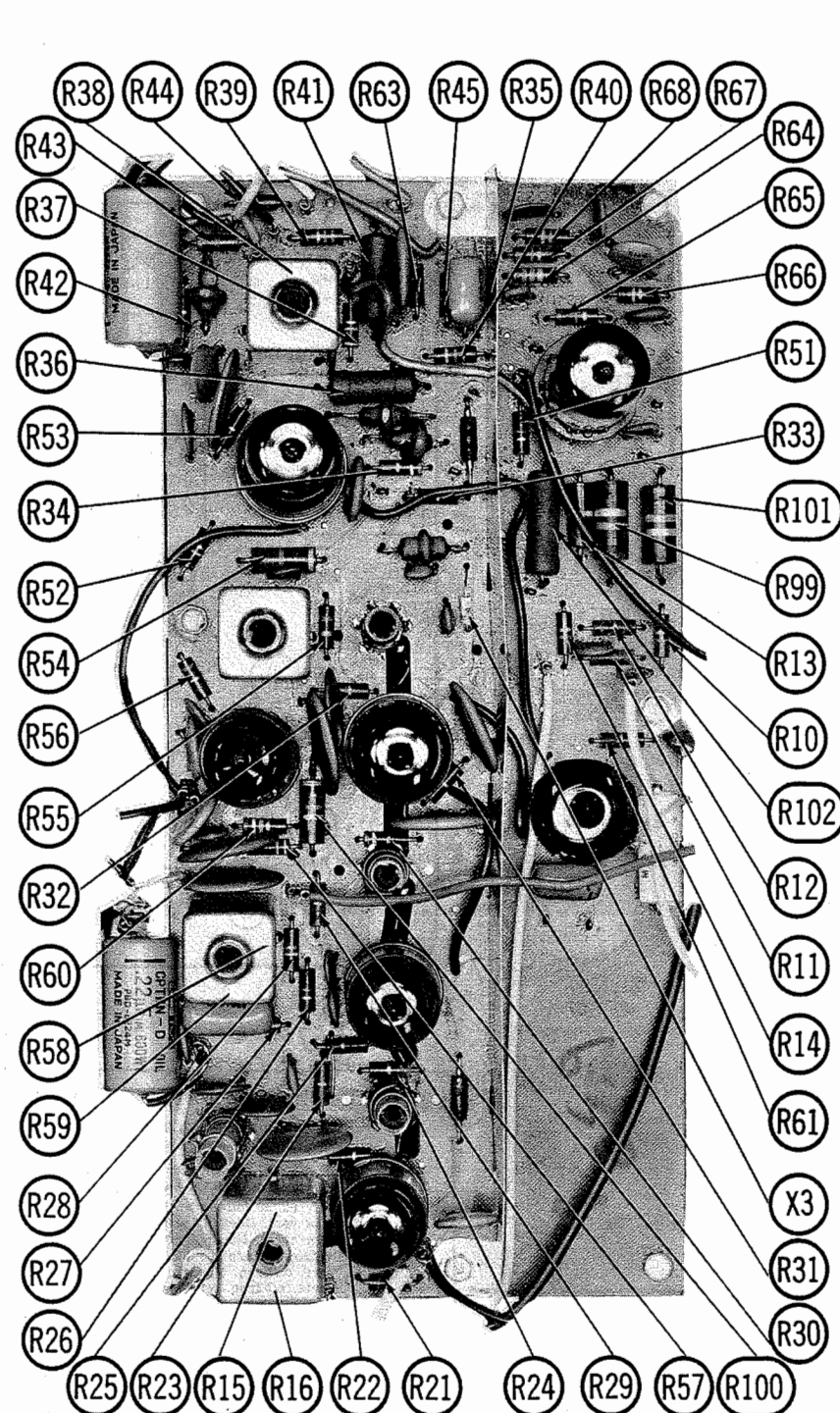
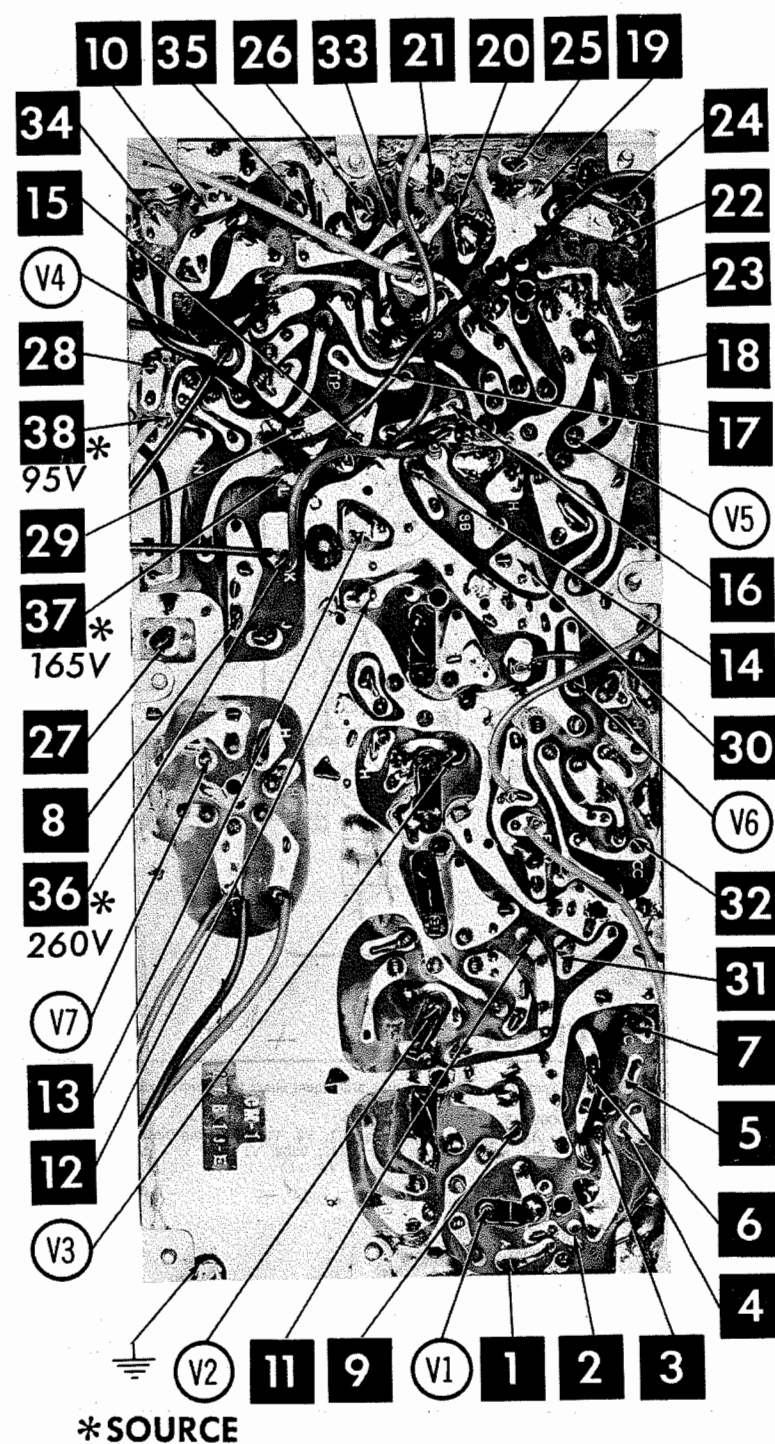


CHASSIS—FRONT VIEW

TUBE PLACEMENT CHART



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



VIDEO, SOUND IF, AGC, SYNC PRINTED BOARD

CURTIS MATHES
CHASSIS TV-17

FOLDER 1



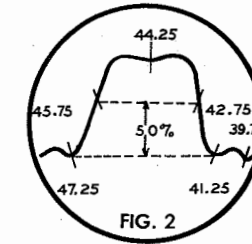
Use an isolation transformer and maintain voltage at 117 volts. Allow a 20-minute warm-up period for the receiver and test equipment.

Suggested Alignment Tools:	A1 thru A12	GENERAL CEMENT	#8606, 8869, 9302	WALSCO #2511, 2543, 2588
Mixer Plate Coil	GENERAL CEMENT	#9298, 9300, 9302	WALSCO #2510, 2611, 2547	

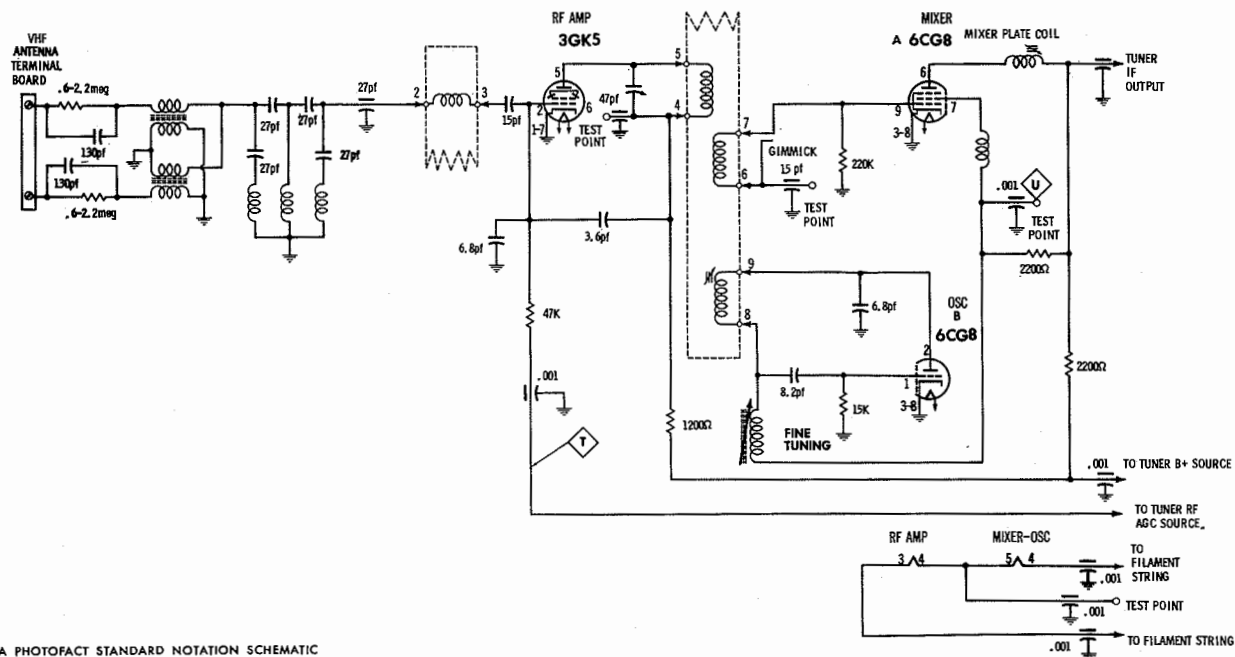
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. Use only enough generator output to provide a usable indication. Note: Response may vary slightly from those shown. Connect a variable bias supply to the IF AGC line (point Δ) 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.

4.5 MC TRAP ALIGNMENT

SOUND IF ALIGNMENT

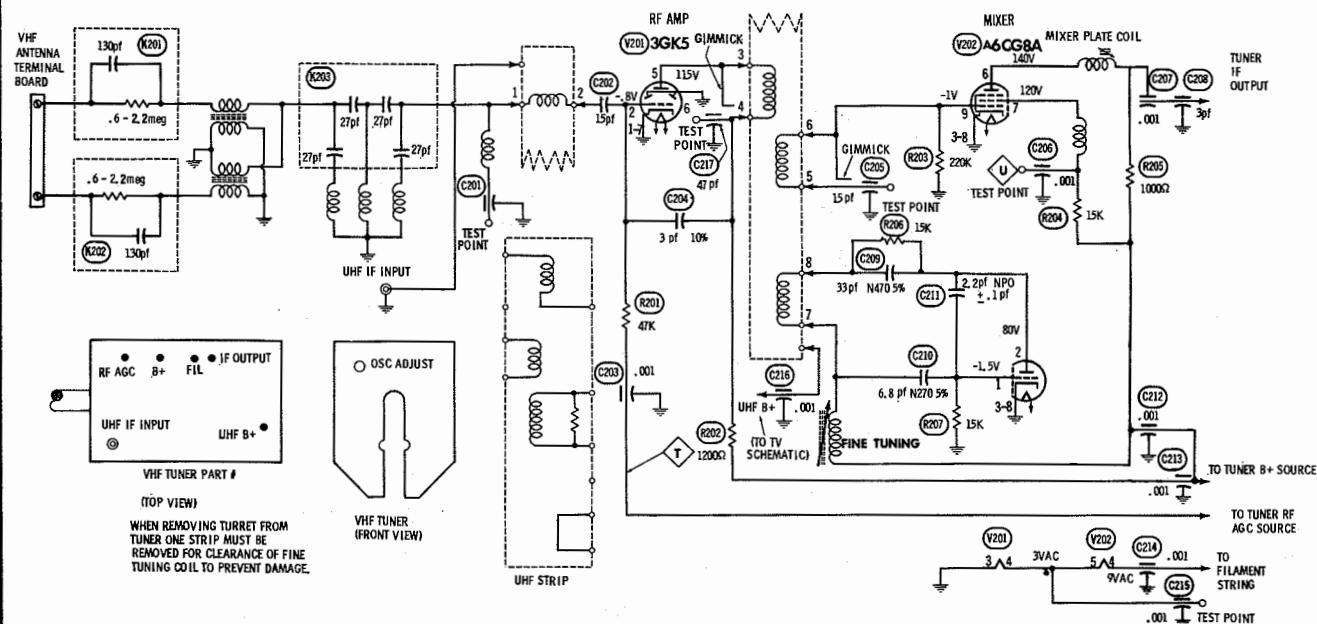


SET 733 FOLDER 1



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13 POSITION TURRET-TYPE VHF TUNER 7A20



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13 POSITION TURRET-TYPE VHF TUNER 7A25

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 \diamond . 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 \diamond , 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 \diamond , low side to ground.		

CHANNEL & FREQUENCY CHART

SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL
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

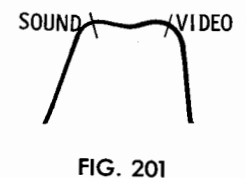
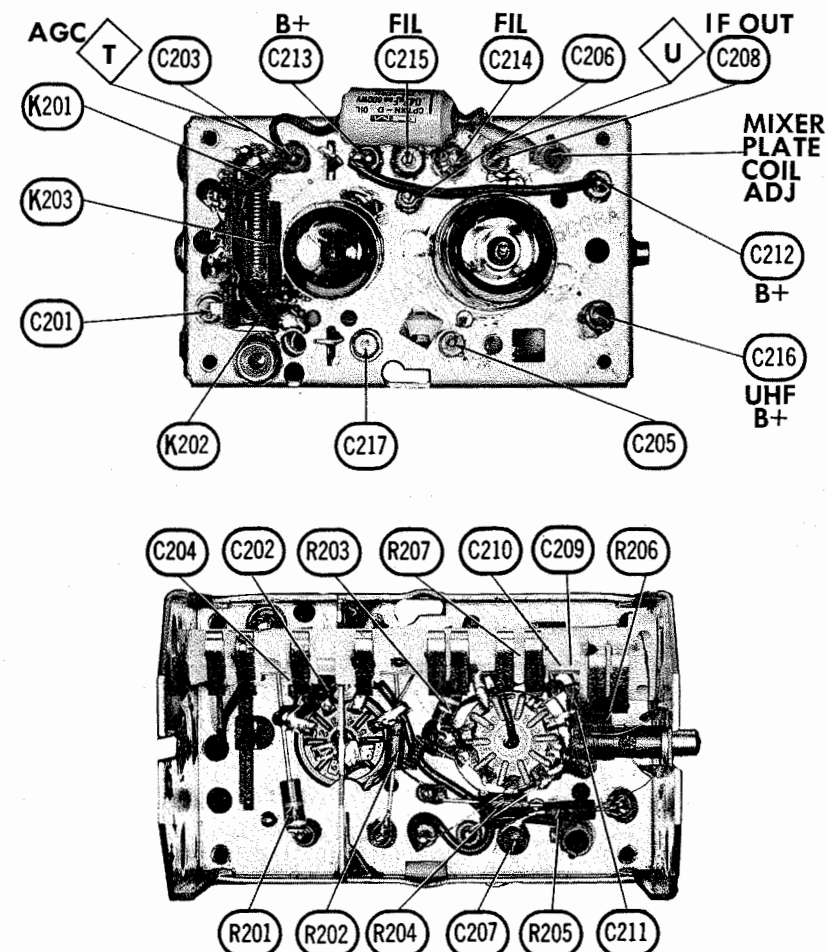


FIG. 201

Tune to a UHF station and adjust UHF IF Input Coil for best picture and sound.



VHF TUNER 7A25

CURTIS MATHES
CHASSIS TV-17

FOLDER 1

VHF TUNER PARTS LIST AND DESCRIPTION

TUBES

♦ AMPREX ♦		♦ GENERAL ELECTRIC ♦		♦ RCA ♦		♦ SYLVANIA ♦	
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE	
V201	RF Amp.	3GK5		V202	Mixer - Osc.	6CG8	

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL- DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C201	.001 10%		EF-001	MFT-1000		CCF-102	CT280A	
C202								
C203								
C204								
C205								
C206								
C207								
C208								
C209								
C210								
C211	33 N470 5%							10TCR-V56 10TCT-Q33
C212	6.8 N270 5%							
C213	2.2 NPO ±.1pf							
C214	.001							
C215	.001							
C216	.001							
C217	.001							
C218	.001							
C219	.001							
C220	.001							

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

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Curtis Mathes PART NO.	REPLACEMENT DATA
K201	Antenna Isolation	.6-2.2meg, 130pf		
K202	Antenna Isolation	.6-2.2meg, 130pf		
K203	Antenna Network	27pf, 27pf, 27pf, 27pf		

UHF TUNER PARTS LIST AND DESCRIPTION

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X301		UHF Oscillator				NPN

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKIS TARZIAN PART No.	GENERAL ELECTRIC PART No.
X302							1N82A

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL- DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C301	33 N150 10%		EF-001	MFT-1000		*	CT280A	10TOP-Q
C302								
C303								
C304								
C305	.001				CCF-102			
C305	.001							

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

PARTS LIST 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.

TUBES

* AMPEREX *			* GENERAL ELECTRIC *			* RCA *			* SYLVANIA *		
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE		ITEM No.	USE	TYPE	
V1	1st Video IF Amp.	4B26		V7	Audio Output	6AQ5A					
V2	2nd Video IF Amp.	50G66		V8	Vert. Mult. - Vert. Output	13GF7					
V3	3rd Video IF Amp.	4JC9		V9	Horiz. Mult.	8FQ7					
V4	AGC Keying - Sync Sep.	8KA6		V10	Horiz. Output	22CG6					
V5	Video Output - Sound IF	11KV8		V11	Damper	17AY3					
V6	Audio Detector	6GX6		V12	HV Rectifier	163GT					

PICTURE TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	Curtis Mathes PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SYLVANIA PART No.	
VI3	19EGP4 23FEP4			19EGP4 ①	① Silver Screen "85

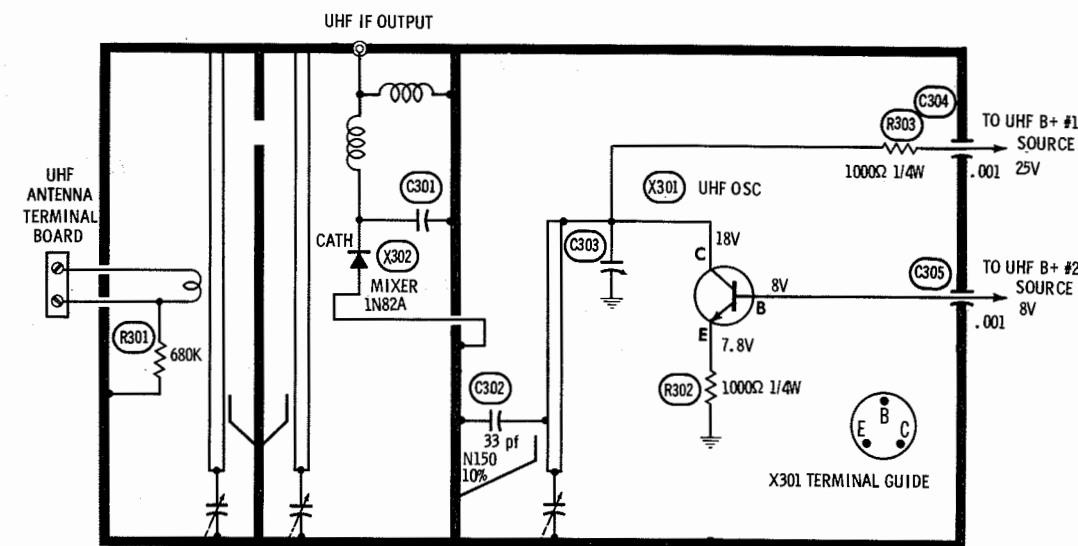
POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES	
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.	
X1	.3A	1N60	GE-504 or 1N1895	1N540 or 1N2070 ①	1N1764 or 1N2863	40H or F-4	1N60 6CGJ	
X2	.3A		GE-504 or 1N1895	1N540 or 1N2070 ①	1N1764 or 1N2863	40H or F-4		
X3								
X4								

ELECTROLYTIC CAPACITORS

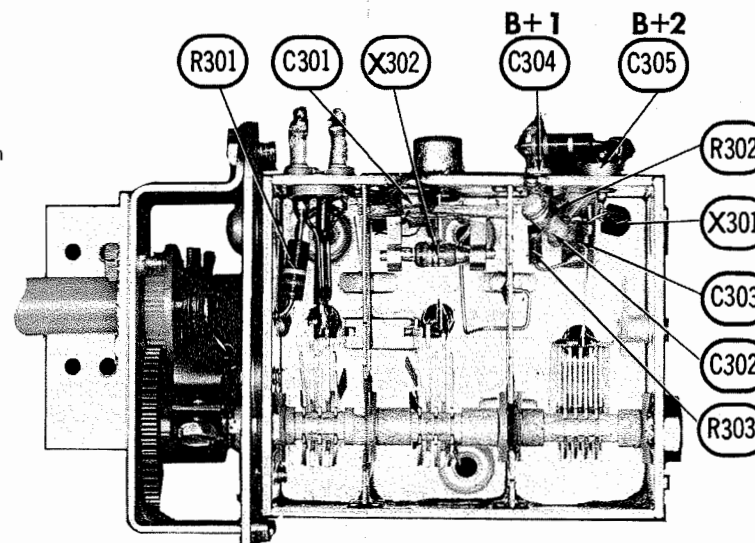
ITEM No.	RATING		Curtis Mathes PART No.	AEROVOX PART No.	CORNELL- DUBIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
	CAP.	VOLT.							
C1	150	200	4A42	AFHS1-25-70 ①	AA0267 ①	XC1-14 ①	TMS-1550 ①	FP125.9A ①	TVLS1471 ①
C2A	▲100	300	4A66	AFH3-25-40	DD0020	XC3-13	TD-50-250 TMT-3301	FP375.2A	TVL-3689
B	▲10	300							
C	■20	300							
C3A	■90	300	4A67	AFH3-99-70		XC2-18.1		WP272	TVLS3573.15
B	▲10	300				QT1-23		TC69	
C	100	50							
C4	200	15	4A30-9	PTT-68	NLW20-15	MT1-10	BL1440	TT15X20	TL-1157

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
① Use insulating sleeve and mounting wafer.



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UHF TUNER PART # 7A35-1



UHF TUNER 7A35-1

PARTS LIST AND DESCRIPTION (CONTINUED)

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.

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C5	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C6	.047	600V	P688N-047	DD-503	PM6S47	6DP-3-473	GEM6147	6TM-S47	
C7	.001	10%	DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10	
C8	.22	600V	P688N-22		PM6P22	6DP-5-224	GEM6022	6TM-P22	
C9	.001	10%	DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10	
C10	39	NPO 5%		TCZ-39	C10Q39C		CNO439	10TCC-Q39	
C11	11	NPO 5%							
C12	47	5%	ADM-15-470	CPR-47J	CD10E470J	DM-15-470J	CNO447	MS-447	
C13	100	N750 10%	N750-DI 100	DTN-100	C10T11U		CNTN-101	10TCU-T10	
C14	100	N750 10%	N750-DI 100	DTN-100	C10T11U		CNTN-101	10TCU-T10	
C15	100	N750 10%	N750-DI 100	DTN-100	C10T11U		CNTN-101	10TCU-T10	
C16	470	N750 5%		TCN-470				10TCU-T47	
C17	.001	10%	DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10	
C18	.001	10%	DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10	
C19	.001	10%	DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10	
C20	.005	10%	DI-5000	CF-502	JB6D5	CCD-502	JF250	10TS-D50	
C21	560	N1500 5%						10TCC-V50	
C22	5	NPO 5%						10TCC-V50	
C23	5	NPO 5%						6PS-D39	
C24	.0039	400V 10%							
C25	3.3	NPO 10%							
C26	12	NPO 10%							
C27	39	NPO 10%							
C28	.22	600V							
C29	.005	10%							
C30	.047	200V							
C31	.001	10%							
C32	.01								
C33	56	NPO 5%							
C34	.01								
C35	.001	10%							
C36	4.7	NPO 10%							
C37	82	NPO 10%							
C38	.001	10%							
C39	.01								
C40	.01								
C41	10	NPO 10%							
C42	.047	200V							
C43	.001	10%							
C44	.01								
C45	.0039	600V 10%							
C46	.001	10%							
C47	.0033								
C48	270	10%							
C49	56	NPO 5%							
C50	100	N750 10%							
C51	.0022								
C52	.0022								
C53	.0033								
C54	.1	600V							
C55	.033	600V							
C56	.015	1KV							
C57	.0022	10%							
C58	.0022	10%							
C59	.1	600V							
C60	.001	10%							
C61	.0022								
C62	.0068	600V							
C63	.0022	10%							
C64	.0022	10%							
C65	.015	1KV							
C66	56	NPO 5%							
C67	680	10%							
C68	.1	600V							
C69	.0022	10%							
C70	.0033	10%							
C71	470	5%							
C72	390	10%							
C73	470	N750 5%							
C74	.005	10%							
C75	.001								
C76	.047	600V							
C77	.047	600V							
C78	330	3KV N1500 10%							
C79	.0015								
C80	47	3KV 10%							
C81	.005	10%							
C82	.005	10%							
C83	.005	1KV							
C84	.01								
C85	.001	10%							
C86	.001								
C87	.005	10%							
C88	.001								
C89	.001								
C90	.005	10%							
C91	.047	600V							
C92	100	NPO 10%							
C93	100	NPO 10%							
C94	470	1.4KV							
C95	.005								
C96	.005								
C97	470	N1500							

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

① Not used in some versions.

† Alternate Value

* TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Curtis Mathes PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	Vert. Output	10A46					
T2	Yoke (Horiz. 19.2MH)	1A210	MDF-141 ①	VO-117			A-113X
T3	Horiz. Output	1A194					YT-101 ①

① Add a lead from yoke terminals #1 and #3 to yoke plug pin #4. Use original horizontal damping network if necessary. Remove jumper and install original thermistor between yoke terminals #5 and #8.

* COMPONENT CONNECTION DATA

ORIGINAL → REPLACEMENT ↓	HV TRANSFORMER		VERTICAL OUTPUT		YOKE		YOKE PLUG							
	Original Connections		Original Connections		Original Connections		1	2	3	4	5	6	7	8
			Blue	Red	Yellow	Green								
MERIT							2	†	7	6	4			
STANCOR			Blue	Red	Green	Yellow								
THORDARSON														
TRIAD			Blue	Red	Yellow	Green	2	†	7	6	4			

† Add a lead from yoke terminals #1 and #3 to yoke plug pin #4.

▲ Jumper yoke plug pins #1 and #8.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Curtis Mathes PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T4	4000Ω	6-8Ω	10A48	A-2900 ①	A-3856 ①	24S04 ①	S-63X ①	① Drill new mounting hole(s).

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		Curtis Mathes PART No.	QUAM PART No.	
SP1	3" x 5" PM 6-8Ω		35A05Z8	

MISCELLANEOUS

ITEM No.	PART NAME	Curtis Mathes PART No.	NOTES
M1	VHF Tuner	7A25	STANDARD KOLLSMAN REPLACEMENT 41S13
M2	UHF Tuner	7A35-1	
M3	VHF Antenna		JFD REPLACEMENT TA364
M4	Circuit Breaker	6A46-1	2.25 Amp.

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

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. 6530 (Solid) Available in 12 Colors 6524 (Stranded) Available in 12 Colors
Power Cord (Interlock Type)	Use BELDEN No. 8874 (Rubber) or 8895 (Plastic)
300Ω Tuner Input Lead	Use BELDEN No. 8225
300Ω Antenna Lead-in	Use BELDEN No. 8230 or 8275
Antenna Rotor Cable	Use BELDEN No. 9484 (Flat) or 8484 (Round) - 4 Conductor 8485 (Round) - 5 Conductor 8488 (Round) - 8 Conductor

CURTIS MATHES
CHASSIS TV-17

FOLDER 1