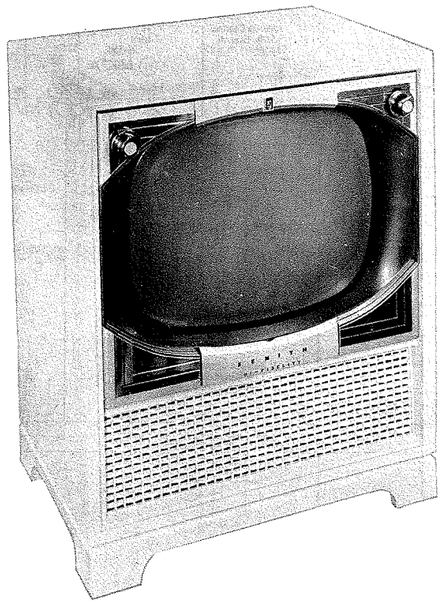
PHOTOFACT* Folder

*TRADE MARK

ZENITH MODELS Y2671R, RU, Y2672E, EU (Ch. 22Y21, U)



MODEL	CHASSIS
2672E	22Y21

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

1. Remove 7 push-on type control knobs from front panel of cabinet.

2. Remove 7 wood screws. Remove rear cover.

3. Remove volume control nut (cabinet front). Remove volume control.

4. Remove speaker leads, picture tube socket, yoke plug, HV lead and tuner cables between tuner and main chassis.

5. Remove 4 chassis bolts. Remove chassis.

TUNER REMOVAL

1. Disconnect cables between tuner and main chassis.

2. Remove 2 tuner bolts from rear of cabinet. Lower the rear of the tuner and slide out.

SPEAKER REMOVAL

1. Disconnect speaker leads.

2. Remove 4 speaker nuts from large speaker and remove

3. To remove small tweeters it will be necessary to pry staples from speaker flaps.

SERVICING IN THE FIELD

TUNER OSCILLATOR ADJUSTMENTS

For touch-up adjustment of the VHF tuner oscillator circuit, it is necessary to remove rear cover and supply power to set. Adjustments are made thru the hole marked "Bull's Eye Adjustment" and are accessible one at a time as the selector switch is turned to each channel. (Fine tuning control must be set to the center of its range before making adjustments). Use Zenith alignment wrench part #68-21 for adjustment.

PICTURE TUBE SAFETY GLASS CLEANING

Turn Zenith emblem (located at the top edge of the safety glass) 1/4 turn counter clockwise. Push escutcheon plate up and tilt glass out at top to remove. Use extreme caution when removing safety glass.

SERVICE ADJUSTMENT LOCATION

See tube placement chart on page 5.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

Adjustment of the horizontal oscillator may be made from the front of the receiver. Adjust the horizontal hold (L22) until the picture synchronizes horizontally.

SOUND IF DETECTOR BUZZ ADJUSTMENT

Adjust the buzz control located on rear apron of chassis for maximum volume and minimum buzz. If results are unsatisfactory, see alignment instructions.

FUSES

One fuse is used for horizontal sweep circuit protection. (For location see tube placement chart).

CENTERING

Centering is accomplished mechanically by means of a centering lever on the PM focusing assembly. Adjust the centering lever from side to side, and up and down until the picture is properly centered.

ANTI-PIN CUSHION ADJUSTMENT

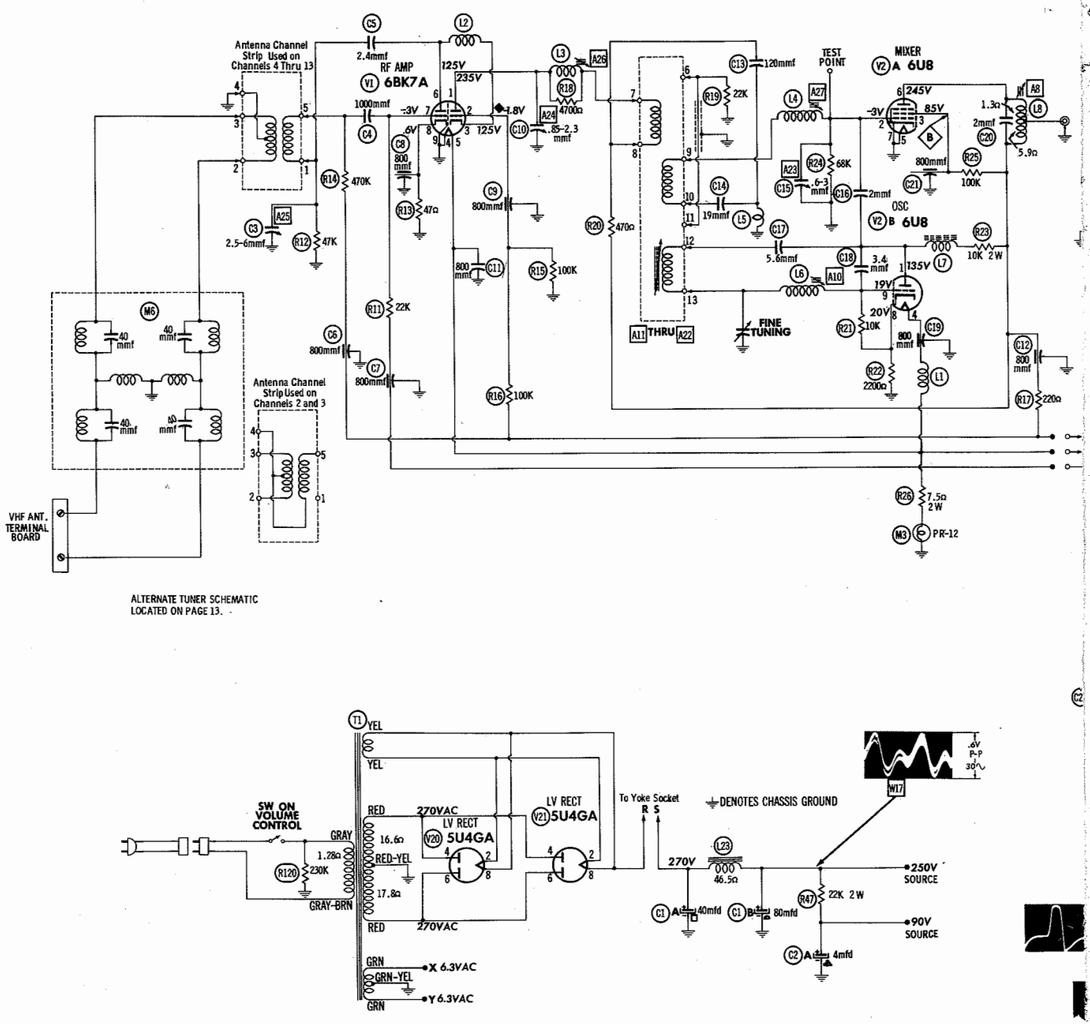
Reduce the picture size so that the sides of the raster are visible, and position the magnets so that all sides are straight lines and the corners are at right angles.

HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

G526

DATE 9-56 SET 330 FOLDER 12

ZENITH MODELS Y2671R, RU, Y2672E, EU (Ch. 22Y21, U)



ALTERNATE TUNER SCHEMATIC LOCATED ON PAGE 13.

◆ MEASURED FROM PIN 3 OF V1.

■ MEASURED FROM PIN 7 OF V4.

❶ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM. (SEE PARTS LIST)

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

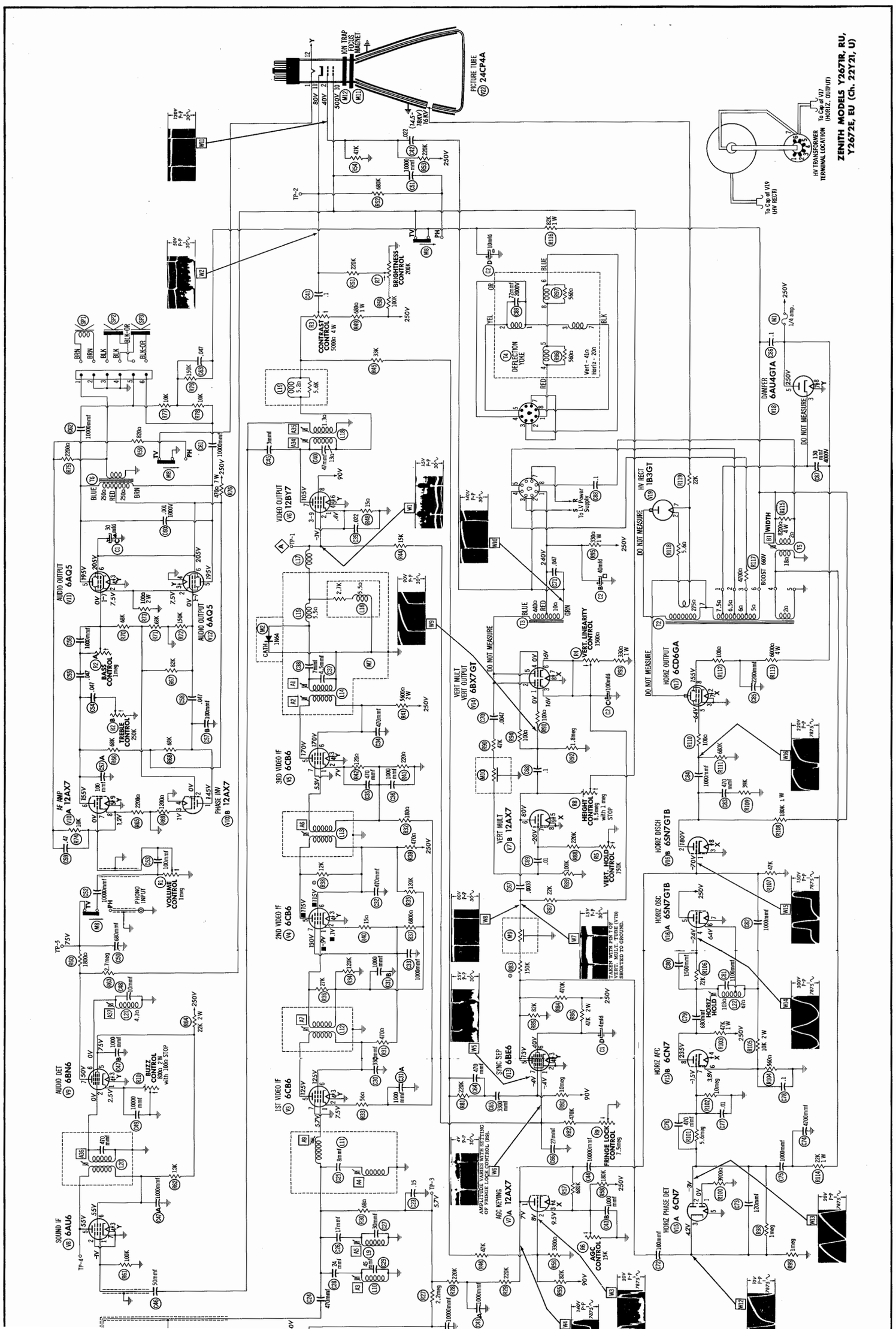
WAVE FORMS TAKEN WITH CONTROLS SET TO PRODUCE 50 VOLTS PEAK-TO-PEAK SIGNAL AT PICTURE TUBE

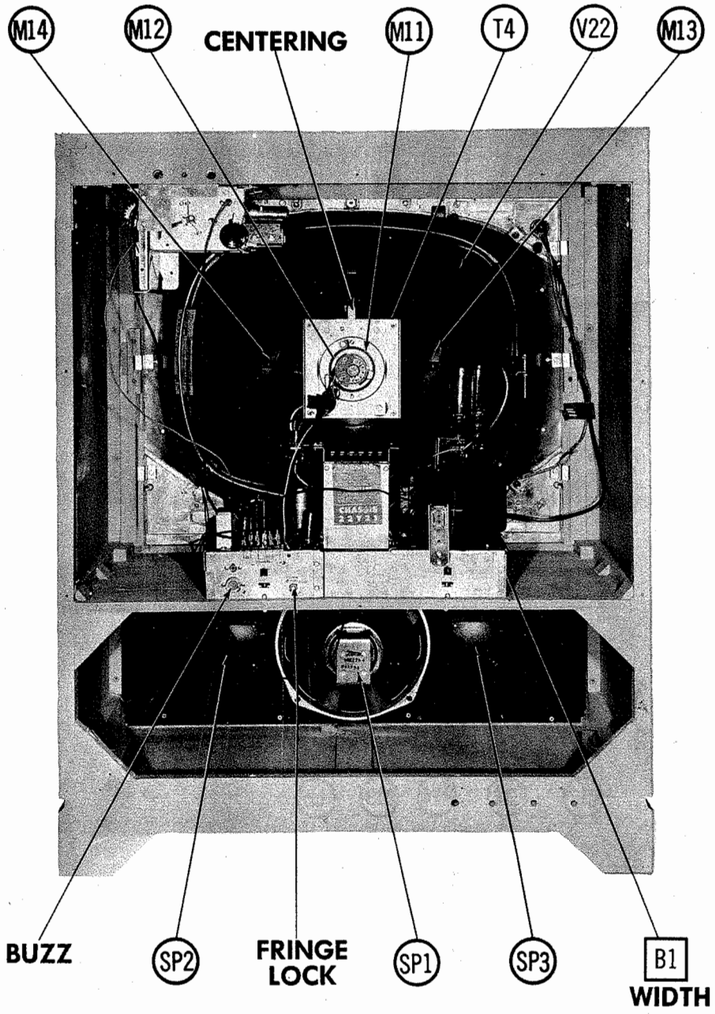
1. DC voltage measurements taken with vacuum tube voltmeter; AC voltage measured at 1,000 ohms per volt.
2. Pin numbers are counted in a clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line voltage maintained at 117 volts for voltage readings.
5. All controls set for normal operation; no signal applied.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

RF TUNER-TOP VIEW

ZENITH MODELS
Y2671R, RU, Y2672E, EU (Ch. 22Y21, U)

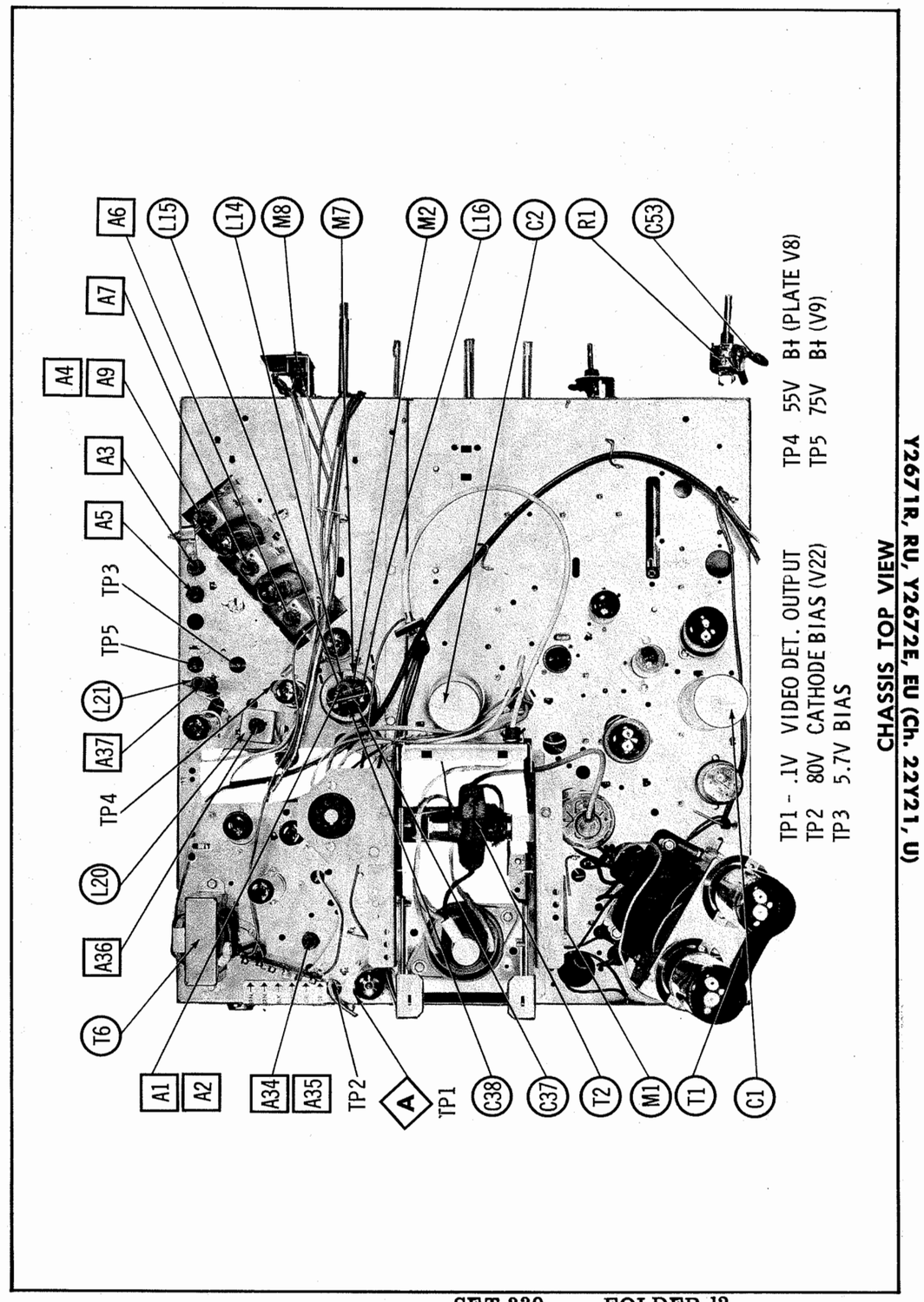




CABINET—REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably with a test pattern. Adjust the horizontal hold until the picture synchronizes horizontally.	Adjust the width slug (B1) for a picture slightly wider than necessary to fill the picture mask horizontally.



CHASSIS TOP VIEW

ZENITH MODELS Y2671R, RU, Y2672E, EU (Ch. 22Y21, U)

CHASSIS BOTTOM VIEW-TRANS., INDUCTOR AND ALIGNMENT IDENTIFICATION

RF TUNER-RIGHT SIDE

RF TUNER-LEFT SIDE

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (HORIZ. OSC.)

ITEM No.	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA ZENITH PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	RCA TYPE No.	Ram PART No.	Thordarson PART No.	NOTES
L22	170Ω		S-19743	19-1577		6324				Tapped @ 67Ω

FILTER CHOKE

ITEM No.	RATINGS TOTAL DIRECT CURRENT	RATINGS D. C. RESISTANCE	RATINGS INDUCTANCE (0 CURRENT 1000 ~)	REPLACEMENT DATA ZENITH PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
L23	.350A	46.5Ω	2.45 HY	95-1399					

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA ZENITH PART No. FUSE	ZENITH PART No. HOLDER	LITTELFUSE PART No. FUSE	LITTELFUSE PART No. HOLDER	BUSS PART No. FUSE	BUSS PART No. HOLDER
M1	3AG S/B	1/4A 125V	136-22		313.250 (3AG S/B 1/4A)	357001	MDL 1/4	4405

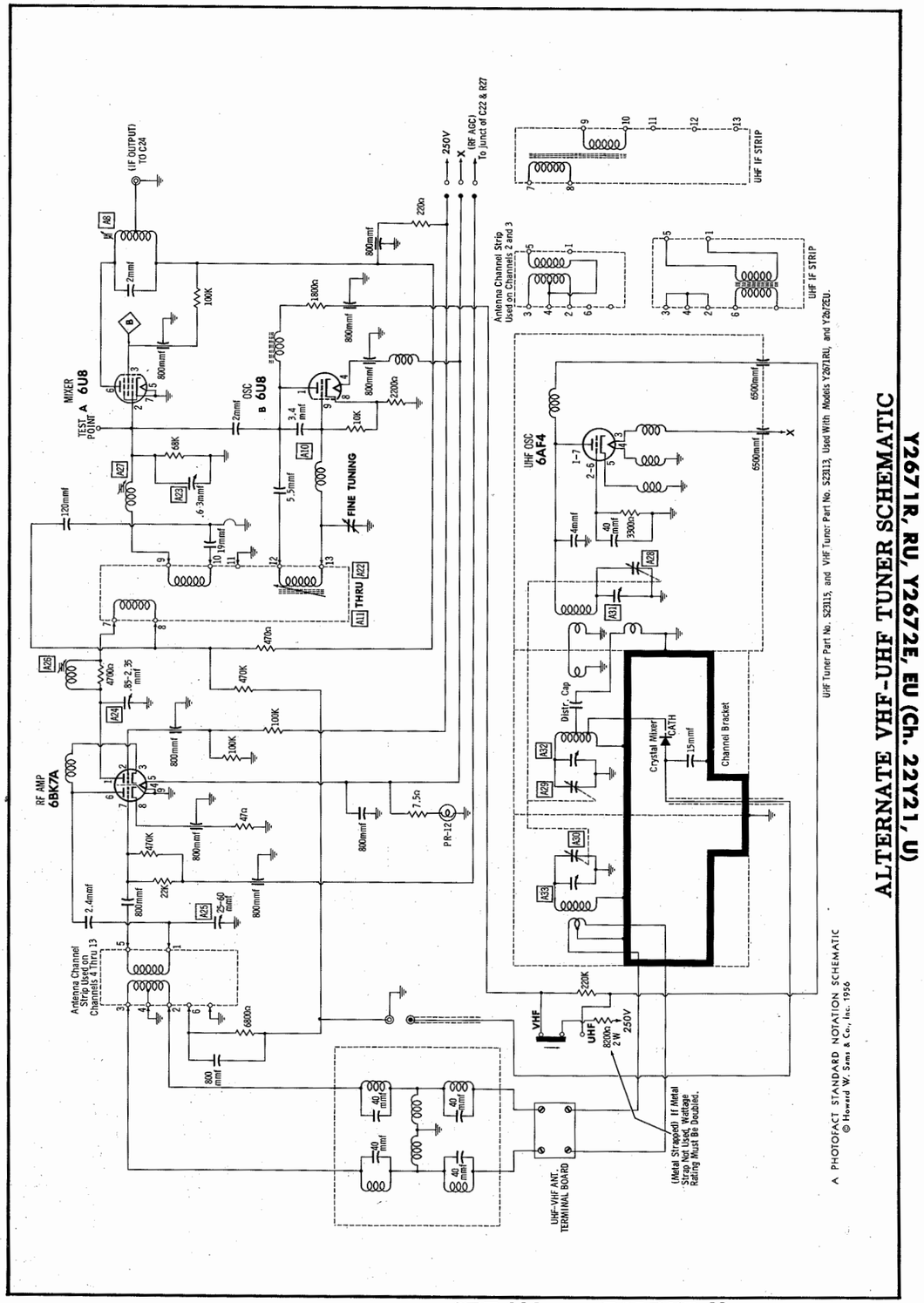
CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA ZENITH PART No.	SYLVANIA PART No.	NOTES
M2	1N64	103-1	1N60	Video Detector (Pigtail)

MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	NOTES
M3	Dial Light	100-166	#PR12
M4	Tuner	S-21735	VHF (12 position) Models Y2671R, Y2672E
	Tuner	S-23113	VHF (13 position) Models Y2671RU, Y2671EU
M5	Tuner	S-23115	UHF - Models Y2671RU, Y2672EU
M6	Trap		VHF Ant. input filter
M7	Video Det.Assy.	S-21686	Includes M2, L14, L15, L16, C37, C38
M8	Switch	85-555	TV-phono (3 pole - 2 position, slide type)
M9	Integrator	87-5	Vertical
M10	Integrator	87-4	Vertical
M11	Focus Magnet	S-22252*	Includes centering device
M12	Ion Trap	S-171461	
M13	Correction Magnet	S-18763	
M14	Correction Magnet	S-18763	
	Cabinet	14-1972R	Models Y2671R, RU
	Cabinet	14-1973E	Models Y2672E, EU
	Knob	46-1464	On-off-volume
	Knob	S-24198	VHF channel selector
	Knob	S-22408	VHF fine tuning
	Knob	S-22935	Horiz. hold, brightness, contrast
	Knob	46-1118	Vert. Hold
	Knob	46-1018	Tone (Treble)
	Knob	46-1055	Tone (Bass)
	Knob	S-22025	UHF dial indicator - Models Y2671RU, Y2672EU
	Safety Glass	192-207	

* Alternate part #S-20344, S-24358.



ZENITH MODELS Y2671R, RU, Y2672E, EU (Ch. 22Y21, U)

ALTERNATE VHF-UHF TUNER SCHEMATIC

PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	RF Amplifier	6BK7A	
V2	Mixer-Oscillator	6U8	
V3	1st. Video IF Amplifier	6CB6	
V4	2nd. Video IF Amplifier	6CB6	
V5	3rd. Video IF Amplifier	6CB6	
V6	Video Output	12BY7	
V7	AGC Keying-Vert. Mult.	12AX7	
V8	Sound IF Amplifier	6AU6	
V9	Audio Detector	6BN6	
V10	AF Amplifier-Phase Inv.	12AX7	
V11	Audio Output	6AQ5	
V12	Audio Output	6AQ5	
V13	Sync Separator	6BE6	
V14	Vert. Mult.-Output	6BX7GT	
V15	Horiz. Phase Det.-Horiz. AFC	6CN7	
V16	Horiz. Osc.-Horiz. Disch.	6SN7GTB	
V17	Horiz. Output	6CD6GA	
V18	Damper	6AU4GTA	
V19	HV Rectifier	1B3GT	
V20	LV Rectifier	5U4GA	
V21	LV Rectifier	5U4GA	

PICTURE TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	ZENITH PART No.	CBS PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	
V22	24CP4A ①	24TP4/ 24CP4A ①	24CP4A ①	24CP4A ②	① Aluminized ② Silver screen "85"

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	ZENITH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	■40	400	22-2597	AFH4-93-40	C037	FP421.6	TMQ150	Q-025	TVL-4672
B	▲60	400			BR435	TC60		MT-4540	
C	▲30	400							
D	4	350							
C2A	▲4	350	22-2479	AFH4-120-75	D143	FP454.6	TMQ172	Q-442	TVL-4805
B	■40	400						MT-4504	
C	100	50							
D	▲10	475							

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	ZENITH PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C3	2.5-6		22-2221							
C4	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C5	2.4		22-2596							
C6	600		22-2577							
C7	800		22-2577							
C8	800		22-2577							
C9	800		22-2577							
C10	.85-2.3		22-2453							
C11	800		22-2331	BPD-0008	DD-801	G067	811-821		5GA-T6	
C12	800		22-2577							
C13	120		22-2591	N750-SI120	TCN-120	N044	NP0L-121		5TCU-T12	
C14	19		22-2406							
C15	.6-3		22-2504							
C16	2		22-2434							
C17	5.6		22-2499							
C18	3.4		22-2592							
C19	600		22-2577							
C20	2		22-2565							
C21	800		22-2577							
C22	10000		22-3	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C23	.15	200	22-2147	P288N-15		CUB2P15		PT4015	2TM-P15	
C24	470		22-6	BPD-00047	DD-471	K060	811-471	UC-5347	5GA-T47	
C25	8		22-2481	NP0-DI8.2		Z015	NP0A-8R2			
C26	17		22-2594							
C27	30		22-2550		TCZ-30	Z028	NP0L-300			
C28	24		22-2515	NP0-DI25	TCZ-24	Z025	NP0L-240	ZT-5425	5TCC-Q25	
C29	45		22-2600	NP0-DI47	TCZ-47	Z033	NP0-338-470	ZT-5447	5TCCB-V47	
C30	330		22-2309	SI330	D6-331	TP43	GP2K-331	UC-5333	5GA-T33	
C31A	1000		22-21	BPD-2X001	DD2-102	DK069	812-001	DCD-521	5HK-2D1	
B	1000									
C32	470		22-2302	SI470	D6-471	TP46	GP2K-471	UC-5347	5GA-T47	
C33	1000		22-17	BPD-001	DD-102	K089	801-001	DC-521	5HK-D1	
C34	470		22-2524	BPD-00047	D6-471	TP46	811-471	UC-5347	5GA-T47	
C35	470		22-2217	SI470	D6-471	TP48	GP2K-471	UC-5347	5GA-T47	
C36	1000		22-2113	SI1000	D6-102	TP52	GP2L-102	UC-521	5GA-D1	
C37	4.5		22-2660	NP0-DI4.7	TCZ-4R7	Z010	NP0A-4R7	ZT-5547	5TCCB-V47	
C38	7		22-2375	NP0-DI6.8	TCZ-6R8	Z014	NP0A-6R8	ZT-5568	5TCCB-V68	
C39	.022	200	22-2071	BPD-02	DF-203	CUB4S22		PT4122	2TM-S22	
C40	47		22-2467							
C41	.1	200	22-1777	P288N-1	DF-104	CUB2P1		PT401	2TM-P1	
C42	.022	200	22-2072	BPD-02	DF-203	CUB4S22		PT4122	2TM-S22	
C43A	1000		22-21	BPD-2X001	DD2-102	DK069	812-001	DCD-521	5HK-2D1	
B	1000									
C44	10000		22-3	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C45	3		22-2343	NP0-DI3	TCZ-3R3	Z007	NP0A-030	ZT-553	5TCCB-V33	
C46	50		22-2460	SI50	D6-500	TP30	GP1K-500	UC-545	5GA-Q5	
C47A	1000		22-21	BPD-2X001	DD2-102	DK069	812-001	DCD-521	5HK-2D1	
B	1000									
C48	10		22-2371							
C49	10000		22-3	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C50	680		22-2320	SI680	D6-681	TP50	GP2K-681	UC-5368	5GA-T68	
C51	10000		22-3	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C52	10000		22-3	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C53	100		22-5	BPD-0001	DD-101	G042	801-101	UC-531	5GA-T1	
C54	.047	600	22-1844	BPD-05	DF-503	CUB6S47		PT6147	6TM-S47	
C55	.047	800	22-1844	BPD-05	DF-503	CUB6S47		PT6147	6TM-S47	
C56	1000		22-17	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C57A	100		22-22	BPD-0001	DD-101	G042	801-101	UC-531	5GA-T1	
B	100			BPD-0001	DD-101	G042	801-101	UC-531	5GA-T1	
C58	.047	600	22-1844	BPD-05	DF-503	CUB6S47		PT6147	6TM-S47	
C59	.47	200	22-2146	P288N-47		CUB2P47		PT4047	2TM-P47	
C60	.001	1000	22-1851	P1088N-001	DD-102	CUB16D1	1R5KV-102	PT1621	10TM-D1	
C61	10000		22-3	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C62	10000		22-3	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C63	.047	600	22-1844	BPD-05	DF-503	CUB6S47		PT6147	6TM-S47	
C64	470		22-6	BPD-00047	DD-471	K060	811-471	UC-5347	5GA-T47	
C65	3300		22-11	BPD-0033	D6-332	K077	811-0033	UC-5233	5HK-D33	
C68	27		22-2459	SI27	D6-270	TP26	831-270	UC-5427	5GA-Q27	
C67	.0033	400	22-2635	1464-0033		1R5D33			MS-233	
C68	.1	400	22-2061	P488N-1	DF-104	CUB4P1		PT401	4TM-P1	
C69	.01	200	22-2565	1464-01		1DR5S1			MS-11	
C70	.0047	600	22-1849	1464-0047		1R5D47			MS-247	
C71	.047	200	22-1778	BPD-05	DF-503	CUB2S47		PT4147	2TM-S47	

CAPACITORS (cont)

ITEM No.	RATING CAP.	RATING VOLT	ZENITH PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C72	100		22-1442	NP0-SI100	D6-101	22R5T1	801-101	MCB235	MS-31	
C73	120		22-2502	NP0-SI120	D6-121	22R5T12	811-121		MS-312	
C74	4700		22-14	BPD-0047	DD-472	K079	811-0047	UC-5247	5HK-D47	
C75	1000		22-17	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C76	470		22-6	BPD-00047	DD-471	K060	811-471	UC-5347	5GA-T47	
C77	.01	400	22-1809	BPD-01	D6-103	CUB4S1	GP3-333-103	PT411	4TM-S1	
C78	.1	200	22-1777	P288N-1	DF-104	CUB2P1		PT401	2TM-P1	
C79	660		22-2125	1464-00068	D6-681	1RT56	811-681		MS-389	
C80	1500	500	22-2689	BPD-0015	D6-152	1W5D15	601-0015	DC-5215	1FM-215	
C81	1100		22-2859	1464-0011		1R5D11			MS-211	
C82	1000		22-2598							
C83	470		22-2524	1464-00047	D6-471	5R5T47	611-471		MS-347	
C84	1000		22-17	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C85	2200		22-16	BPD-0022	D6-222	K073	811-0022	UC-5222	5HK-D22	
C86	.1	600	22-1841	P688N-1	DF-104	CUB6P1		PT601	6TM-P1	
C87	150	4000	22-2697							
C88	.1	600	22-2782	P688N-1	DF-104	CUB6P1		PT601	6TM-P1	
C89	72	2000								

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	ZENITH PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	1Meg	½	63-3620	B-70-S	A47-1Meg-Z	Q13-137	U-53	Volume
B	Shaft		Not Req.	Not Req.	FS-3	Not Req.	Not Req.	Attach to R1A
C	Switch		Not Req.	Not Req.	SWE-12	76-1	US-26	Attach to R1A
R2A	1Meg	½	63-3578				UF16L †	Bass (Panel)
B	250K	½					UR254A †	Treble (Rear)
R3	5000Ω	4	63-3201	SVP-999				Contrast(Wire-wound)
R4A	1500Ω	½	63-2920	AB-6	A47-1500-S	B11-109	PTA152L	Vert. Linearity
B	Shaft		Not Req.	AK-1	FKS-1/4	TM-1K1T	Not Req.	Attach to R4A
R5A	750K	½	63-3299	AB-66	A47-750K-S	Q11-136	U-54	Vert. Hold
B	Shaft		Not Req.	AK-4	KSS-3	Not Req.	Not Req.	Attach to R5A
R6A	15K	½	63-2976	AB-20	A47-15K-S	Q11-119	TA153L	AGC
B	Shaft		Not Req.	AK-1	FKS-1/4	RQ	Not Req.	Attach to R6A
R7A	200K	½	63-3572	AB-50	A47-200K-S	Q11-129	U-43	Brightness
B	Shaft		Not Req.	AK-4	KSS-3	Not Req.	Not Req.	Attach to R7A
R8A	6.5Meg with 1Meg stop	½	63-3617	♦AB-89	♦A47-7.5Meg-S	♦Q11-142	♦PTA855L	Height
B	Shaft		Not Req.	AK-1	FKS-1/4	RQ	Not Req.	Attach to R6A
R9A	7.5Meg	½	63-2919	AB-98	A47-7.5Meg-S	Q11-142	U-82	Fringe Lock
B	Shaft		Not Req.	AK-1	FKS-1/4	RQ	Not Req.	Attach to R9A
R10	800Ω	2	63-3284		39-800-50			Buzz 100Ω stop (Wire-wound)

† Universal replacement (Mallory exact duplicate part #UE1565).
♦ Connect a 1Meg resistor in series with the right hand terminal of the control and the lead connecting to the same terminal of the original control (control viewed from shaft end, terminals down).

RESISTORS

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

ITEM No.	RATING OHMS	RATING WATT	ZENITH PART No.	IRC PART No.	NOTES
R11	22K		63-1641	BTS-22K	
R12	47K		63-1655	BTS-47K	
R13	47Ω		63-1729	BTS-47	
R14	470K		63-1897	BTS-470K	
R15	100K		63-1869	BTS-100K	
R16	100K		63-1869	BTS-100K	
R17	220Ω		63-1758	BTS-220	
R18	4700Ω		63-1772	BTS-4700	
R19	22K		63-1841	BTS-22K	
R20	470Ω		63-1771	BTS-470	
R21	10K		63-1828	BTS-10K	
R22	2200Ω		63-1799	BTS-2200	
R23	10K	2	63-3170	BTB-10K	
R24	68K		63-1862	BTS-68K	
R25	100K		63-1869	BTS-100K	
R26	7.5Ω	2	63-3600		
R27	2.2Meg		63-1926	BTS-2.2Meg	
R28	220K		63-1884	BTS-220K	
R29	220K		63-1884	BTS-220K	
R30	68Ω		63-1737	BTS-68	
R31	470Ω		63-1772	BTS-470	
R32	180Ω		63-1754	BTS-180	
R33	56Ω		63-1733	BTS-56	
R34	120K		63-1873	BTS-120K	
R35	120K		63-1873	BTS-120K	
R36	27K		63-1845		
R37	6800Ω		63-1821		
R38	12K		63-1831	BTS-12K	Note 1
R39	470Ω		63-1772	BTS-470	
R40	15Ω		63-1708	BTS-15	
R41	5800Ω	2	63-3223	BTB-5600	
R42	120Ω		63-1747	BTS-120	
R43	220Ω 5%		63-1756	BTS-220 5%	
R44	15K		63-1834	BTS-15K	
R45	33K		63-1848	BTS-33K	
R46	47K		63-1855	BTS-47K	
R47	22K	2	63-1568	BTB-22K	
R48	15Ω		63-1708	BTS-15	
R49	680Ω	1	63-2290	BTA-680	
R50	100K		63-1870	BTS-100K	
R51	220K		63-1884	BTS-220K	
R52	680K		63-1904	BTS-680K	
R53	220K		63-1884	BTS-220K	
R54	47K		63-1855	BTS-47K	
R55	82K		63-1868	BTS-82K	
R56	3300Ω		63-1808	BTS-3300	
R57	680K		63-1904	BTS-680K	
R58	180K		63-1880	BTS-180K	
R59	820Ω		63-1782	BTS-820	
R60	1800Ω		63-1798	BTS-1800	
R61	100K		63-1870	BTS-100K	
R62	10K		63-1828	BTS-10K	
R63	2.7Meg		63-1929	BTS-2.7Meg	
R64	22K	2	63-2141	BTB-22K	
R65	2200Ω		63-1799	BTS-2200	

ITEM No.	RATING OHMS	RATING WATT	ZENITH PART No.	IRC PART No.	NOTES
R66	68K		63-1862	BTS-68K	
R67	82K		63-1868	BTS-82K	
R68	68K		63-1862	BTS-68K	
R69	1200Ω		63-1789	BTS-1200	
R70	66K		63-1662	BTS-68K	
R71	68K		63-1862	BTS-68K	
R72	150K		63-1877	BTS-150K	
R73	100Ω	2	63-1973	BTB-100	
R74	10K		63-1827	BTS-10K	
R75	2200Ω		63-1799	BTS-2200	
R76	470Ω	7	63-3256		
R77	10K		63-1828	BTS-10K	
R78	10K		63-1828	BTS-10K	
R79	150K		63-1877	BTS-150K	
R80	10Meg		63-1953	BTS-10Meg	
R81	220K		63-1884	BTS-220K	
R82	470K		63-1897	BTS-470K	
R83	150K		63-1877	BTS-150K	Note 2
R84	470K		63-1897	BTS-470K	
R85	82K		63-1866	BTS-82K	
R86	47K	2	63-1157	BTB-47K	
R87	22K		63-1841	BTS-22K	
R88	220K		63-1884	BTS-220K	
R89	100K		63-1870	BTS-100K	
R90	47K		63-1855	BTS-47K	
R91	100Ω		63-1744	BTS-100	
R92	1.6Meg		63-1922	BTS-1.8Meg	
R93	330Ω	1	63-2286	BTA-330	
R94	100Ω		63-1744	BTS-100	
R95	330Ω	1	63-2286	BTA-330	
R96	560Ω		63-1775		
R97	560Ω		63-1775		
R98	1Meg		63-1911		
R99	1Meg		63-1911		
R100	3900Ω		63-1810		
R101	5.6Meg		63-1943		
R102	10Meg		63-1953		
R103	47K	1	63-1194		
R104	560Ω		63-1775		
R105	10K	2	63-2145		
R108	22K		63-1841		
R107	47K		63-1855		
R108	180K	1	63-2313		
R109	38K		63-1852		
R110	100Ω		63-1744		
R111	680K		63-1904		
R112	100Ω		63-1744		
R113	6000Ω	4	63-3579	PW7-6000	
R114	22K	1	63-958		
R115	8200Ω	4	63-3802	PW4-8200	
R116	82K	1	63-1971	BTA-82K	
R117	4700Ω		63-1814		
R118	5.6Ω		63-3253	BW½-5.6	
R119	22K		63-1841	BTS-22K	
R120	230K		63-3607	BTS-220K	

Note 1. Some versions use a 15K resistor in this application (part #63-1834).
Note 2. Some versions use a 68K resistor in this application (part #63-1862).

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	RATING SEC. 3	ZENITH PART No.	Holldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117VAC	520VCT @2.41A @.350A	5V @6A	12.6V @5.9A	95-1471	P9739 ②		P-8353①	26R90 ①	

① Drill new mounting holes.
② Use original mounting brackets.

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	ZENITH PART No.	Holldorson PART No.	Merit PART No.	RCA TYPE No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T2	Horiz. Output Trans.	S-23984①					A-8275 $ ¶		D-60* $
T3	Vert. Output Trans.	95-1460	Z1900②③	A-2823③④			A-6148⑤	26S75③④	A-108X③④
T4A	Yoke(90°) Horiz. (13MH)	95-1466⑥	DF606⑦⑧	MDF-91 ⑦⑧	237D1⑦⑧	Y90F12/47 ⑦⑧	DY-13A⑦⑧	Y-14⑦⑧	Y-40-1 ⑦⑧
B	Vert. (40MH)								
T5A	Width-Series Coil (.4-2.5MH)	S-18748		MWC-10				WC-24④	
B	Parallel Coil (4-23MH)								

① Complete assembly. Includes: winding and terminal assembly, Zenith part #S-23083
tertiary winding and terminal assembly, Zenith part #S-21264.
② Use 8 to 1 turns ratio.
③ Connect as auto transformer.
④ Drill new mounting hole(s).
⑤ Cut and tape green lead.
⑥ Includes capacitor C89, resistors R96 and R97.
⑦ Use original horizontal yoke damping network with capacitor (C89) across terminals #3 and #7.
⑧ Connect horizontal yoke terminal #3 to yoke plug pin #5, horizontal yoke terminals #2 and #7 to yoke plug pin #4, horizontal yoke terminal #1 to yoke plug pin #6.
$ This part may be superceded by Parts Manufacturer's introduction of special unit for this application.

*HORIZONTAL OUTPUT TRANSFORMER CONNECTION DATA

Use Original Width Coil Unless Replacement Type Is Listed

	ORIGINAL TERMINAL CONNECTIONS	Holldorson Replacement Connections	Merit Replacement Connections	RCA Replacement Connections	Ram Replacement Connections	Stancor Replacement Connections	Thordarson Replacement Connections	Triad Replacement Connections
	7					6		6
	1					5		5
	2					4		4
	3					NC See Note ⑨		NC See Note ⑨
	6					3		3
	4					2		2
	5					1		1
Special Notes →						⑨		⑨

⑨ To reduce horizontal yoke "ringing", connect 1000Ω, ½ W in series with capacitor C89.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	IMPEDANCE SEC.	ZENITH PART No.	Holldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T6	8.8KΩ	3-4Ω	95-1398	Z1011	A-2904 ①	A-3824	22S56	S-53X	① Drill one new mounting hole.

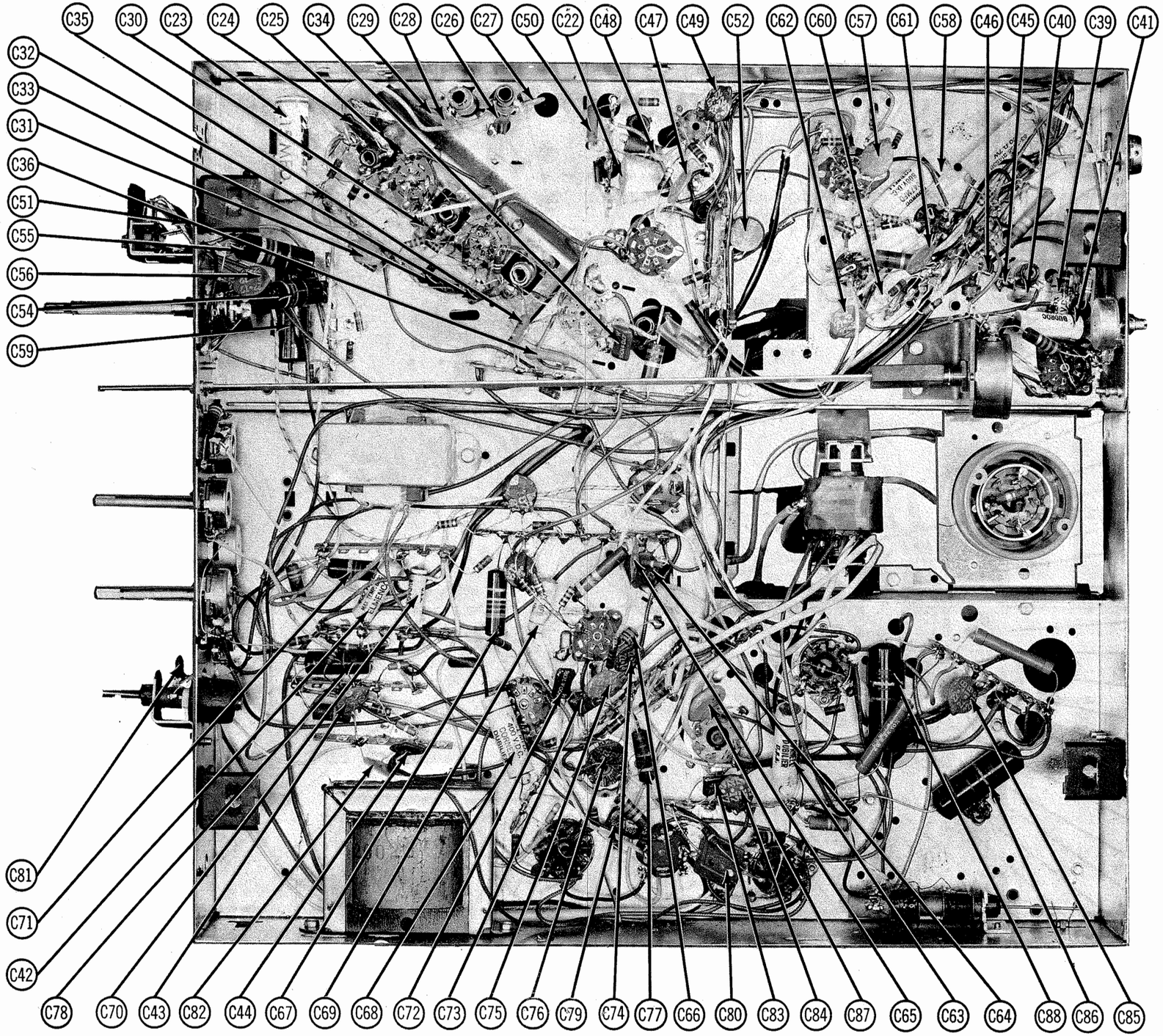
SPEAKER

ITEM No.	RATINGS SIZE	RATINGS FIELD	RATINGS V. C. IMP.	ZENITH PART No.	QUAM PART No.	RCA TYPE No.	NOTES
SP1	10"	PM	3-4Ω	49-764	10A10XZ3.2		① Electrostatic speakers
SP2	3"			S-23829 ①			
SP3	3"			S-23829 ①			

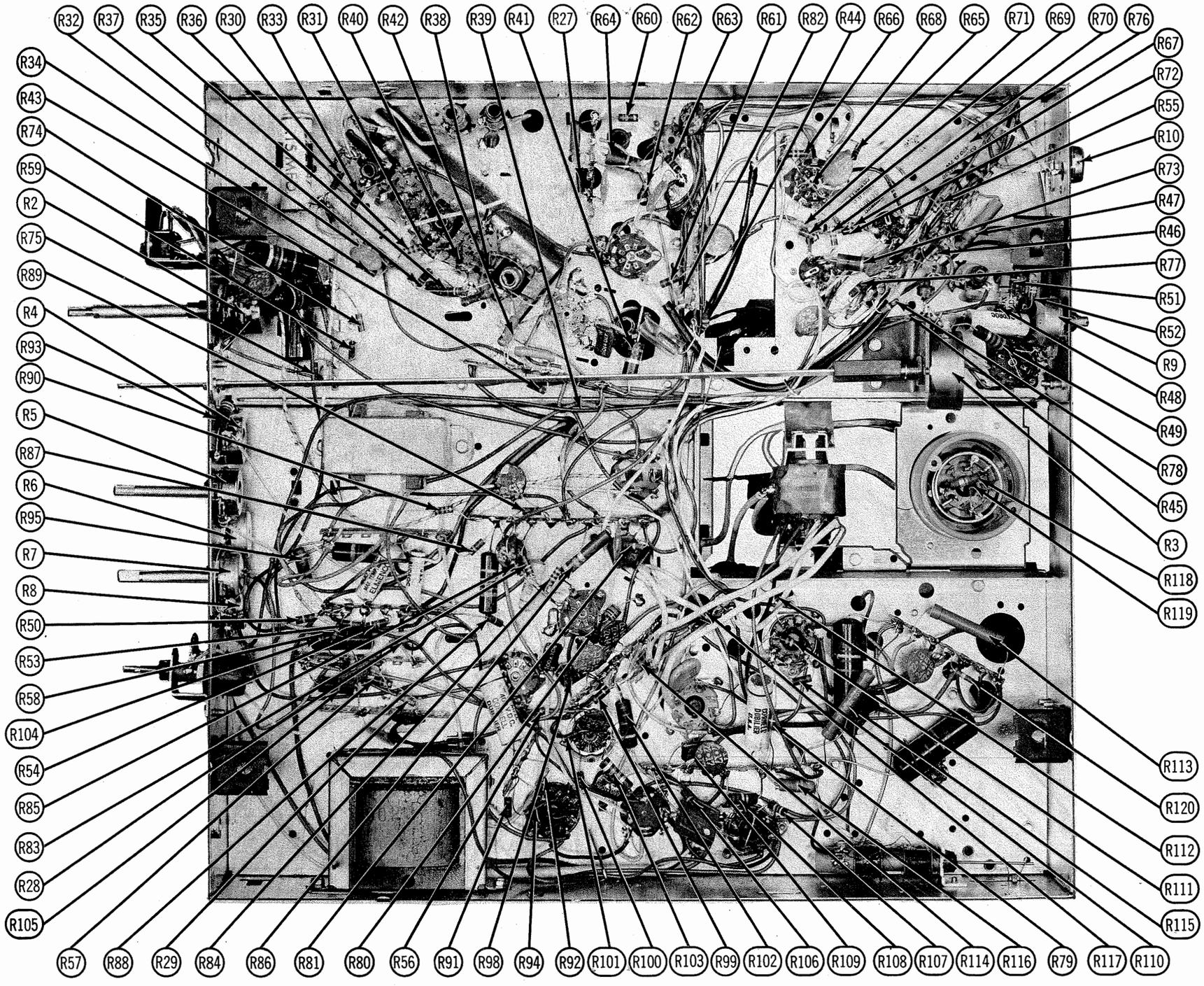
COILS (RF-IF)

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	ZENITH PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	NOTES
L1	Fil. Choke	0Ω		20-391				
L2	Neut. Coil	0Ω		20-431				
L3	RF Coil	0Ω		20-537				
L4	Conv. Grid Coil	0Ω		20-538				
L5	Conv. Shield	0Ω		126-768				
L6	Osc. Coil	0Ω		20-541				
L7	RF Choke	.4Ω		S-18859				
L8	Conv. Plate	7.2Ω		S-22702				Tapped ⑩ 1.3Ω
L9	47.25MC Trap	0Ω		S-21718			6228	
L10	39.75MC Trap	0Ω		S-21719			6225	
L11	1st. Video IF	.1Ω		S-22502				Includes 41.25MC trap
L12	2nd. Video IF	.1Ω	.1Ω	S-17907	17-5004 *	TV-125 *	6234*	
L13	3rd. Video IF	.1Ω	.1Ω	S-19952				
L14	4th. Video IF	.3Ω	.3Ω	S-20623				
L15	Series Peaking Coil	5.5Ω		S-17912	19-3093	TV-181	6177	100 Microhenries
L16	Shunt Peaking Coil	5.5Ω		S-21562	19-3180 ■	TV-184 ■	4644 ■	160 Microhenries wound in series on 2.7K resistor
L17	Series Peaking Coil	.8Ω		S-21888	19-1004		4610	
L18A	4.5MC Trap	13Ω		S-21492				
B	1st. Sound IF	1.3Ω						
L19	Series Peaking Coil	5.2Ω		S-21563	19-3125 ▲		6153 ▲	136 Microhenries, wound on 5.6K resistor
L20	2nd. Sound IF	.3Ω	.3Ω	S-19962				
L21	Quadrature Coil	4.7Ω		S-19020			1480 ♦	

* Use adaptor plate.
■ Series with 2.7KΩ resistor.
▲ Parallel with 5.6KΩ resistor.
♦ Drill mounting hole.



CHASSIS BOTTOM VIEW-CAPACITOR IDENTIFICATION

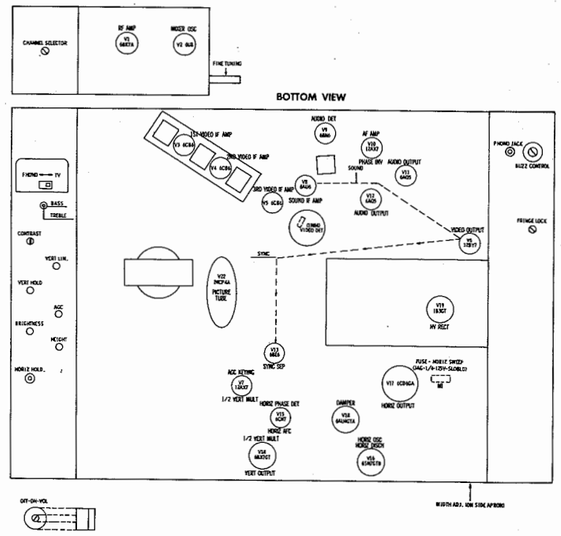


CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION

RESISTANCE MEASUREMENTS

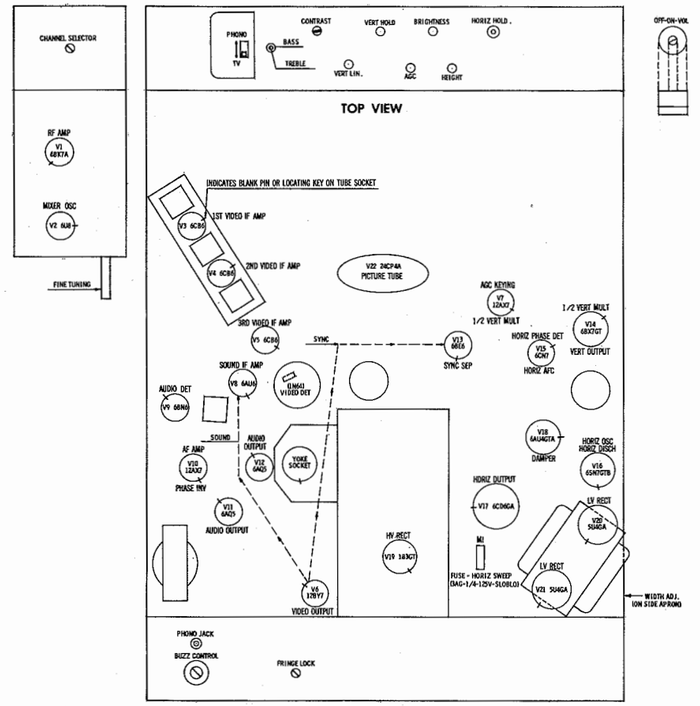
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BK7A	†750Ω	50K	INF	0Ω	.1Ω	INF	3Meg	47Ω	0Ω
V2	6U8	†10K	68K	†100K	.1Ω	0Ω	†260Ω	0Ω	2200Ω	12K
V3	6CB6	1Meg	450Ω	.1Ω	0Ω	▲470Ω	▲470Ω	0Ω		
V4	6CB6	60K	▲15Ω	.1Ω	0Ω	†500Ω	†500Ω	60K		
V5	6CB6	220Ω	340Ω	.1Ω	0Ω	†5600Ω	†5600Ω	0Ω		
V6	12BY7	15Ω	2700Ω	15Ω	0Ω	0Ω	.1Ω	†500Ω	†17K	15Ω
V7	12AX7	680K	3K	●6500Ω	.1Ω	.1Ω	●▲5Meg	●400K	0Ω	0Ω
V8	6AU6	100K	0Ω	.1Ω	0Ω	†32K	†32K	0Ω		
V9	6BN6	●400Ω	.3Ω	.1Ω	0Ω	†22K	4.7Ω	▲2.7Meg		
V10	12AX7	†68K	45K	1200Ω	0Ω	0Ω	†68K	●500KΩ	2200Ω	.1Ω
V11	6AQ5	100K	100Ω	.1Ω	0Ω	†750Ω	†500Ω	100K		
V12	6AQ5	60K	100Ω	.1Ω	0Ω	†750Ω	†500Ω	60K		
V13	6BE6	18K	0Ω	.1Ω	0Ω	†60K	†47K	10Meg		
V14	6BX7GT	1.8Meg	†800Ω	●500Ω	1.8Meg	†800Ω	●500Ω	.1Ω	0Ω	
V15	6CN7	3900Ω	1.5Meg	850K	.1Ω	0Ω	560Ω	3.5Meg	†47K	.8Ω
V16	6SN7GTB	47K	▲250K	0Ω	30K	†47Ω	10K	0Ω	.1Ω	
V17	6CD6GA	TP	.1Ω	0Ω	TP	680K	TP	0Ω	†6K	TOP CAP ▲7.5Ω
V18	6AU4GTA	NC	NC	350K	NC	†47Ω	NC	0Ω	.1Ω	
V19	1B3GT	PINS 1-8 HAVE INF RESISTANCE								TOP CAP ▲280Ω
V20	5U4GA	NC	20K	NC	17Ω	NC	18Ω	NC	20K	
V21	5U4GA	NC	20K	NC	17Ω	NC	18Ω	NC	20K	
V22	24CP4A	0Ω	50K	PIN 10 ▲82K	PIN 11 ●†270KΩ	PIN 12 .1Ω				

† MEASURED FROM PIN 2 OF V20.
▲ MEASURED FROM PIN 7 OF V4.
● THIS READING WILL VARY. CONTROL SET FOR NORMAL OPERATION.
▲ MEASURED FROM PIN 3 OF V18.
TP - TIE POINT
NC - NO CONNECTION.



TUBE PLACEMENT CHART

TUBE PLACEMENT CHART



TUBE FAILURE CHECK CHART

The following chart lists tubes whose failures are most likely to produce the indicated symptoms. Refer to tube placement chart for location and type of tube.

POWER SUPPLY FAILURE
No raster, no sound - V20, V21

LOSS OF PICTURE OR SOUND
No pic, no sound, has raster - V2, V3, V4, V5, V6
No pic, no sound, has snow - V1, V2, V3
No pic, has sound, has raster - V6, V7, V22
Has pic, no sound - V8, V9, V10, V11, V12
Overloaded picture - V7

SYNC FAILURE
No vert. sync - V7, V13, V14
No horiz. sync - V13, V15, V16
No vert. or horiz. sync - V13

SWEEP FAILURE
No raster, has sound - V15, V16, V17, V18, V22, Fuse (M1)
No vertical deflection - V7, V14
Poor vert. linearity or foldover - V7, V14
Poor horiz. linearity or foldover - V16, V17, V18
Narrow picture -V16, V17, V18, V19, V20, V21
Vert. off freq. - V7, V13, V14
Horiz. off freq. - V13, V15, V16

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

If the set is to be aligned with the picture tube removed, the high voltage lead should be securely taped away from the chassis.

VIDEO IF ALIGNMENT

Place the tuner turret mid-way between two channels.
Connect the negative lead of a 2 volt bias supply to the ungrounded side of C23. Connect the positive lead to chassis.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	470MMF	High side to pin 1 (grid) of 6CB6 (V5). Low side to chassis.	44MC (10MC Swp)	39.75MC 45.75MC	See note above	Vert. Amp. thru 10K to point (A). Low side to chassis.	A1, A2	Adjust for response curve similar to Fig. 1. If correct response cannot be obtained, check to see that the slugs are entering the coils from the outside ends of the coils.
2.	"	High side to point (B). Low side to chassis.	"	39.75MC 41.25MC 47.25MC	"	"	A3, A4, A5	Reduce bias to zero. Turn sweep generator output to maximum. Increase gain on scope to magnify trap portions of response curve. Adjust traps for response similar to Fig. 2.
3.	"	"	"	42.75MC 45.0MC 45.75MC	"	"	A6, A7, A8, A9	Replace 2 volt bias. Adjust for response curve similar to Fig. 3. Readjustment of A1 and A2 should not be required to obtain proper response.

VHF OSCILLATOR ALIGNMENT

The master oscillator adjustment A10 is made only if the individual oscillator adjustments fail to bring all channels within the range of the fine tuning control. If channels 2 through 6 fall with-in the fine tuning range, but the high channels do not, slight adjustment of A10 may bring the high channels in.
Ground the AGC lead from the tuner (yellow lead) to chassis.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4.	Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	57MC (10MC Swp)	59.75MC	2	Vert. Amp. thru 10K to point (A). Low side to chassis.	A11	Adjust to place sound marker in trap notch as in Fig. 4.
			63MC (10MC Swp)	65.75MC	3		A12	
			69MC (10MC Swp)	71.75MC	4		A13	
			79MC (10MC Swp)	81.75MC	5		A14	
			85MC (10MC Swp)	87.75MC	6		A15	
			177MC (10MC Swp)	179.75MC	7		A16	
			183MC (10MC Swp)	185.75MC	8		A17	
			189MC (10MC Swp)	191.75MC	9		A18	
			195MC (10MC Swp)	197.75MC	10		A19	
			201MC (10MC Swp)	203.75MC	11		A20	
			207MC (10MC Swp)	209.75MC	12		A21	
			213MC (10MC Swp)	217.75MC	13		A22	

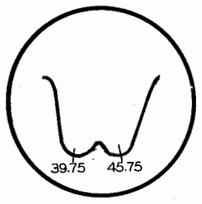


FIG. 1

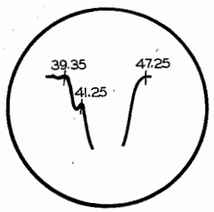


FIG. 2

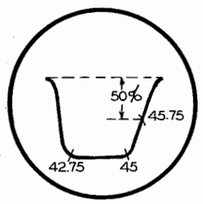


FIG. 3

ALIGNMENT INSTRUCTIONS (cont)

VHF RF AND MIXER ALIGNMENT

Ground the AGC lead (yellow wire) from the tuner to chassis.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
5.	Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	69MC (10MC Swp)	67.25MC 71.75MC	4	Vert. Amp. to point (B). Low side to chassis.	A23, A24, A25	Adjust for response curve similar to Fig. 5.
6.	"	"	201MC (10MC Swp)	199.25MC 203.75MC	"	"	A26, A27	Adjust for response curve similar to Fig. 5. If passband is not correct, SLIGHTLY bend L4 (slotted tab in shield plate). Repeat steps 5 and 6 for optimum results on all channels.

UHF TUNER ALIGNMENT

Any attempt to peak any one particular channel will usually cause serious degradation of the other channels.
No attempt should be made to adjust the oscillator unless the calibration is off more than three channels. Turn the UHF tuning dial to channel 54.
The rocker arm of the tuner should be horizontal. If it is not, loosen the set screw on the drive pulley and turn the tuner shaft independently of the pulley until the rocker arm is horizontal with the channel indicator at channel 54. Tighten the set screw.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
7.	Two 120Ω Carbon Resistors	Across UHF antenna terminals with 120Ω in each lead.	713MC (10MC Swp)	711.25MC	54	Vert. Amp. thru 10K to point (A). Low side to chassis.	A28, A29, A30	Adjust for response curve similar to Fig. 6. When adjusting A28 two responses may be found, the correct setting is with the adjustment of the most counter clockwise position.
8.	"	"	473MC (10MC Swp)	471.25MC	14	"		Check for response similar to Fig. 6. If the oscillator is off calibration more than 3 channels, adjust the oscillator travel (Osc. mixer and antenna travel adjustments are the round thumb screws on top of the tuner) adjustment to scale. Care must be exercised when making this adjustment not to move the rocker arm out of its bearing. Adjust the mixer and antenna travel adjustments for maximum amplitude response.
9.	"	"	887MC (10MC Swp)	885.25MC	83	"	A31, A32, A33	Adjust A31 to place marker at 50% as in Fig. 6. Adjust A32 and A33 for maximum amplitude of response.

SOUND IF ALIGNMENT

Connect an attenuator (Zenith Part No. S-17203 or equivalent) in series with the receiver antenna. Tune in a TV station and adjust the attenuator until the signal falls below the limiting level of the 6BN6 audio detector, as evidenced by hiss similar to super-regeneration.
Adjust the sound take-off transformer (A34 and A35), the sound IF coil (A36) and the quadrature coil (A37) for maximum sound and best quality.
Adjust the buzz control (R10) for minimum buzz. If the buzz cannot be eliminated with the buzz control, check the setting of the AGC control. If during any of the sound IF adjustments the signal rises above the limiting level (hiss disappears), increase the attenuation until the hiss returns.

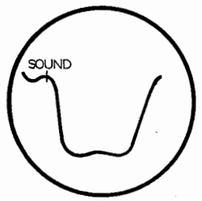


FIG. 4

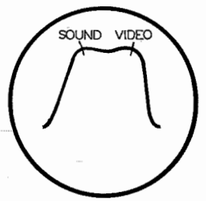


FIG. 5

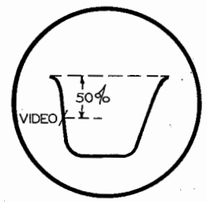


FIG. 6