

PHOTOFACT® Folder

with CIRCUITRACE™

ADMIRAL CHASSIS

4H1273-9/-13/-17/-19, 4H1297-6, 11H1273-9/-13

For Supplier Address See PHOTOFACT Index

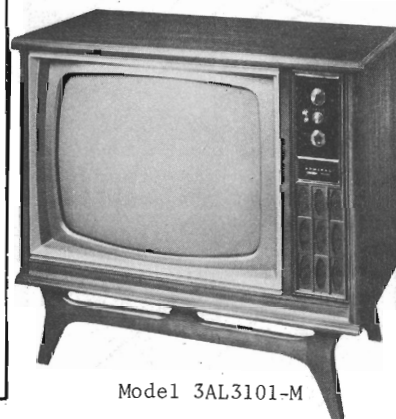
COLOR TV

IMPORTANT FILING NOTICE

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

INDEX

Remote Receiver 11A9N,
Transmitter S376AN..SET 1116, FOLDER 1-A



Model 3AL3101-M

ADMIRAL CHASSIS

4H1273-9/-13/-17/-19, 4H1297-6, 11H1273-9/-13

4H1273-9/-13/-17/-19, 4H1297-6, 11H1273-9/-13

ADMIRAL CHASSIS

SET 1116 FOLDER 1

MODEL	CHASSIS	MODEL	CHASSIS
3AL3101-M	11H1273-13	3L3013-M	11H1273-13
3AL3105-M	11H1273-13	3L3015	4H1273-13
3AL3111-M	11H1273-13	3L2015-M	11H1273-13
3AL3115-M	11H1273-13	3L3131	4H1273-13
3AL3118-M	11H1273-13	3L3131-M	11H1273-13
3L1131-M	4H1273-17	3L3138	4H1273-13
3L1135-M	4H1273-17	3L3138-M	11H1273-13
3L1171	4H1273-13	3L3139	4H1273-13
3L1171-M	11H1273-13	3L3139-M	11H1273-13
3L1175	4H1273-13	+ 3LS1181	4H1297-6
3L1175-M	11H1273-13	+ 3LS1185	4H1297-6
3L1181	4H1273-13	+ 3LS1188	4H1297-6
3L1181-M	11H1273-13	+ 3LS1198	4H1297-6
3L1185	4H1273-13	+ 3LS1199	4H1297-6
3L1185-M	11H1273-13	+ 3LS3011	4H1297-6
3L1188	4H1273-13	+ 3LS3013	4H1297-6
3L1188-M	11H1273-13	+ 3LS3131	4H1297-6
3L1191	4H1273-13	+ 3LS3138	4H1297-6
3L1198	4H1273-13	+ 3LS3139	4H1297-6
3L1198-M	11H1273-13	3ST3041	4H1273-9
3L1199	4H1273-13	3ST3041-M	11H1273-9
3L1199-M	11H1273-13	3ST3068	4H1273-9
3L3011	4H1273-13	3ST3068-M	11H1273-9
3L3011-M	11H1273-13	3ST3078	4H1273-19
3L3013	4H1273-13	3ST3078-M	11H1273-19

+ Models use Remote Transmitter S376AN and Remote Receiver 11A9N

Covering Chassis Runs 19 thru 29.

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.

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 OR FUSE DEVICE

Number 22 and 26 fuse wires are used for filament protection. (For location, see F2 and F3 in photo "Chassis - Bottom View".)

A circuit breaker is used for low-voltage voltage power -supply protection and may be reset by depressing the reset button. (See photo "Cabinet - Rear View" for location.)

VHF TUNER

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 photo "Cabinet - Rear View" for location.)

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

The horizontal frequency slug is used for the horizontal hold. (See photo "Cabinet - Rear View" for location.)

FOCUS

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

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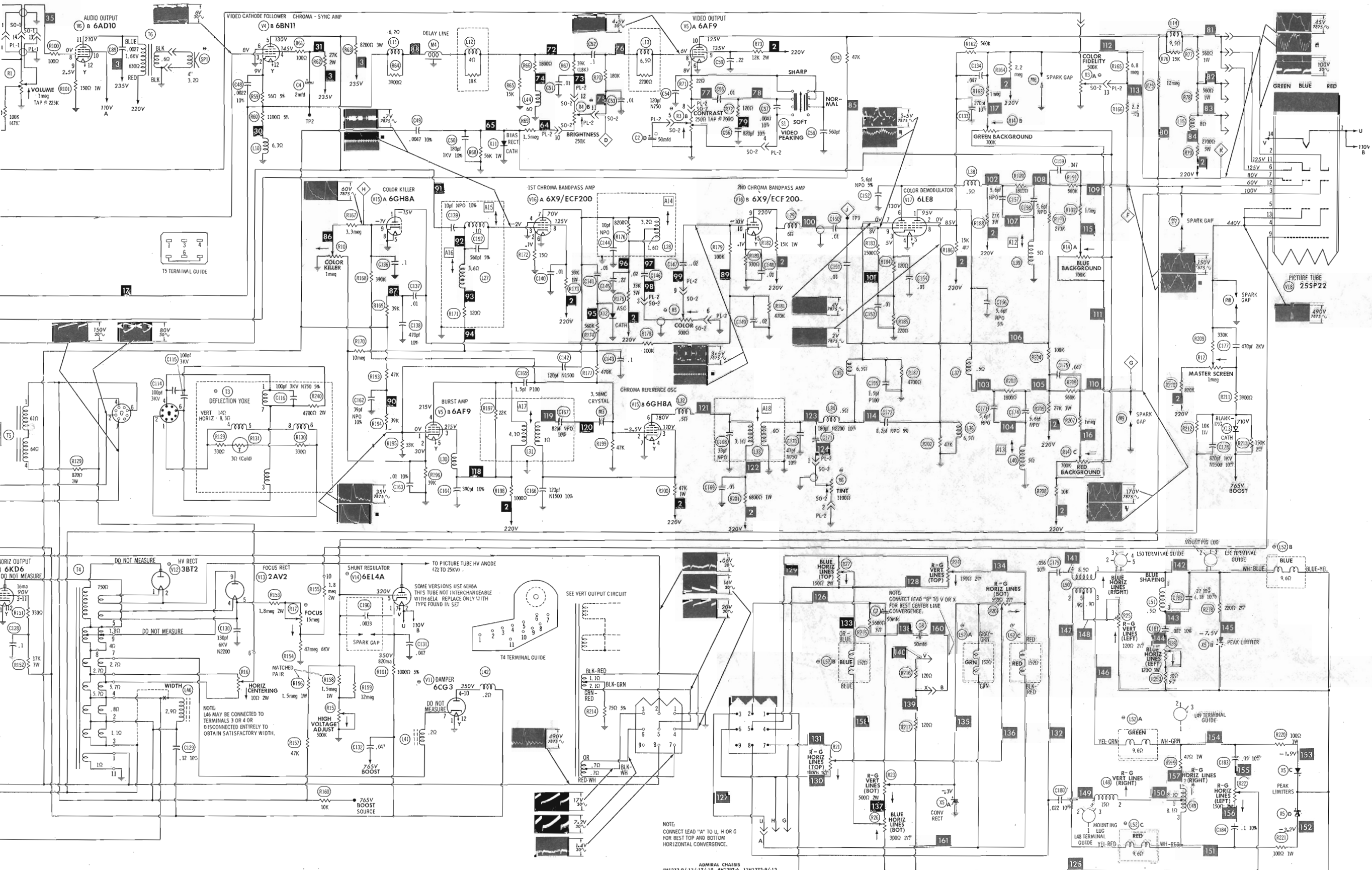
The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. UB752

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DATE 8-70

SET 1116 FOLDER 1





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 A16 GENERAL CEMENT #8606, 8606L, 8869 .. WALSCO #2543, 2544, 2588
Mixer Plate Coil .. GENERAL CEMENT #9296, 9297, 9300 ... WALSCO #2510, 2546, 2547

VIDEO IF ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. Use only enough generator output to provide a usable indication. Note: Response may vary slightly from those shown.
Connect a variable bias supply to the IF AGC line (point A) 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 A. Common to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.		41.25MC 47.25MC	A1, R19 A2, R18 Adjust for MINIMUM.
2.	Connect DC probe of a VTVM thru a 47K resistor to point A. Common to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.		43.8MC 42.5MC 45.75MC 44MC	A3 A4 A5 A6, Mixer Plate Coil Adjust for maximum.
3.	Connect vertical input of a scope to point A. 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 44MC 45.75MC 47.25MC	Adjust for maximum gain and symmetry of response with markers as shown in Figure 1. In order to obtain a proper response, it may be necessary to slightly retouch A3, A4, A5, A6 and Mixer Plate Coil.

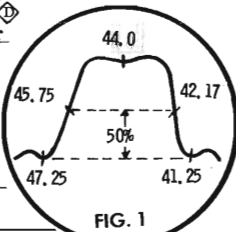
SOUND IF ALIGNMENT

Tune in a station and adjust A7 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, and A10.

4.5MC TRAP ALIGNMENT

To align 4.5MC trap, the Chroma Input Bandpass Amp. must be detuned. Realign Chroma Bandpass after 4.5MC trap alignment. Connect a jumper from point A to ground. Connect a -15 volt supply to point C (RF AGC). Connect a -15 volt supply to point D (off pin 8 of Video Output). Positive of supplies to ground. Disable Horizontal Sweep by removing horizontal output tube V10.

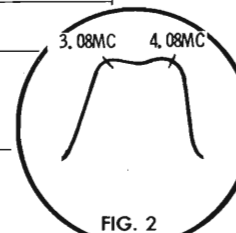
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
4.	High side to Mixer Grid test point on tuner. Low side to ground.	45.75MC (Crystal Calibrated) 4.5MC (Modulation)	High side thru a detector probe to point A, pin 12 of picture tube. Low side to ground.	A11	Adjust for MINIMUM.



3.58MC TRAP ALIGNMENT

Detune the Chroma Input Bandpass Amp. Connect a jumper from point A to ground. Connect a -15 volt supply to point C (RF AGC). Connect a -15 volt supply to point D (off pin 8 of Video Output). Positive of supplies to ground. Disable horizontal sweep by removing horizontal output tube V10.

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
5.	High side to Mixer Grid test point on tuner. Low side to ground.	45.75MC (Crystal Calibrated) 4.5MC (Modulation)	High side thru a detector probe to point A, pin 12 of picture tube. Low side to ground.	A12	Adjust for MINIMUM.
6.	"	"	High side thru a detector probe to point A, pin 3 of picture tube. Low side to ground.	A13	Adjust for MINIMUM.



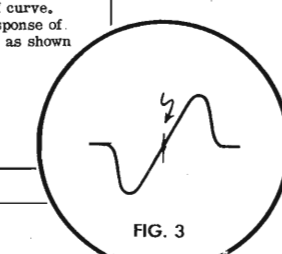
CHROMA BANDPASS ALIGNMENT

4.5MC and 3.58MC Trap Alignments should be done before Chroma Alignment. The following alignment requires the use of an RF Modulator (RCA WG304A or equivalent). Connect a jumper from point A to ground. Connect a -15 volt supply to point C (RF AGC). Connect a -15 volt supply to point D (off pin 8 of Video Output). Connect a -3 volt supply to point E (pin 9 of Color Killer, V15). Positive of all supplies to ground. Set Color control at 75% open. Disable Horizontal Sweep by removing horizontal output tube V10.

SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
7.	Connect high side of sweep generator to Video Input of RF modulator. Connect high side of signal generator (set at 45.75MC) to picture carrier input of RF modulator. Output of RF modulator to Mixer Grid test point on Tuner. Low side to ground.	3MC (6MC Sweep)	3.08MC 4.08MC	Vert. Amp. thru a detector probe to point A, pin 9 of demodulator, V17. Low side to ground.	A14, A15, A16	Adjust A15 for 3.08MC side of curve and adjust A16 for 4.08MC side of curve. Adjust A14 to obtain equal response of 3.08MC and 4.08MC markers as shown in Figure 2.

AFC ALIGNMENT

INDICATOR	GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	ADJUST	REMARKS
Connect vertical amp. of scope thru 47K resistor to point A. Low side to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.	44MC (10MC Sweep)	45.75MC	A19, A20, A21	Adjust A19 for 45.75MC marker at crossover point similar to Fig. 3. Adjust A20 and A21 for maximum gain and symmetry of response.



MISCELLANEOUS ADJUSTMENTS

DYNAMIC PINCUSHION ADJUSTMENT

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

Connect a crosshatch generator to the antenna terminals and adjust the set for a normal crosshatch pattern. Turn the Top-Bottom Pincushion Amp. control (R11) fully counterclockwise. Adjust Pincushion Phase to move curvature to the center of the screen. Readjust R11 for straight horizontal lines at top and bottom of the screen. Repeat if necessary.

FOCUS ADJUSTMENT

With controls set for a picture with normal contrast and brightness, adjust the Focus control, R17, for best overall definition and picture detail. Alternately adjust the Vertical Height and Linearity controls to produce a linear picture with about 1/2" overscan at top and bottom of picture.

AGC ADJUSTMENT

Tune in the strongest TV station in area and adjust the AGC control clockwise until instability appears in the picture (pulling, jitter, overload, etc). Now, turn the control counterclockwise until the picture just becomes stable, then turn an additional 10° counterclockwise.

COLOR AFC ALIGNMENT

Suggested Alignment Tools: GENERAL CEMENT #8606, 8606L, 8869 A17, A18 WALSCO #2543, 2544, 2588

Connect a color bar generator to the antenna terminals or tune in a color program. Set the Tint and Color Fidelity controls to the center of their range. Set the Color Intensity controls to maximum. Turn the Color Killer control fully clockwise.

Attenuate the strength of the signal by adjusting the Fine Tuning control for a weak signal having a loss of Color Sync (barber poling). Adjust A17 until the color bars (if using a color bar generator) or the color portion of the picture (if observing a color program) stand still or drift slowly. A17 will peak at two different settings. The correct peak is the one with the slug nearest the chassis.

Connect a color bar generator to the antenna terminals. Set the Tint and Color Fidelity controls to the center of their range. Set the Color control for normal amount of color. Connect the vertical input of a scope to point A, pin 12 of picture tube, low side to ground.

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, adjust A18 for proper range of control. A18 will peak at two separate positions. Use the peak with slug nearest the chassis. Check for proper waveform at R-Y output, point C (pin 3) and G-Y output, point D (pin 7) of picture tube.

CONVERGENCE ADJUSTMENTS

Step	Control	Use to Converge (or Straighten)	Remarks
1.			Perform center dot convergence using convergence magnets. See Fig. A
2.	R-G Vertical lines, Top (R24)	Red and Green Vertical bars at top of screen.	Touch both controls for best convergence from top to bottom along vertical center line (Fig. B). See Note 1.
3.	R-G Vertical lines, Bottom (R23)	Red and Green Vertical bars at bottom of screen.	
4.	R-G Horizontal lines, Top (R21)	Red and Green Horizontal lines at top of screen.	Touch both controls for best convergence of horizontal bars along vertical line (Fig. B). See Note 2.
5.	R-G Horizontal lines, Bottom (R20)	Red and Green Horizontal lines at bottom of screen.	
6.	Blue Horizontal lines, Bottom (R26)		Adjust for displacement of horizontal blue lines from red-green at top and bottom of screen (Fig. C).
7.	Blue Horizontal lines, Top (R27)		Adjust for equal displacement of horizontal blue lines from red-green lines at center of screen. Readjust blue horizontal lines bottom control as required to maintain spacing of horizontal blue lines (Fig. C).
8.			Perform center dot static convergence (Fig. A). If necessary, readjust blue horizontal lines top and bottom controls for best vertical convergence at center of screen. (Fig. A).
9.	Blue Horizontal lines, Right side (L50)		Adjust for a straight horizontal blue line from center of screen to right side (Fig. D).
10.	Blue Horizontal lines, Left side (R28)		Adjust for a straight horizontal blue line from center of screen to left side (Fig. D).
11.	R-G Vertical lines, Right (L48)	Red and Green Vertical lines at right side of screen.	Disable blue gun by connecting a 100K resistor from the blue control grid of picture tube to ground. Touch up both controls for best convergence of red and green horizontal and vertical lines on right side of screen (Fig. E).
12.	R-G Horizontal lines, Right (L49)	Red and Green Horizontal lines at right side of screen.	
13.	R-G Vertical lines, Left (R25)	Red and Green Vertical lines at left side of screen.	Touch both controls for best convergence of red and green horizontal and vertical lines on left side of screen (Fig. E).
14.	R-G Horizontal lines, Left (R22)	Red and Green Horizontal lines at left side of screen.	
15.			Remove 100K resistor from the blue control grid of the picture tube. Check overall convergence. Any vertical or horizontal adjustments may be touched up individually for correction of any slight irregularities in convergence.

Note 1. Jumper from CircuiTrace #160 (C8) may be connected to CircuiTrace #139 or 140 to provide best center vertical line convergence.
Note 2. Jumper from CircuiTrace #161, L52A, C, may be connected to CircuiTrace #130, 127 or 131 to provide best Red and Green horizontal convergence at top and bottom of raster.

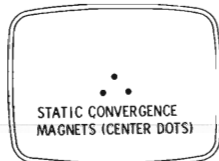


FIG. A

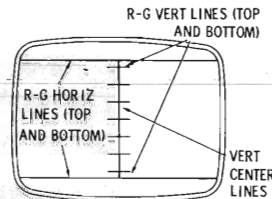


FIG. B (RED AND GREEN ONLY)

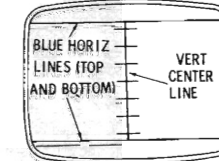


FIG. C (BLUE BARS)

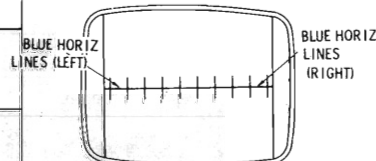


FIG. D (BLUE BARS)

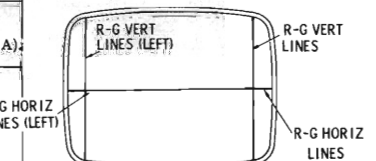
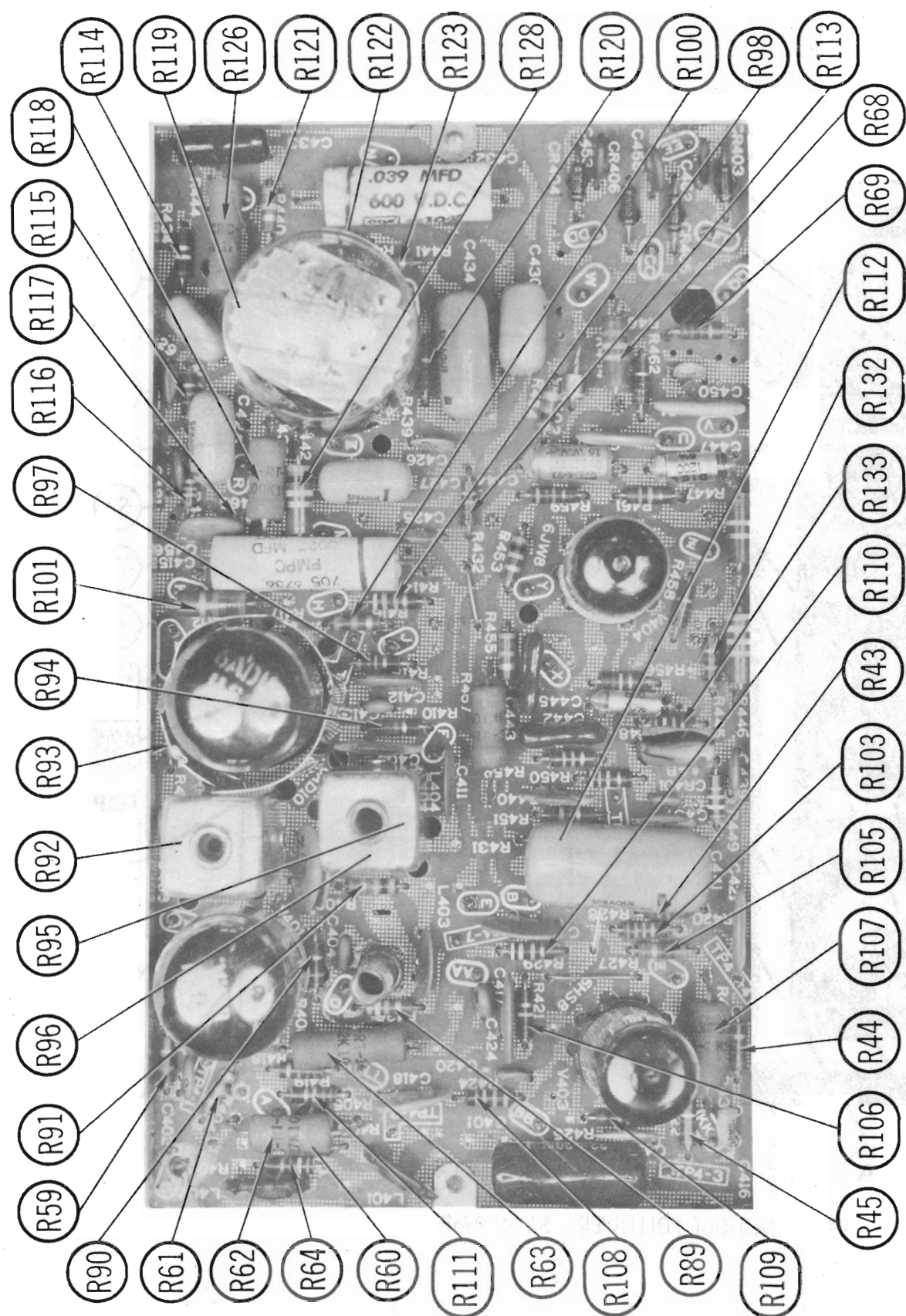
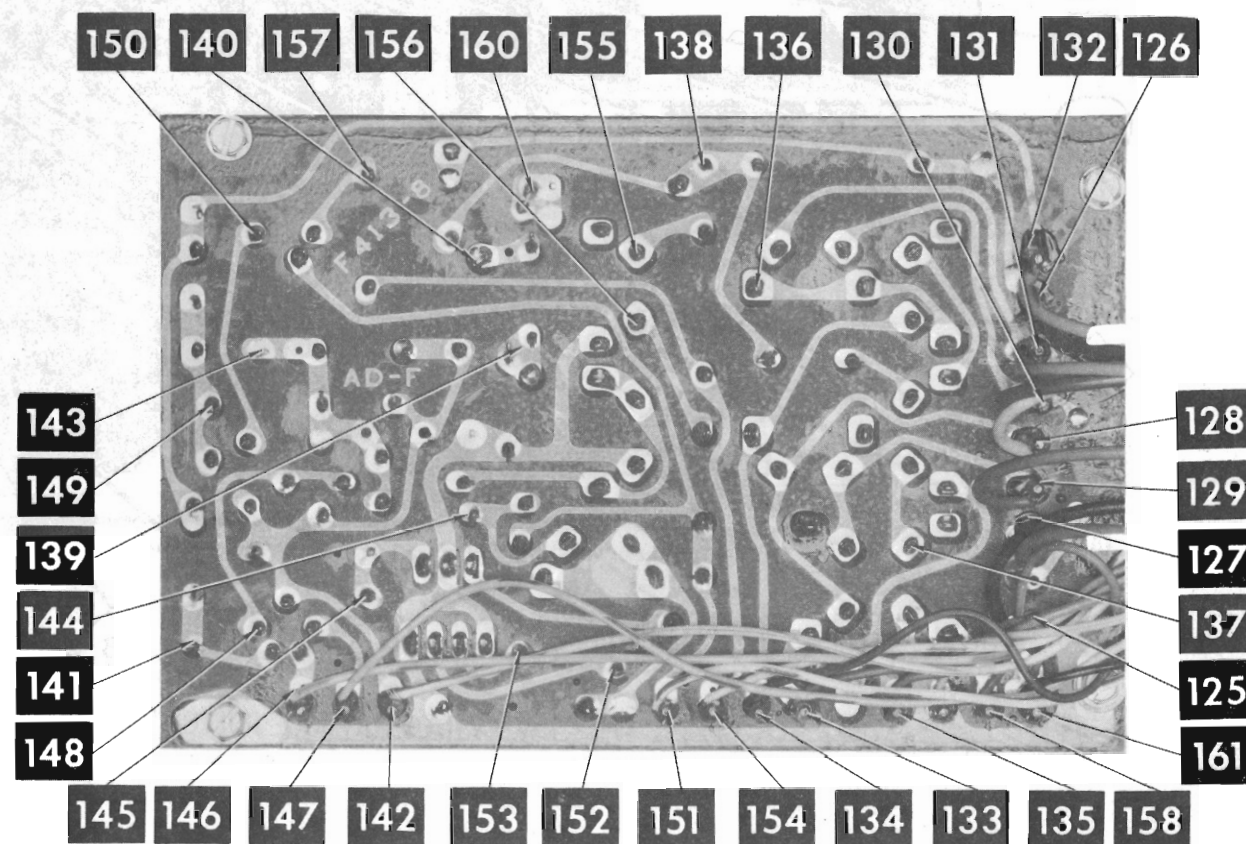
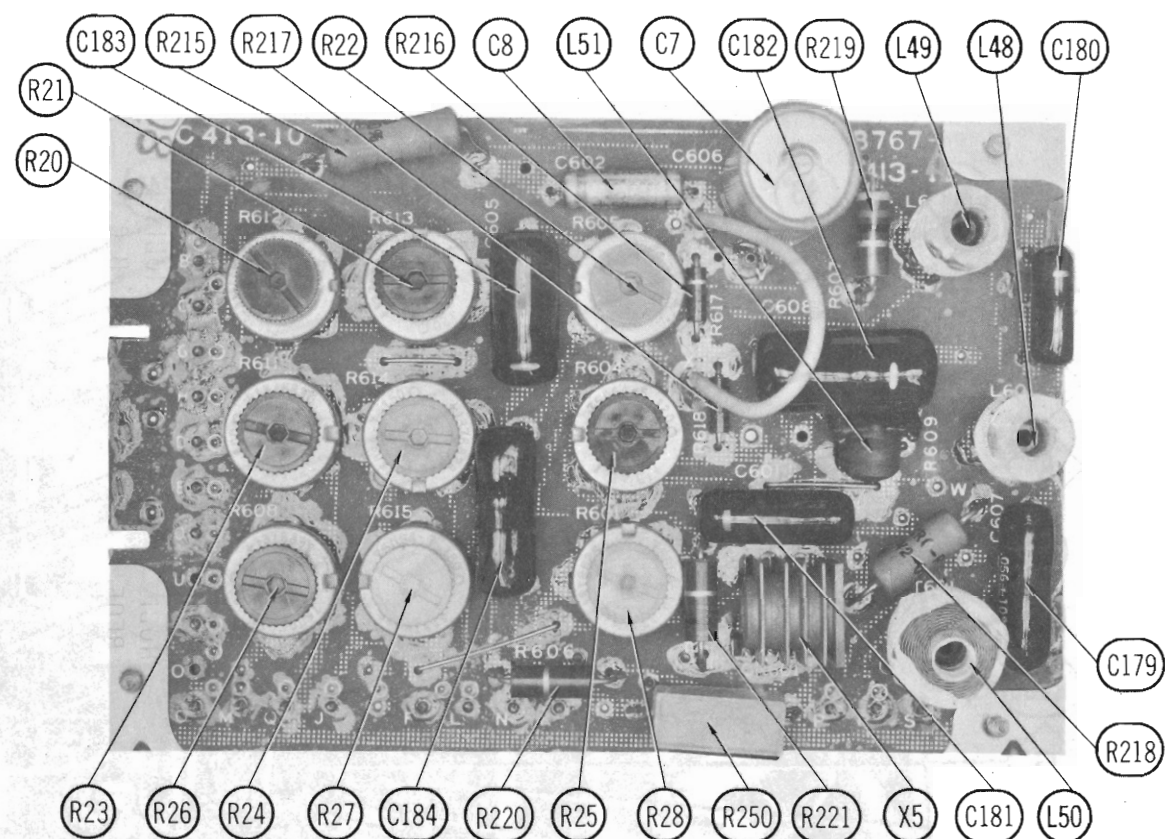


FIG. E

2122AHQ JASIMQA
11H1273-9-13

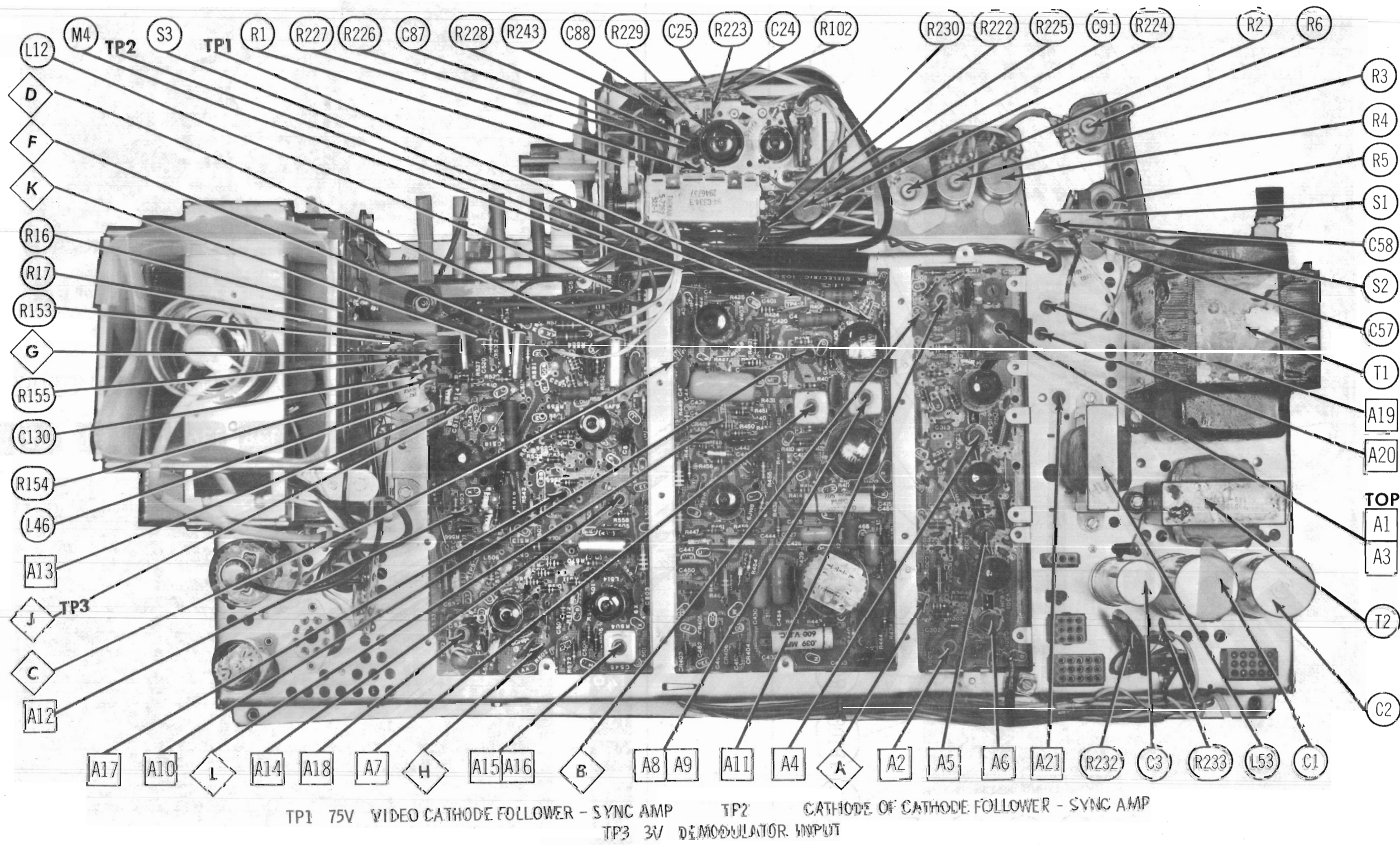


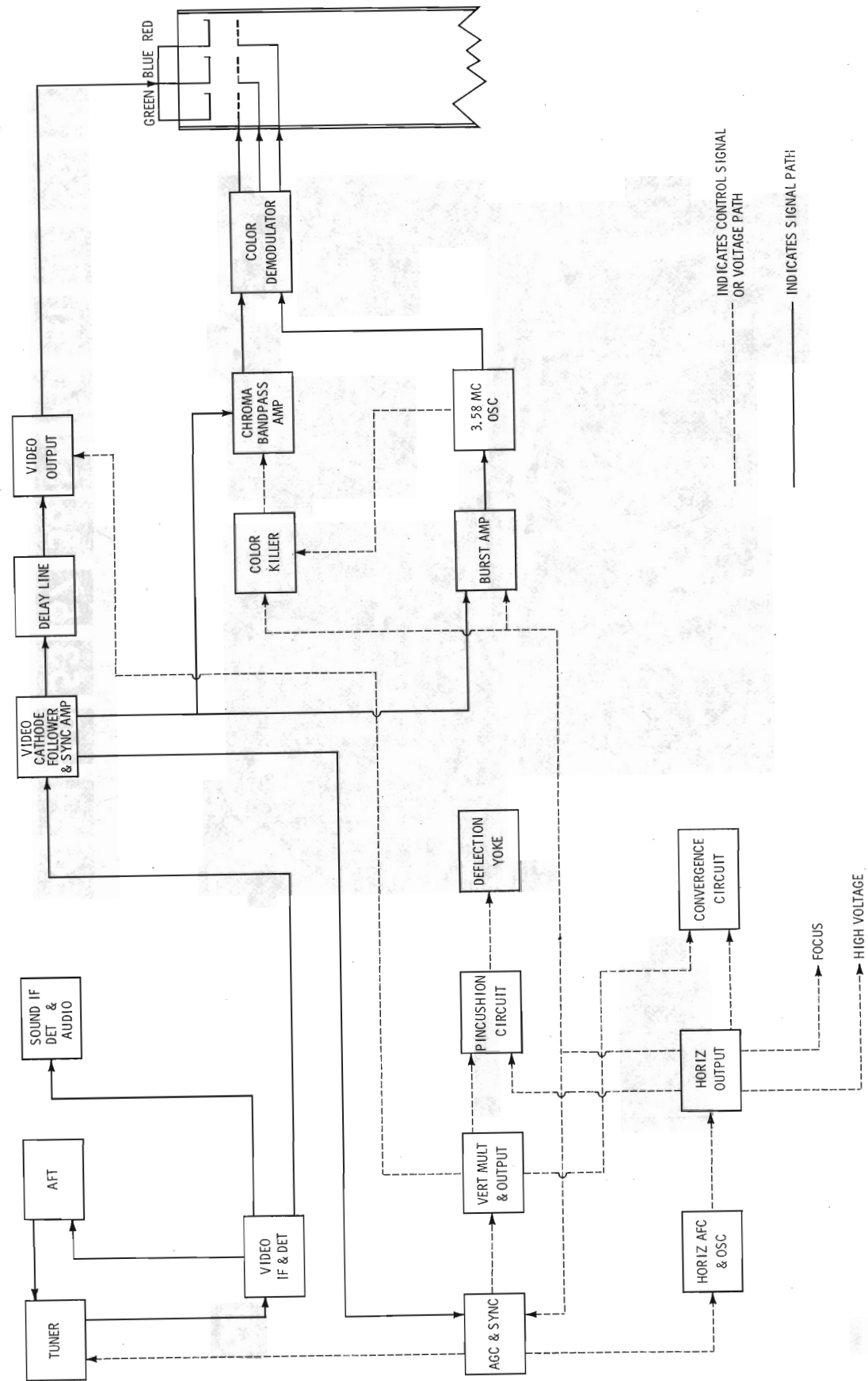
AUDIO - SWEEP BOARD



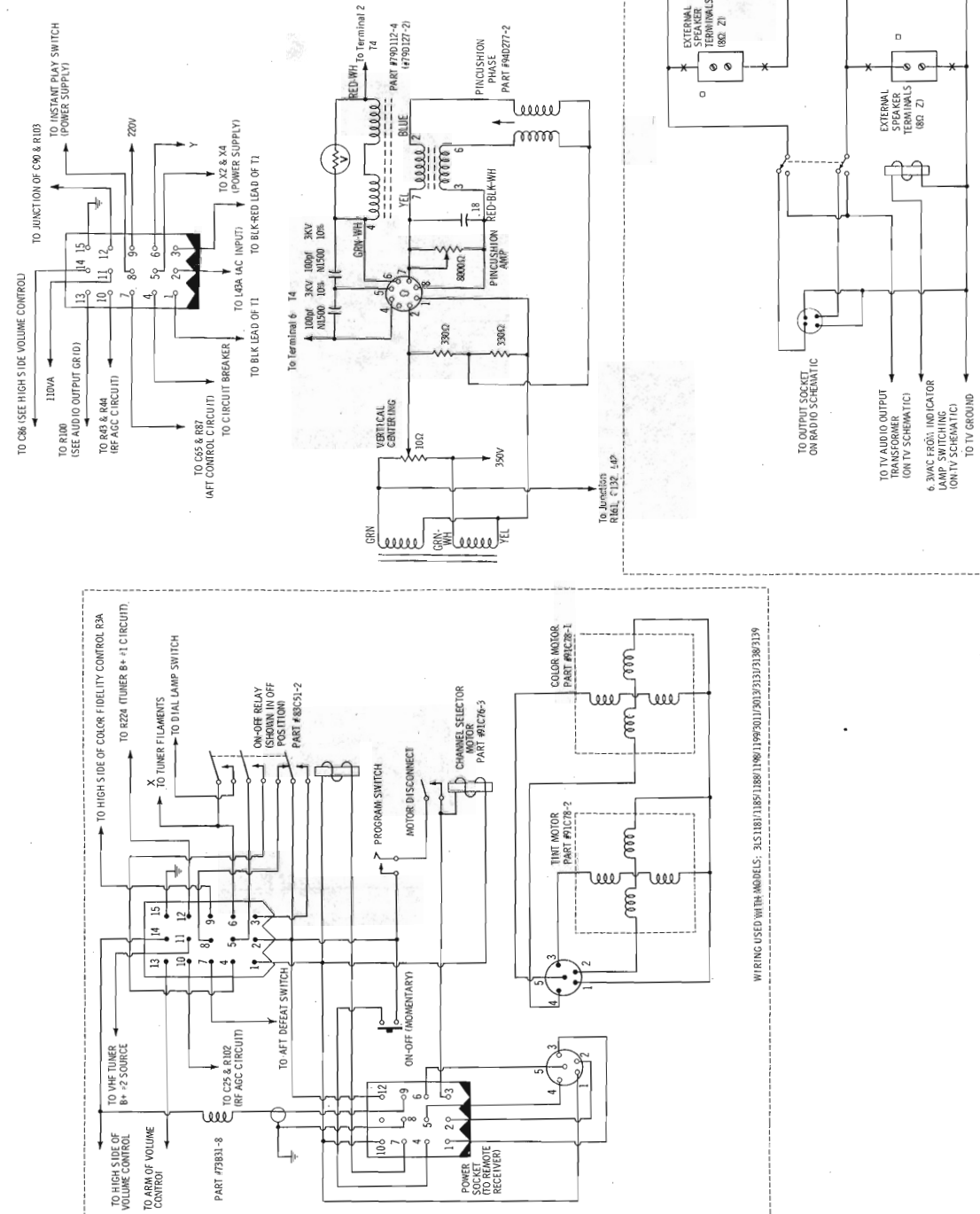
CONVERGENCE BOARD

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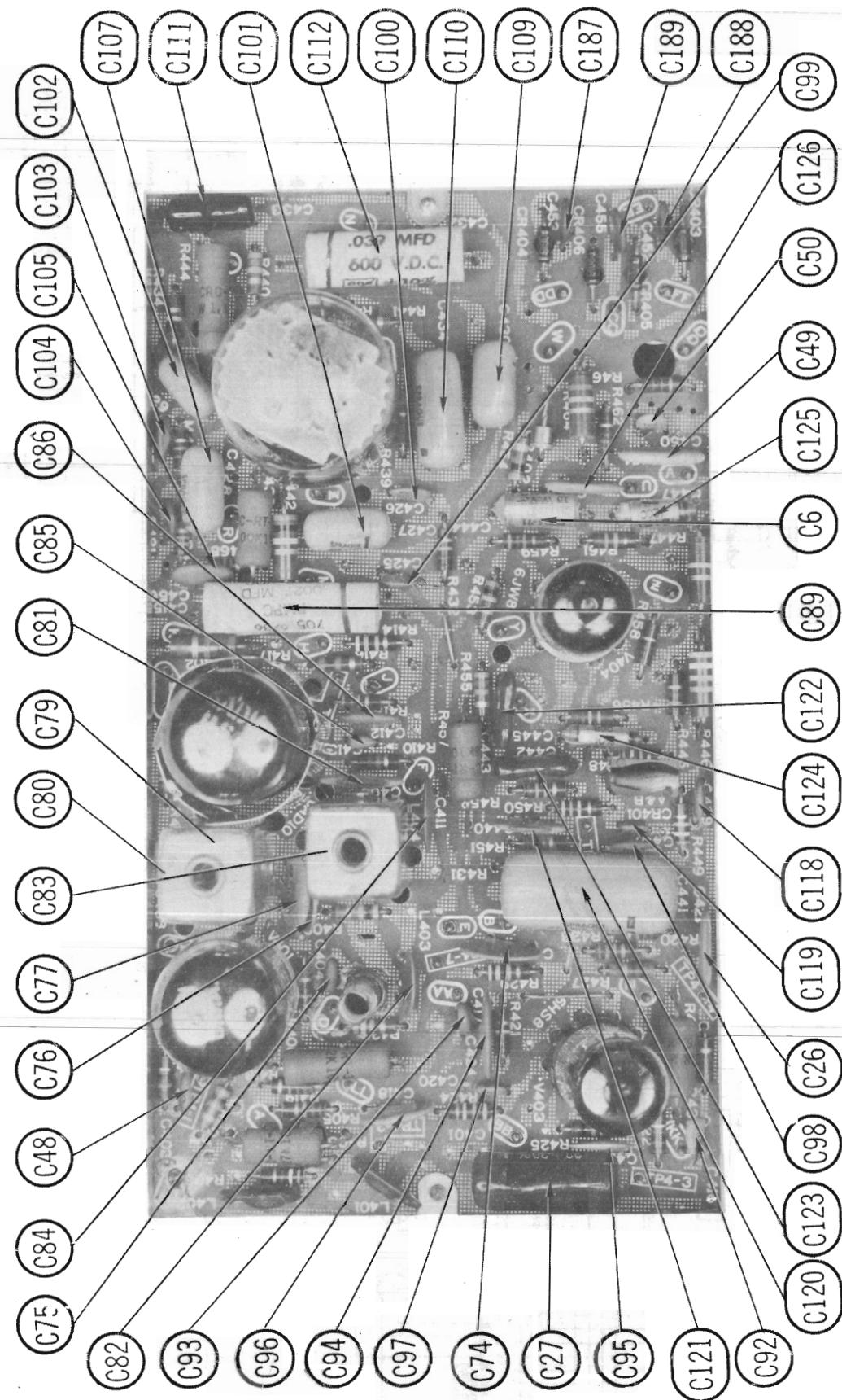
BLOCK DIAGRAM



SPEAKER SWITCHING USED WITH MODELS 3ST3041/3068/3078

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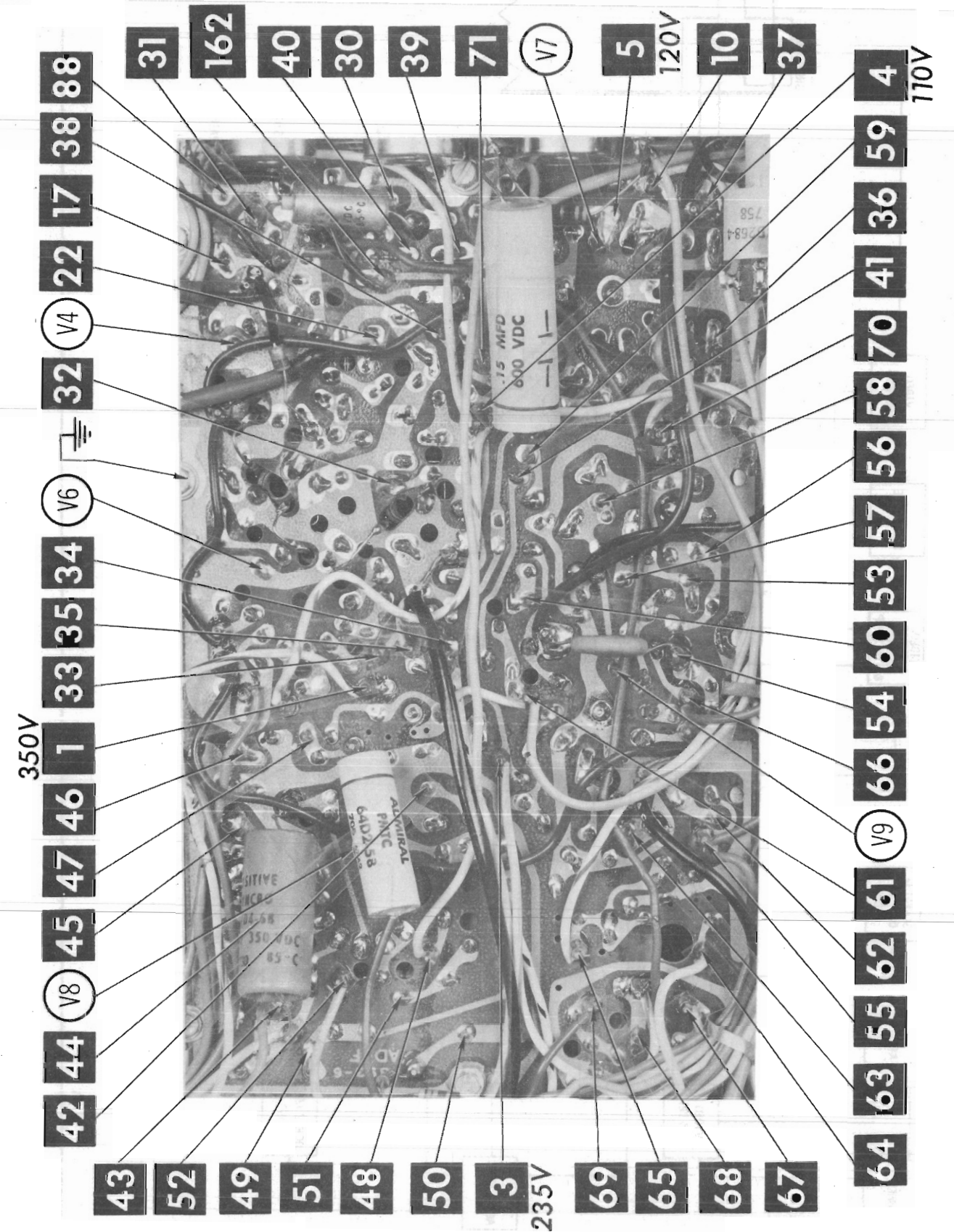
FOLDER 1



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

AUDIO - SWEEP BOARD



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4H1273-9/-13/-17/-19, 4H1297-6, 11H1273-9/-13

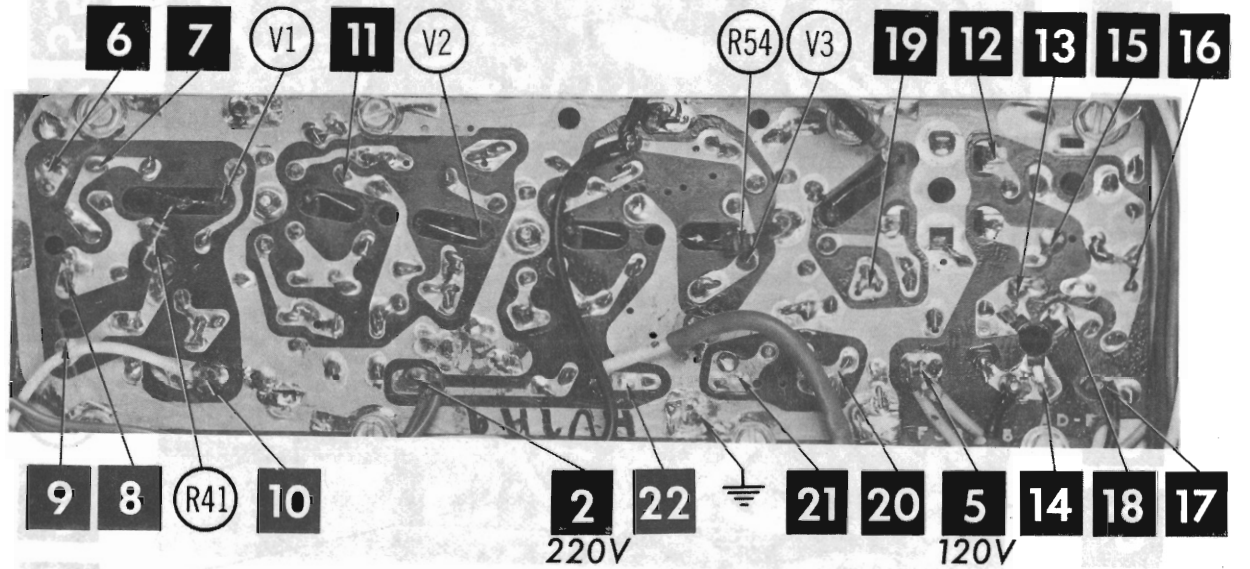
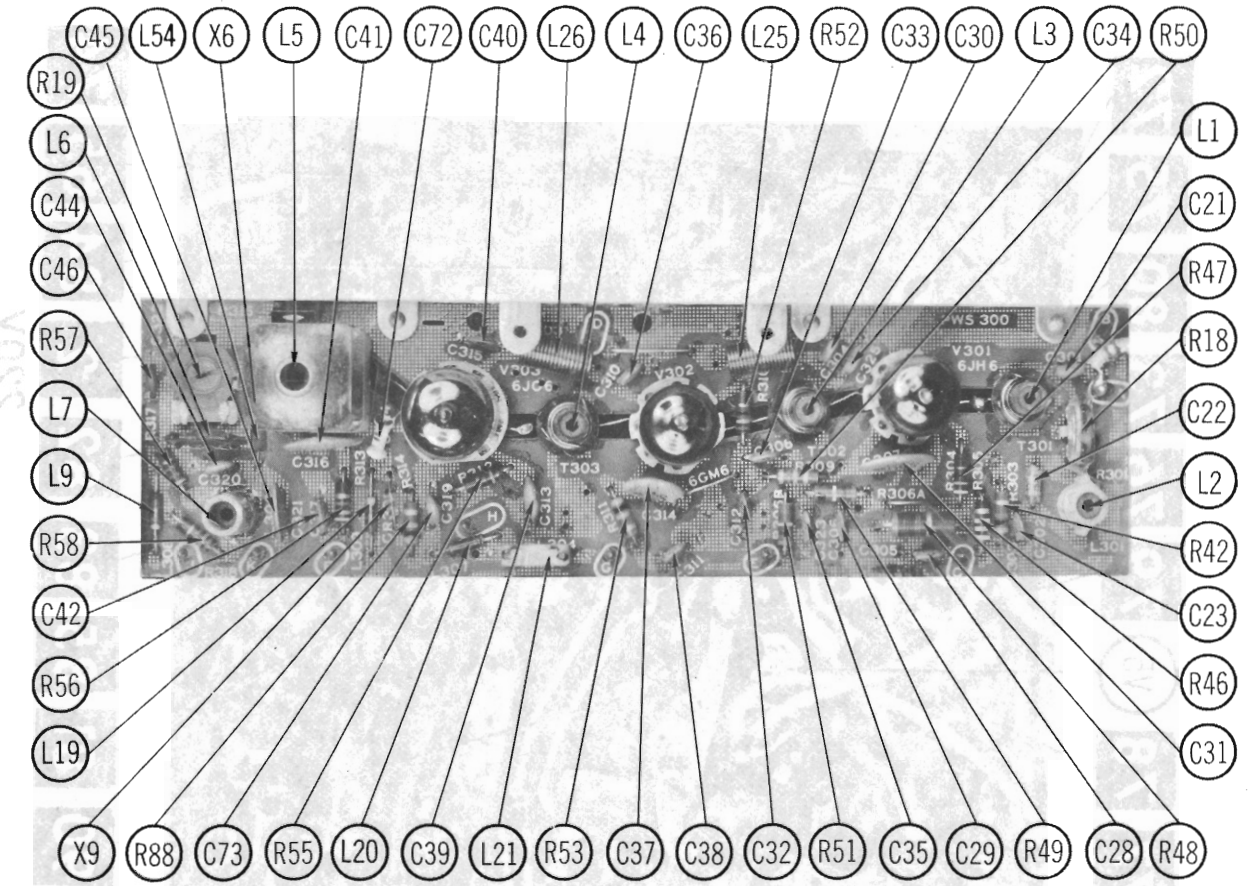
FOLDER 1

RESISTANCE MEASUREMENTS

ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN 12	TOP CAP
V1	6JH6	470K	1550Ω	FIL	FIL	200Ω▲	200Ω▲	1500Ω						
V2	6GM6	85K	INFINITE	FIL	FIL	1120Ω†	1120Ω†	56Ω▲						
V3	6JC6A	180Ω	0Ω	180Ω	FIL	FIL	0Ω	470Ω■	470Ω■	0Ω				
V4	6BN11	FIL	800Ω	2000Ω●	28K†	9400Ω†	0Ω	6.5Ω	270Ω	16K	0Ω	16K†	FIL	
V5	6AF9	26K	39K	2000Ω†	2000Ω†	FIL	FIL	275Ω	220K	14K†	4700Ω†			
V6	6AD10	FIL	270Ω	4.5Ω	0Ω	470K	11.7K†	380K†	250K	150Ω	6300Ω†	1800Ω†	FIL	
V7	6HS8	INFINITE	8000Ω†	2.5meg	FIL	FIL	120K†	650K†	50K†	10meg†				
V8	6LU8	FIL	4.8meg†	NC	1400Ω†	NC	2.6meg	2.6meg	15K†	1300Ω	100K	150K	FIL	
V9	6JW8/ ECF802	8100Ω†	120K	9600Ω†	FIL	FIL	90K†	0Ω	1000Ω	1.35meg				
V10	6KD6	FIL	0Ω	18K†	8500Ω	2.2meg	NC	NC	NC	NC	8500Ω	NC	FIL	17Ω†
V11	6CG3	FIL	NC	NC	25Ω†	NC	NC	1meg	NC	NC	25Ω†	NC	FIL	
V12	3BT2				PINS 1 THRU 12 HAVE INFINITE RESISTANCE									860Ω†
V13	2AV2	NC	NC	NC	52meg	52meg	NC	NC	NC	15.2Ω†				
V14	6EL4	1100Ω†	FIL	NC	NC	1.5meg	NC	FIL	NC					INFINITE
V15	6GH8A	580K	47K	48K†	FIL	FIL	8000Ω†	0Ω	0Ω	450K				
V16	6X9/ ECF200	330Ω	15Ω	300K	0Ω	FIL	FIL	35K†	41K†	16K†	580K			
V17	6LE8	30K†	6.8Ω	340Ω	FIL	FIL	29K†	8.4Ω	17K†	1700Ω				
V18	25SP22	FIL	4000Ω†	440K†	1meg†	1meg†	4000Ω†	330K†	NC	49meg	NC	4000Ω†	350K	
												PIN 13 1meg†	PIN 14 FIL	
V201	6HA5	6meg	0Ω	FIL	FIL	9500Ω†	0Ω	0Ω						
V202	6LJ8	5600Ω	11.5K†	0Ω	FIL	FIL	7200Ω†	26K†	0Ω	220K				

● READING DEPENDS ON POLARITY OF METER CONNECTIONS.
† MEASURED FROM CATHODES OF X3 AND X4.
NC NO CONNECTION

▲ MEASURED FROM PIN 2 OF V2.
■ MEASURED FROM PIN 1 OF V7.
† MEASURED FROM PIN 7 OF V11.



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

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FOLDER 1

92 91 93 94 95 98 97 96 77 78 V5 79 76 73 80 75 72



86 99 V16 89 V15 87 55 V17 90 81 85 83 82 2 84 65 74

220V

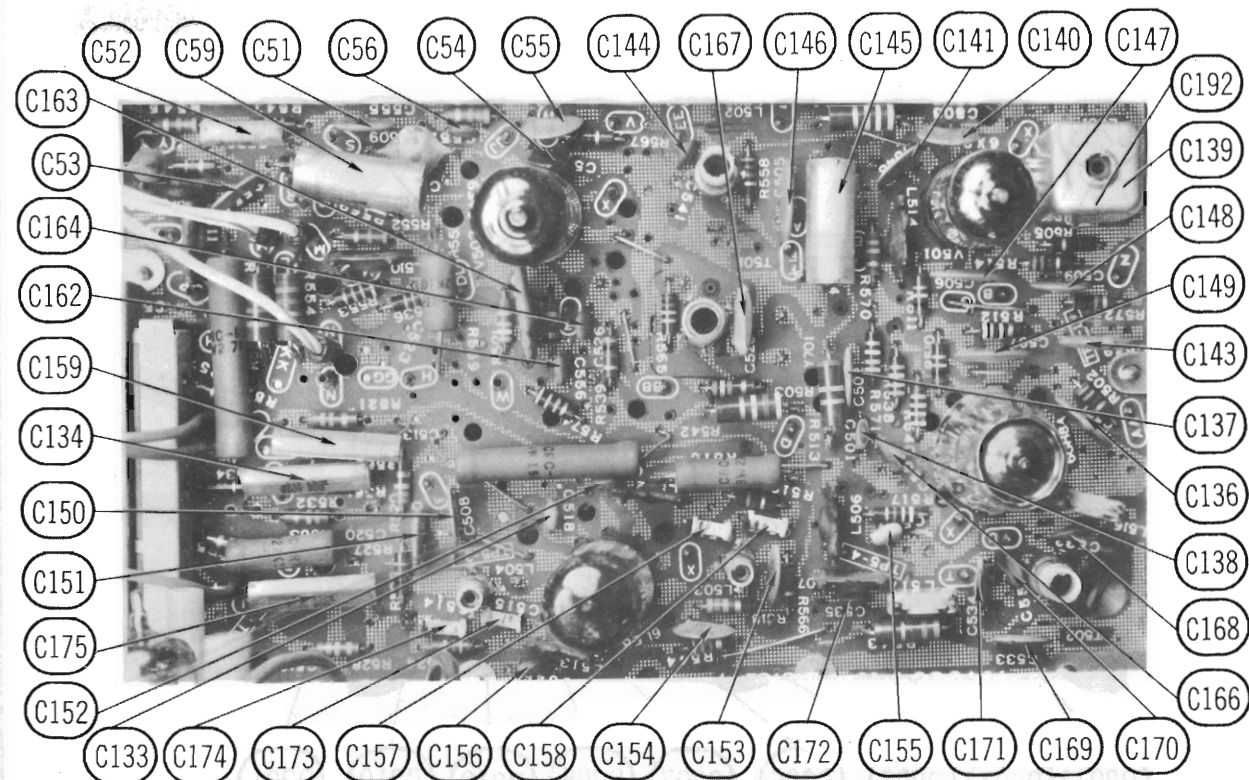
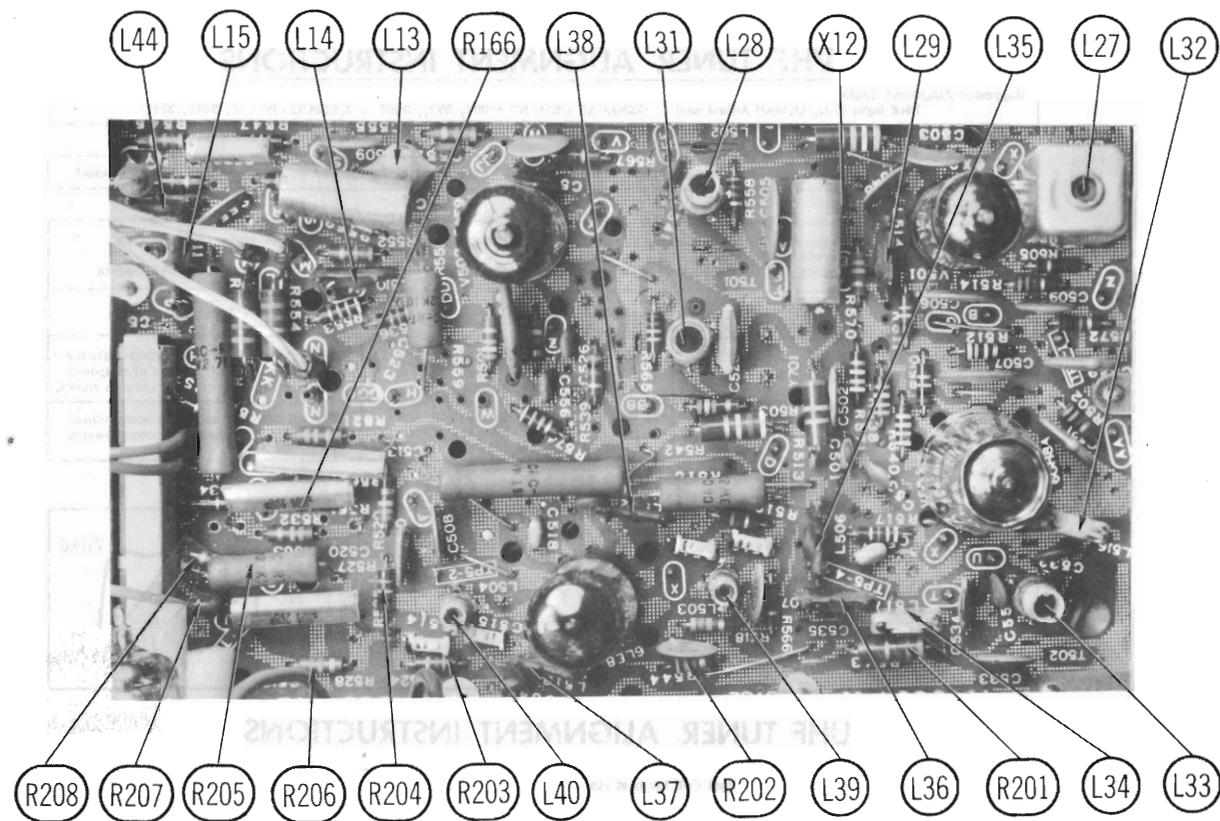
CHROMA BOARD

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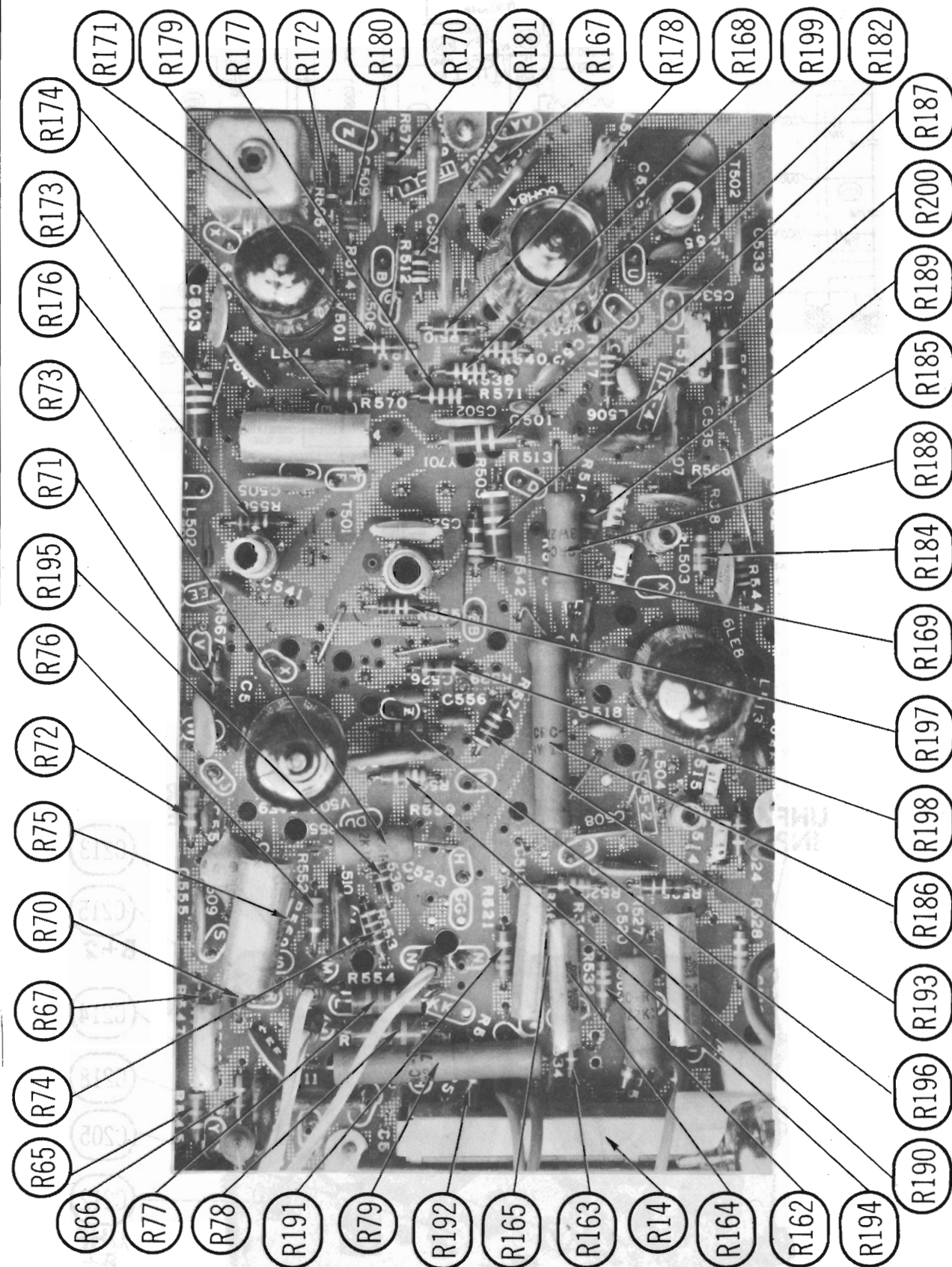


V16 121 V15 123 124 122 114 108 101 107 V17 102 103 104 105 106 110 116 111

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

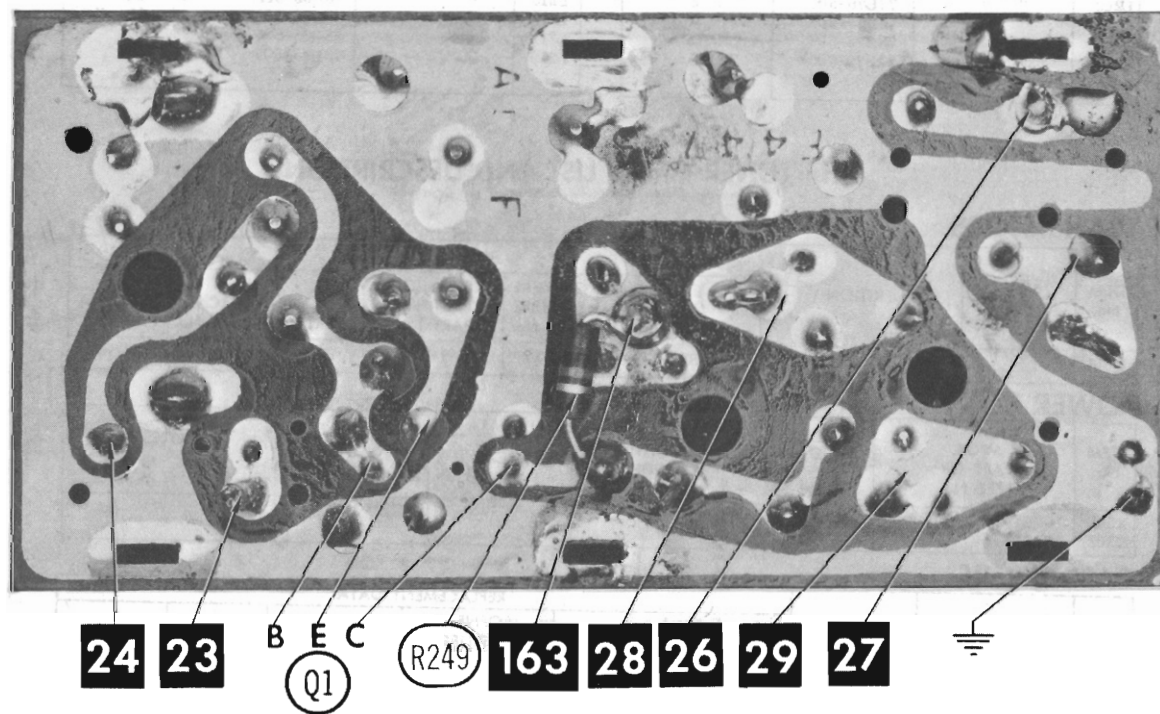


CHROMA BOARD

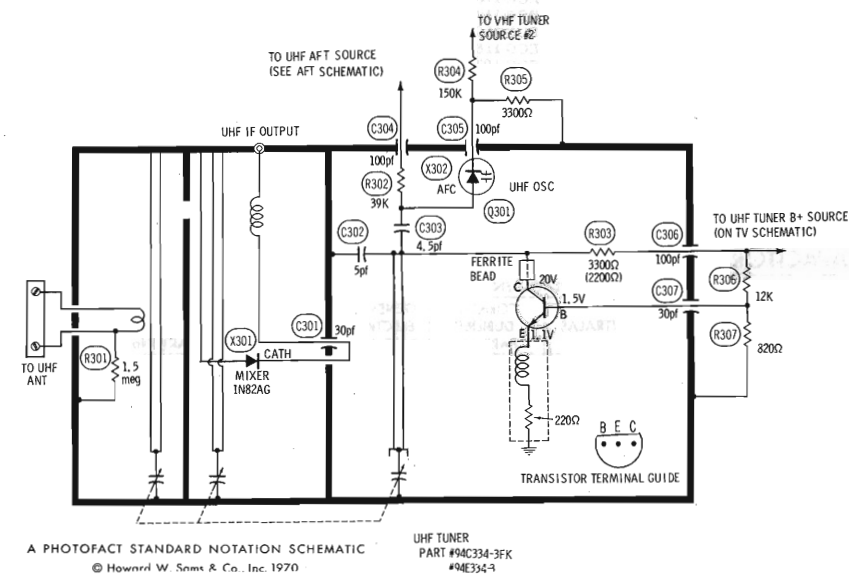
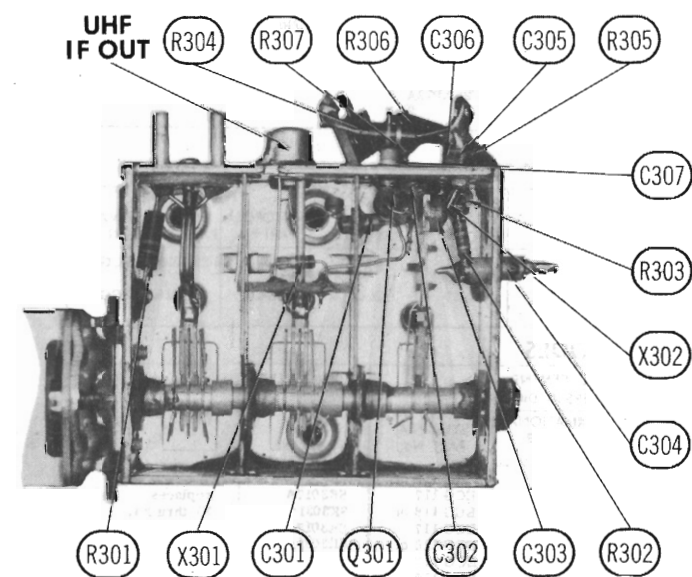


CHROMA BOARD





AFC BOARD



UHF TUNER 94C334-3

PARTS LIST AND DESCRIPTION

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

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

High Voltage Lead	Use BELDEN No. 8868 (25KV)
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
3000 Ω Tuner Input Lead	Use BELDEN No. 8225
3000 Ω 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

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V201	RF Amp.	6HA5	V8	Vert. Mult. - Vert. Output	6L8
V202	Mixer-Oscillator	6LJ8	V9	Horiz. AFC - Horiz. Osc.	6JW8/ECF802
V1	1st Video IF	6JH6	V10	Horiz. Output	6KD6
V2	2nd Video IF	6GM6	V11	Damper	6CG3 (6CE3) *
V3	3rd Video IF	6JC6A	V12	HV Rectifier	3BT2 (3BW2) *
V4	Video Cathode Follower - Chroma Sync Amp. - Sound IF	6BN11	V13	Focus Rectifier	2AV2 (2BA2) *
V5	Video Output - Burst Amp.	6AF9	V14	Shunt Regulator	6EL4A (6LH6A, 6BK4B) *
V6	Audio Det. - Audio Output	6AD10	V15	Color Killer - Chroma Reference Osc.	6GH8A
V7	AGC Keying - Sync Sep. - Noise Canceller	6HS8	V16	1st Chroma Bandpass Amp. - 2nd Chroma Bandpass Amp.	6X9/ECF200
			V17	Color Demodulator	6LE8

PICTURE TUBE

ITEM No.	REPLACEMENT DATA	NOTES
V18	25SP22	25AP22A
		H25BCP22 ① C25BCP22 ② H-25XP22 ① C-25XP22/25AP22A ②
		RE-25AP22A ③ SRE-25AP22A ③ 25AP22A ③
		① Hi Lite. ② Colorama. ③ CB-85.

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA
Q301		UHF Oscillator	57B21-5
Q201		VHF AFC Diode	57D21-8
Q1		AFT	57C142-4 (57C138-4)
			GE-11
			TR-22
			HEP56
			SK3019
			ECG 108

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	REPLACEMENT DATA	NOTES
X1	93B52-1	GE-504A
X2	(93C52-1)	or GE-BR-600 ①
X3	93B52-1	or GE-504A
X4	(93C52-1)	or GE-BR-600 ①
X5	93B52-1	or GE-504A
X6	(93C52-1)	or GE-BR-600 ①
X7	93C53-2	or GE-504A ③
X8	93C8-1 (1N87A)	1N60
X9	93B8-1 (1N87A)	1N60
X10	93B5-10	6GC1
X11	93A60-3	GE-504A
X12	93B8-1	1N60
X13	93B65-1	GE-509

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	ADMIRAL PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	80 450V	67C(D)15-384	AFH2-64-15		BB0489.5A	XC2-35	FP245.5	TVL-2779
C2A	80 450V	67C(D)15-380	AFH4-108-35		DD0825.5A	XC4-68.1	FP427.67	TVL-4714.2
C3A	50 450V	67C(D)15-381	AFH3-154-50		CC0352A	XC3-3A	FP375.45	TVL-3774.6
C4	2 350V	67D4-59	PRS1705		WBR3-500	QT1-1	TC595	TVA-1701
C5	10 350V	67C4-68	PRS1620		WBR10-500	QT1-6	TC62A	TVA-1604
C6	20 15V	67D4-71	CRE461A	EA15-25	AL20-16	MT1-10	MTA20D30	TE-1157
C7	50 150V	67D4-91	PRS1480		WBR60-150	QT1-17	TC49A	TVA-1414
C8	50 150V	67B27-5	PRS1480		WBR60-150	QT1-17	TC49A	TVA-1414
	50 10V	67D4-78	PTT45	EA15-50	AL50-16	MT1-16	MTA50E15	TL-1133

VHF TUNER PARTS LIST AND DESCRIPTION

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

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V201	RF Amp	6HA5	V202	Mixer - Oscillator	6LJ8

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA
Q201		VHF AFC Diode	57D21-8

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA
C201A	27pf		DD-270
B	27pf		DD-270
C	27pf		DD-270
D	27pf		DD-270
C202	7.7pf N470 5%		DD-270
C203	2.2pf		DD-270
C204	.001		DD-270
C205	15pf		DD-270
C206	.001		DD-270
C207	33pf N750 5%		DD-270
C208	.001		DD-270
C209	8.2pf		DD-270
C210	8.2pf		DD-270
C211	.001		DD-270
C212	.001		DD-270
C213	.001		DD-270
C214	.001		DD-270
C215	.001		DD-270
C216	.001		DD-270
C217	.001		DD-270
C218	47pf		DD-270

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

COILS (RF-IF)

ITEM No.	USE	MFGR. PART No.	NOTES
L201	UHF Strip	73B74-536	
L202	Ant., RF, Mixer, Osc.	73B75-505	1 F
L203	"	73B76-505	Channel 2 Strip
L204	"	73B77-505	" 3 "
L205	"	73B78-505	" 4 "
L206	"	73B79-505	" 5 "
L207	"	73B80-505	" 6 "

UHF TUNER PARTS LIST AND DESCRIPTION

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

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA
Q301		UHF Oscillator	57B21-5

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	REPLACEMENT DATA	NOTES
X301	93A59-1 (1N82AG)	1N81
X302	93A63-1	1N82AG

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA
C301	30		DD-270
C302	5		DD-270
C303	4.5		DD-270
C304	100		DD-270
C305	100		DD-270
C306	100		DD-270
C307	30		DD-270

4H1273-9/-13/-17/-19, 4H1297-6, 1H1273-9/-13

FOLDER 1

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFRG. PART No.	QUAM PART No.	
SP1	4" PM 3.2 ohms	78C216-3	4C25	Models: 3L1171-M, 1175-M, 1198-M, 1199-M, 1171, 1175, 1198 / 3AL3101-M, 3105-M / 3LS1198, 1199.
	3 1/2" PM 8 ohms	78C148-13 78C216-4	3A15T	3ST3041-M, 3068-M, 3078-M, 3041, 3068, 3078, 3L1181-M, 1185-M, 1188-M, 1185, 1188 / 3AL3115-M, 3118-M, 3118-M, 3118, 1181, 313013-M, 3011-M, 3015-M, 3013, 3011, 3015 / 3LS3013.
	5" PM	78C248-2		3ST3041-M, 3068-M, 3041, 3068.
	8" PM	78C173-7		3ST3041-M, 3068-M, 3078-M, 3041, 3068, 3078.
	12" PM	78C153-17		3L1131-M, 1135-M.
	2" X 6" PM	78C174-6		3L3131-M, 3138-M, 3139-M, 3131, 3138, 3139 / 3LS3131, 3138, 3139.
	5" PM	78C248-1		

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA					
		PART No.		BUSS PART No.		LITTELFUSE PART No.	
F1	Circuit Breaker Hold Current 1 Amp Break Current 1.54 Amp 2" length #22 fuse wire	84C(D)17-9				8151.75	FA1.5
F2							
F3							

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
	VHF Tuner	94C(E)330-3	
	VHF Tuner	94E331-3	
	UHF Tuner	94C334-3 FK	
	UHF Tuner	94C(E)333-3	
	UHF Tuner	94E334-3	
M3	Crystal (3.58MC)	93B22-3	
M4	Delay Line	72B27-4	
M5	Degaussing Coil	700D625-6	
	Degaussing Coil	(700C825-6)	
	Purity and Blue Lateral Assembly	94C287-4	
		(94D287-4)	
M6	Spark Gap	62A2-2	
M7	Spark Gap	62A2-2	
M8	Spark Gap	62A2-2	
M9	Spark Gap	62A2-2	
S1	Switch	77C1-69	
S2	Switch	77C1-70	
S3	AFT Switch	77B161-6	
		(77C161-6)	Video Peaking Instant Play

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

ITEM	PART No.	ITEM	PART No.
Models 3AL3101-M, 3AL3105-M, 3AL3111-M, 3AL3115-M, 3AL3118-M, 3L1146, M, 3L1188, M, 3LS1181, 3LS1185, 3LS1188		Models 3L1171, M, 3L1175, M, 3L1181, M, 3L1146, M, 3L1188, M, 3LS1181, 3LS1185, 3LS1188	
Knob - VHF & UHF Channel Selector	33C1177-3	Knob - VHF & UHF Channel Selector	33C1177-3
Knob - On/Off/Volume	20C63-38	Knob - On/Off/Volume	20C63-38
Knob - Fine Tuning	33C933-6	Knob - Fine Tuning	33C933-6
Knob - Tint	33C912-1	Knob - Fine Tuning 3LS Models	33C933-9
Knob - Color Fidelity	33C912-1	Knob - Fine Tuning 3LS Models	33C933-9
Knob - Color Intensity	33C1012-4	Knob - Tint 3LS Models	33B1012-3
Knob - Indicator Disc, UHF	33C1046-6	Knob - Tint 3LS Models	33A895-3
Knob - Indicator Disc, VHF	33A1045-8	Knob - Tone	33C912-1
Models 3L3131-M, 3L3138-M, 3L3139-M		Knob - AFC Bar Button	33C929-3
Knob - VHF & UHF Channel Selector	33C1177-3	Knob - Color Intensity 3L Models	33C1012-4
Knob - On/Off/Volume	20C63-38	Knob - Color Intensity 3LS Models	33C895-4
Knob - Tuning	33C933-6	Knob - Color Fidelity	33C912-1
Knob - Tone	33C912-1	Knob - Indicator Disc, UHF	33C1046-6
Knob - AFC Bar Button	33C929-3	Knob - Indicator Disc, VHF	33C1045-8
Knob - Color Fidelity	33C912-1	Models 3L1198, M, 3L1199, M, 3L3011-M, 3L3013, M, 3L3015-M, 3L31198, M, 3LS1199, 3LS3011, 3LS3013	
Knob - Indicator Disc, VHF	33C1046-6	Knob - VHF & UHF Channel Selector	33C1177-3
Models 3L1131-M, 3L1135-M		Knob - On/Off/Volume	20C63-38
Knob - VHF & UHF Channel Selector	700C848-6	Knob - Fine Tuning Models 3L	33C933-6
Knob - AFC (AFT)	33C929-3	Knob - Fine Tuning Models 3LS	33C933-9
Knob - On/Off/Volume	20C63-38	Knob - Indicator Disc, UHF	33C1046-6
Knob - Tint	20C66-17	Knob - Tone & Color Fidelity	33C912-1
Knob - Color Fidelity Thumbwheel	33C1049-4	Knob - Tint Models 3LS	33C895-5
Knob - Color	20C66-17	Knob - Color Fidelity	33C912-1
Knob - Contrast, Vertical Hold, Tone Brightness	33B1049-3	Knob - Indicator Disc, UHF	33C1046-6
Knob - Fine Tuning	33C933-6	Knob - Indicator Disc, VHF	33C1045-8
Knob - Indicator VHF	33C1045-10	Models 3L1191, M, 3L3131, M, 3L3138, M, 3L3139, M, 3LS3131, 3LS3138, 3LS3139	
Knob - Indicator UHF	33C1046-8	Knob - VHF & UHF Channel Selector	33C1177-3
Models 3L1191, M, 3L3131, M, 3L3138, M, 3L3139, M, 3LS3131, 3LS3138, 3LS3139		Knob - On/Off/Volume	20C63-38
Knob - VHF & UHF Channel Selector	33C1177-3	Knob - Fine Tuning Models 3L	33C933-6
Knob - On/Off/Volume	20C63-38	Knob - Fine Tuning Models 3LS	33C933-9
Knob - Fine Tuning Models 3L	33C933-6	Knob - Tone	33C912-1
Knob - Fine Tuning Models 3LS	33C933-9	Knob - AFC Bar Button	33C929-3
Knob - Indicator Disc, UHF	33C1046-6	Knob - Color Intensity Models 3LS	33C895-5
Knob - Indicator Disc, VHF	33C1045-8	Knob - Tint Models 3LS	33C895-5
Models 3ST3041, M, 3ST3068, M		Knob - Color Fidelity	33C912-1
Knob - VHF & UHF Channel Selector	33C1177-3	Knob - Indicator Disc, UHF	33C1046-6
Knob - VHF Fine Tuning & UHF Tuning	33C933-6	Knob - Indicator Disc, VHF	33C1045-8
Knob - Color Fidelity	33C912-1	Models 3ST3041, M, 3ST3068, M	
Knob - On/Off/Volume	20C63-38	Knob - VHF & UHF Channel Selector	33C1177-3
Knob - Tone	33C912-1	Knob - On/Off/Volume	20C63-38
Knob - Indicator UHF	33C1046-6	Knob - Fine Tuning Models 3L	33C933-6
Knob - Slide Switch	33C929-4	Knob - Fine Tuning Models 3LS	33C933-9
Knob - Indicator VHF	33C1045-8	Knob - Indicator Disc, UHF	33C1046-6
Knob - Radio Tuning	33C702-21	Knob - Radio Control	33C929-4
Knob - Radio Control	33C702-20	Knob - Push Button for Radio	33C929-4
Knob - AFC	33C929	Knob - AFC	33C929-3

PARTS LIST AND DESCRIPTION (CONTINUED)

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CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.
C21	9.5 NPO ±.5	#65D10-380						
C22	150 125V 5%			CPR-150J		DM-15-15LJ	SX315	424MC1500 J501
C23	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C24	.033 200V		V1612833			4DP-2-333	PVC2133	4PS-S33
C25	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C26	.02		GPD Z5U203P DD-203	DD-203		CCD-203	GP120	10TS-S20
C27	.22 200V		V1612P22		DPMS-2P22	2DP-4-224	PVC2022	2PS-P22
C28	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C29	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C30	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C31	680 N2200 10%	#65D10-293					*	10TCV-T68
C32	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C33	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C34	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C35	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C36	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C37	220 N2200 5%	#65D10-330					*	10TCV-T22
C38	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C39	.0022	(.0015) ↑	GPD X5F222K DD-222	DD-222	GP2200	CCD-222	GP222	10TS-D22
C40	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C41	750 N2200 5%	#65C10-368					*	10TCV-T75
C42	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C43	20 NPO 10%		NPO-DI 20	DTZ-20	NPO20	CCO-200	CNO420	10TCQ-Q20
C44	10 N150	#65D10-299					*	10TCP-Q10
C45	100 N33 10%	#65D10-297					*	10TCP-Q10
C46	22 N150	#65D10-300					*	10TCP-Q10
C47	.01		GPD X5S103K DD-103	DD-103	GP10000	CCD-103	GP110	10TS-S10
C48	.0022 10%		GPD X5F222K DD-222	DD-222	GP2200	CCD-222	GP222	10TS-D22
C49	.0047 10%		GPD X5R472K DD-472	DD-472	GP4700	CCD-472	GP247	10TS-D47
C50	180 1KV 10%		GPD X5F181K DD-181	DD-181	GP180	CCD-181	GP318	5GA-T18
C51	.01		GPD X5S103K DD-103	DD-103	GP10000	CCD-103	GP110	10TS-S10
C52	.1 200V		DBE2P1		DPMS-2P1	2DP-3-104	PVC201	2PS-P10
C53	.01		GPD X5S103K DD-103	DD-103	GP10000	CCD-103	GP110	10TS-S10
C54	120 N750		TCN-120		N120	CCCN-121	CN7312	10TCU-T12
C55	.01		GPD X5S103K DD-103	DD-103	GP10000	CCD-102	GP110	10TS-S10
C56	820 NPO 10%		GPD X5F821K DD-821	DD-821	GP820	CCD-821	GP382	10TS-T82
C57	.0047 10%		GPD X5R472K DD-472	DD-472	GP4700	CCD-472	GP247	10TS-D47
C58	560		GPD X5F561K DD-561	DD-561	GP560	CCD-561	GP356	10TS-T56
C59	.22 400V		V1614P22		DPMS-4P22	4DP-5-224	PVC4022	4PS-P22
C60	.56							
C62	20 NPO 10%		NPO-DI 20	DTZ-20	NPO20	CCO-200	CNO420	10TCQ-Q20
C63	220		GPD X5F221K DD-221	DD-221	GP220	CCD-221	GP322	10TS-T22
C64	.0015		GPD X5F152K DD-152	DD-152	GP150	CCD-152	GP215	10TS-D15
C65	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C66	.0015		GPD X5F152K DD-152	DD-152	GP150	CCD-152	GP215	10TS-D15
C67	27 NPO 5%		TCZ-27		NPO27	CCO-270	CNO427	10TCQ-Q27
C68	27 NPO 5%		TCZ-27		NPO27	CCO-270	CNO427	10TCQ-Q27
C69	2.2 N750							
C70	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C71	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C72	1.5 N3300	#65D6-173				*	*	
C73	10 N150					*	*	10TCP-Q10
C74	.02		GPD Z5U203P DD-203	DD-203		CCD-203	GP120	10TS-S20
C75	5 N750 10%		DTN-5		N5	CCCN-050	CN7550	10TCU-V50
C76	.01		GPD X5S103K DD-103	DD-103	GP10000	CCD-103	GP110	10TS-S10
C77	560 N1500 5%	#65D10-296				*	*	10TCN-T56
C78	.75pf 10%	#65D41-119						
C79	6 N220 ±.5							
C80	.0012 10%		GPD X5F122K DD-122	DD-122	GP1200	CCD-122	GP212	10TS-D12
C81	.0047 10%		GPD X5R472K DD-472	DD-472	GP4700	CCD-472	GP247	10TS-D47
C82	.01		GPD X5S103K DD-103	DD-103	GP10000	CCD-103	GP110	10TS-S10
C83	10 N330 10%		TCN-10					10TCQ-Q10
C84	.05 50V		TTT-05	CK-50	MGPO5	CCD-503	TA150	TB-550
C85	560		GPD X5F561K DD-561	DD-561	GP560	CCD-561	GP356	10TS-T56
C86	.0068		GPD X5R682K DD-682	DD-682		CCD-682	GP268	10TS-D68
C87	.0022		GPD X5F222K DD-222	DD-222	GP2200	CCD-222	GP222	10TS-D22
C88	.0039		GPD X5R392K DD-392	DD-392		CCD-392	JF239	10TS-D39
C89	.0027 1.6KV				DPMS-20D27	16DP-2-272		16PS-D30
C90	.001		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C91	.1 100V		TTT-1	CK-104			TA010	TG-P10
C92	.001 1KV		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	5GA-D10
C93	2.2 1KV							
C94	.02		GPD Z5U203P DD-203	DD-203	GP1000	CCO-272	GP120	10TCQ-V22
C95	.01		GPD X5S103K DD-103	DD-103	GP10000	CCD-103	GP110	10TS-S10
C96	.0033 10%		GPD X5R332K DD-332	DD-332	GP3300	CCD-332	GP233	10TS-D33
C97	.0220		GPD X5F221K DD-221	DD-221	GP220	CCD-221	GP322	10TS-T22
C98	.47 NPO 10%		NPO-DI 47	DTZ-47	NPO47	CCO-470	CNO447	10TCQ-Q47
C99	.0022 10%		GPD X5F222K DD-222	DD-222	GP2200	CCD-222	GP222	10TS-D22
C100	.0015		GPD X5F152K DD-152	DD-152	GP150	CCD-152	GP215	10TS-D15
C101	.015 600V 10%		DBE6S15		DPMS-6S15	6DP-1-153	PVC6115	6PS-S15
C102	.01 600V 10%		DBE6S1		DPMS-6S1	6DP-2-103	PVC6111	6PS-S10
C103	.0022		GPD X5F222K DD-222	DD-222	GP2200	CCD-222	GP222	10TS-D22
C104	.0015 1KV 10%		GPD X5F152K DD-152	DD-152		CCD-152	GP215	10TS-D15
C105	.0022 1.4KV 10%		HVD-152200	DD30-222				
C106	.0068 1.6KV							
C107	.047 200V 10%		V1612847			4DP-3-473	PVC1247	2PS-D47
C108	.56 600V		DBE6P15		DPMS-6P15	6DP-5-154	PVC6015	6PS-P15
C109	.022 200V 10%		DBE6S22		DPMS-6S22	6DP-2-223	PVC6122	6PS-S22
C110	.039 600V 10%		DBE6S39		DPMS-6S39	6DP-3-393	PVC6139	6PS-S39
C111	.039 200V 10%		DBE6S39		DPMS-6S39	4DP-3-403		
C112	.039 600V 10%		DBE6S39		DPMS-6S39	6DP-3-393	PVC6139	6PS-S39
C113	.18 200V 10%					2DP-4-204		2PS-P20
C114	100 N1500/3KV/10%	#65D10-77				*	*	
C115	100 N1500/3KV/10%	#65D10-77				*	*	
C116	100 N750/3KV/5%	#65D10-47				*	*	30TCY-T10
C117	68 N1500/4KV/10%	#65D10-275				*	*	
C118	.0015 10%		GPD X5F152K DD-152	DD-152		CCD-152	GP215	10TS-D15
C119	.001 10%		GPD X5F102K DD-102	DD-102	GP1000	CCD-102	GP210	10TS-D10
C120	.047 200V 10%		DBE2P47		DPMS-2P47	2DP-5-474	PVC2047	2PS-P47
C121	.0033 10%		GPD X5R332K DD-332	DD-332	GP3300	CCD-332	GP233	10TS-D33
C122	.001 500V 10%		ADM-19-102	CPR-1000J	CD19P102J500	DM-19-102J	SX210	MS-21
C123	.0033 500V 10%		ADM-20-332	CPR-3300J	CD19P332J500	DM-19-332J	SX233	MS-233
C124	820 500V 10%		ADM-20-821	CPR-820J	CD19P821J500	DM-19-821J	SX362	424ME8200 J501
C125	.0012 500V 5%		ADM-20-122	CPR-1200J		DM-19-122J	SX212	424ME1201 J501
C126	.0047		GPD X5R472K DD-472	DD-472	GP4700	CCD-472	GP247	10TS-D47

CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL DUBILIER PART No.	ELMOCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C127	.1 200V		DBE2P1		DPMS-2P1	2DP-3-104	PVC201	2PS-P10
C128	.1 600V		DBE6P1		DPMS-6P1	6DP-4-104	PVC601	6PS-P10
C129	.12 600V 10%	#64C24-202						
C130	130 N2200/6KV	#65D10-270						
C131	.047 600V		DBE6S47		DPMS-6S47	6DP-3-473	PVC6147	6PS-S47
C132	.047 600V		DBE6S47		DPMS-6S47	6DP-3-473	PVC6147	6PS-S47
C133	270 10%		GPD X5F271K	DD-271	GP270	4DP-3-473	PVC4147	4PS-S47
C134	.047 400V		V1614S47					
C136	.1 200V		DBE2P1		DPMS-2P1	2DP-3-104	PVC201	2PS-P10
C137	.01 10%		GPD X5S103K	DD-103	GP10000	CCD-103	GP110	10TS-S10
C138	470 10%		GPD X5F471K	DD-471	GP470	CCD-471	GP347	10TS-T47
C139	10 NPO 10%		NPO-DI 10	DTZ-10	NPO10	CCD-100	CNO410	10TCC-Q10
C140	.01 10%		GPD X5S103K	DD-103	GP10000	CCD-103	GP110	10TS-S10
C141	.01 10%		GPD X5S103K	DD-103	GP10000	CCD-103	GP110	10TS-S10
C142	120 N1500		DBE2P1		DPMS-2P1	2DP-3-104	PVC201	2PS-P10
C143	.1 200V		NPO-DI 10	DTZ-10	NPO10	CCD-100	CNO410	10TCC-Q10
C144	10 NPO 10%		V1614P22		DPMS-4P22	4DP-5-224	PVC4022	4PS-P22
C145	.22 400V		GPD Z5U203P	DD-203	GP120	CCD-203	GP120	10TS-S20
C146	.02 10%		GPD Z5U203P	DD-203	GP120	CCD-203	GP120	10TS-S20
C147	.02 10%		GPD X5S103K	DD-103	GP10000	CCD-103	GP110	10TS-S10
C148	.01 10%		GPD Z5U203P	DD-203	GP120	CCD-203	GP120	10TS-S20
C149	.02 10%		GPD X5S103K	DD-103	GP10000	CCD-103	GP110	10TS-S10
C150	.01 10%		GPD X5S103K	DD-103	GP10000	CCD-103	GP110	10TS-S10
C151	.01 10%		GPD X5S103K	DD-103	GP10000	CCD-103	GP110	10TS-S10
C152	5.6 NPO 5%	#65D10-365						
C153	.01 10%		GPD X5S103K	DD-103	GP10000	CCD-103	GP110	10TS-S10
C154	.01 10%		GPD X5S103K	DD-103	GP10000	CCD-103	GP110	10TS-S10
C155	1.5 P100	#65D10-24						
C156	5.6 NPO 5%	#65D10-365						
C157	5.6 NPO 5%	#65D6-170						
C158	5.6 NPO 5%	#65D6-170						
C159	.047 400V		V1614S47		DMF4S47	4DP-3-473	PVC4147	4PS-S47
C162	39 NPO 10%		NPO-DI 39	TCZ-39	GP10000	CCD-103	CNO439	10TCC-Q39
C163	.01 10%		GPD X5S103K	DD-103	GP390	CCD-391	GP339	10TS-T39
C164	390 10%		GPD X5F391K	DD-391				
C165	1.5 P100	#65D10-24						
C166	120 N1500 10%	#65D10-136						
C167	82 NPO 10%			DTZ-82	NPO82	CCD-820	CNO482	10TCC-Q82
C168	33 NPO 10%			DTZ-33	NPO33	CCD-330	CNO433	10TCC-Q33
C169	.01 10%		NPO-DI 33	DTN-47	GP10000	CCD-103	GP110	10TCC-Q47
C170	47 N750 10%		N750-DI 47		N47	CCTN-470	CNT447	
C171	180 N2200 10%	#65D10-344						
C172	8.2 NPO 5%	#65D6-170						
C173	5.6 NPO 5%	#65D6-170						
C174	5.6 NPO 5%	#65D6-170						
C175	.047 400V		V1614S47			4DP-3-473	PVC4147	4PS-S47
C177	470 2KV		HVD-30470	DD30-471	HV3-470	3CCD-471	2HV382	30GA-T47
C178	820 N1500/1KV/10%							
C179	.056 400V 10%		DBE6S56		DPMS-6S56	4DP-3-563	PVC4056	4PS-S56
C180	.022 400V 10%		DBE6S22		DPMS-6S22	4DP-2-223	PVC6122	4PS-S22
C181	.082 300V 10%		DBE6S82		DPMS-6S82	6DP-4-823	PVC6147	6PS-S82
C182	.27 200V 10%					4DP-5-274	PVC2015	2PS-P15
C183	.15 200V 10%		V1612P15		DPMS-2P15	2DP-3-154	PVC201	2PS-P10
C184	.1 200V 10%		DBE2P1		DPMS-2P1	2DP-3-104	PVC6147	6PS-S47
C185	.047 600V		DBE6S47		DPMS-6S47	6DP-3-473	PVC6147	6PS-S47
C186	.01 1.4KV			DD16-103				
C187	.001 1.4KV			DD30-102	HV3-1000	3CCD-102	UAC210	30GA-D10
C188	.001 1.4KV			DD30-102	HV3-1000	3CCD-102	UAC210	30GA-D10
C189	.001 1.4KV			DD30-102	HV3-1000	3CCD-102	UAC210	30GA-D10
C190	.0033 2KV	#65A139-3		DD30-332			3HV233	30GA-D33
C192	560 160V 5%		ADM-19-561	CPR-560J	CD19F561J500	DM16-561J	SX356	424ME5600
C194	.1 600V		DBE6P1		DPMS-6P1	6DP-4-104	PVC601	6PS-P10
C195	.047 600V		DBE6S47		DPMS-6S47	6DP-3-473	PVC6147	6PS-S47
C196	.001							
C197	.001							
C198	.001							

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
Admiral Part Number. † Alternate Value.

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA					
			MFRG. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	Volume/Switch	1meg, 225K Tap	75C127-14 (75D127-14)					
R2	Vert. Hold	100K	75C139-1	F1-100K, SNK200	A47-100K-S, RN-3, TT-2 or (NP-100K-S, NML-A-300, TT-2)	B11-128, TM5 or (BU11, CF13, SSI, DC1) *	RUI5L, SL37, SN2000 or (UA15L, SN2000) or PTA15L	
	Vert. Hold	100K	75C118-3	F1-100K, SNK108	A47-100K-S, RN-3, TT-2 or (NP-100K-S, NML-A-300, TT-2)	B11-128, TM4 or (BU11, CF13, SSI) *	RUI5L, SL37, SN2000 or (UA15L, SN2000) or PTA15L	
R3A	Vert. Hold	100K	75C134-6					
	Color Fidelity	500K	75C139-2					
	Contrast	250K						
	Color Fidelity	140K Tap	75C118-19					
	Contrast	500K						
	Color Fidelity	250K Tap						
	Contrast	500K	75C134-7					
	Contrast	250K	75C134-4					
R4A	Tone	2.5meg	75C139-3					
	Brightness	250K						
	Tone	2.5meg	75C118-13					
	Brightness	250K						

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.

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA					
			MFRG. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R5	Tone Brightness Color	2.5meg 250K 500K	75C134-12 (75D134-12) 75D118-10	TT-4 or (NP-500, SNK010)	B47-500-S or (NP-500-S, NML-A-300, TT-2)	B11-103, TM4 or (BU11, CF4, SSI) *	PTA52L or (RU52L, SL37, SN1000) or (UA52L, SN1000)	
	Color Color	500K 500K	75C118-1 75D127-6	F1-500, SFS212	A47-500-S, RS-3/16 or (NP-500-S, SE-F-400)	B11-103, SK9 or (BU2, CF4, SSI, DC1) *	UA52L, SD2000 or (RU52L, SL35, IS2000) or (U2, DS97)	
R6	Color (Motor Driven) Tint	500K 1100K	91C78-51 75C118-11 75D127-11	F5-1500, SNK010	NP-1200-V, NML-A-300, TT-2	B17-208, TM4 or (BU11, CF53, SSI) *	RUI22R, SL37, SN1000 or (UA152R, SN1000) or U5	
	Tint	1100K	75C118-2 75D127-7	F5-1500, SFS212	NP-1200-V, SE-F-400	B17-208, SK9 or (BU2, CF53, SSI, DC1) *	RUI22R, SL35, IS2000 or (UA152R, SD2000) or (U5, DS97)	
R7	Tint (Motor Driven) AGC	1100K 60K	91C78-52 75C96-8	TT-31 or (NP-50K, SNK010)	B47-50K-S or (NP-50K-S, NML-A-300, TT-2)	B11-123, TM4 or (BU11, CF12, SSI) *	PTA54L or (RU54L, SL37, SN281) or (UA54L, SN281)	
R8	Height	3.4meg	75C96-20	F1-4meg, SNK010		HLC4	HVC355L	
R9	Vert. Linearity	300K	75C110-1 75B110-1	TT-50 or (F1-250K, SNK010)	B47-250K-S or (NP-250K-S, NML-A-300, TT-2)	B11-131, TM4 or (BU11, CF15, SSI) *	RU35L, SL37, SN281 or (UA254L, SN281) or PTA35L	
R10	Color Killer	1meg	75C110-2 75B110-2	TT-69 or (F1-1meg, SNK010)	B47-1meg-S or (NP-1meg-S, NML-A-300, TT-2)	B11-137, TM4 or (BU11, CF17, SSI) *	PTA1254L or (RU16L, SL37) or (UA16L, SN281)	
R11	Top-Bottom Pincushion Amp.	500K	75C110-12	TT-4 or (F1-500, SNK010)	B47-500-S or (NP-500-S, NML-A-300, TT-2)	B11-103, TM4 or (BU11, CF4, SSI) *	PTA52L or (RU52L, SL37, SN281) or (UA52L, SN281)	
	Top-Bottom Pincushion Amp.	8000K	75C136-2	TT-44 ② or (NP-10K-S, SNK010)	B47-10K-S ② or (NP-10K-S, NML-A-300, TT-2)	B11-116, TM4 or (BU11, CF9, SSI) *	RU14L ②, SN281 or (UA14L ②, SN281) or SU20	
R12	Master Screen	1meg	75C136-1	F1-1meg ②, SNK012		B11-137, TM4 ②	RU16L ②, SN1000 or (UA16L ②, SN1000)	
R13	Vert. Centering	10K 2W	75C64-17 75D64-17	WT-10 or (NP-10K, SNK010)	U39-15 ⑤ or (NP-10K, SNK010)	P115R100A or (W11-010, SK5) or (BU11, WFI6, SSI) *	MRI0T or MRI0B or VW10	
R14A	Blue Background	700K	75C95-9					
	Green Background	700K						
	Red Background	700K						
R15	HV Adjust	500K	75C135-23	TT-59 or (F1-500K, SNK010)	B47-500K-S or (NP-500K-S, NML-A-300, TT-2)	B11-133, TM4 or (BU11, CF16, SSI) *	PTA55L or (RU55L, SL37, SN1000) or (UA55L, SN1000)	
	HV Adjust	500K	75C96-11	TT-59 or (F1-500K, SNK010, AK-38)	B47-500K-S or (NP-500K-S, NML-A-300, TT-2)	B11-133, TM4 or (BU11, CF16, SSI) *	PTA55L or (RU55L, SL37, SN281)	
R16	Horiz. Centering	10K 2W	75D64-30 75D64-30 (1470827-1)	WT-10, WSK104		P115R100A, P115-117-4 or (BU11, WFI6, SSI) *	MRI0T, MRI0B or MRS1250	
R17	Focus	15meg	75C108-2	FTT-15meg				
R18	Focus	15meg	75C108-3	FTT-15meg				
R19	Adjacent Sound	10K	75B101-2 75C101-2 75B101-3	TSV-10K or T-10K	X201R103B		FTC156L FTC156L MTC141L	
R20	Sound Reject	750K		TSV-1K ⑤ or T-750 ⑤	U201R102B		MTC751L4	
R21	R/G Horiz. Lines (Bottom)	500K 2W	75C64-31 75D64-31	WP-600, WSK104 or V-500	U39-500	110-600	MR600P, MRS1250	
R22	R/G Horiz. Lines (Top)	120K 2W	75C64-5 75D64-5	WCP-120 or V-120	U39-125	110C120	MRC120P	
R23	R/G Horiz. Lines (Left)	150K 2W	75C64-7 75D64-7	WCP-150 or V-150	U39-150	110C150	MRC150P	
	R/G Vert. Lines (Bottom)	500K 2W	75C64-31 75D64-31	WP-600, WSK104 or V-500	U39-500	110-600	MR600P, MRS1250	

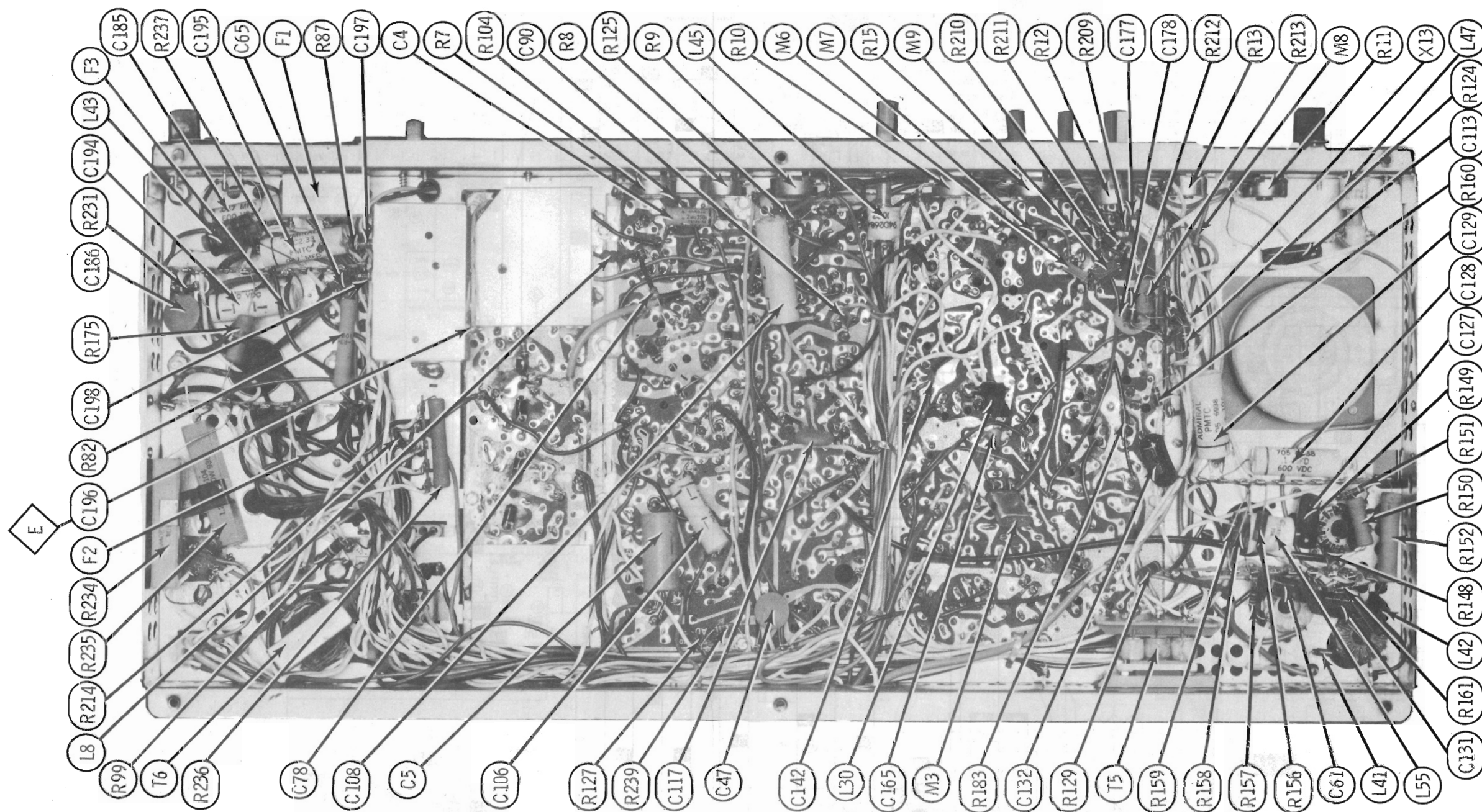
CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA					
			MFRG. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R24	R/G Vert. Lines (Top)	150K 2W	75C64-7 75D64-7	WCP-150 or V-150	U39-150	110C150	MRC150P	
R25	R/G Vert. Lines (Left)	120K 2W	75C64-5 75D64-5	WCP-120 or V-120	U39-125	110C120	MRC120P	
R26	Blue Horiz. Lines (Bottom)	300K 2W	75C64-33 75D64-33	V-300	U39-300	110-300		
R27	Blue Horiz. Lines (Top)	150K 2W	75C64-7 75D64-7	WCP-150 or V-150	U39-150	110C150	MRC150P	
R28	Blue Horiz. Lines (Left)	120K 3W	75C64-39 75D64-39	WSK104			MRI00P, MRS1250	

† "SNAPTROL" Equivalent: BU4, CF16, CR66T, SF12, SR70, DC1.
* "SNAPTROL" Equivalent: BU4, CF16, CR66T, SF5, SR87, DC1.
* "CONCENTRIKIT" Equivalent: K-15 Kit with base elements and shafts: B11-239, P17-118 (Panel), B11-130, R11-124 (Rear).
* "SNAPTROL" Equivalent: BU4, CF20, CR20, SF12, SR70, DC1.
* "CONCENTRIKIT" Equivalent: K-15 Kit with base elements and shafts: B13-140, P23-100 (Panel), B11-130, R11-108 (Rear).
① Use portion of original shaft to obtain desired length.
② Use original nylon tab mount.
③ Insulate control from chassis and solder original center terminal lead to metal case of control.
④ To establish section identification of side-by-side controls, view controls with shaft ends facing you, terminals down.
On 3-section controls, left-hand section is A, middle section is B, right-hand section is C.
On 2-section controls, left-hand section is A, right-hand section is B.
⑤ For horizontal mount, bend the two outside terminals to fit PC board. Use jumper to connect center terminal to PC board.
⑥ Alternate Part, used in Models: 3LS1181/85/88/98/99, 3LS3011/13, 3LS3131/38/39.
⑦ Alternate Part, used in Models: 3LS1191/98/99/99-M, 3LS3011/11-M/13/13-M/15/15-M, 3LS3131/31-M/38/38-M/39/39-M, 3LS1198/1198, 3LS3011/13, 3ST3068/68-M/78/78-M, 3LS3131/38/39.
⑧ Alternate Part, used in Models: 3LS1191/98/99/99-M, 3LS3011/11-M/13/13-M/15/15-M, 3LS3131/31-M/38/38-M/39/39-M, 3ST3068/68-M/78/78-M.
⑨ Alternate Part, used in Models: 3LS1198/99, 3LS3011/13, 3LS3031/38/39.
⑩ Alternate Part, used in Models using Chassis 4H1273-9, 4H1273-13, 4H1273-17, 4H1273-19 and 4H1297-6.
⑪ Alternate Part, may be used in some versions.

RESISTORS (Power and Special)

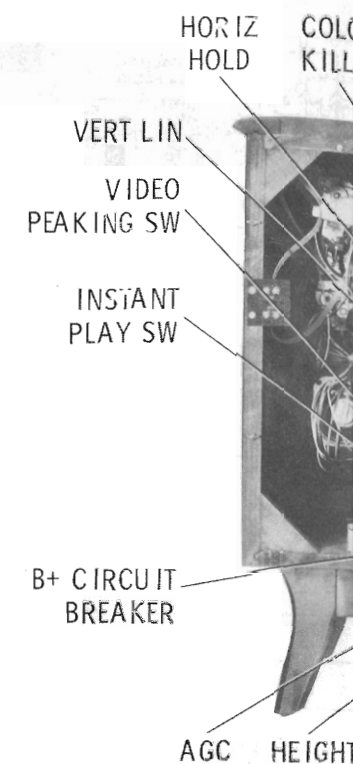
ITEM No.



CHASSIS - BOTTOM VIEW

4H1273-9/-13/-17/-19, 4H1297-6, 11H1273-9/-13

FOLDER 1



HORIZONTAL

HORIZONTAL OUTPUT TUBE CURRENT

Connect a 0-500ma meter in series with the cathode output tube. Connect a .47mfd capacitor across the output-tube current should be approximately 250-300ma). If current is high, check High Voltage A Scale Adjustments.

HORIZONTAL HOLD ADJUSTMENT

Tune in a TV station and set all controls for normal low-level signal with AGC control correctly set.

DIS

CHASSIS REMOVAL

Remove all knobs.

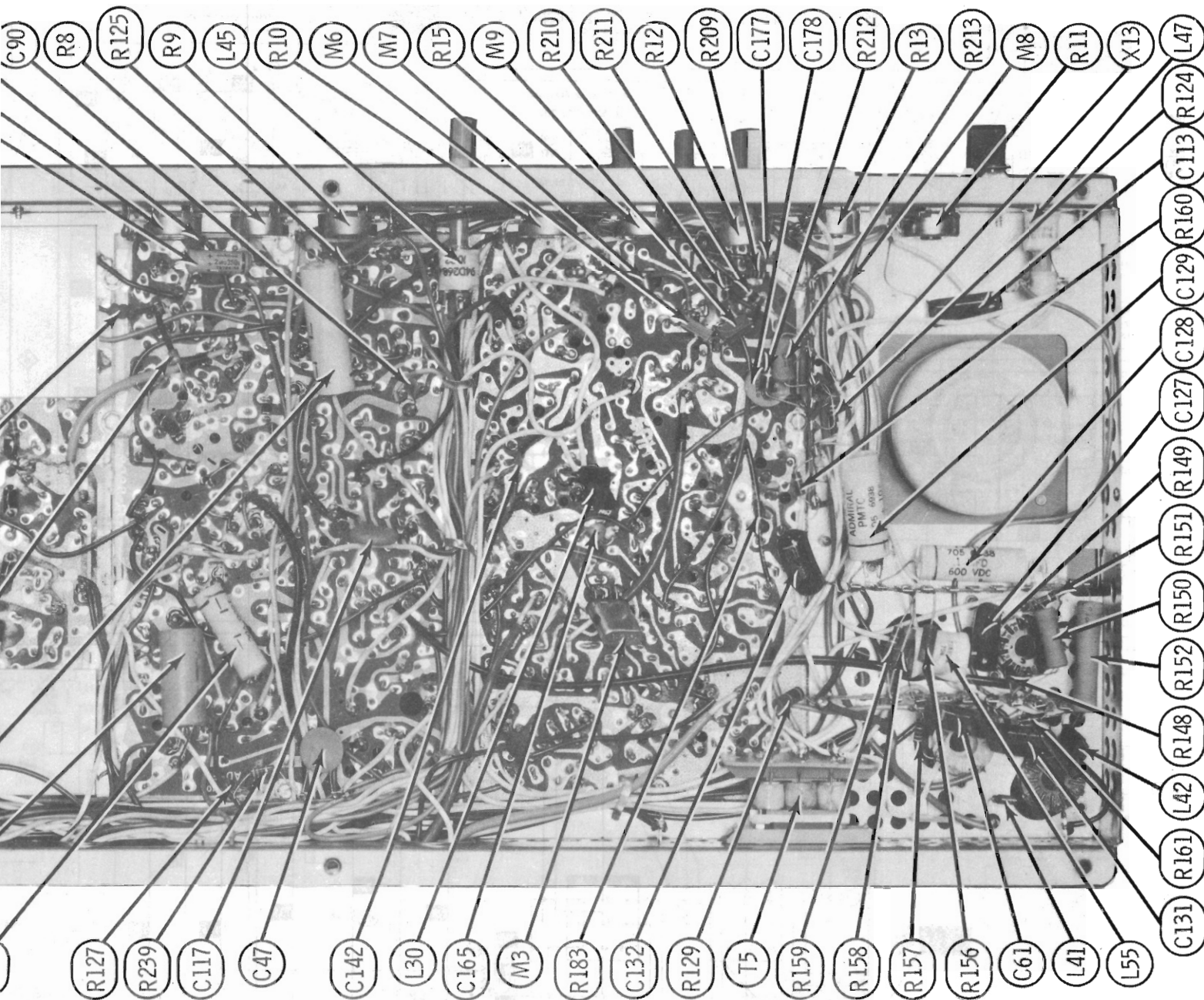
1. Remove 6 screws and turn 7 plastic fasteners clips holding rear cover. Disconnect antenna lead cover from the set. Remove all control knobs.
2. Disconnect picture-tube socket, high-voltage anode plug, convergence-yoke plug, tuner plug, speaker lead, and control plug, and degaussing plug.
3. Remove 3 screws holding control bracket to the screws holding tuner-mounting assembly to the control bracket and tuner-mounting assembly.
4. Remove 5 screws holding chassis to the cabinet mounting assembly, control bracket, and chassis.

TROU

The following cha

SWEEP

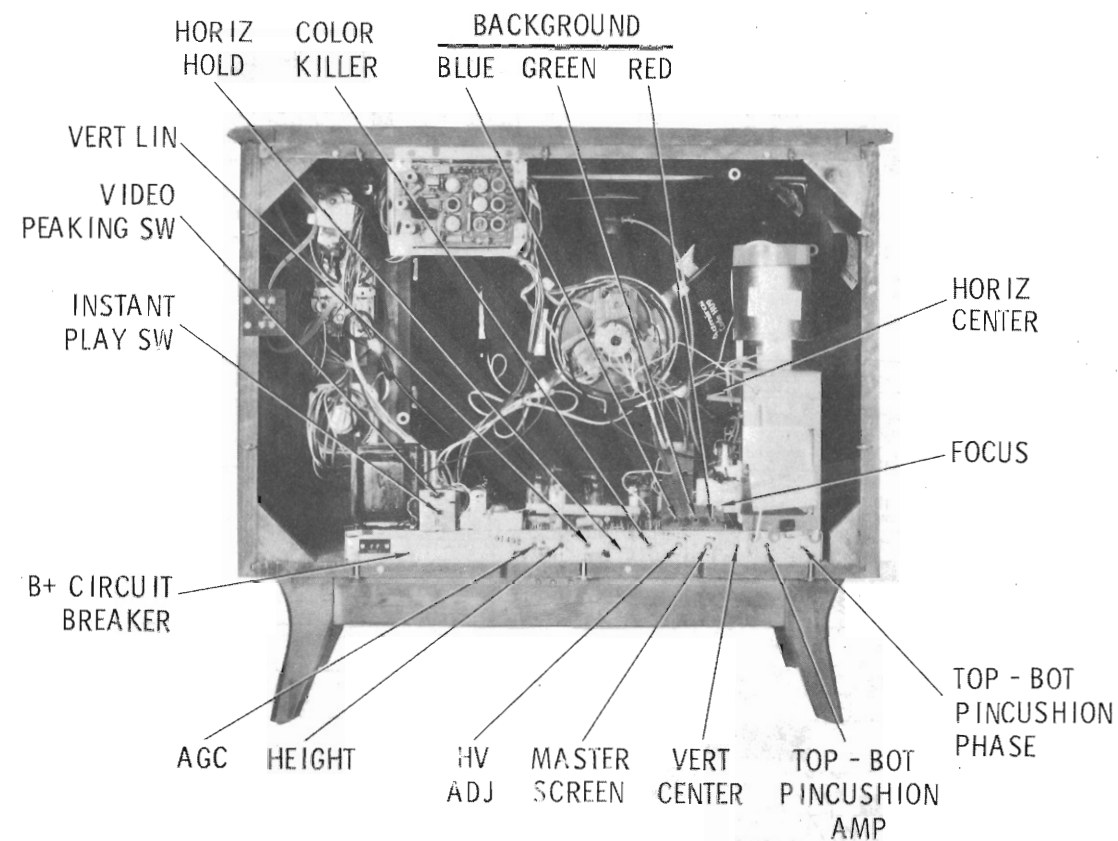
No raster, has sound V9, V10, V11, V12, V14, V18
No vert. deflection V8
Poor vert. lin. or foldover V8
Poor horiz. lin. or foldover V9, V10, V11
Narrow picture X1, X2, X3, X4, V9, V10, V11
Vert. off freq. V8
Horiz. off freq. V9, X10 (Horiz. AFC Diodes)



CHASSIS - BOTTOM VIEW

ADMIRAL CHASSIS
4H1273-9/-13/-17/-19, 4H1297-6, 11H1273-9/-13

FOLDER 1



CABINET-REAR VIEW HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

HORIZONTAL OUTPUT TUBE CURRENT

Connect a 0-500ma meter in series with the cathode of the horizontal output tube. Connect a .47mfd capacitor across the meter. Horizontal output-tube current should be approximately 250ma (should not exceed 300ma). If current is high, check High Voltage Adjustment and Grey Scale Adjustments.

HORIZONTAL HOLD ADJUSTMENT

Tune in a TV station and set all controls for normal operation. Use a low-level signal with AGC control correctly set. Disconnect antenna, if

necessary, to get a weak picture. Connect a clip lead from test point \diamond to ground. Adjust Horizontal Hold control (Oscillator Coil) for most stable picture. Remove clip lead from Point \diamond and check set with antenna connected and AGC control set properly.

HIGH VOLTAGE ADJUST

Connect high side of VTVM through a high-voltage probe to picture-tube anode connector, low side to ground. Set the Brightness control and the Contrast control to MINIMUM. Adjust the High Voltage control for a reading of 25.5KV on the VTVM. (Do not exceed 25.5KV.)

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

Remove all knobs.

1. Remove 6 screws and turn 7 plastic fasteners and remove 2 spring clips holding rear cover. Disconnect antenna leads and remove back cover from the set. Remove all control knobs from the cabinet.
2. Disconnect picture-tube socket, high-voltage anode lead, deflection-yoke plug, convergence-yoke plug, tuner plug, speaker leads, ground lead, and control plug, and degaussing plug.
3. Remove 3 screws holding control bracket to the cabinet front and 4 screws holding tuner-mounting assembly to the cabinet front. Lay control bracket and tuner-mounting assembly on the chassis.
4. Remove 5 screws holding chassis to the cabinet and remove tuner-mounting assembly, control bracket, and chassis from the cabinet.

PICTURE TUBE REMOVAL

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

TROUBLESHOOTING CHECK CHART

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

SWEEP

No raster, has sound V9, V10, V11, V12, V14, V18
No vert. deflection V8
Poor vert. lin. or foldover V8
Poor horiz. lin. or foldover V9, V10, V11
Narrow picture X1, X2, X3, X4, V9, V10, V11
Vert. off freq. V8
Horiz. off freq. V9, X10 (Horiz. AFC Diodes)

PICTURE OR SOUND

No pic, no sound, no raster F1, F2, F3, X1, X2, X3, X4
No pic, no sound, has raster V201, V202, V1, V2, V3
No pic, no sound, has snow V201, V202, V1
No pic, has sound, no raster V4, V5, V18
No pic, has sound, has raster V4, V5, X6, V18
Has pic, no sound V4, V6, X9
Overloaded picture V7
Poor focus V13

COLOR (B/W reception operating normally.)

No color V4, V5, V15, V16, V17
Weak color V4, V5, V15, V16, V17
No color sync V4, V5, V15
No blue V17, V18
No red V17, V18
Incorrect hue (tint) V4, V5, V15, V17

SYNC

No vert. sync V7
No horiz. sync V7
No vert. or horiz. sync V7

REMOTE CONTROL RECEIVER

Suggested Alignment Tools: A1 thru A14 ... GENERAL CEMENT #8868, 8987, 9089 ... WALSCO #2531-X, 2541, 2587
Use an isolation transformer and maintain line voltage at 117VAC. Turn Distance Selector control to MINIMUM (counterclockwise).
An S376AN Transmitter known to be operating correctly may be substituted for signal generator.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Connect high side thru .1 mfd to point A1, low side to chassis.	41KC	Color-Max. (Up)	-DC probe to point A1, low side to chassis.	A1	Check for MINIMUM voltage on VTVM. Adjust if necessary.
2.	"	35KC	Channel Selector	-DC probe to point A2, low side to point A1.	A2	Adjust for maximum indication on VTVM.
3.	"	36.5KC	Tint-CCW (Down)	-DC probe to point A3, low side to point A2.	A3	"
4.	"	38KC	Tint-CW (Up)	-DC probe to point A4, low side to point A3.	A4	"
5.	"	39.5KC	Color-Min. (Down)	-DC probe to point A5, low side to point A4.	A5	"
6.	"	41KC	Color-Max. (Up)	-DC probe to point A6, low side to point A5.	A6	"
7.	"	42.5KC	On-Off	-DC probe to point A7, low side to point A6.	A7	"
8.	"	44KC	Volume	-DC probe to point A8, low side to point A7.	A8	"

NOTE: Readjust Distance Selector control for proper sensitivity with a transmitter known to operate correctly. Fifteen-Twenty feet is normal operating distance.

REMOTE CONTROL TRANSMITTER

Use a fresh battery in Transmitter. Use an 11A9N receiver known to be aligned correctly and operating properly. Turn Receiver Distance Selector control to MINIMUM (counterclockwise). Test points given are on receiver. Maintain VTVM low side to Point A9.

	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
ON RECEIVER Transmitter					
1.	Maintain distance between transmitter and receiver, or tape over microphone so receiver is not saturated.	35KC	Channel Selector	-DC probe to point A9, Maintain low side of VTVM to receiver point A9 on all adjustments.	Adjust A9 for maximum indication on VTVM.
2.	"	36.5KC	Tint-CCW (Down)	-DC probe to point A10	Adjust for maximum indication on VTVM.
3.	"	38KC	Tint-CW (Up)	-DC probe to point A11	"
4.	"	39.5KC	Color-Min. (Down)	-DC probe to point A12	"
5.	"	41KC	Color-Max. (Up)	-DC probe to point A13	"
6.	"	42.5KC	On-Off	-DC probe to point A14	"
7.	"	44KC	Volume	-DC probe to point A15	"

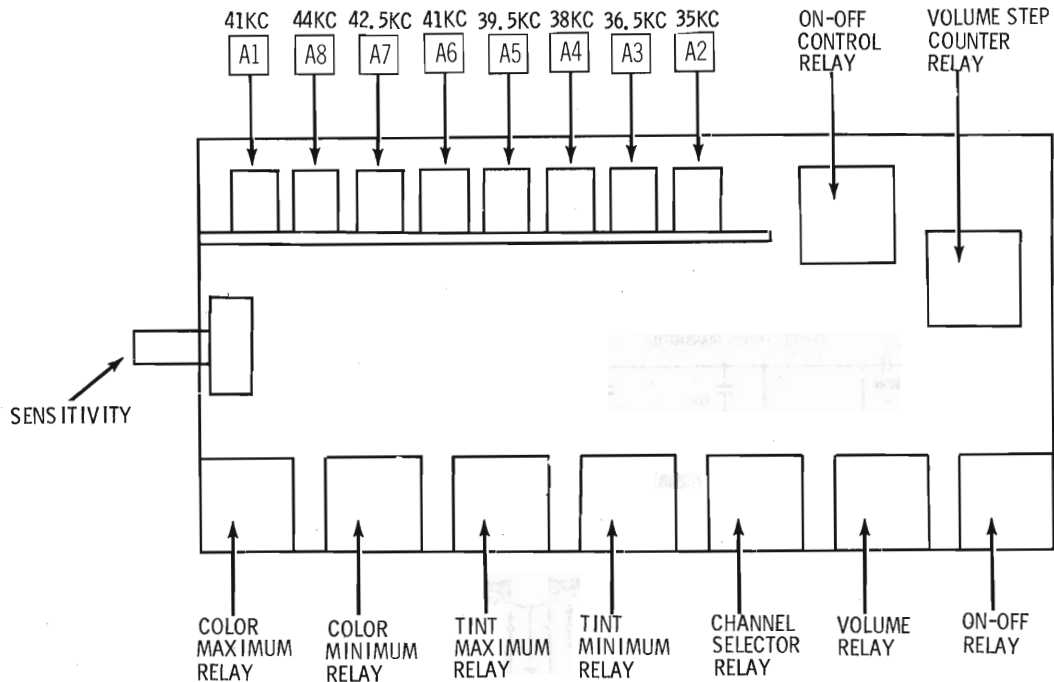
NOTE: Readjust Distance Selector control so that Transmitter will operate Receiver from 15 to 20 feet away.

PHOTOFACT® Folder

ADMIRAL REMOTE CONTROL RECEIVER 11A9N, TRANSMITTER S376AN

IMPORTANT FILING NOTICE

This PHOTOFACT Folder covers equipment used with the TV chassis covered in PHOTOFACT SET 1116 FOLDER 1. File this Folder with the TV Folder in the yellow filing jacket provided.



TRADE NAME	Admiral
SUPPLIER	For current address, see Annual Index.
TYPE SET	Remote Receiver Chassis 11A9N (Preamp Chassis 3A9N and Relay Unit Chassis 8A9N), Remote Transmitter S376AN
TRANSISTORS	Twelve
POWER SUPPLY	110-120 Volts AC, 60 Cycles

REMEMBER TO ASK— "What else needs fixing?"

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

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DATE 8-70 SET 1116 FOLDER 1-A

SET 1116 FOLDER 1-A

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SET 1116 FOLDER 1-A



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RECEIVER 11A9N, TRANSMITTER S376AN**