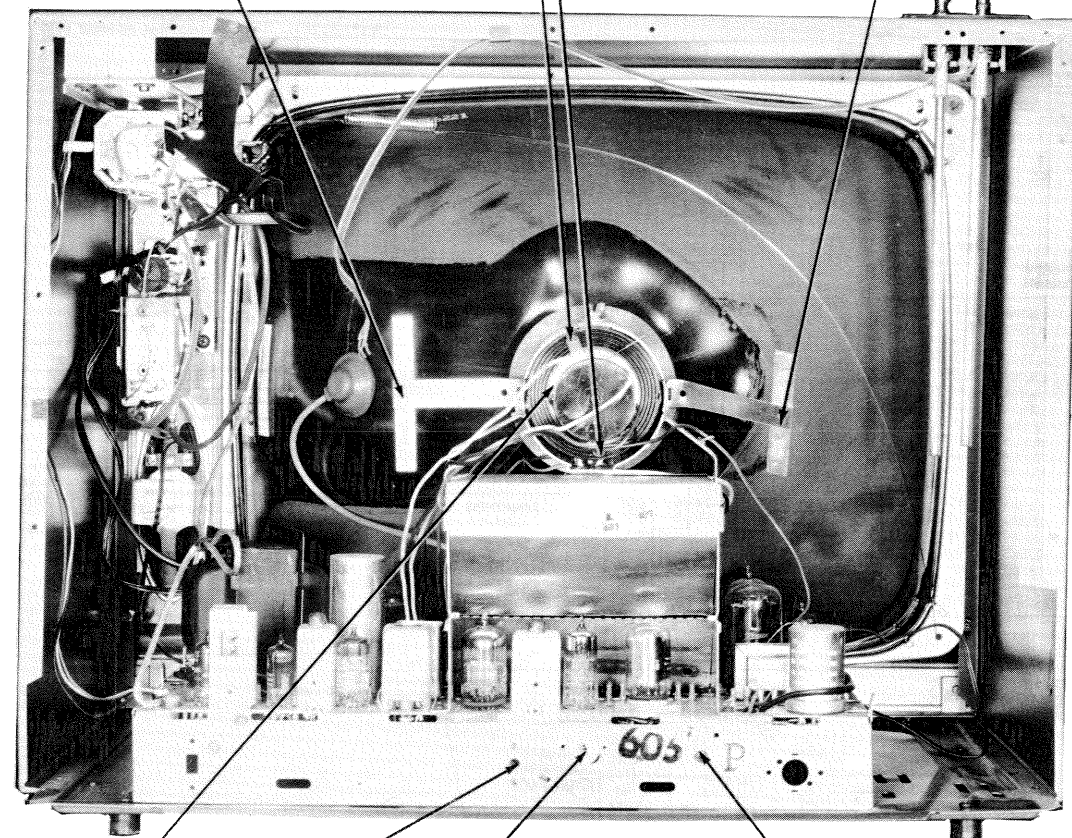


PINCUSHION MAGNET CENTERING PINCUSHION MAGNET



WIDTH SLEEVE AGC BUZZ QUADRATURE COIL

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) until the picture is

in proper horizontal sync and cannot be disrupted by switching from channel to channel.

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

1. Remove rear cover (7 screws) and 5 knobs from front. Disconnect speaker.
2. Remove 3 screws holding UHF tuner and 2 screws at rear of cabinet holding VHF tuner.
3. Remove 2 screws at top corners of picture tube.

4. Remove 4 bolts from bottom of cabinet. Remove chassis and picture tube.

PICTURE TUBE REMOVAL

1. Remove chassis and disconnect picture socket and anode.
2. Remove 4 screws holding mounting rim to front of chassis. Carefully slide picture tube out of yoke.

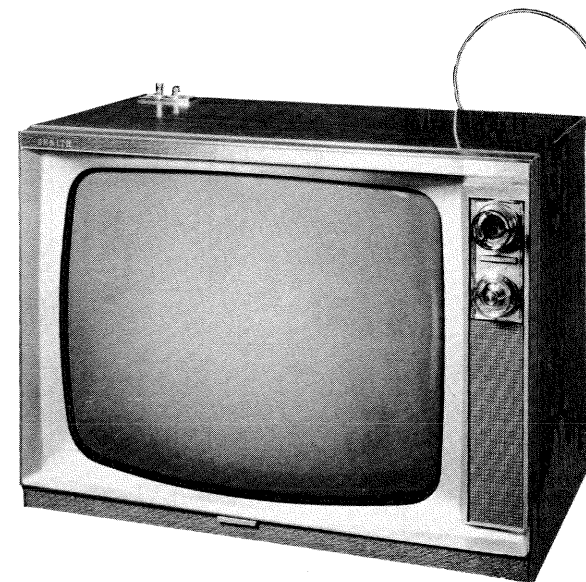
SET 739 FOLDER 4

ZENITH
CHASSIS 14M23

PHOTOFACT® Folder



ZENITH
CHASSIS 14M23



MODEL M2708WU

TRADE NAME	ZENITH	Models	Chassis
		M2705R/RU/Y/YU, M2706FU/LU, M2708RU/W/WU, M2733R/RU/W/WU, M2735E/EU/LU/R/RU/W/WU, M2736EU/RU/W/WU, M2737HU/HFU/MU/RU/W/WU, M2738EU/RU/W/WU, SA2032RU6/WU6, T2015RU/W/WU, T2018RU/W/WU, T2020RU/W/WU, T2028W6/WU6, T2029H/H6/HU6/R/R6/RU6, T2030MU6/W6, T2045RU6/WU6.....	14M23
SUPPLIER	For current address, see Master Index.		
TYPE SET	Television Receiver		
TUBES	VHF - Fourteen, 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 (Inter-carrier)		
		RATING	165 Watts, 1.6 Amp. @ 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 1½" length of fuse wire is used for filament protection. (For location, see M1 in photo "Chassis - Bottom View".)

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

The fine tuning mechanically engages osc. slug for adjustment (one slug for each channel).

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 Slug is used for the horizontal hold. (See "Tube Placement Chart" for location.)

WIDTH

The width may be varied by adjusting a metallic sleeve, located between the yoke and the picture tube neck.

FOCUS

The focus may be varied by connecting the lead from pin 6 of the picture tube to various voltage points. (For location, see "Chassis - Top View".)

BUZZ ADJUSTMENT

To eliminate intercarrier buzz, adjust the Buzz Control for MINIMUM buzz and maximum sound. (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. NA062

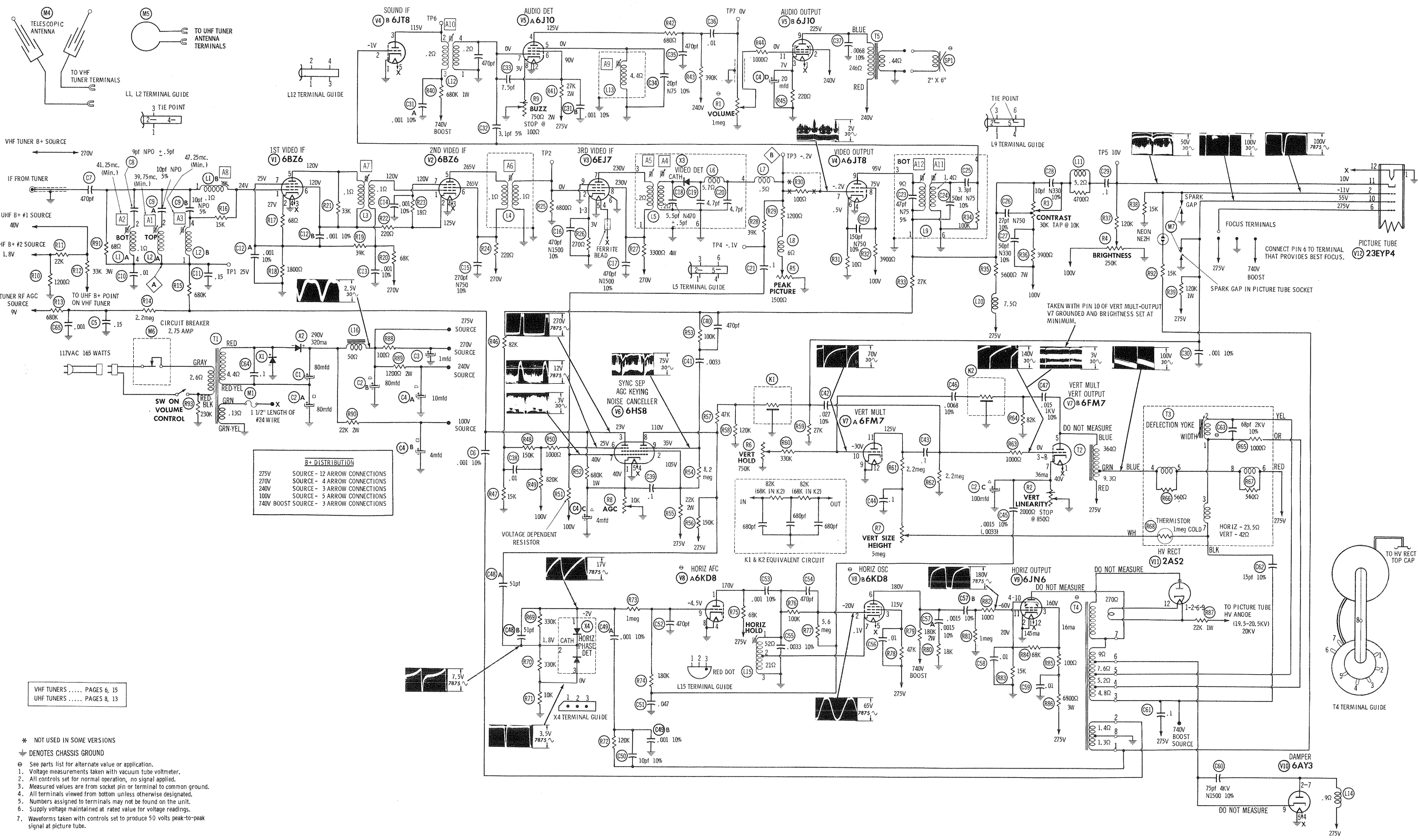
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DATE 2 -65

SET 739 FOLDER 4 20

ZENITH
CHASSIS 14M23

SET 739 FOLDER 4

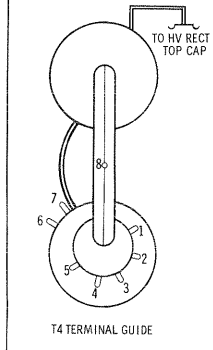


VHF TUNERS PAGES 6, 15
UHF TUNERS PAGES 8, 13

- * NOT USED IN SOME VERSIONS
- ⚡ DENOTES CHASSIS GROUND
- Ⓢ See parts list for alternate value or application.
1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Waveforms taken with controls set to produce 50 volts peak-to-peak signal at picture tube.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
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CHASSIS 14M23



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CHASSIS 14M23

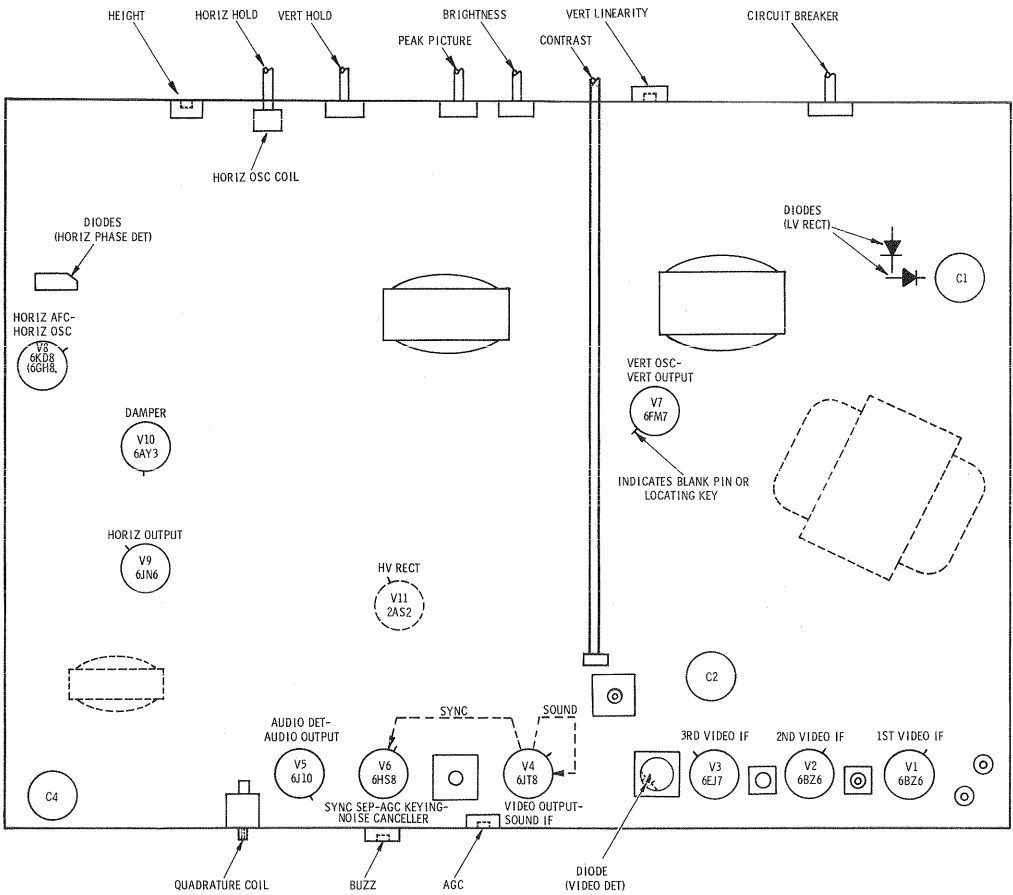
FOLDER 4

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	6BZ6	1.6meg	1868Ω	FIL	FIL	◆220Ω	◆220Ω	1800Ω					
V2	6BZ6	30K	INF	FIL	FIL	†370Ω	†370Ω	◆18Ω					
V3	6EJ7	270Ω	.1Ω	NC	FIL	FIL	0Ω	†3400Ω	†3400Ω	0Ω			
V4	6JT8	0Ω	100K	≠680K	FIL	FIL	10Ω	●1200Ω	†14K	†5100Ω			
V5	6J10	FIL	†1300Ω	220Ω	†391K	4.4Ω	†27K	.2Ω	410Ω	†1300Ω	TP	45K	FIL
V6	6HS8	5500Ω	†22K	685K	FIL	FIL	†130K	35meg	†75K	†8.2meg			
V7	6FM7	FIL	NC	NC	NC	†425Ω	NC	1200Ω	2.2meg	0Ω	850K	≠6.6meg	FIL
V8	6KD8	†68K	98K	47K	FIL	FIL	≠180K	21Ω	0Ω	1.4meg			
V9	6JN6	FIL	0Ω	†6900Ω	#12K	NC	NC	≠9Ω	NC	NC	NC	1meg	FIL
V10	6AY3	NC	NC	NC	FIL	FIL	NC	†51Ω	NC	INF			
V11	2AS2	PINS 1 THRU 12 HAVE INFINITE RESISTANCE											TOP CAP ≠9Ω
V12	23EYP4	FIL	14K	NC	NC	NC	0Ω	NC	NC	NC	22K	150K	FIL
V201	6HM5	4meg	0Ω	FIL	FIL	†11K	0Ω	0Ω					
V202	6EA8	†33K	220K	†150K	FIL	FIL	†150Ω	0Ω	0Ω	10K			
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

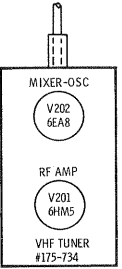
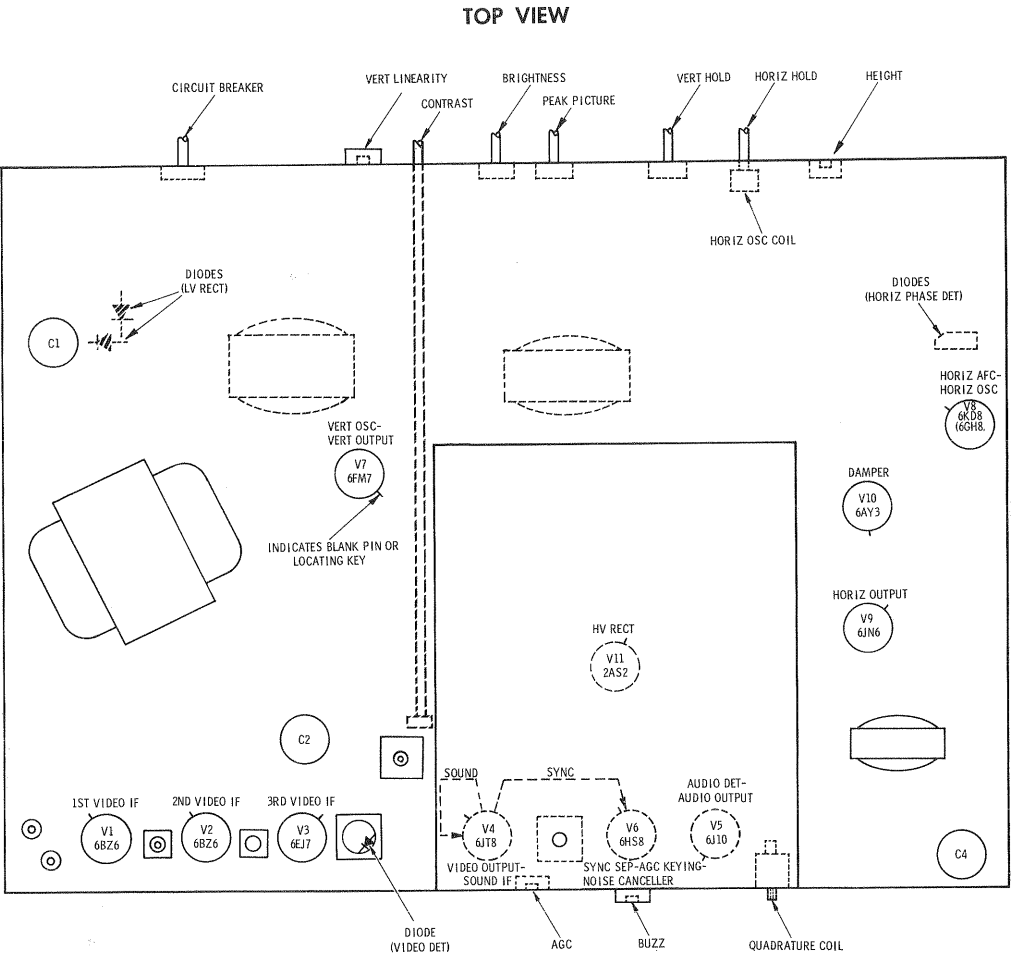
THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT. NC NO CONNECTION
● READING DEPENDS ON POLARITY OF METER CONNECTIONS. MEASURED FROM PIN 2 OF V2.
† MEASURED FROM OUTPUT OF X2. TP TIE POINT ≠ MEASURED FROM PIN 9 OF V10.

BOTTOM VIEW



TUBE PLACEMENT CHART

TUBE PLACEMENT CHART



ZENITH
CHASSIS 14M23

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 M6 (Circuit Breaker), X1, X2, M1 (Filament Fuse)

SWEEP FAILURE

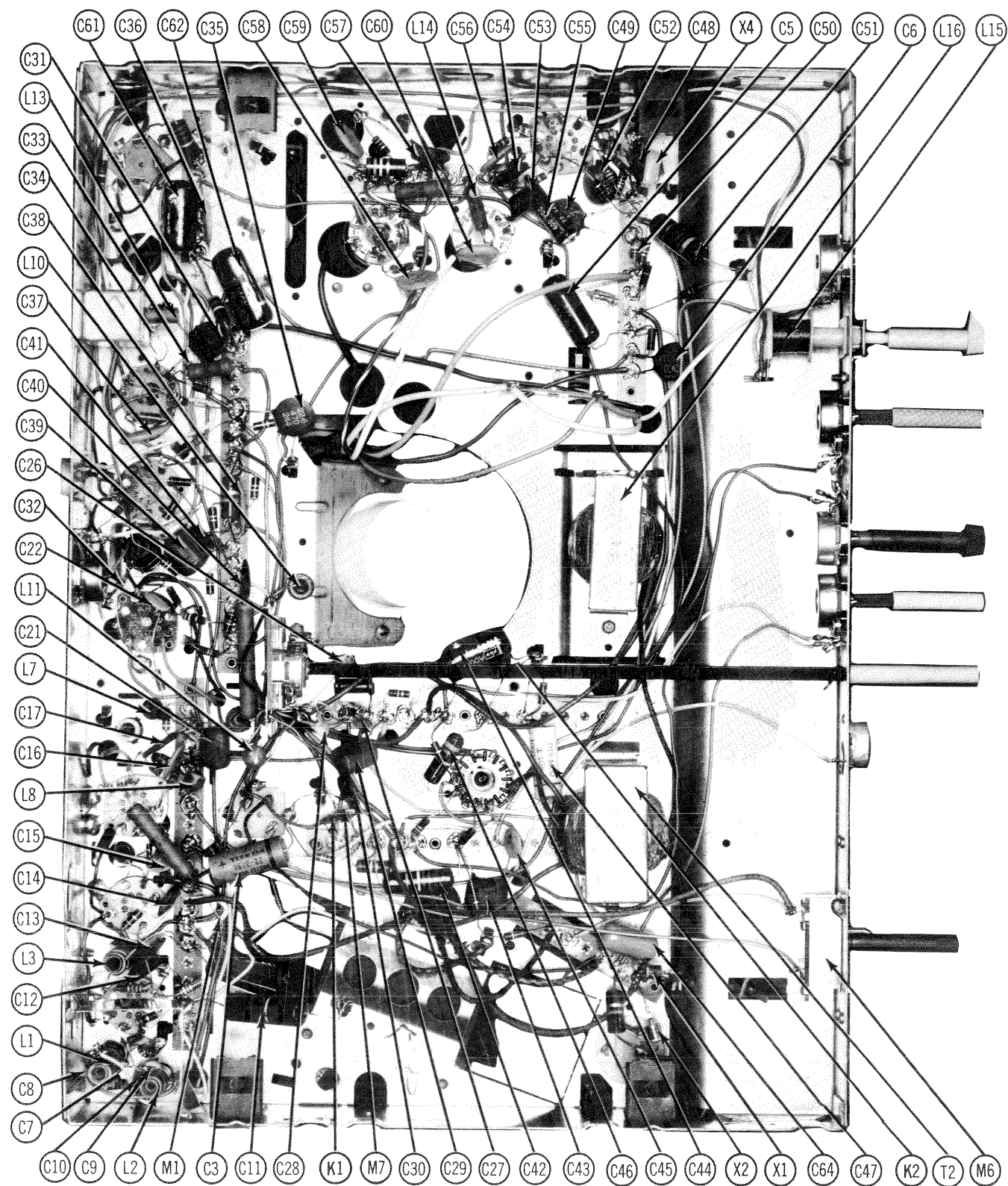
No raster, has sound V8, V9, V10, V11, V12
No vertical deflection V7
Poor vert. linearity or foldover V8, V9, V10
Poor horiz. linearity or foldover V8, V9, V10
Narrow picture V8, V9, V10, X1, X2
Vert. off freq. V7
Horiz. off freq. X4 (Horiz. Phase Det.), V8

LOSS OF PICTURE OR SOUND

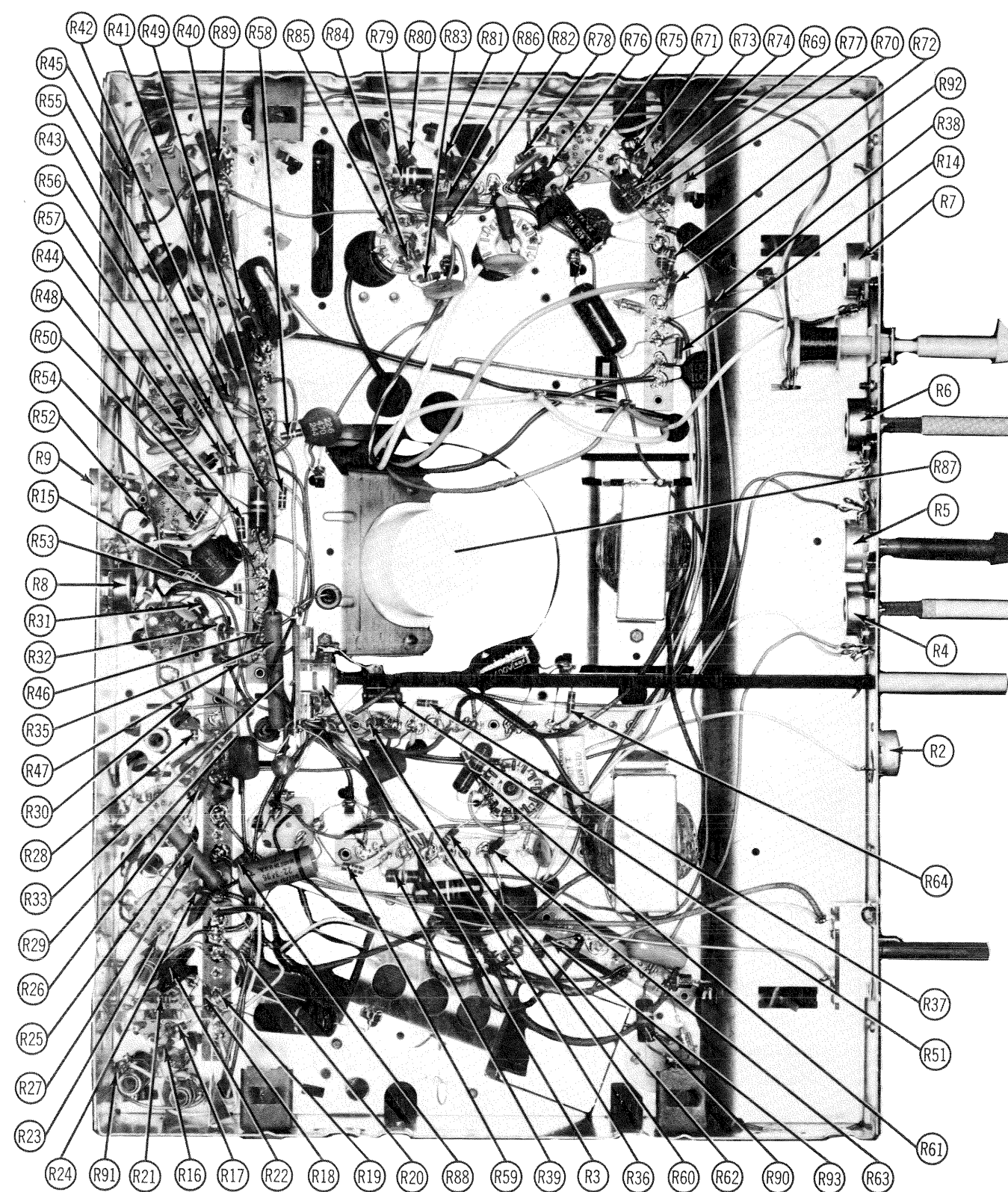
No pic, no sound, has raster V1, V2, V3, X3 (Video Det. Diode), V4
No pic, no sound, has snow V201, V202, V1
No pic, has sound, has raster V4, V12
Has pic, no sound V4, V5
Overloaded picture V8

SYNC FAILURE

No vert. sync V6
No horiz. sync V8
No vert. or horiz. sync V6



CHASSIS - BOTTOM VIEW



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CHASSIS 14M23

FOLDER 4

CABINETS & CABINET PARTS
(When Ordering Specify Model, Chassis & Color)

ITEM	PART NO.	MODELS																											
			M2705R	M2705RU	M2705Y	M2705YU	M2706FU	M2706LU	M2708RU	M2708W	M2708WU	M2733R	M2733RU	M2733W	M2733WU	M2735E	M2735EU	M2735LU	M2735RU	M2735W	M2735WU	M2736EU	M2736RU	M2736W	M2736WU	M2737HU	M2737H2U	M2737WU	M2737RU
Escutcheon	57-4377		X	X	X	X	X		X	X	X	X	X	X															
Escutcheon	57-4881							X																					
Escutcheon	57-4435																					X	X	X	X	X	X	X	X
Knob-VHF Channel Selector	46-3132		X	X	X	X	X	X																					
Knob "	46-3756								X	X	X																		
Knob- "	46-3753											X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Knob-VHF Fine Tuning	S-52904		X	X	X	X	X	X														X	X	X	X	X	X	X	X
Knob "	S-56267								X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Knob "	S-63263										X																		
Knob-UHF Tuning	S-61371			X		X	X	X																					
Knob "	S-63263								X		X		X		X	X		X											
Knob "	S-63464																					X	X		X	X	X	X	X
Knob-UHF Indicator	S-65929			X		X	X	X																					
Knob "	S-65931								X		X																		
Knob "	S-65485											X		X															
Knob "	S-65484															X	X		X										
Knob ""	S-65487																	X	X			X							
Knob "	S-65551																									X	X	X	X
Knob "	S-65930																												
Knob-On/Off/Volume	S-54961		X	X	X	X	X	X																					
Knob "	S-63784								X		X	X	X	X	X		X	X	X		X	X	X		X	X	X	X	X
Knob "	S-63260									X						X		X		X									
Knob "	S-61137																						X						
Knob-Horiz. Hold	46-3546		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
Knob "	46-3547																					X	X	X	X	X	X	X	X
Knob-Brightness, Vert. Hold	S-60997		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
Knob "	S-50938																					X	X	X	X	X	X	X	X
Knob-Contrast	S-50939		X	X	X	X	X	X	X	X		X		X	X	X	X	X	X	X	X								
Knob "	S-61761										X		X									X	X	X	X	X	X	X	X

ITEM	PART NO.	MODELS																			
		M273W	M273WU	M273EU	M273RU	M273W	M273WU	M273EU	M273RU	M273W	M273WU	M273EU	M273RU	M273W	M273WU	M273EU	M273RU	M273W	M273WU	M273EU	M273RU
Escutcheon	57-4377			X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X
Escutcheon	57-4881																				
Escutcheon	57-4435	X	X					X	X												X
Knob-VHF Channel Selector	46-3132																				
Knob "	46-3756																				
Knob "	46-3753	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Knob-VHF Fine Tuning	S-52904	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Knob "	S-56267	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Knob "	S-63263																				
Knob-UHF Tuning	S-61371			X		X		X	X	X	X			X		X		X	X	X	X
Knob "	S-63263																				
Knob "	S-63464	X						X	X					X							
Knob-UHF Indicator	S-65929																				
Knob "	S-65931			X		X		X	X	X	X			X		X	X				X
Knob "	S-65485																				
Knob "	S-65484																				
Knob "	S-65487																				
Knob "	S-65551	X																			
Knob "	S-65930							X	X					X							X
Knob-On/Off/Volume	S-54961																				
Knob "	S-63784	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Knob "	S-63260									X			X		X		X				
Knob "	S-61137	X			X																
Knob-Horiz. Hold	46-3546			X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X
Knob "	46-3547	X	X					X	X					X	X						X
Knob-Brightness, Vert. Hold	S-60997			X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X
Knob "	S-50938	X	X					X	X												X
Knob-Contrast	S-50939			X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X
Knob "	S-61761	X	X					X	X					X	X						X

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 A12 GENERAL CEMENT #6606, 8869, 9302 ... WALSCO #2511, 2543, 2588
Mixer Plate Coil .. GENERAL CEMENT #9286, 9300, 9302 ... WALSCO #2510, 2511, 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.

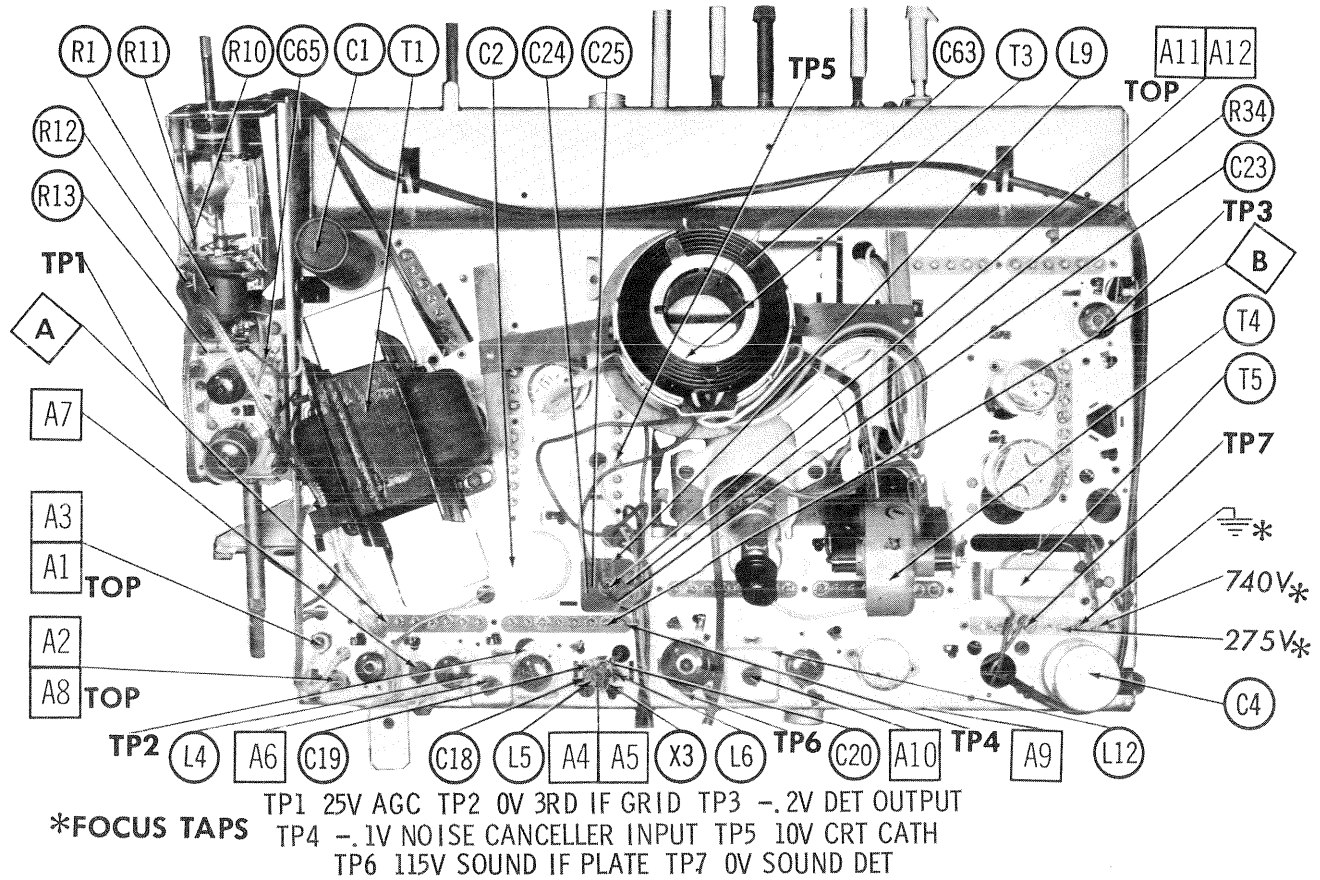
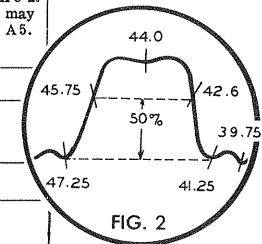
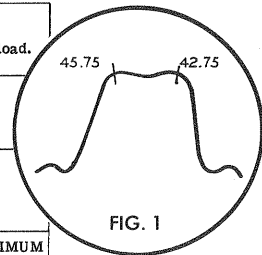
INDICATOR	GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	ADJUST	REMARKS
1. Connect DC probe of a VTVM thru a 47K resistor to point A. Common to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.		39.75MC 41.25MC 47.25MC	A1 A2 A3	Adjust for MINIMUM.
2. Connect vertical input of a scope to point B. Low side to ground.	Connect high side to pin 2 (grid) of V3. Low side to ground.	44MC (10MC Sweep)	42.75MC 45.75MC	A4, A5	Adjust for maximum amplitude and MINIMUM tilt with markers as shown in Figure 1.
3. Connect vertical input of a scope to point C. Low side to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.	44MC (10MC Sweep)	39.75MC 41.25MC 42.6MC 44.0MC 45.75MC 47.25MC	A6, A7, A8, 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 4 and A 5.

SOUND IF ALIGNMENT

Tune in a station and reduce the signal strength at the antenna terminals until a hiss is heard in the sound. Align for maximum undistorted sound with MINIMUM buzz by adjusting A9, A10, A11 and R9. If the hiss disappears during alignment, further reduce the signal strength.

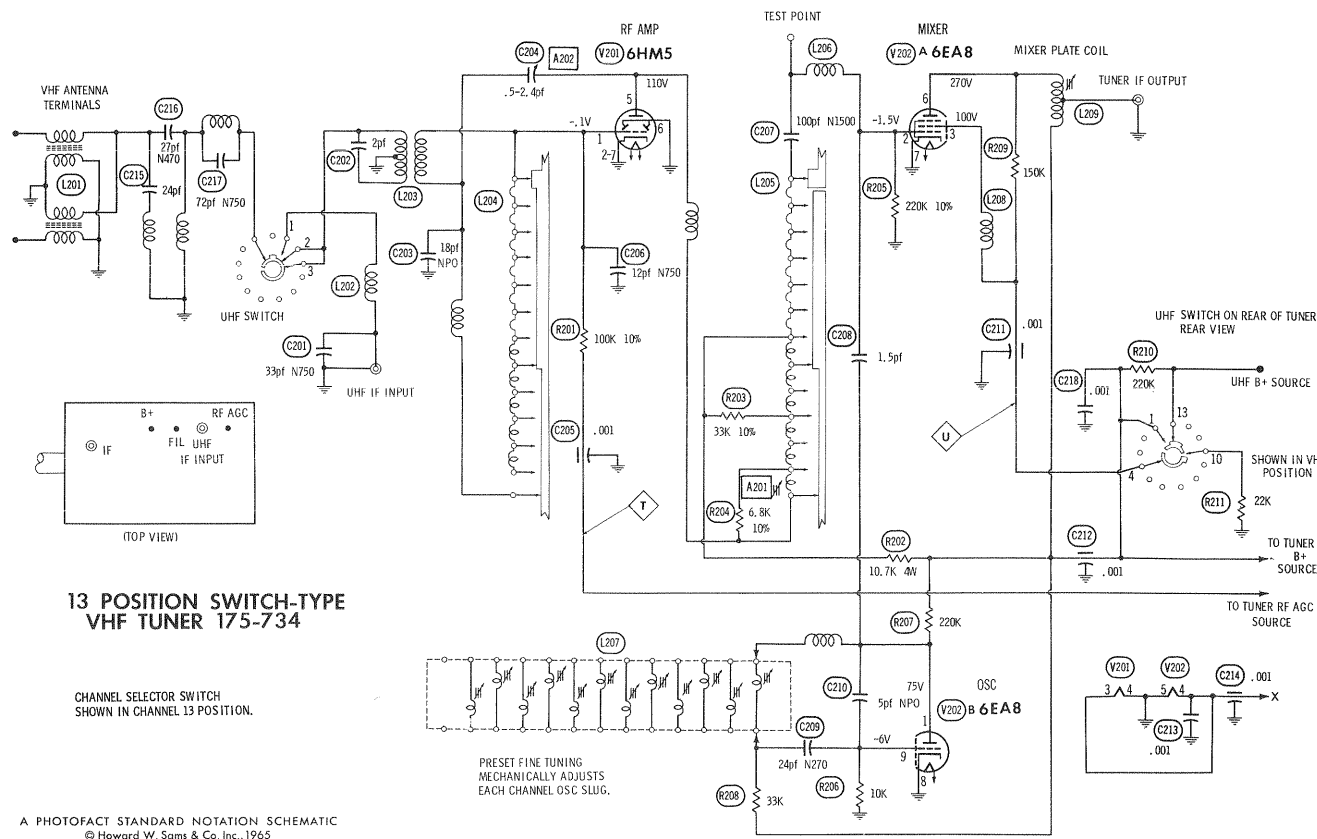
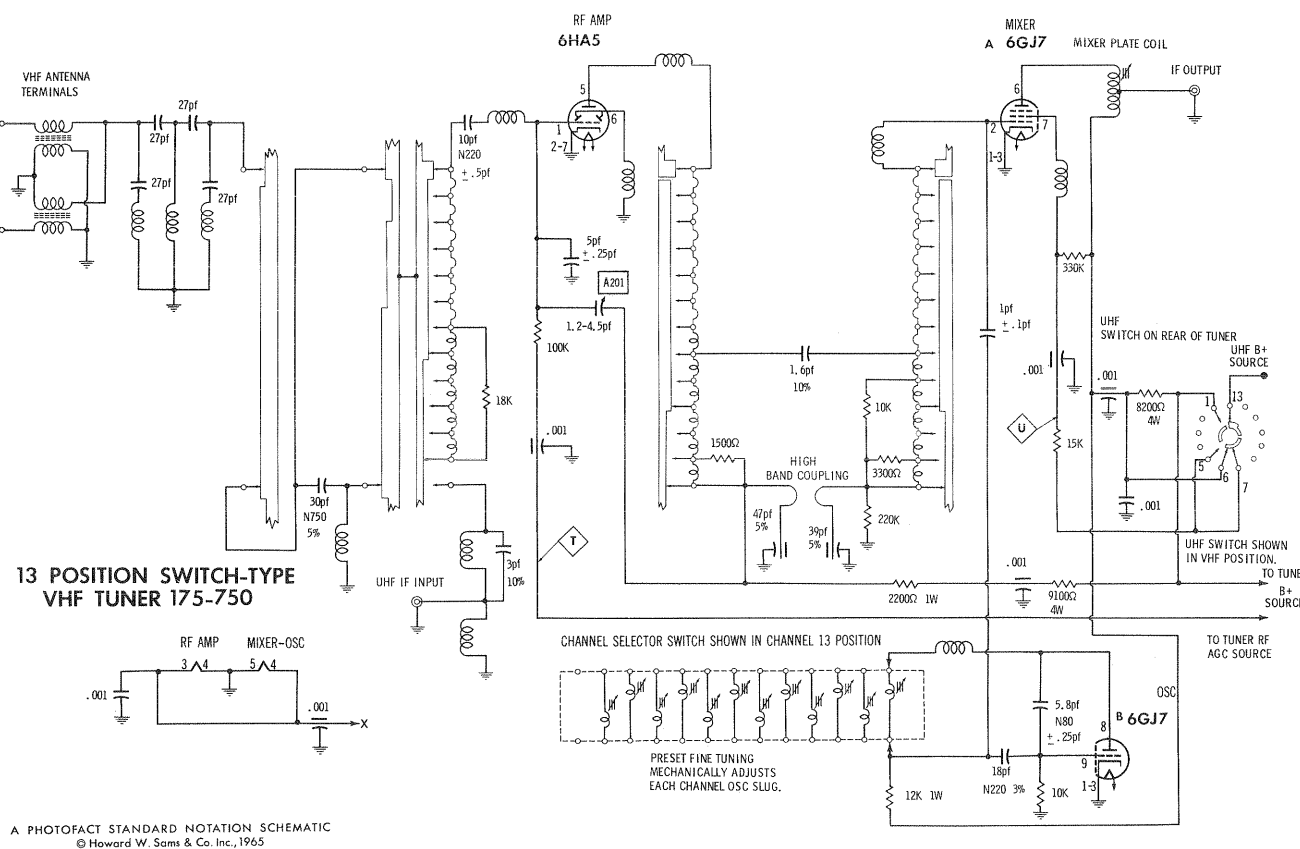
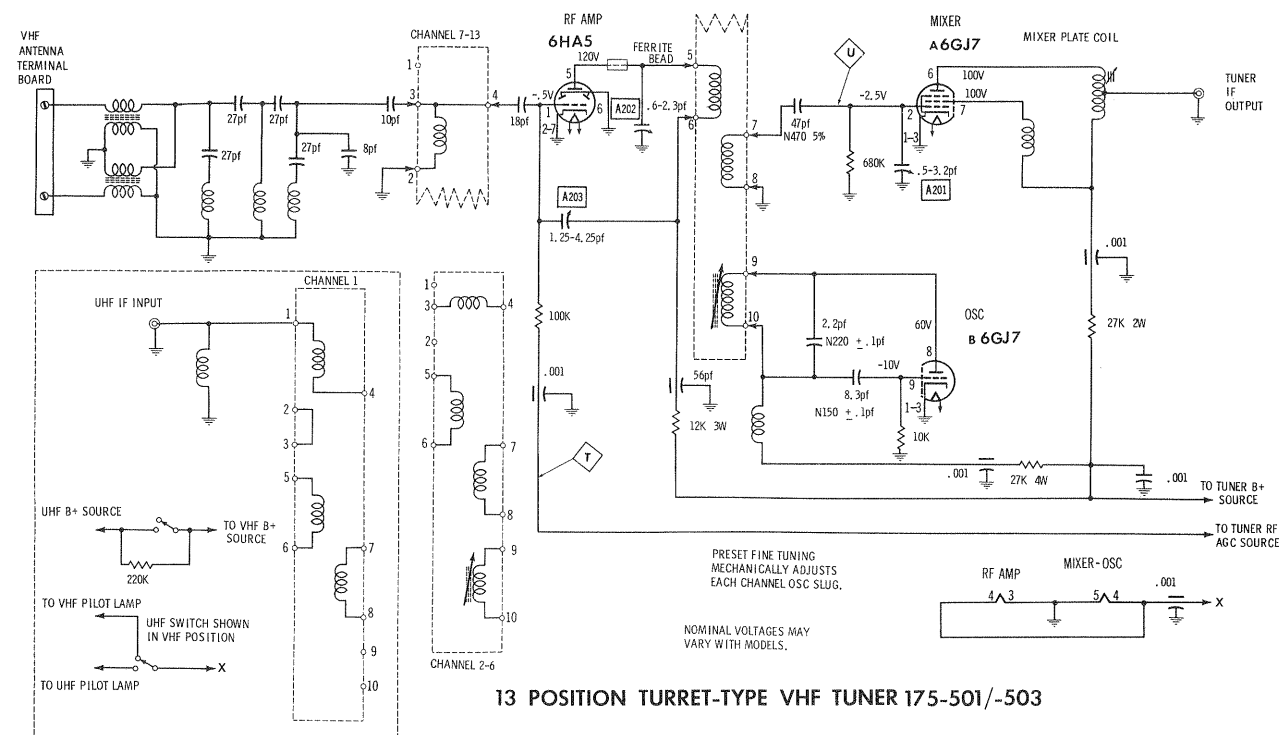
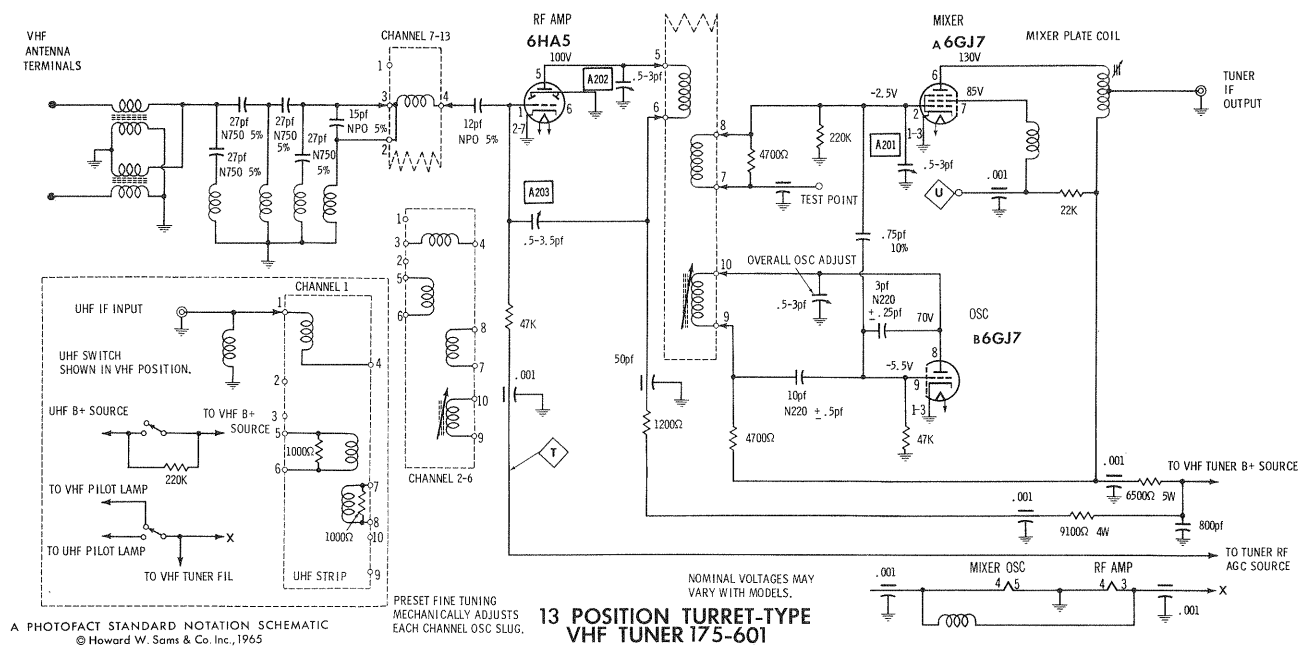
4.5 MC TRAP ALIGNMENT

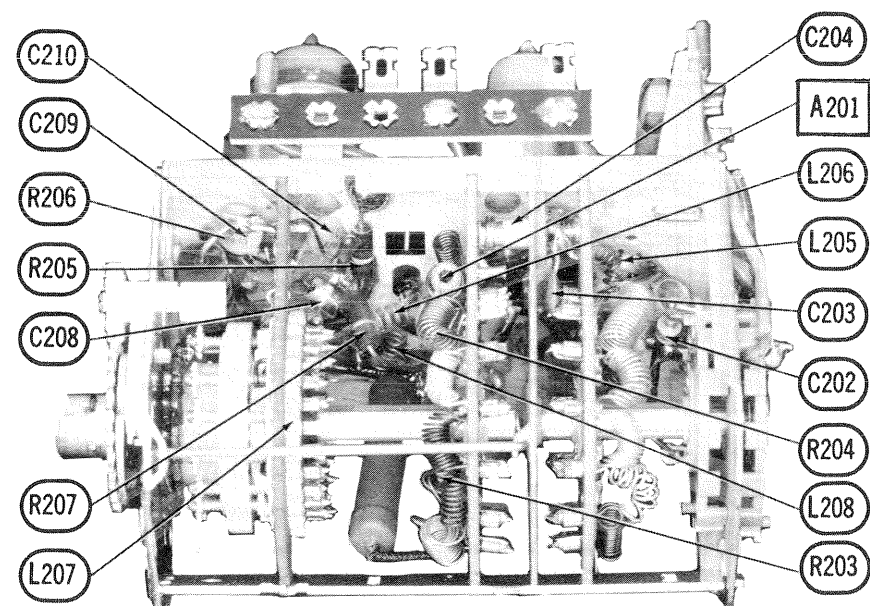
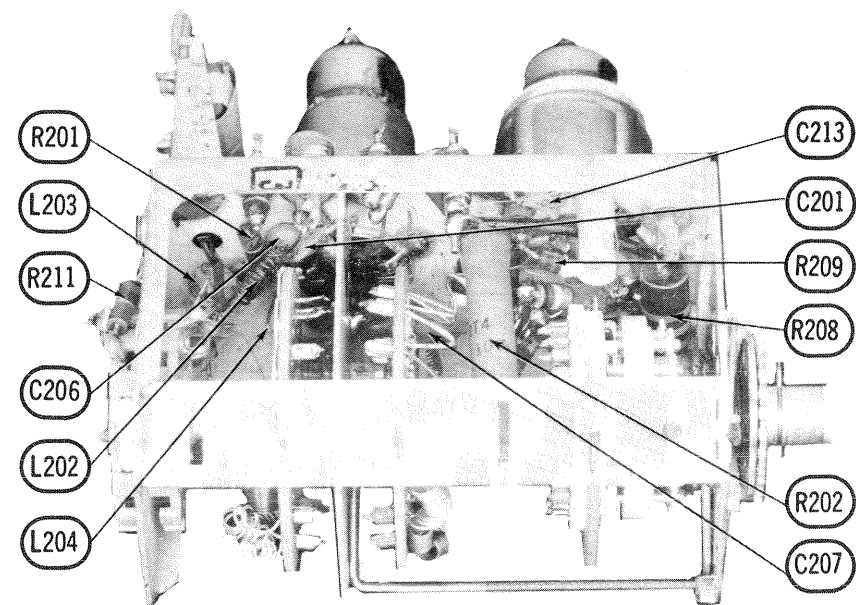
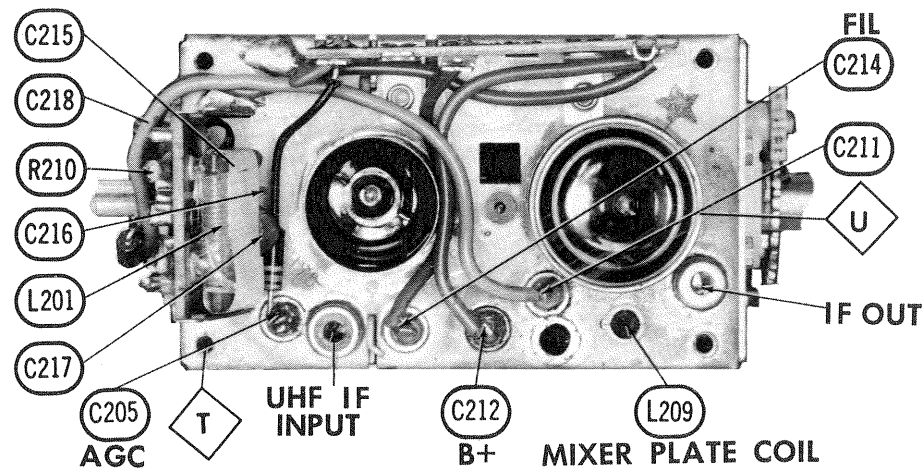
Tune in a strong TV signal and set the Contrast at maximum. Adjust the Fine Tuning until a beat pattern is visible on the screen. Adjust A12 for MINIMUM beat interference.



CHASSIS—TOP VIEW

SET 739 FOLDER 4





VHF TUNER 175-734

VHF TUNER ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools: A201, A202, A203 ... GENERAL CEMENT #8868, 8987, 9089 ... WALSCO #2531-X, 2541, 2587

OSCILLATOR ADJUSTMENTS TUNERS 175-501, 175-503, 175-734, 175-750

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.

OSCILLATOR ADJUSTMENTS TUNER 175-601

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
							TUNERS 175-501, -503, -601
1.	Across antenna terminals with 120Ω in each lead.	213MC	211. 25MC 215. 75MC	13	Vert. Input to Point \diamond , low side to ground	A201, A202	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.	A203	Increase bias to -15 volts and adjust for MINIMUM amplitude of response.
3.	"	See Chart	See Chart	12 thru 2	Vert. Input to Point \diamond , low side to ground.		Decrease bias. Check response on all channels and make compromise adjustments of A201 and A202 if required.
	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS TUNER 175-734
1.	Across antenna terminals with 120Ω in each lead.	213MC	211. 25MC 215. 75MC	13	Vert. Input to Point \diamond , low side to ground	A201	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.	A202	Increase bias to -15 volts and adjust for MINIMUM amplitude of response.
3.	"	See Chart	See Chart	12 thru 2	Vert. Input to Point \diamond , low side to ground.		Decrease bias. Check response on all channels and make compromise adjustments of A201 if required.
	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS TUNER 175-750
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.	"	195MC	193. 25MC 197. 75MC	10	Across Video Det. load resistor.	A201	Increase bias to -15 volts and adjust for MINIMUM amplitude of response.
3.	"	See Chart	See Chart	12 thru 2	Vert. Input to Point \diamond , low side to ground.		Decrease bias. Check all channels and make compromise adjustments by expanding or compressing appropriate coils.

CHANNEL & FREQUENCY CHART

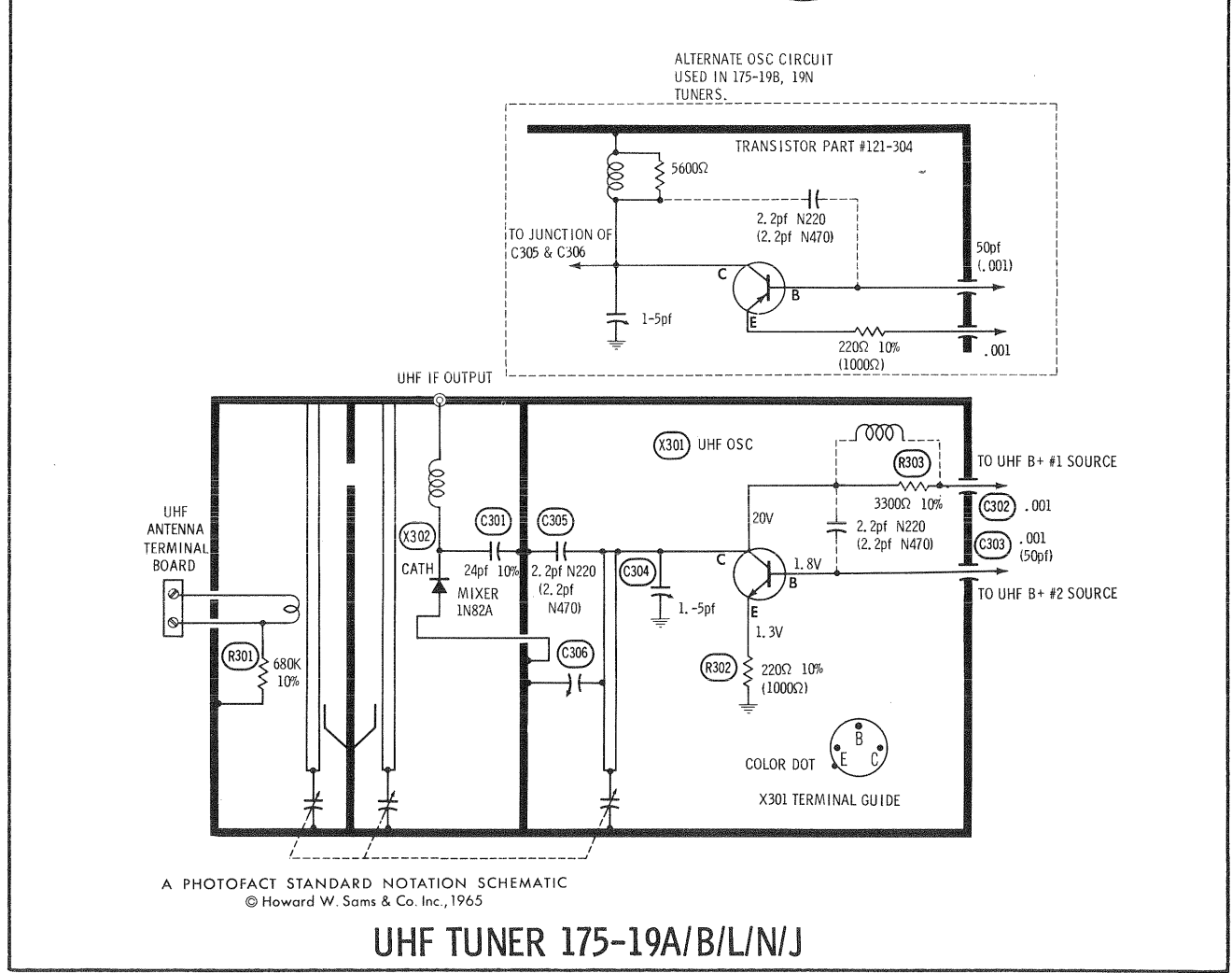
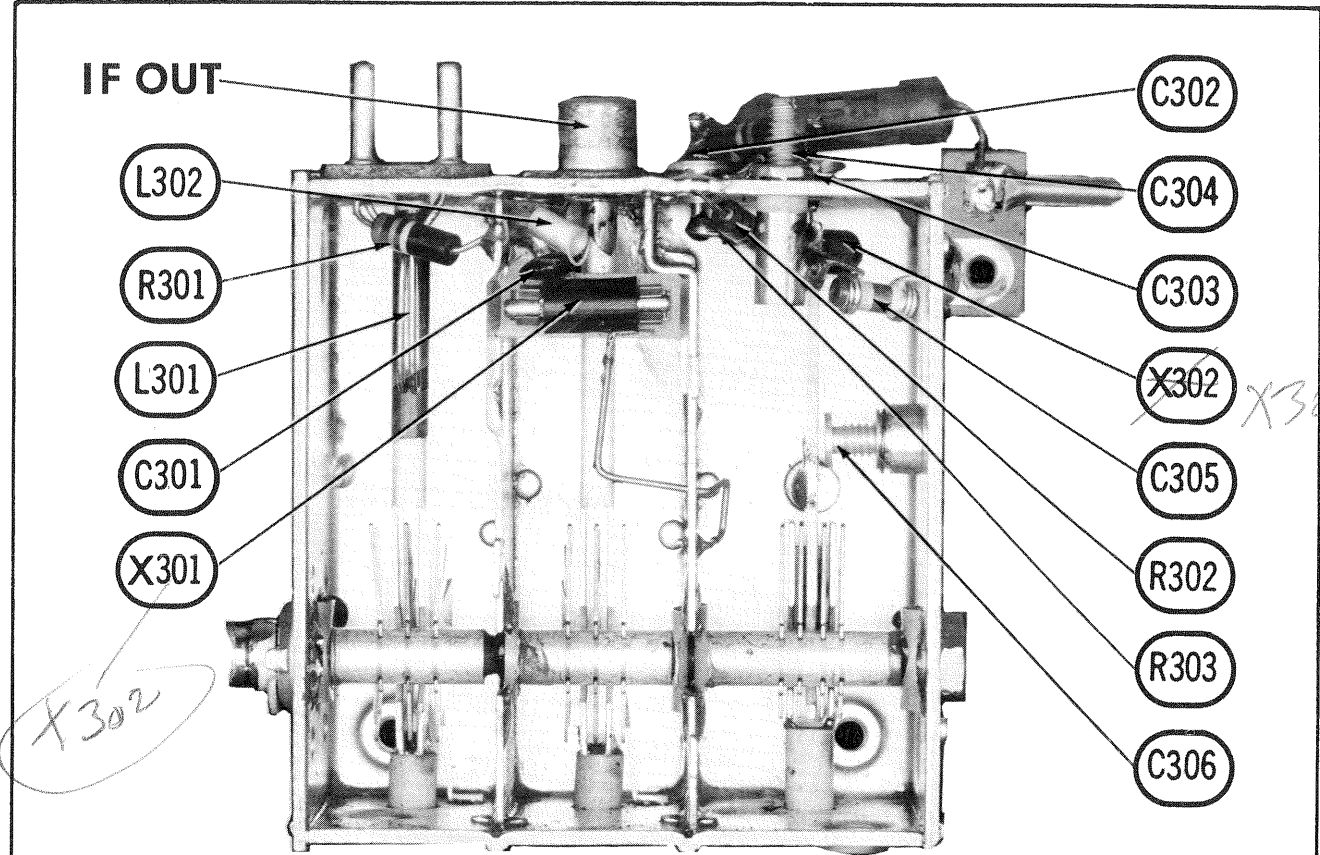
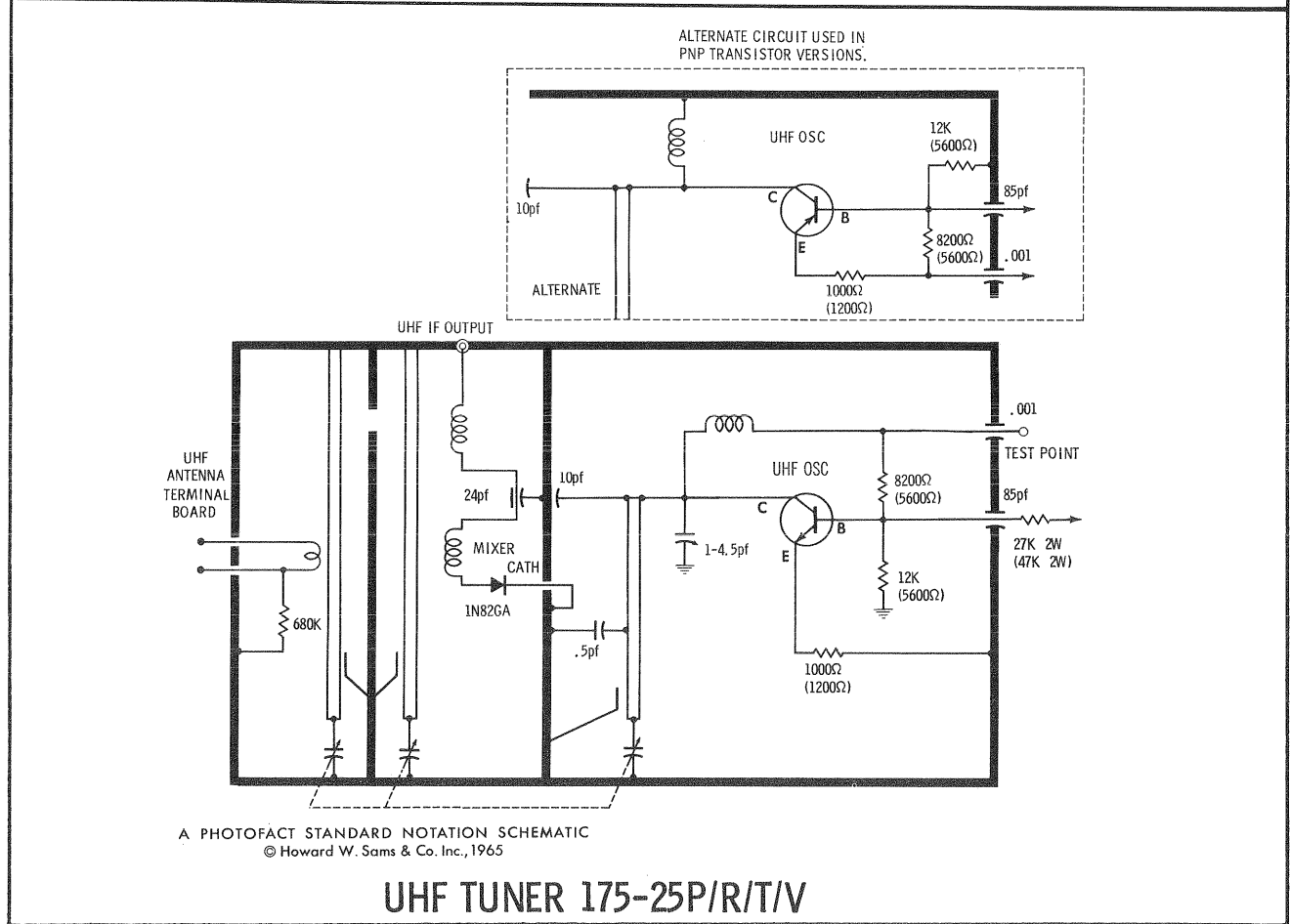
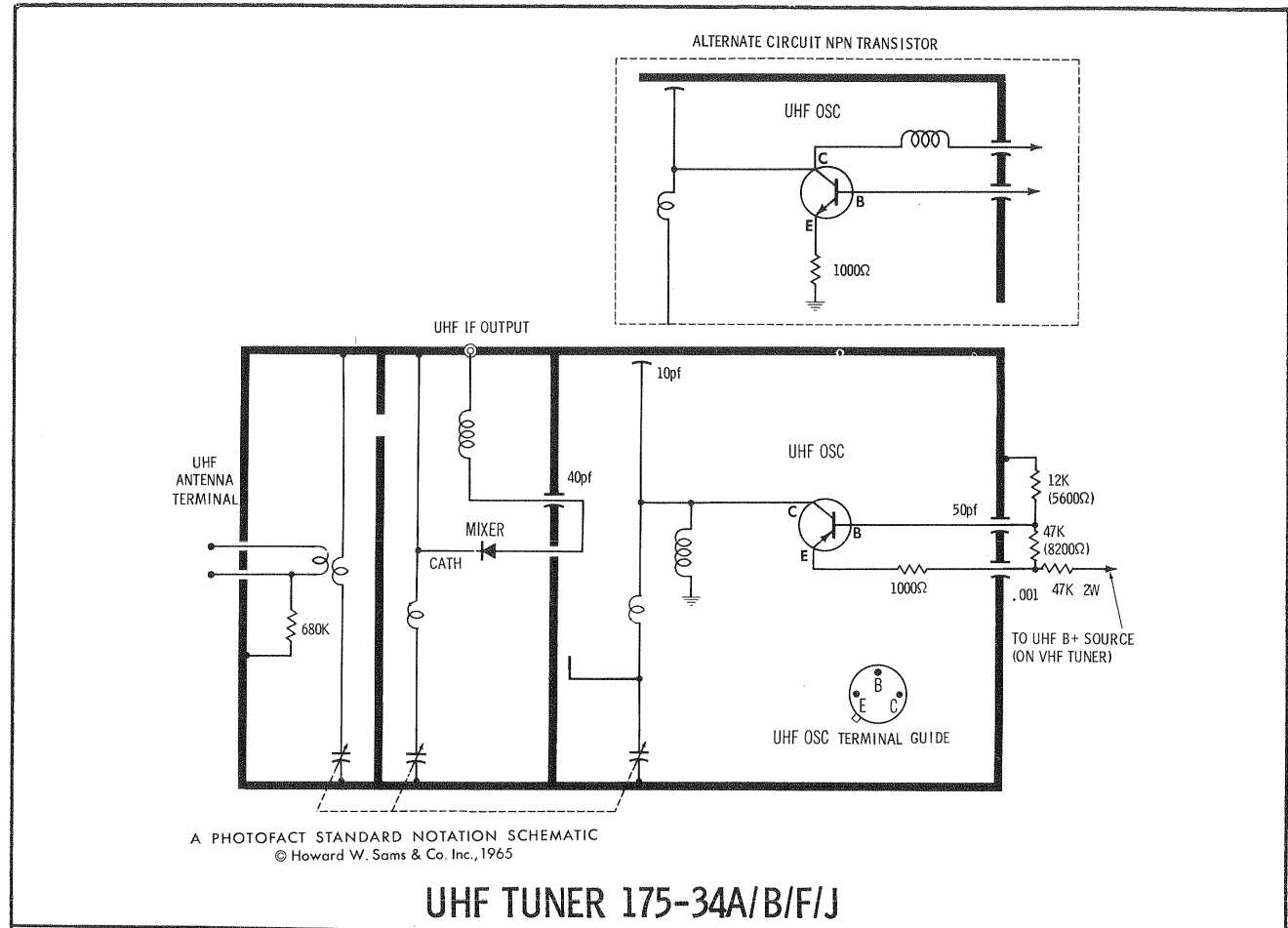
SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL
57MC	55. 25MC 59. 75MC	2	85MC	83. 25MC 87. 75MC	6	195MC	193. 25MC 197. 75MC	10
63MC	61. 25MC 65. 75MC	3	177MC	175. 25MC 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

ZENITH
CHASSIS 14M23

FOLDER 4



VHF TUNER PARTS LIST AND DESCRIPTION

175-734

TUBES

♦ AMPEREX ♦			♦ GENERAL ELECTRIC ♦			♦ RCA ♦			♦ SYLVANIA ♦		
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE					
V201	RF Amp.	6HM5		V202	Mixer - Osc.	6EA8					

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	33 N750	#22-5016	N750-DI 33	DTN-33	C10Q33U	CCTN-330	CN7433	10TCU-Q33
C202	2 10%							
C203	18 NPO			TCZ-18			CNO418	10TCC-Q18
C204	0.5-2.4			829-3			CT565	
C205	.001	#22-3603	EF-001	MFT-1000		CV-1	CT280A	10TCU-Q12
C206	12 N750 5%			TCZ-12		CCF-102	CN7412	
C207	100 N1500			TCL-100		*		
C208	1.5 10%							
C209	24 N270 ±3pf							
C210	5 NPO 5%		NPO-DI 5	DTZ-4R7	C10V47C	CCTO-050	CNO547	10TCC-V50
C211	.001		EF-001	MFT-1000		CCF-102	CT280A	
C212	.001		EF-001	MFT-1000		CCF-102	CT280A	
C213	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210	5HK-D10
C214	.001		EF-001	MFT-1000		CCF-102	CT280A	
C215	24		DI 25	DD-240	LA10Q25-SL	CCD-250	GP425	10TS-Q25
C216	27 N470 5%	#22-2424				*		10TCT-Q27
C217	72 N750		N750-DI 75	DTN-75	C10Q75U	CCTN-750	CN7475	10TCU-Q75
C218	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210	5HK-D10

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

COILS (RF-IF)

ITEM No.	USE	ZENITH PART No.	NOTES	ITEM No.	USE	ZENITH PART No.	NOTES
L201	Ant. Input Ass'y	S-64254		L206	RF Plate		
L202	UHF IF Input	20-1185		L207	Osc. Wafer	S-59582	Channel 13
L203	Ant. Transformer	S-64259		L208	Mixer Screen		
L204	Ant. Wafer	S-64256		L209	IF Output	S-58323	
L205	RF Wafer	S-64255					

UHF TUNER PARTS LIST AND DESCRIPTION

175-19 SERIES

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X301	121-303	UHF Oscillator				PNP

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.
X302		103-50					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	24	(50pf) †	DI-25	DD-240	LA10Q25-SL	CCD-250	GP425	10TS-T25
C302	.001		EF-001	MFT-1000		CCF-102	CT280A	
C303	.001		EF-001	MFT-1000		CCF-102	CT280A	
C304	1-5			829-6		CV-3	CT552	
C305	2.2 N220 (N470)					*		
C306								

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

COILS (RF-IF)

ITEM No.	USE	ZENITH PART No.	NOTES	ITEM No.	USE	ZENITH PART No.	NOTES
L301	Antenna Input	20-1074		L302	IF Output	20-1079	

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					
V1	1st Video IF Amp.	6BZ6		V7	Vert. Mult. - Vert. Output	6FM7					
V2	2nd Video IF Amp.	6BZ6		V8	Horiz. AFC - Horiz. Osc.	9KD8					
V3	3rd Video IF Amp.	6EJ7				(6GH8, 6GH8A) *					
V4	Video Output - Sound IF	6JT8		V9	Horiz. Output	6JN6					
V5	Audio Det. - Audio Output	6J10		V10	Damper	6AY3					
V6	Sync Sep. - AGC Keying - Noise Canceller	6HS8		V11	HV Rectifier	2AS2					

* Alternate

PICTURE TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	ZENITH PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SYLVANIA PART No.	
V12	23EYP4			23EYP4 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	.32A	212-27	GE-504 or 1N1695	1N540 or 1N2070 ①	1N1764 or 1N2863	40H or F-4	
X2	.32A	212-27	GE-504 or 1N1695	1N540 or 1N2070 ①	1N1764 or 1N2863	40H or F-4	
X3		103-23					1N60
X4		103-20					6GC1

① A dual unit, VB600, may be used for X1 and X2.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		ZENITH PART No.	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	80	200	22-3987	AFH1-31 ①	AA0267 ①	XC1-11 ①	TMS-1470 ①	FP128A ①	TVL-1573 ①
C2A	80	200	22-3872	AFH3-174-50	BB0356	XC2-34	TMD-2460	FP420.97	TVLS-3652 *
B	80	400			BR100-50	QT1-23	TD-100-50		
C	100	50							
C3	1	350	22-3496	PRS1700	BR1-450	QT1-1	TD-2-450	TC595	TVA-1700
C4A	10	400	22-3487	AFH4-120-80	DD0480	XC4-13	TMQ-4505	FP420.438	TVLS4651.5 *
B	4	350							
C	4	150							
D	20	25							

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

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	.15 200V	#22-2514	P288N-15		PM2P15	1DP-3-154	PVC2015	2TM-P15
C6	.001 10%		DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10
C7	470		BPD-00047	DD-471	BYA10T47	CCD-471	B347	10TS-T47
C8	9 NPO ±.5pf							
C9A	10 NPO 5%		NPO-DI 10	DTZ-10	C10Q1C		CNO410	10TCC-Q10
B	10 NPO 5%		NPO-DI 10	DTZ-10	C10Q1C		CNO410	10TCC-Q10
C10	.01		BPD-01	DD-103	BYA10S1		B110	5HK-S10
C11	.15 200V		P288N-15		PM2P15	CCD-103	PVC2015	2TM-P15
C12A	.001 10%		DI-1000	DD-102	JB6D1	2DP-3-154	GP210	10TS-D10
B	.001 10%		DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10
C13	.001 10%		DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10
C14	.001 10%		DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10
C15	270 N750 10%	#22-3363		TCN-270	C10T27U	CCTN-271	CN7327	10TCU-T27
C16	470 N1500 10%					*		
C17	470 N1500 10%					*		
C18	5.5 N470 ±.5pf	#22-3221				*		
C19	4.7	#22-1516				*		
C20	4.7	#22-1516				*		
C21	.1 400V	#22-2467	P488N-1	DF-104	PM4P1	4DP-3-104	GEM401	4TM-P10
C22	150 N750 10%		N750-DI 150	DTN-150	C10T15U	CCTN-151	CN7315	10TCU-T15
C23	47 N75 5%							
C24	50 N75 10%							
C25	3.3							
C26	27 N750 10%							
C27	50 N750							
C28	10 N330 10%							
C29	.1 400V							
C30	.001 10%		P488N-1	DF-104	PM4P1	4DP-3-104	GEM401	4TM-P10
C31A	.001 10%		DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10
B	.001 10%		DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10
C32	3.1 5%	#22-3707						
C33	7.5	#22-2742						
C34	20 N75 10%	#22-3139						
C35	470		BPD-00047	DD-471	BYA10T47	CCD-471	B347	10TS-T47
C36	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C37	.0068 10%		DI-6800	CF622		CCD-682	JF268	10TS-D68

SET 739 FOLDER 4

ZENITH
CHASSIS 14M23

FOLDER 4

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.

FIXED CAPACITORS (cont)

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.
C38	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C39	.1	400V	P488N-1	DF-104	PM4P1	4DP-3-104	GEM401	4TM-P10
C40	470		BPD-00047	DD-471	BYA10T47	CCD-471	B347	10TS-T47
C41	.0033		BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33
C42	.027	400V 10%	BE6S27		PM2S27	6DP-3-273	PVC615	6PS-S27
C43	.1	400V	P488N-1	DF-104	PM4P1	4DP-3-104	GEM401	4TM-P10
C44	.1	600V	P688N-1	DF-104	PM6P1	6DP-4-104	GEM601	6TM-P10
C45	.0015	10%	DI-1500	DD-103	CD-152	JF215	10TS-D15	
C46	.0068	200V 10%	BE6D68	CPR-6800J	WMF2D68	6DP-1-682	PVC4268	6PS-D68
C47	.015	1KV 10%			PKM10S15	18DP-4-153	GEM16115	10TM-S15
C48A	51		DI-50	DD-510	LA10Q5-S3	CCD-500	GP450	10TS-Q50
B	51		DI-50	DD-510	LA10Q5-S3	CCD-500	GP450	10TS-Q50
C49A	.001	10%	DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10
B	.001	10%	DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10
C50	10	10%						
C51	.047	400V	P488N-047	DD-503	PM4S47	4DP-3-473	GEM4147	4TM-S47
C52	470		BPD-00047	DD-471	BYA10T47	CCD-471	B347	10TS-T47
C53	.001	10%	ADM-19-102	CPR-1000J	CD19F102K	DM-19-102K	MS-21	MS-21
C54	470		BPD-00047	DD-471	BYA10T47	CCD-471	B347	10TS-T47
C55	.0033	400V 10%	CPR-3300J	CD19F332J	CD19F332J	DM-19-332K	MS-233	MS-233
C56	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C57A	.0015	10%	DI-1500	CF-152		CCD-152	JF215	10TS-D15
B	.0015	10%	DI-1500	CF-152		CCD-152	JF215	10TS-D15
C58	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C59	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C60	75 4KV	N1500 10%						
C61	.1	600V	P688N-1	DF-104	PM6P1	6DP-4-104	GEM601	6TM-P10
C62	.15	600V 10%	BE6P15		PM6P15	6DP-5-154	GEM6015	6TM-P15
C63	68	2KV 10%					2DY468	
C64	.1	400V	P488N-1	DF-104	PM4P1	4DP-3-104	GEM401	4TM-P10
C65	.001		BPD-001		BYA10D1	CCD-102	B210	5HK-D10

* Not normally in distributor's stock. Available thru distributor on order to manufacturer. † Alternate Value
① Value varies from 42pf to 72pf. Replace with exact value found in set. # Zenith Part Number

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			ZENITH PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume, Switch	1meg	63-5128	F2-1meg, SP212, KR-8 or (APL-70, AK-33)	C47S-1meg-Z RS-3/16	B13-137, SK8 or (PPQ13-137, SK8) or (BU2, CF26, SS11, K) *	PP16A, DS37 or (RUP16A, SL35)
	Volume	1meg	63-5152 ①	F2-1meg, SFS212 or (AB-70, AK-33)	A47-1meg-Z RS-3/16	QCB ②, B13-137, TM10 or (BU1, CF26, SS16, DC1) * 112-1500 ③ or (WPS1500 ③ or (BU1, WF4 ③, SS6) *	UA16A, SD3500 or (RU16A, SL35, IS1000) or (U53, DS37) or (VW1P5K ③) or (RI500L ③)
R2	Vert. Linearity	2000Ω, 2W 850Ω Stop	63-4784	V-1200 ③ or (WN-152 ③)	U39-1500 ③		
R3	Contrast	30K 10K Tap	63-5179				
R4	Brightness	250K	63-5150	F1-250K, SN104 or (B-50)	A47-250K-S KSS-3	B11-130, TM4 or (BU11, CF15, SS6) *	TA254L or (RU254L, SL37, SL3500) or (UA254L, SL3500)
R5	Peak Picture	1500Ω	63-5159	F1-1500, SN104 or (B-6)	B47-1500-S	B11-109, TM4 or (BU11, CF7, SS6) *	PTA152L or (RU152L, SL37, SN1000) or (UA152L, SN1000)
R6	Vert. Hold	750K	63-5149	F1-750K, SN104 or (B-66)	A47-750K-S KSS-3	B11-136, TM4 or (BU11, CF64, SS6) *	TA16L or (RU754L, SL37, SL3500) or (UA16L, SL3500)
R7	Vert. Size	5meg	63-4060	TT-87 or (F1-5meg, SN010)	B47-5meg-S	HLC5	PTA56L or (TA56L, SL37, SN1000)
R8	AGC	10K	63-4095	TT-14 or (F1-10K, SN010)	B47-10K-S	B11-116, TM4 or (BU11, CF9, SS6) *	TA14L or (RU14L, SL37, SN1000) or (UA14L, SN1000)
R9	Buzz	750Ω 2W 100Ω Stop	63-3284	V-600 ④ or (WN-751 ④)	U39-650 ④	112-650 ④ or (W11-104 ④, SK5) or (BU1, WF2 ④, SS6) *	FL750 ④ or (VW750 ④) or (R750L ④)

① Used in Space Command models. ③ Connect a 820Ω 2 watt resistor in series with the terminal.
② Use QCB instead of Tab Mount Plate in TM10. ④ Connect a 100Ω 2 watt resistor in series with the terminal.
* "SNAPTROL"

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R12	33K 3W		5G-33K	#63-5416	R68	1meg (Cold)			#63-4726
R27	3300Ω 4W	PW 5 -3300	5W-SQ-3300	#63-5215	R86	6800Ω 3W	3G-6800		#63-4375
R35	5600Ω 7W	MR4-5.6K	7G-5600	#63-3986					

Zenith Part Number

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		ZENITH PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1A	41.25MC Trap	S-58821 ①	TV-131	6225 *	RTC-8556 *	TM244 *	① Part of Ass'y S-58822.
L1B	1st Video IF		TV-131	6225 *	RTC-8556 *	TM244 *	* Disregard Tap.
L2A	39.75MC Trap	S-53072 ②	TV-152	6225 *	RTC-8556 *	TC232 ▲	② Part of Ass'y S-65421.
L2B	47.25MC Trap		TV-153	6225 *	RTC-8556 *	TC232 ▲	▲ Replaces both windings.
L3	2nd Video IF	S-57623	TV-130	6224	RTC-8555	T217	
L4	3rd Video IF	S-58613	TV-130	6224	RTC-8555	T231	■ Use original shield.
L5	4th Video IF/Det.	S-47968 ③		6227		TC237 or TC234 ▲	③ Part of Ass'y S-58824.
L6	Peaking (90uh)	20-2013	TV-181	6177	RTC-8594	T368	▲ Replaces Assembly.
L7	RF Choke (6uh)	20-2004	BC-565	4610	RTC-8520	T992	
L8	Peaking (170uh)	20-2014	TV-184	72F184AP	RTC-8597	T397	
L9	Sound Takeoff/4.5MC Trap	S-50341 ④		7115-Z		TF247	④ Part of Ass'y S-65490.
L10	Peaking (250uh)	20-2012	TV-185	6181	RTC-8598	T315	⑤ Wound on 4700Ω res.
L11	Peaking (120uh)	20-2504 ⑤	TV-195 *	72F124AP	RTC-8583 *	TA320	* Shunt with 4700Ω res.
L12	Sound Interstage	S-41899 ⑥	TV-149	7114-Z	RTC-9278	TC225	⑥ Part of Ass'y S-65419.
L13	Quadrature	S-47702 ⑦	TV-121	1480	RTC-8605	TG268	⑦ Part of Ass'y S-47717.
L14	RF Choke (10uh)	20-2005	BC-566	72F105AP	RTC-8522	T860	

COILS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA						
		ZENITH PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	WORKMAN PART No.
L15	Horiz. Osc. (Hold)	S-56875						
	Horiz. Osc. Coil Shaft	76-1295						
	Iron Core (Part of S-56875)	149-310						

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	ZENITH PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L16	.31ADC	50Ω	1 Hy.	95-1681	C-2996	C-2347	26C44	C-17X	

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	ZENITH PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @ 1.6A	114VAC @ .32A DC	6.3VAC @ 8A	95-2105					

* TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		ZENITH PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	Vert. Output	95-2104	A-3033 ①	A-8149	26S23	A-131X	
T3	Yoke (Horiz. 13MH) 92° (Vert. 42MH) Rear Cover and Centering Device	95-1768 ②	MDIF-124 & M51-70-90	DY-39A ②	Y-39	Y-82-1	
		S-23237 or S-43091 or S-54923	M51-70-90				
T4	Horiz. Output Alternate	S-63279	HVO-187 ③	HO-363 ③	FLY-218	D-201 ③	
		S-63278 ‡					

① Cut and tape Green lead. ③ Drill new mounting hole(s) in mounting bracket or bend and solder mounting strap to mounting bracket. Leave clearance between bottom winding of transformer and chassis.
② Use original vertical damping network if necessary.
‡ Used in Model T2045RU6 only.

* COMPONENT CONNECTION DATA

ORIGINAL →	HV TRANSFORMER			VERTICAL OUTPUT			YOKE			YOKE PLUG		
REPLACEMENT ↓	Original Connections			Original Connections			Original Connections			TO YOKE TERMINAL		
	1	2	3	4	5	6	7	8	9	10	11	12
MERIT												
STANCOR												
THORDARSON												
TRIAD												

‡ Tie Point to 1 meg thermistor. † Tie Point to 1K, 1/2 watt resistor.
Use original thermistor and connect between yoke terminal #7 and center lug of vertical size control.
▲ Connect 1K, 1/2 watt resistor between yoke terminal #1 and horizontal output transformer terminal #4.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	ZENITH PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T5	5300Ω	3-4Ω	95-2201	A-2930	A-3877	24S51	S-3X	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		ZENITH PART No.	QUAM PART No.	
SP1	2" x 6" PM 3-4Ω	49-1006		Used in Models M2705R/RU/Y/YU, M2706FU/LU, M2708RU/W/WU, M2733W/WU/R/RU, M2735E/R, T2015RU/W/WU, T2028W6/WU6, T2029H/H6/HU6/R/R6/RU6, T2030W6/MU6.
	5" x 7" PM 3-4Ω	49-907	57A1	Used in Models M2735RU/EU/LU/WU/W, T2018WU/RU/W, T2020W/WU/RU, T2045RU6/WU6.
	5" x 7" PM 6-8Ω	49-907 49-1029 49-1031 49-1030	57A1Z6	Used in Models SA2032WU6/RU6 (2 used). Used in Models M2736EU/WU/RU/W. Used in Models M2737WU/RU/MU/HFU/HU/W. Used in Models M2738EU/W/WU/RU (2 used).

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	ZENITH PART NO.	REPLACEMENT DATA
K1 K2	Vertical Integrator Vertical Feedback		87-8 87-8	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			ZENITH PART No.	LITTELFUSE PART No.	BUSS PART No.			
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	1½"	length of #24 copper wire						

MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	NOTES
M2	VHF Tuner	175-734	Used in Models M2705RU/YU, M2706FU/LU, M2708W/WU/RU.
	VHF Tuner	175-750	Used in Models M2733W/R/WU/RU, M2735W/R/E/WU/RU/LU/EU, M2736WU/RU/EU/W.
	VHF Tuner	175-501	Used in Models M2738W/R/WU/EU, T2028W6/WU6, T2029H/H6/HU6/HU6, T2030W6/MU6.
	VHF Tuner	175-503	Used in Models M2737W/WU/RU/MU/HU/HFU.
	VHF Tuner	175-601	Used in Models T2015W/WU/RU, T2018W/WU/RU, T2020W/WU, T2045WU6/RU6, SA2032WU6/RU6.
M3	UHF Tuner	175-19A/B/L/J/N	Used in Models M2705RU/YU, M2706FU/LU, M2708FU/WU, M2738W/WU, T2015WU/RU, T2020WU, T2028WU6, T2029RU6/HU6, T2030W6/MU6, T2045WU6/RU6, SA2032WU6/RU6.
	UHF Tuner	175-34A/B/F/J	Used in Models M2733WU/RU, M2735RU/EU/LU/WU, M2736EU/WU/RU.
M4	UHF Tuner	175-25P/R/T/V	Used in Models M2737WU/RU/MU/HU/HFU.
M5	VHF Antenna	S-66367	JFD REPLACEMENT TA424
M6	UHF Antenna		Used in Model M2708WU.
M7	Circuit Breaker	85-763	
	Spark Gap	52-957	2.75 Amp.

WIRING DATA

High Voltage Lead	Use BELDEN No. 8869 (17KV) or 8868 (25KV)
Shielded Hook-up Wire	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. 8255
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