

CABINET—REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably with a test pattern.

Set the Brightness and Contrast controls for a normal picture.

Turn the Horizontal Hold clockwise until the picture loses sync. It may be necessary to switch off channel and back again for picture to lose sync.

Turn the Horizontal Hold slowly counterclockwise until the picture just falls into sync.

SET 467
FOLDER 2

ZENITH CHASSIS
16D21, Q, U

PHOTOFACT* Folder



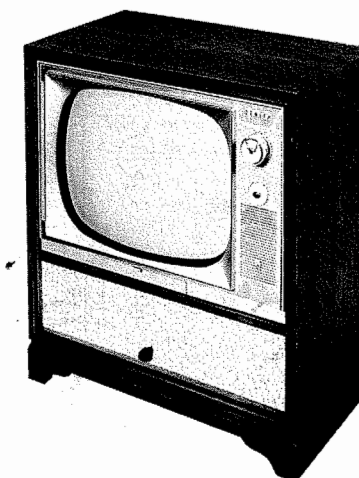
with CIRCUITRACE*



DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

1. Remove 8 push-on type knobs from front of cabinet.
2. Remove 8 wood screws and one metal screw holding rear cover. Remove rear cover.
3. Remove speaker leads and 2 metal screws holding external speaker socket.
4. Remove 2 bolts holding tuner mounting bracket at rear of cabinet. Remove pilot lamp lead.
5. Remove 2 metal screws holding On-Off-Volume control mounting bracket.
6. Remove 4 chassis bolts from bottom of chassis.
7. Remove chassis.



MODEL D2348W (Ch. 16D21)

ZENITH CHASSIS
16D21, Q, U

TRADE NAME	Zenith	MODELS	CHASSIS
		D2301R, Y, D2302R, D2315L, R, Y, D2317E, R, W, D2345E, R, W, D2347E, L, M, R, W, D2348E, R, W, D2350H, M, R, W, D2355E, L, R, W, D2381E, R, W, D2384H, R, D2673E, R, W, D2301RU, YU, D2302RU, D2315LU, RU, YU, D2317EU, RU, WU, D2345EU, RU, WU, D2347EU, LU, MU, RU, WU, D2348EU, RU, WU, D2350HU, MU, RU, WU, D2355EU, LU, RU, WU, D2381EU, RU, WU, D2384HU, RU, D2673EU, RU, WU, D3002E, R, W, D3004E, R, W, D3005E, L, M, R, W, D3006E, L, R, W, D3007E, M, R, W, Y, D3008R, D3009E, W, Y	16D21 16D21U 16D21Q
MANUFACTURER	Zenith Radio Corp., 6001 Dickens Avenue, Chicago 39, Illinois		
TYPE SET	Television Receiver		
TUBES	VHF-Sixteen (Ch. 16D21)		
POWER SUPPLY	110-120 Volts AC, 60 Cycle		
TUNING RANGE	Channels 2 thru 13 VHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)		
		RATING 195 Watts, 1.8 Amp. @ 117 Volts AC	

SERVICING IN THE FIELD

SAFETY GLASS REMOVAL

Remove 3 push-on type knobs from the front. Remove 2 screws holding trim and 4 metal screws holding front glass. Tilt glass out and remove.

FUSE

One fuse is used for low voltage power supply protection. (For location, see "Tube Placement Chart".) One fuse wire is used for filament protection. (For location, see M3 in photo "Chassis Bottom View".)

TUNER OSCILLATOR ADJUSTMENTS

To touch-up the VHF Oscillator, remove Channel Selector and Fine Tuning knobs.

AGC

The AGC may be varied by means of an AGC control. (For location, see "Tube Placement Chart".)

FOCUS

The focus may be varied by means of a Focus control. (For location, see "Tube Placement Chart".)

SYNC STABILITY

Sync stability may be varied by means of a Fringe Lock control. (For location, see "Tube Placement Chart".)

HORIZONTAL OSCILLATOR FIELD ADJUSTMENTS

The Horizontal Frequency slug is used for the Horizontal Hold. (For location, see "Tube Placement Chart".)

WIDTH

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.

BUZZ ADJUSTMENT

To eliminate intercarrier buzz, adjust the Buzz control for MINIMUM buzz and maximum sound. (For location, see "Tube Placement Chart".)

CENTERING

Centering is accomplished by 2 magnetic rings, located behind the yoke, on the neck of the picture tube.

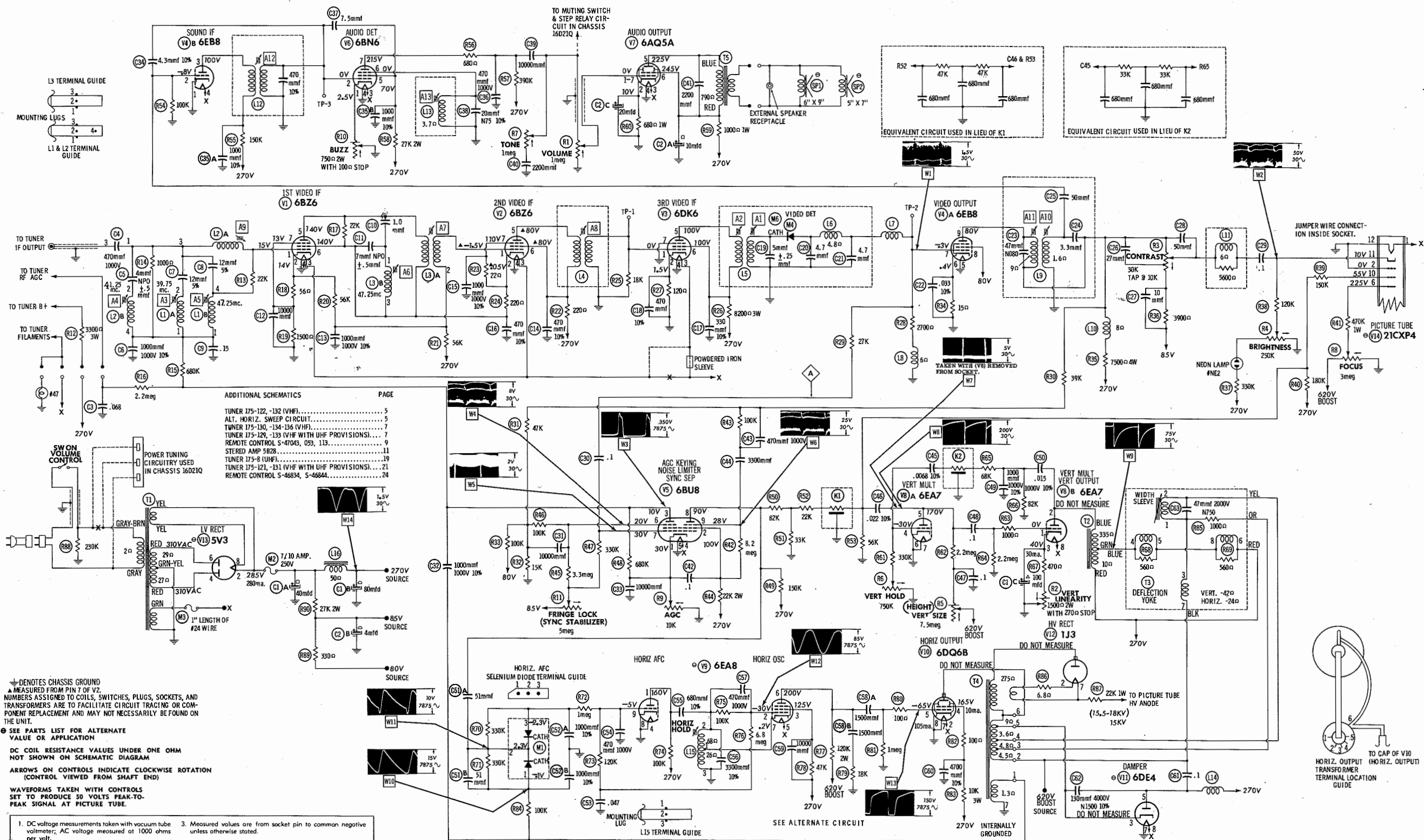
PINCUSHION CORRECTION

Reduce the picture size so that the sides of the raster are visible. Position the 2 magnets so that all sides are straight.

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 JA646

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1959 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America



A PHOTOFAC STANDARD NOTATION SCHEMATIC
 ©Howard W. Sams & Co., Inc. 1959

ZENITH CHASSIS
 16D21, Q, U

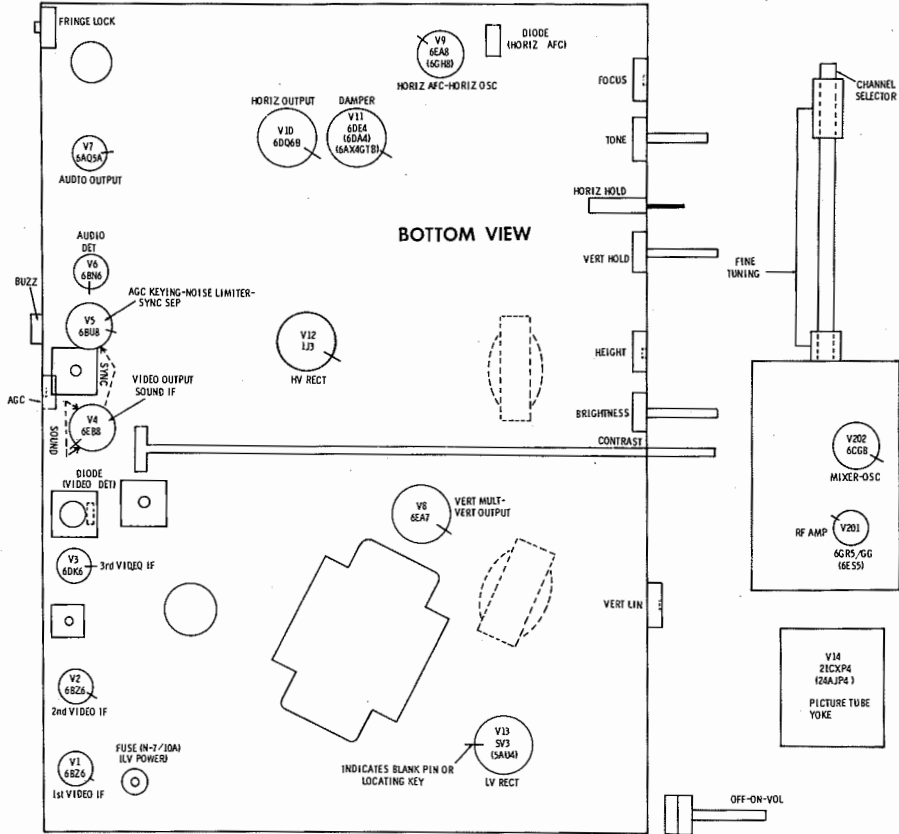
ZENITH CHASSIS
 16D21, Q, U

FOLDER 2

RESISTANCE MEASUREMENTS

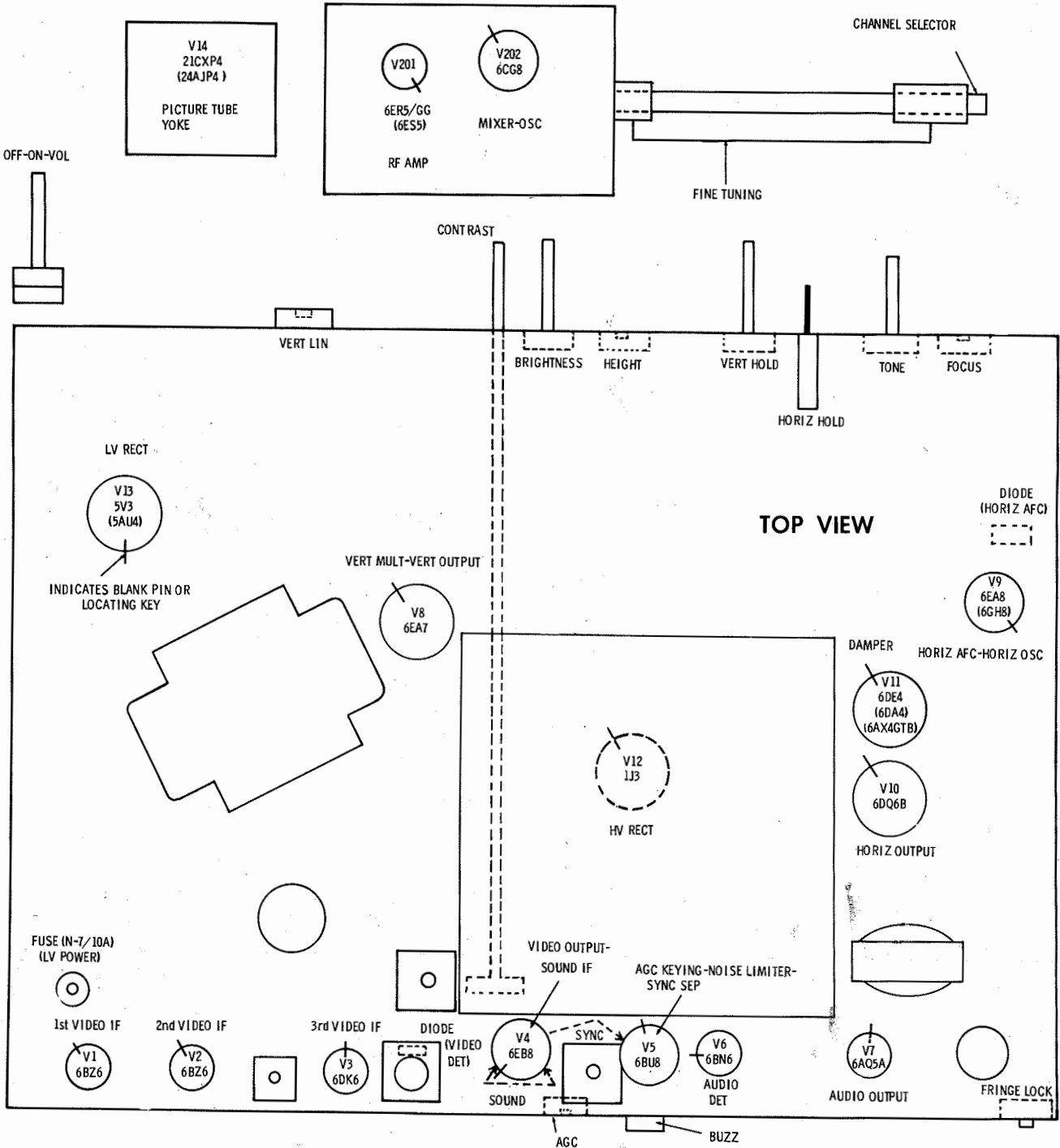
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BZ6	1.5meg	1550Ω	.1Ω	0Ω	Δ 240Ω	Δ 240Ω	1500Ω		
V2	6BZ6	35K	Δ 22Ω	.1Ω	0Ω	† 220Ω	† 220Ω	INF		
V3	6DK6	.1Ω	120Ω	.1Ω	0Ω	† 8200Ω	† 8200Ω	0Ω		
V4	6EB8	0Ω	100K	† 150K	.1Ω	0Ω	15Ω	2700Ω	† 27K	† 6500Ω
V5	6BU8	• 3500Ω	† 22K	680K	.1Ω	0Ω	† 150K	• † 750K	† 80K	† 8.2meg
V6	6BN6	• 400Ω	.5Ω	.1Ω	0Ω	† 27K	3.7Ω	† 390K		
V7	6AQ5A	0Ω	680Ω	.1Ω	0Ω	† 1800Ω	† 1000Ω	0Ω		
V8	6EA7	2.2meg	† 345Ω	• 1400Ω	• 700K	• † 4.5meg	0Ω	0Ω	.1Ω	
V9	6EA8	† 100K	100K	† 47K	0Ω	.1Ω	† 120K	26Ω	0Ω	1.5meg
V10	6DQ6B	TP	.1Ω	TP	† 10K	1meg	NC	0Ω	0Ω	TOP CAP † 9Ω
V11	6DE4	NC	NC	† 2.5meg	NC	† 0Ω	NC	0Ω	.1Ω	
V12	1J3	PINS 1 THRU 8 HAVE INFINITE RESISTANCE								TOP CAP † 285Ω
V13	5V3	NC	†	TP	29Ω	NC	27Ω	TP	†	
V14	21CXP4	.1Ω	0Ω	Pin 6 • † 2meg	Pin 10 † 330K	Pin 11 • 140K	Pin 12 0Ω			
V201	6ER5/GG	0Ω	3meg	0Ω	.1Ω	† 4300Ω	0Ω	0Ω		
V202	6CG8A	3900Ω	† 18K	0Ω	0Ω	.1Ω	† 3300Ω	† 36K	0Ω	220K

† THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
• THIS READING WILL VARY. CONTROL SET FOR NORMAL OPERATION.
† MEASURED FROM 270V SOURCE.
† MEASURED FROM PIN 3 OF V11.
Δ MEASURED FROM PIN 7 OF V2.
NC NO CONNECTION.
TP TIE POINT.



TUBE PLACEMENT CHART

TUBE PLACEMENT CHART



TOP VIEW

TUBE FAILURE CHECK CHART

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

POWER SUPPLY FAILURE
No raster, no sound Fuse (LV Power), V13

SWEEP FAILURE
No raster, has sound V9, V10, V11, V12, V14
No vertical deflection V8
Poor vert. linearity or foldover V8
Poor horiz. linearity or foldover V9, V10, V11
Narrow picture V13, V9, V10, V11
Vert. off freq. V8
Horiz. off freq. Diode (Horiz. AFC), V9

LOSS OF PICTURE OR SOUND
No pic, no sound, has raster V1, V2, V3, V4,
No pic, no sound, has snow V201, V202, V1
No pic, has sound, has raster V4, V14
Has pic, no sound V6, V7
Overloaded picture V5

SYNC FAILURE
No vert. sync V5
No horiz. sync V5, V9, Diode (Horiz. AFC)
No vert. or horiz. sync V5

ZENITH CHASSIS
16D21, Q, U

FOLDER 2

ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS

Allow a 20 minute warm-up period for the receiver and test equipment.
Suggested alignment tools: A1 thru A13.... General Cement #8606, 8606L, 8682, 9295
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.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. 470mmf	High side to TP1. Low side to chassis. Connect a 56Ω carbon resistor across sweep output.	44MC (10MC Swp)	39.75MC 41.25MC 45.75MC	Between any two channels	Vert. Amp. thru 10K to TP2. Low side to chassis. (Across Video Det. load)	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. The 39.75MC marker can fall within ±.5MC of the specified frequency. 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. Direct	High side to ungrounded tube shield floating over Mixer-Osc. tube (V202). Low side to chassis.	"	39.75MC 41.25MC 47.25MC	"	"	A3, A4, A5, A6	Connect a clip lead from point A to chassis. Connect a clip lead from TP3 to point B. Use high scope again and adjust A3 thru A6 for MINIMUM marker amplitudes as in Fig. 2. A3 controls the 39.75MC marker, A4 controls the 41.25MC marker and A5 and A6 control the 47.25MC marker.
3. "	"	"	41.25MC 42.75MC 45.0MC 45.75MC	"	"	A7, A8, A9, & Mixer Plate Coil	Remove clip lead from point B and connect to chassis. Adjust for maximum gain and symmetry of response similar to Fig. 3 with markers as shown. A7 affects low side of curve and A8 affects the high side. Remove clip leads.

SOUND IF ALIGNMENT

Connect an adjustable attenuator between the antenna and the receiver antenna terminals. Tune in a TV station and adjust the attenuator until the signal is below the limiting level of the 6BN6 as evidenced by a hiss similar to super-regeneration in the sound. Adjust A10, A11, A12 and A13 for maximum sound and best quality. Adjust the Buzz control (R10) for MINIMUM buzz. If the hiss disappears during alignment, further reduce the signal until the hiss returns.

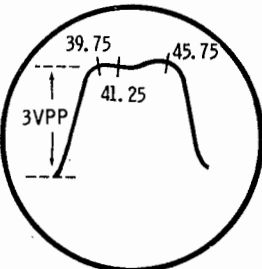


FIG. 1

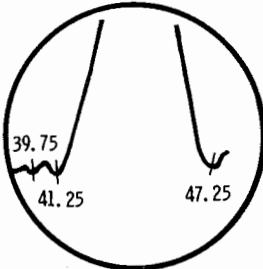


FIG. 2

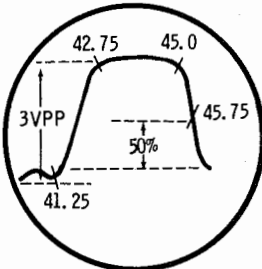
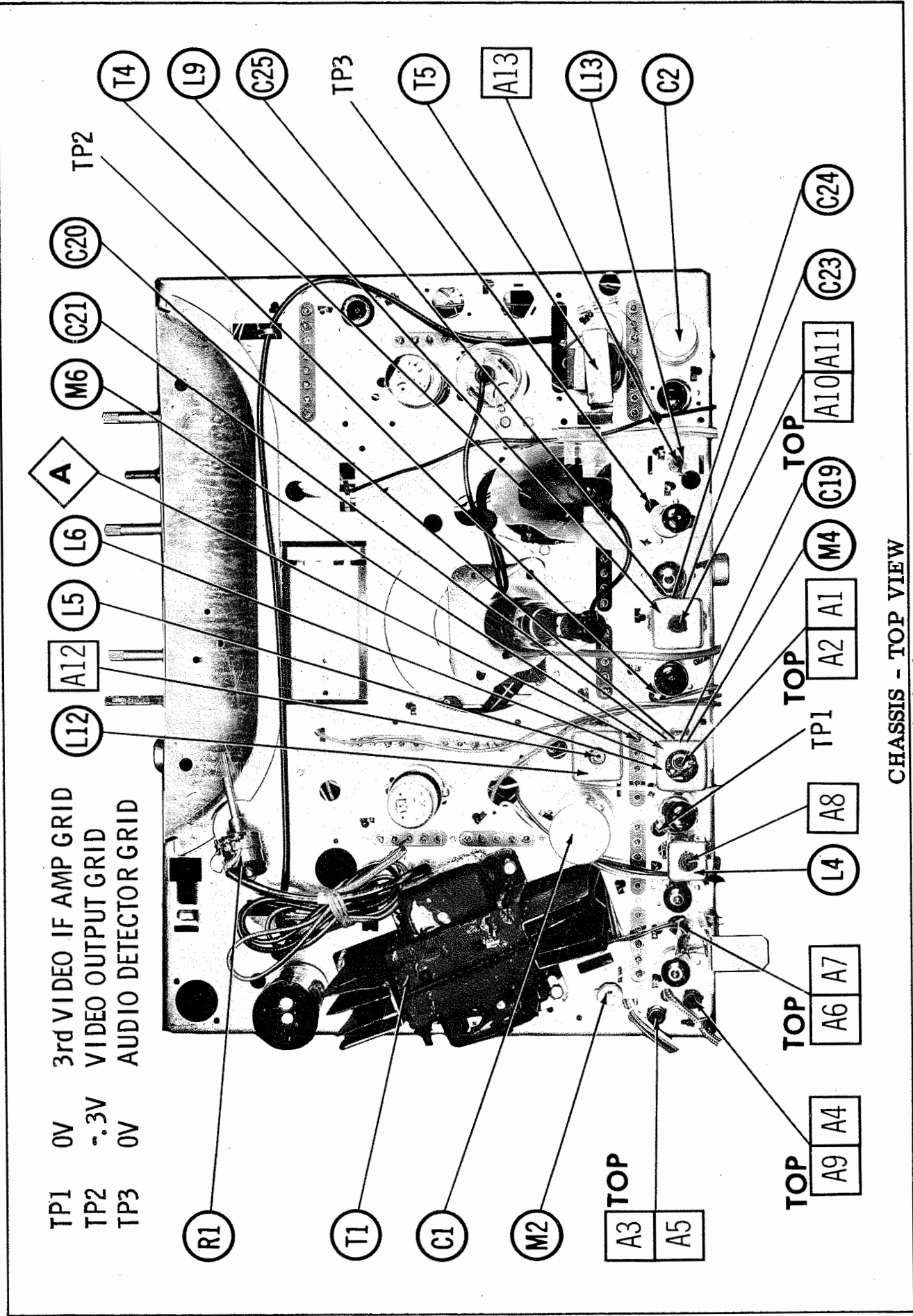


FIG. 3

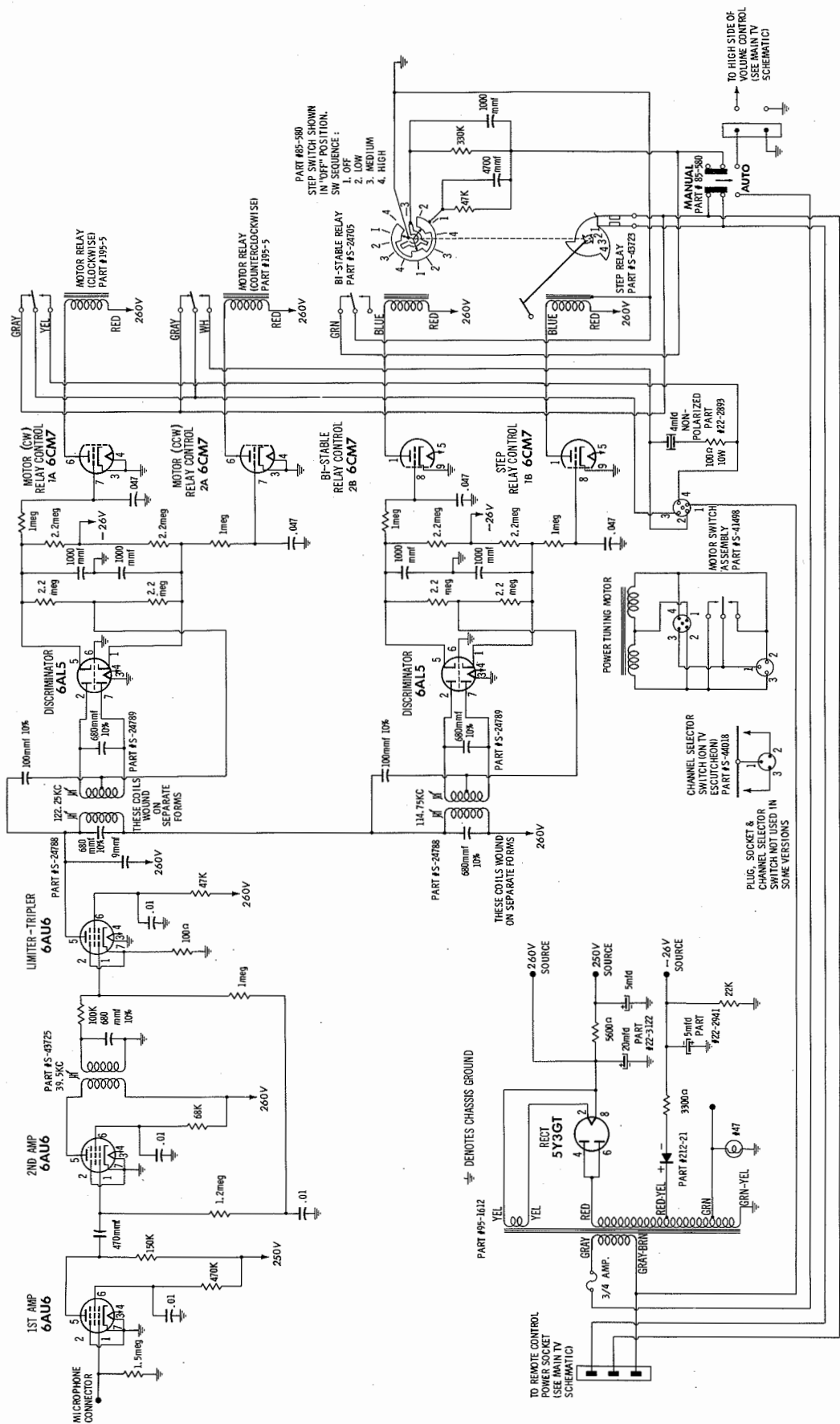
TUNER ALIGNMENT INSTRUCTIONS LOCATED ON PAGES 6, 23



ZENITH CHASSIS
16D21, Q, U

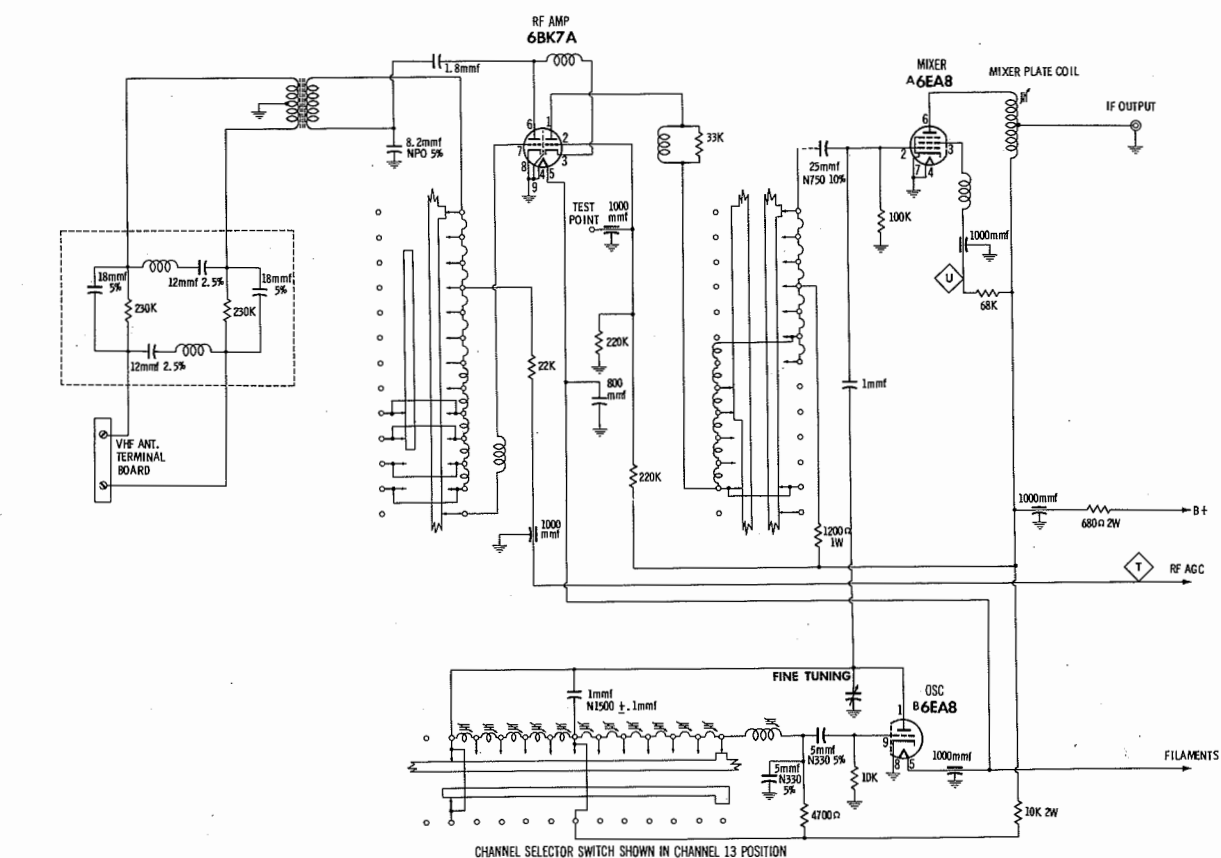
CHASSIS - TOP VIEW

FOLDER 2



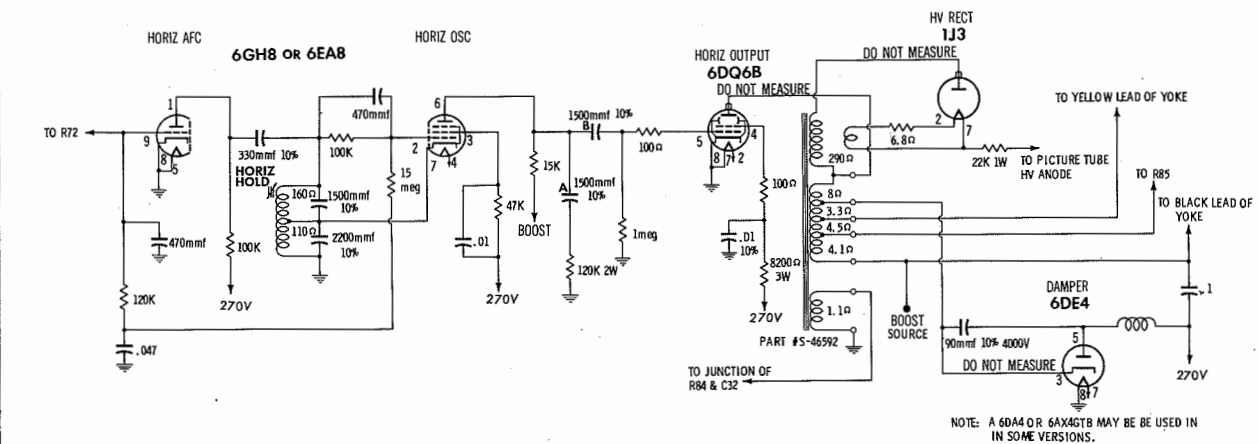
A PHOTOFACT STANDARD NOTATION SCHEMATIC
© Howard W. Sams & Co., Inc. 1959

REMOTE CONTROL S-46834, S-46844



A PHOTOFACT STANDARD NOTATION SCHEMATIC
© Howard W. Sams & Co., Inc. 1959

VHF TUNER 175-122, -132



A PHOTOFACT STANDARD NOTATION SCHEMATIC
© Howard W. Sams & Co., Inc. 1959

ALTERNATE HORIZONTAL SWEEP CIRCUIT

ZENITH CHASSIS
16D21, Q, U

FOLDER 2

TUNER ALIGNMENT INSTRUCTIONS
175-129, -130, -133, -134, -136, -140

PRE-ALIGNMENT INSTRUCTIONS

Allow a 20 minute warm-up period for the receiver and test equipment.
Suggested alignment tools: GENERAL CEMENT
WALSCO

VHF OSCILLATOR ALIGNMENT

Set the Fine Tuning to the center of its range by turning the Fine Tuning shaft until the small index hole in the drive cam is directly over the small hole just below the channel 13 oscillator adjustment screw. Starting with the highest channel operating in the area, adjust the appropriate oscillator adjustment screw for best picture and sound for each channel available.

VHF RF AND MIXER ALIGNMENT

Connect the negative lead of a 2 volt bias supply to point Φ . Positive 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.
Use only enough sweep generator output to provide a usable pattern on scope.
Use 10MC sweep unless otherwise noted.
Coils not containing adjustable cores are adjusted by expanding or compressing coil turns.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. Fig. 201	Across antenna terminals thru matching network (Fig. 201).	213MC	211. 25MC 215. 75MC	13	Vert. amp. thru 10K to point Φ . Low side to chassis.	A201	Adjust for maximum gain and symmetry of response similar to Fig. 202 with markers as shown.
2. "	"	207MC	205. 25MC 209. 75MC	12	"	A202	"
3. "	"	201MC	199. 25MC 203. 75MC	11	"	A203	"
4. "	"	195MC	193. 25MC 197. 75MC	10	"	A204	"
5. "	"	189MC	187. 25MC 191. 75MC	9	"	A205	"
6. "	"	183MC	181. 25MC 185. 75MC	8	"	A206	"
7. "	"	177MC	175. 25MC 179. 75MC	7	"	A207	"
8. "	"	85MC	83. 25MC 87. 75MC	6	"	A208, A209	Adjust for maximum gain and symmetry of response similar to Fig. 202 with markers as shown. Adjust first coil for proper marker position and second coil for maximum gain and symmetry.
9. "	"	79MC	77. 25MC 81. 75MC	5	"	A210, A211	"
10. "	"	69MC	67. 25MC 71. 75MC	4	"	A212, A213	"
11. "	"	63MC	61. 25MC 65. 75MC	3	"	A214, A215	"
12. "	"	57MC	55. 25MC 59. 75MC	2	"	A216, A217	"

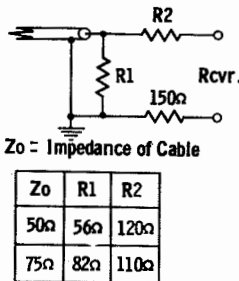


FIG. 201

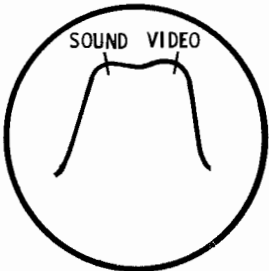


FIG. 202

TUNER ALIGNMENT INSTRUCTIONS
175-121, -122, -131, -132

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 thru A203 ... GENERAL CEMENT #5000, 5003, 8276, 8290
WALSCO #2512, 2525
A216 thru A227 ... GENERAL CEMENT #8607, 9291
WALSCO #2520, 2522, 2523, 2524, 2537

VHF RF AND MIXER ALIGNMENT

Connect the negative lead of a 2.5 volt bias supply to point Φ . Positive 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.
Use only enough sweep generator output to provide a usable pattern on scope.
Use 10MC sweep unless otherwise noted.
Coils not containing adjustable cores are adjusted by expanding or compressing coil turns.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. Fig. 201	Across antenna terminals thru matching transformer (Fig. 201).	195MC	193. 25MC 197. 75MC	10	Vert. Amp. thru 10K to point Φ . Low side to chassis.	A201, A202, A203	Adjust A201 and A202 for maximum amplitude and symmetry with markers as shown in Fig. 202. Increase bias for MINIMUM amplitude of response curve. Without changing the bias adjust A203 to obtain MINIMUM response on the scope.
2. "	"	213MC	211. 25MC 215. 75MC	13	"	A204	Adjust for maximum amplitude of response similar to Fig. 202. 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	

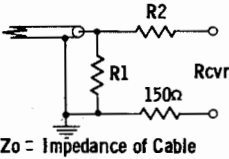


FIG. 201

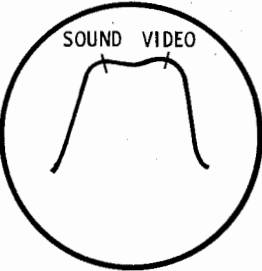


FIG. 202

VHF OSCILLATOR ALIGNMENT

Connect variable bias to IF AGC line. Adjust bias to obtain response curve which shows no indication of overloading.
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.
Use only enough sweep generator output to provide a usable pattern on scope.
Use 10MC sweep unless otherwise noted.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
3. Fig. 201	Across antenna terminals thru matching transformer (Fig. 201).	213MC	211. 25MC 215. 75MC	13	Vert. Amp. thru 47K across Video Detector load.	A216	Adjust to place sound marker in trap notch as in Fig. 203. Video marker should fall at 50%.
		207MC	205. 25MC 209. 75MC	12		A217	
		201MC	199. 25MC 203. 75MC	11		A218	
		195MC	193. 25MC 197. 75MC	10		A219	
		189MC	187. 25MC 191. 75MC	9		A220	
		183MC	181. 25MC 185. 75MC	8		A221	
		177MC	175. 25MC 179. 75MC	7		A222	
		85MC	83. 25MC 87. 75MC	6		A223	
		79MC	77. 25MC 81. 75MC	5		A224	
		69MC	67. 25MC 71. 75MC	4		A225	
		63MC	61. 25MC 65. 75MC	3		A226	
		57MC	55. 25MC 59. 75MC	2		A227	

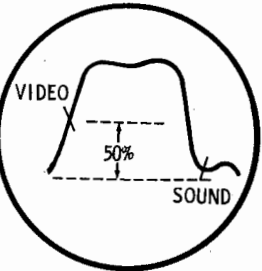
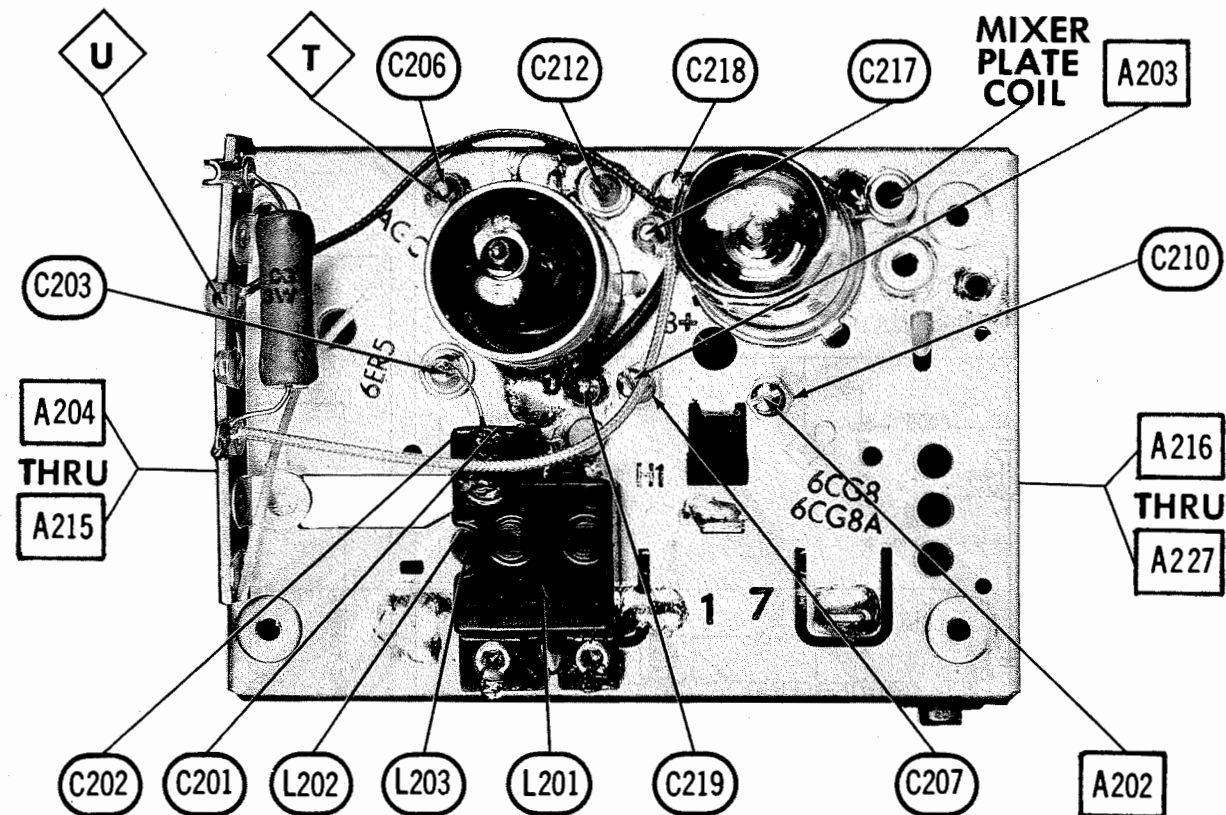


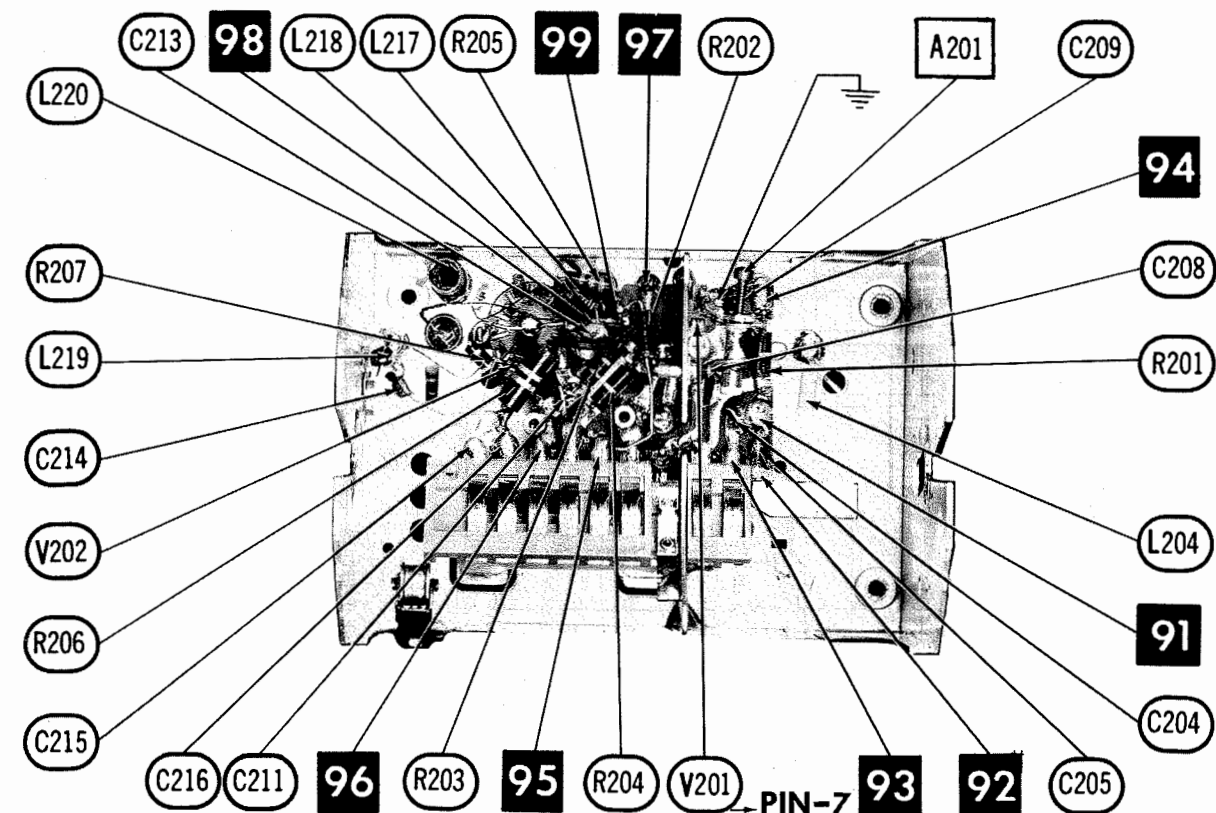
FIG. 203

ZENITH CHASSIS
16D21, Q, U

FOLDER 2



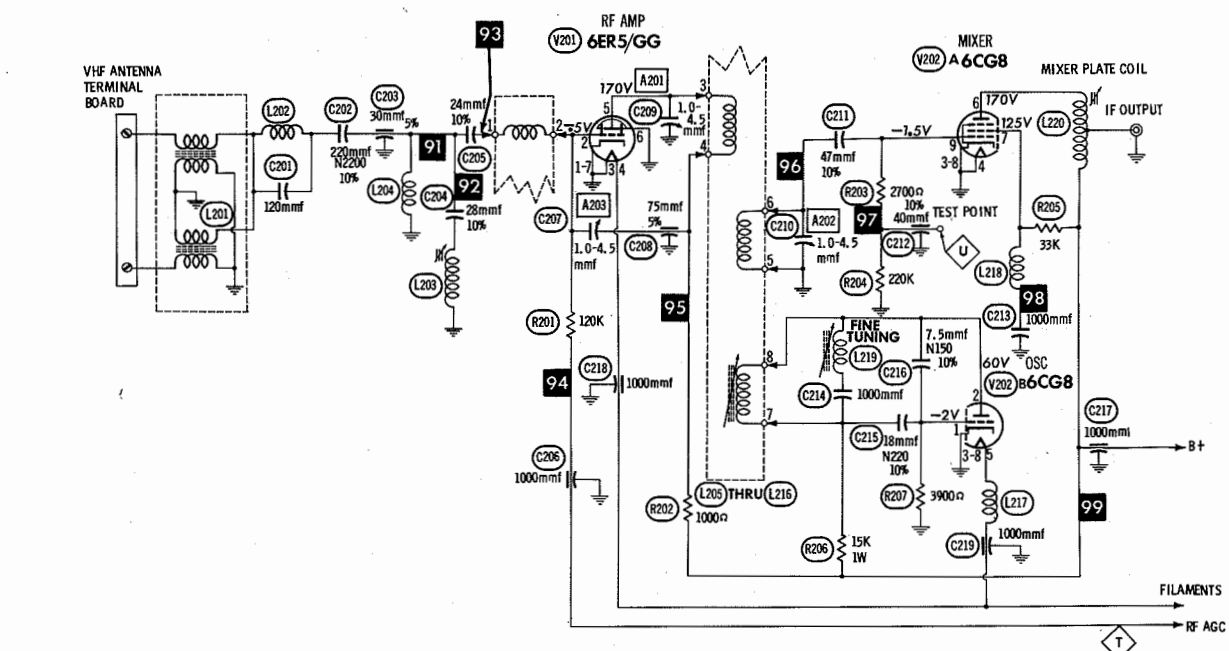
TUNER 175-130 - TOP VIEW



TUNER 175-130
BOTTOM VIEW

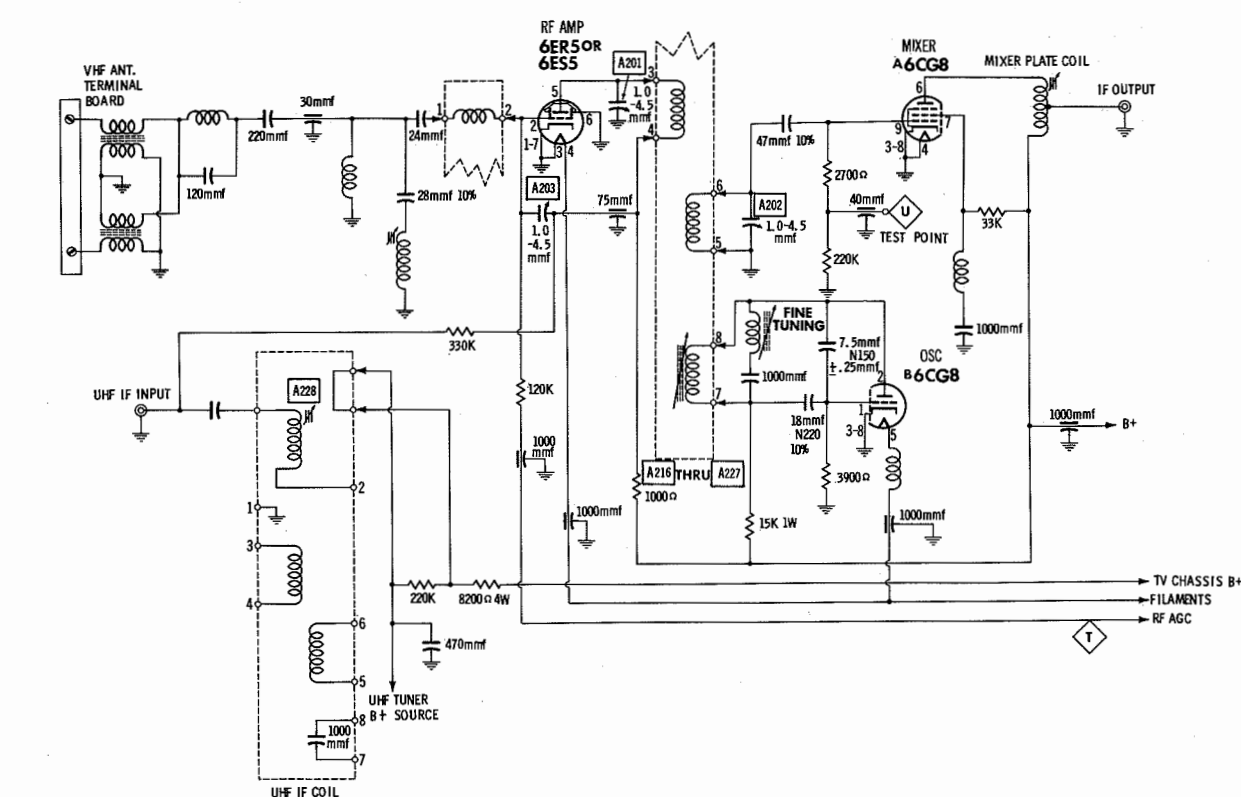
ARROWS INDICATING TUBE LOCATIONS ARE
POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

A Howard W. Sams CIRCUITRACE Photo



A PHOTOFAC STANDARD NOTATION SCHEMATIC
with CIRCUITRACE
© Howard W. Sams & Co., Inc. 1959

VHF TUNER 175-130, -134, -136



A PHOTOFAC STANDARD NOTATION SCHEMATIC VHF TUNER WITH UHF PROVISIONS 175-129, -133
© Howard W. Sams & Co., Inc. 1959

ZENITH CHASSIS
16D21, Q, U

FOLDER 2

TUNER
175-130
PARTS LIST AND DESCRIPTIONS
TUBES

* CBS * GENERAL ELECTRIC			* RAYTHEON * SYLVANIA *		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V201	RF Amplifier	6ER5/ GG(6ES5) *	V202	Mixer-Osc.	6CG8

* Alternate

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	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C201	120 N2200 10%	#22-3060	DI-220	DD-221	LIOT22	CCD-221	GP322	10TS-T22
C202	220							
C203	30 5%	#22-3111						
C204	28 10%		NPO-DI 25	TCZ-27	C10Q27C	CCD-270	GP429	10TS-Q27
C205	24		NPO-DI 25	DTZ-25	C10Q24C	CCD-250	GP425	10TS-Q25
C206	1000		EF-001	MFT-1000		CCF-102	CT280A	
C207	1-4.5	#22-3148		829-6				
C208	75	#22-3147		829-6				
C209	1-4.5	#22-3148		829-6				
C210	1-4.5	#22-3148		829-6				
C211	47 10%		NPO-DI 47	DTZ-47	C10Q47C	CCD-470	GP447	10TS-Q47
C212	40 10%	#22-3112						
C213	1000		BPD-001	DD-102	BYA10DI	CCD-102	GP210	5HK-D10
C214	1000		BPD-001	DD-102	BYA10DI	CCD-102	GP210	5HK-D10
C215	18 N220 10%	#22-3025						10TCR-Q18
C216	7.5 N150 10%	#22-3026						10TCP-V82
C217	1000		EF-001	MFT-1000		CCF-102	CT280A	
C218	1000		EF-001	MFT-1000		CCF-102	CT280A	
C219	1000		EF-001	MFT-1000		CCF-102	CT280A	

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

Zenith Part Number.

RESISTORS

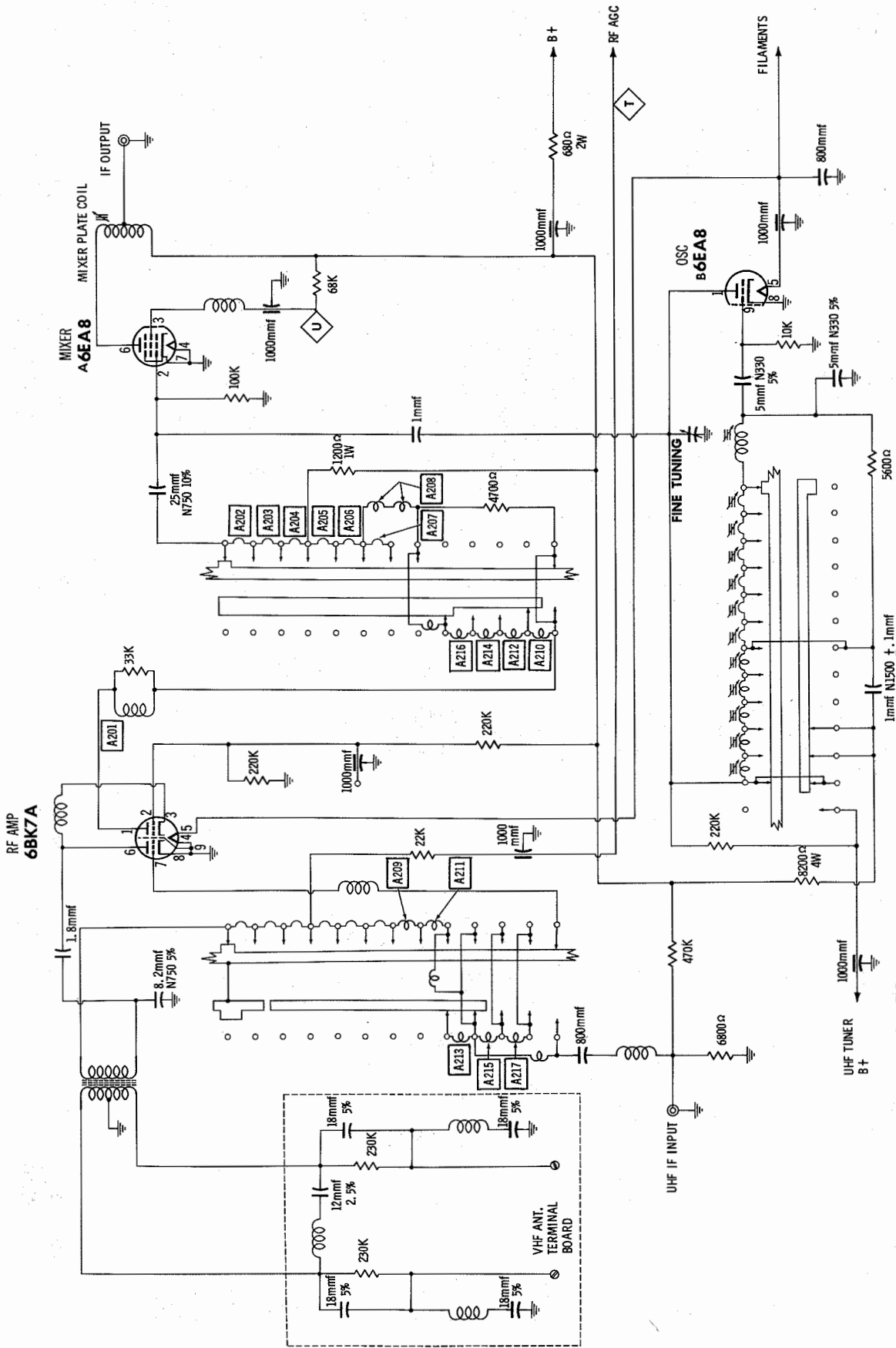
All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS
R201	120K		R204	220K		R207	3900Ω	
R202	1000Ω		R205	33K				
R203	2700Ω		R206	15K 1W				

COILS (RF-IF)

ITEM No.	USE	ZENITH PART No.	NOTES	ITEM No.	USE	ZENITH PART No.	NOTES
L201	Ant. Trans. Assy.	S-47666		L211	Ant., RF, Mixer	174-8	Channel 8
L202	RF Choke	20-657 †		L212	Grid & Osc. Coils	174-9	Channel 9
L203	IF Trap Coil	S-40497		L213	"	174-10	Channel 10
L204	RF Choke	20-756		L214	"	174-11	Channel 11
L205	Ant., RF, Mixer	174-2	Channel 2	L215	"	174-12	Channel 12
L206	Grid & Osc. Coils	174-3	Channel 3	L216	"	174-13	Channel 13
L207	"	174-4	Channel 4	L217	Fl. Choke	20-734	
L208	"	174-5	Channel 5	L218	RF Choke	20-721	
L209	"	174-6	Channel 6	L219	Fine Tuning Coil	S-43559	Includes Assy.
L210	"	174-7	Channel 7	L220	Mixer Plate Coil	S-45638	

† Part of L201.

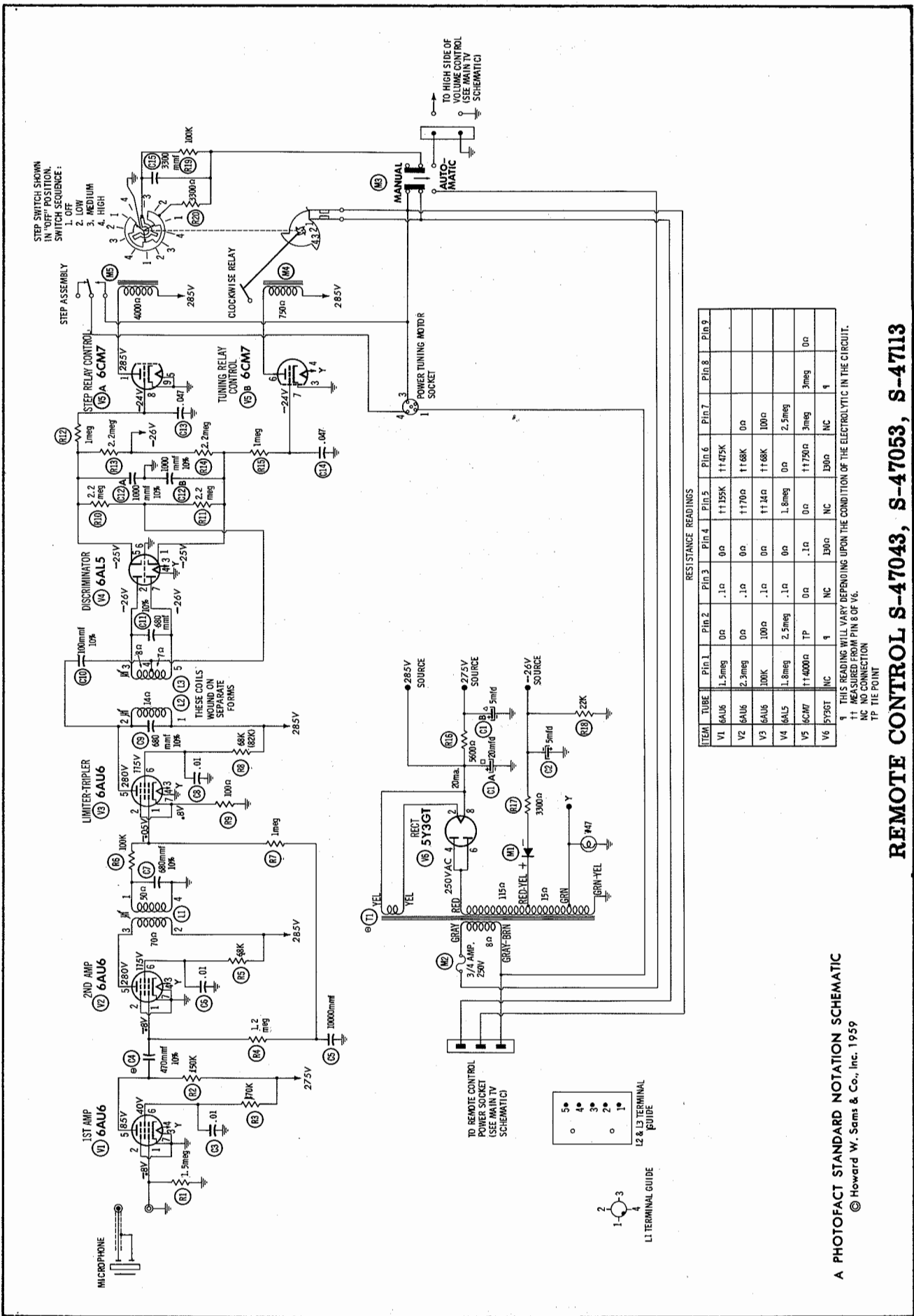
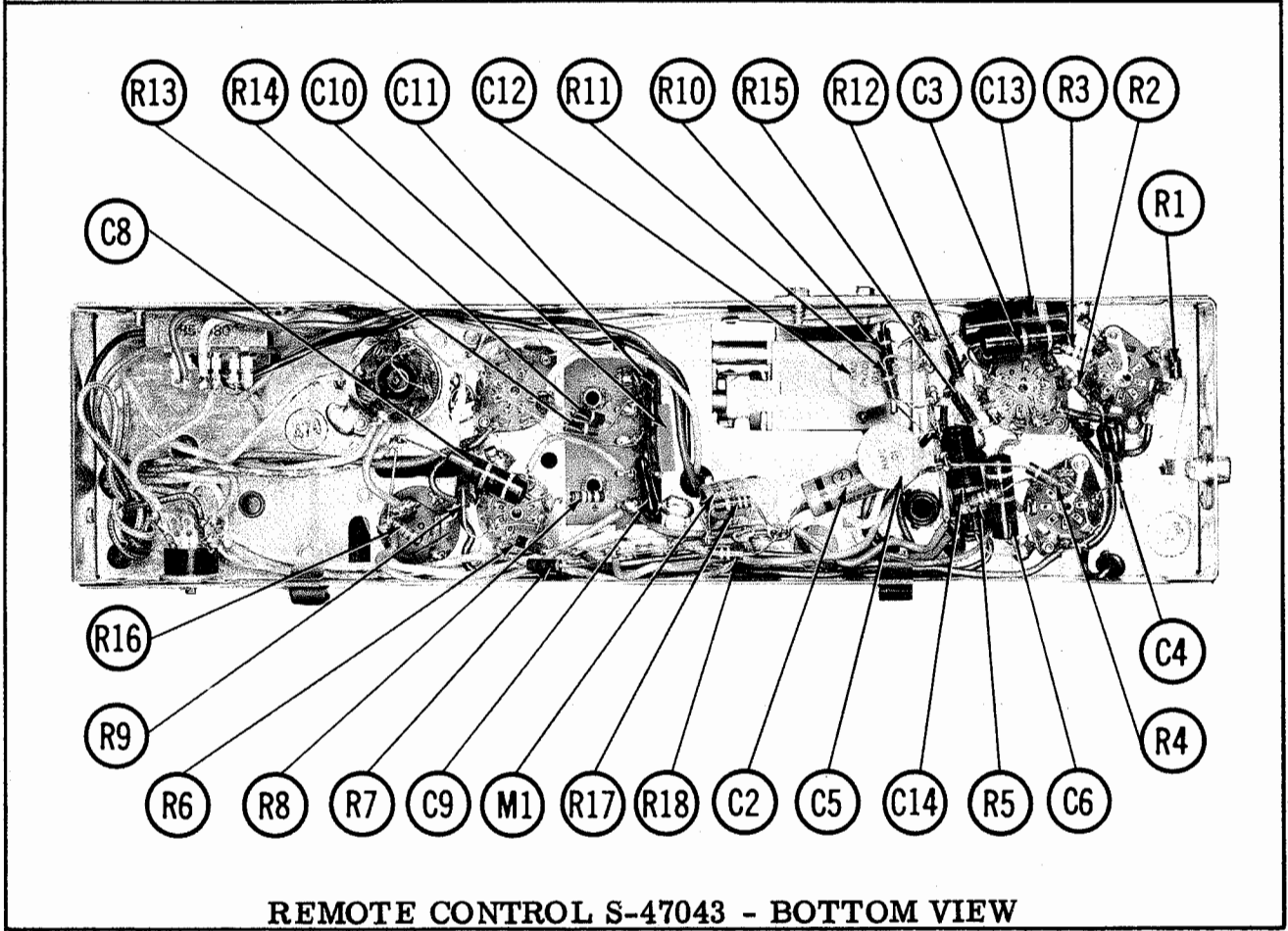
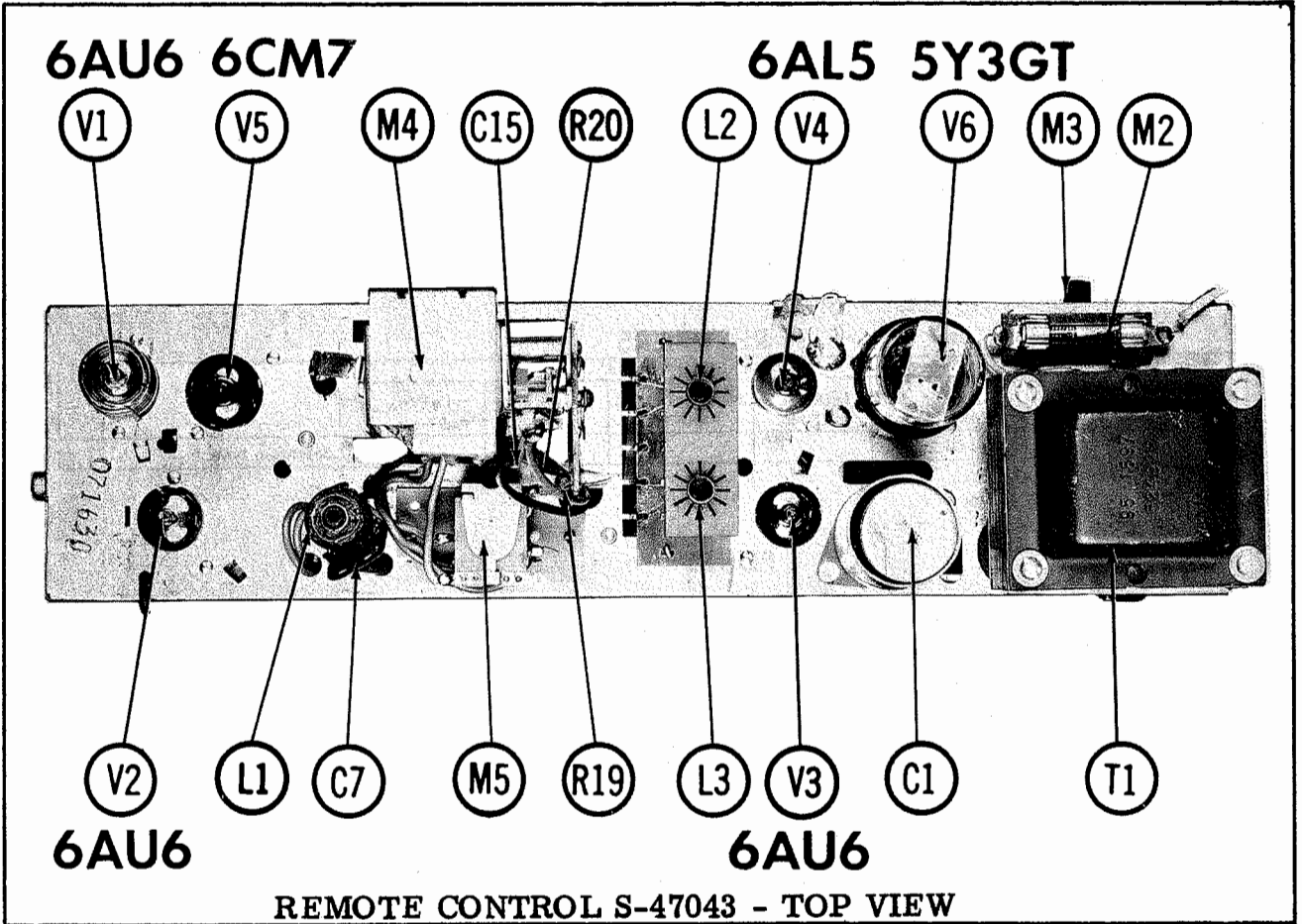


A PHOTOFACT STANDARD NOTATION SCHEMATIC
© Howard W. Sams & Co., Inc. 1959

VHF TUNER WITH UHF PROVISIONS 175-121, -131

ZENITH CHASSIS
16D21, Q, U

FOLDER 2



REMOTE CONTROL S-47043, S-47053, S-47113

ZENITH CHASSIS
16D21, Q, U

REMOTE CONTROL
S-47043
PARTS LIST AND DESCRIPTIONS
TUBES

CBS			GENERAL ELECTRIC			RAYTHEON			SYLVANIA		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE						
V1	1st RF Amp.	6AU6	V4	Discriminator	6AL5						
V2	2nd RF Amp.	6AU6	V5	Step Relay Control-							
V3	Limiter Trippler	6AU6	V6	Tuning Relay Control Rectifier	6CM7 5Y3GT						

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	ZENITH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1A	20	350	22-3122	AFH2-50	B0390	FP231.3	TMD-49	TVL-2760	
B	5	350							
C2	5	50	22-3206	PRSL310	BBR5-50	TC30	TD-5-50	TVA-1303	Note 1

Note 1. Ch. S-47053 and S-47113 use 5mfd, 50V (Part #22-2941).

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	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C3	.01 400V		P488N-01	D6-103	CUB4S1	4DP-1-103	GEM-411	4TM-S1	
C4	470 10%		1469-00047	DD-471	5R5T47	CM-20B-471K	MCB245	MS-347	
C5	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5BK-S10	
C6	.01 400V		P488N-01	D6-103	CUB4S1	4DP-1-103	GEM-411	4TM-S1	
C7	680 10%		1469-00068	DD-681	1R5T68	CM-20B-681K	MCJ249	MS-368	
C8	.01 400V		P488N-01	D6-103	CUB4S1	4DP-1-103	GEM-411	4TM-S1	
C9	880 10%		1469-00068	DD-681	1R5T68	CM-20B-681K	MCJ249	MS-368	
C10	100 10%		1469-00068	DD-101	22R5T1	CM-20B-101K	MCB235	MS-310	
C11	880 10%		1469-00068	DD-681	1R5T68	CM-20B-681K	MCJ249	MS-368	
C12A	1000 10%		DI-1000	DD-102	PM6D1	CCD-102	GP210	10TS-D10	
B	1000 10%		DI-1000	DD-102	PM6D1	CCD-102	GP210	10TS-D10	
C13	.047 200V		P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47	
C14	.047 200V		P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47	
C15	3300		BPD-0033	DD-332	BYA10D33	CCD-332	B-233	5HK-D33	

RESISTORS

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

ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS
R1	1.5meg		R8	68K	(82K) *	R15	1meg	
R2	150K		R9	100Ω		R16	5600Ω	
R3	470K		R10	2.2meg		R17	3300Ω	
R4	1.2meg		R11	2.2meg		R18	22K	
R5	68K		R12	1meg		R19	100K	
R6	100K		R13	2.2meg		R20	3300Ω	
R7	1meg		R14	2.2meg				

* Alternate.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA						NOTES
		ZENITH PART No.	Gramer PART No.	Meissner PART No.	Merit PART No.	Miller PART No.	Ram PART No.	
L1	39.5KC Trans.	S-43725						
L2	Discriminator Pri.	S-24788						
L3	Discriminator Sec.	S-24789						

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA						
	PRI.	SEC. 1	SEC. 2	ZENITH PART No.	Halldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triod PART No.
T1	117V @ .36A	250V @ .020A tap @ 40V @ .0015A tap @ 8.3V @ 1.7A	5V @ 2A	95-1697						
	117V @ .5A	220V @ .040A tap @ 3.2V @ .001A tap @ 6.3V @ 2.8A		95-1612 ①						

① Used in Models S-47113, S-47053.

continued PAGE 19

REMOTE CONTROL
PARTS LIST AND DESCRIPTIONS (Continued)

RECTIFIERS

ITEM No.	RATING		REPLACEMENT DATA					NOTES
	CURRENT (Measured)		ZENITH PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	SARKES TARZIAN PART No.	SYLVANIA PART No.	
M1	.0015		212-21 ①			12		① Selenium type.

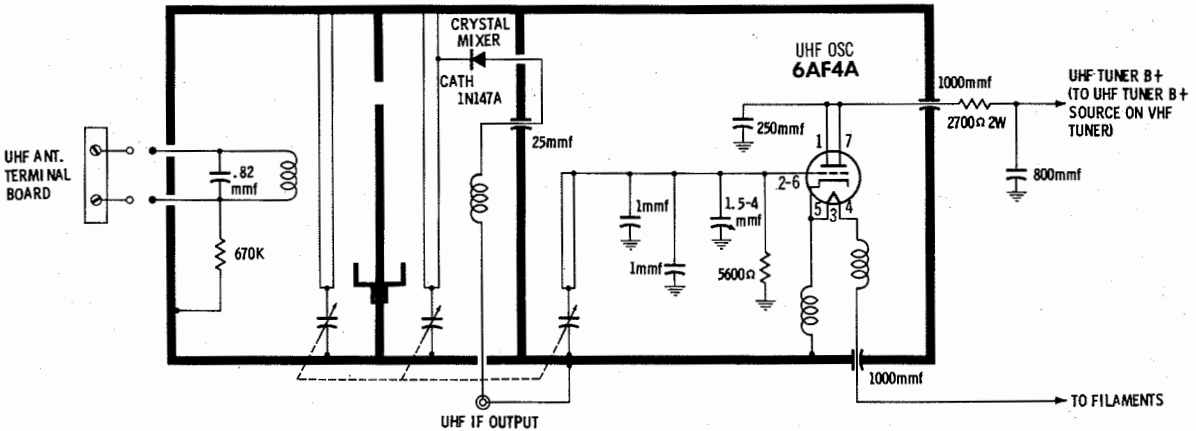
FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			ZENITH PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M2	3AG	3/4A 250V S/B	136-41	83-3027	312.750 (3AG 3/4A 250V S/B)	356001	MDL 3/4	4406

MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	NOTES
M3	Switch	85-580	Auto-Manual (DPDT Slide Type)
M4	Relay	195-5	Clockwise
M5	Relay	S-47379	Step Assy. Includes Step switch (Part #S-43848)
	Microphone	S-46826	Assembly, Ch. S-47113
	Microphone	S-46824	Assembly, Ch. S-47053
	Microphone	S-47486	Assembly, Ch. S-47043

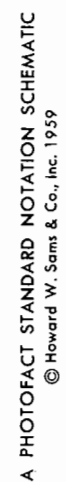
ZENITH CHASSIS
16D21, Q, U



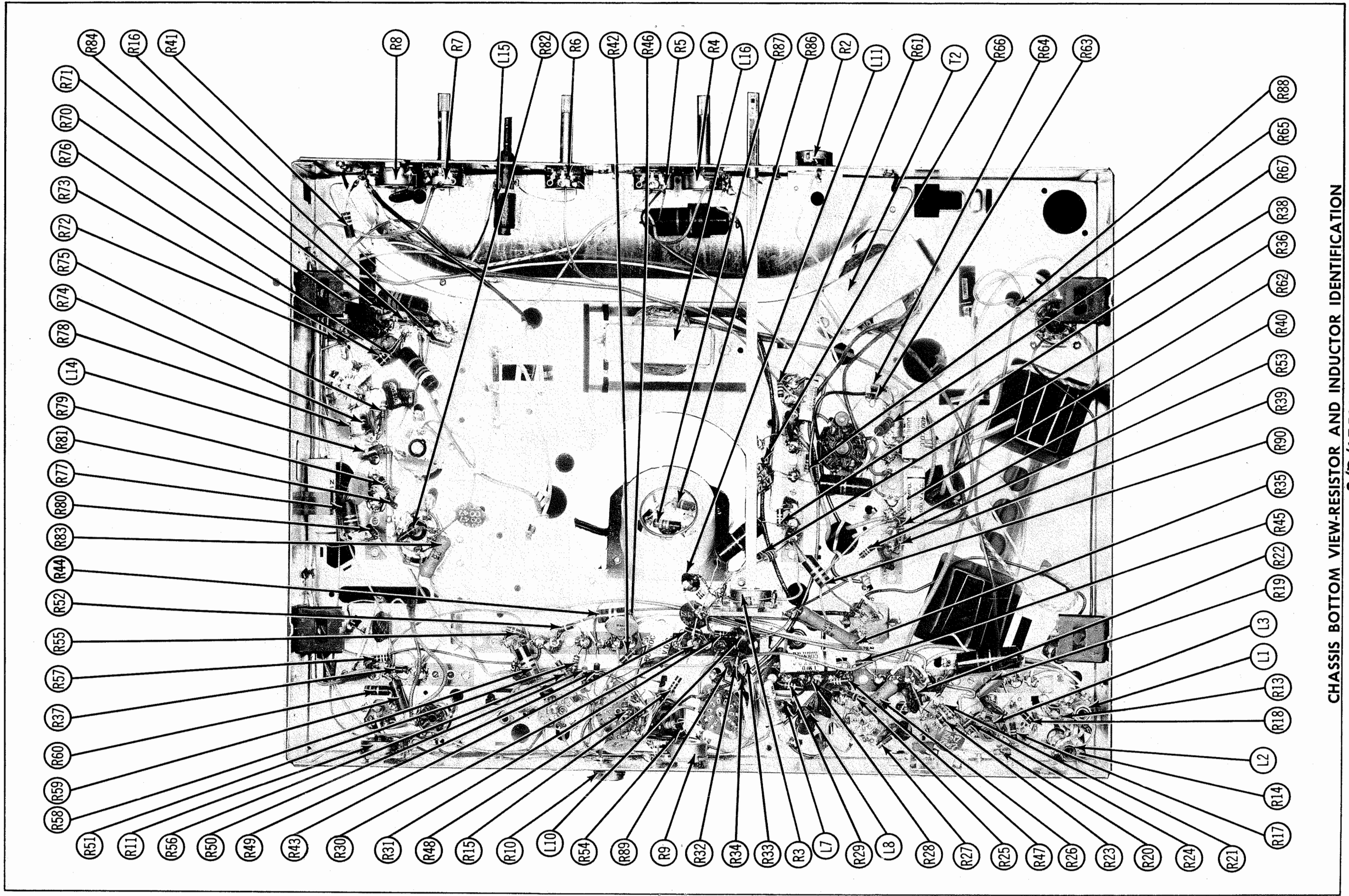
A PHOTOFAC STANDARD NOTATION SCHEMATIC
© Howard W. Sams & Co., Inc. 1959

UHF TUNER 175-8

FOLDER 2



**ZENITH CHASSIS
16D21, Q, U
STEREO AMPLIFIER 5B28**



CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

ZENITH CHASSIS
16D21, Q, U

PARTS LIST AND DESCRIPTIONS (Continued)

CABINETS & CABINET PARTS (cont)

NAME	PART NO.	DESCRIPTION
Knob	46-1118	Horiz. Hold. Models D2315L, R, Y, D2317E, R, W, D2347E, L, M, R, W, D2348E, R, W, D3002E, R, D3005E, L, M, R, W, D3007E, M, R, W, Y
Cabinet	14-2721	Model D2301R
Cabinet	14-2722	Model D2301Y
Cabinet	14-2726	Model D2302R
Cabinet	14-2696	Model D2315L
Cabinet	14-2692	Model D2315R
Cabinet	14-2691	Model D2315Y
Cabinet	14-2694	Model D2317E
Cabinet	14-2693	Model D2317R
Cabinet	14-2695	Model D2317W
Cabinet	14-2761E	Model D2345E
Cabinet	14-2761R	Model D2345R
Cabinet	14-2761W	Model D2345W
Cabinet	14-2802E	Model D2347E
Cabinet	14-2802L	Model D2347L
Cabinet	14-2802M	Model D2347M
Cabinet	14-2802R	Model D2347R
Cabinet	14-2802W	Model D2347W
Cabinet	14-2810E	Model D2348E
Cabinet	14-2810R	Model D2348R
Cabinet	14-2810W	Model D2348W
Cabinet	14-2770H	Model D2350H
Cabinet	14-2770M	Model D2350M
Cabinet	14-2770R	Model D2350R
Cabinet	14-2770W	Model D2350W
Cabinet	14-2790E	Model D2355E
Cabinet	14-2790L	Model D2355L
Cabinet	14-2790R	Model D2355R
Cabinet	14-2790W	Model D2355W
Cabinet	14-2842E	Model D2381E
Cabinet	14-2842R	Model D2381R
Cabinet	14-2842W	Model D2381W
Cabinet	14-2789H	Model D2384H
Cabinet	14-2789R	Model D2384R

WIRING DATA

High Voltage Lead	Use BELDEN No. 8869
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 Ten Colors 8524 (Stranded) Available in Ten Colors
Power Cord (Interlock Type)	Use BELDEN No. 8874
300Ω Tuner Input Lead	Use BELDEN No. 8225
300Ω Antenna Lead-in	Use BELDEN No. 8230 or 8275
Antenna Rotor Cable	Use BELDEN No. 8464 (Flat) or 8484 (Round) - 4 Conductor 8485 (Round) - 5 Conductor 8488 (Round) - 8 Conductor

PARTS LIST AND DESCRIPTIONS

TUBES

CBS			GENERAL ELECTRIC			RAYTHEON			SYLVANIA		
ITEM No.	USE		TYPE			ITEM No.	USE		TYPE		
V1	1st Video IF Amp.		6BZ6			V7	Audio Output		6AQ5A		
V2	2nd Video IF Amp.		6BZ6			V8	Vert. Mult. - Vert. Output		6EA7		
V3	3rd Video IF Amp.		6DK8			V9	Horiz. AFC-Horiz. Osc.		6EA8 (6GH8)*		
V4	Video Output-Sound IF Amp.		6EB8			V10	Horiz. Output		6DQ8B		
V5	AGC Keying-Noise Limiter-Sync Sep.		6BU8			V11	Dampers		6DE4 (6DA4 or 6AX4GTB)*		
V6	Audio Det.		6BN6			V12	HV Rect.		1J3		
						V13	LV Rect.		5V3 (5AU4) *		

* Alternate.

PICTURE TUBE

ITEM No.	REPLACEMENT DATA					NOTES
	ZENITH PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
V14	21CXP4 24AJP4	21CXP4 ①	21CXP4 ①	21CXP4 24AJP4	21CXP4 ② 24AJP4 ②	① Aluminized ② "Silver Screen 85"

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT.	ZENITH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	
CLA	40	400	22-3137	AFH4-100-40	C0890	FP333.2	TMT-109	TVL-4663.4	
B	80	400							
C	100	50							
C2A	10	400	22-2744	AFH3-180	C1445	FP332.7	TMT-217	TVL-3655	
B	4	350							
C	20	25							

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	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C3	.068 200V		P288N-068		CUB4888	4DP-3-663	GEM-4168	4TM-868	
C4	470 1000V		BPD-00047	DD-471	BYA10T47	CCD-471	B-347	5GA-T47	
C5	4 NPO ±.5mmf	#22-2549			C10V4C				
C6	1000 1000V 10%		DI-1000	DD-102	C10Q12C	CCD-102	GP210	10TS-D10	
C7	12 5%			TCZ-12	C10Q12C	CCTO-120	CNO-412	10TCC-Q12	
C8	12 5%			TCZ-12	C10Q12C	CCTO-120	CNO-412	10TCC-Q12	
C9	.15 200V		P288N-15		CUB2P15	2DP-3-154	GEM-2015	2TM-P15	
C10	1.0		NPO-SI 1.0	TCZ-1	C10V15C		CNO-510	10TCC-V10	
C11	7 NPO ±.5mmf		NPO-DI 6.8	TCZ-6R8	C10V7C	CCTO-6R8	CNO-568	10TCC-V68	
C12	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C13	1000 1000V 10%		DI-1000	DD-102		CCD-102	GP210	10TS-D10	
C14	470 10%		DI-470	DD-471	5R5T47	CCD-471	GP347	10TS-T47	
C15	1000 1000V 10%		DI-1000	DD-102		CCD-102	GP210	10TS-D10	
C16	470 10%		DI-470	DD-471	5R5T47	CCD-471	GP347	10TS-T47	
C17	330 10%		1469-00033	DD-331	5R5T33	CM-20B-331-10%	MCB241	MS-333	
C18	470 10%		DI-470	DD-471	5R5T47	CCD-471	GP347	10TS-T47	
C19	5 ±.25mmf		NPO-DI 5.0	DTZ-4R7	C10V5C		CNO-547	10TCC-V50	
C20	4.7		NPO-SI 4.7	TCZ-4R7	C10V47C	CCTO-470	CNO-547	10TCC-V47	
C21	4.7		NPO-SI 4.7	TCZ-4R7	C10V47C	CCTO-470	CNO-547	10TCC-V47	
C22	.033 200V 10%		V48C2S33-10%		PM4S33	4DP-2-333	GEM-4133	4TM-S33	
C23	47 N080	#22-2467							
C24	3.3		NPO-SI 3.3	TCZ-3R3	C10V33C	CCTO-3R3	CNO-533	10TCC-V33	
C25	50		NPO-SI 50	TCZ-50	C10Q50C	CCTO-51	CNO-450	10TCC-Q50	
C26	27		SI 27	D6-270	L10Q27	CCD-270	UC-5427	5GA-Q27	
C27	10		SI 10	D6-100	L10Q1	CCD-100	UC-541	5GA-Q10	
C28	50		SI 50	D6-500	L10Q5	CCD-500	UC-545	5GA-Q50	
C29	.1 200V		P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P1	
C30	.1 200V		P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P1	
C31	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C32	1000 1000V 10%		DI-1000	DD-102		CCD-102	GP210	10TS-D10	
C33	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C34	4.3 10%		NPO-SI 4.7	TCZ-4R7	C10V47C	CCTO-4R7	CNO-547	10TCC-V47	
C35A	1000 10%		DI-1000	DD-102	PM6D1	CCD-102	GP210	10TS-D10	
B	1000 10%		DI-1000	DD-102	PM6D1	CCD-102	GP210	10TS-D10	
C36	470 1000V		DI-470	DD-471	BYA10T47	CCD-471	B-347	5GA-T47	
C37	7.5	#22-2742			L10V8			10TS-V75	
C38	20 N75 10%	#22-3139							
C39	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C40	2200		BPD-0022	DD-222	BYA10D22	CCD-222	B-322	5HK-D22	
C41	2200		BPD-0022	DD-222	BYA10D22	CCD-222	B-322	5HK-D22	
C42	.1 400V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P1	
C43	470 1000V		BPD-00047	DD-471	BYA10T47	CCD-471	B-347	5GA-T47	
C44	3300		BPD-00033	DD-332	BYA10D33	CCD-332	B-233	5HK-D33	
C45	.0068 200V 10%		V84C6D68-10%		PM6D68	6DP-1-662	GEM-16268	6TM-D68	
C46	.022 400V 10%		P488N-022		PM4S22	4DP-2-223	GEM-1612	4TM-S22	
C47	.1 600V		P688N-1	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P1	
C48	.1 400V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P1	
C49	1000 1000V 10%		DI-1000	DD-102		CCD-102	GP210	10TS-D10	
C50	.015 1000V 10%	#22-3040				18DP4-2-153		10TM-S15	
C51A	51		DI-50	DD-510	L10Q51	CCD-500	GP450	10TS-Q50	
B	51		DI-50	DD-150	L10Q51	CCD-500	GP450	10TS-Q50	

PARTS LIST AND DESCRIPTIONS (Continued)

FIXED CAPACITORS (cont)

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.	
C52A	1000 10%		DI-1000	DD-102	PM6DI	CCD-102	GP210	10TS-D10	
B	1000 10%		DI-1000	DD-102	PM6DI	CCD-102	GP210	10TS-D10	
C53	0.47 200V		P288N-047	DD-503	CUB2847	4DP-3-473	GEM-4147	2TM-847	
C54	470 1000V		BPD-00047	DD-471	BYA10T47	CCD-103	B-347	5GA-T47	
C55	680 10%		1468-00068	DD-681	IR5T68	CM-20B-681	MCJ249	MS-368	
C56	3300 10%		1464-00033	DD-471	IR5D33	CCD-20B-332	MCJ462	MS-233	
C57	470 1000V		BPD-00047	DD-471	BYA10T47	CCD-471	B-347	5GA-T47	
C58A	1500		BPD-2X0015	DD-152	BYC6DD15	CCD-152	B2X215	5HK-2D15	
B	1500					CCD-152			
C59	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10	
C80	4700 10%		DI-4700		PM6D47	CCD-472	10TS-D47	6TM-P1	
C81	.1 600V		P688N-1	DF-104	CUB6P1	6DP-4-104			
C82	130 4000V N1500 10%	#22-2697							
C83	47 2000V N750								

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

CONTROLS

ITEM No.	RATING	REPLACEMENT DATA						INSTALLATION NOTES
		ZENITH PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	JRC PART No.	MALLORY PART No.		
RIA	1meg Shaft	63-4610				PPI6L		Volume
B	Switch					DS-37		
C	1500Ω					Not Req.		
R2	270Ω Stop	63-4620	WN-152 *	39-1500 *	112-1500 *	FL-1.5K *		Push-Pull Off-On Vert. Lin.
R3	10K Tap	63-4689						Contrast
R4A	250K	63-4487	B-51	A47-250K-Z	Q11-130	*U44		Brightness
B	Shaft		Not Req.	KSS-3	Not Req.	Not Req.		
R5A	7.5meg	63-4456	AB-90	A47-7.5meg-S	B11-142	PTA755L		Vert. Slze
B	Shaft		AK-1	FKS-1/4	TM-4	Not Req.		
R6A	750K	63-4486	B-66	A47-750K-S	Q11-136	U54		Vert. Hold
B	Shaft		Not Req.	KSS-3	Not Req.	Not Req.		
R7A	1meg	63-4488	B-70	A47-1meg-Z	Q13-157	U53		Tone
B	Shaft		Not Req.	KSS-3	Not Req.	Not Req.		
R8A	3meg	63-4455	AB-84	B47-3meg-S	B11-140	SU59		Focus
B	Shaft		AK-19	Not Req.	TM-4	Not Req.		
R9A	10K	63-4095	AB-14	A47-10K-S	B11-116	TA14L		AGC
B	Shaft		AK-1	FKS-1/4	TM-4	Not Req.		
R10	750Ω	63-3284		39-800 †	112-800 †	FL-750		Buzz
RIA	100Ω Stop							
B	5meg Shaft	63-4012		B47-5meg-Z	B11-141	PTA56L		Fringe Lock (Sync Stab.)
C	Shaft			Not Req.	TM-4	Not Req.		

* Use 270Ω resistor in series with terminal. † Use 100Ω resistor in series with terminal.

RESISTORS

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

ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS
R12	3300Ω 3W		R39	150K		R66	82K	
R13	22K		R40	180K		R67	470Ω	
R14	1000Ω		R41	470K 1W		R68	560Ω	
R15	680K		R42	8.2meg		R69	560Ω	
R16	2.2meg		R43	100K		R70	330K	
R17	22K		R44	22K 2W		R71	330K	
R18	56Ω		R45	3.3meg		R72	1meg	
R19	1500Ω		R46	100K		R73	120K	
R20	56K		R47	330K		R74	100K	
R21	56K		R48	680K		R75	100K	
R22	220Ω		R49	150K		R76	6.8meg	
R23	22Ω		R50	82K		R77	120K 2W	
R24	220Ω		R51	33K		R78	47K	
R25	18K		R52	22K		R79	18K	
R26	6200Ω 3W		R53	56K		R80	100Ω	
R27	120Ω		R54	100K		R81	1meg	
R28	2700Ω		R55	150K		R82	100Ω	
R29	20K		R56	680Ω		R83	10K 3W	
R30	39K		R57	390K		R84	100K	
R31	47K		R58	27K 2W		R85	1000Ω	
R32	15K		R59	1000Ω 1W		R86	6.8Ω	#63-3205
R33	100K		R60	680Ω 1W		R87	22K 1W	
R34	15Ω		R61	330K		R88	230K	#63-3807
R35	7500Ω 4W		R62	2.2meg		R89	330Ω	
R36	3900Ω		R63	1000Ω		R90	27K 2W	
R37	330K		R64	2.2meg				
R38	120K		R65	68K				

Zenith Part Number.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA						NOTES
		ZENITH PART No.	Gromer PART No.	Meissner PART No.	Merit PART No.	Miller PART No.	Ram PART No.	
L1A	39.75MC Trap	S-41883						
B	47.25MC Trap							
L2A	1st Video IF	S-43891						
B	41.25MC Trap							
L3A	2nd Video IF	S-43443						
B	47.25MC Trap							
L4	3rd Video IF	S-46741						
L5	4th Video IF	S-46868 †						
L6	Series Peaking Coil	S-41879 †	19-3068	19-3093	TV-181	6177	VP-3	90uh
L7	Resonant Choke	S-21888						
L8	Shunt Peaking Coil	S-43619	19-3180	19-3180	TV-184	6180	VP-5	17uh
L9A	Sound Take-Off							
B	4.5MC Trap							
L10	Shunt Peaking Coil	S-18011	19-3250	19-3250	TV-185	6181	VP-6	250uh
L11	Series Peaking Coil	S-43618	19-3180 *	19-3160 *	TV-184 *	6180 *	VP-5 *	170uh ①
L12	2nd Sound IF	S-41899	17-1021	17-1021	TV-149			
L13	Quadrature Coil	S-45229 †	20-1005	20-1005	TV-121	1480		
L14	Resonant Choke	S-22777						10.4uh

† Part of M6. * Parallel with 5600Ω resistor. † Enlarge mounting hole. ① Wound on 5600Ω resistor.

TRANSFORMER (HORIZ. OSC.)

ITEM No.	DC RES.		REPLACEMENT DATA						NOTES
	PRI.	SEC.	ZENITH PART No.	Holldorson PART No.	Merit PART No.	Miller PART No.	Ram PART No.	Thordarson PART No.	
L15	94Ω		8-45679	BS-7	TV-165			HS-7	Tapped @ 26Ω

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA						
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000 ~)	ZENITH PART No.	Holldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
L16	.270A	50Ω	1.3 Hy.	95-1681	26C44	C-2996	F-801		26C44	C-28X

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA						
	PRI.	SEC. 1	SEC. 2	ZENITH PART No.	Holldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117V @ 1.8A	620VCT @ .280A	5V @ 4A	95-1680						R-80BC
	SEC. 3	SEC. 4	SEC. 5							
	8.3V @ 8.1A									

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA							
		ZENITH PART No.	Holldorson PART No.	Merit PART No.	Ram PART No.	Rogers PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T2	Vert. Output	95-1656	26875 ①	A-2821	V314	VO35 ②	A-8149	26875 ①	A-131X
T3	Yoke-Horiz. (13.8MH (90°)-Vert. (44MH)	95-1654	Y-39 ③	MDF-91 ④ ⑤ ⑥	Y90F12/47 ④ ⑤ ⑥	PCM045 ④ ⑤ ⑥	DY-13A ④	Y-39 ③	Y-40 & NW-3 ⑤
	Rear Cover & Centering Device Horiz. Output	S-23237							YC-1
T4		S-47071							

- Use 6 to 1 turns ratio. Connect as autotransformer.
- Cut and tape green lead.
- Connect yoke terminal #2 to terminal #4 of Horizontal Output Transformer, yoke terminal #7 to terminal #2 of Horizontal Output Transformer, connect 1000Ω, 1/2 watt resistor from yoke terminals #1 and #3 to terminal #3 of Horizontal Output Transformer.
- Use original rear cover and yoke damping capacitor.
- Connect yoke terminal #3 to terminal #4 of Horizontal Output Transformer, yoke terminal #1 to terminal #2 of Horizontal Output Transformer, connect 1000Ω, 1/2 watt resistor from yoke terminals #2 and #7 to terminal #3 of Horizontal Output Transformer.
- Cut and form a piece of .010 gauge fish paper inside the yoke itself and support with an acetate cement, to provide an insulation between width sleeve and the yoke proper.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	ZENITH PART No.	Holldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	
T5	10.5K	3-4Ω	95-1569	24552	A-2932	AU-808	A-3879	24552	S-17X

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	ZENITH PART No.	QUAM PART No.	
SP1	6" x 9"	PM	6-8Ω	49-831 ① ②	89A1Z6.8	① Models D2348E, R, W
SP2	5" x 7"	PM	6-8Ω	49-893 ① ②	57A1Z6.5	② Models D2381E, R, W, D2384H, R
	5"	PM	3-4Ω	49-751 ④	52A1	③ Models D2347E, L, M, R, W, D3007E, M, R, W, Y
	8"	PM	3-4Ω	49-780 ⑤	8A21	④ Models D2301R, Y, D2302R, D2315L, R, Y
				49-889 ⑥		⑤ Models D2345E, R, W, D3004E, R, W, D3008R
				49-818 ⑦		⑥ Models D2317E, R, W, D3002E, R, W
				49-651 ⑧		⑦ Models D2350H, M, R, W, D2355E, L, R, W, D3008R
				49-807 ⑨		⑧ Models D2673E, R, W
				49-842 10		⑨ Models D3005E, L, M, R, W
				49-846 11		10 Models D3006E, L, R, W, D3009E, W, Y
						11 Models D2384H, R

RECTIFIERS

ITEM No.	RATING		REPLACEMENT DATA					NOTES
	CURRENT (Measured)	ZENITH PART No.	INTERNATIONAL PART No.	ITT PART No.	SARKES TARZIAN PART No.	SYLVANIA PART No.		
M1		103-20①	SD-91 ②	K1615 ①				① Dual Sel. Diode ② Silicon, 2 required.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	ZENITH PART No.	REPLACEMENT DATA
K1	Vert. Integrator		87-5	Sprague V-15
K2	Vert. Feedback		87-4	Sprague V-14

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			ZENITH PART No.	HOLDER	FUSE	HOLDER	FUSE	BUSS PART No.
M2	N	7/10A 250V S/B	136-38	62-21	333.750 (N 7/10 250V S/B)	346010	N 7/10	HN 1/2 to 3/4
M3	1" Length of #24 Wire							

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA				NOTES
		ZENITH PART No.	CBS PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
M4		103-23	1N60	1N295	1N295	Video Det. (Pigtail)

MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	NOTES
M5	Tuner	175-134	VHF, All Models in the D200 Series, except D2301R, Y, D2302R, D2315Y
	Tuner	175-132	VHF, Models D2301R, Y, D2302R, D2315Y
	Tuner	175-136	VHF, All Models in the D3000 Series
	Tuner	175-133	VHF with UHF provisions, All "U" Models in the D2000 Series, except D2301RU, YU, D2302RU, D2315YU
	Tuner	175-131	VHF with UHF provisions, Models D2301RU, YU, D2302RU, D2315YU
	Tuner	175-8	UHF
M6	4th IF Transformer	S-46869	Includes M4, L5, L6, C19, C20, C21
M7	Magnet	S-46005	Correction (2 used)

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Safety Glass	192-285	Models D2301R, W, D2302R, D2345E, R, W, D2381E, R, W, D2384H, R
Safety Glass	192-282	Models D2350W, R, M, R, D2355W, R, L, E
Safety Glass	192-279	Models D2348W, R, E, D2347R, W, M, L, E, D2317W, R, E, D2315Y, R, L, D2384H, R, D3002E, R, W, D3005E, L, M, R, W
Safety Glass	192-284	Model D2301Y
Safety Glass	192-282	Models D2673E, R, W
Safety Glass	192-263	Models D3004E, R, W, D3006E, L, R, W, D3007E, M, R, W, Y, D3008R, D3009E, W, Y
Knob	46-2171	Channel Selector Models D2381E, R, W, D2384H, R, D2673E, R, W, D2317E, R, W, D2345E, R, W, D2347E, L, M, R, W, D2348E, R, W, D2360H, M, R, W, D2355E, L, R, W
Knob	S-47420	Channel Selector, Models D3002E, R, W, D3004E, R, W, D3005E, L, M, R, W, D3006E, L, R, W, D3007E, M, R, W, Y, D3008R, D3009E, W, Y
Knob	S-46280	Fine Tuning, All D2000 Series except "U" Models
Knob	46-2035	Fine Tuning, All D3000 Series Models
Knob	S-45733	UFF Dial knob, All "U" Models
Knob	S-45716	Volume, Models D2301R, Y, D2302R, D2315L, RU, YU, D2317EU, RU, WU, D2345E, R, W, D2347EU, LU, MU, RU, WU, D2348EU, RU, WU, D2350H, M, R, W, D2355E, L, R, W, D2381E, R, W, D2384H, R, W, D2673E, R, W, D3004E, R, W, D3006E, L, R, W, D3008R, D3009E, W, Y
Knob	S-46726	Volume, Models D2315L, R, Y, D2317E, R, W, D2347E, L, M, R, W, D2348E, R, W, D3002E, R, W, D3005E, L, M, R, W, D3007E, M, R, Y
Knob	S-43672	Brightness, Tone, Vert. Hold, Models D2301R, Y, D2302R, D2345E, R, W, D2350H, M, R, W, D2355E, R, W, D2381E, R, W, D2384H, R, D2673E, R, W, D3004E, R, W, D3006E, L, R, W, D3008R, D3009E, W, Y
Knob	S-46725	Brightness, Tone, Vert. Hold, Models D2315L, R, Y, D2317E, R, W, D2347E, L, M, R, W, D2348E, R, W, D3002E, R, W, D3005E, L, M, R, W, D3007E, M, R, Y
Knob	S-41482	Contrast, Models D2301R, Y, D2302R, D2345E, R, W, D2350H, M, R, W, D2355E, L, R, W, D2381E, R, W, D2384H, R, D2673E, R, W, D3004E, R, W, D3006E, L, R, W, D3008R, D3009E, W, Y
Knob	S-46724	Contrast, Models D2315L, R, Y, D2317E, R, W, D2347E, L, M, R, W, D2348E, R, W, D3002E, R, W, D3005E, L, M, R, W, D3007E, M, R, W, Y
Knob	76-1025	Horiz. Hold, Models D2301R, Y, D2302R, D2345E, R, W, D2350H, M, R, W, D2355E, L, R, W, D2381E, R, W, D2384H, R, D2673E, R, W, D3004E, R, W, D3006E, L, R, W, D3008R, D3009E, W, Y
Cabinet	14-2798E	Model D2673E
Cabinet	14-2799R	Model D2673R
Cabinet	14-2799W	Model D2673W
Cabinet	14-2894	Model D3002E
Cabinet	14-2693	Model D3002R
Cabinet	14-2695	Model D3002W
Cabinet	14-2797E	Model D3004E
Cabinet	14-2797R	Model D3004R
Cabinet	14-2797W	Model D3004W
Cabinet	14-2757E	Model D3005E
Cabinet	14-2757L	Model D3005L
Cabinet	14-2757M	Model D3005M
Cabinet	14-2757R	Model D3005R
Cabinet	14-2757W	Model D3005W
Cabinet	14-2769E	Model D3006E
Cabinet	14-2769L	Model D3006L
Cabinet	14-2769R	Model D3006R
Cabinet	14-2769W	Model D3006W
Cabinet	14-2801E	Model D3007E
Cabinet	14-2801M	Model D3007M
Cabinet	14-2801R	Model D3007R
Cabinet	14-2801W	Model D3007W
Cabinet	14-2801Y	Model D3007Y
Cabinet	14-2756R	Model D3008R
Cabinet	14-2782E	Model D3008E
Cabinet	14-2782W	Model D3008W
Cabinet	14-2782Y	Model D3008Y