

CABINET-REAR VIEW DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

Remove two screws holding cabinet back. Remove back. Remove knobs.

Disconnect picture-tube socket, HV anode lead, convergence-yoke plug, deflection-yoke plug, degaussing-coil plug, speaker leads, plug on remote unit, transducer cable, tuner IF cable, and four plugs from tuner control assembly to chassis. Remove two screws holding chassis and remove chassis.

Remove two screws holding rear control assembly. Disconnect antenna leads. Remove four screws holding tuner-control assembly. Remove assembly.

PICTURE TUBE REMOVAL

Follow Chassis Removal procedure and lay set face down on a soft protective surface.

Remove blue lateral assembly, convergence board and yoke, and deflection yoke.

Remove two screws holding picture-tube shield and remove shield. Remove eight screws holding picture tube. Lift the picture tube out but do not lift tube by the neck.

SERVICING IN THE FIELD

CRT IMPLOSION PROTECTION AND CLEANING

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

FUSE DEVICES

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

A 1.5-amp fuse is used for low-voltage power-supply protection. (See photo, Chassis-Bottom View.)

A 1" length of #34 fuse wire is used for CRT filament protection. (See photo, Chassis-Bottom View.)

A 1-1/2" length of #26 fuse wire is used for filament protection. (See photo, Chassis-Bottom View.)

LAMP ACCESSIBILITY

Tuner assembly must be removed. See Disassembly Instructions.

VHF TUNER

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

HORIZONTAL OSCILLATOR

Adjustment of the horizontal hold is accomplished by the proper setting of the horizontal hold control. (See Tube Placement Chart.)

Coarse adjustment of the horizontal hold is accomplished by the proper setting of the horizontal frequency coil. (See Tube Placement Chart.)

HORIZONTAL OUTPUT CURRENT/HIGH VOLTAGE

For adjustment of the high voltage, refer to Miscellaneous Adjustments.

FOCUS

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

AGC

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

CENTERING

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

PHOTOFACT® Folder

with CIRCUITRACE®

For Supplier Address See PHOTOFACT Index

SYLVANIA CHASSIS
D16-10/-11/-12/-15/-16/-17

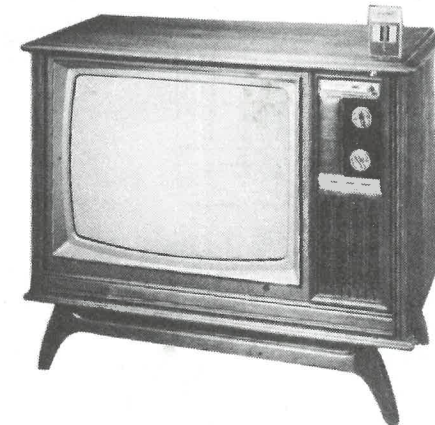
COLOR TV

SET 1325 FOLDER 2

SYLVANIA CHASSIS
D16-10/-11/-12/-15/-16/-17

MODEL	CHASSIS	MODEL	CHASSIS
CF701W-6	D16-12	CL2251W-2	D16-10
CF704W-6	D16-12	CL2252D-2	D16-10
CF1407P-5	D16-12	CL2253K-2	D16-10
CF2401K-2	D16-12	CL2257P-2	D16-10
CF2402W-1	D16-12	CL2258P-1	D16-10
CF2403K-3	D16-12	CL2263N-1	D16-10
CL1243K-3	D16-17	CL2302WR-2	D16-16
CL2247P-3	D16-17	CL2302WR-4	D16-16
CL2202W-2	D16-15	CL2341WR-1	D16-16
CL2202W-4	D16-15	CL2343KR-3	D16-16
CL2221W-1	D16-15	CL2347DAR-3	D16-16
CL2221W-3	D16-15	CL2347PR-3	D16-16
CL2223K-1/-3	D16-15	CL2348BTR-1	D16-16
CL2227P-1	D16-15	CL2351WR-2	D16-11
CL2231W-1	D16-15	CL2353KR-1	D16-11
CL2232W-2	D16-15	CL2357PR-2	D16-11
CL2233K-1	D16-15	CL2358PR-1	D16-11
CL2237P-1	D16-15	CL2323K-2	D16-10
CL2241W-1	D16-15	CL2437P-2	D16-10
CL2243K-3/N-3	D16-15	* CL2471W-2	D16-15
CL2247DA-3/P-3	D16-15	* CL2473K-2	D16-15
CL2248BT-1/WH-1	D16-15	* CL2487P-2	D16-15

* Combination Models covering TV chassis only.



MODEL CL2351WR-2

SAFETY PRECAUTIONS

Make sure line voltage does not exceed rating of set. Check high-voltage regulation and adjust to correct value. Be sure shields and rear cover are in place and secure.

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

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

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

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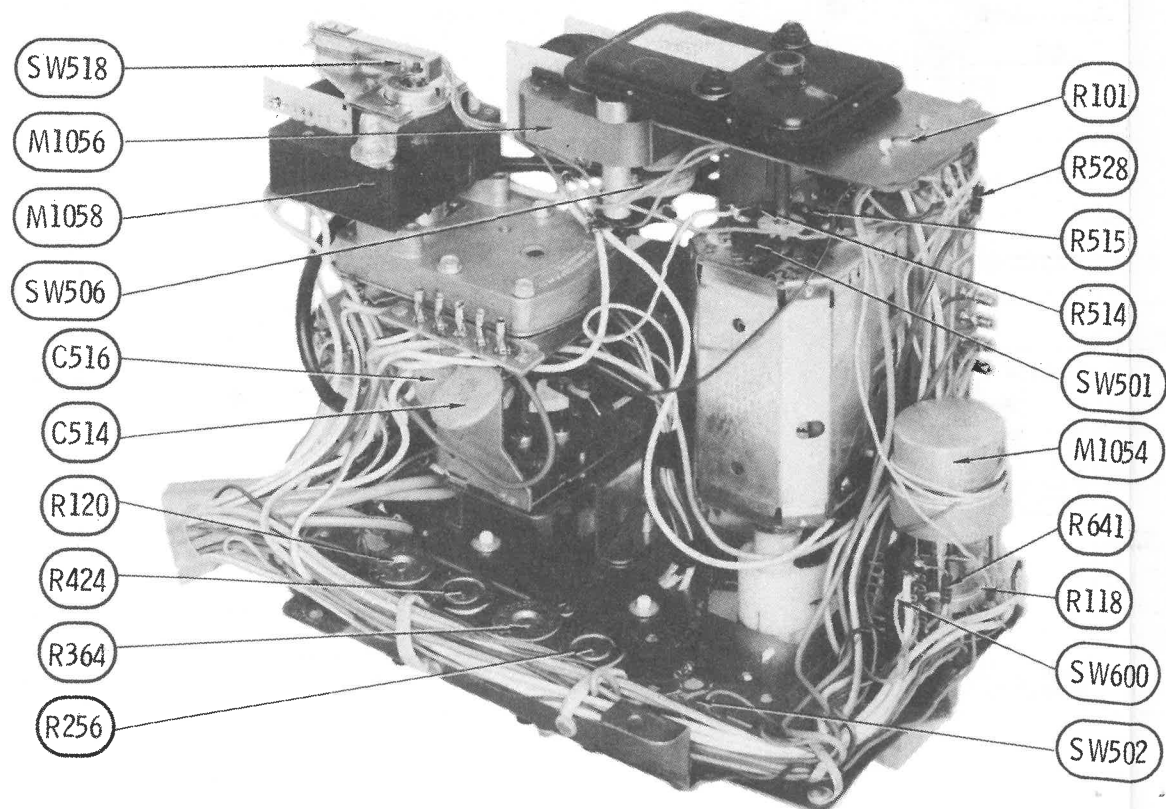
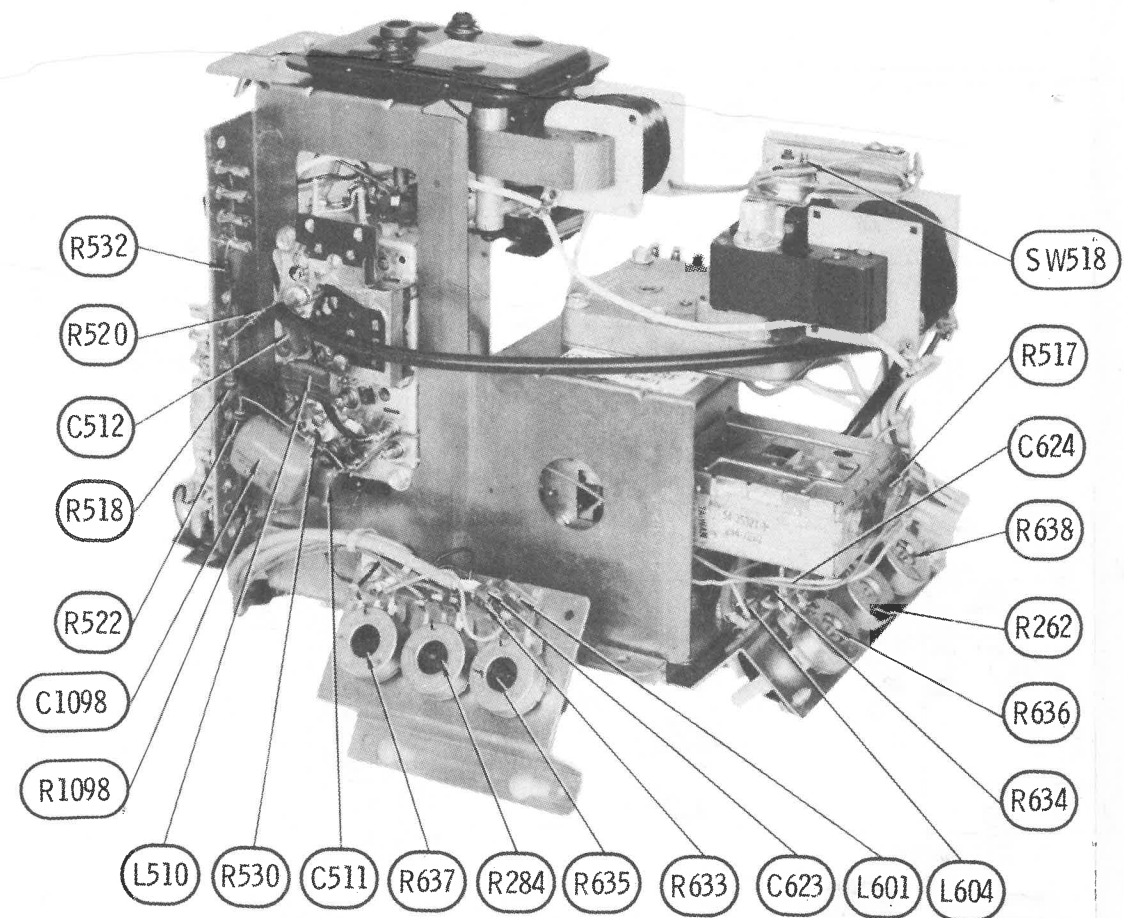
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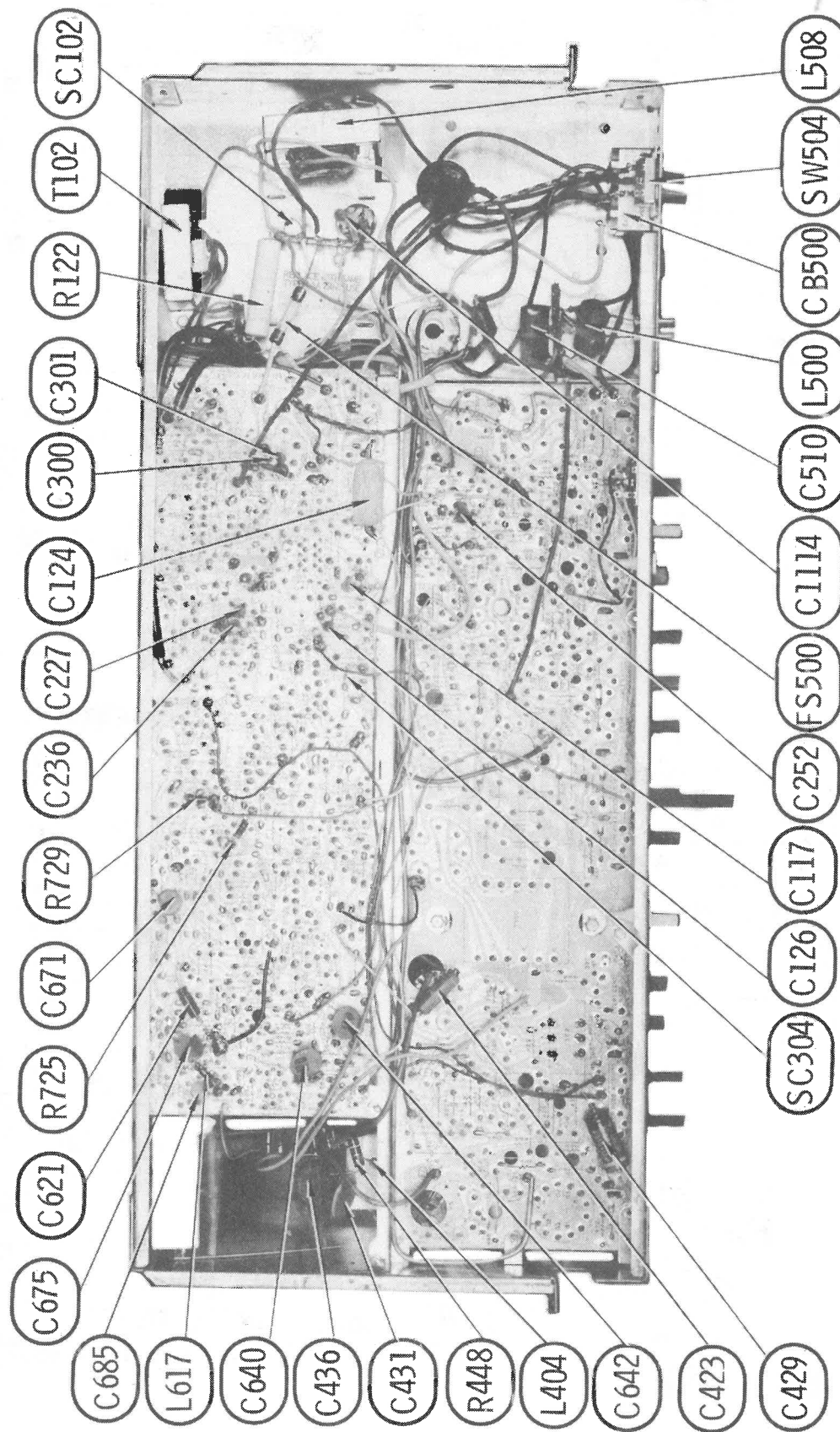
SET 1325 FOLDER 2

SYLVANIA CHASSIS
D16-10/-11/-12/-15/-16/-17

SET 1325 FOLDER 2



TUNER ASSEMBLY



CHASSIS - BOTTOM VIEW

SYLVANIA CHASSIS
D16-10/-11/-12/-13/-16/-17

FOLDER 2

NORMAL-SERVICE
DRIVE RED-GREEN
BLUE
BRIGHTNESS
RANGE
AC
CIRCUIT
BREAKER
AC LINE
LOW-NORM

CHASSIS REMOVAL

Remove two screws holding cabine back. Remove knobs.

Disconnect picture-tube socket, convergence-yoke plug, deflection degaussing-coil plug, speaker lead remote unit, transducer cable, and four plugs from tuner control chassis. Remove two screws holding chassis. Remove two screws holding tuner-control assembly.

Remove two screws holding rear c Disconnect antenna leads. Remove holding tuner-control assembly.

CRT IMPLOSION PROTECTION AND C

Implosion protection is an internal picture tube, cleaning accomplished removal.

FUSE DEVICES

A circuit breaker is used for power-supply protection. (See Rear View.)

A 1.5-amp fuse is used for low-supply protection. (See photo View.)

A 1" length of #34 fuse wire is filament protection. (See photo Bottom View.)

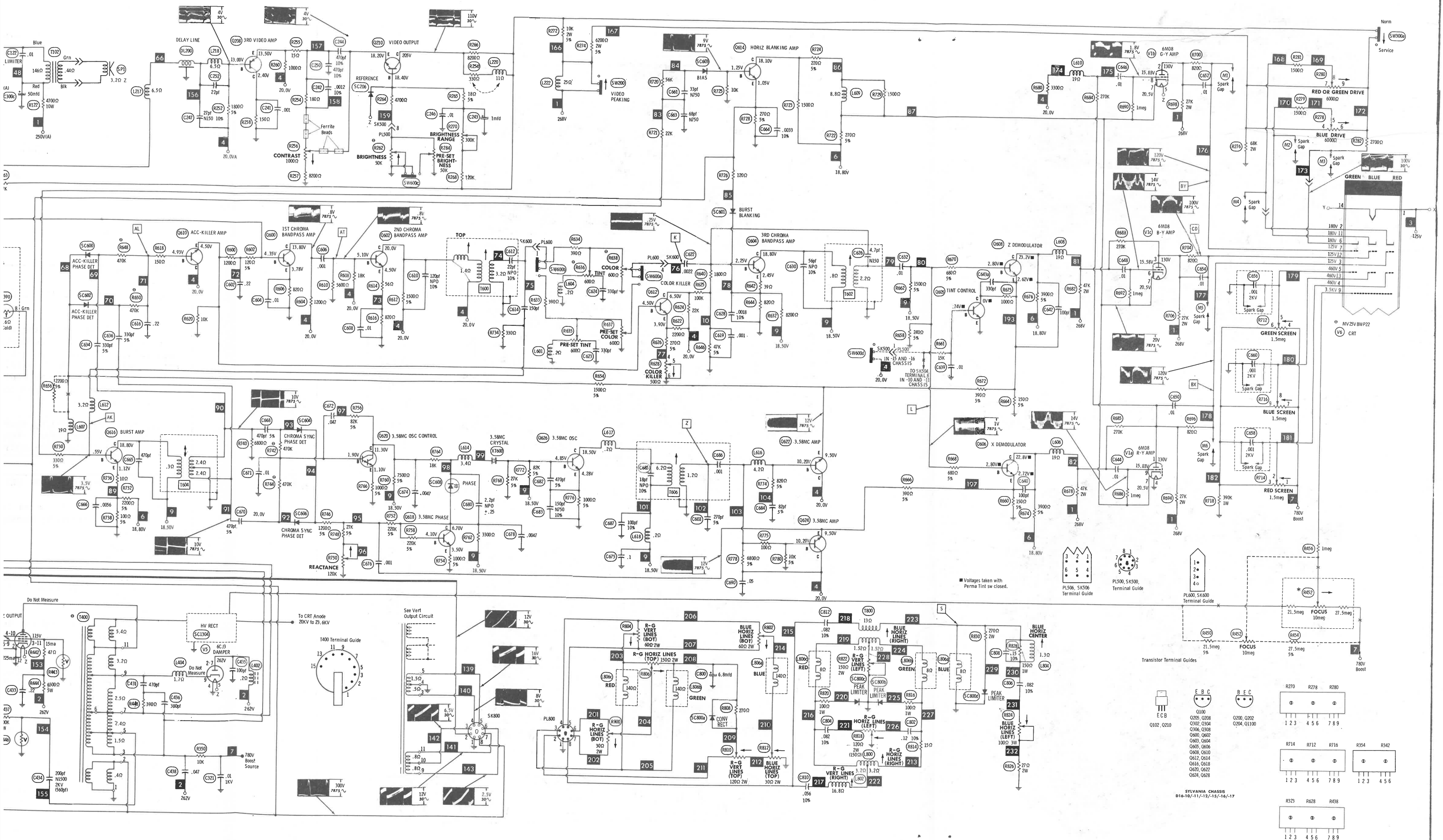
A 1-1/2" length of #26 fuse wire filament protection. (See photo Bottom View.)

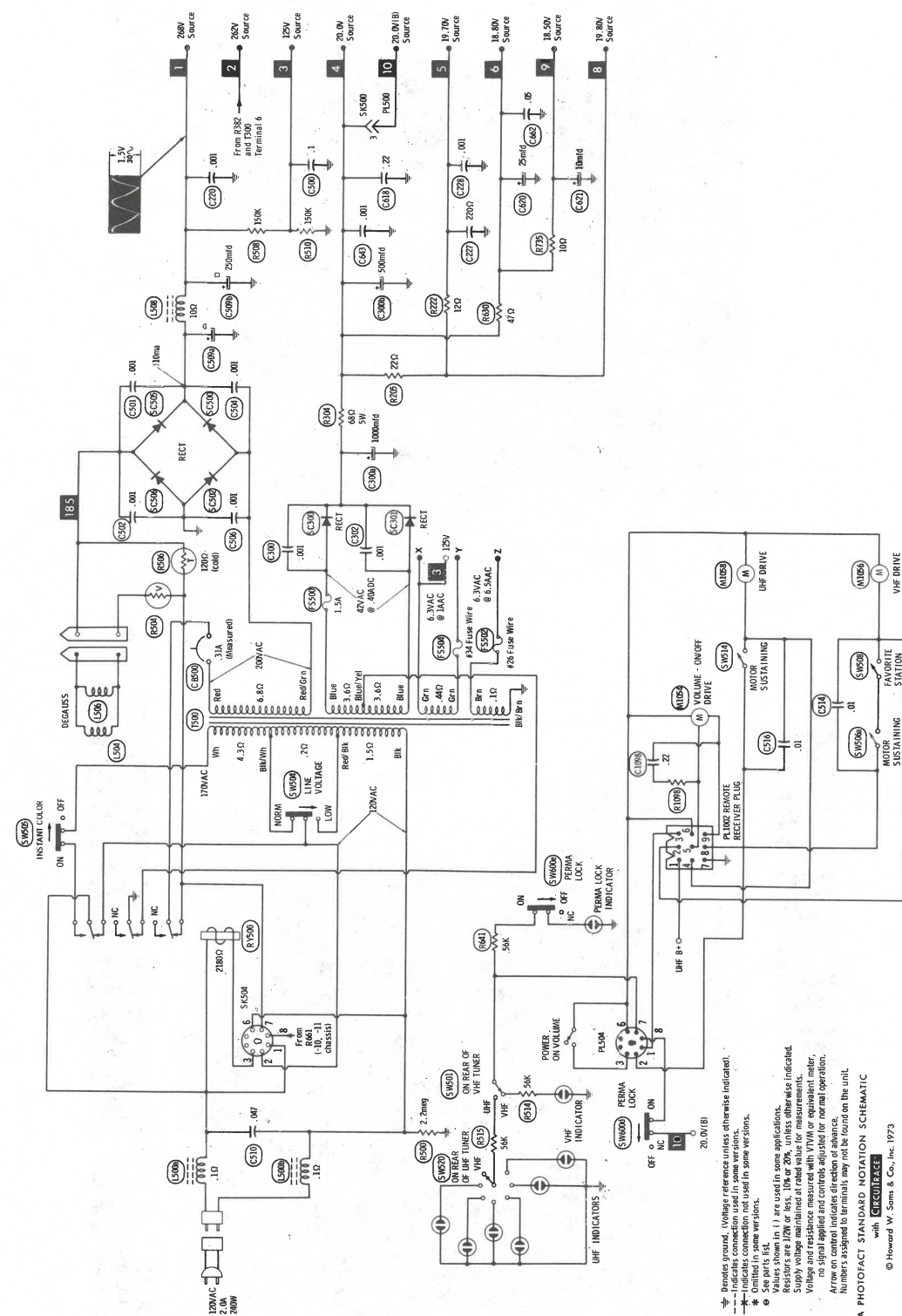
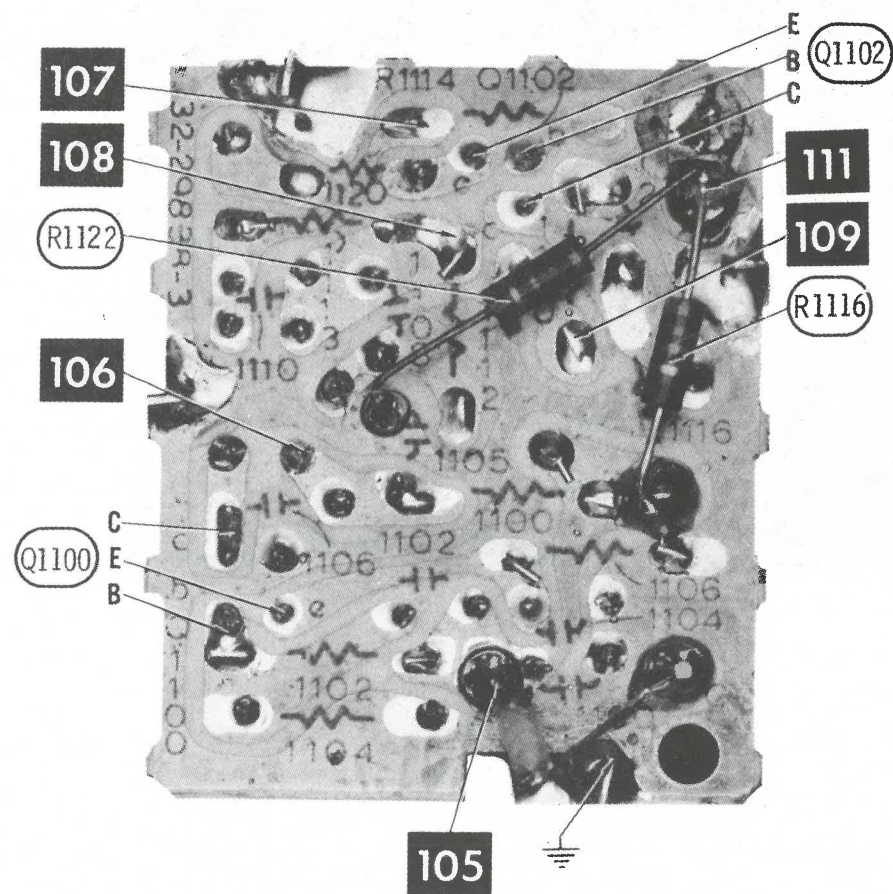
LAMP ACCESSIBILITY

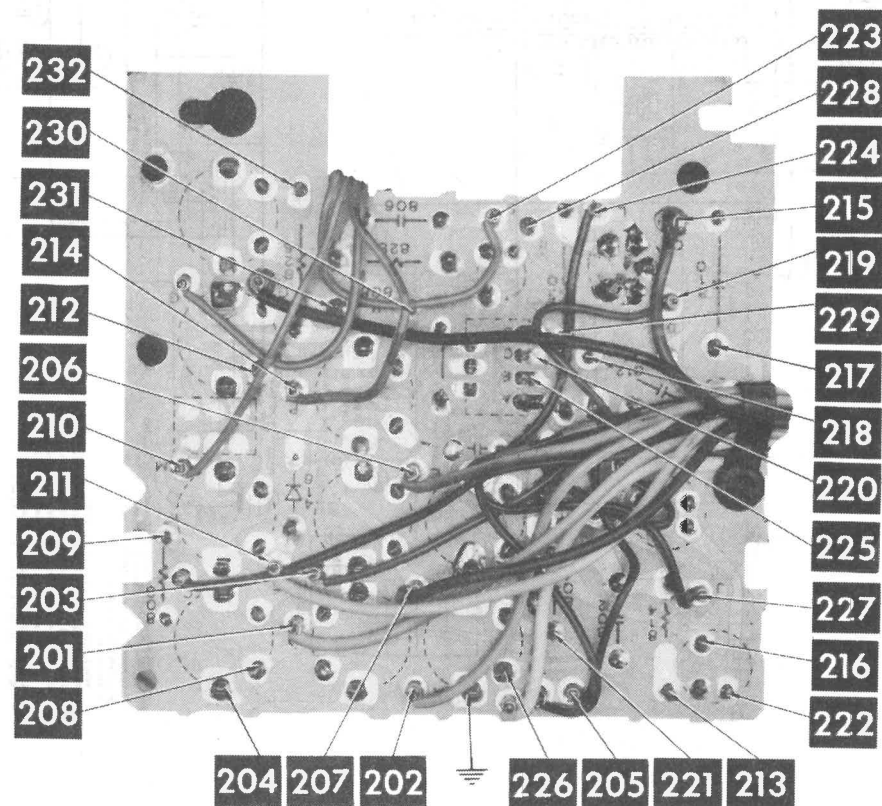
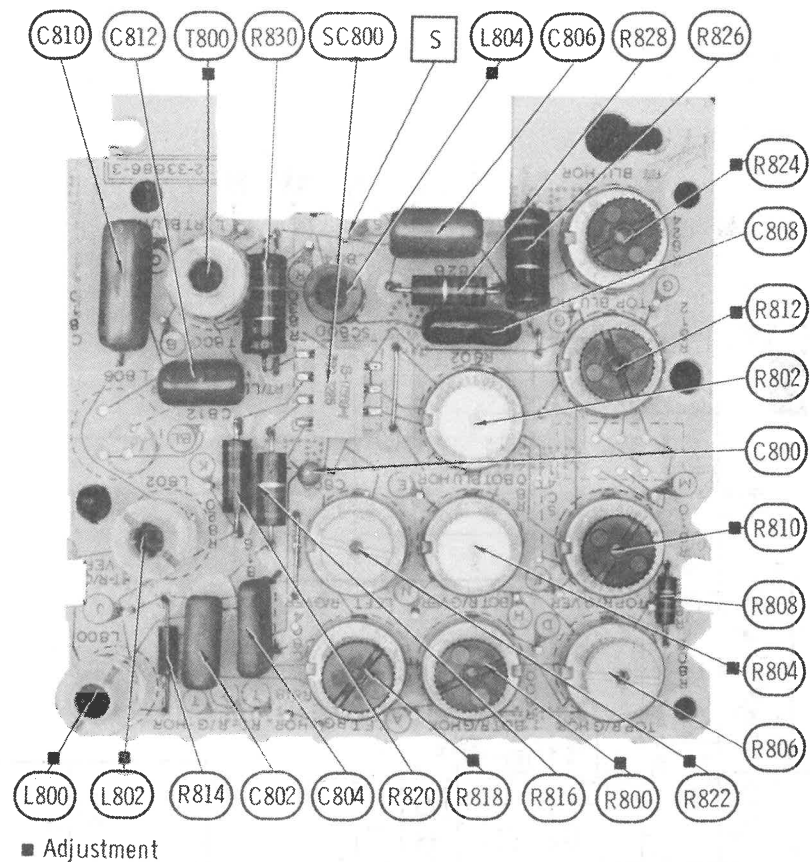
Tuner assembly must be removed by Instructions.

VHF TUNER

The fine tuning mechanically er slug for adjustment (one slug)







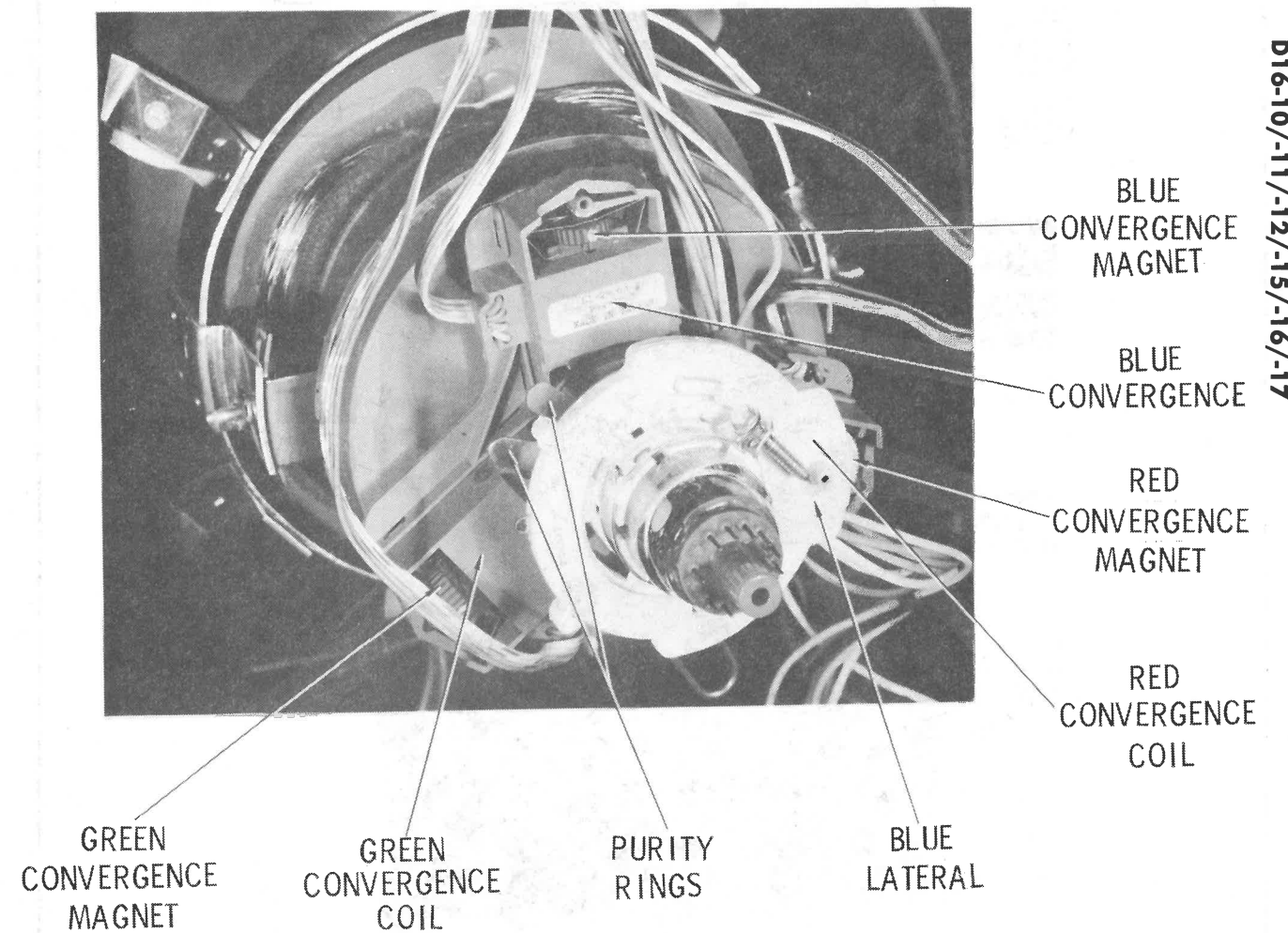
CONVERGENCE ADJUSTMENTS

Miscellaneous Adjustments should be made before proceeding to Convergence Adjustments. See Page 26. Connect dot/crosshatch generator to antenna terminals. Use dot pattern for center dot convergence. Use crosshatch pattern for all other adjustments. View pattern as displayed on TV screen.
NOTE: Maintain center convergence throughout setup procedure.

Perform center dot convergence using convergence magnets.

- Adjust R810 and R804 to converge red and green vertical center line from top to bottom of screen.
- Adjust R806 and R800 to converge red and green horizontal lines along vertical center line from top to bottom of screen.
- Adjust R822 and R818 to converge red and green vertical and horizontal lines, left side of screen.
- Adjust L802 and L800 to converge red and green vertical and horizontal lines, right side of screen.
- Adjust R812 and R802 to converge blue horizontal lines along vertical center line from top to bottom of screen.
- Adjust R824 and T800 to converge blue horizontal lines, left and right sides of screen.

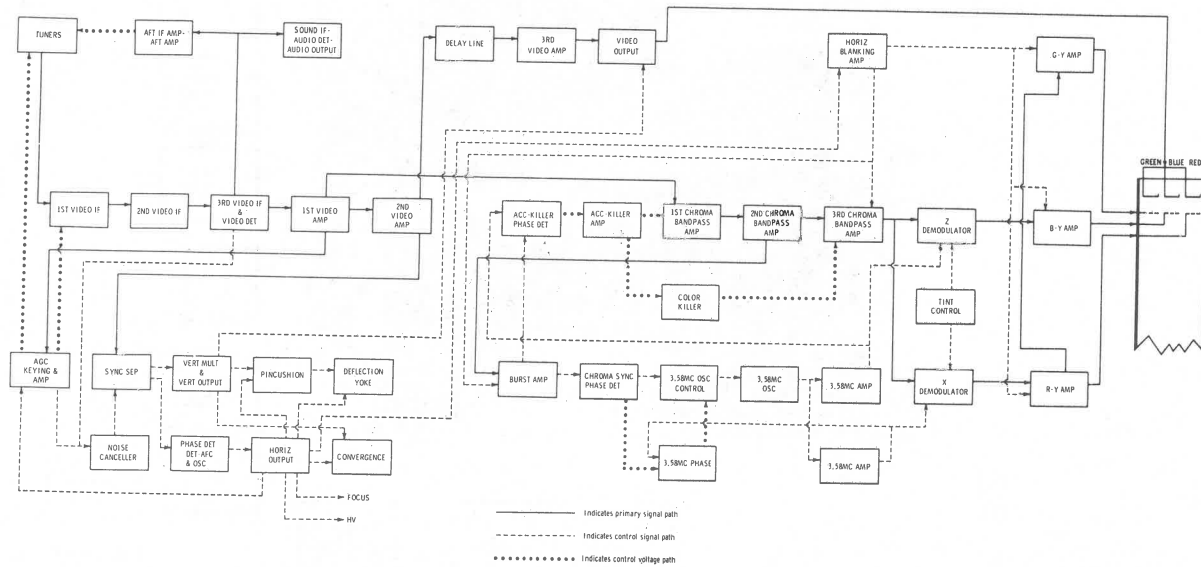
Touch up appropriate controls if necessary.



RESISTANCE MEASUREMENTS

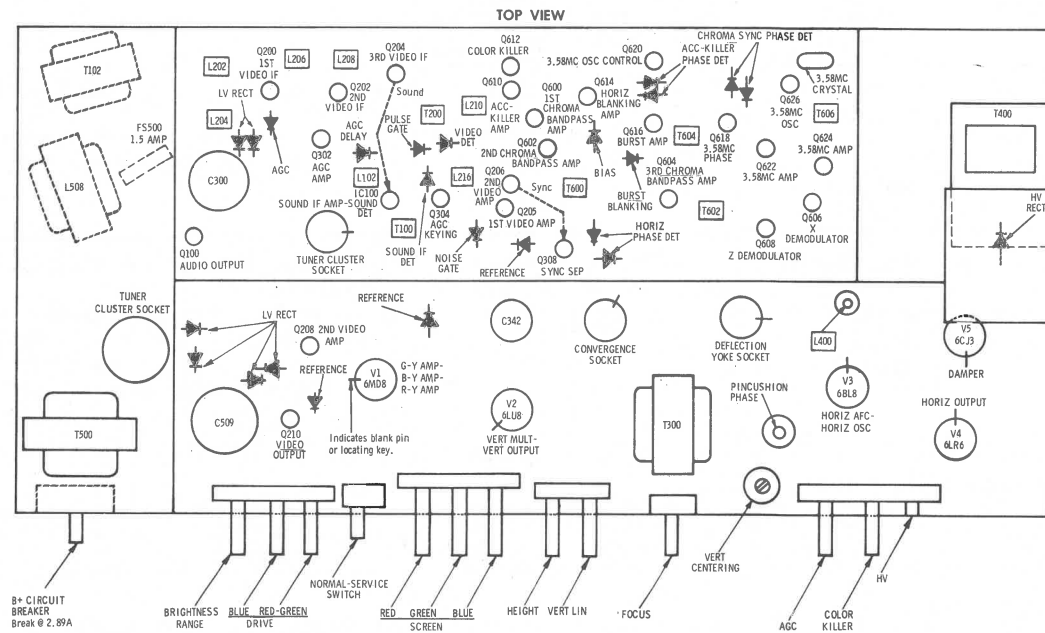
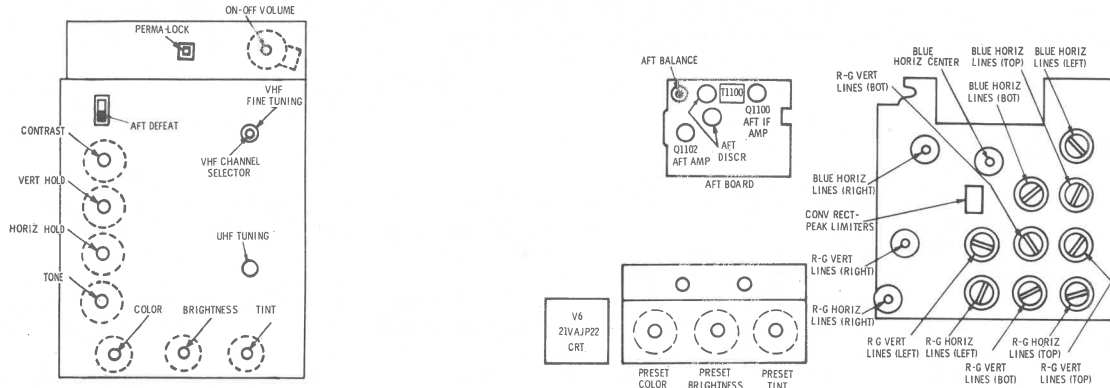
ITEM	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN 12	PIN 13	
V1	27K†	27K†	27K†	5Ω	0Ω	1meg	600Ω	1meg	1meg					
V2	11Ω	2meg	NC	280Ω†	NC	2.5meg	2.5meg	5600Ω†	1000Ω	625K	*	5Ω		
V3	9000Ω†	160K	7000Ω†	11Ω	12.5Ω	26K†	30Ω	650Ω	1.2meg					
V4	12.5Ω	0Ω	8000Ω†	0Ω	3.2meg	NC	NC	NC	3.2meg	0Ω	8000Ω†	19Ω		TOP CAP 4Ω †
V5	19Ω	NC	NC	16Ω†	NC	NC	600K	NC	NC	16Ω †	NC	26Ω		
V6	FIL	6500Ω†	130K†	550K	600K	6000Ω†	130K†	NC	26meg	NC	6000Ω†	130K†	600K	PIN 14 FIL
MEASUREMENTS BELOW TAKEN WITH METER HAVING .08V MAX BETWEEN PROBE TIPS														
IC100	INF	INF	0Ω	0Ω	550Ω	3000Ω	8500Ω	11K	6000Ω	6000Ω	NC	11K	6000Ω	22K
ITEM	E	B	C		ITEM	E	B	C		ITEM	E	B	C	
Q100	120Ω	10K	13K		Q600	820Ω	11.5K	1600Ω		Q624	450Ω	4500Ω	380Ω	
Q102	230Ω	35K	14K		Q602	800Ω	4200Ω	350Ω		Q626	1000Ω	27K	350Ω	
Q200	4700Ω	3200Ω	10K		Q603	0Ω	15K	1100Ω		Q1100	680Ω	4000Ω	1300Ω	
Q202	8000Ω	5000Ω	380Ω		Q604	800Ω	35K	350Ω		Q1102	4000Ω	37K	14K	
Q204	560Ω	1600Ω	380Ω		Q605	0Ω	15K	1100Ω						
Q205	1300Ω	4200Ω	3000Ω		Q606	140Ω	850Ω	4000Ω		VHF Q1	330Ω	1800Ω	3600Ω	
Q206	170Ω	1300Ω	1200Ω		Q608	140Ω	850Ω	4000Ω		VHF Q2	470Ω	2200Ω	6000Ω	
Q208	1100Ω	1200Ω	150Ω		Q610	10K	6meg	350Ω		VHF Q3	1000Ω	13K	3300Ω	
Q210	1400Ω	30K	10K		Q612	400Ω	10K	18K						
					Q614	180Ω	10K	700Ω		UHF Q301	300Ω	3300Ω	4000Ω	
Q302	430Ω	100K	650Ω		Q616	100Ω	200Ω	400Ω						
Q304	130Ω	4000Ω	20K		Q618	1000Ω	200K	3500Ω						
Q306	0Ω	56K	27K		Q620	1000Ω	7meg	8000Ω						
Q308	INF	450K	30K		Q622	450Ω	4500Ω	380Ω						

* READING DEPENDS UPON POLARITY OF METER CONNECTIONS.



BLOCK DIAGRAM

TUBE PLACEMENT CHART



TROUBLESHOOTING CHECK CHART

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

PICTURE or SOUND

No pic, no sound, no raster: Fuse, LV Rects, Volt Reg

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

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

No pic, has sound, no raster: Video Output, CRT

No pic, has sound, has raster: Video Amps, Output

Has pic, no sound: Sound IF, Audio Amp, Output
Overloaded picture: AGC, Video Detector

Overloaded picture: AGC, Video Detector

Low or excessive brightness: Horiz Blanking Amp
Beam focus: HV Post: C1

Poor focus: HV Rectifier

SWEEP

No raster, has sound: Horiz Osc, Output, Damper, HV Rect, CRT

No vert deflection: Vert Mult - Output

Poor vert lin or foldover: Vert Mult - Output

Poor horiz lin or foldover: Horiz Output, Damper

Narrow picture: LV Rects, Hor: Vent, off, S: Vent, M: 14

Vert off frequency: Vert Mult
 Horiz off frequency: Horiz Phase Det, AFC, Osc

SYNC

No vert sync: Vert Mult

No horiz sync: Horiz Phase Det, AFC, Osc

No vert/horiz sync: Sync Separator

RASTER

Yellow (no blue): B-Y Amp, CRT

Cyan (no red): R-Y Amp, CRT

Magenta (no green): G-Y Amp, CRT

COLOR (B/W operating normally)

No color sync: Burst, Chroma Sync Phase
Det, 3.58MC Osc Control, Osc

No blue: Z Demod, B-Y Amp

No red: X Demod, R-Y Amp

Incorrect hue (tint): Burst, ACC-Killer
Det, Chroma Sync Phase Det, X/Z Demod

TV ALIGNMENT INSTRUCTIONS

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

GC ELECTRONICS
#8606,8869,9302

PRELIMINARY INSTRUCTIONS

Set the channel selector to the highest unused channel. Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. Use only enough generator output to provide a usable indication.
Note: Response may vary slightly from that shown.
Connect a 5 volt bias supply to point AC, low side to ground and adjust to obtain a response curve which shows no indication of overload. Switch "Service-Normal" switch to "Service" position. Remove horizontal output tube V4 (6LR6).

VIDEO IF ALIGNMENT

CONNECT SCOPE	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
Vertical input to point AN. Low side to ground.	Thru .001mfd to point U on VHF tuner, low side to ground.	44MC (10MC Sweep)	41.25MC	Adjust T200 (Top Core) and L210 for MINIMUM. Fig. 1
			47.25MC	Adjust L204 for MINIMUM. Fig. 1
Vertical input to point AN. Low side to ground.	Thru .001mfd to point U on VHF tuner. Low side to ground.	44MC (10MC Sweep)	41.25MC	Adjust T200 (bottom core) for Maximum over-all response. Adjust L208 to position 45.75MC Marker. Adjust L206 to position 42.17MC Marker. Adjust Tuner IF Output for symmetry of 42.17MC and 45.75MC markers similar to Fig. 2. Adjust L202 for correction of tilt. See Fig. 2.
			42.17MC	
			44.00MC	
			45.75MC	
			47.25MC	

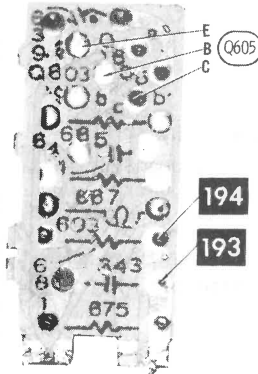
4.5MC TRAP ALIGNMENT

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 L216 for MINIMUM beat interference.

SOUND IF ALIGNMENT

Connect a jumper from base of Q204 to ground. Volume and contrast controls to MINIMUM.

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CONNECT VTVM	REMARKS
High side thru .01mfd cap. to point AP, low side to ground.	4.5MC (FM Modulated)	AC probe to high side of Volume control, low side to ground.	Adjust L104 & L102 for maximum while reducing signal strength.



MISCELLANEOUS ADJUSTMENTS

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.

Tune in a TV station and set all controls for normal operation. Turn the horizontal hold control to center range position. Adjust L400 for a stable horizontal lock-in while switching on channel and off channel. Current in the horizontal output tube should not exceed 225ma.

Adjust the high voltage control for 26.5KV on picture-tube anode with MINIMUM brightness. Adjust focus, height and vertical linearity controls.

BRIGHTNESS RANGE

Set brightness control maximum clockwise. Adjust contrast and brightness range control for maximum brightness and contrast consistent with good picture quality. Then slightly advance brightness range just beyond this point. Reduce brightness control for best black and white picture.

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

Suggested Alignment Tools .. GC ELECTRONICS
8606, 8606L, 8869.

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 Point AK to ground.

Connect vertical input of an oscilloscope to Point Z , common to ground. Adjust T606 for maximum. If no indication is obtained, oscillator is not operating. Adjust R750 to start oscillator, then adjust T606 for maximum. Remove the short from Point AK . Make sure the oscillator is running and locked in.

Connect the DC probe of a VTVM to Point AL , low side to ground. Voltages should be 2.4 volts or less on VTVM. Adjust T604 for MINIMUM.

Short Point AK to ground. Remove VTVM. Adjust R750 until color bars stand still or drift slowly. Remove the short from Point AK and check to see that the color bars will sync with a low-level input signal. If necessary, retouch R750 for best hold.

Connect the vertical input of a scope to Point BX . Check for proper waveform with the color bar generator being used. See waveform on schematic for pattern obtained from a standard keyed rainbow generator. Check the range of the tint control. The bars should move 30° either side of proper signal. If necessary, retouch T604 for proper range of control.

Check for proper waveform at G-Y and B-Y outputs: Points BY and CD . 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

Allow at least a fifteen-minute warmup. Perform center dot convergence. If the picture tube appears to be magnetized, use a degaussing coil to demagnetize tube and mounting brackets.

Set channel selector between channels (white noise free raster). Connect the blue and green grids of the picture tube through individual 100K resistors to ground: BY and CD respectively. Loosen the deflection yoke and move it rearward until it is against the convergence-yoke assembly.

Set contrast control to MINIMUM, brightness to normal viewing level. Adjust the tabs on purity magnet, and rotate the assembly until a red spot appears at the center of the picture tube. Slide the deflection yoke forward to obtain a uniform red over entire picture-tube face. A low-power microscope is useful to observe the beam landings.

GRAY SCALE ADJUSTMENTS

Tune in a black and white picture or a color picture with the color control set to MINIMUM. Turn the red, blue and green screen controls fully counterclockwise. Move the Normal-Service switch to Service. Advance the screen controls, one at a time, until each produces a barely visible line on the screen.

Return the Normal-Service switch to Normal. Adjust the blue and red or green drive controls to eliminate coloring in the bright areas of the picture.

BLUE HORIZONTAL SHAPING COIL ADJUSTMENT

Connect high side of a scope to Point S (located on convergence panel), low side to ground. Adjust Blue Horizontal Shaping coil slug until the harmonic bump is at the 50% point on the wave slope. See Fig. 6.

DYNAMIC PINCUSHION ADJUSTMENTS

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

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

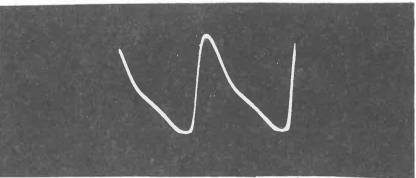


Fig. 6

TV ALIGNMENT INSTRUCTIONS (Continued)

AFT ALIGNMENT (Continued)

Push AFT switch to off. Follow Preliminary Instructions at top of page 6. Connect the DC probe of a VTVM to Point AE on chroma board, low side to ground.

CONNECT SCOPE	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
Vertical input to point AE low side to ground.	Thru .001mfd to point U on VHF tuner, low side to ground.	45.75MC (3-5MC Sweep)	45.75MC	Adjust T1100 (bottom core) for maximum gain and symmetry of response similar to Fig. 5. Adjust T1100 (top) for marker placement similar to Fig. 5. Repeat if necessary.

CHROMA BANDPASS ALIGNMENT

Connect as explained in preliminary instructions. Set color control to maximum, tint control to mid-range, and color killer fully clockwise. Connect a 1.7 volt bias to point AL on Chroma Board, low side to ground. Use only enough signal to give a usable indication. Obtain a response which shows no indication of overload.

CONNECT SCOPE	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
Vertical input thru detector probe to point L , low side to ground.	Thru .1mfd to point AT low side to ground.	3.58MC (3-5MC Sweep)	3.08MC 3.58MC 4.08MC	Adjust T600 (Top & Bottom) for Maximum gain and symmetry of response similar to Fig. 3
"	Thru .001mfd to point U on VHF tuner. Low side to ground.	44MC (10MC Sweep)	3.08MC 3.58MC 4.08MC (4.5MC Trap)	Adjust T602 for response similar to Fig 4. If necessary slightly retouch T600 (Top & Bottom). Inability to obtain proper bandpass alignment may be due to misadjustment of the 4.5MC trap. Adjust L216 for MINIMUM at 4.5MC. See Fig.4.
After completing Chroma Bandpass Alignment, reset color killer. (Refer to Miscellaneous Adjustments.)				

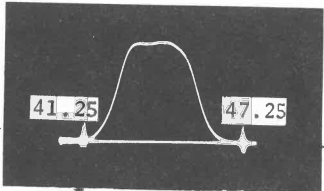


FIG. 1

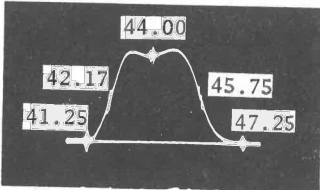


FIG. 2

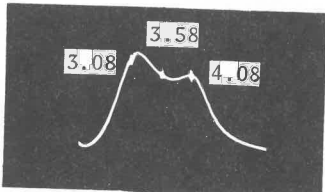


FIG. 3

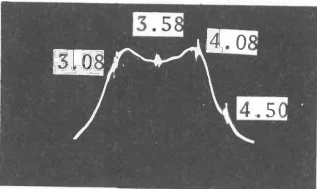


FIG. 4

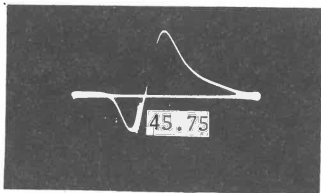
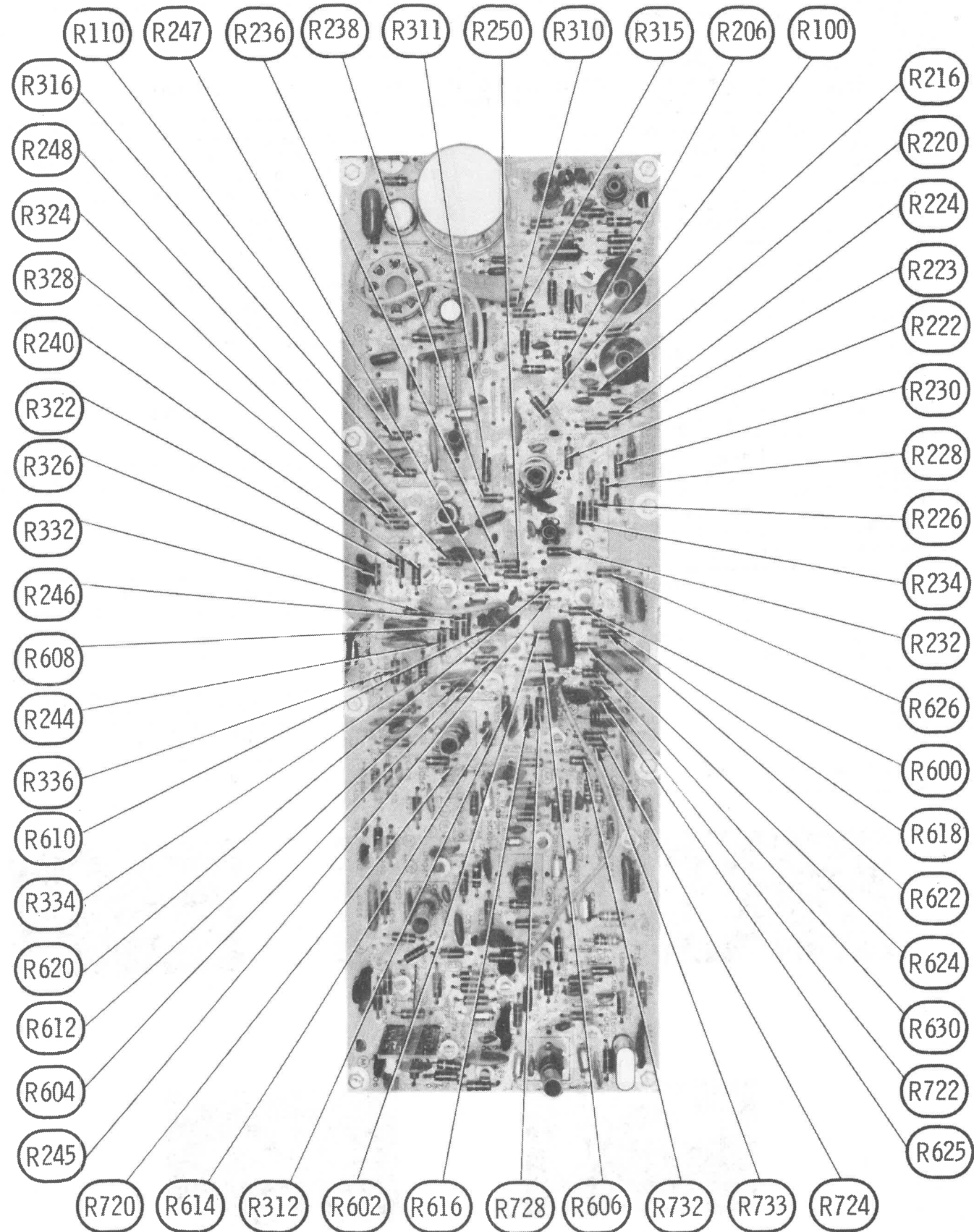


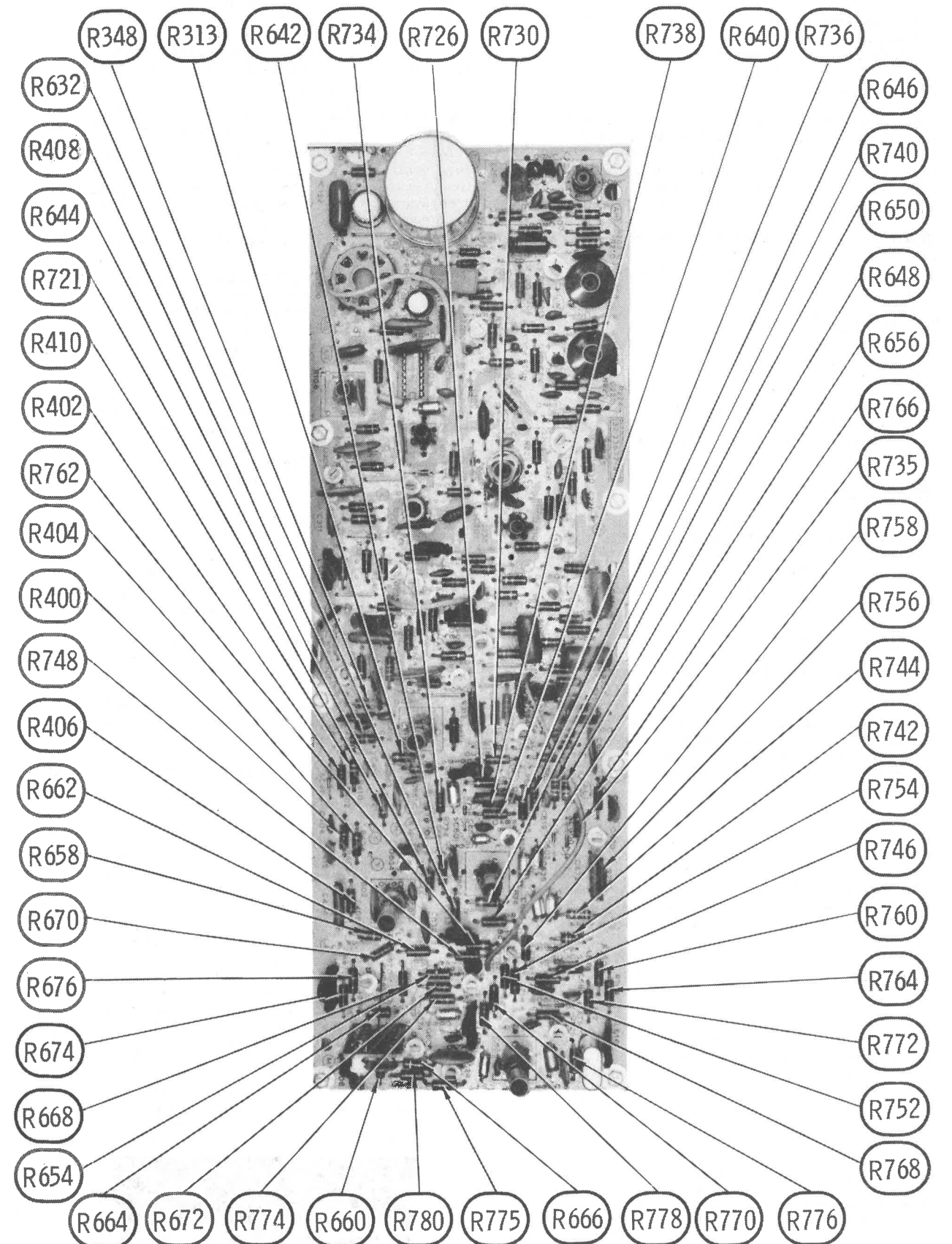
FIG. 5

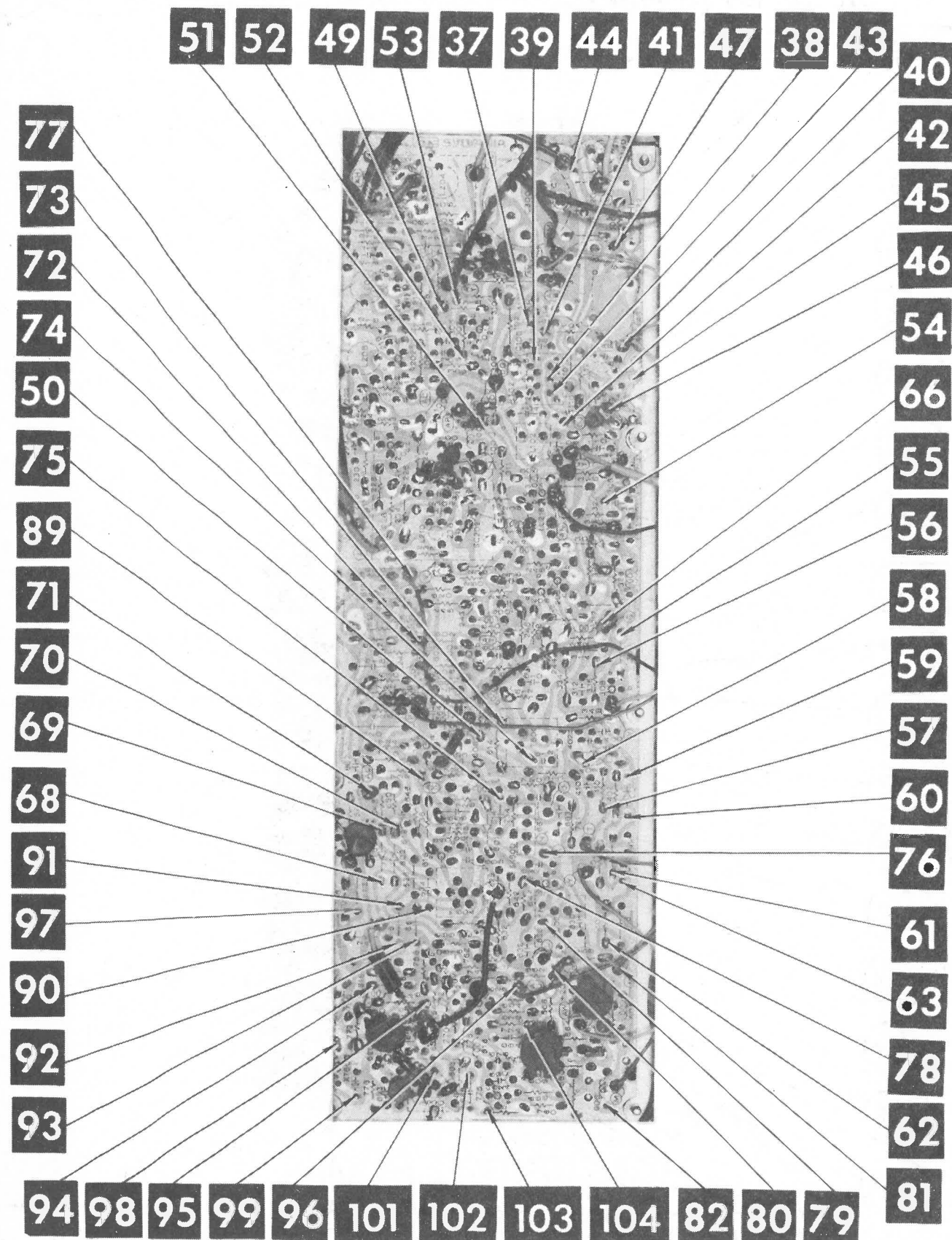
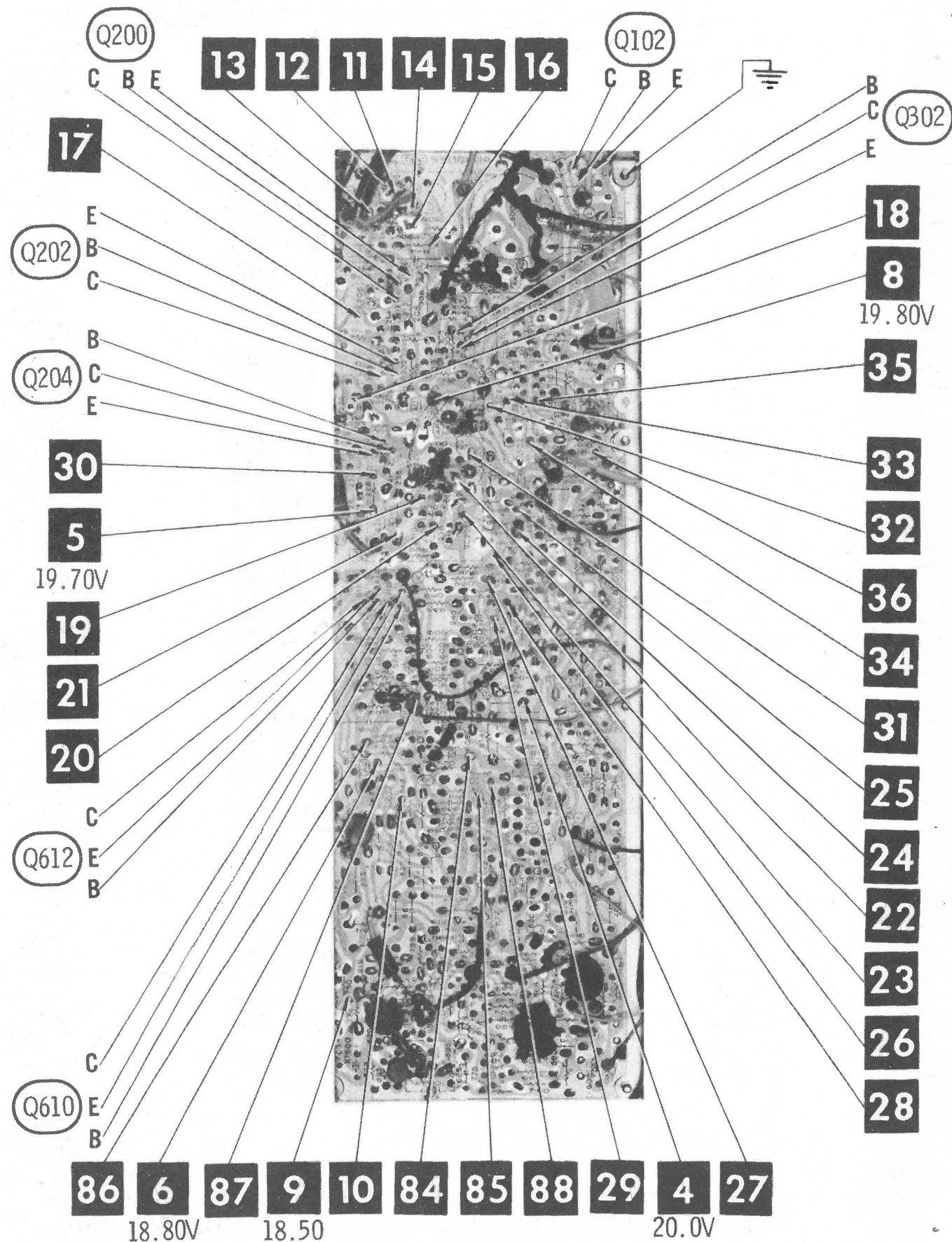
SYLVANIA CHASSIS
D16-10/-11/-12/-15/-16/-17

FOLDER 2

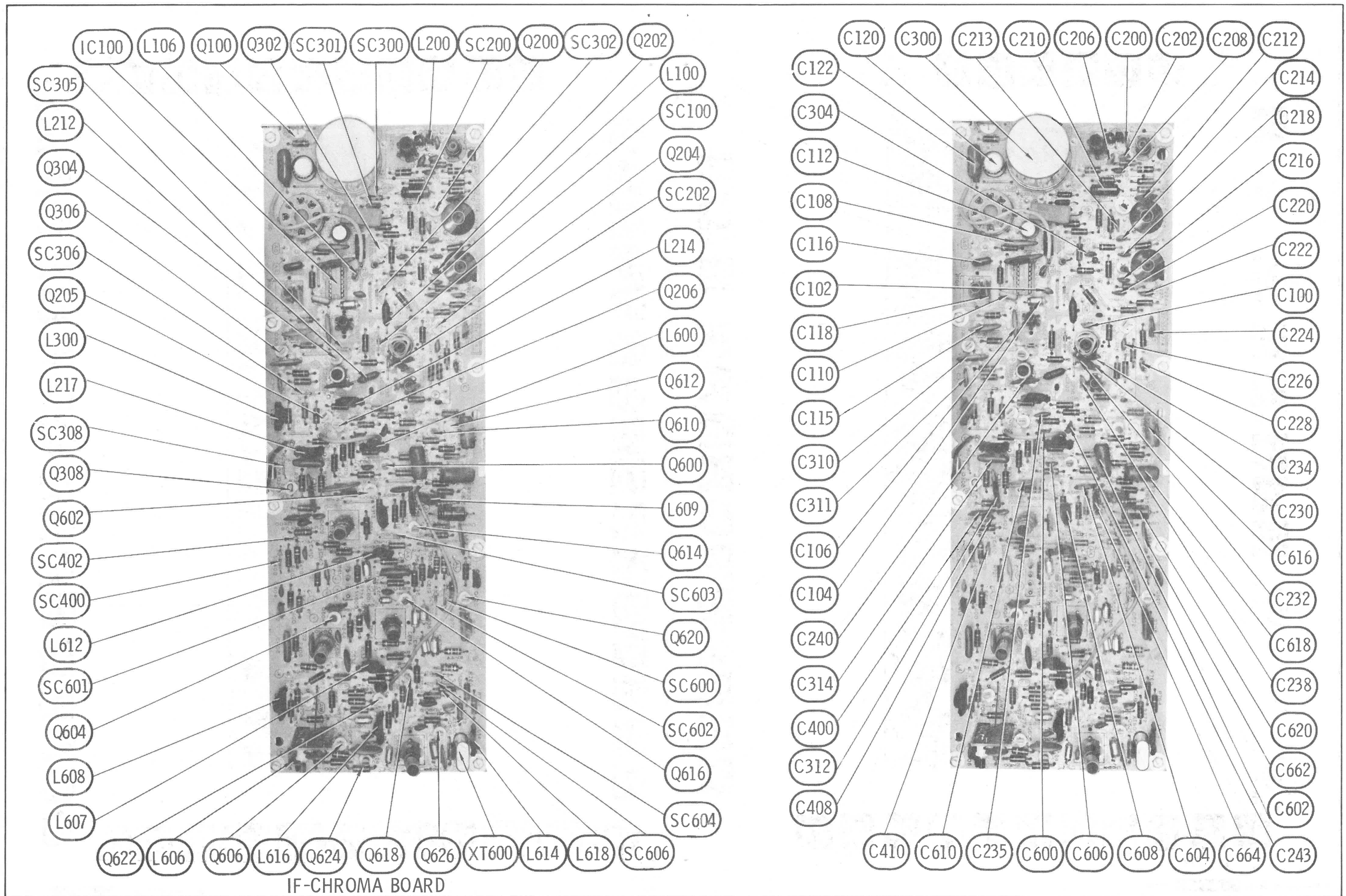


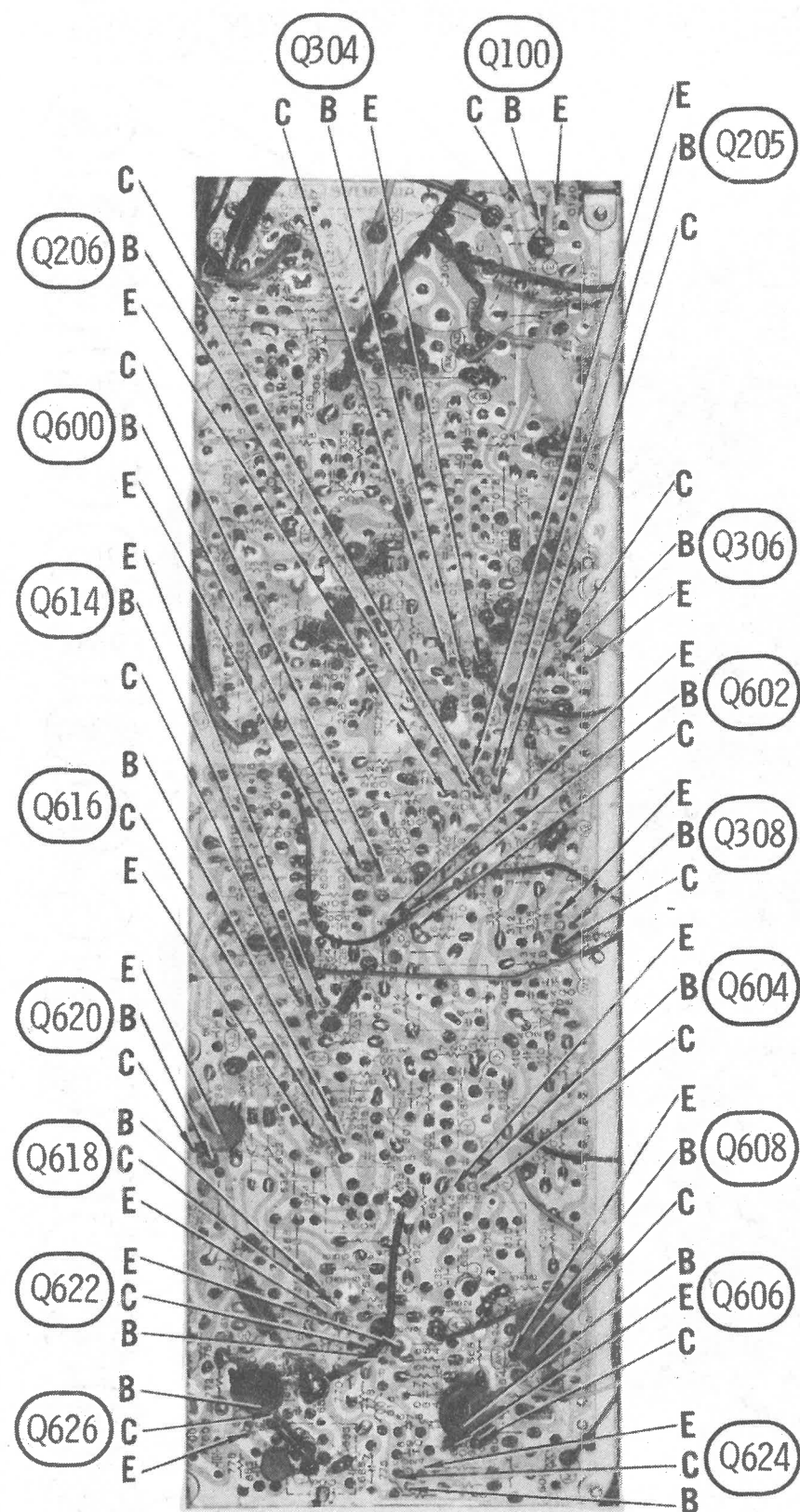
IF-CHROMA BOARD



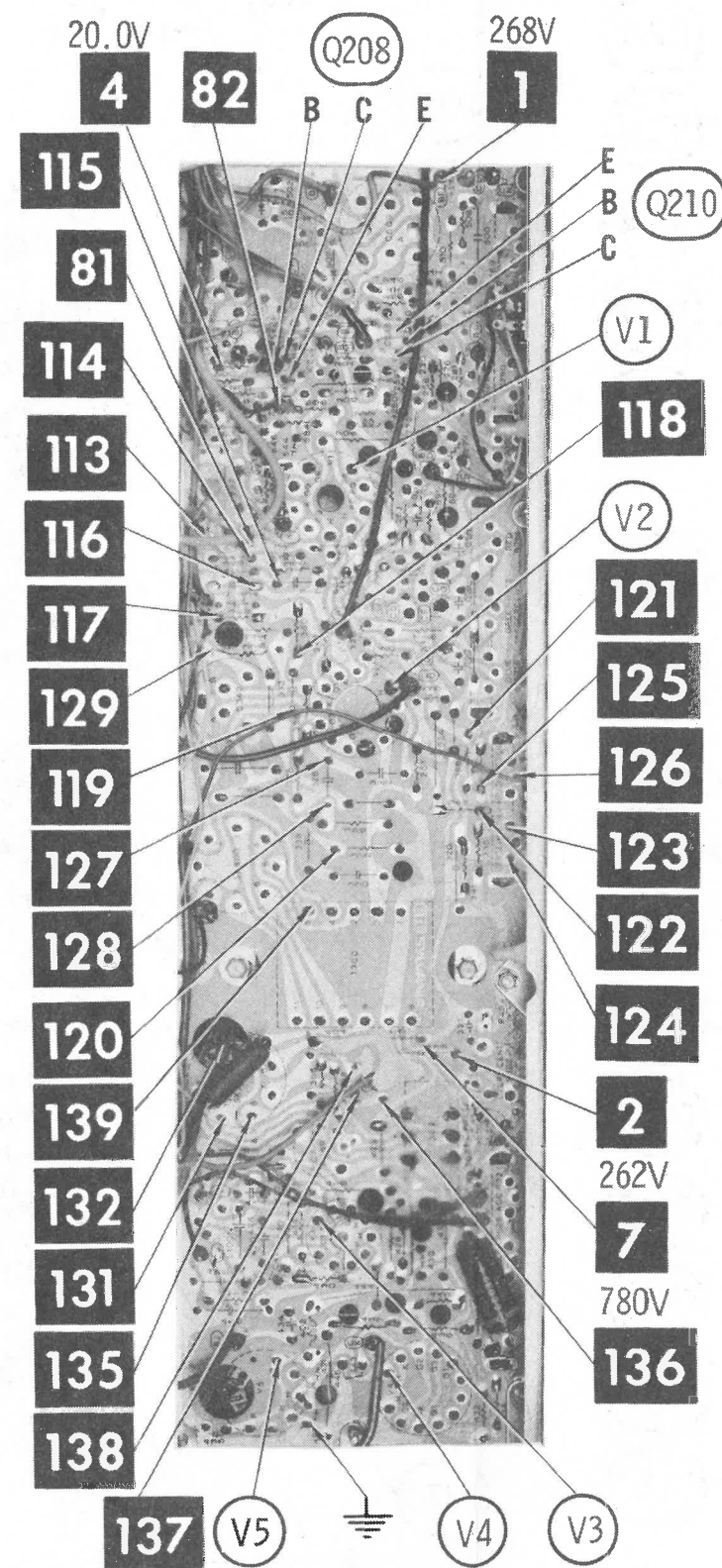


IF-CHROMA BOARD

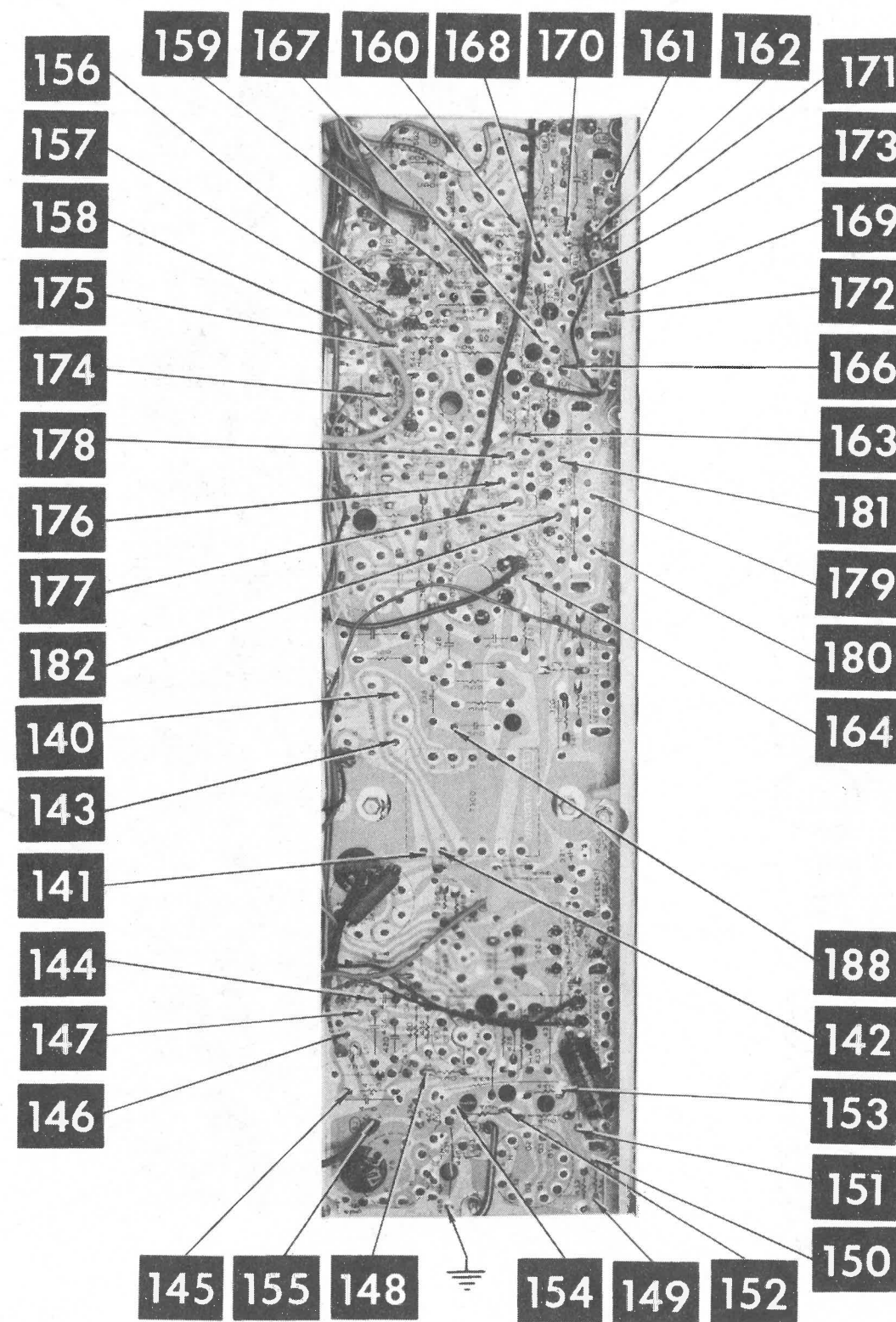




IF-CHROMA BOARD



DEFLECTION BOARD

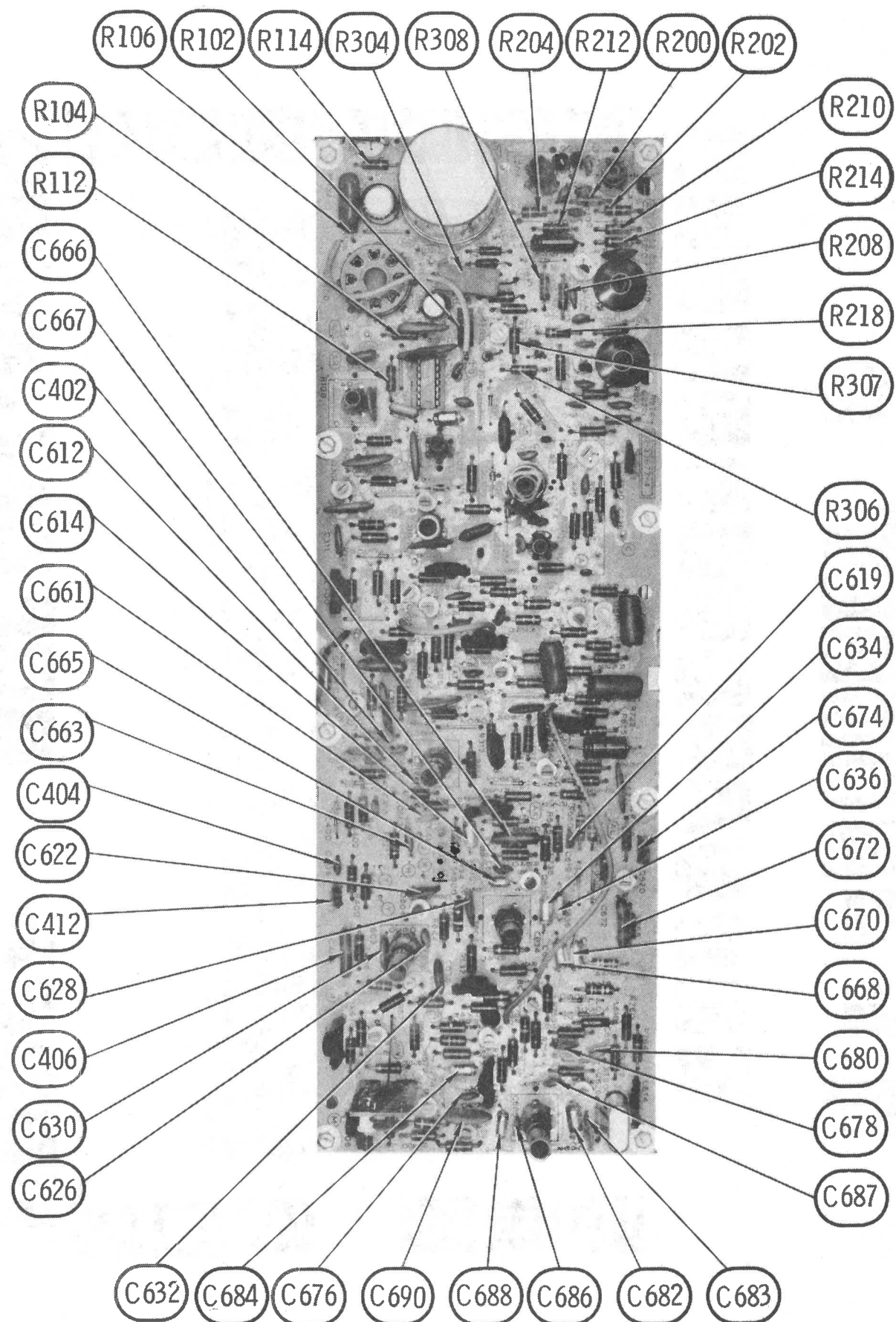


ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

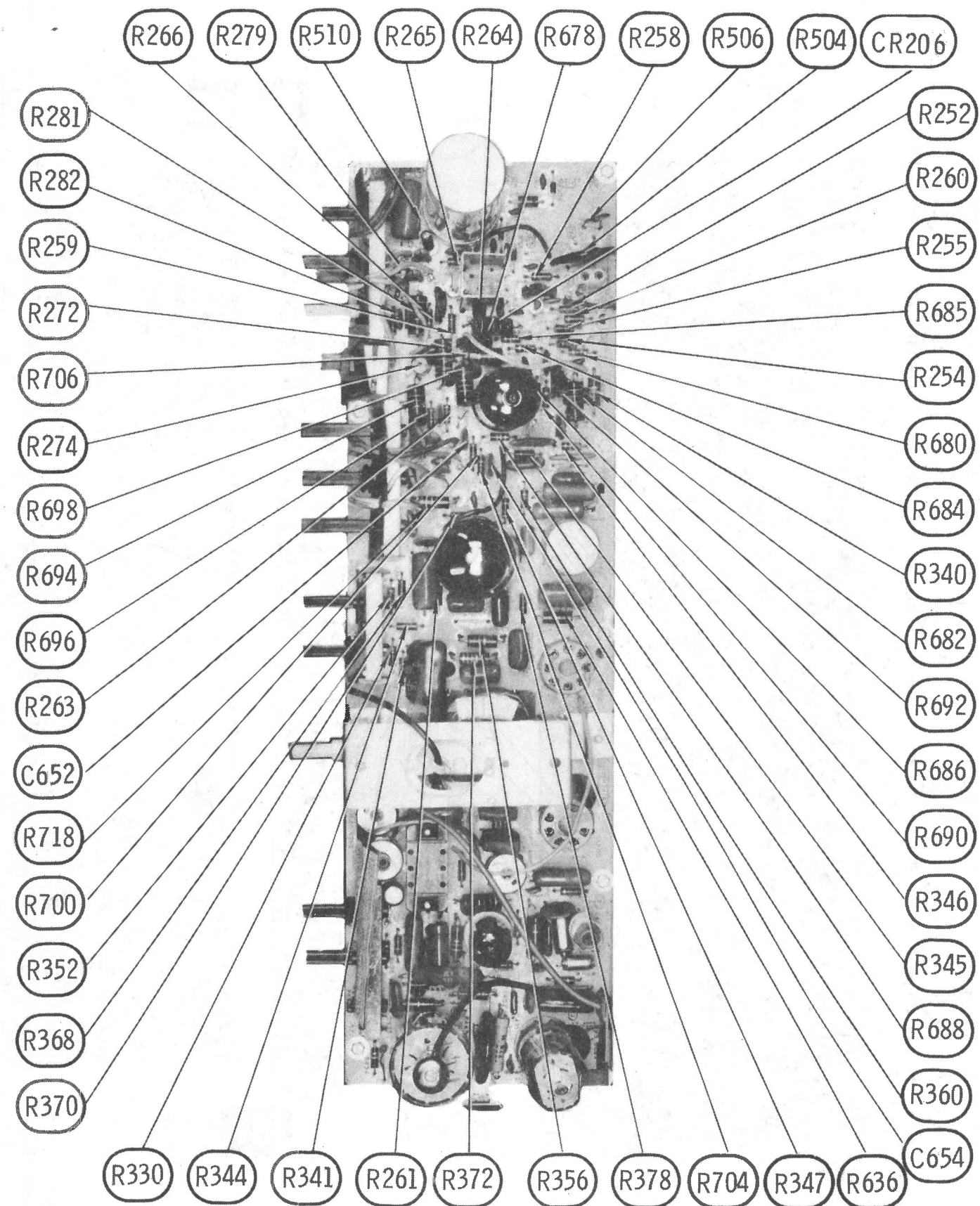
A Howard W. Sams CIRCUITRACE Photo

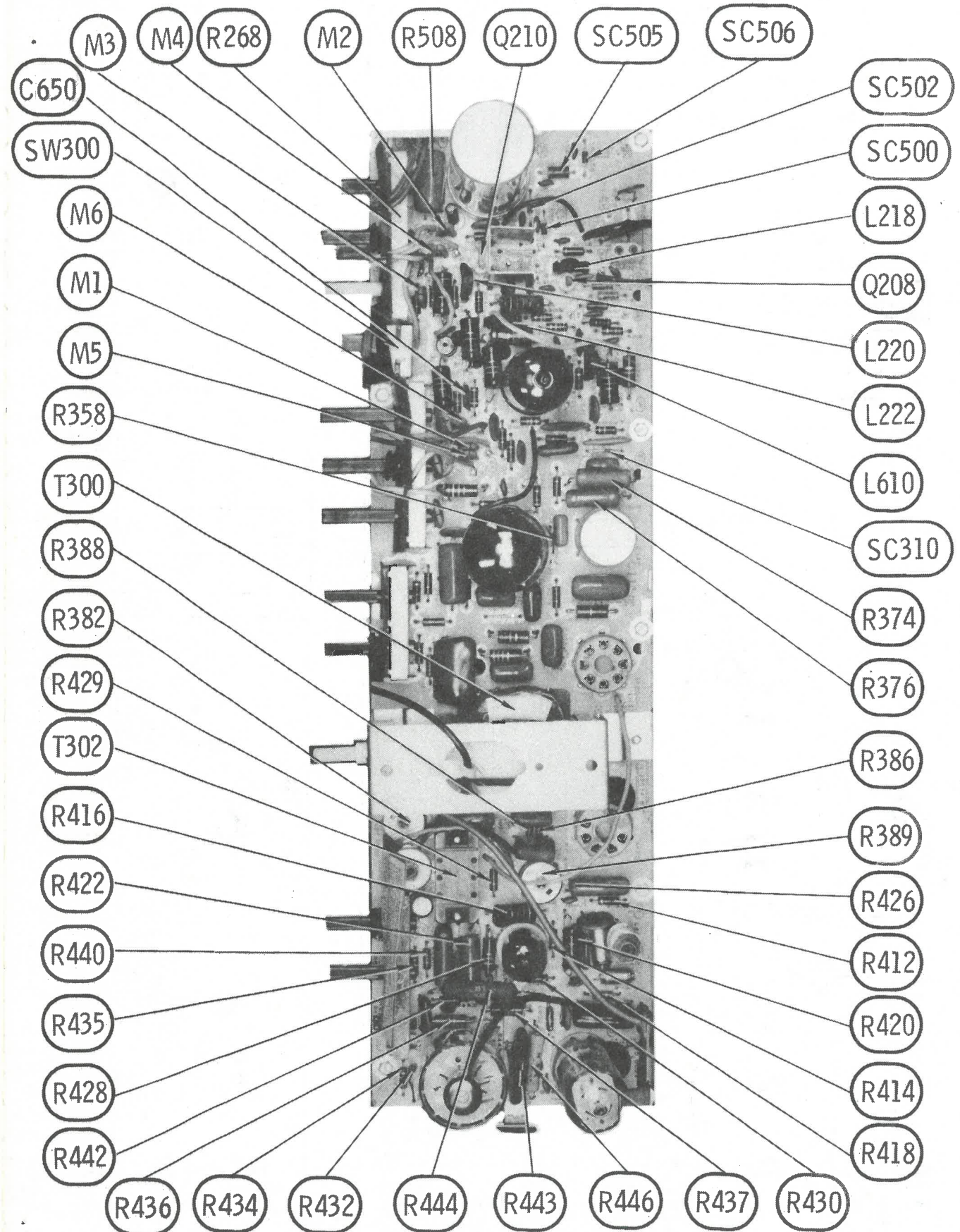
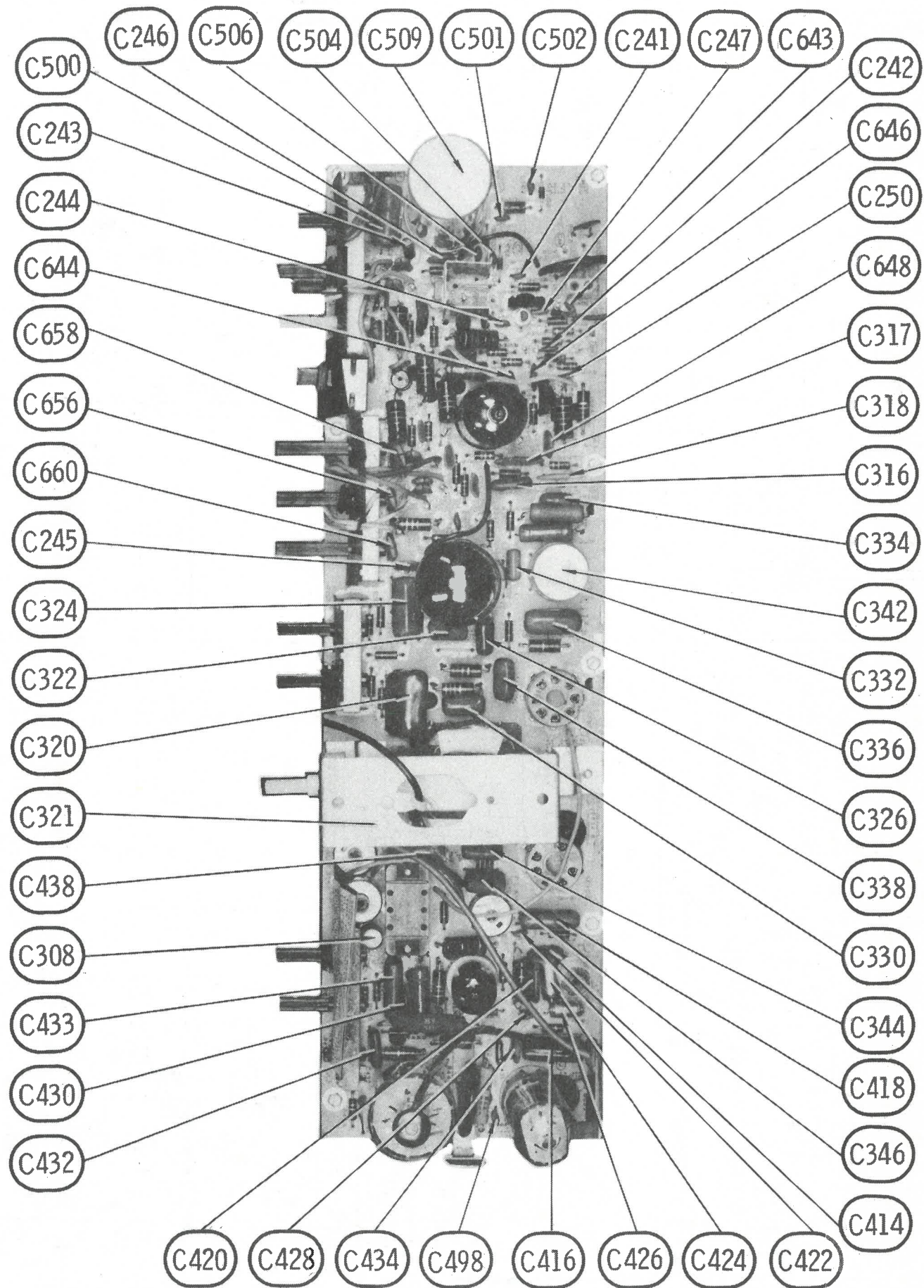
SYLVANIA CHASSIS
D16-10/-11/-12/-15/-16/-17

FOLDER 2



DEFLECTION BOARD





DEFLECTION BOARD

SYLVANIA CHASSIS
D16-10/-11/-12/-15/-16/-17

FOLDER 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)(cont)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L500	Line Choke (70uh)	50-29833-3		5248 (3)	
L510	Peaking (100uh)	50-17985-7		72F104AP (4)	
L600	RF Choke (56uh)	50-15318-5	19-3100 (4)	72F565AP	T305 (4)
L601	RF Choke (5.6uh)	50-15904-2		74F566AP	
L604	RF Choke (5.6uh)	50-15904-2		74F566AP	
L606	Peaking (620uh)	50-17593-1	19-2030	6146	T820
L607	Peaking (620uh)	50-17593-1	19-2030	6146	T326
L608	Peaking (620uh)	50-17593-1	19-2030	6146	T326
L609	Peaking (150uh)	50-15318-10	19-2026	72F154AP	T868
L610	Peaking (620uh)	50-17593-1	19-2030	6146	T326
L612	RF Choke (27uh)	50-15318-1		72F275AP	
L614	RF Choke (10uh)	50-15318-14	19-2016	72F105AP	T823
L616	RF Choke (47uh)	50-15318-4		72F475AP	
L617	RF Choke (5.6uh)	50-15904-4		74F566AP	T820
L618	RF Choke (5.6uh)	50-15904-4		74F566AP	T820
L1100	RF Choke (5.6uh)	50-15904-2		74F566AP	T820
T200	3rd Video IF	57-23851-1	17-5065	VI-199	
T600	2nd Chroma Bandpass	50-27405-1	17-6089	CO-1070	
T602	Chroma Output	50-29658-1			
T604	Burst	50-27406-2			
T606	3.58MC Output	50-29784-1			
T1100	AFT Discriminator	57-23851-1			

(1) Clip unused Pin. (2) Shunt with 4700-ohm resistor. (3) Two required. (4) Shunt with 270-ohm resistor.

COILS (Sweep Circuits)

ITEM No.	FUNCTION	REPLACEMENT DATA					
		MFGR. PART No.	MILLER PART No.	STANCOR PART No.	THORDARSON MEISSNER PART No.	TRIAD PART No.	WORKMAN PART No.
L350	Pincushion Phase	50-33903-2					
L800	Horiz Oscillator (Freq.)	50-23508-1					
L802	Right R-G Horiz Lines	50-16248-5	H-1011		WC-44 (1)		
L804	Right R-G Vert. Lines	50-16248-5	H-1010		WC-41 (1)		
L804	Blue Horiz Cent. Phase	50-17850-1	H-1016				
L808	Convergence Yoke Assembly	51-29163-2			Y-113		
a	Blue						
b	Green						
c	Red						
T800	Right Blue Horiz Line	50-35498-1	H-1013				

Filter lug for mounting.

BENT CHOKE

ITEM No.	RATINGS		REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	
L508	.31ADC	10.6	.35 H	56-17568-8	C-2708	26C81	C-40X

TRANSFORMERS (Sweep Circuits)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L302	Yoke (Horiz = 12.2mh 90° Vert = 25.5mh)	51-29986-2	DI-95AC (1)	Y-109 (1) (2)	YC-312-2 (1)	(1) Use original 560pf Cap. (2) Extend leads. (3) See component connection data.
T300	Vertical Output	56-29826-1				
T302	Pincushion	50-35556-1				
T400	Horizontal Output	50-35601-1				

SWEEP COMPONENT CONNECTION DATA

ORIGINAL	YOKE								YOKE PLUG							
	Original Connections								1	2	4	6	7	8		
REPLACEMENT	1	2	4	6	7	8										
STANCOR	NO WIRING CHANGE NECESSARY								TO YOKE TERMINALS							
THORDARSON	NO WIRING CHANGE NECESSARY								NO WIRING CHANGE NECESSARY (1)							
TRIAD	NO WIRING CHANGE NECESSARY								NO WIRING CHANGE NECESSARY (1)							

(1) Rotate Yoke 180° (leads at top).

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	PRIMARY	SEC. 1	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T500	170VAC @ 280maAC Tap @ 120VAC	200VAC @ .31A DC	55-33989-2 55-33989-1 (1)				(1) Used in Chassis D16-12.
	SEC. 2	SEC. 3	SEC. 4				
	42VAC @ .04A DC	6.3VAC @ 1A AC	6.3VAC @ 6.5A AC				

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA				NOTES
	PRI.	SEC.	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T102	-2900	3.2	56-16018-11	A-3849	24S64	S-54X	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		MODELS:	NOTES
		MFGR. PART No.	QUAM PART No.		
SP1	5" x 7" PM 3.2 ohms	12-17133-1	57A1	CF701W-6/704W-6/1407P-5/2401K-2/2402W-1/2403K-3 CL2251W-2/520-2/53K-2/57P-2/58P-1/63N-1, CL2351WR-2/53KR-1/57PR-2/58PR-1, CL2423K-2/37P-2, CL1243K-3/47P-3, CL2202W-2/02W-4/21W-3/23K-1, CL2223K-3/27P-1/31W-1/32W-2/33K-1/37P-1/41W-1, CL2243K-3/43N-3/470A-3/47P-3/48BT-1/48WH-1, CL2302WR-2/02WR-4/41WR-1/43KR-3/47DAR-3/47PR-3, CL2348BTR-1, CL2471W-2/73K-2/87P-2, Models CL2471W-2, CL2473K-2, CL2487P-2.	
	4" x 6" PM 3.2 ohms	12-15143-5	46A2C		
	2 1/2" PM 8 ohms	12-26977-2			
	5 1/4" PM 8 ohms	12-22106-2			

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA					
		PART No.		BUSS PART No.		LITTELFUSE PART No.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	WORKMAN PART No.
CB500	Circuit Breaker	29-33346-6				8151.75	
FS500	Break 2.1A 1.5 Amp Quick Acting, Pigtail	29-91256-1					
FS502	1-1/2" #26 Fuse Wire						
FS504	1-1/2" #34 Fuse Wire						FA26

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
	VHF Antenna	27-35024-1	JFD Replacement TA-359 (Used on Models CL2202W-2/-4, CL2302WR-2/-4)
	UHF Antenna	27-17941-1	JFD Replacement TA-545 (Used on Models CL2202W-2/-4, CL2302WR-2/-4)
	VHF Tuner	54-35054-1/-2	
	VHF Tuner	54-29331-5	
	VHF Tuner	54-35225-1	
	VHF Tuner	54-35321-1	
	VHF Tuner	54-27843-3	
	VHF Tuner	54-29184-4	
	Delay Line	32-16108-2	
	Degaussing	50-29965-3	Models CF701W-6/704W-6/1407P-5/2401K-2/2402W-1/2403K-3.
	Degaussing	50-33394-7	All models except CF series listed above.
M1	Spark Gap	29-23465-2	
M2	Spark Gap	29-23465-2	
M3	Spark Gap	29-23465-2	
M4	Spark Gap	29-23465-2	
M5	Spark Gap	29-23465-2	
M6	Spark Gap	29-23465-2	
M1054	Motor	23-27853-2	On-Off, Volume (-11 Chassis)
M1056	Motor	23-99383-7	VHF Tuner Drive (-11, -16 Chassis)
M1058	Motor	23-34331-1	UHF Tuner Drive (-11 Chassis)
RY500	Relay	31-29403-2	On-Off (-11 Chassis)
SW200	Switch	33-26638-12	Peaking
SW300	Switch	33-27422-2	Normal/Service
SW501	Switch	33-35483-6	Pilot Light (-10, -11, -15, -17 Chassis, Early Production)
	Switch	33-27037-3	Pilot Light (-10, -11, -15, -17 Chassis, Late Production)
SW502	Switch	33-26638-13	AFC (-10, -11 Chassis)
	Switch	33-26638-1	AFC (-12 Chassis)
	Switch	33-16011-12	AFC (-15, -16 Chassis)
	Switch	33-33966-2	AFC (-17 Chassis)
SW504	Switch	33-26638-13	Line Voltage (Normal-Low)
SW506	Switch	33-13845-5	Instant Color (-10, -11, -15, -17 Chassis)
SW508	Switch	33-13819-17	Motor Sustain/VHF Muting (-11, -16 Chassis)
SW514	Switch	33-13845-9	Favorite Station (-11, -16 Chassis)
SW518	Switch	33-13845-10	UHF Muting (-11 Chassis)
SW520	Switch	33-35332-1	Pilot Light (UHF) (-10, -11 Chassis)
SW600	Switch	33-35496-2	Perma-Lock (with bracket) (-10, -11, -15 Chassis)
	Switch	33-35745-3	Perma-Lock (without bracket) (-15 Chassis)
	Switch	33-35745-7	Perma-Lock (-16 Chassis)
	Switch	33-16011-12	Perma-Lock (-17 Chassis)
	Crystal	26-16162-2	3.58MC
	Magnet	22-27324-1	Blue Lateral and Purity
XT600	Printed Circuit Board	02-27429-6	AFC (-10, -11, -15, -17 Chassis)
	Printed Circuit Board	02-27429-4	AFC (-12 Chassis)
	Printed Circuit Board	02-29858-2	Convergence
	Printed Circuit Board	02-33378-10	IF/Chroma (-10, -11, -15, -16 Chassis)
	Printed Circuit Board	02-33378-9	IF/Chroma (-12 Chassis)
	Printed Circuit Board	02-33378-15	IF/Chroma (-17 Chassis)
	Printed Circuit Board	02-33670-4	Perma-Tint (-10, -11, -15, -16 Chassis)
	Printed Circuit Board	02-33670-1	Perma-Tint (-17 Chassis)
	Printed Circuit Board	02-29633-10	Video-Deflection

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

ITEM	PART No.	PART No.	PART No.	PART No.	PART No.
NOTES: (1) Late Production Models (2) Early Production Models	MODELS: CF701W-6 CF704W-6	MODELS: CF1407P-5 CF2401K-2 CF2402W-1 CF2403K-3	MODELS: CL1243K-3 CL1247P-3 CL2402W-1	MODELS: CL2202W-2	MODELS: CL2202W-4/21W-3 CL2223K-3/32W-2 CL2233K-1/37P-1 CL2241W-1 CL2243K-3/43N-3 CL22470A-3, 47P-3 CL2248BT-1 CL2248WH-1
KNOBS:					
VHF & UHF Channel Selector	74-29195-6	74-29195-6			
VHF Channel Selector			74-33585-5	74-33585-5	74-33585-5
UHF Channel Selector			74-33603-8	74-33603-8	74-33603-8 (1)
UHF Channel Selector					74-33603-8 (2)
Fine Tuning	74-33401-3	74-33401-3	74-33587-12	74-33587-12	74-33587-12 (1)
Fine Tuning					74-33587-12 (2)
On/Off/Volume	74-33401-3	74-33401-3	74-33578-14	74-33578-14	74-33578-14
Color, Brightness, Tint	74-23384-11	74-23384-8			74-33061-7
Control			74-33061-7	74-33061-7	
AFC			74-33578-13		
VHF Dial	74-29389-2	74-29389-2	74-33466-4	74-33466-1	74-33466-4
UHF Dial	74-29614-1	74-29614-1	74-33466-2	74-33466-4	74-33466-4
KNOBS:	MODELS: CL2223K-1	MODELS: CL2227P-1	MODELS: CL2231W-1	MODELS: CL2251W-2/53K-1, CL2257P-2, 58P-1, CL2263N-1	MODELS: CL2252D-2
VHF Channel Selector	74-33585-5	74-33585-5	74-33585-5	74-35295-2	74-335295-3
UHF Channel Selector	74-33603-8	74-33603-6	74-33603-6	74-35297-2	74-35297-2
Fine Tuning	74-33587-10	74-33587-5	74-33587-10	74-35296-2	74-35296-3
On/Off/Volume	74-33578-14	74-33578-14	74-33578-14	74-35298-2	74-35298-3
Color, Brightness, Tint				74-23384-8	74-23384-8
Control	74-33061-7	74-33061-7	74-33061-7		
VHF Dial	74-33466-4	74-33466-4	74-33466-4	74-33466-4	74-33466-4
UHF Dial	74-33466-2	74-33466-2	74-33466-2		
KNOBS:	MODELS: CL2302WR-2	MODELS: CL2302WR-4	MODELS: CL2341WR-1 CL2343KR-3 CL2347DAR-3 CL2347PR-3 CL2348BT-1	MODELS: CL2351WR-2 CL2353KR-1 CL2357PR-2 CL2358PR-1 CL2437P-2	MODELS: CL2423K-2
VHF Channel Selector	74-33585-5	74-33585-5	74-33585-5	74-35295-2	74-35295-2
UHF Channel Selector	74-33603-8	74-33603-8	74-33603-8	74-35297-2	74-35297-2
Fine Tuning	74-33587-12	74-33587-12	74-33587-12	74-35296-2	74-35296-2
On/Off/Volume	74-33159-31	74-33159-31		74-35298-2	74-35299-3
On/Off/Volume			74-33159-31		
On/Hi			74-33159-31		
Color, Brightness, Tint			74-33061-7	74-23384-8	74-23384-8
Control	74-33061-7	74-33061-7			
VHF Dial	74-33466-4	74-33466-4	74-33466-4	74-33466-4	74-33466-4
UHF Dial	74-33466-2	74-33466-2	74-33466-2		
KNOBS:				MODELS: CL2471W-2	MODELS: CL2473K-2 CL2487P-2
VHF Channel Selector				74-33585-5	74-33585-5
UHF Channel Selector				74-33603-8	74-33603-8
Fine Tuning				74-33587-12	74-33587-12
On/Off				74-33578-14	74-33578-14
On/Control				74-33061-7	74-33061-7
VHF Dial				74-33466-1	74-33466-4
UHF Dial				74-33466-2	74-33466-2

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.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA					
		MFGR. PART No.	ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C112	100 25V	41-32477-51	RME-G-6-100	EA30-100	WBR100-25	MTV1000B25	EV-1330
C120	250 25V	41-32477-52	RME-K-G-250	EA30-250	WBR250-25	MTV2500B25	EV-1345
C124	10 15V	41-23762-51 (5)	ME-1-E-010	EA15-10	WBR10-25	MTA10035	TVA-1145
C210	10 25V	41-23765-6	ME-2-G-010	EA30-10	WBR10-25	MTA10035	TVA-1204
C243	1 50V	41-32477-85	RME-A-A-001	EP50-2	WBR1-50	MTV1CB50	EV-1615
C300a	1000 40V	41-33941-1					
C300b	500 350V						
C304	1 35V	41-17619-9					
C308	25 25V	41-32477-48	RME-D-G-025	EP30-25	WBR25-25	TC0105M035EL	SD35-19
C342a	10 400V	41-27344-1	CTM-2674 (2)		CC0320A (2)	FP230.5	PCL-2649
C342b	50 100V						
C429	10 350V	41-96355-15	CTA-1370		WBR12-350	TC62A	TVA-1604
C509a	250 350V	41-35072-1	AFH2-41-92 (3)		WBR100-350 & WBR250-350(4)	TC68M025FL	SD25-6R89
C509b	100 350V						
C620	25 25V	41-23765-7	ME-3-G-025	EA30-25	WBR25-25	MTA25D35	TVA-1205
C621	10 25V	41-23765-6	ME-2-G-010	EA30-10	WBR10-25	MTA10035	TVA-1204
C800	6.8 15V	41-17245-4					

(2) Use PC Adapter Kit. (3) Indicates AEROVOX Part Supplied by ARCO. (4) Use "Wide Range" Kit.
(5) Used in -11 Chassis only.

CAPACITORS

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA					
			ARCO/ELMENDO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
C100	2.2 NPO		CCD-221	DTZ-2R2	NP02P2	CN0522	10TCC-V22	
C101	12 220			DTZ-2T2	GP222	GP322	10TCC-V22	
C102	10 15V	5%					10TCC-V22	
C104	.0015 125V	5%					10TCC-V22	
C106	.05 100V						10TCC-V22	
C108	.01 100V						10TCC-V22	
C110	.047 150V						10TCC-V22	
C114	.05 100V						10TCC-V22	
C115	.05 50V						10TCC-V22	
C116	.1 150V						10TCC-V22	
C117	12 150V						10TCC-V22	
C118	68 NPO						10TCC-V22	
C122	.01 600V						10TCC-V22	
C200	10 N150	5%					10TCC-V22	
C202	3.9 N150						10TCC-V22	
C206	4.7 N150						10TCC-V22	
C208	.001 600V						10TCC-V22	
C212	.01 600V						10TCC-V22	
C213	15 N150	5%					10TCC-V22	
C214	27 N150	5%					10TCC-V22	
C216	18 N150	5%					10TCC-V22	
C218	.001 600V						10TCC-V22	
C220	.001 600V						10TCC-V22	
C222	.001 600V						10TCC-V22	
C224	.0018 600V						10TCC-V22	
C226	4.7 N150						10TCC-V22	
C228	.001 600V						10TCC-V22	
C230	12 N150						10TCC-V22	
C231	100 NPO						10TCC-V22	
C232	145 N150						10TCC-V22	
C234	3.3 NPO						10TCC-V22	
C235	.0012 600V						10TCC-V22	
C236	.0012 600V						10TCC-V22	
C238	10 N150						10TCC-V22	
C240	100 NPO						10TCC-V22	
C241	.001 600V						10TCC-V22	
C242	.0012 600V						10TCC-V22	
C244	.001 600V						10TCC-V22	
C245	.01 600V						10TCC-V22	
C246	.01 600V						10TCC-V22	
C247	27 N150						10TCC-V22	
C250	470 NPO						10TCC-V22	
C252	22 NPO						10TCC-V22	
C301	.001 600V						10TCC-V22	
C302	.001 600V						10TCC-V22	
C305	.001 600V						10TCC-V22	
C310	.05 NPO						10TCC-V22	
C311	68 NPO						10TCC-V22	
C312	.0068 100V						10TCC-V22	
C314	.027 200V						10TCC-V22	
C316	.027 200V						10TCC-V22	
C317	.01 100V						10TCC-V22	
C318	.0068 100V						10TCC-V22	
C320	.22 600V						10TCC-V22	
C321	.01 1K						10TCC-V22	
C322	.033 600V						10TCC-V22	
C324	.1 600V						10TCC-V22	
C326	.082 400V						10TCC-V22	
C328	.001 600V						10TCC-V22	
C330	.018 600V						10TCC-V22	
C332	.0033 600V						10TCC-V22	
C334	.0033 600V						10TCC-V22	
C336	.047 600V						10TCC-V22	
C338	.018 600V						10TCC-V22	
C344	.15 200V						10TCC-V22	
C346	.15 200V						10TCC-V22	
C400	.22 200V						10TCC-V22	
C402	82 NPO						10TCC-V22	
C404	470 NPO						10TCC-V22	
C406	.047 100V						10TCC-V22	
C410	15 NPO						10TCC-V22	
C412	.0015 NPO						10TCC-V22	
C414	100 NPO						10TCC-V22	
C416	.47 100V						10TCC-V22	
C418	.1 400V						10TCC-V22	
C420	.01 400V						10TCC-V22	
C422	.070 500V	5%					10TCC-V22	
C424	.0033 125V						10TCC-V22	
C426	.0047 125V						10TCC-V22	
C428	680						10TCC-V22	
C430	.0033						10TCC-V22	
C431	470 N2200/3KV	5%	43-84222-32					
C432	.033 200V							
C434	.22 200V							
C436	200 2KV							
C438	.047 600V		43-84222-33					
C450	100 N1500/3KV	5%						
C452	560 N3300/2.5KV	10%						
C454	560 N3300/2.5KV/10%							
C498	.001							

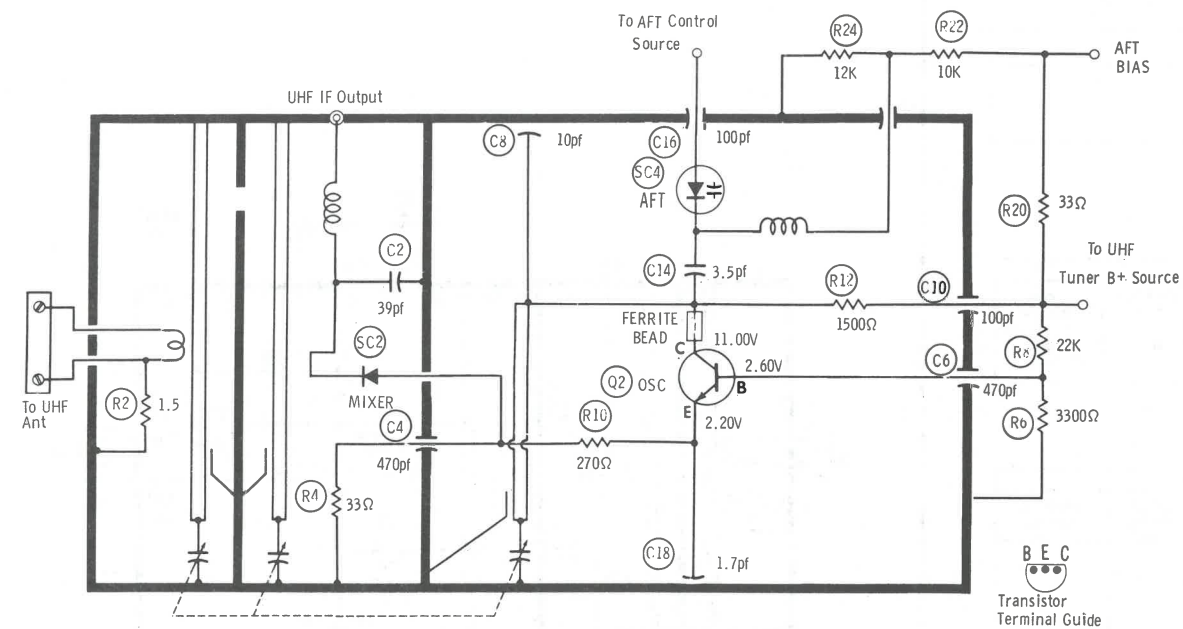
CAPACITORS (cont)

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA				
			ARCO/ELMENDO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C500	.1 600V		6DP-4-104	DD-702	DPMS6P1	PVC601	6PS-P10
C501	.001		CCD-102	DD-102	GP1000	GP210	10TS-D10
C502	.001		CCD-102	DD-102	GP1000	GP210	10TS-D10
C504	.001		CCD-102	DD-102	GP1000	GP210	10TS-D10
C506	.001		CCD-102	DD-102	GP1000	GP210	10TS-D10
C510	.047 150VAC		2DP-5-474	DTZ-100	DPMS2P47	PVC2047	2PS-P47
C511	.47 100V		CCD-101		NP0100	CN0310	10TCC-T10
C512	.1 100V						
C514	.01 1.4KV						
C516	.01 1.4KV						
C600	.8 N150						
C602	.22 100V						
C604	.01						
C606	.001						
C608	.01						
C610	120 NPO	10%					
C612	22 NPO	10%					
C614	150 500V	5%					
C616	.22 100V						
C618	.22 100V						
C619	.001						
C622	.0022						
C623	330						
C624	330						
C626	4.7 N150						
C628	.0018						
C630	56 NPO	10%					
C632	.01						
C634	330 500V	5%					
C636	330 500V	5%					
C639	.01						
C640	100 NPO						
C642	100 NPO						
C643	330 500V						
C644	.01						
C646	.01						
C648	.01						
C650	.01 1KV						
C654	.01 1KV						
C656	.001 2KV	(2)					
C658	.001 2KV	(2)					
C660	.001 2KV	(2)					
C661	33 N750						
C662	.05						
C663	68 N750						
C664	.0033						
C666	.0056 100V	5%					
C668	.001						
C670	.470	5%					
C671	.01						
C672	.047	5%					
C674	.0047						
C675	.1 50V						
C676	.001						
C678	.0047						
C680	2.2 NPO						
C682	470 500V	5%					
C683	150 N750						
C684	82 500V	5%					
C685	18 NPO						
C686	.001						
C688	270 500V	5%					
C690	.05						
C802	.12 200V	10%					
C804	.082 200V	10%					
C806	.15 200V	10%					
C808	.082 200V	10%					
C810	.056 400V	10%					
C812	.082 400V	10%					
C1098	.22 600V						
C1100	100	10%					
C1102	.001 10%						
C1104	.001 10%						
C1106	.001 10%						
C1108	.001 10%						
C1110	.001 10%						
C1112	.001 10%						
C1114	.001 10%						

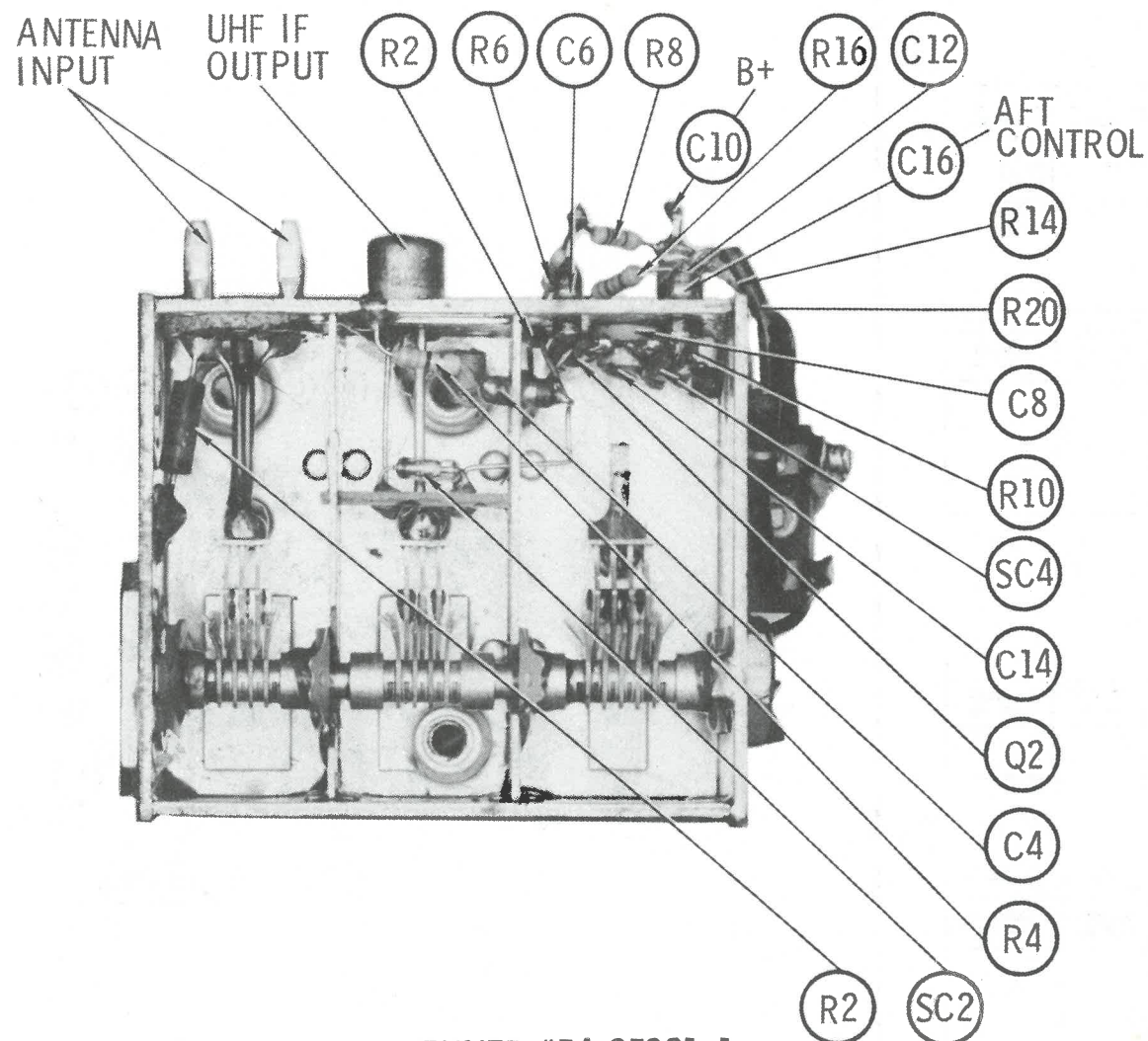
* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R101	Volume Set Up	4700	37-17349-6,F (4)	TT-10 or [P1-5000, SNK010]	B47-5000-S or [NP-5000-S, NML-A-300, TT-2] C-502	B11-114,TM4 or [BUI1,CF8,SS6A]*	PTA53L or [RU53L, SL37,SN281] or [UA53L,SN281]
	Volume Set Up	4700	37-14576-13(5)	TSV-5K or T-500		X201R502B	MTC53L1
R118	Volume/Switch (Motor Driven)	1000	37-35097-104				
	Volume/Switch	1000	37-33987-7 (6)				
	Volume/Switch	1000	37-33987-9 (7)				
	Volume (On/Hi)	1000	37-35107-14(8)				
	Volume (On/Hi) (Off/Low) Switch Type		33-35745-4				
R120	Tone	10K	37-27242-38	F1-10K, SNK104	A47-10K-S, RN-3, TT-2 or [NP-10K-S, NML-A-300, TT-2]	B11-116,TM4 or [BUI1,CF9,SS6A]*	RU14L,SL37,SN2000 or [UA14L,SN2000] or TA14L
	Tone	10K	37-27242-23 (10)	F1-10K, SNK108	A47-10K-S, RN-3, TT-2 or [NP-10K-S, NML-A-300, TT-2]	B11-116,TM4 or [BUI1,CF9,SS6A]*	RU14L,SL37,SN2000 or [UA14L,SN2000] or TA14L
	Tone	15K	37-27242-24(8)	F2-25K, SNK200	A47-15K-W,RN-3, TT-2 or [NP-25K-Z, NML-A-300, TT-2]	B17-119,SK1 or [BUI1,CF90,SS6A]*	UA153A,SN2000 or [RU24A,SL37,SN2000 or [P233A,SLF37, SF3000]
R256	Contrast	1000	37-27242-39	F5-1000, SNK104	NP-1000-V, NML-A-300, TT-2	B17-108,TM4 or [BUI1,CF37,SS6A]*	RU13R,SL37,SN2000 or [P13R,SLF37, SF3000]
	Contrast	1000	37-27242-34(8)				
	Contrast	1000	37-27242-35 (10)	F5-1000, SNK108	NP-1000-V, NML-A-300, TT-2	B17-108,TM4 or [BUI1,CF37,SS6A]*	RU13R,SL37,SN2000 or [UA13R,SNJ000]
R262	Brightness	25K	37-29783-18	F1-50K, SNK108	A47-50K-S, RN-3, TT-2 or [NP-50K-S, NML-A-300, TT-2]	Q11-123 or [BUI1,CF12,SS6A]*	RU54L,SL37,SN2000 or [UA54L,SN2000] or [P54L,SLF37, SF3000]
	Brightness	25K	37-29783-8 (8)				
	Brightness (Slider Type)	50K	37-33097-6(11)				MSD253L
	Brightness (Slider Type)		37-33097-8(10)				MSD54L
R270	Brightness Range	300K	"a"				
R278	Blue Drive	6000	"b"				
R280	R/G Drive	6000	"c"				
						H4(1) [A-E16,A1] [B-E6,A1] [C-E6,A1]	



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UHF TUNER #54-35321-1

PHOTOFACT® Folder

with CIRCUITRACE®

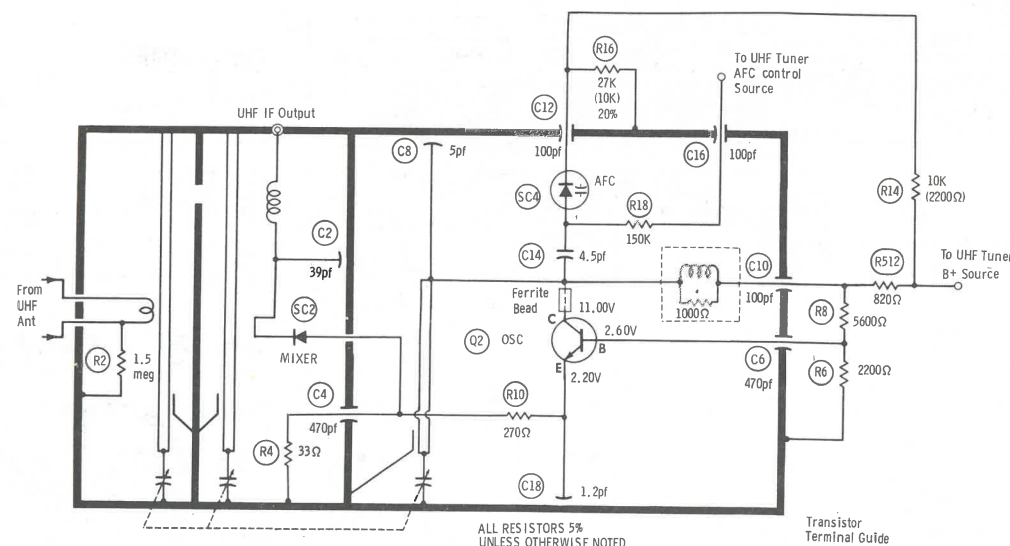
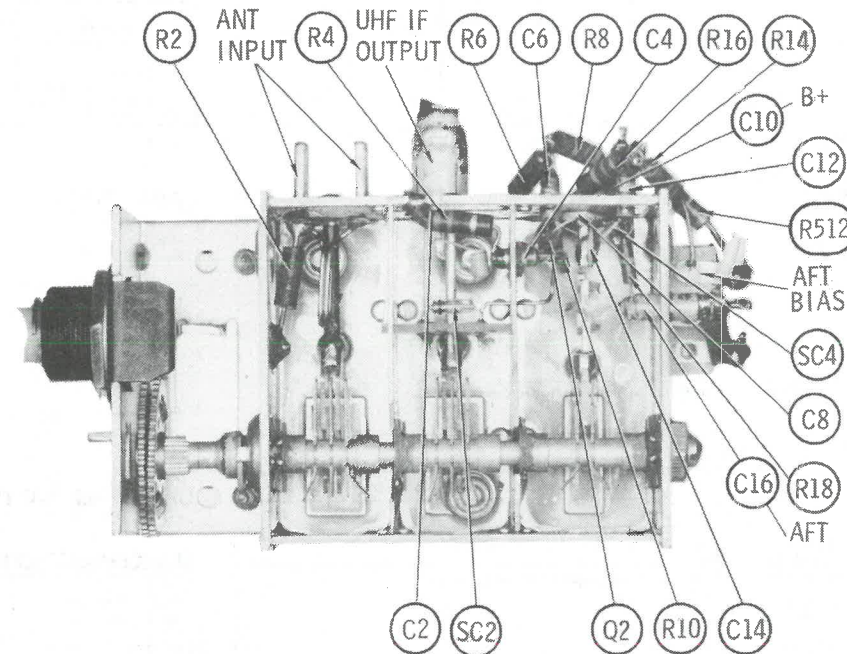
SYLVANIA TUNERS USED IN
CHASSIS D16-10/-11/-12/-15/-16/-17

IMPORTANT FILING NOTICE

This PHOTOFACT Folder covers equipment used with the TV chassis covered in PHOTOFACT SET 1325 FOLDER 2. File this Folder with the TV Folder in the yellow filing jacket provided.

SET 1325 FOLDER 2-A

SYLVANIA TUNERS USED IN
CHASSIS D16-10/-11/-12/-15/-16/-17



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UHF TUNER #54-27843-3

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

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DATE 6-73

SET 1325 FOLDER 2-A

SYLVANIA TUNERS USED IN
CHASSIS D16-10/-11/-12/-15/-16/-17

SET 1325 FOLDER 2-A

VHF TUNER PARTS LIST AND DESCRIPTION 54-29331-5
(When ordering parts, state Model, Part Number, and Description.)

SEMICONDUCTORS

ITEM No.	TYPE / MFG. No. / PART No.	REPLACEMENT DATA						
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
Q1	13-10321-32	GE-11	TR-22	PTC115	HEP56	SK3018	RT107	ECG 108
Q2	13-10321-31	GE-11	TR-22	PTC115	HEP56	SK3018	RT107	ECG 108
Q3	13-10321-29	GE-11	TR-22	PTC115	HEP56	SK3018	RT107	ECG 108
Q4	13-10321-30							ECG 108

CAPACITORS

ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA				
			ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	7.4pf						
C3	4.25pf						
C4	1pf						
C5	30	169-0111				CN0510	10TCC-V10
C6	2-8pf	42-96176-13					
C7	2-8pf	42-96176-13					
C8	3.6pf						
C9	10pf	N750 5% N750		DTN-10	N10	CN7410	10TCC-Q10
C10	4.7pf	N470					10TCT-V47
C11	1.5pf						10TCC-V15
C12	.001						
C13	.001	43-96130-45					
C14	.001	43-96130-45					
C15	.001	43-96130-48					
C16	.001	43-96130-47					
C17	10pf	43-96130-49					
C18	39	43-96130-48					
C19	.001	43-96130-45					
C20	.001	43-96130-45					
C21	.001	43-96130-45					
C22	18	43-96130-50					
C23	1-5-4pf	43-96176-12					
C24	220	43-96130-55					
C25	.001	43-96130-45					
C26	.001	43-96130-47					
C27	.001	43-96130-47					
C28	39						
C29	120						
C30	27						
C31	5.6pf						
C32	.75pf						
C33							

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

COILS (RF-IF)

ITEM No.	USE	MFG. PART No.	NOTES
L9	UHF IF Input	50-96187-26	

ITEM No.	USE	MFG. PART No.	NOTES
T2	IF Output	50-96187-20	

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M1	Antenna Filter Ass'y	54-46135-38	Includes Balun, Capacitors, and Coils
M2	Preset Fine Tuning Slide Assembly	54-13816-45	
M3	Fine Tuning Drive Gear	54-13816-11	
M4	Transfer Gear	54-13816-52	
M5	Coupling Gear	54-96188-61	
M6	Housing	54-13829-2	

VHF TUNER PARTS LIST AND DESCRIPTION 54-35054-1 / -2
(When ordering parts, state Model, Part Number, and Description.)

SEMICONDUCTORS

ITEM No.	TYPE / MFG. No. / PART No.	REPLACEMENT DATA						
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
Q1	13-10321-47	GE-11	IRTR-80	PTC115	HEP56	SK3018	RT107	ECG 108
Q2	13-10321-46	GE-11	IRTR-80	PTC115	HEP56	SK3018	RT107	ECG 108
Q3	13-10321-29	GE-11	IRTR-80	PTC115	HEP56	SK3018	RT107	ECG 108
SC1	13-10321-48							

CAPACITORS

ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA				
			ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	120		CCT0-121	DTZ-120			
C2	5.6						
C3	27		CCT0-270	DTZ-2R2	NP027	CN0427	10TCC-T12
C4	2.2				NP02P2	CN0522	10TCC-Q27
C5	39	5%				CN0439	10TCC-V22
C6	.001						10TCC-Q39
C7	2-8						
C8	2-8						
C9	1	10%					
C10	10	N220 5%					
C11	5.6	N220					
C12	4	10%					
C13	7.5	4%					
C14	30						
C15	.001						
C16	3.9	10%					
C17	.001						
C18	30						
C19	30						
C20	.001						
C21	10						
C22	39						
C23	.001						
C24	.5-3						
C25	220						
C26	.001						
C27	1.5						
C28	.002						
C29	18	5%					
C30	39						
C31	1						
C32							

COILS (RF-IF)

ITEM No.	USE	MFG. PART No.	NOTES
	Ant, RF, Mixer, Osc	54-14363-1	UHF Strip Channel 1 2 Channel 3 Channel 4 Channel 5 Channel 6 Channel 7 Channel 8
	Ant, RF, Mixer, Osc	54-14363-2	
	Ant, RF, Mixer, Osc	54-14363-3	
	Ant, RF, Mixer, Osc	54-14363-4	
	Ant, RF, Mixer, Osc	54-14363-5	
	Ant, RF, Mixer, Osc	54-14363-6	
	Ant, RF, Mixer, Osc	54-14363-7	
	Ant, RF, Mixer, Osc	54-14363-8	

ITEM No.	USE	MFG. PART No.	NOTES
T1	Ant, RF, Mixer, Osc	54-14363-9	Channel 9 Channel 10 Channel 11 Channel 12 Channel 13
	Ant, RF, Mixer, Osc	54-14363-10	
	Ant, RF, Mixer, Osc	54-14363-11	
	Ant, RF, Mixer, Osc	54-14363-12	
	Ant, RF, Mixer, Osc	54-14363-13	
	Antenna Input Assembly	54-96135-46	
T2	IF Output	54-96187-25	

VHF TUNER PARTS LIST AND DESCRIPTION
(When ordering parts, state Model, Part Number, and Description.)

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M201	Preset Fine Tuning Slide Assembly	54-13816-45	
M202	Fine Tuning Drive Gear	54-13816-11	
M203	Ring Clutch	54-13816-12	
M204	Spring Clutch	77-13813-21	

UHF TUNER PARTS LIST AND DESCRIPTION 54-35321-1
(When ordering parts, state Model, Part Number, and Description.)

SEMICONDUCTORS

ITEM No.	TYPE / MFG. No. / PART No.	REPLACEMENT DATA						
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
Q2	13-10321-41	GE-11	IRTR-83	PTC133	HEP720	SK3019	RT108	ECG 108
SC2	1N82AG/13-10321-42	1N82A	1N82AG	PTC217	HEP720	SK3089		ECG 112
SC4	(8) 13-10321-49							

(8) Varactor

CAPACITORS

ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA				
			ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	39	5%					
C4	470						
C6	470						
C8	10	N220					
C10	100						
C12	100						
C14	2.5	N330					
C16	100						
C18	1.7						

UHF TUNER PARTS LIST AND DESCRIPTION 54-29184-4
(When ordering parts, state Model, Part Number, and Description.)

SEMICONDUCTORS

ITEM No.	TYPE / MFG. No. / PART No.	REPLACEMENT DATA						
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
Q301	13-10321-21	GE-11	IRTR-83	PTC133	HEP720	SK3019	RT108	ECG 108
X301	1N82AG	1N82A	1N82AG	PTC217	HEP720	SK3089		ECG 112
X302	13-10321-24 (8)							

(8) Varactor.

CAPACITORS

ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA				
			ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	39						
C4	470						
C6	470						
C8	5.5	N220					
C10	100						
C12	100						
C14	4.5	NPO					
C16	100						
C18	1.2						

UHF TUNER PARTS LIST AND DESCRIPTION 54-27843-3
(When ordering parts, state Model, Part Number, and Description.)

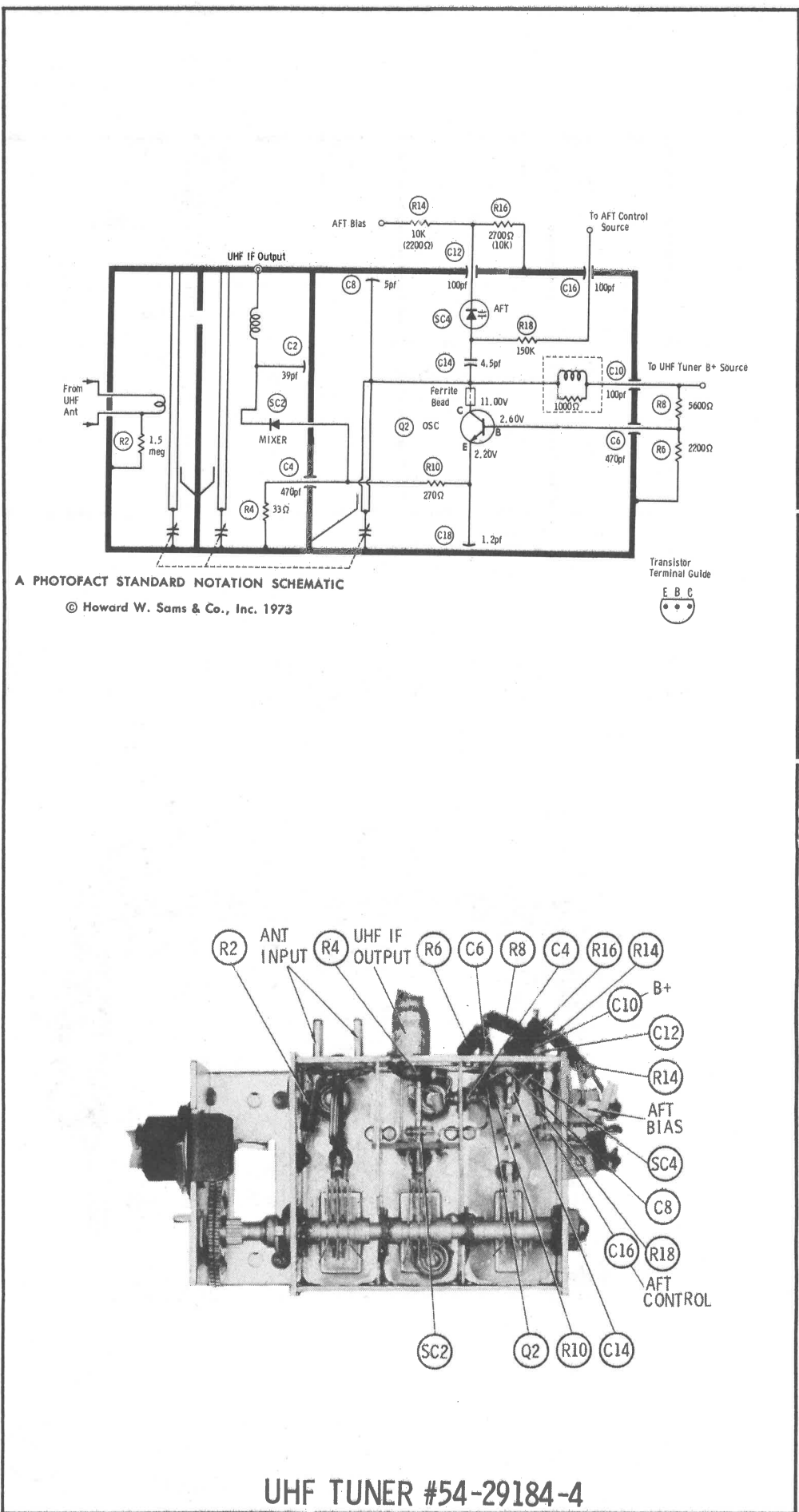
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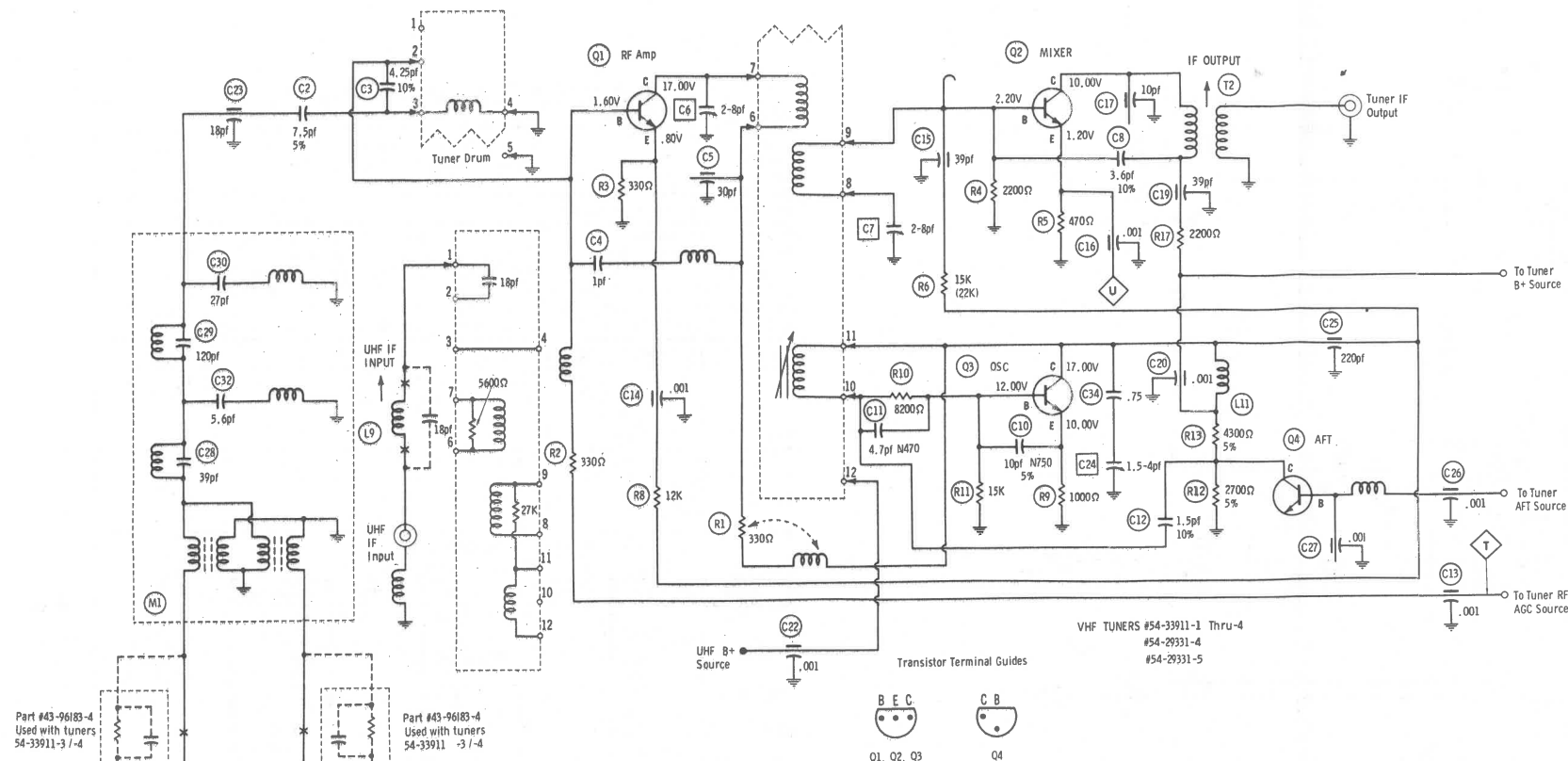
ITEM No.	TYPE / MFG. No. / PART No.	REPLACEMENT DATA						
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
Q2	13-10321-41	GE-11	IRTR-83	PTC133	HEP720	SK3019	RT108	ECG 108
SC2	1N82AG	1N82A	1N82AG	PTC217	HEP720	SK3089		ECG 112
SC4	13-10321-24 (8)							

(8) Varactor.

CAPACITORS

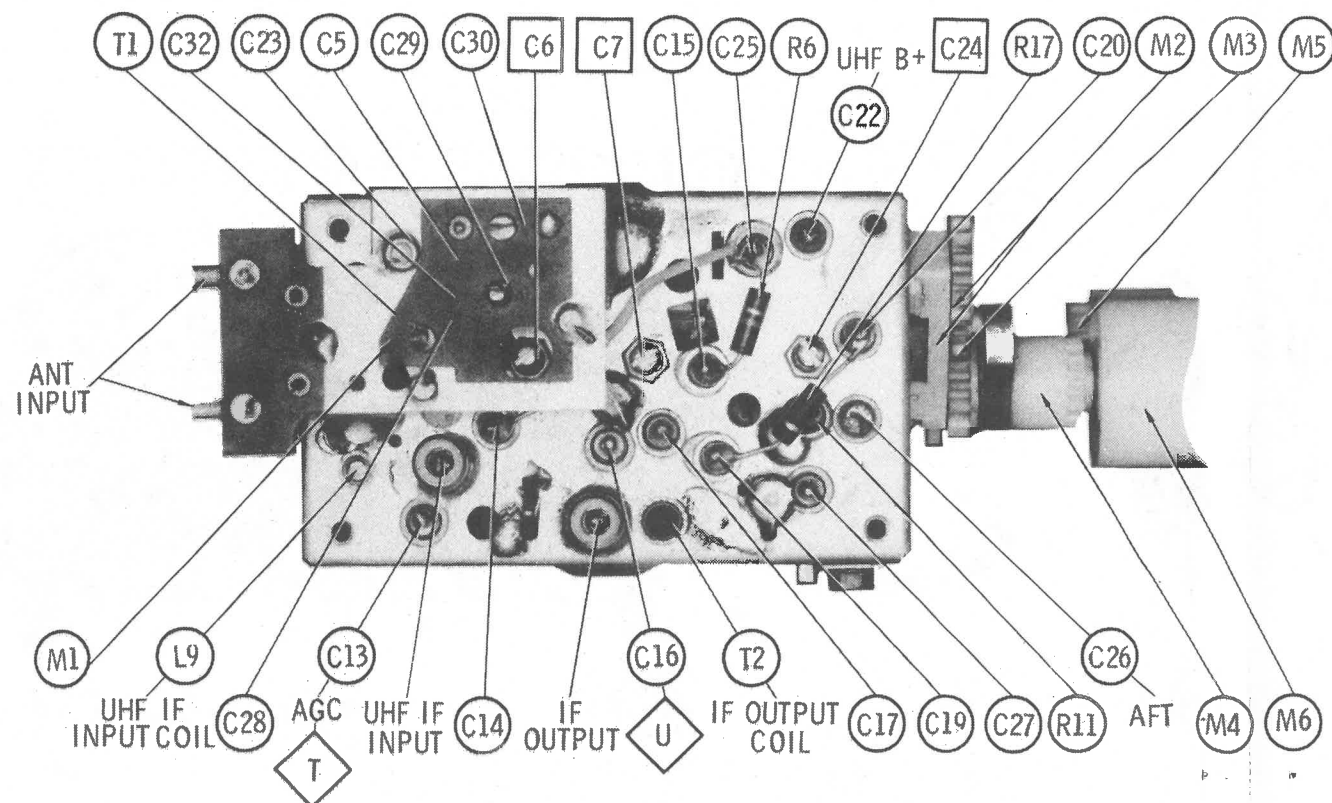
ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA				
			ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	39	5%					
C4	470						
C6	470						
C8	5	N330					
C10	100						
C12	100						
C14	4.5	NPO					
C16	100						
C18	1.2						





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VHF TUNER #54-29331-5

VHF TUNER ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

IF Output Coil GC ELECTRONICS: 9296, 9297, 9300
UHF IF Input Coil .. GC ELECTRONICS: 8728

OSCILLATOR ADJUSTMENTS

The oscillator slug for each channel is preset with the fine tuning control. Adjust the fine tuning for best picture and sound. If necessary, adjust C24. Recheck

RF AND MIXER ADJUSTMENTS

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

CHANNEL	CONNECT SCOPE	REMARKS
13	Vertical input to Point ∇ , low side to ground.	Adjust C6, C7, and expand or compress appropriate coils for maximum gain and symmetry of response similar to Fig. 201 with markers as shown.
12 thru 2	Vertical input to Point ∇ , low side to ground.	Check all channels and make compromise adjustments by expanding or compressing appropriate coils if necessary. Adjust C6 and C7.

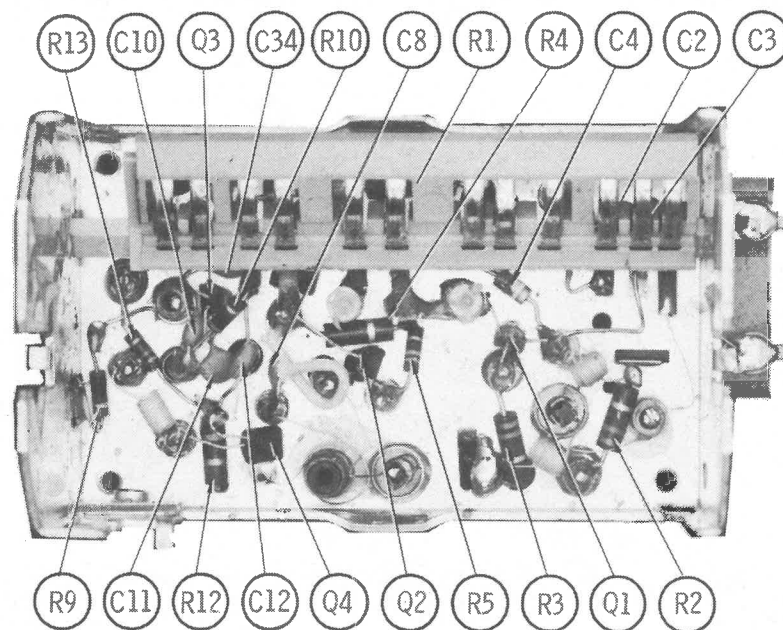
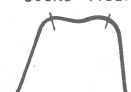
GENERATOR FREQUENCY

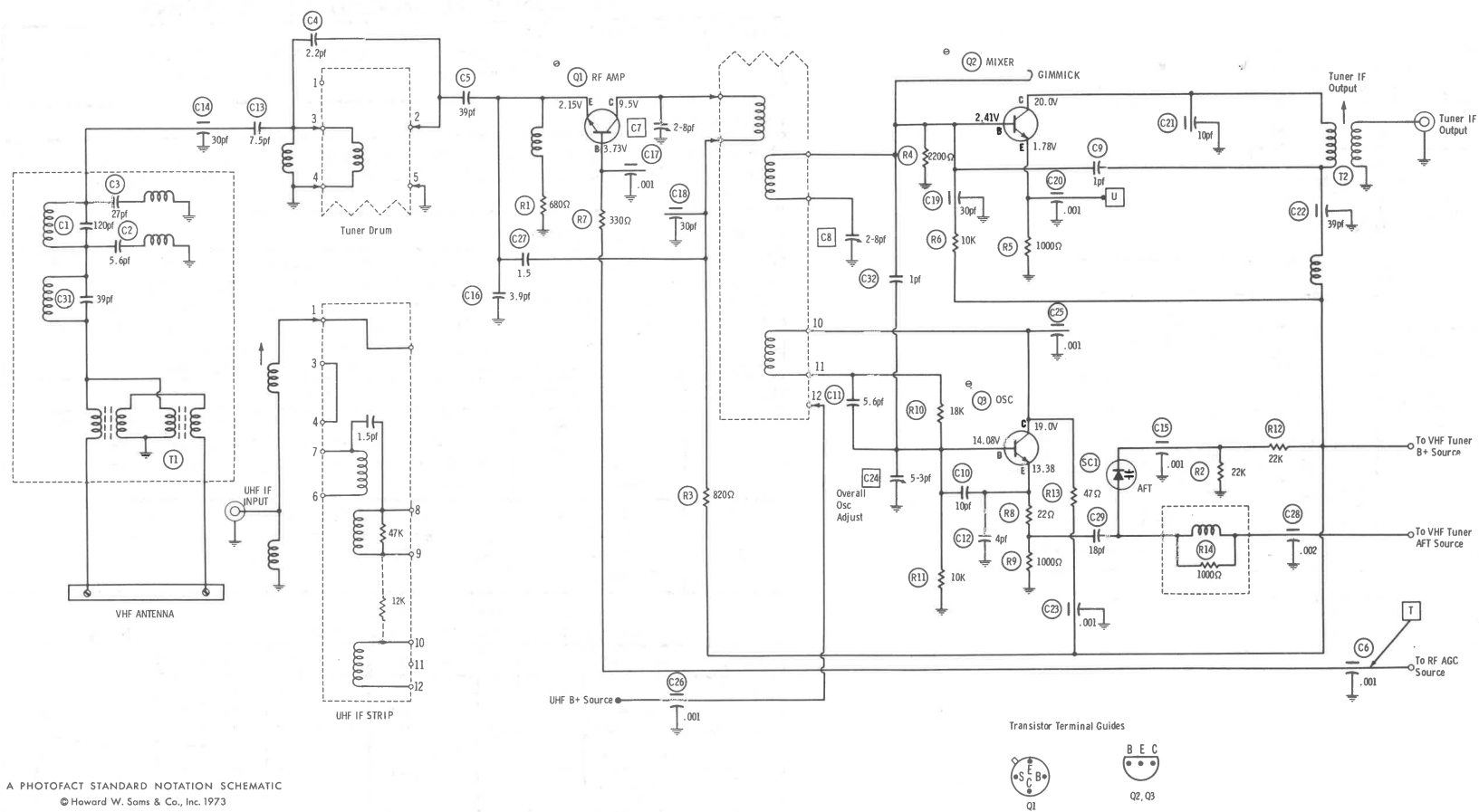
Numbers in () indicate channel number

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

FIG. 201

SOUND VIDEO





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VHF TUNER ALIGNMENT INSTRUCTIONS

OSCILLATOR ADJUSTMENTS

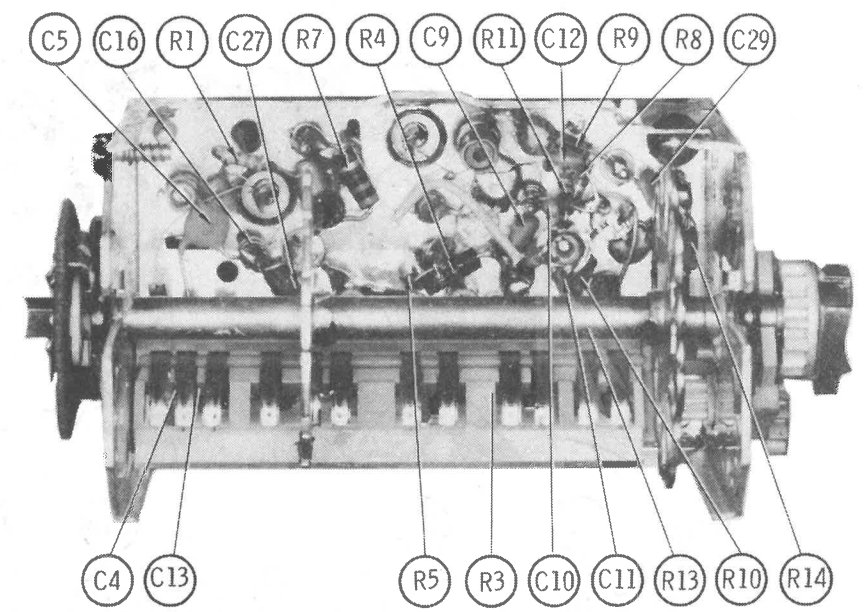
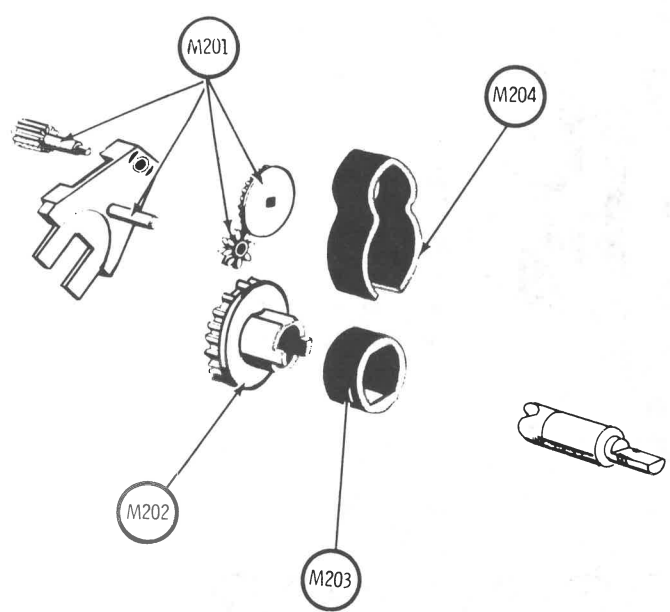
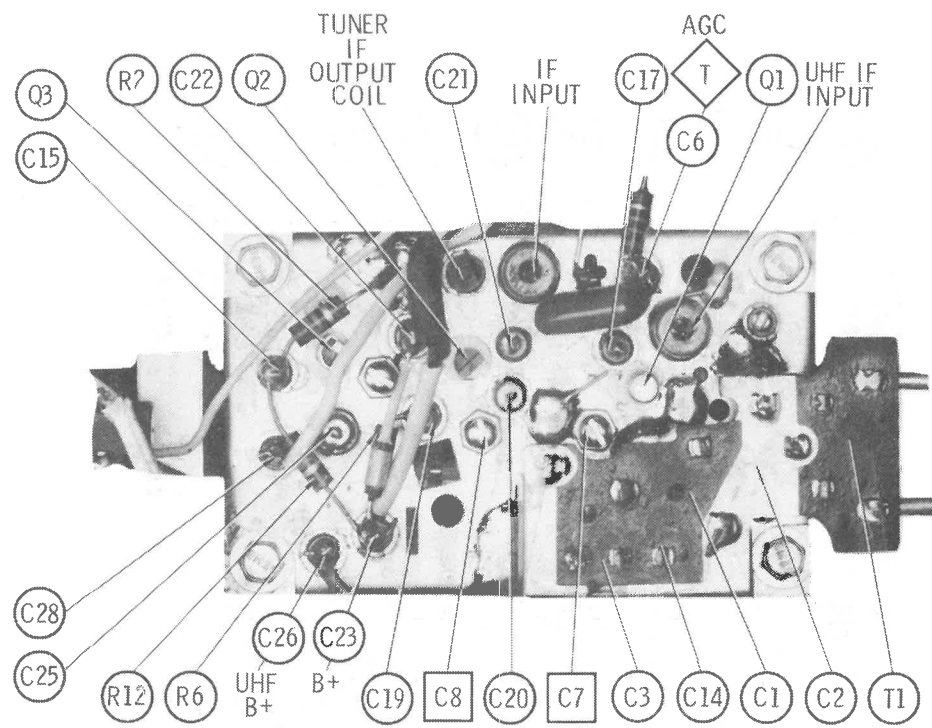
The oscillator slug for each channel is preset with the fine tuning control. Switch AFT off. Adjust the fine tuning for best picture and sound. If necessary, adjust the overall oscillator adjustment. Recheck.

RF AND MIXER ADJUSTMENTS

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

CHANNEL	CONNECT SCOPE	REMARKS
13	Vertical input to Point U, low side to ground.	Adjust C7 and C8 for maximum gain and frequency of response similar to Fig. 201 with markers as shown.
12 thru 2	Vertical input to Point U, low side to ground.	Check response on all channels. Make compromise adjustments of C7 and C8.

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



VHF TUNER #54-35054-1/-2

DESCRIPTION
(and Description.)

ATA	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
SK3018	RT107	ECG 108	
SK3018	RT107	ECG 108	
SK3018	RT107	ECG 108	
SK3018	RT107	ECG 108	
SK3018	RT107	ECG 108	
SK3018	RT107	ECG 108	
SK3018	RT107	ECG 108	
SK3016 or	RT214 or	ECG 116 or	
SK3031	RT215	ECG 117	
SK3030 or	RT213 or	ECG 116 or	
SK3031	RT214	ECG 117	

TA	MALLORY PART No.	SPRAGUE PART No.
10-25	MTA10D35	TVA-1145
10-25	MTA10D35	TVA-1145
10-25	MTA10D35	TVA-1145
10-25	MTA10D35	TVA-1145
100-25	MTA100F33	TVA-1207
100-25	MTA100F35	TVA-1207

REPLACEMENT DATA	MALLORY PART No.	SPRAGUE PART No.
GP4700	TA010	TG-P10
GP4700	JF247	10TS-D47
TA010	JF247	10TS-D47
CD19FD681J03	TG-P10	424ME6800J501
GP4700	SX368	10TS-D47
	JF247	TG-P10
	TA010	10TS-S10
GP10000	JF110	10TS-S10
GP4700	JF247	10TS-D47
	TA010	TG-P10
CD19FD681J03	SX368	424ME6800J501
N47	CN7447	10TCU-Q47
GP1000	GP210	10TS-D10
DPMS4P47	EW4047	4PB-P47
CD19FD681J03	SX368	424ME6800J501
GP680	GP368	10TS-T68
DPMS2P33	EW41A033	1PB-P33
GP10000	JF110	10TS-S10
GP10000	JF110	10TS-S10
GP10000	JF110	10TS-S10
GP10000	JF110	10TS-S10

REPLACEMENT DATA	MILLER PART No.	WORKMAN PART No.

NOTES
(1) Part No. 55-33951-1 may be used in Chassis D16-16.

NOTES
n-Off)

TRANSMITTER PARTS LIST AND DESCRIPTION
(When ordering parts, state Model, Part Number, and Description.)

SEMICONDUCTORS

ITEM No.	TYPE / MFR. No. / PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
Q1000	13-23785-1 (1)	GE-2	TR-05	PTC109	HEP254	SK3024	RT121	ECG 102A
SC1000	13-17174-3	GE-300	D200	PTC214	HEPRO600	SK3100	RT218	ECG 177
SC1002	13-17174-3	GE-300	D200	PTC214	HEPRO600	SK3100	RT218	ECG 177

(1) Used in early production; #13-35792-1 used in later production.

CAPACITORS

ITEM No.	RATING	REMARKS	ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1004	180 5%		DM-19-181J	CPR-180J	CD15FD181J03	SX318	424MC1600J501
C1008	43 5%	42-23787-1	DM-15-430J	CPR-43J	CD15ED430J03	SX444	
C1010	6-40						
C1018	120 5%	42-23787-1	DM-15-121J	CPR-120J	CD15FD121J03	SX312	424MC1200J501
C1020	6-40						
C1022	68 5%	42-23787-1		DTZ-68		CN0468	10TCC-Q68
C1024	6-40						
C1028	.1	40-10285-18	4DP-3-104		DPMS4P1	EW4010	4PS-P10
C1034	140 5%						
C1036	220 5%		DM-19-221J	CPR-220J	CD15FD221J03	SX322	424ME2200J501
C1038	.001		CCD-102	DD-102	GP1000	GP210	10TS-D10

COILS (RF-IF)

ITEM No.	USE	PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
T1000	Transmitter Oscillator	50-33196-1			

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
PB1002	Switch	33-23786-1	Volume Up - Volume Down
PB1004	Switch	33-23786-1	VHF-UHF
TRD1000	Transducer	12-23784-3	
	Panel Assembly	02-33030-6	

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

ITEM	PART No.	ITEM	PART No.
Case, Top	74-23731-10	Case, Bottom	74-23740-3

BATTERIES

ITEM No.	VOLTAGE	MFR. PART No.	EVEREADY PART No.	NOTES
M1000	1.5V		1015 or E91 or E9	Type "AA"

SET 132 5 FOLDER 2-B

SYLVANIA REMOTE CONTROL RECEIVER, TRANSMITTER RC14

PHOTOFACT® Folder

with CIRCUITRACE™

SYLVANIA REMOTE CONTROL RECEIVER, TRANSMITTER RC14

IMPORTANT FILING NOTICE

This PHOTOFACT Folder covers equipment used with the TV chassis covered in PHOTOFACT SET 1325 FOLDER 2. File this Folder with the TV Folder in the yellow filing jacket provided.

REMOTE CONTROL RECEIVER ALIGNMENT

This alignment should be done using a known good transmitter. During alignment transmitter should be held six feet from receiver transducer and then held at approximately 30 feet from transducer for final coil touchup of each coil. If accurate generator is used, use MINIMUM usable signal strength and couple through .001mfd to base of Q1002. Sugg'd Alignment Tools: L1002, L1006, L1010, L1012, T1004--GC ELECTRONICS 8606, 8606L, 8869.

GENERATOR COUPLING	GENERATOR FREQUENCY	CONNECT VTVM	ADJUST	REMARKS
		DC probe to Cathode of:	Negative Lead to:	
VHF	40.25KC	SC1014	Collector of Q1026	T1004 Adjust for maximum.
Volume Down	35.75KC	"	Collector of Q1018	L1002 "
Volume Up	37.25KC	"	Collector of Q1024	L1010 "
VHF	40.25KC	"	Collector of Q1026	L1012 "
UHF	41.75KC	"	Collector of Q1021	L1006 "

REMOTE CONTROL TRANSMITTER ALIGNMENT

Use fresh battery which can maintain proper voltage under load. Transmitter is factory aligned and does not normally need adjustment. To properly adjust, you must have a properly aligned receiver or an accurate generator. To align with a generator, zero beat method can be used, using proper coupling technique. Below is described the known good receiver method. The remote receiver on/off switch must be in "On" position. If zero beat method is used, use frequency given on transmitter schematic. Receiver operates on second harmonic. Suggested Alignment Tools: GC ELECTRONICS T1000 8606, 8606L, 8869 C1010, C1020, C1024 5009, 5004, 9293

CONNECT VTVM (ON RECEIVER)	TRANSMITTER BUTTON	ADJUST	REMARKS
DC probe to Cathode of:	Negative Lead to:		
SC1014	Collector of Q1018	Volume Down	T1000 Adjust for maximum while holding transmitter to 60 30 feet from receiver transducer.
"	Collector of Q1018	Volume Up	C1020 "
"	Collector of Q1026	VHF	C1024 "
"	Collector of Q1010	UHF	C1010 "

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



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

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DATE 6-73

SET 1325 FOLDER 2-B

SYLVANIA REMOTE CONTROL RECEIVER, TRANSMITTER RC14

SET 1325 FOLDER 2-B

RECEIVER PARTS LIST AND DESCRIPTION
(When ordering parts, state Model, Part Number, and Description.)

SEMICONDUCTORS

ITEM No.	TYPE / MFG. No. / PART No.	REPLACEMENT DATA						
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
Q1002	13-18365-1	GE-20	TR-21	PTC115	HEP720	SK3018	RT107	ECG 108
Q1004	13-18365-1	GE-20	TR-21	PTC115	HEP720	SK3018	RT107	ECG 108
Q1006	13-29033-3	GE-20	TR-21	PTC115	HEP720	SK3018	RT107	ECG 108
Q1008	13-29033-3	GE-20	TR-21	PTC115	HEP720	SK3018	RT107	ECG 108
Q1018	13-29033-3	GE-20	TR-21	PTC115	HEP720	SK3018	RT107	ECG 108
Q1021	13-29033-3	GE-20	TR-21	PTC115	HEP720	SK3018	RT107	ECG 108
Q1024	13-29033-3	GE-20	TR-21	PTC115	HEP720	SK3018	RT107	ECG 108
Q1026	13-29033-3	GE-20	TR-21	PTC115	HEP720	SK3018	RT107	ECG 108
SC1012	13-17174-1	GE-504A	804 or 5A4D	PTC201 or PTC202	HEPR0053	SK3016 or SK3031	RT214 or RT215	ECG 116 or ECG 117
SC1014	13-17596-2	GE-504A	804 or 5A4D	PTC201 or PTC202	HEPR0052	SK3030 or SK3031	RT213 or RT214	ECG 116 or ECG 117

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA					
		MFG. PART No.	ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1056	10 15V	41-23762-51	ME-1-E-010	EA15-10	WBR10-25	MTA10D35	TVA-1145
C1070	10 15V	41-23762-51	ME-1-E-010	EA15-10	WBR10-25	MTA10D35	TVA-1145
C1082	10 15V	41-23762-51	ME-1-E-010	EA15-10	WBR10-25	MTA10D35	TVA-1145
C1084	10 15V	41-23762-51	ME-1-E-010	EA15-10	WBR10-25	MTA10D35	TVA-1145
C1096a	100 25V	41-23770-1	ME-7-G-100	EA30-100	WBR100-25	MTA100F33	TVA-1207
C1096b	100 25V		ME-7-G-100	EA30-100	WBR100-25	MTA100F35	TVA-1207

CAPACITORS

ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA				
			ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1040	.1		CCD-472	CK-104	GP4700	TA010	TG-P10
C1042	.0047		CCD-472	DD-472G	JF247	JF247	10TS-D47
C1046	.0047 10%		CK-104	DD-472G	GP4700	JF247	10TS-D47
C1048	.1		DM-20-681J	CPR-680J	CD19FD681J03	TA010	TG-P10
C1050	680 10%		CCD-472	DD-472G	GP4700	JF247	10TS-D47
C1052	.0047			CK-104	GP10000	TA010	TG-P10
C1054	.1		CCD-103	DD-103	JF110	JF110	10TS-S10
C1058	.01		CCD-472	DD-472G	GP4700	JF247	10TS-D47
C1060	.0047			CK-104	CD19FD681J03	TA010	TG-P10
C1068	.1		DM-20-681J	CPR-680J	CD19FD681J03	N47	424ME6800J501
C1064	680 10%		CCTN-470	DTN-47	GP1000	GP210	10TS-D10
C1065	47 N750		CCD-102	DD-102			
C1066	.001						
C1068	.2		4DP-5-474		DPMS4P47	EW4047	4PB-P47
C1079	.47 400V		DM-20-681J	CPR-680J	CD19FD681J03	GP368	424ME6800J501
C1080	680 10%		CCD-681	DD-681	GP680	GP368	10TS-T68
C1083	680		1DP-4-334		DPMS2P33	EW1A033	1PB-P33
C1087	.33 75V		CCD-103	DD-103	GP10000	JF110	10TS-S10
C1092	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C1094	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C1095	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C1099	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1002	Detector-Volume Down	50-23774-7			
L1006	Detector-UHF	50-23774-3			
L1010	Detector-Volume Up	50-23774-6			
L1012	Detector-VHF	50-23774-4			
T1004	Driver	50-23773-1			

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	PRI.	SEC. 1	MFG. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1002	120VAC @ 29maAC	200VAC @ .2maDC Tap @ 15VAC @ 4.2maDC	55-23778-2 (1)				(1) Part No. 55-33951-1 may be used in Chassis D16-16.

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
RY1006	Relay	31-23769-3	Volume Down
RY1008	Relay	31-23769-3	UHF
RY1010	Relay	31-23769-3	Volume Up
RY1012	Relay	31-23769-3	VHF
SW1002	Switch	33-26638-13	Remote Receiver (On-Off)
TRD1002	Transducer Panel Assembly	02-29385-4	

TRANSMITTER PARTS LIST AND DESCRIPTION
(When ordering parts, state Model, Part Number, and Description.)

SEMICONDUCTORS

ITEM No.	TYPE / MFG. No. / PART No.	REPLACEMENT DATA						
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
Q1000	13-23785-1 (1)	GE-2	TR-05	PTC109	HEP254	SK3024	RT121	ECG 102A
SC1000	13-17174-3	GE-300	D200	PTC214	HEPRO600	SK3100	RT218	ECG 177
SC1002	13-17174-3	GE-300	D200	PTC214	HEPRO600	SK3100	RT218	ECG 177

(1) Used in early production; #13-35792-1 used in later production.

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				
			ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1004	180 5%		DM-19-181J	CPR-180J	CD15FD181J03	SX318	424MC1600J501
C1008	43 5%		DM-15-430J	CPR-43J	CD15ED430J03	SX444	
C1010	6-40	42-23787-1					
C1018	120 5%		DM-15-121J	CPR-120J	CD15FD121J03	SX312	424MC1200J501
C1020	6-40	42-23787-1					
C1022	68 5%			DTZ-68		CN0468	10TCC-Q68
C1024	6-40	42-23787-1					
C1028	.1		4DP-3-104		DPMS4P1	EW4010	4PS-P10
C1034	140 5%	40-10285-18					
C1036	220 5%		DM-19-221J	CPR-220J	CD15FD221J03	SX322	424ME2200J501
C1038	.001		CCD-102	DD-102	GP1000	GP210	10TS-D10

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
T1000	Transmitter Oscillator	50-33196-1			

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
PB1002	Switch	33-23786-1	Volume Up - Volume Down
PB1004	Switch	33-23786-1	VHF-UHF
TRD1000	Transducer Panel Assembly	12-23784-3	
		02-33030-6	

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

ITEM	PART No.	ITEM	PART No.
Case, Top	74-23731-10	Case, Bottom	74-23740-3

BATTERIES

ITEM No.	VOLTAGE	MFG. PART No.	EVEREADY PART No.	NOTES
M1000	1.5V		1015 or E91 or E9	Type "AA"

SET 132 5 FOLDER 2-B

SYLVANIA REMOTE CONTROL RECEIVER, TRANSMITTER RC14

PHOTOFACT® Folder

with CIRCUITRAC

IMPORTANT

This PHOTOFACT Folder covers the TV chassis covered in PHOTOFACT File this Folder with the TV Folder provided.

REMOTE CONTROL

This alignment should be done using a known transmitter should be held six feet from receiver 30 feet from transducer for final coil tuning used, use MINIMUM usable signal strength as Sugg'd Alignment Tools: L1002,L1006,L1010,L1012

GENERATOR COUPLING	GENERATOR FREQUENCY	
VHF	40.25KC	DC probe Cathode SC1014
Volume Down	35.75KC	"
Volume Up	37.25KC	"
VHF	40.25KC	"
UHF	41.75KC	"

REMOTE CONTROL TR

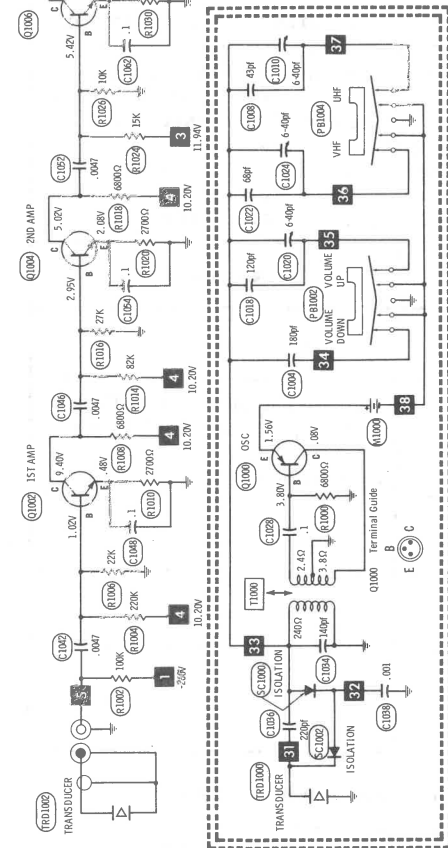
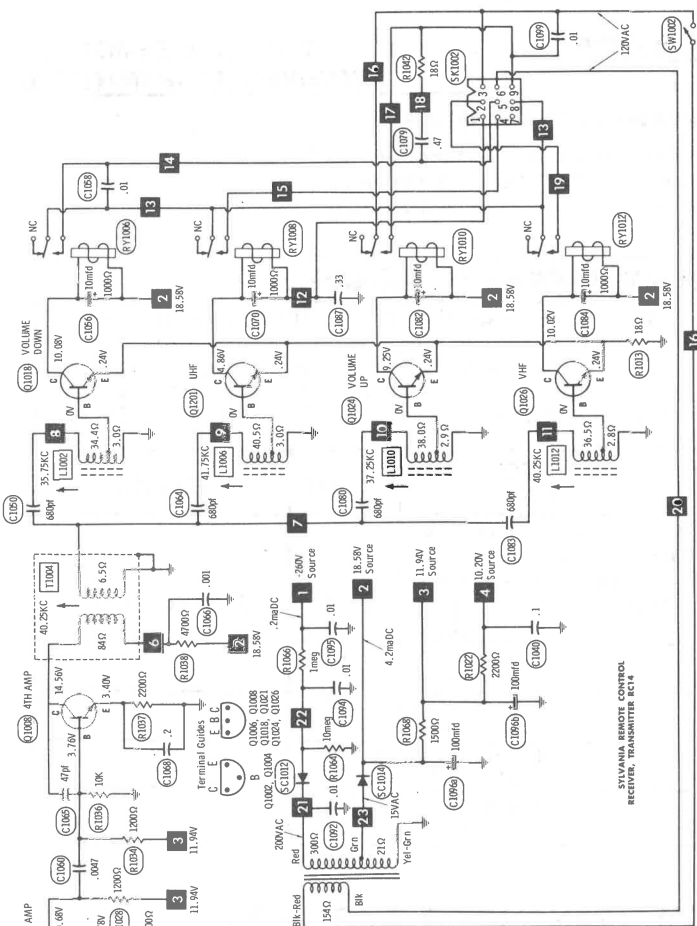
Use fresh battery which can maintain proper alignment and does not normally need adjustment properly aligned receiver or an accurate good beat method can be used, using proper coupling good receiver method. The remote receiver If zero beat method is used, use frequency Receiver operates on second harmonic. Suggest T1000 C1010

CONNECT VTVM (ON RECEIVER)		TRANSMITTER BUTTON
DC probe to Cathode of:	Negative Lead to:	
SC1014	Collector of Q1018	Volume Down
"	Collector of Q1018	Volume Up
"	Collector of Q1026	VHF
"	Collector of Q1010	UHF

HOWARD W. SAMS & CO.,

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.





RESISTANCE MEASUREMENTS

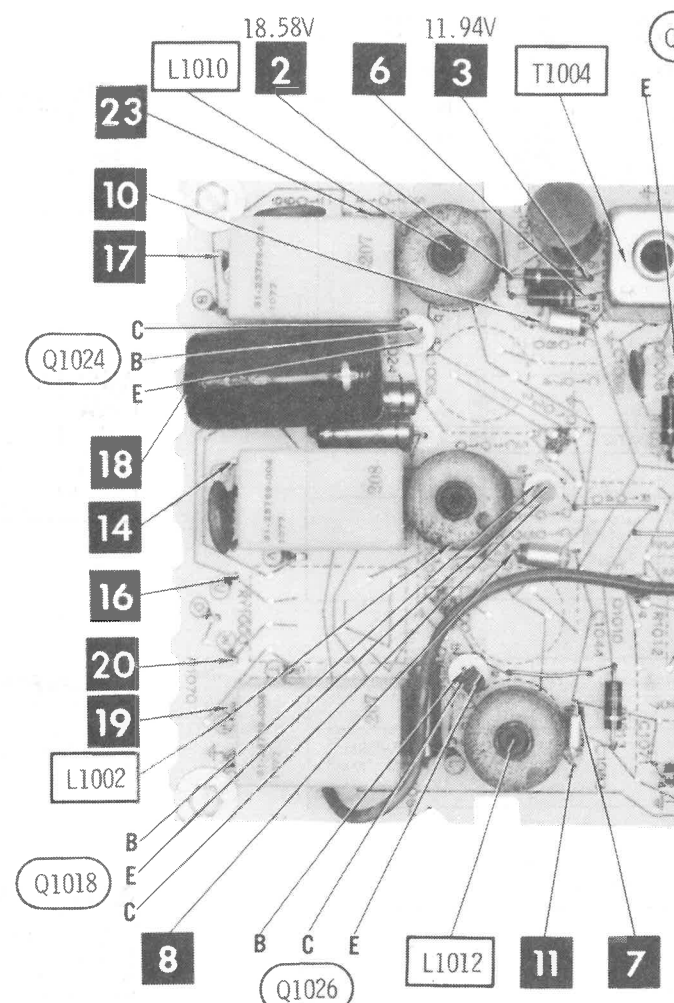
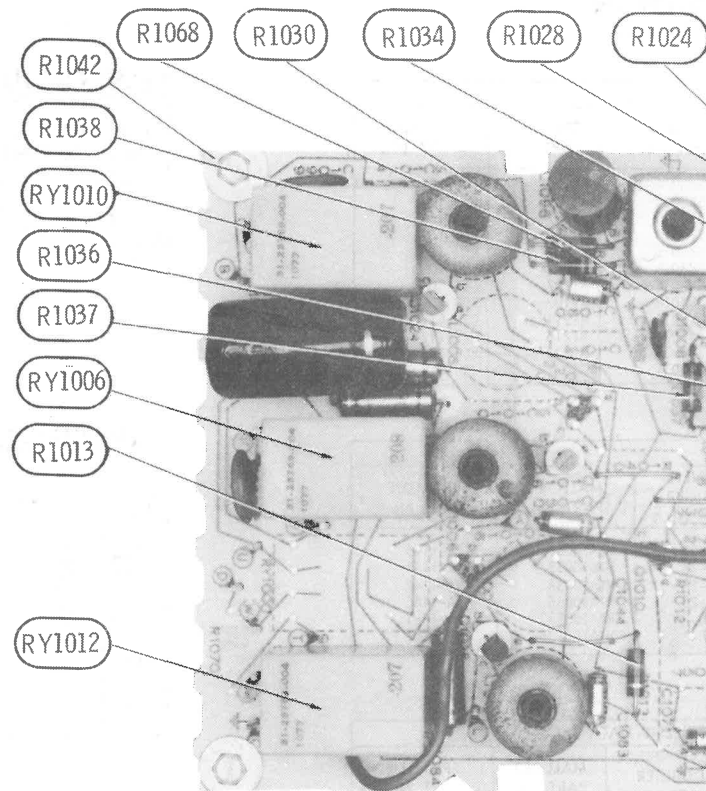
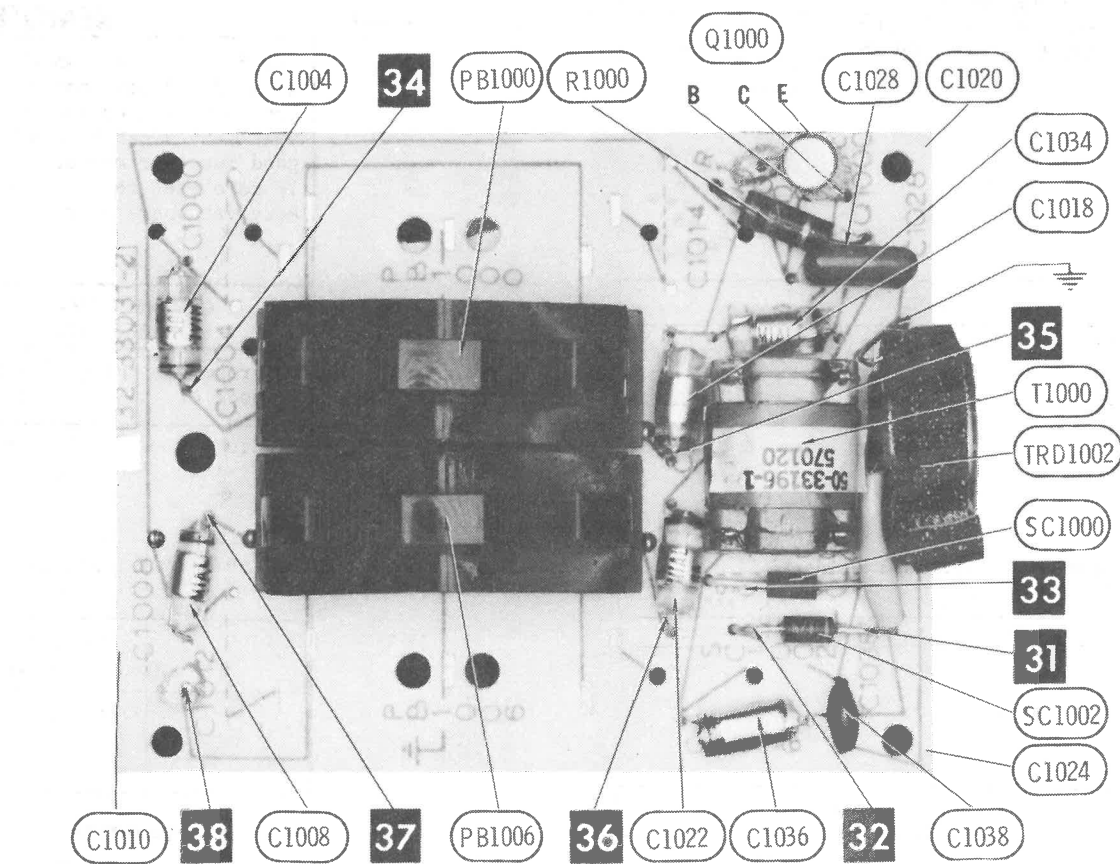
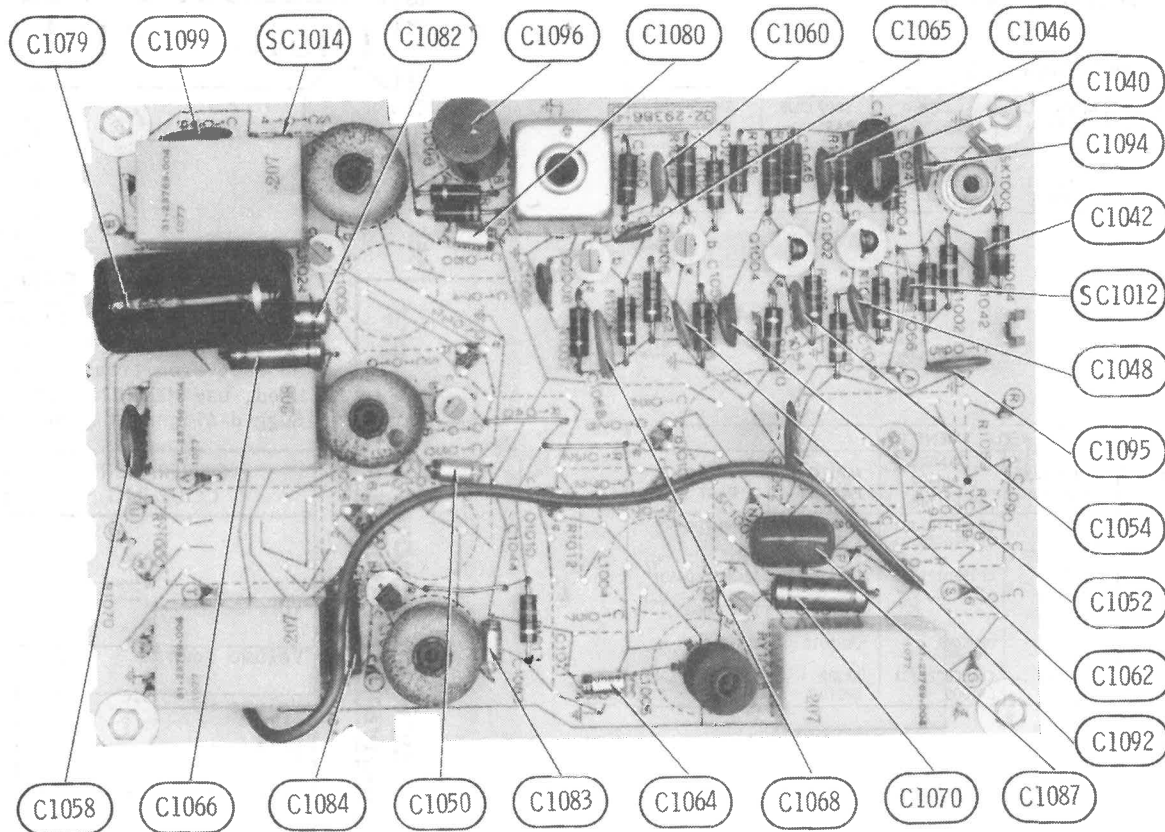
MEASUREMENTS BELOW TAKEN WITH METER HAVING .05V MAX BETWEEN PROBE TIPS

ITEM	E	B	C	ITEM	E	B	C
Q1001	3900Ω	6800Ω	3.8Ω	Q1013	18Ω	3.0Ω	18Ω
Q1002	2700Ω	10K	20K	Q1014	18Ω	3.0Ω	18Ω
Q1003	2700Ω	21K	20K	Q1015	18Ω	3.0Ω	18Ω
Q1004	2700Ω	21K	20K	Q1016	18Ω	3.0Ω	18Ω
Q1005	2700Ω	21K	20K	Q1017	18Ω	3.0Ω	18Ω
Q1006	2700Ω	21K	20K	Q1018	18Ω	3.0Ω	18Ω
Q1007	2700Ω	21K	20K	Q1019	18Ω	3.0Ω	18Ω
Q1008	2700Ω	21K	20K	Q1020	18Ω	3.0Ω	18Ω
Q1009	2700Ω	21K	20K	Q1021	18Ω	3.0Ω	18Ω

Denotes ground. Voltage reference unless otherwise indicated.
 --- indicates connection used in some versions.
 * See parts list.
 † THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
 ‡ MEASURED TO PIN 1 OF SOCKET STATE.

A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCULATED

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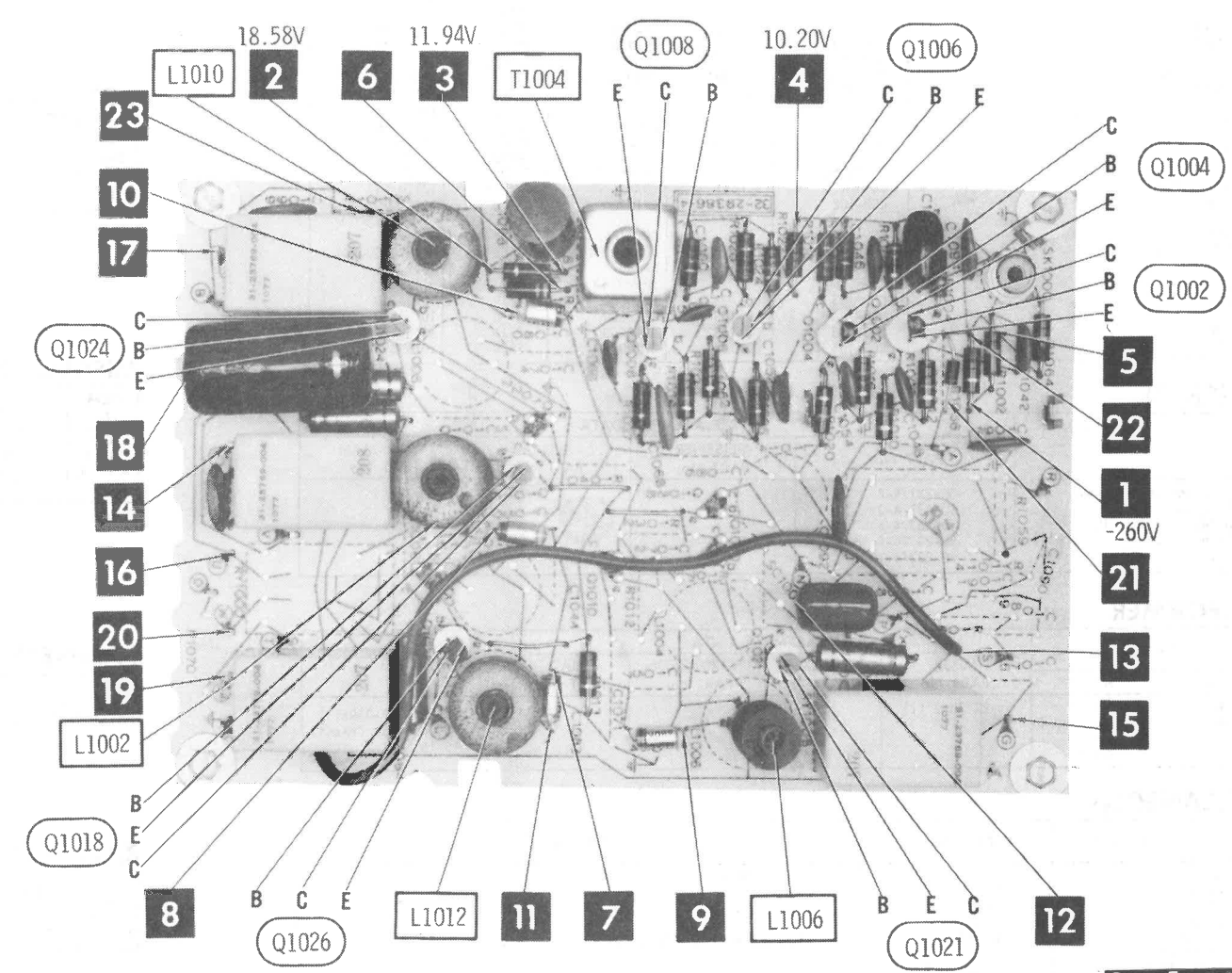
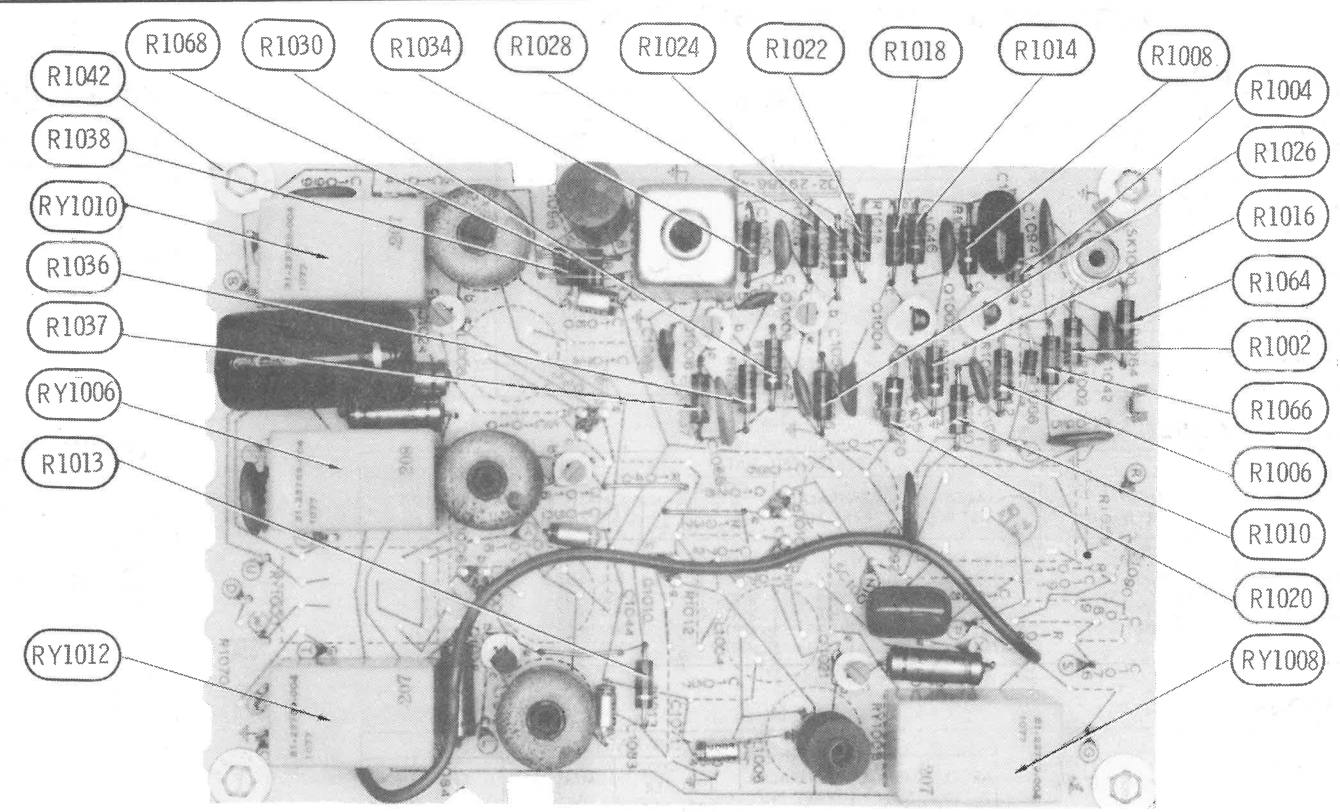
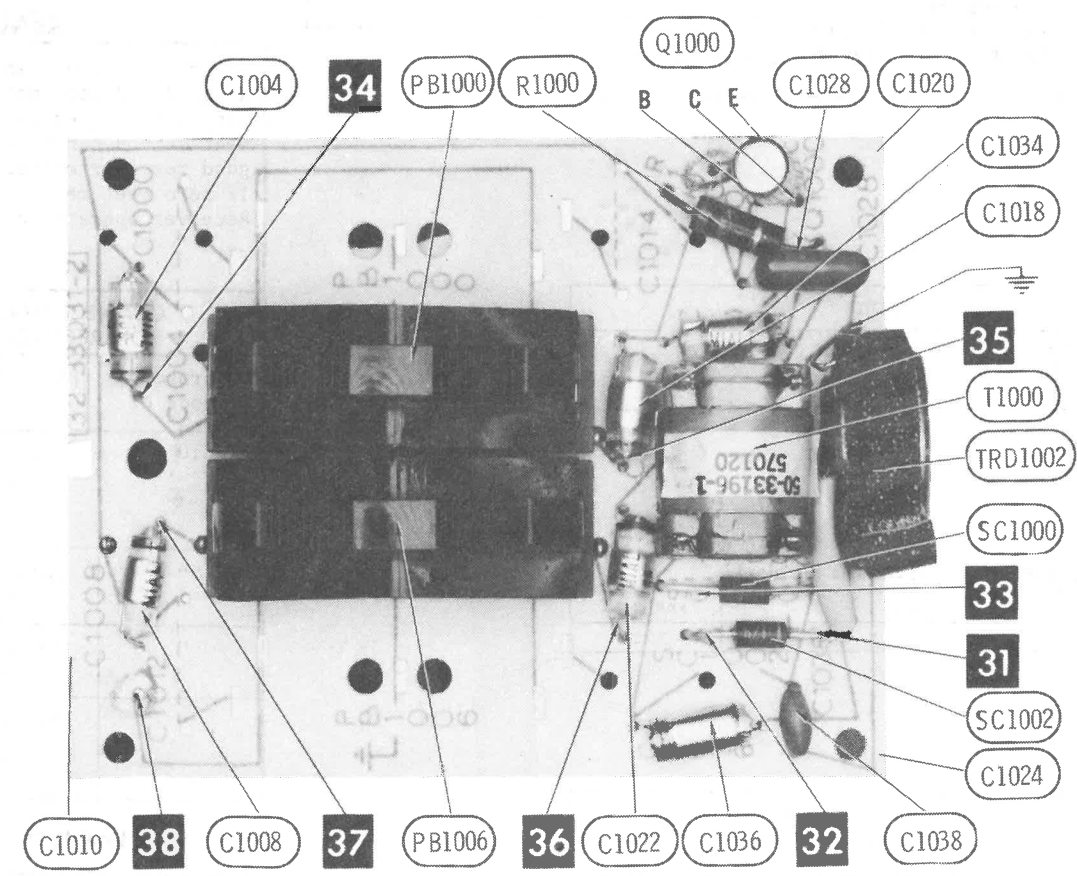
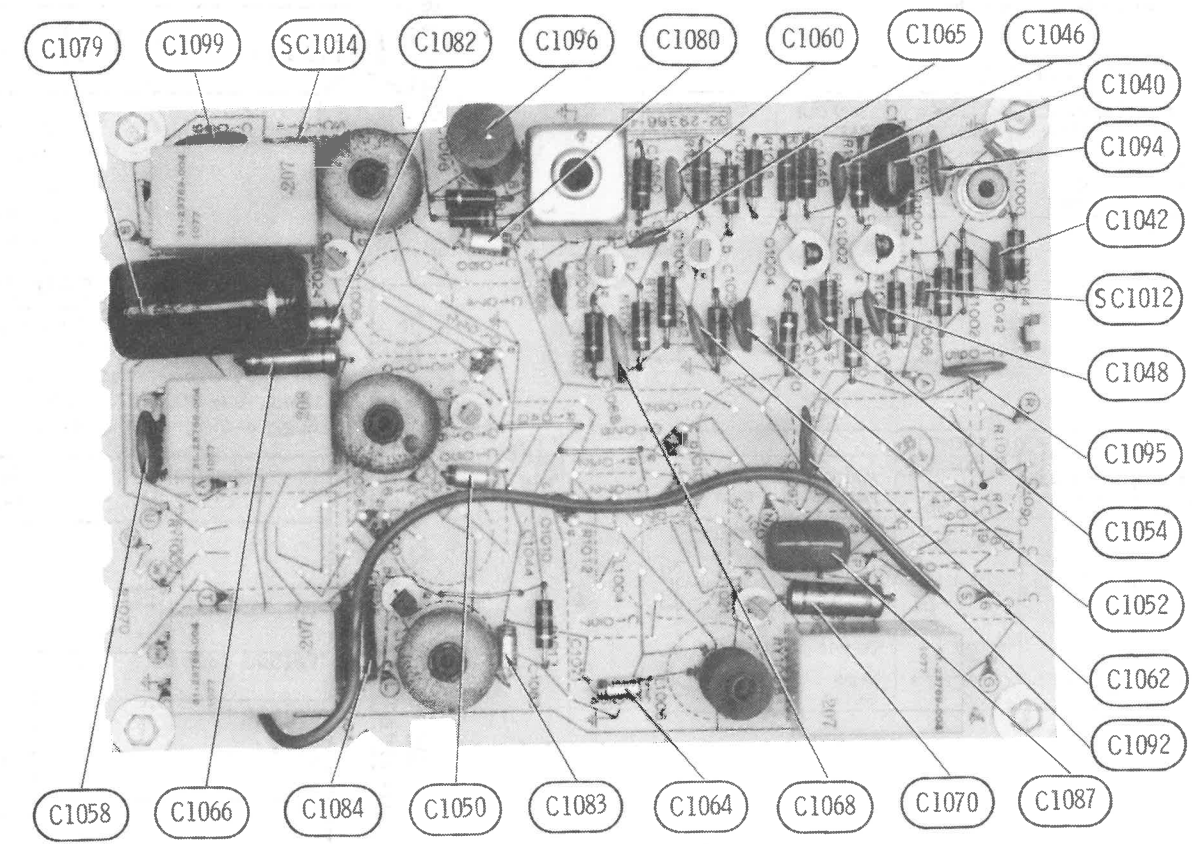
Arrow on control indicates direction of advance.
Numbers assigned to terminals may not be found on the unit.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
with CIRCUITRACE
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01004	27000	21K	20K 4	01004	180	2.50	1K 4
01006	22000	75000	17.5K 4	01006	180	2.80	1K 4
01008	22000	80000	17.5K 4	01008	180	2.80	1K 4

† THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTRON VTC IN THE CIRCUIT.
‡ MEASURED TO PIN 1 OF SOCKET Sx1002.

120VAC
6Y102
2
18.5V
20
16
STAVANA REMOTE CONTROL
RECEIVER, TRANSMITTER ACTS



REMOTE RECEIVER AND TRANSMITTER REPLACEMENT PARTS (D16-16)

SCHEMATIC CODING	SERVICE PART NO.	DESCRIPTION
CAPACITORS (All in MFD unless otherwise specified)		
C1004	40-10285-16	180PF, 500V
C1018	40-10285-19	120PF, 500V
C1020	42-23787-1	6-40PF, Variable
C1022	40-10285-26	68PF, 500V
C1024	42-23787-1	6-40PF, Variable
C1028		.1, 100V
C1034	40-10285-18	140PF, 500V
C1036	40-10285-3	220PF, 500V
C1038		1000PF, Z5U
C1052	41-32477-90	25/50V Electrolytic
C1054		470PF, Z5P
C1056	43-15794-9	.1, Z5T (16V)
C1058		.1, 100V
C1060	41-17619-5	1.5/35V Electrolytic
C1062		.027, 100V
C1063		.001, Z5U
C1064	40-10285-24	680PF, 500V
C1066	41-23766-22	25/50V Electrolytic
C1068	40-10285-24	680PF, 500V
C1070	40-10285-24	680PF, 500V
C1072	41-32477-85	1/50V Electrolytic
C1073	43-98665-2	.01, 150VAC
C1074		1, 100V
C1076	41-32477-86	2/50V Electrolytic
C1078	41-23765-16	1/50V Electrolytic
C1079	41-17619-12	1.5/25V Electrolytic
C1080	41-32477-67	500/35V Electrolytic
C1082	43-11028-13	.01, 1KV
C1084		.047, 400V
C1086		.047, 400V
RESISTORS (All 1/2W, 10% unless otherwise specified)		
R1000		6.8K
R1052		220K, 20%
R1054		100K
R1056		510K, 5%
R1058		220K, 5%
R1060		5.6K, 5%
R1062		12K, 5%
R1064		5.6K, 5%
R1066		3K, 5%
R1068		12K
R1070		12K
R1072		1.8K, 1W
R1074		39K
R1076	35-331065-1	10 Meg, 5%
R1078	35-332265-1	22 Meg, 5%
R1080		18 ohm
R1082		1.5K
R1083		270K
R1084	37-23063-7	1K, Var., Min. Vol. Adjust
R1086		820 ohm
R1087		2.2K
R1088		3.9K, 5%
R1090		3.9K, 5%
R1092	37-23063-2	25K, Var., ON/OFF Threshold
R1093		680 ohm, 5%
R1094		12K, 5%
R1095		10K
R1096		6.8K, 20%
R1097		56K, 20%
R1098	35-331062-1	10 Meg, 20%
R1099	35-331062-1	10 Meg, 20%
CONTROLS		
R1084	37-23063-7	1K - Min. Vol. Adjust

Courtesy of the Manufacturer

SCHEMATIC CODING	SERVICE PART NO.	DESCRIPTION
CONTROLS (CONTINUED)		
R1092	37-23063-2	25K - ON/OFF Threshold
COILS & TRANSFORMERS		
L1052	50-23774-6	Coil - Det. - Vol. Up
L1054	50-23774-7	Coil - Det. - Vol. Dn.
L1056	50-23774-4	Coil - Det. - Chan. Driver
T1000	50-33196-1	Transformer - Oscillator
T1052	55-33951-1	Transformer - Power
DIODES		
SC1000	13-17174-3	Rectifier - Sil.
SC1002	13-17174-3	Rectifier - Sil.
SC1052	13-17596-5	Sil.
SC1053	13-17596-5	Sil.
SC1054	13-17596-5	Sil.
SC1056	13-17174-2	Rectifier - Sil.
SC1058	13-17174-2	Rectifier - Sil.
SC1059	13-17596-5	Sil.
SC1060	13-33187-7	Zener
SC1062	13-17596-5	Sil.
SC1063	1N295	Diode
SC1064	13-17174-2	Rectifier - Sil.
SC1066	13-17174-2	Rectifier - Sil.
SC1068	13-17174-1	Rectifier - Sil.
TRANSISTORS		
Q1000	13-35792-1	Oscillator
Q1052	13-29033-3	Input Buffer
Q1054	13-29033-3	1st Amp
Q1056	13-29033-3	2nd Amp
Q1058	13-33595-2	Clipper
Q1060	13-29033-3	Vol. Up Driver
Q1062	13-29033-3	Vol. Dn. Driver
Q1064	13-29033-3	Ch. Driver
Q1066	13-33173-1	Vol. Control
Q1068	13-29033-3	ON/OFF Relay Pre-Amp
Q1070	13-26386-1	ON/OFF Relay Driver
MISCELLANEOUS ELECTRICAL PARTS		
PB1002	33-23786-1	Pushbutton (Switch) - ON/OFF, Vol.
PB1004	33-23786-1	Pushbutton (Switch) - VHF Chan.
PL1054	73-99237-1	Plug - Octal
PL1056	73-10302-24	Connector - 2 circuit
RY1052	31-23769-1	Relay - Channel
RY1054	31-23769-6	Relay - Vol., ON/OFF
SK1052	73-23775-1	Socket - Transducer
TRD1000	12-23784-3	Transducer
	02-33030-5	Panel Asm. - Transmitter
	72-14734-4	Socket - Xistor (Q1066)
	72-27200-1	Socket - Xistor - small - 3 pin
	72-27200-3	Socket - Xistor - large - 3 pin
MISCELLANEOUS TRANSMITTER CASE PARTS		
	81-23739-1	Battery +1.5V - Type 'AA'
	74-23740-4	Bracket - Case Retaining
	74-23731-9	Case - Bottom
	74-35592-2	Case - Top
	74-35591-3	Inlay - Metal
	74-35591-3	Inlay - Plastic (Silver)
	02-33030-5	Panel Asm.
	77-23742-1	Spring - Battery Contact

SET 1325 FOLDER 2-C

SYLVANIA REMOTE CONTROL RECEIVER, TRANSMITTER RC13

PHOTOFACT® Folder

with CIRCUITRACE®

SYLVANIA REMOTE CONTROL RECEIVER, TRANSMITTER RC13

IMPORTANT FILING NOTICE

This PHOTOFACT Folder covers equipment used with the TV chassis covered in PHOTOFACT SET 1325 FOLDER 2. File this Folder with the TV Folder in the yellow filing jacket provided.

Courtesy of the Manufacturer

REMOTE CONTROL PANEL ALIGNMENT PROCEDURE (D16-16)

PRELIMINARY INSTRUCTIONS

The Remote Control Panel and transmitter units are both factory adjusted. Adjustments should not be undertaken unless the transmitter fails to activate a particular function of operation at the remote panel.

1. Before attempting to adjust the remote panel, the following must be checked:

A. Measure the 1.5VDC internal battery in the transmitter unit under load with a DC VTVM. Replace with fresh battery if weak or faulty.

B. Be certain both remote panel and transmitter units are operating normally.

C. Be certain TV chassis is operating normally.

2. Coil adjustments should be made on remote panel rather than transmitter.

3. Check all interconnecting cables for proper hook-up.

4. Apply AC power to TV chassis.

5. Remote On/Off switch in the "on" position.

6. VTVM or VOM set to read +15VDC range.

(D16-16)			
STEP	ALIGNMENT SET-UP NOTES	TEST EQUIPMENT HOOK-UP	ADJUST
1	Position the transmitter unit, aiming directly in front of receiver at a distance of approx. 6 feet away.	DC VTVM - Across R1082.	Depress VOLUME UP button and adjust L1052 (grn. dot) for maximum deflection on the meter.
2	Same as step 1, except 20 to 25 feet away.		
3	Same as step 1.	DC VTVM - Same as steps 1 and 2.	Depress VOLUME DOWN button and adjust L1054 (blu. dot) for maximum deflection on the meter.
4	Same as step 2.		
5	Same as step 1.	DC VTVM - Same as steps 1 and 2.	Depress CHANNEL button and adjust L1056 (org. dot) for maximum deflection on the meter.
6	Same as step 2.		
7	a. Connect a jumper lead from tie point RD to RJ on remote panel. b. Rotate "Min./Vol./Adj." control R1084 full CW. c. Rotate "On/Off/Threshold" control R1092 full CCW. d. Depress and hold "On-Hi" button on front of set, and tune receiver to a station.	No test equipment required.	Rotate "Min./Vol./Adj" control CCW until sound is just audible, and set remains on when button is released. CAUTION: If Min. Vol. is set too low, abrupt changes rather than gradual changes in volume will occur when depressing "On-Hi" or "Off-Lo" buttons.
8		No test equipment required.	Rotate "On/Off/Threshold" R1092 CW until receiver turns off. Remove clip lead from RD and RJ .
9	Check "ON-HI", "OFF-LO" buttons for proper operation.		

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

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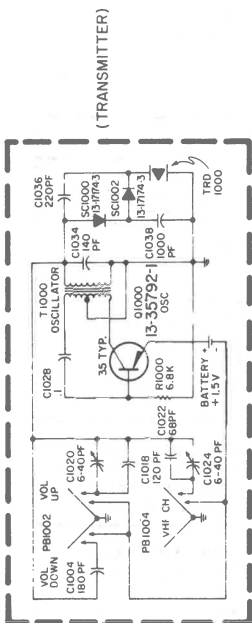
SET 13 25 FOLDER 2-C

SYLVANIA REMOTE CONTROL RECEIVER, TRANSMITTER RC13

SET 13 25 FOLDER 2-C

REMOTE RECEIVER & TRANSMITTER (D16-16)

FUNCTION	TRANSMITTER RESONANT FREQ.	RECEIVER RESONANT FREQ.
ON/VOL UP	37.25KHz	37.25KHz
OFF/VOL DOWN	35.75KHz	35.75KHz
CHANNEL (VHF)	40.25KHz	40.25KHz



NOTES:

1. CAPACITORS ARE IN MFD UNLESS OTHERWISE SPECIFIED.
2. RESISTORS ARE 10% - 1/2W UNLESS OTHERWISE SPECIFIED.
3. ALL VOLTAGES TAKEN WITH VTVM WITH NEGATIVE LEAD TO THE PT [V_{CE}].
4. ALL VOLTAGES MEASURED WITH NO SIGNAL APPLIED.
5. * DO NOT ATTEMPT TO MEASURE DC VOLTAGE ON GATE OF TRANSISTOR 9006B WITH VTVM.
6. EXAMPLE: "200-400" REFER TO TRANSISTOR BETA RANGE.

