

PHOTOFACT® Folder



ZENITH
CHASSIS 25MC30/33

IMPORTANT FILING NOTICE

Some models covered by this PHOTOFACT Folder employ chassis in addition to the TV chassis. PHOTOFACT Folders covering these additional chassis are packaged immediately behind this Folder and should be filed with this Folder in the yellow filing jacket provided. For specific coverage see index below.

INDEX

REMOTE CONTROL RECEIVER CHASSIS S-63874/-63954/
-67954/-67964 SET 757, FOLDER 4-A

ZENITH
CHASSIS 25MC30/33

MODEL 6226WUD

TRADE NAME	ZENITH	Models	Chassis
		5204RU, 5206Y/YU, 5211LU/RU/W/WU, 5215RU/W/WU, 5219R/RU/W/WU, 5226HU/WU, 5227H/HU/M/MU/RU/W/WU, 5228RU/WU, 5231EU/HU/WU, 5236MU/RU, 5241WU, 5251HU, 5261HU, 5271WU, 5527HPU/HU/MU/RU/WU/XU, 5529WU, 5542RU/WU, 5555RU1, 6206YU, 6226HU/HPU/MU/RU/WU, 6227HU/MU/RU/WU, 6228RU/WU, 6231EU/HU/WU, 6236MU/RU, 6241WU, 6251HU, 6261HU, 6271WU, 6275VU/XU/YU, 6529WU 25MC30	
		5219RD/RUD/WD/WUD, 5226HUD/WUD/XUD, 5227HD/HUD/MD/MUD/RUD, 5228RUD/WUD, 5231EUD/HUD/WUD, 5236MUD/RUD, 5241WUD, 5251HUD, 5261HUD, 5271WUD, 5319WU/RU, 5326RU/HU/HPU/MU, 5327RU/HU/MU/WU, 5328RU/WU, 5331EU/HU/WU, 5336MU/RU, 5351HU, 5371WU, 5522WUD, 5527MUD/RUD, 5529WD/WUD, 5542RUD/WUD, 5555RUID/WUID, 5558RUD/WUD, 5622WU, 5627HPU/MU/RU, 5629WU, 5642RU/WU, 5658RU/WU, 6226WUD/HUD, 6227HUD/MUD/RUD, 6228RUD/WUD, 6231EUD/HUD/WUD, 6236MUD/RUD, 6241WUD, 6251HUD, 6271WUD, 6275VUD/XUD/YUD, 6529WUD 25MC33	
		6326HPU/HU/MU/RU, 6327HU/MU/RU/WU, 6328RU/WU, 6331EU/HU/WU, 6336MU/RU, 6351HU, 6371WU, 6375VU/YU/XU, 6629WU 25MC43	
		Export Chassis 25MC70	
SUPPLIER	For current address, see Master Index.		
TYPE SET	Color Television Receiver with Remote Control used in some models		
TUBES	VHF: Twenty-Four, UHF: One Transistor		
POWER SUPPLY	110-120 Volts AC, 60 Cycles	RATING	340 Watts, 3.3 Amps. @ 117 Volts AC
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)		

ZENITH
CHASSIS 25MC30/33

SERVICING IN THE FIELD

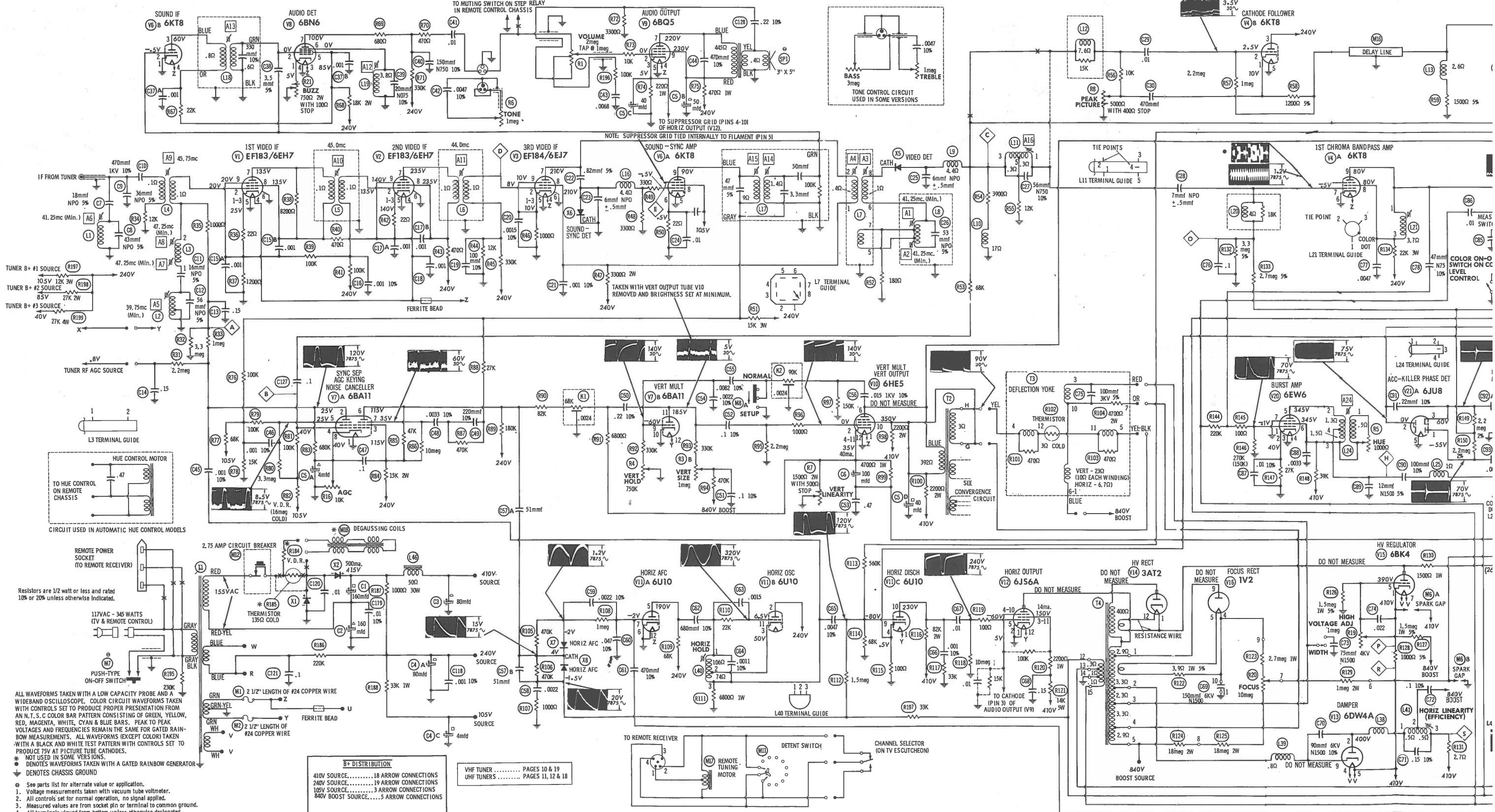
<p>SAFETY GLASS</p> <p>The safety glass is an integral part of the picture tube.</p>	<p>HORIZONTAL OSCILLATOR FIELD ADJUSTMENT</p> <p>The Horizontal Frequency Slug is used for the horizontal hold. (See "Tube Placement Chart" for location.)</p>
<p>FUSE OR FUSE DEVICE</p> <p>Two 1½" lengths of fuse wire are used for filament protection. (See M1 and M2 in photo "Chassis - Bottom View".)</p>	<p>WIDTH</p> <p>The width may be varied by connecting wire from HV cage to width taps on chassis. (See "Cabinet Rear View".)</p>
<p>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.)</p>	<p>FOCUS</p> <p>The focus may be varied by means of a Focus Control. (See "Tube Placement Chart" for location.)</p>
<p>VHF OSCILLATOR ADJUSTMENT</p> <p>The fine tuning mechanically engages osc. slug for adjustment (one slug for each channel).</p>	<p>BUZZ ADJUSTMENT</p> <p>To eliminate intercarrier buzz, adjust the Buzz Control for MINIMUM buzz and maximum sound. (See "Tube Placement Chart" for location.)</p>
<p>AGC</p> <p>The AGC may be varied by means of an AGC Control. (See "Tube Placement Chart" for location.)</p>	<p>CENTERING</p> <p>Centering is accomplished by 2 magnetic rings located on yoke rear cover.</p>

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. NB281



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Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

117VAC - 345 WATTS (TV & REMOTE CONTROL)

PUSH-TYPE ON-OFF SWITCH

ALL WAVEFORMS TAKEN WITH A LOW CAPACITY PROBE AND A WIDEBAND OSCILLOSCOPE. COLOR CIRCUIT WAVEFORMS TAKEN WITH CONTROLS SET TO PRODUCE PROPER PRESENTATION FROM AN N.T.S.C. COLOR BAR PATTERN CONSISTING OF GREEN, YELLOW, RED, MAGENTA, WHITE, CYAN & BLUE BARS. PEAK TO PEAK VOLTAGES AND FREQUENCIES REMAIN THE SAME FOR GATED RAINBOW MEASUREMENTS. ALL WAVEFORMS (EXCEPT COLOR) TAKEN WITH A BLACK AND WHITE TEST PATTERN WITH CONTROLS SET TO PRODUCE 75V AT PICTURE TUBE CATHODES.

* NOT USED IN SOME VERSIONS.

• DENOTES WAVEFORMS TAKEN WITH A GATED RAINBOW GENERATOR

⊕ 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.

B+ DISTRIBUTION

410V SOURCE..... 18 ARROW CONNECTIONS

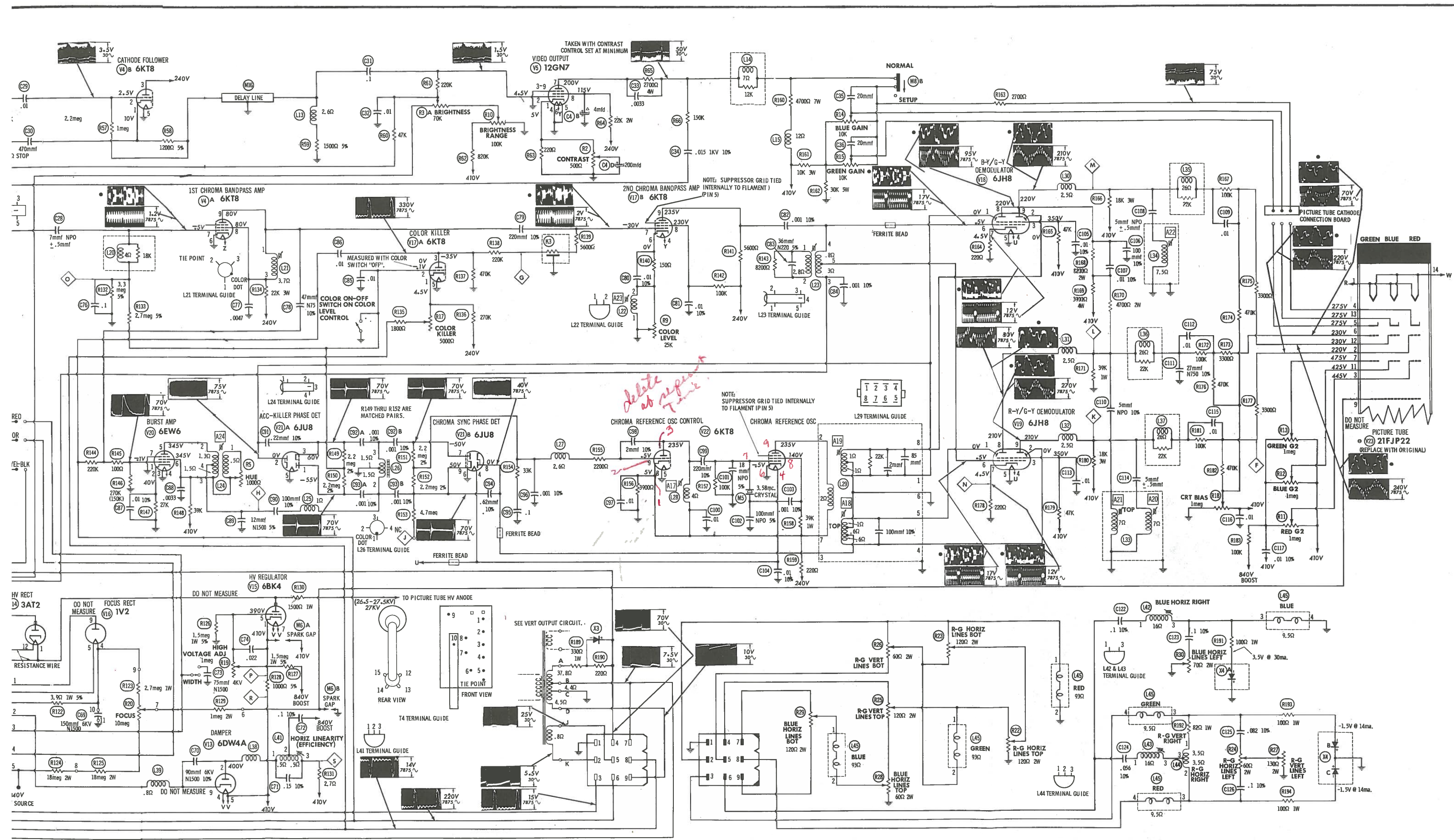
240V SOURCE..... 19 ARROW CONNECTIONS

105V SOURCE..... 3 ARROW CONNECTIONS

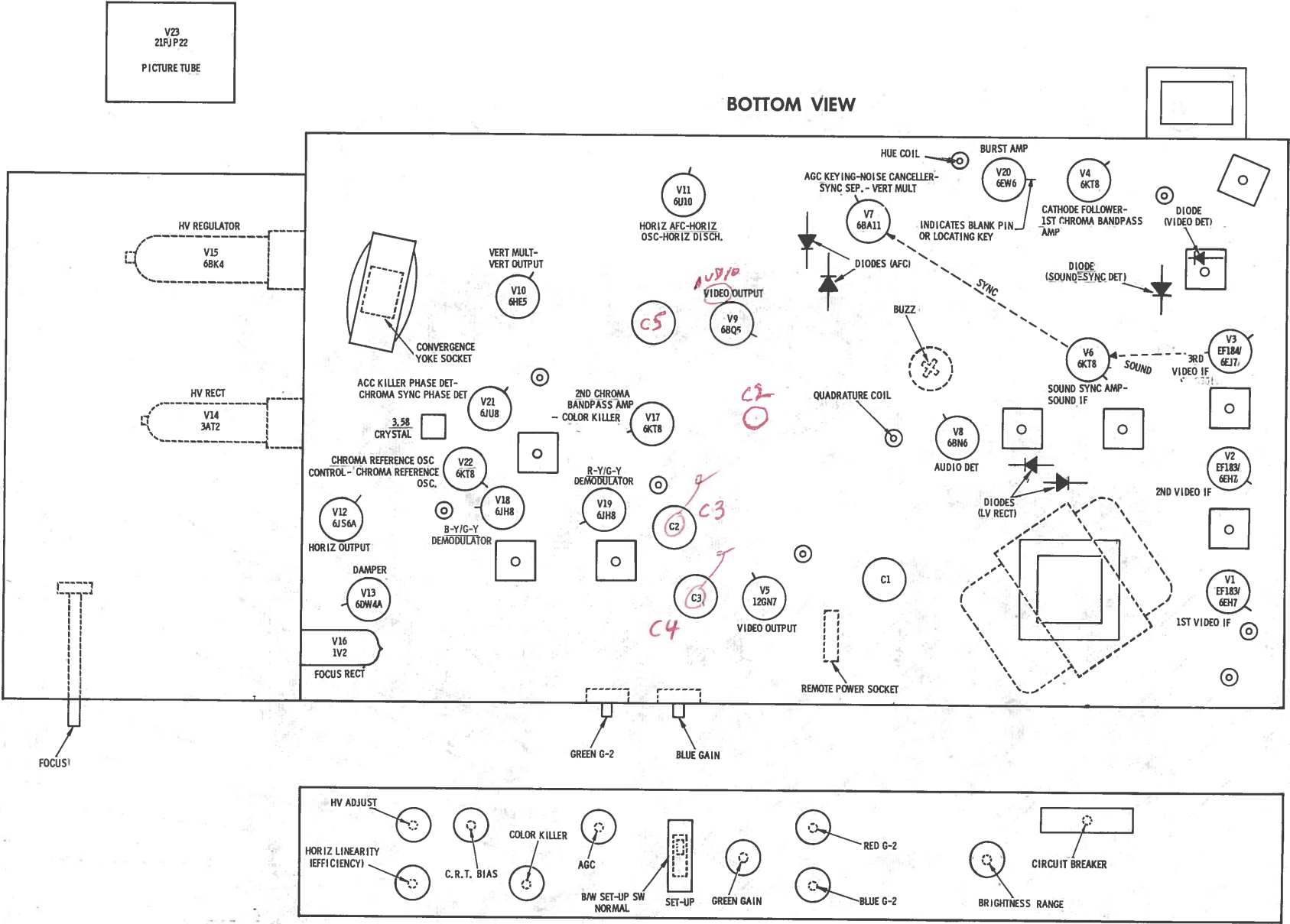
840V BOOST SOURCE..... 5 ARROW CONNECTIONS

VHF TUNER PAGES 10 & 19

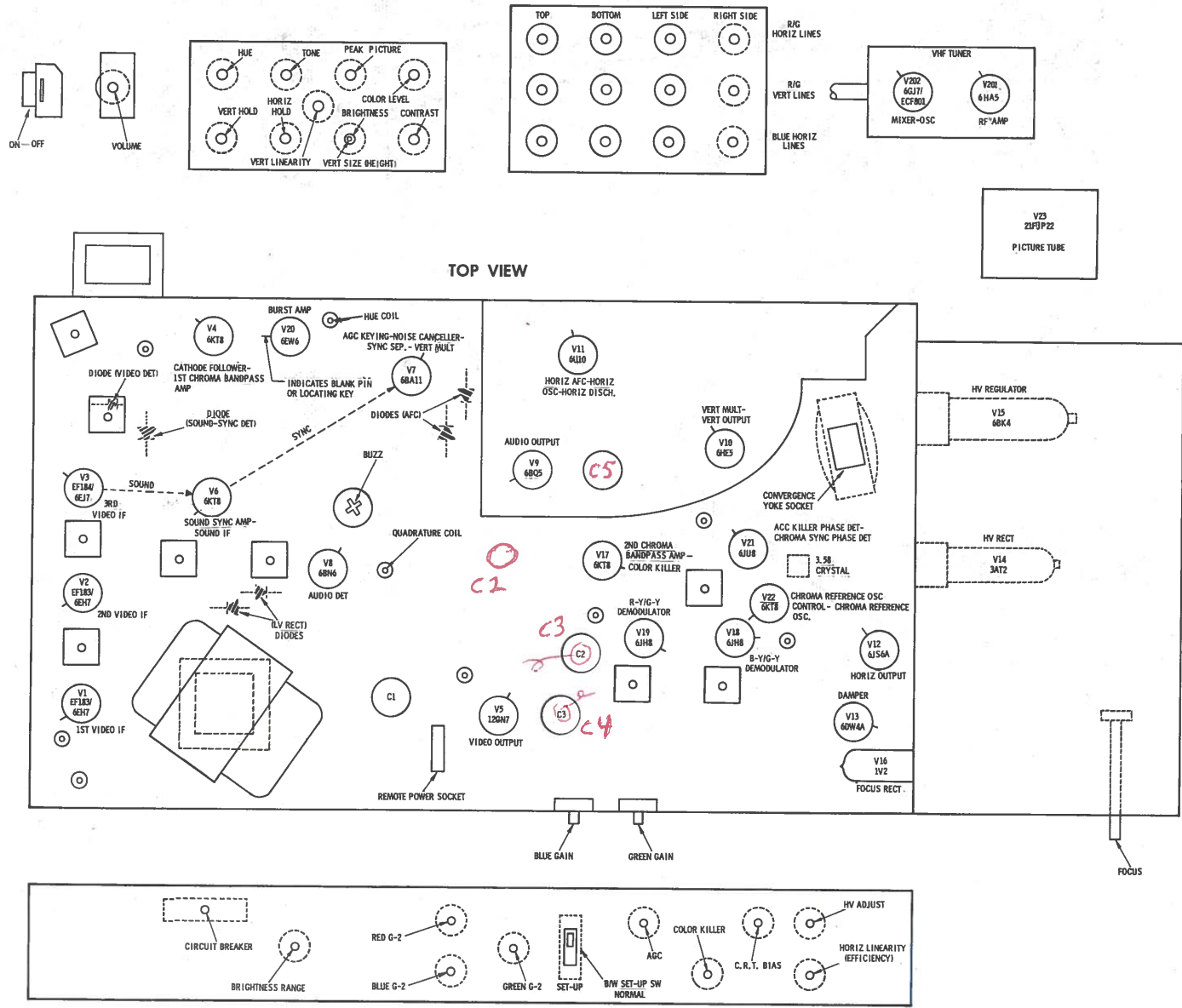
UHF TUNERS PAGES 11, 12 & 18



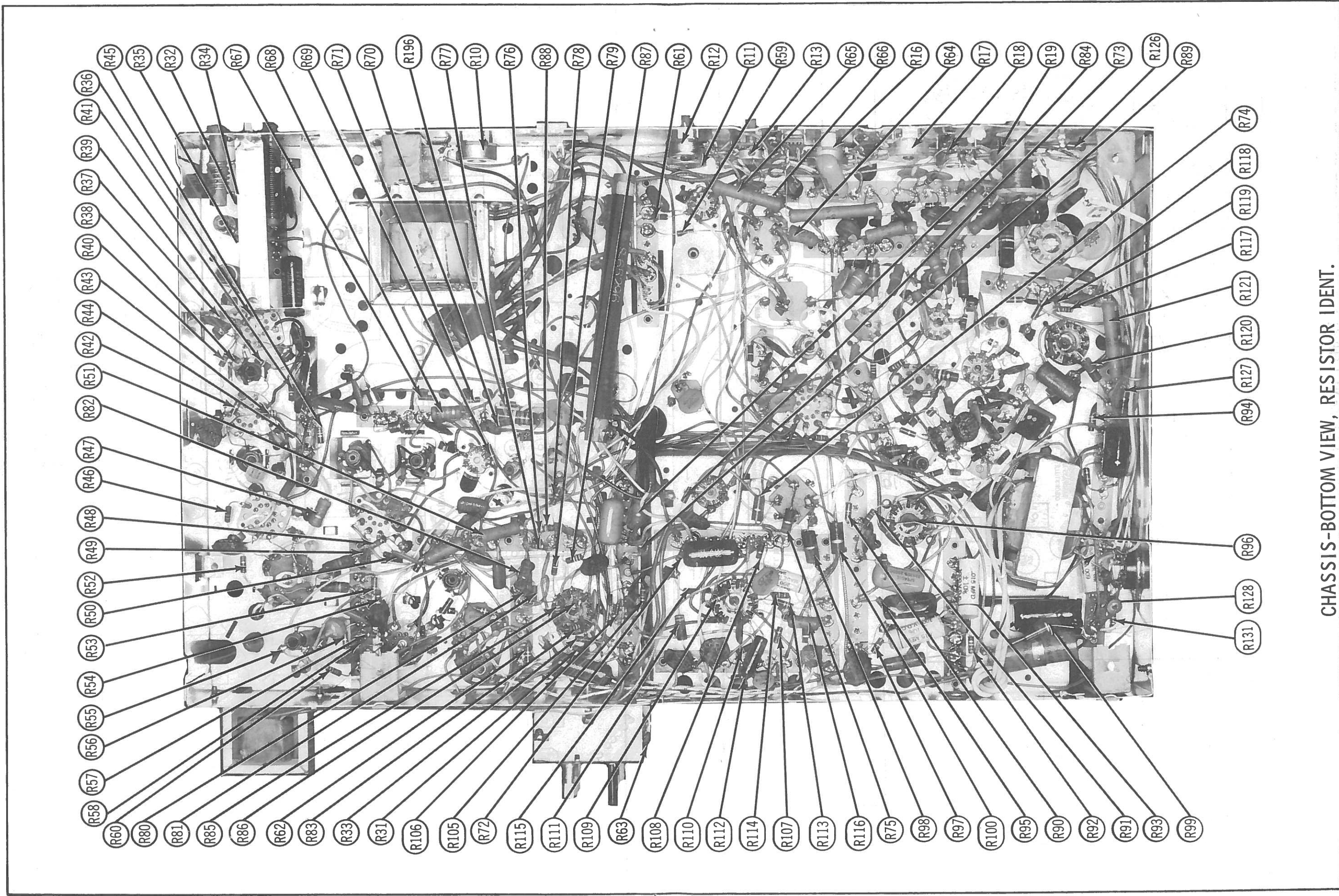
TUBE PLACEMENT CHART



TUBE PLACEMENT CHART

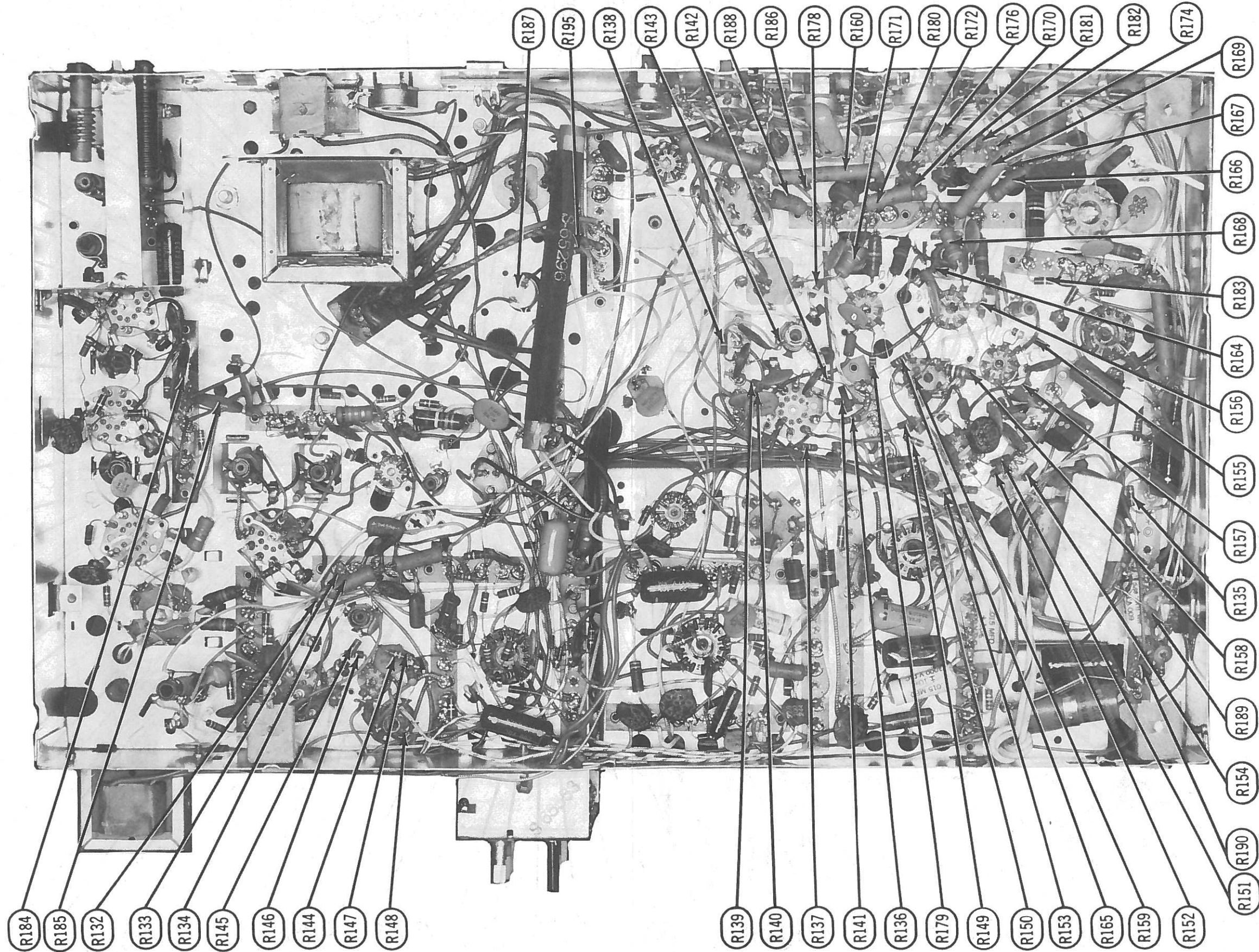


ZENITH CHASSIS 25MC30/33



CHASSIS-BOTTOM VIEW, RESISTOR IDENT.

ZENITH
CHASSIS 25MC30/33



R184
R185
R132
R133
R134
R145
R146
R144
R147
R148

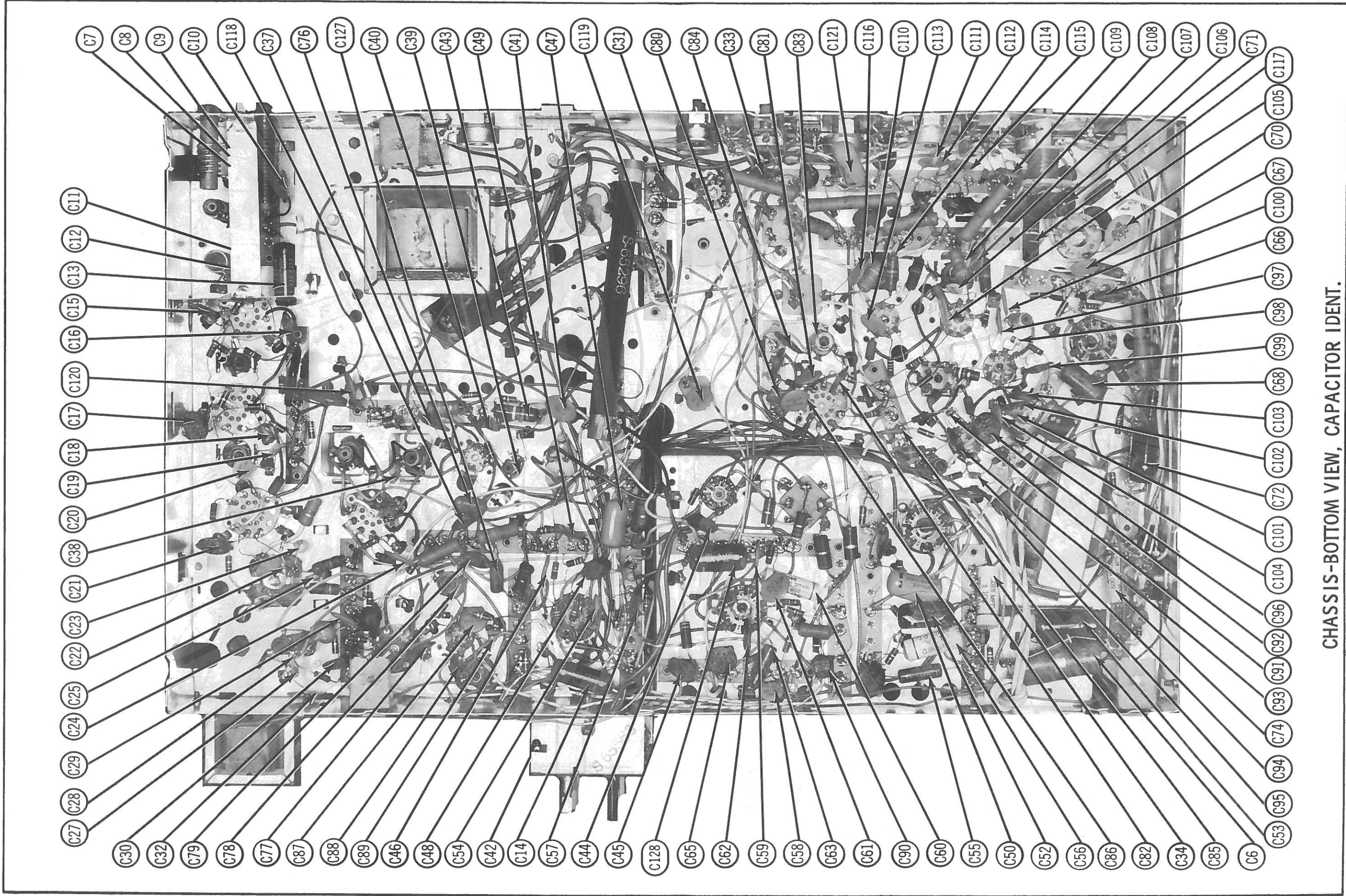
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R195
R138
R143
R142
R188
R186
R178
R160
R171
R180
R172
R176
R170
R181
R182
R174

R139
R140
R137
R141
R136
R179
R149
R150
R153
R165
R159
R152

R169
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R166
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R183
R164
R156
R155
R157
R135
R158
R189
R154
R190

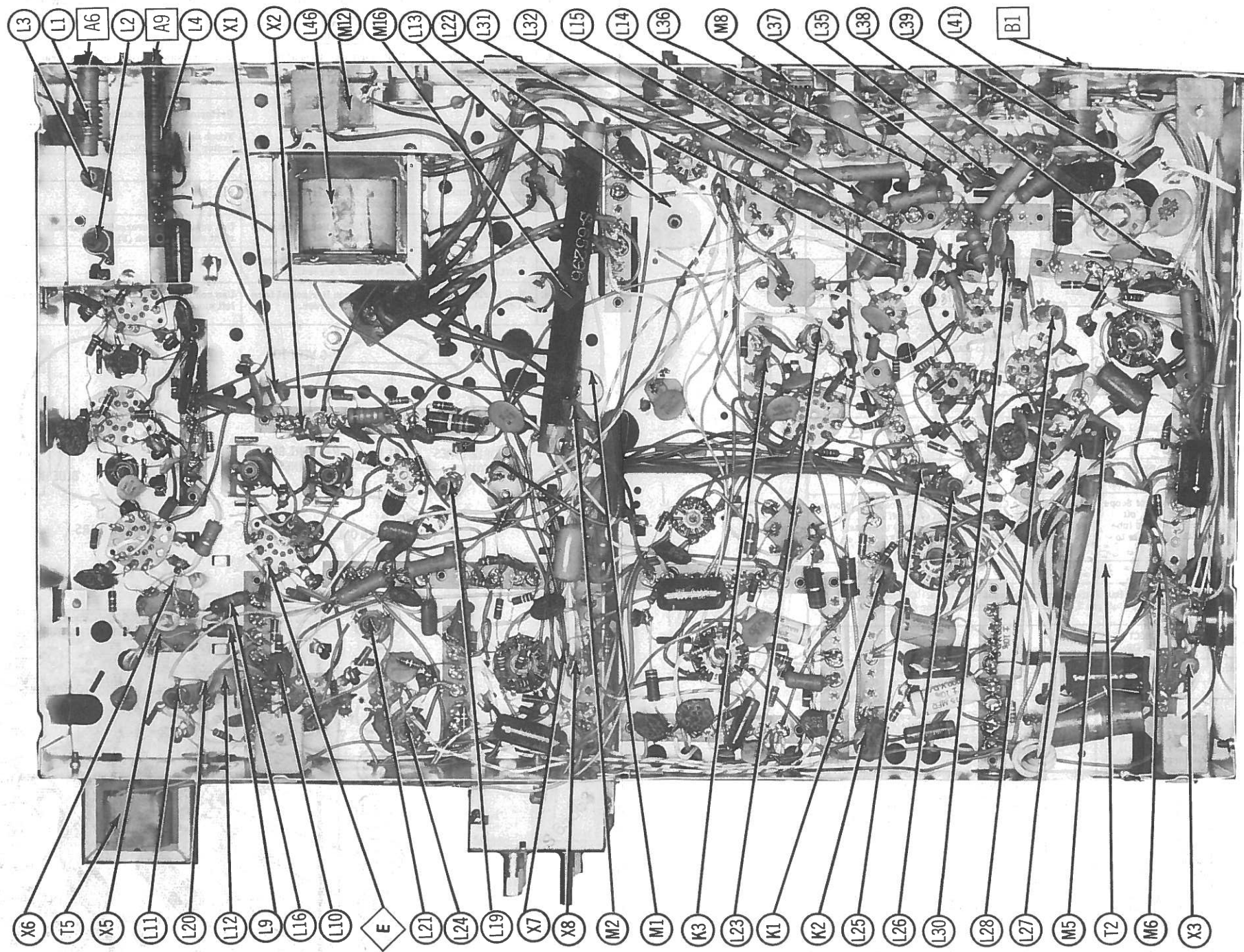
CHASSIS-BOTTOM VIEW, RESISTOR IDENT.

ZENITH
CHASSIS 25MC30/33



CHASSIS-BOTTOM VIEW, CAPACITOR IDENT.

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CHASSIS 25MC30/33



CHASSIS-BOTTOM VIEW, INDUCTOR, MISC IDENT.

ZENITH
CHASSIS 25M/C30/33

FOLDER 4

TV ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools: A1 thru A28 GENERAL CEMENT #8606, 8869, 9302 ... WALSCO #2511, 2543, 2588
Mixer Plate Coil ... GENERAL CEMENT #9296, 9297, 9300 ... WALSCO #2510, 2511, 2547

VIDEO IF ALIGNMENT

Connect a clip lead from point Ⓢ, off pin 2, AGC Keying-Noise Canceller & Sync Separator, V7, to ground. Connect a clip lead from point Ⓢ, pin 4, AGC Keying-Noise Canceller & Sync Separator, V7, to ground. Disable oscillator section of Mixer-Oscillator. Use only enough generator output to provide a usable condition on indicator.

SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT INDICATOR	ADJUST	REMARKS
1. High side to point Ⓢ, pin 2, 3rd Video IF (V3), low side to ground.	Not used	41.25MC	Any non-interfering channel	DC Probe of VTVM to point Ⓢ, off Video Det. (X5), low side to ground.	A1, A2	Adjust for MINIMUM.
2. "	44MC (10MC Sweep)	41.25MC 41.75MC 45.75MC	"	Vert. Input of Scope to point Ⓢ, low side to ground.	A3, A4	Adjust for response similar to Fig. 1.
3. High side to ungrounded tube shield over Mixer-Osc., low side to ground.	Not used	39.75MC	"	DC Probe of VTVM to point Ⓢ, pin 7, Sound & Sync Amp. (V6), low side to ground.	A5	Adjust for MINIMUM. It may be necessary to remove the jumpers from points Ⓢ and Ⓢ for trap alignment.
4. "	"	41.25MC	"	"	A6	"
5. "	"	47.25MC	"	"	A7, A8	Adjust for MINIMUM. Repeat steps 3 and 4.
6. "	"	45.75MC	"	DC Probe of VTVM to point Ⓢ, low side to ground.	A9, Mixer Plate Coil	Adjust for maximum. Reconnect jumpers.
7. "	"	45.0MC	"	"	A10	Adjust for maximum.
8. "	"	44.0MC	"	"	A11	"
9. "	44MC (10MC Sweep)	39.75MC 41.25MC 42.17MC 43.0MC 45.0MC 47.25MC	"	Vert. Input of Scope to point Ⓢ, low side to ground.		Check for maximum gain and symmetry of response similar to Fig. 2. It may be necessary to retouch A9, A10, A11 and Mixer Plate Coil to obtain proper response curve.

SOUND IF AND 4.5MC TRAP ALIGNMENT

Tune in a strong TV station and adjust for normal operation. Reduce the signal strength at the antenna terminals until a hiss is heard in the sound. Adjust for MINIMUM undistorted sound with MINIMUM buzz by adjusting A12, A13, A14, A15, and Buzz Control. If hiss disappears during alignment, further reduce the signal strength.

SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT INDICATOR	ADJUST	REMARKS
10. Not used	Not used	Not used	Any non-interfering channel	Vert. Input of Scope to point Ⓢ, off pin 2, picture tube (V23), low side to ground.	A16	Place Color Switch in "On" position. Connect a clip lead from point Ⓢ, off pin 7, 2nd Chroma Bandpass Amp. (V17) to chassis and adjust A16 for MINIMUM 900KC beat on scope

COLOR SYNC AND DEMODULATION

Place Color Switch in the "On" position. Connect a Color Bar Generator (Color Bar Pattern) across antenna terminals. Connect clip leads from point Ⓢ, off pin 7, 2nd Chroma Bandpass Amp. (V17) and point Ⓢ, off pin 2, Chroma Reference Oscillator Control (V22), to chassis.

SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT INDICATOR	ADJUST	REMARKS
11. Not used	Not used	Not used	Generator	Not used	A17	Adjust for zero beat as viewed on picture tube screen, MINIMUM number floating bars on screen.
12. "	"	"	"	DC Probe of VTVM to point Ⓢ, off pin 9, Chroma Sync Phase Det. (V21), common to ground.	A18, A19	In versions without a 4.7meg resistor at point Ⓢ, use an external 4.7meg resistor in series with VTVM probe. Adjust A18 for maximum indication and A19 for MINIMUM. Slugs should be positioned on outside end of coils. Remove clip leads from points Ⓢ and Ⓢ. Adjust the Hue Control for maximum indication on VTVM.
13. "	"	"	"	With low capacity probe, Vert. Input of Scope to point Ⓢ, off pin 9, R-Y/G-Y Demodulator (V19), low side to ground.	A20 (Bottom)	Adjust for MINIMUM 3.58MC response.
14. "	"	"	"	Vert. Input of Scope to point Ⓢ, off pin 8, R-Y/G-Y Demodulator (V19), low side to ground.	A21 (Top)	Adjust for MINIMUM 3.58MC response. Some interaction may exist. Repeat steps 13 and 14 if necessary.
15. "	"	"	"	Vert. Input of Scope to point Ⓢ, off pin 9, B-Y/G-Y Demodulator (V18), low side to ground.	A22	Adjust for MINIMUM 3.58MC response.
16. "	"	"	"	Vert. Input of Scope to point Ⓢ, off pin 2, picture tube (V23), low side to ground.	A23	Tune in a Color Pattern, and adjust for MINIMUM R-Y output.

Set Color Level and Hue Controls to the center of their ranges. Connect the Vertical Input of Scope to point Ⓢ. Check for proper waveform with the Color Bar Generator being used. See Waveform on schematic for pattern obtained from a standard N. T. S. C. signal. Check range of the Hue Control. The bars should move 30° either side of the proper signal. If necessary, adjust A24 for proper range of control. Remove Color Bar Generator.

MISCELLANEOUS ADJUSTMENTS (cont)

CONVERGENCE ADJUSTMENTS

Step	Control	Use to Converge (or straighten)	Remarks
1.			Perform center dot convergence using convergence magnets. If more range is needed, reverse magnet holder in clip. See Fig. A.
2.	R-G Vert. lines (Top)	Red and Green Vertical bars at top of screen.	Touch up both controls for best convergence from top to bottom along vertical centerline (Fig. B).
3.	R-G Vert. lines (Bottom)	Red and Green Vertical bars at bottom of screen.	
4.	R-G Horiz. lines (Top)	Red and Green Horizontal bars at top of screen.	Touch up both controls for best convergence of horizontal bars along vertical center line (Fig. B).
5.	R-G Horiz. lines (Bottom)	Red and Green Horizontal bars at bottom of screen.	
6.	Blue Horiz. lines (Top)	Blue Horizontal bars at top of screen.	Touch up both controls for best convergence of horizontal bars along vertical center line (Fig. C).
7.	Blue Horiz. lines (Bottom)	Blue Horizontal bars at bottom of screen.	
8.			Perform center dot static convergence (Fig. A).
9.	Blue Horiz. lines (Right side)	Blue Horizontal bars at right side of screen.	Touch up both controls for best convergence along horizontal center line (Fig. D).
10.	Blue Horiz. lines (Left side)	Blue Horizontal bars at left side of screen.	
11.	R-G Vert. lines (Right side)	Red and Green Vertical bars at right side of screen.	Fig. E
12.	R-G Horiz. lines (Right side)	Red and Green Horizontal bars at right side of screen.	Use control to converge Blue bar with Red and Green bars on right side of screen (Fig. E).
13.	R-G Vert. lines (Left side)	Red and Green Vertical bars at left side of screen.	Fig. E
14.	R-G Horiz. lines (Left side)	Red and Green Horizontal bars at left side of screen.	Use control to converge Blue bar with Red and Green bars on left side of screen (Fig. E).

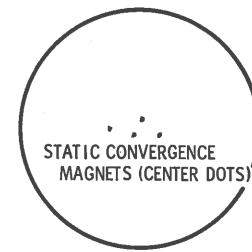


FIG. A

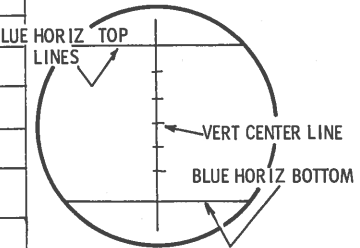


FIG. C (BLUE BARS)

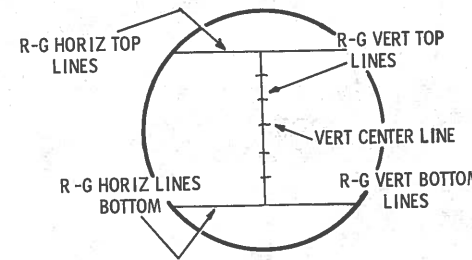


FIG. B (RED & GREEN ONLY)

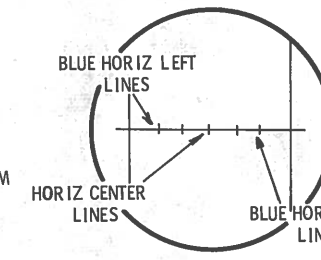


FIG. D (BLUE BARS)

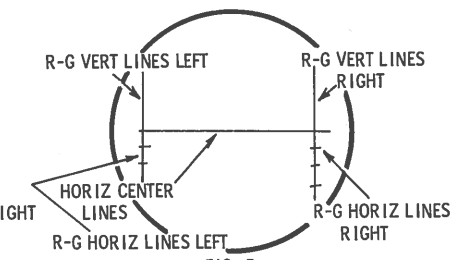
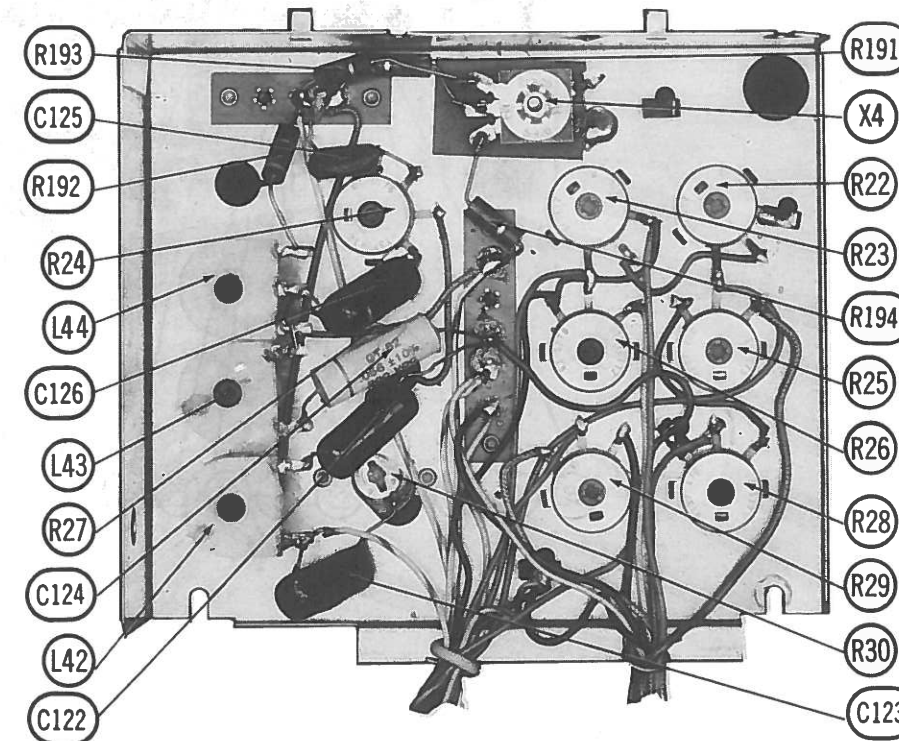


FIG. E



CONVERGENCE PANEL - REAR VIEW

ZENITH
CHASSIS 25MC30/33

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	EF183/ 6EH7	1222Ω	1.2meg	NC	FIL	FIL	0Ω	492Ω ▲	492Ω ▲	1200Ω			
V2	EF183/ 6EH7	INF	50K †	NC	FIL	FIL	0Ω	1470Ω †	1470Ω †	22Ω ▲			
V3	EF184/ 6EJ7	1000Ω	12K	1000Ω	FIL	FIL	0Ω	4300Ω †	4300Ω †	1000Ω			
V4	6KT8	2750Ω	1meg	1000Ω †	FIL	FIL	0Ω	3.3meg * 1.5meg	23K †	23K †			
V5	12GN7	150Ω	240K	0Ω	FIL	FIL	0Ω	6000Ω †	23K †	0Ω			
V6	6KT8	0Ω	100K	41K †	FIL	FIL	22Ω	1500Ω ●	25K †	16K †			
V7	6BA11	FIL	600K	14K †	3meg	100K †	37K †	10meg †	4700Ω	550K	0Ω	1.3meg †	FIL
V8	6BN6	200Ω	.6Ω	FIL	FIL	19K †	3.8Ω	331K †					
V9	6BQ5	NC	600K	220Ω	FIL	FIL	NC	1915Ω †	NC	1470Ω †			
V10	6HE5	FIL	2.2meg	NC	850Ω	NC	1592Ω †	NC	TP	NC	1150Ω †	NC	FIL
V11	6U10	FIL	1000Ω †	6900Ω	100Ω	69K †	0Ω	1.8meg	NC	60K	82K †	29K	FIL
V12	6JS6A	FIL	0Ω	16K †	220Ω	10meg	NC	NC	NC	NC	NC	NC	FIL
V13	6DW4A	NC	53.7Ω †	NC	FIL	FIL	NC	NC	NC	400K			
V14	3AT2	PINS 1 THRU 12 HAVE INFINITE RESISTANCE											
V15	6BK4	1050Ω †	FIL	NC	NC	1meg †	NC	FIL	NC				
V16	1V2	NC	NC	NC	50meg †	50meg †	NC	NC	NC				
V17	6KT8	4000Ω	6.5meg * 0Ω	470K	FIL	FIL	155Ω	1meg	101K †	6600Ω †			
V18	6JH8	.6Ω	.9Ω	47K †	FIL	FIL	111Ω	220Ω	12K †	18K †			
V19	6JH8	1.3Ω	.11Ω	47K †	FIL	FIL	103Ω	220Ω	5500Ω †	18K †			
V20	6EW6	125K	27K	FIL	FIL	39K †	39K †	0Ω					
V21	6JU8	10meg * 2.4meg	.9Ω	10meg * 2.4meg	FIL	FIL	0Ω	INF	.4Ω	INF			
V22	6KT8	3900Ω	INF	1220Ω †	FIL	FIL	0Ω	90K	40K †	1220Ω †			
V23	21FJP22	FIL	110K †	300K †	6100Ω †	5700Ω †	100K †	230K †	NC	45meg †	NC	250K †	110K †
						Pin 13 5000Ω †	Pin 14 FIL						
V201	6HA5	3.3meg	0Ω	FIL	FIL	13K †	0Ω	0Ω					
V202	6GJ7/ EF801	0Ω	680K	0Ω	FIL	FIL	28K †	28K †	28K †	10K			

● READING DEPENDS ON POLARITY OF METER CONNECTIONS.
 † MEASURED FROM OUTPUT OF X2.
 ‡ MEASURED FROM PIN 9 OF V13.

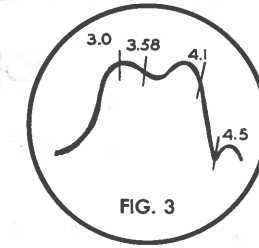
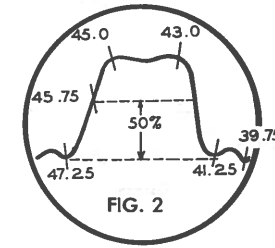
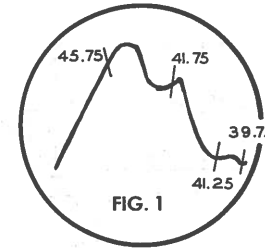
* MEASURED WITH COLOR SWITCH IN "OFF" POSITION.
 ▲ MEASURED FROM PIN 1 OF V2.
 NC NO CONNECTION TP TIE POINT

TV ALIGNMENT INSTRUCTIONS (cont)

CHROMA BANDPASS ALIGNMENT

Disable the oscillator of the Mixer-Osc. in tuner. Set the Color Level Control to mid-position. Connect a -6 volts bias to point Ⓢ, off pin 7, 1st Chroma Bandpass Amp. (V4). Connect a clip lead from point Ⓢ, off pin 7, 2nd Chroma Bandpass Amp. (V17), to ground. Place the Color Switch in the "On" position.

	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
17.	High side to point Ⓢ, off Video Det. (X5), low side to ground.	3.58MC	3.0MC 3.58MC 4.1MC	Any non-interfering channel	Vert. Input thru a detector probe to point Ⓢ, pin 7, R-Y/G-Y Dem. (V19), low side to ground.	A25	Adjust for MINIMUM 3.58MC response. Correct dip in response occurs with slug nearest chassis.
18.	"	"	"	"	"	A26	Adjust for symmetry of response similar to Fig. 3 with markers as shown.



MISCELLANEOUS ADJUSTMENTS

WITH SET TURNED OFF

Connect a 0-3MA meter across point Ⓢ, pin 1, HV Regulator (V15) and point Ⓢ, pin 7, HV Regulator (V15), positive to point Ⓢ. Connect a VTVM across point Ⓢ and point Ⓢ, off pin 2, Damper (V13), positive to point Ⓢ. Connect a VTVM through 30KV or higher voltage probe to picture tube anode lead.

WITH SET TURNED ON

Tune in a TV station and adjust all controls for normal operation. Adjust B1, Horizontal Linearity (Efficiency) Coil Slug, for MINIMUM deflection on VTVM connected across points Ⓢ and Ⓢ. Turn the Brightness and Contrast controls to extinguish the raster. Set the High Voltage Adjust control for 25KV on meter connected to anode lead. Observe the reading on current meter across points Ⓢ and Ⓢ. It should read between .85MA and 1.4MA. If less than .85MA, adjust High Voltage Adjust for .85MA.

AGC ADJUSTMENT

Tune in the strongest TV station available and slowly turn AGC control to the right until the picture distorts and a buzz is heard in the sound. Turn control back to the left until picture distortion and buzz in the sound has cleared up.

COLOR KILLER

Set Color Killer control fully counterclockwise. Tune in a color signal and adjust Color Killer control until color just appears on the screen and is normal. Switch to a black and white program and adjust for colorless noise. Recheck for normal color reception.

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

The Horizontal Hold is equipped with a stop which limits rotation to 270° with the knob in the shaft. To adjust, remove the knob and adjust by turning the shaft until the picture is synchronized to the point where it is virtually impossible to disrupt horizontal synchronization when switching from channel to channel. Install knob with the pointer centered between the stops.

BRIGHTNESS RANGE CONTROL ADJUSTMENT

Set the Channel Selector for a station signal and set the Brightness and Contrast controls to maximum. Adjust the Brightness Range control, located on rear apron of chassis, just below the point at which raster tends to "bloom".

PURITY ADJUSTMENTS

Perform Step 1 of "Convergence Adjustments". If the picture appears to be magnetized, use a degaussing coil to demagnetize the tube and mounting brackets. Turn Blue and Green screen controls to MINIMUM. Loosen deflection yoke and move it backward until it is against the convergence yoke assembly. Be careful not to disturb the position of the convergence yoke assembly.

Adjust the tabs on the Purity Magnet ring and rotate the assembly until a Red spot appears at the center of the picture tube. Slide deflection yoke forward to obtain a uniform Red over entire picture tube face. A low power microscope is useful to observe the beam landings.

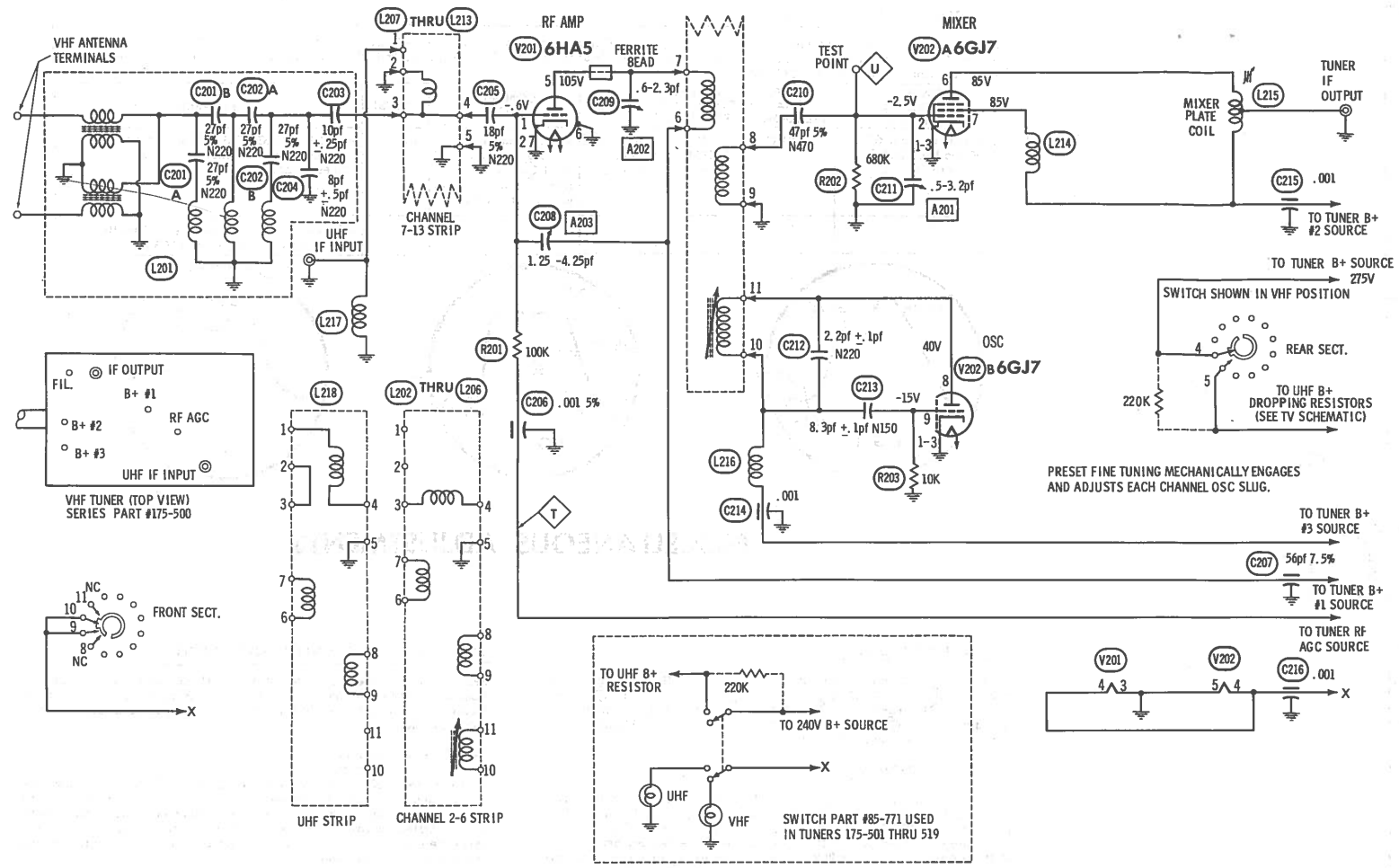
GRAY SCALE ADJUSTMENTS

Tune in a black and white picture or a color picture with the color control set to MINIMUM. Turn the picture tube bias control fully counterclockwise. Turn the Red, Green, and Blue screen controls fully counterclockwise. Move the BW switch to "Setup" position. Advance the screen controls, one at a time, until each produces a barely visible line in the screen. If any control fails to produce a line, leave that control at "Maximum" and turn the other two controls back to MINIMUM. Advance the picture tube bias control until a barely visible line appears. Advance the remaining two controls one at a time, until a barely visible line appears. Return the BW switch to "Normal" position. Adjust the Blue and Green Gain controls to eliminate coloring in the dark and bright areas of the picture.

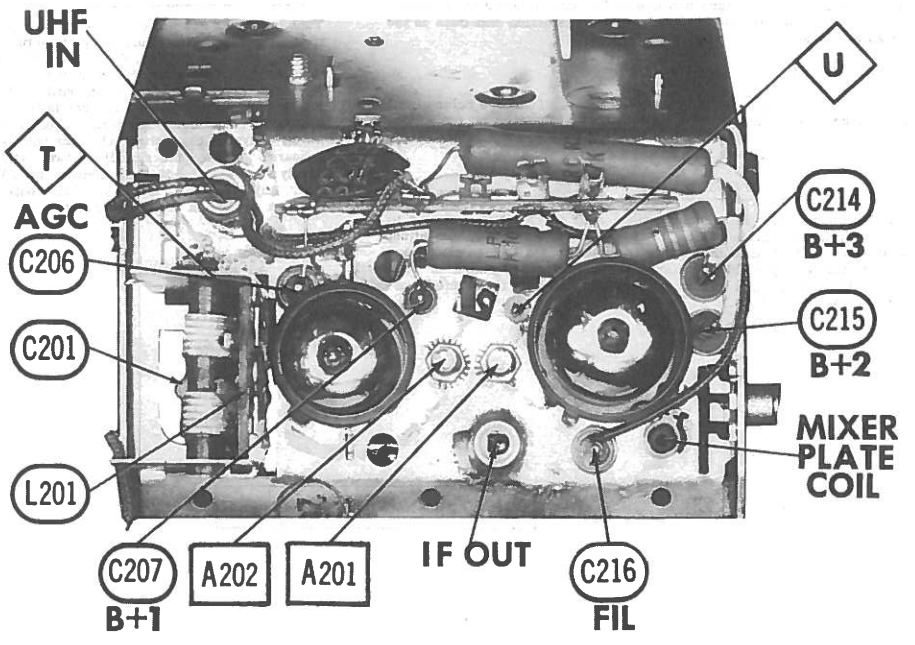
MISC ADJUSTMENTS CONT'D PAGE 21

ZENITH
CHASSIS 25MC30/33

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VHF TUNER ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools: A201, A202, A203 .. GENERAL CEMENT #8271, 8279, 9050L .. WALSCO #2521, 2524, 2527

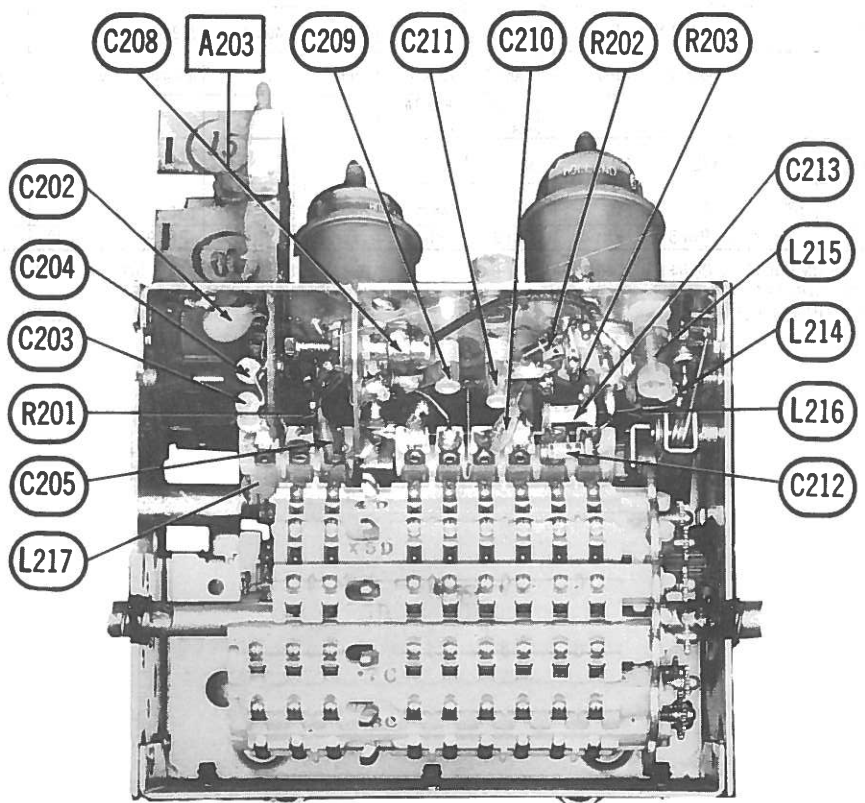
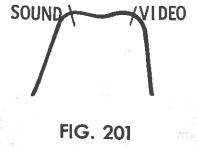
OSCILLATOR ADJUSTMENTS
The oscillator for each channel is preset by means of the fine tuning control. Adjust fine tuning for best picture and sound on each channel.

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	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 T, low side to ground.		Decrease bias. Check response on all channels and make compromise adjustments of A201 and A202 if required.

CHANNEL & FREQUENCY CHART

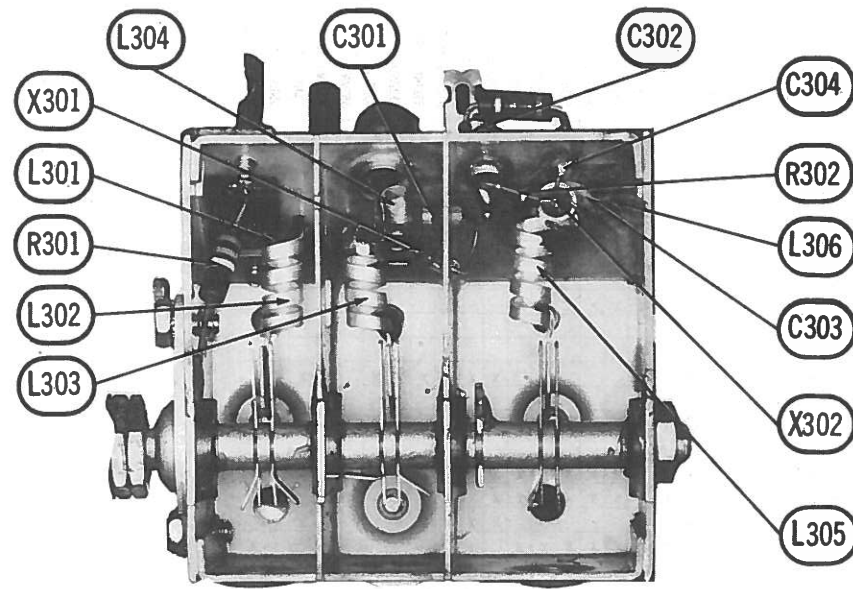
SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL
57MC	55.25MC 59.75MC	2	85MC	83.25MC 87.75MC	6	195MC	193.25MC 197.75MC	10
63MC	61.25MC 65.75MC	3	177MC	175.25MC 179.75MC	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



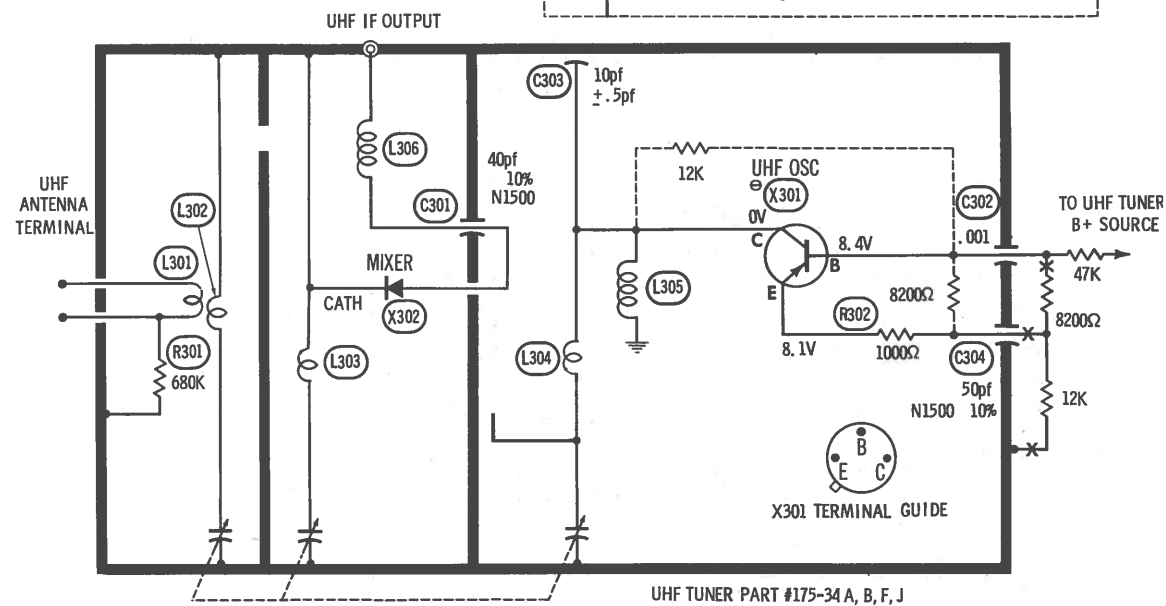
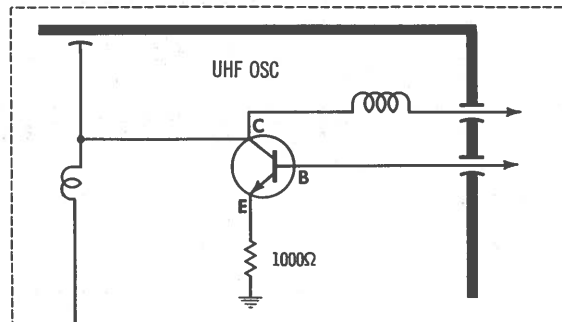
13 POSITION TURRET-TYPE VHF TUNER 175-503/-507/-521/-531

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ALTERNATE CIRCUIT NPN TRANSISTOR



UHF TUNER PART #175-34 A, B, F, J

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UHF TUNER 175-34 SERIES

VHF TUNER PARTS LIST AND DESCRIPTION

175-500 SERIES

TUBES

AMPEREX		GENERAL ELECTRIC		RCA		SYLVANIA	
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE
V201	RF Amp.	6HA5	V202	Mixer - Osc.	6GJ7		

FIXED 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 N220 5%						10TCR-Q27
B	27 N220 5%						10TCR-Q27
C202A	27 N220 5%						10TCR-Q27
B	27 N220 5%						10TCR-Q27
C203	10 N220 ±.25pf						10TCR-V82
C204	8 N220 ±.5pf						10TCR-Q18
C205	18 N220 5%						
C206	.001 5%						
C207	56 7½%						
C208	1.25-4.25		829-6		CV-3	CT552	
C209	.6-2.3		829-3		CV-1	CT565	
C210	47 N470 5%						10TCT-Q47
C211	.5-3.2						
C212	2.2 N220 ±.1pf						
C213	8.3 N150 ±.1pf						
C214	.001	EF-001	MFT-1000		CCF-102	CT280A	
C215	.001	EF-001	MFT-1000		CCF-102	CT280A	
C216	.001	EF-001	MFT-1000		CCF-102	CT280A	

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

COILS (RF-IF)

ITEM No.	USE	ZENITH PART No.	NOTES	ITEM No.	USE	ZENITH PART No.	NOTES
L201	Ant. Filter Ass'y	S-59297	Part of L201	L208	Ant., RF, Mixer, Osc.	174-408	Chan. 8, IF Strip
A	Ant. Matching	S-49189	"	L209	"	174-409	" 9 "
B	Ant. Matching	20-874 (20-1008)	"	L210	"	174-410	" 10 "
C	Ant. Matching	20-798 (20-1007)	"	L211	"	174-411	" 11 "
D	Ant. Matching	20-798 (20-1008)	"	L212	"	174-412	" 12 "
L202	Ant., RF, Mixer, Osc.	174-402	Chan. 2, IF Strip	L213	"	174-413	" 13 "
L203	"	174-403	" 3 "	L214	Screen	20-1050	
L204	"	174-404	" 4 "	L215	Mixer Plate	S-59280	
L205	"	174-405	" 5 "	L216	Plate Choke	S-49738	
L206	"	174-406	" 6 "	L217	UHF Input	20-1056	
L207	"	174-407	" 7 "	L218	Ant. RF, Mixer	174-401	Chan. 1, UHF Strip

UHF TUNER PARTS LIST AND DESCRIPTION

TUNER # 175-34 SERIES

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X301	121-304	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		103-61 or 103-60					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.
C301	40 N1500 10%	#22-5080					
C302	.001	#22-5080	EF-001	MFT-1000		CCF-102	CT280A
C303	10 N220 10%	#22-4508					
C304	50 N1500 10%	#22-5081					

Zenith Part Number

COILS (RF-IF)

ITEM No.	USE	ZENITH PART No.	NOTES	ITEM No.	USE	ZENITH PART No.	NOTES
L301	Ant.	20-1097		L304	Diode Output	20-1281	
L302	RF	20-1197		L305	Osc. Coil	20-1199	
L303	Mixer	20-1198		L306	Collector Choke	20-1253	

ZENITH
CHASSIS 25MC30/33

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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.

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.	
L46	.34ADC	50Ω	2.1 Hy.	95-2181				

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.	
T1	117VAC @ 3.3A	155VAC @ .48A DC	6.3VAC @ 1.6A	95-2179				
	12.6VCT @ 5.5A each	6.3VAC @ 1.4A						

* TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		ZENITH PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
T2	Vert. Output	95-2139				
T3	Yoke (Horiz. 13ME) 70° (Vert. 39ME)†	95-2139-C		DY-90AC ①	Y-107 ①	YC-300-1 ①
T4	Horiz. Output	8-65739				

① Use original centering assembly. † Total, each half 15MH.

* COMPONENT CONNECTION DATA

ORIGINAL → REPLACEMENT ↓	HV TRANSFORMER		VERTICAL OUTPUT		YOKE			YOKE PLUG	
	Original Connections	Original Connections	Original Connections	Original Connections	1	2	3	4	5
MERIT									
STANCOR					1	2	3	4	5 ▲
THORDARSON					1	2	3	4	5 ▲
TRIAD					1	2	3	4	5 ▲

▲ Duplicate Original Network.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA				NOTES
	PRI.	SEC.	ZENITH PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
T5	7100Ω	3-4Ω	95-2190	A-3020	A-8092KC	26S48	8-18X

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		ZENITH PART No.	QUAM PART No.	
SP1	3" x 5" PM 3-4Ω	49-1040	35A05	
	3" x 5" PM 3-4Ω	49-1010	35A05	
	9" x 8" PM 6-8Ω 3½" (Tweeter) 12Ω	49-1029		
		49-1031		
		49-1046		
		49-1032	69A3Z6.4	
		49-782	3A15TZ12	
		49-1030		
		49-1033		

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	ZENITH PART No.	REPLACEMENT DATA
K1	Vertical Integrator	68K, .0024mfd	87-4	Aerovox PA-765 Centralab PC-408
K2	Vertical Feedback	90K, .0024mfd	87-5	Aerovox PA-764 Centralab PC-407
K3	Pulse Filter		87-9	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA			
			ZENITH PART No.		LITTELFUSE PART No.	
			FUSE	HOLDER	FUSE	HOLDER
M1		1 1/2" length of #24 copper wire				
M2		1 1/2" length of #24 copper wire				

MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	NOTES
M3	VHF Tuner	175-521	
	VHF Tuner	175-503	
	VHF Tuner	175-507	
	VHF Tuner	175-531	
M4	UHF Tuner	175-34A/B/F/J	
M5	Crystal	103-71	3.58MC Oscillator
M6	Spark Gap	52-957	
M7	Switch	85-746	
M8	Switch	85-754	AC On/Off (Alternates: 85-718, 85-823)
M9	Switch	85-790	Normal-Setup
M10	Switch		UHF-VHF
M11	Switch		Program Selector (Touch Bar)
M12	Circuit Breaker	85-763	Motor
M13	Magnet Assembly	8-46971	2.75 Amp.
M14	Magnet Assembly	8-46939	Purity
M15	Magnet Assembly	8-53767	Blue Lateral
M16	Delay Line	8-65296	3 Required
M17	Motor	141-178	Remote Tuning
M18	Degaussing Choke	95-2287	(Saturable Coil)

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 8874 (Rubber) or 8895 (Plastic)
Power Cord (Interlock Type)	Use BELDEN No. 8275 (Foam Core) or 8285 (Foam Jacketed)
300Ω Tuner Input Lead	Use BELDEN No. 8225
300Ω Antenna Lead-in	Use BELDEN No. 8275 (Foam Core) or 8285 (Foam Jacketed)
Antenna Rotor Cable	Use BELDEN No. 8484 (Flat) or 8484 (Round) - 4 Conductor 8485 (Round) - 5 Conductor 8488 (Round) - 8 Conductor

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

ITEM No.	USE	TYPE	REPLACEMENT DATA	
			ZENITH PART No.	GENERAL ELECTRIC PART No.
V1	1st Video IF	EF183/8EH7		
V2	2nd Video IF	EF183/8EH7		
V3	3rd Video IF	EF184/8EJ7		
V4	Cathode Follower - 1st Chroma Bandpass Amp.	6KT8		
V5	Video Output	12GN7		
V6	Sound Amp. - Sync Amp. - Sound IF	6KT8		
V7	AGC Keying - Vert. Mult. - Sync Sep. - Noise Canceller	6BA11		
V8	Audio Detector	6BN6		
V9	Audio Output	6BQ5		
V10	Vert. Mult. - Vert. Output	6HE5		
V11	Horiz. AFC - Horiz. Osc. - Horiz. Discharge	6U10		

PICTURE TUBE

ITEM No.	ZENITH PART No.	REPLACEMENT DATA			NOTES
		GENERAL ELECTRIC PART No.	RCA PART No.	SYLVANIA PART No.	
V23	21FJP22	21FJP22 ①	21FJP22 ①	21FJP22 ②	① Aluminized ② Silver Screen "85" ③ Color Bright
	21FBP22	21FBP22 ①	21FBP22 ①	RE21FJP22 ③ RE21FBP22 ③	

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.	
X1	.48A	212-37	1N1697	1N1096 or 1N2071	1N2864 or 1N3195	60H or F-6	
X2	.48A	212-37	1N1697	1N1096 or 1N2071	1N2864 or 1N3195	60H or F-6	
X3	6MA	212-50	1N1692	1N537 or A100	1N2859 or 1N3754	10H or F-1	
X4	30MA 14MA 14MA	212-25	GECR-3	A50 or D50	1N2858	8-420	
X5		103-23		A50 or D50	1N2858		1N60
X6		103-23					1N60
X7		103-51					6GC1
X8		103-51					6GC1

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	ZENITH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	160	250	22-3901	AFHS1-31-80 ①	AA0287 ① BR30-250	XC1-11 ① QT1-18	TMS-1550 ① TD-60-250	WP125.9A ①	TVLS1539 ①*
C2	160	250	22-5034	AFHS1-31-80 ①	AA0287 BR30-250	XC1-11 QT1-18	TMS-1550 TD-60-250	WP125.9A	TVLS-1539 *
C3	80	475	22-5033	AFH1-82	AA0560	XC1-9	TMS1900	FP187	TVL-1958
C4A	80	475	22-3966	AFH4-94-25		XC4-13	TMQ-4782	FP472	TVLS-4823 *
B	4	475				QT1-28	TD-250-25		
C	4	475							
D	200	25							
C5A	4	150	22-3964	AFH4-112-60	CC0410	XC3-41.2	TMQ-4734	FP460.5	TVLS4820.4 *
B	50	475			BR40-150	QT1-3	TD-30-500		
C	40	25							
D	40	475							
C6	100	50	22-3171	PRS1360	BR100-50	QT1-23	TD-100-50	TC3501	TVA-1310

* 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.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C7	18	NPO 5%						CNO418	10TCC-Q18
C8	43	NPO 5%							
C9	36	NPO 5%							
C10	470		BPD-00047	DD-471	BYA10T47	CCD-471		B347	10TS-T47
C11	16	NPO 5%		DTZ-15	C10Q15C			CNO415	10TCC-Q15
C12	56	NPO 5%		TCZ-56				CNO456	10TCC-Q56
C13	.15	200V						PVC2015	2PS-P15
C14	.15	200V						PVC2015	2PS-P15
C15A	.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
C16	.001	10%		DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10
C17A	.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
C18	.001			BPD-001	DD-102	BYA10D1	CCD-102	B210	5HK-D10
C19	100	N750 10%		N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10
C20	.0015	10%		DI-1500	CF-152		CCF-152	JF215	10TS-D15
C21	.001	10%		DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10
C22	.82pf	5%	#22-3724						
C23	6	NPO ±.5pf	#22-2381						
C24	.01			BPD-01	DD-103	BYA10S1	CCD-103	B110	10TCC-V56 5HK-S10

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ZENITH
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FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENC0 PART No.	MALLORY PART No.	SPRAGUE PART No.	
C25	6 NPO ±.5pf	#22-2381		TCZ-51					
C26	53 NPO 5%	#22-3170		TCN-56					
C27	56 N750 10%					CCTN-560	CN7456	10TCU-Q56	
C28	7 NPO ±.5pf	#22-2513						10TCC-V68	
C29	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-810	
C30	.01		BPD-00047	DD-471	BYA10T47	CCD-471	B347	10TS-T47	
C31	.1 200V		P288N-1	DF-104	PKM2P1	2DP-3-104	GEM201	2TM-P10	
C32	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-810	
C33	.0033		BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33	
C34	.015 1KV 10%				PKM10S15	16DP-4-153	GEM16115	10TM-S15	
C35	.20	#22-3959							
C36	.20	#22-3959							
C37A	.001		DI-1000	DD-102	JB8D1	CCD-102	GP210	10TS-D10	
C37B	.001		DI-1000	DD-102	JB8D1	CCD-102	GP210	10TS-D10	
C38	3.5	#22-3990							
C39	20 N75 10%	#22-3139							
C40	150 N750 10%								
C41	.01								
C42	.0047								
C43	.0068 200V								
C44	.470								
C45	.001	10%							
C46	.01								
C47	.1 200V								
C48	.0033	10%							
C49	.220	10%							
C50	.22 200V 10%								
C51	.1 1KV								
C52	.1 600V 10%								
C53	.47 200V								
C54	.0022	10%							
C55	.0082 200V 10%								
C56	.015 1KV 10%								
C57A	.51								
C57B	.51								
C58	.0022	10%							
C59	.0022	10%							
C60	.047 200V 10%								
C61	.470	10%							
C62	.680	10%							
C63	.0015 400V 10%								
C64	.0011	10%							
C65	.0047	10%							
C66	.001 1KV 10%								
C67	.01								
C68	.15 400V								
C69	150 N1500 6KV 10%	#22-3578							
C70	90 6KV 10%	#22-3652							
C71	.15 200V 10%								
C72	.1 600V 10%								
C73	.75 4KV 10%	#22-3953							
C74	.022 600V								
C75	100 3KV 5%	#22-3690							
C76	.1 200V								
C77	.0047	10%							
C78	.47 N75 10%	#22-2376							
C79	.220	10%							
C80	.01								
C81	.01								
C82	.001 1KV 10%	#22-3259							
C83	.36 N220 5%								
C84	.001 1KV 10%								
C85	.01								
C86	.01								
C87	.01								
C88	.0033								
C89	12 N1500 5%	#22-3169							
C90	100 10%								
C91	.22pf	#22-3401							
C92A	.001	10%							
C92B	.001	10%							
C93A	.001	10%							
C93B	.001	10%							
C94	.62pf	#22-3786							
C95	.1 200V								
C96	.001								
C97	.01								
C98	.2	10%							
C99	.220	10%							
C100	.01								
C101	18 NPO 5%								
C102	100 NPO 5%								
C103	.001	10%							
C104	.01								
C105	.01								
C106	100 N750 10%								
C107	.01								
C108	5 NPO ±.5pf								
C109	.01								
C110	5 NPO ±.5pf								
C111	27 N750 10%								
C112	.01								
C113	.01								
C114	.5 NPO ±.5pf								
C115	.01								
C116	.01								
C117	.01 600V								
C118	.001 1KV 10%								
C119	.01								
C120	.01								
C121	.1 600V								
C122	.1 200V 10%								
C123	.1 200V 10%								
C124	.056 200V 10%								
C125	.082 200V 10%								
C126	.1 200V 10%								
C127	.1 200V 10%								
C128	.22 200V 10%								

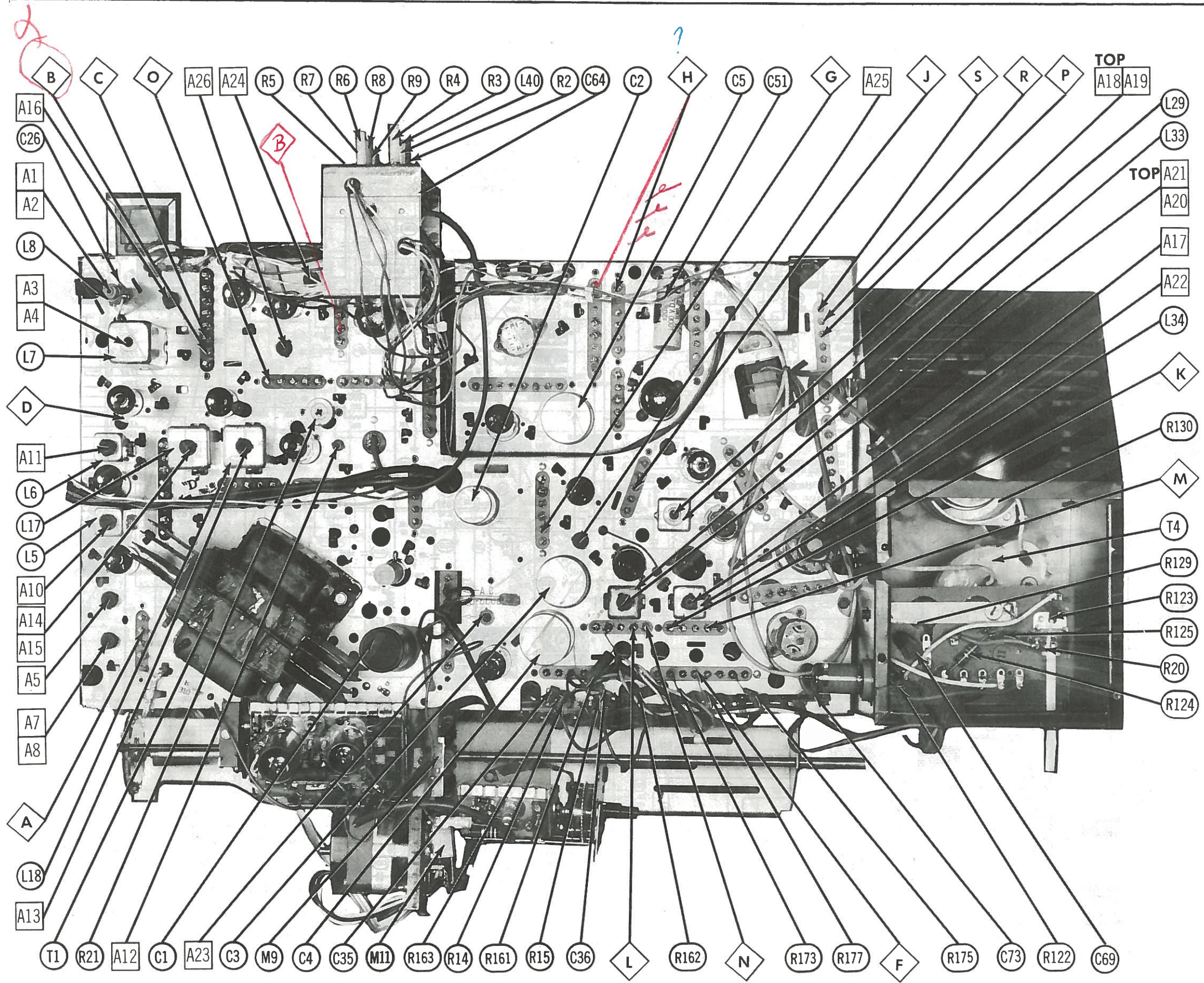
PARTS LIST AND DESCRIPTION (CONTINUED)

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.

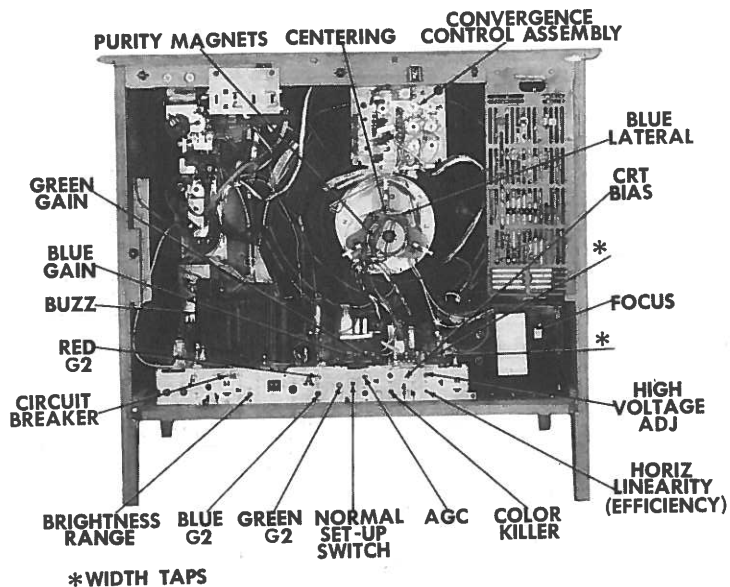
ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			ZENITH PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	Volume	1meg	63-5336 ①	F12-1meg, SNF108 (ABT-72, AK-33)	A47F4-1meg, RS-3/16	B13-137X, SK9 or (BU2, CF44T, IS1250) or (UT440, D837)	UA16T25, SD3500 or (RU16T25, SL35)	
R2	Contrast	500Ω	63-5164	F5-500, SN200		B17-103, TM4 ② or (BU11, CF50, S86 ②) *	UA52R, SL3500 or (U52R)	
R3A	Brightness	70K	63-5053	F1-75K, R1-1meg, FSP111 ③		† QJ-1645	† UE4462	
R4	Vert. Hold	750K	63-5284	F1-750K, SN200 or (B-66)	A47-750K-S, FS-3	B11-136, TM4 ② or (BU11, CF64, S86 ②) *	TA16L or (RU754L SL37, SL3500) or (UA16L, SL3500)	
R5	Hue	1000Ω	63-5230 ④	B347				
R6	Tone	1meg	63-5174 ⑤	F2-1meg, SN200 or (B-70)	A47-1meg-Z, FS-3	B13-137, TM4 ② or (BU11, CF26, S86 ②) *	TA16A or (RU16A, SL37, SL3500) or (UA16A, SL3500)	
R7	Vert. Linearity	1500Ω 2W	63-5051	V-100 ⑥ or (WN-102 ⑥)	U39-1000 ⑥	112-1000 ⑥ or (WPS1000 ⑥) or (BU1, WF3 ⑥, S86)	MR1000F ⑥ or (VWIK ⑥) or (R1000L ⑥)	
R8	Peak Picture	5000Ω	63-5220	F1-5000 ⑦, SN200 or (B-10 ⑦) *	A47-5000-S ⑦, FS-3	B11-114 ⑦, TM4 or (BU11, CF8 ⑦, S86)	TA53L ⑦ or (RU53L ⑦, SL37, SL3500) or (UA53L ⑦, SL3500)	
R9	Color Level, Switch	25K	63-5236	63-5236		B17-120, SK7	PP25R	
R10	Brightness Range	100K	63-5232	TT-40 or (F1-100K, SNK10)	B47-100K-S	B11-128, TM4 or (BU11, CF13, S86)	PTA15L or (RU15L, SL37, SN1000)	
R11	Red G2	1meg	63-5089	TT-69 or (F1-1meg, SNK10)	B47-1meg-S	B11-137, TM4 or (BU11, CF17, S86)	PTA1254L or (RU1254L, SL37, SN1000) or (UA1254L, SL37, SN1000)	
R12	Blue G2	1meg	63-5088	TT-69 or (F1-1meg, SNK10)	B47-1meg-S	B11-137, TM4 or (BU11, CF17, S86)	PTA1254L or (RU1254L, SL37, SN1000) or (UA1254L, SL37, SN1000)	
R13	Green G2	1meg	63-5087	TT-69 or (F1-1meg, SNK10)	B47-1meg-S	B11-137, TM4 or (BU11, CF17, S86)	PTA1254L or (RU1254L, SL37, SN1000) or (UA1254L, SL37, SN1000)	
R14	Blue Gain	10K	63-5096	TT-14 or (F1-10K, SNK10)	B47-10K-S	B11-116, TM4 or (BU11, CF9, S86)	TA14L or (RU14L, SL37, SN1000) or (UA14L, SL3500)	
R15	Green Gain	10K	63-5097	TT-14 or (F1-10K, SNK10)	B47-10K-S	B11-116, TM4 or (BU11, CF9, S86)	TA14L or (RU14L, SL37, SN1000) or (UA14L, SL3500)	
R16	AGC	10K	63-5192	TT-14 or (F1-10K, SNK10)	B47-10K-S	B11-116, TM4 or (BU11, CF9, S86)	TA14L or (RU14L, SL37, SN1000) or (UA14L, SL3500)	
R17	Color Killer	5000Ω	63-6165	TT-10 or (F1-5000, SNK10)	B47-5000-S	B11-114, TM4 or (BU11, CF8, S86)	PTA53L or (RU53L, SL37, SN1000) or (UA53L, SL37, SN1000)	
R18	CRT Bias	1meg	63-3249	TT-69 or (F1-1meg, SNK10)	B47-1meg-S	B11-137, TM4 or (BU11, CF17, S86)	TA16L or (RU16L, SL37, SN1000) or (UA16L, SL3500)	
R19	HV Adjust	1meg	63-3249	TT-69 or (F1-1meg, SNK10)	B47-1meg-S	B11-137, TM4 or (BU11, CF17, S86)	TA16L or (RU16L, SL37, SN1000) or (UA16L, SL3500)	
R20	Focus	10meg	63-5055	V-600 ⑧ or (WN-751 ⑧)	U39-650 ⑧	112-650 ⑧ or (W11-105 ⑧, SK5) or (BU1, WF2 ⑧, S86)	MR800SF or (VW750 ⑧) or (R750L ⑧)	
R21	Buzz	750Ω 2W	63-3284					
R22	R & G Horiz. Lines (Top)	120Ω 2W	63-5175	V-120 ⑨	U39-125 ⑨	110-100, BBK-1 ⑨ or (WPK100) or (VW100)	MR100T or (VW100)	
R23	R & G Horiz. Lines (Bottom)	120Ω 2W	63-5175	V-120 ⑨	U39-125 ⑨	110-100, BBK-1 ⑨ or (WPK100) or (VW100)	MR100T or (VW100)	
R24	R & G Horiz. Lines (Left Side)	60Ω 2W	63-5176	V-60 ⑩	U39-75 ⑩	110-60, BBK-1 ⑩ or (W11-060, SK4) or (BU1, WF18, S86) *	MR50T or (VW60)	
R25	R & G Vert. Lines (Top)	120Ω 2W	63-5175	V-120 ⑨	U39-125 ⑨	110-100, BBK-1 ⑨ or (WPK100) or (VW100)	MR100T or (VW100)	
R26	R & G Vert. Lines (Bottom)	60Ω 2W	63-5176	V-60 ⑩	U39-75 ⑩	110-60, BBK-1 ⑩ or (W11-060, SK4) or (BU1, WF18, S86) *	MR50T or (VW60)	
R27	R & G Vert. Lines (Left Side)	70Ω	63-5178	V-100	U39-75	112-100 or (W11-084, SK5) or (BU1, WF19, S86) *	MR75F or (VW100)	
R28	Blue Horiz. Lines (Top)	60Ω 2W	63-5176	V-60 ⑩	U39-75 ⑩	110-60, BBK-1 ⑩ or (W11-060, SK4) or (BU1, WF18, S86) *	MR50T or (VW60)	



CHASSIS-TOP VIEW

ZENITH
CHASSIS 25MC30/33

FOLDER 4



CABINET-REAR VIEW

DISASSEMBLY INSTRUCTIONS

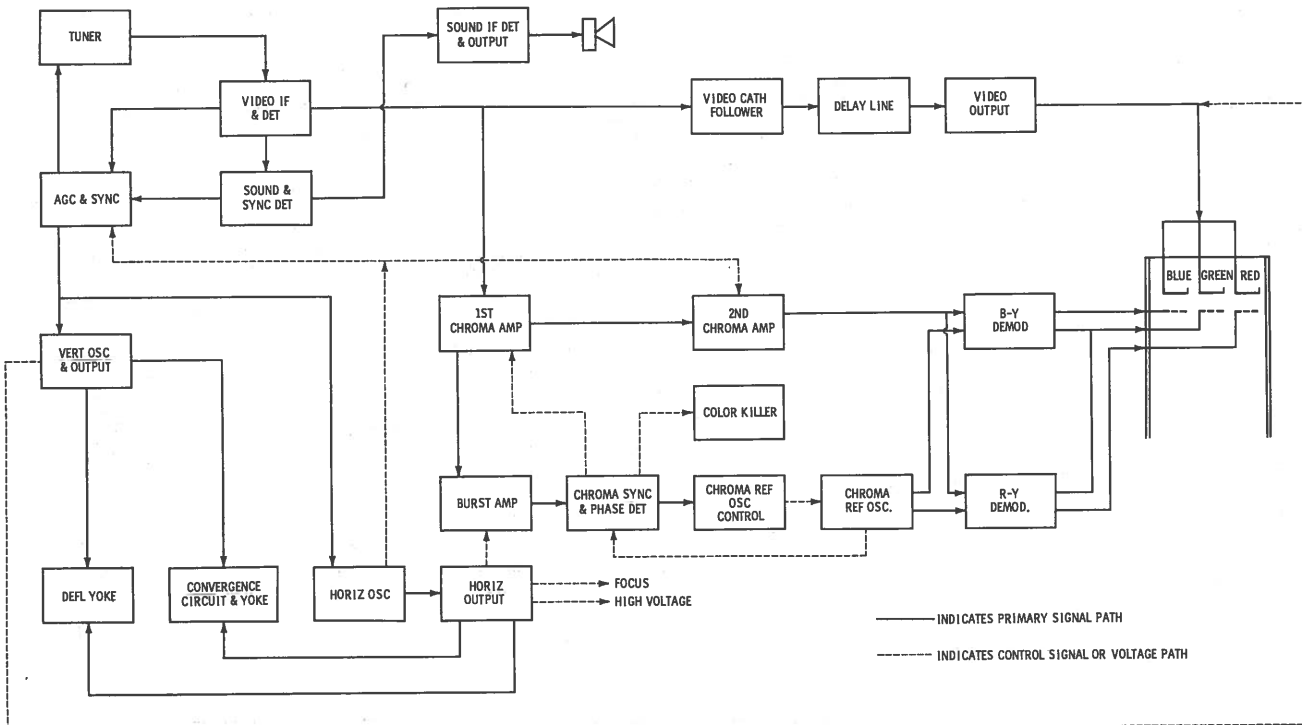
CHASSIS REMOVAL

1. Remove rear cover and remove all control knobs from front of cabinet.
2. Remove 2 screws from the operating control panel, located on front of cabinet.
3. Disconnect convergence board plug from chassis, yoke wires, remote unit power plug from chassis, high voltage anode lead, B+ lead to UHF tuner, and speaker wires from speaker.
4. Remove 4 chassis screws from bottom of cabinet.
5. Remove screw from tuner grounding straps in upper left corner of picture tube.
6. Remove 3 screws from the rear of tuner bracket assembly, slide tuner bracket to where tuner comes off mounting.
7. Remove the 2 screws from the remote channel selector switch.
8. Remove the 2 screws from volume control and the 2 screws from on-off switch.

9. Disconnect sound mute wires from audio output transformer.
10. Disconnect 2 wires from the automatic degaussing ring on chassis.
11. Disconnect remote motor power plug from the remote amplifier chassis and remove chassis.

PICTURE TUBE REMOVAL

1. Follow "Chassis Removal" instructions and remove components from picture tube neck.
2. Remove amplifier chassis and convergence board.
3. Lay cabinet face down on a soft protective surface and remove picture tube grounding spring.
4. Remove 4 mounting springs from automatic degaussing coil. Remove degausser.
5. Remove the screws from the corner mounting brackets and remove picture tube.



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

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOR PART No.	MALLORY PART No.	SPRAGUE PART No.
C6	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47
C7	.05 25V		TTD-05	DA-503	H5		TA150	TG-550
C8	.001 100V 10%		ADM-15-101	CPR-1000J	CD19F102K	DM-15-102K		MS-211
C9	.05 25V		TTD-05	DA-503	H5		TA150	TG-550
C10	.05 25V		TTD-05	DA-503	H5		TA150	TG-550
C11	.05 25V		TTD-05	DA-503	H5		TA150	TG-550
C12	.05 100V		TTD-05				TA150	TH-550
C13	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10
C14	820 100V 5%		ADM-19-821	CPR-820J	CD19F881J	DM-15-681J		MS-382
C15	820 100V 5%		ADM-19-821	CPR-820J	CD19F881J	DM-15-681J		MS-382
C16	820 100V 5%		ADM-19-821	CPR-820J	CD19F881J	DM-15-681J		MS-382
C17	820 100V 5%		ADM-19-821	CPR-820J	CD19F881J	DM-15-681J		MS-382
C18	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210	5HK-D10
C19	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			ZENITH PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Sensitivity	140Ω	63-5171	V-100①	U39-100①	112-100①	MR100F

① Connect a 100Ω, 2 Watt resistor in series with the terminal.

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
R19	100Ω 4W	PW5-100	SW-SQ-100	#63-3210					

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.	
L1	39.5KC IF	S-54580					
L2	37.75KC Output	S-54575					
L3	38.75KC Output	S-54576					
L4	40.25KC Output	S-54577					
L5	41.25KC Output	S-54578					

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 @ .025A	23VAC @ .080AIC		95-2151					

MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	NOTES
M1	Switch	85-645	Manual-Automatic
M2	Relay	195-11	Tune Higher
M3	Relay	195-11	Tune Lower
M4	Relay	195-10	Pilot Relay
M5	Relay	195-10	Pilot Relay
M6	Relay Assembly	S-60514	Sound Bi-Stable (Mute)
M7	Relay Assembly	S-60518	Step Volume
M8	Transducer	S-63324	Includes Cable

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Power Cord	Use BELDEN No. 17106 (Plastic) or 17126 (Rubber) - 6 Ft. 17109 (Plastic) or 17129 (Rubber) - 9 Ft.
Power Cord (Interlock Type)	Use BELDEN No. 8874 (Rubber) or 8895 (Plastic)

SET 757 FOLDER 4-A

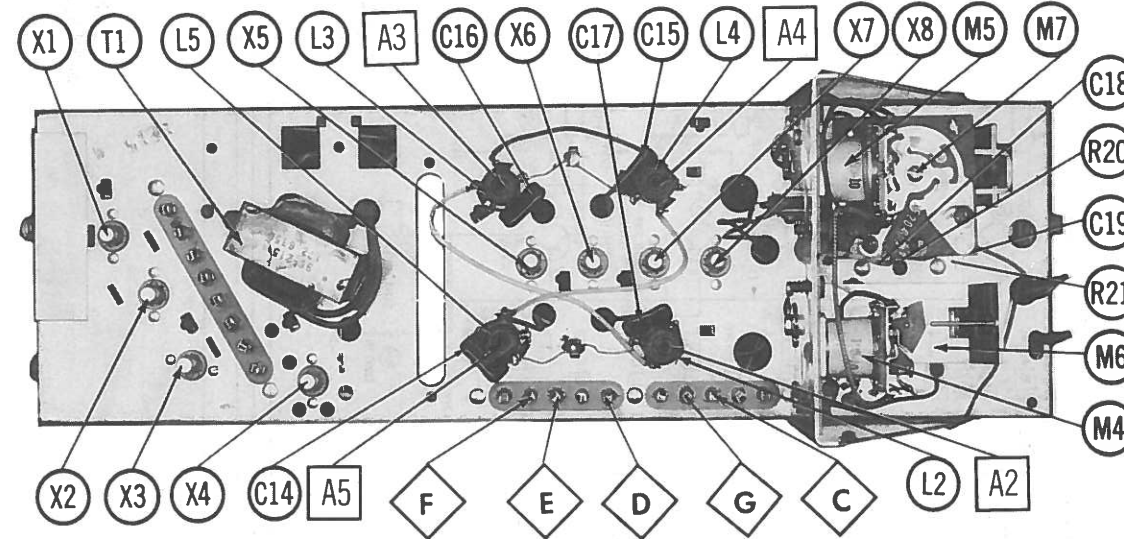
PHOTOFACT[®] Folder

ZENITH REMOTE CHASSIS
S-63874/-63954/-67954/-67964

IMPORTANT FILING NOTICE

This PHOTOFACT Folder covers equipment used with the TV chassis covered in PHOTOFACT SET 757 FOLDER 4. File this Folder with the TV Folder in the yellow filing jacket provided.

ZENITH REMOTE CHASSIS
S-63874/-63954/-67954/-67964



TRADE NAME	Zenith Chassis S-63874/-63954/-67954/-67964
SUPPLIER	For current address, see Master Index.
TYPE SET	Remote Control Receiver
TRANSISTORS	Eight
POWER SUPPLY	110-120 Volts AC, 60 Cycles
RATING	28 Watts, .025 Amps. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS

REMOTE RECEIVER ALIGNMENT

Suggested Alignment Tools: A1 thru A5 ... GENERAL CEMENT #8606, 8606L, 8669 ... WALSCO #2543, 2544, 2588						
	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	High side to point Δ , low side to ground.	39.5KC		DC Probe to point Δ , low side to point Δ .	A1	Adjust for maximum.
2.	"	37.75KC		DC Probe to point Δ , low side to point Δ .	A2	Adjust for MINIMUM.
3.	"	38.75KC		DC Probe to point Δ , low side to point Δ .	A3	"
4.	"	40.25KC		DC Probe to point Δ , low side to point Δ .	A4	"
5.	"	41.25KC		DC Probe to point Δ , low side to point Δ .	A5	"

The Sensitivity Control, R2, should be adjusted so that transmitter will operate remote receiver at the desired distance.

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. MB901 NB281

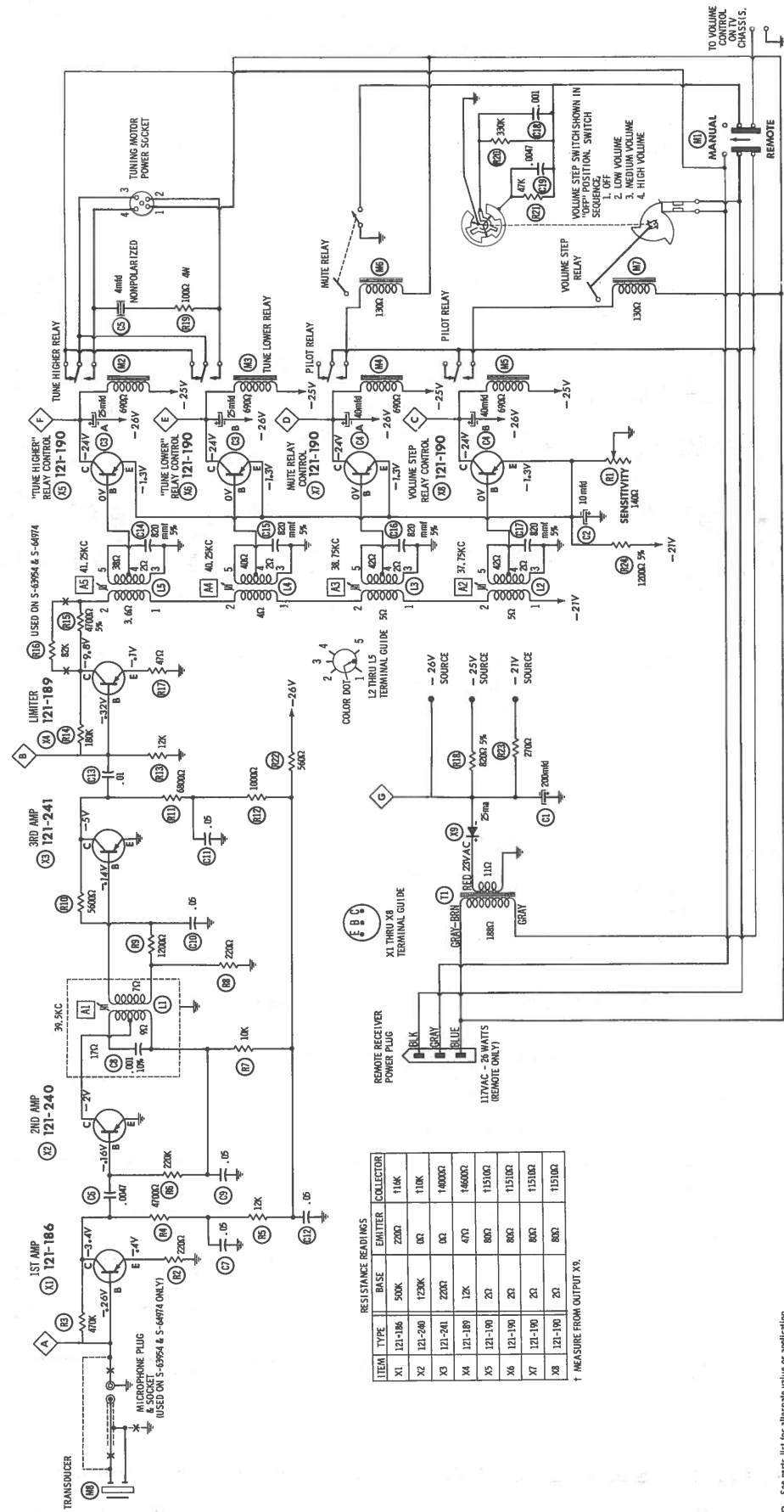
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DATE 6-65

SET 757 FOLDER 4-A

ZENITH REMOTE CHASSIS
S-63874/-63954/-67954/-67964

SET 757 FOLDER 4-A



RESISTANCE READINGS

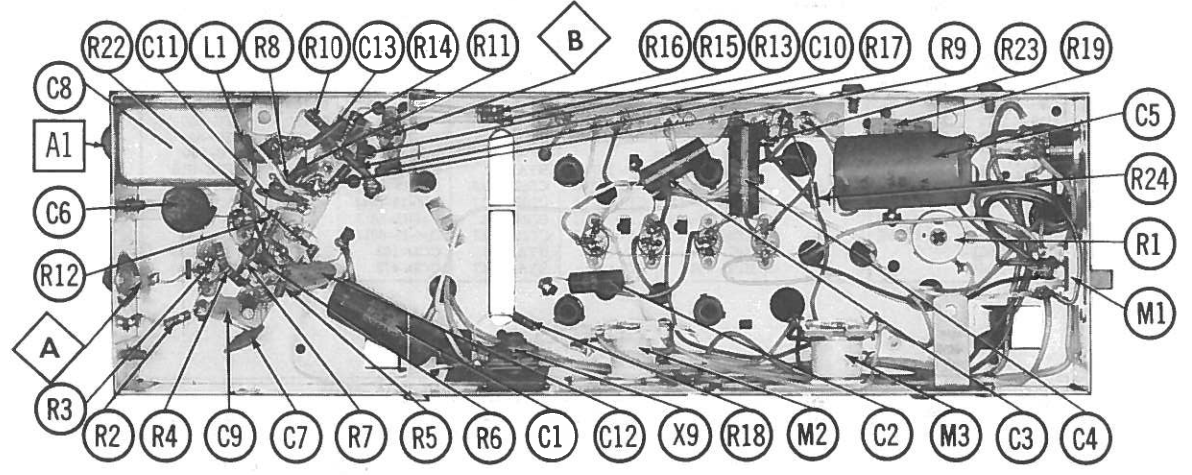
ITEM	TYPE	BASE	EMITTER	COLLECTOR
X1	121-186	500K	2200	110K
X2	121-240	1200K	00	110K
X3	121-241	2200	00	140000
X4	121-189	12K	470	140000
X5	121-190	20	800	115100
X6	121-190	20	800	115100
X7	121-190	20	800	115100
X8	121-190	20	800	115100

↑ MEASURE FROM OUTPUT X8

- See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All component values are given in ohms, kilohms, or megohms.
- 3. All component values are given in picofarads, nanofarads, or microfarads.
- 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.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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ZENITH REMOTE CHASSIS
S-63874/-63954/-67954/-67964



PARTS LIST AND DESCRIPTION

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TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	121-186	1st Amplifier	DS-25	GE-1	2N218	PNP
X2	121-240	2nd Amplifier	DS-25	GE-1	2N218	PNP
X3	121-241	3rd Amplifier	DS-25	GE-1	2N218	PNP
X4	121-189	Limiter	DS-25	GE-1	2N218	PNP
X5	121-190	Tune Higher Relay Control	DS-26	GE-2	2N218	PNP
X6	121-190	Tune Lower Relay Control	DS-26	GE-2	2N218	PNP
X7	121-190	Mute Relay Control	DS-26	GE-2	2N218	PNP
X8	121-190	Volume Stop Relay Control	DS-26	GE-2	2N218	PNP

POWER RECTIFIERS

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS		
			MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X9	.025A	212-35	A50 or D50	2N2859 or 1N3754	Model 62AP or 10H

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	ZENITH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	200	35	22-3721	PRS1380	BR250-50	QT1-31	TD-250-50	TC50025	TVAS-43II, 5*
C2	10	3	22-3705	PTT6	NLW10-3	MT1-5	MLV10-3	TT3X10	TE-1053
C3	25	30	22-3642	PRS2175	BBD8315	QT2-9	TDLD-4	TCD47	TVA-2434
C4	40	30	22-3643	PRS2195	BBD4415	QT2-9	TDLD-7	TCD48	TVA-2445
C5	4	200NP	22-2893	PRS7750		NPQT-2		TCN2550	TVANS-1436*

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

ZENITH REMOTE CHASSIS
S-63874/-63954/-67954/-67964

FOLDER 4-A