

CABINET-REAR VIEW DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL (Model A501)

Remove ten screws holding cabinet back and remove back.

NOTE: Most components can now be serviced.

Remove all knobs. Remove two screws holding antenna block, five screws holding tuner assembly, and lay tuners inside of cabinet.

Disconnect CRT socket, HV anode lead, speaker lead, convergence yoke plug, deflection yoke plug, degaussing coil plug, and ground wire.

Remove two screws holding chassis. Remove chassis and tuner assembly from cabinet.

CRT REMOVAL

Follow "Chassis Removal" procedure and lay set face down on a soft protective surface. Remove blue lateral magnet assembly and convergence and deflection yokes from CRT neck. Loosen two screws holding convergence board and remove board.

Remove four springs holding yoke clamp. Remove four screws holding degaussing shield and remove shield. Remove four screws holding CRT and remove CRT from cabinet. Do not lift CRT by the neck.

SERVICING IN THE FIELD

CRT IMPLSION PROTECTION AND CLEANING

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

FUSE DEVICES

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

A .5-amp fuse is used for low-voltage power-supply protection. (See Transistor Placement Chart.)

A .5-amp fuse is used for horizontal sweep circuit protection. (See Transistor Placement Chart.)

A 1.0-amp fuse is used for horizontal sweep circuit protection. (See Transistor Placement Chart.)

LAMP ACCESSIBILITY

Lamps are accessible after removing cabinet back, all knobs, and five screws holding tuner assembly.

VHF TUNER

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

UHF TUNER

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

HORIZONTAL OSCILLATOR

Coarse adjustment of the horizontal hold is accomplished by the proper setting of the horizontal sub-hold control. (See photo, Cabinet-Rear View.)

Fine adjustment of the horizontal hold is accomplished by the proper setting of the horizontal hold control. (See photo, Cabinet-Rear View.)

FOCUS

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

AGC

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

CENTERING

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

Vertical centering is accomplished by proper placement of the vertical centering jumper. (See Transistor Placement Chart.)

SET 1498 FOLDER 1

CURTIS MATHES CHASSIS
C-53, CMC-53

PHOTOFACT® Folder

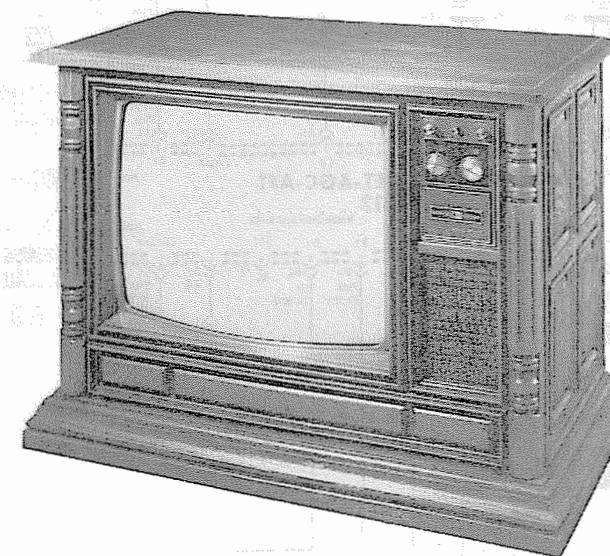
with CIRCUITRACE

For Supplier Address See PHOTOFACT Index

CURTIS MATHES CHASSIS
C-53, CMC-53

COLOR TV

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



MODEL A501

SAFETY PRECAUTIONS

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

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

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

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

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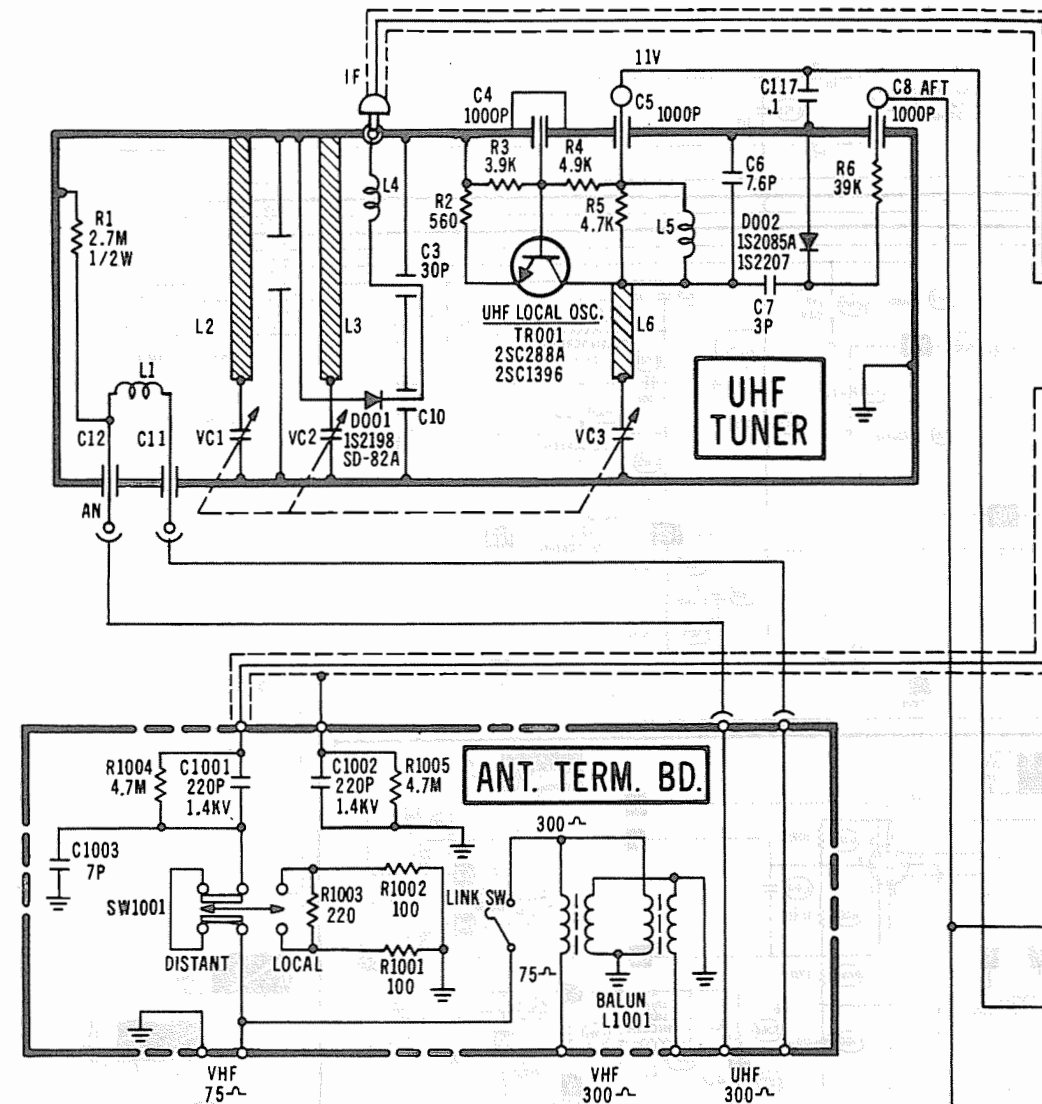
HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. 5PD1285

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DATE 7-75

SET 1498 FOLDER 1



TUNER P.C. BOARD

PWC-307 14B449-001 Tuner P.C. Board with components

CAPACITORS:

C111	05A068-183	0.1 μ f +80% -20% 50V Z5V Cer.	D-6
C112	04A030-075	47 μ f 25V Electrolytic	D-5
C114	05A068-183	0.1 μ f +80% -20% 50V Z5V Cer.	D-5
C115	05A068-183	0.1 μ f +80% -20% 50V Z5V Cer.	D-5
C116	05A068-183	0.1 μ f +80% -20% 50V Z5V Cer.	D-5

RESISTORS: All resistors are $\pm 5\%$, $\frac{1}{4}$ W, Carbon Composition unless otherwise specified.

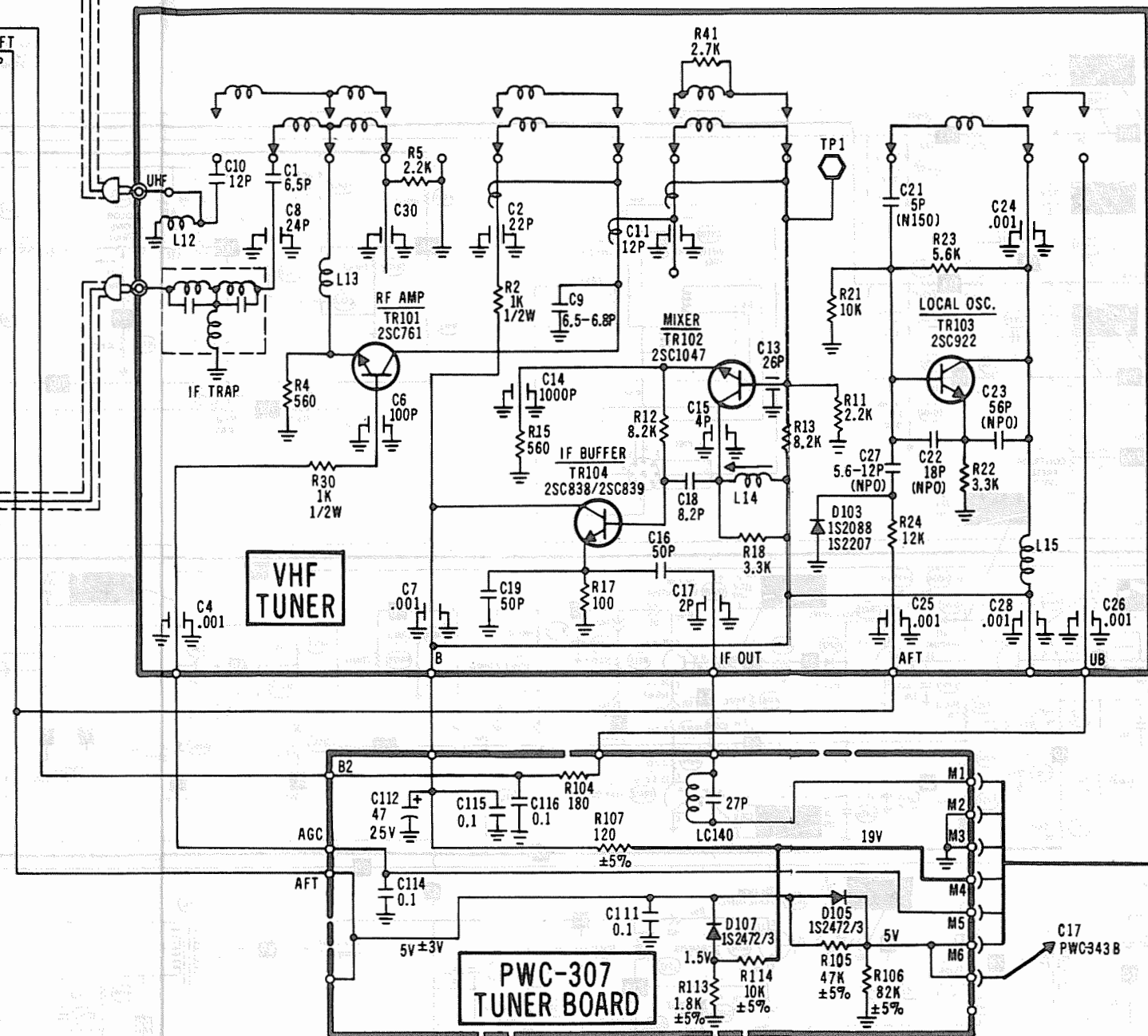
R104	40R118-410	180 ohm $\pm 10\%$	D-6
R105	40R347-305	47K	D-7
R106	40R382-305	82K	D-7
R107	40R112-305	120 ohm	D-6
R113	40R218-305	1.8K	D-6
R114	40R310-305	10K	D-6

DIODES:

D105	21A108-004	1S2472	D-7
D107	21A108-004	1S2472	D-6

RESONANT CIRCUIT:

LC140	01A550-001	27 Pf Capacitor in parallel with 6 turns #18 wire	D-6
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CURTIS MATHES CHASSIS
C-53, CMC-53

Courtesy of the Manufacturer

RESISTANCE MEASUREMENTS

MEASUREMENTS BELOW TAKEN WITH METER HAVING .08V MAX BETWEEN PROBE TIPS

ITEM	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN 12	PIN 13	PIN 14
V1	FIL	INF #	130 K	750 K	700 K	INF #	130 K	NC	50 M	NC	INF #	130 K	750 K	FIL
IC201	11 K	11 K	0	0	5000	5500	1000	1000	820 K	2200	300	2200	1800	INF
IC202	6800	INF	INF	1450	2000	250	10 K	0						
IC203	0	120 K	130 K	3800	3800	1000	0	120 K	INF	120 K	INF	INF	INF	360
IC301	INF	2500	800	INF	2700	2700	0	2500	800	3000	800	INF	INF	INF
IC751	40 K	2400	200	0	INF	3000	30 K	270	2700	1200	4000	14 K	5400	37 K
IC752	8000	620	620	1500	0	4800	480	950	INF	480	40 K	40 K	800 K	800 K
													PIN 15 40 K	PIN 16 37 K
IC753	3300	3300	3300	3300	INF	10 K	0	3400	3400	3400	INF	4500	4500	280
ITEM	E	B	C		ITEM	E	B	C		ITEM	E	B	C	
TR202	1030	3000	350		TR409	1600	10 K	3000	#	TR701	750	37 K	1750	
TR203	1000	1450	350		TR410	27	950	9000		TR702	600	60 K	22 K	
TR271	0	2200	2000		TR411	INF #	9000	0		TR703	380	27 K	120 K	
TR301	1100	8000	1800		TR412	1600	INF #	0		TR704	1500	100 K	5000	
TR302	270	1800	3300	#	TR501	1700	14 K	15		TR705	0	13 K	4000	
TR401	0	3.3 M	5000		TR502	1400	3000	4700		TR706	INF #	5000	56	
TR402	4900	6000	340		TR503	0	.3	3000	#	TR707	INF #	3400	INF #	
TR403	1000	1000	4200		TR504	0	5800	4800	#	TR708	INF #	3400	INF #	
TR404	1500	2200	4200		TR601	INF #	40 K	3000	#	TR709	INF #	3400	INF #	
TR405	2200	4200	340		TR602	3000	#	44 K #	40 K	TR751	0	10 K	33 K	
TR406	560	5200	12 K		TR603	42 K	1300	46 K		TR2001	6000	#	INF #	8000
TR407	1000	12 K	250		TR691	3000	#	INF #	3000	#	TR2002	5000	8000	INF
TR408	900	7000	470		TR692	3000	#	INF #	3000	#				

This reading will vary depending upon the condition of the electrolytic in the circuit.
Reading depends upon polarity of meter connections.

TROUBLESHOOTING CHECK CHART

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

PICTURE or SOUND

No pic, no sound, no raster: Circuit Breaker, LV Rect

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

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

No pic, has sound, no raster: CRT

No pic, has sound, has raster: Video Buffer/Amp

Has pic, no sound: Sound Buffer/IF, Ratio Det, AF Amp, Audio Out

Overloaded picture: AGC, Video Det

Low or excessive brightness: Pulse Clamp, Brightness Limiter

SWEEP

No raster, has sound: Horiz Osc/Predriver/Drive/Out, Damper, HV Rect/Trigger/Hold Down, CRT

No vert deflection: Vert Osc/Amp/Lin/Drive/Output

Poor vert lin or foldover: Vert Osc/Amp/Lin/Drive/Output

Poor horiz lin or foldover: Horiz Output, Damper

Narrow picture: LV Rects, Horiz Osc/Predriver/Drive/Out, Damper

Vert off frequency: Vert Osc

Horiz off frequency: Horiz Phase Det/Osc

SYNC

No vert sync: Vert Osc

No horiz sync: Sync Amp, Horiz Phase Det/Osc

No vert/horiz sync: Sync/Sep

RASTER

Yellow (no blue): Blue Out, CRT

Cyan (no red): Red Out, CRT

Magenta (no green): Green Out, CRT

COLOR (B/W operating normally)

No color: Sync Delay Amp, Bandpass

Weak color: Bandpass

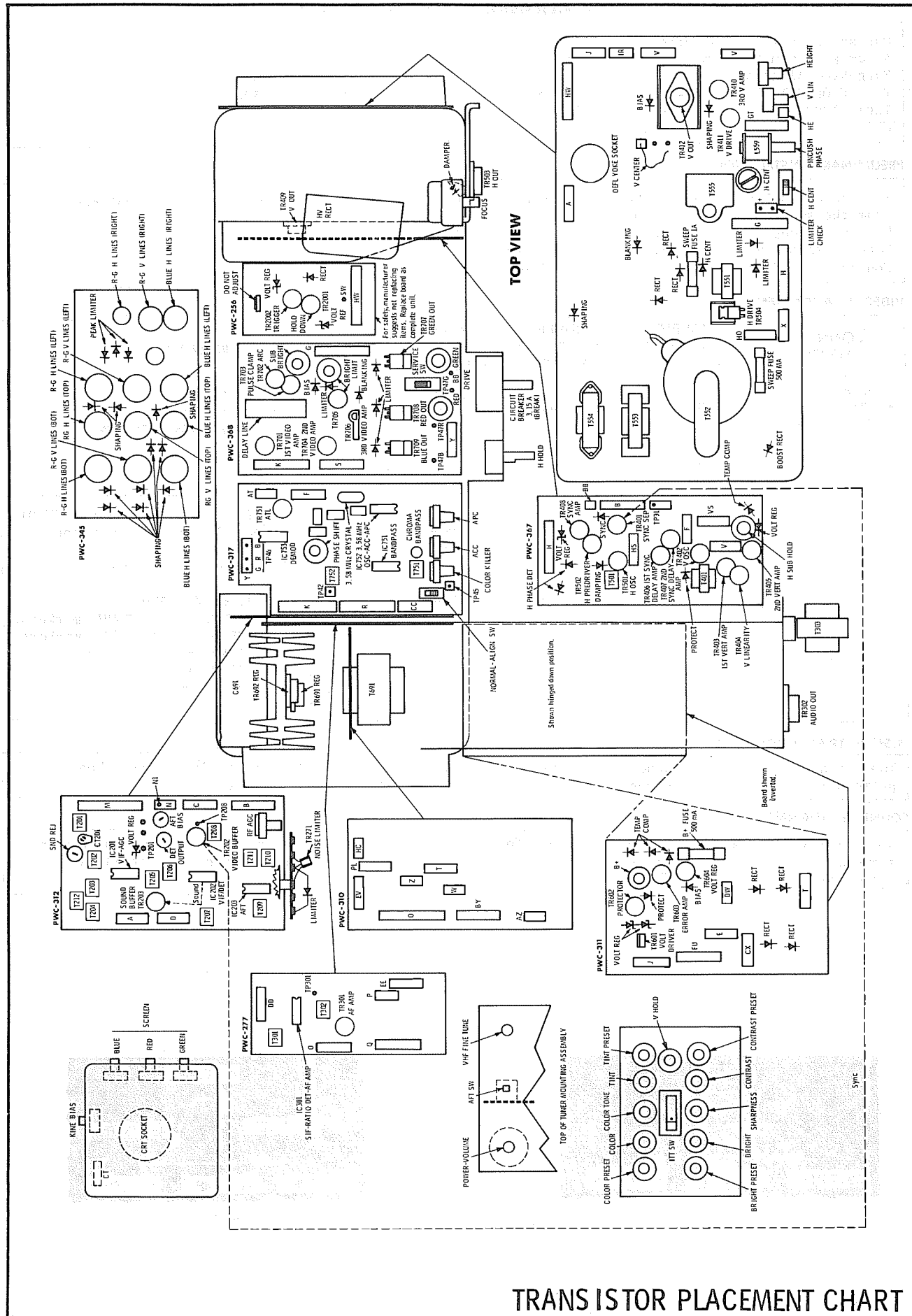
No color sync: Sync Delay Amp, 3.58MHz Osc

No green: Demod, Green Out

No blue: Demod, Blue Out

No red: Demod, Red Out

Incorrect hue (tint): Demod, ATL

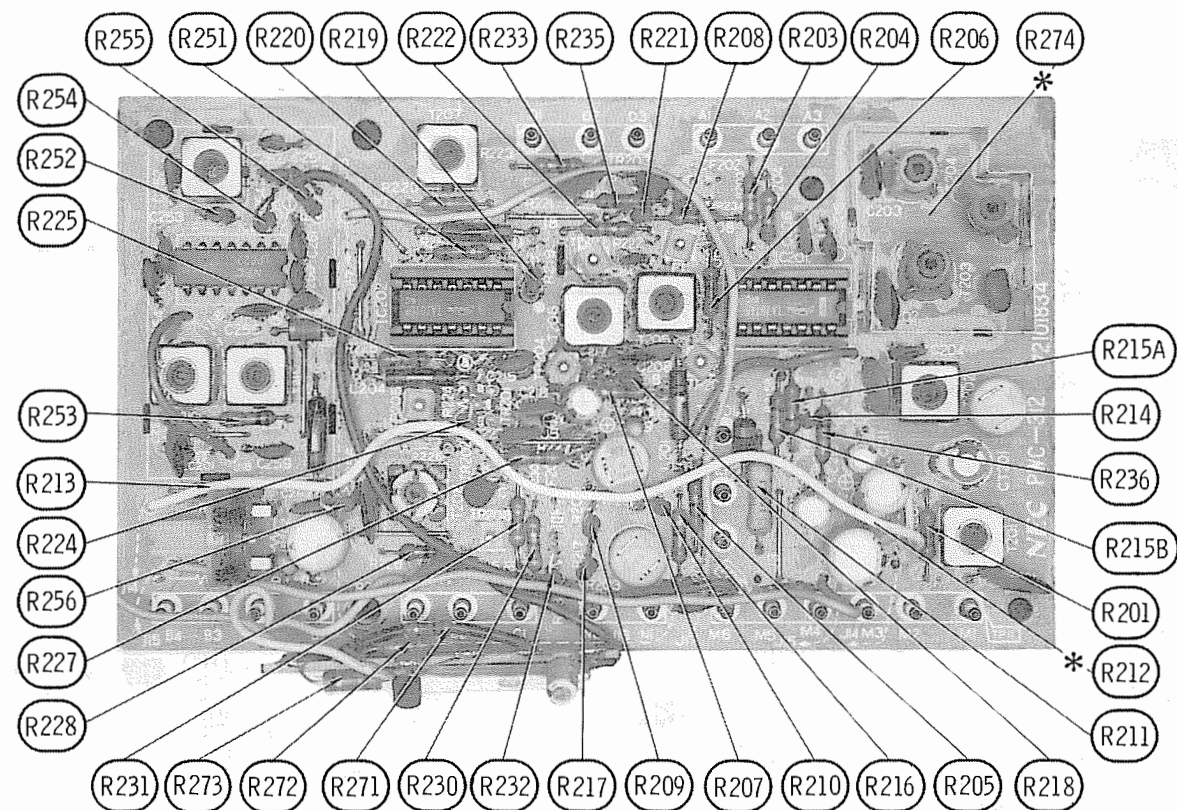


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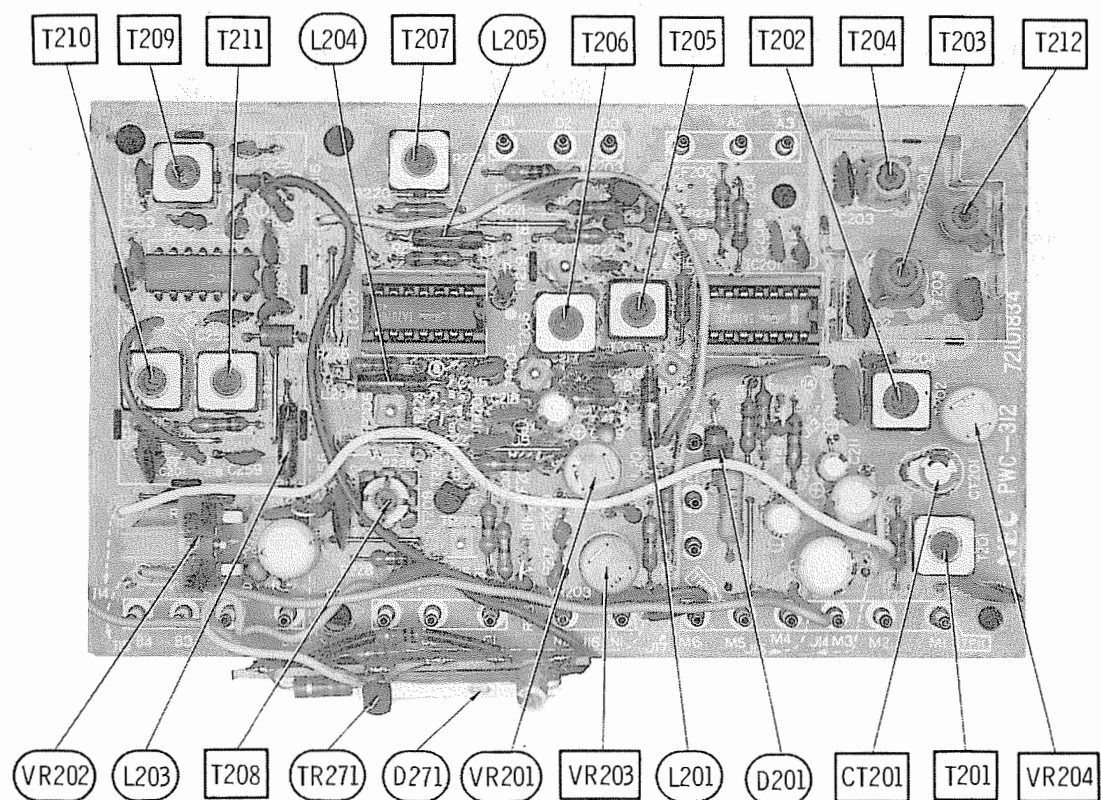
FOLDER 1

TRANSISTOR PLACEMENT CHART

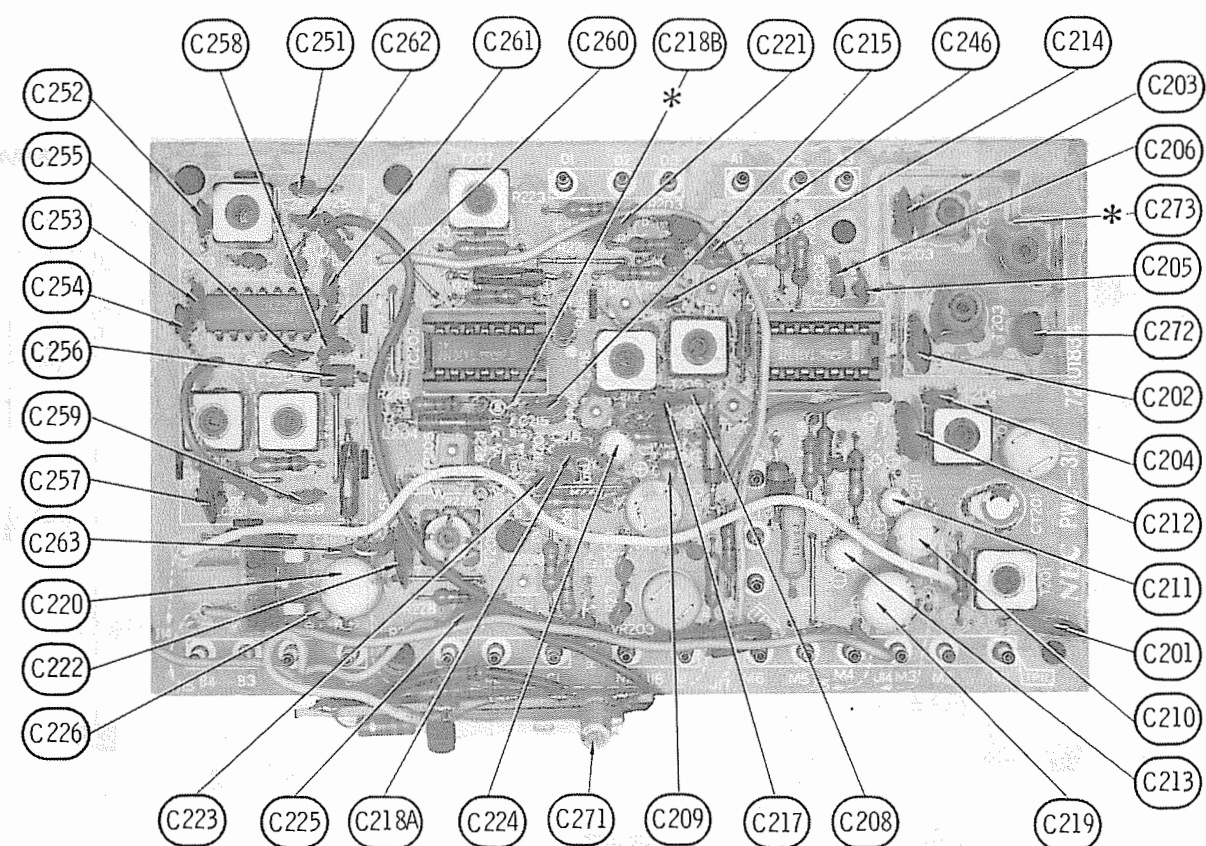
SET 1498 FOLDER 1



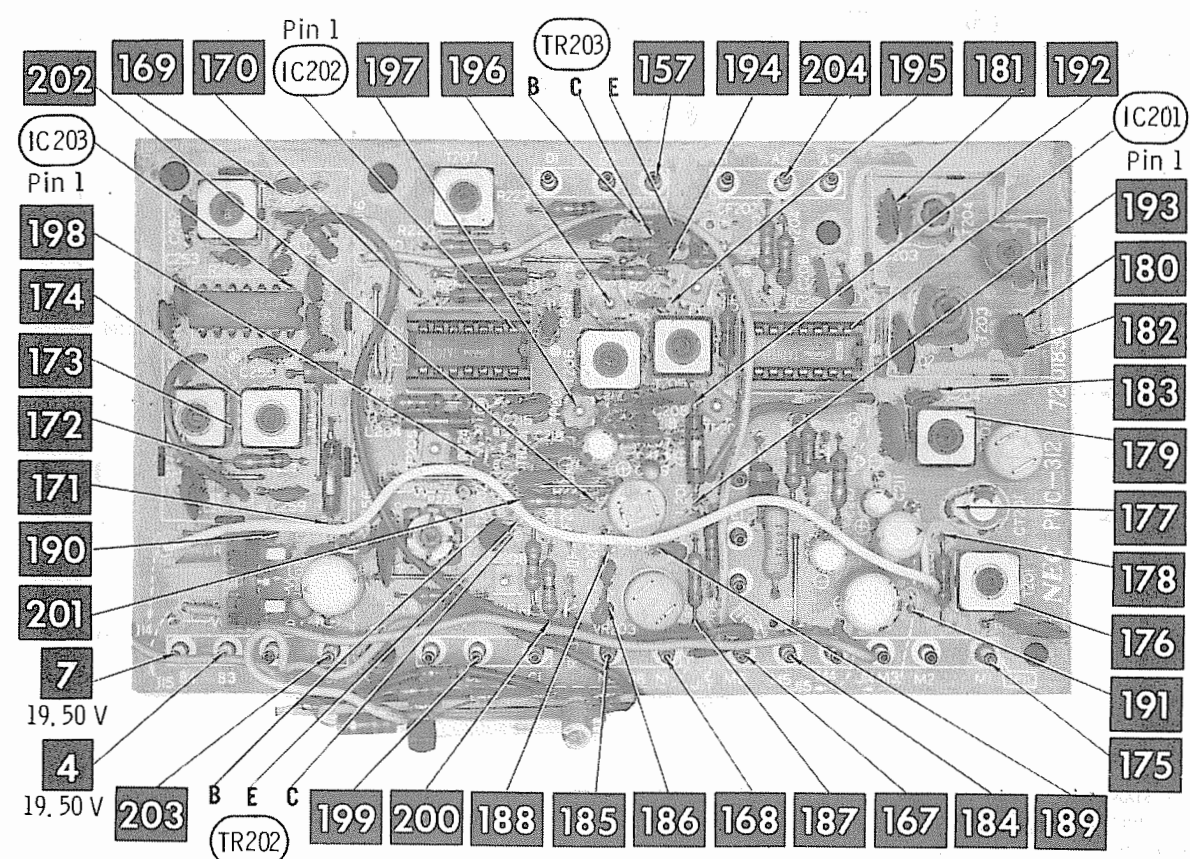
* ON BOTTOM OF BOARD



PWC-312 VIDEO IF BOARD



* ON BOTTOM OF BOARD

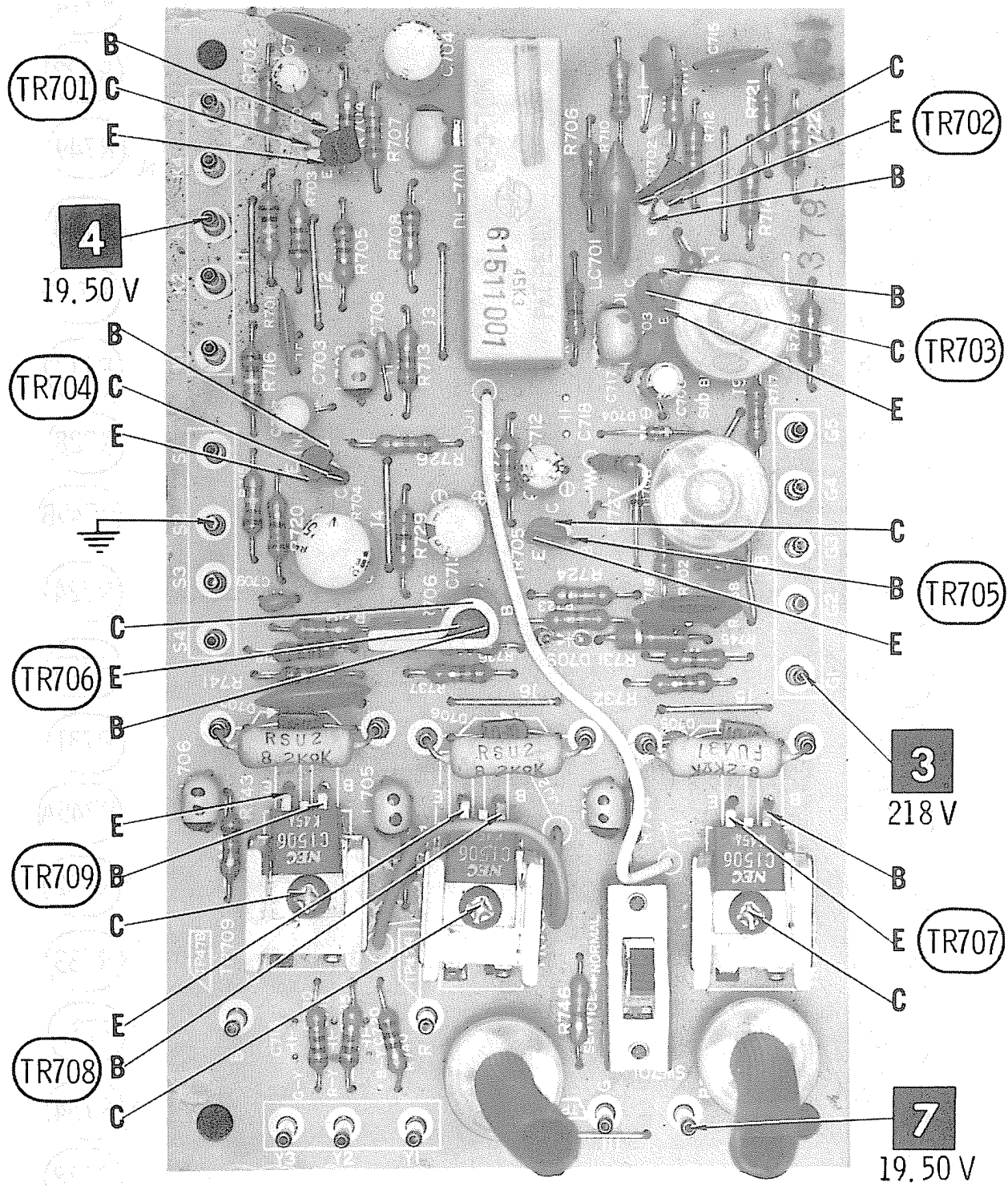


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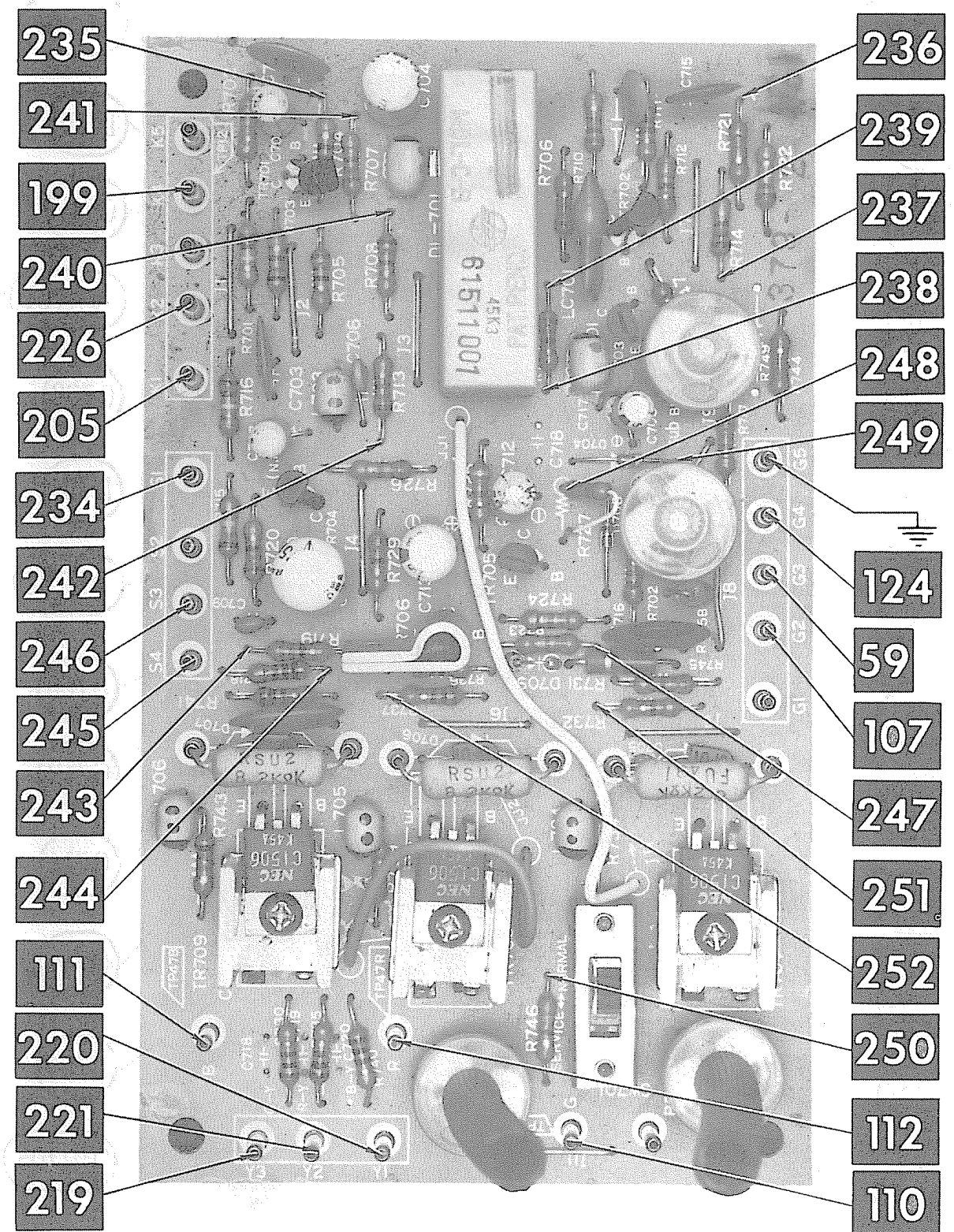
PWC-312 VIDEO IF BOARD

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FOLDER 1



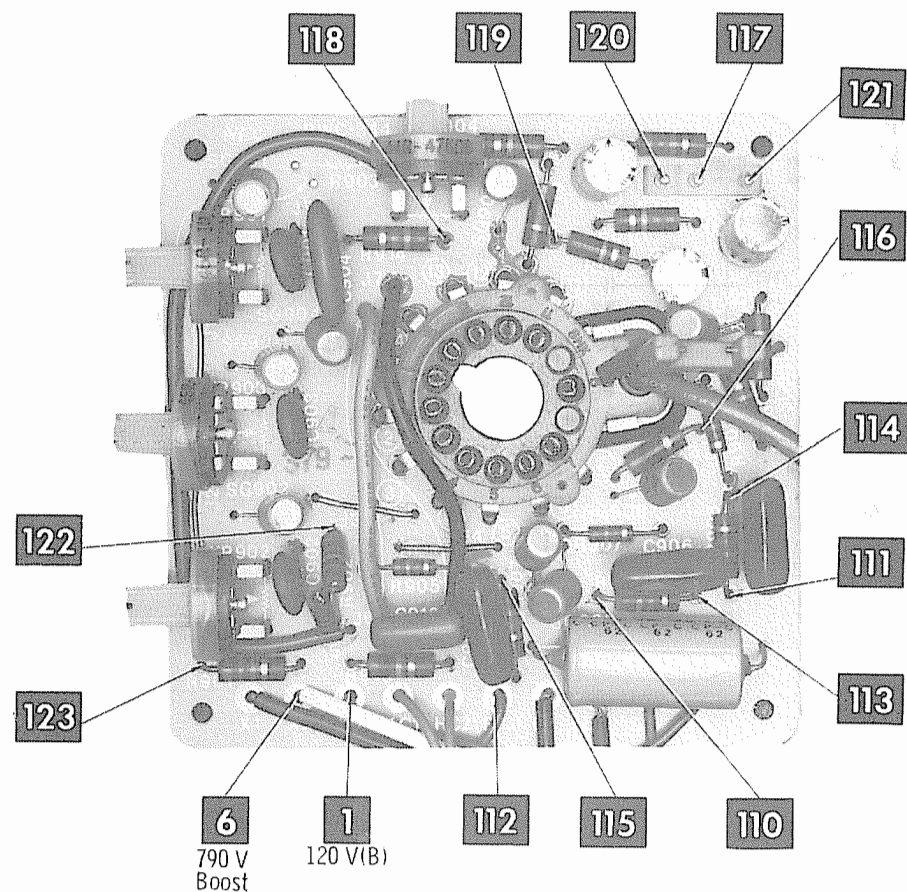
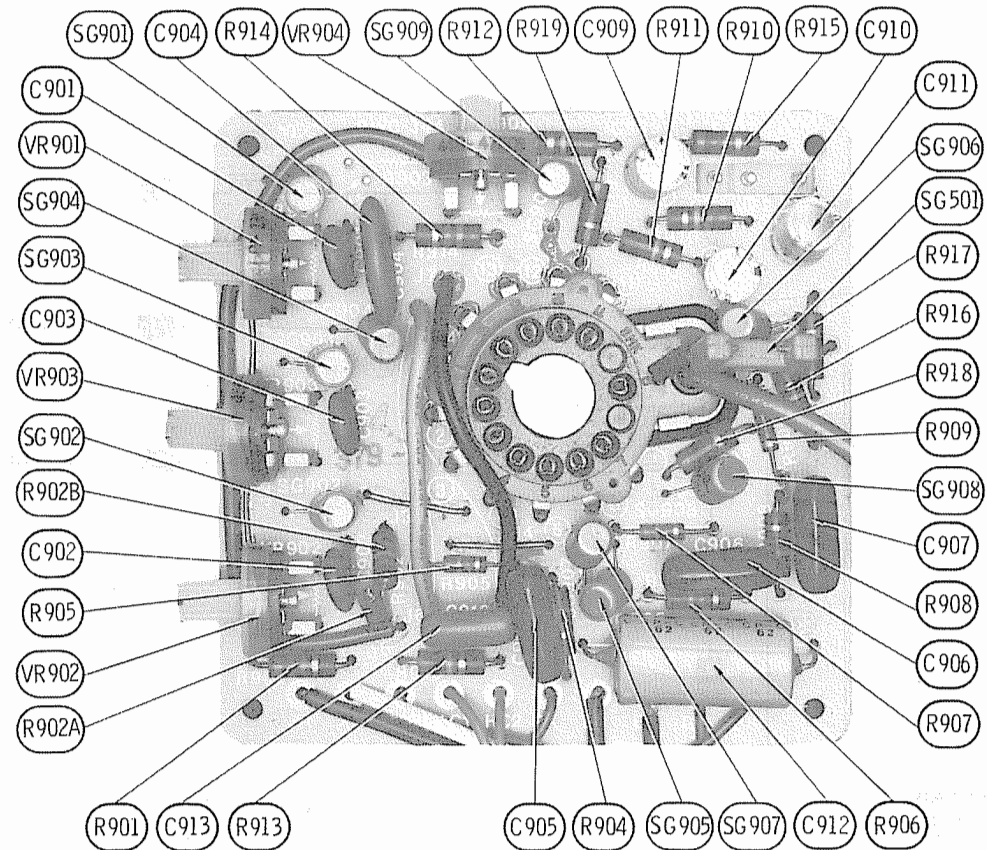
PWC-368 VIDEO OUTPUT BOARD



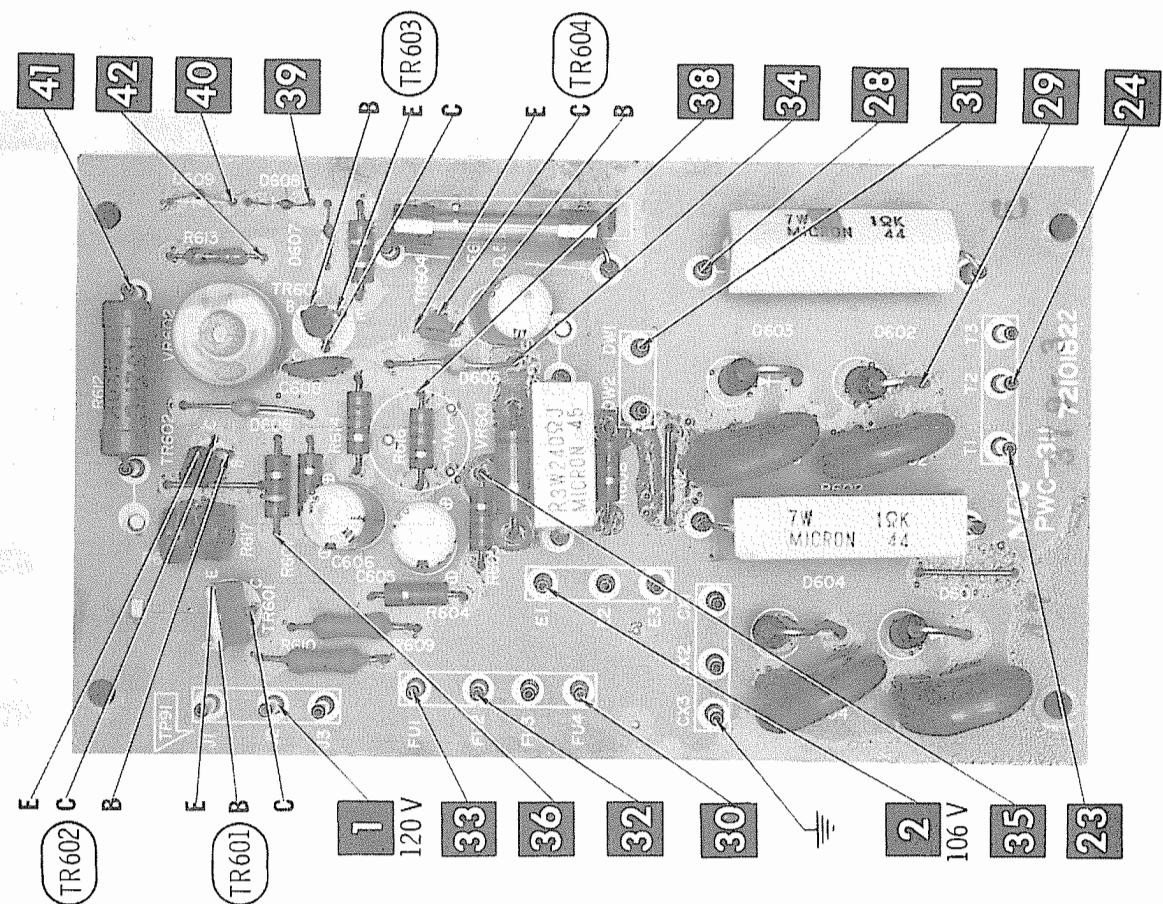
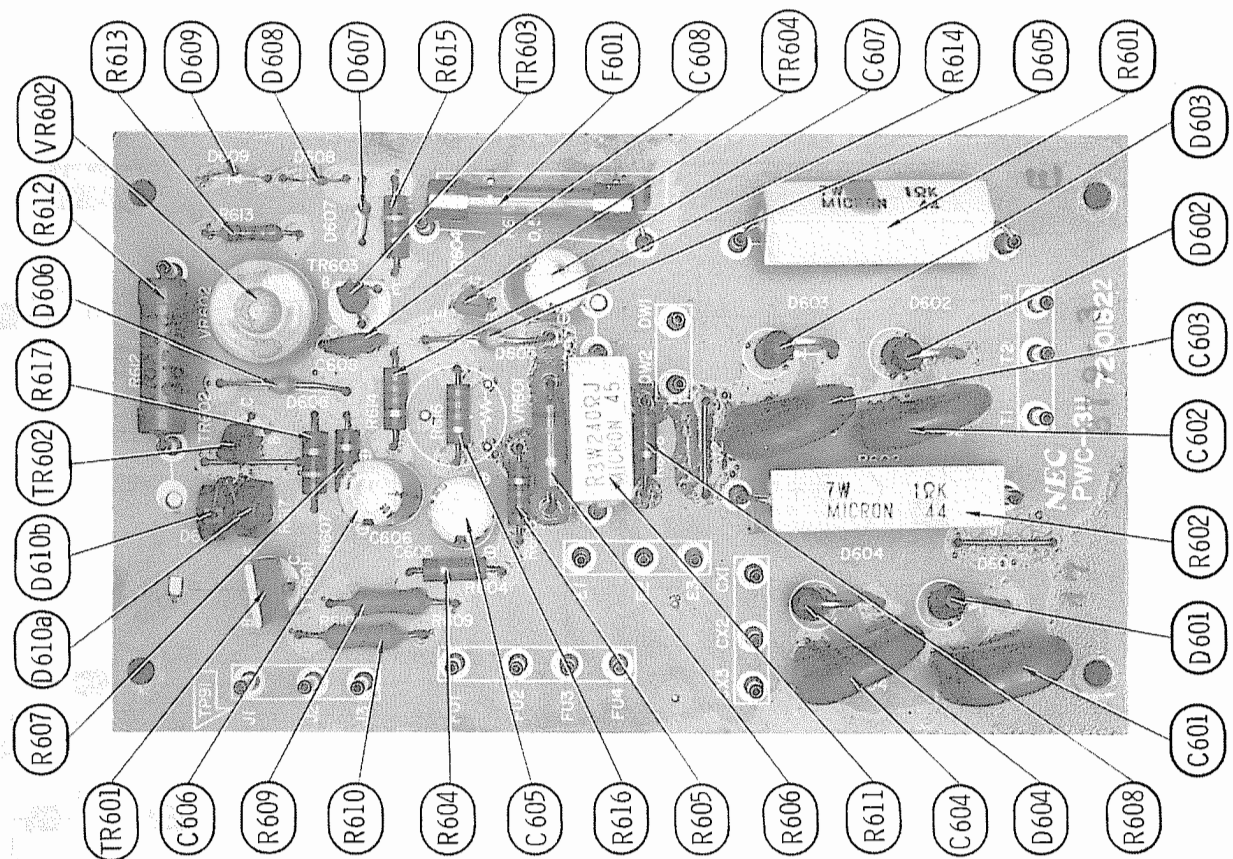
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FOLDER 1



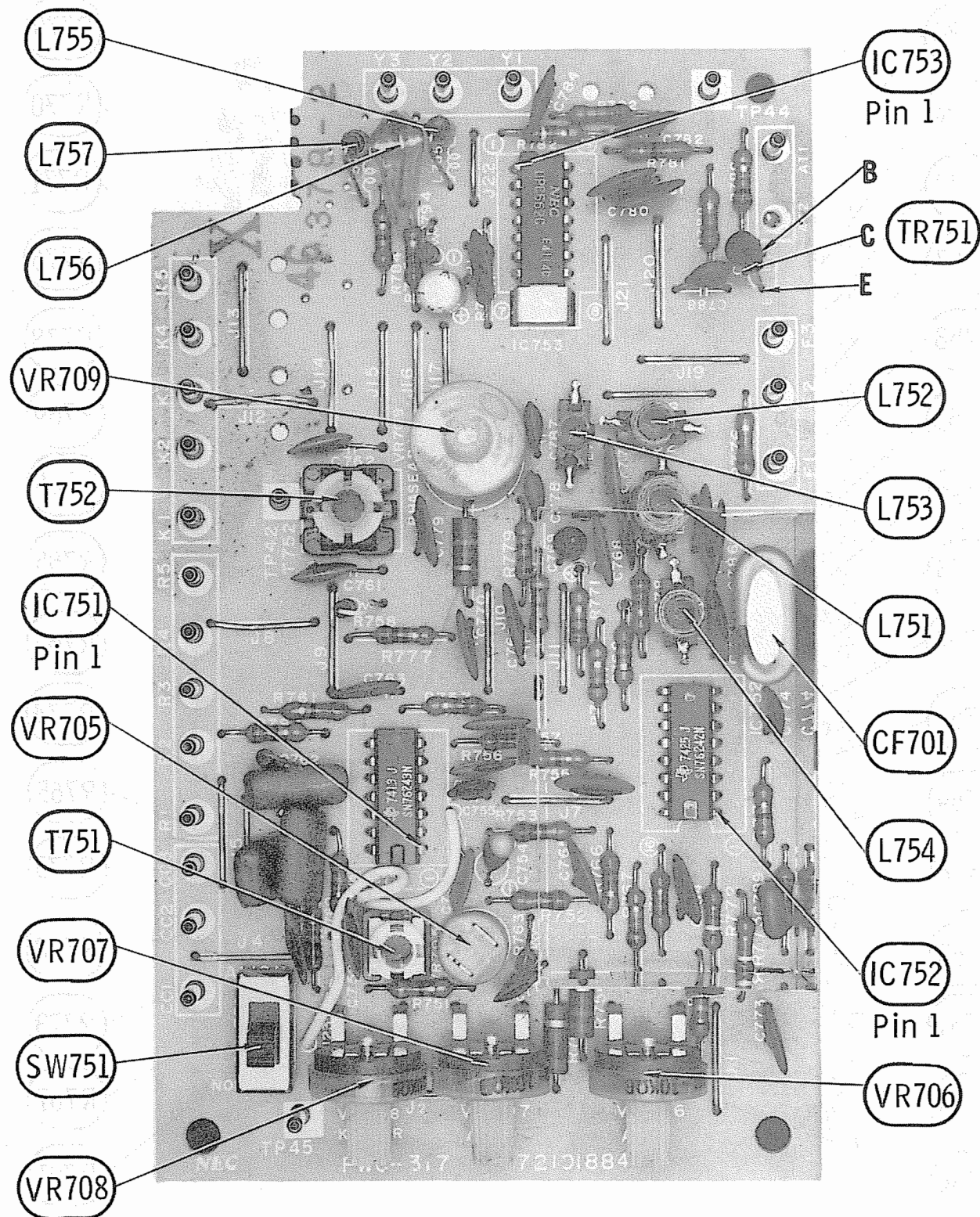
PWC-344 CRT BOARD A Howard W. Sams **CIRCUITRACE** Photo



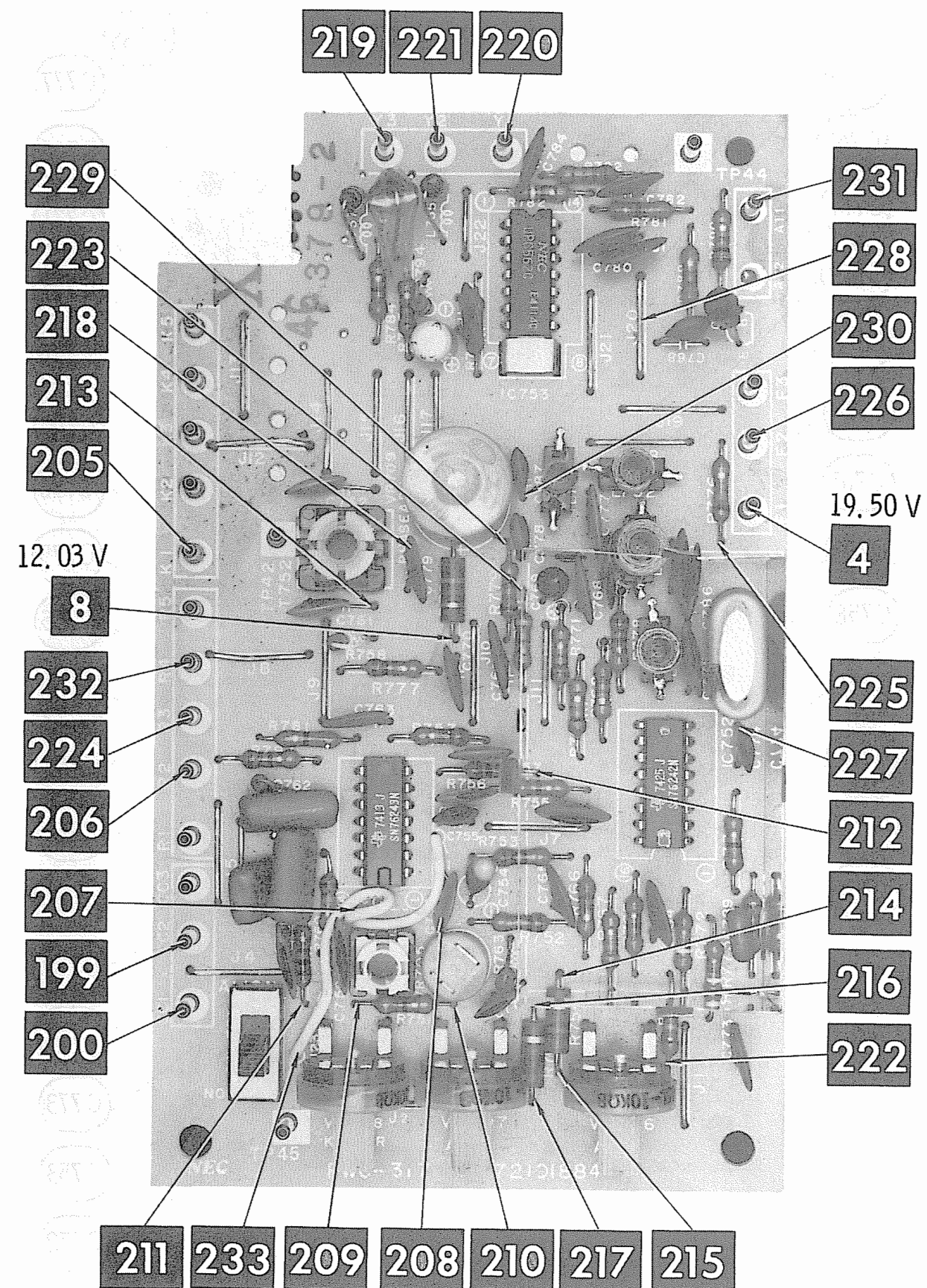
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FOLDER 1



PWC-317 CHROMA BOARD



PWC-317 CHROMA BOARD

CURTIS MATHES CHASSIS
C-53, CMC-53

FOLDER 1

MISCELLANEOUS ADJUSTMENTS

B+ ADJUSTMENT

Connect VTVM to J2 (PWC-311 Board), low side to ground. Tune in a TV station and adjust all controls for normal operation. Adjust VR602 for +120V with 120VAC line voltage.

HORIZONTAL OSCILLATOR ADJUSTMENT

With set tuned off, turn Horizontal Hold Control (VR502) to mid-range. Turn Horizontal Sub-Hold Control (VR501) fully counterclockwise. Connect a short jumper from TP31 to ground. Turn set on. Adjust VR501 until picture stops or floats on screen. Remove jumper from TP31. (If necessary, touch up T501.)

AGC ADJUSTMENTS

Tune in a strong TV station and advance Detector Output Control (VR201) until instability appears in the picture. Reduce the control to the point just below the instability. Tune in a weak station and adjust RF AGC Control (VR202) for MINIMUM snow, maximum contrast.

SUB-BRIGHTNESS AND BRIGHTNESS LIMITER ADJUSTMENT

Push ITT Switch to Off position. Turn the Brightness and Color Controls to maximum. Turn the Contrast Control to MINIMUM. Turn the Color, Tone, and Tint Controls to mid-range. Connect a color bar generator to the antenna terminals and tune in a 100% modulated color bar pattern. Turn Sub-Brightness Control (VR701) fully counterclockwise. Turn Brightness Limiter Control fully clockwise. Connect VTVM to positive (+), low side to negative (-) across R560 (PWC-369 Board). Adjust Sub-Brightness Control (VR701) for +1.9V. Adjust Brightness Limiter Control (VR702) for +1.7V.

AFPC ADJUSTMENT

Connect a color bar generator to the antenna terminals and adjust for normal color bars. Set AFT Switch to On position. Turn Tint Control to mid-range. Turn Color Killer (VR708) fully clockwise. Slide Align/Norm Switch (SW751) to Align position. Adjust APC Control (VR706) until color bars float on screen.

Return SW751 to Normal position. Connect vertical input of scope to TP45 and adjust ACC Control (VR707) for 0.5 volts p-p. Recheck APC adjustment. Connect vertical input of scope to TP47R and adjust VR709 for 6th bar crossover. Check B-Y and G-Y (points TP47B and TP47G) outputs for proper waveforms.

CHROMA BANDPASS ADJUSTMENT

With the receiver adjusted for normal color bar pattern, adjust Chroma Bandpass Control (VR705) for proper registration of color bars; eliminate color smear. This can best be observed on the green and magenta bars.

COLOR KILLER ADJUSTMENT

Tune in a weak signal, or reduce the signal at the antenna terminals to obtain a snowy picture. Adjust Color Killer Control (VR708) to eliminate the color in the snow. Check with a color signal to make sure the killer is not killing the color signal.

H.V. PROTECT ADJUSTMENT

Do not adjust VR2001, it is factory adjusted and sealed. If board is defective, it must be replaced as a complete unit.

PURITY ADJUSTMENTS

Unplug connector C from PWC-312 Board, and B and G connectors from TP47B and TP47G on PWC-368 Board. Put ITT Switch at Off position and Color Control at MINIMUM. Perform center dot convergence using convergence magnets. If the picture tube appears to be magnetized, use a degaussing coil to demagnetize tube and mounting brackets.

Slide the deflection yoke back until it is against the convergence yoke. Rotate the tabs on the purity magnet 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. Reconnect the C, B, and G connectors.

VERTICAL PINCUSHION ADJUSTMENT

Connect a crosshatch generator to the antenna terminals and adjust set for a normal crosshatch pattern. Turn T555 to center mechanical position. Adjust Pincushion Phase Coil (L559) to move curvature to the center of the screen. Readjust T555 for straight horizontal lines.

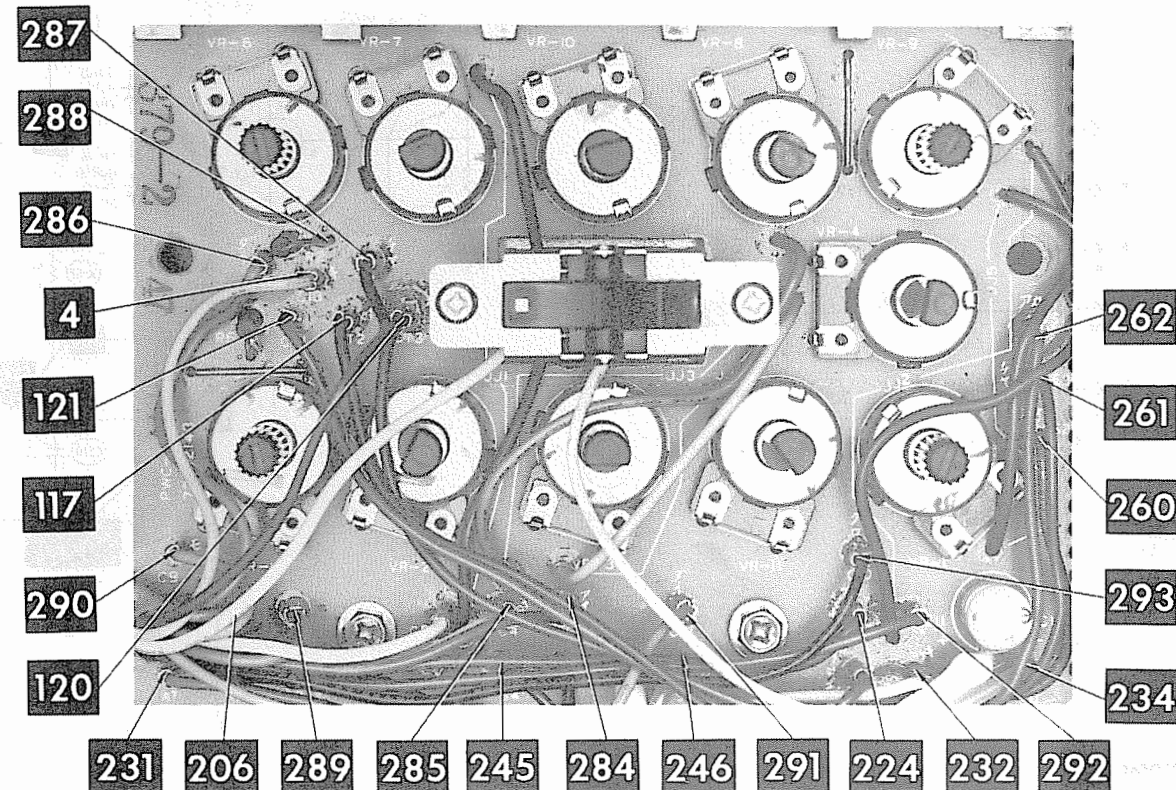
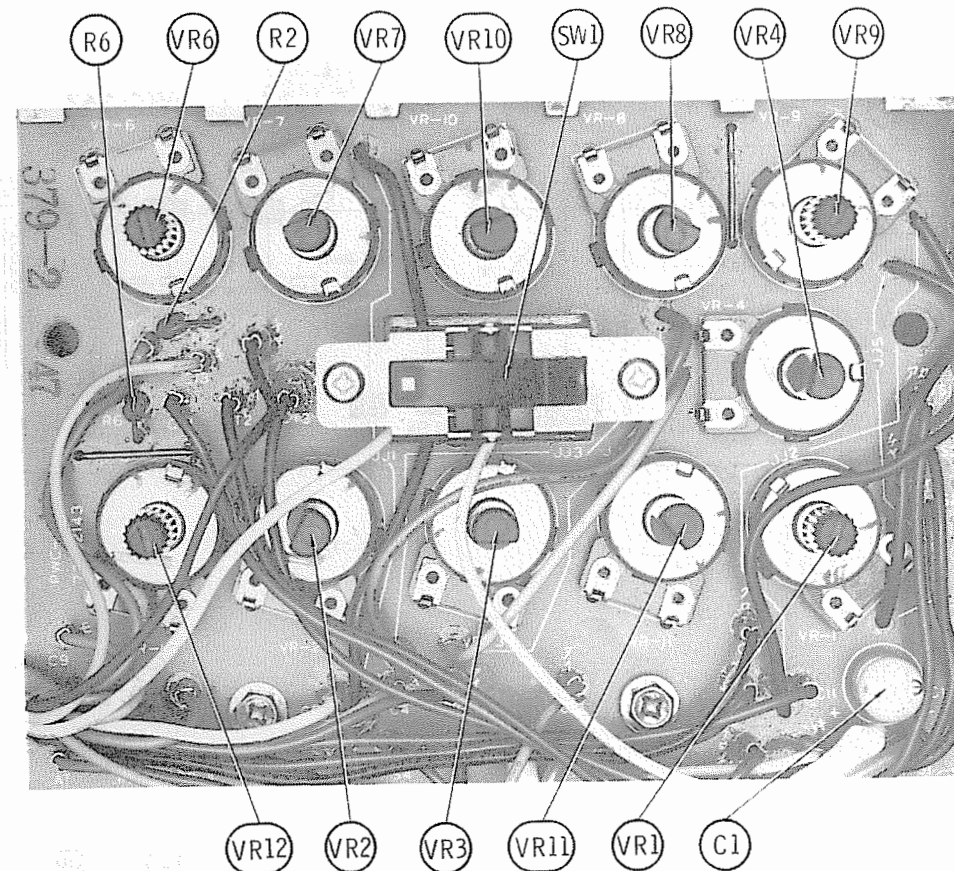
GRAY SCALE ADJUSTMENT

Turn Color, Brightness, and Contrast Controls to MINIMUM. Turn the Red (VR704) and Green (VR703) Drive Controls to mid-range. Turn Kine Bias Control (VR904) fully counterclockwise. Slide Normal-Service Switch to Service position. Turn Blue Screen (VR901), Red Screen (VR903) and Green Screen (VR902) Controls fully clockwise. If a line is visible, reduce the proper screen control to just extinguish the line. Advance the Kine Bias Control until the weakest of the three colors is just visible. Then, reduce the other two screens to obtain a white line.

Return the Normal-Service Switch to the Normal position. Tune in a TV station with the Color Control at MINIMUM. Adjust the Red and Green Drive Controls to eliminate coloring in the bright areas of the picture.

ITT ADJUSTMENT

Push ITT Switch to On position. Adjust Pre-Set Brightness, Contrast, Color, and Tint Controls for desired level.

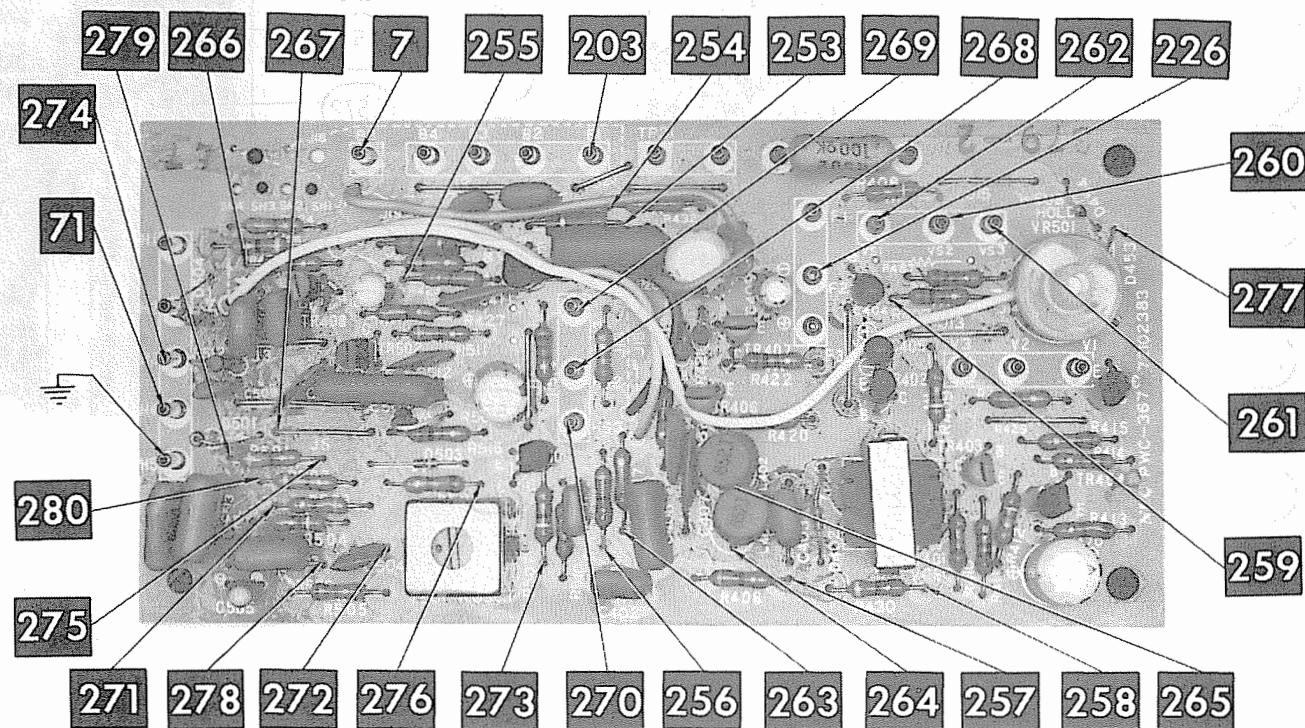
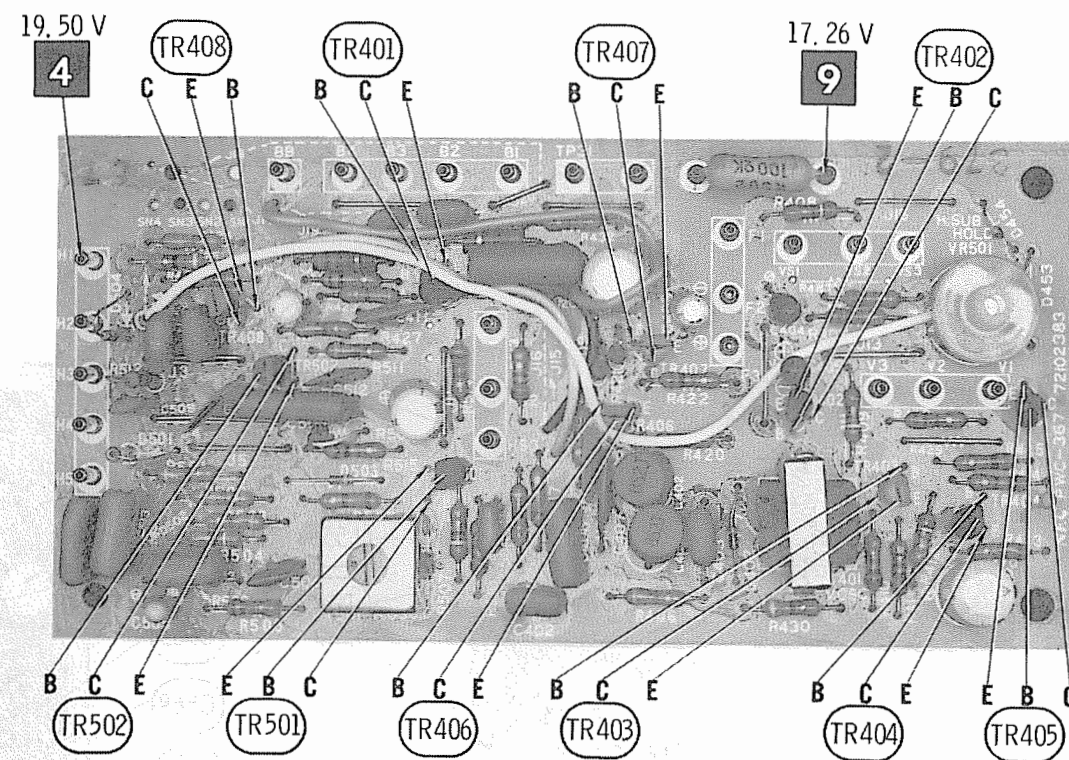
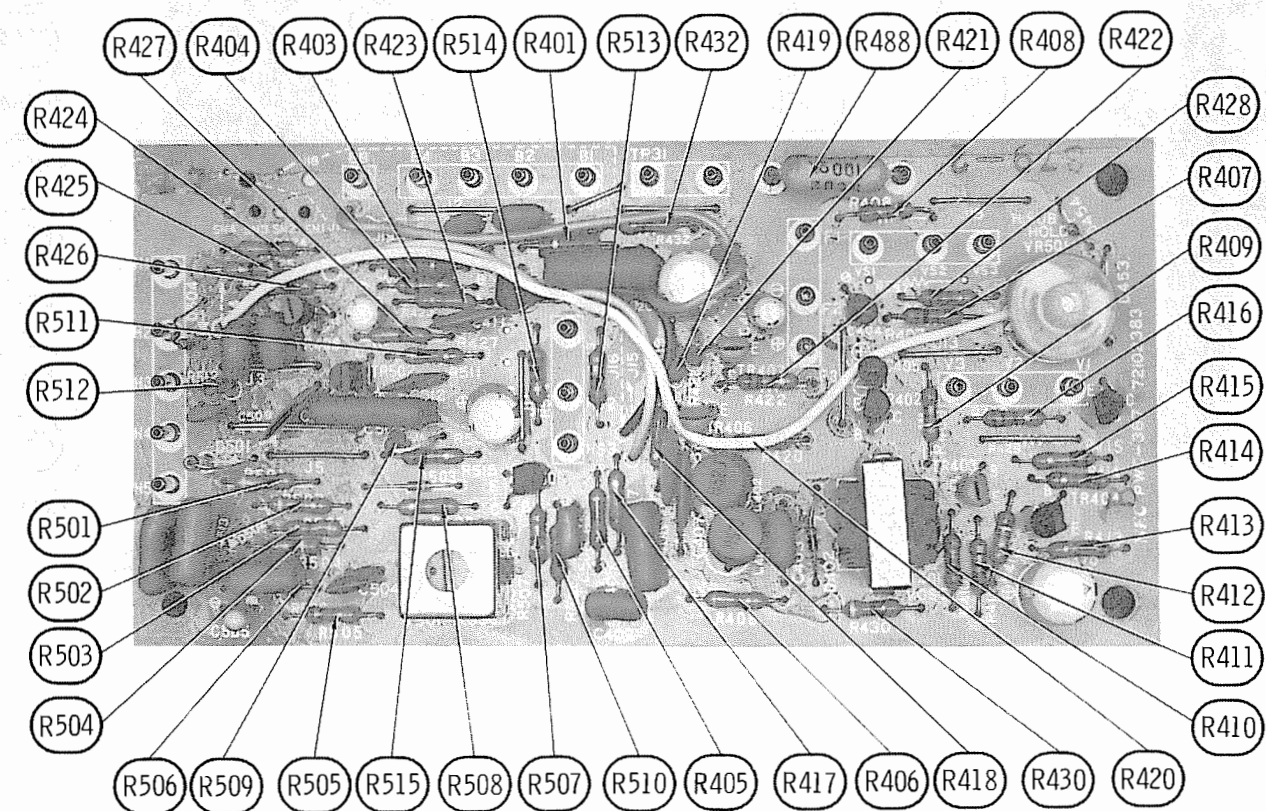
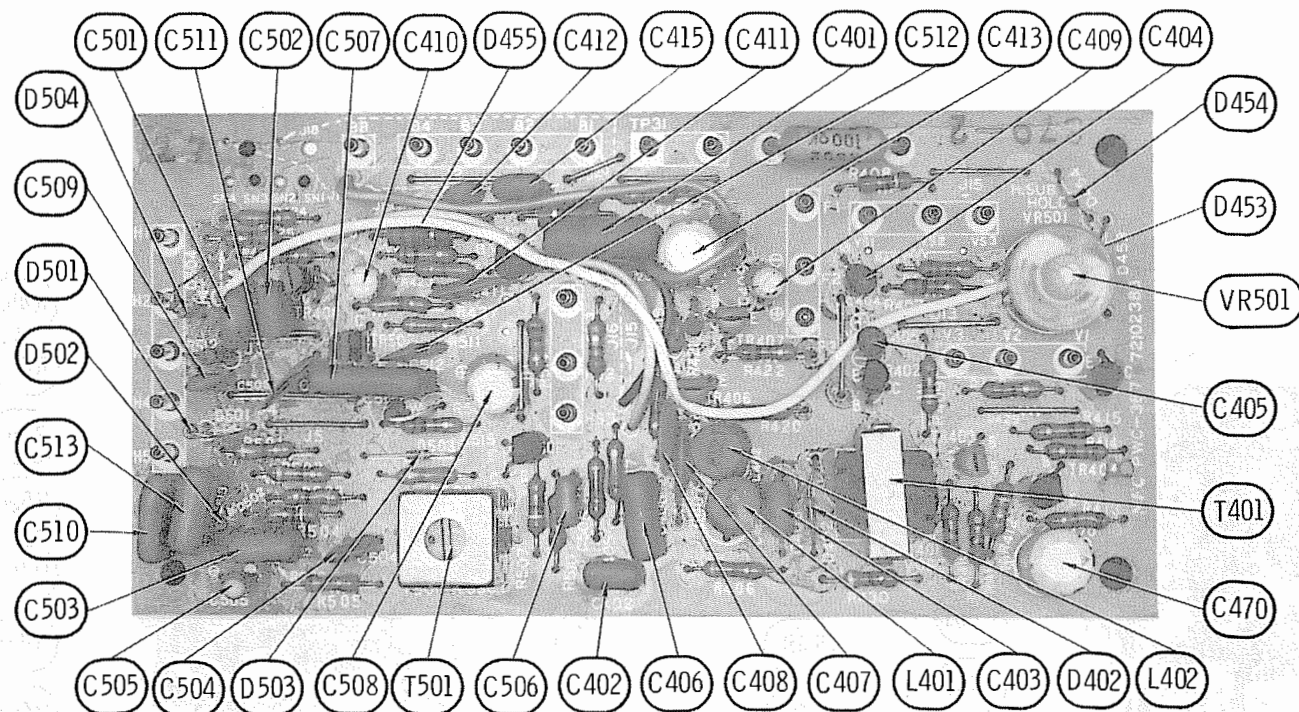


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PWC-343 ITT SWITCH/CONTROL BOARD

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C-53, CMC-53

FOLDER 1

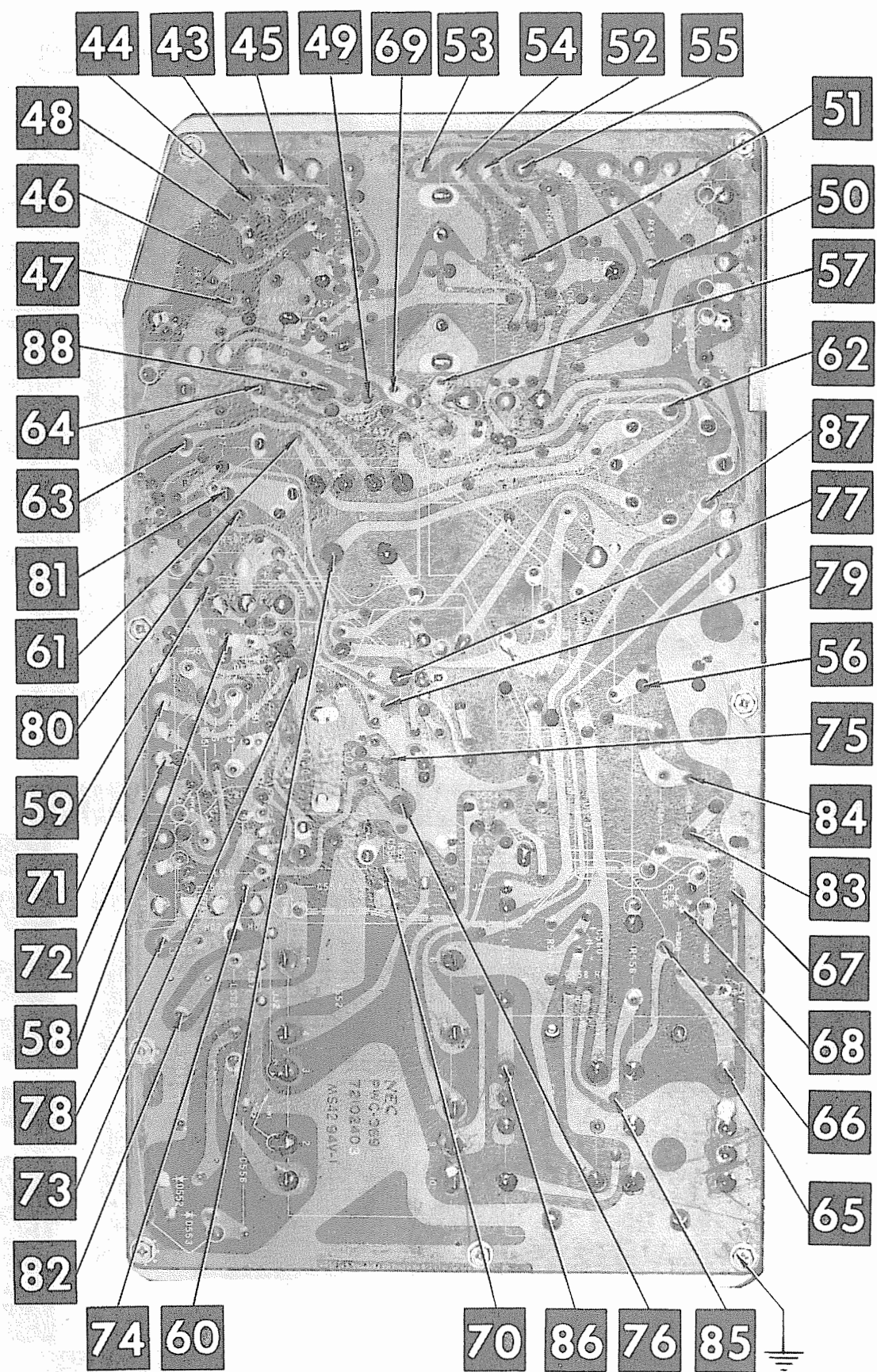


PWC-367 DEFLECTION BOARD

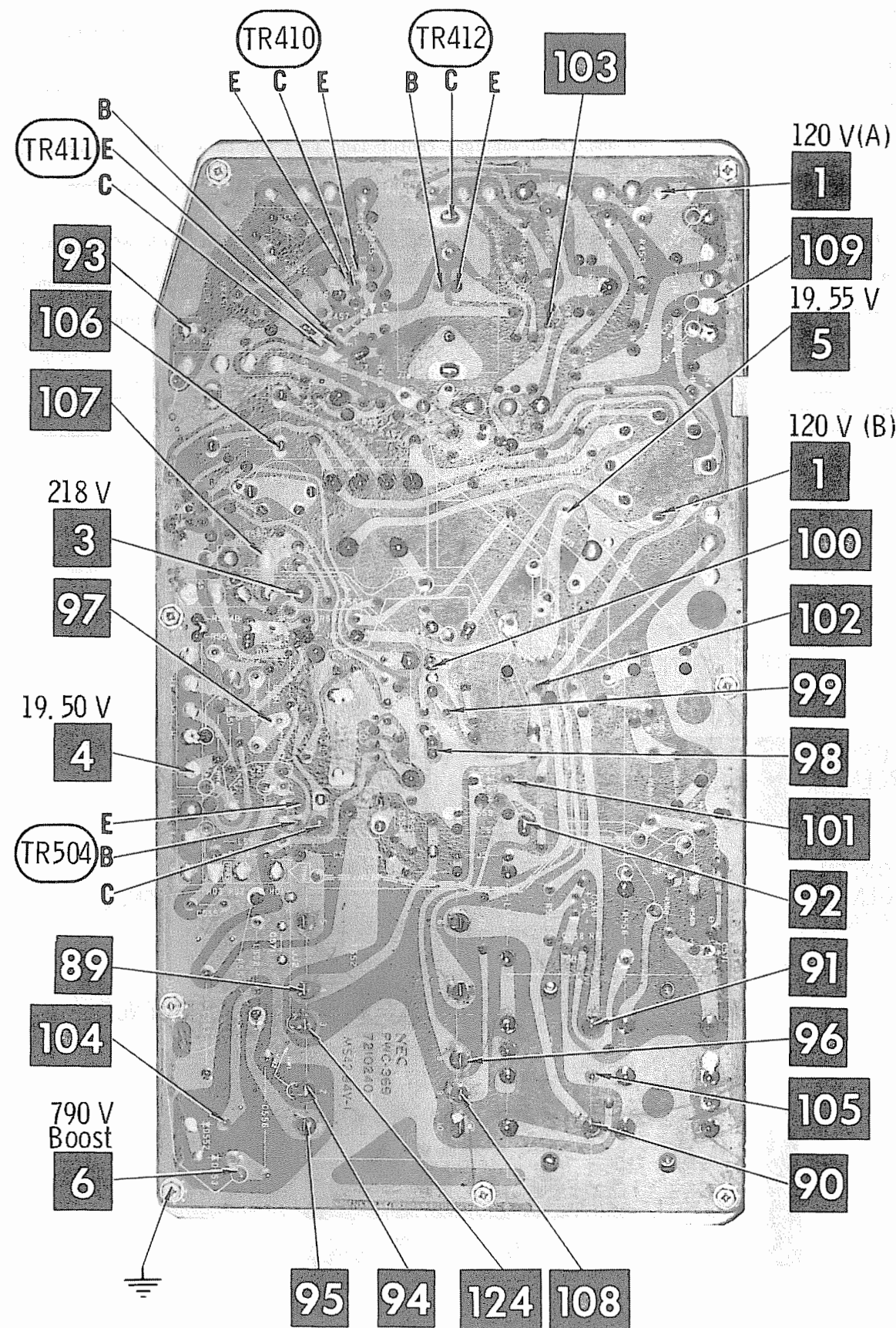
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FOLDER 1



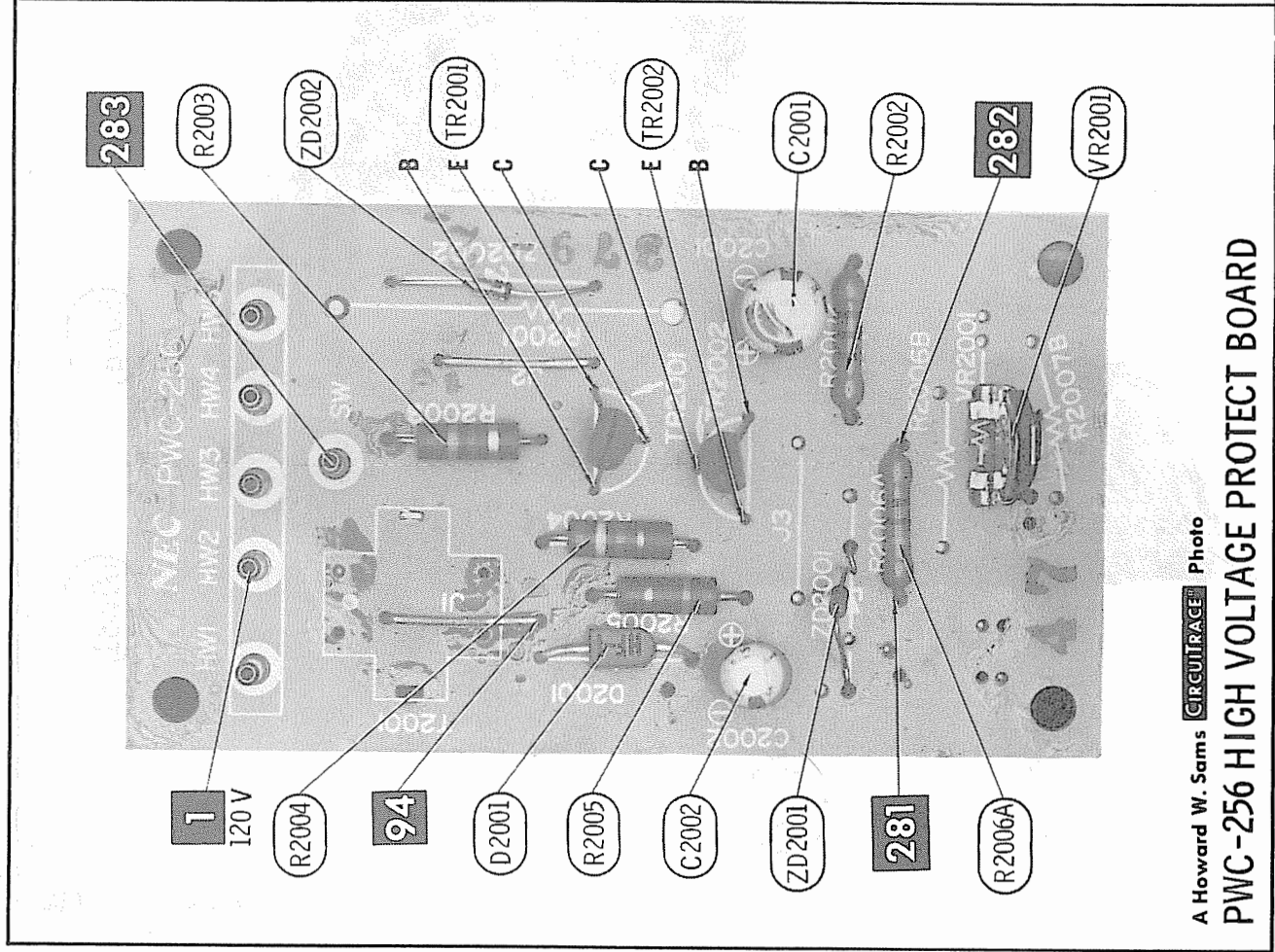
PWC-369 DEFLECTION OUTPUT BOARD



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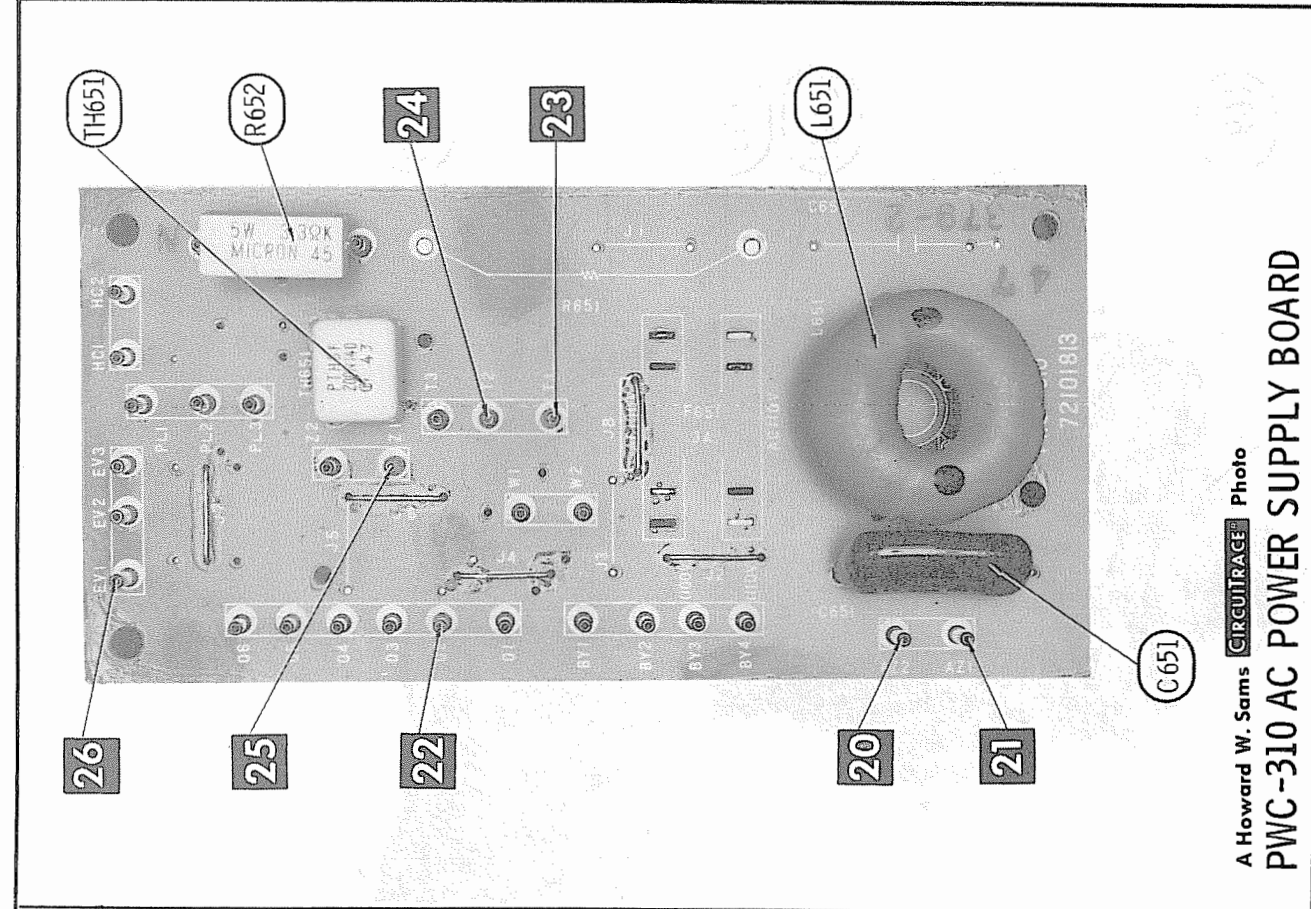
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FOLDER 1



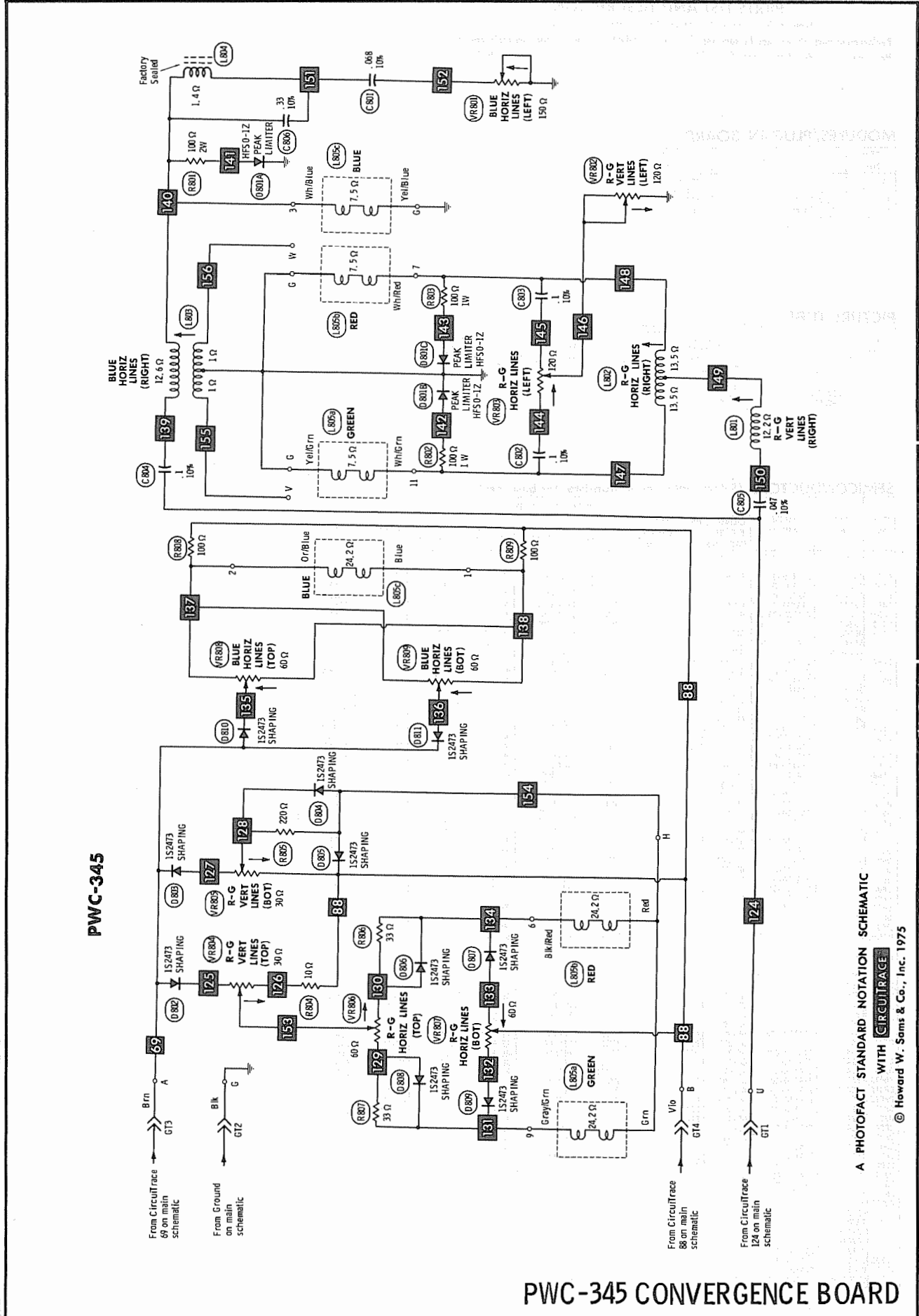
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PWC-256 HIGH VOLTAGE PROTECT BOARD



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PWC-310 AC POWER SUPPLY BOARD



PWC-345 CONVERGENCE BOARD

A PHOTOFACT STANDARD NOTATION SCHEMATIC
WITH **CIRCUITRACE**
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PARTS LIST AND DESCRIPTION (CONTINUED)

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

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

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L201	RF Choke (12uH)	14A052-034			
L203	RF Choke (12uH)	14A052-034			
L204	RF Choke (12uH)	14A052-034			
L205	RF Choke (12uH)	14A052-034			
L401	Peaking (8.5mH)	01A527-001			
L402	Peaking (8.5mH)	01A527-001			
L551	RF Choke (5.6uH)	14A052-040			
L552	RF Choke (5.6uH)	14A052-040			
L553	Peaking (200uH)	01A528-001			
L554	RF Choke (5.6uH)	14A052-040			
L555	RF Choke (5.6uH)	14A052-040			
L556	RF Choke (5.6uH)	14A052-040			
L560	RF Choke (5.6uH)	14A052-040			
L651	Line Choke	01A529-002			
L701	Peaking (47uH)	01A545-001			
L702	Peaking (68uH)	01A545-002			
L703	Peaking (68uH)	01A545-002			
L704	Peaking (220uH)	14A052-029			
L705	Peaking (220uH)	14A052-029			
L706	Peaking (220uH)	14A052-029			
LC701	3.58MHz Trap	01A514-001			
L751	Peaking (47uH)	01A512-004			
L752	RF Choke (15uH)	01A512-001			
L753	RF Choke (6.0uH)	01A512-005			
L754	RF Choke (22uH)	01A512-002			
L755	RF Choke (5.6uH)	14A052-040			
L756	RF Choke (5.6uH)	14A052-040			
L757	RF Choke (5.6uH)	14A052-040			
T201	Video Input IF	01A538-001	60253005		
T202	Video IF	01A530-002	60253006		
T203	47.25MHz Trap	01A539-002			
T204	41.25MHz Trap	01A539-001			
T205	1st Video IF	010538-003	60253007		
T206	1st Video IF	01A538-004	60253008		
T207	Video Detector	01A538-005	60253009		
T208	4.5MHz Trap	01A508-001			
T209	AFT Input	01A509-001	60251013		
T210	AFT Discriminator (Pri.)	01A510-001	60250001		
T211	AFT Discriminator (Sec.)	01A511-001	60250002		
T212	39.75MHz Trap	01A539-003			
T301	Sound Input IF	01A525-001	60310001		
T302	Radio Detector	01A526-001	60321002		
T751	Chroma Take-off	01A543-001			
T752	Chroma Bandpass	01A542-001			

COILS & TRANSFORMERS (Sweep Circuits)

ITEM No.	FUNCTION	REPLACEMENT DATA				
		MFG. PART No.	OTHER IDENTIFICATION	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.
L400	Yoke 90° Horiz = 1.3mH Vert = 22mH	01A547-001		0Y-116AC (2)	Y159 (2)	YC-329-2 (2)
L403	Alternate Conv. Yoke Assembly	01A548-001 (1) 16A06-001				
L403	Alternate	16A062-001 (1)				
L559	Pincushion Phase	01A522-001	60915002E			
L801	R/G Vert. Lines (Right)	01A498-001				
L802	R/G Horiz. Lines (Right)	01A537002				
L802	R/G Horiz. Lines (Right)	01A499-001 (1)				
L803	Blue Horiz. Lines (Right)	01A500-001				
L804	Blue Shape	14A052-032				
T401	Vertical Osc.	10A114-001	45603001			
T501	Horiz. Osc.	01A546-001	60952001			
T551	Horiz. Drive	01A540-001	45801004			
T552	Flyback	01A541-001	47105023			
T553	Reactor	10A115-001	49501010			
T554	Side Pincushion	10A111-001	47502011			
T555	Pincushion (Top & Bottom)	10A117-001	47551003			

(1) Alternate used in some versions.

(2) See Component Connection Data Sheet.

SWEEP COMPONENT CONNECTION DATA

ORIGINAL	YOKE							YOKE PLUG						
	Original Connections							2	4	5	6	7	8	
REPLACEMENT	RED	BLU	GRN	BLK	WHT	YEL								
STANCOR	RED	BLU	GRN	BLK	WHT	YEL (1)		RED	BLU	GRN	BLK	WHT	YEL	
THORDARSON	RED	BLU	GRN	WHT	BLK	YEL (1)		RED	BLU	GRN	WHT	BLK	YEL	
TRIAD	EXACT REPLACEMENT							EXACT REPLACEMENT						

(1) Use original yoke plug and jumper Pin 1 to Pin 3.

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	PRI.	SEC. I	MFG. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T691	120V AC @ .073A AC	6.3V AC @ 1A AC	12A111-001 45052101 (1)				(1) Number on unit.

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA				NOTES
	PRI.	SEC.	MFG. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T303	3900	3.2	10A105-001 45409001 (1)				(1) Number on unit.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFG. PART No.	QUAM PART No.	
SP1	5" PM, 3.2 ohms			

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA							
		PART No.		BUSS		LITTELFUSE		WORKMAN	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	
CB600	Circuit Breaker Break: 3.15A Hold: Unknown	06A046-005							
F551	.5A @ 250V Quick-Acting Pigtail	05T005-013		GJV1/2		318.500			
F552	1A @ 125V Quick-Acting Pigtail	05T010-013		GJV1		318001			
F601	.5A @ 250V Quick-Acting Pigtail	05T005-013		GJV1/2		318.500			

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF201	UHF Tuner	14B471-001	With Dial Scale Tuner Only (THU-805)
CF701	UHF Tuner	07A138-001	
DL701	VHF Tuner	14B466-001	
L691	Ceramic Filter	09A020-001	4.5MHz
	Ceramic Filter	09A021-001	3.50MHz
	Delay Line	01A494-001	
	Degaussing Coil	01A249-012	23" and 25" Models
	Degaussing Coil	01A249-008	19" Models
SG501	Spark Gap	05A082-009	7KV
SG901	Spark Gap	05A002-011	2.0KV
SG903			
SG904	Spark Gap	05A082-010	750V
SG909			
SG910	Spark Gap	05A082-009	7KV
SW1	Switch	06A133-001	AFT
SW2	Switch	06A124-001	1TT
SW3	Switch		UHF/VHF INO.
SW551	Switch	06A132-001	Horiz. Centering
SW701	Switch	06A121-002	Normal/Align
SW751	Switch	06A121-001	Normal/Align
PWC-256	P.C. Board	14B462-001 #	High Voltage Protect
PWC-311	P.C. Board	14B451-001	OC Power Supply
PWC-343	P.C. Board	14B457-001	1TT Control/1TT Switch
PWC-344	P.C. Board	14B459-001	CRT
PWC-345	P.C. Board	14B460-001	Convergence
PWC-369	P.C. Board	14B454-001	Deflection Output

For SAFETY, replace only with equivalent part.

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

ITEM	PART No.	ITEM	PART No.
VHF Dial Scale Disc	11B223-001	Knob, UHF Channel Selector	11B220-001
Push Button	11B219-001	Knob, Control	11B189-001
Knob, VHF Channel Selector	11B190-001	Knob, Control	11B189-002

WIRING DATA

High Voltage Lead	Use BELDEN No. B066 (40 KV)
Shielded Hook-up Wire	Use BELDEN No. B401 or B421 (Single-Conductor)
	B208 (Two-Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No. B520 (Solid) Available in 12 Colors
	B522 (Stranded) Available in 12 Colors
75-Ohm Tuner Input Lead	Use BELDEN No. B241
300-Ohm Antenna Lead-in	Use BELDEN No. B275 (Foam Core) or B285 (Foam Jacketed)
Antenna Rotor Cable	Use BELDEN No. B464 (Flat) or B484 (Round) 4-Conductor
	B485 (Round) - 5 Conductor
	B488 (Round) - 8 Conductor

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.

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

ITEM No.	TYPE No.	MFG. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
1C753	UPC562C	21A101-01B								ECG1050
	UPC32C	21A101-01B								ECG1050
TR202	2SC828(0)	21A112-062	GE-10	TR-24	PTC132	HEP50015	RE 13	SK3122	RT-107A	ECG123A
TR203	2SC828(0)	21A112-062	GE-10	TR-24	PTC132	HEP50015	RE 13	SK3122	RT-107A	ECG123A
	P									
TR271	2SC828(0)	21A112-062	GE-10	TR-24	PTC132	HEP50015	RE 13	SK3122	RT-107A	ECG123A
TR301	2SC945	(1R)25C945	GE-18	TR-24	PTC123	HEP50015	RE 13	SK3124	RT-107A	ECG123A
	2SC828(0)	21A112-062(1)	GE-10	TR-24	PTC132	HEP50015	RE 13	SK3122	RT-107A	ECG123A
TR302	25C1185,K,LH	21A112-033	GE-3B	TR-61	PTC129	HEP5020	RE 29	SK3079	RT-149	ECG162
TR401	2SC829B		GE-20	(1R)25C829B	PTC132	HEP50011	RE 9	SK3018	RT-105	ECG107
	2SC8285,T	21A112-104(1)	GE-20	TR-24	PTC136	HEP50016	RE 13	SK3020	RT-107A	ECG123A
	2SC828P	21A112-063(1)	GE-20	TR-21	PTC132	HEP50015	RE 13	SK3124	RT-107A	ECG123A
TR402	2SC829B		GE-20	(1R)25C029B	PTC132	HEP50011	RE 9	SK3018	RT-105	ECG107
	2SC828P	21A112-063(1)	GE-20	TR-21	PTC132	HEP50015	RE 13	SK3124	RT-107A	ECG123A
TR403	2SC829		GE-20	TR-24	PTC121	HEP50015	RE 13	SK3122	RT-105	ECG123A
	2SC828(0)	21A112-062(1)	GE-10	TR-24	PTC132	HEP50015	RE 13	SK3122	RT-107A	ECG123A
	P									
TR404	2SC839		GE-20	TR-24	PTC121	HEP50015	RE 13	SK3122	RT-102	ECG123A
	2SC828(0)	21A112-062(1)	GE-10	TR-24	PTC132	HEP50015	RE 13	SK3122	RT-107A	ECG123A
TR405	2SC839		GE-20	TR-24	PTC121	HEP50015	RE 13	SK3122	RT-102	ECG123A
	2SC828(0)	21A112-062(1)	GE-10	TR-24	PTC132	HEP50015	RE 13	SK3122	RT-107A	ECG123A
	P									
TR406	2SC839		GE-20	TR-24	PTC121	HEP50015	RE 13	SK3122	RT-102	ECG123A
	2SC828(0)	21A112-062(1)	GE-10	TR-24	PTC132	HEP50015	RE 13	SK3122	RT-107A	ECG123A
	P									
TR407	2SC839		GE-20	TR-24	PTC121	HEP50015	RE 13	SK3122	RT-102	ECG123A
	2SC828(0)	21A112-062	GE-10	TR-24	PTC132	HEP50015	RE 13	SK3122	RT-107A	ECG123A
TR408	LJ152(0)	21A112-065	GE-21	TR-30	PTC103	HEP50019	RE 26	SK3114	RT-115	ECG159
	JA1050GL(*)									
TR409	2SC1104,L	21A112-096(9)	GE-40	TR-57	PTC112	HEP50018	RE 26	SK3114	RT-115	ECG159
TR410	SPS5450	21A112-074	GE-40	TR-32	PTC144	HEP50005	RE 78	SK3024	RT-114	ECG194
TR411	SPS5451	21A112-075	GE-21	TR-30	PTC103	HEP50019	RE 26	SK3114	RT-115	ECG159
TR412	2SA653,L	21A112-073(9)	GE-21	TR-58	PTC113	HEP50019	RE 26	SK3114	RT-115	ECG159
TR501	LJ152(0)	21A112-065	GE-21	TR-30	PTC103	HEP50019	RE 26	SK3114	RT-115	ECG159
	JA1050GL(*)									
TR502	LJ152(0)	21A112-065	GE-21	TR-30	PTC103	HEP50019	RE 26	SK3114	RT-115	ECG159
	JA1050GL(*)									
TR503	2SC1325A	21A112-103	GE-30	TR-93	PTC146	HEP50020	RE 32	SK3115	RT-140	ECG165
TR504	2SC1506	21A112-070(1)	GE-32	TR-75	PTC124	HEP50019	RE 26	SK3103	RT-135	ECG198
	2SC1521K	21A112-098	GE-32	TR-75	PTC124	HEP50019	RE 26	SK3103	RT-135	ECG198
TR601	2SC1507,K,LH	21A112-098	GE-32	TR-75	PTC117	HEP50015	RE 18	SK3104	RT-159	ECG198
TR602	2SC815,F	21A112-013	GE-20	TR-21	PTC139	HEP50015	RE 13	SK3038	RT-102	ECG123A
TR603	SPS5450	21A112-074	GE-40	TR-32	PTC144	HEP50005	RE 78	SK3024	RT-114	ECG194
	2SC1520K,L	21A112-099(1)	GE-32	TR-75	PTC124	HEP50021	RE 115	SK3103	RT-159A	ECG198
TR604	50632	21A108-002	GE20-10	Z-1210	PFES06	HEP20413	RE 115	SK3061	RT-241	ECG140
TR691	2SC1106,K,L	21A112-031 (10)	GE-14	TR-61	PTC119	HEP57004	RE 19	SK3027	RT-131	ECG130
TR692	2SC1106,K,L	21A112-031 (10)	GE-14	TR-61	PTC119	HEP57004	RE 19	SK3027	RT-131	ECG130
	(1)									
TR701	2SC829B,Y	21A112-101	GE-20	(1R)25C829B	PTC132	HEP50011	RE 9	SK3018	RT-108	ECG 107
TR702	2SA564AP		GE-40	TR-31	PTC127	HEP50019	RE 26	SK3114	RT-108	ECG159
	2SA495Y	21A112-100(1)	GE-21	TR-52	PTC103	HEP50013	RE 26	SK3118	RT-115	ECG159
TR703	2SC945		GE-18	(1R)25C945	PTC123	HEP50015	RE 13	SK3124	RT-107A	ECG123A
	2SC828P,Q	21A112-063(1)	GE-20	TR-21	PTC132	HEP50015	RE 13	SK3124	RT-107A	ECG123A
TR704	2SA564AP		GE-40	TR-31	PTC127	HEP50019	RE 26	SK3114	RT-108	ECG159
	2SA495(0)	21A112-102(1)	GE-21	TR-52	PTC103	HEP50013	RE 26	SK3118	RT-115	ECG159
TR705	2SC945		GE-18	(1R)25C945	PTC123	HEP50015	RE 13	SK3124	RT-107A	ECG123A
	2SC828P,Q	21A112-063(1)	GE-20	TR-21	PTC132	HEP50015	RE 13	SK3124	RT-107A	ECG123A
TR706	2SA545,K,LH	21A112-004	GE-82	TR-88	PTC111	HEP53002	RE 18	SK3025	RT-115	ECG129
TR707	2SC1506		GE-32	TR-75	PTC124			SK3103	RT-135	ECG198
	2SC1521K,LH	21A112-070(1)	GE-32	TR-75	PTC124			SK3103	RT-135	ECG198
TR708	2SC1506		GE-32	TR-75	PTC124			SK3103	RT-135	ECG198
	2SC1521K,LH	21A112-070(1)	GE-32	TR-75	PTC124			SK3103	RT-135	ECG198
TR709	2SC1506		GE-32	TR-75	PTC124			SK3103	RT-135	ECG198
	2SC1521K,LH	21A112-070(1)	GE-32	TR-75	PTC124			SK3103	RT-135	ECG198
TR751	2SC945,Q,R,S	21A112-046	GE-18	(1R)25C945	PTC123	HEP50015	RE 13	SK3124	RT-107A	ECG123A
TR200	2SA539,K,L,M #									
TR2002	2SC945,R,S									
Z02001	1R08, 2F #									
	B, 2B4 (*)									
Z02002	707AM #									
	6, 804 (*)									

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.
C1	47 16V	04A030-074	RME-E-E-050	EP15-50	PC50-16	MTV50CB15	EV-1226
C209	47 35V	04A110-610				TOC474M950EL	S050-R479
C210	47 16V	04A030-074	RME-E-E-050	EP15-50	PC50-16	MTV50CB15	EV-1226
C211	1 50V	04A030-112	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C213	22 16V	04A030-109	RME-D-E-025	EP15-25	PC25-25	MTV25CB35	EV-1325
C219	47 25V	04A030-075	RME-F-G-050	EP30-50	PC50-25	MTV50CB25	EV-1326
C280	47 25V	04A030-075	RME-F-G-050	EP30-50	PC50-25	MTV50CB25	EV-1326
C224	10 25V	04A030-111	RME-D-G-010	EP30-10	PC10-25	VT110A25	EV-1322
C226	47 35V	04A110-610				TOC474M950EL	S050-R479
C271	1 50V	04A030-112	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C304	10 16V	04A030-073	RME-B-E-010	EP15-10	PC10-25	VT110A25	EV-1222
C307	10 16V	04A030-073	RME-B-E-010	EP15-10	PC10-25	VT110A25	EV-1222
C308	10 16V	04A030-073	RME-B-E-010	EP15-10	PC10-25	VT110A25	EV-1222
C309	10 16V	04A030-073	RME-B-E-010	EP15-10	PC10-25	VT110A25	EV-1222
C311	220 25V	04A030-077	RME-K-G-250	EP30-250	PC250-25	MTV250J25	EV-1345
C312	100 16V	04A030-091	RME-E-E-100	EP15-100	PC100-16	MTV100CB15	EV-1326
C313	100 25V	04A030-076	RME-A-G-100	EP30-100	PC100-25	MTV100CB25	EV-1326
C315	1 250V	04A030-093	ME-3-R-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C317	47 160V	04A030-086	CTA-1340			WBR50-450	TCS56A
C404	10 16V	04A110-326				TOC106M035FL	S035-109
C405	10 16V	04A110-326				TOC106M035FL	S035-109
C409	1 50V	04A030-112	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C410	3.3 16V	04A030-076	RME-A-E-003	EP15-5	PC5-50	VT130A50	EV-1318
C413	100 25V	04A030-092	RME-G-G-100	EP30-100	PC100-25	MTV100CB25	EV-1330
C451	100 10V	04A030-079	RME-E-D-100	EP15-100	PC100-10	MTV100CB10	EV-1130
C452	6.8 16V	04A110-324				TOC68M035FL	S035-68B9
C453	10 16V	04A110-326				TOC106M035FL	S035-109
C454	33 160V	04A030-113	CTA-1335			WBR40-250	TCS56A
C455	33 160V	04A030-113	CTA-1335			WBR40-250	TCS56A
C458	10 160V	04A030-090	CTA-1310			WBR12-250	TCS2A
C460	470 35V	04A030-114	RME-O-H-500	EP50-500	PC500-35	MTA500G50	EV-1450
C461	1 50V	04A030-112	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C468	22 160V	04A030-115	RME-A-G-100	EP30-100	PC100-25	MTV100CB25	EV-1330
C470	100 25V	04A030-092				TOC475M035FL	S035-479
C505	4.7 16V	04A110-322				MTV50CB15	EV-1226
C508	47 16V	04A030-074	RME-E-E-050	EP15-50	PC50-16	MTV50CB15	EV-1226
C551	3.3 160V	04A030-088	CTA-1300			WBR4-250	TCS697B
C558	47 10V NP	04A030-089	CTA7330			TCN1551	TVA-1437
C559	2200 10V	04A030-099	ME-D2000	EA15-2000		TC1220A	TVA-1134
C560	3.3 160V	04A030-088	CTA-1300			WBR4-250	TCS697B
C563	1000 25V	04A030-116	ME-G1000	EA30-1000	WBR1000-25	MTA1000G25	TVA-1211
C564	22 25V	04A030-101	RME-D-G-025	EP30-25	PC25-25	MTV25CB35	EV-1325
C565	10 160V	04A030-090	CTA-1310			WBR12-250	TCS2A
C566	47 16V	04A030-074	RME-E-E-050	EP15-50	PC50-16	MTV50CB15	EV-1226
C567	100 10V	04A030-079	RME-E-D-100	EP15-100	PC100-10	MTV100CB10	EV-1130
C571	100 10V	04A030-079	RME-E-D-100	EP15-100	PC100-10	MTV100CB10	EV-1130
C572	47 16V	04A030-074	RME-E-E-050	EP15-50	PC50-16	MTV50CB15	EV-1226
C573	470 25V	04A030-078	RME-N-G-500	EP30-500	WBR500-25	MTA500G25	EV-1350
C580	10 160V	04A030-090	CTA-1310			WBR12-250	TCS2A
C704	3.3 200V	04A030-110	CTA-1300			WBR4-250	TCS697B
C606	3.3 160V	04A030-088	CTA-1300			WBR4-250	TCS697B
C607	3.3 160V	04A030-088	CTA-1300			WBR4-250	TCS697B
C691	1000 200V	04A109-002				DOO018.4A (1)	
C701	2.2 25V NP	04A030-117	CTA7300			EW25-255	WHP2-50
C704	3.3 25V	04A030-080	ME-A-G-035	EP30-25	PC30-25	MTV30CB25	EV-1325
C707	2.2 25V NP	04A030-117	CTA7300			EW25-255	WHP2-50
C708	1 50V	04A030-112	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C710	100 25V	04A030-092	RME-G-G-100	EP30-100	PC100-25	MTV100CB25	EV-1330
C712	10 25V	04A030-111	RME-D-G-010	EP30-10	PC10-25	VT110A25	EV-1322
C713	33 25V	04A030-080	ME-A-G-035	EP30-25	PC30-25	MTV30CB25	EV-1325
C754	4.7 16V	04A110-322				TOC475M035FL	S035-479
C769	10 16V	04A110-326				TOC106M035FL	S035-109
C785	22 16V	04A030-109	RME-D-E-025	EP15-25	PC25-25	MTV25CB35	EV-1325
C909	1 160V	04A030-118	ME-3-R-001			WBR1-450	TCS6A
C910	1 160V	04A030-118	ME-3-R-001			WBR1-450	TCS6A
C911	1 160V	04A030-118	ME-3-R-001			WBR1-450	TCS6A
C2001	22 25V	#					
C2002	10 25V	#					

For SAFETY, manufacturer suggests not replacing item, replace board as a complete unit.
(1) Parallel all sections.

CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA					
		MFGR. PART No.	ARCO/ELMENC PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C201	120 NPO 5%			DTZ-120		CH0312	10TCC-T12
C202	56 NPO 5%					CH0456	10TCC-056
C203	56 NPO 5%					CH0456	10TCC-056
C204	15 NPO 5%					CH0415	10TCC-015
C205	10 NPO					CH0410	10TCC-010
C206	.01					GP110	10T5-S10
C208	.01					GP110	10T5-S10
C212	.1					MG5091	TG-P10
C214	3 NPO					CH0533	10TCC-V33
C215	.001 10%					GP210	10T5-010
C217	47 NPO 5%					CH0447	10TCC-047
C218A	.01					GP110	10T5-S10
C221	.01					GP110	10T5-S10
C222	100 NPO 5%					GP120	56A-S20
C223	.01					CH0310	10TCC-T10
						GP110	10T5-S10

CAPACITORS(cont)

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA					
			ARCO/ELMENC PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
C225	.022	05A072-123	CCO-203			GP120	56A-S20	
C246	10 NPO		CCO-100	DTZ-10	NP010	GP120	10TCC-Q10	
C251	10 NPO		CCO-100	DTZ-10	NP010	GP120	10TCC-Q10	
C252	.0022		CCO-222			GP222	10T5-022	
C253	.0022		CCO-222			GP222	10T5-022	
C254	.0022		CCO-222			GP222	10T5-022	
C255	39 NPO 5%		CCO-222			GP222	10TCC-Q39	
C256	.02 5%							
C257	27 NPO 10%			CCO-270			GP222	10TCC-Q27
C258	.0022			CCO-222			GP222	10T5-022
C259	.0022			CCO-222			GP222	10T5-022
C260	.0022			CCO-222			GP222	10T5-022
C261	.0022			CCO-222			GP222	10T5-022
C262	.0022			CCO-222			GP222	10T5-022
C263	.01			CCO-103	00-1032	GP10000	GP110	10T5-S10
C272	5 1KV N750 + 5	05A051-063						
C273	60 1KV NPO 5%	05A051-192						
C301	.022		CCO-203			GP120	56A-S20	
C302	.022		CCO-203			GP120	56A-S20	
C303	.022		CCO-203			GP120	56A-S20	
C305	.01		CCO-103	00-1032	GP10000	GP110	10T5-S10	
C306	.001 10%		CCO-102	00-102		GP210	10T5-D10	
C310	.0022		CCO-222			GP222	10T5-022	
C314	.01		CCO-103	00-1032	GP10000	GP110	10T5-S10	
C316	390 10%		CCO-391	00-391	GP390	GP339	10T5-T39	
C318	.060 50V		DMF-2-603	CPR-02J	DMF5456B	ENF1A168	1PB-S68	
C320	82 5%		DM10-B20J	CPR-02J	DMF5456B	ENF1A168	1PB-S68	
C401	.02 50V		DMF-4-224	CPJ-022	DMF56002	ENF1A282	1PB-D82	
C402	.0002 50V 10%		DMF-1-B22	CPJ-153	DMF54515	ENF1A115	1PB-S15	
C403	.015 50V 10%		DMF-1-153		DMF52P1	ENF1A010	1PB-P10	
C406	.1 50V 10%		DMF-3-104		GP270	GP327	10T5-T27	
C407	270 10%		CCO-271	00-271	GP270	GP327	10T5-T27	
C408	270 10%		CCO-271	00-271	GP270	GP327	10T5-T27	
C411	270 5%		CCO-271	00-271	GP270	GP327	10T5-T27	
C412	560 10%		CCO-561	00-561		GP356	10T5-T56	
C414	47 5%	05A051-221						
C415	.0047 50V		DMF-1-472	CPJ-472	DMF56D47	ENF1A247	1PB-D47	
C456	.1 50V 10%		DMF-3-104	CPJ-103	DMF52P1	ENF1A010	1PB-P10	
C457	.0015 10%		CCO-152	00-152		GP215	10T5-015	
C459	.01 10%		CCO-103			GP215	10T5-S10	
C467	.1 50V 10%		DMF-4-104		DMF56P1	ENF6010	6P5-P10	
C501	.01 50V 10%		DMF-1-103	CPJ-103	DMF5451	ENF1A110	1PB-S10	
C502	.01 50V 10%		DMF-1-103	CPJ-103	DMF5451	ENF1A110	1PB-S10	
C503	.047 50V 10%		DMF-2-473	CPJ-223	DMF52522	ENF1A122	1PB-S22	
C504	.022 50V 10%		DMF-1-223	CPJ-332	DMF56033	ENF1A233	1PB-S33	
C506	.0033 50V 10%		DMF-1-332	CPJ-332	DMF52P15	ENF1A015	1PB-P15	
C507	.15 50V 10%		DMF-3-154	00-471	DMF56556	ENF1A156	1PB-S56	
C509	470 10%		CCO-471	00-471		GP356	10T5-T56	
C510	.056 50V 10%		DMF-2-563	DTZ-100	NP010	GP330	10TCC-T10	
C511	100 NPO 5%		CCO-203			GP120	56A-S20	
C512	.022		CCO-203			GP120	56A-S20	
C513	.1 50V 10%		DMF-3-104		DMF52P1	ENF1A010	1PB-P10	
C553	.016 1.5KV 5%	05A151-001						
C554	560 5%	05A051-209						
C555	.0033 10%		CCO-332					
C556	.0047 1KV 10%		160P-2-472		DMF561047	PVC16247	10T5-033	
C557	1.5 200V 10%	05A152-050			DMF6W1P5		155P15502	
C561	.47 250V		60P-0-474		DMF6P47	ENF6047	6P5-P47	
C568	.0022		CCO-222			GP222	10T5-022	
C569	.0022		CCO-222			GP222	10T5-022	
C570	.0022		CCO-222			GP222	10T5-022	
C601	.0047 150VAC			C1-502	AC-5000	UAC250	125L-047	
C602	.0047 150VAC			C1-502	AC-5000	UAC250	125L-047	
C603	.0047 150VAC			C1-502	AC-5000	UAC250	125L-047	
C604	.0047 150VAC			C1-502	AC-5000	UAC250	125L-047	
C608	.0022		CCO-222			GP222	10T5-022	
C651	.1 250VAC	05A146-003						
C702	270 5%			DTZ-270			10TCC-T27	
C703	270 5%			DTZ-270			10TCC-T27	
C705	.01		CCO-103	00-1032	GP10000	GP110	10T5-S10	
C706	33		CCO-330	00-330	GP033	GP033	10TCC-Q33	
C709	600		CCO-601	00-601	GP600	GP368	10T5-T68	
C714	.01		CCO-103	00-1032	GP10000	GP110	10T5-S10	
C715	.022		CCO-203			GP120	56A-S20	
C716	60 NPO 5%			DTZ-68	NP068	GP120	56A-S20	
C717	12		CCTO-120			GP120	56A-S20	
C718	220	05A051-124				GP120	56A-S20	
C719	220	05A051-124				GP120	56A-S20	
C720	220	05A051-124				GP120	56A-S20	
C751	68 NPO 5%			DTZ-68	NP068	GP120	56A-S20	
C752	68 NPO 5%			DTZ-68	NP068	GP120	56A-S20	
C753	220 5%			DTZ-220		GP120	56A-S20	
C755	12 NPO 5%			DTZ-12		GP120	56A-S20	
C756	47 NPO 5%			DTZ-47	NP047	GP120	56A-S20	
C757	220 5%			DTZ-220		GP120	56A-S20	
C758	.1 50V		DMF-3-104		DMF52P1	ENF1A010	1PB-P10	
C759	.1 50V		DMF-3-104		DMF52P1	ENF1A010	1PB-P10	
C760	.022 50V		DMF-1-223	CPJ-223	DMF52522	ENF1A122	1PB-S22	
C761	220 5%			DTZ-220		GP120	56A-S20	
C762	220 5%			DTZ-220		GP120	56A-S20	
C763	.022		CCO-203			GP120	56A-S20	
C764	.022		CCO-203			GP120	56A-S20	
C765	.022		CCO-203			GP120	56A-S20	
C766	68 NPO 5%			DTZ-68	NP068	GP120	56A-S20	
C767	.022		CCO-203			GP120	56A-S20	
C768	.022		CCO-203			GP120	56A-S20	
C770	.022		CCO-203			GP120	56A-S20	
C771	47 NPO 5%			DTZ-47	NP047	GP120	56A-S20	
C772	39 NPO 5%			DTZ-39		GP120	56A-S20	
C773	.022		CCO-203			GP120	56A-S20	
C774	12 NPO 5%			DTZ-12		GP120	56A-S20	
C775	68 NPO 5%			DTZ-68	NP068	GP120	56A-S20	
C776	120 NPO 5%			DTZ-120		GP120	56A-S20	
C777	270 5%			DTZ-270		GP120	56A-S20	
C778	390 10%			DTZ-390	GP390	GP339	10T5-T39	
C779	.022		CCO-391			GP120	56A-S20	
C780	.022		CCO-203			GP120	56A-S20	
C781	.022		CCO-203			GP120	56A-S20	
C782	.022		CCO-203			GP120	56A-S20	
C783	.022		CCO-203			GP120	56A-S20	
C784	.022		CCO-203			GP120	56A-S20	
C706	100 NPO 5%			DTZ-100	NP0100	GP330	10TCC-T10	
C787	680 10%		CCO-681	00-681	GP680	GP368	10T5-T68	
C788	100 10%		DMF-1-102	CPJ-102	DMF5601	ENF1A210	1PB-S10	
C789	.001 50V 10%		CCO-103	00-1032	GP10000	GP110	10T5-S10	
C801	.01		DMF-4-683		DMF56566	ENF6160	6P5-S66	
C802	.1 200V 10%		DMF-3-104		DMF52P1	ENF2010	2PB-P10	
C803	.1 200V 10%		DMF-3-104		DMF52P1	ENF2010	2PB-P10	
C804	.1 400V 10%		DMF-3-104		DMF52P1	ENF2010	2PB-P10	
C805	.047 400V 10%		DMF-3-104		DMF52P1	ENF2010	2PB-P10	
C806	.33 200V 10%		DMF-6-333		DMF54547	ENF4147	4PB-S47	
C901	.001 1KV		CCO-102	00-102	DMF56P33	ENF6033	6P5-P33	
C902	.001 1KV		CCO-102	00-102		GP210	10T5-D10	
C903	.001 1KV		CCO-102	00-102		GP210	10T5-D10	
C904	.0047 1.4KV		CCO-102	00-102		GP210	10T5-D10	
C905	.1 100V		DMF-3-104	C1-502	AC-5000	UAC250	125L-047	
C906	.1 100V		DMF-3-104		DMF52P1	ENF1A010	1PB-P10	
C907	.1 100V		DMF-3-104		DMF52P1	ENF1A010	1PB-P10	
C912	.1 600V		DMF-3-104		DMF52P1	ENF1A010	1PB-P10	
C913	.1 50V 10%		DMF-3-104		DMF52P1	ENF1A010	1PB-P10	

PARTS LIST AND DESCRIPTION

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

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

MODULES/PLUG-IN BOARDS

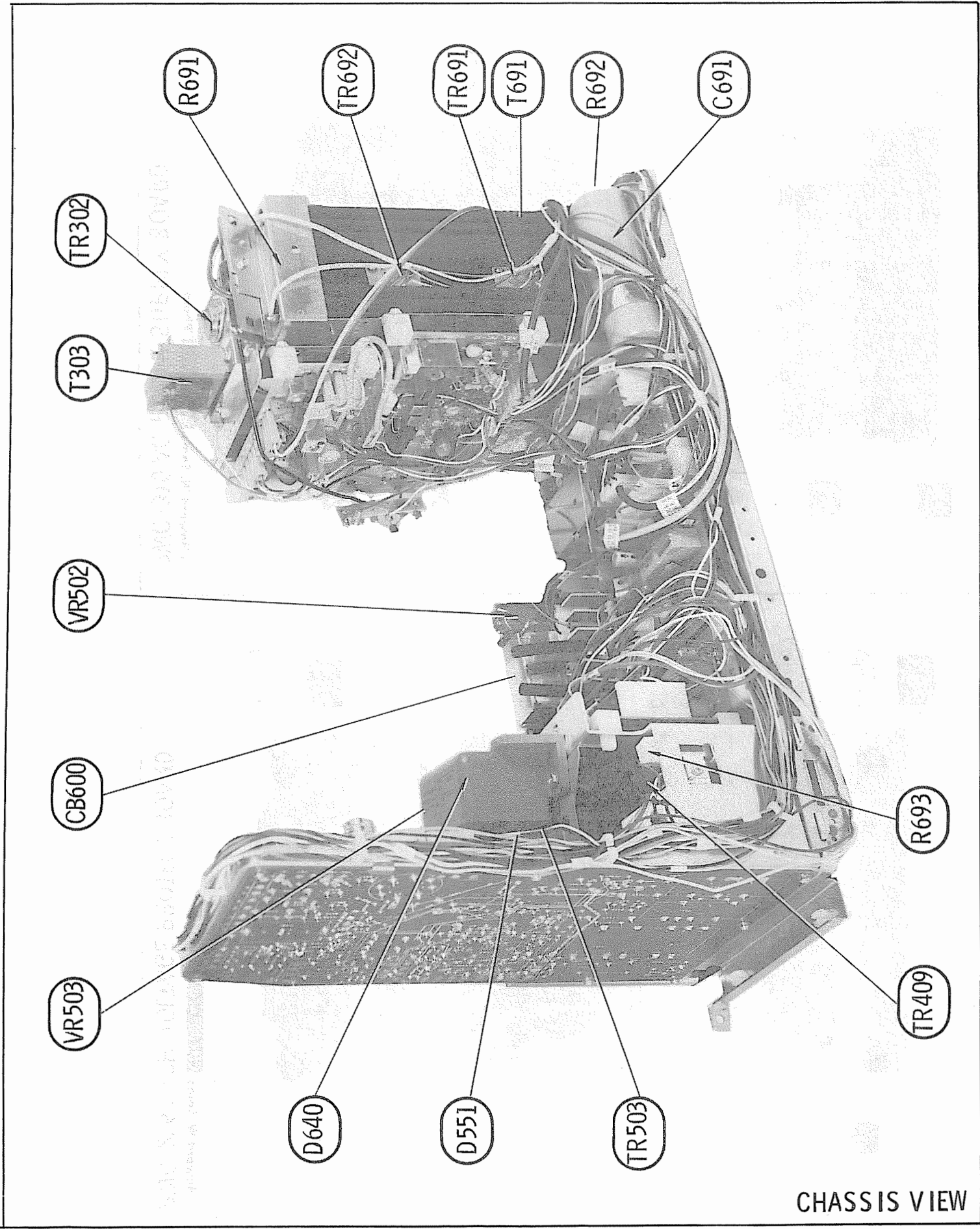
ITEM No.	PART NAME	MFGR. PART No.	NOTES
PWC-310	Plug-In Board	140450-001	AC Power Supply Board
PWC-312	Plug-In Board	140452-001	Video IF Board
PWC-317	Plug-In Board	140456-001	Chroma Board
PWC-367	Plug-In Board	140453-001	Deflection Board
PWC-360	Plug-In Board	140455-001	Video Output Board
PWC-277	Plug-In Board	140314-005	Sound

PICTURE TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	MFGR. PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SYLVANIA PART No.	
V1	25VC2P22 # 23VCFP22 # 19VEOP22 #	25VC2P22 19VEOP22	H-25V0XP22 (1) H-25VC2P22 (1) H-19VEOP22 (1)	XR25VC2P22	# For SAFETY, re- place only with equivalent part. (1) Hi-Lite Matrix.

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFGR. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D201	2QB01-11	21A037-020	GE20-11	Z-1212	ZB11	HEP20414	RE 116	SK3092	RT-242	ECG5074
D271	1S2473	21A100-003	GE-511	0172	PTC216	HEPR3012	RE 55	SK3130	RT-203	ECG506
D402	1S2473	21A100-003	GE-511	0172	PTC216	HEPR3012	RE 55	SK3130	RT-203	ECG506
D451	1S2473	21A100-003	GE-511	0172	PTC216	HEPR3012	RE 55	SK3130	RT-203	ECG506
D452	1S2473	21A100-003	GE-511	0172	PTC216	HEPR3012	RE 55	SK3130	RT-203	ECG506
D453A	1S2473	21A100-003(1)	GE-511	0172	PTC216	HEPR3012	RE 55	SK3130	RT-203	ECG506
D453B	1S2473	21A100-003(1)	GE-511	0172	PTC216	HEPR3012	RE 55	SK3130	RT-203	ECG506
D453C	RD16C-Y	21A100-003	GE-511	0172	ZB16	HEP20419	RE 122	SK3063	RT-246	ECG5075
D454	RD16A-H	21A037-017(1)	GE20-15	Z-1214	ZB16	HEP20419	RE 122	SK3063	RT-246	ECG5075
D455	RD16E-H(1)	21A037-017(1)	GE20-15	Z-1214	ZB16	HEP20419	RE 122	SK3063	RT-246	ECG5075
D501	1S1212	21A111-002	GE-504	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D502	SD-46	21A109-003	GE-511	0172	PTC216	HEPR3012	RE 55	SK3130	RT-203	ECG506
D503	SD-46	21A109-003	GE-511	0172	PTC216	HEPR3012	RE 55	SK3130	RT-203	ECG506
D504	RD13B-Z	21A100-003	GE-511	0172	PTC216	HEPR3012	RE 55	SK3130	RT-203	ECG506
D551	CGJ-1	21A037-018(1)	GE20-12	Z-1212	PTC508	HEP20416	RE 119	SK3093	RT-244	ECG143
D552	CGJ-1	21A110-014	GE-511	0172	PTC216	HEPR3012	RE 55	SK3130	RT-203	ECG506
D553	SB-2C	21A110-009(1)	GE-509	008	PTC203	HEPR0055	RE 51	SK3032	RT-210	ECG125
D554	SB-2C	21A110-009(1)	GE-509	008	PTC203	HEPR0055	RE 51	SK3032	RT-210	ECG125
D556A	HF-1	21A110-010	GE-504A	004	PTC201	HEPR0052	RE 49	SK3016	RT-214	ECG116
D556B	HF-1	21A110-013	GE-504A	004	PTC201	HEPR0053	RE 49	SK3016	RT-214	ECG116
D557	HF-1	21A110-013	GE-504A	004	PTC201	HEPR0053	RE 49	SK3016	RT-214	ECG116
D558	HF-1	21A110-013	GE-504A	004	PTC201	HEPR0053	RE 49	SK3016	RT-214	ECG116
D559	HF-1	21A110-013	GE-504A	004	PTC201	HEPR0053	RE 49	SK3016	RT-214	ECG116
D561	HF-1	21A110-013	GE-504A	004	PTC201	HEPR0053	RE 49	SK3016	RT-214	ECG116
D562	1S1554	21A100-001	GE-511	0172	PTC216	HEPR3012	RE 55	SK3130	RT-203	ECG506
D570	HF-1	21A110-006(1)	GE-504A	004	PTC201	HEPR0053	RE 49	SK3016	RT-214	ECG116
D601	SA-2	21A110-001	GE-504A	004	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D602	SA-2	21A110-001	GE-504A	004	PTC201	HEPR0053	RE 49	SK3016	RT-214	ECG116
D603	SA-2	21A110-001	GE-504A	004	PTC201	HEPR0053	RE 49	SK3016	RT-214	ECG116
D604	SA-2	21A110-001	GE-504A	004	PTC201	HEPR0053	RE 49	SK3016	RT-214	ECG116
D605	F14A	21A110-012	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D606	F14C	21A110-004	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D607	1S1212	21A111-002	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D608	1S1212	21A111-002	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D609	1S1212	21A111-002	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D610A	ZB1-10	21A110-002	GE20-10	Z-1210	PTC506	HEP20413	RE 115	SK3061	RT-241	ECG140
D610B	ZB1-125				ZB130					ECG5098
D640	ZB1-130	21A037-021(1)			ZB130					ECG5098
D704	1S2473	21A100-003	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D705	UF01	21A110-006(1)	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D706	UF01	21A110-006(1)	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D707	UF01	21A110-006(1)	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D708	1S2472	21A100-004	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D709	1S2473	21A100-003	GE-511	0172	PTC216	HEPR3012	RE 55	SK3130	RT-203	ECG506
D801A	HFSD-1Z	21A110-005	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D801B	HFSD-1Z	21A110-005	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D801C	HFSD-1Z	21A110-005	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D802	1S2473	21A100-003	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D803	1S2473	21A100-003	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D804	1S2473	21A100-003	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D805	1S2473	21A100-003	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D806	1S2473	21A100-003	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D807	1S2473	21A100-003	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D808	1S2473	21A100-003	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D809	1S2473	21A100-003	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D810	1S2473	21A100-003	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D811	1S2473	21A100-003	GE-300	0200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D2001	HF-1 #									
IC201	TA7074P	21A101-014(1)			PTC746	HEPC6076P			TVCM-42	ECG749
IC202	TA7076P	21A101-015			PTC746	HEPC6076P			TVCM-42	ECG749
IC203	WPC23C	21A101-005			PTC755	HEPC6079P			TVCM-60	ECG747
IC301	UPC17C	21A101-004								ECG1046
IC751	SH76243N	21A101-016	GEIC-6	IC-510	PTC719	HEPC6071P		SK3076	TVCM-9	ECG715
IC752	SH76242N	21A101-016(1)	GEIC-4	IC-509	PTC719	HEPC6070P		SK3075	TVCM-0	ECG714
	MC1370	21A101-017			PTC715					



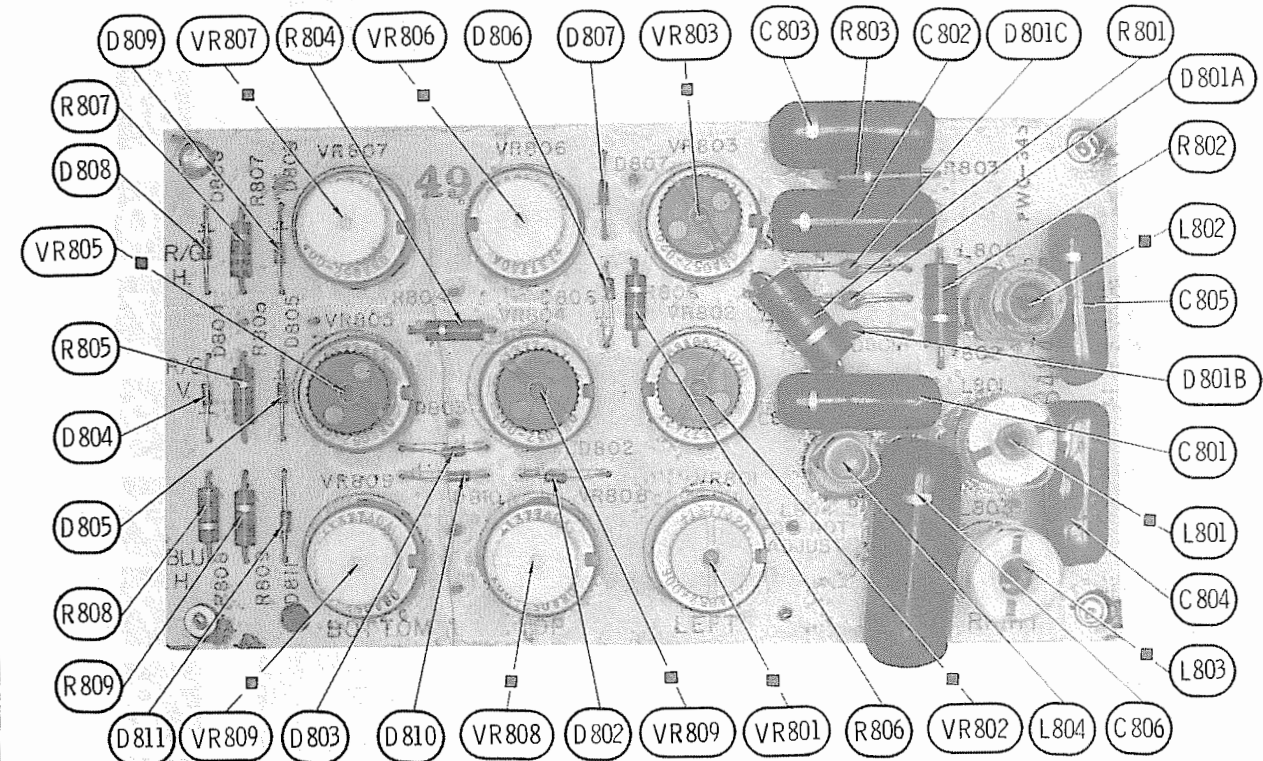
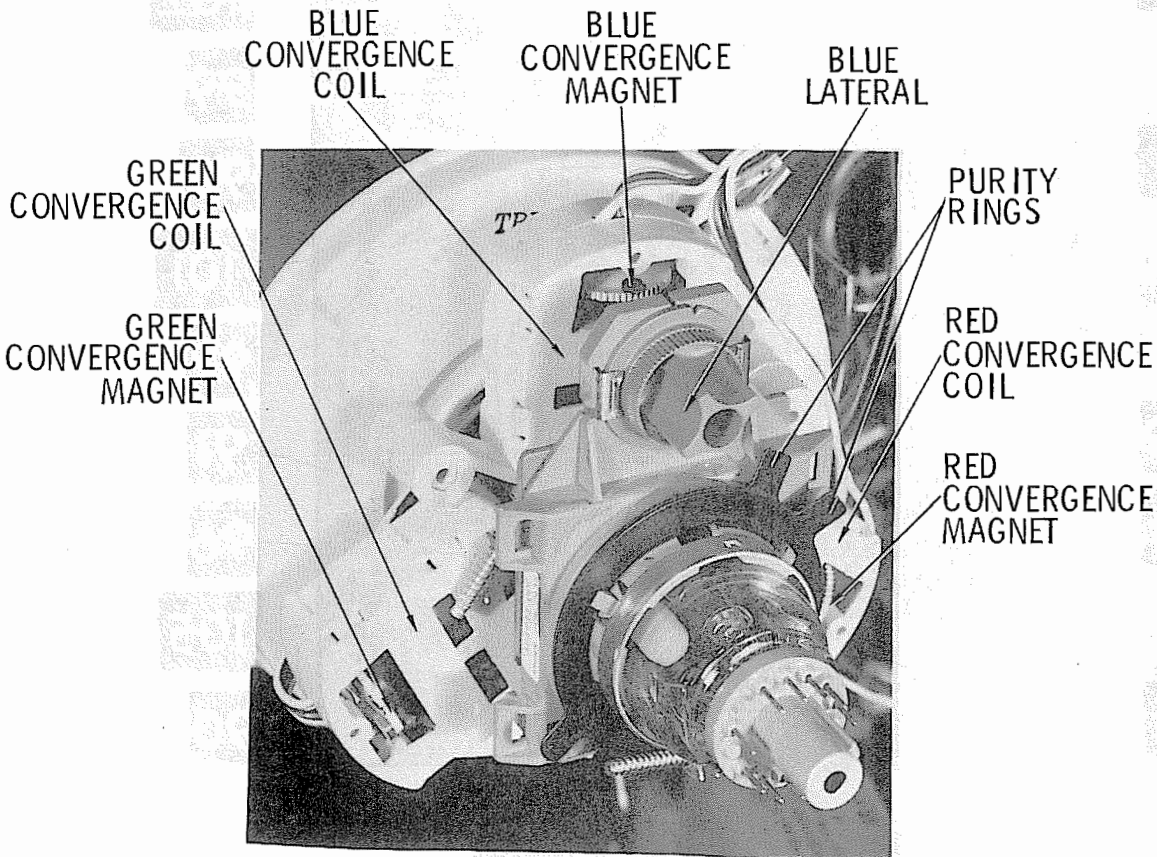
CONVERGENCE ADJUSTMENTS

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

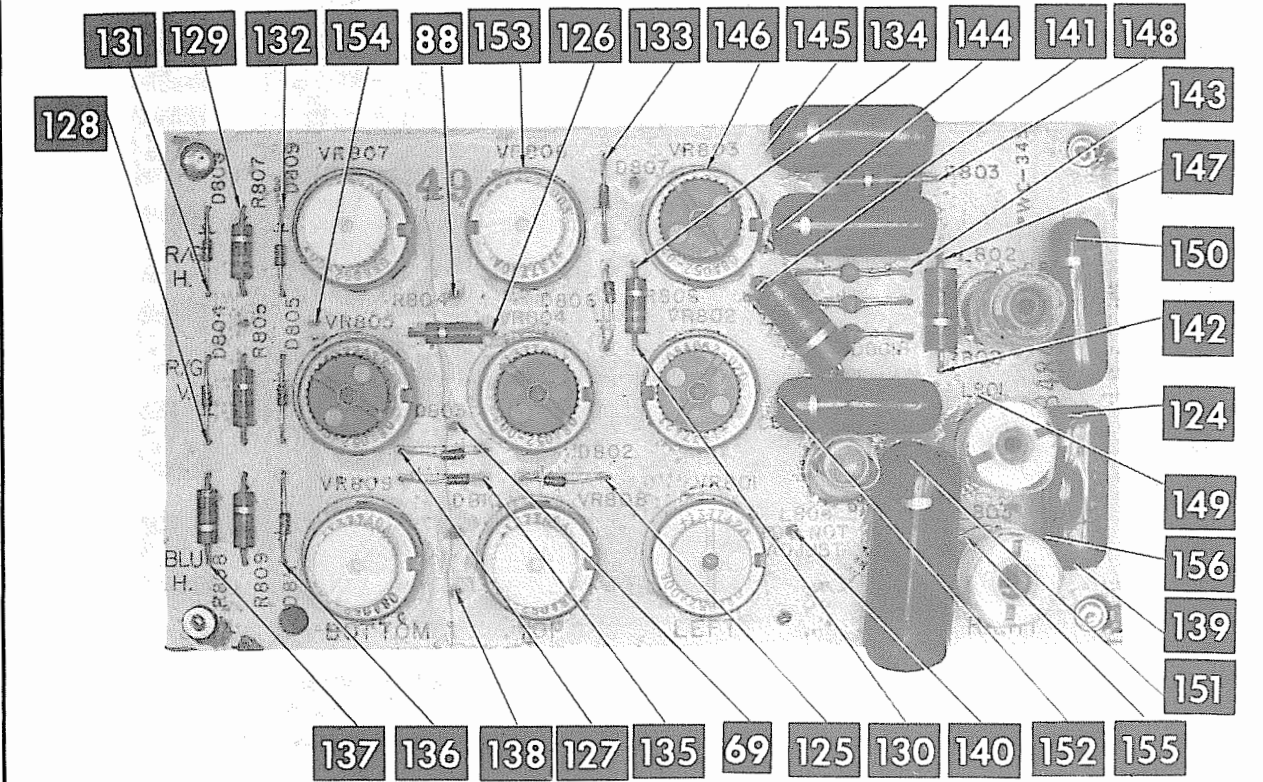
Perform center dot convergence using convergence magnets.

- Adjust VR804 and VR805 to converge red and green vertical center line from top to bottom of screen.
- Adjust VR806 and VR807 to converge red and green horizontal lines along vertical center line from top to bottom of screen.
- Adjust VR802 and VR803 to converge red and green vertical and horizontal lines, left side of screen.
- Adjust L801 and L802 to converge red and green vertical and horizontal lines, right side of screen.
- Adjust VR808 and VR809 to converge blue horizontal lines along vertical center line from top to bottom of screen.
- Adjust VR801 and L803 to converge blue horizontal lines, left and right sides of screen.

Touch up appropriate controls if necessary.



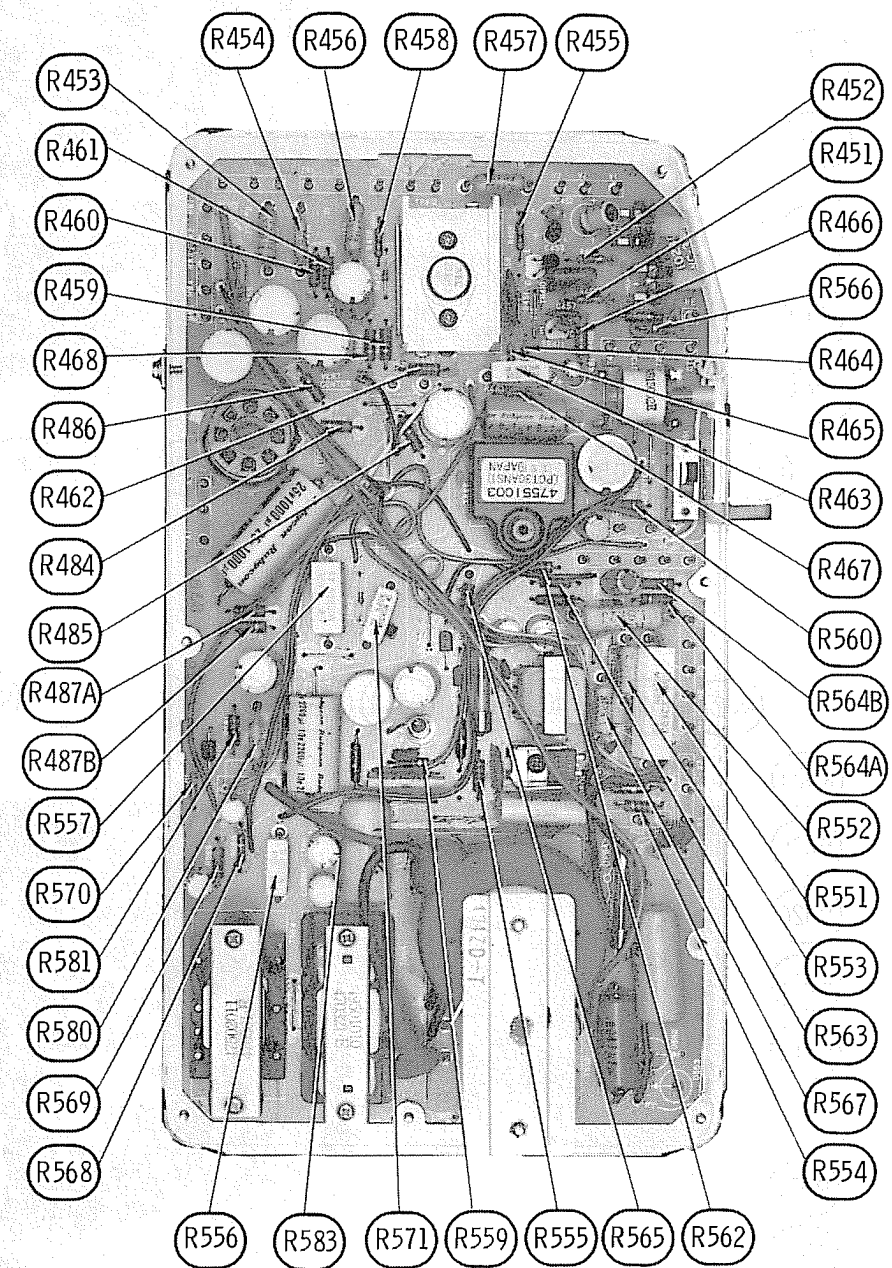
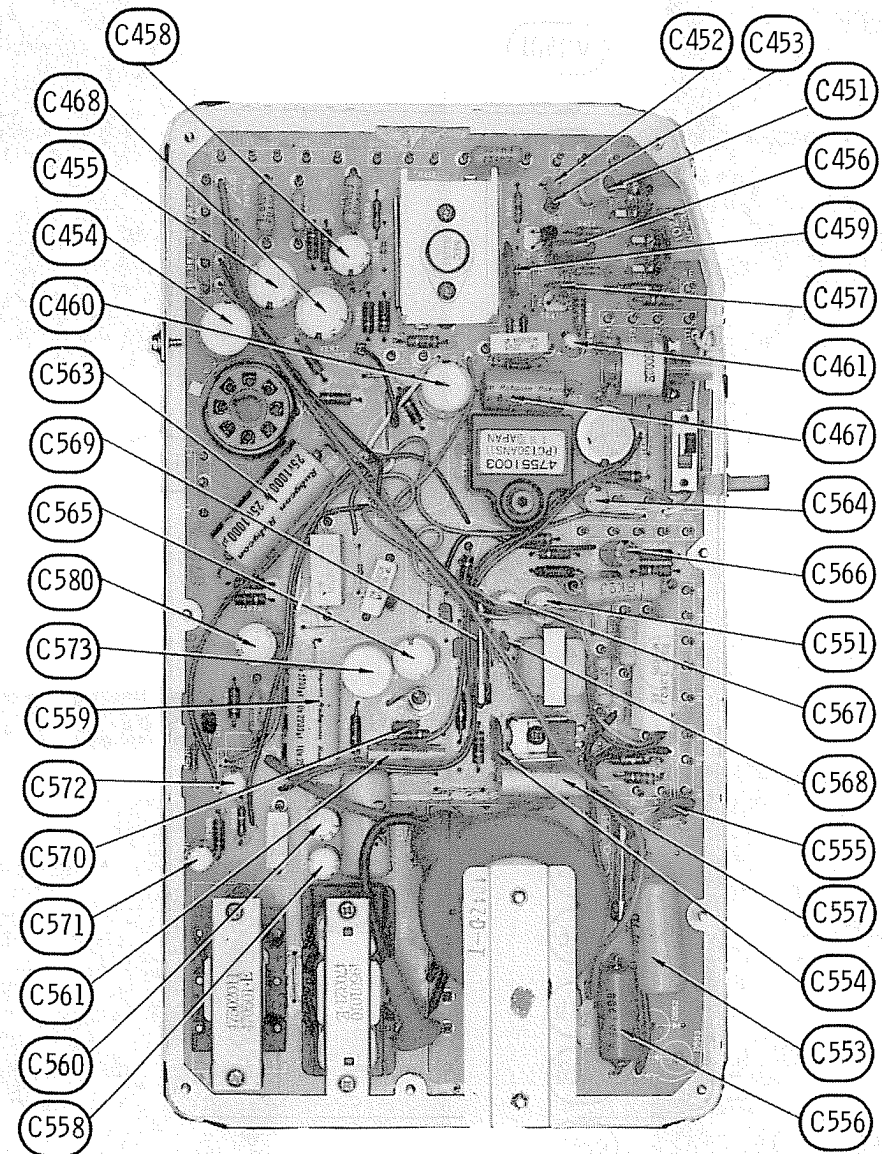
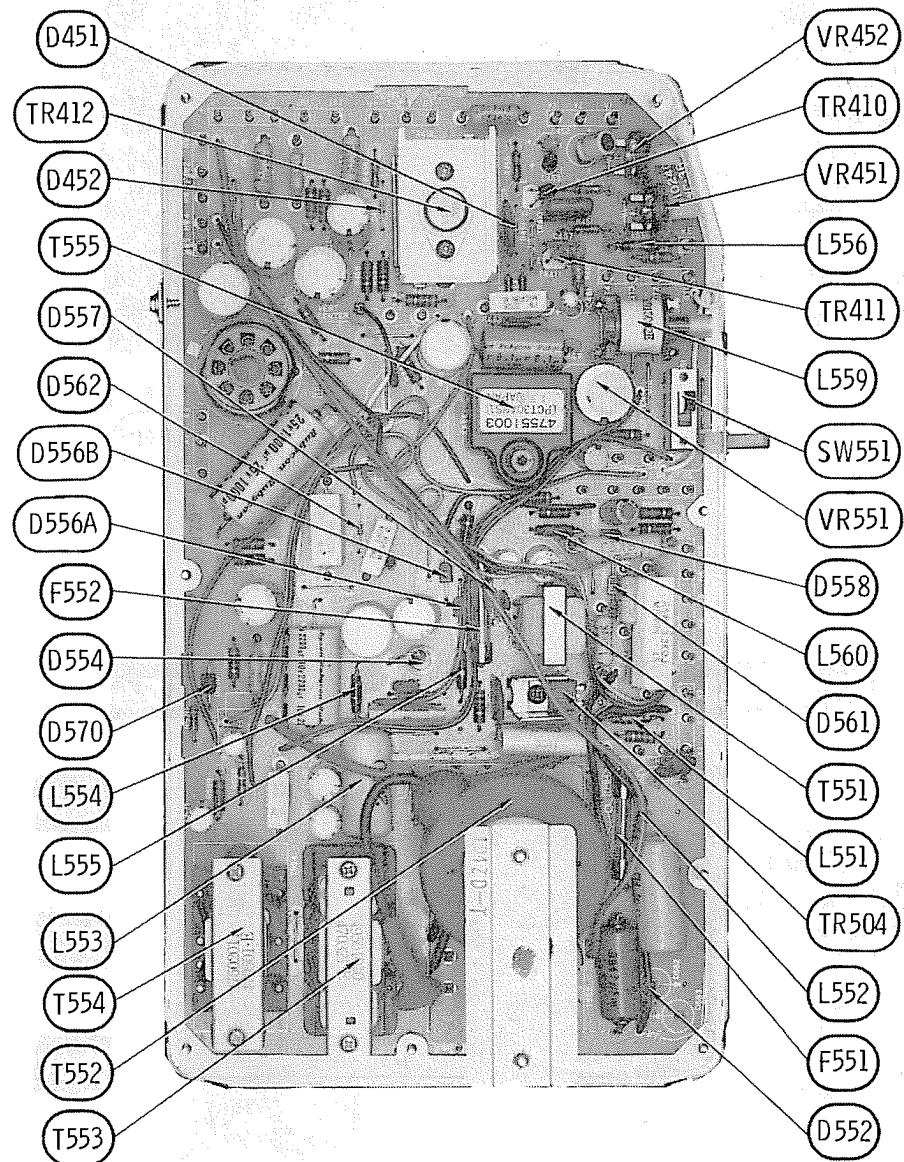
ADJUSTMENTS



A Howard W. Sams CIRCUITRACE Photo PWC-345 CONVERGENCE BOARD

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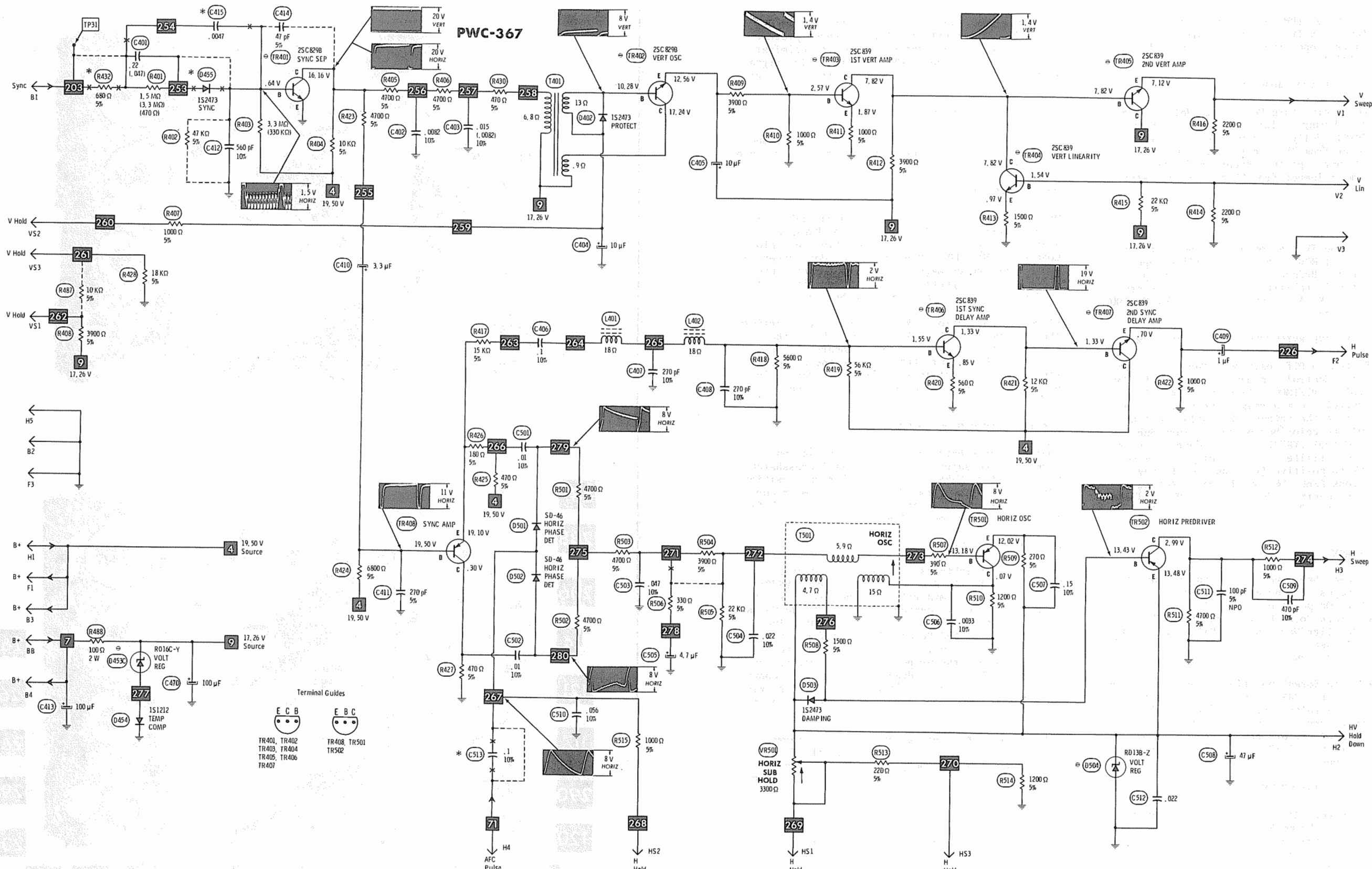


PWC-369 DEFLECTION OUTPUT BOARD

PWC-369 DEFLECTION OUTPUT BOARD

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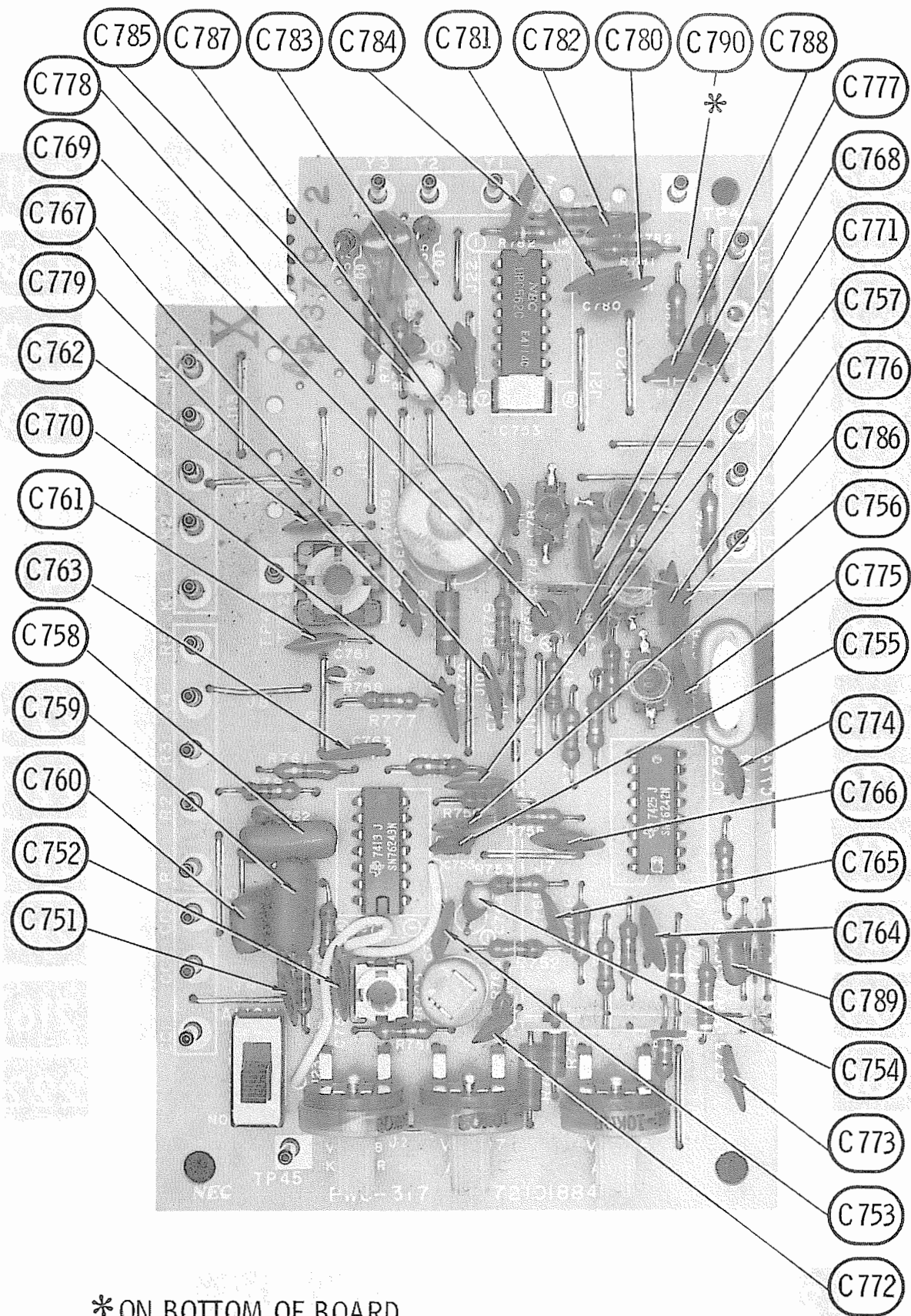
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PWC-367 DEFLECTION BOARD

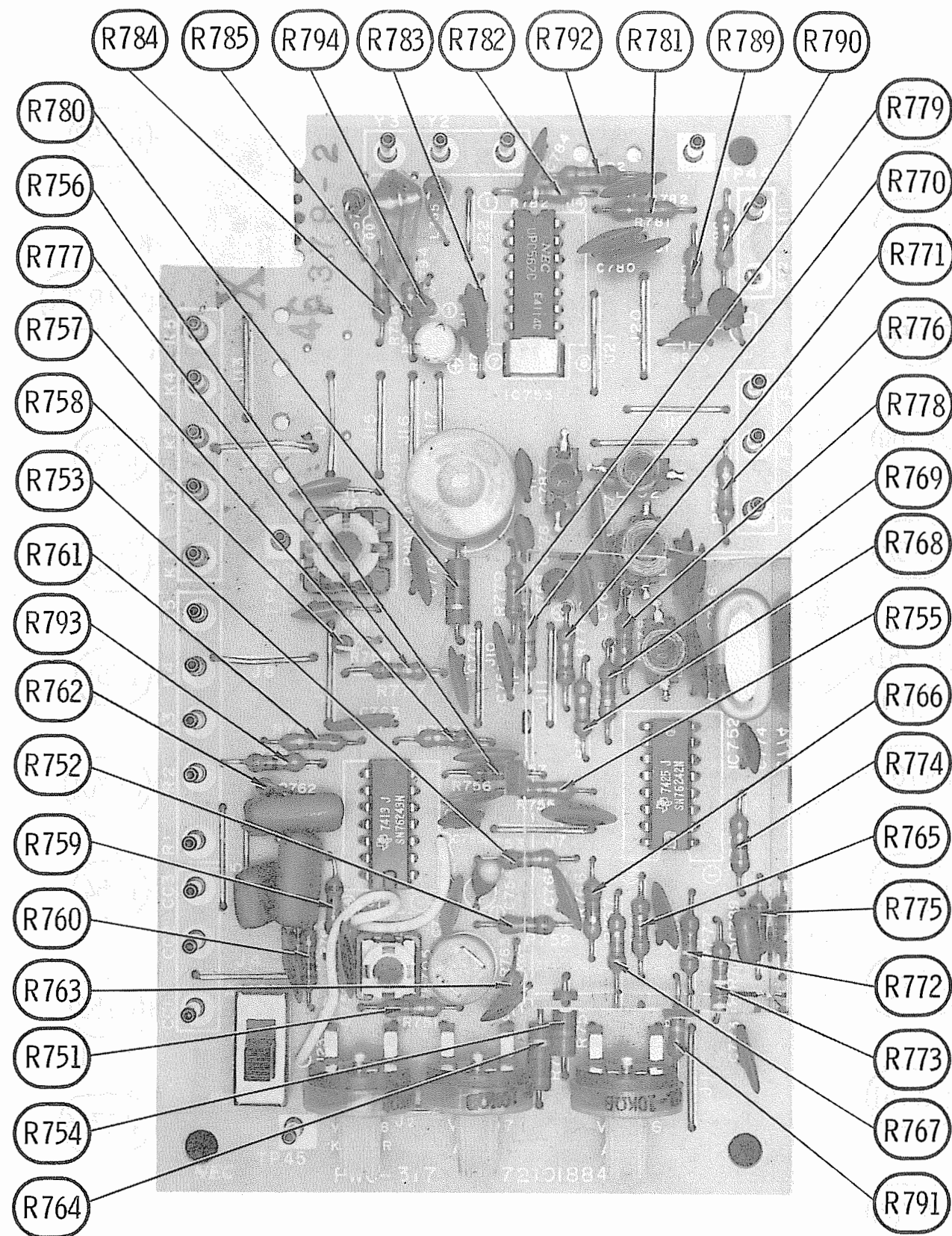
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PWC-367 DEFLECTION BOARD

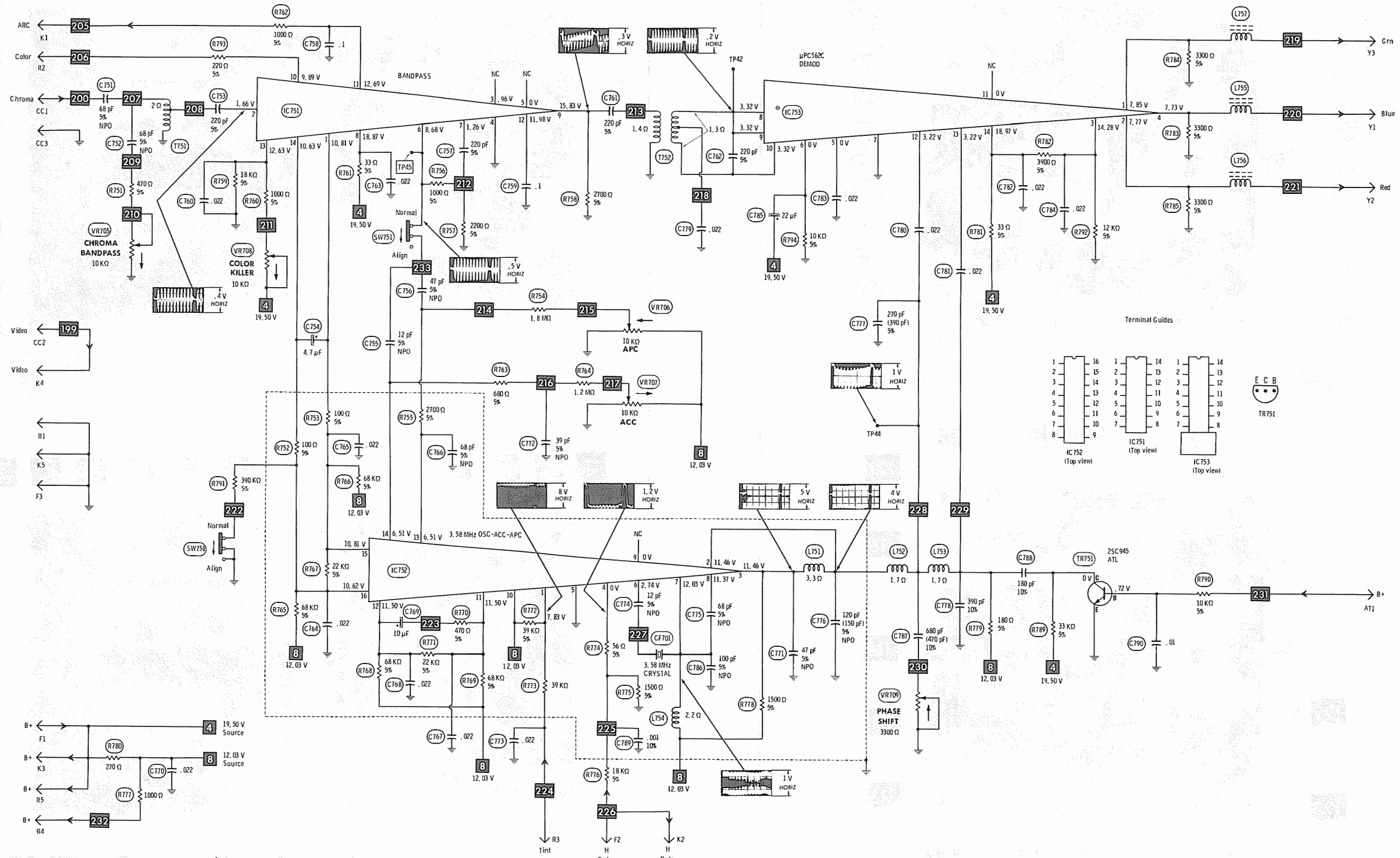


PWC-317 CHROMA BOARD



PWC-317 CHROMA BOARD

PWC - 317



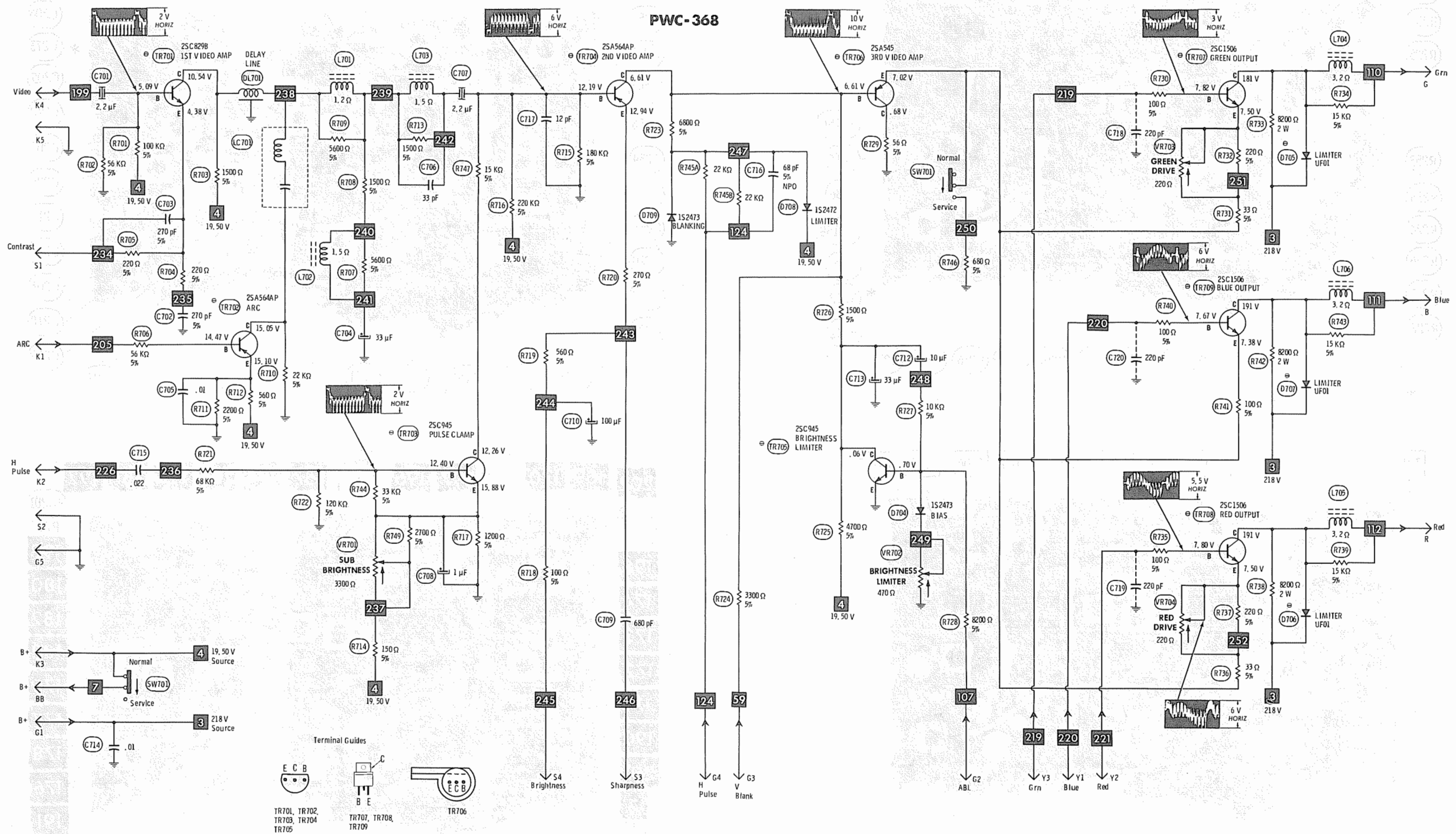
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PWC-317 CHROMA BOARD

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PWC-317 CHROMA BOARD

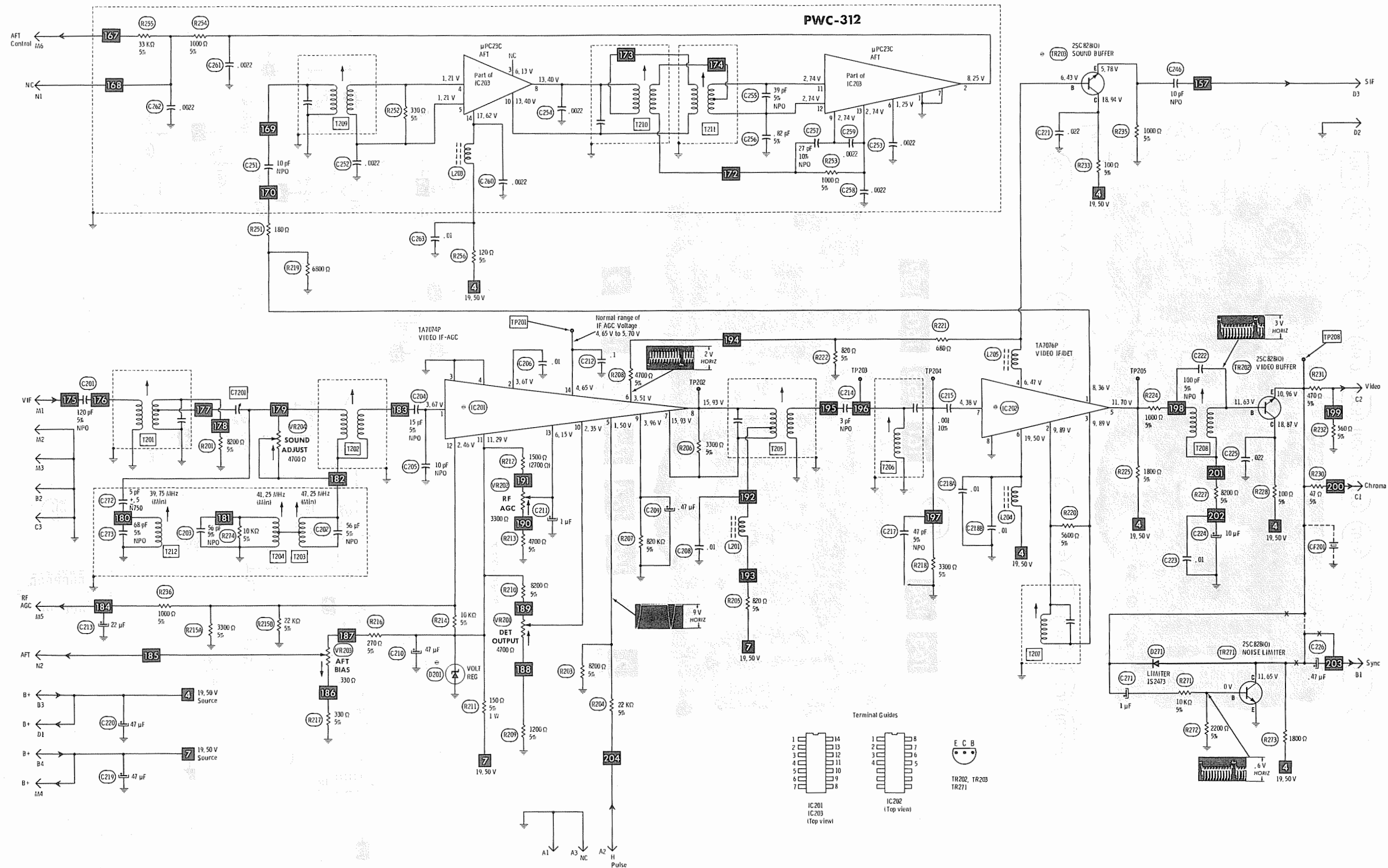


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PWC-368 VIDEO OUTPUT BOARD

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PWC-368 VIDEO OUTPUT BOARD

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PWC-312 VIDEO IF BOARD

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PWC-312 VIDEO IF BOARD

TV ALIGNMENT INSTRUCTIONS

Use an isolation transformer, or observe polarity, and maintain line voltage at 120VAC. Allow a 20-minute warm-up period for receiver and test equipment.
Suggested Alignment Tools: GC ELECTRONICS
VHF IF OUTPUT, T203, T204, T212, T301, T302 9296, 9297, 9300
T201, T202, T205, T206, T207, T208, T210, T211 9440
CT201 5000

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 +5.0 volt bias to TP201, low side to ground.

VIDEO IF ALIGNMENT

CONNECT SCOPE	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
Vertical input to TP208, low side to ground.	Thru .001uF to TP1 on VHF tuner, low side to ground.	44MHz (10MHz Sweep)	39.75MHz 41.25MHz 42.17MHz 44.25MHz 45.75MHz 47.25MHz	Adjust T212 for MINIMUM. Adjust T204 for MINIMUM. Adjust T203 and VR204 for MINIMUM. See Figure 1.
"	"	"	39.75MHz 41.25MHz 42.17MHz 44.25MHz 45.75MHz 47.25MHz	Adjust T201, T202, T205, T206, T207, CT201, and VHF IF Output for maximum gain and symmetry of response. Adjust VHF IF Output for maximum at 44.25MHz. T202 affects tilt at 44.25MHz. T201 affects 42.17MHz and 45.75MHz markers. T205 affects 44.25MHz and 45.75MHz markers. T206 affects 42.17MHz marker. T207 affects 45.75MHz marker. CT201 affects overall response. See Figure 2.

4.5MHz TRAP ALIGNMENT

Tune in a strong TV signal and set the contrast at maximum. Adjust the fine tuning until a beat pattern is visible on the screen. Adjust T208 for MINIMUM beat interference.

SOUND IF ALIGNMENT

Tune in a station and adjust T302 (Bottom) for maximum sound. Reduce signal strength at the antenna terminals until distortion appears. Continue to reduce the signal while aligning for undistorted output by adjusting T302 (Top) and T301.

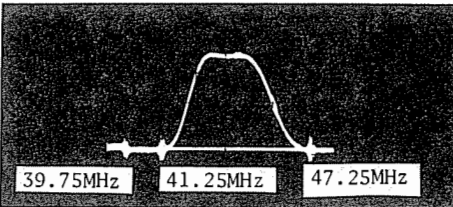


FIGURE 1

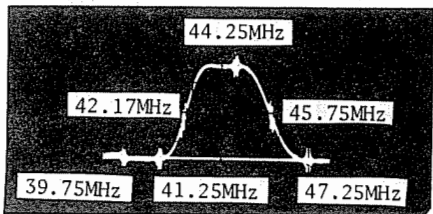


FIGURE 2

TV ALIGNMENT INSTRUCTIONS (Continued)

AFT ALIGNMENT

Set AFT and ITT Switches to Off position.
Connect as explained in Preliminary Instructions.
Connect VTVM to N2, low side to ground. Adjust VR203 for +6 volts.

CONNECT	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
Vertical input of scope to N1, low side to ground.	Thru .001uF to TP1 on VHF tuner, low side to ground.	44MHz (10MHz Sweep)	45.75MHz	Adjust T210 and T209 for maximum gain and symmetry of response. See Figure 3.
"	"	"	"	Adjust T211 for crossover at 45.75MHz. See Figure 3.

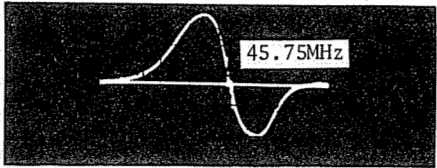
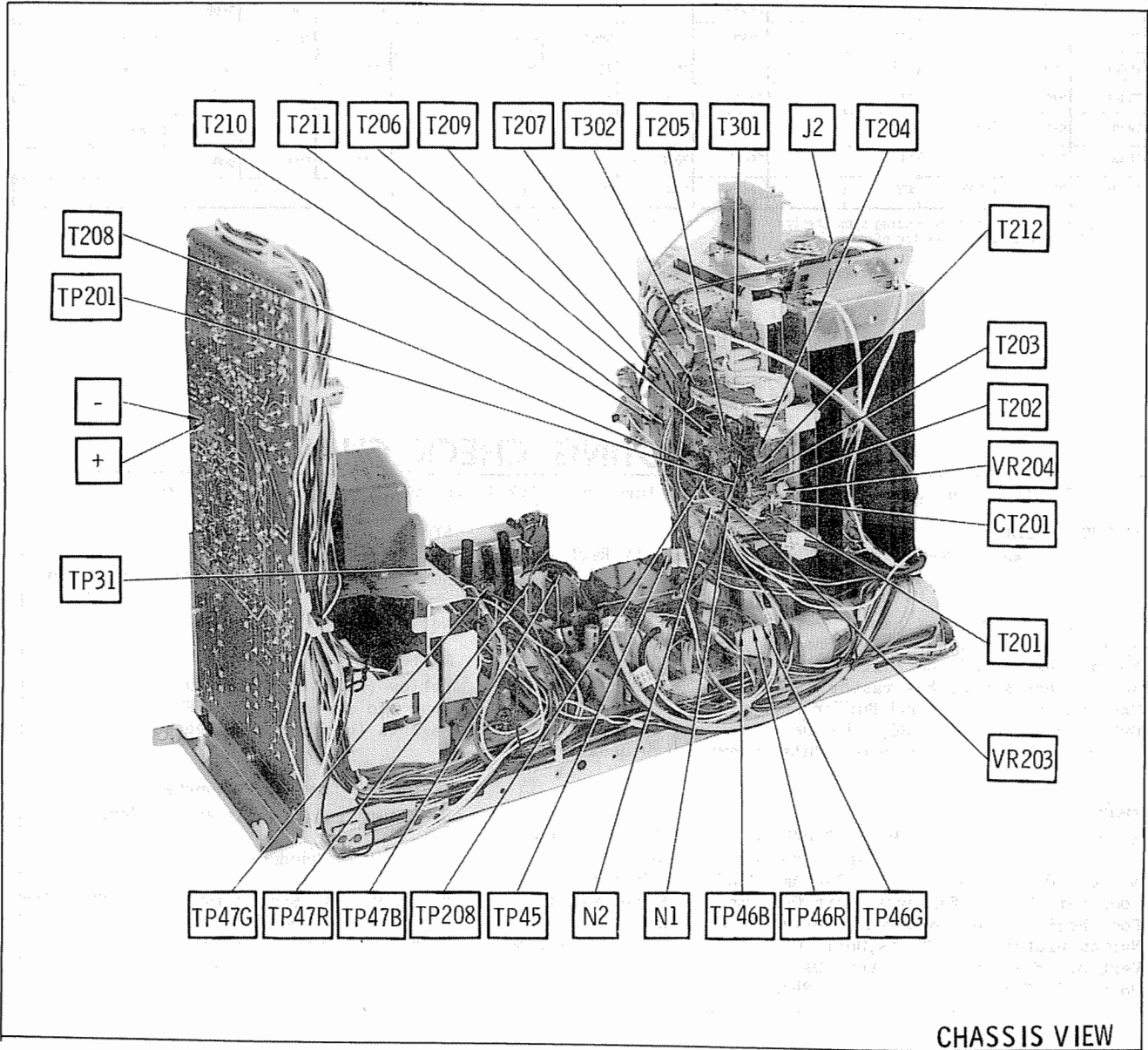


FIGURE 3



CURTIS MATHES CHASSIS
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CHASSIS VIEW