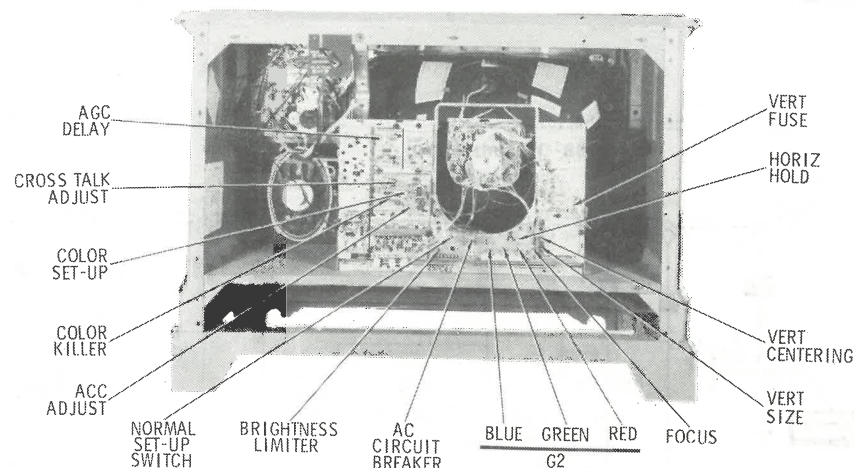


CABINET— REAR VIEW



DISASSEMBLY INSTRUCTIONS

CABINET BACK REMOVAL MODEL F4754E

Remove five screws, turn five twist tabs holding cabinet back and remove back.

NOTE: Chassis tilts out by removing one screw at top of chassis and loosening four screws at bottom of chassis. Most components can now be serviced without chassis removal. Lamp Accessibility, remove four screws holding tuner assembly, remove two ground straps and remove tuner assembly as far as lead length will allow to change lamps.

CHASSIS REMOVAL

Disconnect picture tube socket, high voltage anode lead, speaker leads, degaussing coil leads, convergence yoke, deflection yoke, IF cable, three plugs and five wires to tuners and controls and ground straps.

Remove six screws holding chassis and remove chassis from cabinet.

TUNER ASSEMBLY AND CONTROL REMOVAL

Disconnect IF cable, three plugs and five wires to tuner and controls and ground straps. Remove four screws holding tuner assembly, three screws holding control assembly and two screws holding switch assembly. Remove tuner control and switch assemblies from cabinet.

PICTURE TUBE REMOVAL

Follow "Chassis Removal" procedure and lay set face down on a soft protective surface. Remove blue lateral magnet assembly. Remove convergence and deflection yoke. Remove two screws holding degaussing shield together. Open shield and lift picture tube from set. Do not lift picture tube by the neck.

SERVICING IN THE FIELD

CRT IMPLOSION PROTECTION AND CLEANING

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

FUSE DEVICES

A circuit breaker is used for AC Line power-supply protection. (See photo, Cabinet-Rear View.)

A .6-amp fuse is used for vertical sweep circuit protection. (See photo, Cabinet-Rear View.)

A 4-amp fuse is used for CRT filament protection. (See Transistor Placement Chart.)

LAMP ACCESSIBILITY

Tuner assembly must be removed. See Disassembly Instructions.

VHF TUNER

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

UHF TUNER

The UHF tuner employs a detent mechanism for channel selection. Fine tuning is adjusted by rotating the fine tuning knob.

HORIZONTAL OSCILLATOR

Adjustment of the horizontal hold is accomplished by the proper setting of the Horiz Hold Coils (See photo, Cabinet-Rear View.)

FOCUS

The focus may be varied by a focus control. (See photo, Cabinet-Rear View.)

AGC

The AGC may be varied by an AGC delay control. (See photo, Cabinet-Rear View.)

CENTERING

Vertical centering is accomplished by proper adjustment of the vertical centering control. (See photo, Cabinet-Rear View.)

PHOTOFACT® Folder

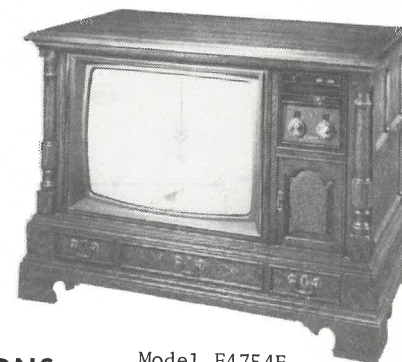
with CIRCUITRACE®

For Supplier Address See PHOTOFACT Index

ZENITH CHASSIS
23FC45, 25FC45

COLOR TV

WARNING
HI VOLTAGE
MAY EXCEED
SOME CRT
OR TEST JIG
X-RAY RATINGS



Model F4754E

SET 1453 FOLDER 3
ZENITH CHASSIS
23FC45, 25FC45

MODEL	CHASSIS	MODEL	CHASSIS
F4541W	23FC45	F4764M	25FC45
F4543W	23FC45	F4766DE,P	25FC45
F4545W	23FC45	F8748P	25FC45
F4547M	23FC45	*SF2560W,X	25FC45
F4549DE,P	23FC45	*SF2561P	25FC45
F4550DE,P	23FC45	*SF2562M	25FC45
F4560P	23FC45	*SF2563DE,P	25FC45
F4740W	25FC45	*SF2564X	25FC45
F4742W	25FC45	*SF2566M	25FC45
F4744P	25FC45	*SF2567DE,P	25FC45
F4746M	25FC45	*SF2568W	25FC45
F4748DE,P	25FC45	*SF2569P	25FC45
F4752P	25FC45	*SF2570DE,P	25FC45
F4754E	25FC45	T2858W	23FC45
F4756M	25FC45	T2860DE,P	23FC45
F4757PN	25FC45	T2873P	25FC45
F4758DE,P	25FC45	T2875M	25FC45
F4759X	25FC45	T2877DE,P	25FC45
F4760X	25FC45	T2881DE,P	25FC45
F4761P	25FC45		

*Remote S-94637, S-98663 used in these models.

SAFETY PRECAUTIONS

Make sure line voltage does not exceed rating of set. Check high-voltage regulation and adjust to correct value.

Be sure shields and rear cover are in place and secure.

Beware of shock from high voltage or AC line. Discharge high voltage to HV cage only.

Use extreme care when handling picture tube. Do not bump, scratch, or exert undue strain.

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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.

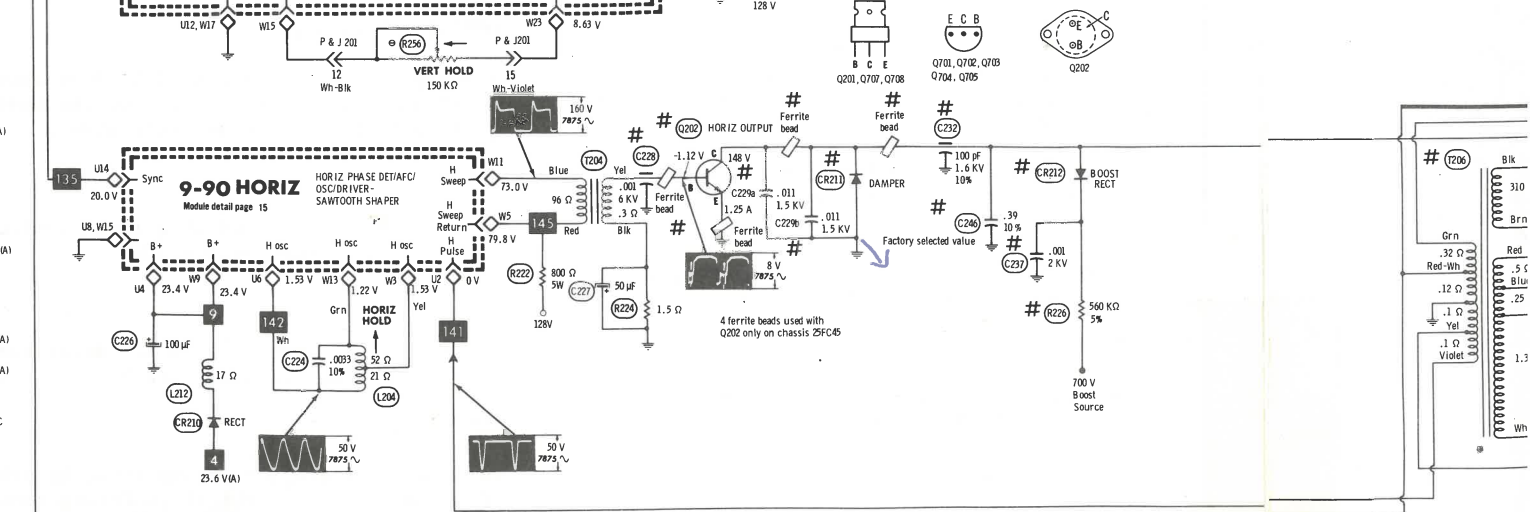
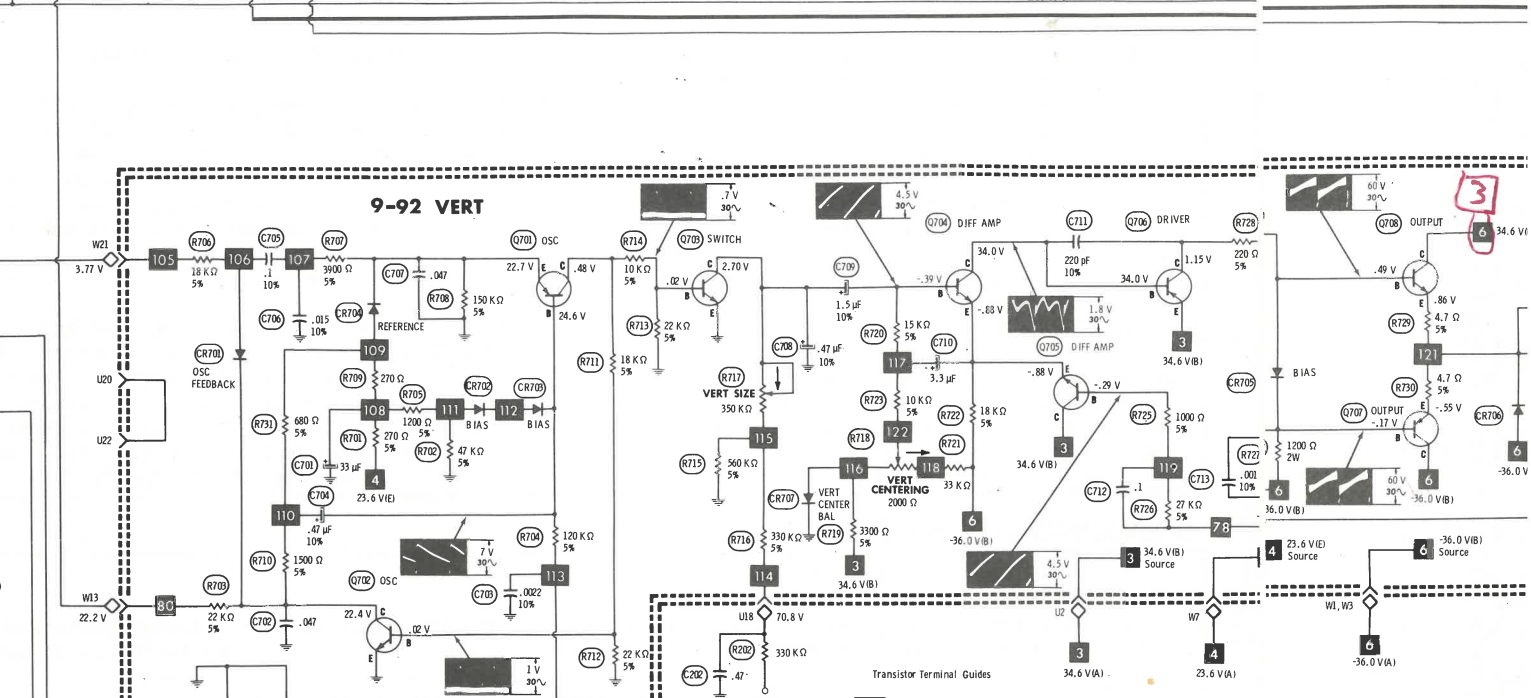
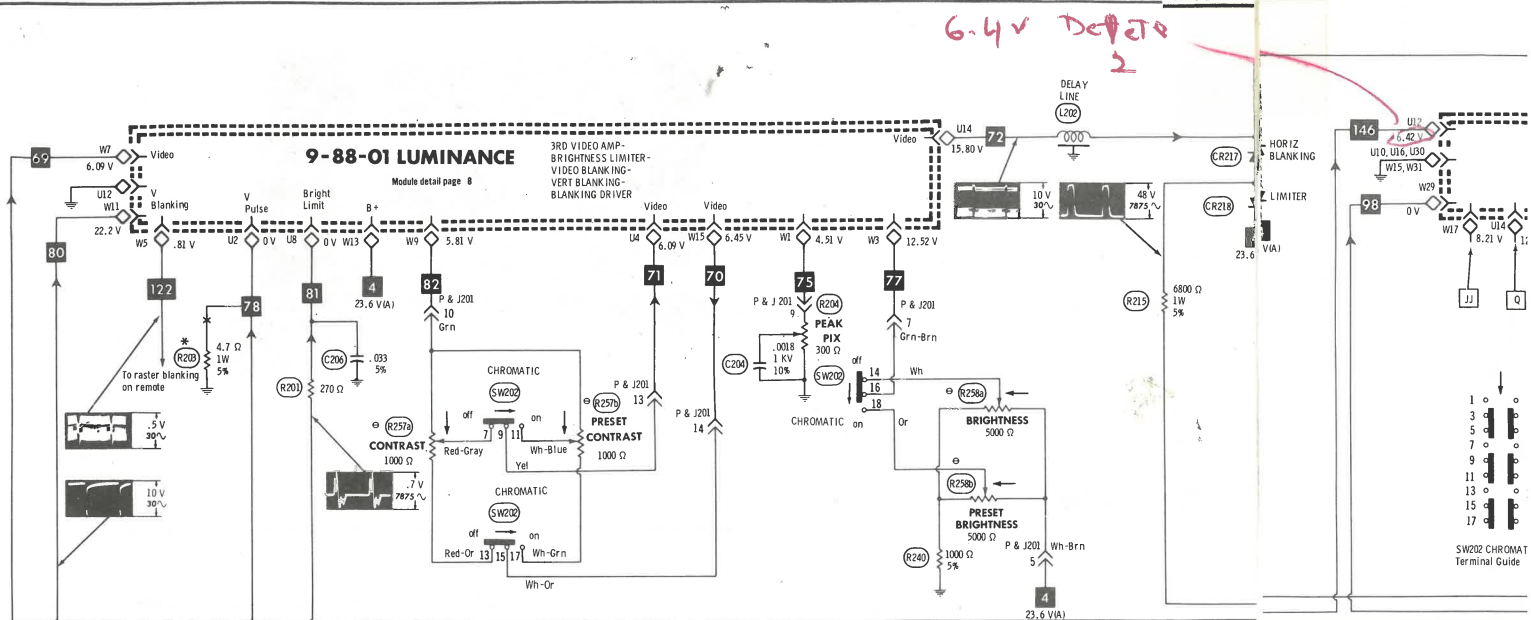
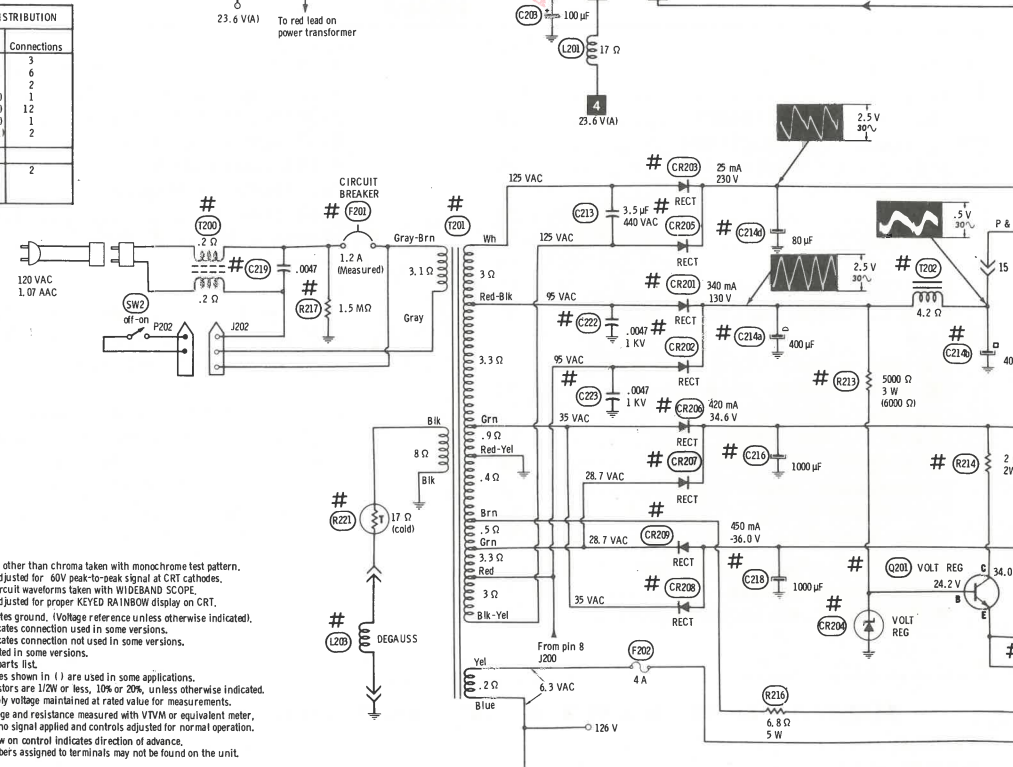
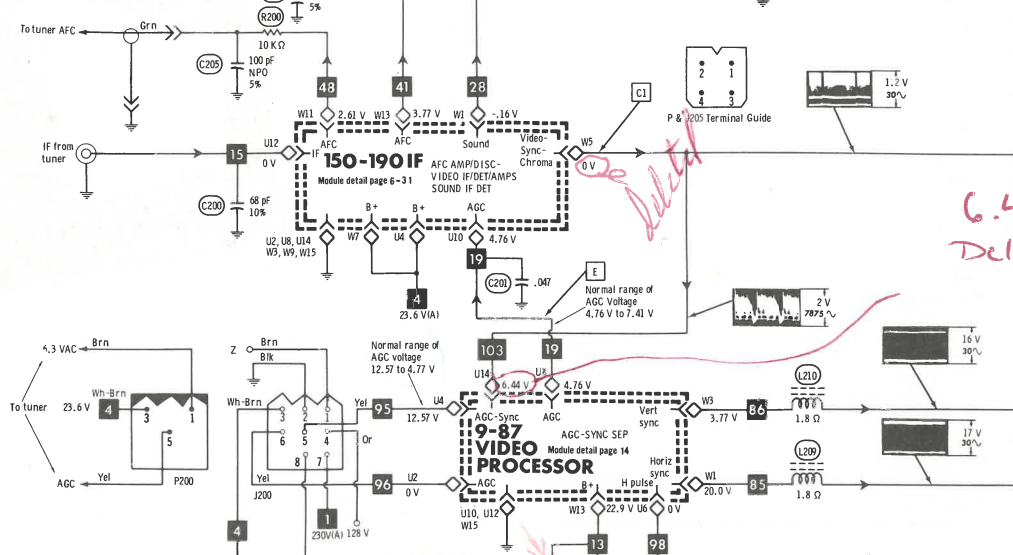
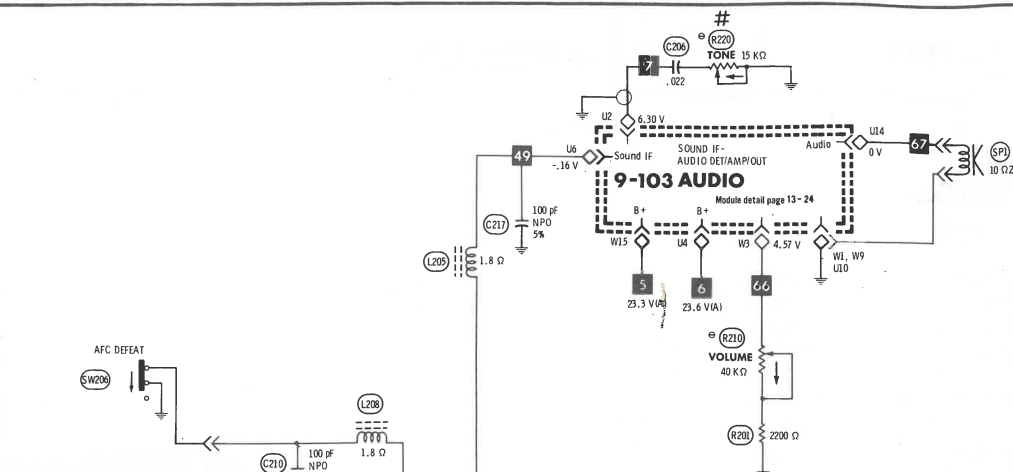
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DATE 1-75

SET 1453 FOLDER 3

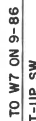
B+ DISTRIBUTION	
Source	Connections
230 V(A)	3
128 V	6
126 V	2
34.6 V(A)	1
34.6 V(A)	12
23.3 V(A)	1
36.0 V(A)	2
Boost	2
700 V	

Waveforms other than chroma taken with monochrome test pattern. Controls adjusted for 60V peak-to-peak signal at CRT cathodes. Chroma circuit waveforms taken with WIDE-BAND SCOPE. Controls adjusted for proper KEYED RAINBOW display on CRT. — Denotes ground. (Voltage reference unless otherwise indicated). — Indicates connection used in some versions. * Indicates connection not used in some versions. * Omitted in some versions. • See parts list. 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. Arrow on control indicates direction of advance. Numbers assigned to terminals may not be found on the unit.





*** BYPASS TEST POINT "D" WITH 1.0 MF CAPACITOR.**



COLLECTOR	C -
EMITTER	E -
BASE	B -
COLLECTOR	C -
EMITTER	E -
BASE	B -
COLLECTOR	C -
EMITTER	E -
BASE	B -
COLLECTOR	C -
EMITTER	E -
BASE	B -

FOR X-RADIATION, FIRE OR SHOCK HAZARD PREVENTION, CERTAIN SPECIAL OR REDUNDANT PARTS ARE USED. USE ONLY EXACT REPLACEMENTS. DO NOT ALTER THE CIRCUIT OR DEFEAT THE FUSES. FAILURE TO COMPLY MAY BE UNLAWFUL.



RESISTANCE MEASUREMENTS

ITEM	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN 12	PIN 13	PIN 14
V201 CRT	FIL	28 KΩ	80 KΩ	2.5 MΩ	2.5 MΩ	28 KΩ	80 KΩ	NC	80 MΩ	NC	28 KΩ	80 KΩ	2.5 MΩ	FIL
MEASUREMENTS BELOW TAKEN WITH METER HAVING .08 MAX BETWEEN PROBE TIPS														
IC401	470 KΩ	6500 Ω	5.5 MΩ	150 KΩ	1500 Ω	260 Ω	1100 Ω	1700 Ω	900 Ω	0 Ω	INF	4400 Ω	2300 Ω PIN 15 4000 Ω	6000 Ω PIN 16 590 Ω
IC1001	35 KΩ	2500 Ω	8500 Ω	38 KΩ	0 Ω	1200 Ω	INF	INF	2000 Ω	2000 Ω	2000 Ω	260 Ω	7000 Ω	260 Ω
													PIN 15 25 KΩ	PIN 16 33 KΩ
IC1002	10 KΩ	800 Ω	800 Ω	3200 Ω	0 Ω	6500 Ω	650 Ω	1200 Ω	650 Ω	650 Ω	35 KΩ	35 KΩ	750 K Ω	750 K Ω
													PIN 15 33 KΩ	PIN 16 33 KΩ
IC1101	INF	INF	0 Ω	0 Ω	650 Ω	12 KΩ	8000 Ω	INF	5000 Ω	5000 Ω	INF	10 KΩ	5600 Ω	70K
IC1102	0 Ω	50 KΩ	0 Ω	0 Ω	0 Ω	INF	INF	INF	290 Ω	0 Ω	0 Ω	0 Ω	INF	0 Ω
ITEM	E	B	C		ITEM	E	B	C		ITEM	E	B	C	
Q101	1100Ω	40 KΩ	2400Ω		Q703	0Ω	15 KΩ	500 KΩ		Q901	82Ω	INF	7000Ω	
Q102	680Ω	1500Ω	2400Ω		Q704	20 KΩ	40 KΩ	40 KΩ		Q902	0Ω	290Ω	2200Ω	
Q103	100Ω	750Ω	630Ω		Q705	20 KΩ	30 KΩ	40 KΩ		Q903	18 MΩ	7000Ω	220Ω	
Q104	680Ω	1800Ω	1200Ω		Q706	40 KΩ	40 KΩ	4 MΩ		Q904	18 MΩ	2800Ω	900Ω	
Q105	470Ω	1800Ω	950Ω		Q707	26Ω	7000 Ω	6000Ω		Q905	220Ω	10 KΩ	INF	
Q106	1150Ω	4000Ω	1800Ω		Q708	26Ω	4 MΩ	40 KΩ		Q1204	INF	900Ω	0Ω	
Q201	220Ω	20 KΩ	50 KΩ		Q801	270Ω	220 KΩ	2.5 MΩ		Q1205	INF	3000Ω	28 KΩ	
Q202	0Ω	2Ω	17 KΩ		Q802	200Ω	6500Ω	800Ω		Q1206	INF	3000Ω	28 KΩ	
Q701	150 KΩ	170 KΩ	17 KΩ		Q803	15Ω	180Ω	17 KΩ		Q1207	INF	3000Ω	28 KΩ	
Q702	0Ω	15 KΩ	3000Ω		Q804	330Ω	0Ω	5800Ω						

▲ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
● READING DEPENDS UPON POLARITY OF METER CONNECTIONS.

TROUBLESHOOTING CHECK CHART

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

PICTURE or SOUND

No pic, no sound, no raster: Circuit Breaker, Fuses, LV Rects

No pic, no sound, has raster: Video IFs, Tuner Mixer/Output

No pic, no sound, has snow: Tuner RF/Mixer/Output/Osc

No pic, has sound, no raster: CRT

No pic, has sound, has raster: Video Amps/Driver

Has pic, no sound: Sound IF/Det, Audio Det/Amp/Output

Overloaded picture: AGC, Video Det

Low or excessive brightness: Brightness Limiter

SWEEP

No raster, has sound: Horiz Osc/Driver/Output, Damper, HV Tripler, CRT

No vert deflection: Vert Osc/Switch/Diff Amp/Driver/Output

Poor vert lin or foldover: Vert Osc/Switch/Diff Amp/Driver/Output

Poor horiz lin or foldover: Horiz Output, Damper

Narrow picture: LV Rects, Horiz Osc/Driver/Output, Damper

Vert off frequency: Vert Osc

Horiz off frequency: Horiz Phase Det/AFC/Osc

SYNC

No vert sync: Vert Osc

No horiz sync: Horiz Phase Det/AFC/Osc

No vert/horiz sync: Sync Sep

RASTER

Yellow (no blue): Blue Video Output, CRT

Cyan (no red): Red Video Output, CRT

Magenta (no green): Green Video Output, CRT

COLOR (B/W operating normally)

No color: Chroma Bandpass Amp, Burst

Weak color: Chroma Bandpass Amp

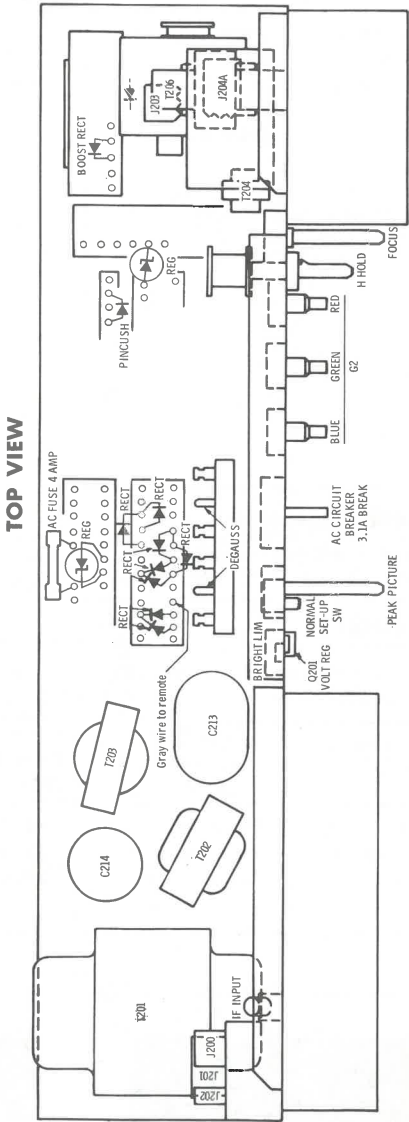
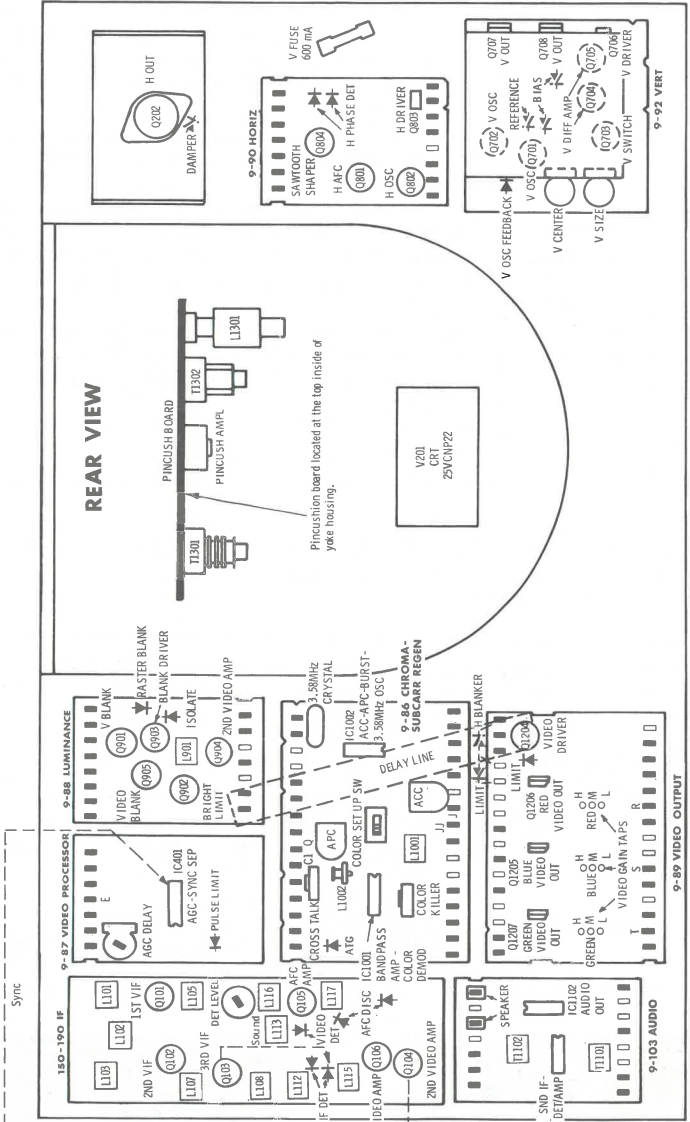
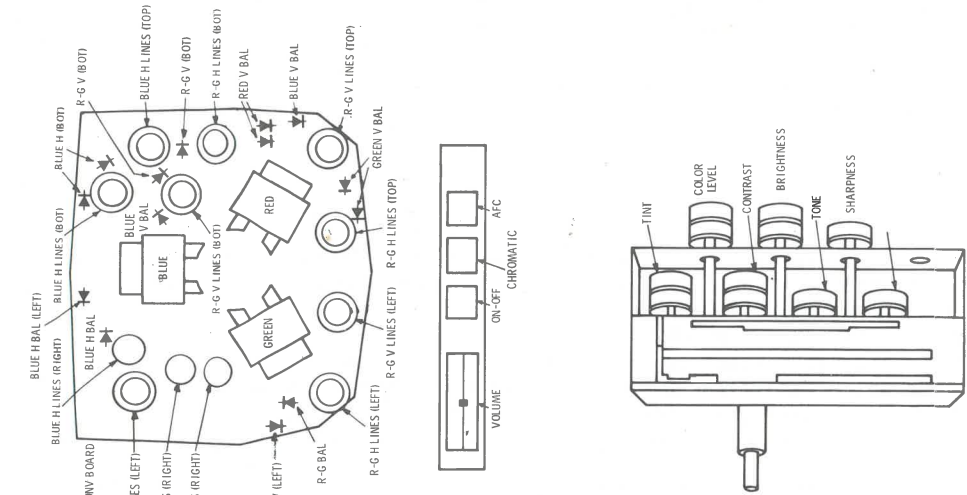
No color sync: Burst, 3.58MHz Osc

No green: Color Demod, Green Video Output

No blue: Color Demod, Blue Video Output

No red: Color Demod, Red Video Output

Incorrect hue (tint): Burst, Color Demod



TRANSISTOR PLACEMENT CHART

SET 1453 FOLDER 3

ZENITH CHASSIS
23FC45, 25FC45

FOLDER 3

TV ALIGNMENT INSTRUCTIONS

Use an isolation transformer, or observe polarity, and maintain line voltage at 120VAC. Allow a 20-minute warm-up period for receiver and test equipment.

Suggested Alignment Tools: GC ELECTRONICS
VHF Tuner IF Output Coil, L101, L102, L103, L105, L107, L108, L112, L113, L115, L116, L117, T1101, T1102 9296, 9297, 9300 L901 9440

PRELIMINARY INSTRUCTIONS

Set the channel selector to the highest unused channel. 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 that shown.

Connect a +7.2 volt bias supply to E, low side to ground. Place AFC switch to off. Connect a voltmeter to C1, low side to ground. With no signal, adjust Detector Level control, R125, for +8.5 volts DC ± 0.2 volts. Disconnect meter after making this adjustment.

VIDEO IF ALIGNMENT

CONNECT SCOPE	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
Vertical input to C1, low side to ground.	Thru .001mfd to A on VHF tuner, low side to ground.	44MHz (10MHz Sweep)	39.75MHz	Adjust L102 for MINIMUM. See Figure 1.
			41.25MHz	Adjust L112 Top and Bottom for MINIMUM. See Figure 1.
			47.25MHz	Adjust L103 Top and Bottom for MINIMUM. See Figure 1.
"	"	"	39.75MHz 41.25MHz 42.17MHz 44.00MHz 45.75MHz 47.25MHz	Adjust L101 Top and Bottom, L105 Top and Bottom, L107, L108, L113 and VHF Tuner IF Output for maximum gain and symmetry of response. L101 Bottom and L113 affect 45.75MHz marker. L101 Top and L108 affect 44.00MHz. L105 and L107 affect 44.00MHz and 42.17MHz markers. VHF Tuner IF Output affects overall response. See Figure 2.

4.5MHz 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 L115 for MINIMUM beat interference.

AFC ALIGNMENT

Connect as explained in preliminary instructions. Disconnect AFC output lead (white/blue wire). Adjust detector level as explained in preliminary instructions, if necessary.

CONNECT SCOPE	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
Vertical input to AFC output terminal.	Thru .001 uF to A on VHF tuner, low side to ground.	44.00MHz (10MHz Sweep)	45.75MHz	Adjust L116 and L117 Bottom for maximum gain and symmetry of response. See Fig.3.
"	"	"	"	Adjust L117 Top for placement fo 45.75MHz marker. See Figure 3.

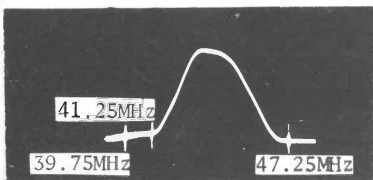


FIG. 1

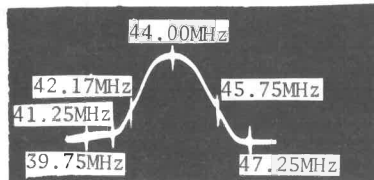


FIG. 2

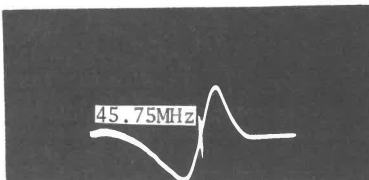
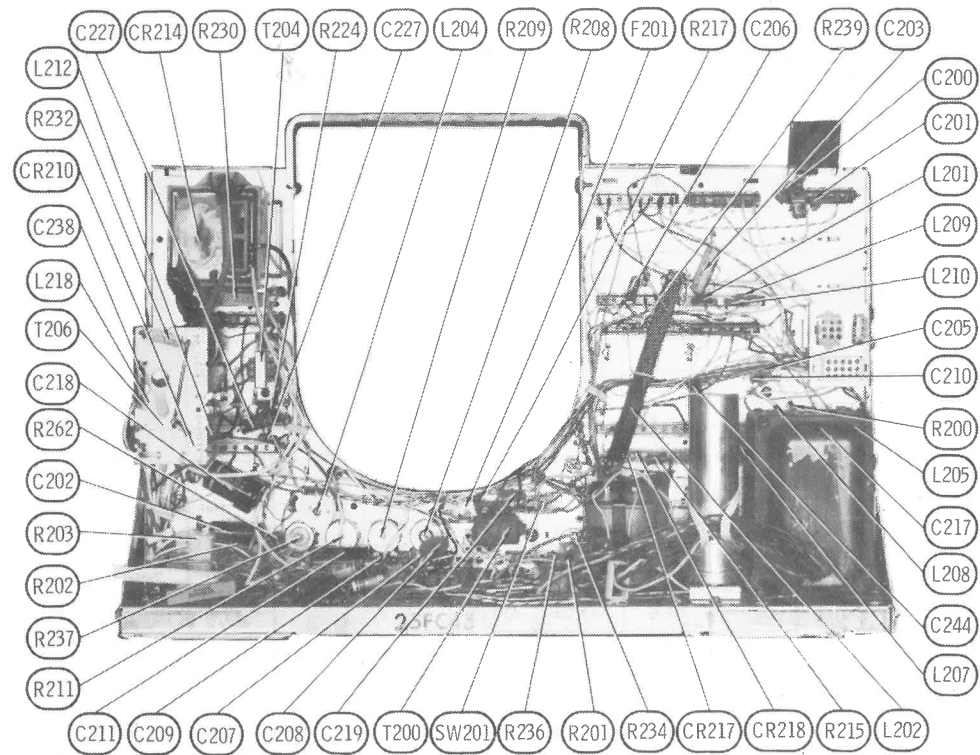
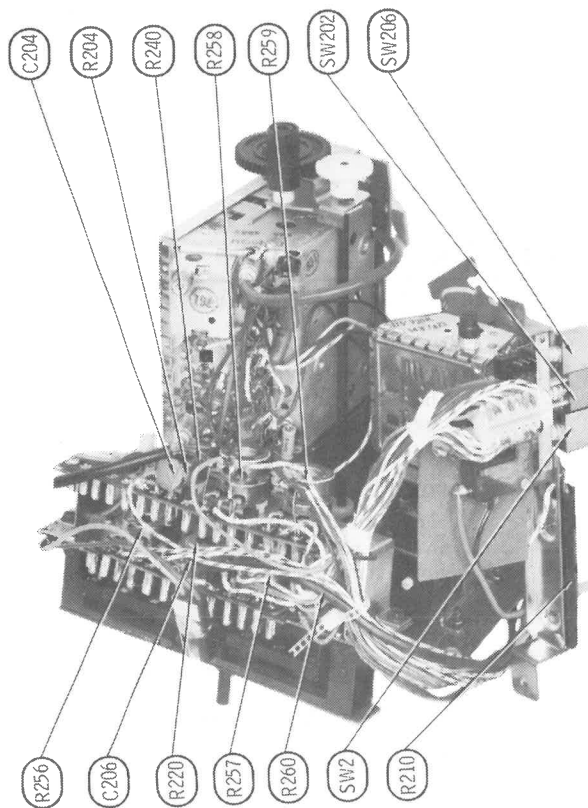


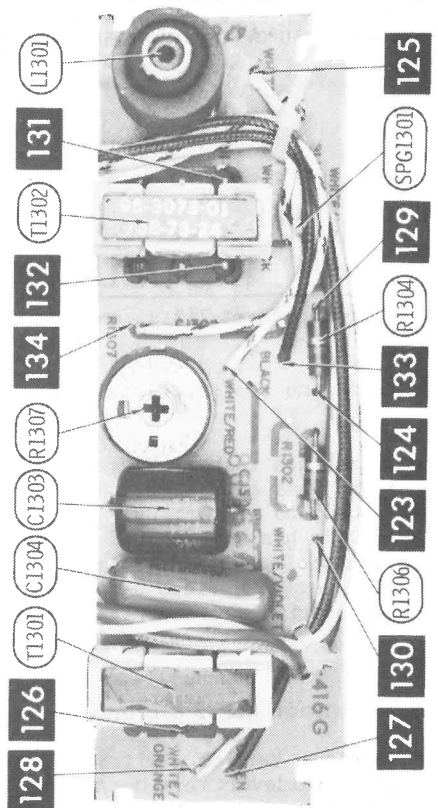
FIG. 3



CHASSIS-FRONT VIEW



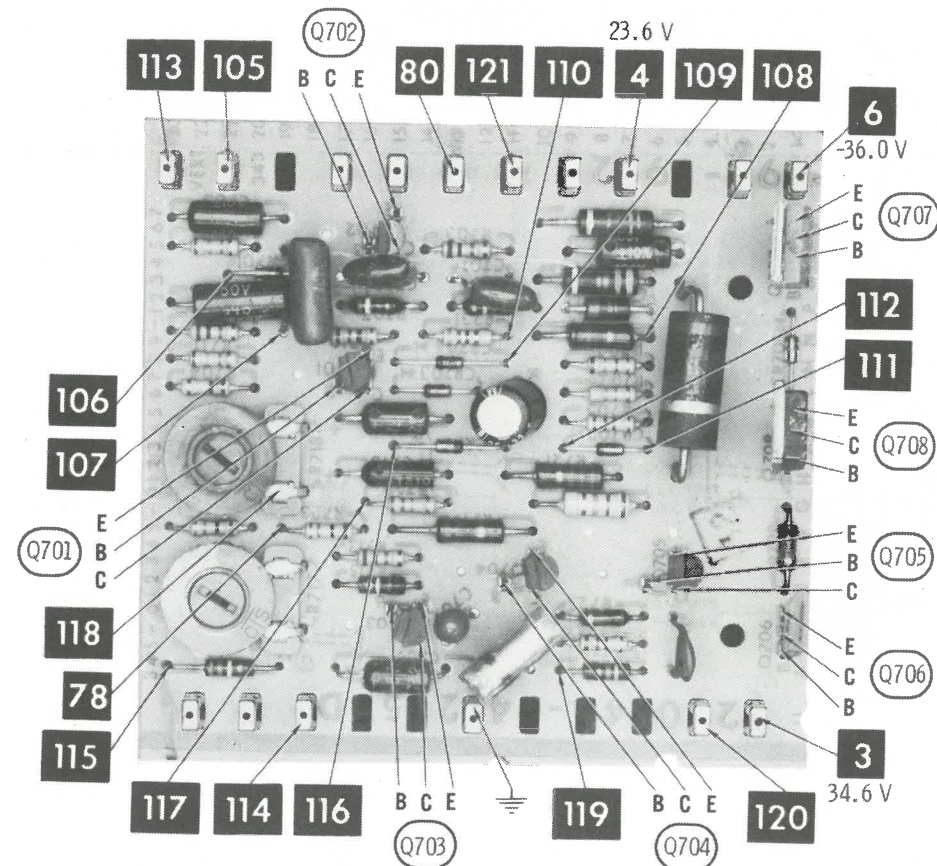
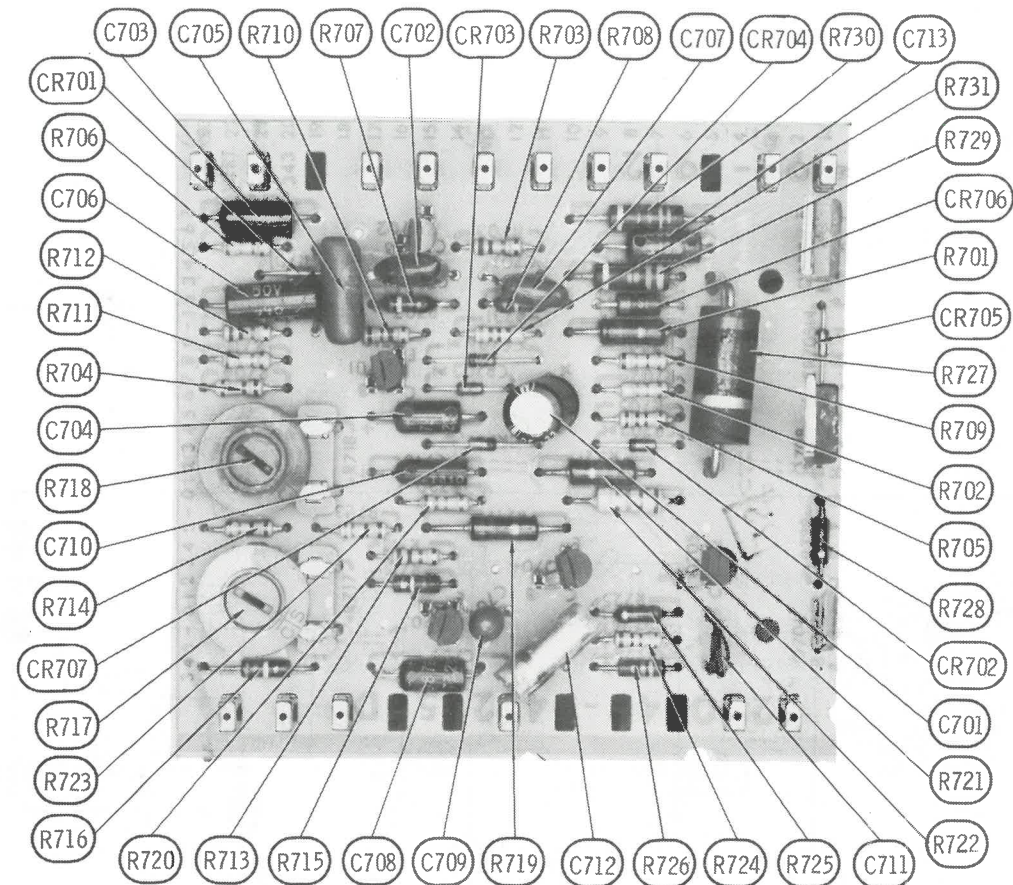
TUNER ASSEMBLY



PINCUSHION BOARD

ZENITH CHASSIS
23FC45, 25FC45

FOLDER 3



9-92 VERTICAL MODULE

A Howard W. Sams CIRCUITRACE® Photo

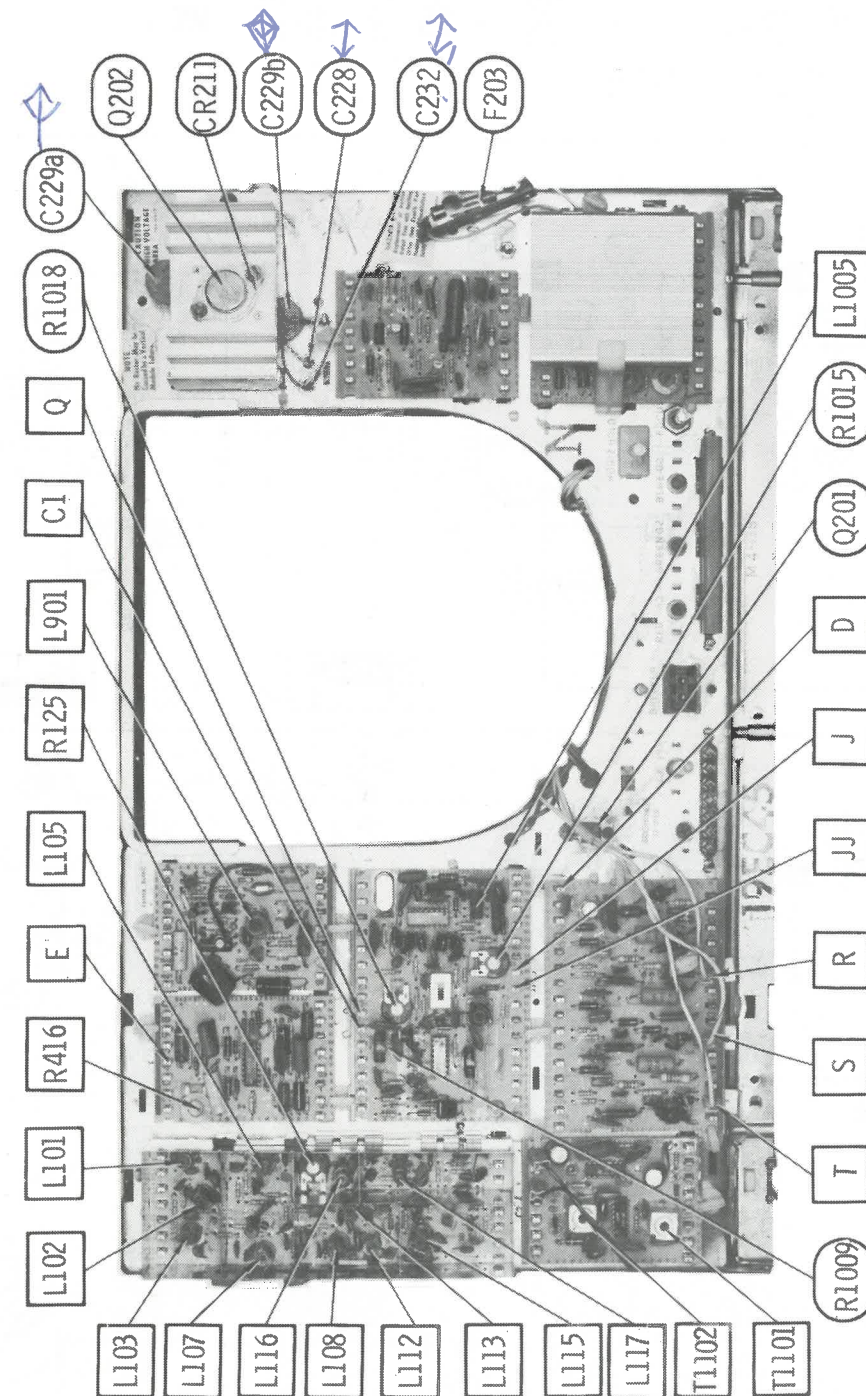
TV ALIGNMENT INSTRUCTIONS (Continued)

SOUND IF ALIGNMENT

Tune in a station and adjust T1101 (Black Dot) for maximum sound. Reduce signal strength at the antenna terminals until distortion appears. Continue to reduce the signal while aligning for undistorted output by adjusting T1102 (Green Dot).

3.58MHz TRAP ALIGNMENT

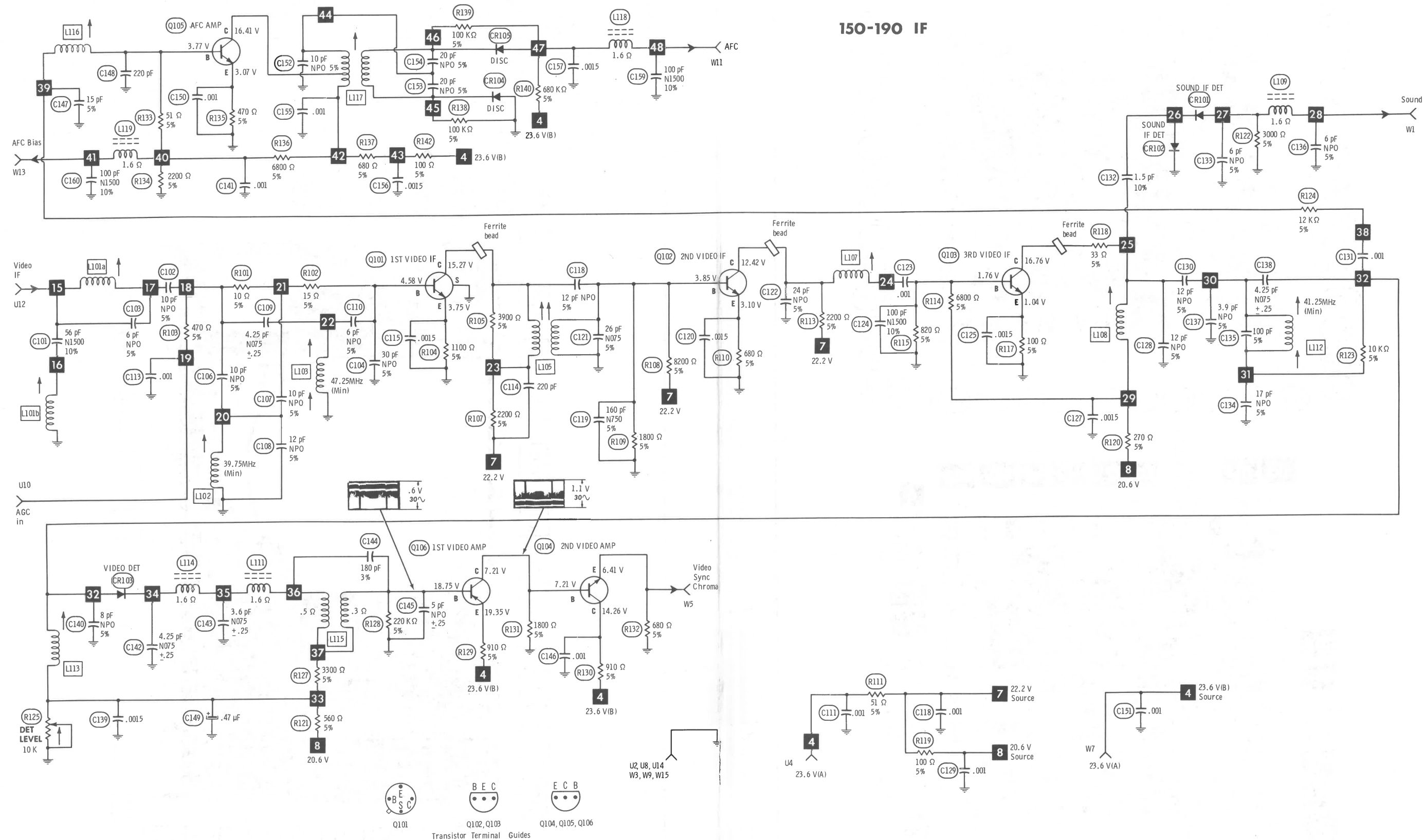
Connect scope and signal generator across 3.58MHz Trap, L901. Set generator for 3.58MHz and adjust L901 for maximum indication on scope. This adjustment is made with the set turned off.



CHASSIS-REAR VIEW

ZENITH CHASSIS
23FC45, 25FC45

FOLDER 3

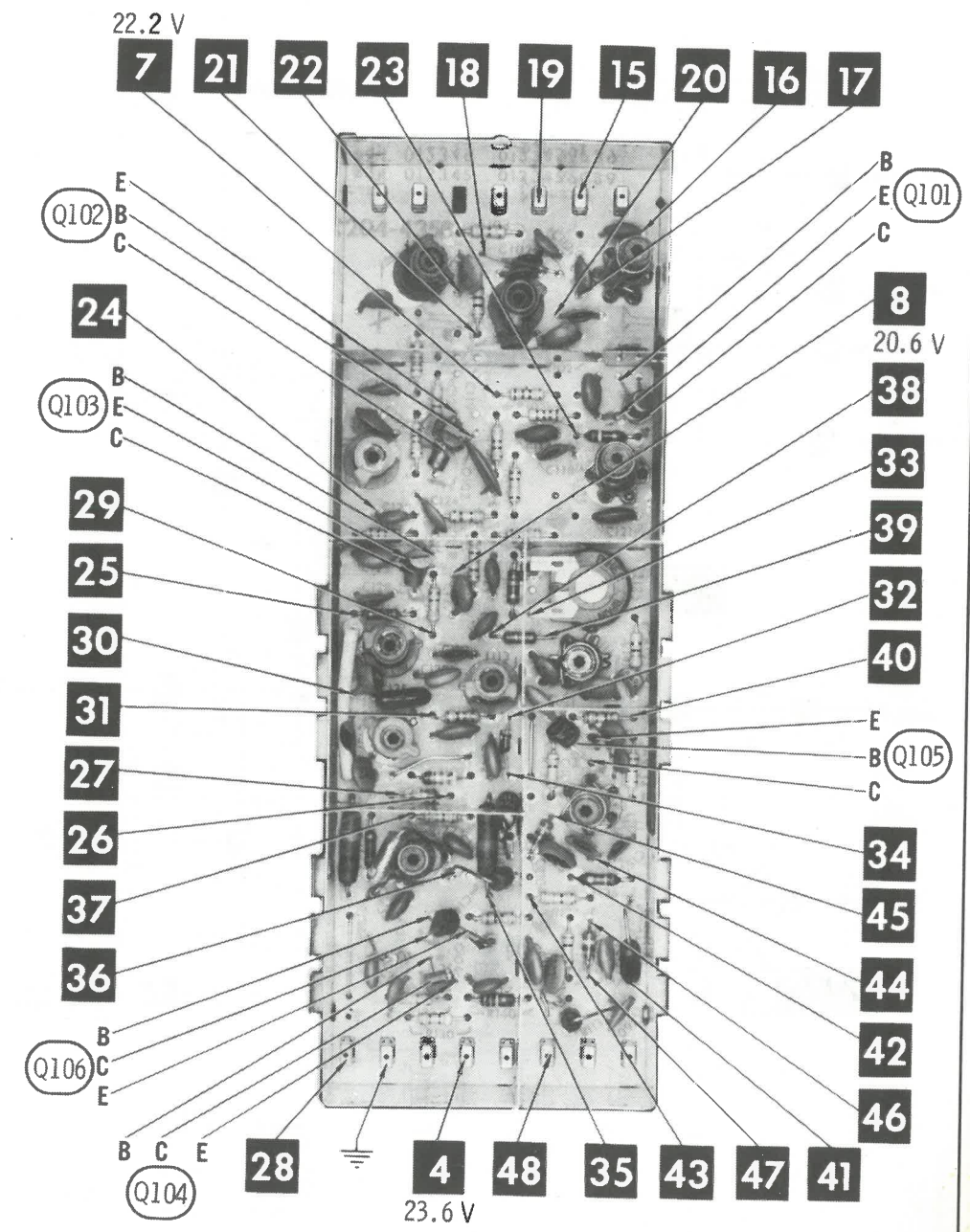
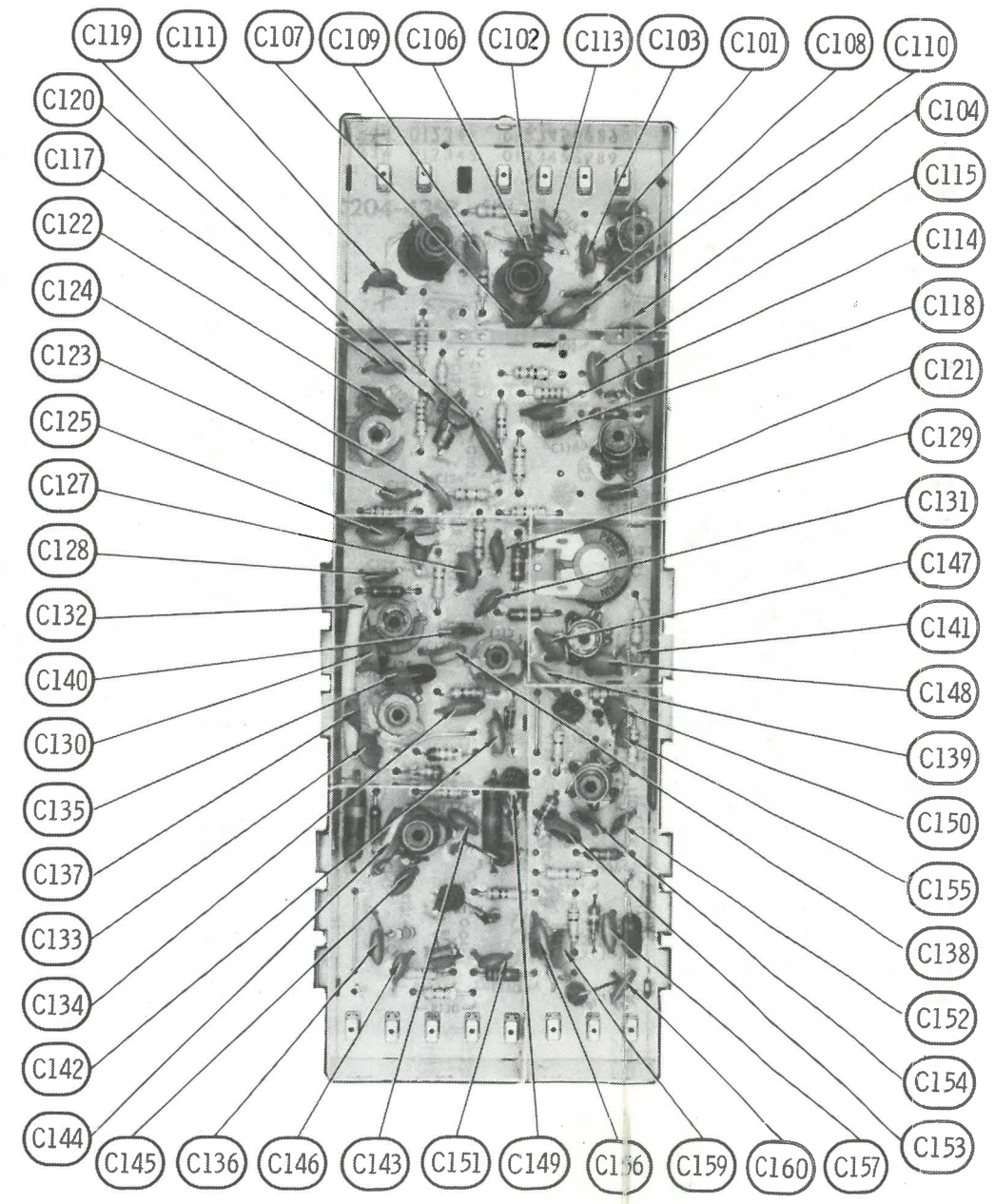
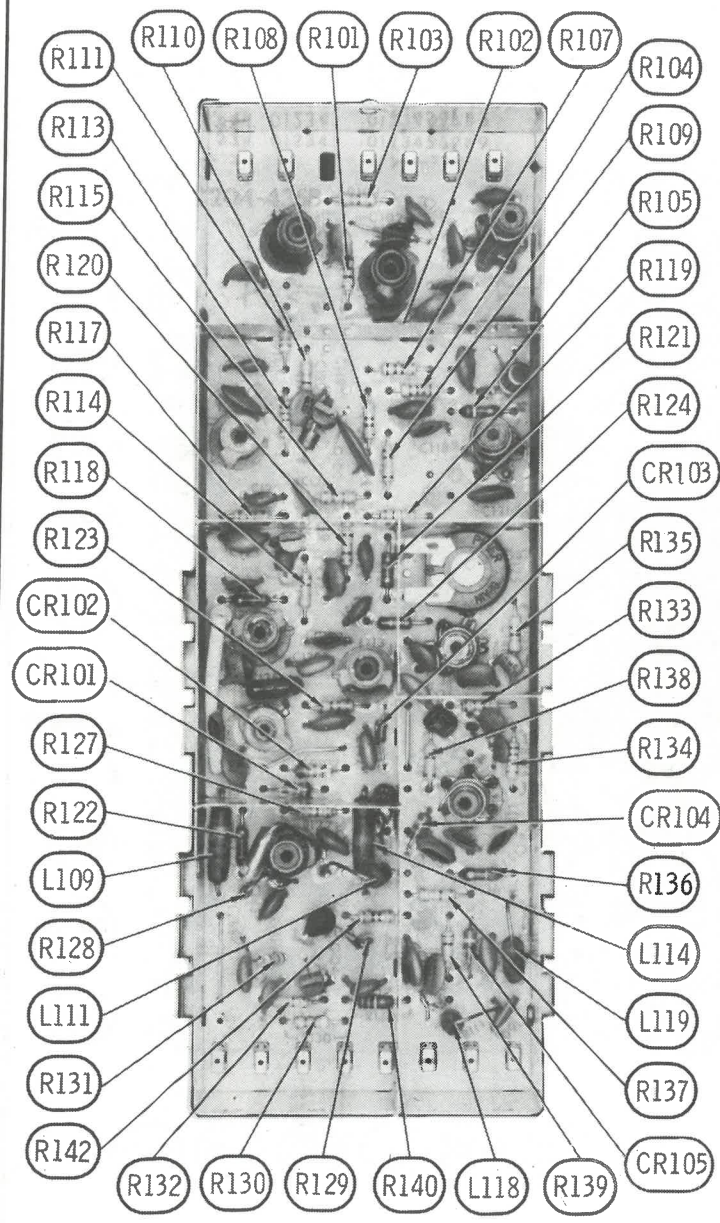


A PHOTOFAC STANDARD NOTATION SCHEMATIC
WITH CIRCUITRACE[®]
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150-190/A IF MODULE

ZENITH CHASSIS
23FC45, 25FC45

FOLDER 3

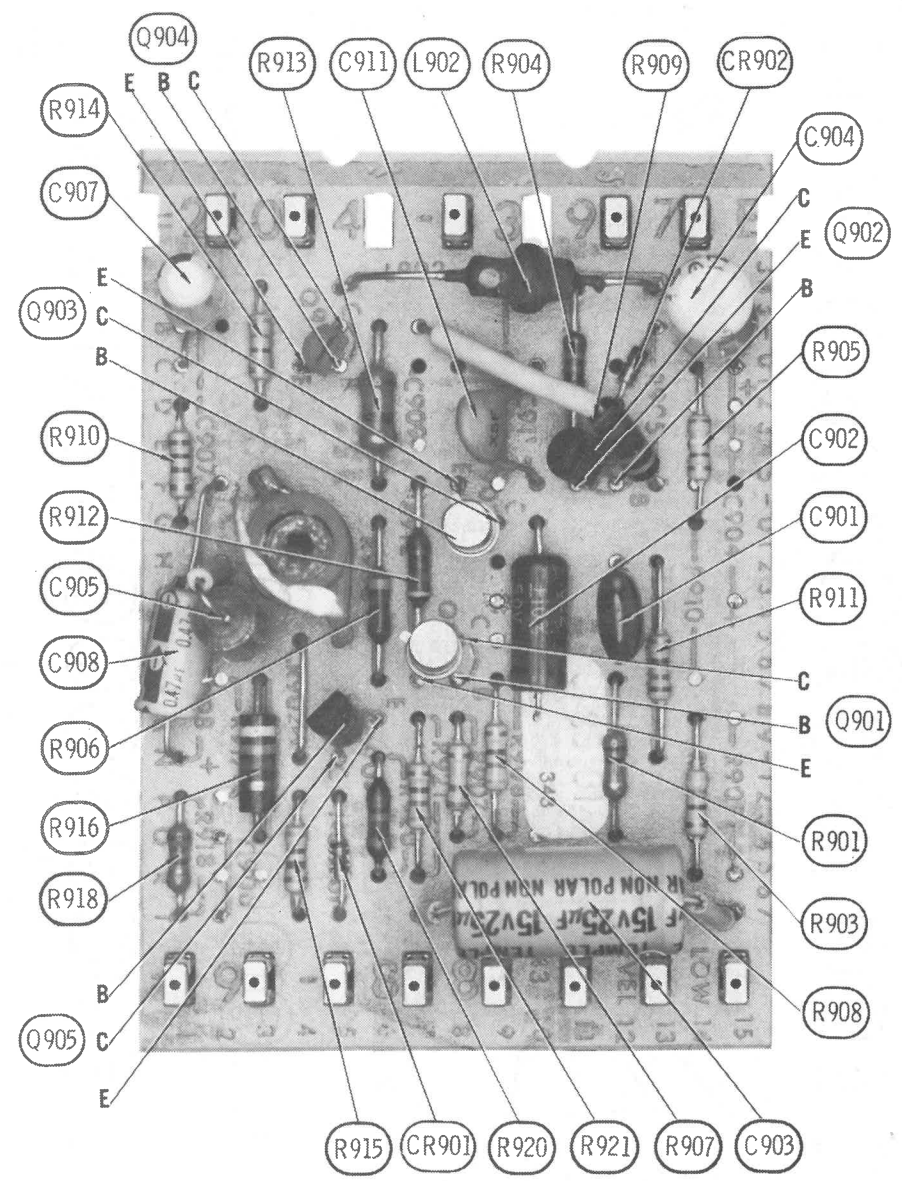
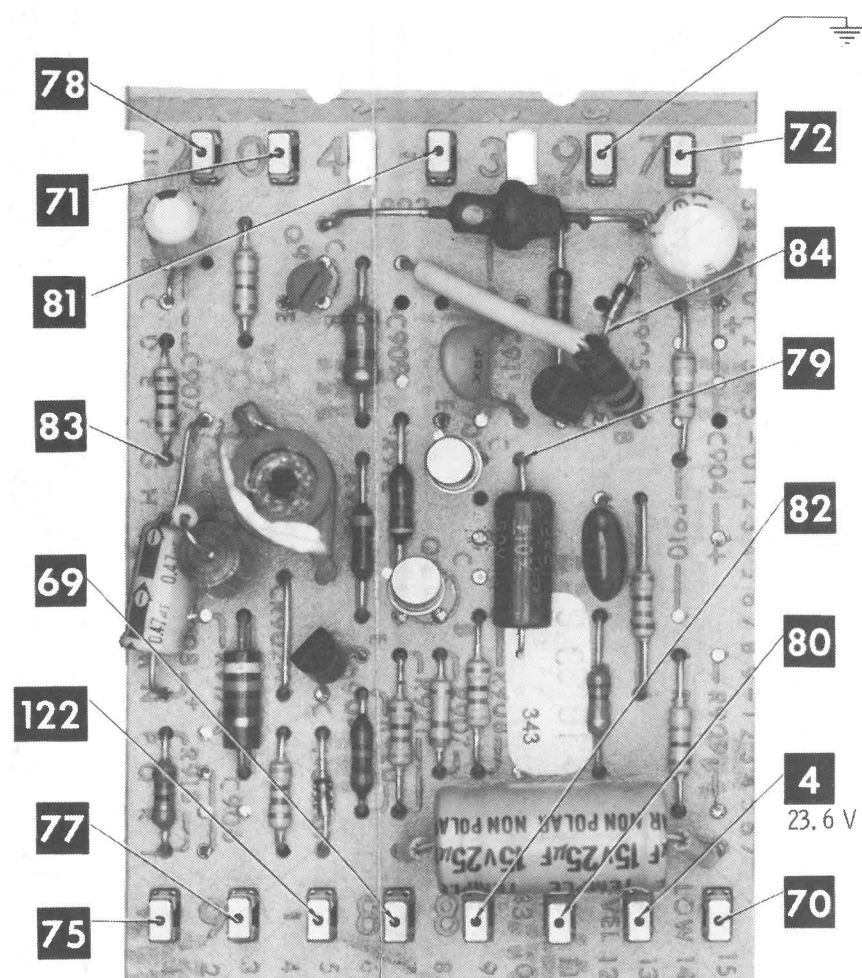
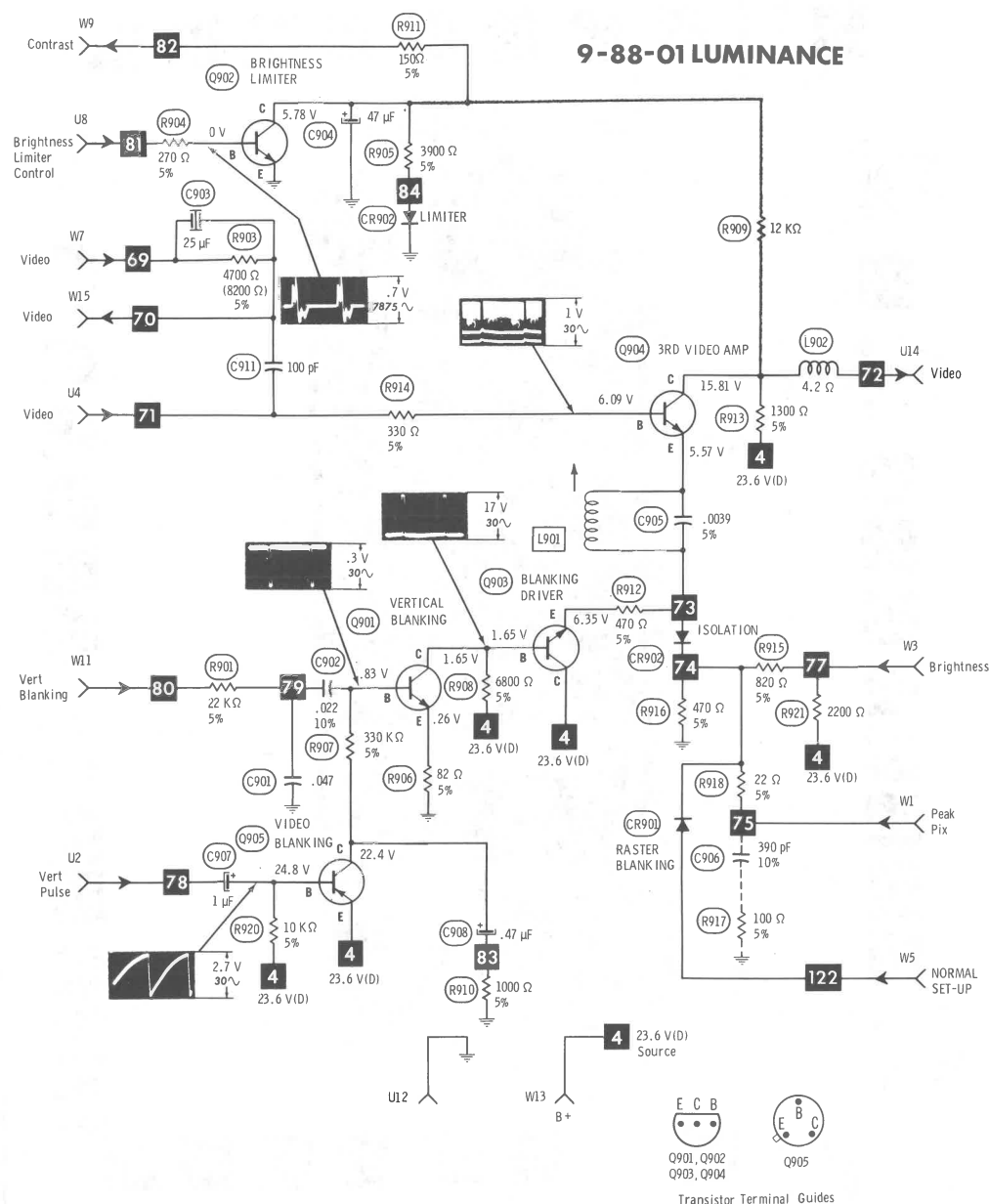


150-190/A IF MODULE

A Howard W. Sams CIRCUITRACE® Photo

ZENITH CHASSIS
23FC45, 25FC45

FOLDER 3



9-88-01 LUMINANCE MODULE

CONVERGENCE ADJUSTMENTS

Miscellaneous Adjustments should be made before proceeding to Convergence Adjustments. Connect dot/crosshatch generator to antenna terminals. Use dot pattern for center dot convergence. Use crosshatch pattern for all other adjustments. View pattern as displayed on TV screen.
NOTE: Maintain center convergence throughout setup procedure.

Perform center dot convergence using convergence magnets.

Adjust R616 and R618 to converge red and green vertical center line from top to bottom of screen.

Adjust R617 and R621 to converge red and green horizontal lines along vertical center line from top to bottom of screen.

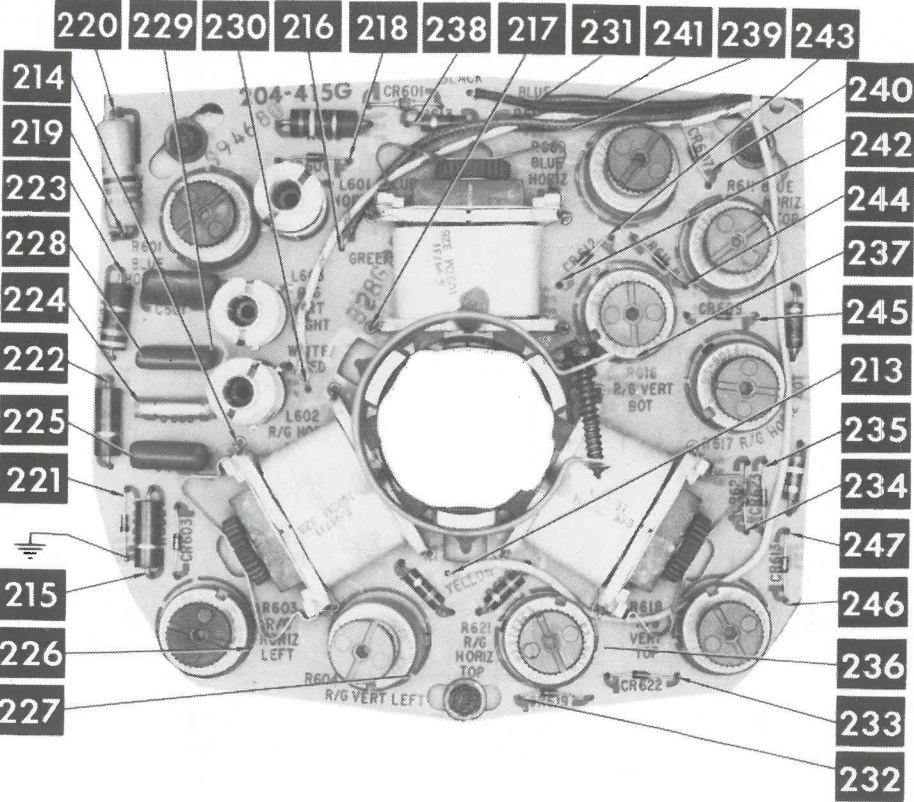
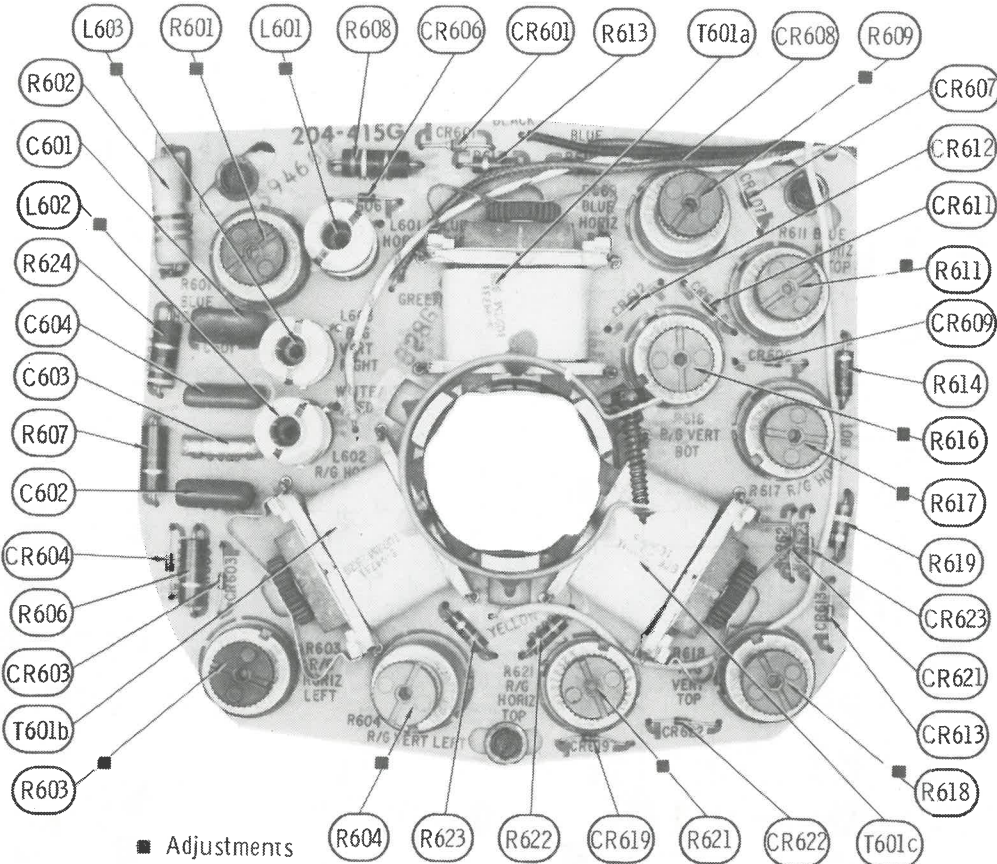
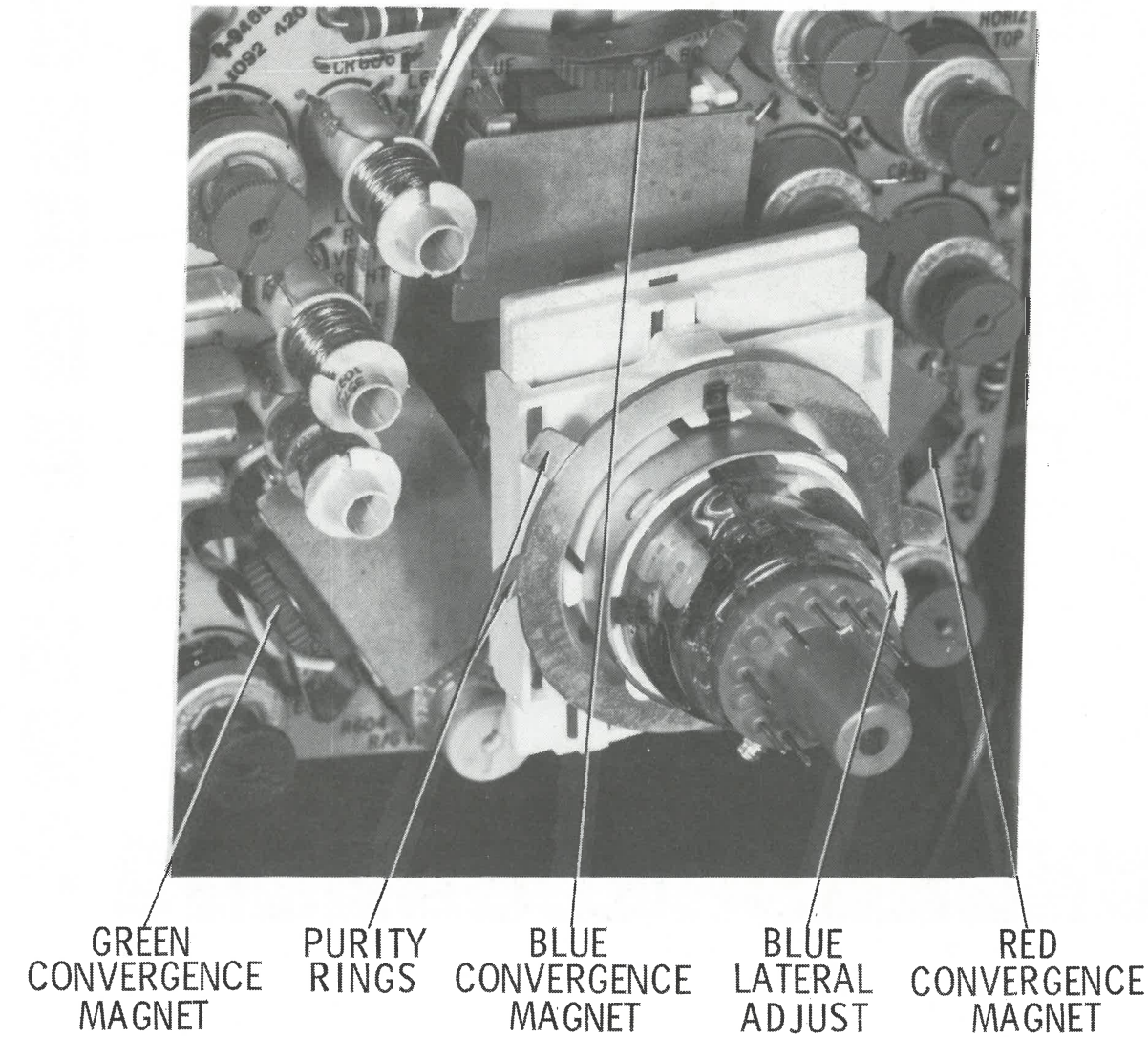
Adjust R603 and R604 to converge red and green vertical and horizontal lines, left side of screen.

Adjust L602 and L603 to converge red and green vertical and horizontal lines, right side of screen.

Adjust R609 and R611 to converge blue horizontal lines along vertical center line from top to bottom of screen.

Adjust R601 and L601 to converge blue horizontal lines, left and right sides of screen.

Touch up appropriate controls if necessary.



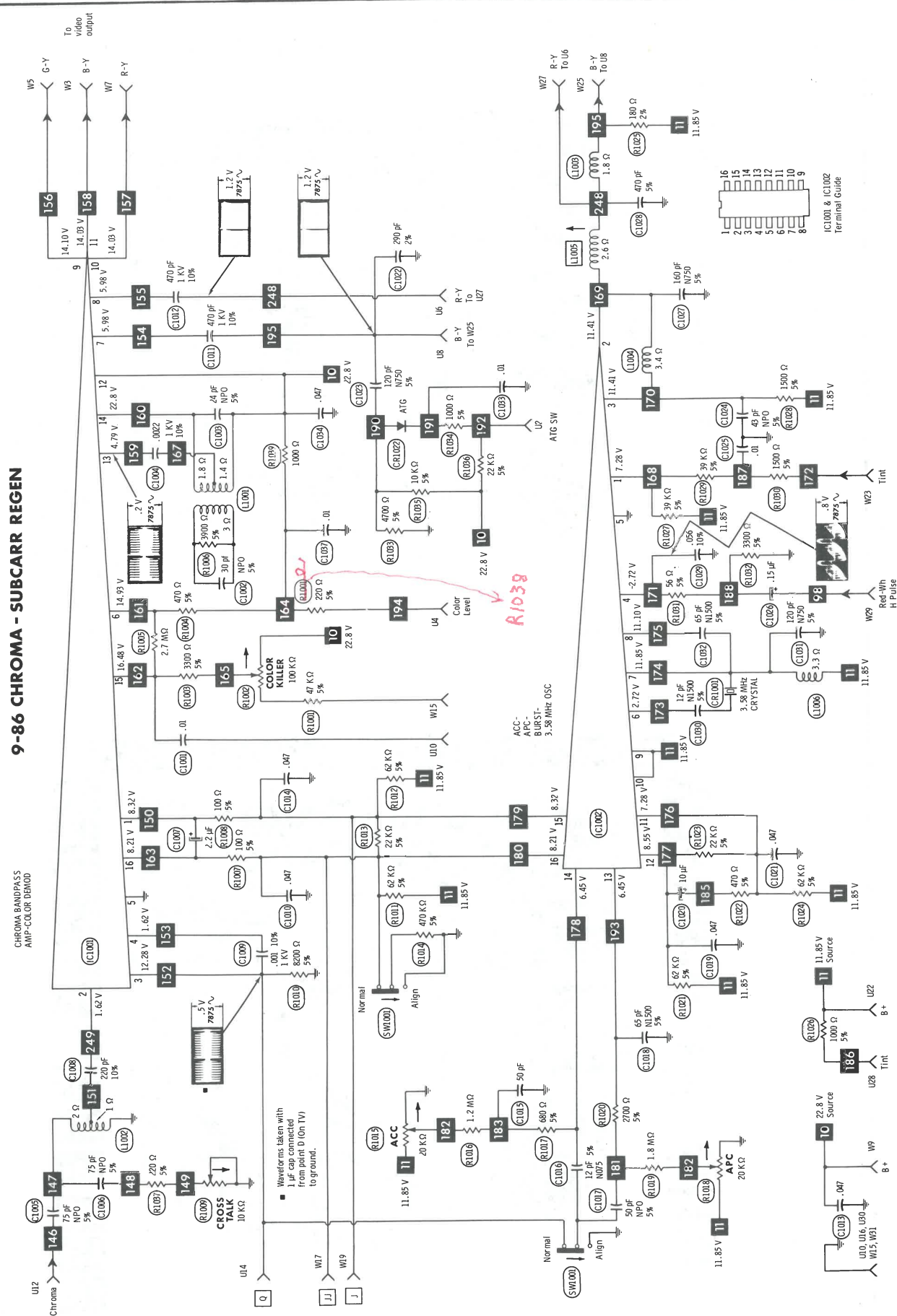
CONVERGENCE BOARD A Howard W. Sams CIRCUITRACE® Photo

ZENITH CHASSIS
23FC45, 25FC45

FOLDER 3

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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MISCELLANEOUS ADJUSTMENTS

HORIZONTAL SWEEP CIRCUIT ADJUSTMENT

Tune in a TV station and adjust all controls for normal operation. Adjust Horizontal Hold coil, L204, to a point where it is virtually impossible to lose horizontal sync while switching from channel to channel.

HIGH VOLTAGE ADJUSTMENT

This chassis uses a voltage regulating power transformer and therefore no high voltage adjustment is required. With all controls set for a normal picture, the high voltage should read no higher than 30KV.

AGC ADJUSTMENTS

The AGC delay control is set at the factory and normally will not need adjustment. To adjust the AGC delay control, tune in the weakest TV station available, but one without snow in the picture. Turn the AGC delay control to the right until snow appears in the picture; then turn control back until the snow just disappears. Check this setting against other weak stations in the area.

VERTICAL SIZE AND CENTERING

Adjust vertical size and vertical centering while observing a test pattern. There is no vertical linearity control on this chassis.

BRIGHTNESS LIMITER ADJUSTMENT

Disconnect the IF cable from the VHF tuner to IF module (for a no-signal input condition). Then set brightness and contrast controls to maximum. Proper placement of the video gain taps are necessary. The green and red taps must be set at the high (H) and the blue tap at medium (M) position.

Connect a low range volt meter across the Output Resistor, R1255, of the green video output transistor. Adjust the brightness limiter control for .55 volts.

After this adjustment is made, return the gain taps to their previous position and re-connect the IF cable to the VHF tuner.

COLOR KILLER ADJUSTMENT

Tune in a weak signal or reduce the signal at the antenna terminals to obtain a snowy picture. Set contrast, color level and color killer to maximum clockwise rotation. Slowly turn color killer counterclockwise until colored snow just disappears.

CROSSTALK ADJUSTMENT

Connect a color bar generator to antenna terminals. Tune in a color bar pattern. Connect a 1 uF, 25-volt electrolytic capacitor from point D to ground, to remove the luminance signal. Adjust the Crosstalk control, R1009, for optimum sharpness and clarity of both leading and trailing edges (sides) of the color bars.

ACC CONTROL ADJUSTMENT

Slide color set-up switch to the align position. Connect a VTVM from point Q to ground. Short across points J and JJ and observe meter reading. Remove short from test points and adjust ACC control, R1015, for an identical reading.

APC CONTROL ADJUSTMENT

Slide color set-up switch to the align position. Adjust APC control, R1018, for MINIMUM movement of color bars through picture. Return color set-up switch to normal position. Check for proper waveform as shown on schematic at R-Y, G-Y, and B-Y outputs: points R, T and S.

Connect scope to point R. Set tint control to mid-range. Adjust Hue coil, L1005, to obtain 6th bar crossover, waveform as shown on schematic.

PURITY ADJUSTMENTS

If the picture tube appears to be magnetized, use a degaussing coil to demagnetize tube and mounting brackets.

Turn the blue and green G2 controls counterclockwise and turn the red screen fully clockwise. Loosen the locking wing nuts of the deflection yoke assembly and slide it back without disturbing the position of the other neck components. Adjust the tabs on the purity magnet until a red spot appears at the center of the tube. Slide the deflection yoke forward to obtain a uniform red over the entire picture-tube face.

GRAY SCALE ADJUSTMENTS

To adjust, use a black and white picture that displays an adequate range of light levels, light and gray objects, dark objects, etc. Set brightness and contrast for a normal picture.

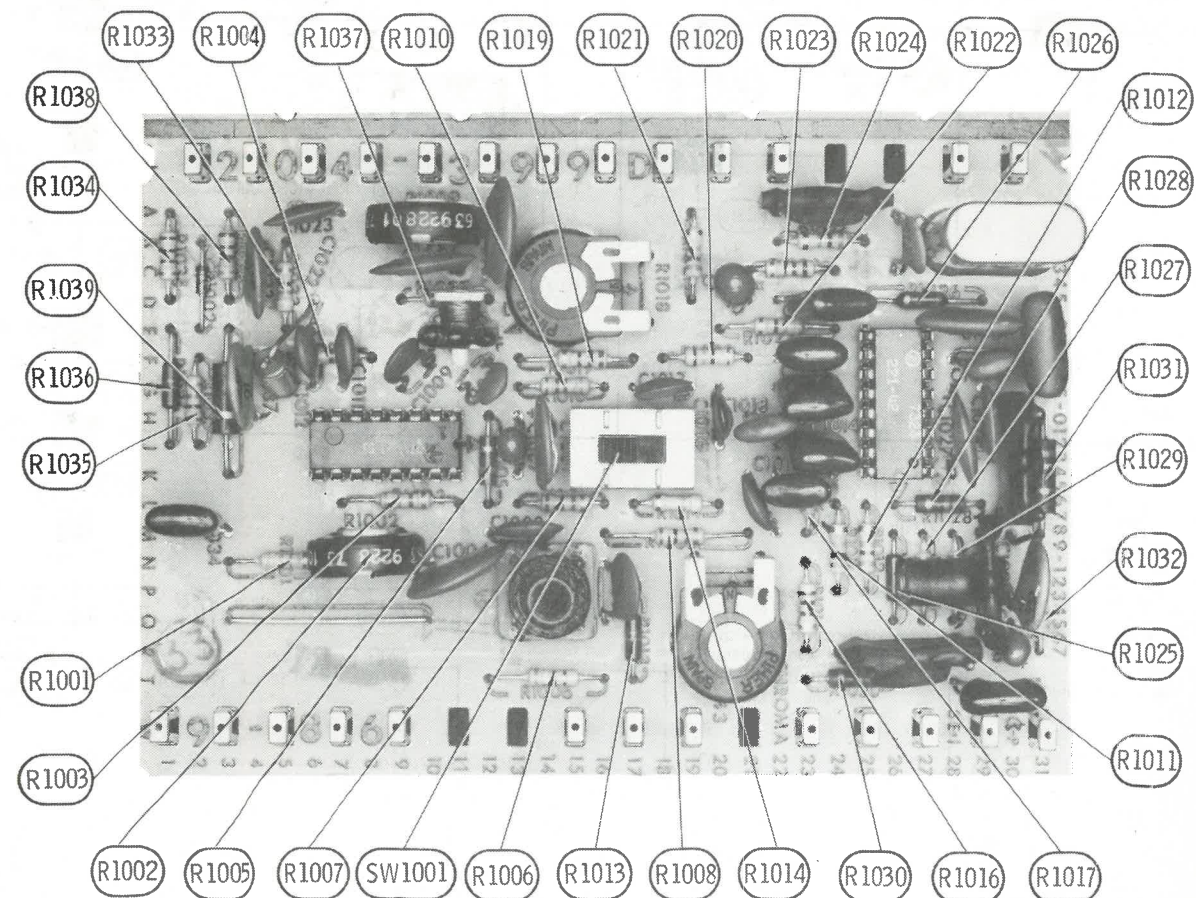
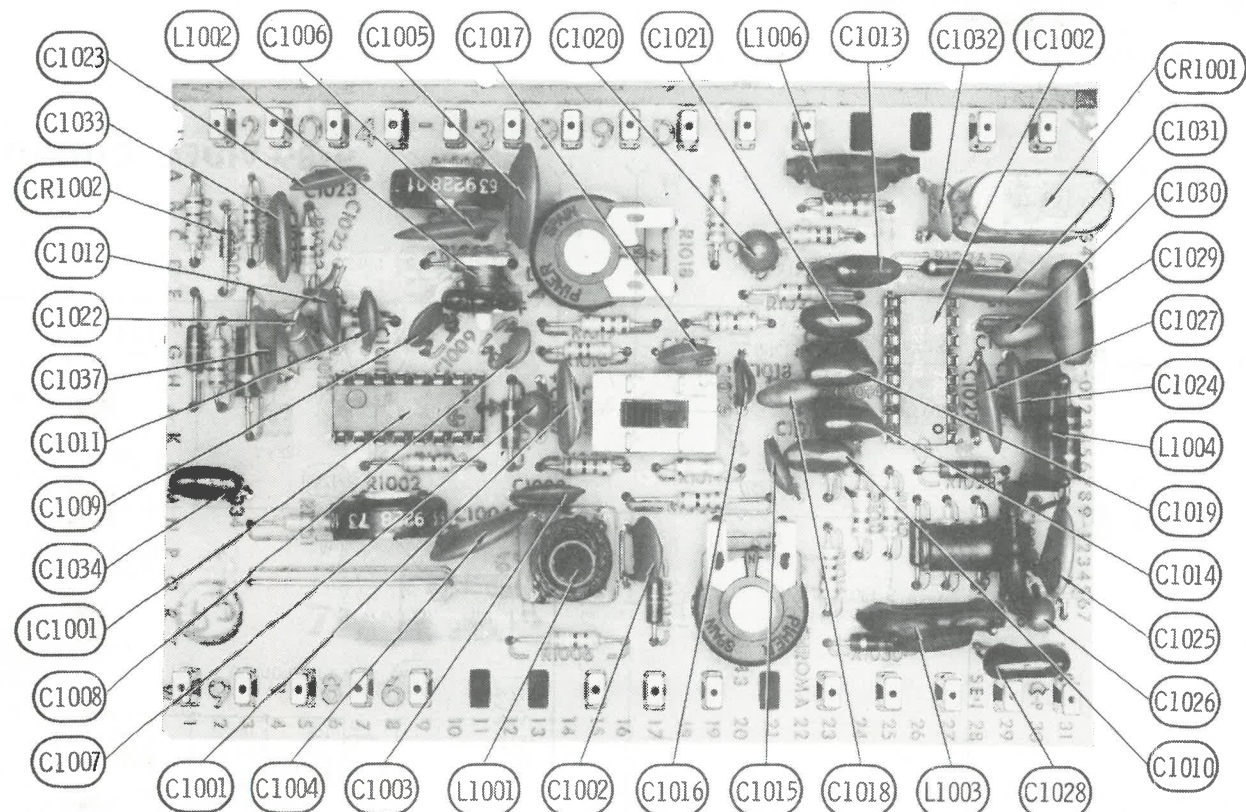
Place the normal set-up switch to set-up position. Place video output taps to high (H) position. Advance the screen controls (G2) one at a time, until each produces a barely visible line on the screen.

Return the normal-set-up switch to normal. If a slight color cast is present, relocate the appropriate video (chroma) gain taps to eliminate the color shading. Check overall black and white tracking by turning contrast and brightness controls through their entire range.

DYNAMIC PINCUSHION ADJUSTMENTS

Connect a crosshatch generator to the antenna terminals and adjust the set for a normal crosshatch pattern. Pincushion correction at the sides is fixed; no adjustment is provided. Top and bottom pincushion is factory adjusted and readjustment is seldom needed.

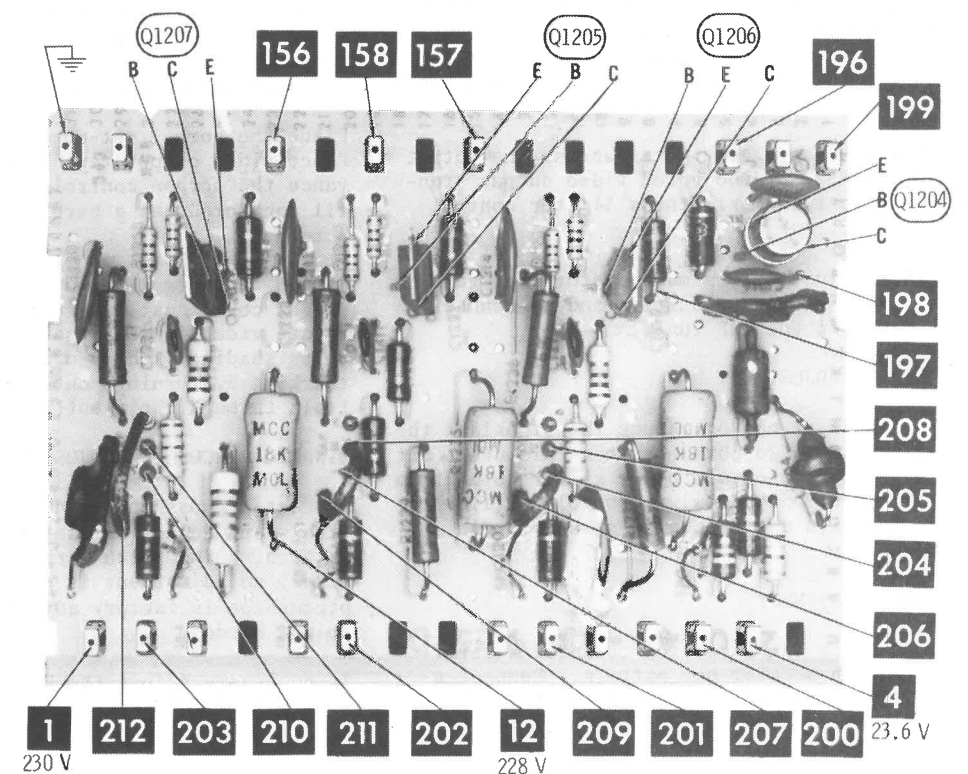
If necessary adjust the Pincushion Amplitude control, R1307, and Phase coil, L1301, until the top and bottom of the pattern is as straight as possible.



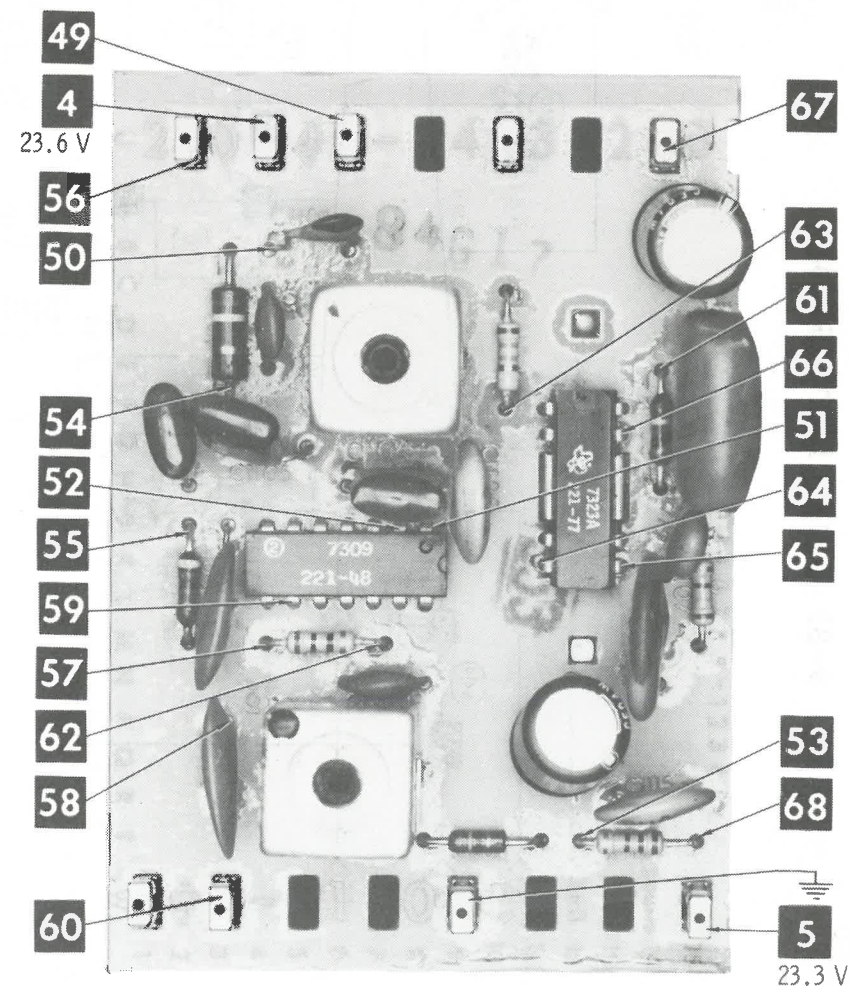
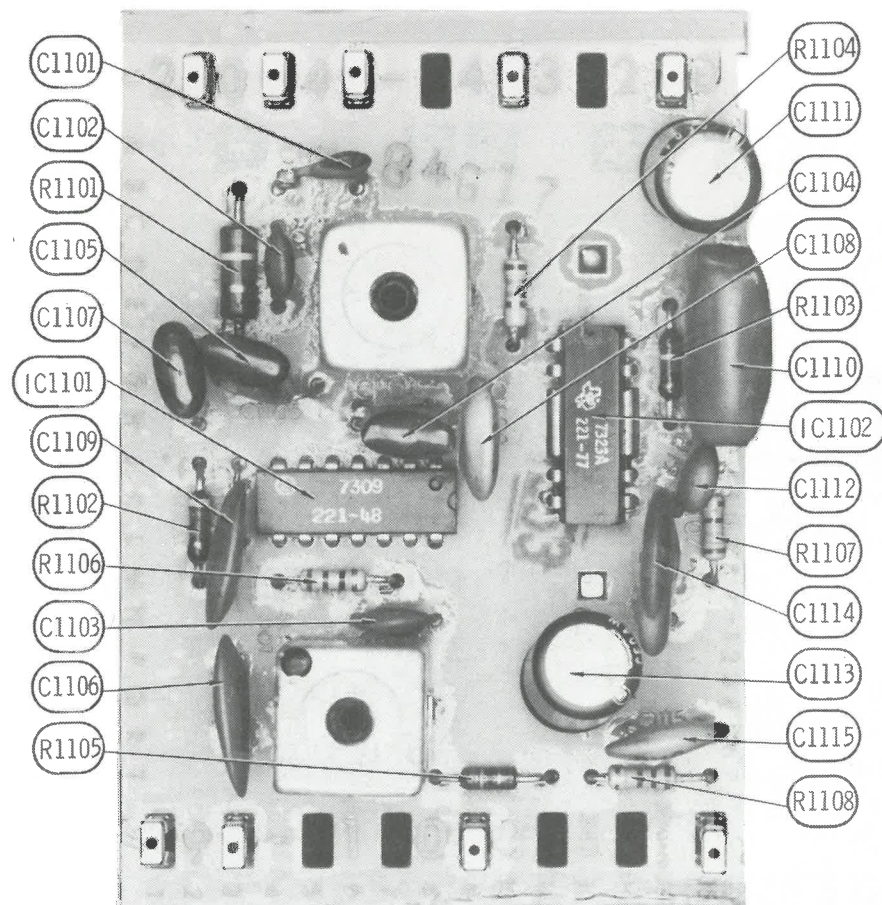
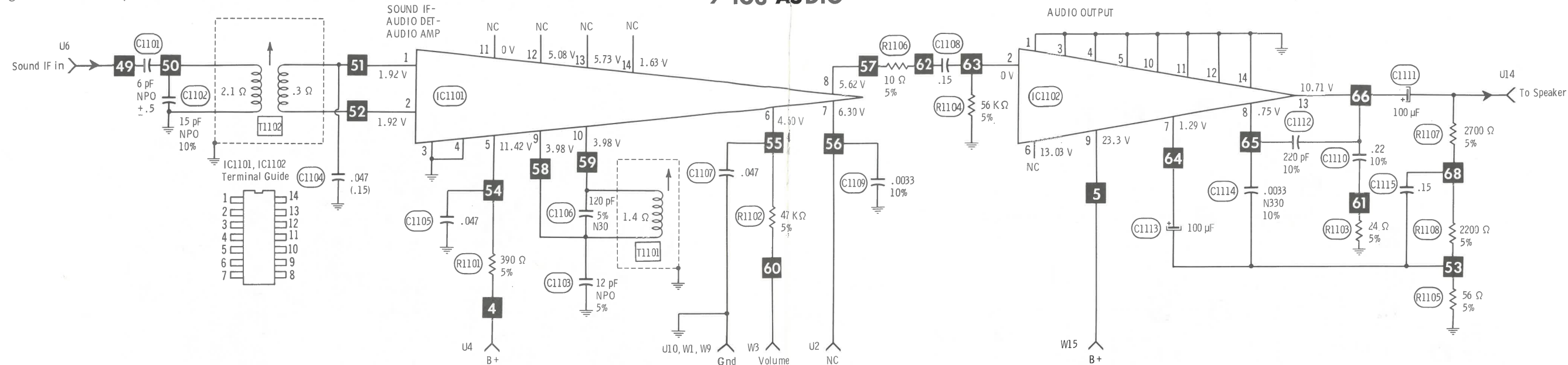
9-86-01 CHROMA SUBCARRIER REGENERATOR MODULE

ZENITH CHASSIS
23FC45, 25FC45

FOLDER 3



9-103 AUDIO



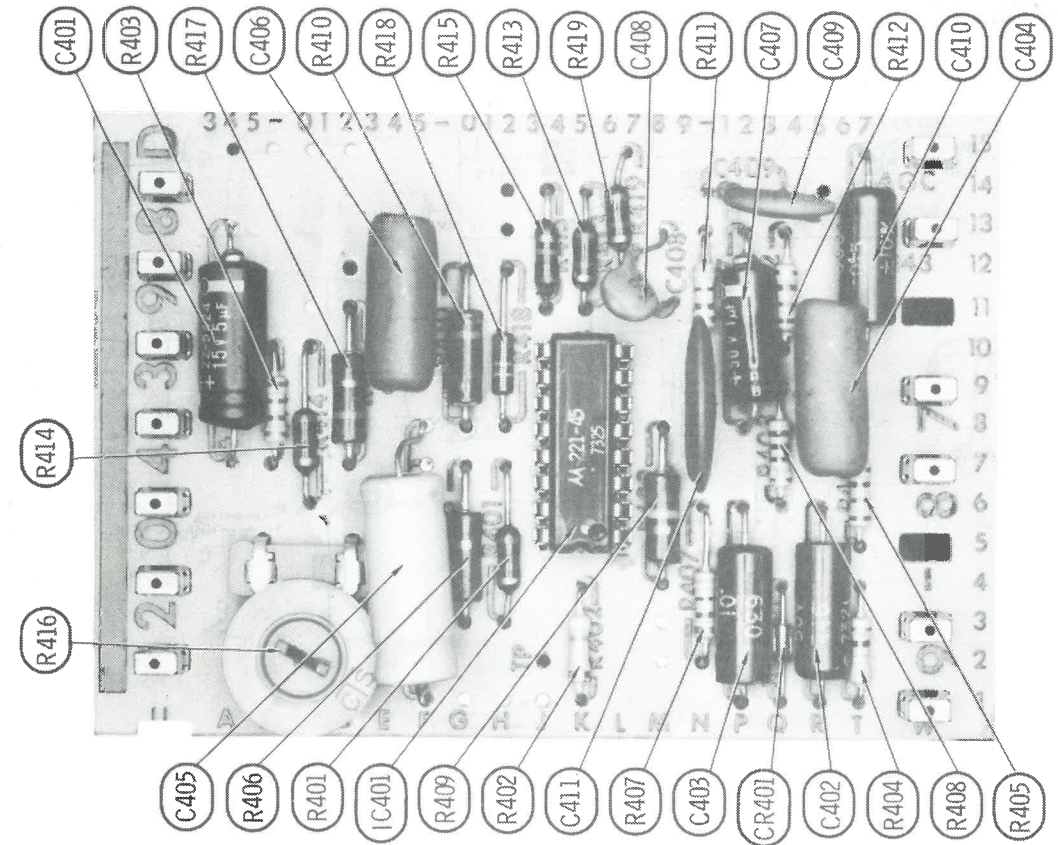
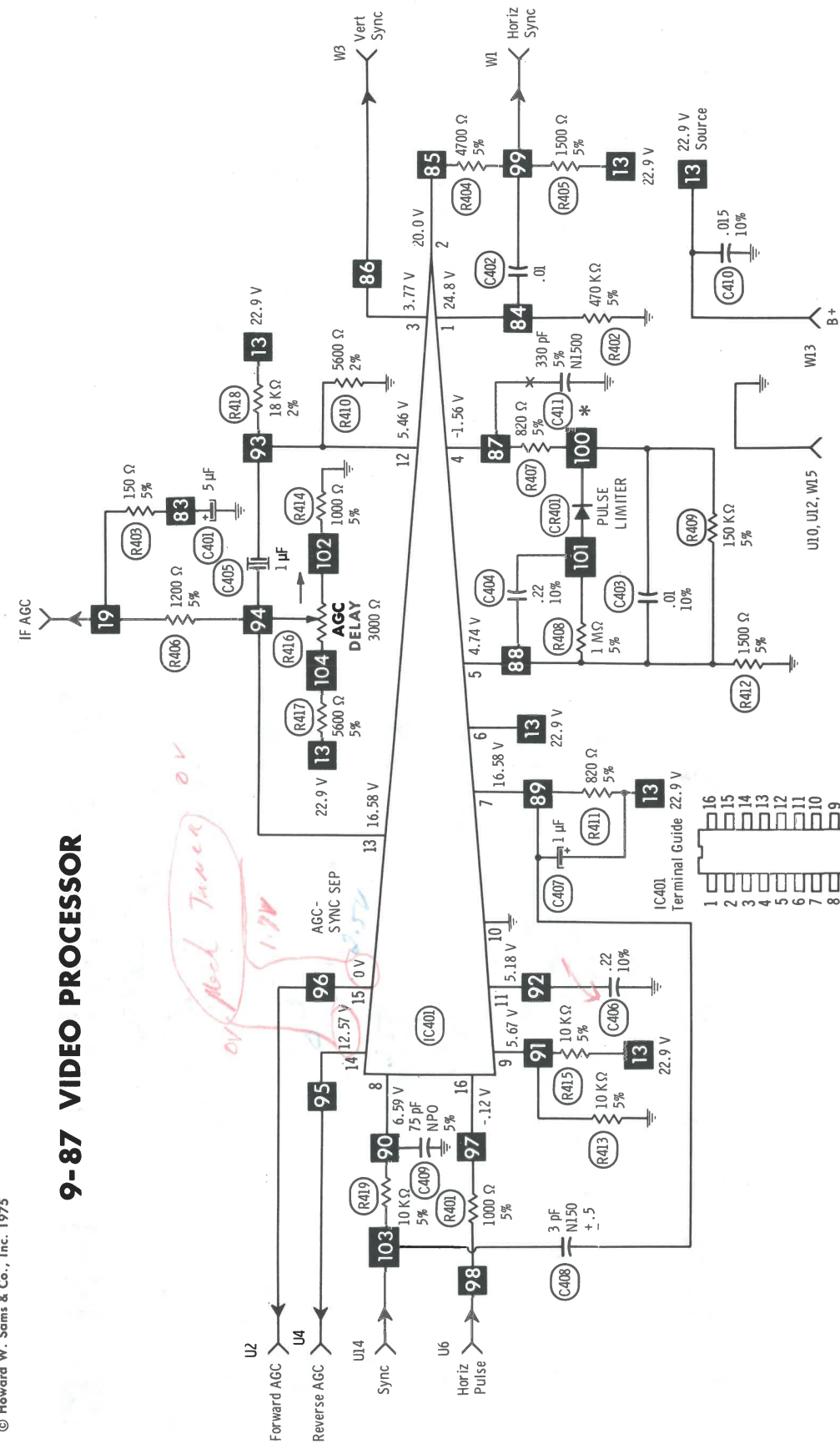
9-103 AUDIO MODULE

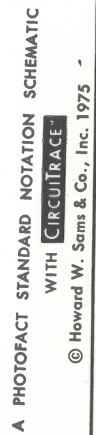
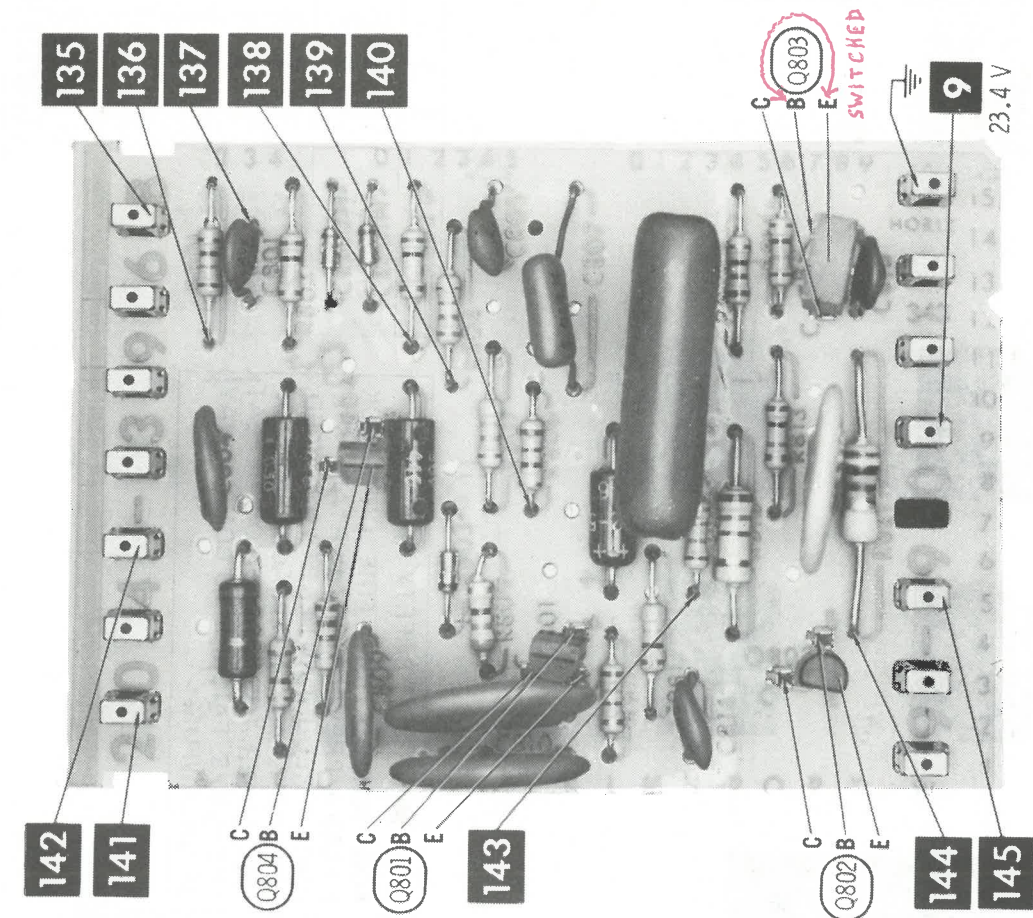
A Howard W. Sams CIRCUITRACE[®] Photo

ZENITH CHASSIS
23FC45, 25FC45

FOLDER 3

9-87 VIDEO PROCESSOR MODULE





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

MODULES/PLUG-IN BOARDS

ITEM No.	PART NAME	MFGR. PART No.	NOTES
	Module	9-86	Chroma Subcarrier Regenerator 25FC45 Chassis
	Module	9-86-01	Chroma Subcarrier Regenerator 23FC45 Chassis
	Module	9-87	Video Processor
	Module	9-88-01	Luminance
	Module	9-88	Luminance (Alternate)
	Module	9-89 or 9-89-01	Video Out
	Module	9-90	Horizontal
	Module	9-92	Vertical
	Module	9-103 or 9-107	Audio
	Module	150-190 or 150-190A	IF

PICTURE TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	MFGR. PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SYLVANIA PART No.	
V201	25VCP22 #	25VCP22	H-25VCP22 (1) or H-25VAP22 (1) H-25VXP22 (1)	XR25VACP22	Models: F4740W, F4742W, F4744P, F4746M, F4748D3, P, F4752P, F4754E, F4756M, F4757PM, F4758DE, P, F4759X, F4760X, F4761P, F4764M, F4766DE, P, F8748P, SF2560W, X, SF2561P, SF2562M, SF2563DE, P, SF2564X, SF2565M, SF2567DE, P, SF2568W, SF2569P, SF2570DE, P, T2873P, T2875M, T2877DE, P, T2881DE, P
	23VCEP22 #				Models: F4541W, F4543W, F4545W, F4547M, F4549DE, P, F4550DE, P, F4560P
	23VCP22 #				Models: T2858W, T2860DE, P

(1) Hi-Lite Matrix
For SAFETY, replace only with equivalent part.

SEMICONDUCTORS (Select replacement transistor for best results)

		REPLACEMENT DATA						
ITEM No.	TYPE / MFGR. No. / PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
CR101	103-23	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
CR102	103-23	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
CR103	103-202	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
CR104	103-90	1N34AS	1N34A	PTC207	HEP134	SK3087		ECG 109
CR105	103-90	1N34AS	1N34A	PTC207	HEP134	SK3087		ECG 109
CR201	212-76	#	806 or 5A6D	PTC202	HEPRO054	SK3017A or SK3032	RT210 or RT214	ECG 116 or ECG 117
CR202	212-76	#	806 or 5A6D	PTC202	HEPRO054	SK3017A or SK3032	RT210 or RT214	ECG 116 or ECG 117
CR203	212-76	#	806 or 5A6D	PTC202	HEPRO054	SK3017A or SK3032	RT210 or RT214	ECG 116 or ECG 117
CR204	103-105	#	GE-ZD-24	ZB24	HEP20423			ECG 5081
CR205	212-76	#	806 or 5A6D	PTC202	HEPRO054	SK3017A or SK3032	RT210 or RT214	ECG 116 or ECG 117
CR206	103-254	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR207	103-254	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR208	103-254	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR209	103-254	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR210	103-142	#	D172	PTC216	HEPR3012	SK3130		ECG 506
CR211	103-193	#	D172	PTC216	HEPR3012	SK3130		ECG 506
CR212	103-193	#	D172	PTC216	HEPR3012	SK3130		ECG 506
CR213	103-196	#	D172	PTC216	HEPR3012	SK3130		ECG 506
CR214	212-141-02							
CR216	103-194	#	D172	PTC216	HEPR3012	SK3130		ECG 506
CR217	103-142	#	D172	PTC216	HEPR3012	SK3130		ECG 506
CR218	103-142	#	D172	PTC216	HEPR3012	SK3130		ECG 506
CR401	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218 or RT210	ECG 177 or ECG 116 or ECG 117
CR601	212-76	#	806 or 5A6D	PTC202	HEPRO054	SK3017A or SK3032	RT210 or RT214	ECG 116 or ECG 117
CR603	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR604	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR606	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR607	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR608	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR609	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR611	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR612	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR613	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR619	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR621	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR622	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR623	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR701	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR702	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR703	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR704	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR705	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR706	103-254	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR707	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR801	103-142-01	#	D200MP (6)	PTC215 (6)	HEPRO602 (7)	SK3100 (7)	RT218 (7)	ECG 178MP (6)
CR802	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR803	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR901	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR902	103-142-01(1)	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR1002	103-142-01	#	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
CR1202	103-144-01	#	GE-ZD-24	ZB24	HEP20423	SK3064	RT248	ECG 5081
IC401	221-45	#						ECG 731
IC1001	221-89	#						ECG 791
IC1002	221-42	#	IC509	PTC715	HEPC6070P	SK3075	TVCM-8	ECG 714
IC1101	221-48	#	IC507	PTC726	HEPC6063P	SK3072	TVCM-11	ECG 712
IC1102	221-77	#						ECG 732
Q101	121-501	#	TR-70	PTC126	HEP709	SK3018	RT113	ECG 161
Q102	121-503 (1)	#	TR-71	PTC136	HEP729	SK3117	RT113	ECG 161
Q103	121-507 (1)	#	TR-71	PTC136	HEP53	SK3039	RT113	ECG 161
Q104	121-508 (1)	#	TR-71	PTC136	HEP53	SK3039	RT113	ECG 161
Q105	121-524	#	TR-21	PTC132	HEP723	SK3018	RT113	ECG 233
Q106	121-526 (1)	#	TR-21	PTC132	HEP723	SK3018	RT113	ECG 233
Q107	121-895	#	TR-51	PTC136	HEP735	SK3018	RT112	ECG 108
Q108	121-925	#	TR-21	PTC136	HEP719	SK3018	RT102	ECG 161
Q109	121-986	#	TR-20	PTC103	HEP715	SK3025	RT115	ECG 159
Q110	121-966	#	TR-55	PTC110	HEP55003	SK3054	RT154	ECG 152
Q111	121-983	#	TR-68	PTC130	HEP740	SK3115		ECG 165
Q112	121-831	#	TR-21	PTC136	HEP735	SK3122	RT102	ECG 123A
Q113	121-975	#	TR-21	PTC136	HEP729	SK3122	RT102	ECG 123A
Q114	121-972	#	TR-21	PTC136	HEP735	SK3122	RT102	ECG 123A
Q115	121-972	#	TR-21	PTC136	HEP735	SK3122	RT102	ECG 123A

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 (RF-IF) (cont)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L207	Peaking (663 uH)	20-2061		72F684AP	
L208	RF Choke (27 uH)	20-2707		72F275AP	
L209	RF Choke (27 uH)	20-2707		72F275AP	
L210	RF Choke (27 uH)	20-2707		72F275AP	
L212	Peaking (663 uH)	20-2061		72F684AP	
L901	3.58 Mhz Trap	20-1838			
L902	Peaking (58 uH)	20-2062			
L1001	Chroma Bandpass	95-3079		6110	
L1002	Chroma Take-off	95-3080			
L1003	RF Choke (7.5 uH)	20-2311			
L1004	Peaking (47 uH)	20-2301		72F475AP	
L1005	Hue (15 uH)	20-3577			
L1006	RF Choke (18 uH)	20-2302		72F685AP	
L1204	Peaking (68 uH)	20-2302		6152	
L1205	Peaking (20 uH)	20-2041			
L1206	RF Choke (10 uH)	20-2033		74F105AP	
L1207	Peaking (550 uH)	20-2024		6144	
T200	Line Choke	95-2964 #			
T1101	Quadrature	95-2789			
T1102	Sound IF	95-2620			

For SAFETY, replace only with equivalent part.

COILS & TRANSFORMERS (Sweep Circuits)

ITEM No.	FUNCTION	REPLACEMENT DATA					NOTES
		MFR. PART No.	OTHER IDENTIFICATION	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L204	Horiz Osc	S-56875					
L218	Fifth Harmonic	(2) #					
L601	Right Blue Horiz Lines	20-3578	3578				
L602	Right R/G Horiz Lines	95-3111	3111				
L603	Right R/G Vert. Lines	20-3579 (3)	3578				
L1301	Pinchusion Phase	20-3654 #					
T204	Horiz Driver	95-2895-02 #					
T205	Yoke (Horiz 3 mH)	95-3103					
T206	90° (Vert 21.5 mH)	S-96473-02 # (4)					
	Horiz Output	95-3171 # (5)					
T601	Convergence Yoke						
T602	Blue Coil	S-94731					
T603	Green Coil	S-94731					
T604	Red Coil	S-94731					
T1301	Pinchusion Amp	#	95-3125				
T1302	Pinchusion	#	95-3073-01				

(1) Install Plastic Sleeve on Adjustment Screw.

(2) Part of T206, Horiz Output Transformer.

(3) Used in some versions.

(4) Used in Chassis 25FC45.

(5) Used in Chassis 23FC45.

For SAFETY, replace only with equivalent part.

FILTER CHOKES

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000-)	MFR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T202	.34 ADC	4.2	68 mH	95-2925-02 #				# For SAFETY, replace only with equivalent part.

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	PRI.	SEC. 1	MFR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T201	120 VAC @ 1.07 AAC	250 VAC CT @ .03 ADC Tap @ 130 VAC CT @ .34 ADC Tap @ 70 VAC CT @ 56 ADC Tap @ 6.3 VAC @ .22 AAC	95-3172 # 95-3153 # (1)				# For SAFETY, replace only with equivalent part. (1) Used in some versions.
	SEC. 2	SEC. 3					
	6.3 VAC @ .82 AAC	120 VAC					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFR. PART No.	QUAM PART No.	
SP1	6" X 9" PM 10 ohms 4 1/2" PM	49-1196-02 49-1234-02	69A2Z10	Used in Models: F4752P/54E/56M/57PN/58DE, P/59X Used in Models: F4541W/43W/47M/49DE/49P/50DE/50P/60P, T2858W/60DE/60P F8748P, SF2560W, X/61P/62M/63DE, P/64X/66M/67DE, P, T2858W/60DE, P/73P/75M/77DE, P
	5" X 9" PM	49-1196-01		Used in Model: T2881DE, P (2 used)
	6" X 9" PM	49-1257 49-1196-01		Used in Models: SF2568W/69P/77DE, P

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA					
		PART No.		BUSS PART No.		LITTELFUSE PART No.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER
F201	Circuit Breaker Hold 2.1 Amp Break 3.67 Amp	85-976-02 #					
F202	4 Amp 125 V Pigtail Quick Acting	136-106- #		GJV4			
F203	.6A 250 V Quick Acting	136-87,		GJV 6/10			

For SAFETY, replace only with equivalent part.

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
	VHF Antenna	1-221-04	Model: SF2560X
	VHF Antenna	1-221-03	Models: F4541W, F4740W, SF2560W
	VHF Tuner	S-86924-01	Models: F4541W, F4740W, SF2560W/60X
	VHF Tuner	175-1815	
	VHF Tuner	175-1508	
	VHF Tuner	175-1814	
	VHF Tuner	175-2202-20	
	VHF Tuner	175-2202-40	
	VHF Tuner	175-2202-50	
	VHF Tuner	175-1609	
	VHF Tuner	175-983	
	VHF Tuner	175-2225	
	VHF Tuner	S-90312	
CR1001	Crystal	103-152	
L202	Delay Line	S-91401-01	
L203	Degaussing Coil	#	
SPG201	Spark Gap	#	
SPG212	Spark Gap	52-957	
SPG1201	Spark Gap	52-957	
SPG1202	Spark Gap	52-957	
SPG1203	Spark Gap	52-957	
SPG1204	Spark Gap	52-957	
SPG1301	Spark Gap	52-2240	
SW1	Switch	85-1109	
SW2	Switch	85-1283	
	Switch	S-96009	
	Switch	85-1397	
	Switch		
	Switch		
	Switch		
SW201	Switch	85-1353-01	
SW202	Switch	85-1288	
	Switch	85-1291-04	
	Switch	85-1291-03	
	Switch	85-1291-02	
	Switch	85-1291	
	Switch	85-1290	
	Switch	S-92057	
	Switch	85-1287	
	Switch	85-1282	
SW206	Switch	S-97451	
	Switch	85-1285-01	
	Switch		
SW1001	Switch	85-1390	
	Switch	S-97121	
	Magnet	S-94680	
	Printed Circuit Board		

For SAFETY, replace only with equivalent part.

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Model: F4545W		Model: F4760X	
Knob-Horiz Hold	46-9778-13	Knob-Horiz Hold	46-5829
Knob-Horiz Hold	46-5829	Knob-On/Off	46-9778-02
Knob-VHF Channel Selector	46-9788	Knob-VHF-UHF Channel Selector	46-9906
Knob-UHF Fine Tuning	46-9786	Knob-Volume	46-9876
Knob-UHF Channel Selector	46-9767	Knob-VHF-UHF Fine Tuning	46-9903
Knob-VHF Fine Tuning	46-9784		
Knob-Volume	46-8258		
Models: F4541W/43W/47M/49DE/49P/50DE/50P/60P, T2858W/60DE/60P		Models: F4761P/64M/66DE/66P	
Knob-AFC	46-9778-09	Knob-Horiz Hold	46-5829
Knob-Horiz Hold	46-5829	Knob-On/Off	46-9778-11
Knob-UHF Fine Tuning	46-9787	Knob-VHF-UHF Channel Selector	46-9906
Knob-VHF Channel Selector	46-9789	Knob-Volume	46-9875
Knob-UHF Channel Selector	46-9789	Knob-VHF-UHF Fine Tuning	46-9903
Knob-UHF Fine Tuning	46-9767-01		
Knob-VHF Fine Tuning	46-9785		
Knob-Volume	46-7662		
Models: F4740W/42W/44P/46M/48DE/48P/T2873P/75M/77DE/77P		Model: F8748P	
Knob-AFC	46-9778-01	Knob-Horiz Hold	46-5829
Knob-Horiz Hold	46-5829	Knob-On/Off	46-9778-01
Knob-On/Off	46-9778-01	C106	46-9789
Knob-VHF Channel Selector	46-9789	Knob-UHF Channel Selector	46-9787
Knob-UHF Fine Tuning	46-9767-01	Knob-UHF Channel Selector	46-9767-01
Knob-UHF Channel Selector	46-9785	Knob-VHF Fine Tuning	46-9785
Knob-VHF Fine Tuning	46-9836	Knob-Volume	46-9836
Models: F4752P/54E/59X		Model: SF2560W/60X/61P/63DE/63P/64X/66M/67DE/67P	
Knob-AFC	46-9778-11	Knob-Color Level	46-9782
Knob-Horiz Hold	46-5829	Knob-Horiz Hold	46-5829
Knob-On/Off	46-9778-11	Knob-Horiz Hold	46-9782
Knob-VHF Channel Selector	46-9854	Knob-Volume	46-9570
Knob-UHF Fine Tuning	46-9858		
Knob-VHF-UHF Fine Tuning	46-9904		
Models: F4756M/57PN/58DE/58P		Models: SF2568W/69P	
Knob-AFC	46-9778-01	Knob-Control Adjustment	46-9780
Knob-Control Selector (Slider)	46-9756	Knob-Control Selector	46-9756
Knob-Horiz Hold	46-5829	Knob-Horiz Hold	46-5829
Knob-On/Off	46-9778-01	Knob-Volume	46-9781
Knob-Off/On	46-9780		
Knob-Pri-Sec Control Adjustment	46-9762		
Knob-UHF Fine Tuning	46-9574		
Knob-UHF Channel Selector	46-8272		
Knob-VHF Channel Selector	46-8269		
Knob-VHF Fine Tuning	46-9781		
Knob-Volume			

WIRING DATA

High Voltage Lead	Use BELDEN No. 8866 (40KV)
Shielded Hook-up Wire	Use BELDEN No. 8885 (Single Conductor)
General Use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
300-Ohm Tuner Input Lead	Use BELDEN No. 8225 (Stranded) Available in 12 Colors
300-Ohm Antenna Lead-in	Use BELDEN No. 8275 (Foam Core) or 8285 (Foam Jacketed)
Antenna Rotor Cable	Use BELDEN No. 8464 (Flat) or 8484 (Round) - 4 Conductor
	8485 (Round) - 5 Conductor
	8488 (Round) - 8 Conductor

SEMICONDUCTORS (Select replacement transistor for best results) (cont)

ITEM No.	TYPE / MFR. No./PART No.	REPLACEMENT DATA						
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
Q705	121-972	GE-20	TR-21	PTC136	HEP735	SK3122	RT102	ECG 123A
Q706	121-980	GE-58	TR-73	PTC124	HEP244	SK3085	RT157	ECG 189
Q707	121-969	GE-69 (9)	TR-77 (9)	PTC111 (9)	HEPS5006(9)			ECG 153 (9)
Q708	121-970	GE-66 (9)	TR-76 (9)	PTC110 (9)	HEPS5000(9)			ECG 152 (9)
Q801	121-931	GE-20	TR-21	PTC136	HEP728	SK3122	RT102	ECG 123A
Q802	121-888	GE-18	TR-21	PTC136	HEP729	SK3024	RT110	ECG 123A
Q803	121-755	GE-27	TR-78	PTC110	HEP244	SK3104	RT159	ECG 157
Q804	121-447	GE-20	TR-21	PTC136	HEP736	SK3124	RT114	ECG 123A
Q901	121-433	GE-20	TR-24	PTC136	HEP730	SK3124	RT102	ECG 123A
Q902	121-695	GE-20	TR-21	PTC136	HEP736	SK3122	RT114	ECG 123A
Q903	121-695	GE-20	TR-21	PTC136	HEP729	SK3024	RT110	ECG 123A
Q904	121-888	GE-18	TR-21	PTC136	HEP729	SK3024	RT110	ECG 123A
Q905	121-699	GE-21	TR-20	PTC103	HEP708	SK3114	RT115	ECG 159
Q1204	121-952	GE-22	TR-52	PTC103	HEP708	SK3114	RT101	ECG 159
Q1205	121-868	GE-27	TR-78	PTC117	HEPS3021	SK3104	RT110	ECG 171
Q1206	121-868	GE-27	TR-78	PTC117	HEPS3021	SK3104	RT110	ECG 171
Q1207	121-868	GE-27	TR-78	PTC117	HEPS3021	SK3104	RT110	ECG 171

For SAFETY, replace only with equivalent part.

(1) Used in some versions.

(6) Matched pair

(7) Two required, select matched pair.

(9) Replacement pair

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C149	.47 50 V	22-7304					
C203	100 50 V	22-7121-08					
C213	3.5 440 V NP	22-7126-01 #	ME-J100	EA50-100	WBR100-50	TDC474M050EL	SD50-R479
C214A	400 150 V	22-7309 #				MTA100G75	TVA-1310
C	400 150 V						
D	500 35 V						
C216	1000 50 V	22-5362 #	ME-J1000	EA50-1000	WBR1000-50	TC50100C	TVA-1316
C218	1000 50 V	22-7259 #	ME-J1000	EA50-1000	WBR1000-50	TC50100C	TVA-1316
C226	100 50 V	22-7143-08 #	ME-J100	EA50-100	WBR100-50	MTA100G75	TVA-1310
C227	50 10 V	22-6283 #	ME-3-D-050	EA15-50	WBR50-25	MTA50E15	TVA-1129.94
C239	15 25 V NP	22-7227	CTA7350		BRNP20-30	TCN25168	TVA-1204.3
C241	10 75 V NP	22-6008	CTA7555		BRNP10-400	TCN511	TVA-1333
C244	100 50 V	22-7143-08	ME-J100	EA50-100	WBR100-50	MTA100G75	TVA-131

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.

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			ARCO/ELMENCOR PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C204	.0018 1KV 10%	22-4671	CCS-182	DD-182 DTZ-100	GP1800	GP218 CN0310	10TS-018 10TCC-T10
C205	.100 NPO 5%		40P-2-333		DPMS6533	EW4133	4PS-533
C206	.033 NPO 10%		CCD-102	DD-102		GP210	10TS-010
C207	.001 1KV 10%		CCD-102	DD-102	GP1000	GP210	30GA-510
C208	.01 1.5KV		CCD-102	DD-102	GP1000	GP210	10TS-010
C209	.001 1KV 10%		CCD-101	DD-102		CN0310	10TCC-T10
C210	100 NPO 5%		CCD-102	DD-102		GP210	10TS-010
C211	.001 1KV		22-7126-01 #				
C213	3.5 uF 440VAC		22-6276 #				
C219	.0047 150VAC		22-4368 #	2DP-3-104		DPMS2P1	EW2010
C221	.1 200V 10%	22-7277 #	CCD-472	DD-472G	GP4700	JF247	
C222	.0047 1 KV	22-7272 #	CCD-472	DD-472G	GP4700	JF247	
C223	.0047 1 KV	22-3471 #	60P-1-332		DMF6033	EW2633	
C224	.0033 400V	22-6311 #					
C228	.001 100 V	22-7233-04 #					
C229A	.001 1.6 KV	22-7233-04 #					
C229B	.001 1.6 KV	22-7233-04 #					
C232	100 1.2 KV 10%	22-6866 #					
C237	.001 2KV	22-4379 #					
C238	.047 200V 5%	22-7200-02 #	40P-3-473 2MPD-5-394		DPMS6547	EW4147	
C242	.39 200V 10%	22-4410					
C243	.68 200 V 10%	22-7128 #	2DP-3-104		DPMS2P1	EW2010	
C245	.1 200V 10%		1DP-1-103	CPR-10000J	DPMS651	EW4110	
C402	.01 50V		1DP-1-103	CPR-10000J	DPMS651	EW4110	
C403	.01 50V 10%		1DP-1-103		DPMS651	EW4110	
C404	.22 50V 10%		40P-5-224		DPMS4P22	EW4022	
C406	.22 50V 10%		40P-5-224		DPMS4P22	EW4022	
C408	3 N150 +5	22-2490	*				
C409	75 NPO 5%			DTZ-75		10TCR-P30	
C410	.015 50V 10%			DD-153	DPMS6515	EW4115	
C411	560 100V 10%		1DP-1-153	DD-153	GP560	GP356	
C601	.1 200V 10%		2DP-3-104		DPMS2P1	EW2010	
C602	.1 200V 10%		2DP-3-104		DPMS2P1	EW2010	
C603	.082 200V 10%		60P-4-823		DPMS6502	EW2010	
C604	.056 200V 10%		40P-3-563		DPMS6556	PVC6156	
C702	.047 100V		1DP-2-473		DPMS6547	EW4147	
C703	.0022 100V 10%		1MPD-1-222		EW41A222	1PB-D22	
C705	.1 50V 10%		1DP-2-104		DPMS2P1	EW41A010	
C706	.015 50V 10%		1DP-1-153	DD-153	DPMS6515	EW4115	
C707	.047 100V		1DP-2-473	DD-221	DPMS6547	GP322	
C711	220 50V 10%		CCD-221		DPMS2P1	EW41A010	
C712	.001 100V 10%		1DP-2-104	CPR-1000J	DPMS601	EW41A210	
C713	.001 50V 10%		60P-1-102	DD-471	GP470	GP347	
C801	470 1KV 10%		CCD-471			EW41A282	
C802	.0082 50V 10%		1MPD-1-822			1PB-D82	
C803	.0082 50V 10%		1MPD-1-822			1PB-D82	
C804	.01 10V		CCD-103	DD-103	GP10000	JF110	
C805	470 1KV 10%		1DP-1-153	DD-153	DPMS6515	GP347	
C807	.015 50V 10%		CCS-182	DD-182	GP1800	EW41A115	
C808	.0018 10V		CCD-152	DD-152		GP218	
C809	.0015 10V					GP215	
C810	.0015 N3300 10%	22-6716					
C811	.22 200V		40P-5-224		DPMS4P22	EW4022	
C812	.0033		CCD-332	DD-332	GP3300	JF233	
C813	470 1.5KV 10%		CCD-471	D030-471	HV3-470	30GA-T47	
C814	20 NPO 10%		CTC0-200	DTZ-20	NP020	CN04020	
C901	.047 100V 10%		1DP-2-473		DPMS6547	EW41A	

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
For SAFETY, replace only with equivalent part.

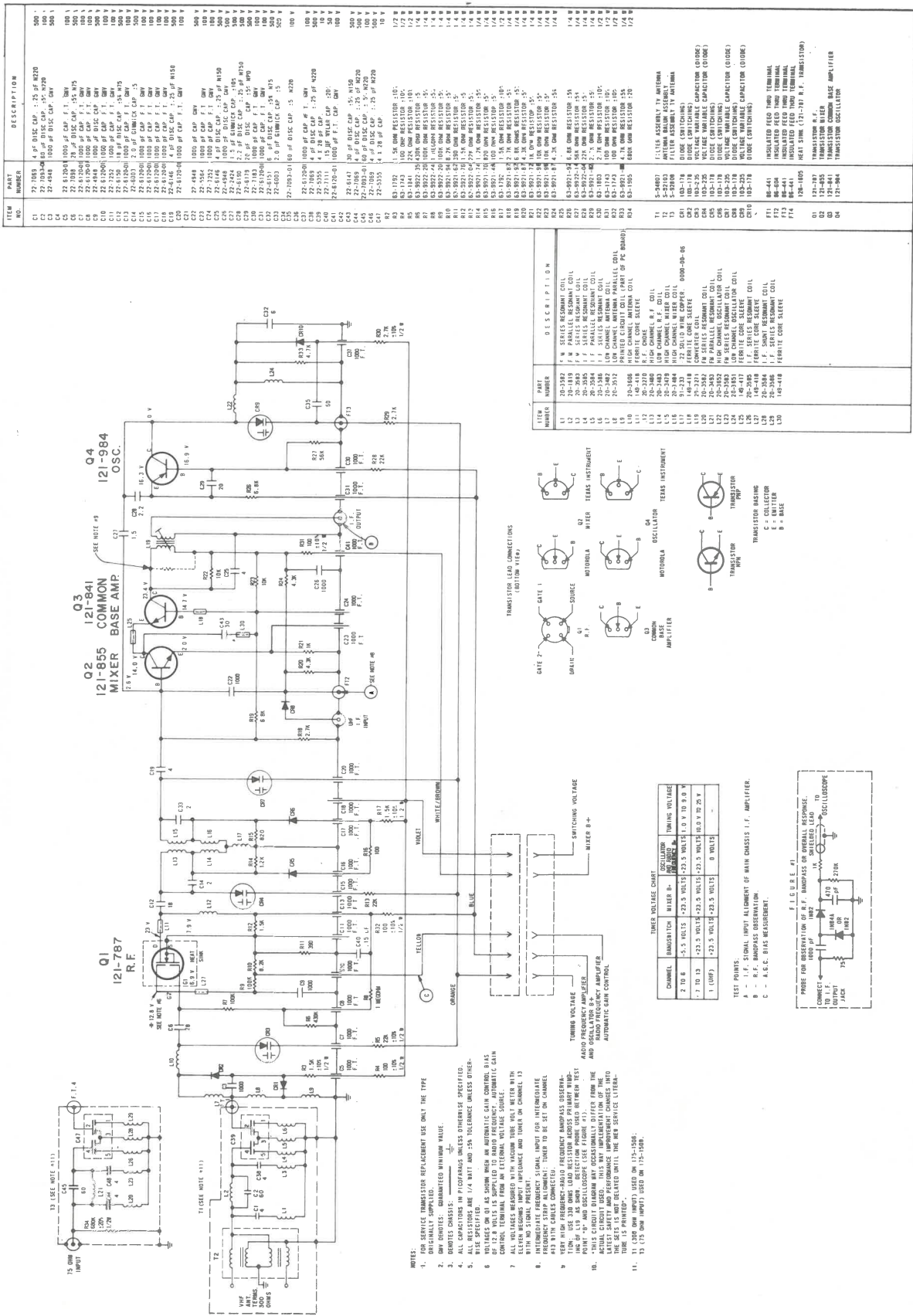
ITEM No.			REPLACEMENT DATA					
FUNCTION			RESIST- ANCE	MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R125	Detector Level	10 K	63-9697-02	TSV-10K(3) or T-10K(3)	C-103(3)	U201R1038	MT141L4	
	Detector Level	2000	63-9697-06(6)	TSV-2.5K(3) or T-2500(3)	C-252(3)	U201R2528	MT23L4	
R204	Sharpness (Peak Picture) Sharpness	300	63-10232-04					
		300	63-10232-11 (18)					
	Sharpness	300	63-10528(19)					
R208	Sharpness Red G2	300 5 meg	63-10529(20) 63-10139	F1-5meg, SNK104, AK-45 or [F1-5meg(10), SNK012]		HLC5(10)	PTA56L(10) or [UA56L(10), SN1000] or [RU56L(10), SN1000]	
R209	Green G2	5 meg	63-10137	F1-5meg, SNK104, AK-45 or [F1-5meg(10), SNK012]		HLC5(10)	PTA56L(10) or [UA56L(10), SN1000] or [RU56L(10), SN1000]	
R210	Volume (Slider Type)	40 K	63-10525					
	Volume (Slider Type)	40 K	63-7996(19)					
	Volume	40 K	63-7997(22)					
	Volume	40 K	63-10257(10)					
	Volume	40 K	63-10263(23)					
R211	Blue G2	5 meg	63-10138	F1-5meg, SNK104, AK45 or [F1-5meg(10), SNK012]		HLC5(10)	PTA56L(10) or [UA56L(10), SN1000] or [RU56L(10), SN1000]	
R220	Tone	15 K	63-10232-05 (21)					
	Tone	15 K	63-10261 # (19)					
	Tone	15 K	63-10302 # (24)					
R234	Brightness Limiter	50 2 W	63-10141	WT-50 or WB-50		P115R500A	MR50T or MR50B	
R237	Focus	15 meg	63-10276 #					
R256	Vert Hold	150 K	63-10232-10					
	Vert Hold	150 K	63-10258 (20)					
	Vert Hold	150 K	63-10500 (19)					
R257A	Contrast (Front)	1000	63-10232-03					
B	Preset Contrast (Rear)	1000						
	Contrast	1000	63-9286-03 (20)					
	Contrast	1000	63-10200-04 (23) (24)					
	Preset Contrast	1000	63-10200-06 (19)					
R258A	Contrast	1000	63-10232					
B	Brightness (Front)	5000						
	Preset Brightness (Rear)	5000						
	Brightness	5000	63-9286-01 (20)					
	Brightness	5000	63-10199-09 (19)					
R259A	Preset Brightness	5000	63-10232					
B	Color Level (Front)	5000						
	Preset Color Level (Rear)	5000						
	Color Level	5000	63-9286-01 (20)					
	Color Level	5000	63-10199-08 (23)					
	Preset Color Level	5000	63-10199-09 (19)					
R260A	Preset Color Level	5000	63-10232-01					
B	Tint (Front)	250 K						
	Preset Tint (Rear)	250 K						
	Tint	250 K	63-9286-02 (20)					
	Tint	250 K	63-10198-06 (23)					
	Preset Tint	250 K	63-10198-08 (19)					
	Preset Tint	250 K						
R416	AGC Delay	3000	63-9697-01	TSV-2.5K(3) or T-2500(3)	C-252(3)	X201R3028(3)	MT23L4	
R601	Blue Horiz Lines (Left)	85 3 W	63-9022	WP-100, WSK104			MR100P, MRS1250	
R603	R/G Horiz Lines (Left)	60 3 W	63-9015	WP-100, WSK104			MR100P, MRS1250	
R604	R/G Vert Lines (Left)	70 3 W	63-9021	WP-100, WSK104			MR100P, MRS1250	
R609	Blue, Horiz Lines (Bottom)	300 3 W	63-9016					
R611	Blue Horiz Lines (Top)	300 3 W	63-9016			</		

(3) For horizontal mounting, bend the two outside terminals to fit PC board. Use jumper to connect center terminal to PC board.
(4) Alternate part, may be used in some versions.
(5) Use original nylon tab mount.
(6) Used in Models: F475M/57PK/580E/50P, SF2561W/69P/70DE/70P, T2881DE/81P.
(7) May be used in some versions, check part number on unit.
(8) Used in Models: F4541W/43W/45W/47W/49DE/49P/50DE/50P, T285SW/60DE/60P.
(9) No Tone Control used in some versions.
(10) Used in Models: F4760G/61P/64W/66DE/66P.
(11) Used in Models: SF2550W/60X/61P/62W/63DE/63P/64X/66M/67DE/67P.
(12) Used in Models: F4740W/42W/44P/46M, F8748P, T2873M/75M/77DE/77P.

For SAFETY, replace only with equivalent part.

RESISTORS (Power and Special)		REPLACEMENT DATA		REPLACEMENT DATA			
ITEM No.	RATING	WORKMAN PART No.	MFGR. PART No.	ITEM No.	RATING	WORKMAN PART No.	MFGR. PART No.
R101	10 5% 1/4W Film		63-9921-24	R804	33K 5% 1/4W Film		63-9922-08
R102	15 5% 1/4W Film		63-9921-28	R805	1meg 5% 1/4W Film		63-9922-44
R103	470 5% 1/4W Film		63-9921-64	R806	1500 5% 1/4W Film		63-9921-76
R104	1100 5% 1/4W Film		63-9921-73	R807	47K 5% 1/4W Film		63-9921-72
R105	3900 5% 1/4W Film		63-9921-80	R808	330 5% 1/4W Film		63-10365-60
R107	2200 5% 1/4W Film		63-9921-86	R809	3.3meg 1/4W Film		63-9924-56
R108	8200 5% 1/4W Film		63-9921-94	R811	270 5% 1/4W Film		63-9921-58
R109	1800 5% 1/4W Film		63-9921-78	R812	5600 5% 1/4W Film		63-9921-90
R110	680 5% 1/4W Film		63-9921-68	R813	10K 5% 1/4W Film		63-9921-96
R111	51 5% 1/4W Film		63-9921-41	R814	180 5% 1/4W Film		63-9921-54
R113	2200 5% 1/4W Film		63-9921-80	R816	18K 5% 1/4W Film		63-9922-02
R114	6800 5% 1/4W Film		63-9921-92	R817	47 5% 1/4W Film		63-9921-40
R115	820 5% 1/4W Film		63-9921-36	R818	560 5% 1/2W Film		63-9946-66
R118	33 5% 1/4W Film		63-9921-58	R819	15 5% 1/4W Film		63-9921-28
R120	270 5% 1/4W Film		63-9921-71	R821	2200 1W Film		63-98571
R121	910 5% 1/4W Film		63-9921-83	R901	22K 5% 1/4W Film		63-9922-44
R122	3000 5% 1/4W Film		63-9921-83	R903	8200 5% 1/4W Film		63-9921-94
R123	10K 5% 1/4W Film		63-9921-96	R904	270 5% 1/4W Film		63-9921-86
R124	12K 5% 1/4W Film		63-9921-98	R906	82 5% 1/4W Film		63-9921-46
R126	2200 5% 1/4W Film		63-9921-80	R907	330K 5% 1/4W Film		63-9922-32
R127	3300 5% 1/4W Film		63-9918-84	R908	6800 5% 1/4W Film		63-9921-92
R128	220K 5% 1/4W Film		63-9922-28	R909	12K 1/2W Film		63-1831
R129	910 5% 1/4W Film		63-9921-71	R910	1000 5% 1/2W Film		63-9921-72
R130	910 5% 1/4W Film		63-9921-71	R911	150 5% 1/4W Film		63-9921-52
R131	1800 5% 1/4W Film		63-9921-78	R912	470 5% 1/4W Film		63-9921-64
R132	680 5% 1/4W Film		63-9921-68	R913	1300 5% 1/2W Film		63-9921-60
R134	2200 5% 1/4W Film		63-9921-80	R914	330 5% 1/4W Film		63-9921-70
R135	470 5% 1/4W Film		63-9921-64	R915	820 5% 1/4W Film		63-9921-60
R136	6800 5% 1/4W Film		63-9921-92	R916	470 5% 1/2W Film		63-9946-64
R137	680 5% 1/4W Film		63-9921-68	R917	100 5% 1/4W Film		63-9921-48
R138	100K 5% 1/4W Film		63-9922-20	R918	22 5% 1/4W Film		63-9921-32
R139	100K 5% 1/4W Film		63-9922-20	R920	10K 5% 1/4W Film		63-9921-96
R140	680K 5% 1/4W Film		63-9922-40	R921	6800 5% 1/4W Film		63-9921-92
R142	100 5% 1/4W Film		63-9921-48	R927	47K 5% 1/4W Film		63-9922-12
R213	6000 3W Film		63-9938 #	R1003	3300 5% 1/4W Film		63-9921-84
R214	2 2W W		63-10193 #	R1004	470 5% 1/4W Film		63-9921-64
R215	6800 5W 1W Film		63-6106 #	R1005	2.7meg 1/4W Film		63-9924-54
R216	6800 5W W	5W-SQ-6.8K	63-10444-44 #	R1006	3900 5% 1/4W Film		63-9921-86
R217	1.5meg 1/2W Carbon	CA1.500,000	63-10526 #	R1007	100 5% 1/4W Film		63-9921-48
R218	47 5% 3W W		63-10428-64 #	R1008	100 5% 1/4W Film		63-9921-48
R221	Thermistor		63-8687 #	R1010	8200 5% 1/4W Film		63-9921-94
R222	17 (Cold)		63-10434 #	R1011	62K 5% 1/4W Film		63-9922-15
R226	800 5W W	5W-SQ-800	63-4508 #	R1012			

ITEM		REPLACEMENT DATA			REMARKS
No.	FUNCTION	PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L101A	Video Input IF	95-3096			
B	Bandwidth				
L102	39.75 Mhz Trap	20-3145-01		74F686AP	
L103	47.25 Mhz Trap	20-3409-01			
L105	1st Video IF	95-3097			
L107	2nd Video IF	20-3587-01			
L108	3rd Video IF (Pri)	20-3145-01			
L109	RF Choke (27 uH)	20-2707		72F275AP	
L111	RF Choke (27 uH)	20-2707		72F275AP	
L112	41.25 Mhz Trap	20-3408-01			
L113	3rd Video IF (Sec)	20-3405			
L114	RF Choke (27 uH)	20-2707		72F275AP	
L115	4.5 Mhz Trap	95-3118			
L116	AFC Input IF	20-3405			
L117	AFC Output	95-3069			
L118	RF Choke (27 uH)	20-2707		72F275AP	
L119	RF Choke (27 uH)	20-2707		72F275AP	
L201	Peaking (663 uH)	20-2061		72F684AP	
L205	RF Choke (27 uH)	20-2707		72F275AP	



Courtesy of the Manufacturer

**ZENITH TUNERS USED WITH
CHASSIS 23FC45, 25FC45**



IMPORTANT FILING NOTICE

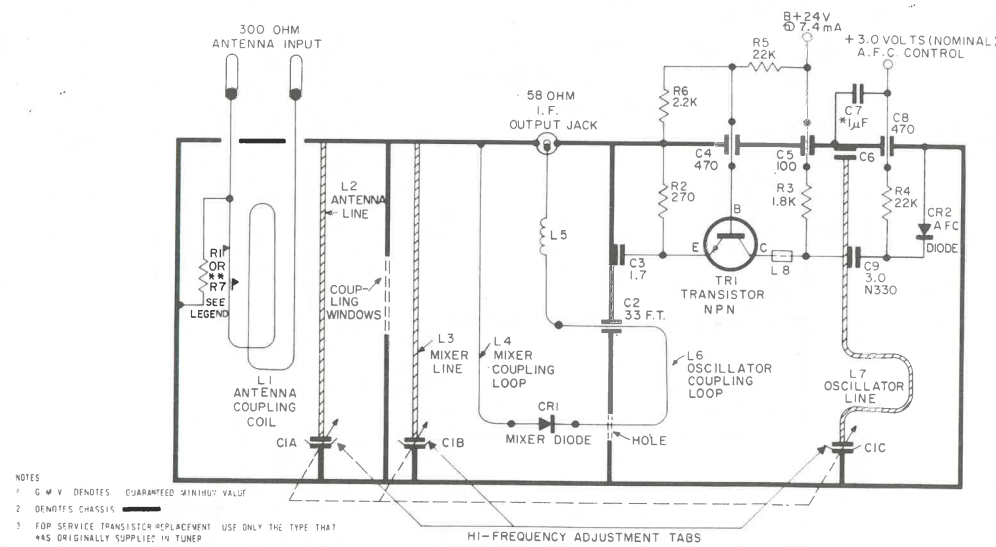
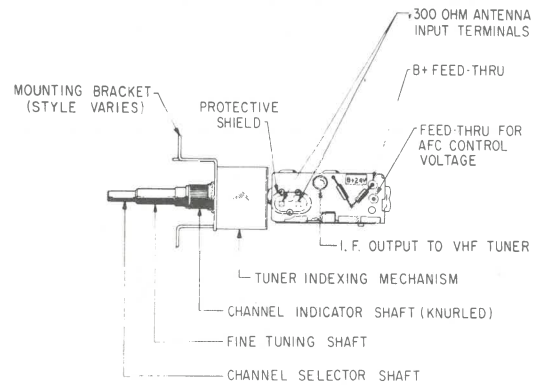
This PHOTOFACT Folder covers equipment used with the TV chassis covered in PHOTOFACT SET 14 53 FOLDER 3 . File this Folder with the TV Folder in the yellow filing jacket provided.

ZENITH TUNERS USED WITH CHASSIS 23FC45, 25FC45

ITEM NO.	PART NUMBER	DESCRIPTION	RATING
C1A		INTERNA TUNING CAPACITOR	PART OF ROTOP
C1B		MIXER TUNING CAPACITOR	ROTOP
C1C		OSCILLATOR TUNING CAPACITOR	ASSEMBLY
C2	22-5807	33 P F CAPACITOR -10% LEADLESS (MINIATURE)	500 V
C3	22-6040	1.1 μ F LEADLESS 75VDC CAPACITOR P120	500 V
C4	22-5567	470 P F 1% CAP. G.W.V. LEADLESS (MINIATURE)	100 V
C5	22-5571	100 P F 1% CAP. -100-0-100	500 V
C6	22-5869	9 P OF ± 0.5 V OF LEADLESS DISC CAP. N220	500 V
C7	22-1143	1 OF POLYELECTROLYTIC -100-10	50 V
C8	22-6858	470 P F 1% CAP. G.W.V. (MINIATURE)	500 V
C9	22-6870	3 P OF ± 0.25 V OF LEADLESS CAP. N330	500 V
			500 V
R1	83-1919	1.5 MEGOHM RESISTOR -20 (FOR COIL CHASSIS TUNERS ONLY)	1/2 W
R2	83-4150	270 OHM RESISTOR -5	1/4 W
R3	83-4195	1.8K OHM RESISTOR -5	1/4 W
R4	83-4240	2.2K OHM RESISTOR -5	1/4 W
R5	83-4210	22K OHM RESISTOR -5	1/4 W
R6	83-4198	2.2K OHM RESISTOR -5	1/4 W
R7	83-1933	3.3 MEGOHM RESISTOR -20 (FOR CHASSIS TUNERS ONLY)	1/2 W
L1	20-1525	INTERNA COUPLING COIL	
L2		ANTENNA LINE	
L3		MIXER LINE	
L4	20-1540	MIXER COUPLING LOOP	
L5	20-3040	1 P COUPLING COIL	
L6	20-1541	OSCILLATOR COUPLING LOOP	
L7		OSCILLATOR LINE	
L8	148-404	IRON CORE BEAD	
CR1	103-61	MIXER DIODE	
CR2	103-404	A.F.C. DIODE	
Q1	121-551	TRANSISTOR, SILICON NPN, MOTOROLA, PLASTIC	

ZENITH TUNERS USED WITH CHASSIS 23FC45, 25FC45

SET 1453 FOLDER 3-A



- NOTES
- 1 G W DENOTES GUARANTEED MINIMUM VALUE
 - 2 DENOTES CARRIER
 - 3 SERVICE TRANSMITTER REPLACEMENT USE ONLY THE TYPE THAT HAS ORIGINALLY SUPPLIED THE TUNER
 - 4 ALL CAPTIONS IN PARENTS UNLESS OTHERWISE SPECIFIC
 - 5 ALL RESISTORS ARE 1/4 WATT PLUS OR MINUS 5 PERCENT TOLERANCE UNLESS OTHERWISE SPECIFIED
 - 6 THE SPECIFIED WOT TUNER B INPUT MUST EXCEED 100 WITH THE B PLUS SUPPLY AVAILABLE FROM THE HOT TUNER AND TELEVISION CHASSIS
 - 7 + INDICATES PLUS OR MINUS 20 PERCENT TOLERANCE PERMISSIBLE
 - 8 - DENOTES EXTERNAL TO TUNER PART OF TUNER AND BRACKET ASSEMBLY
 - 9 ** DENOTES LINE CONNECTED APPLICATION, WOT CHASSIS

Courtesy of the Manufacturer

Schematic Diagram, UHF Tuner, S-90312.

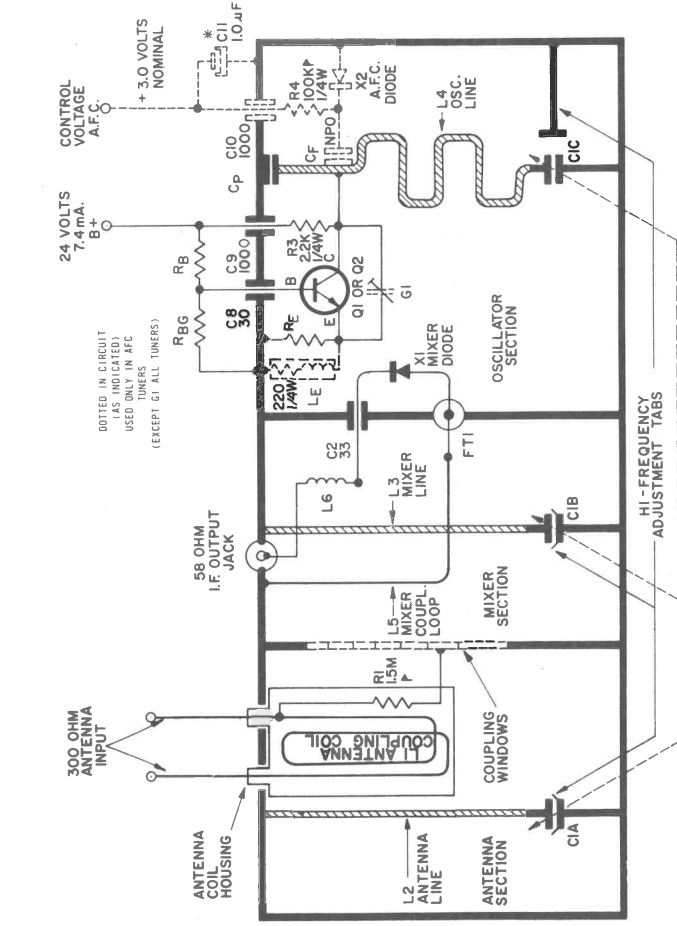
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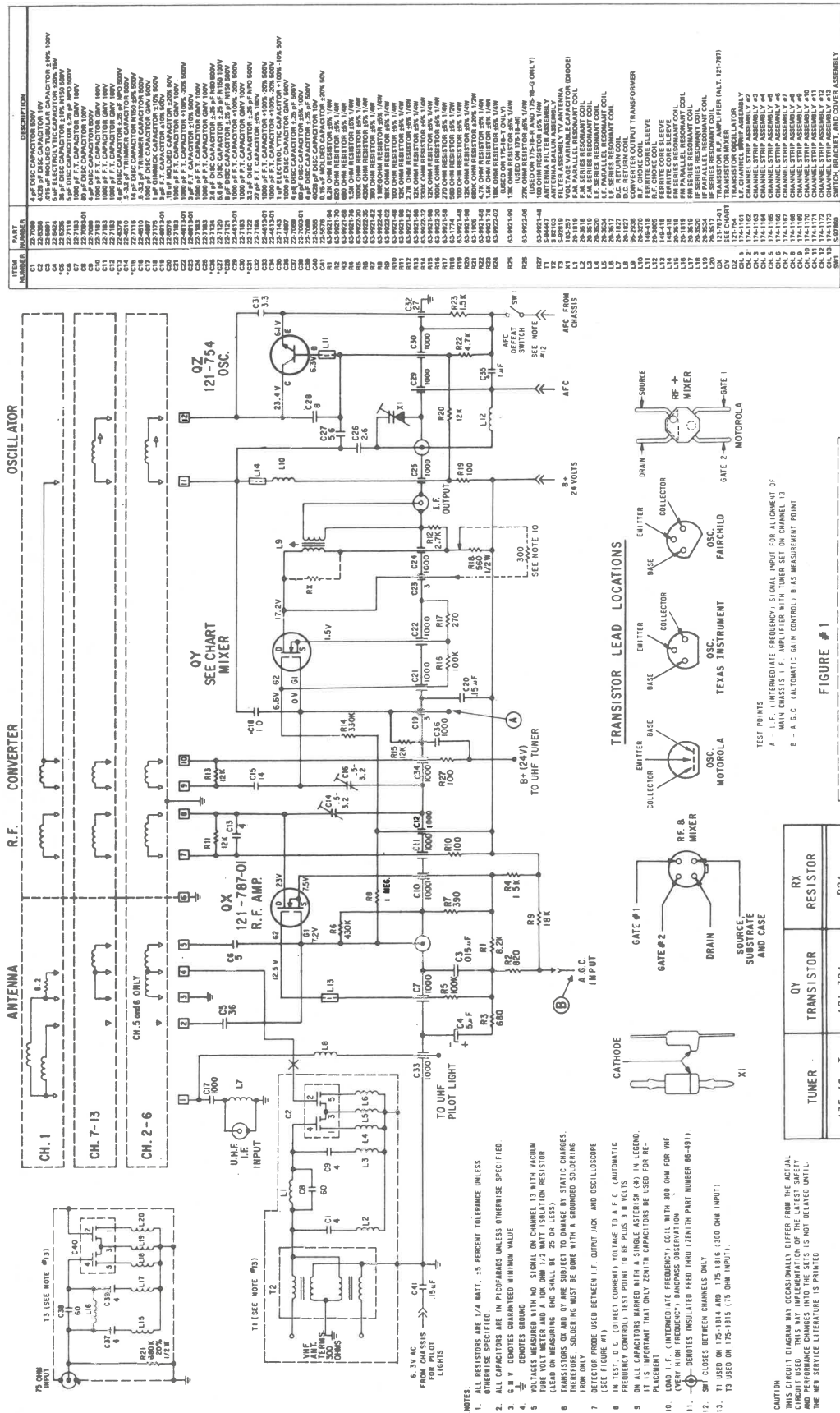
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SET 1453 FOLDER 3-A



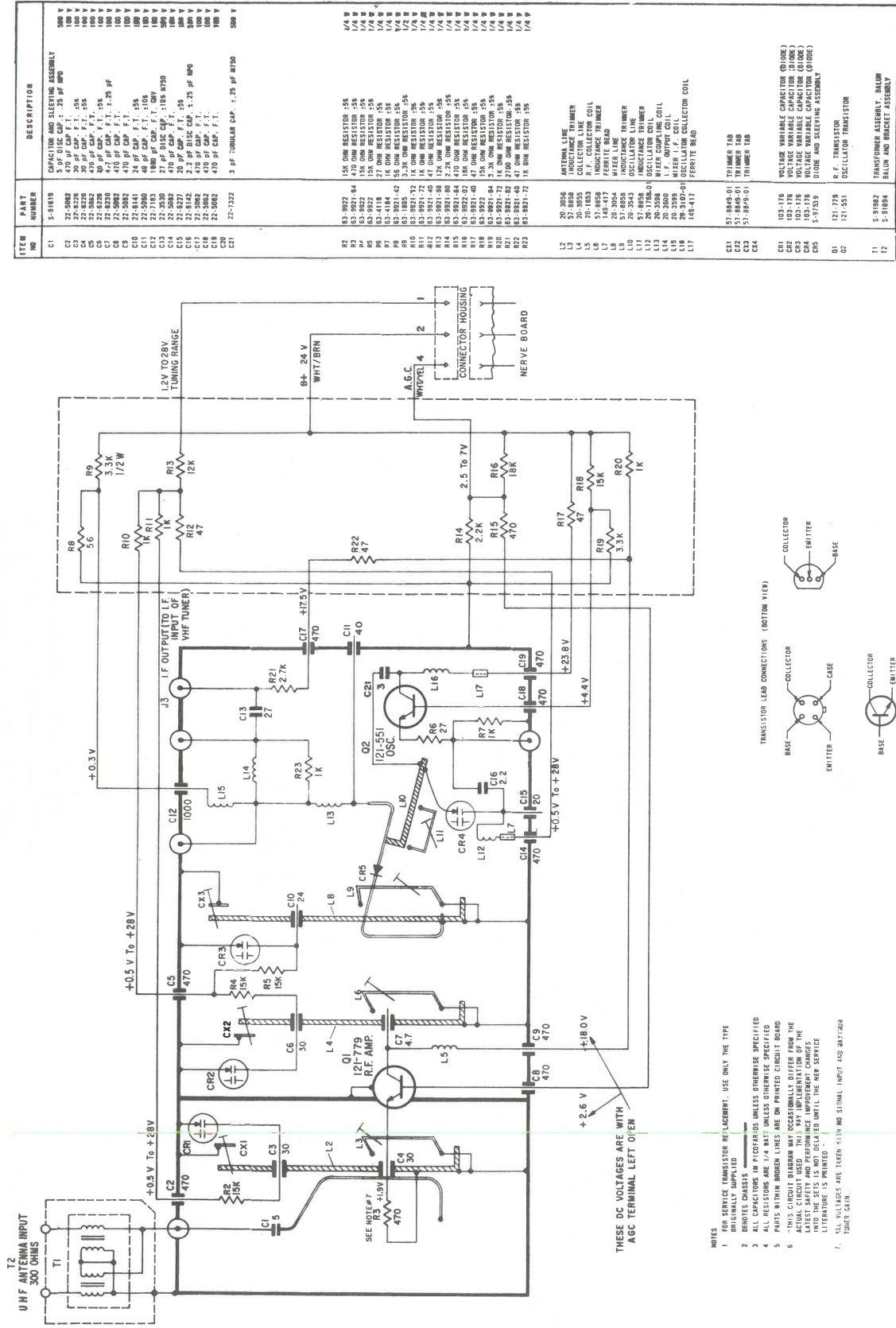


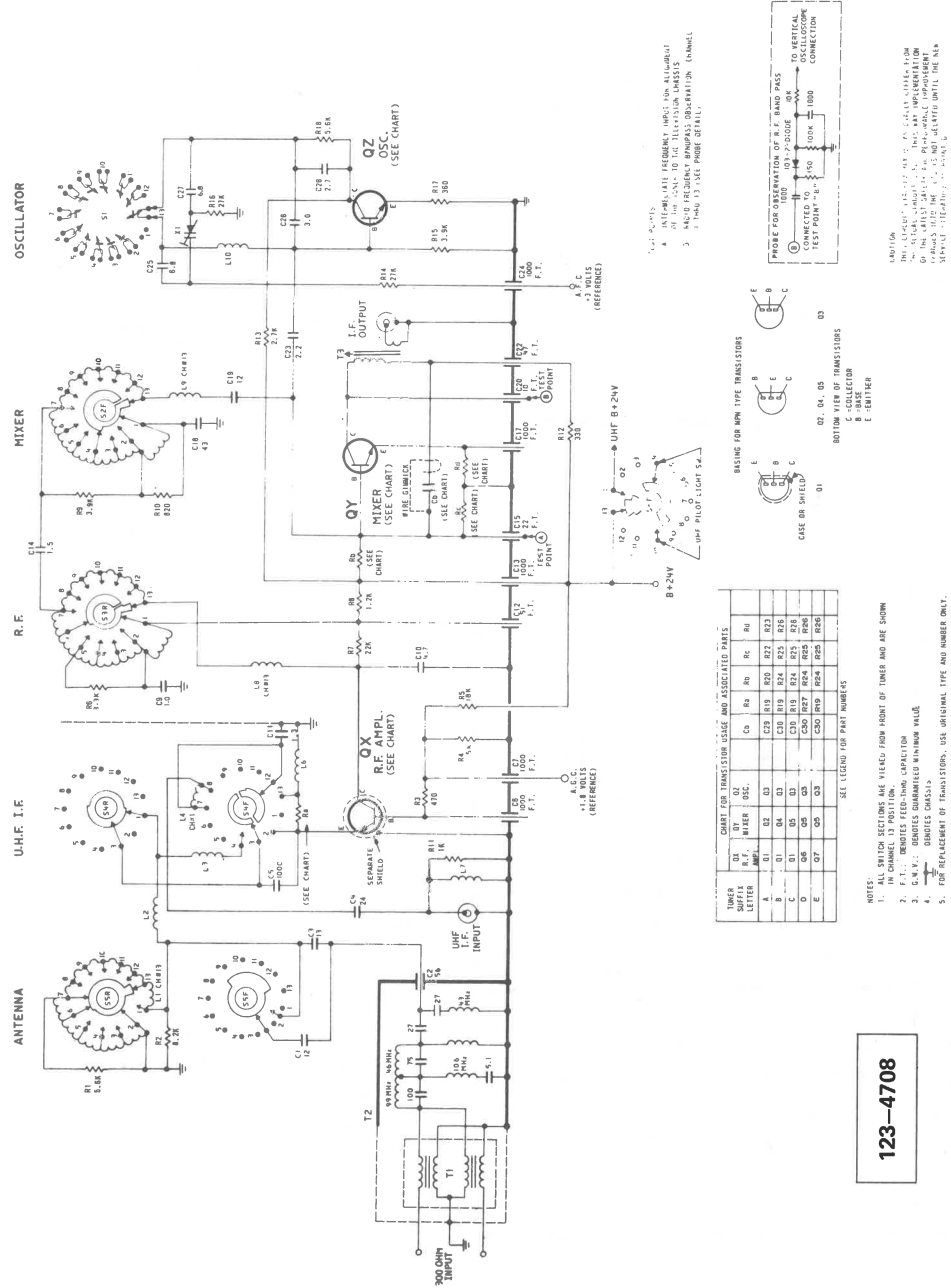
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SCHEMATIC DIAGRAM 175-1814, 1815 VHF TUNERS

Courtesy of the Manufacturer

SCHEMATIC DIAGRAM, UHF TUNERS 175-1608, 1609
ZENITH TUNERS USED WITH
CHASSIS 23FC45, 25FC45

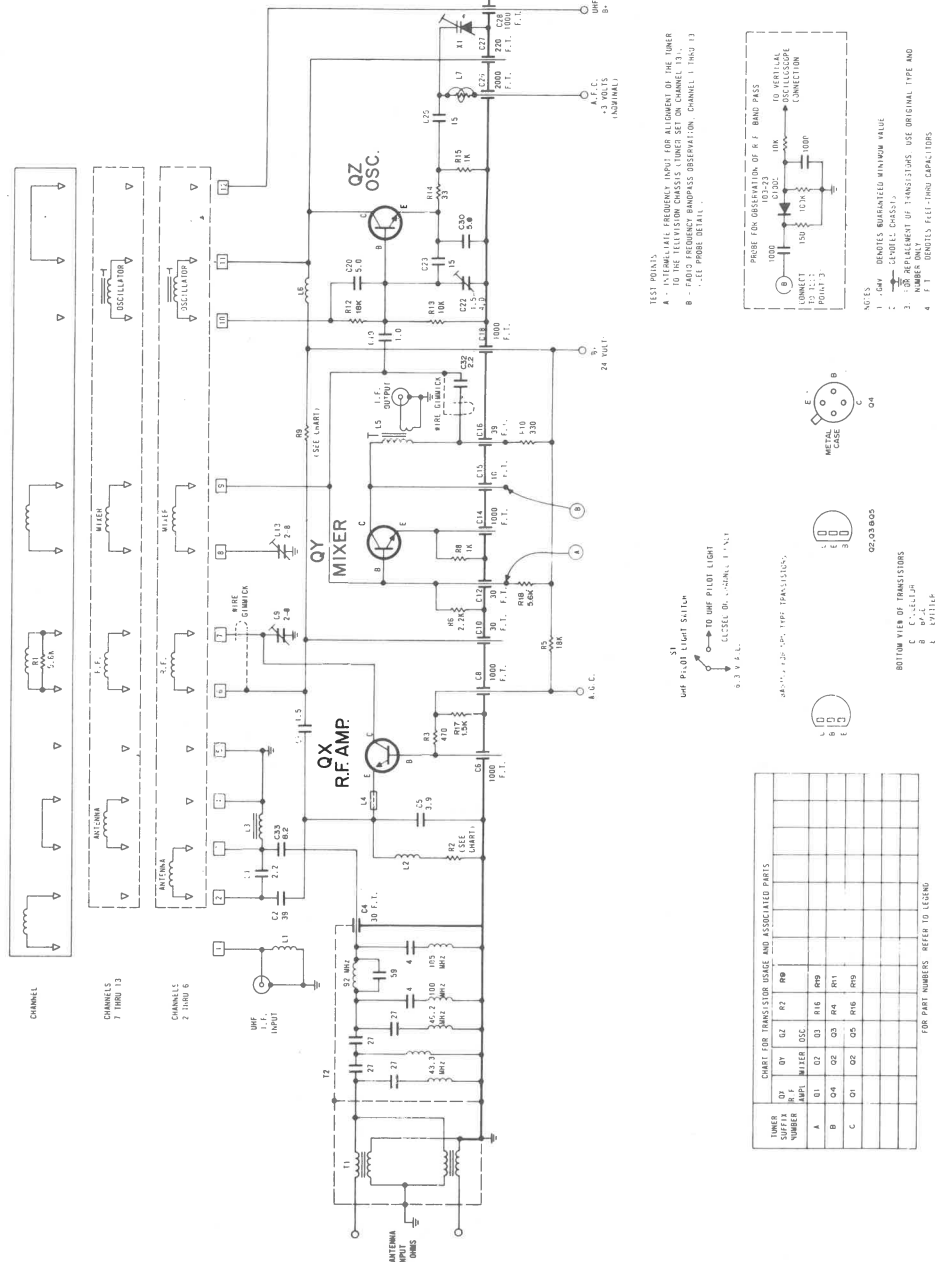




123-4708

Courtesy of the Manufacturer

SCHEMATIC DIAGRAM VHF TUNERS
175-2200-40A, 175-2200-40C, 175-2202-40B
175-2200-40B, 175-2202-40A, 175-2202-40C



123-4697

Courtesy of the Manufacturer

PHOTOFACT® Folder



ZENITH REMOTE CONTROL RECEIVER S-94637, TRANSMITTER S-98663

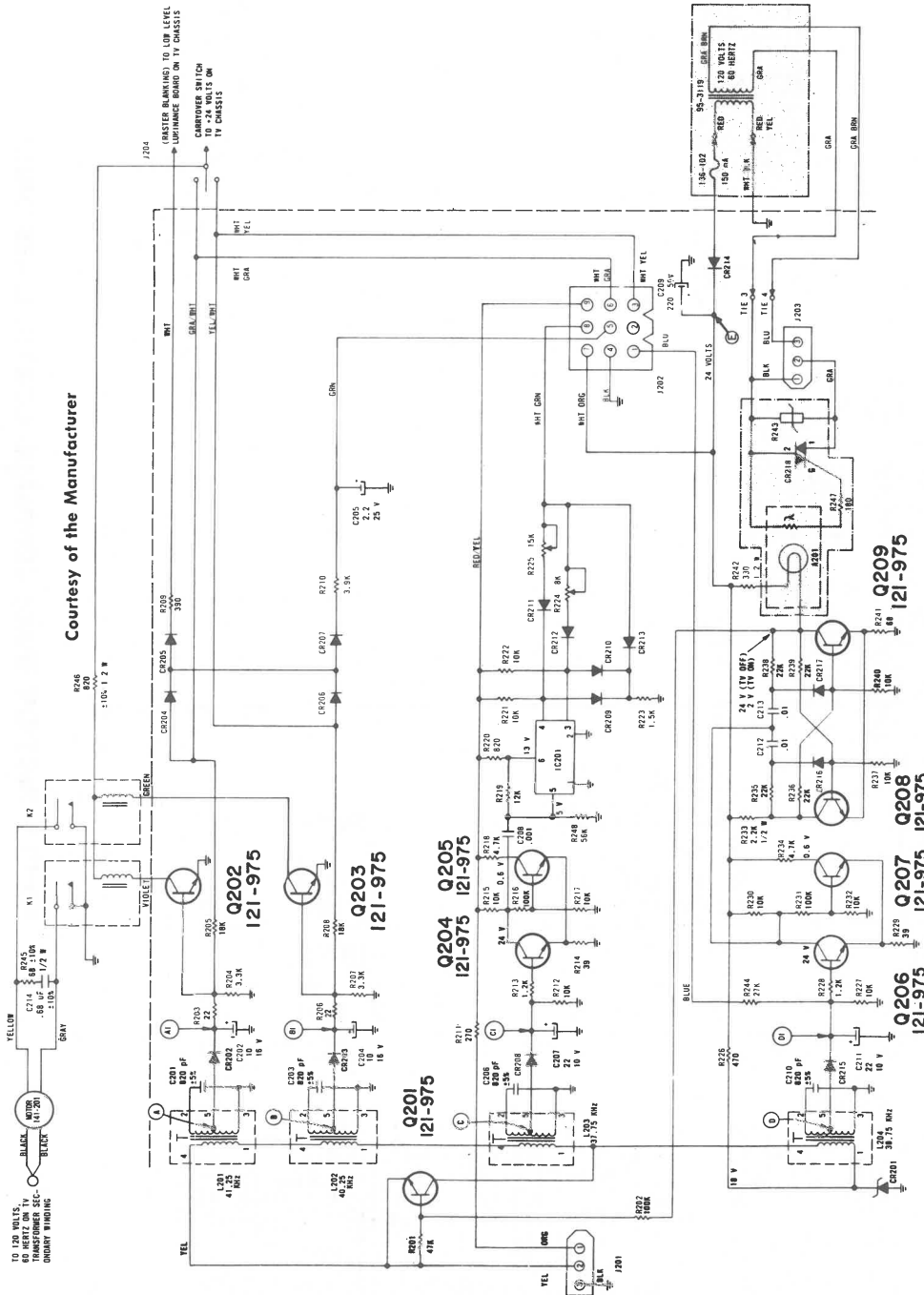
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File this Folder with the TV Folder in the yellow filing jacket provided.

IMPORTANT SAFETY NOTICE

FOR X-RADIATION, FIRE OR SHOCK HAZARD PREVENTION, CERTAIN SPECIAL OR REDUNDANT PARTS ARE USED. USE ONLY EXACT REPLACEMENTS. DO NOT ALTER THE CIRCUIT OR DEFEAT THE FUSES. FAILURE TO COMPLY MAY BE UNLAWFUL.

Courtesy of the Manufacturer



ZENITH REMOTE CONTROL
RECEIVER S-94637, TRANSMITTER S-98663

SET 1453 FOLDER 3-B

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