

MODEL G3360W

ZENITH CHASSIS  
17G28Q, S-51864

TRADE NAME	ZENITH	Models	TV Chassis	Remote Control Receiver
		G3360W, Y; G3368M, R; G3375L; G3385H .....	17G28Q .....	S-51864
MANUFACTURER	Zenith Radio Corp., 6001 Dickens Avenue, Chicago 39, Illinois			
TYPE SET	Television Receiver (with Remote Control)			
TUBES	TV: VHF - Seventeen Remote Control Receiver: Eight			
POWER SUPPLY	110-120 Volts AC, 60 Cycle			
RATING	TV: 195 Watts, 1.75 Amp. @ 117 Volts AC (240 watts, 2.2 Amp. While Tuning) Remote Control Receiver: 35 watts, .35 Amp. @ 117 Volts AC			
TUNING RANGE	TV & Remote Control Receiver: 230 watts, 2.1 Amp. @ 117 Volts AC (275 watts, 2.5 Amp. While Tuning) Channels 2 thru 13 VHF, Video IF 45.75MC, Sound IF 41.25MC (Inter-carrier)			

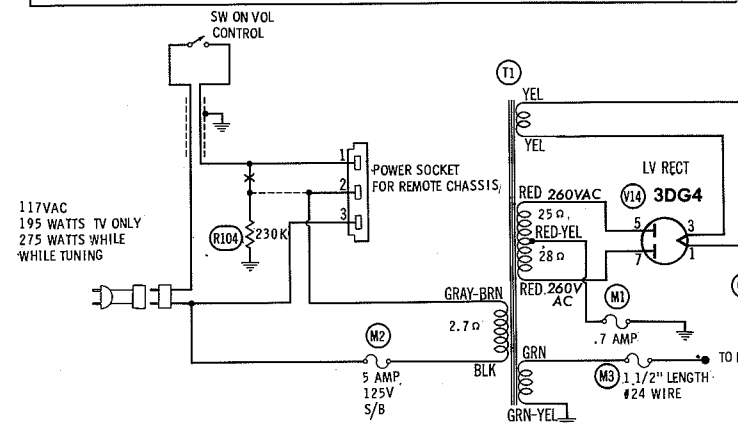
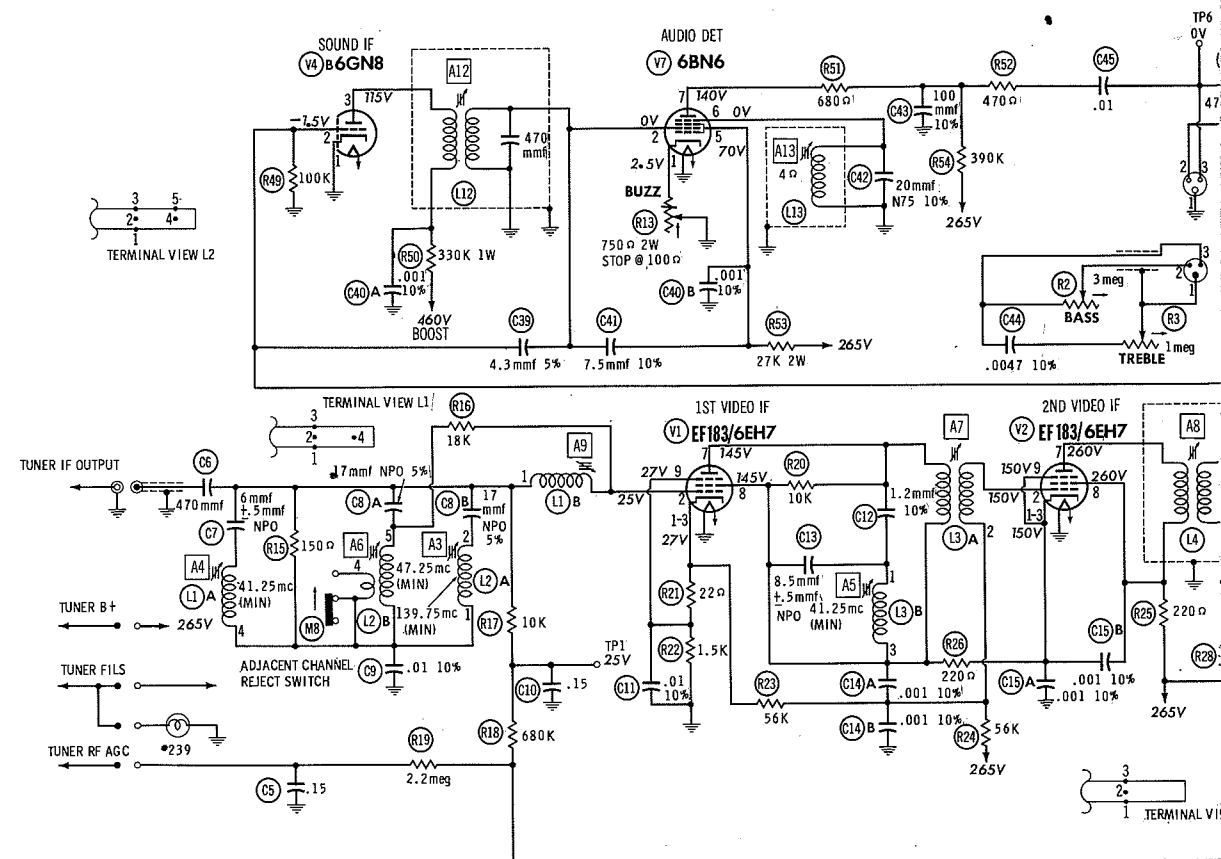
SERVICING IN THE FIELD

<p><b>SAFETY GLASS</b></p> <p>The safety glass is an integral part of the picture tube.</p> <p><b>FUSE</b></p> <p>TV: A 5 Amp. (Line) fuse, a 7/10 Amp. (LV Supply) fuse, and a fuse wire (Fil.) are used for receiver protection. (For fuse location, see "Tube Placement Chart"; for fuse wire location, see M3 in photo, page 7.)</p> <p>Remote Control Receiver: A 3/4 Amp. fuse is used for receiver protection. (See photo "Remote Control Receiver - Top View" for location.)</p> <p><b>TUNER OSCILLATOR ADJUSTMENT</b></p> <p>The Oscillator slug is adjusted by turning Fine Tuning.</p> <p><b>AGC</b></p> <p>The AGC may be varied by means of an AGC Control. (For location, see "Tube Placement Chart".)</p> <p><b>FOCUS</b></p> <p>The focus may be varied by means of a Focus Control. (See "Tube Placement Chart" for location.)</p> <p><b>SYNC STABILITY</b></p> <p>Sync stability may be varied by means of a Fringe Lock.</p>	<p>(For location, see "Tube Placement Chart".)</p> <p><b>HORIZONTAL OSCILLATOR FIELD ADJUSTMENT</b></p> <p>The Horizontal Frequency slug is used for the Horizontal Hold. (For location, see "Tube Placement Chart".)</p> <p><b>WIDTH</b></p> <p>The width may be varied by adjusting a metallic sleeve, located between the yoke and the picture tube neck, in or out of the yoke.</p> <p><b>BUZZ ADJUSTMENT</b></p> <p>To eliminate intercarrier buzz, adjust the Buzz Control for MINIMUM buzz and maximum sound. (For location, see "Tube Placement Chart".)</p> <p><b>CENTERING</b></p> <p>Centering is accomplished by 2 magnetic rings, located behind the yoke, on the neck of the picture tube.</p> <p><b>PINCUSHION CORRECTION</b></p> <p>Reduce the picture size so that the sides of the raster are visible. Position the magnets so that all sides are straight.</p>
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HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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MEASURED WITH DYNAMIC-NORMAL SWITCH SHOWN IN "DYNAMIC" POSITION

DENOTES CHASSIS GROUND

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

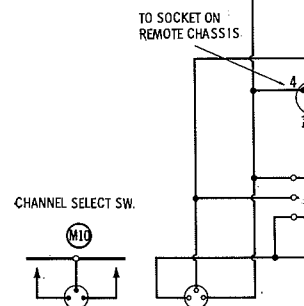
DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

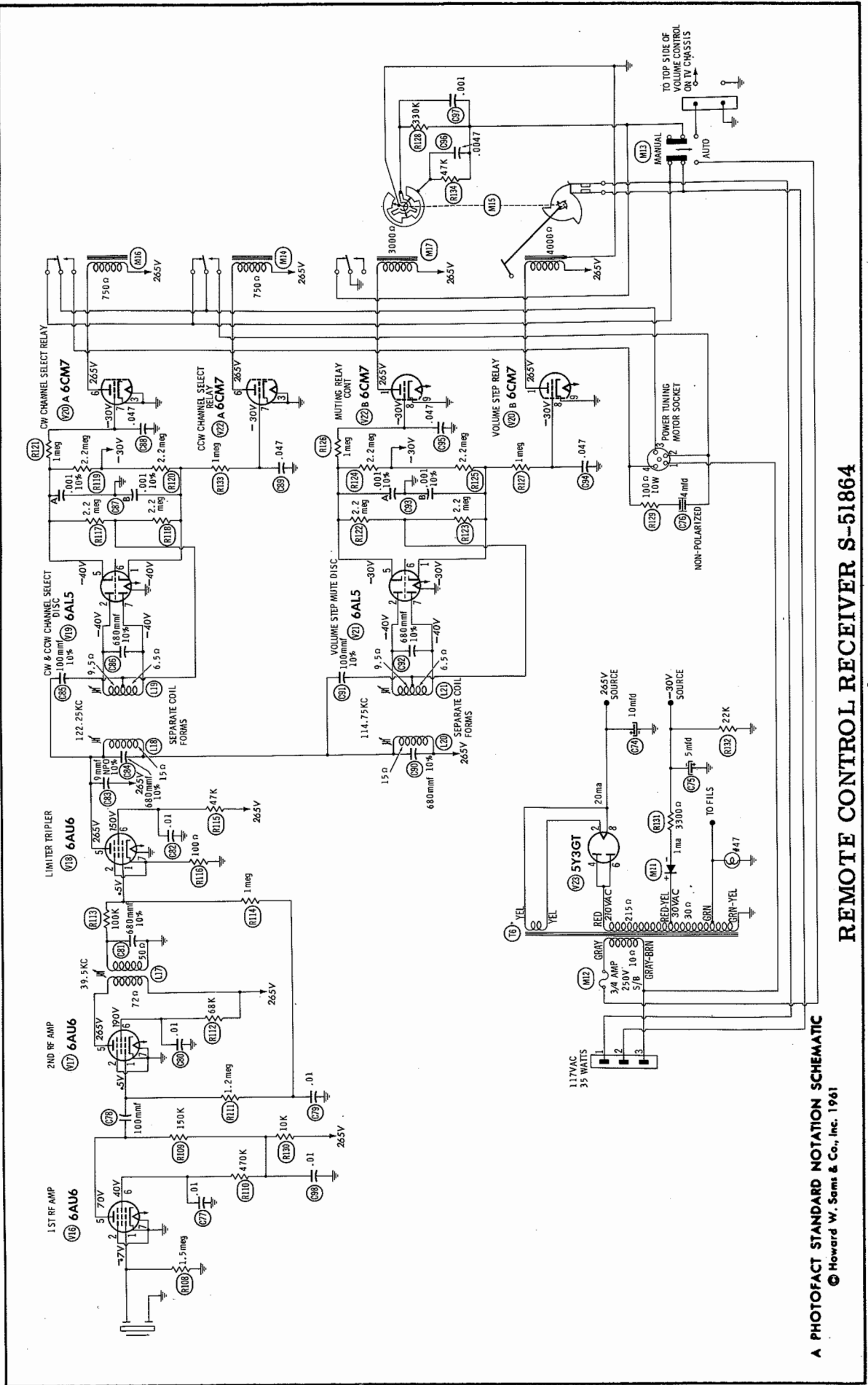
WAVEFORMS TAKEN WITH CONTROLS SET TO PRODUCE 50 VOLTS PEAK-TO-PEAK SIGNAL AT PICTURE TUBE.

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltage measured at 1000 ohms per volt.
2. Pin numbers are counted in clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line Voltage maintained at 117 volts for voltage readings.
5. All controls set for normal operation; no signal applied.

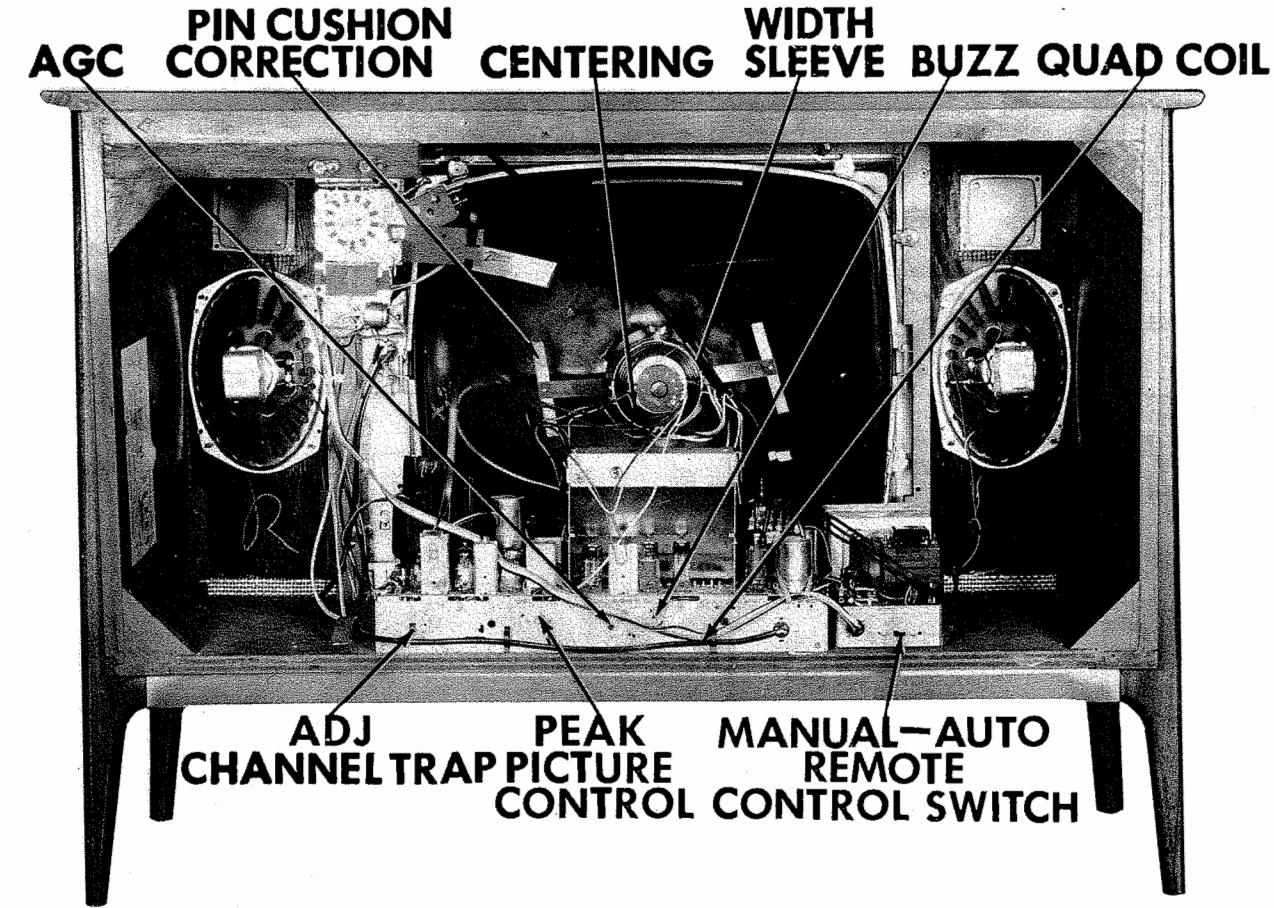
ADDITIONAL SCHEMATICS	PAGE
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A PHOTOFAC STANDARD NOTATION SCHEMATIC  
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**REMOTE CONTROL RECEIVER S-51864**  
**ZENITH CHASSIS**  
**17G28Q, S-51864**  
**FOLDER 2**  
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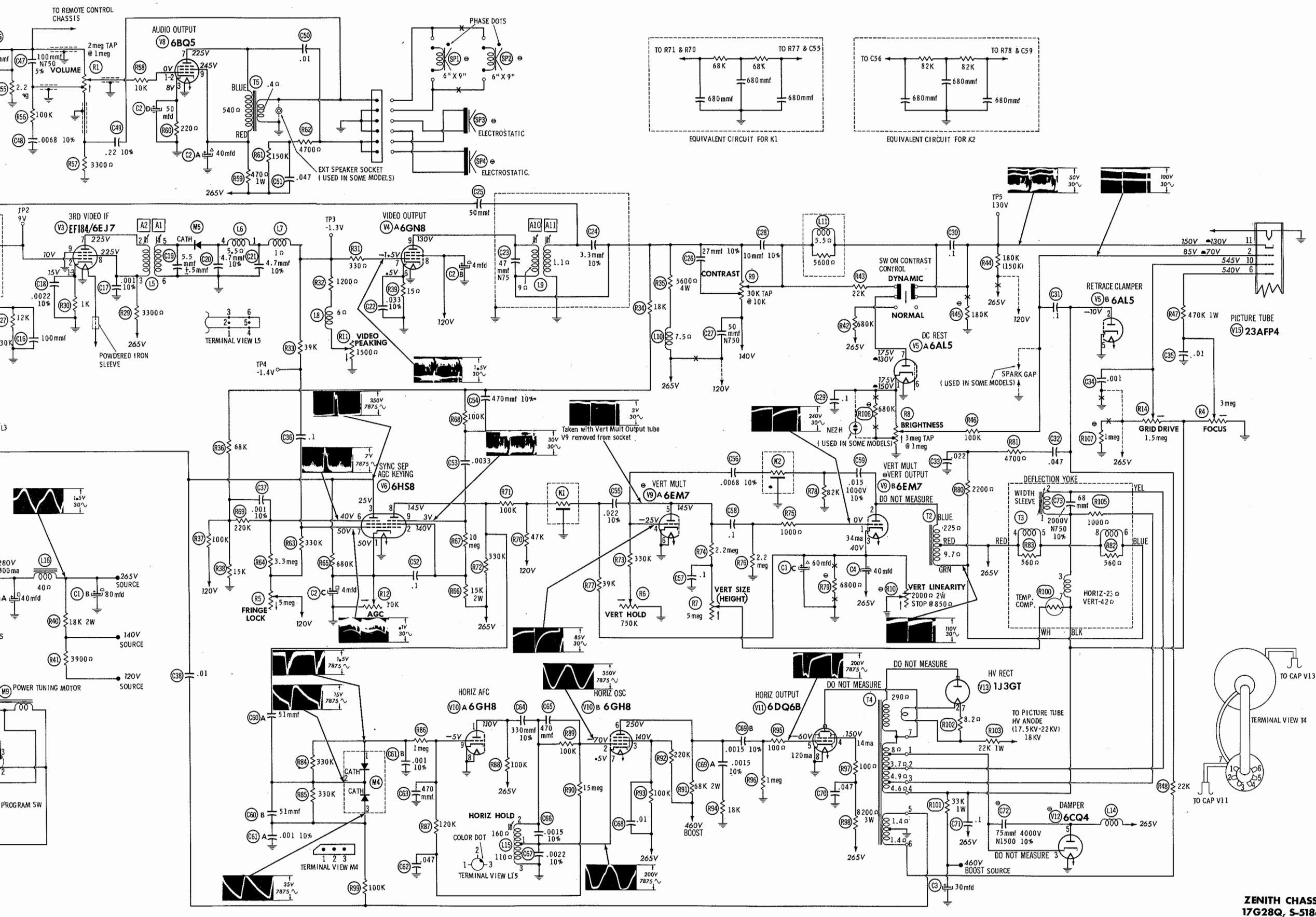
**CABINET-REAR VIEW**

**HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS**

The Horizontal Hold is equipped with a stop which limits rotation to approximately 270° with the knob on 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 the knob with its pointer centered between the stops.

**DISASSEMBLY INSTRUCTIONS**

- | CHASSIS AND PICTURE TUBE ASSEMBLY REMOVAL   |   |
|---|---|
| 1. Remove Channel Select knob at rear.      | 8. Disconnect speaker leads.  |
| 2. Remove 9 wood screws holding rear cover. | 9. Disconnect all VHF Tuner leads.                                    |
| 3. Disconnect antenna leads.                | 10. Remove 4 chassis bolts.   |
| 4. Remove rear cover.                       | 11. Remove 6 screws holding front mask.                               |
| 5. Disconnect muting wires.                 | 12. Remove speaker wires from under chassis.                          |
| 6. Remove plug from remote control chassis. | 13. Remove chassis and picture tube assembly out front.               |
| 7. Remove Channel Selector plug.            | 14. To remove VHF Tuner assembly, remove 2 screws at rear of cabinet. |



**ZENITH CHASSIS**  
**17G28Q, S-51864**



**TOP VIEW**

**Components and Tubes:**

- V15 23AF4** PICTURE TUBE YOKE
- TUNER #175-306**
  - V201 6FY5** RF AMPLIFIER
  - V202 6EA8** MIXER - OSC
- V14 3DG4** LV RECTIFIER
- V9 6EM7 (6EA7)** VERT MULT
- V5 6AL5** DC RESTORER - RETRACE CLAMPER
- V13 1J3GT** HV RECTIFIER
- V10 6GH8** HORIZ AFC - HORIZ OSC
- V12 6CQ4 (6DE4)** DAMPER
- V11 6DQ8 B** HORIZ OUTPUT
- V4 6GN8** SYNC
- V6 6HS8** VIDEO OUTPUT - SOUND IF AMP
- V7 6BN6** AUDIO DETECTOR
- V8 6BQ5** AUDIO OUTPUT
- V1 6EH7** 1ST VIDEO IF AMP
- V2 6EH7** 2ND VIDEO IF AMP
- V3 6EJ7** 3RD VIDEO IF AMP

**Controls and Switches:**

- PUSH-PULL ON-OFF VOLUME**
- TREBLE**
- BASS**
- VERT LIN**
- BRIGHTNESS**
- VERT SIZE (HEIGHT)**
- VERT HOLD**
- HORIZ HOLD**
- FRINGE LOCK (SYNC STABILITY)**
- FOCUS**
- CONTRAST**
- AGC KEYING - SYNC SEP**
- BUZZ CONTROL**

**Other Labels:**

- INDICATES BLANK PIN OR LOCATING KEY**
- ADJ CHANNEL REJECT SW**
- PEAK PICTURE CONTROL (VIDEO PEAKING)**
- QUAD COIL**
- DIODE (HORIZ PHASE DET)**
- DIODE (VIDEO DET)**
- FUSE 5 AMP (LINE)**
- FUSE N 7/10 (LV POWER)**

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.

<p><b>POWER SUPPLY FAILURE</b>            No raster, no sound Fuse (Line), Fuse (LV Power), V14, Fuse Wire (Fil.)</p>	<p><b>LOSS OF PICTURE OR SOUND</b>            No pic, no sound, has raster V1, V2, V3, Diode (Video Det.), V4            No pic, no sound, has snow V201, V202, V1            No pic, has sound, has raster V4, V15            Has pic, no sound V4, V7, V8            Overloaded picture V8</p>
<p><b>SWEEP FAILURE</b>            No raster, has sound V10, V11, V12, V13, V15            No vertical deflection V9            Poor vert. linearity or foldover V9            Poor horiz. linearity or foldover V10, V11, V12            Narrow picture V10, V11, V12, V14            Vert. off freq. V9            Horiz. off freq. Diode (Horiz. Phase Det.), V10</p>	<p><b>SYNC FAILURE</b>            No vert. sync V6            No horiz. sync V6            No vert. or horiz. sync V6</p>



TV ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS

Allow a 20 minute warm-up period for the receiver and test equipment.  
Suggested Alignment Tools: GENERAL CEMENT #8282, 8606, 8606L, 9295, 9440  
WALSCO #2526, 2543, 2544, 2545

VIDEO IF ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. The generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	High side thru 470mmf to TP-2. Low side to chassis.	44MC (10MC Swp.)	45.75MC	Between any two channels	Vert. Amp. thru 10K to TP-3. Low side to chassis.	A1, A2	Set sweep generator output to produce 3 volts peak to peak on scope. Adjust A1 and A2 alternately for maximum gain and symmetry with the 45.75MC marker positioned as shown in Fig. 1. If the desired response cannot be obtained, check to see that the cores are entering their respective windings from opposite ends of the coils.
2.	High side to ungrounded tube shield over Mixer-Osc. Low side to chassis	"	39.75MC 41.25MC 47.25MC	"	"	A3, A4, A5, A6	Connect a clip lead from TP-4 to chassis. Connect a clip lead from TP-1 to chassis. Use high scope gain and adjust A3 thru A6 for MINIMUM marker amplitudes as in Fig. 2. A3 controls 39.75MC marker, A4 and A5 control 41.25MC marker and A6 controls 47.25MC marker.
3.	"	"	41.25MC 42.75MC 45.0MC 45.75MC	"	"	A7, A8, A9 and Mixer Plate Coil	Adjust for maximum gain and symmetry of response similar to Fig. 3 with markers as shown. A7 affects low frequency side of curve and A8 affects high side. Remove the clip leads.

SOUND IF ALIGNMENT

Connect an adjustable attenuator between the antenna and the receiver antenna terminals. Tune in a TV signal and adjust the attenuator until the signal is below the limiting level of the Audio Detector as evidenced by a hiss in the sound similar to super-regeneration in the sound. Adjust A10, A11, A12 and A13 for maximum sound and best quality. Adjust the Buzz control for MINIMUM buzz. If the hiss disappears during the alignment, further reduce the signal strength until the hiss returns.

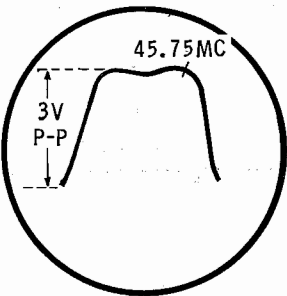


FIG. 1

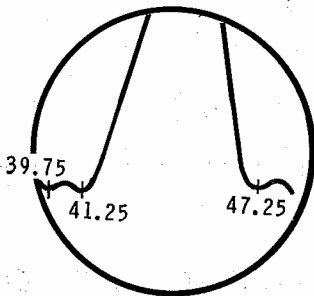


FIG. 2

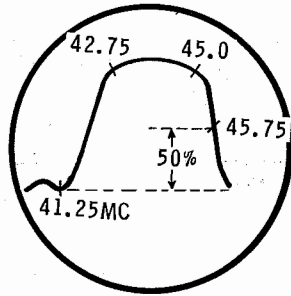


FIG. 3

RESISTANCE MEASUREMENTS

TV

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	EF183 6EH7	NC	1.4meg	1500Ω	FIL	FIL	0Ω	220Ω	220Ω	1500Ω
V2	EF183 6EH7	INF	32K	NC	FIL	FIL	0Ω	260Ω	260Ω	INF
V3	EF184 6EJ7	1000Ω	12K	NC	FIL	FIL	0Ω	3300Ω	3300Ω	0Ω
V4	6GN8	0Ω	100K	360K	FIL	FIL	15Ω	2100Ω	21K	5000Ω
V5	6AL5	1.5meg	22K	FIL	FIL	0Ω	NC	680K 27K		
V6	6HS8	7000Ω	15K	687K	FIL	FIL	210K	600K	100K	10meg
V7	6BN6	380Ω	.3Ω	FIL	FIL	27K	4Ω	390K		
V8	6BQ5	NC	15K	220Ω	FIL	FIL	NC	1000Ω	NC	510Ω
V9	6EM7	2.2meg	265Ω	1200Ω	700K	5meg	0Ω	FIL	FIL	
V10	6GH8	100K	100K	200K	FIL	FIL	100K	110Ω	0Ω	1.6meg
V11	6DQ6B	TP	FIL	NC	8300Ω	1meg	NC	FIL	0Ω	TOP CAP 8Ω
V12	6CQ4	TP	NC	400K	NC	40Ω	NC	FIL	FIL	
V13	1J3GT	PINS 1 THRU 8 HAVE INFINITE RESISTANCE								TOP CAP 298Ω
V14	3DG4	30K	NC	30K	TP	25Ω	NC	28Ω	TP	
V15	23AFP4	FIL	700K	Pin 6 2.5meg	Pin 10 280K	Pin 11 110K	Pin 12 FIL			
V201	6FY5	0Ω	2.9meg	FIL	FIL	12K	0Ω	0Ω		
V202	6EA8	22K	220K	100K	FIL	FIL	40Ω	0Ω	0Ω	10K

ALL MEASUREMENTS MADE WITH DYNAMIC CONTRAST "OFF" UNLESS OTHERWISE DESIGNATED  
† THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.  
• THIS READING WILL VARY. CONTROL SET FOR NORMAL OPERATION.  
• MEASURED WITH DYNAMIC CONTRAST "ON".  
† MEASURED FROM PIN 3 OF V14.  
† MEASURED FROM PIN 3 OF V12.  
NC NO CONNECTION  
TP TIE POINT

REMOTE CONTROL RECEIVER

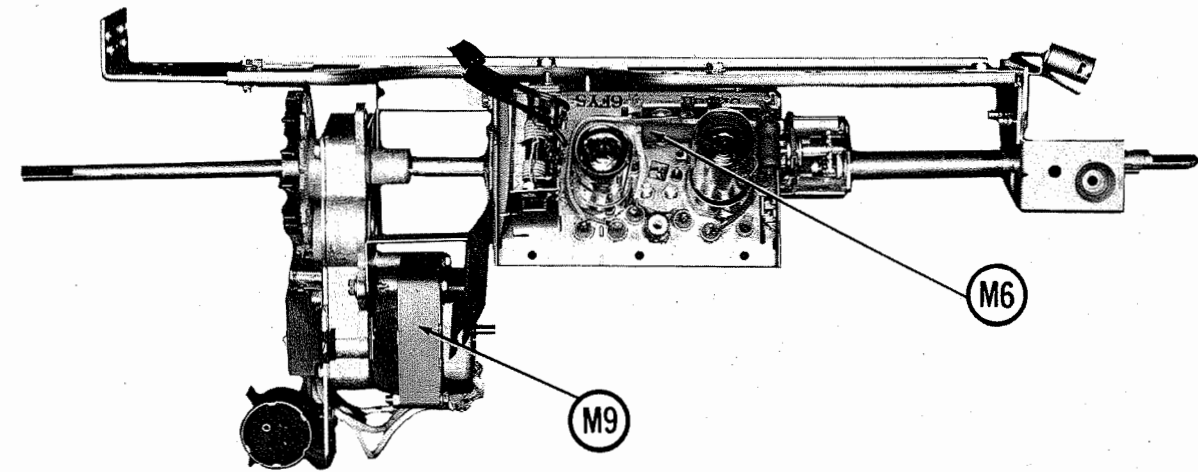
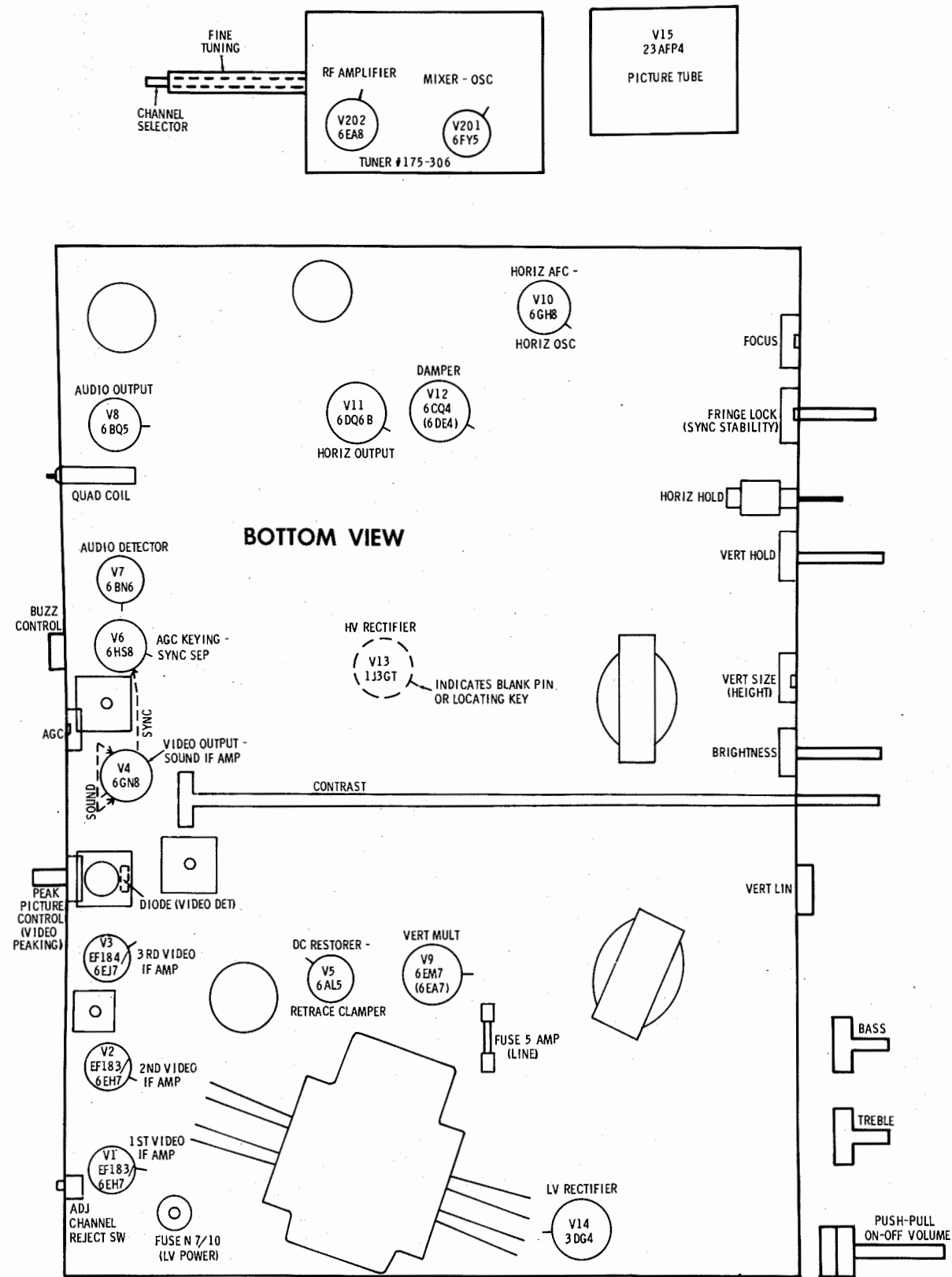
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V16	6AU6	1.5meg	0Ω	FIL	FIL	160K	480K	0Ω		
V17	6AU6	2.3meg	0Ω	FIL	FIL	72Ω	68K	0Ω		
V18	6AU6	100K	100Ω	FIL	FIL	30Ω	47K	100Ω		
V19	6AL5	1.8meg	2.2meg	FIL	FIL	1.8meg	NC	2.2meg		
V20	6CM7	4000Ω	NC	0Ω	FIL	FIL	750Ω	2.8meg	2.8meg	0Ω
V21	6AL5	1.8meg	2.2meg	FIL	FIL	1.8meg	NC	2.2meg		
V22	6CM7	3000Ω	TP	0Ω	FIL	FIL	750Ω	2.8meg	2.8meg	0Ω
V23	5Y3GT	NC	†	TP	245Ω	NC	245Ω	NC	†	

† THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.  
†† MEASURED FROM PIN 8 OF V23.  
NC NO CONNECTION  
TP TIE POINT

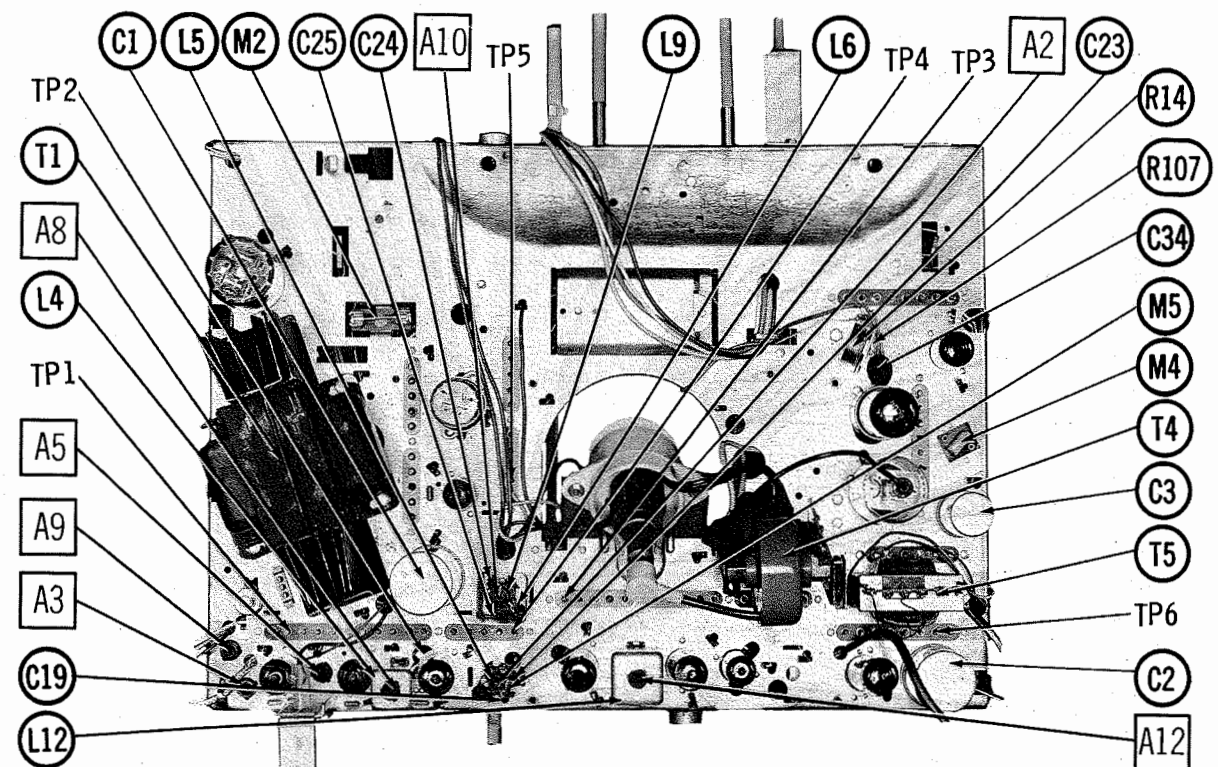
ZENITH CHASSIS  
17G28Q, S-51864

FOLDER 2

# TV TUBE PLACEMENT CHART



VHF TUNER - POWER TUNING ASSEMBLY

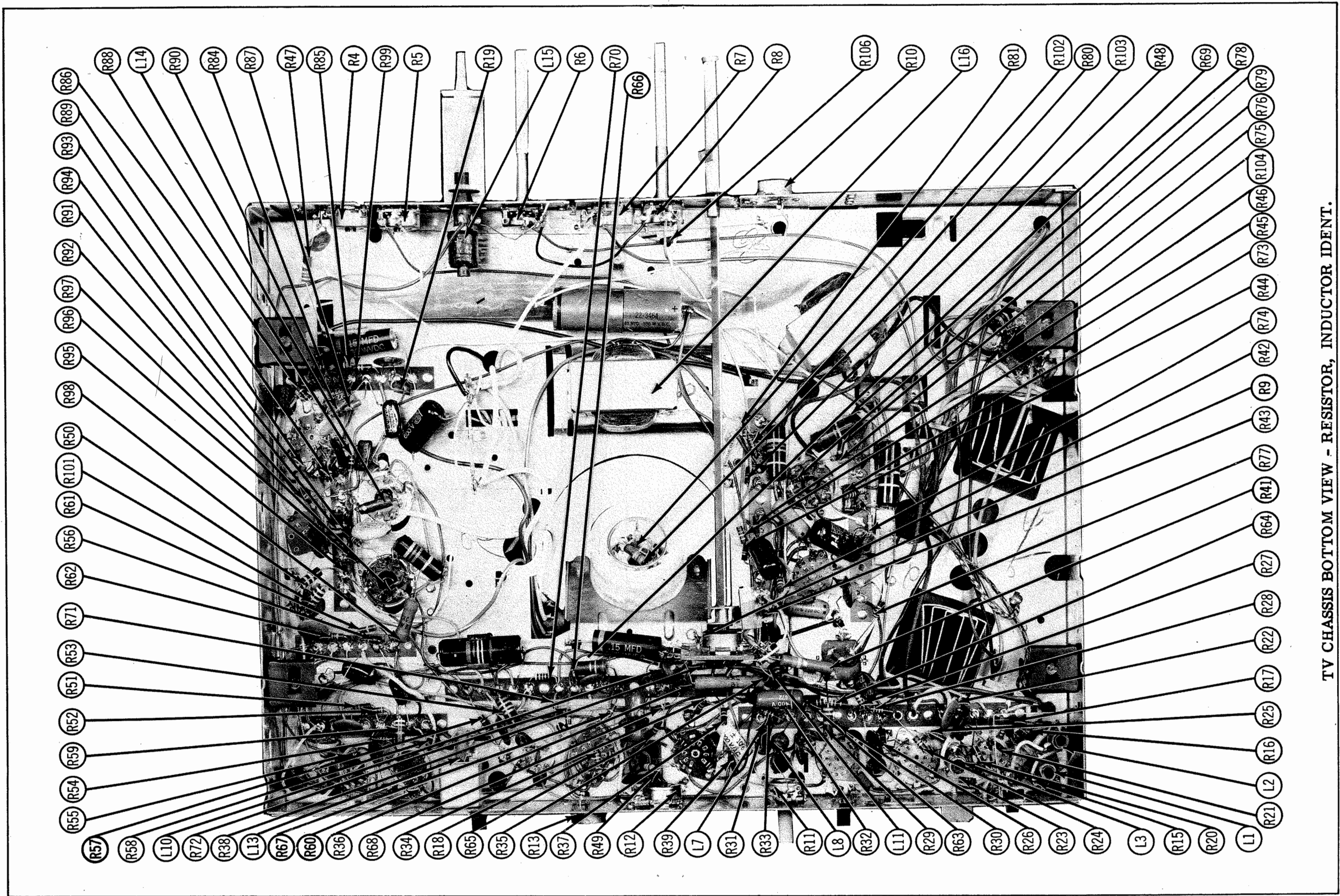


TV CHASSIS - TOP VIEW

SET 549 FOLDER 2

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FOLDER 2



TV CHASSIS BOTTOM VIEW - RESISTOR, INDUCTOR IDENT.

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TUNER PARTS LIST AND DESCRIPTIONS

175-306

TUBES

* GENERAL ELECTRIC *			* RAYTHEON *			* SYLVANIA *		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE			
V201	RF Amp.	6FY5	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	27 N750 5%	#22-3270 #22-3371	EF-001	TCN-27	C10Q27U	* CCF-102	CN7-427	10TCU-Q27
C202	27 N750 5%			TCN-27	C10Q27U		CN7-427	10TCU-Q27
C203	27 N750 5%			TCN-27	C10Q27U		CN7-427	10TCU-Q27
C204	27 N750 5%			TCN-27	C10Q27U		CN7-427	10TCU-Q27
C205	22 5%							
C206	22 N220 5%	#22-3405 #22-3488	EF-001	MFT-1000	C10Q39U	* CCF-102	CT280A	10TCR-Q22
C207	.001							
C208	2.7 5%							10TCC-V27
C209	56							
C210	.6-2.3							
C211	39 N750 5%	#22-3372 #22-3389	EF-001	829-3	C10Q39U	* CCF-102	CT565	10TCU-Q39
C212	.6-2.3			TCN-39			CN7-439	
C213	.001			829-3			CT565	
C214	4 N150 ±.1mmf			MFT-1000			CT280A	
C215	8.2 N150 ±.1mmf							
C216	.001	#22-3372 #22-3389	EF-001	MFT-1000	C10Q39U	* CCF-102	CT280A	10TCP-V82
C217	.001		EF-001	MFT-1000			CT280A	
C218	.001		EF-001	MFT-1000			CT280A	
C219	.001		EF-001	MFT-1000			CT280A	
C219	.001		EF-001	MFT-1000			CT280A	

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

RESISTORS

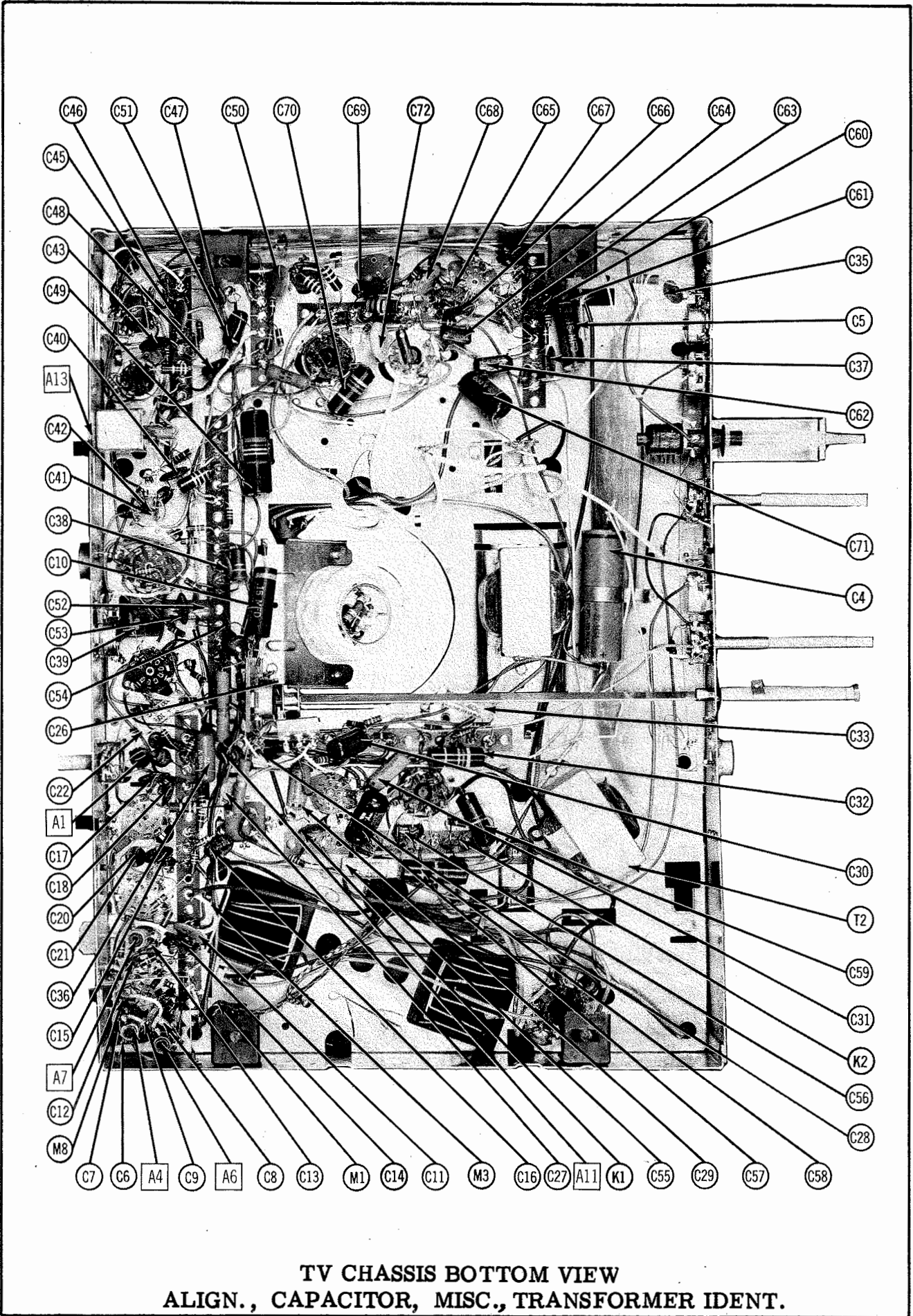
All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.	REMARKS
R201	100K				R205	10K			
R202	1000Ω				R206	22K 2W			
R203	220K				R207	11K 4W	PW4-11K	4G-11K	
R204	100K								

COILS (RF-IF)

ITEM No.	USE	ZENITH PART No.	NOTES
L201	Ant.	S-49189	
L202	RF Choke	20-874	
L203	RF Choke	20-799	
L204	RF Choke	20-798	
L205A	Ant., RF, Mixer & Osc.	S-49202	Channel 2
B	"	S-49203	Channel 3
C	"	S-49204	Channel 4
D	"	S-49205	Channel 5
E	"	S-49206	Channel 6
F	"	S-49207	Channel 7

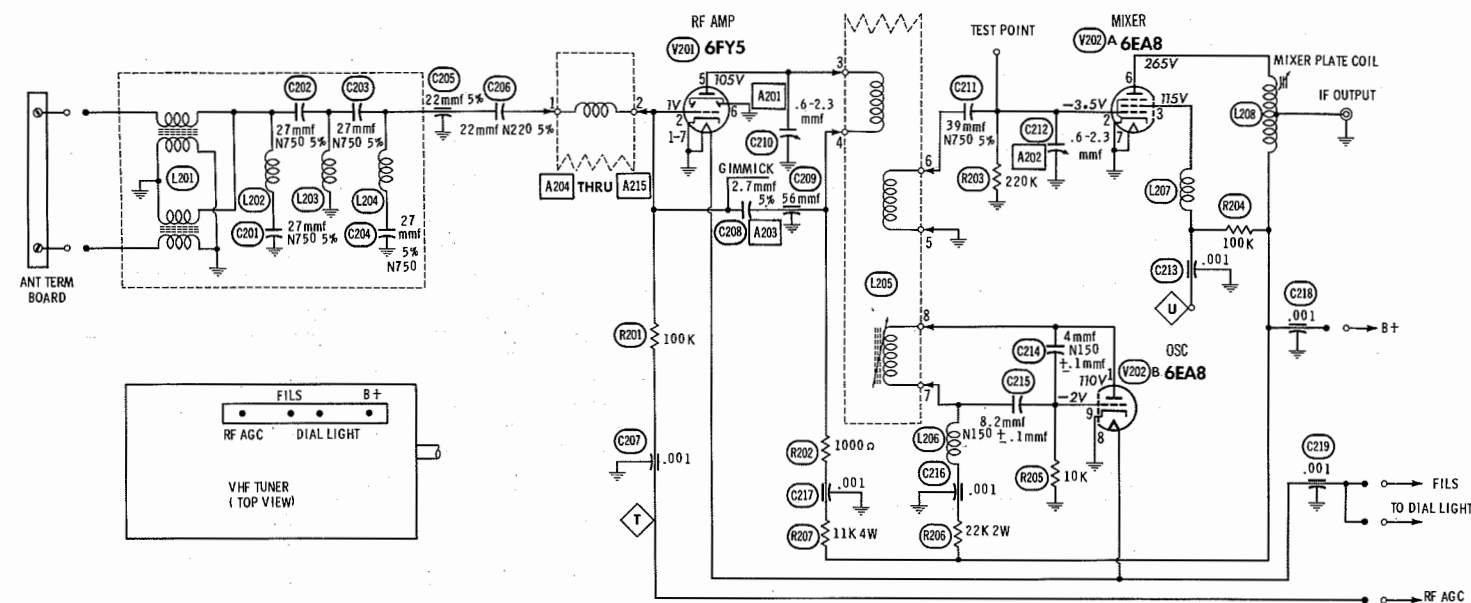
ITEM No.	USE	ZENITH PART No.	NOTES
L205G	Ant., RF, Mixer & Osc.	S-49208	Channel 8
H	"	S-49209	Channel 9
J	"	S-49210	Channel 10
K	"	S-49211	Channel 11
L	"	S-49212	Channel 12
M	"	S-49213	Channel 13
L206	RF Choke	S-49738	
L207	RF Choke	20-797	
L208	Mixer Plate	S-50720	



TV CHASSIS BOTTOM VIEW  
ALIGN., CAPACITOR, MISC., TRANSFORMER IDENT.

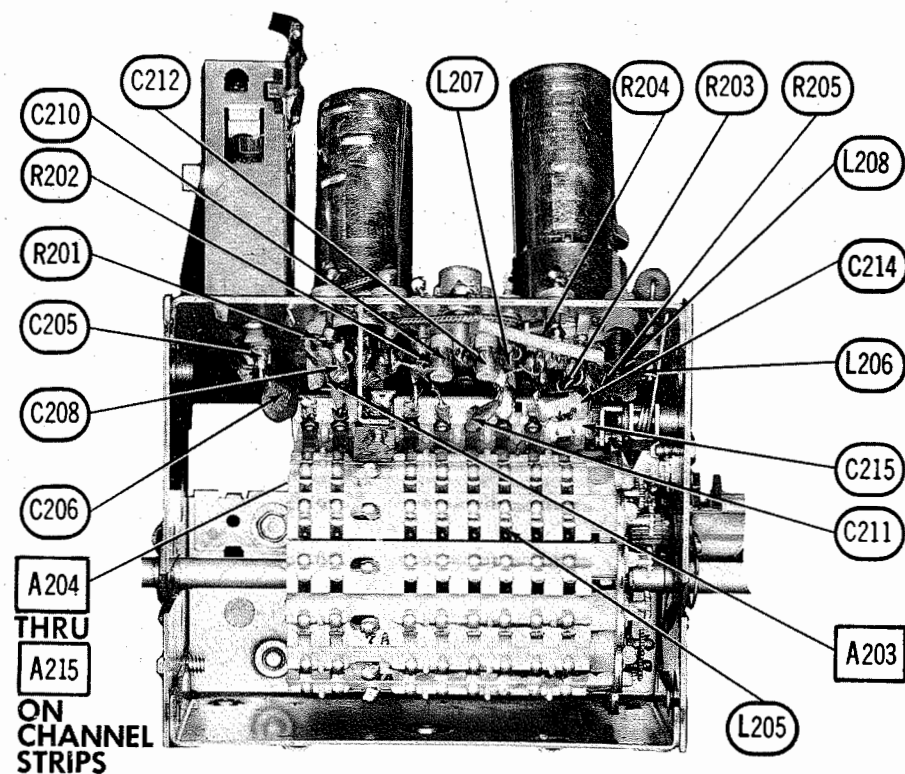
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17G28Q, S-51864

FOLDER 2



A PHOTOFACT STANDARD NOTATION SCHEMATIC  
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VHF TUNER 175-172, 175-306



VHF TUNER 175-306 - LEFT SIDE

## VHF TUNER ALIGNMENT INSTRUCTIONS

### PRE-ALIGNMENT INSTRUCTIONS

The High Voltage lead should be securely taped and kept away from the chassis.  
Allow a 20 minute warm-up period for the receiver and test equipment.  
Suggested Alignment Tools: A201, A202 ..... GENERAL CEMENT #9051  
WALSCO #2527

### RF AND MIXER ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.  
The generator output lead should be terminated with its characteristic impedance, usually 50 ohms.  
Connect the negative lead of a 2.5 volt bias supply to point U. Positive to chassis.  
Use only enough sweep generator output to provide a usable pattern on scope.

SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. Across antenna terminals with 120Ω in each lead.	195MC	193.25MC 197.75MC	10	Vert. Amp. thru 100K to point U. Low side to chassis.	A201, A202	Adjust A201 and A202 for maximum amplitude and symmetry with markers as shown in Fig. 201.
2. "	"	"	"	Vert. Amp. thru 10K across Video Detector load.	A203	Increase bias to minus 20 volts. Without changing the bias, adjust A203 to obtain MINIMUM response on the scope. A203 is adjusted by moving lead of C208.
3. "	213MC	211.25MC 215.75MC	13	"	A204	Adjust for maximum amplitude of response similar to Fig. 201. Adjust by expanding or compressing coil turns.
	207MC	205.25MC 209.75MC	12		A205	
	201MC	199.25MC 203.75MC	11		A206	
	195MC	193.25MC 197.75MC	10		A207	
	189MC	187.25MC 191.75MC	9		A208	
	183MC	181.25MC 185.75MC	8		A209	
	177MC	175.25MC 179.75MC	7		A210	
	85MC	83.25MC 87.75MC	6		A211	
	79MC	77.25MC 81.75MC	5		A212	
	69MC	67.25MC 71.75MC	4		A213	
	63MC	61.25MC 65.75MC	3		A214	
	57MC	55.25MC 59.75MC	2		A215	

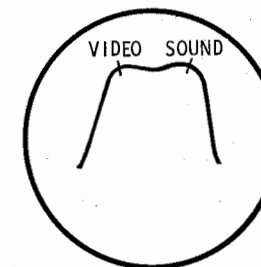
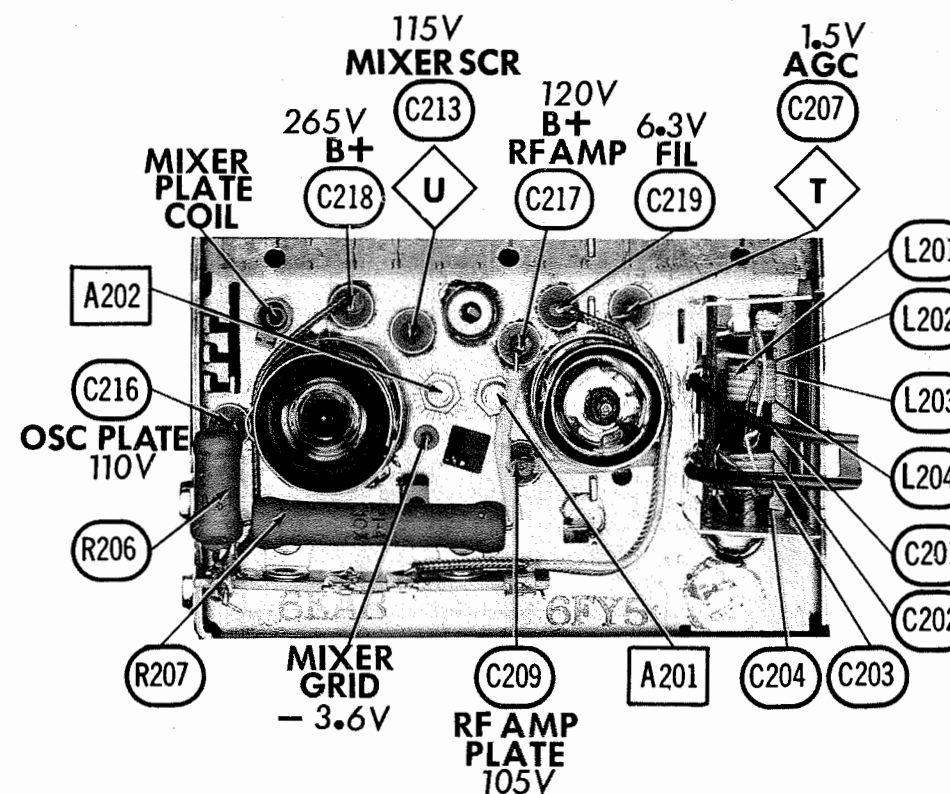


FIG. 201



VHF TUNER 175-306 - TOP VIEW

ZENITH CHASSIS  
17G28Q, S-51864

FOLDER 2

REMOTE CONTROL RECEIVER PARTS LIST (Continued)

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.		
C77	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10		
C78	100		DI-100	DD-101	L10T1	CCD-101	GP310	10TS-T10		
C79	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10		
C80	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10		
C81	680	10%	1469-00068		5R5T68	CM-19B-681K	MCJ249	MS-368		
C82	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10		
C83	9	NPO 10%	NPO-DI 10	DTZ-10	C10V9C	CCTO-100	CNO-410	10TCC-Q10		
C84	680	10%	1469-00068		5R5T68	CM-19B-681K	MCJ249	MS-368		
C85	100	10%	1469-0001	TCZ-100	22R5T1	CM-19B-101K	MCB235	MS-31		
C86	680	10%	1469-00068		5R5T68	CM-19B-681K	MCJ249	MS-368		
C87A	.001	10%	DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10		
B	.001	10%	DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10		
C88	.047	200V	P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47		
C89	.047	200V	P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47		
C90	680	10%	1469-00068		5R5T68	CM-19B-681K	MCJ249	MS-368		
C91	100	10%	1469-0001	TCZ-100	22R5T1	CM-19B-101K	MCB235	MS-31		
C92	680	10%	1469-00068		5R5T68	CM-19B-681K	MCJ249	MS-368		
C93A	.001	10%	DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10		
B	.001	10%	DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10		
C94	.047	200V	P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47		
C95	.047	200V	P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47		
C96	.0047		BPD-0047	DD-472	BYA10D47M	CCD-472	B-247	5HK-D47		
C97	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C98	.01		BPD-01	DD-103	BYA10D1	CCD-103	B-110	5HK-S10		

RESISTORS

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

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		IRC PART No.	WORKMAN TV PART No.			IRC PART No.	WORKMAN TV PART No.			IRC PART No.	WORKMAN TV PART No.
R108	1.5meg			R117	2.2meg			R126	1meg		
R109	150K			R118	2.2meg			R127	1meg		
R110	470K			R119	2.2meg			R128	330K		
R111	1.2meg			R120	2.2meg			R129	100Ω 10W	PW10-100	10W-SQ-100
R112	68K			R121	1meg			R130	10K		
R113	100K			R122	2.2meg			R131	3300Ω		
R114	1meg			R123	2.2meg			R132	22K		
R115	47K			R124	2.2meg			R133	1meg		
R116	100Ω			R125	2.2meg			R134	47K		

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		ZENITH PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	
L17	39.5KC IF	S-43725					
L18	Discriminator (Pri)	S-24788					
L19	Discriminator (Sec)	S-24789					
L20	Discriminator (Pri)	S-24788					
L21	Discriminator (Sec)	S-24789					

TRANSFORMER (POWER)

ITEM No.	RATING		REPLACEMENT DATA					NOTES
			ZENITH PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
	PRI.	SEC.1	95-1612					
T6	117V @ .35A	210V @ .020A DC Tap @ 30V @ .001A DC) Tap						
	SEC. 2	@ 6.3V & 2.5A						
	5V @ 2A							

POWER RECTIFIERS

ITEM No.	RATING	REPLACEMENT DATA			NOTES
		ZENITH PART No.	RCA PART No.	SARKES TARZIAN PART No.	
M1	.001A	212-21 *		Model 12 *	* Selenium Type

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			ZENITH PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M12	3AG	3/4A 250V S/B	136-41		313.750 (3AG 3/4A 250V S/B)	357001	MDL 3/4	4405

MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	NOTES
M13	Switch	85-580	Auto-Manual (DPDT Slide Type) CCW
M14	Relay	195-5 or 195-7	
M15	Relay	S-43723	
M16	Relay	195-5 or 195-7	Step, Includes Switch #S-43854 & S-43926 CW
M17	Relay	S-24705	Sound (BI-Stable)

TV PARTS LIST AND DESCRIPTIONS

TUBES

GENERAL ELECTRIC			RAYTHEON		SYLVANIA		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE		
V1	1st Video IF Amplifier	EF183/6EH7	V7	Audio Detector	6BN6		
V2	2nd Video IF Amplifier	EF183/6EH7	V8	Audio Output	6BQ5		
V3	3rd Video IF Amplifier	EF184/6EJ7	V9	Vert. Mult.	6EM7 (6EA7) *		
V4	Video Output - Sound IF Amp.	6GN8	V10	Horiz. AFC - Horiz. Osc.	6GH8		
V5	DC Restorer - Retrace Clamper	6AL5	V11	Horiz. Output	6DQ6B		
	AGC Keying - Sync Sep.	6HS8	V12	Damper	6CQ4 (6DE4) *		
			V13	HV Rectifier	1J3GT		
			V14	LV Rectifier	3DG4		

\* Alternate

PICTURE TUBE

ITEM No.	REPLACEMENT DATA					NOTES
	ZENITH PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
V15	23AFP4		23AFP4 ①		23AFP4 ②	① Aluminized ② Silver Screen "85"

ELECTROLYTIC CAPACITORS

ITEM No.	CAP.	VOLT.	REPLACEMENT DATA						NOTES
			ZENITH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	
C1A	40	400	22-2743	AFH4-58-75	C1104	FP368.5	TMT-3661	TVL-3756	
B	80	400							
C	40	50							
C2A	40	450	22-3462	AFH4-113-40	D0842	FP464.9	TMQ-4643	TVL-4772	
B	4	350							
C	4	150							
D	50	25							
C3	30	475	22-3463	PRSI840	BR3050	TC84	TD-30-500	TVAS-1908 *	
C4	40	350	22-3464	PRSI670	BR4035	TC78	TD-40-350	TVA-1611	

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

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	P288N-15		CUB2P15	2DP-3-154	GEM-2015	2TM-P15
C6	470		DI-470	DD-471	BYA10T47	CCD-471	B-347	10TS-T47
C7	6	NPO ±.5mmf	#22-2381		C10V6C			
C8A	17	NPO 5%		TCZ-18	C10Q18C	CM-19B-180J	CNO-418	10TCC-Q18
C9	.01	NPO 5%		TCZ-18	C10Q18C	CM-19B-180J	CNO-418	10TCC-Q18
C10	.15	200V 10%				CCD-103		10TS-S10
C11	.01	10%	DI-10000		CUB2P15	2DP-3-154	GEM-2015	2TM-P15
C12	1.2	10%	DI-10000			CCD-103		10TS-S10
C13	8.5	NPO ±.5mmf	NPO-SI 1.5	TCZ-IR5	C10V15C		CNO-515	10TCC-V12
C14	.001	10%	NPO-DI 8.2		C10V9C			10TCC-V82
C14A	.001	10%	DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
B	.001	10%	DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C15A	.001	10%	DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
B	.001	10%	DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C16	100		DI-100	DD-101	L10T1	CCD-101	GP310	10TS-T10
C17	.001	10%	DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C18	.0022	10%	DI-2200	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C19	5.5	±.5mmf	NPO-DI 5.0		PM6D22	CCD-222	GP222	10TS-D22
C20	4.7	10%	NPO-SI 4.7	TCZ-4R7	C10V6C	CCTO-050		10TCC-V56
C21	4.7	10%	NPO-SI 4.7	TCZ-4R7	C10V47C	CCTO-4R7	CNO-547	10TCC-V47
C22	.033	200V 10%	NPO-SI 4.7	TCZ-4R7	C10V47C	CCTO-4R7	CNO-547	10TCC-V47
C23	47	N75	V84C2S33-10%		PM4S33	4DP-2-333	GEM-1613	4PS-S33
C24	3.3	10%						
C25	50		NPO-SI 3.3	TCZ-3R3	C10V33C	CCTO-3R3	CNO-533	10TCC-V33
C26	27	10%	SI-50	D6-500	L10Q5	CCD-500	GP450	10TS-Q50
C27	50	N750	NRO-SI 27	D6-27	L10Q27	CCD-270	GP427	10TS-Q27
C28	10	10%	N750-DI 47	TCN-50	C10Q5U	CCTN-470	CN7-447	10TCU-Q47
C29	.1	200V	NPO-SI 10	D6-100	L10Q1	CCD-100	GP410	10TS-Q10
C30	.1	400V	P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10
C31	.1	200V	P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C32	.047	400V	P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10
C33	.022	400V	P488N-047	DD-503	CUB4S47	4DP-3-473	GEM-4147	4TM-S47
C34	.001		P488N-022	DD-203	CUB4S22	4DP-2-223	GEM-4122	4TM-S22
C35	.01		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C36	.1	400V	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C37	.001	10%	P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C38	.01		DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C39	4.3		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C40A	.001	5%						
B	.001	10%	DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C41	7.5	10%	DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C42	20	N75						
C43	100	10%						
C44	.0047	10%	DI-100	DD-101	L10T1	CCD-101	GP310	10TS-T10
C45	.01	10%	DI-4700		PM6D47	CCD-472	JL-247	10TS-D47
C46	470		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C47	100	N750 5%	DI-470	DD-471	BYA10T47	CCD-471	B-347	10TS-T47
C48	.0068	200V 10%		DTN-100	C10T1U	CCTN-101	CN7-310	10TCU-T10
C49	.22	200V 10%	V84C2D68-10%		PM6D68	6DP-1-682	GEM-16268	6TM-D68
C50	.01	10%	V84C2P22-10%		PM2P22	6DP-4-224	GEM-2072	2TM-P22
C51	.047	200V	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C52	.1	400V	P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47
C53	.0033		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C54	470	10%	BPD-0033	DD-332	BYA10D33	CCD-332	B-233	5HK-D33
C55	.022	400V 10%	DI-470	DD-471	5R5T47	CCD-471	GP347	10TS-T47
C56	.0068	200V 10%	V84C4S22-10%		PM4S22	6DP-2-223	GEM-16122	4TM-S22
C57	.1	800V	V84C2D68-10%		PM6D68	6DP-1-682	GEM-16268	6TM-D68
C58	.1	800V	P688N-1	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10
C59	.015	1000V 10%	P688N-1	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10
					DPMS16S15	16DP-4-153		10TM-S15



## TV PARTS LIST AND DESCRIPTIONS (Continued)

### RESISTORS (cont)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.	REMARKS
R105	1000Ω			(Note 1)	R107	1meg			(Note 1)
R106	680K								

\* Alternate Value  
Note 1. May not be used in some versions.

# Zenith Part Number

### COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	ZENITH PART No.	REPLACEMENT DATA
K1	Vert. Integrator		87-8	
K2	Vert. Feedback		87-7	

### COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		ZENITH PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.		
L1A	41.25MC Trap	S-51749 ①	TV-132	622	RTC-8552	T224	① Part #S-51750 (Complete Assembly)
L2A	39.75MC Trap	S-51746	TV-152	6226	RTC-8626	T220	
L3A	47.25MC Trap	S-51753	TV-153	6228	RTC-8628	T220	② Part #S-49892 (Complete Assembly)
L4	41.25MC Trap	S-51755	TV-130	6224	RTC-8555	T217	
L5	4th Video IF	S-47968 ②					③ Part #S-49892 (Complete Assembly)
L6	Peaking (90uh)	S-41879	TV-181	6177	RTC-8594	T304	
L7	RF Choke (8uh)	S-21888	BC-565	4610	RTC-8520	T859	④ Wound on 5600Ω Resistor.
L8	Peaking (170uh)	S-43619	TV-184	6180	RTC-8597	T310	
L9A	4.5MC Trap	S-50341 ③	TV-120	1482 IFT	RTC-8056	T253	⑤ Part #S-43717 (Complete Assembly)
L10	1st Sound IF	S-16011	TV-185	6181	RTC-8598	T315	
L11	Peaking (250uh)	S-51748 ④	TV-194 *	6112 *	RTC-8574 *	T305 *	* Parallel with 5600Ω Resistor.
L12	2nd Sound IF	S-41899 ⑤	TV-149				
L13	Quadrature	S-47702	TV-121	1480	RTC-8805	T251	
L14	RF Choke (10uh)	S-22777	BC-566	4612	RTC-8522	T860	

### COILS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA						NOTES
		ZENITH PART No.	Miller PART No.	Stancor PART No.	Thordorson PART No.	Triod PART No.	Workman TV PART No.	
L15	Horiz. Osc. (Horiz. Hold)	S-47150						

### FILTER CHOKE

ITEM No.	RATINGS		REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000 ~)	ZENITH PART No.	Miller PART No.	Stancor PART No.	Thordorson PART No.	
L18	.300A	40Ω	1 Hy.	95-1838	C-2996	C-2343	26C44	C-34X

### TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA					NOTES
		ZENITH PART No.	Miller PART No.	Stancor PART No.	Thordorson PART No.	Triod PART No.	
T1	117V @ 1.75A 520VCT @ .300A DC 3V @ 3.6A	95-1824				R-92A	
	SEC. 3 SEC. 4 SEC. 5 8.3V @ 8.5A						

### TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		ZENITH PART No.	Miller PART No.	Stancor PART No.	Thordorson PART No.	Triod PART No.	
T2	Vert. Output	95-1823	A-2821	A-8149	26822 ①	A-131X	④ Connect yoke terminal #3 to horiz. output transformer #2, yoke #1 to horiz. output terminal #4. Connect thermistor (R100) from terminal #1 to vertical height control. Connect 1K 1/2 watt resistor from yoke #2 & #7 to horiz. output terminal #3.
T3	Yoke (Horiz. 13MH) (90°) (Vert. 43MH) Rear Cover and Centering Device Horiz. Output	95-1825		DY-39A ②	Y-39 ③	Y-40 & NW3 ④	
T4		S-4309L		HVO-187		D-201	

① Connect as autotransformer.  
② Add fifth lead and connect same as original.  
③ Connect same as original.

④ Connect yoke terminal #3 to horiz. output transformer #2, yoke #1 to horiz. output terminal #4. Connect thermistor (R100) from terminal #1 to vertical height control. Connect 1K 1/2 watt resistor from yoke #2 & #7 to horiz. output terminal #3.

### TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		ZENITH PART No.	Miller PART No.	Stancor PART No.	Thordorson PART No.	Triod PART No.	
T5	4000Ω	3-4Ω	95-1703	A-2935	A-3877 ①	26849 ①	① Drill new mounting hole(s).

### SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		ZENITH PART No.	QUAM PART No.	
SP1	6" x 9" PM	49-831 ①	69A126.8	① Used in Models G3380W, Y; G3388M, R; G3385H
SP2	6" x 9" PM	49-831 ①	69A126.8	
SP3	Electrostatic	S-23829 ①②		② Used in Model G3375L
SP4	Electrostatic	S-23829 ①②		

### FIXED CAPACITORS (cont)

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.
C80A	51		D1-50	D6-500	L10Q51	CCD-500	GP450	10TS-Q50
C81A	.001	10%	D1-50	D6-500	L10Q51	CCD-500	GP450	10TS-Q50
C82	.047	200V	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C83	.047	200V	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C84	.047	200V	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C85	.047	200V	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C86	.0015	10%	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C87	.0022	10%	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C88	.01	10%	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C89A	.0015	10%	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C90	.047	400V	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C91	.047	800V	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C92	.047	800V	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C93	.047	800V	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C94	.047	800V	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C95	.047	800V	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C96	.047	800V	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C97	.047	800V	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C98	.047	800V	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C99	.047	800V	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C100	.047	800V	D1-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10

Note 1. Some versions may use 45mmf in this application (Part #22-2858).  
# Zenith Part Number.  
\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

### CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESIST-ANCE	WATTS	ZENITH PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	2meg	1	63-4669	APL-82		B18-139X ②	PP28T16	Volume
B	1meg Tap							
C	Shaft			AK-33		Not Req.	DS-37	
R2A	Switch			Not Req.		SK3 ③	Not Req.	Push-Pull Off-On
B	3meg	1	63-4592	AK-33		E17-140		Bass
R3A	1meg	1	63-4499	AK-33		SK9		
B	Shaft			AB-70	A47-1meg-Z	B13-137	U53	Treble
R4	3meg	1	63-4455	AK-33	RB-3/16	SK9	DS-37	
R5A	5meg	1	63-4012	TT-84	B47-3meg-S	HLC-3	SU-59	Focus
B	Shaft			TT-87	B17-5meg-Z	B13-141	PTA56L	Fringe Lock (Sync Stability)
R6A	750K	1	63-4486	Not Req.	Not Req.	TM4	Not Req.	
B	Shaft			B-86	A47-750K-S	QL1-136	U54	Vert. Hold
R7	5meg	1	63-4680	Not Req.	K38-3	Not Req.	Not Req.	
R8	3meg	1	63-4788	TT-87	B47-5meg-S	HLC-5	PTA56L	Vert. Size (Height)
R9A	1meg Tap					Q13-140X	UT-457	Brightness
B	30K	1	63-4787					
R10	10K Tap							Contrast
B	Switch							
R10	2000 850Ω Stop	2(WW)	63-4784 ①	WN-152	39-1500	112-1500	FL-1K	Normal-Dynamic
R11A	1500Ω	1	63-4806	TT-511	**			Vert. Linearity
B	Shaft			Not Req.	B47-1500-S	B11-109	PTA152L	
R12A	10K	1	63-4095	TT-14	Not Req.	TM4	Not Req.	Video Peaking
B	Shaft			Not Req.	B47-10K-S	B11-116	TA14L	
R13	750Ω	2(WW)	63-3284	WN-751	Not Req.	TM4	Not Req.	AGC
B	100Ω Stop			↑	39-800	112-650	FL-750	
R14A	1.5meg	1	63-4799	TT-742	B47-1.5meg-S	B11-138	TA155L	Buzz
B	Shaft			Not Req.	Not Req.	Not Req.	Not Req.	Grid Drive

① Some versions may use 1500Ω, (Part #63-4820).  
② Factory Assembled Part #PPQ18-139X (SK8).

### RESISTORS

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

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.	REMARKS
R15	150Ω				R60	220Ω			
R16	18K				R61	150K			
R17	10K				R62	4700Ω			
R18	680K				R63	330K			
R19	2.2meg				R64	3.3meg			
R20	10K				R65	680K			
R21	22Ω				R66	15K			
R22	1500Ω				R67	10meg			
R23	56K				R68	100K			
R24	56K				R69	220K			
R25	220Ω				R70	47K			
R26	220Ω				R71	100K			
R27	12K				R72	330K			
R28	330K				R73	330K			
R29	3300Ω				R74	2.2meg			
R30	1000Ω				R75	1000Ω			
R31	330Ω				R76	2.2meg			
R32	1200Ω				R77	39K			
R33	39K				R78	82K			
R34	16K				R79	8800Ω			
R35	5600Ω	4W	PWS-5600	4G-5800	R80	2200Ω			
R36	66K				R81	4700Ω			
R37	100K				R82	560Ω			
R38	15K				R83	560Ω			
R39	15Ω				R84	330K			
R40	18K	2W			R85	330K			
R41	3900Ω				R86	1meg			
R42	880K				R87	120K			
R43	22K				R88	100K			
R44	180K				R89	100K			
R45	180K				R90	15meg			
R46	100K				R91	66K	2W		
R47	470K	1W			R92	220K			
R48	22K				R93	100K			
R49	100K				R94	16K			
R50	330K	1W			R95	100Ω			
R51	680Ω				R96	1meg			
R52	470Ω				R97	100Ω			
R53	27K	2W			R98	8200Ω	3W	PWS-8200	3G-8200
R54	390K				R99	100K			