PHOTOFACT® Folder with CIRCUITRACE®

MAGNAVOX CHASSIS
T or U911/919/920 Series
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.

MAGNAVOX CHASSIS
T or U911/919/920 Series

REPRESENTATIVE MODEL USING CHASSIS U919-02-AA

TRADE NAME	Magnavox	Chassis	Chassis	Chassis
		T or U911-01-AA/-BB	T or U911-06-AA/-BB	T or U919-03-AA/-BB
		T or U911-02-AA/-BB	T or U911-07-AA/-BB	T or U919-04-AA/-BB
		T or U911-03-AA/-BB	T or U911-08-AA/-BB	T or U919-05-AA/-BB
		T or U911-04-AA/-BB	T or U911-10-AA/-BB	T or U919-06-AA/-BB
		T or U911-05-AA/-BB	T or U911-11-AA/-BB	T or U919-07-AA/-BB
			T or U911-12-AA/-BB	T or U919-08-AA/-BB
				T or U919-09-AA/-BB
		T or U919-01-AA/-BB		
		T919-02-AA/-BB		
		U919-02-AA (Uses Remote Transmitter 704037-1 and Remote Receiver 704028-7)		
		U919-02-BB		

	Chassis	Chassis
	T or U920-01-AA/-BB/-CB	T or U920-08-BB/-CB
	T or U920-02-AA/-BB/-CB	T or U920-09-BB/-CB
	T or U920-03-AA/-BB	T or U920-10-BB/-CB
	T or U920-04-AA/-BB/-CB	T or U920-11-BB/-CB
	T or U920-05-AA/-BB/-CB	T or U920-12-BB/-CB
	T or U920-06-AA/-BB/-CB	T or U920-13-CB
	T or U920-07-AA/-BB/-CB	T or U920-14-CB

SUPPLIER	For current address, see Annual Index.
TYPE SET	Color Television Receiver
TUBES	VHF: Twenty-Seven, UHF: One Transistor
POWER SUPPLY	110-120 Volts AC, 60 Cycles RATING 280 Watts, 3 Amps. @ 117 Volts AC
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)

MAGNAVOX CHASSIS
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SERVICING IN THE FIELD

SAFETY GLASS

The safety glass is an integral part of the picture tube.

FUSE OR FUSE DEVICE

A 3" length of fuse wire is used for filament protection. (For location, see F2 in photo "Chassis - Bottom View".)

A Circuit Breaker is used for low voltage power supply protection and may be reset by depressing the reset button. (See "Tube Placement Chart" for location.)

VHF OSCILLATOR ADJUSTMENT

The Fine Tuning mechanically engages oscillator slug for adjustment (one slug for each channel).

AGC

The AGC may be varied by means of an AGC Control. (See "Tube Placement Chart" for location.)

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

Coarse adjustment of the horizontal hold is accomplished by the proper setting of the Horizontal Waveform Coil Slug.

FOCUS

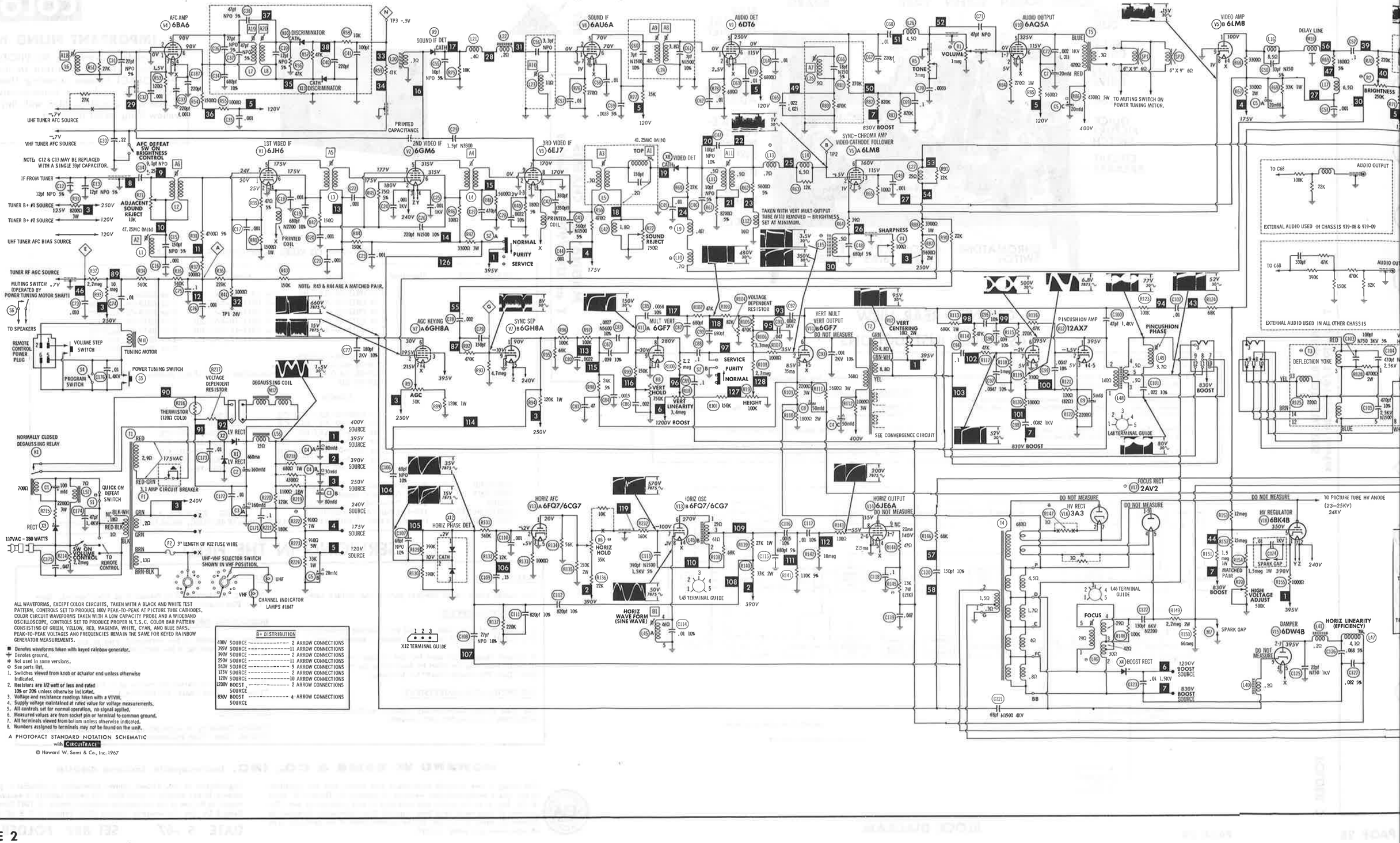
The focus may be varied by means of a Focus Coil. (See "Tube Placement Chart" for location.)

CENTERING

Vertical Centering is accomplished by a Vertical Centering Control. (See "Tube Placement Chart" for location.)

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

SET 887 FOLDER 2


AFC AMP V4 6BA6
SOUND IF V8 6AU6A
SOUND IF DET V9 6DT6
AUDIO OUTPUT V10 6AQ5A
VIDEO AMP V5 B 6LM8
1ST VIDEO IF V1 6JH6
2ND VIDEO IF V2 6GM6
3RD VIDEO IF V3 6EJ7
VIDEO DET V8 A1
SYNC-CHROMA AMP VIDEO CATHODE FOLLOWER V5 A 6LM8
AGC KEYING V7 A 6GH8A
SYNC SEP V7 B 6GH8A
MULT VERT V11 A 6GF7
VERT MULT VERT OUTPUT V11 B 6GF7
PINCUSHION AMP V12 12AX7
HORIZ AFC V17 A 6FQ7/6CG7
HORIZ OSC V13 B 6FQ7/6CG7
HORIZ PHASE DET V12
HORIZ OUTPUT V10 6JE6A
HV RECT V16 3A3
HV REGULATOR V18 6BK4B
DAMPER V15 6DW4B
FOCUS RECT V17 2AV2
DELAY LINE
DEFLECTION YOKE
AFC DEFEAT SW ON BRIGHTNESS CONTROL
ADJACENT SOUND REJECT 10K
SOUND REJECT 750Ω
PRINTED CAPACITANCE
PRINTED COIL
VOLUME 1meg
TONE 1meg
SHARPNESS
BRIGHTNESS 250K
PINCUSHION PHASE
HORIZ HOLD 35K
VERT LINEARITY 3.4meg
HEIGHT 100K
VERT CENTERING 1K, 2W
HORIZ LINEARITY (EFFICIENCY)
HIGH VOLTAGE ADJUST 500K
SPARK GAP
L46 TERMINAL GUIDE
L45 TERMINAL GUIDE
X12 TERMINAL GUIDE
X8 TERMINAL GUIDE
TO MUTING SWITCH ON POWER TUNING MOTOR.
TO PICTURE TUBE HV ANODE (23–25KV) 24KV
SEE CONVERGENCE CIRCUIT
EXTERNAL AUDIO USED IN CHASSIS 919-08 & 919-09
EXTERNAL AUDIO USED IN ALL OTHER CHASSIS
TAKEN WITH VERT MULT-OUTPUT TUBE (V11) REMOVED — BRIGHTNESS SET AT MINIMUM.
NOTE: R43 & R44 ARE A MATCHED PAIR.
NOTE: C12 & C13 MAY BE REPLACED WITH A S INGLE 33pf CAPACITOR.
UHF TUNER AFC SOURCE
VHF TUNER AFC SOURCE
IF FROM TUNER
TUNER B+ #1 SOURCE 250V
TUNER B+ #2 SOURCE 120V
UHF TUNER AFC BIAS SOURCE
TUNER RF AGC SOURCE
MUTING SWITCH (OPERATED BY POWER TUNING MOTOR SHAFT)
TO SPEAKERS
REMOTE CONTROL POWER PLUG
VOLUME STEP SWITCH
TUNING MOTOR
PROGRAM SWITCH
POWER TUNING SWITCH
DEGAUSSING COIL
VOLTAGE DEPENDENT RESISTOR
THERMISTOR (120Ω COLD)
NORMALLY CLOSED DEGAUSSING RELAY
QUICK ON DEFEAT SWITCH
3.1 AMP CIRCUIT BREAKER
117VAC – 280 WATTS
SW ON VOLUME CONTROL 2.2meg
TO REMOTE CONTROL
3" LENGTH OF #22 FUSE WIRE
UHF-VHF SELECTOR SWITCH SHOWN IN VHF POSITION.
CHANNEL INDICATOR LAMPS #1847
400V SOURCE
395V SOURCE
390V SOURCE
250V SOURCE
240V SOURCE
175V SOURCE
120V SOURCE
830V BOOST SOURCE
1200V BOOST SOURCE
NORMAL PURITY SERVICE
SERVICE PURITY NORMAL
B+ DISTRIBUTION
400V SOURCE ---------- 2 ARROW CONNECTIONS
395V SOURCE ---------- 11 ARROW CONNECTIONS
390V SOURCE ---------- 2 ARROW CONNECTIONS
250V SOURCE ---------- 11 ARROW CONNECTIONS
240V SOURCE ---------- 5 ARROW CONNECTIONS
175V SOURCE ---------- 2 ARROW CONNECTIONS
120V SOURCE ---------- 10 ARROW CONNECTIONS
1200V BOOST SOURCE ---------- 2 ARROW CONNECTIONS
830V BOOST SOURCE ---------- 4 ARROW CONNECTIONS
ALL WAVEFORMS, EXCEPT COLOR CIRCUITS, TAKEN WITH A BLACK AND WHITE TEST PATTERN, CONTROLS SET TO PRODUCE 100V PEAK-TO-PEAK AT PICTURE TUBE CATHODES. COLOR CIRCUIT WAVEFORMS TAKEN WITH A LOW CAPACITY PROBE AND A WIDEBAND OSCILLOSCOPE, CONTROLS SET TO PRODUCE PROPER N.T.S.C. COLOR BAR PATTERN CONSISTING OF GREEN, YELLOW, RED, MAGENTA, WHITE, CYAN, AND BLUE BARS. PEAK-TO-PEAK VOLTAGES AND FREQUENCIES REMAIN THE SAME FOR KEYED RAINBOW GENERATOR MEASUREMENTS.
■ Denotes waveforms taken with keyed rainbow generator.
⏚ Denotes ground.
※ Not used in some versions.
⊖ See parts list.
1. Switches viewed from knob or actuator end unless otherwise indicated.
2. Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
3. Voltage and resistance readings taken with a VTVM.
4. Supply voltage maintained at rated value for voltage measurements.
5. All controls set for normal operation, no signal applied.
6. Measured values are from socket pin or terminal to common ground.
7. All terminals viewed from bottom unless otherwise indicated.
8. Numbers assigned to terminals may not be found on the unit.
A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITRACE
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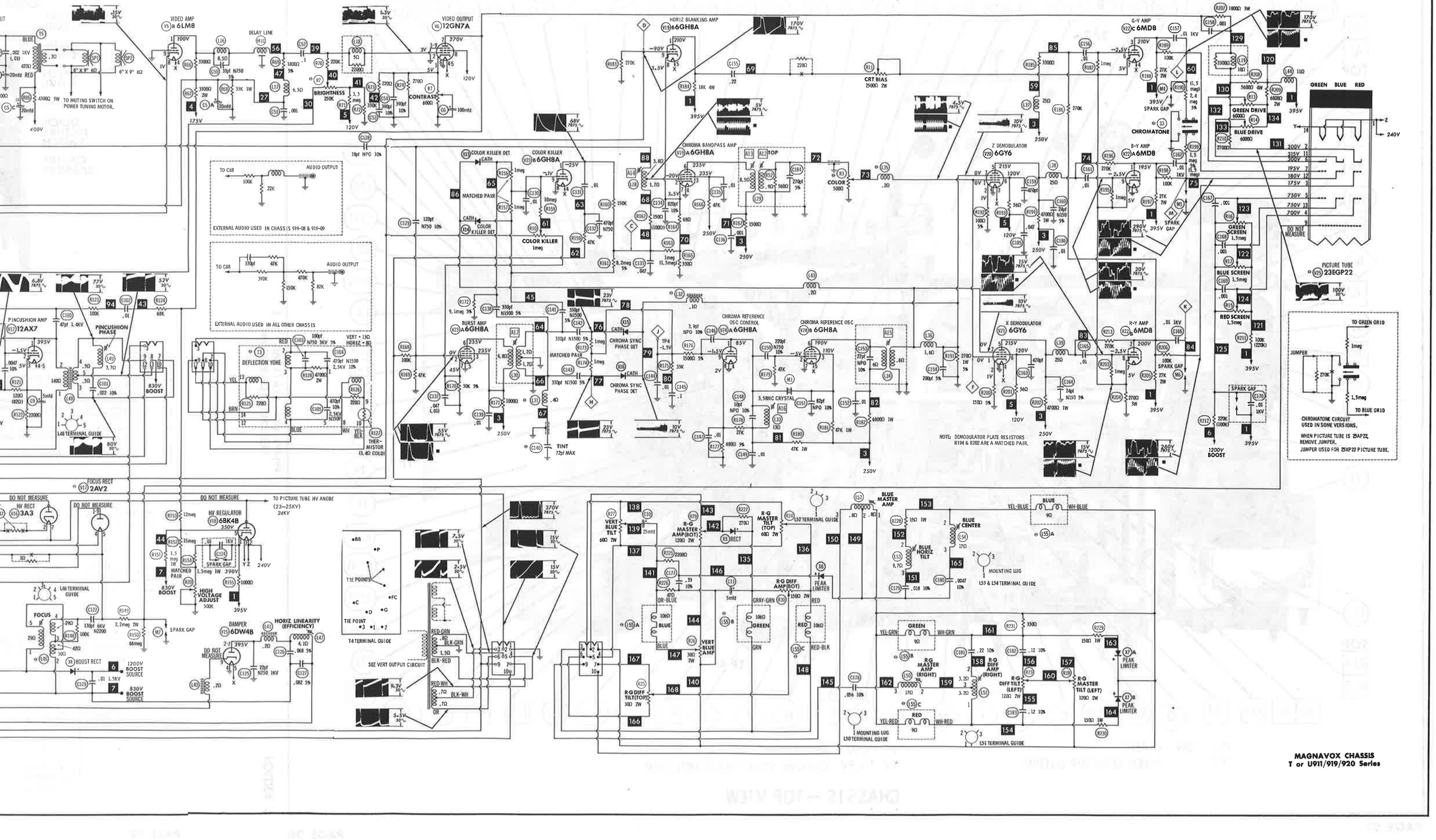
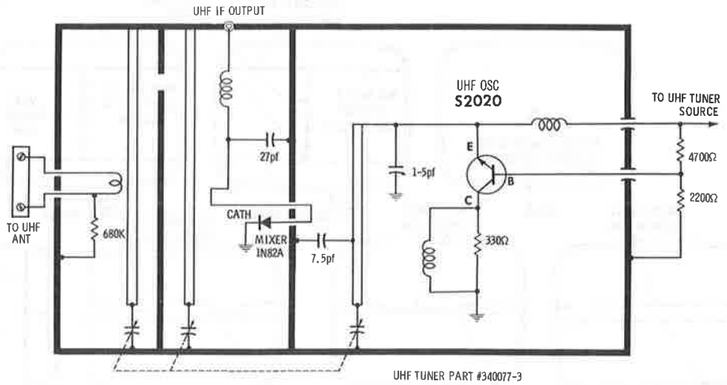


MAGNAVOX CHASSIS
T or U911/919/920 Series

RESISTANCE MEASUREMENTS

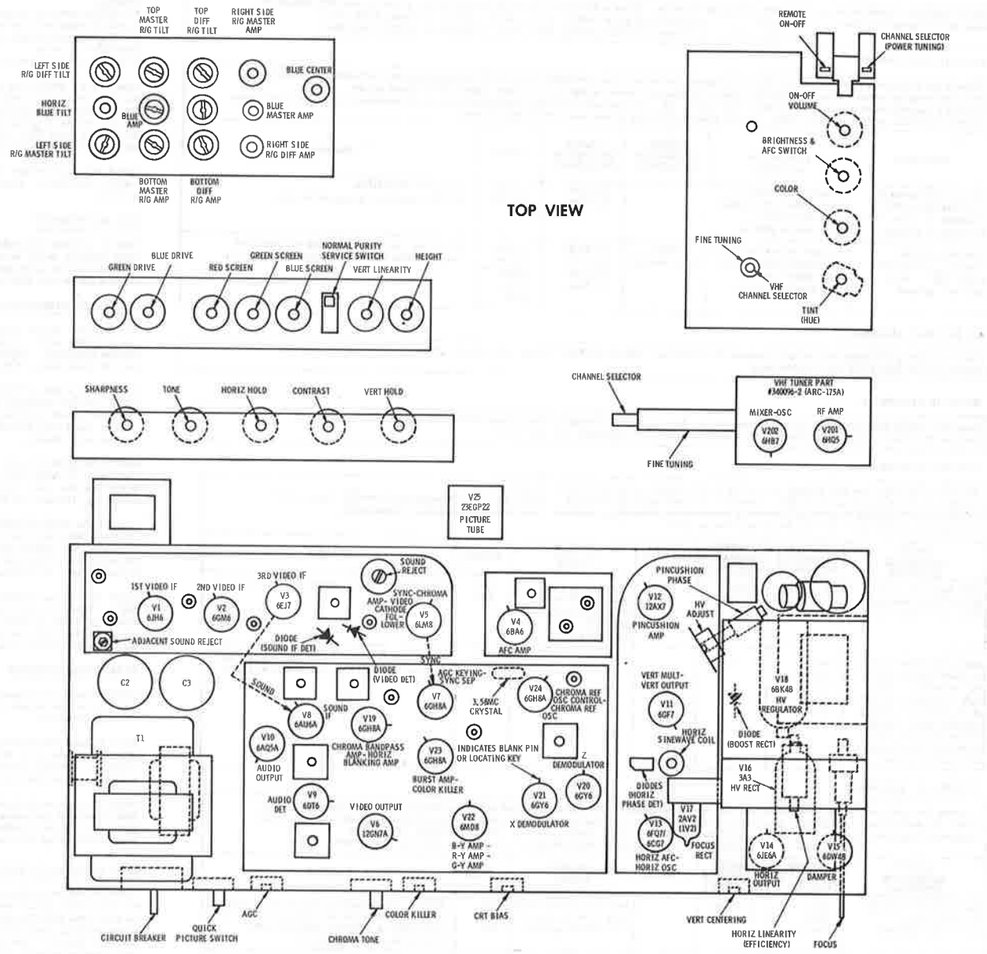
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Pin 11	Pin 12
V1	6JH6	221K	1547Ω	FIL	FIL	225Ω ▲	225Ω ▲	1500Ω					
V2	6GM6	90K	INF	FIL	FIL	3415Ω †	3415Ω †	75Ω ▲					
V3	6EJ7	180Ω	5600Ω †	180Ω	FIL	FIL	0Ω	2495Ω †	2495Ω †	0Ω			
V4	6BA6	0Ω	0Ω	FIL	FIL	5435Ω †	5435Ω †	120Ω					
V5	6LM8	6300Ω †	1400Ω ●	5425Ω †	FIL	FIL	10K †	39Ω	39Ω	0Ω			
V6	12GN7A	186Ω	355K	0Ω	FIL	FIL	FIL	5000Ω †	2935Ω †	0Ω			
V7	12GH8A	40K	6715Ω †	15Ω †	FIL	FIL	740K	11K †	0Ω	4.7meg			
V8	6AU6A	11Ω	0Ω	FIL	FIL	18K †	18K †	270Ω					
V9	6DT6	3.8Ω	680Ω	FIL	FIL	1meg ‡	9735Ω †	470K					
V10	6AQ5A	350K	270Ω	FIL	FIL	4720Ω †	8535Ω †	NC					
V11	6GF7	0Ω	3.8meg	2400Ω	FIL	FIL	1360Ω†	NC	3.1meg †	370K			
V12	12AX7	155Ω †	667K	2200Ω	FIL	FIL	155Ω †	1meg	2650Ω	FIL			
V13	6FQ7/ 6CG7	18K	770K	1000Ω	FIL	FIL	61K †	185K	46Ω	0Ω			
V14	6JE6A	131K †	10meg	0Ω	FIL	FIL	10meg	13.1K †	15K	NC			TOP CAP 4.7Ω ‡
V15	6DW4B	NC	28Ω †	NC	FIL	FIL	NC	28Ω †	NC	1.1meg			
V16	3A3	PINS 1 THRU 8 HAVE INFINITE RESISTANCE											TOP CAP 684.7Ω ‡
V17	2AV2	NC	NC	NC	68.2meg	68.2meg	NC	NC	NC	4.7Ω			
V18	6BK4B	1015Ω †	FIL	NC	NC	1meg ‡	NC	FIL	NC				TOP CAP INF
V19	6GH8A	18K †	950K	48K †	FIL	FIL	2615Ω †	398Ω	398Ω	22K			
V20	6GY6	13Ω	100Ω	FIL	FIL	5815Ω †	2991Ω †	3Ω					
V21	6GY6	13Ω	150Ω	FIL	FIL	5815Ω †	2991Ω †	1.3Ω					
V22	6MD8	26K †	25K †	27K †	FIL	FIL	1meg	270Ω	1meg	1meg			
V23	6GH8A	1meg	35K	2115Ω †	FIL	FIL	2115Ω †	34K	0Ω	1.8meg ●			
V24	6GH8A	20K	47K	48K †	FIL	FIL	7915Ω †	0Ω	680Ω	2.6meg ●			
V25	23EGP22A	FIL	6600Ω †	130K †	610K †	560K †	3900Ω †	130K †	NC	66meg	NC	4900Ω †	125K †
							Pin 13 550K	Pin 14 FIL					
V201	6HQ5	3.6meg	0Ω	FIL	FIL	10.5K †	0Ω	0Ω					
V202	6HB7	0Ω	220K	0Ω	FIL	FIL	3935Ω †	25K †	7635Ω †	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

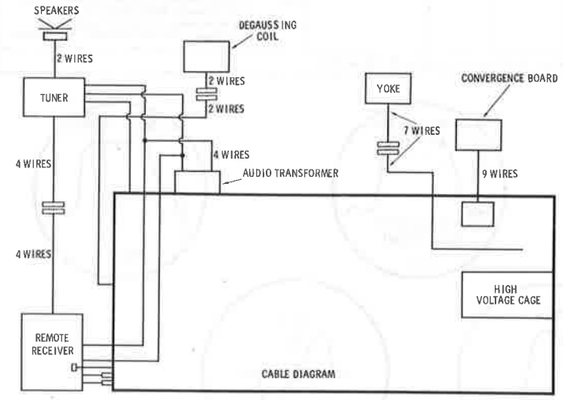
▲ MEASURED FROM PIN 2 OF V2.
‡ MEASURED FROM PIN 9 OF V15.
NC NO CONNECTION
† MEASURED FROM OUTPUT OF X2.
● READING DEPENDS ON POLARITY OF METER CONNECTIONS



UHF TUNER 340077-3

TUBE PLACEMENT CHART





CABLING DIAGRAM

MAGNAVOX CHASSIS T or U911/919/920 Series

FOLDER 2

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 A14 GENERAL CEMENT #8606, 8606L, 8869 .., WALSCO #2543, 2544, 2586
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 Ⓐ) 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 Ⓑ. Common to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.		41.25MC 47.25MC	A1, R22 A2, R21	Adjust for MINIMUM. A1 slug should be at top end of coil.
2.	Connect vertical input of a scope to point Ⓑ. Low side to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.	44MC (10MC Sweep)	41.25MC 42.17MC 45.75MC 47.25MC	A3, A4, A5, A6, Mixer Plate Coil	Adjust for maximum gain and symmetry of response with markers as shown in Figure 1.

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 A11 for MINIMUM beat interference.

SOUND IF ALIGNMENT

Tune in a station and adjust A 7 for maximum sound. Reduce signal strength at the antenna terminals until distortion appears.
Continue to reduce signal while aligning for undistorted output by adjusting A8, A9, A10.

CHROMA BANDPASS ALIGNMENT

The following alignment will require the use of an RF Modulator (RCA WG304A or equivalent).
Connect a -2 volt supply to Point Ⓒ. Connect a -15 volt supply to Point Ⓓ. Connect a -15 volt supply to Point Ⓔ (Tuner AGC).
Positive of all supplies to ground. Connect a jumper from Point Ⓐ to ground. Turn the color intensity to maximum.
Disconnect cathode (pin 3) of V14, Horizontal Output Tube.

	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
3.	High side thru .1mfd to grid of V19, Bandpass Amp. Low side to ground.	3.58MC (3-5MC Sweep)	3.08MC 4.08MC		Vert. Amp. thru Detector Probe to pin 1 of demodulators point Ⓕ. Low side to ground.	A12 A13	Adjust for response curve similar to Fig. 2.
4.	High side of sweep gen. to Video Sweep Input of RF modulator. High side of signal gen. (set at 45.75MC) to picture carrier input. Output of RF modulator to Mixer Grid test point on tuner. Low side to ground.	Sweep Generator to 3MC (6MC Sweep)	"		"	A14	Adjust for response curve similar to Fig. 3. If necessary, retouch A12 to flatten top of response.

TUNER AFC ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
Note: Responses may vary slightly from those shown. Video IF and Chroma alignment must be aligned before Tuner AFC is aligned.
Suggested Alignment Tools: A18, A19 ...GENERAL CEMENT #8606, 8606L, 8869 ... WALSCO #2543, 2544, 2586
A20 ..... GENERAL CEMENT #8868, 8987, 9089 ..... WALSCO #2531-X, 2541, 2587

	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	High side to Point Ⓘ on VHF tuner. Low side to ground.	40MC (3MC Sweep)	45.75MC 47.25MC		High side to Point Ⓚ thru a 10K Resistor. Low side to ground.	A20 A18 A19	Detune A20 by turning slug to top of coil. Adjust A18 and A19 for maximum gain and symmetry of response with 47.75MC marker as shown in Fig. 4.
2.	"	"	"		"	A20	Adjust to place 45.75MC marker at center of crossover lines similar to Fig. 5. If necessary, retouch A18 and A19 for maximum gain and symmetry of response.

NOTE: Recheck overall IF response curve . If necessary, readjust A1, A3 and R22.

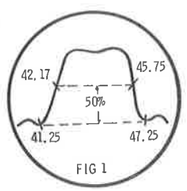


FIG 1

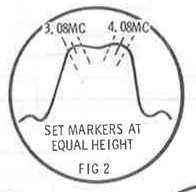


FIG 2

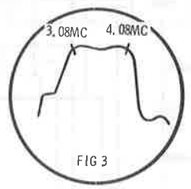


FIG 3

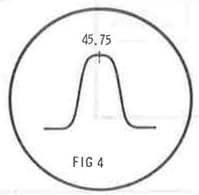


FIG 4

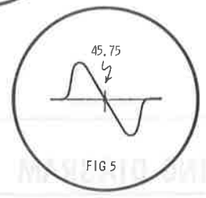


FIG 5

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Connect:
A 0-500ma meter in series with cathode lead of horizontal output tube.
A .47mfd capacitor across meter.
A VTVM through a high voltage probe to picture tube anode connector.
Point Ⓚ to ground.
A short across horizontal waveform coil (pin 8 of V13 to ground).

Tune in a TV station and set all controls for normal operation. Adjust the Horizontal Hold control until the picture "floats" with the blanking bars vertical. Remove the short from the Horizontal Oscillator Cathode and adjust B1 until the picture "floats" horizontally. Remove the short from point Ⓚ. Adjust the Horizontal Linearity Coil for MINIMUM current in the Horizontal Output tube (should not exceed 240ma).

Adjust the High Voltage control for 25KV on picture tube anode with normal brightness. Adjust the Focus, Height, and Vertical Linearity controls.

AGC ADJUSTMENT

Tune in a strong TV station and advance the AGC control until instability appears in the picture (pulling, jitter, overload, etc.). Reduce the control to the point just below the instability and check all available stations for proper AGC action.

COLOR AFC ALIGNMENT

Set the Color Killer control to fully counterclockwise. Set the Tint control to the center of its range. Connect a color bar generator to the antenna terminals. Adjust receiver for normal color reception. Short pin 2 of Burst Amp., V23, to ground.

Connect DC probe of VTVM through 470K to point Ⓛ, Chroma board. Adjust A15 for maximum deflection on VTVM. If no reading is obtained, oscillator is not operating. Adjust A16 to start oscillaotr, then adjust A17 for maximum deflection on VTVM. Make sure the oscillator is running and locked in.

Short point Ⓙ to ground. Remove VTVM. Adjust A16 until color bars stand still or drift slowly. Remove the short from point Ⓙ and check to see that the color bars will "sync" with a low level input signal. If necessary, retouch A16 for best hold.

Connect the vertical input of a scope to point Ⓚ. Check for proper waveform with the color bar generator being used. See waveform on schematic for pattern obtained from a standard NTSC signal. Check the range of the Tint control. The bars should move 30° either side of proper signal. If necessary, retouch A17 for proper range of control.

Check for proper waveform at G-Y and B-Y outputs (points Ⓙ and Ⓜ). Tune in a weak signal or reduce the signal at the antenna terminals to obtain a snowy picture. Adjust the Color Killer control to eliminate the color in the snow. Check with a color signal to make sure the killer is not eliminating picture coloring.

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.

Move Normal-Purity-Service switch to Purity position. Connect the Blue and Green grids of the picture tube through individual 100K resistors to ground. Loosen the 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.

GREY SCALE ADJUSTMENTS (KINE BIAS SWITCH TYPE)

Turn Chromatone switch to Off position. Tune in a black and white picture or a color picture with the Color control set to MINIMUM. Switch the Kine Bias switch to the Up position. Turn the Red, Blue and Green screen controls fully counterclockwise. Move Normal-Purity-Service switch to Service. Advance the screen controls, one at a time, until each produces a barely visible line on the screen.

If one or move controls fail to produce a line, change the Kine Bias switch to the center or possibly Down position and begin again. Return the Normal-Purity-Service switch to Normal. Adjust Blue and Green Drive controls to eliminate coloring in the dark and bright areas of the picture.

GREY SCALE ADJUSTMENTS (KINE BIAS CONTROL TYPE)

Adjust Brightness and Contrast controls to the center of mechanical rotation. Turn Chromatone switch Off. Tune in a black and white picture or a color picture with Color controls set at MINIMUM. Turn the CRT Bias control to MINIMUM (counterclockwise). Turn the Red, Blue and Green screen controls to MINIMUM. Move the Normal-Purity-Service switch to the Service position. Advance the Screen controls one at a time until each produces a barely visible line.

If one or more controls fail to produce a line, leave that Screen control at maximum and advance the CRT Bias control until a barely visible line appears. Then readjust the other two screen controls for a barely visible line. Return the Normal-Purity-Service switch to the Normal position. Adjust the Blue and Green Video Drive controls to eliminate coloring in the light and dark areas of the picture. Set the Brightness to maximum position and adjust CRT Bias control until the picture just begins to bloom.

GREY SCALE ADJUSTMENTS (25XP22 PICTURE TUBE TYPE) Ch. T920

NOTE: Quick Disconnect Solderless Connectors are used in order that the weakest gun can be wired direct and the other two guns connected to the Drive controls.

Rotate each Drive control to determine which guns are connected to the Drive controls. If the Red gun is connected to a Drive control, set that control to MINIMUM. Set the other control to maximum.

Set the Brightness control to MINIMUM, the three screen controls fully counterclockwise, CRT Bias fully counterclockwise, and the Chromatone switch Off. Set the Normal-Purity-Service switch to the Service position. Adjust each screen control one at a time, until each produces a barely visible line on the screen.

MISCELLANEOUS ADJUSTMENTS

If one or more controls fail to produce a line, leave that control at maximum and advance the CRT Bias control for a barely visible line. Readjust the other controls to produce a barely visible line. Return the Normal-Purity-Service switch to Normal position. Tune in a black and white picture or a color picture with the Color control set to MINIMUM. Set the Brightness control to maximum. If necessary, advance the CRT Bias control for a slight blooming of the picture at maximum brightness.

Turn the Brightness control to normal brightness and adjust the Drive controls to eliminate coloring in the dark and bright areas of the picture. If screen does not maintain the same color temperature at low and high brightness levels, retouch screen controls.

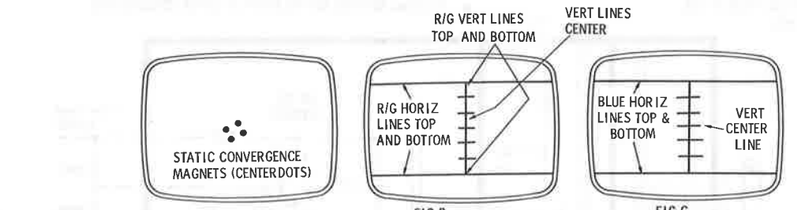
DYNAMIC PINCUSHION ADJUSTMENTS

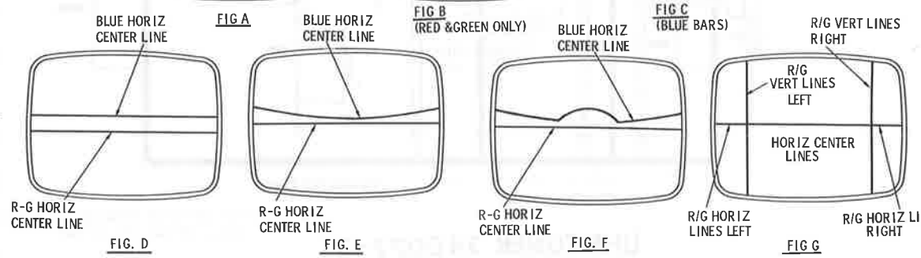
The side pincushion is a fixed correction and no adjustments are provided on this chassis. Top Pincushion is factory adjusted and readjustment is seldom needed. If necessary, top pincushion may be corrected by adjusting for a straight horizontal line at the top of the screen.

Connect a crosshatch generator to the antenna terminals and adjust the set for a normal crosshatch pattern. Turn L49, Pincushion Phase coil, for straight line at top of screen.

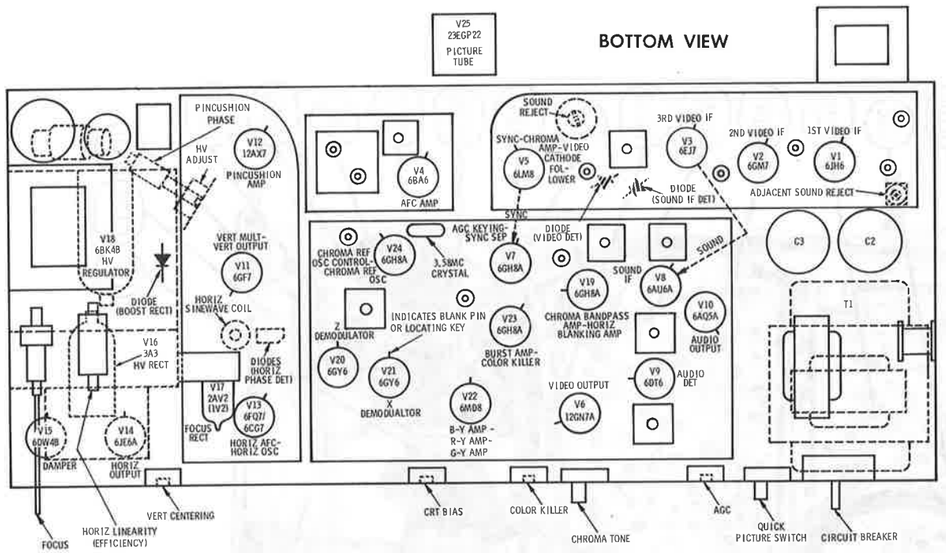
CONVERGENCE ADJUSTMENTS

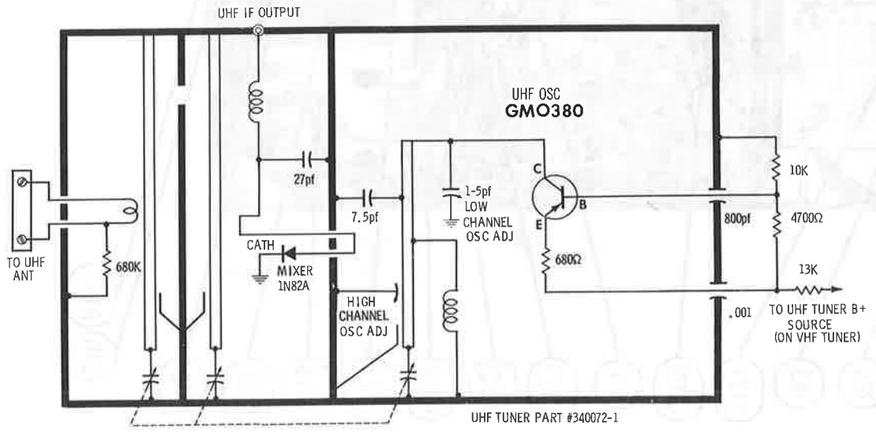
Step	Control	Use to Converge (or Straighten)	Remarks
1.			Perform center dot convergence using convergence magnets. If more range is needed, rotate magnet. See Fig. A.
2.	Master Amp., Bottom	Red and Green vertical bars at bottom of screen	Touch up both controls for best convergence from top to bottom along vertical center line (Fig. B).
3.	Master Tilt, Top	Red and Green vertical bars at top of screen	
4.	Diff. Amp., Bottom	Red and Green horizontal bars at bottom of screen	Touch up both controls for best convergence of horizontal bars along vertical center line (Fig. B).
5.	Diff. Tilt, Top	Red and Green horizontal bars at top of screen.	
6.	Blue Amp., Bottom	Blue horizontal bars at bottom of screen.	Touch up both controls for best convergence of horizontal bars along vertical center line (Fig. C).
7.	Blue Tilt, Top	Blue horizontal bars at top of screen	
8.			Perform center dot static convergence (Fig. A).
9.			Rotate blue convergence magnet to offset the blue bar.
10.	Blue Master Amp. Coil	Blue horizontal bar in center of screen	Adjust for maximum displacement of the center blue horizontal bar in relation to the red and green bars. Several turns clockwise will usually be required to obtain this displacement (Fig. D).
11.	Blue Tilt Coil	Blue horizontal bar in center of screen.	Adjust so the blue horizontal bar in center of screen has a downward bow (or sag) in the middle of the screen (Fig. E).
12.	Blue Center Coil	Blue horizontal bar in center of screen.	Adjust for slight upward movement (1/8") at center of blue horizontal center bar. It may be necessary to go through entire range of coil to find correct setting (Fig. F).
13.	Blue Master Amp. Coil	Blue horizontal bar in center of screen.	Readjust the Blue Master Amplitude coil to straighten out the blue center bar (Fig. D).
14.			Adjust the blue convergence magnet for best convergence in the center of the screen (Fig. G).
15.	Master Amp., Right	Red and Green vertical bars at right side of screen	Touch up both controls for best convergence of the vertical bars on both the left and right sides of the screen (Fig. G).
16.	Master Tilt, Left	Red and Green vertical bars at left side of screen	
17.	Diff. Amp., Right	Red and Green bars at right side of screen	Touch up both controls for best convergence of the horizontal bars on both the left and right sides of the screen (Fig. G).
18.	Diff. Tilt, Left	Red and Green bars at left side of screen	
19.			Touch up the Horizontal Blue Master Amplitude control and the Horizontal Blue Tilt control to converge the horizontal blue bar with the red and green bar (Fig. G).





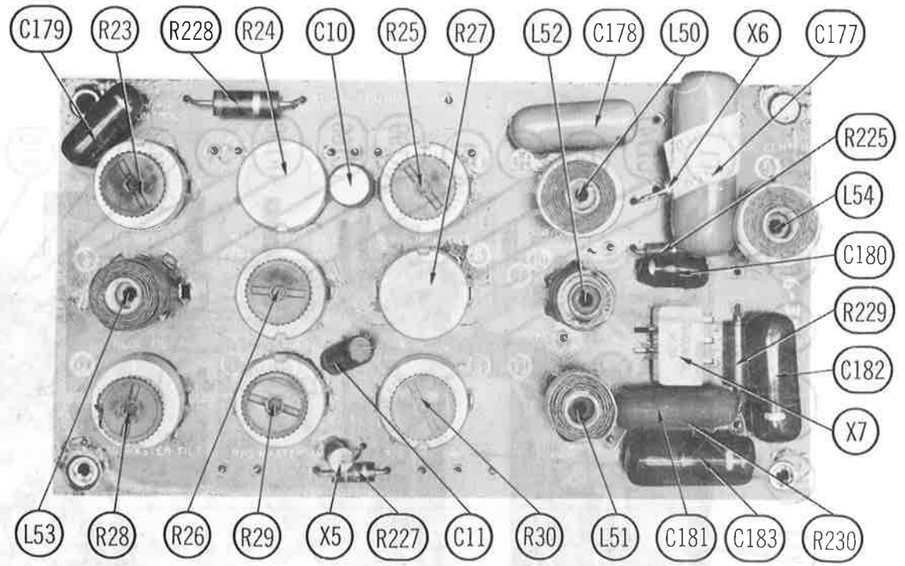
TUBE PLACEMENT CHART

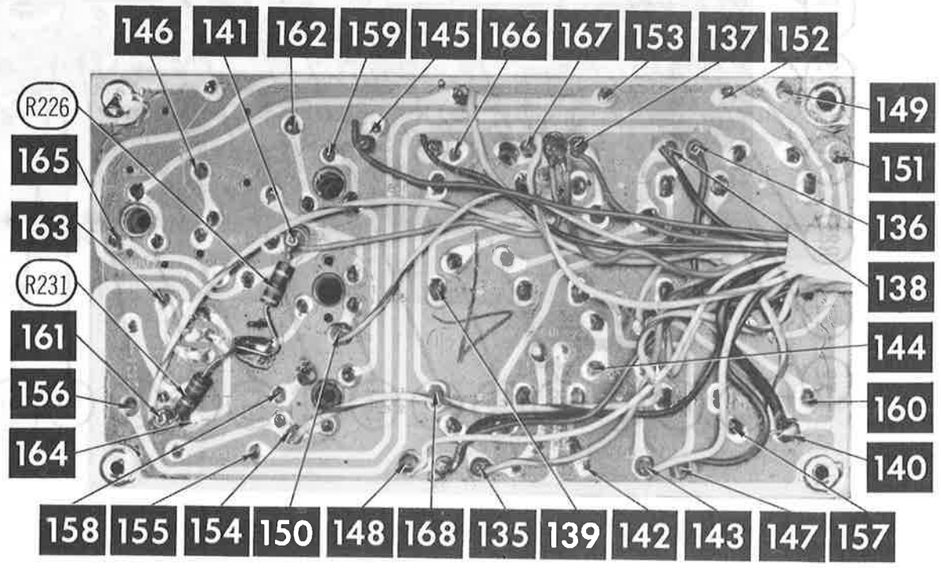




A PHOTOFACT STANDARD NOTATION SCHEMATIC

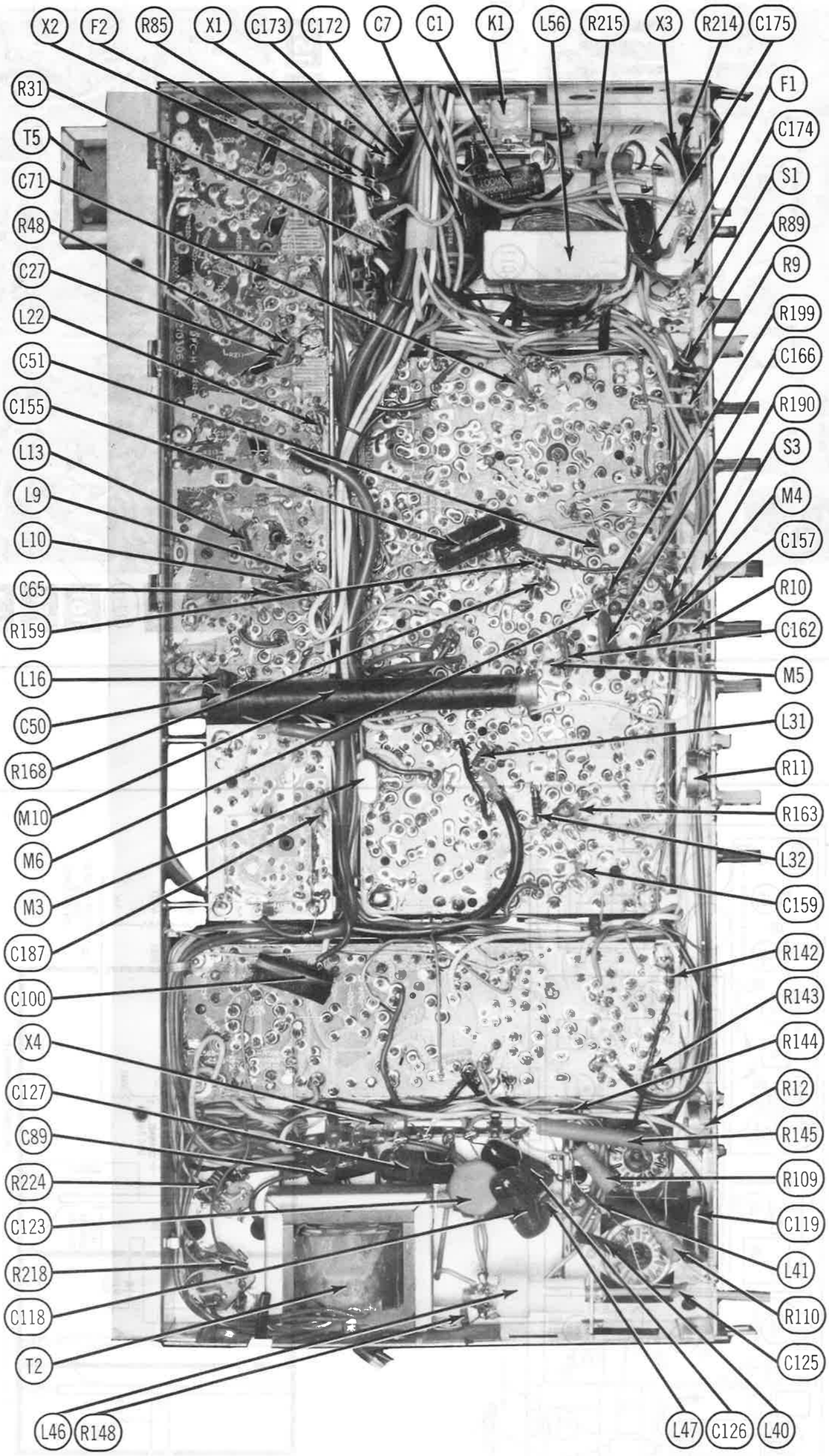
UHF TUNER 340072-1



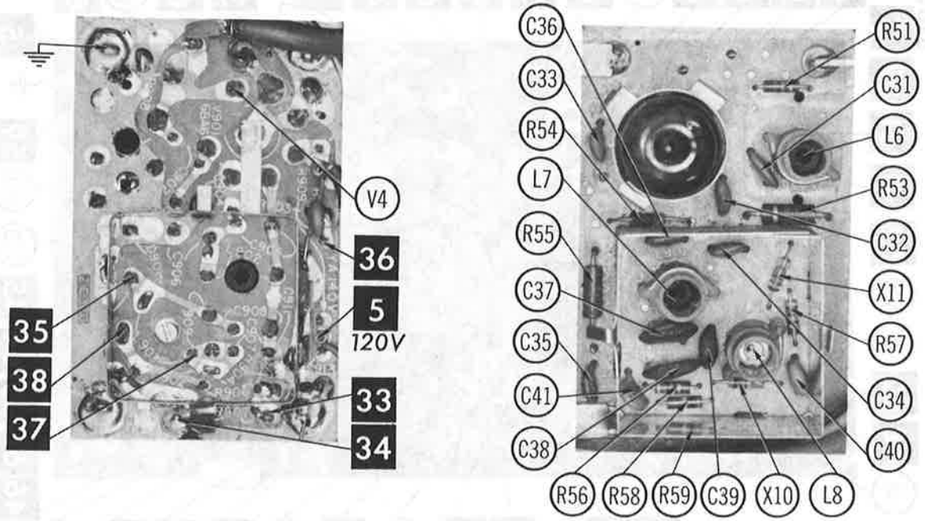


A Howard W. Sams CIRCUITRACE® Photo

CONVERGENCE BOARD

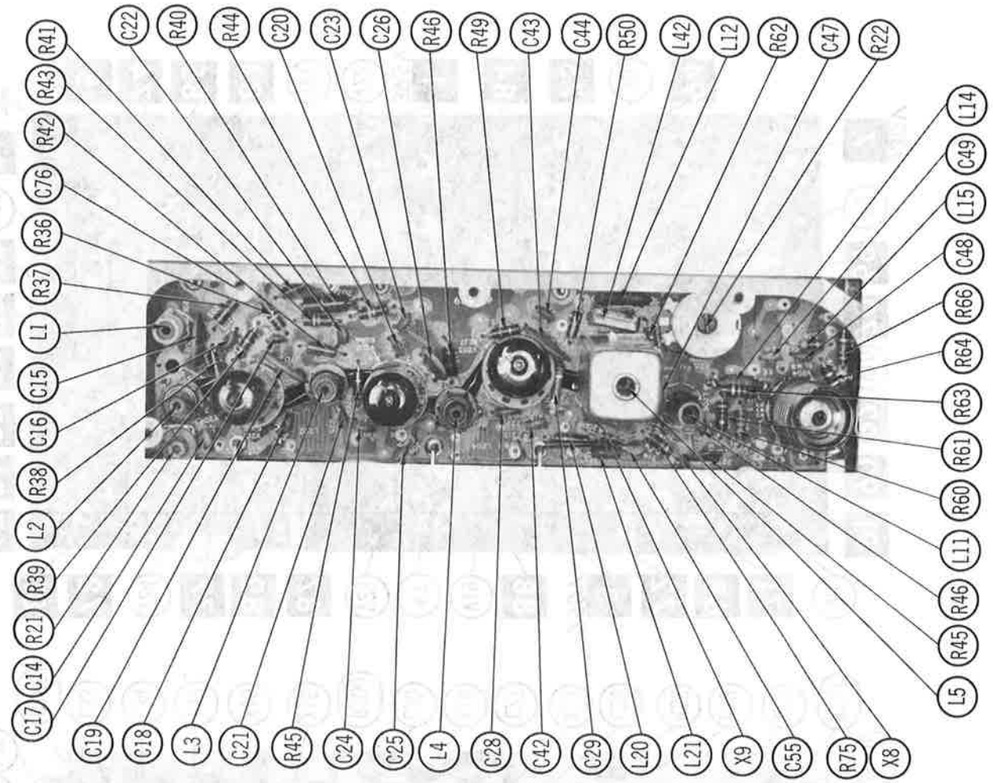


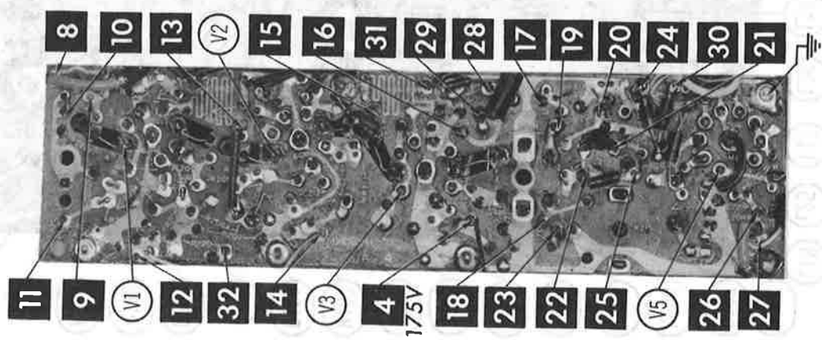
CHASSIS – BOTTOM VIEW



A Howard W. Sams CIRCUITRACE Photo **AFC PRINTED BOARD** ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

ALTERNATE AC CIRCUITS





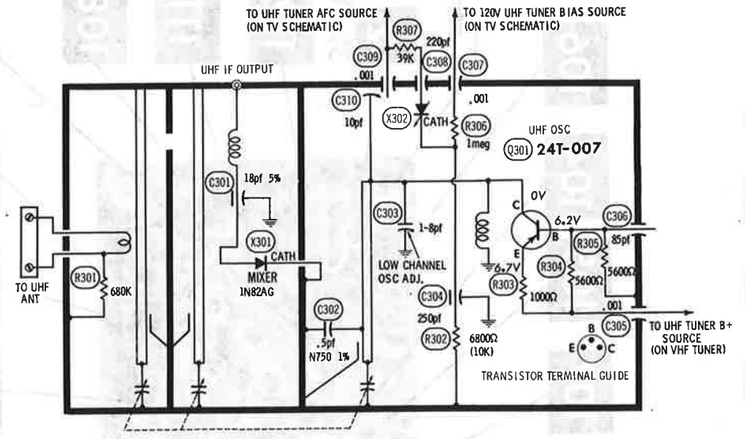
A Howard W. Sams CIRCUITRACE Photo **VIDEO PRINTED BOARD** ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

A Howard W. Sams CIRCUITRACE Photo

VIDEO OUTPUT, AUDIO, AGC, SYNC SEPARATOR, COLOR BOARD

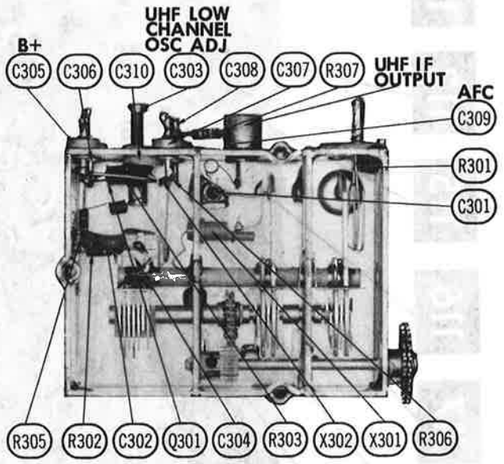
ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

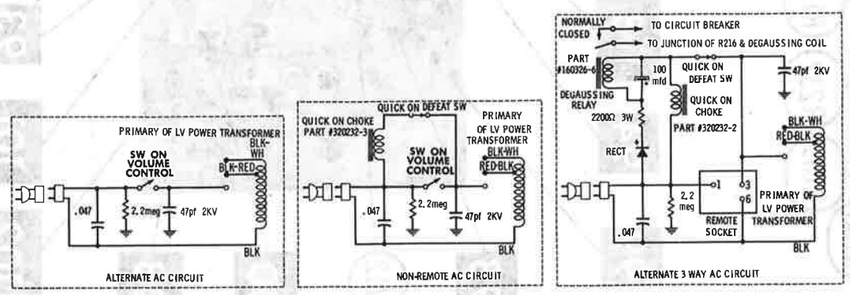
UHF TUNER 340064-1



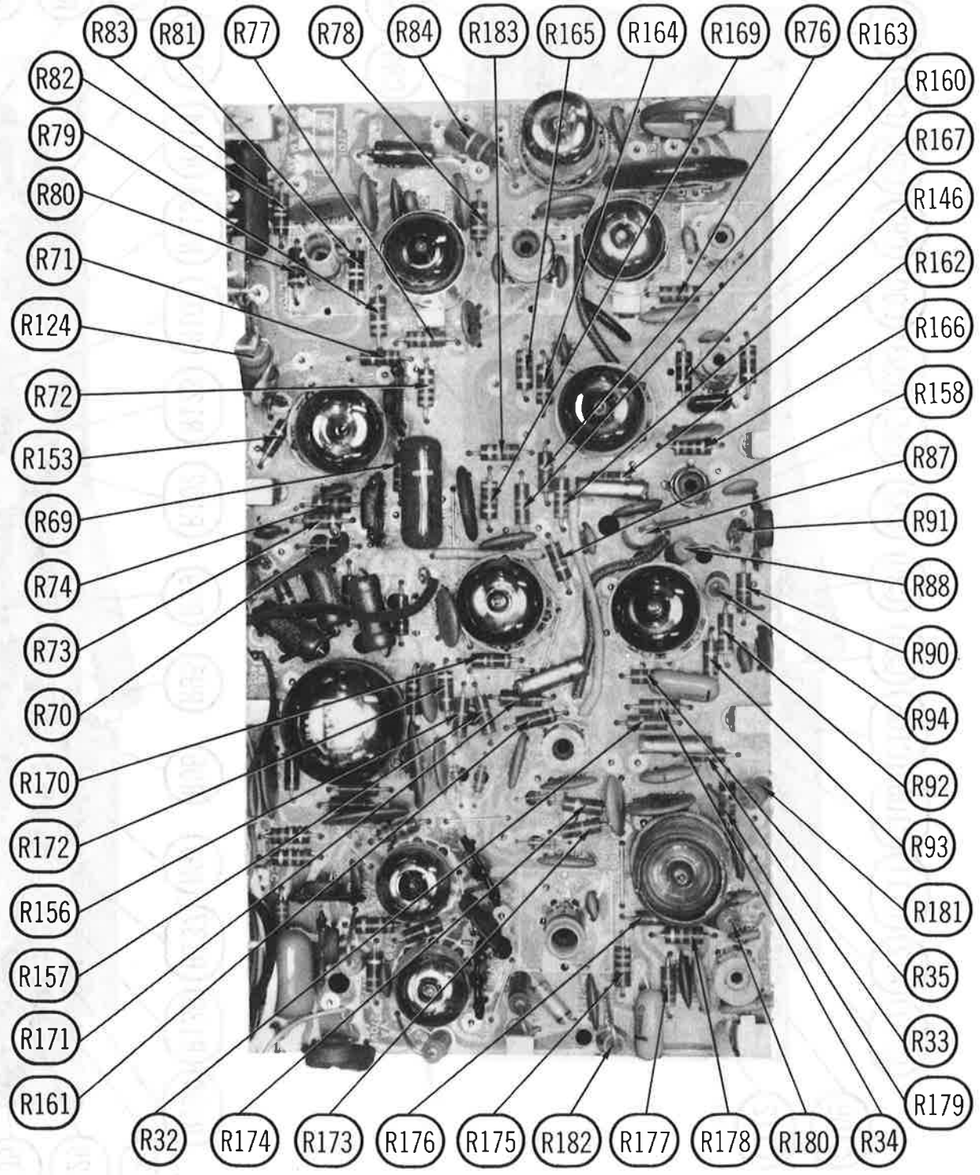
A PHOTOFACT STANDARD NOTATION SCHEMATIC

UHF TUNER PART # 340064-1 (UTA-058)





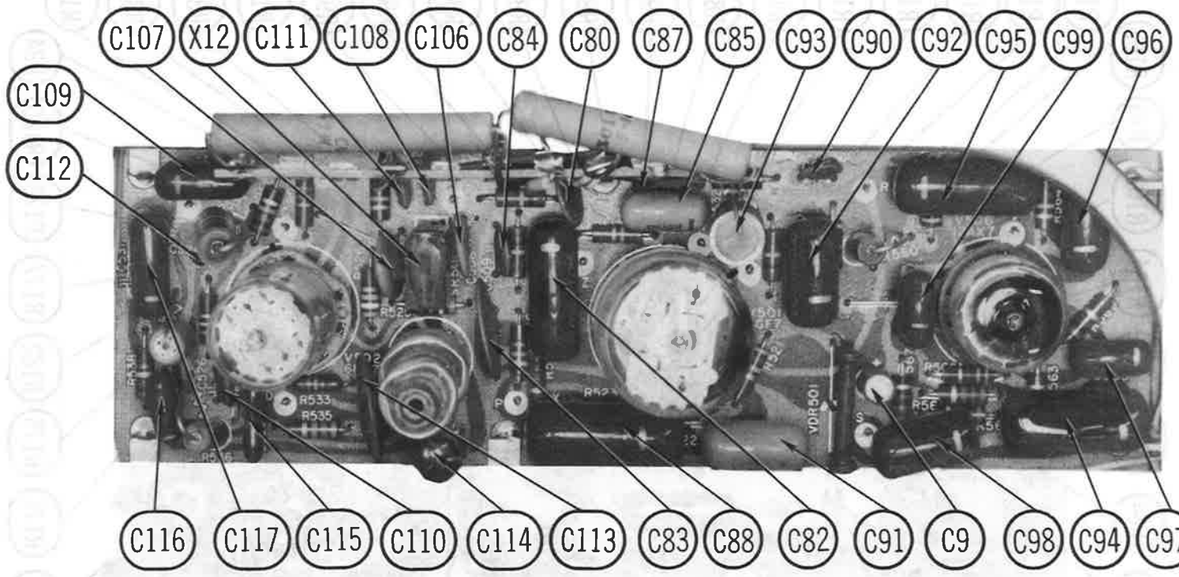
ALTERNATE AC CIRCUIT

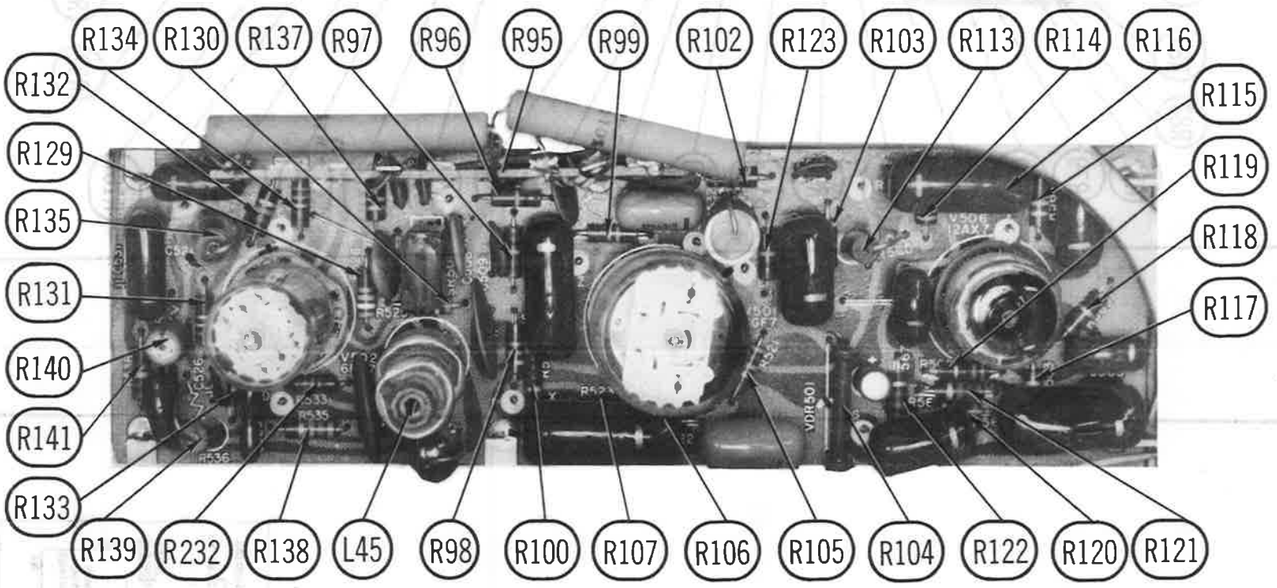


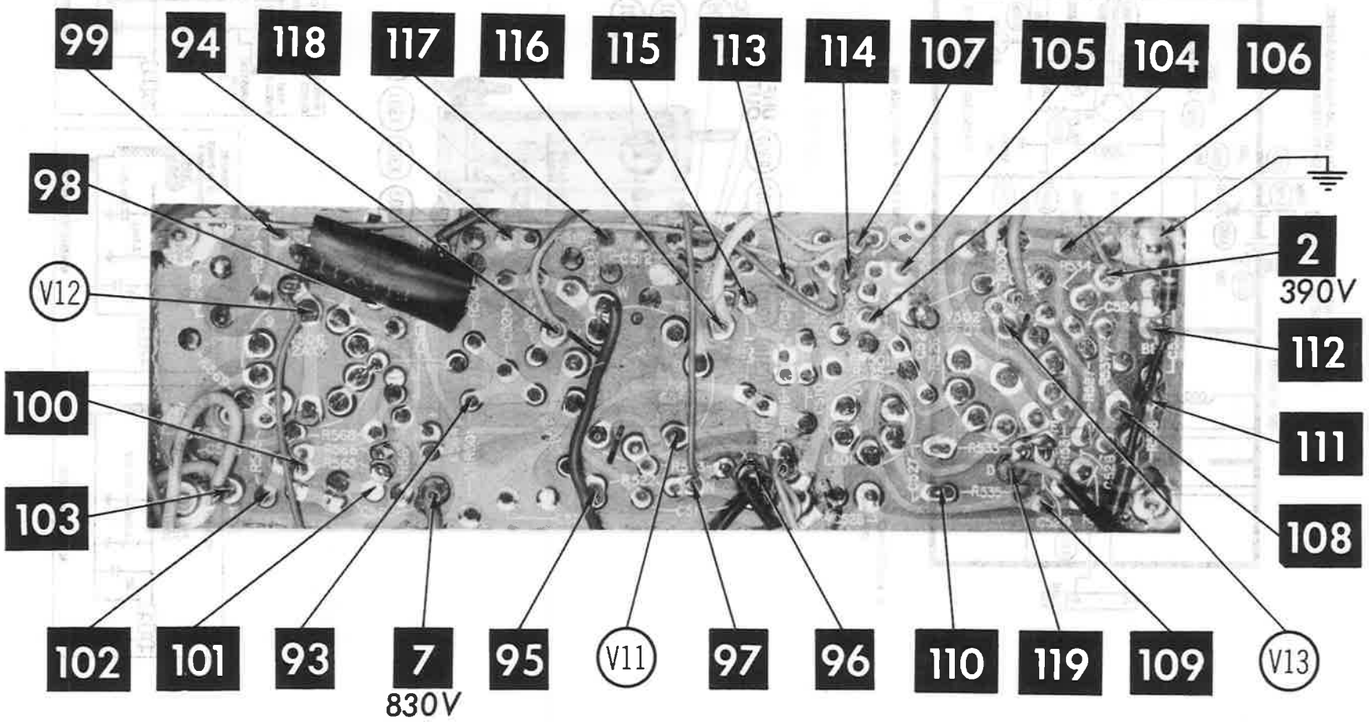
VIDEO OUTPUT, AUDIO, AGC, SYNC SEPARATOR, COLOR BOARD

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

SWEEP PRINTED BOARD







VHF TUNER PARTS LIST

VHF TUNER 340096-2

TUBES

◆ AMPEREX ◆ GENERAL ELECTRIC ◆			◆ RCA ◆ SYLVANIA ◆		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V201	RF Amp.	6HQ5	V202	Mixer - Osc.	6HB7

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS		
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X201		24T-009					

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				TCZ-27		CCTO-270	CNO427	10TCC-Q27
B	27				TCZ-27		CCTO-270	CNO427	10TCC-Q27
C	27				TCZ-27		CCTO-270	CNO427	10TCC-Q27
D	27				TCZ-27		CCTO-270	CNO427	10TCC-Q27
C202	30								
C203	27	5%			TCZ-27		CCTO-270	CNO427	10TCC-Q27
C204	.5-4.5								
C205	.5-4.5								
C206	30								
C207	.5-4.5								
C208	.001			EF-001	MFT-1000		CCF-102	CT280A	
C209	8.2	±.25		NPO-DI 8.2					10TCC-V82
C210	18								
C211	1.2	10%	(1.0) †						10TCC-V22
C212	.5-4.5								
C213	.001			EF-001	MFT-1000		CCF-102	CT280A	
C214	.001			EF-001	MFT-1000		CCF-102	CT280A	
C215	6.8	NPO		NPO-DI 6.8	DTZ-6R8	CZ601CG6R8D	CCTO-6R8	CNO568	10TCC-V68
C216	.001			EF-001	MFT-1000		CCF-102	CT280A	
C217	.75pf	10%							
C218	.001			EF-001	MFT-1000		CCF-102	CT280A	
C219	.001			EF-001	MFT-1000		CCF-102	CT280A	
C220	.001			EF-001	MFT-1000		CCF-102	CT280A	
C221	.001			EF-001	MFT-1000		CCF-102	CT280A	
C222	.001								
C223	4.7	10%		NPO-DI 4.7	DTZ-4R7		CCTO-4R7	CNO547	10TCC-V47
C224	1	10%		NPO-DI 1.0	TCZ-1			CNO510	10TCC-V10

† Alternate Value used in some versions.

UHF TUNER PARTS LIST

UHF TUNER 340064-1

TRANSISTORS

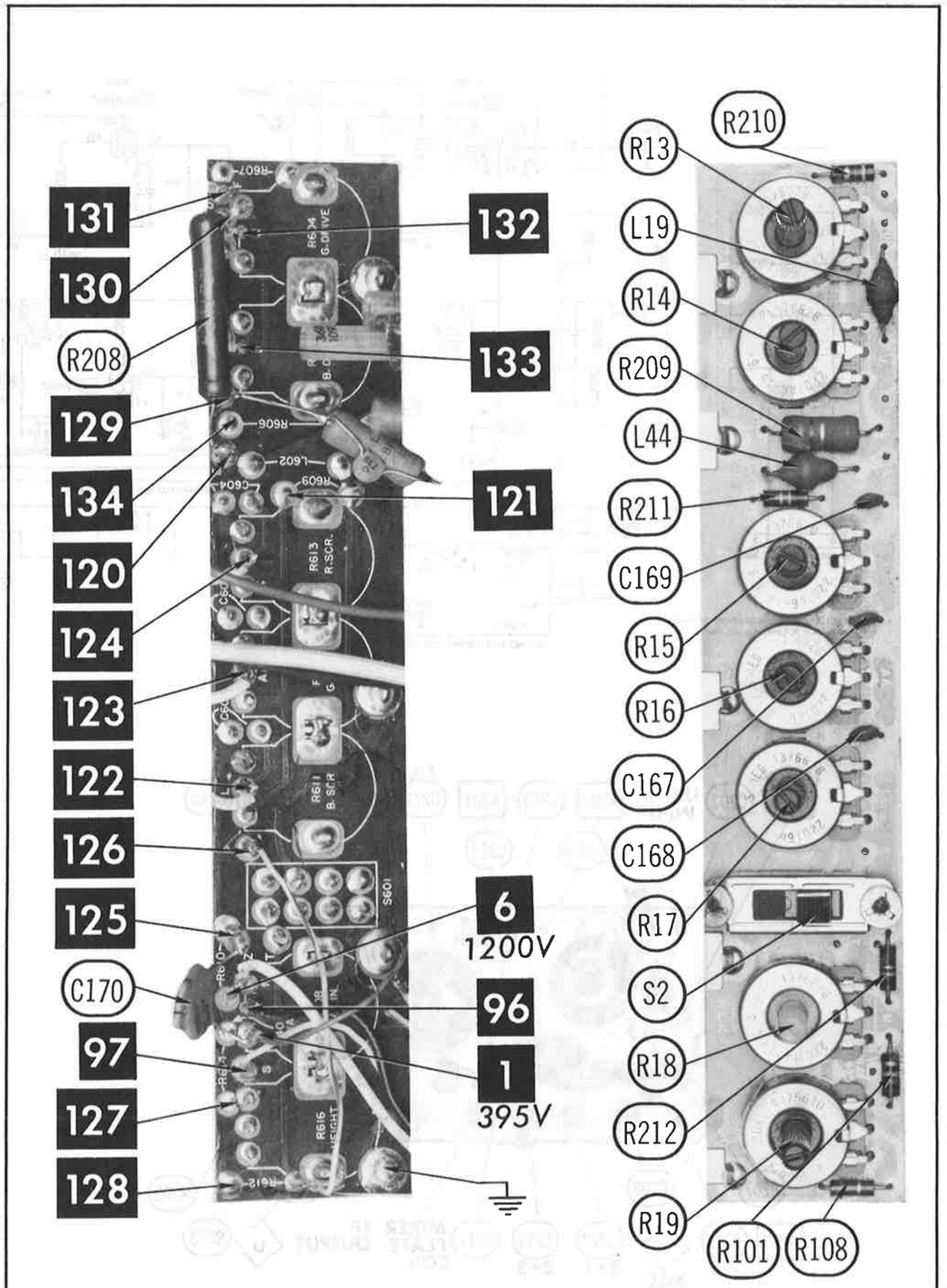
ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA				NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	
Q301	24T-007	UHF Oscillator					PNP

POWER RECTIFIERS & SIGNAL DIODES

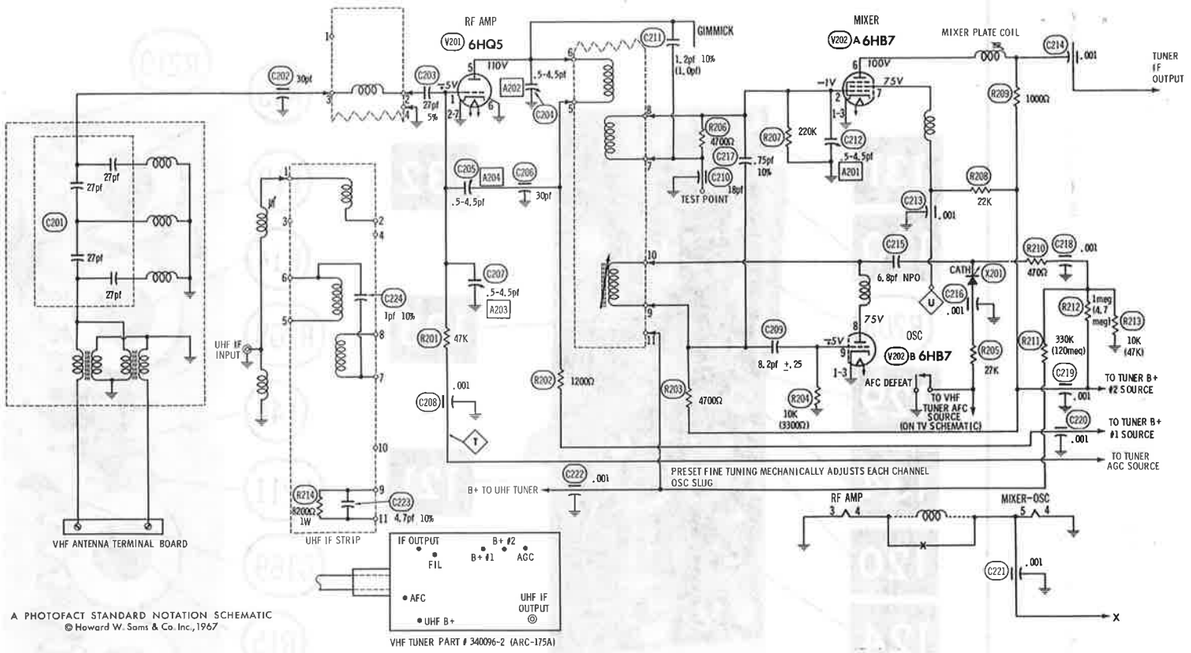
ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS		
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X301 X302		1N82AG	1N82A	1N82AG			

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	18	5%							
C302	.5pf	N750 1%							
C303	1-8								
C304	250								
C305	.001				MFT-1000		CCF-102	CT280A	
C306	85								
C307	.001				MFT-1000		CCF-102	CT280A	
C308	220								
C309	.001				MFT-1000		CCF-102	CT280A	
C310	10				DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10



A Howard W. Sams CIRCUITRACE Photo **CONTROL PRINTED BOARD**



A PHOTOFACT STANDARD NOTATION SCHEMATIC

VHF TUNER ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools: A201 thru A204 ... GENERAL CEMENT #8868, 8987, 9089 ... WALSCO #2531X, 2541, 2587

OSCILLATOR ADJUSTMENTS

The oscillator for each channel is preset by means of the fine tuning control. Adjust fine tuning for best picture and sound on each channel.

RF AND MIXER ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
Use 10MC sweep unless otherwise noted.
Connect a variable bias to the RF AGC line at point T. Adjust bias to obtain response curve which shows no indication of overloading.

	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	Across antenna terminals with 120Ω in each lead.	213MC	211.25MC 215.75MC	13	Vert. input to Point U, low side to ground	A201, A202, A203	Adjust for maximum gain and symmetry of response similar to Fig. 201 with markers as shown.
2.	"	195MC	193.25MC 197.75MC	10	Across Video Det. load resistor.	A204	Increase bias to -15 volts and adjust for MINIMUM amplitude of response.
3.	"	See Chart	See Chart	12 thru 2	Vert. input to Point U, low side to ground.		Decrease bias. Check response on all channels and make compromise adjustments of A201, A202, and A203 if required.

CHANNEL & FREQUENCY CHART

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

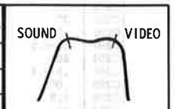
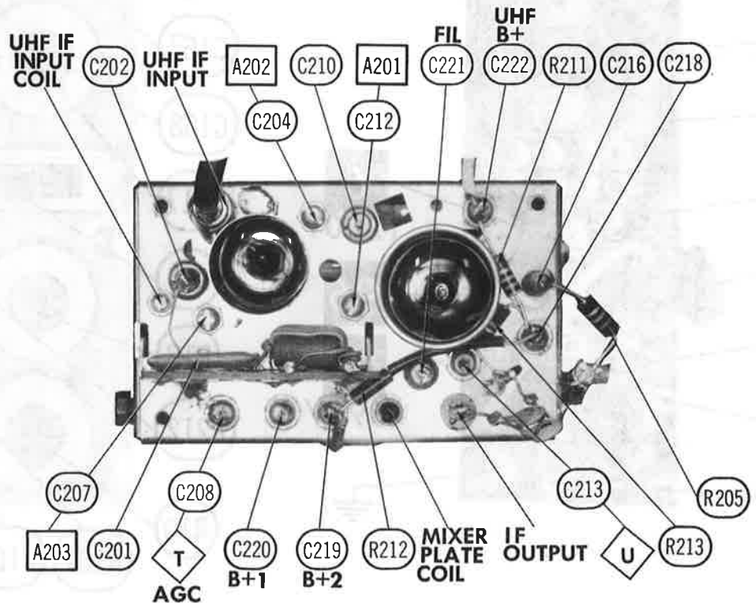
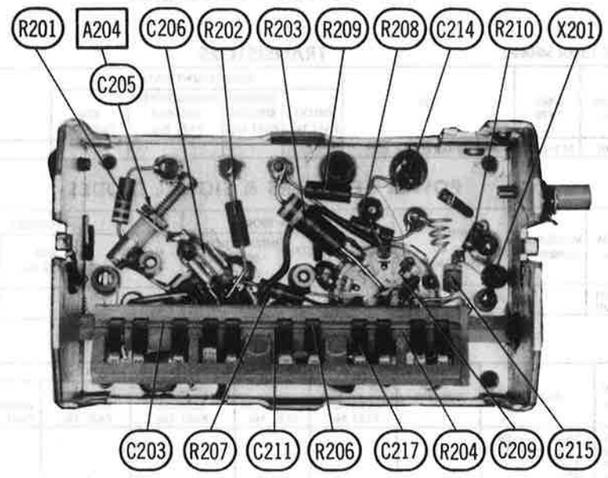


FIG. 201

UHF TUNER ALIGNMENT INSTRUCTIONS

Tune to a UHF station and adjust UHF IF Input Coil for best picture and sound. Tune UHF Channel Selector to the lowest UHF channel operating in the area (low end of the dial). Adjust UHF Low Channel Oscillator Trimmer for best picture and sound.





VHF TUNER 340096-2

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)

ITEM No.	USE	REPLACEMENT DATA: MAGNAVOX PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	47.25MC Trap	360951-4				TA260
L2	1st Video IF	360951-1	17-3418		7514-E	T272
L3	2nd Video IF	360951-6	17-3419		7511-W	TB644
L4	3rd Video IF	360951-5	17-3414		7526	TA258
L5	4th Video IF/ 41.25MC Trap	360952-2			6037	
L6	AFC Input	361080-1			23A337RPC *	
L7	AFC Discriminator(Pri.)	361080-2			23A477RPC *	
L8	AFC Discriminator(Sec.)	361080-5			23A156RPC *	
L9	RF Choke (2.4uh)	360852-3 ⑤	19-2001	BC-563	4606	T857
L10	RF Choke (6.2uh)	360852-2 ⑥	19-2014	BC-565	4610	T932
L11	4.5MC Trap	360953-2			7142	TA264
L12	Peaking (620uh)	361043-3	19-2030	BC-579	6146	T355
L13	RF Choke (.85uh)	⑤			4594	T983
L14	Peaking (62uh)	361091-1	19-3060	TV-193	6110	T338
L15	RF Choke (8.2uh)	④	19-1009		4611	T822
L16	Peaking (62uh)	361091-2	19-3060	TV-193	6110	T338
L17	Peaking (150uh)	360853-5	19-2026	BC-671	72F154AP	T343
L18	Peaking (120uh)	360853-4 ①	19-3125 ▲	BC-670 ▲	6153 ▲	T342 ▲
L19	Peaking (145uh)	361091-3 ②	19-2026 †	TV-196 †	72F154AP †	TA347 †
L20	RF Choke (12uh)	360676-1	19-1006	BC-566	72F126AP	TA820
L21	RF Choke (2.4uh)	360852-3 ③	19-2001	BC-563	4606	T857
L22	RF Choke (5.6uh)	360676-7	19-1008	BC-565	74F566AP	T820
L23	1st Sound IF	360845-2				
L24	2nd Sound IF	360846-3			SI-144 ♦	
L25	Quadrature	360847-2			Q-113	
L26	RF Choke (21uh)	360968-1	19-6022	TV-192	6152	T300
L27	Peaking (620uh)	360853-11	19-2030	TV-205	6146	T355
L28	Chroma Take-off	360959-4				
L29	Chroma Bandpass	361192-1				
L30	Burst Phase	361094-1				
L31	RF Choke (2.4uh)	360852-3 ⑥	19-2001	BC-563	4606	T857
L32	RF Choke (5.6uh)	360676-11 ⑧	19-1008	BC-565	74F566AP	T820
L33	Chroma Ref. Osc. Control	360983-4				
L34	3.58MC Oscillator	361198-1				
L35	RF Choke (5.6uh)	360676-9 ⑦	19-1008	BC-565	74F566AP	T820
L36	RF Choke (10uh)	361043-1	19-2016	BC-566	72F105AP	T860
L37	Peaking (620uh)	360853-11	19-2030	TV-205	6146	T355
L38	Peaking (620uh)	360853-11	19-2030	TV-205	6146	T355
L39	Peaking (620uh)	360853-11	19-2030	TV-205	6146	T355
L40	RF Choke (5.6uh)	360676-5	19-1008	BC-565	74F566AP	T820
L41	RF Choke (5.6uh)	360676-5	19-1008	BC-565	74F566AP	T820
L42	RF Choke (12uh)	361043-4	19-2016	BC-566	72F125AP	TA343
L43	RF Choke (5.6uh)	360676-9	19-1008	BC-565	74F566AP	T820
L44	Peaking (310uh)	361091-4	19-3300	TV-199	6155	T318

① Includes 2200Ω Resistor.
② Wound on 3300Ω Resistor.
▲ Shunt with 2200Ω Resistor.
† Shunt with 3300Ω Resistor.
* Clip unused pin.
♦ Remove original capacitors from circuit.

③ Part #360852-5 is used in Chassis: T or U911-06-AA/-BB thru T or U911-12-AA/-BB.
④ Part #360677-11 is used in Chassis: T or U920-01-CB thru T or U920-07-CB.
⑤ Part #360852-5 is used in Chassis: T or U920-08-BB/-CB thru T or U920-12-BB/-CB.
⑥ Part #360852-4 is used in Chassis: T or U920-13-CB and T or U920-14-CB.
⑦ Part #361043-1 is used in Chassis:
⑧ Part #360676-5 is used in Chassis:

COILS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA: MAGNAVOX PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	THORDARSON MEISSNER PART No.	TRIAD PART No.	WORKMAN PART No.
L45A	Horiz. Osc. (Freq.) &	360960-3(D)						
B	Waveform (SineWave)							
L46	Focus	361240-2		6350		FC-5		TC289
	Alternate Focus	361240-3						
L47	Horiz. Linearity(Effic.)	361022-3		H-106				
L48	Pincushion Transformer	361134-3						
L49	Pincushion Phase	361135-1	MWC-2	6318	WC-7	WC-23 ①	WLC-23	T124
L50	Dynamic Convergence R/G Master Amp. (Right R/G Vert. lines) (3.5mh-7.4mh)	361092-1		6347				T149
L51	Dynamic Convergence R/G Diff. Amp. (Right R/G Horiz. lines) (1.14mh-5mh)	361092-3		6348				
L52	Dynamic Convergence Blue Master Amp. (.24mh-1.1mh)	361092-5						
L53	Dynamic Convergence Horiz. Blue Tilt (1.7mh-6.3mh)	361188-1						
L54	Dynamic Convergence Blue Center (3.5mh-7.4mh)	361092-1		6347				T149
L55	Convergence Yoke Assembly	361177-104						
A	Blue Section	170744-1 †						
	Alternate	170745-1 †						
	Alternate	170748-1 ▲						
	Alternate	170800-1 ▬						
B	Green Section	170744-3 †						
	Alternate	170745-3 †						
	Alternate	170748-3 ▲						
	Alternate	170800-2 ▬						
C	Red Section	170744-2 †						
	Alternate	170745-2 †						
	Alternate	170748-2 ▲						
	Alternate	170800-2 ▬						

† Part Number for Convergence Coils using Disc Magnet adjustment with locking tab.
▬ Part Number for Convergence Coils using Disc Magnet adjustment less locking tab.
† Part Number for Convergence Coils using Plastic Wheel adjustment.
▲ Part Number for Convergence Coils using Slider adjustment.
① Enlarge mounting hole.

FILTER CHOKE

ITEM No.	RATINGS: CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	REPLACEMENT DATA: MAGNAVOX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	NOTES
L56	.4A DC	15Ω	.45 H	320124-4	C-4125	C-2343	26C79	C-34X	
L57	.62A AC	7Ω	.25 H	320232-3 320232-2 †					† External Audio Version.

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	SEC. 1	SEC. 2	REPLACEMENT DATA: MAGNAVOX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	NOTES
T1	117VAC @ 3A AC Tapped @ 128VAC	175VAC @ .46A DC	6.3VAC @ 2.3A AC	300238-1					
		SEC. 3							
		6.3VAC @ 10.3A AC							

* TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA: MAGNAVOX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	NOTES
T2	Vert. Output	320317-2					
T3	Yoke (Horiz. 11.5mh)	361130-302				A-305X	
	90° (Vert. 20mh)					YC-311-2	
	Alternate Yoke	361290-102					
	Alternate Yoke	361130-202					
	Alternate Yoke	361290-302					
T4	Horiz. Output	361197-1					

*COMPONENT CONNECTION DATA

ORIGINAL →	HV TRANSFORMER: Original Connections	VERTICAL OUTPUT: Original Connections												YOKE: Original Connections
REPLACEMENT ↓		Blue	Red	Green	Green/ White	Yellow	Red/ Green	Black/ Green	Black/ Red	Red/ White	Black/ White	Orange		
MERIT														
STANCOR														
THORDARSON														
TRIAD		CONNECT SAME AS ORIGINAL												

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE: PRI.	SEC.	REPLACEMENT DATA: MAGNAVOX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	NOTES
T5	19000Ω	4-6Ω	320130-3	A2999 ①		24S08 ①		① Drill new mounting holes.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA: MAGNAVOX PART No.	JENSEN PART No.	QUAM PART No.	NOTES
SP1	6" x 9" PM 4-6Ω	586902-1 ①	P6X9V3	69A1	① Used in T or U919 Chassis Series.
SP2	6" x 9" PM 4-6Ω	586902-1 ①	P6X9V3	69A1	

FUSE DEVICES

ITEM No.	TYPE	RATING	REPLACEMENT DATA: PART No. FUSE	PART No. HOLDER	LITTELFUSE PART No. FUSE	LITTELFUSE PART No. HOLDER	BUSS PART No. FUSE	BUSS PART No. HOLDER
F1	Circuit Breaker	3.1 Amp.	180723-2		315003			
F2	3" length of #22 fuse wire							

MISCELLANEOUS

ITEM No.	PART NAME	MAGNAVOX PART No.	NOTES
M1	VHF Tuner	340096-2 (ARC-175A)	AFC Versions
	VHF Tuner	340095-2	Non-AFC Versions
M2	UHF Tuner	340064-1 (UTA-056)	Chassis 920-01-AA/02-AA/03-AA/04-AA/05-AA/06-AA/07-AA, and 919 Chassis Series.
	UHF Tuner *	340109-1	Chassis 920-01-BB/CB/02-BB/CB/03-BB/04-BB/CB/05-BB/CB/06-BB/CB/07-BB/CB/08-BB/CB/11-BB/CB/14-CB, and 911-03/06/08/11.
	UHF Tuner	340090-3	Chassis 920-12-BB/CB/13-CB.
	UHF Tuner	340107-2	Chassis 920-09-BB/CB/10-BB/CB.
	UHF Tuner	340072-1/-2	Chassis 911-04/05/07 Series.
	UHF Tuner	340037-1	Chassis 911-02 Series.
	UHF Tuner	340077-3	Chassis 911-13 Series.
M3	Crystal	530089-2	3.58MC
M4	Spark Gap		
M5	Spark Gap		
M6	Spark Gap		
M7	Spark Gap		
M8	Magnet	361163-2	Blue Lateral and Purity Ring
M9	Magnet	704031-1	Purity (2 used)
M10	Delay Line	360949-5	
M11	Motor	500209-3	Tuning
M12	Degaussing Coils	361128-1	(4 used)
S1	Switch	160370-6	Quick Picture
	Switch	160370-7	Quick Picture (Used in some versions)
S2	Switch	160370-2	Service/Purity/Normal
S3	Switch	160370-6	Chromatone
	Switch	160370-7	Chromatone (Used in some versions)
S4	Switch	160350-1	Program
S5	Switch	160383-1	Power Tune
S6	Switch	170354-2	Mute
K1	Relay	160326-6	Degaussing

* This to be used as replacement for 340064-1.

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.

WIRING DATA

High Voltage Lead	Use BELDEN No. 8869 (17KV) or 8868 (25KV)
Shielded Hook-up Wire	Use BELDEN No. 8885 (Single Conductor) 8738 (Two Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Power Cord (Interlock Type)	Use BELDEN No. 8874 (Rubber) or 8895 (Plastic)
300Ω Tuner Input Lead	Use BELDEN No. 8225
300Ω Antenna Lead-in	Use BELDEN No. 8275 (Foam Core) or 8285 (Foam Jacketed)
Antenna Rotor Cable	Use BELDEN No. 8404 (Flat) or 8484 (Round) - 4 Conductor 8485 (Round) - 5 Conductor 8488 (Round) - 8 Conductor

TUBES

◆ AMPEREX ◆ GENERAL ELECTRIC ◆ RCA ◆ SYLVANIA ◆

ITEM No.	USE	TYPE
Q301	UHF Osc. (Transistor)	2T-007
V201	RF Amp.	6HQ5
V202	Mixer-Osc.	6HB7
V1	1st Video IF	6JH6
V2	2nd Video IF	6GM6
V3	3rd Video IF	6EJ7
V4	Tuner AFC	6BA6
V5	Video Cathode Follower - Sync-Chroma Amp. - Video Amp.	6LM6
V6	Video Output	12GN7A
V7	AGC Keying-Sync Separator	6GH8A
V8	Sound IF	6AU6A
V9	Audio Detector	6DT6
V10	Audio Output	6AQ5A
V11	Vert. Mult. - Vert. Output	6GF7

ITEM No.	USE	TYPE
V12	Pincushion Amp.	12AX7
V13	Horiz. AFC - Horiz. Osc.	6FQ7/6CG7
V14	Horiz. Output	6JE6A
V15	Damper	6DW4B
V16	HV Rectifier	3A3
V17	Focus Rectifier	2AV2 (1V2) ♦
V18	HV Regulator	6BK4B
V19	Chroma Bandpass Amp. - Horiz. Blanking Amp.	6GH8A
V20	Z Demodulator	6GY6
V21	X Demodulator	6GY6
V22	B-Y Amp. — R-Y Amp. — G-Y Amp.	6MD8
V23	Burst Amp. - Color Killer	6GH8A
V24	Chroma Ref. Osc. Control - Chroma Reference Osc.	6GH8A

♦ Alternate used in T911 and T920 Series.

PICTURE TUBE

ITEM No.	REPLACEMENT DATA: MAGNAVOX PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SYLVANIA PART No.	NOTES
V25	23EGP22 ① 19EXP22 ② or 19EYP22 ④ or 490GB22 ②	23EGP22 ④ 19EYP22 ④ 19EYP22 ④	19EXP22 ④ 19EYP22 ④ 19EXP22 ④ or 19EYP22 ④	RE19EYP22 ⑤ RE19EYP22 ⑤ RE19EXP22 ⑤ or RE19EYP22 ⑤	① T or U919 Ch. Series ② T or U911 Ch. Series ③ T or U920 Ch. Series ④ Aluminized ⑤ Color Bright "85" * See Alternate Method for Grey Scale Adjustments for Cathode and Drive control connections.
	25AP22A ③ or 25GP22A ③ or 25XP22 * ③	25AP22A ④	25AP22A ④	RE25AP22A ⑤	

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES: GENERAL ELECTRIC PART No.	RECTIFIERS & DIODES: INTERNATIONAL RECTIFIER PART No.	RECTIFIERS: MALLORY PART No.	RECTIFIERS: RCA PART No.	RECTIFIERS: SARKES TARZIAN PART No.
X1	.48A	530088-1 (530088-2)	GE-504A	8D6 or 5A6-D	1N2071 or VB600 ①	SK-3016 or SK-3017A	60C or S-5980-2 ①
X2	.46A	530088-1 (530088-2)	GE-504A	8D6 or 5A6-D	1N2071 or VB600 ①	SK-3016 or SK-3017A	60C or S-5989-2 ①
X3	.017A	530088-1 (530088-2)	GE-504A or GE-505	8D4 or 5A4-D	1N2770 or 1N540	SK-3016 or SK-3017A	40C or F-4
X4		530097-3	GECR-2	61-8868			S-879
X5		530098-1	GE-504A or GE-505	8D4 or 5A4-D	A50 or 1N536		40C or F-4
X6		530098-1	GE-504A or GE-505	8D4 or 5A4-D	A50 or 1N536		40C or F-4
X7		530097-2 (530122-1)	GE-504A ② or GE-505 ②	8D4 ② or 5A4-D ②	A50 ② or CTF50	SK-3016 ② or SK-3017A ②	S-5536 or 40C ②
X8		530065-2	1N60	1N60			
X9		530065-2	1N60	1N60			
X10		530105-1	1N60	1N60			
X11		530105-1	1N60	1N60			
X12		530093-1	6GC1	DD04			
X13		170733-1	1N60	1N542 ③			
X14		170733-1 ③	1N60	1N542 ③			
X15		170733-1	1N60	1N542 ④			
X16		170733-1 ④	1N60	1N542 ④			

① A single unit replaces X1 and X2.
② Two (2) required.
③ Matched Pair
④ Matched Pair

ELECTROLYTIC CAPACITORS

ITEM No.	RATING: CAP.	VOLT.	REPLACEMENT DATA: MAGNAVOX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	100	25	270082-617	CRE623A	NLW100-25	MT1-20	TT25X100	TE-1211
C2	160	250	270071-3 (D270071-3)	AFHS1-31-81 ①	AA0316 ①	XC1-19 ①	WP131.5 ①	TVL-1541 ①
C3A	▲160	250	270071-6	AFH2-99-95	AA0316 & BR80-450	XC1-19 & QT1-21	FP253	TVL-2808
B	▲80	450						
C4A	▬80	450	270071-7	AFH3-46	CC0370	XC3-32	FP378.1	TVL-3793.3
B	■30	450						
C	▲50	450						
C5A	20	350	270023-42	AFH3-152-50	CC0330	XC3-24	FP343.4	TVL-3724.12
B	▲20	350						
C	■20	450						
C6	100	25	270082-617	CRE623A	NLW100-25	MT1-20	TT25X100	TE-1211
C7	20	350	270027-20	PRS1735	BR20-350	QT1-9	TC65	TVA-1808
C8	50	150	270027-39	PRS1480	BR50-150	QT1-16	TC49	TVA-1414
C9	5	25	270082-603	BCD25005	NLW5-50	MT1-3	TT25X5	VL-1204
C10	25	25	270068-609	BCD25025	NLW25-25	MT1-11	PET1960	VL-1210
C11	5	25	270082-603	CRE604A	NLW5-50	MT1-3	TT25X5	TE-1202

① Use insulating sleeve and mounting wafer.

MAGNAVOX CHASSIS T or U911/919/920 Series

FOLDER 2

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.
C12	12 NPO 5%	①		TCZ-12	CZ601CG120J	CCTO-120	CNO412	10TCC-Q12
C13	12 NPO 5%	①		TCZ-12	CZ601CG120J	CCTO-120	CNO412	10TCC-Q12
C14	9.1 NPO ±.25	#250373-9147						
C15	150 NPO 5%		NPO-DI 150	DTZ-150		CCTO-151	CNO315	10TCC-T15
C16	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C17	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C18	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C19	680 N2200 10%	#250236-56				*	*	
C20	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C21	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C22	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C23	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C24	.001 1KV		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C25	.001 1KV		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C26	220 N1500 10%	#250236-59				*	*	
C27	470		DI-470	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C28	.0022 10%		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C29	1.5 N3300	#250088-186				*	*	
C30	.22 200V		DBE2P22		DMF2P22	2DP-4-224	PVC2022	2PS-P22
C31	27 NPO 5%			TCZ-27		CCTO-270	CNO427	10TCC-Q27
C32	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C33	220		DI-220	DD-221	JBZ601YP221K	CCD-221	GP322	10TS-T22
C34	680 10%		DI-680	DD-681	JBY601YP681K	CCD-681	GP368	10TS-T68
C35	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C36	27 NPO 5%	#250546-2705		TCZ-27		CCTO-270	CNO427	10TCC-Q27
C37	47 NPO 5%		NPO-DI 47	DTZ-47	CX601CG470K	CCTO-470	CNO447	10TCC-Q47
C38	47 NPO 5%		NPO-DI 47	DTZ-47	CX601CG470K	CCTO-470	CNO447	10TCC-Q47
C39	12 NPO 5%			TCZ-12	CZ601CG120J	CCTO-120	CNO412	10TCC-Q12
C40	220		DI-220	DD-221	JBZ601YP221K	CCD-221	GP322	10TS-T22
C41	100		DI-100	DD-101	JBZ601YP101K	CCD-101	GP310	10TS-T10
C42	330 (350) †		DI-330	DD-331	JBZ601YP331K	CCD-331	GP331	10TS-T33
C43	560 N1500 5%	#250236-58				*	*	
C44	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C45	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C46	10 NPO 5%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C47	100 NPO 10%	(N033) †	NPO-DI 100	DTZ-100	CV601CG101K	CCTO-101	CNO310	10TCC-T10
C48	680 5%							
C49	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C50	33 N750 5%		N750-DI 33	DTN-33	CZ601UJ330K	CCTN-330	CN7433	10TCU-Q33
C51	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C52	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C53	390 10%		DI-390	DD-391		CCD-391	GP339	10TS-T39
C54	390 10%		DI-390	DD-391		CCD-391	GP339	10TS-T39
C55	10 NPO 5%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C56	3.3 NPO		NPO-DI 3.0	DTZ-3R3		CCTO-3R3	CNO533	10TCC-V30
C57	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C58	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C59	.0033 5%							
C60	3 N1500 10%	#250529-3099				*	*	
C61	3 N1500 10%	#250529-3099				*	*	
C62	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C63	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C64	.01		DI-10000	DD-103	BYX601ZU003M	CCD-103	GP110	10TS-S10
C65	.022 (.02) †		BPD-02	DD-203	BYT601ZU203Z	CCD-203	GP120	10TS-S20
C66	18 N150 5%					*	*	
C67	220		DI-220	DD-221	JBZ601YP221K	CCD-221	GP322	10TS-T22
C68	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C69	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC601	4PS-P10
C70	.0033		DI-3300	DD-332	JBV601YP332K	CCD-332	GP233	10TS-D33
C71	47 NPO		NPO-DI 47	DTZ-47	CX601CG470K	CCTO-470	CNO447	10TCC-Q47
C72	.002 1KV	(.01) †	DI-2000	DD-202	JBX601YP202K	CCD-202	GP220	10TS-D20
C73	.033 100V		DBE4S33		DMF4S33	4DP-2-333	PVC6133	4PS-S33
C74	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C75	.1 100V				DMF1P1	1DP-2-104	PVC101	
C76	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C77	180 2KV 10%							
C78	.002		DI-2000	DD-202	JBX601YP202K	CCD-202	GP220	10TS-D20
C79	150		DI-150	DD-151		CCD-151	GP315	10TS-T15
C80	.0022		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C81	.47 200V		DBE2P47		DMF2P47	2DP-5-474	PVC2047	2PS-P47
C82	.039 600V 10%		DBE6S39		DPMS6S39	6DP-3-393	PVC6139	5PS-S39
C83	.0027,N5600 10%	#250236-64				*		
C84	.0015		DI-1500	DD-152		CCD-152	GP215	10TS-D15
C85	.0068 400V 10%		DBE6D68	C PR-6800J	DMF6D68	6DP-1-682	PVC6268	6PS-D68
C86	.002		DI-2000	DD-202	JBX601YP202K	CCD-202	GP220	10TS-D20
C87	680		DI-680	DD-681	JBY601YP681K	CCD-681	GP368	10TS-T68
C88	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC601	4PS-P10
C89	.1 600V		DBE6P1		DMF6P1	6DP-1-104	PVC601	6PS-P10
C90	680		DI-680	DD-681	JBY601YP681K	CCD-681	GP368	10TS-T68
C91	.047 200V		DBE2S47		DMF2S47	4DP-3-473	PVC2147	2PS-S47
C92	.0082 1KV					16DP-3-822	GEM1628	6PS-D82
C93	.001 2KV 10%							
C94	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC601	4PS-P10
C95	.1 200V 10%		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C96	.039 200V 10%		DBE6S39		DPMS6S39	6DP-3-393	PVC6139	6PS-S39
C97	.0047 600V 10%		DBE6D47	C PR-4700J	DMF6D47	6DP-1-472	PVC6247	6PS-D47
C98	.0082 1KV					16DP-3-822	GEM1628	6PS-D82
C99	.0047 600V 10%		DBE6D47	C PR-4700J	DMF6D47	6DP-1-472	PVC6247	6PS-D47
C100	47 1.4KV		HVD-15-47	DD30-470		3CCD-470		30GA-Q47
C101	.022 400V 10%		DBE4S22		DMF4S22	4DP-2-223	PVC6122	4PS-S22
C102	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C103	100 N750 3KV 5%					*	*	
C104	470 N1500 10% 2.5KV					*	*	
C105	470 N1500 10% 2.5KV					*	*	
C106	68 NPO 10%		NPO-DI 68	DTZ-68	CX601CG680K	CCTO-680	CNO468	10TCC-Q68
C107	68 NPO 10%		NPO-DI 68	DTZ-68	CX601CG680K	CCTO-680	CNO468	10TCC-Q68
C108	27 NPO 10%	(N750) †		TCZ-27		CCTO-270	CNO427	10TCC-Q27
C109	.15 75V				DMF1P15	1DP-3-154	PVC1315	
C110	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C111	820 10%		DI-820	DD-821	JBY601YP821K	CCD-821	GP382	10TS-T82
C112	820 10%		DI-820	DD-821	JBY601YP821K	CCD-821	GP382	10TS-T82
C113	390 N1500 5% 1.5KV	#250236-63				*		
C114	.01 400V 10%		DBE4S1		DMF4S1	4DP-1-102	PVC411	4PS-S10
C115	680 600V 5%		ADM-2-681	C PR-680J	CD19F681J500	DM-16-681J	SX368	MS-368
C116	.0015 600V 10%		DPE6D15	C PR-1500J	DMF6D15	6DP-1-152	PVC6215	6PS-D15
C117	.01 600V 10%		DBE6S1	C PR-10000J	DMF6S1	6DP-1-103	PVC611	6PS-S10
C118	.1 600V		DBE6P1		DMF6P1	6DP-4-104	PVC601	6PS-P10
C119	.047 600V		DBE6S47		DMF6S47	6DP-3-473	PVC6147	6PS-S47
C120	150 10%		DI-150	DD-151		CCD-151	GP315	10TS-T15

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

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.
C121	68 N1500 4KV	#250475-24				*	6DY468	
C122	130 N2200 6KV	#250475-11				*	*	
C123	.01 1.5KV				HVT162Z103P			30GA-S10
C124	.01 1KV	#250562-1 ②						
C125	22 N750 1KV		N750-DI 22	DTN-22	CZ601UJ220K	CCTN-220	CN7422	10TCU-Q22
C126	.068 600V 5%							
C127	.082 600V 5%							
C128	18 NPO 10%			TCZ-18	CY601CG180J	CCTO-180	CNO418	10TCC-Q18
C129	120 N750 10%			TCN-120		CCTN-121	CN7312	10TCU-T12
C130	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C131	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C132	470 N750			TCN-470		CCTN-471		10TCU-T47
C133	.047 100V		DBE2S47		DMF2S47	4DP-3-473	PVC2147	2PS-S47
C134	820 10%		DI-820	DD-821	JBY601YP821K	CCD-821	GP382	10TS-T82
C135	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C136	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C137	.047 100V		DBE2S47		DMF2S47	4DP-3-473	PVC2147	2PS-S47
C138	330 N1500 5%	#250529-3315				*	*	
C139	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-D10
C140	72 Max.	③						
C141	330 N1500 5%					*	*	
C142	330 N1500 5%					*	*	
C143	330 N1500 5%					*	*	
C144	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C145	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C146	3.9 NPO 10%	#250546-3999						10TCC-V39
C147	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C148	10 NPO 10%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C149	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C150	220 N750 10%		N750-DI 220	DTN-220	CV601UJ221K	CCTN-221	CN7322	10TCU-T22
C151	82 NPO 10%			DTZ-82		CCTO-820	CNO482	10TCC-Q82
C152	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C153	27 NPO 10%			TCZ-27		CCTO-270	CNO427	10TCC-Q27
C154	200 5%			CPR-200J	CD15F201J500	DM-15-201J	SX320	MS-32
C155	.22 400V		DBE4P22		DMF4P22	4DP-5-224	PVC4022	4PS-P22
C156	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C157	.01 1KV		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C158	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C159	470		DI-470	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C160	24 N150 5%	#250527-2405				*	*	10TCP-Q25
C161	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C162	.01 1KV		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C163	470		DI-470	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C164	24 N150 5%	#250527-2405				*	*	10TCP-Q25
C165	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C166	.01 1KV		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C167	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C168	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C169	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C170	.01 1KV	#250562-1 ②						
C171	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC601	4PS-P10
C172	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C173	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C174	47 1.4KV		HVD-15-47	DD30-470		3CCD-470		30GA-Q47
C175	.047 600V		DBE6S47		DMF6S47	6DP-3-473	PVC6147	6PS-S47
C176	.01 1.4KV				HVT162ZV103P			30GA-S10
C177	.33 200V 10%				DMF2P33	2DP-5-334	PVC2033	2PS-P33
C178	.056 400V 10%		DBE6S56		PKM4S56	4DP-3-563	PVC4056	4PS-S56
C179	.018 200V 10%		DBE6S18		PKM6S18			
C180	.0047 600V 10%		DBE6D47	C PR-4700J	DMF6D47	6DP-1-472	PVC6247	6PS-D47
C181	.22 200V 10%		DBE2P22		DMF2P22	2DP-4-224	PVC2022	2PS-P22
C182	.12 200V 10%				PKM4P12	2MPD-3-104		
C183	.12 200V 10%				PKM4P12	2MPD-3-104		
C184	270 5%			C PR-270J	CD15F271J500	DM-15-271J	SX327	MS-327
C185	.047 200V		DBE2S47		DMF2S47	4DP-3-473	PVC2147	2PS-S47
C186	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C187	220		DI-220	DD-221	JBZ601YP221K	CCD-221	GP322	10TS-T22

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
① C12 and C13 may be replaced with a single 33pf capacitor in some versions.
② Includes Spark Gap.
③ T911 Chassis Series use Part #220189-4 (5.2-6.7pf). T920-01/-02/-08/-13-CB use Part #260189-6.
T919 Chassis series use Part #260189-1 (5.2-6.7pf). T920-03-AA/-03-BB/-03-CD use Part #260189-4.
T920-04/-05/-08/-09/-10/-11/-12/-14-CB use Part #260189-5.
Magnavox Part Number

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA					
			MAGNAVOX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	Volume/Switch	1meg	220135-24 ②	F2-1meg, SPU304, KR-8	C47S-1meg-Z, FS-3 or (NP-1meg-Z, UPP-B-400, PPAP, NWG-18)	B13-137, SK7 or (PPQ13-137, SK7) or (BU1, CF26, SS10, K) *	PP16A or (RUP16A, SL35, SL250)	
	Volume/Switch	1meg	220135-12 ③	F2-1meg, SPU304, KR-8	C47S-1meg-Z, FS-3 or (NP-1meg-Z, UPP-B-400, PPAP, NWG-18)	B13-137, SK7 or (PPQ13-137, SK7) or (BU1, CF26, SS10, K) *	PP16A or (RUP16A, SL35, SL250)	
R2	Volume/Switch	1meg	220135-14 ④					
	Brightness/AFC Defeat Switch	250K	220135-22 ⑤	F1-250K, SPU304, KR-8	C47S-250K-S, FS-3 or (NP-250K-S, UPP-B-400, PPAP, NWG-18)	B11-130, SK7 or (BU1, CF15, SS10, K) *	PP25L	
	Brightness/AFC Switch	250K	220135-13 ⑥	F1-250K, SPU304, KR-8	C47S-250K-S, FS-3 or (NP-250K-S, UPP-B-400, PPAP, NWG-18)	B11-130, SK7 or (BU1, CF15, SS10, K) *	PP25L	
	Brightness	250K	220126-82 ⑦	F1-250K, SF102	A47-250K-S, FS-3 or (NP-250K-S, UP-B-400)	Q11-130 or (BU1, CF15, SS1, DC1) *	UA254L, SL3500 or (RU254L, SL38, SL3500) or (U46)	
R3	Color	500Ω	220126-95 ⑧	F4-500, SF106			UA751A, SL3500	
	Color	500Ω	220126-91 ⑨	F4-500, SF102			UA751A, SL3500	

CONTROLS

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

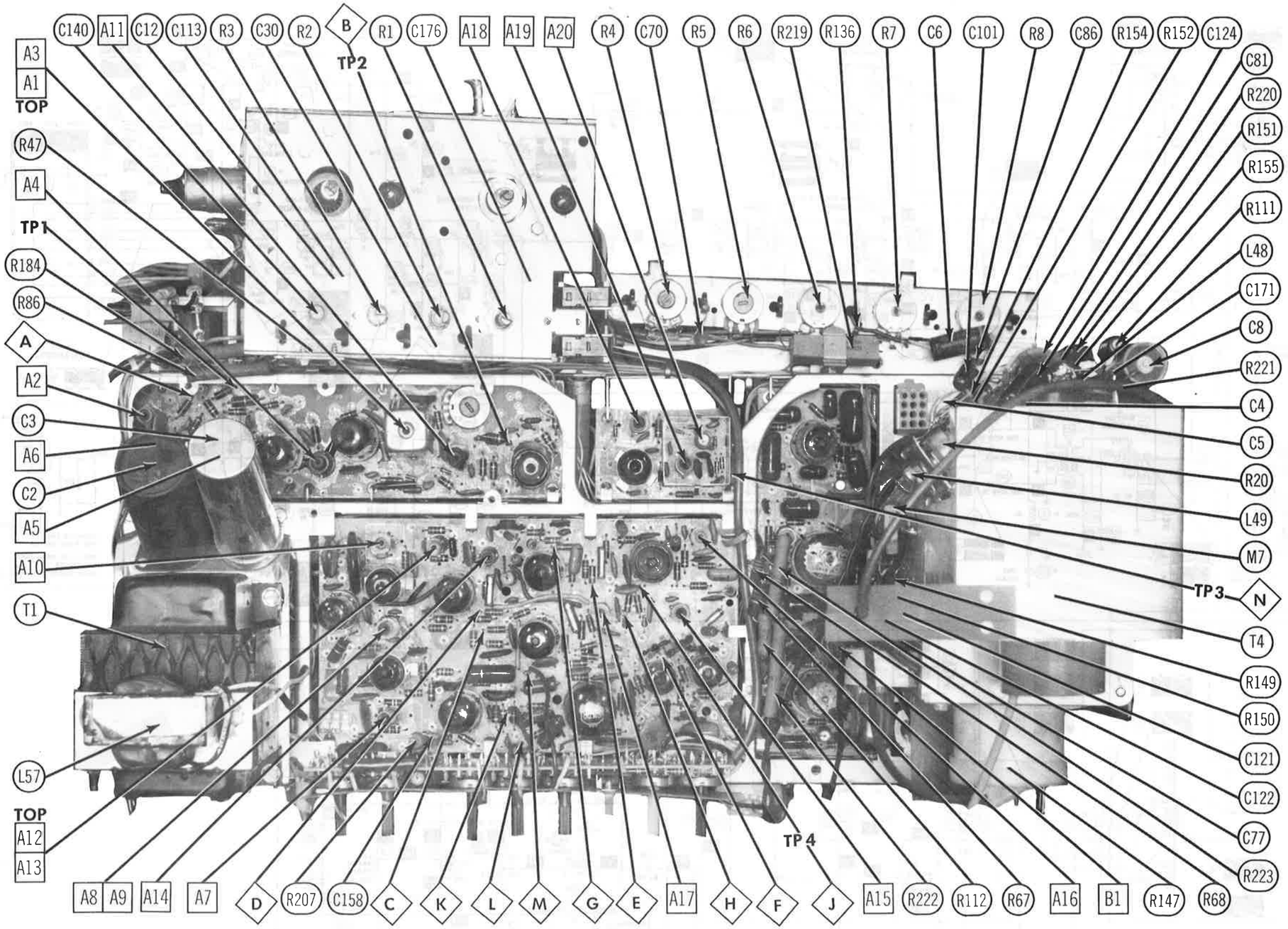
ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA					
			MAGNAVOX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R4	Sharpness	100Ω	220146-62	F1-100, SNK010		B11-084, TM4 or (BU11, CF1, SS6) *	RU12L, SL37, SN750 or (UA12L, SN750) or (U1)	
R5	Tone	3meg	220146-26	F2-3meg, SNK010	A47-3meg-Z, RN-3, TT-2 or (NP-3meg-Z, NML-A-300, TT-2)	B13-140, TM4 or (BU11, CF28, SS6) *	RU36A, SL37, SN750 or (UA36A, SN750) or (U57)	
R6	Horiz. Hold	35K	220146-48 ① (D220146-48)	TT-31 or (F1-50K, SNK010)	A47-40K-S, RN-3, TT-2 or (NP-40K-S, NML-A-300, TT-2)	B11-122, TM4 or (BU11, CF12, SS6) *	PTA54L or (RU54L, SL37, SN750) or (UA54L, SN750)	
R7	Contrast	600Ω	220146-29 (D220146-29)	TT-411 or (F1-750, SNK010)	B47-750-S or (NP-750-S, NML-A-300, TT-2)	B11-105, TM4 or (BU11, CF5, SS6) *	PTA751L or (RU751L, SL37, SN750) or (UA13L, SN750)	
R8	Vert. Hold	750K	(D220146-50)	TT-66 or (F1-750K, SNK010)	A47-750K-S, RN-3, TT-2 or (NP-750K-S, NML-A-300, TT-2)	B11-136, TM4 or (BU11, CF64, SS6) *	PTA754L or (RU754L, SL37, SN750) or (UA16L, SN750)	
R9	AGC	50K	220208-33	TT-31 or (F1-50K, SNK010)	B47-50K-S or (NP-50K-S, NML-A-300, TT-2)	B11-123, TM4 or (BU11, CF12, SS6) *	PTA54L or (RU54L, SL37, SN281) or (UA54L, SN281)	
R10	Color Killer	1meg	220208-34	TT-69 or (F1-1meg, SNK010)	B47-1meg-S or (NP-1meg-S, NML-A-300, TT-2)	B11-137, TM4 or (BU11, CF17, SS6) *	PTA1254L or (RU16L, SL37, SN281) or (UA16L, SN281)	
R11	CRT Bias	2500Ω 2W	220181-11 ① (C220181-11)	V-3000 ①	U39-3000 ① or (NPW-3000, NML-A-300, TT-2)	P115R252A or (BU1, WF6, SS6) *	MR2500T or (VW2P5K)	
R12	Vert. Centering	10Ω 2W	220181-1 (C220181-1)	V-10 ① or (WN-100)	U39-10 ① or (NPW-10, NML-A-300, TT-2)	P115R100A or (W11-010, SK5) or (BU1, WF16, SS6) *	MR10T or (VW10)	
R13	Green Drive	6000Ω	220166-14	F1-7500, SNK104, AK-40	NP-7000-S, UP-N-102, TT-2	B11-115, TM9 or (BU11, CF8, SS6, DC2) *	TRS53L	
R14	Blue Drive	6000Ω	220166-15	F1-7500, SNK104, AK-40	NP-7000-S, UP-N-102, TT-2	B11-115, TM9 or (BU11, CF8, SS6, DC2) *	TRS53L	
R15	Red Screen	1.5meg	220166-18	F1-1.5meg, SNK104, AK-40		B11-138, TM9 or (BU11, CF18, SS6, DC2) *	TRS26L	
R16	Green Screen	1.5meg	220166-16	F1-1.5meg, SNK104, AK-40		B11-138, TM9 or (BU11, CF18, SS6, DC2) *	TRS26L	
R17	Blue Screen	1.5meg	220166-17	F1-1.5meg, SNK104, AK-40		B11-138, TM9 or (BU11, CF18, SS6, DC2) *	TRS26L	
R18	Vert. Linearity	3.4meg	220166-19	F1-3meg, SNK104, AK-40		B11-140, TM9 or (BU11, CF21, SS6, DC2) *	TRS36L	
R19	Height	100K	220166-20	F1-100K, SNK104, AK-40	NP-100K-S, UP-N-102, TT-3	B11-128, TM9 or (BU11, CF13, SS6, DC2) *	TRS15L	
R20	High Voltage Adjust	500K	220189-4	TT-59 or (F1-500K, SNK010)	B47-500K-S, (NP-500K-S, NML-A-300, TT-2)	B11-133, TM4 or (BU11, CF16, SS6) *	PTA55L or (RU55L, SL37, SN281) or (UA55L, SN281)	
R21	Adjacent Sound Reject	10K	220182-1					
R22	Sound Reject	750Ω	220166-4	F1-750, SNK010, AK-40	NP-750-S, UP-N-007, TT-3	B11-105, TM9 or (BU11, CF5, SS6, DC2) *	TRS751L	
R23	R/G Diff. Tilt (Left)	120Ω 2W	220167-6 (C220167-6)	V-120	U39-125	110C120	MRC120P	
R24	R/G Master Tilt (Top)	60Ω 2W	220167-3 (C220167-3)	V-60	U39-75	110C60	MRC60P	
R25	R/G Diff Tilt (Top)	30Ω 2W	220167-4 (C220167-4)	V-30	U39-50	110C30	MRC30P	
R26	Blue Amp. (Vert.)	30Ω 2W	220167-4 (C220167-4)	V-30	U39-50	110C30	MRC30P	
R27	Blue Tilt (Vert.)	60Ω 2W	220167-3 (C220167-3)	V-60	U39-75	110C60	MRC60P	
R28	R/G Master Tilt (Left)	120Ω 2W	220167-6 (C220167-6)	V-120	U39-125	110C120	MRC120P	
R29	R/G Master Amp. (Bottom)	120Ω 2W	220167-6 (C220167-6)	V-120	U39-125	110C120	MRC120P	
R30	R/G Diff. Amp. (Bottom)	150Ω 2W	220167-5 (C220167-5)	V-150	U39-150	110C150	MRC150P	

① Insulate control from chassis and solder original center terminal lead to metal case of control.
② Part #220135-23 is used in Chassis 919-01/-07, 920-06/-07-AA/BB/CB, 920-09/-10/-11/-12-BB/CB, 920-14-CB.
③ Used in Chassis 911-02/-03 and 920-03/-03AA/-03BB.
④ Used in Chassis 911-03/-04/-05/-06/-07/-08/-09/-10/-11/-12.
⑤ Part #220135-20 us used in Chassis 919-05/-06 and 920-01AA/-02AA. Part #220232-1 is used in Chassis 920-01/-02/-08BB/CB and 920-13-CB. Part #220232-2 is used in Chassis 920-04/-05/-06/-07/-09/-10/-11/-12BB/CB, and 920-14-CB.
⑥ Used in Chassis 911-03-AA, 919-03/-08, and 920-03-AA.
⑦ Used in Chassis 911-02/-04 thru -12, and 920-03/-03-BB.
⑧ Part #220126-96 is used in Chassis 919-05/-06, 920-01/-02-AA/BB/CB, 920-08-BB/CB, and 920-13-CB.
⑨ Used in Chassis T911 Series, 919-03/-08, and 920-03/-03-AA/-03-BB.
⑩ Part #220146-49 (45K) may be used in Late Production of Chassis T911. Part #220146-69 (45K) may be used in Late Production of Chassis T911 and T920.
⑪ Some versions may use a CRT Bias switch in place of control. * "SNAPTROL"

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MAGNAVOX PART No.			IRC PART No.	WORKMAN PART No.	MAGNAVOX PART No.
R31	8200Ω 3W		3G-8.2K	230150-340	R184	18K 4W			230150-448
R47	3300Ω 3W	PW5-3300	3G-3.3K	230150-330	R204	270Ω 3W	PW5-250	3G-270	230150-304
R86	4300Ω 5W	PW5-4500	5G-4.3K	230150-533	R207	1800Ω 3W	PW5-1750	5W-SQ-1.75K	230150-234
R104	V.D.R. †			230167-5	R208	5600Ω 4W	PW5-6000	4G-5.6K	230150-436
R109	2200Ω 3W	PW5-2250	3G-2.2K		R215	2200Ω 3W	PW5-2250	3G-2.2K	230150-330
R111	5600Ω 3W	PW5-6000	3G-5.6K	230150-336	R216	Thermistor		FR-922	230170-2
R112	1000Ω 3W	PW5-1000	3G-1K	230150-318		(120Ω Cold)			
R127	Thermistor (3.7Ω Cold)		FR-3.5	Part of Yoke	R217	V.D.R. †		FR-066	230175-2
R145	13K † 7W	PW10-12.5K	7G-13K	230150-745	R219	1100Ω 18W	2C-1200	20W-SQ-1.1K	240080-4
R150	66meg 6KV	MV-66M	66M	230161-1	R222	910Ω * 7W	PW10-900	10W-SQ-900	230150-711
					R223	910Ω 5W	PW5-900	5W-SQ-900	230150-517

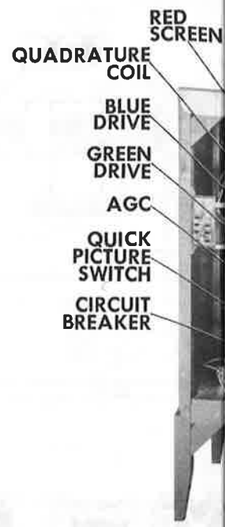
* Late Production Chassis T920 Series, T911 Series use 820Ω, 10 watt in this application.
† Late Production Chassis T920 Series, T911 Series use 15K, 7 watt in this application.
† Voltage Dependent Resistor.



TP1 26V IF AGC
TP2 VIDEO DETECTOR OUTPUT

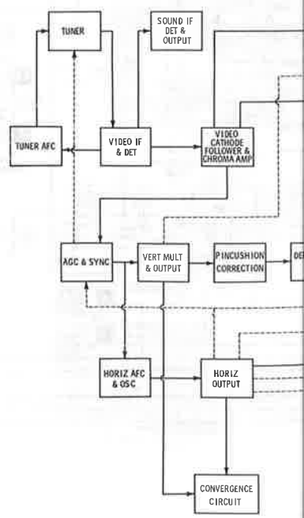
TP3 -.5V AFC OUTPUT
TP4 -1.5V CHROMA SYNC PHASE DETECTOR

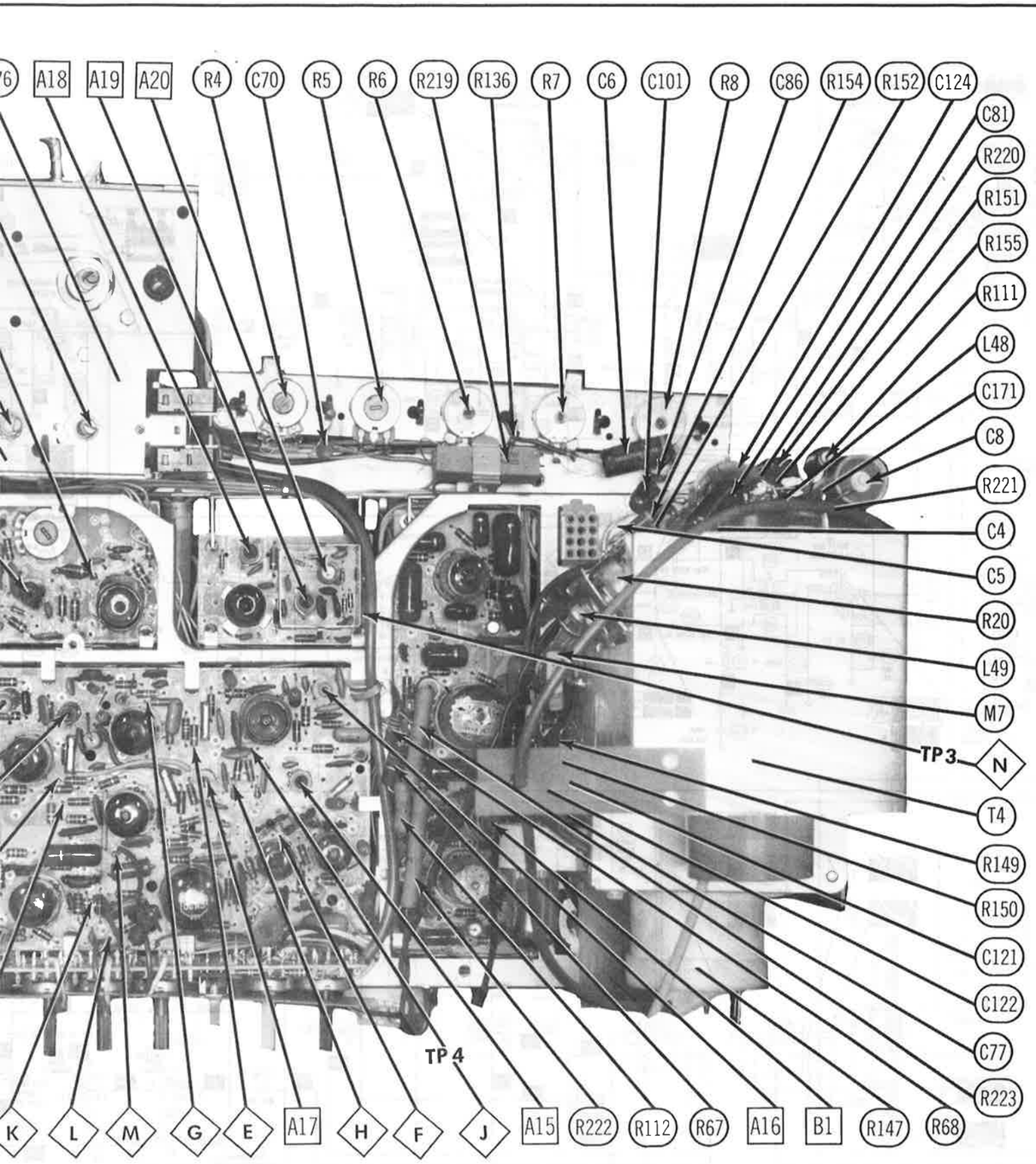
CHASSIS — TOP VIEW



TV CHASSIS REMOVAL

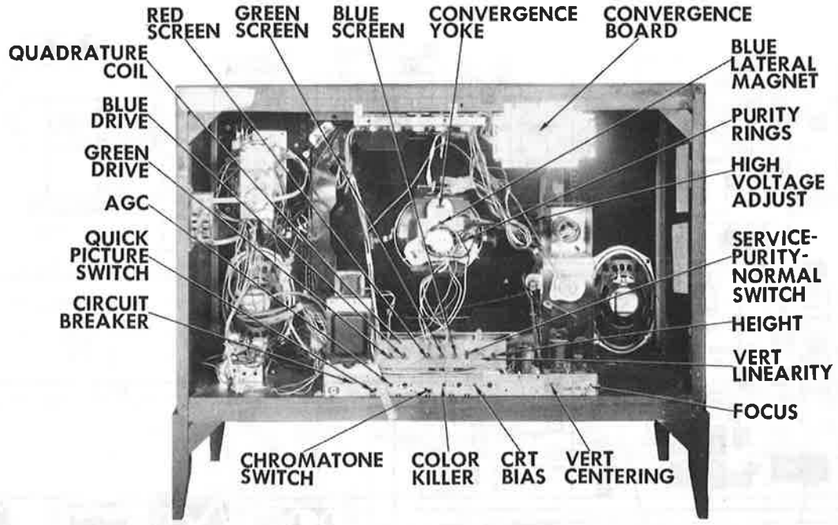
1. Remove 16 screws and 2 spring clips h back cover. Disconnect antenna leads
2. Disconnect yoke plug, high voltage an speaker leads, degaussing coil, conve ceiver connector.
3. Remove 3 screws holding chassis, 2 sp 2 screws from back holding tuner and
4. Lift out chassis and tuner.





TP3 -.5V AFC OUTPUT
TP4 -1.5V CHROMA SYNC PHASE DETECTOR

CHASSIS — TOP VIEW



CABINET—REAR VIEW

DISASSEMBLY INSTRUCTIONS

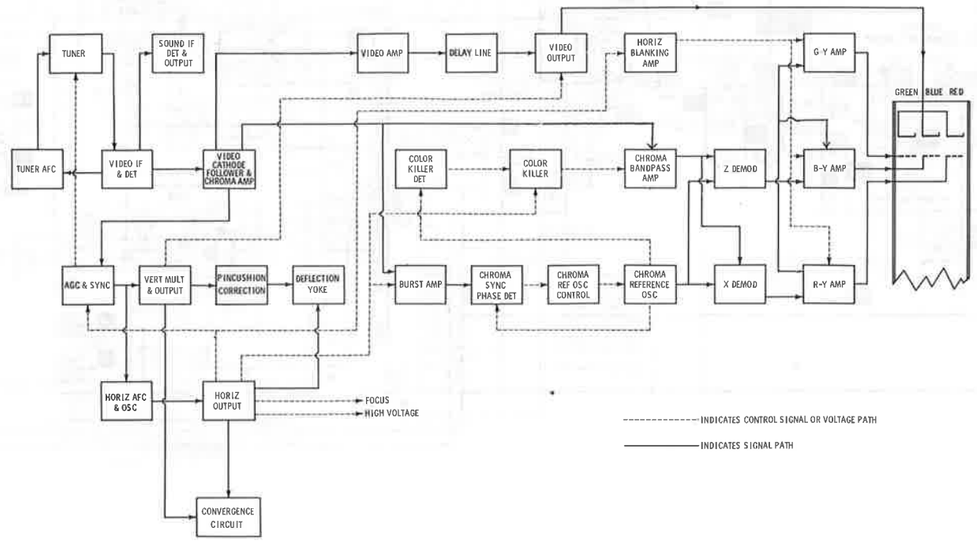
TV CHASSIS REMOVAL

1. Remove 16 screws and 2 spring clips holding back cover and remove back cover. Disconnect antenna leads and remove all knobs.
2. Disconnect yoke plug, high voltage anode lead, picture tube socket, speaker leads, degaussing coil, convergence board, and remote receiver connector.
3. Remove 3 screws holding chassis, 2 spanner screws from front, and 2 screws from back holding tuner and controls.
4. Lift out chassis and tuner.

NOTE: Most components may be serviced without removing chassis.

PICTURE TUBE REMOVAL

1. Follow "Chassis Removal" procedure. Lay set face down on a soft protective surface.
2. Remove 4 screws holding degaussing coil and shield.
3. Remove 8 screws holding picture tube brackets and lift out picture tube. Do not lift out by the neck of the tube.

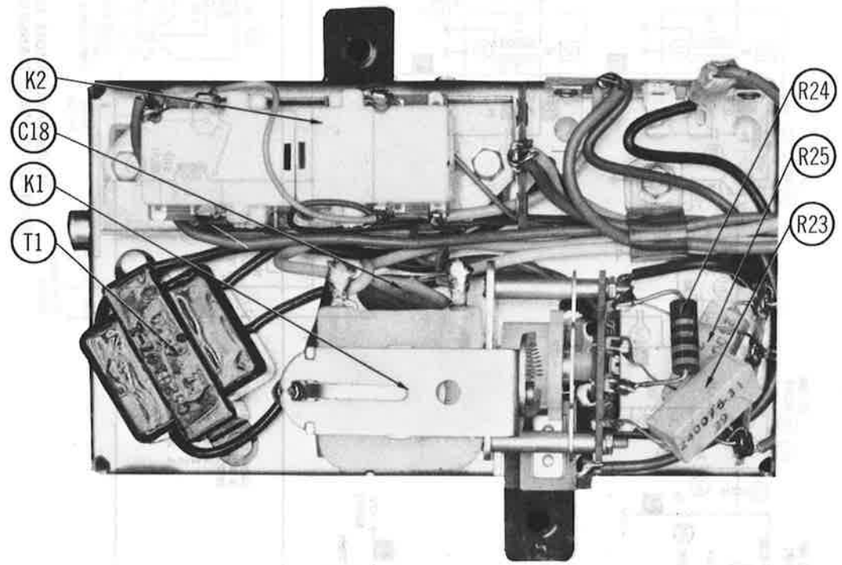


BLOCK DIAGRAM

MAGNAVOX REMOTE CONTROL RECEIVER 704028-7, TRANSMITTER 704037-1

IMPORTANT FILING NOTICE

This PHOTOFACT Folder covers equipment used with the TV chassis covered in PHOTOFACT SET 887 FOLDER 2 . File this Folder with the TV Folder in the yellow filing jacket provided.



TRADE NAME	Magnavox
SUPPLIER	For current address, see Annual Index.
TYPE SET	Remote Control Receiver 704028-7 and Transmitter 704037-1.
TRANSISTORS	Six
POWER SUPPLY	110-120 Volts AC, 60 Cycles RATING 2 Watts, 15ma @ 117 Volts AC

REMOTE CONTROL RECEIVER ALIGNMENT

Suggested Alignment Tools: A1, A2, A3 ... GENERAL CEMENT #9440 ... WALSCO #2501

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	High side to point Ⓐ. Low side to ground.	22KC		DC probe to point Ⓑ. Low side to ground.	A1, A2	Adjust for MINIMUM.
2.	"	28KC		DC probe to point Ⓒ. Low side to ground.	A3	Adjust for MINIMUM. Note: The correct setting is with the core near the bottom of the coil.

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

MAGNAVOX REMOTE CONTROL RECEIVER 704028-7, TRANSMITTER 704037-1 SET 887 FOLDER 2-A

WIRING DATA

		Available in 12 Colors
General-use Unshielded Hook-up Wire ..... Use BELDEN No.	8530 (Solid 22AWG) 8534 (Stranded 22AWG) 8570 (Stranded 28AWG)	

MISCELLANEOUS

ITEM No.	PART NAME	MAGNAVOX PART No.	NOTES
M1	Microphone	570014-1	
K1	Relay	160335-8	Volume Step
K2A	Relay	160359-3	Station Selector
B	(Dual Relay)		Volume Step Relay Control

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	REPLACEMENT DATA MAGNAVOX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	NOTES
T1	117VAC @ .015A AC	16VAC @ .012A DC		32010?-1					

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA MAGNAVOX PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	Input	360964-1				
L2	Driver	360944-1				
L3	Driver	360944-1				

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA IRC PART No.	WORKMAN PART No.	MAGNAVOX PART No.
R23	.38Ω 5W			240080-67

ITEM No.	RATING	REPLACEMENT DATA IRC PART No.	WORKMAN PART No.	MAGNAVOX PART No.
R25	2.7Ω 5W	PW5-3	5W-SQ-3	240080-12

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	MAGNAVOX PART NO.	NOTES
Q1		1st Amp.	DS-26	GE-2	TR-14	SK-3004	610040-1	PNP
Q2		2nd Amp.	DS-26	GE-2	TR-14	SK-3004	610040-1	PNP
Q3		3rd Amp.	DS-26	GE-2	TR-14	SK-3004	610040-1	PNP
Q4		4th Amp.	DS-26	GE-2	TR-14	SK-3004	610040-2	PNP
Q5		Channel Change Relay Control	DS-26	GE-2	TR-14	SK-3004	610040-2	PNP
Q6		Volume Step Relay Control	DS-26	GE-2	TR-14	SK-3004	610040-2	PNP

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	MAGNAVOX PART No.	RECTIFIERS & DIODES GENERAL ELECTRIC PART No.	RECTIFIERS & DIODES INTERNATIONAL RECTIFIER PART No.	RECTIFIERS MALLORY PART No.	RECTIFIERS RCA PART No.	RECTIFIERS SARKES TARZIAN PART No.
X1	.021 Maximum	530072-11		GE-504A or GE-505	8D4 or 5A4-D	A50 or 1N536	SK-3016 or SK-3017A	40C or F-4

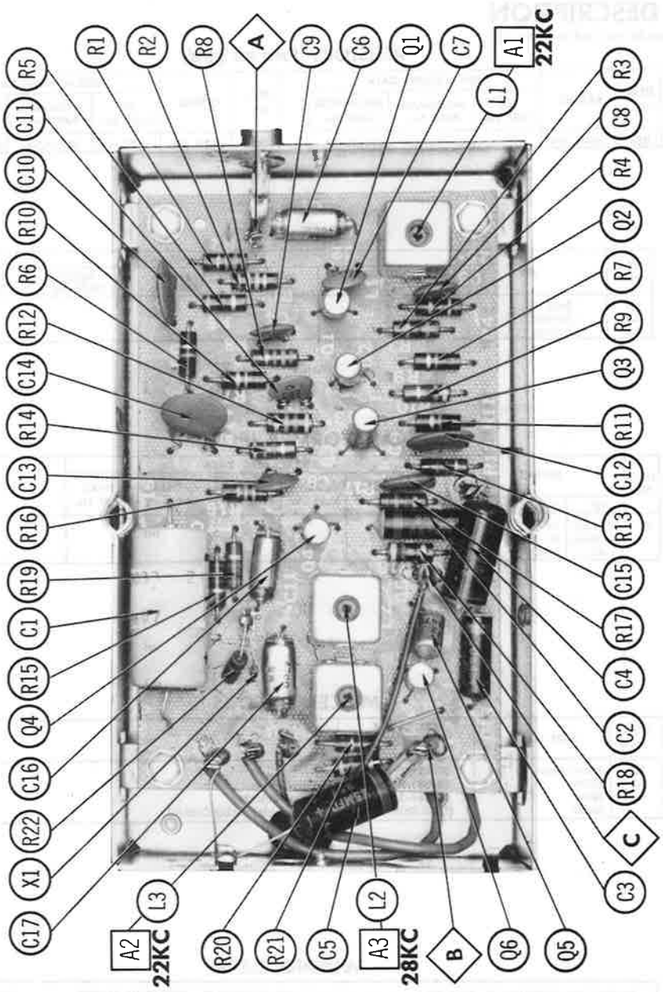
ELECTROLYTIC CAPACITORS

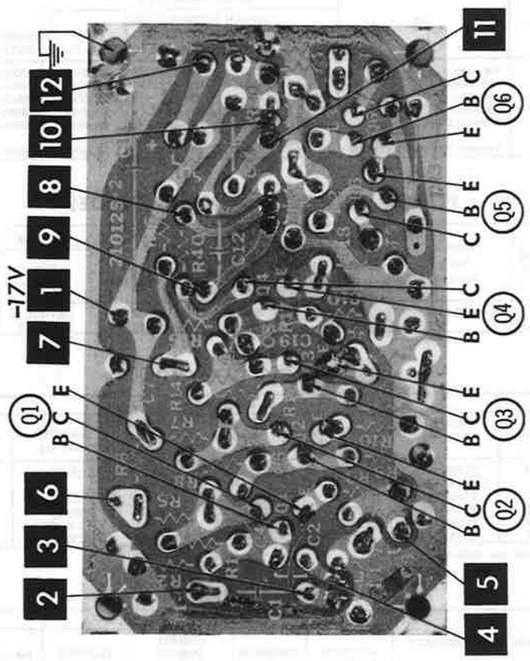
ITEM No.	RATING CAP.	RATING VOLT.	MAGNAVOX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	250	25	270082-822 (D270082-822)	PRS1280	BR250-25	QT1-28	TC50025	TL-1214
C2	5	25	270082-2603 ①	PTT?7	NLW5-50	MT1-3	TT25X5	TL-1202
C3	5	25	270082-2603 ①	PTT?8	NLW5-50	MT1-3	TT25X5	TL-1202
C4	25	25	270082-2610	PTT?8	NLW25-25	MT1-11	TT25X25	TL-1207
C5	25	25	270082-2610	PTT?8	NLW25-25	MT1-11	TT25X25	TL-1207

① Some sets may use 4mfd at 25V.

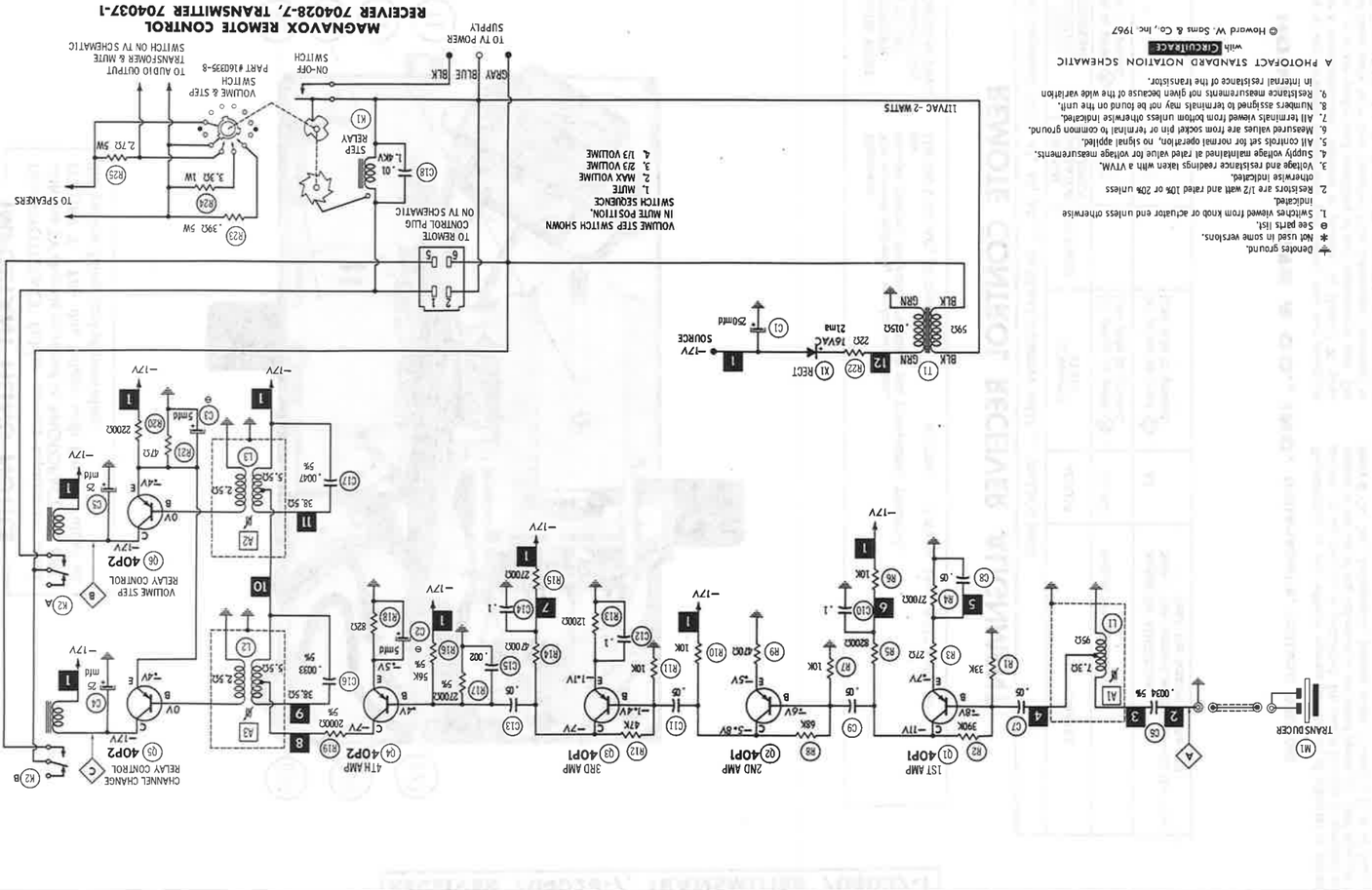
CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	EMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C6	.0034 5%			CFR-3400J	CD19F342J500		DM-19-392J	SX239	MS-239
C7	.05 20V		TTD-05	CK-503	HOV101ZV503Z			TA150	TG-S50
C8	.05 20V		TTD-05	CK-503	HOV101ZV503Z			TA150	TG-S50
C9	.05 20V		TTD-05	CK-503	HOV101ZV503Z			TA150	TG-S50
C10	.1 20V		TTD-1	CK-104	HOV101ZV104Z			TA010	TG-P10
C11	.05 20V		TTD-05	CK-503	HOV101ZV503Z			TA150	TG-S50
C12	.1 20V		TTD-1	CK-104	HOV101ZV104Z			TA010	TG-P10
C13	.05 20V		TTD-05	CK-503	HOV101ZV503Z			TA150	TG-S50
C14	.02 20V		TTD-1	CK-104	HOV101ZV104Z			TA010	TG-P10
C15	.0033 5%		DM-202	JTX601Y1P202K		CCD-202		GP220	5GAB-D22
C16	.0047 5%		DM-2700J	CM-2700J	JTX601Y1P472K	DM-19-332J		SX233	MS-233
C17	.01 1.4KV		C?R-4?00J	CD19F?72J500		DM-19-472J		SX241	MS-241
C18			C1-103	ACT1422U103P				UAC110	125M-S10





A Howard W. Sams CIRCUITRACE® Photo



* Denotes ground.
* Not used in some versions.
⊖ See parts list.
L. Switches viewed from knob or adjustor end unless otherwise indicated.
2. Resistors are 1/2 watt and rated 10% or 20% unless otherwise indicated.
3. Voltage and resistance readings taken with a VTVM.
4. Supply voltage maintained at rated value for voltage measurements.
5. All controls set for normal operation, no signal applied.
6. Measured values are from socket pin or terminal to common ground.
7. All terminals viewed from bottom unless otherwise indicated.
8. Numbers assigned to terminals may not be found on the unit.
9. Resistance measurements not given because of the wide variation in internal resistance of the transistor.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
with CIRCUITRACE®