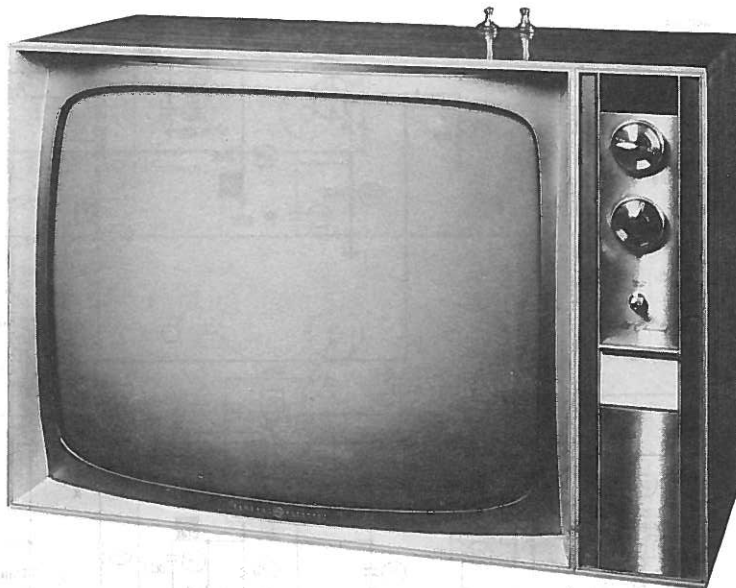


## PHOTOFACT® Folder

with CIRCUITRACE™

GENERAL ELECTRIC  
CHASSIS AC

MODEL M720CWD

TRADE NAME	General Electric Models: M720CMP/CWD, M730CMD/CWD, M732CMP, M740CWD, M741CWD, M742CMP, M743CCL, M744CPN, M760CMD/CWD, M762CMP, M770CWD, M771CMP ..... Chassis AC
SUPPLIER	For current address, see Annual Index.
TYPE SET	Television Receiver
TUBES	VHF: Twelve, UHF: One Transistor
POWER SUPPLY	110-120 Volts AC, 60 Cycles
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)
	RATING 150 Watts, 1.72 Amps. @ 117 Volts AC

## SERVICING IN THE FIELD

SAFETY GLASS DEVICE

The safety device 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.)

A 1 1/4" length of fuse wire is used for filament protection. (For location, see F2 in photo "Chassis - Top View".)

VHF OSCILLATOR ADJUSTMENT

The Fine Tuning mechanically engages oscillator slug for adjustment (one slug for each channel). It may be necessary to adjust overall Oscillator Trimmer for best results.

AGC

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

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

The Horizontal Oscillator Coil slug is used for the horizontal hold. (See "Tube Placement Chart" for location.)

WIDTH

The width may be varied by a Width Coil slug. (See "Tube Placement Chart" for location.)

FOCUS

Some versions may use a beam alignment magnet (Ion trap) to vary focus. CAUTION: Maintain maximum brightness.

CENTERING

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

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

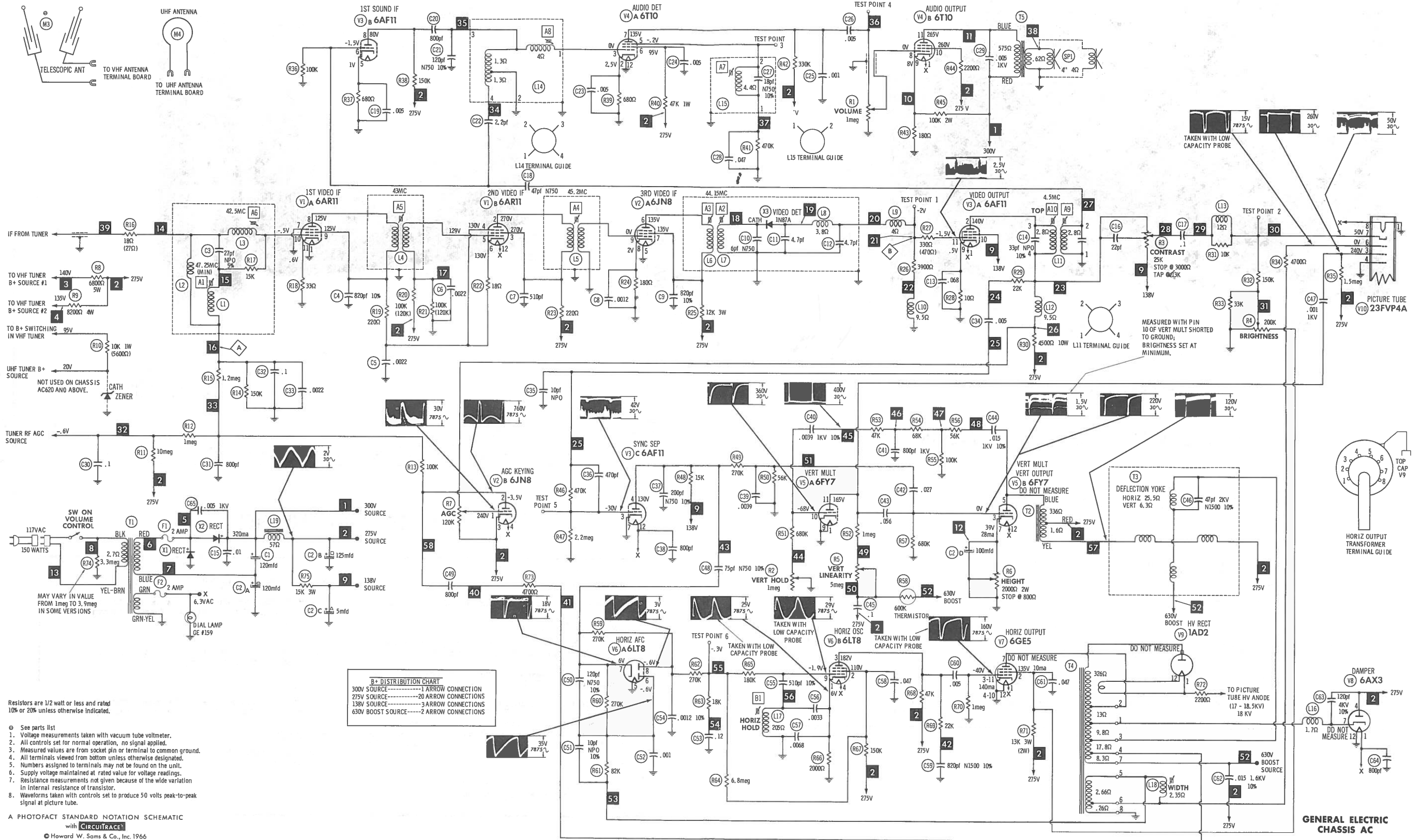
The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. NA949

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DATE 11 -66

SET 850 FOLDER 3



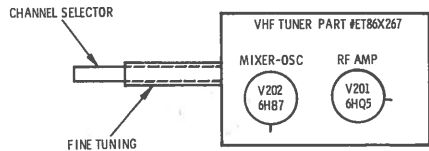
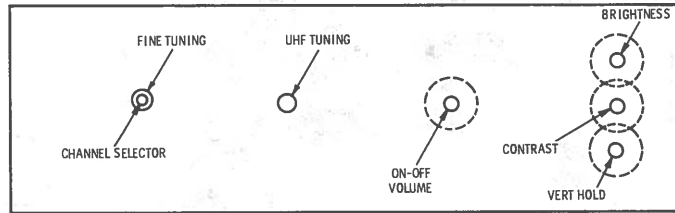
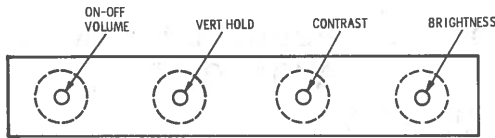


# RESISTANCE MEASUREMENTS

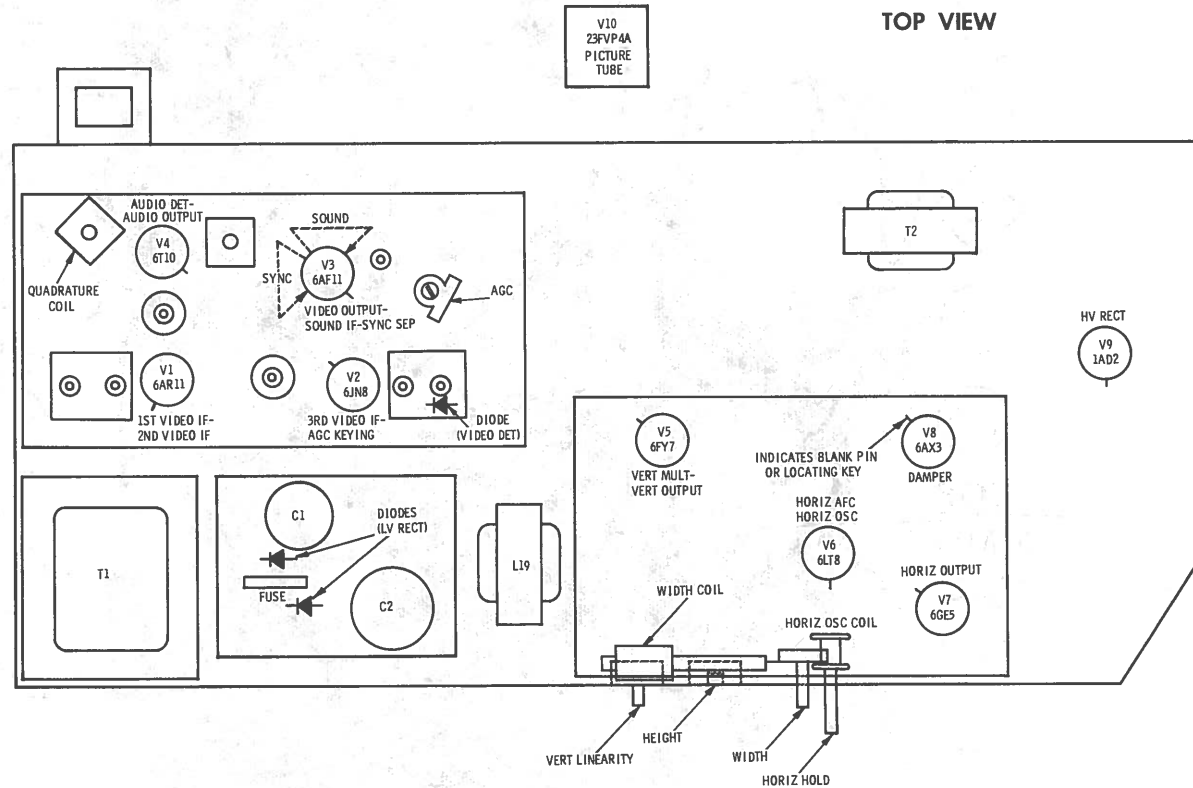
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Pin 11	Pin 12
V1	6AR11	FIL	275Ω †	275Ω †	18Ω ▲	60K	INF	0Ω	238Ω ▲	238Ω ▲	140K	33Ω	FIL
V2	6JN8	26K †	1.5meg	57Ω †	FIL	FIL	12K †	12K †	180Ω	0Ω			
V3	6AF11	FIL	4300Ω †	2.2meg	25K †	680Ω	100K	0Ω	150K †	10Ω	10K †	1400Ω ●	FIL
V4	6T10	FIL	680Ω	5.3Ω	TP	470K	47K †	330K †	250K	180Ω	225Ω †	575Ω †	FIL
V5	6FY7	FIL	NC	680K	NC	393Ω †	NC	1400Ω	0Ω	0Ω	1.2meg	4.6meg †	FIL
V6	6LT8	2200Ω	140K †	47K †	FIL	FIL	82K	350K	600K	1meg			
V7	6GE5	FIL	12.5K †	NC	0Ω	NC	NC	14.7Ω †	NC	NC	NC	1meg	FIL
V8	6AX3	FIL	NC	NC	57Ω †	NC	NC	INF	NC	NC	NC	NC	FIL
V9	1AD2												TOP CAP 340Ω †
V10	23FVP4A	FIL	NC	1.5meg †	0Ω	NC	4700Ω	175K †	FIL				
V201	6HQ5	2.2meg	0Ω	FIL	FIL	8000Ω †	0Ω	0Ω					
V202	6HB7	0Ω	220K	0Ω	FIL	FIL	8200Ω †	30.2K †	12.9K †	3300Ω			
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

- READING DEPENDS ON POLARITY OF METER CONNECTIONS.
- † MEASURED FROM OUTPUT OF X2.
- NC NO CONNECTION
- ▲ MEASURED FROM PIN 6 OF V1.
- ‡ MEASURED FROM PIN 7 OF V8.
- TP TIE POINT

## TUBE PLACEMENT CHART



## TOP VIEW



## 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, X2, F1, F2

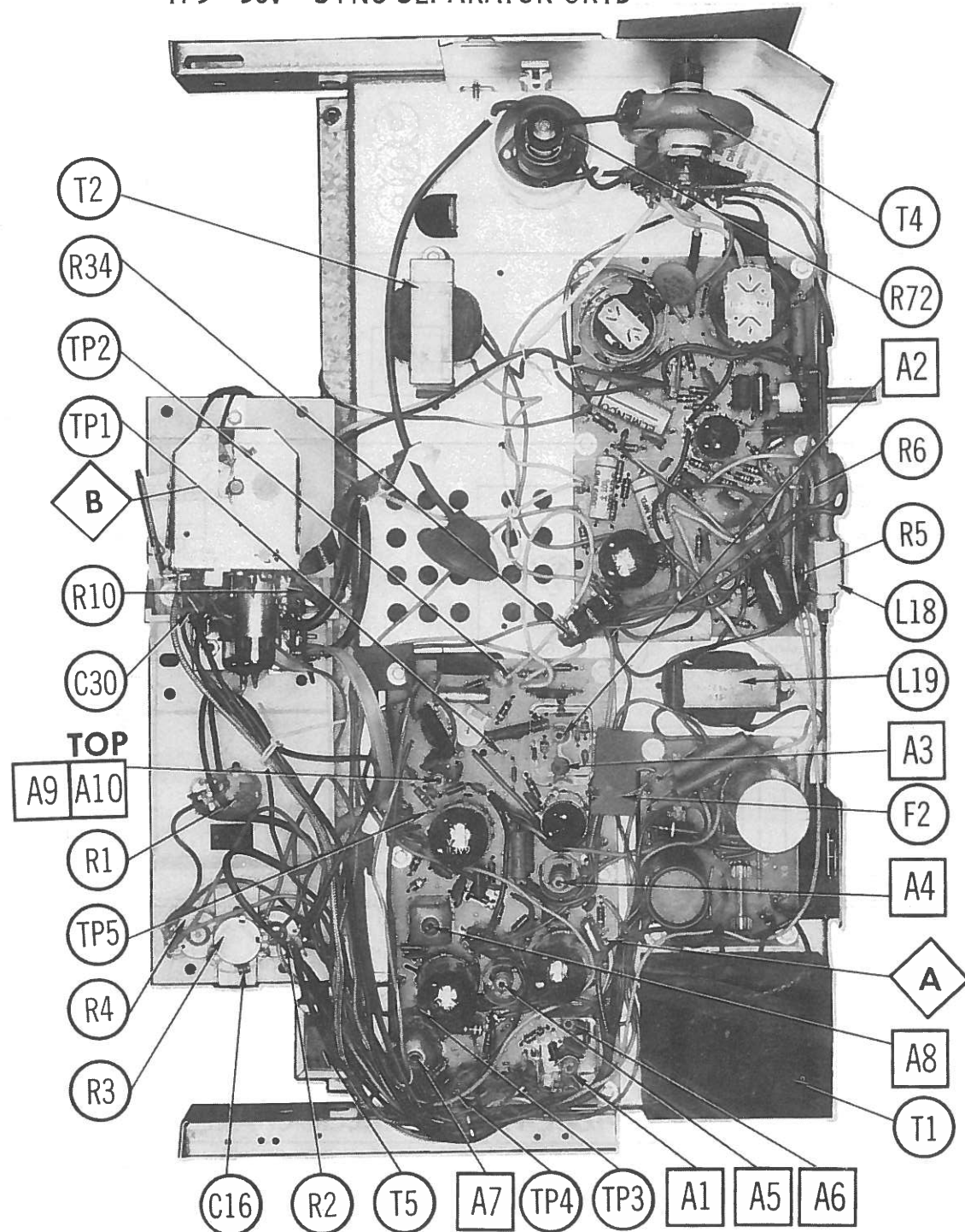
**SWEEP FAILURE**  
No raster, has sound V8, V7, V8, V9, V10  
No vertical deflection V5  
Poor vert. linearity or foldover V5  
Poor horiz. linearity or foldover V6, V7, V8  
Narrow picture V8, V7, V8, X1, X2  
Vert. off freq. V5  
Horiz. off freq. V6

**LOSS OF PICTURE OR SOUND**  
No pic, no sound, has raster V1, V2, V3, X3  
No pic, no sound, has snow V201, V202, V1  
No pic, has sound, has raster V10  
Has pic, no sound V3, V4  
Overloaded picture V2

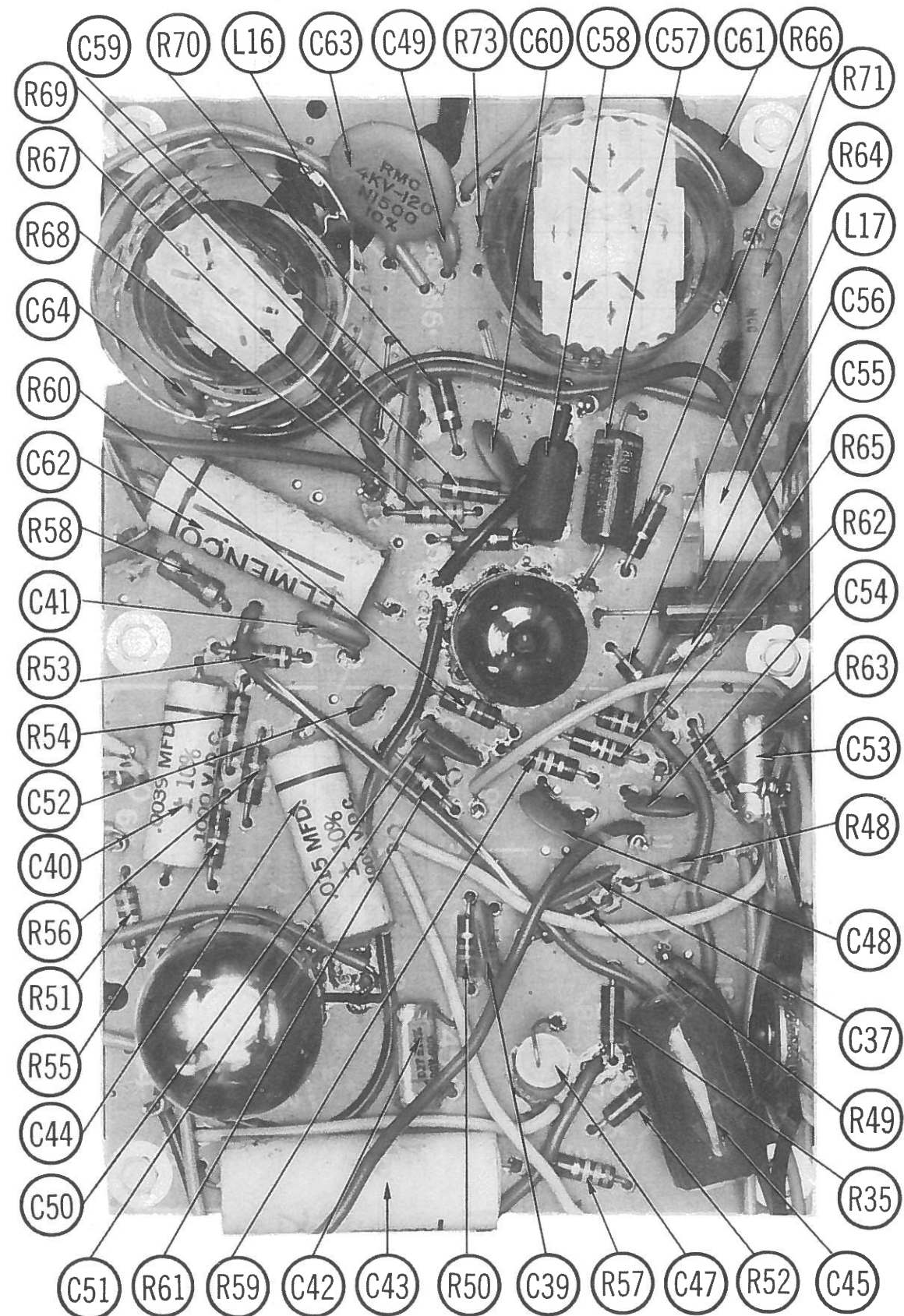
**SYNC FAILURE**  
No vert. sync V3  
No horiz. sync V3  
No vert. or horiz. sync V3



TP1 VIDEO DETECTOR OUTPUT TP3 -.2V AUDIO DETECTOR SCREEN  
 TP2 50V PICTURE TUBE CATHODE TP4 AUDIO OUTPUT  
 TP5 30V SYNC SEPARATOR GRID



CHASSIS - TOP VIEW



SWEEP PRINTED BOARD

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 A10 ..... GENERAL CEMENT #8606, 8606L, 8869 ...WALSCO #2543, 2544, 2588  
Mixer Plate Coil .. 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  $\diamond$  ) 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.

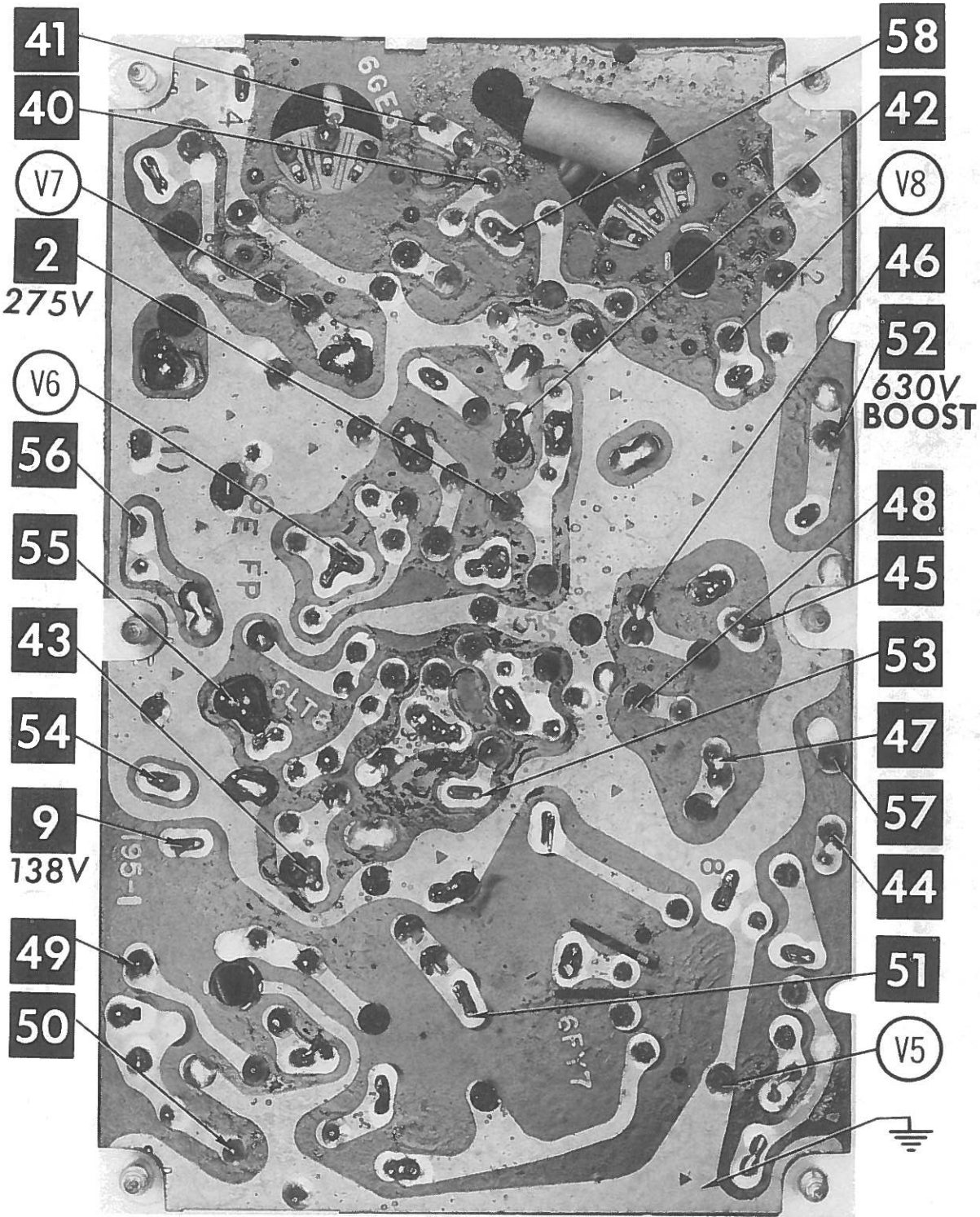
INDICATOR	GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	ADJUST	REMARKS
1. Connect DC probe of a VTVM thru a 47K resistor to point $\diamond$ . Common to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.		47.25MC	A1	Adjust for MINIMUM.
2. Connect DC probe of a VTVM thru a 47K resistor to point $\diamond$ . Common to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.		44.15MC 45.2MC 43MC 42.5MC 45.75MC	A2, A3 A4 A5 A6 Mixer Plate Coil	Adjust for maximum. Adjust with cores at end of coil away from board.
3. Connect vertical input of a scope to point $\diamond$ . Low side to ground.	Connect high side to pin 9 (grid) of V2. Low side to ground.	44MC (10MC Sweep)	42.75MC 44.00MC 45.75MC	A2 A3	Adjust for maximum amplitude and MINIMUM tilt with markers as shown in Figure 1.
4. Connect vertical input of a scope to point $\diamond$ . Low side to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.	44MC (10MC Sweep)	41.25MC 42.75MC 44.00MC 45.75MC 47.25MC	A4, A5, A6 and Mixer Plate Coil	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 A 2 and A 3.

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 A10 for MINIMUM beat interference.

SOUND IF ALIGNMENT

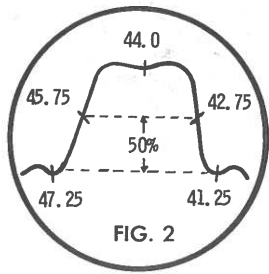
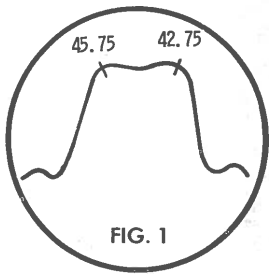
Tune in a station and adjust A7 for maximum sound. Starting with core at top end of coil, adjust to second peak. Reduce signal strength at the antenna terminals until distortion appears. Continue to reduce signal while aligning for undistorted output by adjusting A8 and A9.



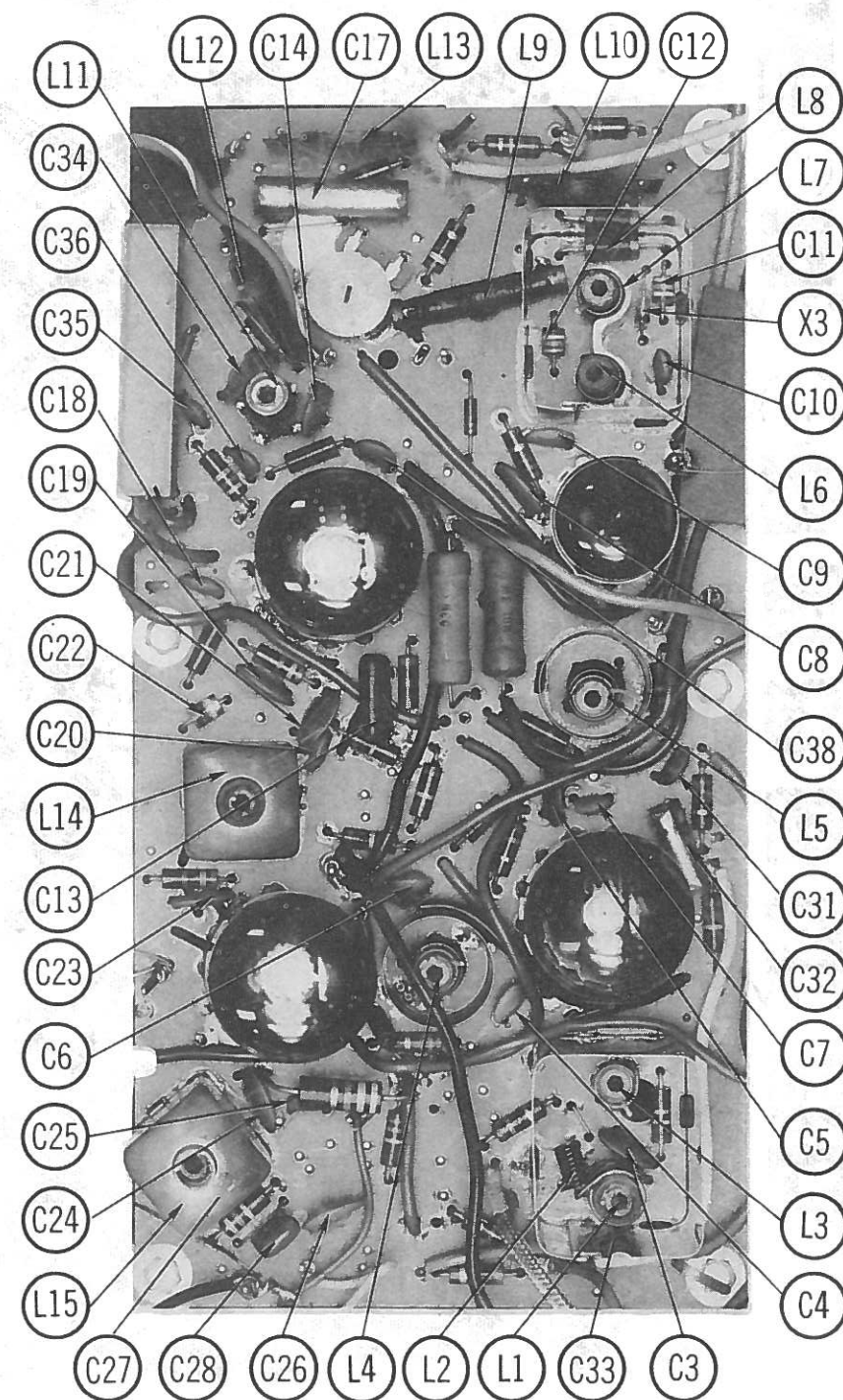
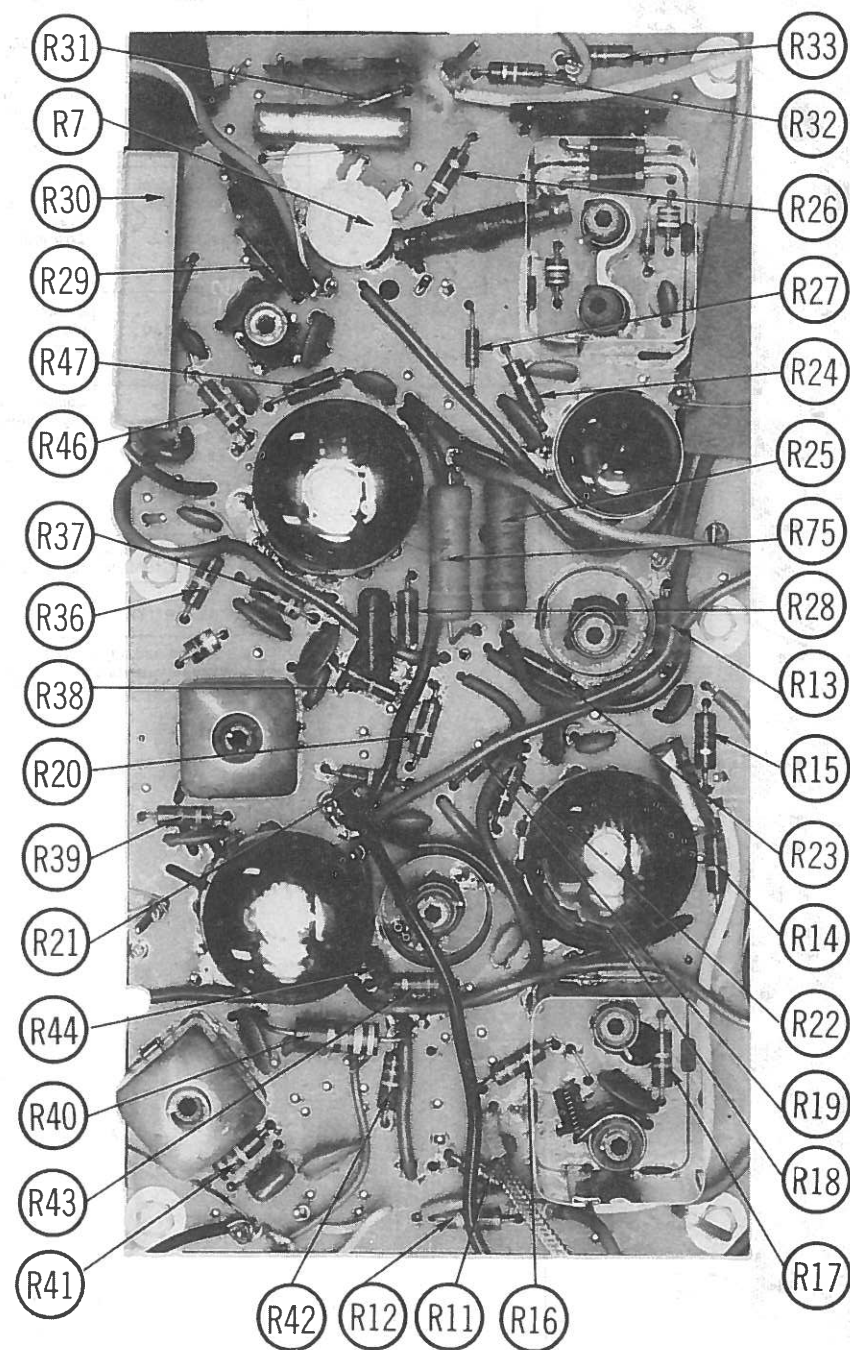
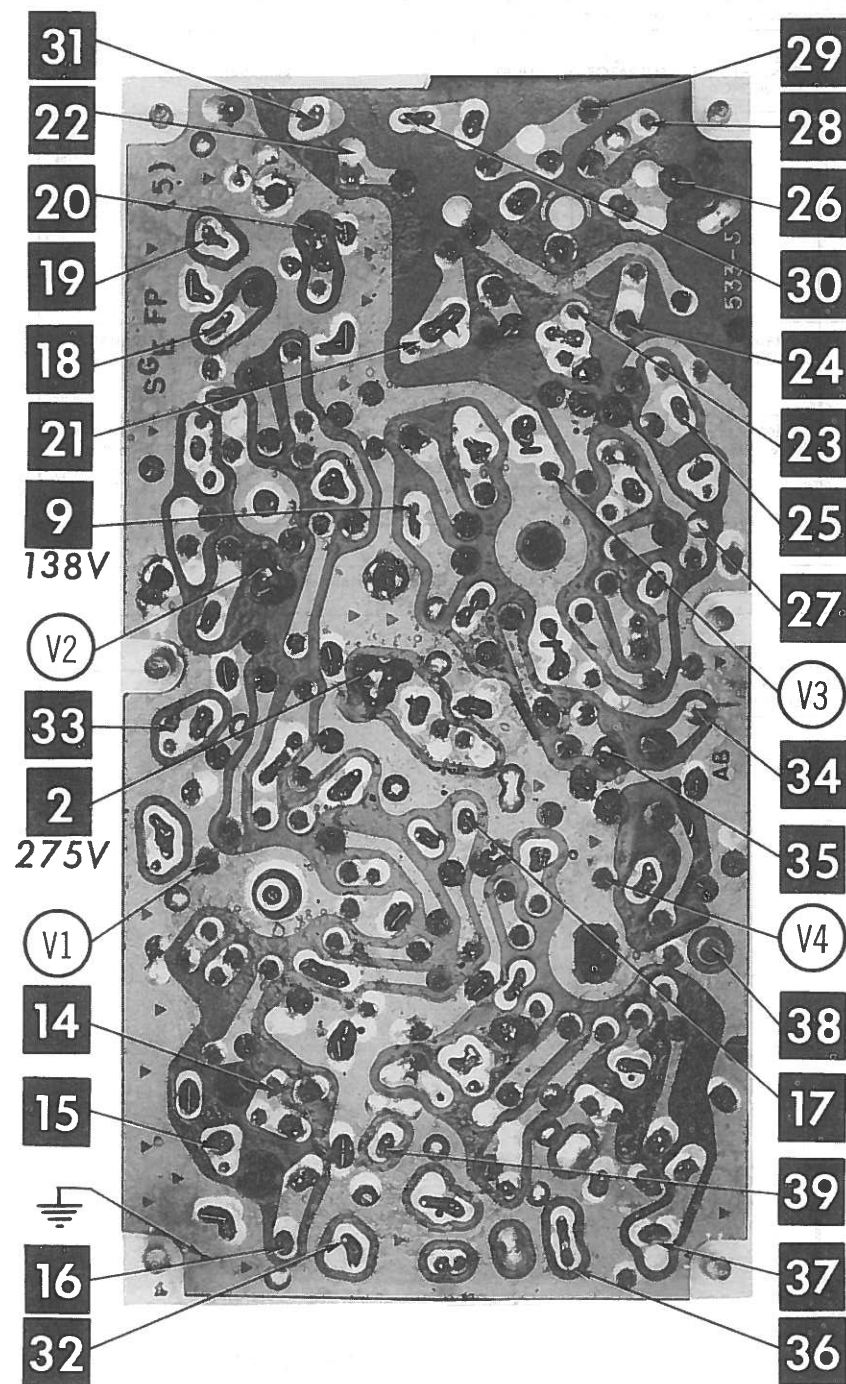
A Howard W. Sams CIRCUITRACE® Photo

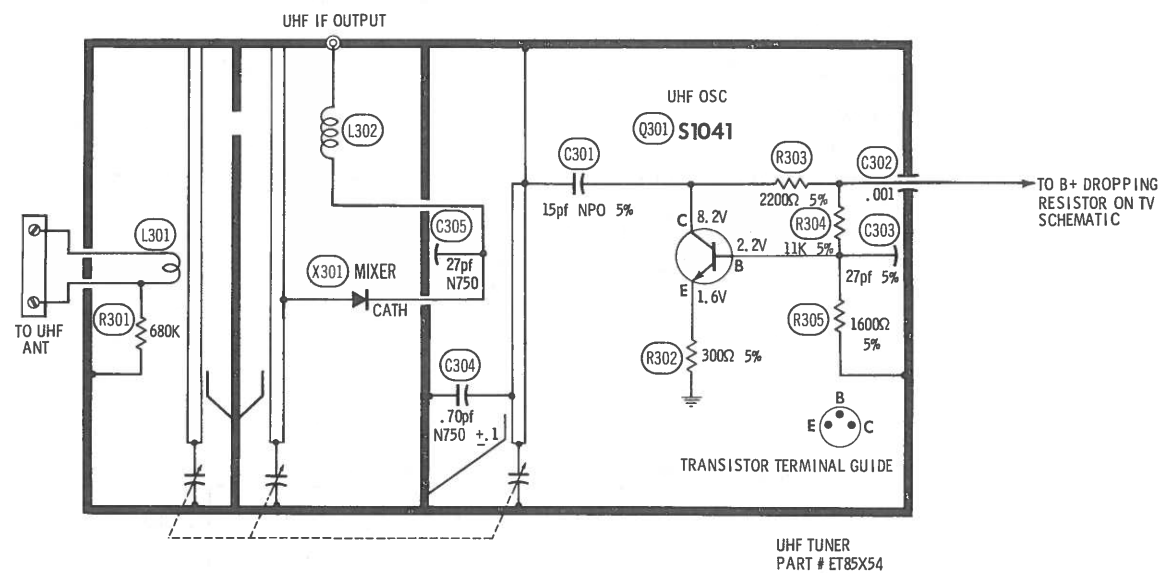
ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

SWEEP PRINTED BOARD

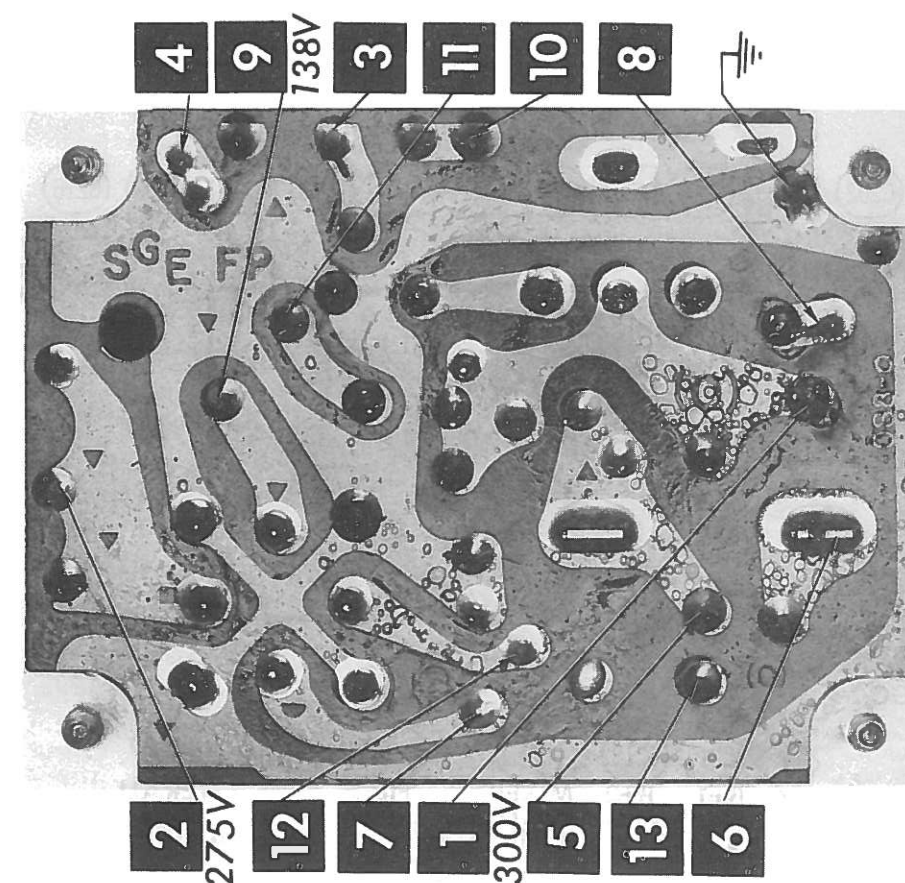
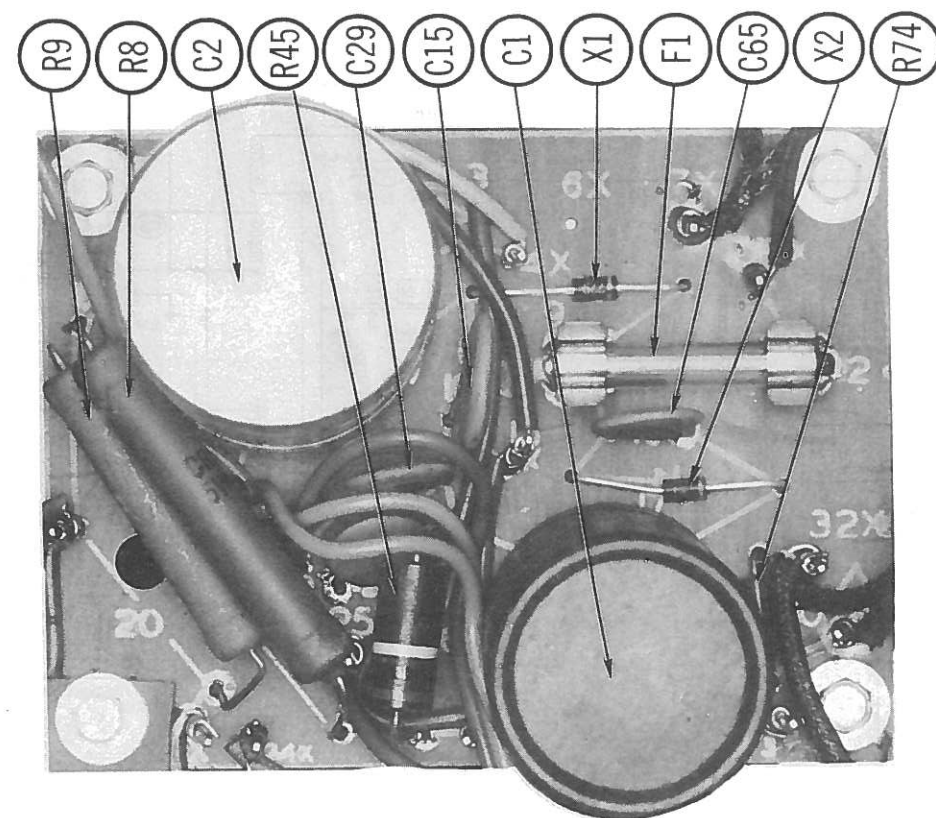
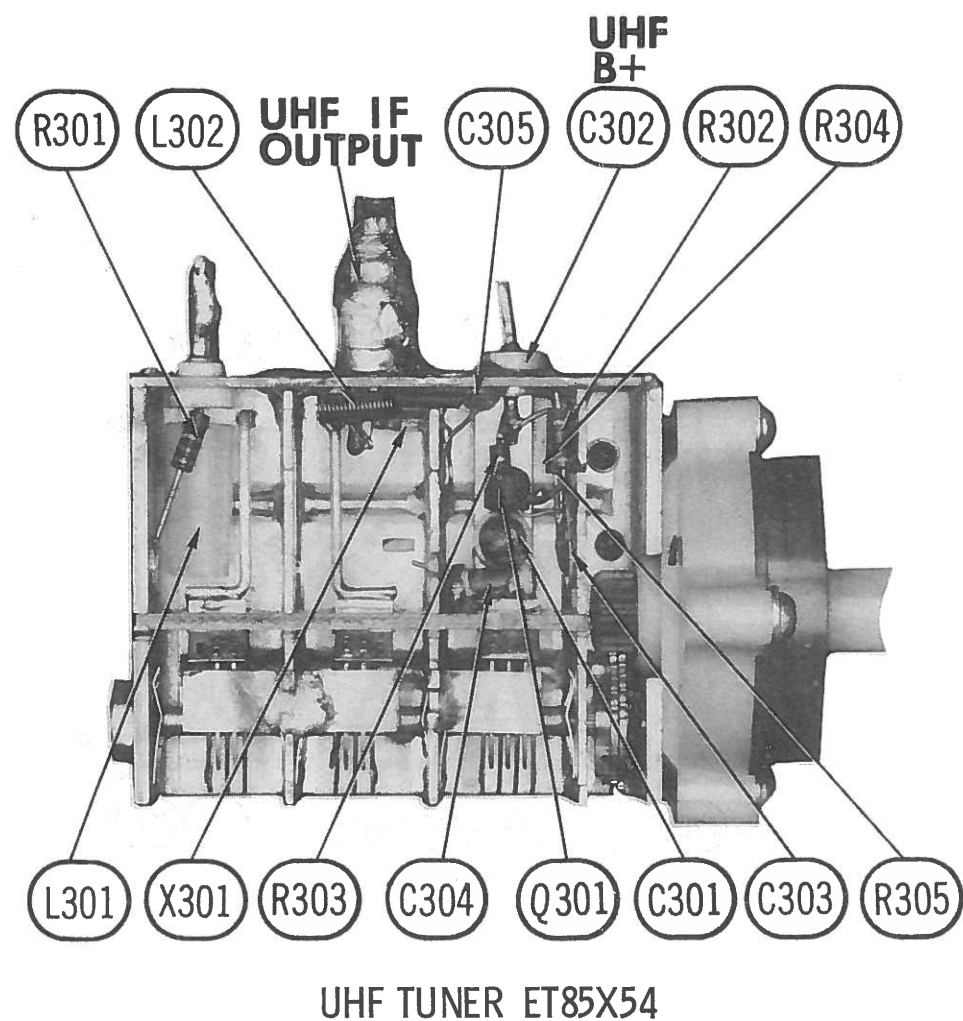








A PHOTOFAC STANDARD NOTATION SCHEMATIC  
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## VHF TUNER ALIGNMENT INSTRUCTIONS

### OSCILLATOR ADJUSTMENTS

The oscillator for each channel is preset by means of the fine tuning control. Adjust fine tuning for best picture and sound on each channel. If any channel cannot be properly tuned in with the fine tuning, adjust overall oscillator adjustment and recheck all available channels.

### RF AND MIXER ALIGNMENT

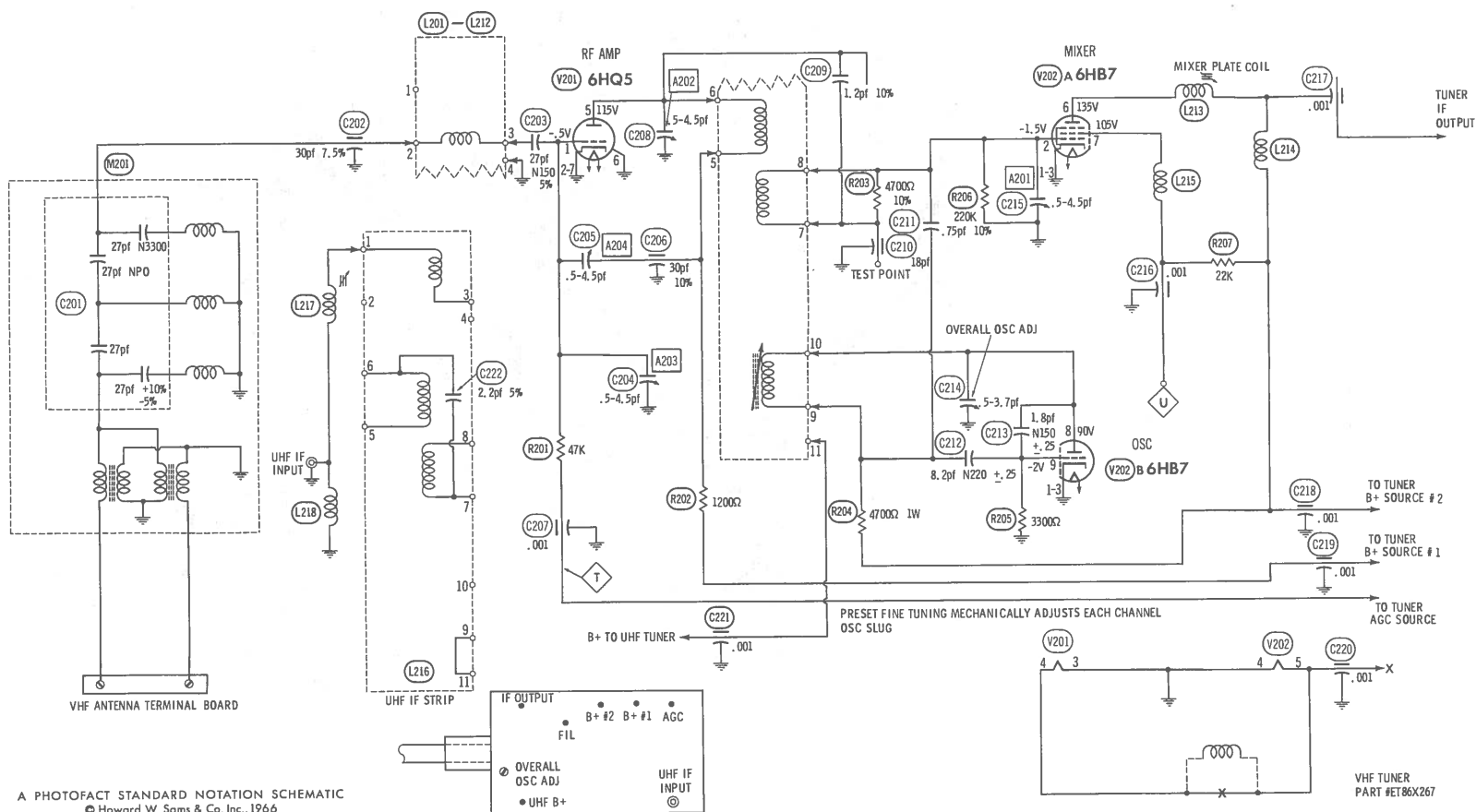
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. Use 10MC sweep unless otherwise noted. Connect a variable bias to the RF AGC line at point T. Adjust bias to obtain response curve which shows no indication of overloading.

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.	A201, A202, A203	Adjust for maximum gain and symmetry of response similar to Fig. 201 with markers as shown.
2. "	195MC	193.25MC 197.75MC	10	Across Video Det. load resistor.	A204	Increase bias to -15 volts and adjust for MINIMUM amplitude of response.
3. "	See Chart	See Chart	12 thru 2	Vert. Input to Point U, low side to ground.		Decrease bias. Check all channels for proper response. If necessary, make compromise adjustments of A201, A202 & A203.

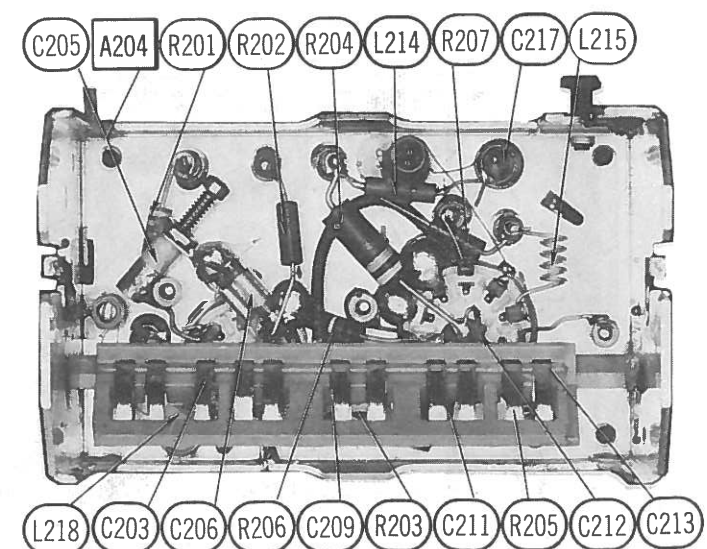
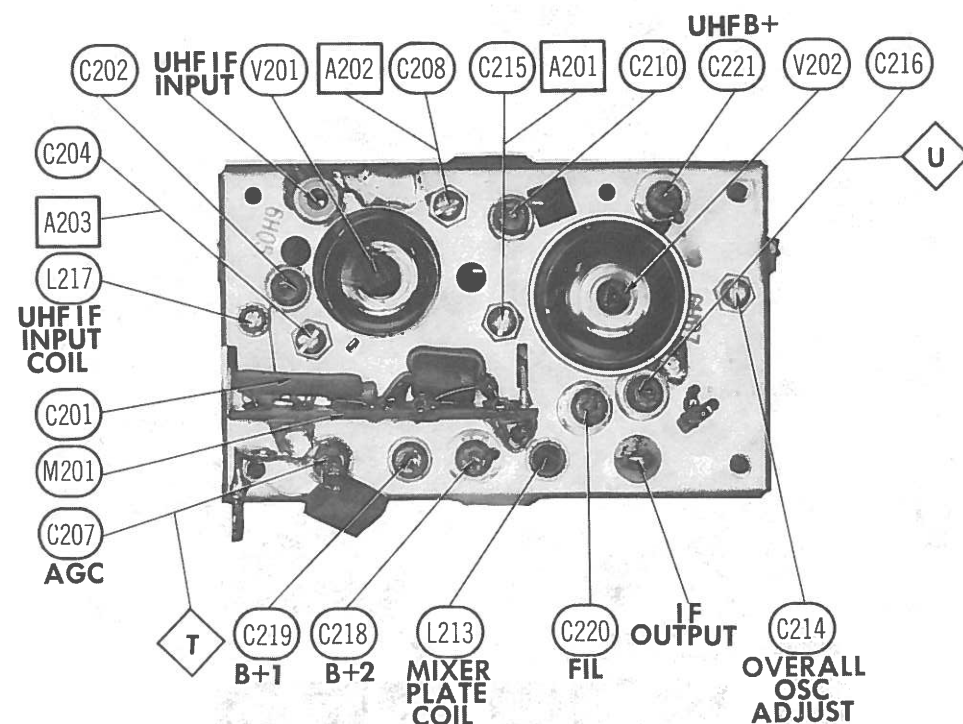
### CHANNEL & FREQUENCY CHART

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



A PHOTOFAC STANDARD NOTATION SCHEMATIC  
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VHF TUNER ET86X267



VHF TUNER ET86X267

MISCELLANEOUS

ITEM No.	PART NAME	G. E. PART No.	NOTES
M201	Antenna Input Ass'y Board Gear Shaft and Coil Support Assembly Shaft	ET92X231 ET98X133 ET2X334 ET89X373 ET89X376 ET89X375	Stator Bracket Assembly with Contacts and Springs Drive P.O. Clutch Assembly Fine Tuning Extension Fine Tuning (Aluminum)

UHF TUNER PARTS LIST

UHF TUNER ET85X54

TRANSISTORS

ITEM No.	ORIG TYPE	USE	REPLACEMENT DATA			NOTES	G. E. PART No.
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.		
Q301	SI041	UHF Oscillator		GE-11		NPN	ET15X3

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.
X301		ET16X14				SARKES TARZIAN PART No.

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.
C301	15 500V NPO 5%		NPO-DI 15	DTZ-15	CZ601CG150J	CCTO-150	CNO415
C302	.001 500V		EF-001	MFT-1000 TCZ-27		CCTO-102	CT280A
C303	27 500V NPO 5%					CCTO-270	CNO427
C304	.75µf 500V N750 5%					CCTN-270	CN7427
C305	27 500V N750 5%						

# General Electric Part Number

COILS (RF-IF)

ITEM No.	USE	G. E. PART No.	NOTES	ITEM No.	USE	G. E. PART No.	NOTES
L301	RF Input	ET98X130	Includes terminal board, coil, eyelets and plastic sleeve	L302	IF Coil	ET96X327	19 turns

MISCELLANEOUS

ITEM No.	PART NAME	G. E. PART No.	NOTES
	Cover Jack Shaft & Gear Ass'y	ET92X318 ET98X69 ET99X365	For Case IF Output Hi-Ratio Drive

VHF TUNER PARTS LIST

VHF TUNER ET86X267

TUBES

ITEM No.	USE	GENERAL ELECTRIC		RCA	SYLVANIA	USE	TYPE
		AMPEREX					
V201	RF Amp.		6HQ5			Mixer - Osc.	6HB7

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.
C201A	27 500V						
C201B	27 500V						
C201C	27 NPO						
C201D	27 N3300						
C202	30 27 500V N150 5%	#ET23X26					
C203	30 27 500V N150 5%	#ET18X566					
C204	5-4.5	#ET30X79					
C205	5-4.5	#ET30X79					
C206	30 10%	#ET23X56					
C207	.001		EF-001	MFT-1000		CCF-102	CT280A
C208	5-4.5	#ET30X79					
C209	1.2 500V						
C210	18 500V	#ET21X22					
C211	.75µf 500V	#ET21X53					
C212	8.2 500V ±.25	#ET18X610					
C213	1.8 500V ±.25	#ET18X607					
C214	5-3.7	#ET30X78					
C215	5-4.5	#ET30X79					
C216	.001		EF-001	MFT-1000		CCF-102	CT280A
C217	.001		EF-001	MFT-1000		CCF-102	CT280A
C218	.001		EF-001	MFT-1000		CCF-102	CT280A
C219	.001		EF-001	MFT-1000		CCF-102	CT280A
C220	.001		EF-001	MFT-1000		CCF-102	CT280A
C221	2.2 500V 5%		NPO-DI 2.2	DTZ-2R2	CZ601CG2R2D	CCTO-2R2	CNO522
C222	2.2 500V 5%						

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

# General Electric Part Number

COILS (RF-IF)

ITEM No.	USE	G. E. PART No.	NOTES	ITEM No.	USE	G. E. PART No.	NOTES
L201	Ant., RF, Osc., Mixer	ET92X206	Channel 2	L210	Ant., RF, Osc., Mixer	ET92X215	Channel 11
L202	"	ET92X207	" 3	L211	"	ET92X216	" 12
L203	"	ET92X208	" 4	L212	"	ET91X217	" 13
L204	"	ET92X209	" 5	L213	Mixer Plate	ET36X767	14 turns on form
L205	"	ET92X210	" 6	L214	RF Choke		5 turns
L206	"	ET92X211	" 7	L215	Mixer Screen Choke	ET92X316	UHF IF Strip
L207	"	ET92X212	" 8	L216	RF, Osc., Mixer	ET36X766	16 turns
L208	"	ET92X213	" 9	L217	UHF IF Input		
L209	"	ET92X214	" 10	L218	UHF Input		

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.

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
Q301	UHF Osc. (Transistor)	SI041	V4	Audio Detector -	6T10
V201	RF Amp.	6HQ5	V5	Audio Output	6FY7
V202	Mixer - Osc.	6HB7	V6	Vert. Mult. - Vert. Output	
V1	1st Video IF -		V8	Horiz. Phase Detector -	
V2	2nd Video IF -	6AR11	V7	Horiz. Oscillator	6LT8
V3	3rd Video IF -	6JN8	V9	Horiz. Output	6GE5
	AGC Keying			Damper	6AX3
	Video Output - Sound IF -	6AF11		HV Rectifier	1AD2
	Sync Separator				

PICTURE TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	G. E. PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SYLVANIA PART No.	
V10	23FVP4A	23FVP4A		23HFP4 ①	① May require separate ground for tension band.

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	.32A	ET57X30	GE-504A	8D6 or 5A6-D	1N2071 or VB600 ①	SK-3016 or SK-3017	40C or S-5960-2 ①
X2	.32A	ET57X30	GE-504A	8D6 or 5A6-D	1N2071 or VB600 ①	SK-3016 or SK-3017	40C or S-5960-2 ①
X3		ET16X1 (1N87A)	1N60	1N87A			

① A single unit replaces X1 and X2.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA				
	CAP.	VOLT.	G. E. PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.
C1	120	175	ET31X205	AFH1-25-85 ①②	APC020 ①	XC1-14 ①②	FPI21 ①②
C2A	120	175	ET31X237	PWH4-114-95			
C2B	125	300					
C2C	200	200					
C2D	100	75					

① Use insulating sleeve.

② Use printed circuit adapters.

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.
C3	27 NPO 5%			TCZ-27		CCTO-270	CNO427	10TCC-Q27
C4	820 10%		DI-820	DD-821	JBY801YP821K	CCD-821	GP382	10TS-T82
C5	.0022		DI-2200	DD-222	JBX801YP222K	CCD-222	GP222	10TS-D22
C6	.0022	#ET22X145	DI-2200	DD-222	JBX801YP222K	CCD-222	GP222	10TS-D22
C7	510			DD-511				
C8	.0012	#ET18X424	DI-1200	DD-122G	JBS801YP122K	CCD-122	GP212	10TS-D12
C9	820 10%		DI-820	DD-821	JBY801YP821K	CCD-821	GP382	10TS-T82
C10	6 N750 10%							
C11	4.7			DTZ-4R7		CCTO-4R7	CNO547	10TCC-V47
C12	4.7			DTZ-4R7		CCTO-4R7	CNO547	10TCC-V47
C13	.068		DBE6S88		DMF6S88	6DP-4-683	PVC6168	6PS-S88
C14	33 NPO 10%		NPO-DI 33	DTZ-33	CS801CG330K	CCTO-330	CNO433	10TCC-Q33
C15	.01		DI-10000	DD-103	BYX801ZU103M	CCD-103	GP110	10TS-S10
C16	22			DTZ-22	CY801CG220K	CCTO-220		
C17	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC601	4PS-P10
C18	47 N750		N750-DI 47	DTN-47	CY801UJ470K	CCTN-470	CN7447	10TCU-Q47
C19	.005		DI-5000	DD-502	JBT801YP502K	CCD-502	GP250	10TS-D50
C20	800		BPD-0008	DD-801		CCD-801	GP250	10TS-T80
C21	120 N750 10%			TCN-120		CCTN-121	CN7312	10TCU-T12
C22	2.2			DTZ-2R2		CCTO-2R2	CNO522	10TCC-V22
C23	.005		DI-5000	DD-502	JBT801YP502K	CCD-502	GP250	10TS-D50
C24	.005		DI-5000	DD-502	JBT801YP502K	CCD-502	GP250	10TS-D50
C25	.001		DI-1000	DD-102	JBS801YP102K	CCD-102	GP210	10TS-D10
C26	.005		DI-5000	DD-502	JBT801YP502K	CCD-502	GP250	10TS-D50
C27	18 N750 10%			TCN-18	CZ801UJ180J	CN7418	CN7418	10TCU-Q18
C28	.047 50V		DBE2S47		DMF2S47	4DP-3-473	PVC2147	2PS-S47

## 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.

## 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.
C29	.005 1KV		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C30	.1 50V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C31	800		BPD-0008	DD-801		CCD-801		10TS-T80
C32	.1 100V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C33	.0022		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C34	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C35	10 NPO		NPO-DI 10	DTZ-10	CZ801CG100J	CCTO-100	CNO410	10TCC-Q10
C36	470		DI-470	DD-471	JBT601YP471K	CCD-471	GP247	10TS-T47
C37	200 N750 10%		N750-DI 200	DTN-200		CCTN-201	CN7320	10TCU-T20
C38	800		BPD-0008	DD-801		CCD-801		10TS-T80
C39	.0039			DD-392		CCD-392	GP239	10TS-D39
C40	.0039 1KV 10%	#ET26X16	BE10D39					
C41	800 1KV		BPD-0008	DD-801	WMF1S27	CCD-801		10TS-T80
C42	.027 100V		DBE6S27		PM6S56	1MD-1-273	6PS-S27	6PS-S27
C43	.056 600V		DBE6S56			6MPD-3-563	6PS-S56	16PS-S15
C44	.015 1KV 10%				DMF6P1	16DP-4-153	PVC601	6PS-P10
C45	.1 800V		DBE6P1			6DP-4-104	*	
C46	47 N1500 2KV 10%	#ET18X459			PKM10D1	16DP-2-102		10PS-D10
C47	.001 1KV		BE10D1			CCTN-750	CN7475	10TCU-Q75
C48	75 N750 10%		N750-DI 75	DTN-75		CCD-801		10TS-T80
C49	800		BPD-0008	DD-801		CCTN-121	CN7312	10TCU-T12
C50	120 N750 10%		TCN-120			CCTO-100	CNO410	10TCC-Q10
C51	10 NPO 10%		DTZ-10	DD-102	CZ801CG100J	CCD-102	GP210	10TS-D10
C52	.001		DI-1000		JBS801YP102K			5BF-P12
C53	.12 100V				WMF1P12	CCD-122	GP212	10TS-D12
C54	.0012 10%		DI-1200	DD122G	JBS801YP122K	DM-16-511	MS-351	
C55	510 10%		ADM-15-511	CPR-510J	CD1SF511J500	6DP-1-332	PVC6233	6PS-D33
C56	.0033 100V		DBE6D33	CPR-3300J	DMF6D33	6DP-1-882	PVC6268	6PS-D68
C57	.0068 100V		DBE6D68	CPR-6800J	DMF6D68	4DP-3-473	PVC4147	4PS-S47
C58	.047 300V		DBE4S47		DMF4S47			
C59	820 N1500 10%	#ET18X520			BYX801ZU103M	CCD-103	GP110	10TS-S10
C60	.005		DI-10000	DD-103	DMF4S47	4DP-3-473	PVC4147	4PS-S47
C61	.047 300V		DBE4S47			16PS-S47		16PS-S47
C62	.015 1.6KV 10%					60GA-T12		
C63	120 4KV 10%		HVD-80-120	DD-80-121		CCD-121		10TS-T80
C64	800		BPD-0008	DD-801		CCD-801		
C65	.005 1KV		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50

\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.  
# General Electric Part Number

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			G. E. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume/Switch	1meg	ET49X386 (M124J636-4)	F2-1meg, SP212, KR-8	C47S-1meg-Z, RS-3/16	B13-137, SK8 or (PPQ13-137, SK8) or (BU1, CF28, SS11, K) *	PTA16A, DS37 or (RUP16A, SL35)
R2	Vertical Hold	1meg	ET49X517 (M124J633-7)	F1-1meg, SNK100	B47-1meg-S or (NP-1meg-S, UP-C-400, TT-2)	B11-137, TM4 or (BU1, CF17, SS6) *	PTA1254L or (RU16L, SL37, SN1000) or (UA16L, SN1000)
R3	Contrast	25K, 3000Ω Stop 13K Tap	ET49X518 (M124J634-3)	F51-30K ①, SNK200		B20-121K ①, SK1 or (BU1, CF49T ①, SS1, DC1) *	UA34T253 ①, SL3500 or (RU34T24 ①, SL38, SL3500) or (UT415 ①)
R4	Brightness	200K	ET49X516 (M124J632-9)	F1-200K, SNK100	B47-200K-S or (NP-200K-S, UP-C-400, TT-2)	B11-129, TM4 or (BU1, CF14, SS6) *	TA184L or (RU25L, SL37, SN1000) or (UA25L, SN1000)
R5	Vertical Linearity	5meg	ET49X519 (K122J412-3)	TT-87 or (F1-5meg, SNK010)	B47-5meg-S or (A47-5meg-S, RN-3, TT-2)	HLC5	PTA56L or (RU56L, SL37, SN1000) or (UA56L, SN1000)
R6	Height	2000Ω 2W 800Ω Stop	ET49X604 (23A200698-1)	V-1200 ②	U39-1500 ② or (NPW-1500 ②③, UP-C-400)	112-1500 ② or (BU1 ③, WF4 ②, SS8) *	MR1500F ② or (VW1P6K ②③)
R7	AGC	120K	ET49X608 (23B210064-3)				MTC12414

① Connect a 3300Ω resistor in series with the left-hand terminal of the control and the lead connected to the same terminal of the original control viewed from shaft end, terminals down). \* "SNAPTROL"  
② Connect a 820Ω, 2-watt resistor in series with terminal. ③ Enlarge mounting hole.

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	G. E. PART No.			IRC PART No.	WORKMAN PART No.	G. E. PART No.
R8	6800Ω 5W		5G-6.8K	ET14X190	R58	Thermistor 600K (Cold)		FS-1207	ET14X192
R9	8200Ω 4W		5G-8.2K	①	R71	13K 3W		7G-13K	
R25	12K 3W		5W-SQ-12.5K	②	R75	15K 3W		5G-14K	ET14X145
R30	4500Ω 10W	PW10-4500	10W-SQ-4.5K						

① Some versions use 8200Ω, 7W, Part #ET14X142.

② Some versions use 12K, 7W, Part #ET14X104.

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		G. E. PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	47.25MC Trap	ET36X742				
L2	RF Choke (8 turns)	ET36X837				
L3	1st Video IF	ET36X882				
L4	2nd Video IF	ET61X158				
L5	3rd Video IF	ET61X148				
L6	4th Video IF, Primary	ET36X588				
L7	4th Video IF, Secondary	ET36X587				
L8	RF Choke (10uh)	ET36X420				
L9	Peaking (36.2uh) 7%	ET36X583	19-1005	BC-566	74F105AP	T860
L10	Peaking (36uh) 7%	ET36X717	19-3D36	TV-180	6176	T301
L11	Sound Takeoff/4.5MC Trap		19-3375	TV-190	6134	TA300
L12	Peaking (39uh) 7%	ET36X084				
L13	Peaking (30uh) 7%	ET36X264	19-2028	TV-201	SI-131	T350
L14	Sound Interstage	ET36X375	19-3300	TV-199	6155	T318
L15	Quadrature	ET36X778			SI-193	
L16	RF Choke (10uh) 10%	ET36X732			Q-107	
		ET36X105	19-1005	BC-566	4612	T860

## COILS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA						
		G. E. PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	THORDARSON MEISSNER PART No.	TRIAD PART No.	WORKMAN PART No.
L17	Horiz. Osc. (Hold)	ET35X51						
L18	Width Crank Wire Drive	ET36X651						
		ET2X248						
		ET2X247						

## FILTER CHOKE

ITEM No.	RATINGS		REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	G. E. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L19	.28ADC	57Ω	.9 H	ET63X58 (M128J181-1)	C-4115	C-2343	26C77	C-2TX

## TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	G. E. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @ 1.72A AC	116VAC @ .32A DC	6.3VAC @ 7.5A AC	ET88X79 (P-236J580-1)	P-4083 ①		26R106 ①	R-124BC ①	① Drill new mounting holes.

(P-126J580-1) connected 6-6-68

## \* TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		G. E. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	Vert. Output	ET64X99 (M128J180-2)					
T3	Yoke (Horiz. 19.2mh) 110° (Vert. 20mh)	ET76X39 (ET76X39-3)	MDF-141 ①	DY-61AT ②	Y-81	YT-101 ①	
T4	Centering Ring Ass'y Horiz. Output Core Half	ET42X43					
		ET77X96					
		ET12X85					

① Use original Horizontal Damping capacitor if necessary.  
② Remove 56μF capacitor from Yoke Terminals #1 and #2 and install between Yoke Terminals #3 and #7. Remove Vertical Damping network. Remove Red/Yellow and Black lead.

## \* 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 TO YOKE TERMINAL
MERIT				1 2 3 4 5 6 7 8
STANCOR				1 2 3 4 5 6 7 8
THORDARSON				1 2 3 4 5 6 7 8
TRIAD				1 2 3 4 5 6 7 8

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	G. E. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T5	7700Ω	3-4Ω	ET64X90 (128J232-2)	A-2931	A-3850	22S86	S-18Z	

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		G. E. PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4" PM 3-4Ω	ET95X21	P4W3	4A05	Used in Models M720CMP/CWD, M730CMD/CWD, M732CMP, M760CMD/CWD, M762CMP.
	8" x 9" PM 3-4Ω	ET95X29			Used in Models M740CWD, M742CMP, M743CCL, M744CPN.
	5" x 7" PM 3-4Ω	ET95X50			Used in Models M770CWD, M771CMP.

## FUSE DEVICES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
F1 F2	3AG 1 1/4" length of #26 fuse wire	250V @ 2A	ET10X41	ET3X537	312002.	121002 ①	AGC 2	5682-44

① Two (2) required.

## MISCELLANEOUS

ITEM No.	PART NAME	G. E. PART No.	NOTES
M1 M2 M3 M4	VHF Tuner UHF Tuner VHF Antenna UHF Antenna	ET86X287 ET86X54 ET83X88 ET83X46	JFD Replacement TA479 (2 used) - Models M720CMP/CWD. JFD Replacement TA433

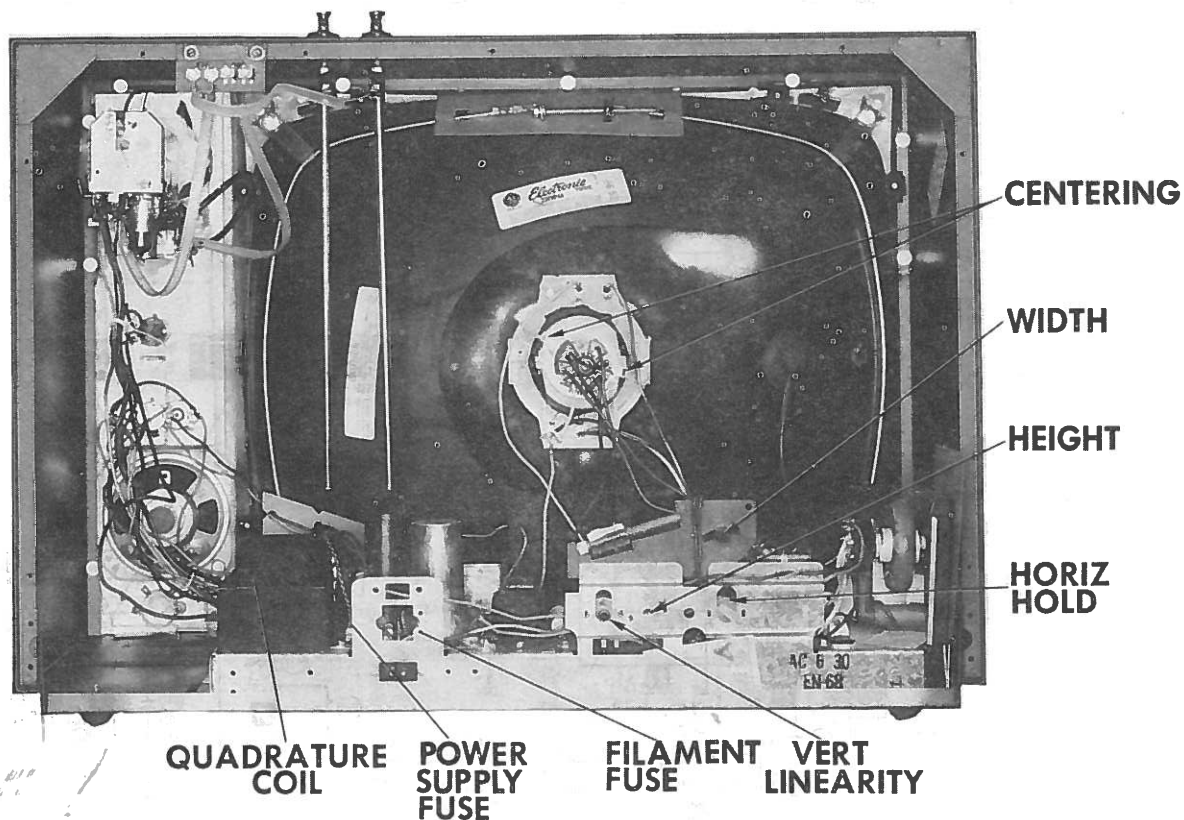
## CABINETS &amp; CABINET PARTS

(When Ordering Specify Model, Chassis &amp; Color)

ITEM	PART No.	ITEM	PART No.
MODELS: M720CMP/CWD, M740CWD, M742CMP, M743CCL, M744CPN, M770CWD, M771CMP		MODELS: M730CMD/CWD, M732CMP, M760CMD/CWD, M762CMP	
Knob - On/Off Volume	ET43X837	Knob - On/Off Volume	ET43X837
Knob - UHF Selector (Bar w/Trim) E. P.	ET43X735	Knob - VHF/UHF Fine Tune	ET43X725
Knob - VHF/UHF Fine Tune (used with ET43X735 Selector knob) E. P.	ET43X733	Knob - UHF Selector	ET43X727
Knob - VHF/UHF Selector Bar L. P.	ET43X763	Knob - VHF Selector	ET43X743
Knob - VHF/UHF Fine Tune (used with ET43X763 Selector knob) L. P.	ET43X762		

## WIRING DATA

High Voltage Lead	Use BELDEN No. 8889 (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)
300Ω Tuner Input Lead	Use BELDEN No. 8225
300Ω 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



### CABINET—REAR VIEW

## HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Tune to a TV station and set all controls for normal operation. Adjust the Horizontal Hold control (Horizontal Oscillator coil, L17) until the picture cannot be disrupted by switching from channel to channel.

## DISASSEMBLY INSTRUCTIONS

### TV CHASSIS REMOVAL

1. Remove 8 screws holding back cover and remove back cover. On some models it may be necessary to disconnect antenna leads. Remove all knobs.
2. Disconnect high voltage anode lead, picture tube socket, and ground wire.
3. Remove 4 screws holding chassis and 6 screws holding 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. Lay set face down on a soft protective surface.
2. Remove 2 screw holding picture retainer wire and lift out picture tube. Do not lift out by the neck of the tube.