

PHOTOFACT® Folder



For Supplier Address See PHOTOFACT Index

ZENITH CHASSIS
14A9C50, 14A9C51

COLOR TV

IMPORTANT FILING NOTICE

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

INDEX

Remote Control Receiver S-77536,
Transmitter S-83596 SET 1097, FOLDER 3-A

AM-FM-FM Stereo
Chassis 20AT30/Z SET 1097, FOLDER 3-B

MODELS

CHASSIS

A4203C/C2, A4205W/W2	14A9C51
A4208W2, A4216W/W2	14A9C50
A4501Y/Y2, A4502W/W2	14A9C51
A4507W, A4509W	14A9C50
A4512W/W2, A4514M/M2	14A9C50
A4515H/H2, A4516W/W2	14A9C50
A4517M/M2	14A9C50
A4518DE/DE2/P/P2	14A9C50
A6208W (1)	14A9C50
A6507W, A6509W (1)	14A9C50
A8515W/W1 (2)	14A9C50
S2980W/W2, S2987W/W2	14A9C50
S2989W1	14A9C51
S2991W	14A9C50
T2944W/W2, T2946W/W2	14A9C50
T2951P/P2/W/W2, T2988M/M2	14A9C50
T2992DE/DE2/P/P2	14A9C50
Z4543DE09A	14A9C51
Z6208W09A (1)	14A9C51

- (1) Use Remote Receiver S-77536
(2) Use AM-FM Chassis 20AT30/Z



SERVICING IN THE FIELD

MODEL A4502W2

CRT IMPLOSION PROTECTION AND CLEANING

Implosion protection is an integral part of the picture tube, cleaning accomplished without CRT removal.

FUSE OR FUSE DEVICE

A 1-amp fuse and a .35-amp fuse, 2 1/2" fusible wire, are used for low-voltage power supplies protection. (See "Tube Placement Chart" for location.)

Four 2 1/2" #24 copper wires are used for filament protection. (See "Tube Placement Chart" for location.)

VHF TUNER

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

HORIZONTAL OSCILLATOR

Adjustment of the horizontal hold is accomplished by the proper setting of the horizontal hold coil. (See "Tube Placement Chart" for location.)

WIDTH

The width may be varied by moving a jumper. (See "Cabinet - Rear View" photo for location.)

FOCUS

The focus may be varied by means of a focus control. (See "Cabinet - Rear View" for location.)

AGC

The AGC may be varied by means of an AGC Level and AGC Delay control. The AGC Level control is adjusted on a strong signal and the AGC Delay control is adjusted on a weak signal. (See "Tube Placement Chart" for location.)

CENTERING

Horizontal centering is accomplished by proper adjustment of the horizontal centering control. Vertical centering is accomplished by proper adjustment of the vertical centering control. (See "Cabinet - Rear View" photo for location.)

REMEMBER TO ASK— "What else needs fixing?"**HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206**

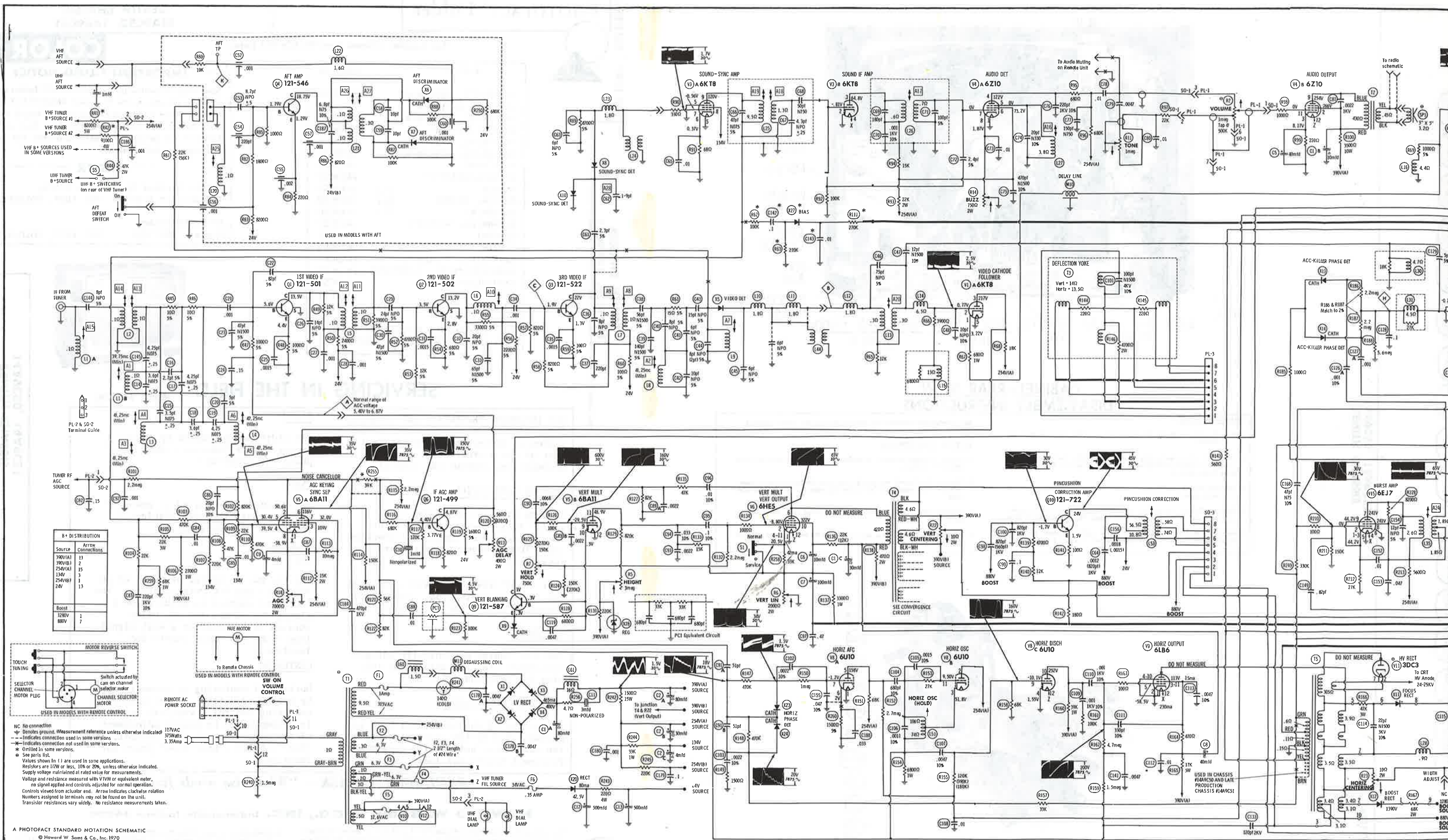
The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. UB639

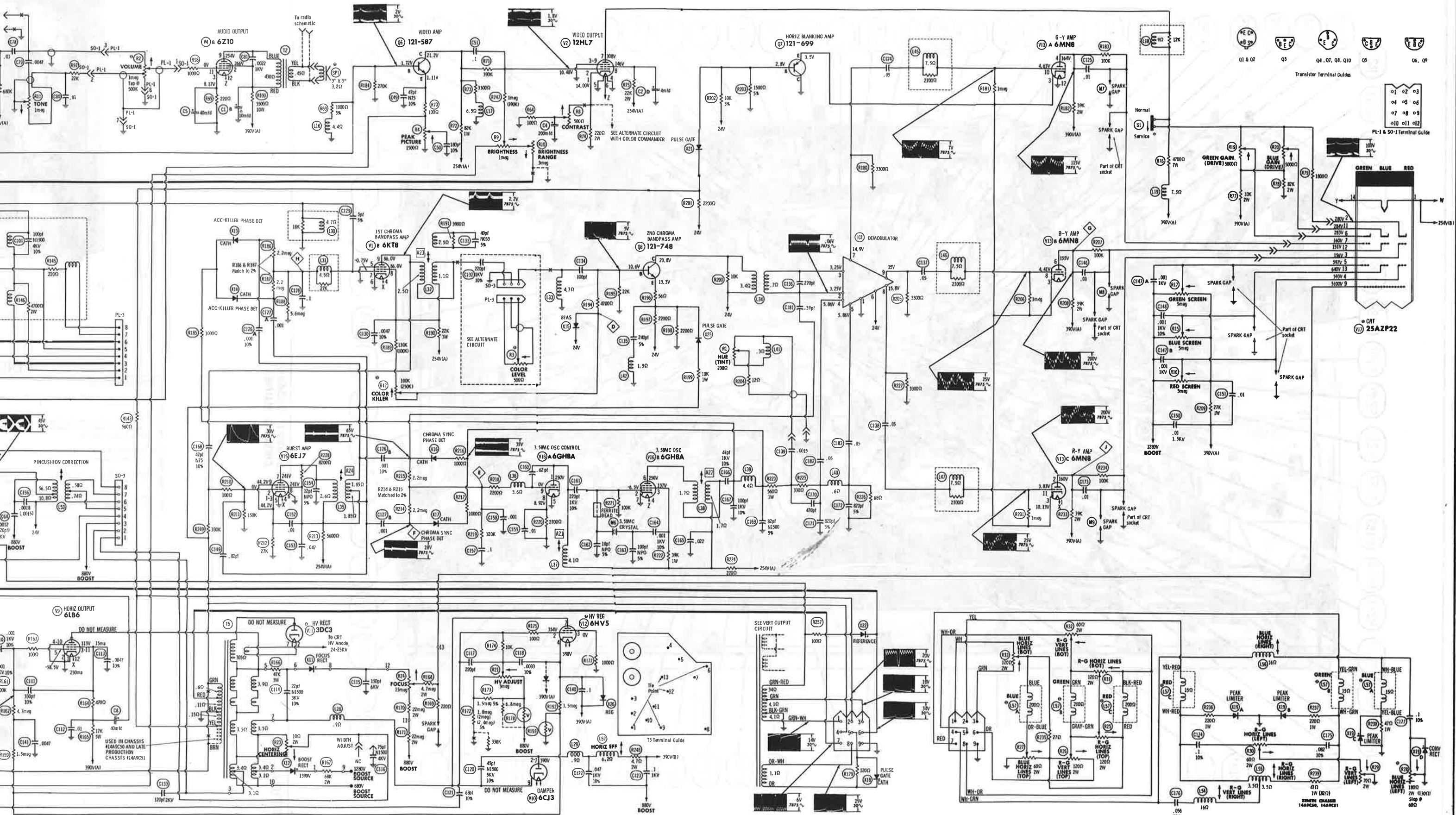
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DATE 4-70

SET 1097 FOLDER 3



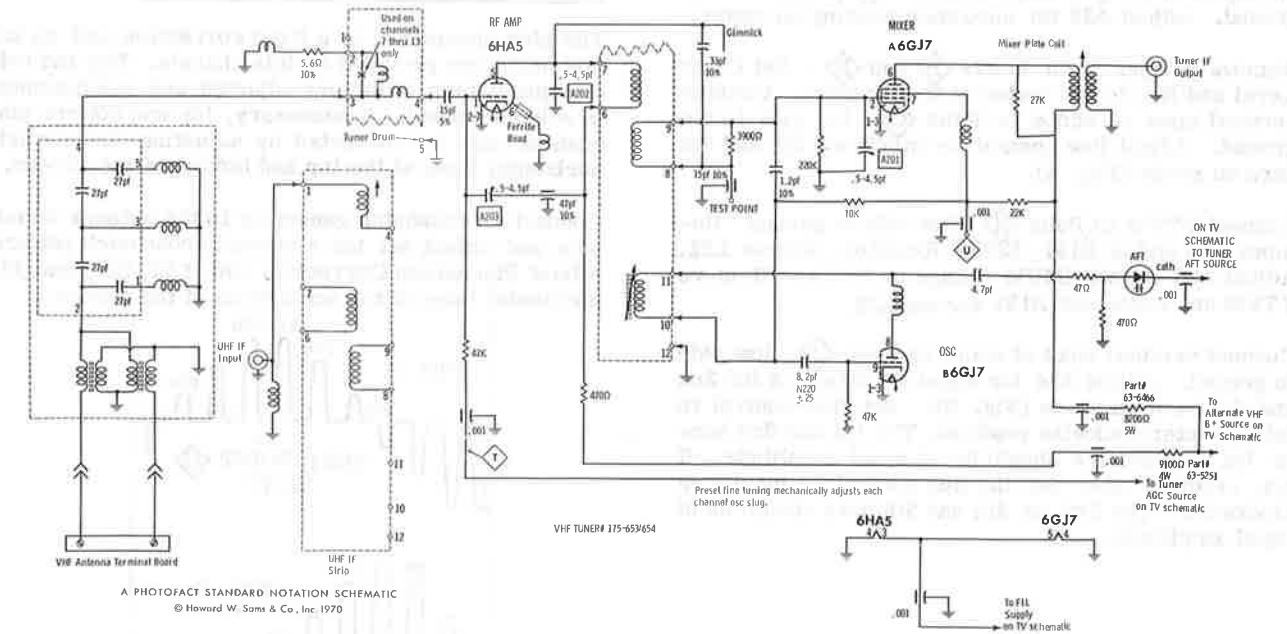




RESISTANCE MEASUREMENTS

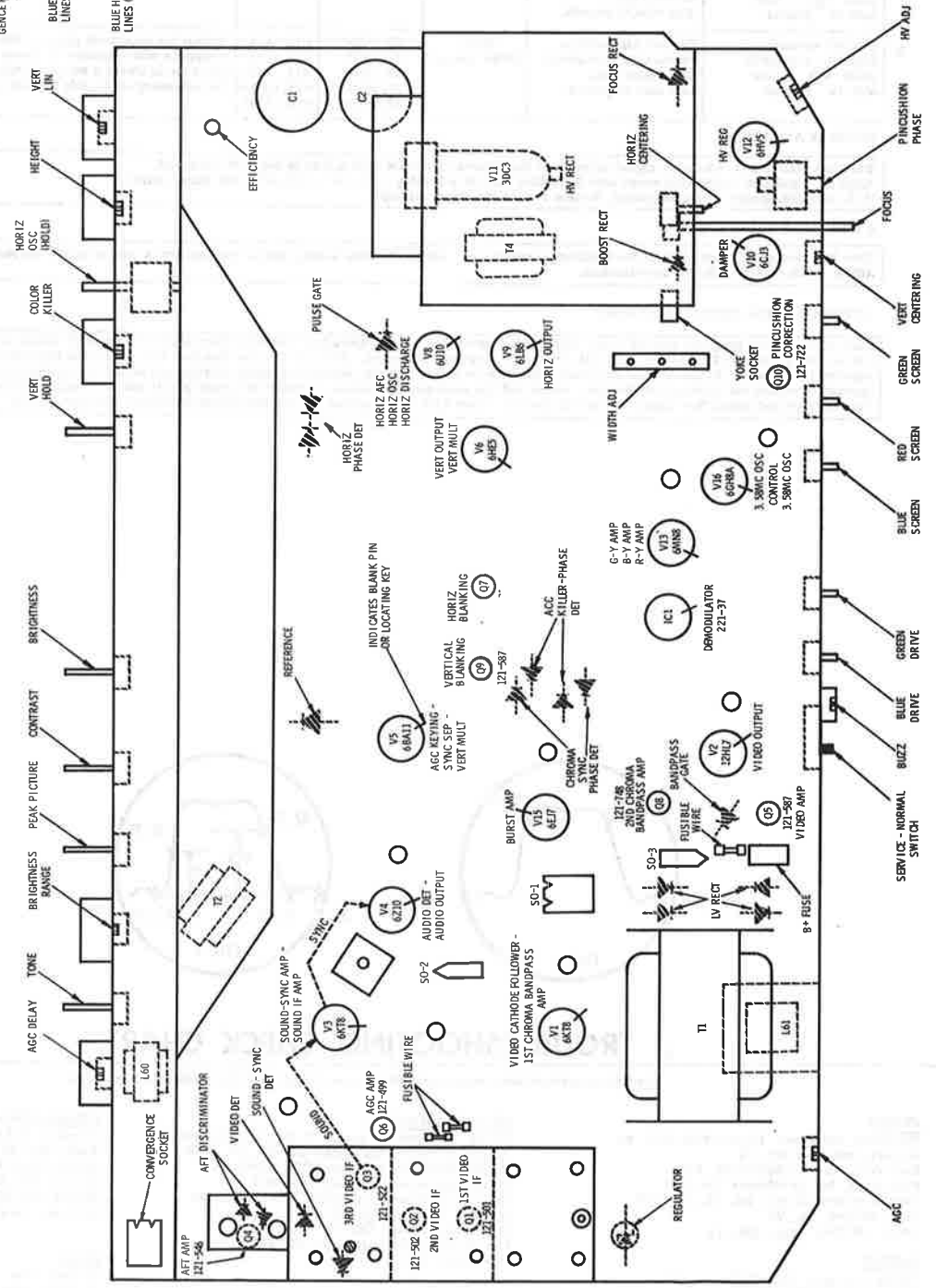
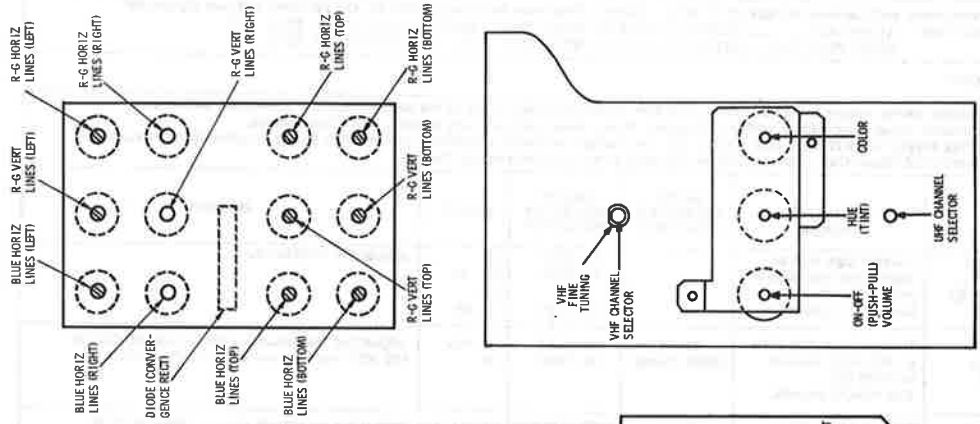
ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN 12	TOP CAP
V1	6KT8	1760Ω	1530Ω*	18.3K†	FIL	FIL	0Ω	2meg	22.8K†	22.8K†				
V2	12HL7	220Ω	338K†	0Ω	FIL	FIL	FIL	3460Ω†	23.3K†	0Ω				
V3	6KT8	0Ω	100K	36.8K†	FIL	FIL	22Ω	4620Ω*	30.4K†	10.5K†				
V4	6Z10	FIL	3500Ω†	220Ω	470K†	3.9Ω	23.1K†	1.0Ω	245Ω	3920Ω†	TP	250K	FIL	
V5	6BA11	FIL	600K	15K†	309K	37K	75K†	10meg†	4010Ω	788K	106K	2meg†	FIL	
V6	6HE5	FIL	2.7meg	NC	NC	NC	922Ω†	NC	TP	NC	13.4K†	430Ω	FIL	
V8	6U10	FIL	700Ω†	6320Ω	0Ω	68.5K†	1500Ω	2.03meg	TP	62.4K	38.2K†	35.2K	FIL	
V9	6LB6	FIL	0Ω	17.5K†	0Ω	8.5meg*	NC	NC	0Ω	NC	NC	17.5K†	FIL	18.6Ω†
V10	6CJ3	NC	30.4Ω†	NC	FIL	FIL	NC	30.4Ω†	NC	101meg*				
V11	3DC3	PINS 1 THRU 8 HAVE INFINITE RESISTANCE												448Ω†
V12	6HV5	FIL	4meg††	1000Ω	600Ω†*	NC	NC	0Ω†	NC	NC	NC	NC	FIL	
V13	6MN8	FIL	39K†	**	35K†	NC	37K†	NC	**	NC	**	**	FIL	
V15	6EJ7	27K	92.6K	27K	FIL	FIL	0Ω	6280Ω†	6300Ω†	27K				
V16	6GH8A	951Ω†	100K	42.1Ω†	FIL	FIL	951Ω†	0Ω	2700Ω	2.6meg*				
V17	25AZP22	FIL	5340Ω†	129K†	1.8meg††	1.9meg††	3490Ω†	129K†	NC	64.3meg†	NC	3450Ω†	129K†	
												PIN 13 1.6meg††	PIN 14 FIL	
V201	6HA5	3.18meg	0Ω	FIL	FIL	13K†	0Ω	0Ω						
V202	6GJ7/ ECF801	0Ω	680K	0Ω	FIL	FIL	27.7K†	27.7K†	23.0K†	10K				
ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN 12	TOP CAP

* READING DEPENDS ON POLARITY OF METER CONNECTIONS.
† MEASURED FROM PIN 9 OF V10.
NC NO CONNECTION
** READING WILL VARY DUE TO TRANSISTOR IN CIRCUIT.
† MEASURED FROM THE CATHODE OF X3 AND X4.
†† MEASURED FROM THE CATHODE OF X12.
TP TIE POINT



VHF TUNER 175-653,54

TUBE PLACEMENT CHART



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1A9C50, 1A9C51

FOLDER 3

ALIGNMENT INSTRUCTIONS

Use an isolation transformer and maintain voltage at 117 volts. Allow a 20-minute warm-up period for the receiver and test equipment.
Suggested Alignment Tools: A1 thru A20.....GENERAL CEMENT #8606, 8606L, 8869...WALSCO #2543, 2544, 2588
Mixer Plate Coil... GENERAL CEMENT #9296, 9297, 9300...WALSCO #2510, 2546, 2547

VIDEO IF ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. Use only enough generator output to provide a usable indication. Note: Response may vary slightly from those shown. Connect a variable bias supply to the IF AGC line (point \diamond) and adjust to obtain a response curve which shows no indication of overload. Disable Oscillator section of Mixer-Osc. Set the Channel Selector to any non-interfering channel.

INDICATOR	GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	ADJUST	REMARKS
1. Connect DC probe of a VTVM thru a 47K resistor to point \diamond . Common to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.		39.75MC 41.25MC 47.25MC	A1 A2, A3, A4, A5, A6	Adjust for MINIMUM.
2. Connect vertical input of a scope to point \diamond . Low side to ground.	Connect high side thru a .001 mfd capacitor to Point \diamond . Low side to ground.	44MC (10MC Sweep)	42.75MC 45.75MC	A7, A8, A9	Adjust for maximum amplitude and MINIMUM tilt with markers as shown in Figure 1.
3. Connect vertical input of a scope to point \diamond . Low side to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.	44MC (10MC Sweep)	39.75MC 41.25MC 42.75MC 45.75MC 47.25MC	A10, A11, A12, A13, A14, A15, A20, Mixer Plate Coil	Adjust for maximum gain and symmetry of response with markers as shown in Figure 2. In order to obtain a proper response, it may be necessary to slightly retouch A7, A8 & A9.

SOUND IF ALIGNMENT

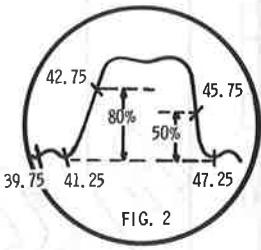
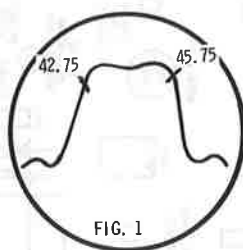
Tune in a station and reduce the signal strength at the antenna terminals until a hiss is heard in the sound. Align for maximum undistorted sound with MINIMUM buzz by adjusting A16, A17, A18, A19, and Buzz control. If the hiss disappears during alignment, further reduce the signal strength.

4.5 MC TRAP ALIGNMENT

Tune in a strong TV signal and set the Contrast at maximum. Adjust the Fine Tuning until a beat pattern is visible on the screen. Adjust A20 for MINIMUM beat interference.

AUTOMATIC FINE TUNING ALIGNMENT

Tune in a color TV program with AFT off. Adjust all controls for normal operation. Remove white lead from the AFT output terminal. Connect DC probe of VTVM to this terminal, Point \diamond , low side to ground. Turn AFT on and fine tune into sound beat for maximum negative DC voltage. Adjust A25 for maximum deflection on meter. Change meter to positive polarity and adjust fine tuning in the opposite direction for maximum deflection. Adjust A26 for maximum deflection. Connect the white lead to the AFT output terminal. Turn AFT off and adjust fine tuning for normal picture. Turn AFT on and adjust A27 for MINIMUM deflection. Remove VTVM.



TROUBLESHOOTING CHECK CHART

The following chart lists component failures most likely to produce indicated symptoms.

SWEEP

No raster, has sound V8 thru V12, V17, F5
No vert. deflection V5, V6
Poor vert. lin. or foldover V5, V6
Poor horiz. lin. or foldover V9, V10
Narrow picture X1 thru X4, V8, V9, V10
Vert. off freq. V5, V6
Horiz. off freq. X23, X24, V8

RASTER

Yellow - No blue V13, V17
Cyan - No red V13, V17
Magenta - No green V13, V17

PICTURE OR SOUND

No pic, no sound, no raster X1 thru X4, F1 thru F4
No pic, no sound, has raster Q1, Q2, Q3, V202, F8
No pic, no sound, has snow V201, V202, Q1
No pic, has sound, no raster V2, V17
No pic, has sound, has raster X5, V1, V2, Q5
Has pic, no sound X8, V3, V4
Overloaded picture Q6, V5
Low or excessive brightness Q7, V17
Poor focus X11

COLOR (B/W reception operating normally.)

No color X13 thru X17, V1, Q8, V15, V16
Weak color X13 thru X17, V1, Q8, V15, V16
No color sync X13 thru X17, V15, V16
No blue V13, IC1
No red V13, IC1
Incorrect hue (tint) X13 thru X17, IC1, V15.

SYNC

No vert. sync V3, V5
No horiz. sync V3, V5, X23, X24
No vert. or horiz. sync V3, V5

MISCELLANEOUS ADJUSTMENTS

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Connect a VTVM through a high voltage probe to picture tube anode connector. Remove Efficiency coil jumper and connect a 0-300ma meter across the terminals.

Tune in a TV station and set all controls for normal operation. Remove the horizontal hold knob. Turn shaft to lock in picture when changing from channel to channel. Reinstall knob with pointer centered between stops.

Adjust the Efficiency coil for MINIMUM current on millimeter. Remove meter and reconnect jumper across terminals.

Set Normal-Service switch in Service position. With 117VAC to set, adjust the HV Adjust control for 25KV on picture tube anode connector.

Adjust Focus, Height and Vertical Linearity controls,

AGC ADJUSTMENTS

Tune in a strong TV station and advance AGC control until instability appears in the picture (pulling, jitter, overload, etc.). Reduce the control to the point just below the instability. Tune in a weak TV station without snow. Advance the AGC Delay control until snow appears in the picture. Reduce the control until the snow just disappears from the picture. Check all available stations for proper AGC action and repeat above procedure if necessary.

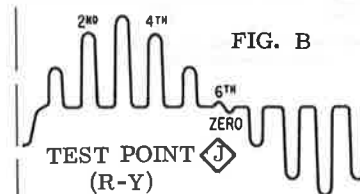
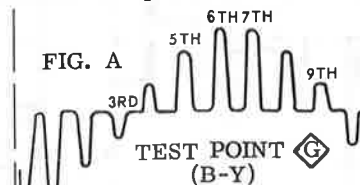
CHROMA BANDPASS AFC ALIGNMENT

Connect a color bar generator to the antenna terminals and adjust the set for normal operation. Connect jumper from Points \diamond to 24V source (across X15) and \diamond to ground. Adjust A21 until color bars drift slowly across the screen. Connect a jumper from Point \diamond to ground. Connect DC probe to VTVM through a 4.7 meg resistor to Point \diamond , low side to ground. Adjust A22 for maximum reading on meter.

Remove jumper from Points \diamond and \diamond . Set Color Level and Hue to the center of their ranges. Connect vertical input of scope to Point \diamond , low side to the ground. Adjust Hue control for maximum 6th and 7th bars on scope (Fig. A).

Connect VTVM to Point \diamond , low side to ground. Remove one end of R191, 3300 Ω Resistor, across L32. Adjust A23 for MINIMUM voltage on VTVM. Remove VTVM and reconnect R191 across L32.

Connect vertical input of scope to Point \diamond , low side to ground. Adjust A24 for equal amplitude of the 2nd and 4th bars on scope (Fig. B). Set Hue control to fully counterclockwise position. The 1st and 3rd bars or 7th and 9th bars should be of equal amplitude. If not, readjust A24. Set the Hue control to maximum clockwise. The 3rd or 4th and 5th bars should be of equal amplitude.



PURITY ADJUSTMENTS

Perform Step 1 of "Convergence Adjustments". If the picture tube appears to be magnetized, use a degaussing coil to demagnetize tube and mounting brackets.

Turn Red screen control to maximum and turn Blue and Green controls to MINIMUM. Loosen deflection yoke and move it rearward until it is against the convergence yoke assembly.

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

GRAY SCALE ADJUSTMENTS

Tune in a black and white picture or a color picture with the Color control set at MINIMUM. Turn the Red, Blue and Green Screen controls to MINIMUM. Move the Normal-Service switch to the Service position. Advance the screen controls one at a time to produce a white line of medium brightness, or to produce Red, Blue and Green lines of equal brightness.

Return the Normal-Service switch to the Normal position. Adjust the Blue and Green Gain controls to eliminate coloring in the light and dark areas of the picture.

Turn Brightness to maximum and Contrast control to midrange. Adjust the Brightness Range until the picture blooms (distorts), then reduce the control to the point just below where the picture returns to normal.

The cathode leads of the picture tube are provided with quick-disconnect connectors so that least efficient gun may be connected direct.

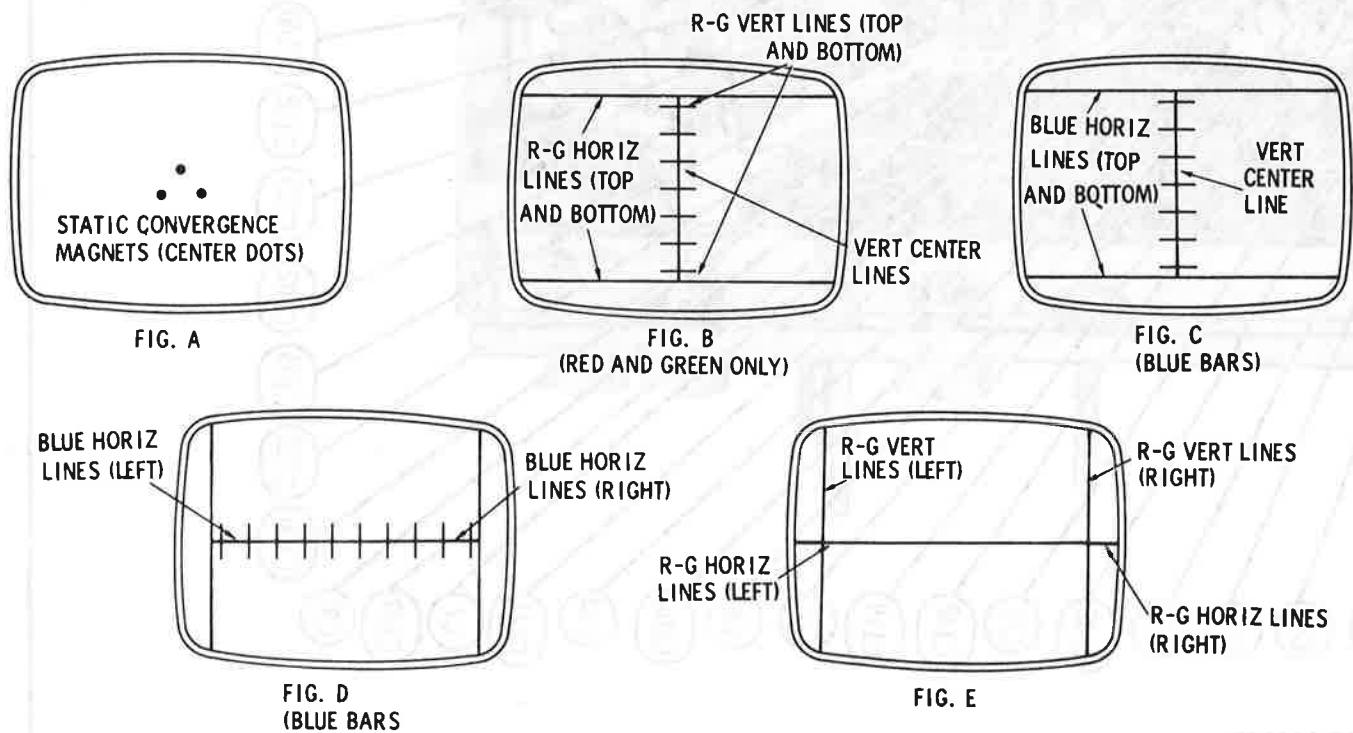
DYNAMIC PINCUSHION ADJUSTMENTS

The side pincushion is a fixed correction and no adjustments are provided on this chassis. Top and bottom pincushion is factory adjusted and readjustment is seldom needed. If necessary, top and bottom pincushion may be corrected by adjusting for straight horizontal lines at the top and bottom of the screen.

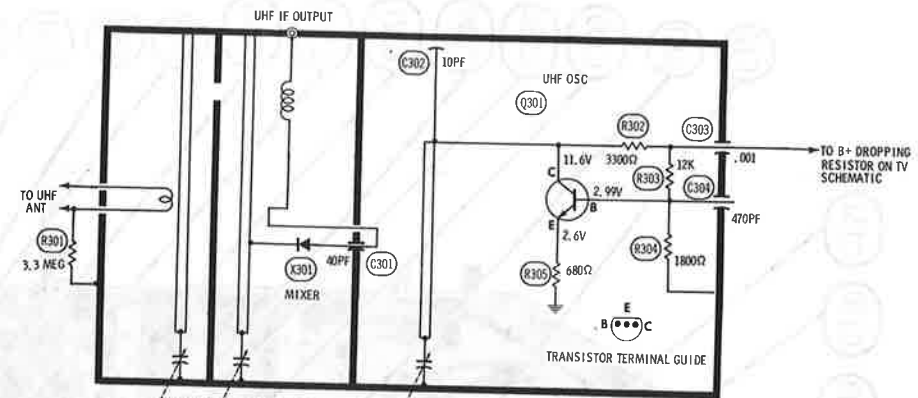
Connect a crosshatch generator to the antenna terminals and adjust set for a normal crosshatch pattern. Adjust Pincushion Correction coil, L53, for straight horizontal lines at top and bottom of the screen.

CONVERGENCE ADJUSTMENTS

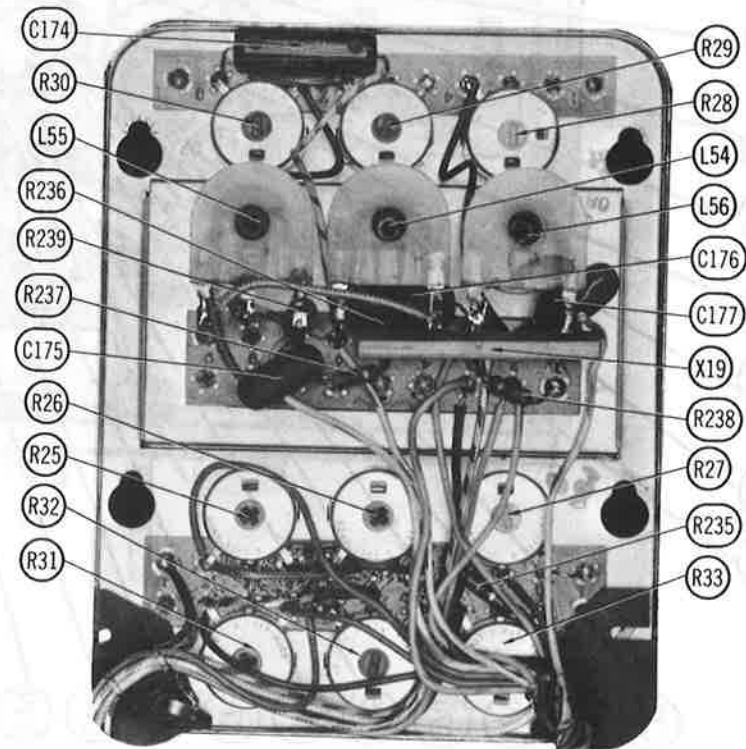
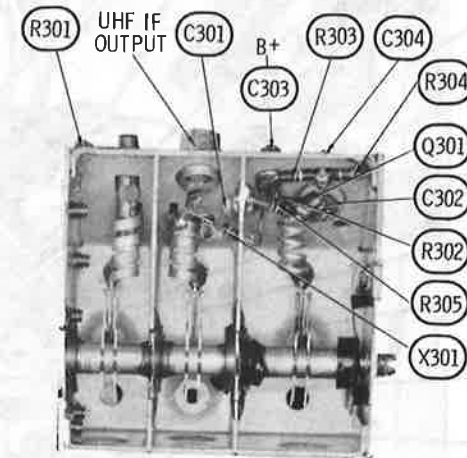
Step	Control	Use to Converge (or Straighten)	Remarks
1.			Perform Center Dot Convergence using convergence magnets. See Fig. A.
2.	R-G Vertical Lines, Top R26	Red and Green Vertical bars at top of screen.	Touch up both controls for best convergence from top to bottom along vertical center line (Fig. B).
3.	R-G Vertical Lines, Bottom R32	Red and Green Vertical bars at bottom of screen.	
4.	R-G Horizontal Lines, Top R25	Red and Green Horizontal bars at top of screen.	Touch up both controls for best convergence of horizontal bars along vertical center line (Fig. B).
5.	R-G Horizontal Lines, Bottom R31	Red and Green Horizontal bars at bottom of screen.	
6.	Blue Horizontal Lines, Top R27	Blue Horizontal bars at top of screen.	Touch up both controls for best convergence of horizontal bars along vertical center line (Fig. C).
7.	Blue Horizontal Lines, Bottom R33	Blue Horizontal bars at bottom of screen.	
8.			Perform Center Dot Static Convergence (Fig. A).
9.	Blue Horizontal Lines, Right L56	Blue Horizontal bars at right side of screen.	Touch up both controls for best convergence along horizontal center line (Fig. D).
10.	Blue Horizontal Lines, Left R28	Blue Horizontal bars at left side of screen.	
11.	R-G Vertical Lines, Right L54	Red and Green Vertical bars at right side of screen.	(Fig. E)
12.	R-G Horizontal Lines, Right L55	Red and Green Horizontal bars at right side of screen.	Use control to converge blue bar with red and green bars on right side of screen (Fig. E).
13.	R-G Vertical Lines, Left R29	Red and Green Vertical bars at left side of screen.	(Fig. E)
14.	R-G Horizontal Lines, Left R30	Red and Green Horizontal bars at left side of screen.	Use control to converge blue bar with red and green bars at left side of screen (Fig. E).



UHF TUNER 175-68H/K



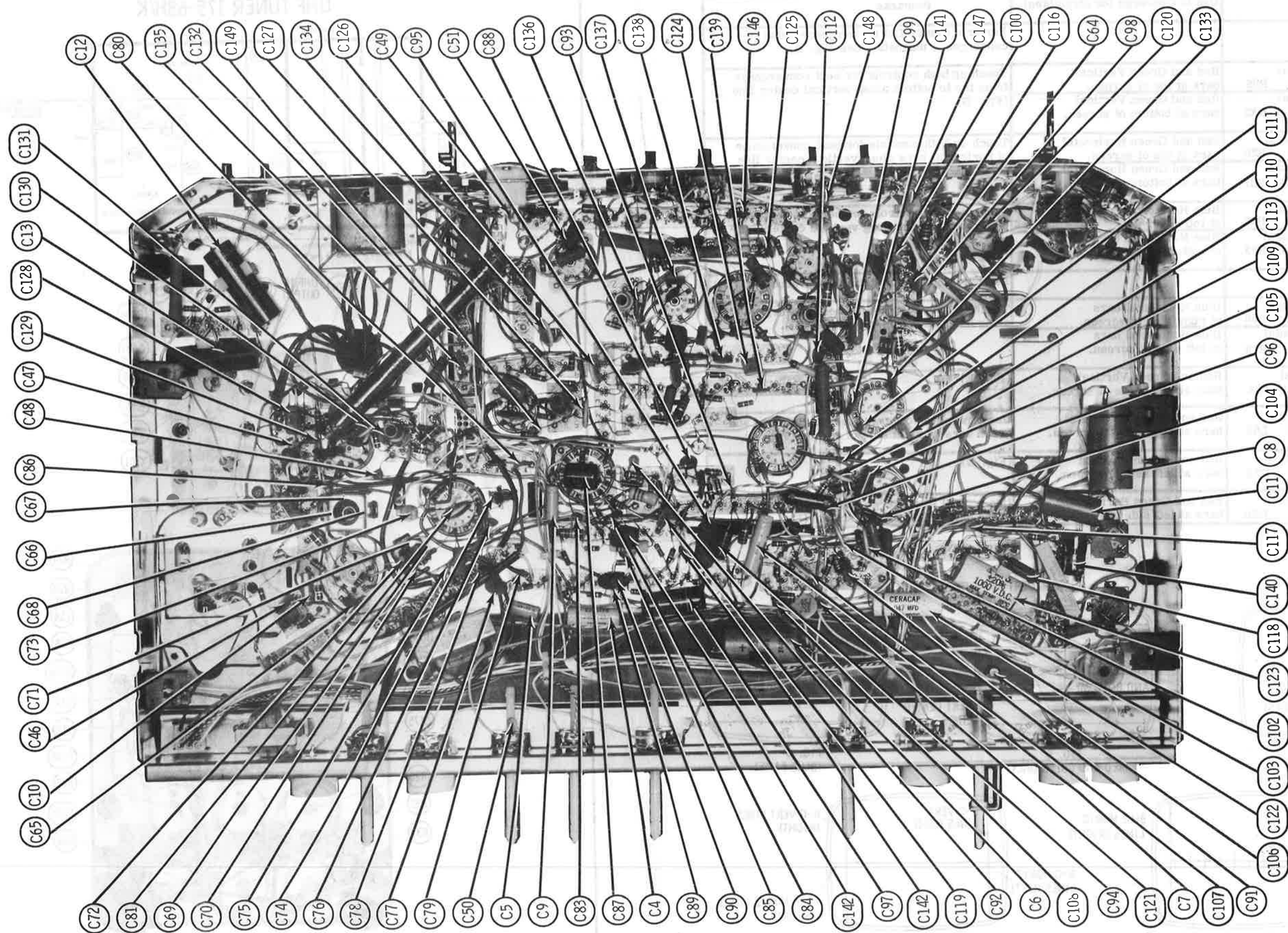
A PHOTOFACT STANDARD NOTATION SCHEMATIC
© Howard W. Sams & Co., Inc. 1970



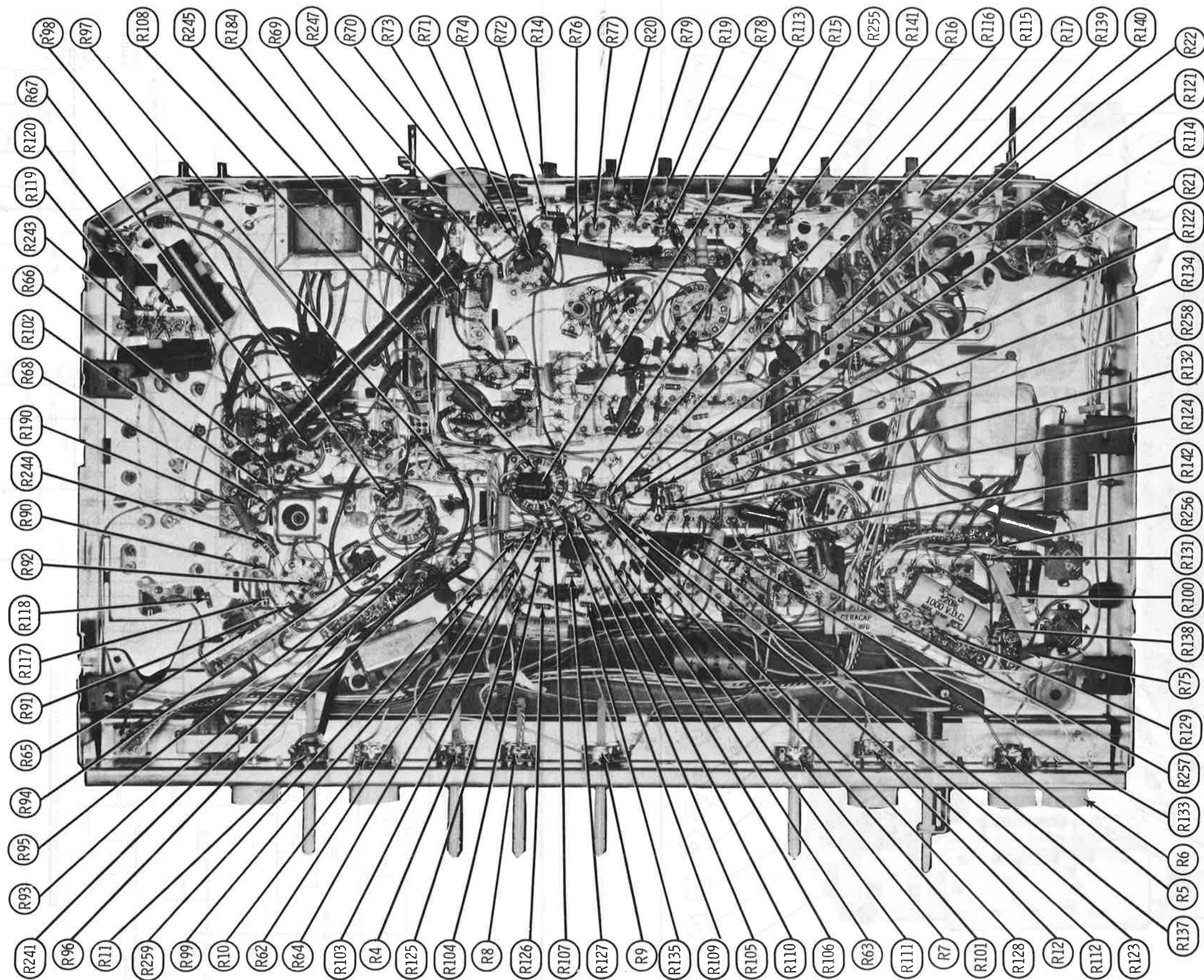
CONVERGENCE CHASSIS

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14A9C50, 14A9C51

FOLDER 3



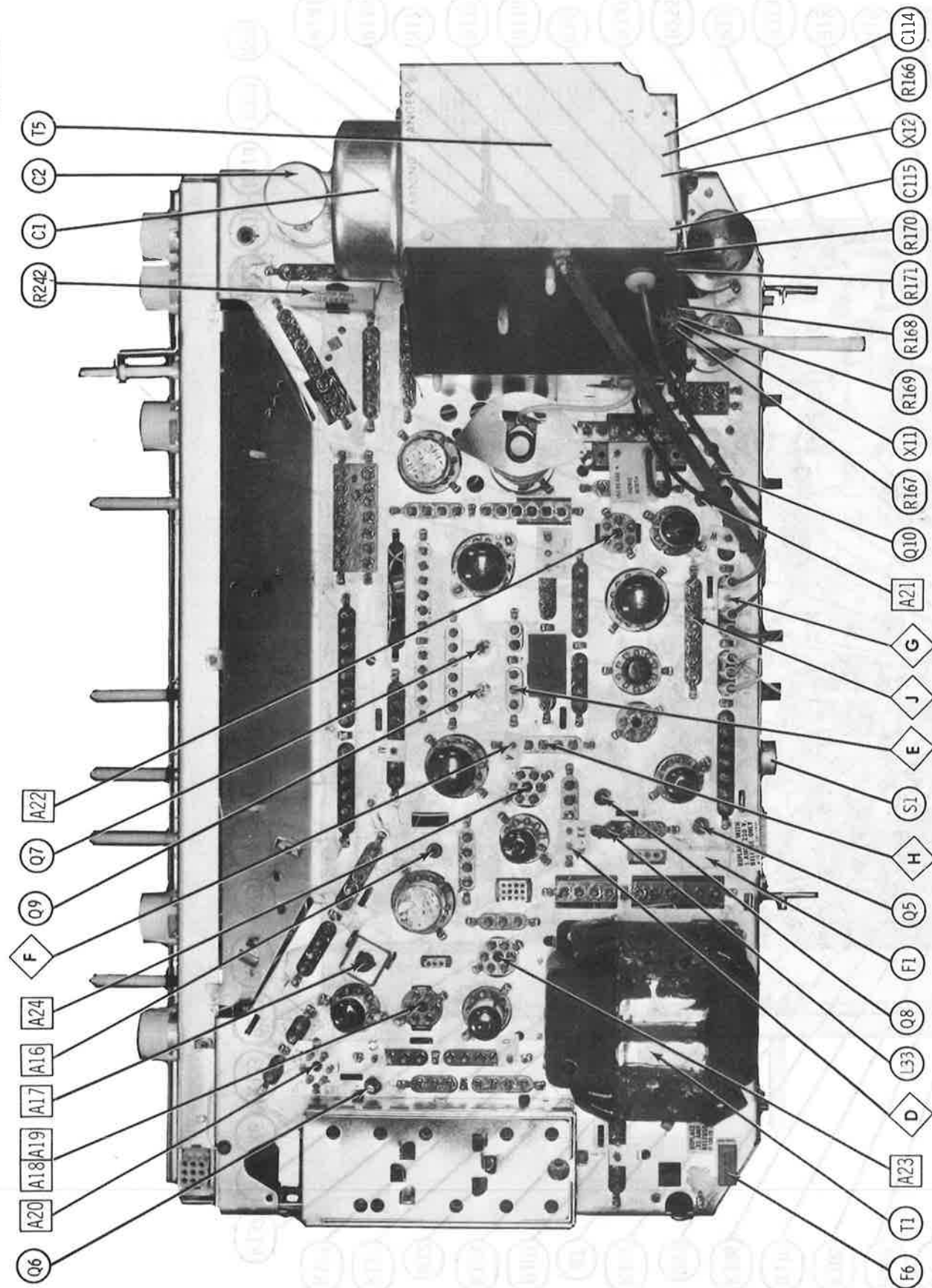
CHASSIS - BOTTOM VIEW



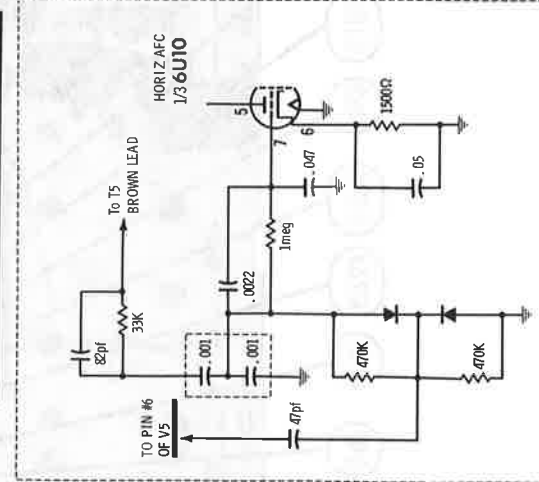
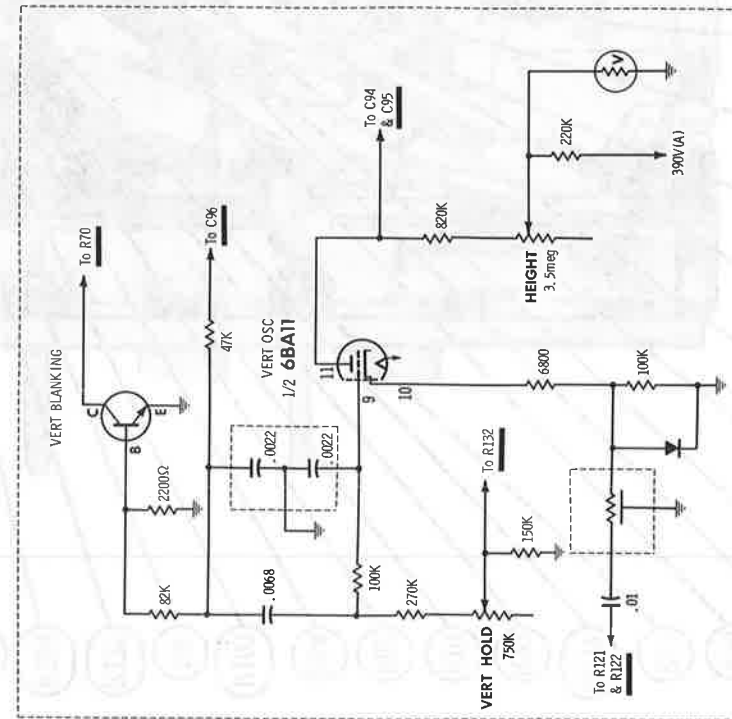
CHASSIS - BOTTOM VIEW

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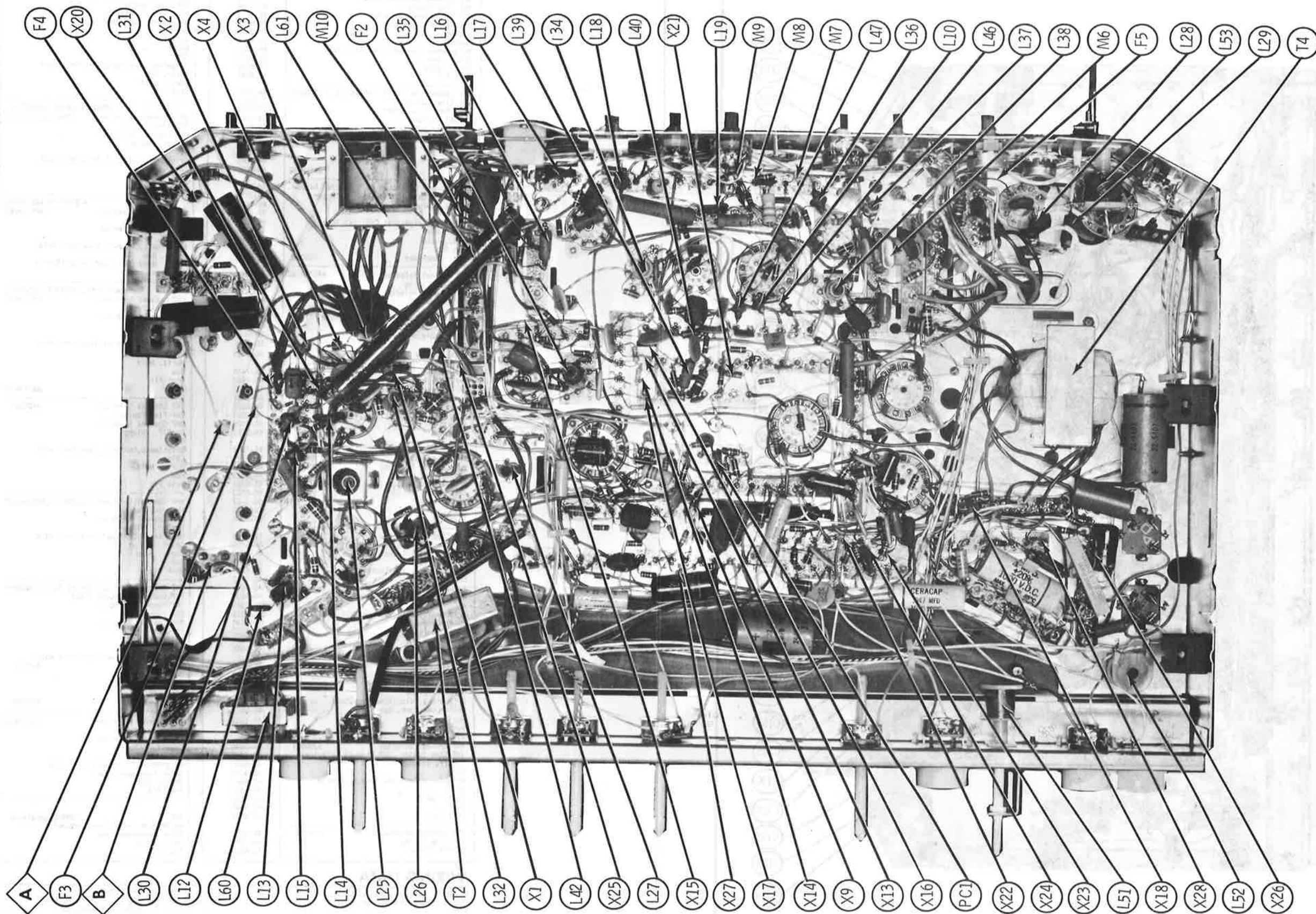
FOLDER 3



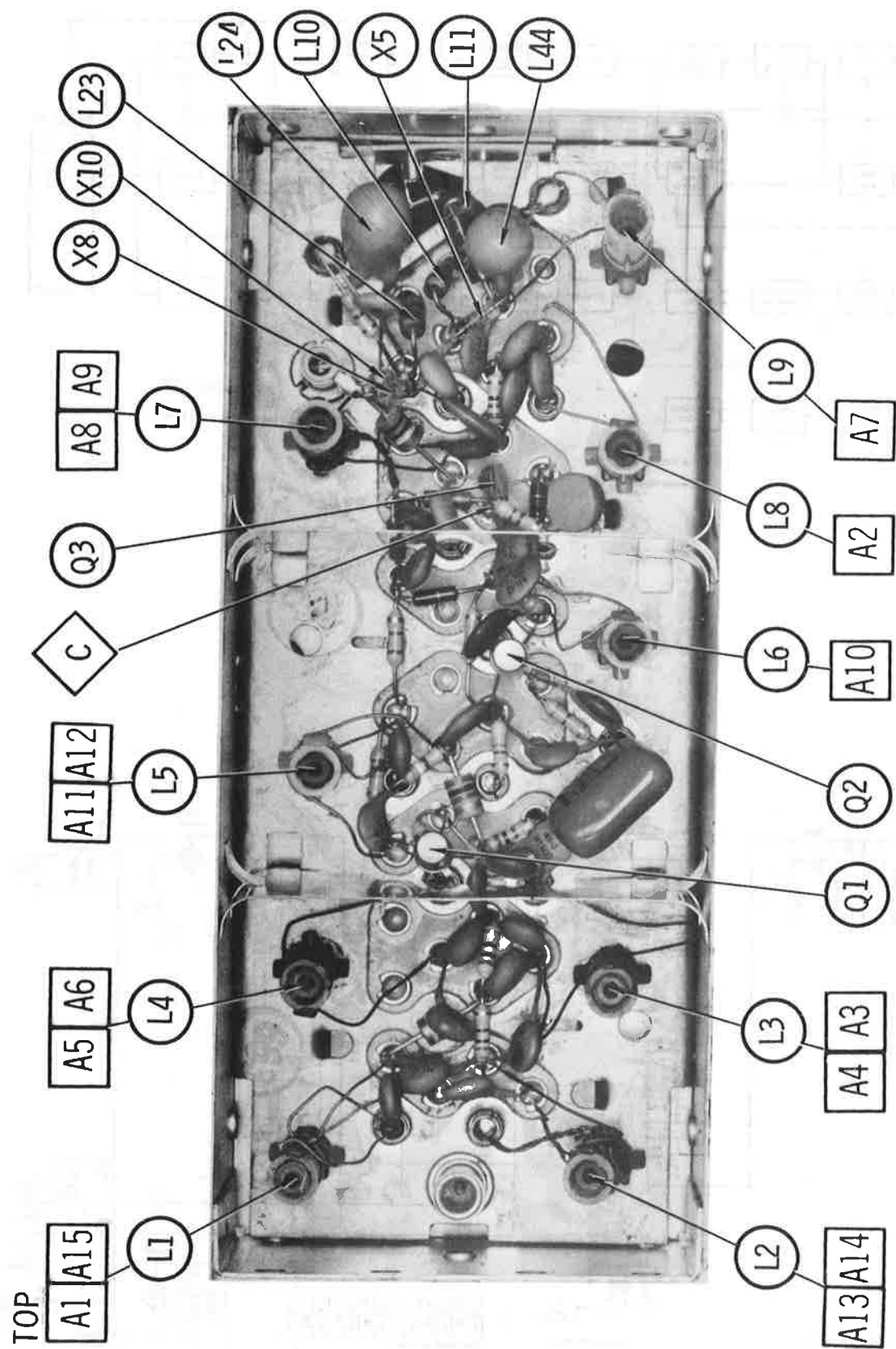
CHASSIS - TOP VIEW



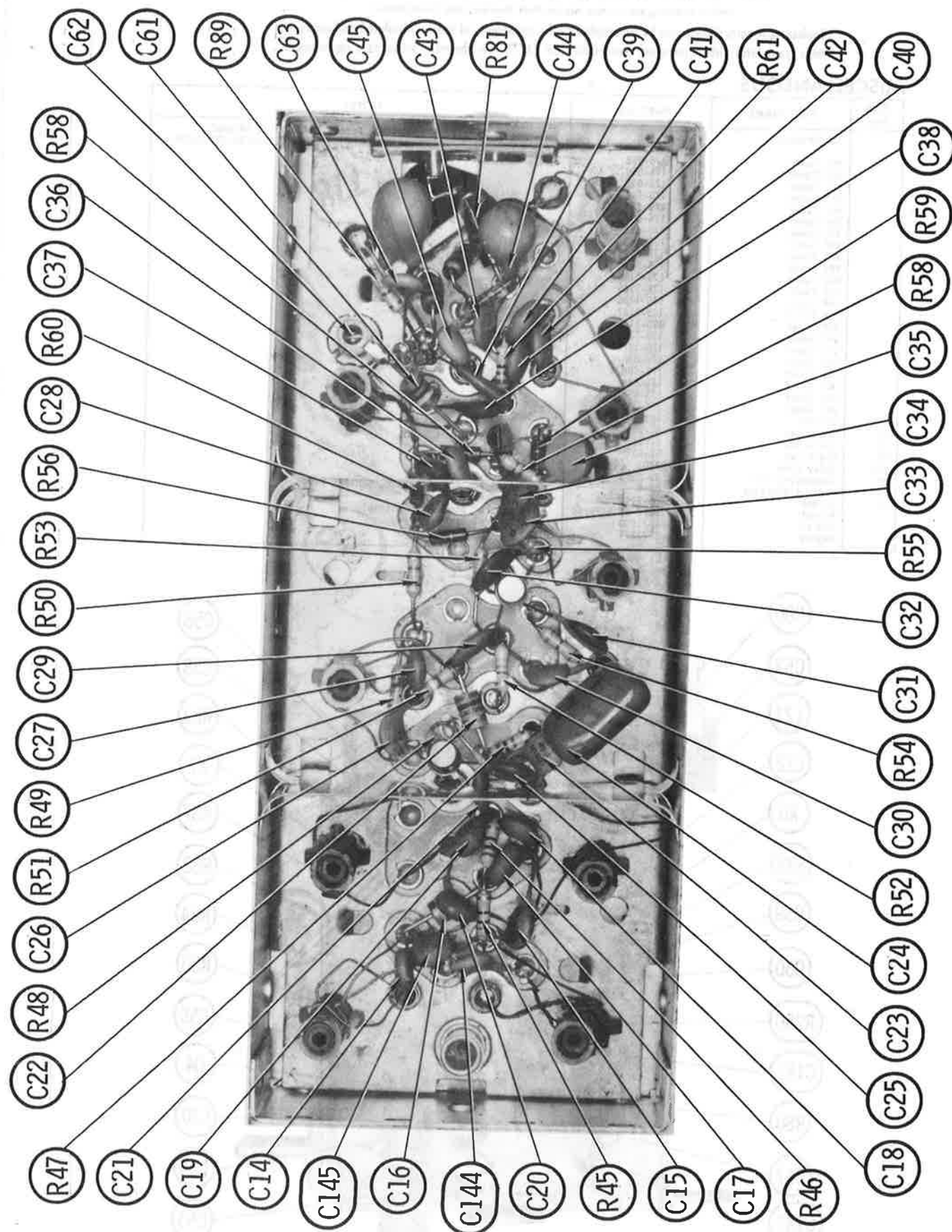
ALTERNATE HORIZ AFC CIRCUITS USED IN SOME MODELS



CHASSIS - BOTTOM VIEW



VIDEO IF CHASSIS



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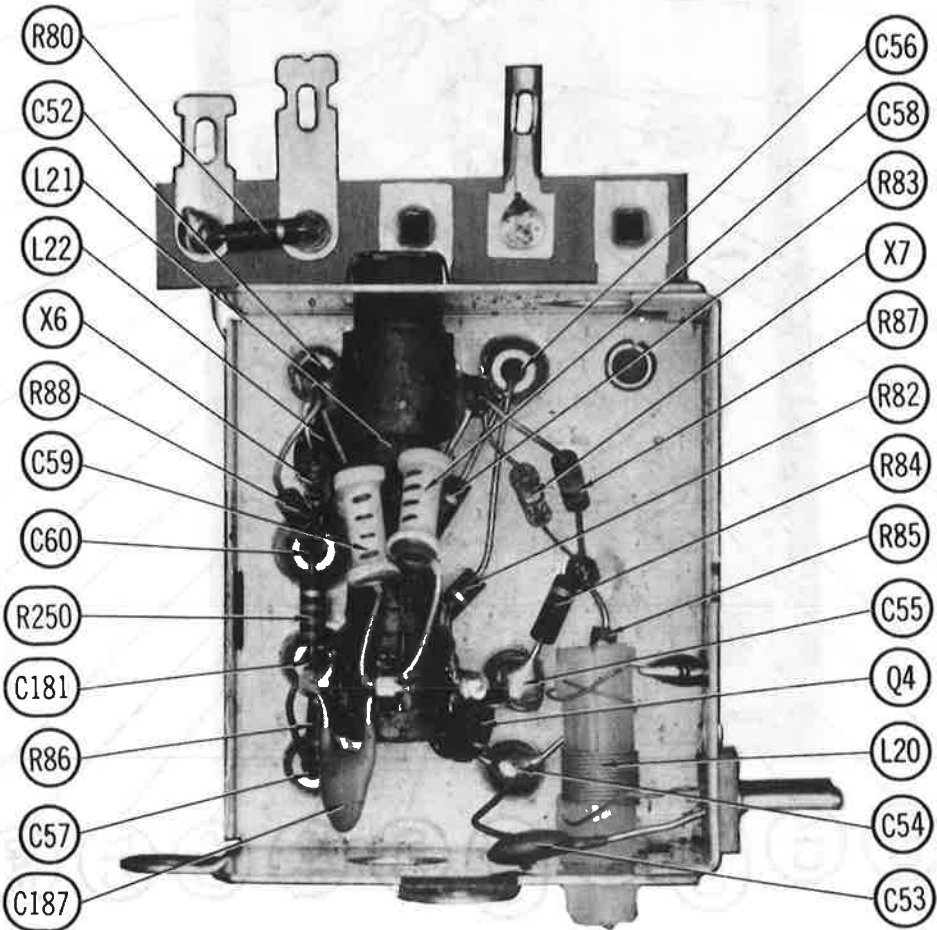
PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

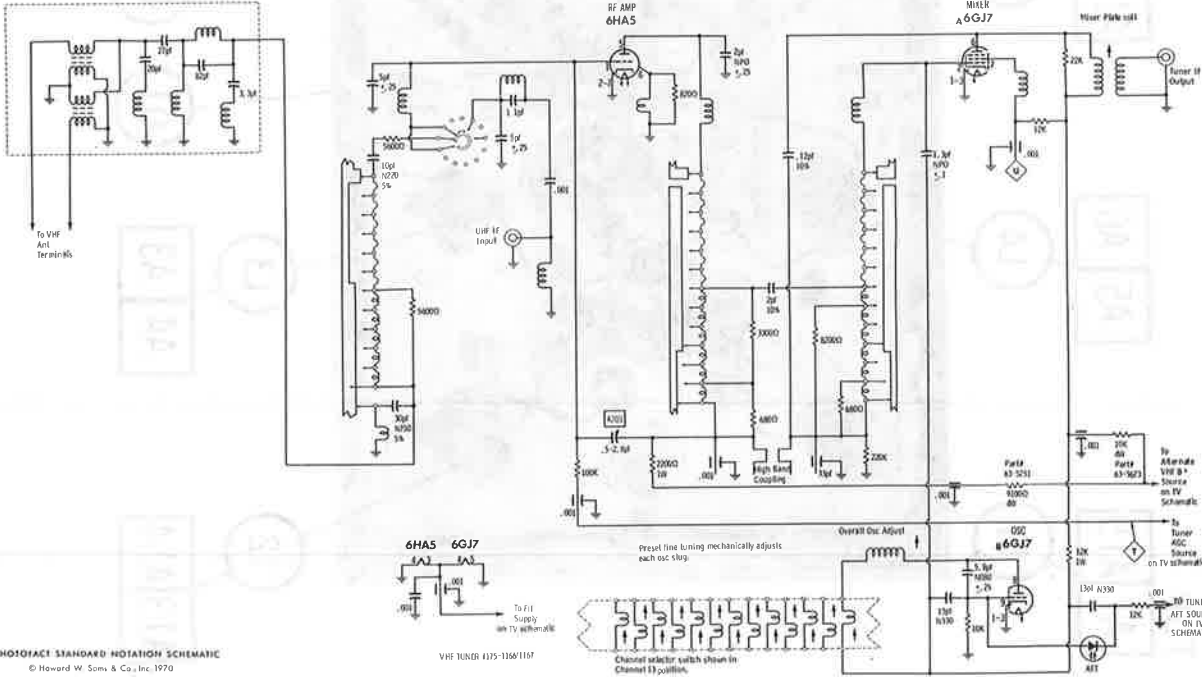
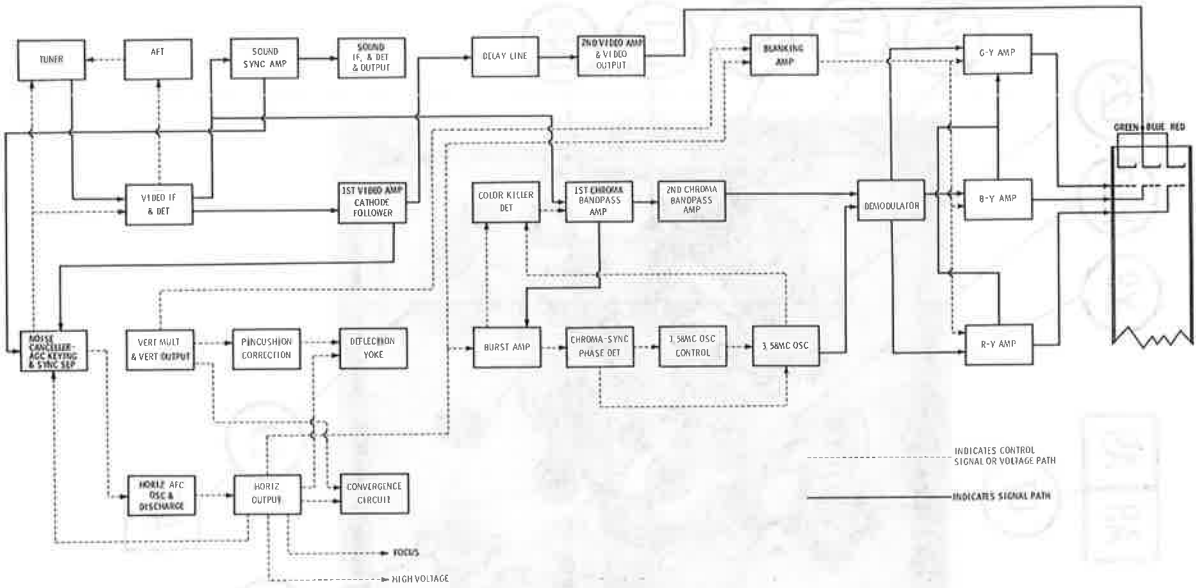
MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
	VHF Antenna	1-208	JFD Replacement TA511 (2 used), Models: A4205W/W2, A4208W2, A4502W/W2, A4507W, A4509W, A6208W, A6507W, A6509W, T2944W/W2, Z6208W09A.
	VHF Tuner	175-655	
	VHF Tuner	175-569	
	VHF Tuner	175-592	
	VHF Tuner	175-594	
	VHF Tuner	175-596	
	VHF Tuner	175-651	
	VHF Tuner	175-652	
	VHF Tuner	175-653	
	VHF Tuner	175-654	
	VHF Tuner	175-656	
	VHF Tuner	175-1152	
	VHF Tuner	175-1165	
	VHF Tuner	175-1166	
	VHF Tuner	175-1167	
	VHF Tuner	175-1168	
	VHF Tuner	175-1169	
	VHF Tuner	175-1226	
	UHF Tuner	175-68H/K	
	UHF Tuner	175-60H/K	
	UHF Tuner	175-64K	
	UHF Tuner	175-69H/K	
	UHF Tuner	175-74K	
M6	Crystal	103-89	3.58MC
M7	Spark Gap	52-957	
M8	Spark Gap	52-957	
M9	Spark Gap	52-957	
M10	Delay Line	S-83303 (S-80475)	
M11	Degaussing Coil	95-2553	
PC1	Vert. Integrator	87-4	CENTRALAB Replacement PC408, SPRAGUE V-14
S1	Switch	85-994	Service-Normal
	Magnet	S-76297 of S-79294	Blue Lateral and Purity Assembly
	Magnet	S-71500	Blue Lateral Assembly only
	Magnet	S-72221	Purity Ring Assembly only



AFT CHASSIS

BLOCK DIAGRAM

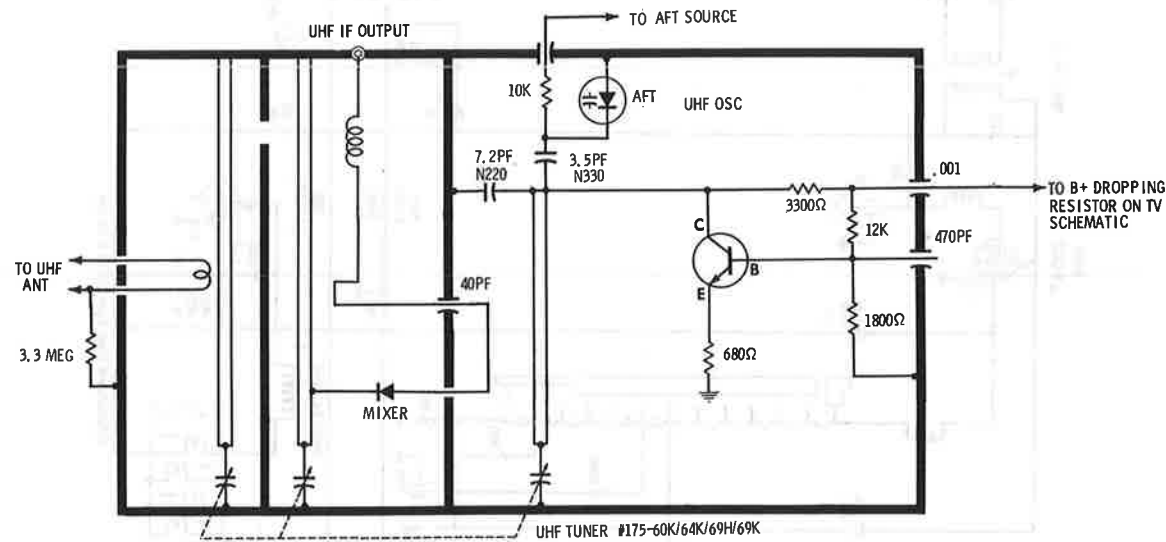


VHF TUNER 175-1166. 67

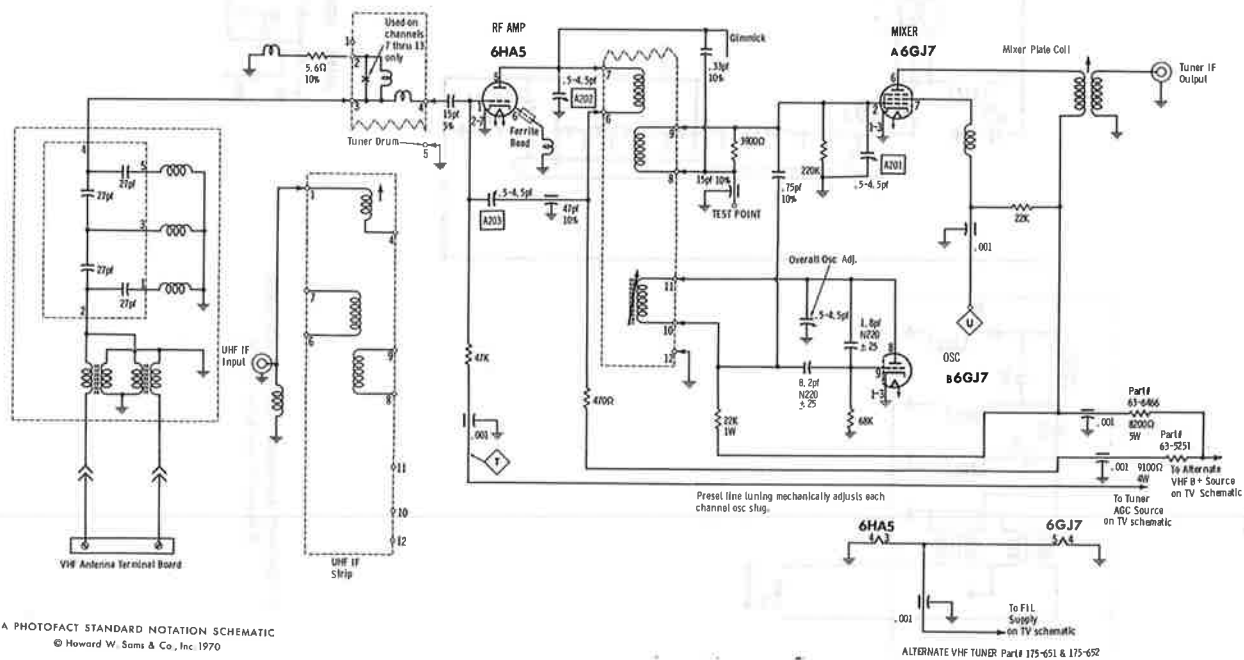
UHF TUNER 175 - 74K

VHF TUNER 175-1152, 1165

UHF TUNER 175-60K, 64K, 69H, K



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VHF TUNER 175-651, 652

VHF TUNER

TUBES

AMPEREX		GENERAL ELECTRIC		RCA		SYLVANIA	
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE	
V201	RF Amp.	6HA5/EC900		V202	Mixer - Oscillator	6GJ7/ECF801	

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	15 5%			DTZ-15	CZ601CG150J		CN0415	10TCC-Q15
C202	.5-4.5	#22-5239						
C203	30	#22-5241						
C204	.5-4.5	#22-5239						
C205	.001	#22-3561						
C206	.33 10%	#22-4903						
C207	15	#22-4679						
C208	1.2 10%	#22-2715						10TCC-V12
C209	.5-4.5	#22-5239						
C210	.001	#22-3561						
C211	.001	#22-3561						
C212	.001	#22-3561						
C213	.5-4.5	#22-5239						
C214	8.2 N220 ±.25	#22-3300				*	*	10TCR-V82
C215	1.8 N220 ±.25	#22-5560				*	*	
C216	.001	#22-3561						

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

COILS (RF-IF)

ITEM No.	USE	MFR. PART No.	NOTES	ITEM No.	USE	MFR. PART No.	NOTES
L201	Balun	5-71000		L210	Ant., RF, Mixer, Osc.	174-878	Channel 8 Strip
L202	Antenna			L211	Ant., RF, Mixer, Osc.	174-879	Channel 9 Strip
L203	RF Choke	20-1548		L212	Ant., RF, Mixer, Osc.	174-880	Channel 10 Strip
L204	Ant., RF, Mixer, Osc.	174-872	Channel 2 Strip	L213	Ant., RF, Mixer, Osc.	174-881	Channel 11 Strip
L205	Ant., RF, Mixer, Osc.	174-873	Channel 3 Strip	L214	Ant., RF, Mixer, Osc.	174-882	Channel 12 Strip
L206	Ant., RF, Mixer, Osc.	174-874	Channel 4 Strip	L215	Ant., RF, Mixer, Osc.	174-883	Channel 13 Strip
L207	Ant., RF, Mixer, Osc.	174-875	Channel 5 Strip	L216		174-841	UHF Strip
L208	Ant., RF, Mixer, Osc.	174-876	Channel 6 Strip	L217	RF Choke	20-1610	
L209	Ant., RF, Mixer, Osc.	174-877	Channel 7 Strip	L218	Mixer Plate	S-80628	

UHF TUNER PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

TRANSISTORS UHF TUNER 175-68H/K

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q301		UHF Oscillator	121-551 *	GE-11	TR-22	HEP56		ECG 108

* UHF Tuner 175-68H UHF Oscillator Part #121-630.

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X301	103-61	1N82A	1N82AG	ECG 112		

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C301	40pf N1500	#22-5060						
C302	10pf N220	#22-5005						
C303	.001	#22-4651						
C304	470pf	#22-5062						

VHF TUNER 175-655

VHF TUNER ALIGNMENT INSTRUCTIONS



Suggested Alignment Tools:	GENERAL CEMENT	WALSCO
A201, A202, A203, Overall Osc. Adjust	8868, 8987, 9089	2531X, 2541, 2587
Mixer Plate Coil	9296, 9297, 9300	2510, 2546, 2547

OSCILLATOR ADJUSTMENTS

The oscillator slug for each channel is preset with the fine tuning control. Adjust the fine tuning for best picture and sound. If necessary, adjust the overall oscillator adjustment. Recheck.

RF AND MIXER ADJUSTMENTS

Connect the sweep generator across antenna terminals with 120-ohm carbon resistor in each lead. Refer to chart below for generator frequencies. Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the scope for horizontal deflection. Use 10MC sweep unless otherwise noted. Connect a variable bias to RF AGC line at Point T. Adjust bias to obtain response curve which shows no overloading.

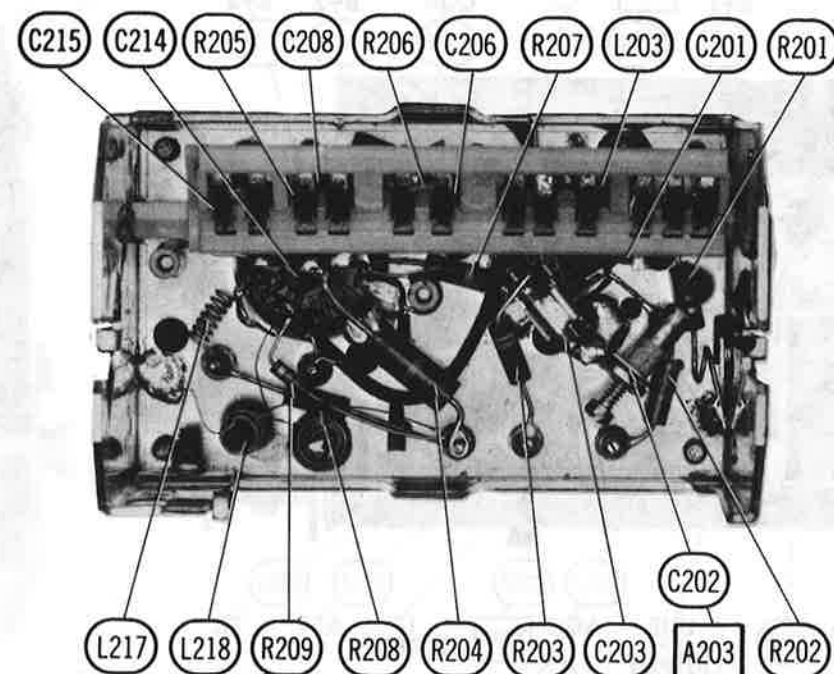
CHANNEL	CONNECT SCOPE	REMARKS	TUNER 175-659
13	Vertical input to Point  U, low side to ground.	Adjust A201 and A202 for maximum gain and symmetry of response similar to Fig. 201 with markers as shown.	
10	Across video detector load resistor.	Increase bias to -20 volts and adjust A203 for MINIMUM amplitude of response.	
12 thru 2	Vertical input to Point  U, low side to ground.	Decrease bias. Check all channels and make compromise adjustments by expanding or compressing appropriate coils.	

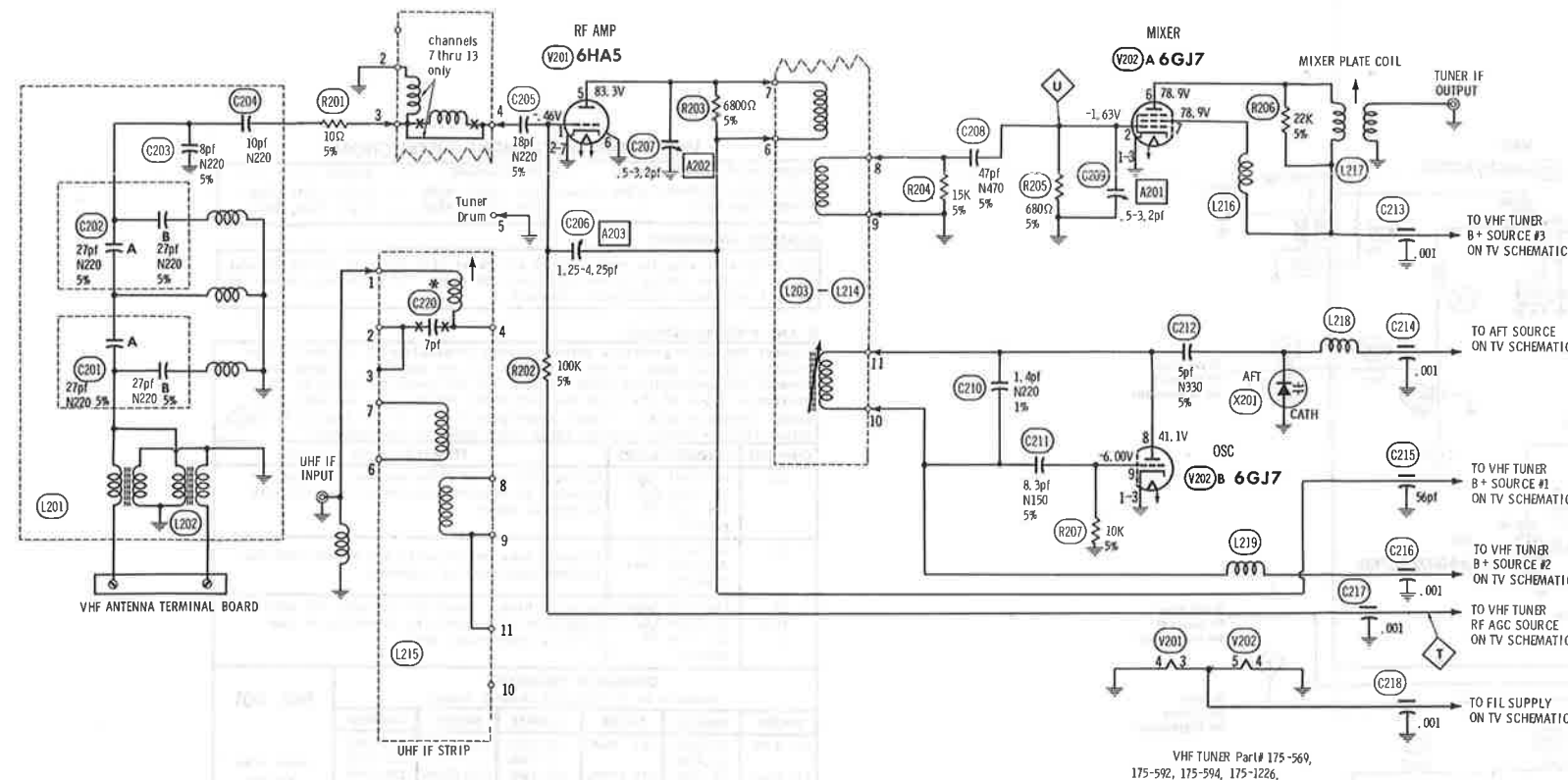
GENERATOR FREQUENCY

Numbers in () indicate channel number

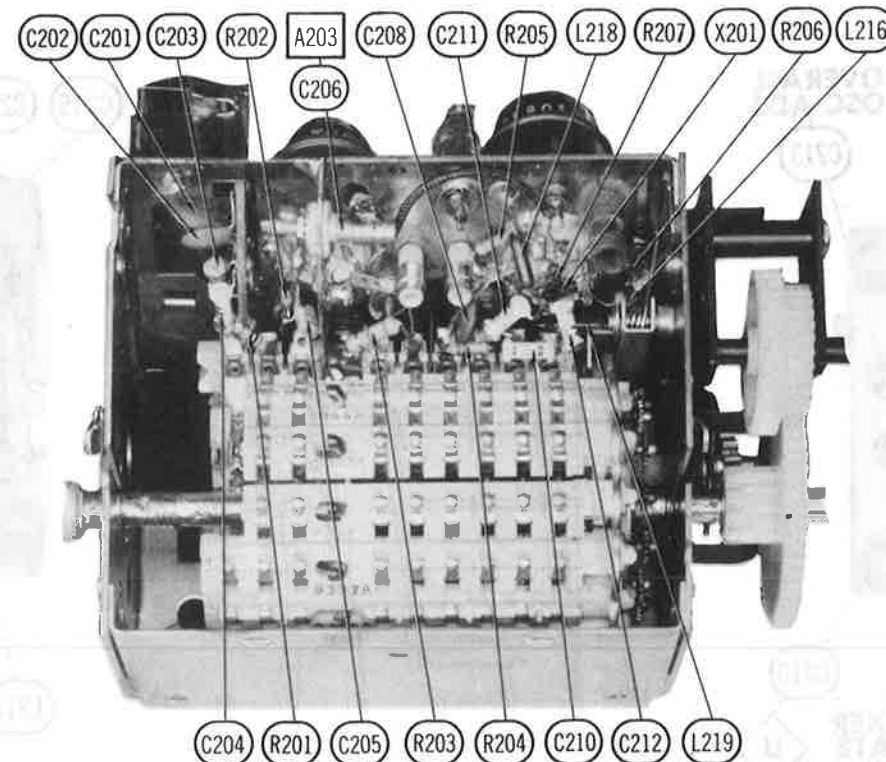
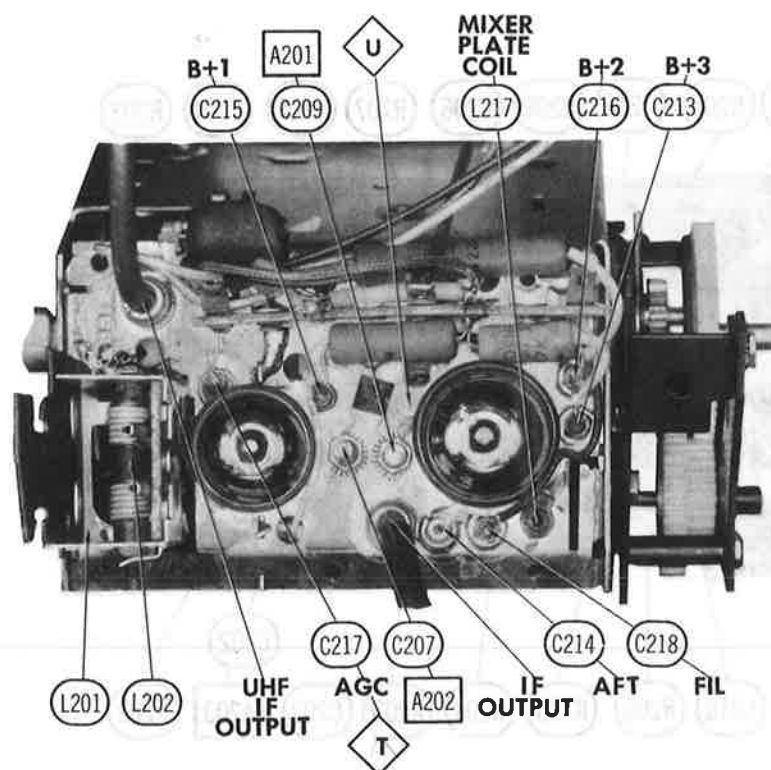
SWEEP	MARKER	SWEEP	MARKER	SWEEP	MARKER
(2) 57MC	55.25MC 59.75MC	(6) 85MC	83.25MC 87.75MC	(10) 195MC	193.25MC 197.75MC
(3) 63MC	61.25MC 65.75MC	(7) 177MC	175.25MC 179.75MC	(11) 201MC	199.25MC 203.75MC
(4) 69MC	67.25MC 71.75MC	(8) 183MC	181.25MC 185.75MC	(12) 207MC	205.25MC 209.75MC
(5) 79MC	77.25MC 81.75MC	(9) 189MC	187.25MC 191.75MC	(13) 213MC	211.25MC 215.75MC

FIG. 201





A PHOTOFACT STANDARD NOTATION SCHEMATIC
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VHF TUNER 175-569, 592, 594, 596, 1226

VHF TUNER ALIGNMENT INSTRUCTIONS

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

OSCILLATOR ADJUSTMENTS TUNERS: 175-569, 175-592/594, 175-651 thru 655, 175-1226

The oscillator slug for each channel is preset with the fine tuning control. Adjust the fine tuning for best picture and sound.

OSCILLATOR ADJUSTMENTS TUNERS 175-651/652, 175-1152/1166/1167

The oscillator slug for each channel is preset with the fine tuning control. Adjust the fine tuning for best picture and sound. If necessary, adjust the overall oscillator adjustment. Recheck.

RF AND MIXER ADJUSTMENTS

Connect the sweep generator across antenna terminals with 120-ohm carbon resistor in each lead. Refer to chart below for generator frequencies. Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the scope for horizontal deflection. Connect a variable bias to the RF AGC line at Point T. Adjust bias to obtain response curve which shows no indication of overloading.

CHANNEL	CONNECT SCOPE	REMARKS
13	Vertical input to Point U, low side to ground.	TUNERS: 175-569, 175-592/594, 175-651 thru 655, 175-1226 - Adjust A201 and A202 for maximum gain and symmetry of response similar to Fig. 201 with markers as shown.
10	Across video detector load resistor.	Increase bias to -20 volts and adjust for MINIMUM amplitude or response (A203).
12 thru 2	Vertical input to Point U, low side to ground.	Decrease bias. Check response on all channels and make compromise adjustments of A201 and A202 if necessary.

CHANNEL	CONNECT SCOPE	REMARKS
13	Vertical input to Point U, low side to ground.	TUNERS: 175-1152, 175-1165/1166/1167 Expand or compress appropriate coils for maximum gain and symmetry of response similar to Fig. 201 with markers as shown.
10	Across video detector load resistor.	Increase bias to -20 volts and adjust for MINIMUM amplitude of response (A201).
12 thru 2	Vertical input to Point U, low side to ground.	Decrease bias. Check all channels and make compromise adjustments by expanding or compressing appropriate coils.

GENERATOR FREQUENCY Numbers in () indicate channel number					
SWEEP	MARKER	SWEEP	MARKER	SWEEP	MARKER
(2) 57MC	55.25MC	(6) 85MC	83.25MC	(10) 195MC	193.25MC
	59.75MC		87.75MC		197.75MC
(3) 63MC	61.25MC	(7) 177MC	175.25MC	(11) 201MC	199.25MC
	65.75MC		179.75MC		203.75MC
(4) 69MC	67.25MC	(8) 183MC	181.25MC	(12) 207MC	205.25MC
	71.75MC		185.75MC		209.75MC
(5) 79MC	77.25MC	(9) 189MC	187.25MC	(13) 213MC	211.25MC
	81.75MC		191.75MC		215.75MC

FIG. 201



PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS* for the most up-to-date replacement.

COILS (Sweep Circuits)

ITEM No.	FUNCTION	REPLACEMENT DATA						
		MFGR. PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	THORDARSON MEISSNER PART No.	TRIAD PART No.	WORKMAN PART No.
L51	Horiz. Osc. (Hold)	S-56877		H-161	WC-8A	HS-24	WLC-5	T107
L52	Horiz. Efficiency	S-77975 (1)	MWC-6	6322		WC-28 (1)		
L53	Pincushion	S-79692 (2)						
L54	Right R/G Vert. Lines	S-73854	MWC-6	6322	WC-8A	WC-28 (1)	WLC-5	T107
L55	Right R/G Horiz. "	S-58041		H-162		WC-51		
L56	Right Blue Horiz. "	S-73854 (3)	MWC-6	6322	WC-8A	WC-28 (1)	WLC-5	T107
L57	Convergence Yoke Assembly	S-79029						
A	Blue Coil	S-79393						
B	Green Coil	S-79392						
C	Red Coil	S-79394						
	Alternate Conv. Yoke Assembly	S-76430						
A	Blue Coil	S-76725						
B	Green Coil	S-76726						
C	Red Coil	S-76724						

- (1) Alternate Part Number S-78282 used in some versions.
(2) Alternate Part Number S-80311 used in some versions.
(3) Alternate Part Number S-58038 used in some versions.

TRANSFORMER (Power)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @ 3.2A AC	315VAC @ .465ADC	6.3VAC @ 1.35AAC	95-2701					
		SEC. 3	SEC. 4						
	34VAC @ .08ADC	Tap @ 4.9AAC	12.6VAC @ 1.8AAC						
	Tap @ 6.3VAC	Tap @ 3.9AAC							

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	6000	3.2	95-2561	A-3020	A-8092	26S48	S-53X	

TRANSFORMERS (Sweep Circuits)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T3	Yoke (Horiz. 13mh)	95-2532	MDF-145C (1) (2)	DY-98AC	Y108 (1)	YC-310-2 (1)	(1) Use original yoke plug and leads. (2) Install original 220 ohm resistors in series between yoke terminal #6 and yoke terminal #4. Connect original violet lead to junction of 220 resistors. (3) Exact replacement. (4) Used in Models A4509W, A6509W only.
T4	90° (Vert. 20mh)	95-2780 (4)					
T5	Vert. Output	95-2551		VO-714C	26S30 (3)		
	Horiz. Output	S-83360					
	Horiz. Output, Alternate	S-82941					

SWEEP COMPONENT CONNECTION DATA

ORIGINAL →	YOKE												YOKE PLUG											
	Original Connections												1	2	3	4	5	6	7	8				
REPLACEMENT ↓	1	3	4	6	8	9	11	12					TO YOKE TERMINALS											
MERIT	10	7	6	11	(1)	4	5	9	(3)				10	9	7	6	(2)	11	5	4				
STANCOR	EXACT REPLACEMENT												EXACT REPLACEMENT											
THORDARSON	Red	Blue	Yel	Blk	Purp	Whi	Red/Whi	Org	(3)				1	3	5	11	7	12	9	10				
TRIAD	1	3	4	6	8	9	11	12	(3)				1	12	3	4	5	9	11	6				

- (1) Install original 220 ohm resistors in series between yoke terminal #6 and yoke terminal #4.
(2) Connect original violet lead to junction of 220 ohm resistors. (3) Use original yoke plug and leads.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	3" x 5" PM	49-1131	35A05	Model Z4543DE09A Model Z4543DE09A
	6" x 9" PM	49-1060	69A3Z8	
	6" x 9" PM	49-1060	69A3Z8	

VHF TUNER PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

TUBES VHF TUNER 175-569, 592, 594, 596, 1226

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

COILS (RF-IF)

ITEM No.	USE	MFGR. PART No.	NOTES	ITEM No.	USE	MFGR. PART No.	NOTES
L201	Ant. Filter Ass'y	S-77781		L211	Ant., RF, Mixer, Osc.	174-360	Channel 10 Strip
L202	Balun	S-49189	Part of L201	L212	Ant., RF, Mixer, Osc.	174-361	Channel 11 Strip
L203	Ant., RF, Mixer, Osc.	174-342	Channel 2 Strip	L213	Ant., RF, Mixer, Osc.	174-362	Channel 12 Strip
L204	Ant., RF, Mixer, Osc.	174-343	Channel 3 Strip	L214	Ant., RF, Mixer, Osc.	174-363	Channel 13 Strip
L205	Ant., RF, Mixer, Osc.	174-344	Channel 4 Strip	L215	IF UHF	174-350	Channel 1 Strip
L206	Ant., RF, Mixer, Osc.	174-345	Channel 5 Strip	L216	RF Choke	20-1030	
L207	Ant., RF, Mixer, Osc.	174-346	Channel 6 Strip	L217	Mixer Plate	S-77030	
L208	Ant., RF, Mixer, Osc.	174-357	Channel 7 Strip	L218	RF Choke	S-49738	
L209	Ant., RF, Mixer, Osc.	174-358	Channel 8 Strip	L219	RF Choke	S-49738	
L210	Ant., RF, Mixer, Osc.	174-359	Channel 9 Strip	L220	UHF IF Input	20-1056	Crystal DC Return

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.
C201A	27 N220 5%	#22-3553				*	*	10TCR-Q27
B	27					*	*	10TCR-Q27
C202A	27 N220 5%	#22-3553				*	*	10TCR-Q27
B	27					*	*	10TCR-Q27
C203	8 N220 +.5					*	*	10TCR-Q27
C204	10 N220 +.25					*	*	10TCR-Q27
C205	18 N220 5%					*	*	10TCR-Q27
C206	1.25-4.25	#22-5348						10TCR-Q10
C207	.5-3.2	#22-4510						10TCR-Q18
C208	47 N470 5%					*	*	10TCT-Q47
C209	.5-3.2	#22-4510						
C210	1.4 N220 +.1	#22-5668				*	*	
C211	8.3 N150 +.25					*	*	10TCP-V82
C212	5 N330 +.25					*	*	10TCS-V50
C213	.001	#22-4613						
C214	.001	#22-4718						
C215	56 +7,5%	#22-3488						
C216	.001	#22-4613						
C217	.001	#22-4613						
C218	.001	#22-4613						

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

UHF TUNER PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

TRANSISTORS UHF TUNER 175-74K

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	SYLVANIA PART No.
Q301		UHF Oscillator	121-551		GE-11	TR-24	HEP56	SK3019

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X301	103-65	1N82A	1N82AG	ECG 112		(1) Variable Capacitor Diode
X302	103-104 (1)					

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C301	30					*	*	
C302	7.2 N220 5%	#22-5836						
C303	.001	#22-5366						
C304	470	#22-4651						
C305	3.5	#22-5062				*	*	
C306	470	#22-5367						
C307	470	#22-5062						

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

ZENITH CHASSIS
14A9C50, 14A9C51

FOLDER 3

PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements.

TUBES

Have your local distributor check Sams COUNTER FACTS® for the most up-to-date replacement.

AMPEREX			GENERAL ELECTRIC			RCA			SYLVANIA		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	Video Cathode Follower-1st Chroma Bandpass Amp.	6KT8	V8	Horiz. AFC - Horiz.Oscillator	6U10	V9	Horiz. Discharge	6L86	V10	Horiz. Output	6CJ3
V2	Video Output	12HL7	V10	Damper	3DC3 (3DB3)(3DJ3)*	V11	HV Rectifier	6HV5	V12	HV Regulator	6HVB
V3	Sound-Sync Amp.-Sound IF Amp.	6KT8	V13	G-Y Amp.- B-Y Amp.- R-Y Amp.	6EJ7 (EF184) *	V15	Burst Amp.	6GH8A	V16	3.58MC Osc.Control-3.58MC Osc.	6GH8A
V4	Audio Detector-Audio Output	6Z10									
V5	AGC Keying-Noise Canceller-Sync Separator-Vert.Mult.	6BA11									
V6	Vert. Mult.-Vert. Output	6HE5 (6JB5)									

* Alternate

PICTURE TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	MFGR. PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SYLVANIA PART No.	
V17	25AZP22 22AHP22 22UP22 25AJP22 25BAP22 25AP22A 25GP22 25GP22A 25XP22 22JP22 22OP22	25AMP22 (3) 25AP22A (3) 25AP22A (3) 25AP22A (3)	H22UP22 (1) H25AJP22 (1) C25AJP22 (4) H25XP22 (1) C25AP22 (4) C25XP22/25AP22A (4) H25XP22A (1) C25XP22/25AP22A (4) H25XP22 (1) C25XP22/25AP22A (4) H22JP22 (1)	RE22UP22 (2) RE25AJP22 (2) RE25AP22A (2) RE25AP22A (2) RE25AP22A (2) RE22JP22 (2)	(1) Hi-Lite (2) Color Bright "85" (3) Aluminized (4) Colorama

INTEGRATED CIRCUITS

ITEM No.	FUNCTION	MFGR. PART No.	REMARKS
IC1	Color Demodulator	221-39	

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1		1st Video IF	121-501 (1)					
Q2		2nd Video IF	121-502 (2)					
Q3		3rd Video IF	121-522 (3)					
Q4		AFT Amp.	121-546 (4)	GE-20	TR-21	HEP738	SK3018	ECG 108
Q5		Video Amp.	121-587	GE-17	TR-25	HEP728		ECG 128
Q6		IF AGC Amp.	121-499	GE-10	TR-21	HEP737	SK3020	ECG 123
Q7		Blanking Amp.	121-699	GE-17	TR-25	HEP715		ECG 128
Q8		2nd Chroma Bandpass	121-748	GE-17	TR-25	HEP728		ECG 128
Q9		Vert. Blanking	121-587	GE-17	TR-25	HEP728		ECG 128
Q10		Pincushion Amp.	121-722			HEP736		

(1) Alternate Part #121-500 or 121-505.

(2) Alternate Part #121-470 or 121-506.

(3) Alternate Part #121-521.

(4) Alternate Part #121-547.

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.		
X1	212-76	GE-504A	8D6 or 18DB8A(2)	ECG 116 or ECG 117	SK3017A or SK3032	(2) A single unit replacement for all four bridge circuit rectifiers.
X2	212-76	GE-504A	8D6 or 18DB8A(2)	ECG 116 or ECG 117	SK3017A or SK3032	
X3	212-76	GE-504A	8D6 or 18DB8A(2)	ECG 116 or ECG 117	SK3017A or SK3032	
X4	212-76	GE-504A	8D6 or 18DB8A(2)	ECG 116 or ECG 117	SK3017A or SK3032	
X5	103-23	1N60	1N60	ECG 109		(1) Matched pair.
X6	103-90 (1)		1N542 (1)	ECG 110 (1)		
X7	103-90 (1)		1N60	ECG 109		
X8	103-23	1N60	1N60	ECG 109		
X9	103-51	GE-504A	8D4	ECG 116		(5) 4 Required
X10	103-23	1N60	1N60	ECG 109		
X11	212-85	GE-504A	61-8969	ECG 118		
X12	212-68	GE-504A	61-8968	ECG 119		
X13	103-131 (1)		1N542 (1)	ECG 110 (1)		
X14	103-131 (1)		8D4	ECG 116		
X15	103-142		1N542 (1)	ECG 110 (1)		
X16	103-131 (1)		1N34A	ECG 109		
X17	103-131 (1)		8D4 (5)	ECG 116 (5)		
X18	103-159	GE-504A (5)	8D4 or 5A4-D	ECG 116 or ECG 117	SK3030 or SK3031	
X19	212-72 (212-71)	GE-504A	8D4 or 5A4-D	ECG 116 or ECG 117		
X20	212-71 (212-76)	GE-504A	8D4 or 5A4-D	ECG 116 or ECG 117		
X21	103-142	GE-504A	8D4	ECG 116		(3) Some versions use two diodes #212-71 in parallel. (4) Zener Diode.
X22	103-142	GE-504A	8D4	ECG 116		
X23	103-142	GE-504A	8D4	ECG 116		
X24	103-142	GE-504A	8D4	ECG 116		
X25	103-142	GE-504A	8D4	ECG 116		
X26	212-77 (3)	GE-504A	8D4 or 5A4-D	ECG 116 or ECG 117		
X27	103-142	GE-504A	8D4	ECG 116		
X28	103-157 (4)	GE-504A	8D4	ECG 116		

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

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RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
R41	9100 4W		
R42	8200 5W		
R76	4700 7W	76-4.7K	63-4686
R100	3500 10W	100-3.3K	63-6995
R105	22K 3W	36-22K	63-5025
R165	17K 5W		63-7407
R166	47K 3W		63-7312

* Voltage Dependent Resistor

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
R178	VDR *		63-7658
R190	22K 3W	36-22K	63-5025
R193	VDR *		63-8161
R241	Thermistor (140 Cold)		63-7346
R242	1500 15W		63-7631
R243	220 4W		63-8098

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1A	IF Input Coil	20-1658		6227	
B	39.75MC Trap				
L2	1st Video IF	20-1660		7519 (11)	T279 (11)
L3	41.25MC Trap	20-1659			
L4	47.25MC Trap	20-1659			
L5	2nd Video IF	20-1661		7519 (11)	T279 (11)
L6	3rd Video IF	20-1657		4202 (11)	T218 (11)
L7	4th Video IF	20-1662		7519 (11)	T279 (11)
L8	41.25MC Trap	20-1657			
L9	Video Output IF	20-1657			
L10	RF Choke (27uh)	20-2712	19-6033	72F275AP	T360
L11	RF Choke (27uh)	20-2712	19-6033	72F275AP	T360
L12	RF Choke (27uh)	20-2707	19-6033	72F275AP	T360
L13	4.5MC Trap	S-77669			
L14	Peaking (170uh)	20-2014			
L15	Peaking (320uh)	20-2520 (1)	19-3180	72F184AP	T368
L16	RF Choke (27uh)	20-2007	19-3375 (5)	6134 (5)	T321 (5)
L17	Peaking (170uh)	20-2014	19-6033	72F275AP	T316
L18	Peaking (220uh)	20-2540	19-3180	72F184AP	T368
L19	Peaking (250uh)	20-2012	19-2027 (6)	72F224AP (6)	T312 (6)
L20	AFT Input IF	20-3219	19-3250	6181	T315
L21	AFT Discriminator	S-84160		4202 (11)	
L22	RF Choke (10uh)	20-2534	19-2016	72F105AP	T823
L23	RF Choke (27uh)	20-2712	19-6033	72F275AP	T360
L24	Trap	20-1726	19-6033	72F275AP	T360
L25	Sound Take-off	S-77474			
L26	Sound Interstage IF	S-76920			
L27	Quadrature	S-80411 (S-80480)	20-1005	6270	T6268
L28	RF Choke (10uh)	20-2005	19-1005	72F105AP	T860
L29	RF Choke (10uh)	20-2005	19-1005	72F105AP	T860
L30	RF Choke (29uh)	20-2502 (3)		72F275AP (7)	T972 (7)
L31	Peaking (71uh)	20-2533 (4)		6172 (8)	T303 (8)
L32	1st Chroma Bandpass	S-77408			
L33	RF Choke (20uh)	20-2041	19-6022	6152	T300
L34	2nd Chroma Bandpass	S-83210			
L35	Burst	S-80590			
L36	Peaking (86uh)	20-2002			
L37	3.58MC Adjust	S-66627 (S-81358)	19-6821	72F825AP 4207	
L38	3.58MC Output	S-77411			
L39	RF Choke (27uh)	20-2007	19-6033	72F275AP	T316
L40	RF Choke (3uh)	20-2056		74F336AP	T816
L41	RF Choke (1.8uh)	20-2052		74F186AP	T811
L42	Peaking (11.3uh)	20-2053		72F125AP	
L44	Trap	20-1726			
L45	Peaking (155uh)	20-2536 (9)		6120 (10)	T308 (10)
L46	Peaking (155uh)	20-2536 (9)		6120 (10)	T308 (10)
L47	Peaking (155uh)	20-2536 (9)		6120 (10)	T308 (10)

(1) Includes 6800 ohms resistor.

(2) Includes 12K resistor.

(3) Includes 18K resistor.

(4) Includes 27K resistor.

(5) Shunt with 6800 ohms resistor.

(6) Shunt with 12K resistor.

(7) Shunt with 18K resistor.

(8) Shunt with 27K resistor.

(9) Includes 2700 ohms resistor.

(10) Shunt with 2700 ohms resistor.

(11) Enlarge Mounting Hole.

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L60	3.1A DC	1.5	.035 H	95-2553					
L61	.465A DC	16	.44 H	95-2702					

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA					
		PART No.		BUSS PART No.		LITTELFUSE PART No.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	WORKMAN PART No.
F1	Fuse, Bel-fuse, 1 Amp.	136-71	62-61				
F2	Wire, 2 1/2" length #24	91-2061					
F3	Wire, 2 1/2" length #24	91-2061					
F4	Wire, 2 1/2" length #24	91-2061					
F5	Wire, 2 1/2" length #24	91-2061					
F6	Fuse, Bel-fuse, .35 Amp.	136-75	62-64				

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

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CONTROLS (All wattages 1/2 watt, or less, unless listed) (cont)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFRG. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R19	Green Gain (Drive)	5000	63-6334	F1-5000 (2), SNK012	B47-5000-S (2) or [NP-5000-S (2), NML-A-300]	B11-114, TM4 (2) or [BU11, CF8, SS6]*	PTA53L (2) or [RU53L (2), SN1000] or [UA53L (2), SN1000]
R20	Blue Gain (Drive)	5000	63-6333	F1-5000 (2), SNK012	B47-5000-S (2), [NP-5000-S (2), NML-A-300]	B11-114, TM4 (2) or [BU11, CF8, SS6]*	PTA53L (2) or [RU53L (2), SN1000] or [UA53L (2), SN1000]
R21	High Voltage Adjust	3meg	63-7628	TT-84 or [F1-3meg, SNK010]	B47-3meg-S or [NP-3meg-S, NML-A-300, TT-2]	B11-140, TM4 or [BU11, CF21, SS6]*	RU36L, SL37, SN281 or [UA36L, SN281] or SU59
R22	Vert. Centering	10, 2W	63-7009	V-10 (5) or WN100 or WP-15	U39-15 (5) or [NPW-10, NML-A-300, TT-2]	110-15 (5) or P115R100A or [BU11, WF16, SS6]*	MR15P (2) or MR10T or VW10
R23	Horiz. Centering	10, 2W	63-7211	WP-15 (2) or WSK104		MR15P (2), MRS1250, FCR156L	MR100T, MRS1250
R24	Focus	15meg	63-7210				
R25	R-G Horiz. Lines (Top)	120, 2W	63-7073	V-120 (3) or [WT-100, WSK104]	U39-125 (3) or [NPW-150, NML-A-300, TT-2]	P115R101A, P115-117-1 or [BU11, WF19, SS6]*	MR100T, MRS1250
R26	R-G Vert. Lines (Top)	120, 2W	63-7073	V-120 (3) or [WT-100, WSK104]	U39-125 (3) or [NPW-150, NML-A-300, TT-2]	P115R101A, P115-117-1 or [BU11, WF19, SS6]*	MR100T, MRS1250
R27	Blue Horiz. Lines (Top)	60, 2W	63-7348	V-60 (3) or [WT-50, WSK104]	U39-75 (3) or [NPW-75, NML-A-300, TT-2]	P115R500A, P115-117-1 or [BU11, WF18, SS6]*	MR50T, MRS1250
R28	Blue Horiz. Lines (Left)	180, 2W 60 Stop	63-7076	V150 (4) or [WP-1755, WSK104]	U39-150 (4)	P115R101A (4), P115-117-1 or [BU11, WF1 (4), SS6]*	MR175SP, MRS1250
	Blue Horiz. Lines (Left)	130 2W	63-7620 (8)	V-150 or [WT-100, WSK104]	U39-150 or [NPW-150, NML-A-300, TT-2]	P115R101A, P115-117-1 or [BU11, WF19, SS6]*	MR100T, MRS1250
R29	R-G Vert. Lines (Left)	70, 2W	63-7075.D	V-100 or [WT-100, WSK104]	U39-75	P115R101A, P115-117-1 or [BU11, WF19, SS6]*	MR100T, MRS1250
R30	R-G Horiz. Lines (Left)	60, 2W	63-7074	V-60 (3) or [WT-50, WSK104]	U39-75 (3) or [NPW-75, NML-A-300, TT-2]	P115R500A, P115-117-1 or [BU11, WF18, SS6]*	MR50T, MRS1250
R31	R-G Horiz. Lines (Bottom)	120, 2W	63-7073	V-120 (3) or [WT-100, WSK104]	U39-125 (3) or [NPW-150, NML-A-300, TT-2]	P115R101A, P115-117-1 or [BU11, WF19, SS6]*	MR100T, MRS1250
R32	R-G Vert. Lines (Bottom)	60, 2W	63-7074	V-60 (3) or [WT-50, WSK104]	U39-75 (3) or [NPW-75, NML-A-300, TT-2]	P115R500A, P115-117-1 or [BU11, WF18, SS6]*	MR50T, MRS1250
R33	Blue Horiz. Lines (Bottom)	120, 2W	63-7347	V-120 (3) or [WT-100, WSK104]	U39-125 (3) or [NPW-150, NML-A-300, TT-2]	P115R101A, P115-117-1 or [BU11, WF19, SS6]*	MR100T, MRS1250

(1) Connect a 270 ohm, 2 watt resistor in series with terminal.

(2) Use original nylon tab mount.

(3) Insulate control from chassis and solder original center terminal lead to metal case of control.

(4) Connect a 56 ohm, 2 watt resistor in series with terminal.

* "SNAPTROL"

(5) Use original nylon tab mount and solder original center terminal lead to metal case of control.

(6) Switch must be CTS Type 080.

(7) See Alternate Cross Reference Chart.

(8) Alternate Part, used in late production.

NOTE (7)	CONTROL	MODELS	A4203C, C2	A4205W, W2	A4208W2	A4216W, W2	A4507W, A4509W	A4512/14/15 Series	A4516/17/18 Series	A6208W	A6507W	A6509W	A8515W, W1	S2980/87/91 Series	T2944W, W2	T2946/51 Series	T2988/92 Series	Z4543/DE09A	Z6208W09A
PART FUNCTION	PART NO.																		
Hue	63-6402 or 63-6884																		X
Hue	63-6403 or 63-7406									X									
Hue	63-7426											X							
Hue	63-8263		X	X	X	X										X			
Hue	63-8283										X								
Volume/Switch	63-7327		X	X	X	X									X				
Volume	63-7333																		X
Volume	63-7352										X	X							
Volume	63-7380												X						
Volume/Switch	63-7583																	X	
Volume	63-8241								X										
Color Level	63-7142		X	X															
Color Level	63-8225				X											X			
Color Level	63-8226					X	X	X					X	X		X	X		
Color Level	63-8227										X	X							
Color Level	63-8250								X										
Color Level	63-8264												X						

PARTS LIST AND DESCRIPTION (CONTINUED)

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ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		ZENITH PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	80 475V	22-5513	AFH3-50-20		CC0370A	XC4-34		TVL-3877
B	10 475V							
C	30 475V							
C2A	80 475V	22-5360	AFH4-19-75		DD0187A & WBR30-500	XC4-6.2		TVL-4845
B	30 475V							
C	4 475V							
D	4 475V							
C4	200 25V	22-5175	PRS1280	EA30-250	WBR250-50	MT1-23.5	MTA200F25	TE-1213
C5	40 25V	22-4870	PTT84	EA30-50	WBR35-50	MT1-17	MTA40F50	TL-1208
C6	10 475V	22-4818	PRS1810		WBR10-500	QT1-6.1	TC81A	TVA-1802
C7	100 50V	22-5262	PRS1360	EA50-100	WBR125-50	QT1-23	TC3501A	TL-1309
C8	40 400V	22-5407	PRS1750		WBR40-500	QT1-14.1	TC78A	TVA1712
C9	4 150V	22-5425	CRE953A		WBR5-150	MT1-4	TT150X4	TE-1503
C10	1 NP 25V	22-4909	PRS7525		BRNP1-50		TCN501	TVAN1200
C11	3 NP 30V	22-2945	PRS7405		BRNP4-50	NPQT-1	TCN503	TVAN1215
C12	500 50V	22-5316	PRS1390	EA50-500	WBR500-50	QT1-31	TC50050A	TL-1316
C13	500 50V	22-5316	PRS1390	EA50-500	WBR500-50	QT1-31	TC50050A	TL-1316

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.
C14	3.6	±.25	#22-5784						
C15	3.6		#22-5784						
C16	2.7	5%	#22-3405						
C17	4.25	±.25	#22-5389						
C18	3.6	±.25	#22-5784						
C19	4.25	±.25	#22-5389						
C20	5	NPO 5%		NPO-DI 5.0		NP05			10TCC-V50
C21	.001			GPD X5F102K	DD-102	GP1000	CCD-102	GP210	10TS-D10
C22	.82	5%	#22-3724				*	*	10TCW-Q47
C23	47 N1500	5%	#22-5824				4DP-4-154	PVC6015	4PS-P15
C24	.15 50V			DBE6P15	DD-152	DPMS4P15	CCD-152	GP215	10TS-D15
C25	.0015			GPD X5F152K					
C26	14 NPO 5%	#22-5821							
C27	.001			GPD X5F102K	DD-102	GP1000	CCD-102	GP210	10TS-D10
C28	.001			GPD X5F102K	DD-102	GP1000	CCD-102	GP210	10TS-D10
C29	24 NPO 5%			NPO-DI 25	DTZ-25			CN0425	10TCC-Q25
C30	47 N1500 5%	#22-5824					*	*	10TCW-Q47
C31	.0015			GPD X5F152K	DD-152		CCD-152	GP215	10TS-D15
C32	20 NPO 5%			NPO-DI 20	DTZ-20	NP020	CCTO-200	CN0420	10TCC-Q20
C33	65 N1500 5%	#22-5825							
C34	.001			GPD X5F102K	DD-102	GP1000	CCD-102	GP210	10TS-D10
C35	.0015			GPD X5F152K	DD-152	GP1000	CCD-152	GP215	10TS-D15
C36	8 NPO 5%			NPO-DI 8.2		NP08P2			10TCC-V82
C37	220			GPD X5F221K	DD-221	GP220	CCD-221	GP322	10TS-T22
C38	56 N1500 5%	#22-5908					*	*	10TCW-Q56
C39	140 N1500 5%	#22-5823						*	
C40	8 NPO 5%			NPO-DI 8.2		NP08P2			10TCC-V82
C41	6 NPO 5%	#22-5819							
C42	10 NPO 5%			NPO-DI 10	DTZ-10	NP010	CCTO-100	CN0410	10TCC-Q10
C43	15 NPO 5%			NPO-DI 15	DTZ-15	NP015	CCTO-150	CN0415	10TCC-Q15
C44	8 NPO 5%			NPO-DI 8.2		NP08P2			10TCC-V82
C45	6 NPO 5%	#22-5819							
C46	75 NPO 5%				DTZ-75				10TCC-Q75
C47	12 N1500 10%			NPO-DI 10	DTZ-10		*	CN7412	10TCW-Q12
C48	10 NPO 10%					CZ601CG100J	CCTO-100	*	10TCC-Q10
C49	47 N75 10%								
C50	180 N100 10%			GPD X5F181K	DD-181	JBZ601YP181K	CCD-181	GP318	10TS-T18
C51	.1 200V			DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C52	.001	#22-4728		NPO-DI 8.2					10TCC-V82
C53	8.2 NPO ±.5								
C54	220								
C55	.002	#22-4729							
C56	.001	#22-4728							
C57	.001	#22-4728							
C58	10	±.5		GPD COH100K	DD-100	CZ601CG100K	CCD-100	GP410	10TS-Q10
C59	10	±.5		GPD COH100K	DD-100	CZ601CG100K	CCD-100	GP410	10TS-Q10
C60	.001	#22-4728							
C61	2	5%	#22-2461						
C62	1-9	#22-5476							
C63	6 NPO 5%	#22-5819							
C64	.0012 1KV 10%			GPD X5F122K	DD-122	GP1200	CCD-122	GP212	10TS-D12
C65	.01			GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C66	47 N075 5%							*	
C67	4.3 NPO ±.25	#22-3703							
C68	50 N750			N750-DI 47	TCN-50	CY601UJ470K	CCTN-470	CN7447	10TCU-Q47
C69	180			ADM-15-181	CPR-180J	CD15F181J500	DM-15-181K	SX318	#24ME1800J501
C70	.001 1KV 10%			GPD X5F102K	DD-102	JB5601YP102K	CCD-102	GP210	10TS-D10
C71	100 5%				DTZ-100			CN0310	10TCC-T10
C72	2.4 5%	#22-2596							
C73	.01			GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C74	20 N330 10%				TCA-22		*	*	10TCS-Q22
C75	470 N1500 10%						*	*	10TCW-T47
C76	220 1KV 10%			GPD X5F221K	DD-221	JBZ601YP221K	CCD-221	GP322	10TS-T22
C77	150 N750			N750-DI 150	DTN-150		CCTN-151	CN7315	10TCU-T15
C78	.01			GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C79	.0047			GPD X5R472K	DD-472G	JB7601YP472K	CCD-472	JF247	10TS-Q47
C80	.01			GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C81	.0022 1KV			GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C82	.15 100V			V1612P15		DMF1P15	1DP-3-154	PVC1015	2PS-P15
C83	220 1KV 10%			GPD X5F221K	DD-221	JBZ601YP221K	CCD-221	GP322	10TS-T22
C84	.01			GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C85	.01			GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10

PARTS LIST AND DESCRIPTION (CONTINUED)

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CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C86	20 NPO 10%		NPO-D1 20	DTZ-20		CCO-200	CNO420	10TCC-Q20
C87	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC401	4PS-P10
C88	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C89A	.0022		GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
B	.0022		GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C90	.0068 600V 10%		DBE6D68		DMF6D68	6DP-1-682	PVC6268	6PS-D68
C91A	51		GPD X5F500K	DD-510	JBZ601YP500K	CCO-510	GP450	10TS-Q50
B	51		GPD X5F500K	DD-510	JBZ601YP500K	CCO-510	GP450	10TS-Q50
C92	.001		GPD X5F102K	DD-102	GP1000	CCD-102	GP210	10TS-D10
C93	.0022		GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C94	.033 200V 10%		V1612S33		DMF2S33	4DP-2-333	PVC2133	4PS-S33
C95	.1 600V 10%		DBE6P1		DMF6P1	6DP-4-104	PVC601	6PS-P10
C96	.01 600V 10%		DBE6S1		DMF6S1	6DP-2-103	PVC611	6PS-S10
C97	.47 200V		DBE2P47		DMF2P47	2DP-5-474	PVC2047	2PS-P47
C98	820 1KV 10%		GPD X5F102K	DD-102	GP1000	CCD-102	GP210	10TS-D10
C99	.1 200V 10%		DBE2P1		DPMS2P1	2DP-3-104	PVC201	2PS-P10
C100	820 1KV 10%		GPD X5F102K	DD-102	GP1000	CCD-102	GP210	10TS-D10
C101	100 N1500/4KV/10%							
C102	.0022		GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C103	.0022		GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C104	680		ADM-20-681		DM-16-681J	6DP-1-152	PVC6215	6PS-D15
C105	.0015 400V 10%		V1614D15		WMF4D15	6DP-1-102	PVC621	6PS-D10
C106	.0011 400V 10%		DBE6D1		WMF4D1	CCD-472	JF247	10TS-D47
C107	.0047		GPD X5R472K	DD-472G	JBT601YP472K	CCD-103	JF110	10TS-S10
C108	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	GP210	10TS-D10
C109	.001 1KV 10%		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C110	.001 1KV 10%		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C111	330		GPD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333	10TS-T33
C112	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C113	.0047		GPD X5R472K	DD-472G	JBT601YP472K	CCD-472	JF247	10TS-D47
C114	22 N1500/3KV/10%							
C115	150 6KV		HVD-60150	DD60-151		6CCD-151	6HV315	60GA-T15
C116	75 N1500/4KV							
C117	220		GPD X5F221K	DD-221	JBZ601YP221K	CCD-221	GP322	10TS-T22
C118	.0033 400V 10%		V1614D33		WMF4D33	6DP-1-332	PVC6233	6PS-D33
C119	.0047		GPD X5R502K	DD-502	GP5000	CCD-502	JF250	10TS-D50
C120	45 N1500/5KV/10%							
C121	68 N750 10%							
C122	.047 1KV 10%		BE10S47		DPMS16S47	16DP-5-473		10TM-S47
C123	.1 1KV		BE10P1					10TM-P10
C124	.05	#22-3034	TTP-.05	DA-503	HOV101Z503Z		MAG2515	HY-535
C125	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C126A	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
B	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C127A	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
B	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C128	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C129	5		NPO-D1 5.0		CZ601CH5R0D	10TCC-V50		10TCC-V50
C130	.0047		GPD X5R472K	DD-472G	JBT601YP472K	CCD-472	JF247	10TS-D47
C131	40 NPO 5%		NPO-D1 39	TCZ-39		CCO-390	CNO439	10TCC-Q39
C132	220 1KV 10%		GPD X5F221K	DD-221	JBZ601YP221K	CCD-221	GF322	10TS-T22
C133	120 2KV	#22-5710						
C134	100		GPD X5F101K	DD-101	GP100	CCD-101	GP310	10TS-T10
C135	240 N470 5%	#22-5745						
C136	270 N750 10%	#22-3140						
C137	.05 25V	#22-3034	TTP-.05	DA-503	HOV101ZV503Z		MAG2515	HY-535
C138	.05 25V	#22-3034	TTP-.05	DA-503	HOV101ZV503Z		MAG2515	HY-535
C139	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C140	.1 600V		DBE6P1		DMF6P1	6DP-4-104	PVC601	6PS-P10
C141	.0047		GPD X5R502K	DD-502	GP5000	CCD-502	JF250	10TS-D50
C142	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC401	4PS-P10
C143	.01		GPD X5S103K	DD-103	GP10000	CCD-103	JF110	10TS-S10
C144	8 NPO +.25		NPO-D1 8.2		NP08P2			10TCC-V82
C145	4.25 N075 +.25	#22-5389						
C146	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C147A	.001 1KV		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
B	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C148	.001 1KV 10%		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C149	.82	#22-3031						
C150	.01 1.5KV							
C151	.01		GPD X5S103K	DD-103	HVT162ZV103P	CCD-103	2HV110	30GA-S10
C152	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C153	.047 600V		DBE6S47		DMF6S47	6DP-3-473	PVC6147	6PS-S47
C154	12 NPO 5%			TCZ-12	CZ601CG120J	10TCC-Q12	CNO412	10TCC-Q12
C155	.047 100V 10%		V1612S47		DMF1S47	1DP-2-473	PVC1147	22SP47391W3
C156	.0018 400V 10%							
C157	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC401	4PS-P10
C158	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C159	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C160	.62pf	#22-3786						
C161	220 1KV 10%		GPD X5F221K	DD-221	JBZ601YP221K	CCD-221	GP322	10TS-T22
C162	18 NPO 5%			TCZ-18	CY601CG180J	10TCC-Q18	CNO418	10TCC-Q18
C163	100 NPO 5%			DTZ-100		10TCC-T10	CNO310	10TCC-T10
C164	.001 1KV 10%		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C165	.022 600V		DBE6S22		DMF6S22	6DP-2-223	PVC6122	6PS-S22
C166	47 N075 10%	#22-2467						
C167	100		GPD X5F101K	DD-101	GP100	CCD-101	GP310	10TS-T10
C168	47 N75 10%							
C169	82 N1500 5%							
C170	470 N1500 10%							
C171	820 N2200 5%							
C172	820 N2200 5%							
C173	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C174	.1 100V 10%		DBE2P1		DMF1P1	1DP-2-104	PVC101	22SP10491W3
C175	.082 200V 10%		DBE6S82		DMF6S82	6DP-4-823	PVC6156	6PS-S82
C176	.056 200V 10%		DBE6S56		DMF6S56	4DP-3-563	PVC6156	4PS-S56
C177	.1 200V 10%		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C178A	.0047		GPD X5R472K	DD-472G	JBT601YP472K	CCD-472	JF247	10TS-D47
B	.0047		GPD X5R472K	DD-472G	JBT601YP472K	CCD-472	JF247	10TS-D47

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS[®] for the most up-to-date replacement.

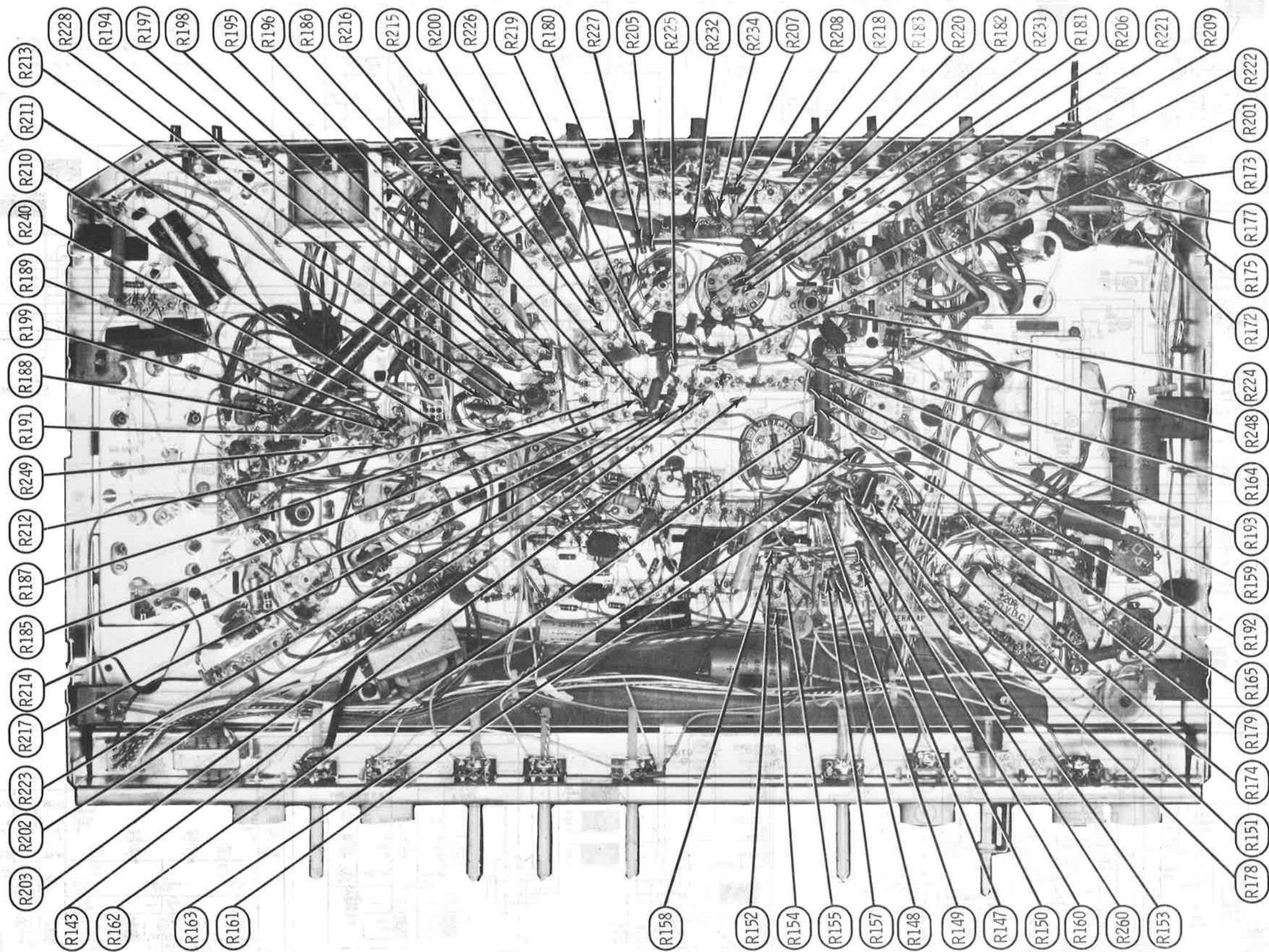
CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C179	.1 600V		DBE6P1		DMF6P1	6DP-4-104	PVC601	6PS-P10
C180	.001		GPD X5F102K	DD-102	GP1000	CCD-102	GP210	10TS-D10
C181	.39	#22-5293	TTP-.05	DA-503	HOV101Z503Z		MAG2515	HY-535
C182	.05 25V	#22-3034	TTP-.05	DA-503	HOV101Z503Z		MAG2515	HY-535
C183	.05 25V	#22-3034	GPD X5F471K	DD-471	JBZ601YP471K		P347	10TS-T47
C184	470 1KV							
C186	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	P210	10TS-D10
C187	6.8 N75 10%							
C188	.033 400V 10%		DBE6S33		DPMS6S33	4DP-2-333	PVC6133	4PS-S33

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

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Hue	200	63-7617			BU11,CF75,SS4,DC1 *	
	Hue	200	63-6402 (7) or 63-6884 (7)				
	Hue	200	63-6403 (7) or 63-7406 (7)				
	Hue	200	63-7426 (7)				
	Hue	200	63-8263 (7)				
	Hue	200	63-8283 (7)				
R2	Volume/Switch	1meg, 600K Tap	63-7355	F16-1meg, SP212,KR-8FR	C47SF-1meg, RS-3/16 or [NPF-1meg, UPP-H-400, PPAP,NWG-18]	B19-137X,SK8 (6) [PP019-137,SK8(6) [BU1,CF47T,SS11A,K (6)] *	RUP16T35,SL35 or [PP16T55,DS37] or [P16T55,3014,FPP-1]
	Volume/Switch	1meg	63-7327 (7)				
	Volume	1meg	63-7333 (7)				
	Volume	1meg, 500K Tap	63-7352 (7)	F16-1meg, SFS212	A47F5-1meg, RS-3/16 or [NPF-1meg, SE-F-400]	B19-137X,SK9 or [BU2,CF47T,SS4,DC1] *	RU16T55,SL35, IS2187 or [UA16T454,SD2250] or [P16T55,3038,SF3062]
R3	Volume	1meg	63-7380 (7)				
	Volume/Switch	1meg	63-7583 (7)				
	Volume	1meg	63-8241 (7)				
	Color Level	500	63-7550	F4-500, SNF100		BU11,CF77,SS4,DC1	UA751A,SD750
	Color Level	500	63-7142 (7)				
	Color Level	500	63-8225 (7)				
	Color Level	500	63-8226 (7)				
	Color Level	500	63-8227 (7)				
	Color Level	500	63-8250 (7)				
	Color Level	500	63-8264 (7)				
R4	Peak Picture	1500	63-7613				
R5	Height	3meg	63-7101	TT-84 or [F1-3meg, SNK010]	B47-3meg-S or [NP-3meg-S, NML-A-300,TT-2]	B11-140,TM4 or [BU11,CF21,SS6]*	RU36L,SL37, SN281 or [UA36L,SN281] or SU59
R6	Vert. Linearity	2000, 2W 300 Stop	63-6951	V-2000 (1) or WP-1.5K (1)	U39-2000 (1)	110-300-350 (1)	MR1500P (1)
R7	Vert. Hold	750K	63-6979				
R8	Contrast	500	63-6980				
R9	Brightness	1meg	63-7092				
R10	Brightness Range	3meg	63-7101	TT-84 or [F1-3meg, SNK010]	B47-3meg-S or [NP-3meg-S, NML-A-300,TT-2]	B11-140,TM4 or [BU11,CF21,SS6]*	RU36L,SL37, SN281 or [UA36L,SN281] or SU59
R11	Tone Detent at 50%	1meg	63-7351				
R12	Color Killer	100K	63-7607	TT-40 or [F1-100K, SNK010]	B47-100K-S or [NP-100K-S, NML-A-300,TT-2]	B11-128,TM4 or [BU11,CF13,SS6]*	PTA15L or [



CHASSIS - BOTTOM VIEW

ZENITH CHASSIS
14A9C50, 14A9C51

FOLDER 3

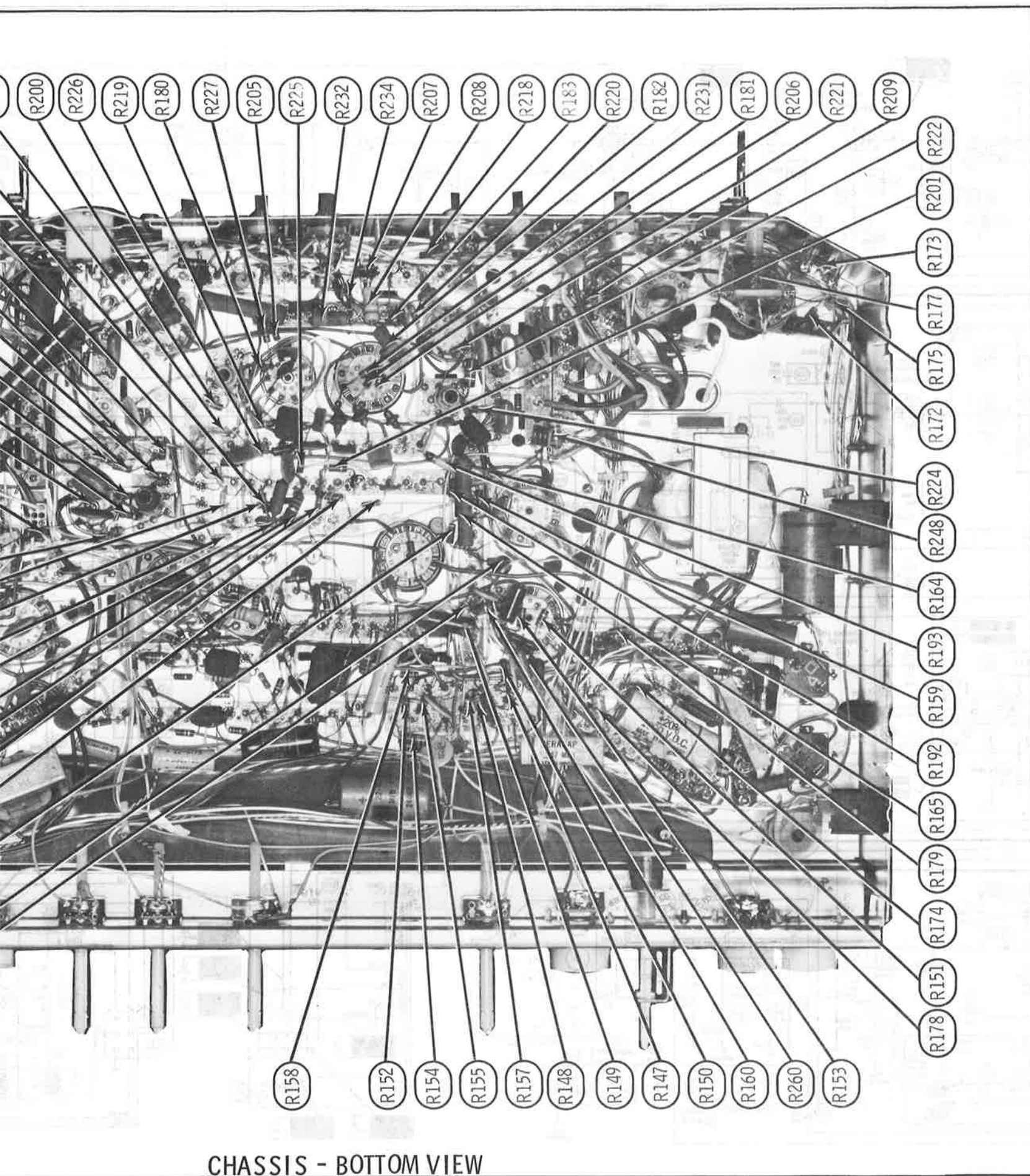
B+ FUSE
AGC
B+ FUSE
BUZZ

DISA

CHASSIS REMOVAL

Note: All components can be serviced by removing the chassis from the bottom.

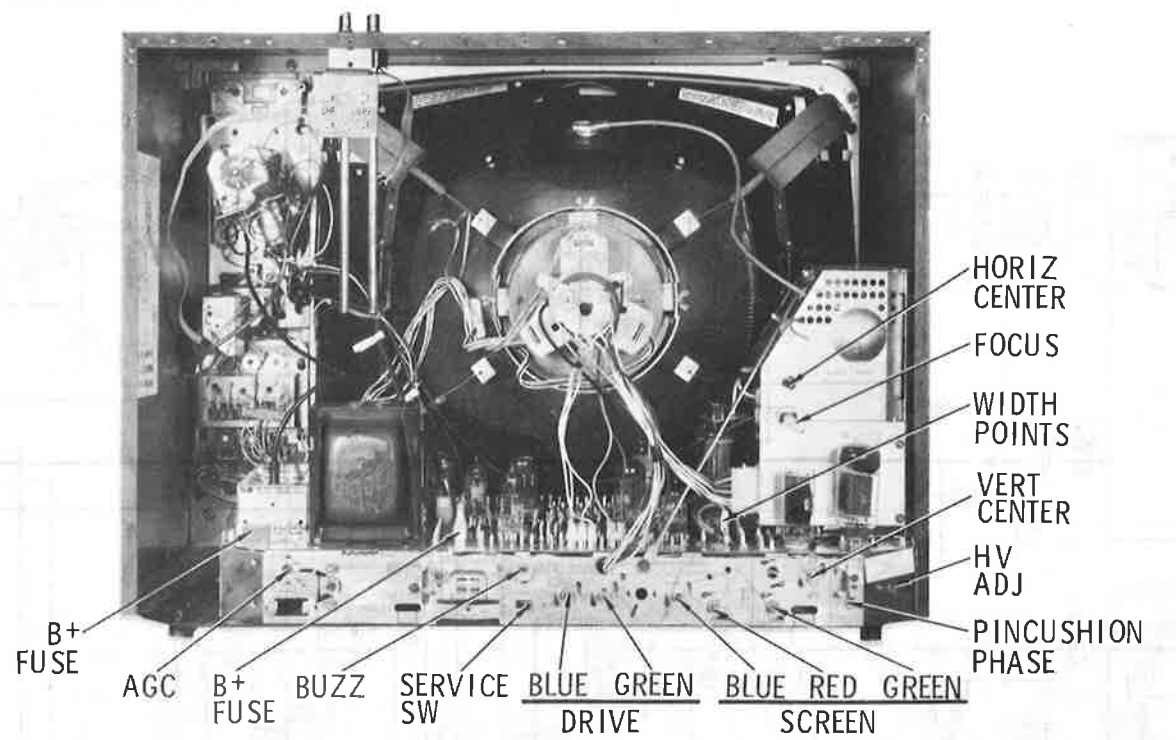
1. Remove 7 screws and spring clips holding back plate to the cabinet. Remove 10 screws holding cabinet back to the cabinet.
2. Remove all knobs and remove screws and brackets holding knobs to the front of cabinet.
3. Remove picture-tube socket, convergence plug, tuning plug, tuner plugs, speaker leads, and hold.
4. Remove 4 screws holding chassis to the cabinet. Remove tuner assembly to the cabinet front. D



CHASSIS - BOTTOM VIEW

ZENITH CHASSIS
14A9C50, 14A9C51

FOLDER 3



CABINET-REAR VIEW DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

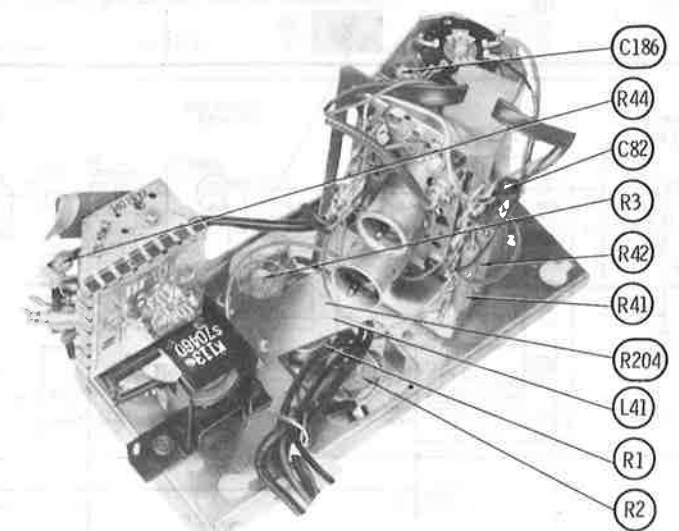
Note: All components can be serviced by removal of cabinet back and bottom.

1. Remove 7 screws and spring clips holding back, disconnect antenna leads, and remove cabinet back. Remove 10 screws holding bottom plate to the cabinet.
2. Remove all knobs and remove screws and bracket holding horizontal hold knob to the front of cabinet.
3. Remove picture-tube socket, convergence plug, yoke plug, degaussing plug, tuner plugs, speaker leads, and high-voltage anode lead.
4. Remove 4 screws holding chassis to the cabinet. Loosen 4 screws holding tuner assembly to the cabinet front. Loosen 4 screws hold-

ing convergence assembly and remove chassis and tuner assembly from the cabinet.

PICTURE TUBE REMOVAL

1. Follow "Chassis Removal" procedure and lay set face down on a soft protective surface.
2. Remove blue lateral and purity ring from the picture-tube mask. Remove convergence yoke and deflection yoke from the picture-tube neck.
3. Remove springs and screws holding degaussing coils and shield to the cabinet.
4. Remove 8 screws holding picture tube to the cabinet front. Do not lift picture tube by the neck of the tube.



TUNER ASSEMBLY

PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA			
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.
Q1		1st Amp.	121-494	GE-2	TR-14	HEP254
Q2		2nd Amp.	121-491	GE-2	TR-14	HEP254
Q3		3rd Amp.	121-492	GE-2	TR-14	HEP254
Q4		Limiter	121-493	GE-2	TR-14	HEP254
Q5		Relay Control	121-490	GE-2	TR-05	HEP254
Q6		Relay Control	121-490	GE-2	TR-05	HEP254
Q7		Pilot Relay Control	121-490	GE-2	TR-05	HEP254
Q8		Stepper Relay Control	121-490	GE-2	TR-05	HEP254

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT DATA			NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	
X1	212-79	GE-504A	8D4 or 5A4-D	ECG 116 or ECG 117	SK3031 or SK3017A

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	ZENITH PART No.	REPLACEMENT DATA		
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL DUBILIER PART No.
C1	200 35V	22-3721	FRS1530	EA8-10	BR200-150
C2	10 3V	22-3705	CRS207A		MTI-5
C3	25 30V	22-3642	FRS2175		BRD3315
C4	25 30V				BRD3315
C5	4,200V7NP	22-2883	NP-PRST750		BRD4415

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA		
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL DUBILIER PART No.
C11	.06		TTP-06	CK-503	HOV101ZV503Z
C12	.005		TTP-06	CK-502	HOV101ZV502Z
C13	.05		TTP-06	CK-503	HOV101ZV503Z
C14	.05		TTP-06	CK-503	HOV101ZV503Z
C15	.05		TTP-06	CK-503	HOV101ZV503Z
C16	.05		TTP-06	CK-503	HOV101ZV503Z
C17	.05		TTP-06	CK-503	HOV101ZV503Z
C18	.05		TTP-06	CK-503	HOV101ZV503Z
C19	.05		TTP-06	CK-503	HOV101ZV503Z
C20	.05		TTP-06	CK-503	HOV101ZV503Z
C21	.05		TTP-06	CK-503	HOV101ZV503Z
C22	.05		TTP-06	CK-503	HOV101ZV503Z
C23	.05		TTP-06	CK-503	HOV101ZV503Z
C24	.05		TTP-06	CK-503	HOV101ZV503Z

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA		
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.
R1	Sensitivity	18K	63-7534	F2-25K, SNK010	NP-25K-2, NNL-A-500, TT-2

RESISTORS (Power and Special)

ITEM No.	RATING	IRC PART No.	REPLACEMENT DATA		
			WORKMAN PART No.	MFGR. PART No.	REPLACEMENT DATA
R21	1000 5W (1000 4W)	FW5-100	5W-SQ-100	65-3210	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA		
		PART No.	MEISSNER PART No.	WORKMAN PART No.
L1	39.50KC Input	95-2411		
L2	41.25KC	95-2044		
L3	40.25KC	95-2045		
L4	38.75KC	95-2046		
L5	37.75KC	95-2047		

TRANSFORMER (Power)

ITEM No.	RATING	SEC. 1	REPLACEMENT DATA		
			MFGR. PART No.	STANCOR PART No.	THORLABSON PART No.
T1	117VAC @ 1.065A AC	22.5VAC A .059A DC	95-2459 (95-2216)		

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	REPLACEMENT DATA		
			MFGR. PART No.	MERT PART No.	STANCOR PART No.
K1	Relay	195-45			
K2	Relay	195-45			
K3	Relay	195-45			
K4	Relay	195-45			
K5	Relay	195-45			
K6	Relay	195-45			
S1	Switch	85-932			



ZENITH REMOTE CONTROL

RECEIVER S-77536, TRANSMITTER S-83596

SET 1097 FOLDER 3-A

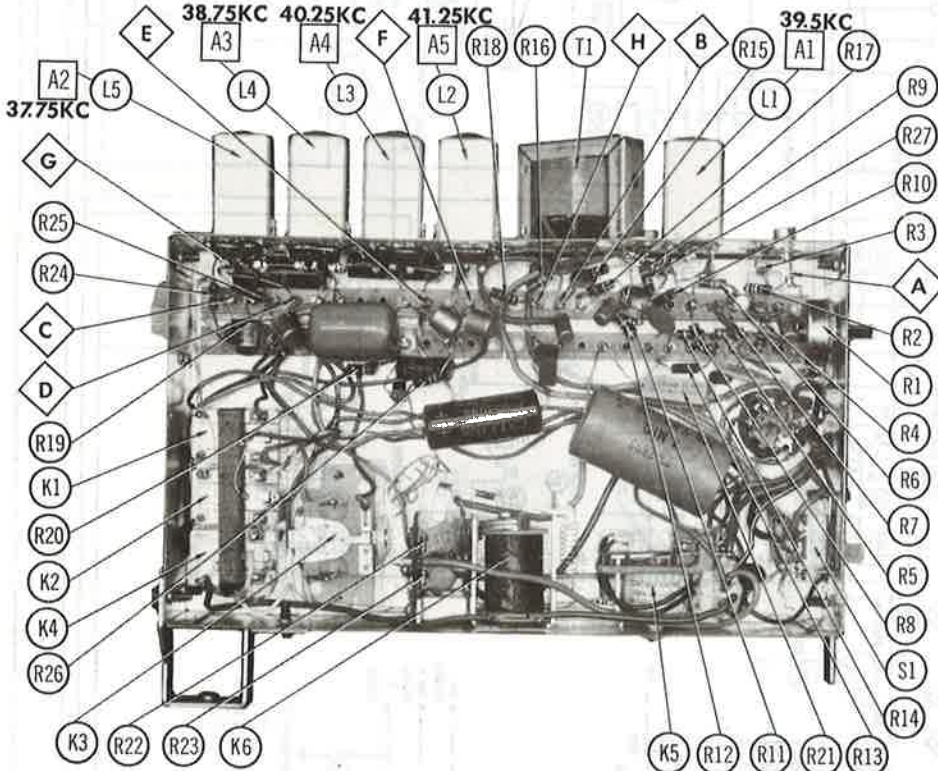
PHOTOFACT® Folder



For Supplier Address See PHOTOFACT Index

IMPORTANT FILING NOTICE

This PHOTOFACT Folder covers equipment used with the TV chassis covered in PHOTOFACT SET 1097 FOLDER 3 . File this Folder with the TV Folder in the yellow filing jacket provided.



REMOTE RECEIVER ALIGNMENT

When adjusting A2 thru A5, correct setting is achieved with dip nearest top of coil.					
	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST
1.	Connect high side thru a .002 capacitor to Point \diamond . Low side to ground.	39.5KC		RF probe to Point \diamond . Low side to ground.	A1
2.	"	37.75KC		DC probe to Point \diamond . Low side to ground.	A2
3.	"	38.75KC		DC probe to Point \diamond . Low side to ground.	A3
4.	"	40.25KC		DC probe to Point \diamond . Low side to ground.	A4
5.	"	41.25KC		DC probe to Point \diamond . Low side to ground.	A5

REMEMBER TO ASK— "What else needs fixing?"

HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. SB789R

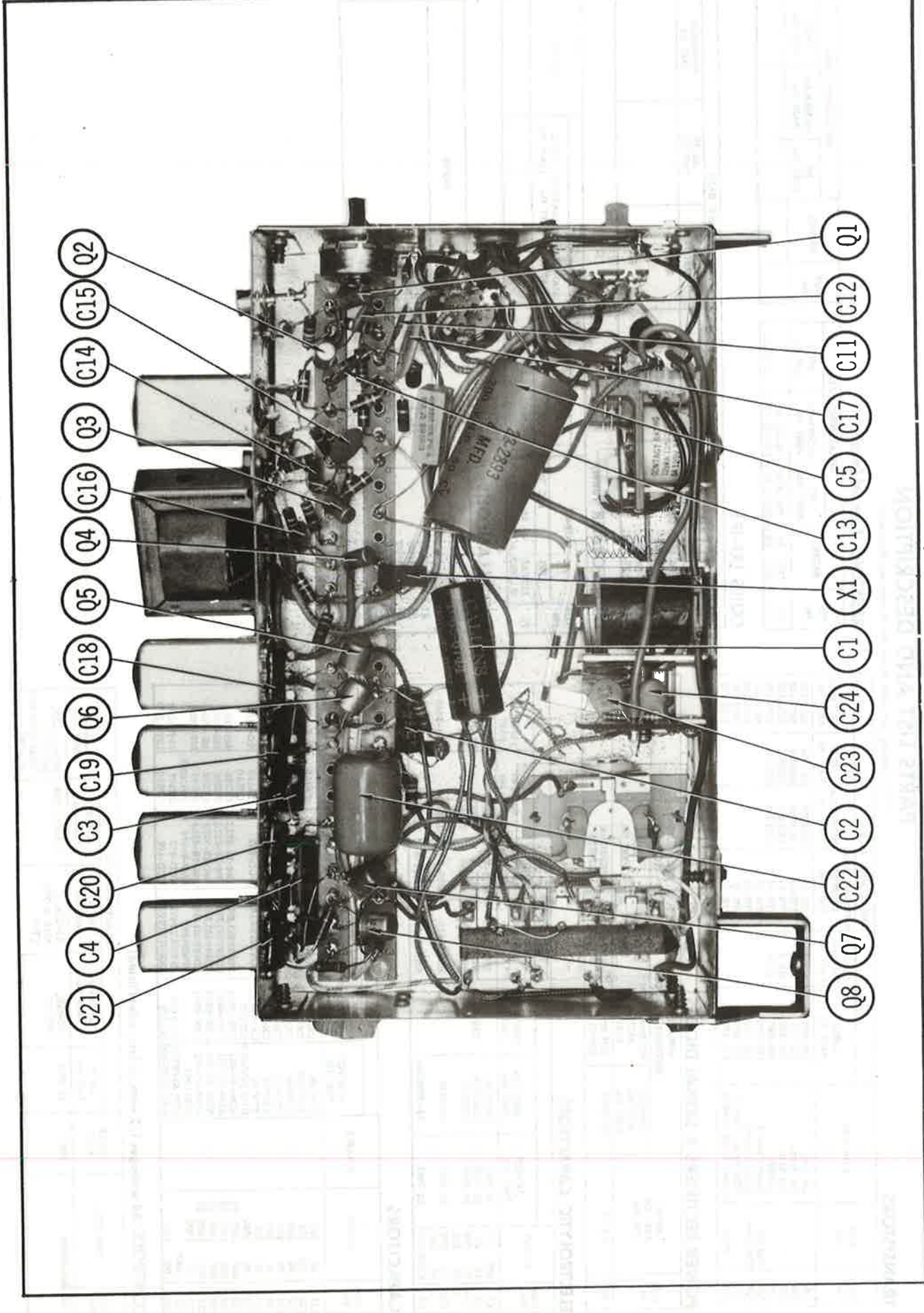
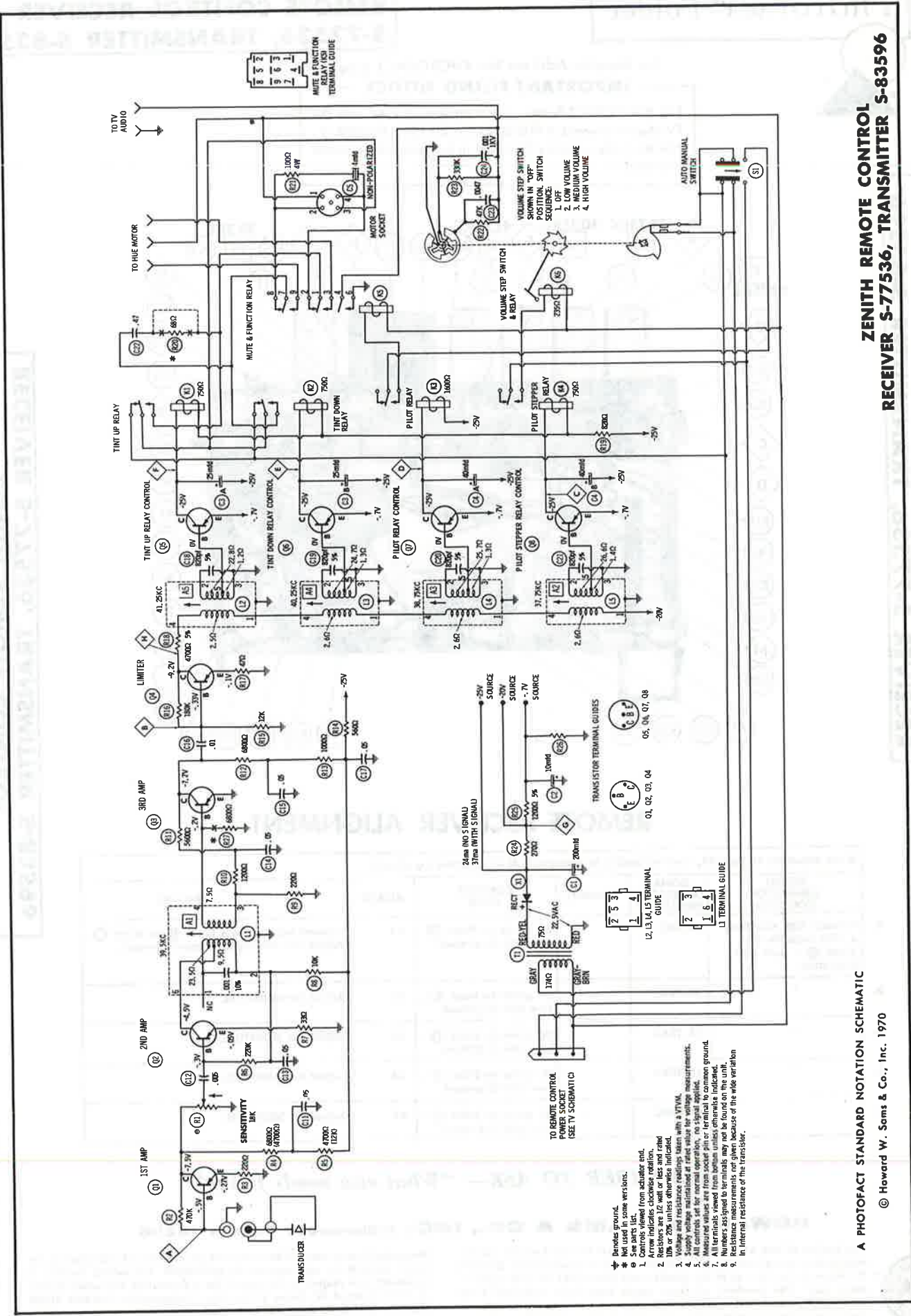
ZENITH
REMOTE CONTROL RECEIVER
S-77536, TRANSMITTER S-83596

ZENITH REMOTE CONTROL
RECEIVER S-77536, TRANSMITTER S-83596

SET 1097 FOLDER 3-A

DATE 4 -70

SET 1097 FOLDER 3-A



ZENITH REMOTE CONTROL RECEIVER
S-77536, TRANSMITTER S83596

FOLDER 3-B

SET 1097

ZENITH AM-FM-FM STEREO
CHASSIS 20AT30/Z

PHOTOFACT® Folder

with CIRCUITRACE™

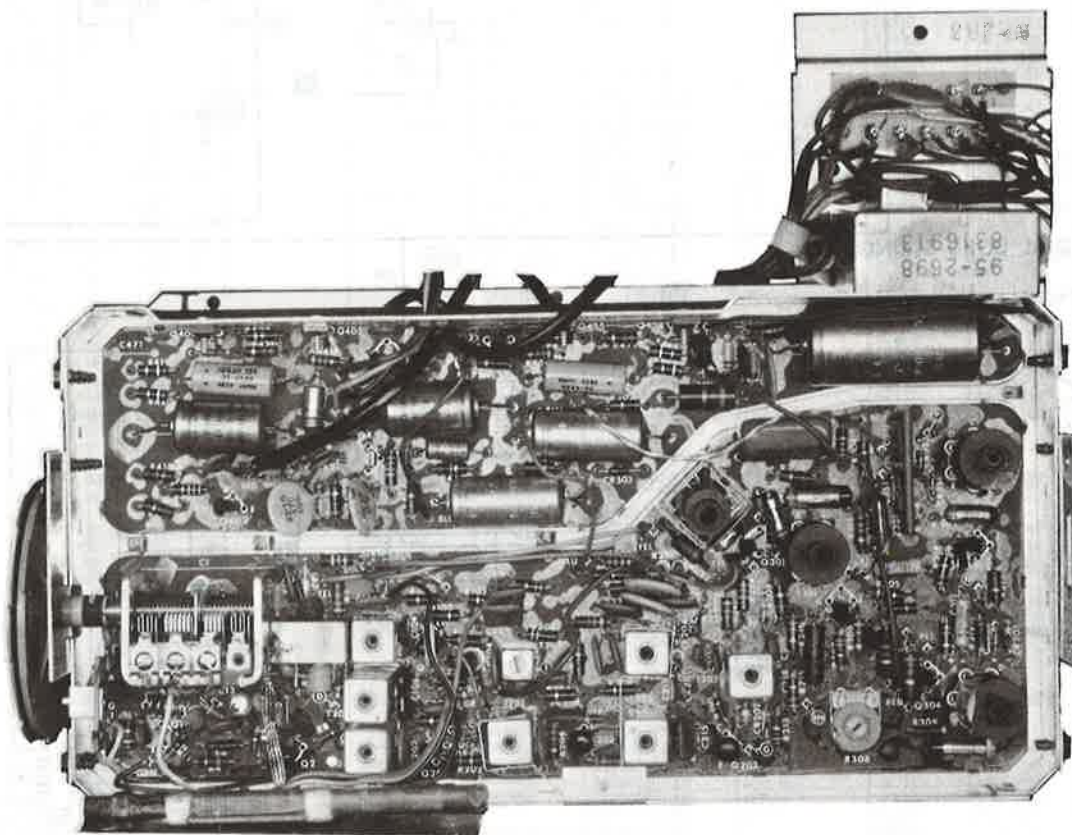
ZENITH AM-FM-FM STEREO
CHASSIS 20AT30/Z

For Supplier Address See PHOTOFACT Index

FOR SERVICE INFORMATION ON RECORD CHANGER 169-362 -- SEE SIMILAR CHANGER --
PHOTOFACT SET 797, FOLDER 7

IMPORTANT FILING NOTICE

This PHOTOFACT Folder covers equipment used with the TV chassis covered in PHOTOFACT SET 1097 FOLDER 3 .
File this Folder with the TV Folder in the yellow filing jacket provided.

ZENITH AM-FM-FM STEREO
CHASSIS 20AT30/Z

FM STEREO THRESHOLD ADJUSTMENT (R308)

Tune across dial (with AFC off) noting operation of stereo indicator lamp. Adjust R308 until lamp glows on weak stereo stations but does not glow on noise pulses.

REMEMBER TO ASK— "What else needs fixing?"**HOWARD W. SAMS & CO., INC.** Indianapolis, Indiana 46206

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed.

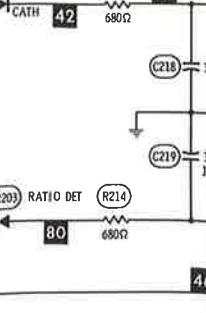
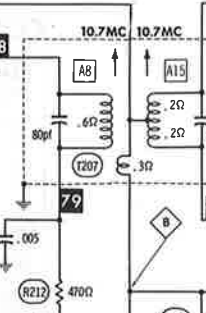
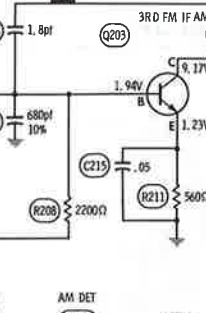
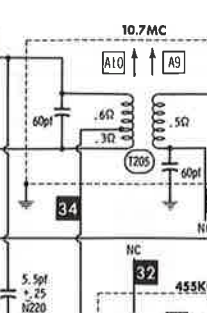
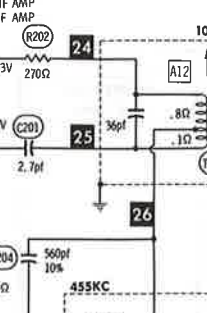
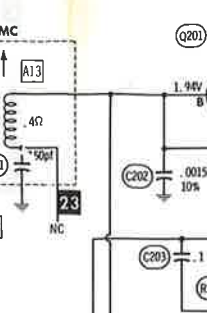
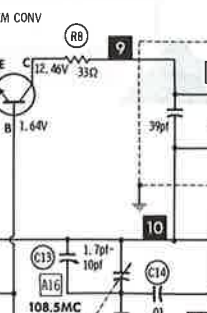
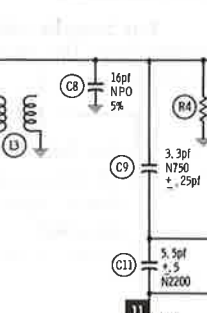
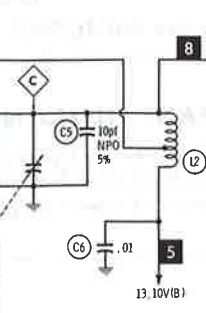
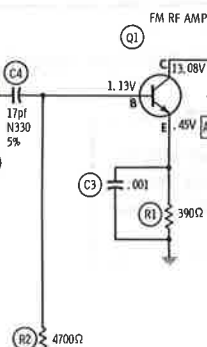
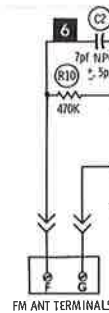
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DATE 4-70

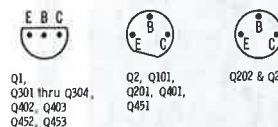
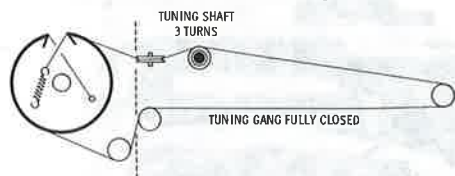
SET 1097 FOLDER 3-B

SET 1097 FOLDER 3-B

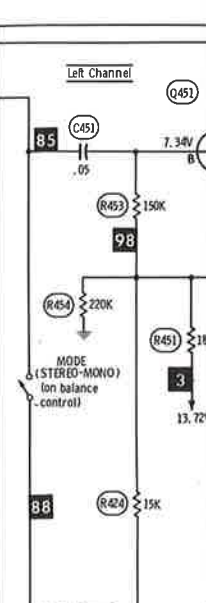
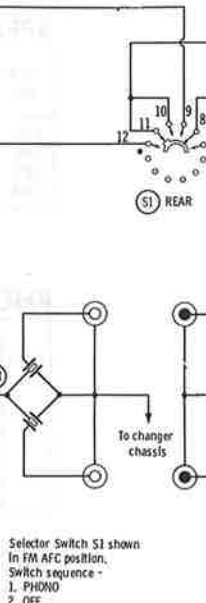
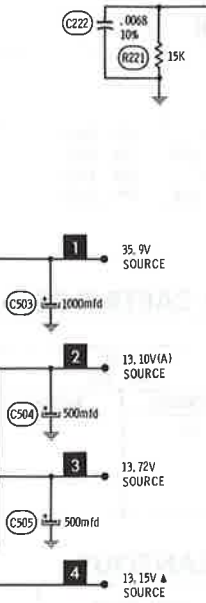
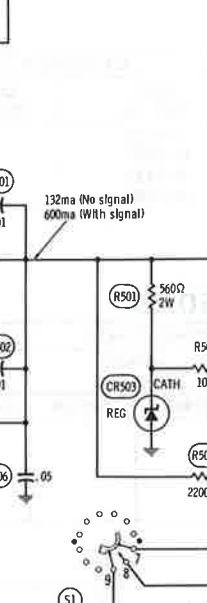
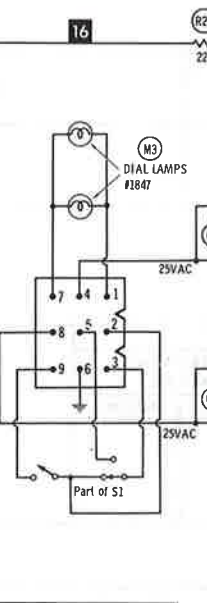
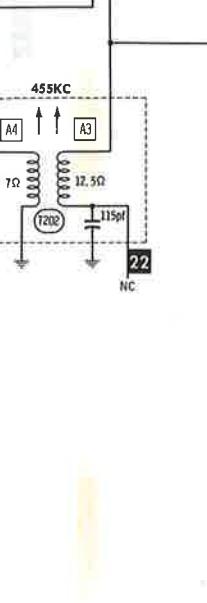
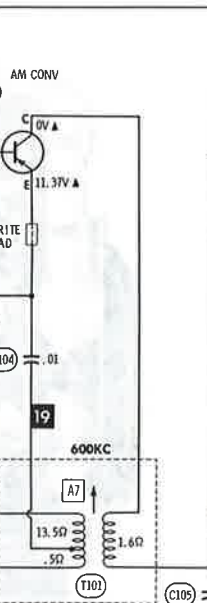
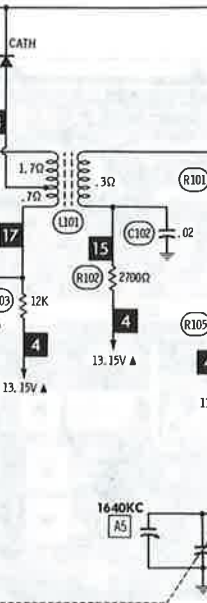
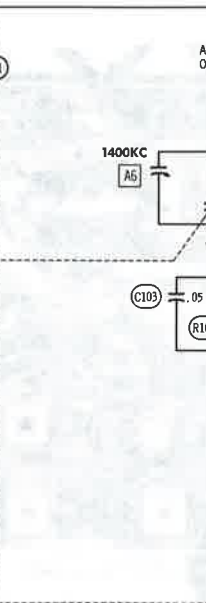




DIAL CORD STRINGING

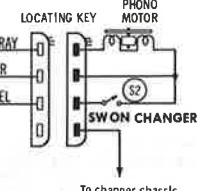
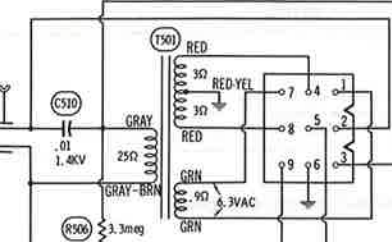


Transistor Terminal Guides

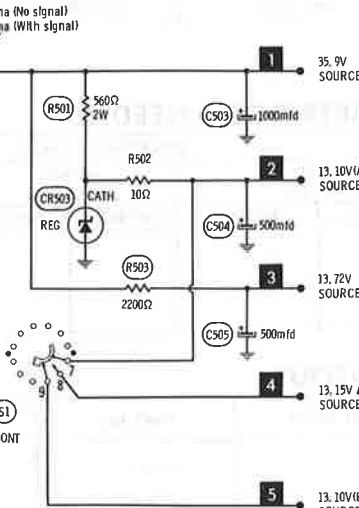


NC No connection
 ⚡ Denotes ground (Measurement reference unless otherwise indicated)
 - - - Indicates connection used in some versions.
 * Indicates connection not used in some versions.
 * Omitted in some versions.
 * See parts list.
 Measurements taken with switching in position shown unless otherwise indicated.
 ▲ Measured with switching in "AM" position.
 Values shown in () are used in some applications.
 Resistors are 1/2W or less, 10% or 20%, unless otherwise indicated.
 Supply voltage maintained at rated value for measurements.
 Voltage and resistance measured with VTVM or equivalent meter, no signal applied and controls adjusted for normal operation.
 Controls viewed from actuator end. Arrow indicates clockwise rotation.
 Numbers assigned to terminals may not be found on the unit.
 Transistor resistances vary widely. No resistance measurements taken.

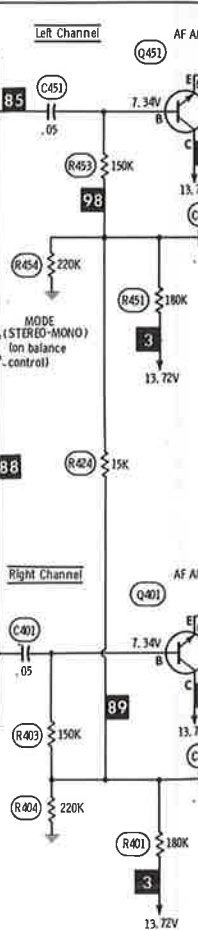
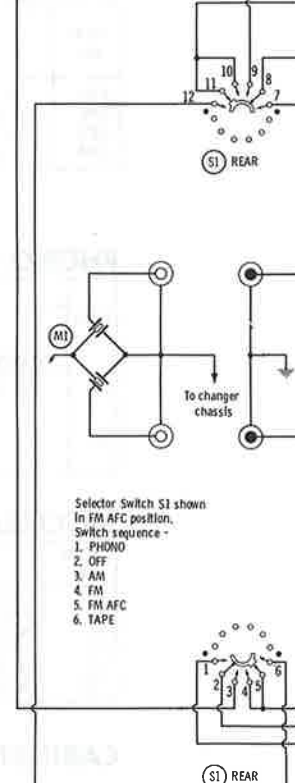
FM LINE CORD
 ANTENNA CLAMP
 (To FM ant. terminal F)

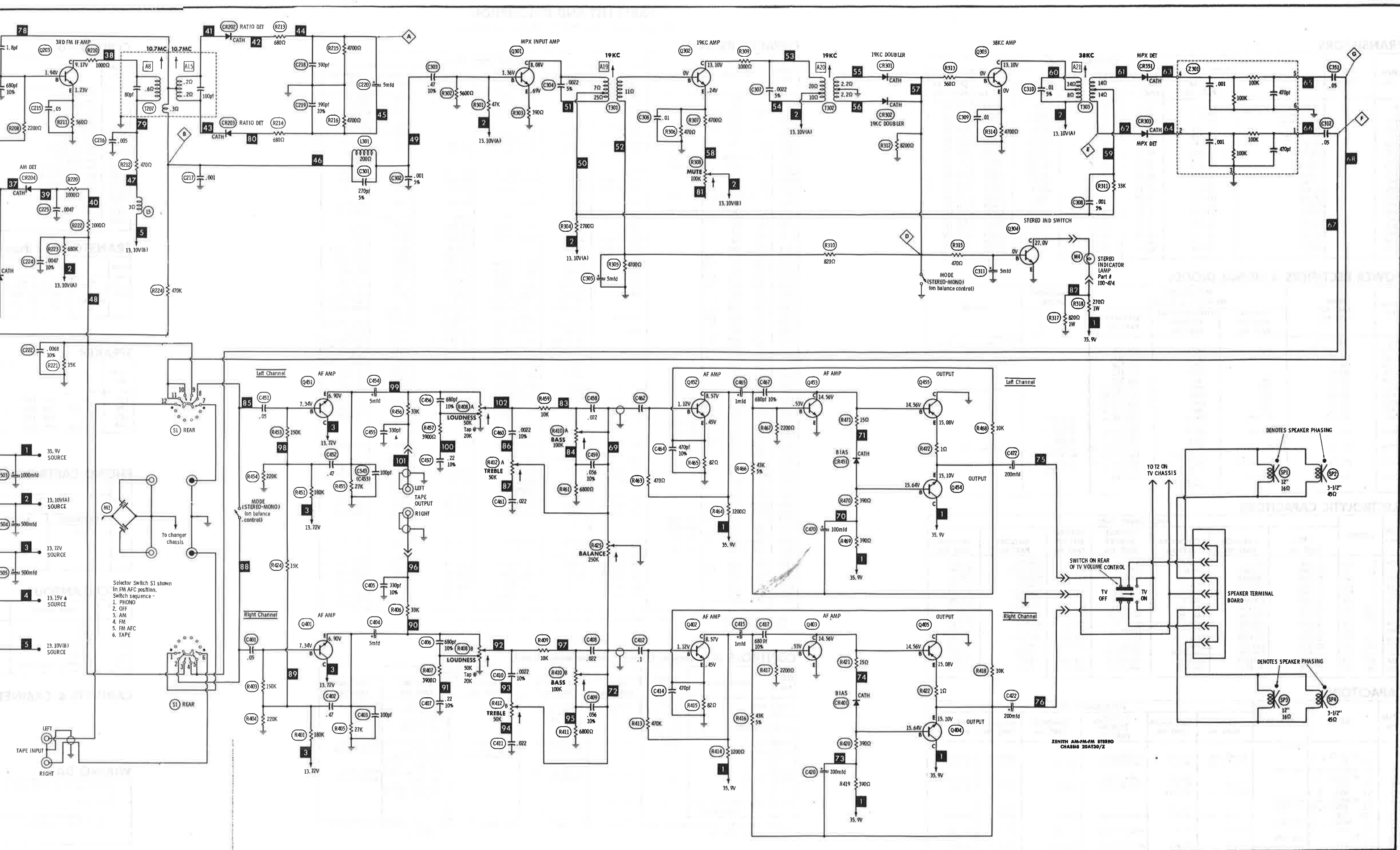


To changer chassis

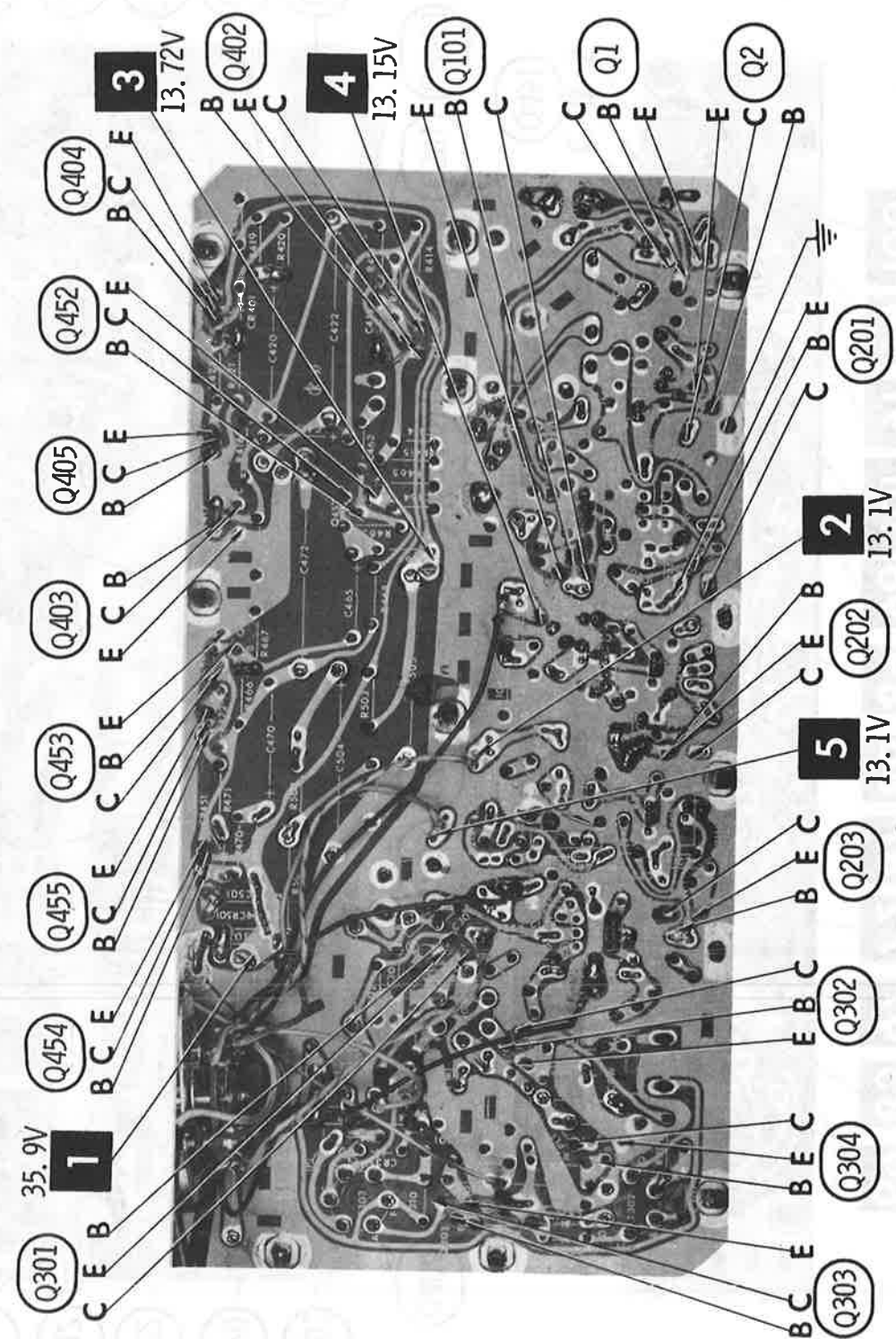
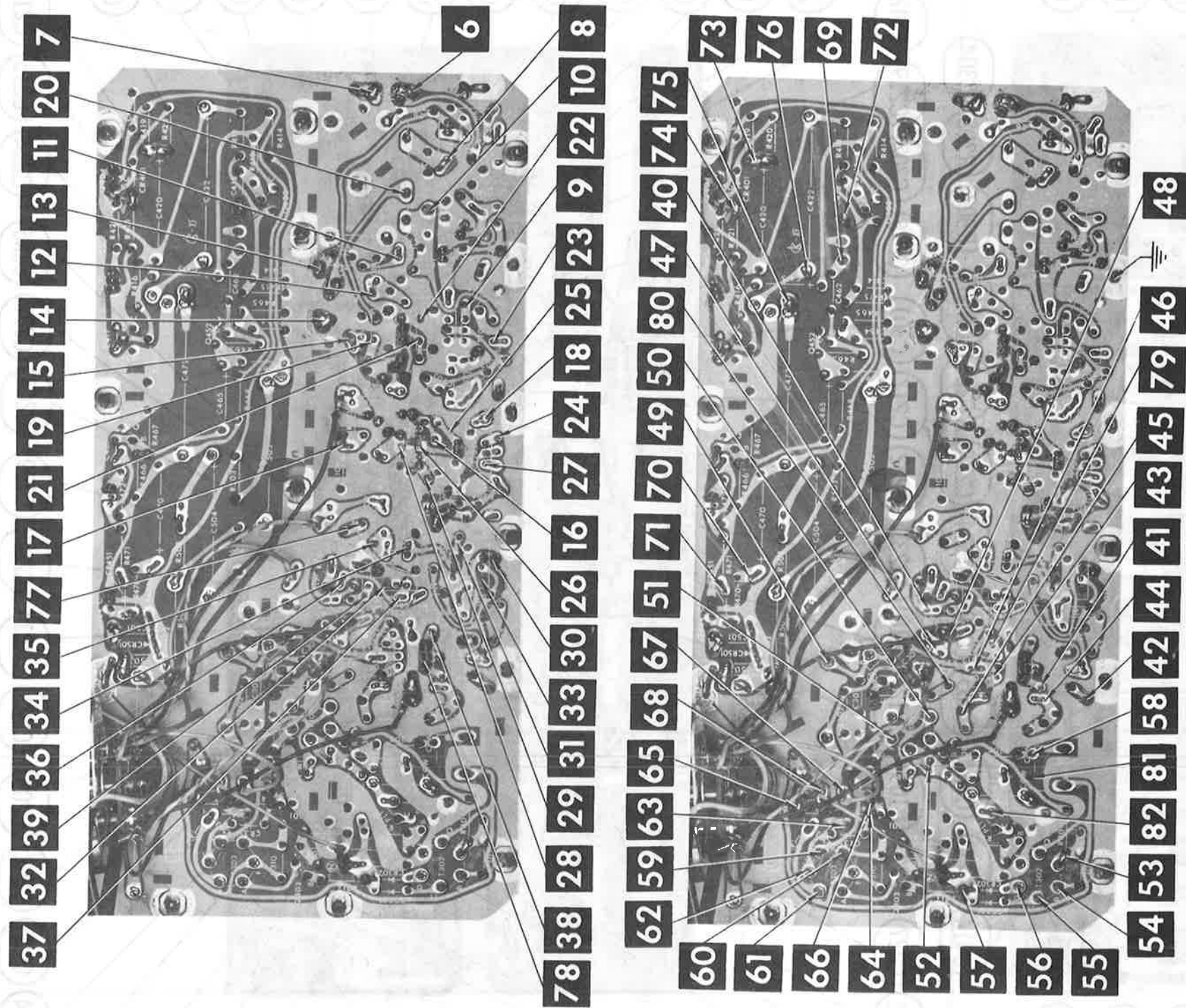


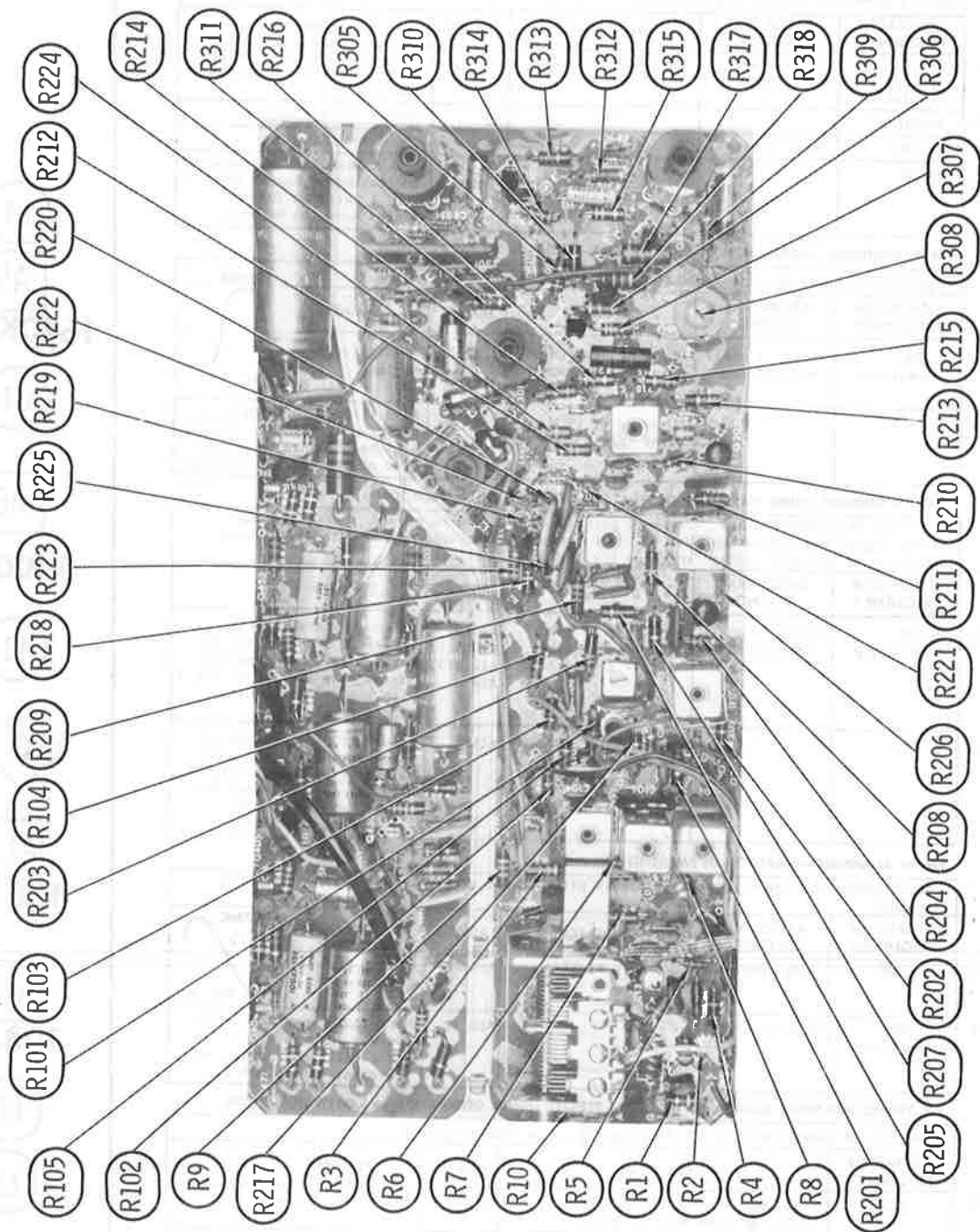
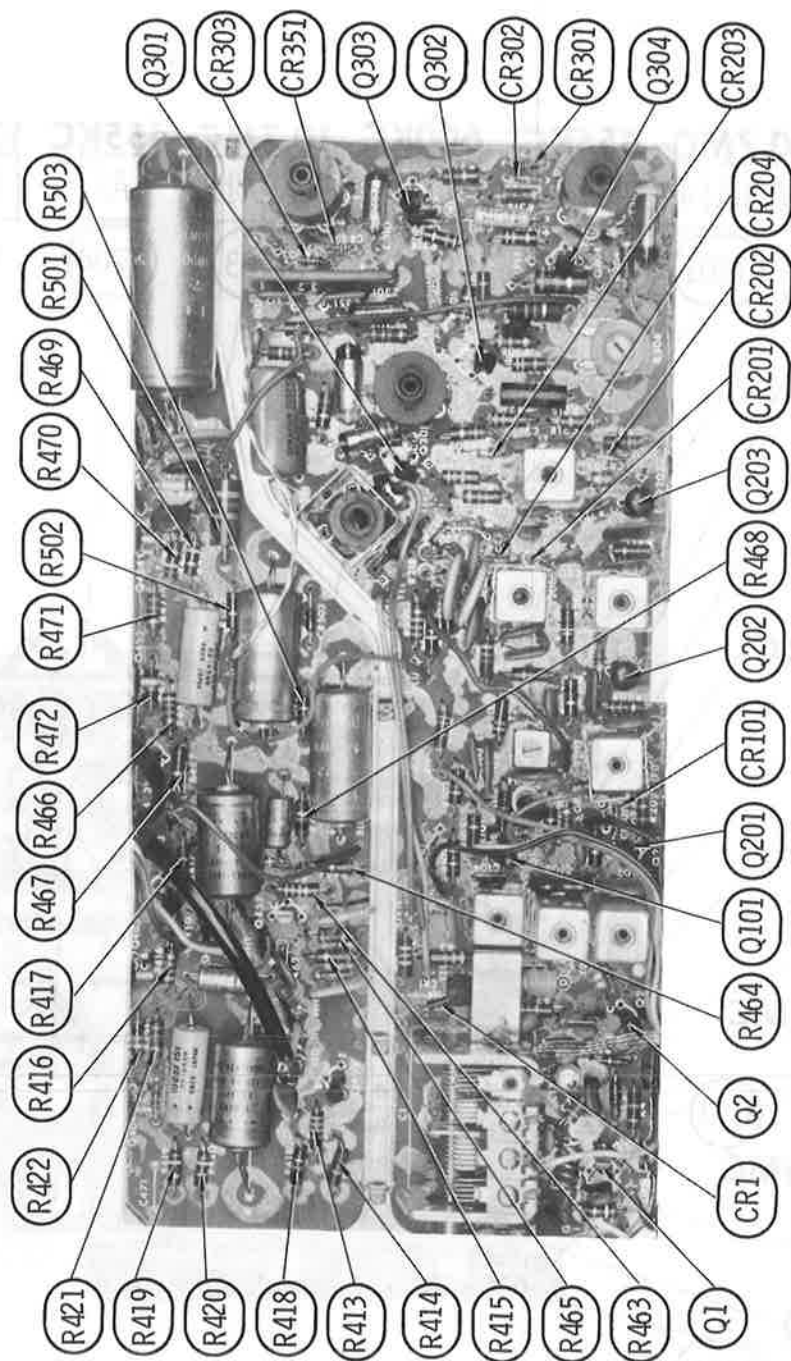
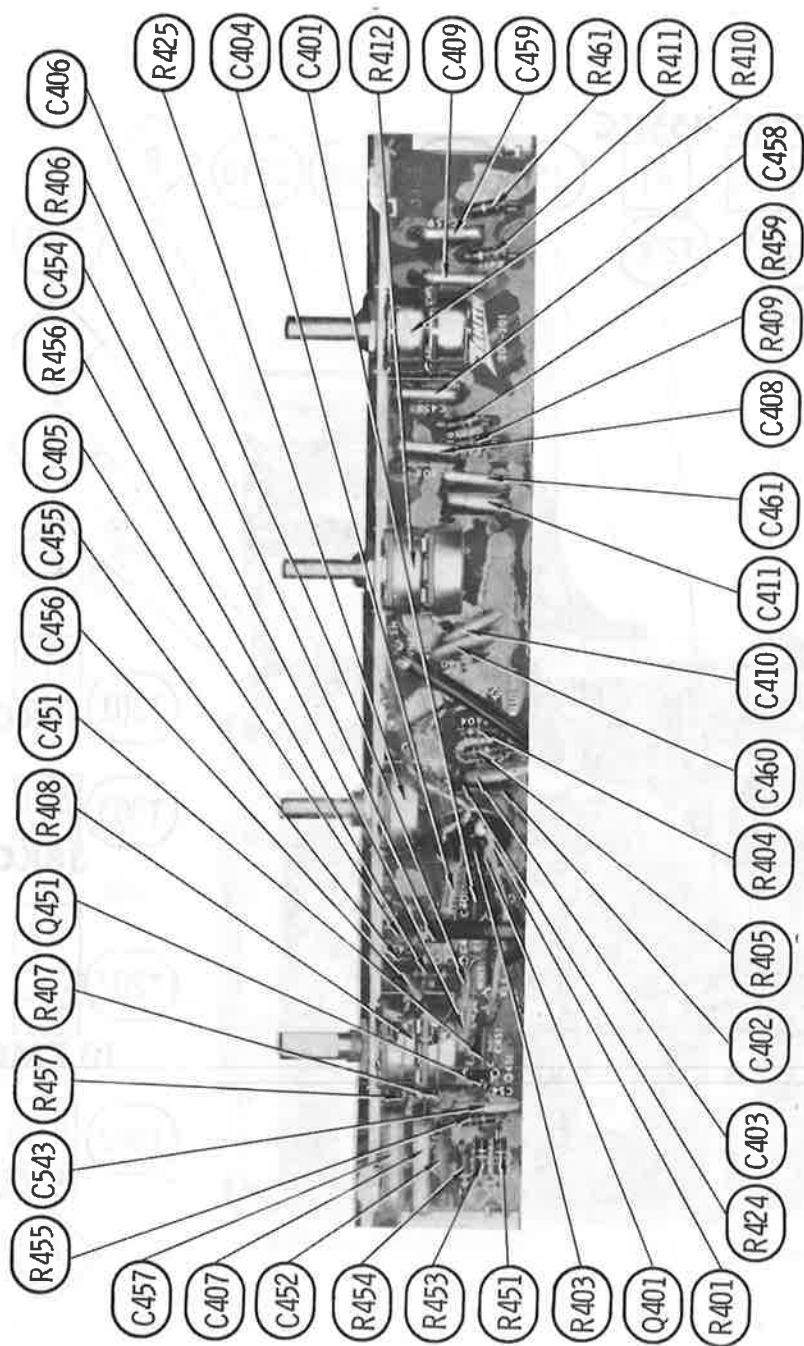
Selector Switch S1 shown
 in FM AFC position.
 Switch sequence -
 1. PHONO
 2. OFF
 3. AM
 4. FM
 5. FM AFC
 6. TAPE





ZENITH AM-FM-PM STEREO CHASSIS 20AT30/2





ALIGNMENT INSTRUCTIONS

CAUTION: Use isolation transformer or observe polarity when connecting test equipment.			
Maintain line voltage at 117VAC. Allow a 15-minute warm-up period.			
Use only enough generator output to obtain a suitable indication.			
Suggested Alignment Tools:			
	GENERAL CEMENT	WALSCO	
A1,A3,A4,A7 thru A15,A18 ..	9296, 9297, 9300 ..	2510, 2546, 2547	
A19 thru A21	8606, 8606L, 8669 ..	2543, 2544, 2588	
A2,A5,A6,A16,A17	8668, 8697, 9089 ..	2531-x, 2541, 2587	

AM ALIGNMENT—SELECTOR IN AM POSITION

Connect generator across loop fashioned of several turns of wire. Set volume at maximum.

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	455KC 400 cycle modulation	Tuning gang fully open.	Output Meter across voice coil.	A1,A2, A3,A4	Adjust for maximum. Repeat until no further improvement can be made.
2.	1640KC	"	"	A5	Adjust for maximum.
3.	1400KC	Tune to signal	"	A6	"
4.	600KC	"	"	A7	Rock tuning gang and adjust for maximum. Repeat steps 2 thru 4 until no further improvement can be made.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR—SELECTOR IN FM POSITION

High side of generator thru .001mfd to point **C**, low side to ground.

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
5.	10.7MC Unmodulated	Point of non-interference	DC probe of VTVM to point A , common to ground.	A8,A9, A10,A11, A12,A13, A14	Adjust for maximum.
6.	10.7MC	100	DC probe of VTVM to point B , common to ground.	A15	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.






FIG. 1


FM IF ALIGNMENT USING FM SIGNAL GENERATOR—SELECTOR IN FM POSITION

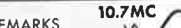
High side of generator thru .001mfd to point C_2 , low side to ground. Use only enough marker signal for indication. Use 60 cycle frequency modulated signal with 450KC sweep. Use 60 cycle sawtooth voltage in scope for horizontal deflection.

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
5.	10.7MC 450KC Sweep	Point of non- interference	Vert. amp of scope to point  , low side to ground.	A8,A9, A10,A11 A12,A13, A14	Disconnect stabilizing capacitor C220. Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C220.
6.	"	"	Vert. amp of scope to point  , low side to ground.	A15	Adjust A15 (secondary) to place marker at center of "S" curve similar to Fig. 2. Readjust A8 (primary) for maximum amplitude and straightness of line.

FM RF ALIGNMENT—SELECTOR IN FM POSITION

Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
7. 108.5MC	High freq. end	DC probe of VTVM to point  , common to ground.	A16,A17	Adjust for maximum.
8. 90MC Unmodulated	Tune to signal.	"	A18	Rock tuning and adjust for maximum. Repeat steps 7 and 8 until no further improvement can be made.







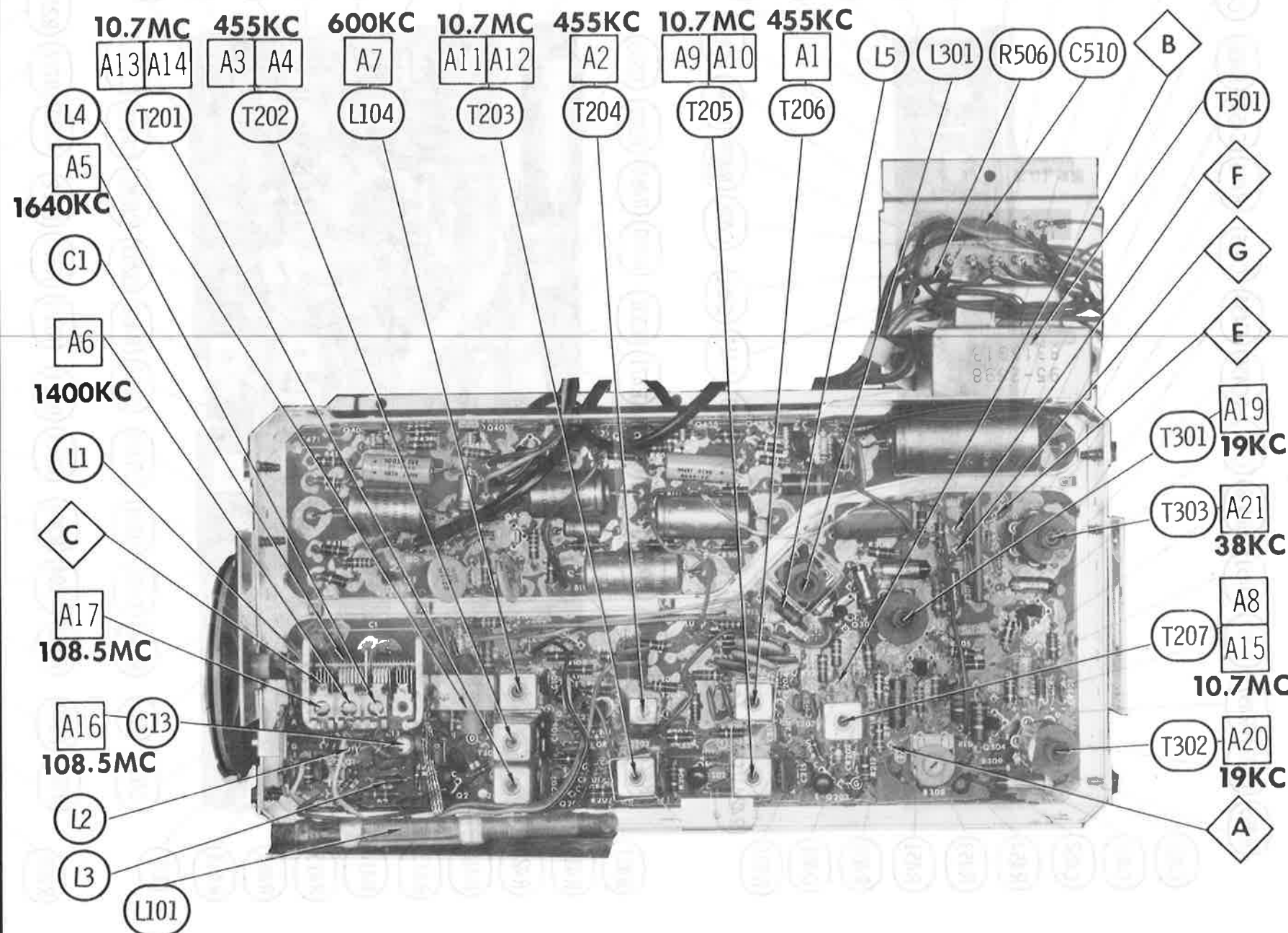
10.7MC

FIG. 2

FM STEREO MULTIPLEX ALIGNMENT USING FM STEREO SIGNAL GENERATOR ($\pm .0001\%$ ACCURACY)

High side of generator thru 47K to point $\langle B \rangle$, low side to ground.

	GENERATOR FREQUENCY	INDICATOR	ADJUST	REMARKS
9.	19KC	Vert. amp of scope thru 47K to point  , low side to ground.	A19	Adjust for maximum.
10.	"	Vert. amp of scope thru 47K to point  , low side to ground.	A20, A21	Adjust for maximum 38KC response.
11.	Modulated Left Channel	Vert. amp of scope to point  .	A19, A20, A21	Adjust for MINIMUM. This step should require only slight adjustment.
12.	Modulated Right Channel	Vert. amp of scope to point  ,		Check for MINIMUM. If necessary make compromise adjustment of A19, A20 & A21



TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1		FM RF Amp	121-612	GE-17	TR-22	HEP56	SK3018	ECG 123
Q2		FM Converter	121-613	GE-17	TR-22	HEP56	SK3018	ECG 123
Q101		AM Converter	121-714	GE-1	TR-11	HEP251	SK3008	ECG 100
Q201		AM & FM IF	121-614	GE-17	TR-21	HEP56	SK3018	ECG 123
Q202		AM & FM IF	121-546	GE-20	TR-21	HEP738	SK3018	ECG 123
Q203		FM IF	121-546	GE-20	TR-21	HEP738	SK3018	ECG 123
Q301		MPX Input Amp	121-639	GE-10	TR-21	HEP243	SK3020	ECG 123
Q302		19KC Amp	121-639	GE-10	TR-21	HEP243	SK3020	ECG 123
Q303		38KC Amp	121-639	GE-10	TR-21	HEP243	SK3020	ECG 123
Q304		Stereo Switch	121-639	GE-10	TR-21	HEP243	SK3020	ECG 123
Q401		AF Amp	121-433	GE-10	TR-21	HEP54	SK3020	ECG 123
Q402		AF Amp	121-430	GE-10	TR-21	HEP54	SK3020	ECG 123
Q403		AF Amp	121-706	GE-18	TR-25	HEP54	SK3024	ECG 128
Q404		Output	121-710	GE-17	TR-25	HEP245	SK3024	ECG 152
Q505		Output	121-709	GE-21	TR-28	HEP246	SK3025	ECG 153
Q451		AF Amp	121-433	GE-10	TR-21	HEP54	SK3020	ECG 123
Q452		AF Amp	121-430	GE-10	TR-21	HEP54	SK3020	ECG 123
Q453		AF Amp	121-706	GE-18	TR-25	HEP54	SK5024	ECG 128
Q454		Output	121-710	GE-17	TR-25	HEP245	SK5024	ECG 152
Q455		Output	121-709	GE-21	TR-28	HEP246	SK3025	ECG 153

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
CR1	103-47 (1)					(1) Variable Capacitor Diode
CR101	103-74	1N60	1N60	ECG 109		
CR201	103-23	1N60		ECG 109		
CR202	103-90		1N542	ECG 110		
C203	103-90		1N542	ECG 110		
CR204	103-23	1N60	1N60	ECG 109		
CR301	103-23	1N60	1N60	ECG 110 (4)		(4) Matched pair.
CR302	103-23	1N60	1N60	ECG 110 (4)		
CR303	103-23	1N60	1N60	ECG 110 (4)		
CR351	103-23	1N60	1N60	ECG 110 (4)		
CR401	103-145	GE-504A	8D4 or 5A4-D	ECG 116 or ECG 117	SK3030 or SK3031	
CR451	103-145	GE-504A	8D4 or 5A4-D	ECG 116 or ECG 117	SK3030 or SK3031	
CR501	212-71	GE-504A(7)	18DC2A or 8D4 (7)	ECG 116(7) or ECG 117 (7)	SK3030 (7) or SK3031(7)	(7) Two required.
CR502	212-71	GE-504A(7)	18DC2A or 8D4 (7)	ECG 116(7) or ECG 117 (7)	SK3030 (7) or SK3031(7)	
CR503	103-96	GEZD-12	Z-1112 or 12M12T10	ECG 142		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		ZENITH PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C220	5 25V	22-3896	PTT77	EA30-5	AL5-150	MTT-3	MTA5D50	TE-1202
C221	10 6V	22-5486	BCD25010	EP6-10	PC10-50	MTT-5	MTV10CB50	TE-1087
C305	5 12V	22-2884	CRE604A	EA15-5	AL5-150	MTT-3	MTA5D50	TE-1127
C311	5 12V	22-2884	CRE604A	EA15-5	AL5-150	MTT-3	MTA5D50	TE-1127
C404	5 12V	22-2884	CRE604A	EA15-5	AL5-150	MTT-3	MTA5D50	TE-1127
C415	1 50V	22-3687	CRE750A	EA50-2	AL1-50	MTT-1	MTA1D50	TE-1300
C420	100 15V	22-4568	CRE473A	EA15-100	AL100-16	MTT-19	MTA10DE15	TE-1162
C422	200 35V	22-3721	PRS1380	EA50-250	WBR300-35	QTT-27	TC496A	TL-1312
C454	5 12V	22-2884	CRE604A	EA15-5	AL5-150	MTT-3	MTA5D50	TE-1127
C465	1 50V	22-3687	CRE750A	EA50-2	AL1-50	MTT-1	MTA1D50	TE-1300
C470	100 15V	22-4568	CRE473A	EA15-100	AL100-16	MTT-19	MTA10DE15	TE-1162
C472	200 35V	22-3721	PRS1380	EA50-250	WBR300-35	QTT-27	TC496A	TL-1312
C503	1000 50V	22-5362	PRS1395	EA50-1000	WBR1000-50		TC50100A	TL-1317
C504	500 15V	22-4572	PRS1220	EA15-500	WBR500-35	QTT-30A	TC1505A	TL-1166
C505	500 15V	22-4572	PRS1220	EA15-500	WBR500-35	QTT-30A	TC1505A	TL-1166

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.
C1								
C2	7 NPO/500V ±.5	#22-5812	NPO-DI 6.8	DTZ-6R8	CZ601CH6R8D		CN0568	10TCC-V68
C3	.001 25V		GD PD X5F102K	DM-102	JBS601YP102K		SM210	25S-D10
C4	17 N330/500V 5%	#22-3792						
C5	10 NPO/500V 5%						CN0410	10TCC-Q10
C6	.01 25V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C7	3.3 500V 5%	#22-3558		DTZ-10	CZ601CG100J			
C8	16 NPO/500V 5%	#22-5897		DTZ-3R3	HOY101ZV103P			
C9	3.3 N750 ±.25			TCN-3R3	JBS601YP102K	CCD-102	CN7533	25S-D10
C10	.001 25V		GD PD X5F102K	DM-102			SM210	
C11	5.5 N2200 ±.5	#22-5878					*	
C12	.05 25V						TA150	TGL-S50
C13	1.7-10	#22-4855						
C14	.01 25V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C102	.02 25V		TTP-02	CK-203	HOY101ZV203P	CCD-203	TA120	TG-S20

PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C103	.05 25V	#22-3310	TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50	
C104	.01 25V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C105	390 100V 5%			CPR-390J	CD15F391J500	DM-15-391J	SX339	424ME3900J501	
C201	2.7 500V								
C202	.0015 500V 10%	#22-3791	GD PD X5F152K	DD-152		CCD-152	GP215	10TCC-V27	
C203	.1 10V		TTP-.1	UK10-104	HOV101ZV104Z		MAG1201	10TS-D15	
C204	560 500V 10%		GD PD X5F561K	DD-561	JBY601YP561K	CCD-561	GP356	HY-320	
C205	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	10TS-T56	
C206	42 N330/500V 5%	#22-3310				*	*	TGL-S50	
C207	2.7 500V	#22-3770							
C208	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	10TCC-V27	
C209	680 500V 10%		GD PD X5F681K	DD-681	JBY601YP681	CCD-681	GP368	TGL-S50	
C210	560 500V 10%		GD PD X5F561K	DD-561	JBY601YP561K	CCD-561	GP356	10TS-T68	
C211	5.5 N220/500V ±.25	#22-2428				*	*	10TS-T56	
C212	.05 25V	#22-3770	TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50	
C213	1.8 500V								10TCC-V18
C214	680 500V 10%		GD PD X5F681K	DD-681	JBY601YP681	GP368	10TS-T68		
C215	.05 25V		TTP-05	CK-503	HOY101ZV503Z	CCD-503	TA150	TGL-S50	
C216	.005 25V	#22-3770	TTP-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50	
C217	.001 25V		GD PD X5F102K	DM-102	JBS601YP102K	CCD-102	SM210	25S-D10	
C218	390 500V		GD PD X5F391K	DD-391		CCD-391	GP339	10TS-T39	
C219	390 500V 10%		GD PD X5F391K	DD-391		CCD-391	GP339	10TS-T39	
C222	.0068 25V 10%	#22-3770	GD PD X5R682K	DD-682	BYX601ZU682P	CCD-682	JF268	10TS-D68	
C223	.05 25V		TTP-05	CK-503	HOY101ZV503Z	CCD-503	TA150	TGL-S50	
C224	.0047 500V 10%		GD PD X5R472K	DD-472G	JBT601YP472K	CCD-472	JF247	10TS-D47	
C225	.0047 500V 10%		GD PD X5R472K	DD-472G	JBT601YP472K	CCD-472	JF247	10TS-D47	
C227	.05 25V	#22-3770	TTP-05	CK-503	HOY101ZV503Z	CCD-503	TA150	TGL-S50	
C301	270 500V 5%			CPR-270J	CD15F271J500	DM-15-271J	SX327	424ME2700J501	
C302	.001 500V 5%			CPR-1000J	CD19F102J500	DM-19-102J	SX210	424ME1001J501	
C303	.47 200V 10%		V1616P47		PKM6P47	60P-6-47A	PVC6047	424ME2201J501	
C304	.0022 500V 5%	#22-3770							
C306	.01 25V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C307	.0022 500V 5%			CPR-2200J	CD19F222J500	DM-19-222J	SX222	424ME2201J501	
C308	.001 500V 5%			CPR-1000J	CD19F102J500	DM-19-102J	SX210	424ME1001J501	
C309	.01 25V	#22-3770	TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C310	.001 500V 5%			CPR-1000J	CD19F102J500	DM-19-102J	SX210	424ME1001J501	
C312	.05 25V		TTP-05	CK-503	HOY101ZV503Z	CCD-503	TA150	TGL-S50	
C351	.05 25V		TTP-05	CK-503	HOY101ZV503Z	CCD-503	TA150	TGL-S50	
C401	.05 25V	#22-3770	TTP-05	CK-503	HOY101ZV503Z	CCD-503	TA150	TGL-S50	
C402	.47 3V			UK474	HCS3R0XR474P		MAG3047	HY130	
C403	100 500V		GD PD X5F101K	DD-101	JBZ601YP101K	CCD-101	GP310	10TS-T10	
C405	330 500V 10%		GD PD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333	10TS-T33	
C406	680 500V 10%	#22-5639	GD PD X5F681K	DD-681	JBY601YP681K	CCD-681	GP368	10TS-T68	
C407	.22 100V 10%								
C408	.022 100V								
C409	.056 100V 10%								
C410	.0022 500V 10%	#22-5814	GD PD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22	
C411	.022 100V								
C412	.1 10V		TTP-.1	UK10-104	HOV101ZV104Z		MAG1201	HY320	
C414	470 500V		GD PD X5F471K	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47	
C417	680 500V 10%	#22-5814	GD PD X5F681K	DD-681	JBY601YP681K	CCD-681	GP368	10TS-T68	
C451	.05 25V		TTP-05	CK-503	HOY101ZV503Z	CCD-503	TA150	TGL-S50	
C452	.47 3V			UK474	HCS3R0XR474P		MAG3047	HY130	
C453	100 500V		GD PD X5F101K	DD-101	JBZ601YP101K	CCD-101	GP310	10TS-T10	
C455	330 500V 10%	#22-5839	GD PD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333	10TS-T33	
C456	680 500V 10%		GD PD X5F681K	DD-681	JBY601YP681K	CCD-681	GP368	10TS-T68	
C457	.22 100V 10%								
C458	.022 100V								
C459	.056 100V 10%	#22-5814							
C460	.0022 500V 10%		GD PD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22	
C461	.022 100V								
C462	.1 10V		TTP-.1	UK10-104	HOV101ZV104Z		MAG1201	HY320	
C464	470 500V 10%	#22-5814	GD PD X5F471K	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47	
C467	680 500V 10%		GD PD X5F681K	DD-681	JBY601YP681K	CCD-681	GP368	10TS-T68	
C501	.01 500V		GD PD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10	
C502	.01 500V		GD PD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10	
C506	.05 100V	#22-5814	TTP-.05	CI-103	ACT142ZU103P	CCD-503	TA150	TGL-S50	
C510	.01 1.4KV/150VAC						UAC110	125L-S10	

(When ordering parts, state Model, Part Number, and Description.)

LA No.	RCA PART No.	SYLVANIA PART No.
	SK3018	ECG 123
	SK3018	ECG 123
	SK3008	ECG 100
	SK3018	ECG 123
	SK3018	ECG 123
	SK3018	ECG 123
	SK3020	ECG 123
	SK3020	ECG 123
	SK3020	ECG 123
	SK3020	ECG 123
	SK3020	ECG 123
	SK3024	ECG 128
	SK3024	ECG 152
	SK3025	ECG 153
	SK3020	ECG 123
	SK3020	ECG 123
	SK5024	ECG 128
	SK5024	ECG 152
	SK3025	ECG 153

NOTES

(1) Variable Capacitor Diode

(4) Matched pair.

(7) Two required.

GALLERY PART No.	SPRAGUE PART No.
050	TE-1202
0CB50	TE-1087
050	TE-1127
050	TE-1127
050	TE-1127
050	TE-1300
0DE15	TE-1162
5A	TL-1312
050	TE-1127
050	TE-1300
0DE15	TE-1162
5A	TL-1312
100A	TL-1317
05A	TL-1166
05A	TL-1166

MALLORY PART No.	SPRAGUE PART No.
CN0568 SM210 *	10TCC-V68 2SS-D10
CN0410 TA110	10TCC-Q10 TG-S10
CN7533 SM210 *	2SS-D10
TA150	TGL-S50
TA110	TG-S10
TA120	TG-S20

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNEILL- DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C103	.05 25V	#22-3310	TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50	
C104	.01 25V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C105	390 100V 5%				CPR-390J	CD15F391J500	DM-15-391J	SX339	424ME3900J501
C201	2.7 500V								10TCC-V27
C202	.0015 500V 10%			GPD X5F152K	DD-152		CCD-152	GP215	10TS-D15
C203	.1 10V		TTP-.1	UK10-104	HOV101ZV104Z		MAG1201	HY-320	
C204	560 500V 10%		GPD X5F561K	DD-561	JBY601YP561K	CCD-561	GP356	10TS-T56	
C205	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50	
C206	42 N330/500V 5%	#22-3791				*	*		
C207	2.7 500V	#22-3310						10TCC-V27	
C208	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50	
C209	680 500V 10%		GPD X5F681K	DD-681	JBY601YP681K	CCD-681	GP368	10TS-T68	
C210	560 500V 10%		GPD X5F561K	DD-561	JBY601YP561K	CCD-561	GP356	10TS-T56	
C211	5.5 N220/500V +.25	#22-3770				*	*		
C212	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50	
C213	1.8 500V	#22-2428						10TCC-V18	
C214	680 500V 10%		GPD X5F681K	DD-681	JBY601YP681K	GP368	10TS-T68		
C215	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50	
C216	.005 25V		TTP-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50	
C217	.001 25V		GPD X5F102K	DM-102	JBS601YP102K	CCD-102	SM210	2SS-D10	
C218	390 500V		GPD X5F391K	DD-391		CCD-391	GP339	10TS-T39	
C219	390 500V 10%		GPD X5F391K	DD-391		CCD-391	GP339	10TS-T39	
C222	.0068 25V 10%		GPD X5F682K	DD-682	BYX601ZU682P	CCD-682	JF268	10TS-D68	
C223	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50	
C224	.0047 500V 10%		GPD X5R472K	DD-472K	JBT601YP472K	CCD-472	JF247	10TS-D47	
C225	.0047 500V 10%		GPD X5R472K	DD-472K	JBT601YP472K	CCD-472	JF247	10TS-D47	
C227	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50	
C301	270 500V 5%			CPR-270J	CD15F271J500	DM-15-271J	SX327	424ME2700J501	
C302	.001 500V 5%			CPR-1000J	CD19F102J500	DM-19-102J	SX210	424ME1001J501	
C303	.47 200V 10%		V1616P47		PKM6P47	6DP-6-474	PVC6047		
C304	.0022 500V 5%			CPR-2200J	CD19F222J500	DM-19-222J	SX222	424ME2201J501	
C306	.01 25V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C307	.0022 500V 5%			CPR-2200J	CD19F222J500	DM-19-222J	SX222	424ME2201J501	
C308	.001 500V 5%			CPR-1000J	CD19F102J500	DM-19-102J	SX210	424ME1001J501	
C309	.01 25V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C310	.001 500V 5%			CPR-1000J	CD19F102J500	DM-19-102J	SX210	424ME1001J501	
C312	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50	
C351	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50	
C401	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50	
C402	.47 3V			UK474	HCS3R0X474P		MAG3047	HY130	
C403	100 500V		GPD X5F101K	DD-101	JBZ601YP101K	CCD-101	GP310	10TS-T10	
C405	330 500V 10%		GPD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333	10TS-T33	
C406	680 500V 10%		GPD X5F681K	DD-681	JBY601YP681K	CCD-681	GP368	10TS-T68	
C407	.22 100V 10%	#22-5639							
C408	.022 100V	#22-5814							
C409	.056 100V 10%	#22-5815							
C410	.0022 500V 10%		GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22	
C411	.022 100V	#22-5814							
C412	.1 10V		TTP-.1	UK10-104	HOV101ZV104Z		MAG1201	HY320	
C414	470 500V		GPD X5F471K	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47	
C417	680 500V 10%		GPD X5F681K	DD-681	JBY601YP681K	CCD-681	GP368	10TS-T68	
C451	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50	
C452	.47 3V			UK474	HCS3R0X474P		MAG3047	HY130	
C453	100 500V		GPD X5F101K	DD-101	JBZ601YP101K	CCD-101	GP310	10TS-T10	
C455	330 500V 10%		GPD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333	10TS-T33	
C456	680 500V 10%		GPD X5F681K	DD-681	JBY601YP681K	CCD-681	GP368	10TS-T68	
C457	.22 100V 10%	#22-5639							
C458	.022 100V	#22-5814							
C459	.056 100V 10%	#22-5815							
C460	.0022 500V 10%		GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22	
C461	.022 100V	#22-5814							
C462	.1 10V		TTP-.1	UK10-104	HOV101ZV104Z		MAG1201	HY320	
C464	470 500V 10%		GPD X5F471K	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47	
C467	680 500V 10%		GPD X5F681K	DD-681	JBY601YP681K	CCD-681	GP368	10TS-T68	
C501	.01 500V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10	
C502	.01 500V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10	
C506	.05 100V		TTP-.05	CI-103	HOV101ZV503Z	CCD-503	TA150	TGL-S50	
C510	.01 1.4KV/150VAC				ACT142ZU103P		UAC110	12SL-S10	

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R308 L408	Mute Loudness	100K 50K (A) 20K Tap	63-6495 63-7683	T-100K (1) F12-50K,R12-50K, SF100,CPL-2		U201R104B BU1,CF105TT (2), CR70TT (2), SS1,SS7A,DC1 *	MTC15L4
R408	Loudness	50K (B) 20K Tap					
R410 R410L	Bass Bass	100K (A) 100K (B)	63-7682	F1-100K,RL-100K, SF100,CPL-2	NP-100K-S, NR-100K-S, UP-B-400,DC-2	B11-128,B11-128, SK1,QCM or [BU],CF13,CR8, SS1,SS7A,DC11 *	P15L,3014, RU15L,CS3500
R412 R412L	Treble Treble	50K (A) 50K (B)	63-7681	F2-50K,R2-50K, SF100,CPL-2		B13-123,B13-123, SK1,QCM or [BU],CF63,CR62, SS1,SS6A,DC11 *	P54A,3014, RU54A,CS3500
R425	Balance/Mode Switch (Stereo Mono)	250K	63-7684				

★ 11

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna	20-1744	19-2016	74F105AP	T971
L2	FM RF	20-1648			
L3	10.7MC Trap	20-1256			
L4	FM Oscillator	20-1649			
L5	RF Choke (10uh)	20-2033			
L101	Loopstick	S-82104			
L301	67KC Trap	S-79435			
T101	AM Oscillator	95-2544			
T201	FM Input IF	95-2546			
T202	AM Input IF	95-2541			
T203	FM Interstage IF	95-2547			
T204	AM Interstage IF	95-2542			
T205	FM Interstage IF	95-2548			
T206	AM Output IF	95-2543			
T207	Ratio Detector	95-2545			
T301	19KC Input	S-79438			
T302	19KC Doubler	S-79436			
T303	38KC Output	S-79437			

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T501	117VAC @ .115A AC	50VAC,CT @ .6A DC	6.3VAC @ .3A AC	95-2698					

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
				MFGR. PART No.	QUAM PART No.	
SP1	12"	PM	16Ω	49-1182		
SP2	3 1/2"	PM	45Ω	49-1094		
SP3	12"	PM	16Ω	49-1182		
SP4	3 1/2"	PM	45Ω	49-1094		

ITEM No.	REPLACEMENT DATA						NOTES
	MFRG. PART No.		ASTATIC PART No.		ELECTRO-VOICE PART No.		
	CARTRIDGE	NEEDLE	CARTRIDGE	NEEDLE	CARTRIDGE	NEEDLE	
M1	142-168						
M2		S-68567					

ITEM No.	PART NAME	PART No.	NOTES
M3	Lamp		Dial (2 used) (#1847)
M4	Lamp	S-82431	Stereo Indicator
M5	Motor		Phono
S1	Switch	85-1058	Selector (Phono-Off-AM-FM-FM AFC-Tape)
S2	Switch	85-1058	Power (on-Off) (Located on Changer)
Z301	Component Combination	105-106	MPLX Matrix (.001, .001, 470pf, 470pf, 100K, 100K, 100K, 100K)

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Power Cord	Use BELDEN No. 17106 (Plastic) or 17126 (Rubber) - 6 Ft. 17109 (Plastic) or 17129 (Rubber) - 9 Ft.
Low-loss Shielded Lead (Interconnecting)	Use BELDEN No. 8401 or 8421
Phono Pick-up Arm Cable	Use BELDEN No. 8430 (Two Conductor-Unshielded) 8429 (Two Conductor-Shielded) 8419 (Three Conductor-Shielded)