

ontrol.

on

rep

PO1

VIDEO

17

C127

R111

C118

D1

R112

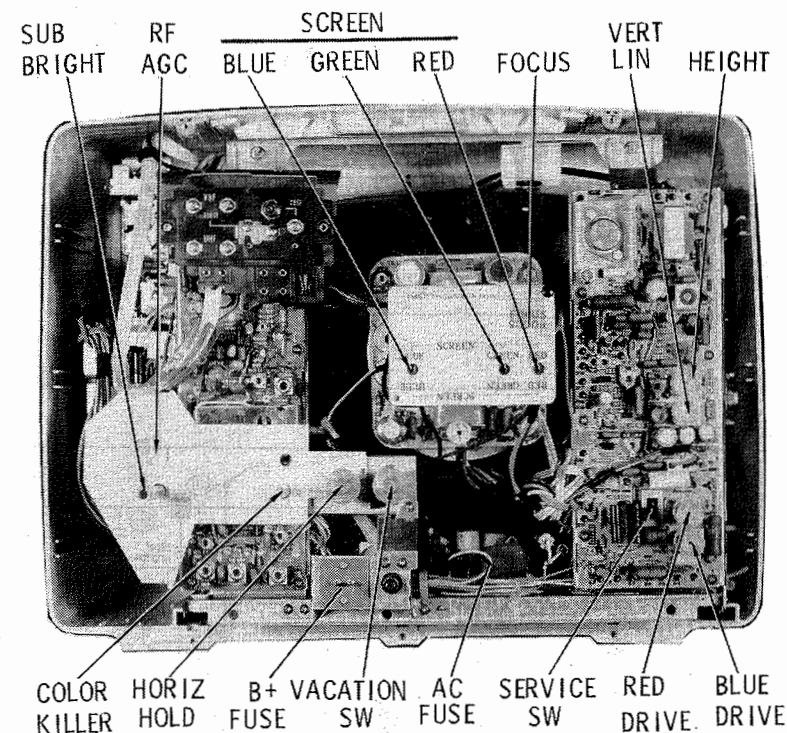
R114

C112

C110

C120

R2



### CABINET-REAR VIEW DISASSEMBLY INSTRUCTIONS

#### CHASSIS REMOVAL

Remove five screws holding cabinet back. Disconnect antenna and remove cabinet back. Remove all knobs from front of set.

Disconnect picture-tube socket board, high voltage anode lead, all tuner plugs, front control panel plugs, speaker leads, all ground leads, and degaussing coil plug. Unplug yoke and convergence plug.

Remove two screws holding top of chassis to cabinet. Remove chassis. Loosen four screws holding tuner assembly. Remove tuner assembly.

#### PICTURE TUBE REMOVAL

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

Remove degaussing case spring. Remove degaussing shield. Remove four screws holding picture tube.

Lift picture tube from cabinet. Do not lift picture tube by the neck.

### SERVICING IN THE FIELD

#### CRT IMPLOSION PROTECTION AND CLEANING

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

#### FUSE DEVICES

A 2-amp fuse is used for low-voltage power-supply protection. (See photo, Cabinet-Rear View.)

A 3-amp fuse is used for AC line protection. (See photo, Cabinet-Rear View.)

#### VHF TUNER

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

#### UHF TUNER

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

#### HORIZONTAL OSCILLATOR

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

#### HORIZONTAL OUTPUT CURRENT/HIGH VOLTAGE

For adjustment of the horizontal output cathode current and/or high voltage, refer to Miscellaneous Adjustments.

#### FOCUS

The focus may be varied by connecting the lead from pin 9 to focus points 1, 2, and 3. (See photo, Cabinet-Rear View.)

#### RF AGC

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

SET 1402 FOLDER 1

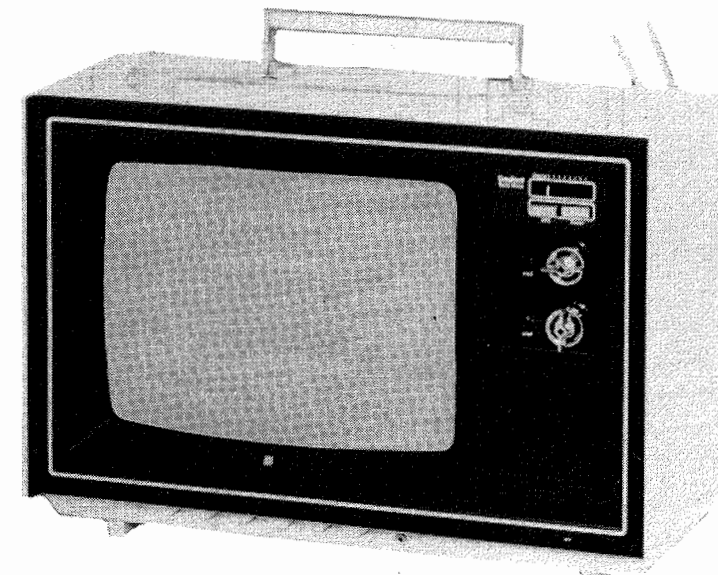
BRADFORD MODEL  
1104A34 (WTG-79301)

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For Supplier Address See PHOTOFACT Index

BRADFORD MODEL  
1104A34 (WTG-79301)

COLOR TV



### 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. 4PD904R 10 9 8 7 6 5 4 3 2 1 0

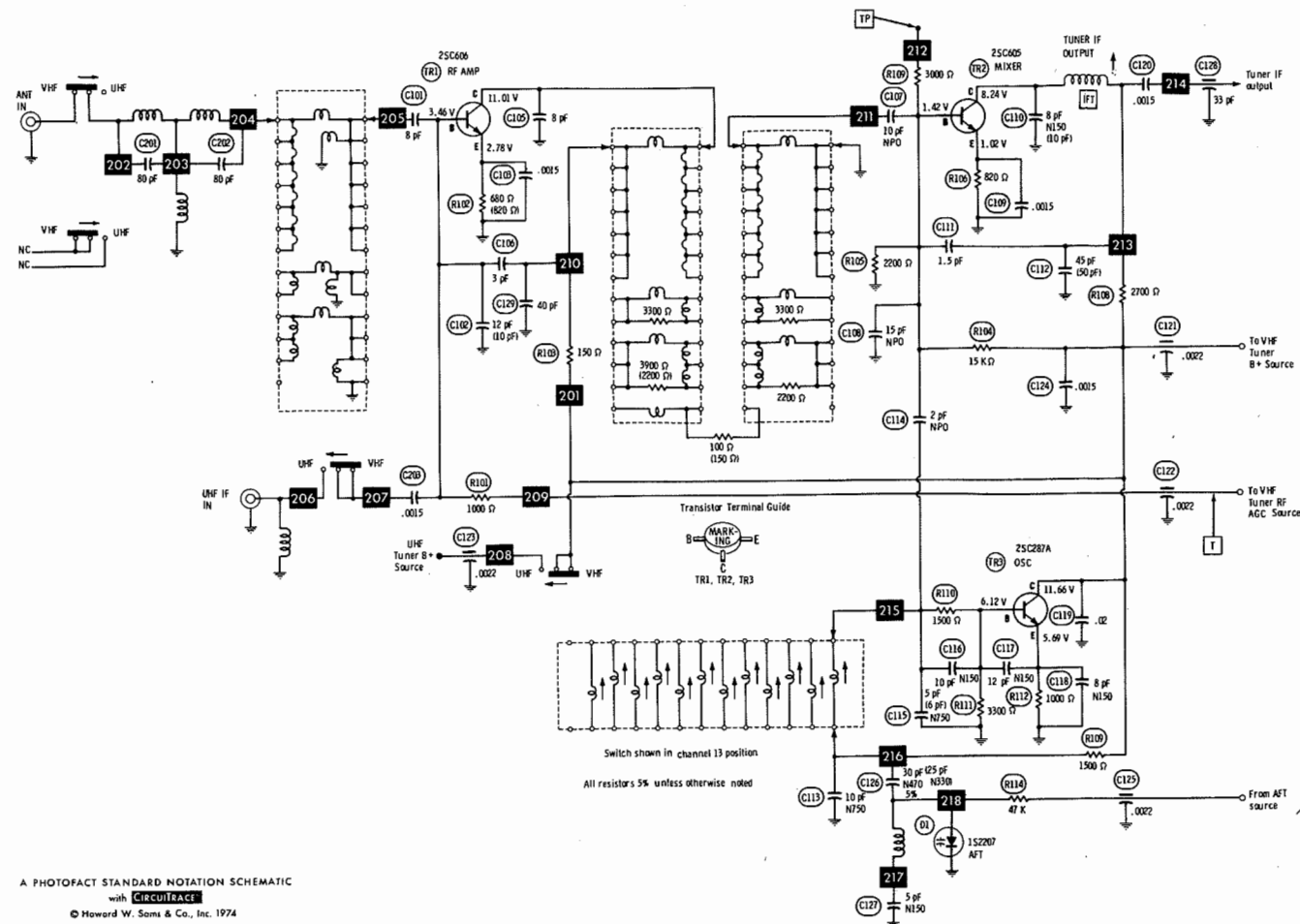
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DATE 5-74

SET 1402 FOLDER 1

BRADFORD MODEL  
1104A34 (WTG-79301)

SET 1402 FOLDER 1



## VHF TUNER ALIGNMENT INSTRUCTIONS

### OSCILLATOR ADJUSTMENTS

The oscillator slug for each channel is preset with the fine tuning control. Adjust the fine tuning for best picture and sound.

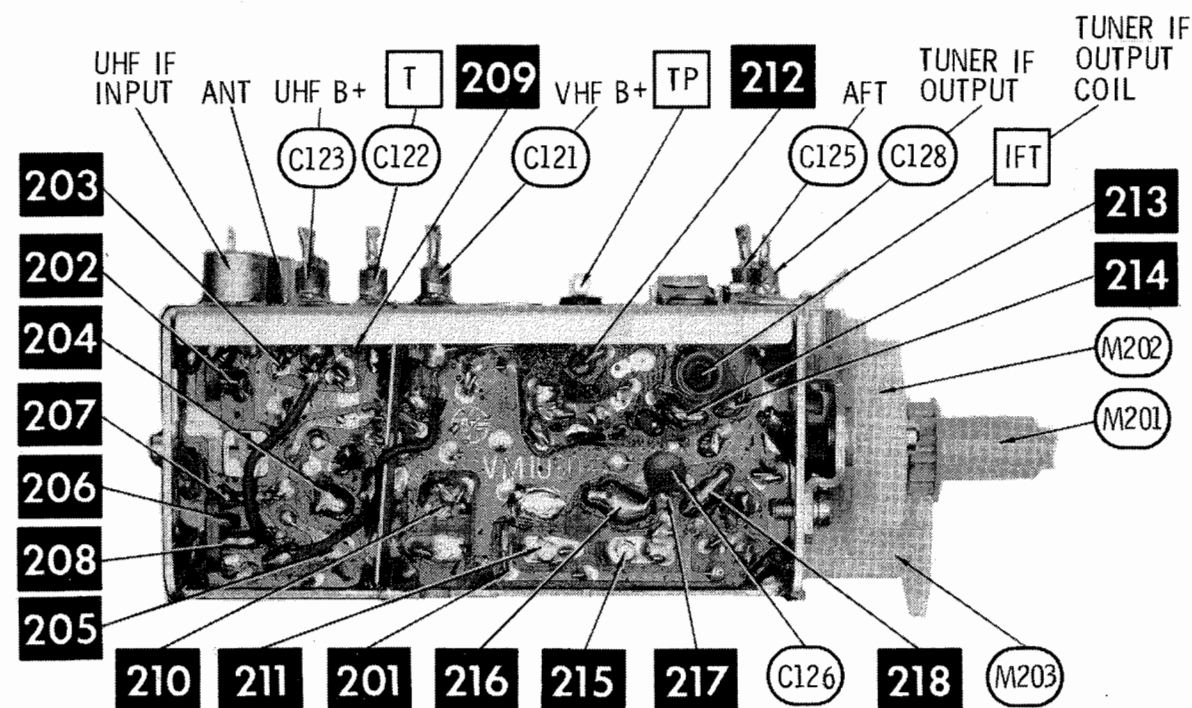
### RF AND MIXER ADJUSTMENTS

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 10MHz 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.

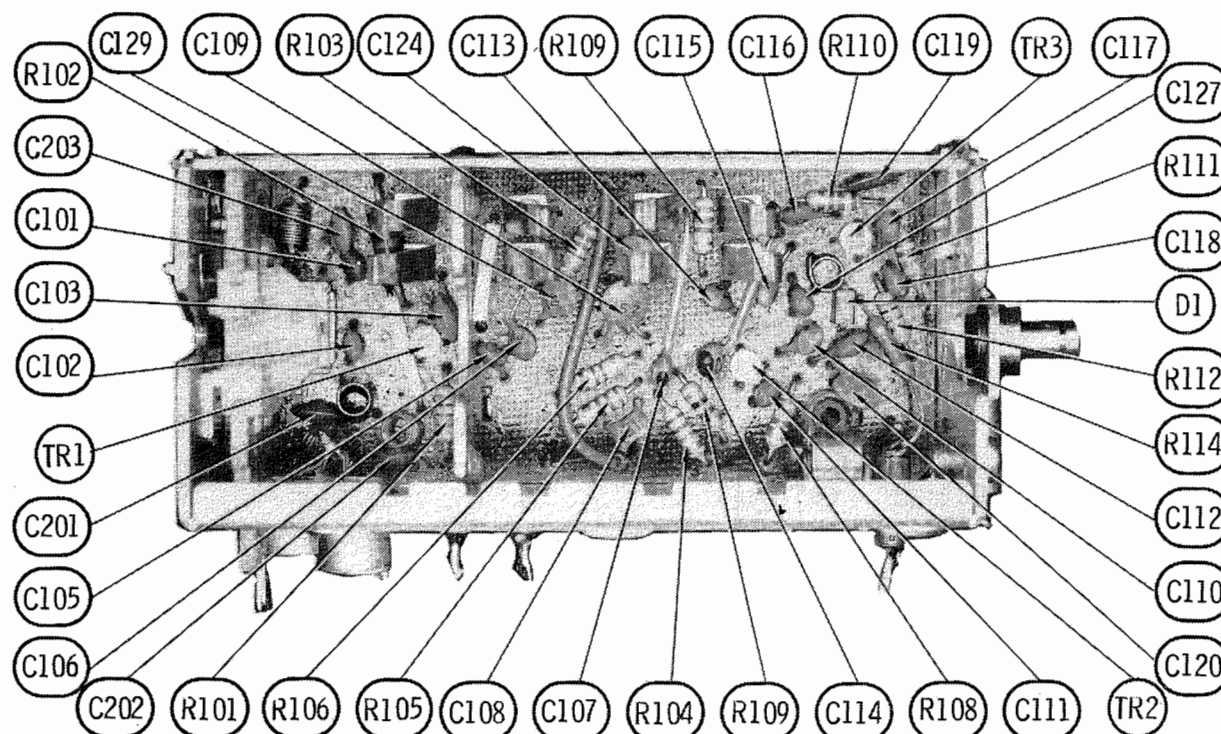
CHANNEL	CONNECT SCOPE	REMARKS
13	Vertical input to point TP, low side to ground.	Expand or compress appropriate coils for maximum gain and symmetry of response similar to Fig. 201 with markers as shown.
12 thru 2	Vertical input to point TP, low side to ground.	Check all channels and make compromise adjustments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

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

FIG. 201



VHF TUNER



### CHASSIS REMOVAL

Remove five screws holding connect antenna and remove. Remove all knobs from front.

Disconnect picture-tube socket anode lead, all tuner panel plugs, speaker leads, and degaussing coil plug.vergence plug.

Remove two screws holding cabinet. Remove chassis. holding tuner assembly. Re-

### CRT IMPLOSION PROTECTION

Implosion protection is an picture tube, cleaning acc removal.

### FUSE DEVICES

A 2-amp fuse is used for 1 supply protection. (See p View.)

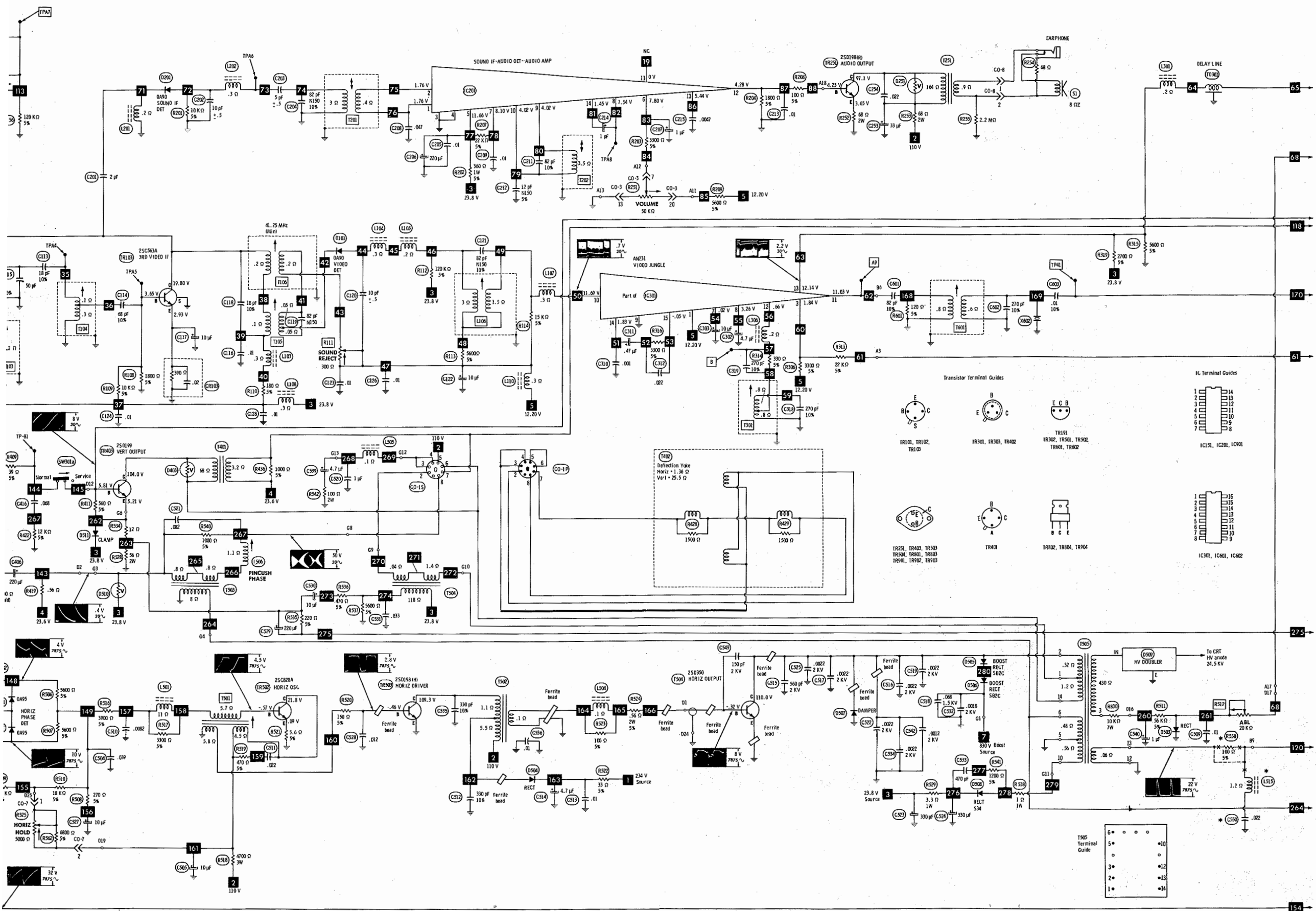
A 3-amp fuse is used for A (See photo, Cabinet-Rear V

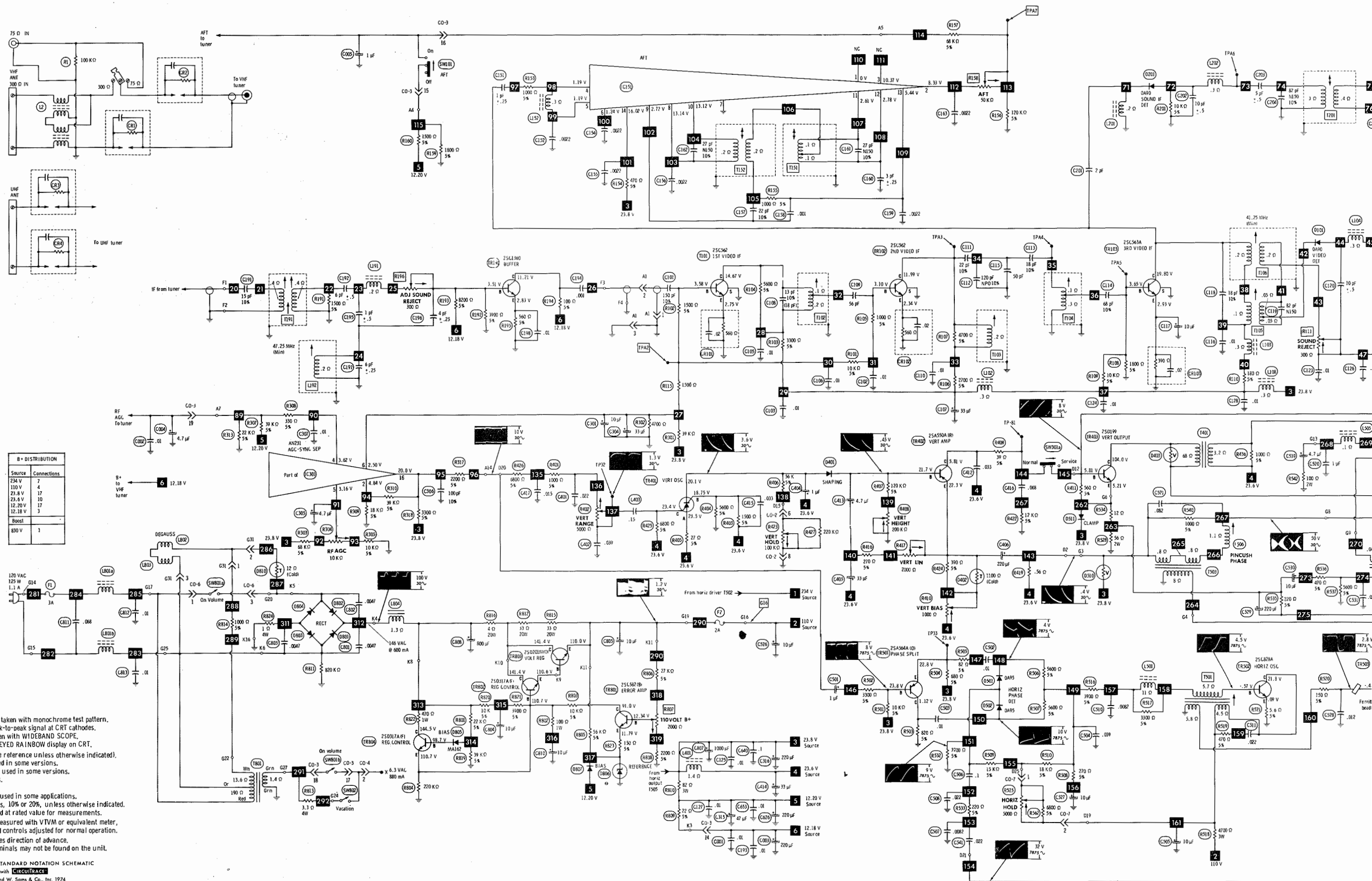
### VHF TUNER

The fine tuning mechanical slug for adjustment (one s

### UHF TUNER

The UHF tuner employs a d channel selection. Fine t by rotating the fine tunin

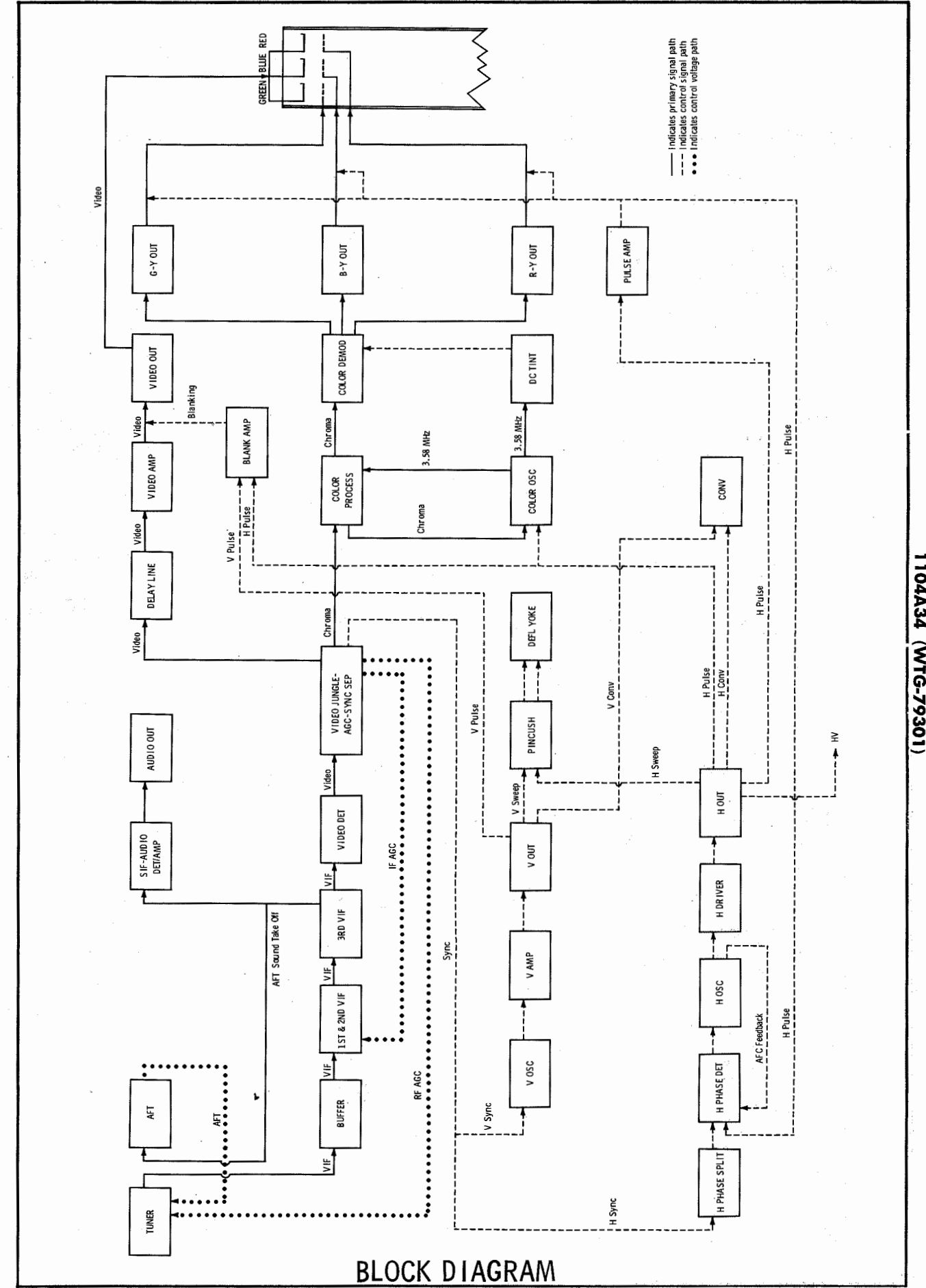
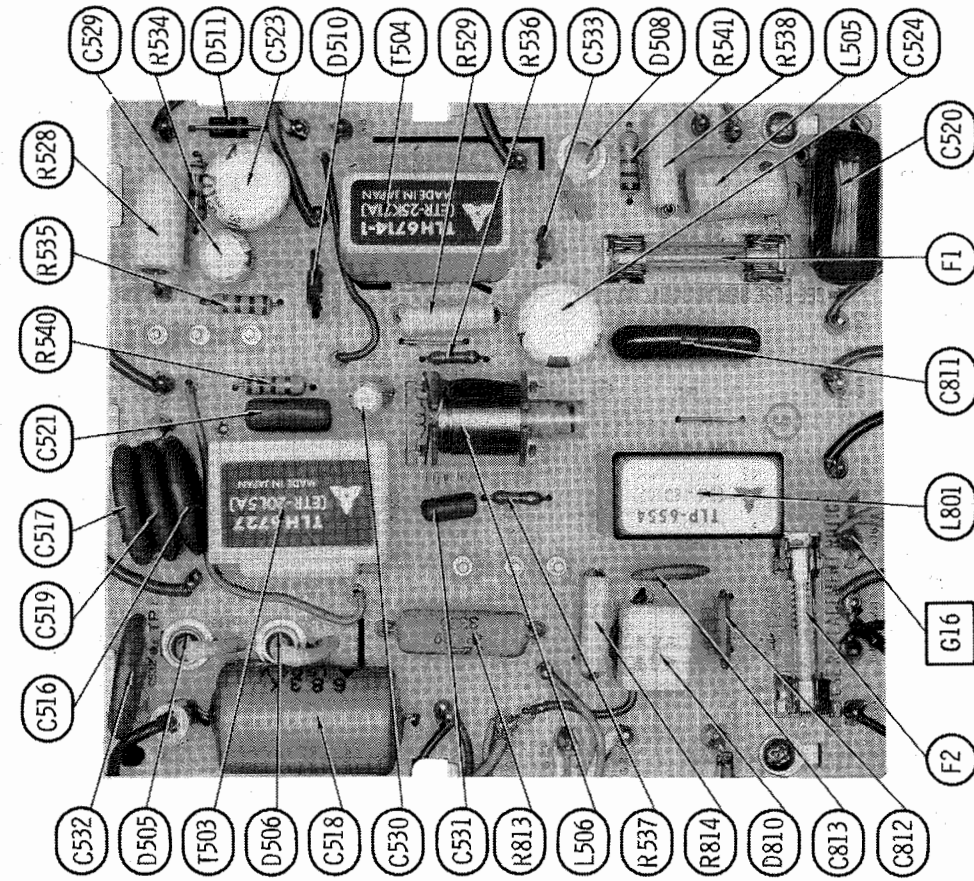
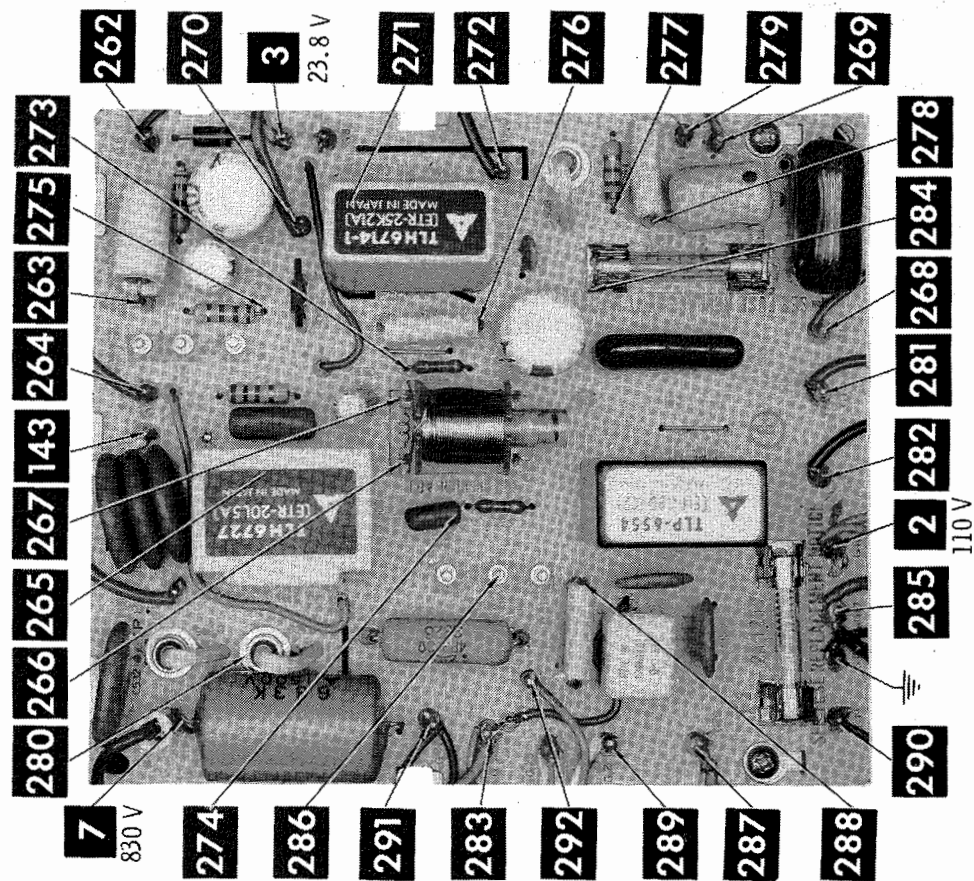








# POWER-PINCUSHION BOARD



## RESISTANCE MEASUREMENTS

ITEM	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN 12	PIN 13	PIN 14
V1	FIL	20 KΩ	45 KΩ	1.1 MΩ	900 KΩ	18 KΩ	45 KΩ	NC	0 Ω	NC	20 KΩ	40 KΩ	1 MΩ	FIL
MEASUREMENTS BELOW TAKEN WITH METER HAVING .08V MAX BETWEEN PROBE TIPS														
IC151	INF	140 KΩ	150 KΩ	3200 Ω	3200 Ω	900 Ω	0 Ω	160 KΩ	INF	160 KΩ	INF	INF	INF	900 Ω
IC201	INF	INF	0 Ω	0 Ω	800 Ω	6000 Ω	6500 Ω	10 KΩ	5300 Ω	5300 Ω	INF	1500 Ω	5700 Ω	56 KΩ
IC301	420 Ω	13 KΩ	3300 Ω	14 KΩ	11 KΩ	4300 Ω	1700 Ω	10 KΩ	0 Ω	4000 Ω	12 KΩ	330 Ω	1100 Ω	9000 Ω
													PIN 15 38 KΩ	PIN 16 3600 Ω
IC601	6000 Ω	460 Ω	5600 Ω	6400 Ω	2800 Ω	4000 Ω	50 KΩ	0 Ω	26 KΩ	INF	680 Ω	680 Ω	420 Ω	2500 Ω
													PIN 15 4000 Ω	PIN 16 6000 Ω
IC602	420 Ω	7600 Ω	11 MΩ	11 MΩ	0 Ω	5000 Ω	60 KΩ	3200 Ω	8000 Ω	1500 Ω	170 KΩ	6300 Ω	7200 Ω	1100 Ω
													PIN 15 9500 Ω	PIN 16 7200 Ω
IC901	5600 Ω	5600 Ω	INF	5600 Ω	INF	INF	0 Ω	4600 Ω	4600 Ω	2800 Ω	INF	INF	INF	PIN 14 450 Ω
ITEM	E	B	C		ITEM	E	B	C		ITEM	E	B	C	
TUNERS:					TR301	2700 Ω	13 KΩ	800 Ω		TR601	2700 Ω	2700 Ω	1000 Ω	
TR1 VHF	680 Ω	15 KΩ	580 Ω		TR302	0 Ω	2700 Ω	3300 Ω		TR602	2700 Ω	2700 Ω	1000 Ω	
TR2 VHF	820 Ω	2000 Ω	3200 Ω		TR303	4000 Ω	3000 Ω	12 KΩ		TR801	65 KΩ	3000 Ω	30 KΩ	
TR3 VHF	1000 Ω	1700 Ω	440 Ω		TR401	80 KΩ	1500 Ω	7500 Ω		TR802	INF †	18 KΩ▲	8000 Ω▲	
TR71 UHF	560 Ω	3800 Ω	460 Ω		TR402	1000 Ω	170 KΩ	650 Ω		TR803	8000 Ω▲	INF †	8000 Ω▲	
TR101	560 Ω	7000 Ω	3800 Ω		TR403	68 Ω	600 Ω	7000 Ω▲		TR804	18 KΩ▲	INF †	8500 Ω▲	
TR102	560 Ω	14 KΩ	2600 Ω		TR501	1100 Ω	11 KΩ	820 Ω		TR901	470 Ω	5600 Ω	32 KΩ	
TR103	390 Ω	1400 Ω	550 Ω		TR502	5.6 Ω	15 KΩ	9000 Ω▲		TR902	470 Ω	5600 Ω	32 KΩ	
TR191	560 Ω	2600 Ω	500 Ω		TR503	0 Ω	150 Ω	8000 Ω▲		TR903	570 Ω	6800 Ω	32 KΩ	
TR251	68 Ω	1700 Ω	9000 Ω▲		TR504	0 Ω	1 Ω	7000 Ω▲		TR904	0 Ω	330 Ω	24 KΩ	

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

NC NO CONNECTION  
 INF INFINITE

## 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: Fuses, LV Rects

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 Jungle/Amp/Output

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

Overloaded picture: AGC, Video Det

Low or excessive brightness: Blanking Amp

### SWEEP

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

No vert deflection: Vert Osc/Amp/Output

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

Poor horiz lin or foldover: Horiz Output, Damper

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

Vert off frequency: Vert Osc

Horiz off frequency: Horiz Phase Split/Det/Osc

### SYNC

No vert sync: Vert Osc

No horiz sync: Horiz Phase Split/Det/Osc

No vert/horiz sync: Sync Sep

### RASTER

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

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

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

### COLOR (B/W operating normally)

No color: Color Osc/Process

Weak color: Color Process

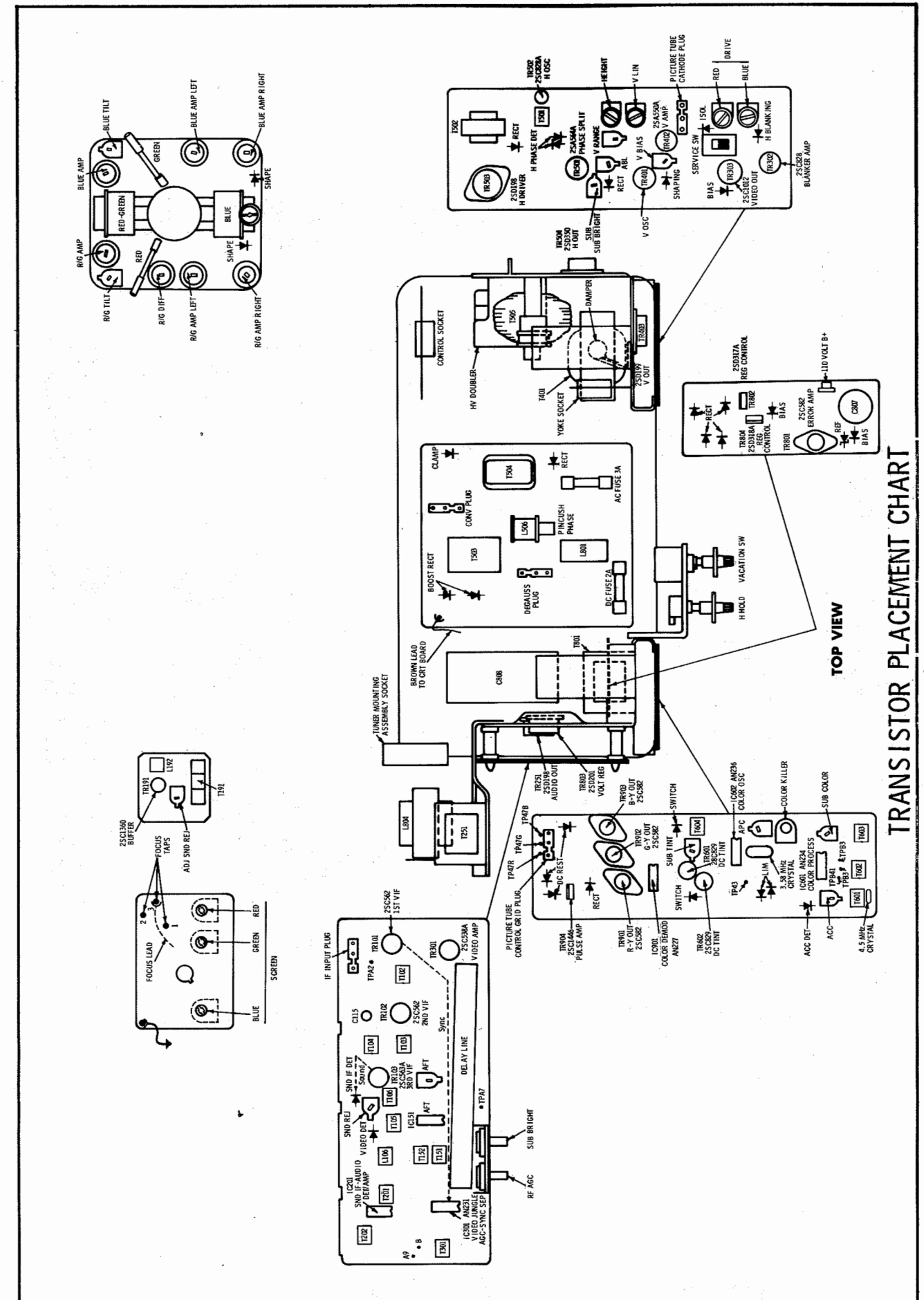
No color sync: Color Osc

No green: Color Demod, G-Y Output

No blue: Color Demod, B-Y Output

No red: Color Demod, R-Y Output

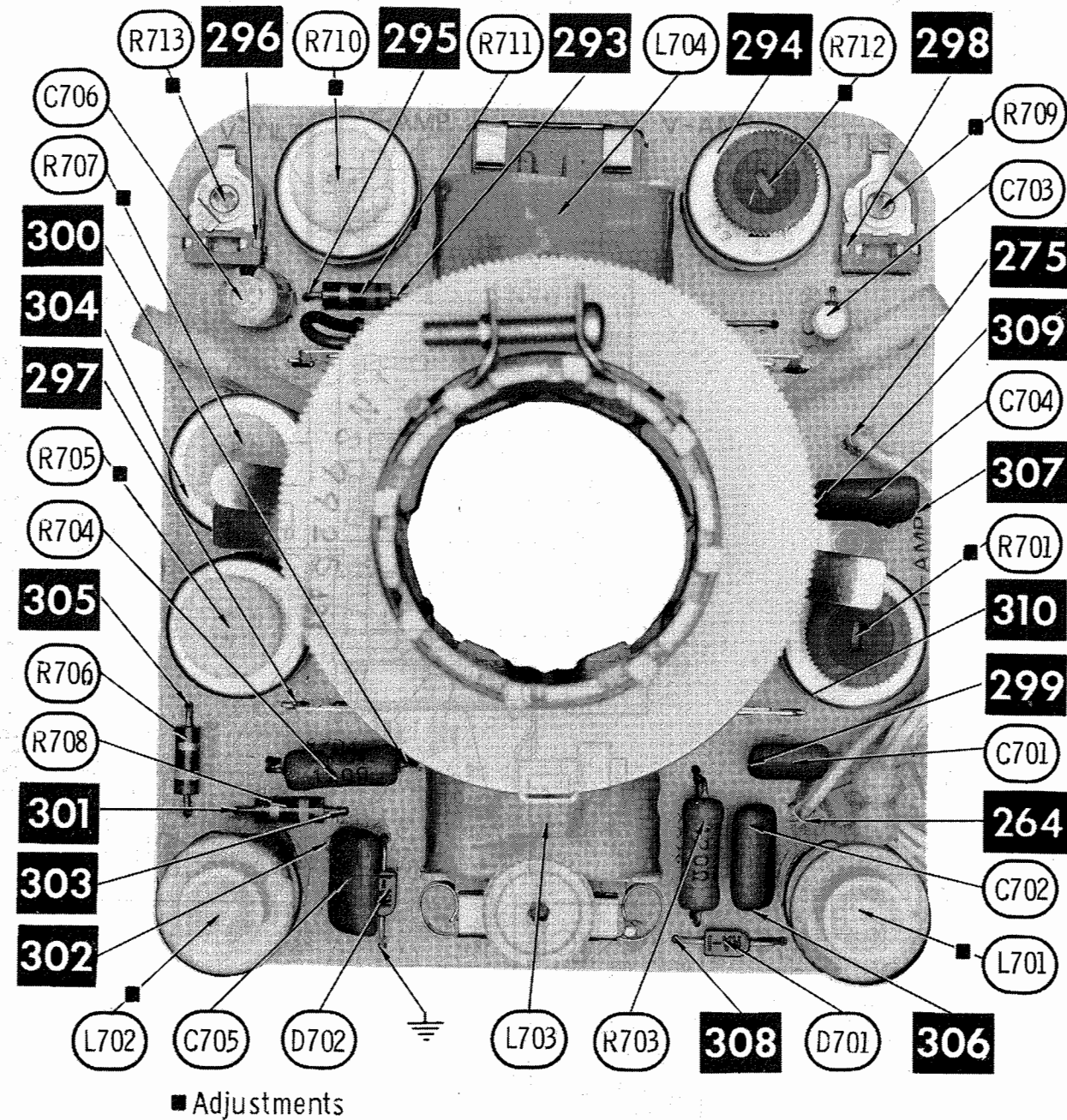
Incorrect hue (tint): Color Demod, DC Tint



BRADFORD MODEL  
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 TRANSISTOR PLACEMENT CHART

FOLDER 1





A Howard W. Sams CIRCUITRACE® Photo

CONVERGENCE BOARD

## 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 R710 and R713 to converge red and green vertical center line from top to bottom of screen.

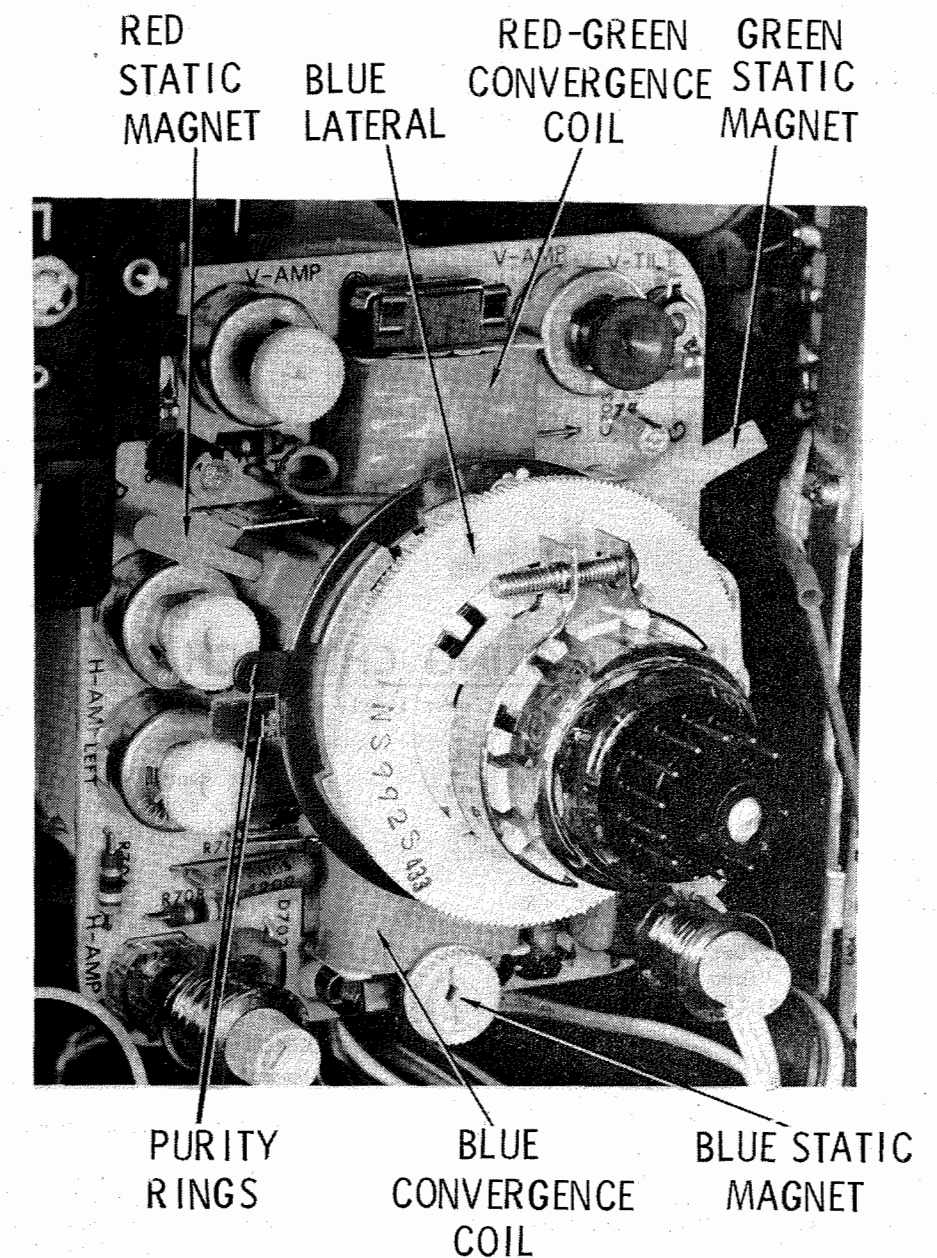
Adjust R707 to converge red and green vertical and horizontal lines, left and right side of screen.

Adjust R705 and L702 to converge red and green vertical and horizontal lines, right side of screen.

Adjust R709 and R712 to converge blue horizontal lines along vertical center line from top to bottom of screen.

Adjust R701 and L701 to converge blue horizontal lines, left and right sides of screen.

Touch up appropriate controls if necessary.





## MISCELLANEOUS ADJUSTMENTS

### B+ ADJUSTMENT

Connect DC probe to point G16 (G-Board), low side to ground. Adjust R807 (K-Board) for +110 volts DC.

### HIGH VOLTAGE

High voltage adjustment is made by adjusting B+ and automatic brightness limiter. After these adjustments are made the high voltage should be 24.5 KV at MINIMUM brightness.

### HORIZONTAL OSCILLATOR ADJUSTMENT

Tune in a TV station and set all controls for normal operation. Set the horizontal hold control, R525, to the center of its range. Adjust T501 to the point where it is virtually impossible to lose horizontal sync while switching from channel to channel.

### AGC ADJUSTMENT

Tune in a weak TV station. Adjust RF AGC control, R304, for maximum contrast and MINIMUM snow.

### COLOR AFC ALIGNMENT

Connect a color bar generator to the antenna terminals. Set Q Lock switch to off position. Set Color Killer control, R613, to fully counterclockwise. Set Pana-Brite control to fully clockwise. Set color and tint controls to mid-range.

Connect a jumper from TPB2 to TPB3. Connect a jumper from TPB43 to ground. Connect scope to TPB47R. Adjust R620 to bring waveform into sync on scope. Disconnect jumpers from TPB2 to TPB3 and from TPB43.

Connect scope to TPB43. Adjust R614 to obtain a color burst signal of .5 VPP. Connect scope to TP47R. Adjust Color control, R624, and Sub-Tint, R638, to obtain an R-Y waveform of 25 VPP. Set Tint control, R658, to mid-range. Adjust T605 and R638 for 6th bar crossover. Waveform is shown on schematic at TPB47R. Check waveforms at TPB47G and TPB47B.

### PURITY ADJUSTMENTS

Allow set to warm up and perform center convergence. If the picture tube appears to be magnetized, use a degaussing coil to demagnetize tube and mounting brackets.

Place service switch to Raster position. Turn the blue and green screen controls fully counterclockwise (red raster). Loosen the deflection yoke and move it forward as far as possible. Adjust the tabs on the pruity magnet and rotate the assembly until a red spot appears at the center of the picture tube. Slide deflection yoke back to obtain a uniform red over the entire picture-tube face. Tighten deflection-yoke clamp screw.

### GRAY SCALE ADJUSTMENTS

Set Q-Lock switch to off position. 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 and the green and blue drive controls fully counterclockwise. Move the service switch to Service position. Advance the screen controls one at a time, until each produces a barely visible line on the screen. Sometimes this setting can be improved by just extinguishing the line.

Return the service switch to normal position. Adjust the blue and green drive controls to obtain best black and white picture.

### COLOR KILLER ADJUSTMENT

Tune in a weak signal or reduce the signal at the antenna terminals to obtain a snowy picture. Set the Q-Lock switch to off. Set color and tint controls to mid-range. Adjust the Color Killer control, R613, to the point where the colored snow just disappears. Check by tuning in a TV station which has a color signal to see if the killer is killing the color signal. If color is lost, slightly reduce killer level.

### Q-LOCK ADJUSTMENT

Set Q-Lock switch to on position. Turn color control to fully counterclockwise. Connect scope to TPB47R. Adjust Sub-Color control, R608, to obtain a waveform of 20 VPP. Turn Color control, R624, clockwise for normal viewing. Check Q-Lock by switching from off to on position.

### AUTOMATIC BRIGHTNESS LIMITER

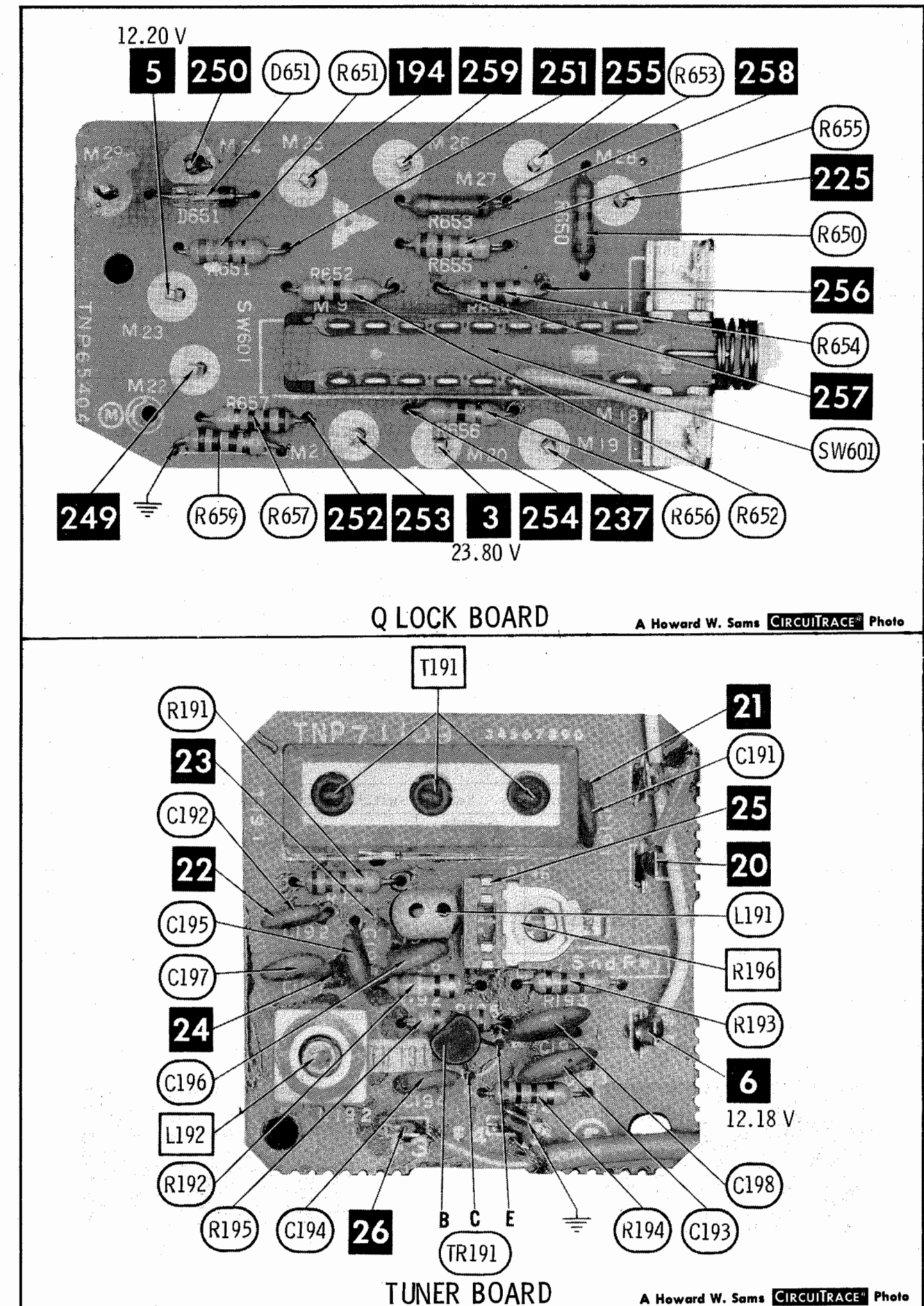
Tune in a TV station and adjust ABL control, R512, fully counterclockwise. Set the Pana-Brite control to a point just before the picture starts to bloom. Adjust Sub-Bright controls, R323 and R530, for maximum brightness without blooming. Turn ABL control, R512, until picture starts to darken.

### VERTICAL ADJUSTMENT

Adjust vertical height and linearity for a normal picture. Adjust vertical hold control to near mid-range and adjust vertical range, R402, for proper lockin.

### PINCUSHION ADJUSTMENT

Connect a crosshatch generator to the antenna terminals. Adjust Pincushion Phase coil, L506, for straight horizontal lines.



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
IFT Coil (VHF Tuner) .....	9296, 9297, 9300
T102 thru T106, T191, L192, T151, T152, L106 ....	9440
T201, T202, T301, T601, T602, T603 .....	9440

PRELIMINARY INSTRUCTIONS

Set the channel selector to the highest unused channel. Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. Use only enough generator output to provide a usable indication.

Note: Response may vary slightly from that shown.

Connect a +4 volt bias supply to TPA2 (A-Board); low side to ground.

VIDEO IF ALIGNMENT

CONNECT SCOPE	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
Vertical input to A9, low side to ground.	Thru .001mfd to TP, on VHF tuner, low side to ground.	44MHz (10MHz Sweep)	41.25MHz 47.25M 47.25MHz	Adjust T106 and R111 for MINIMUM.  Adjust L192 and R196 for MINIMUM. See Figure 1.
"	"	"	41.25MHz 42.17MHz 44.00MHz 45.75MHz 47.25MHz	Adjust T102, T103, T104, T105, C115, T191 and IFT (VHF tuner) for maximum gain and symmetry of response. T105 and C115 affect tilt of response and 45.75MHz. T104 affects 42.17MHz and 44.00MHz. T103 and T191 affects 42.17 and 45.75MHz. IFT coil (VHF tuner) 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 L106 for MINIMUM beat interference.

AFT ALIGNMENT

Connect as explained in preliminary instructions. Set AFT switch to on position.

CONNECT	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
Vertical input to TPA7, low side to ground	Thru .001 uF to TP on VHF tuner, low side to ground.	44MHz (10MHz Sweep)	45.75MHz	Adjust T152 for maximum response. See Figure 3.
"	"	"	"	Adjust T151 for placement of 45.75MHz marker. See Figure 3.

Remove scope from TPA7. Connect a VTVM to TPA7, low side to ground. AFT switch to Off position. Adjust R158 for +6 volts DC.

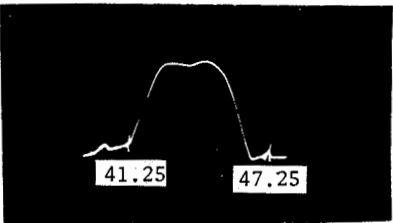


FIG. 1

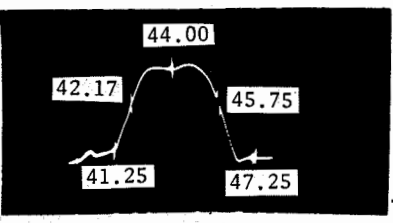


FIG. 2

TV ALIGNMENT INSTRUCTIONS (Continued)

CHROMA BANDPASS ALIGNMENT

Connect as explained in preliminary instructions. Set color control to maximum, tint control to mid-range, and color killer fully counterclockwise.

Set Q-Lock switch to off. Connect a jumper from TPB5 to TPB6 (B-Board).

Connect a +6 bias to TPA2, low side to ground (A-Board).

CONNECT SCOPE	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
Vertical input thru detector probe to TPB42, low side to ground.	Thru .1mfd to TPB41, low side to ground.	3.58MHz (3-5MHz Sweep)	3.08MHz 3.58MHz 4.08MHz	Adjust T602 and T603 for maximum gain and proper placement of markers. See Figure 4.
"	Thru .001mfd to TP, on VHF tuner, low side to ground.	44MHz (10MHz Sweep)	3.08MHz 3.58MHz 4.08MHz  (4.5MHz Trap)	Adjust T601 for maximum gain and symmetry of response. If necessary, retouch T602 and T603. See Figure 5.  Inability to obtain proper bandpass alignment may be due to misadjustment of the 4.5MHz trap. Adjust L106 for MINIMUM at 4.5MHz.

After completing Chroma Bandpass Alignment, reset color killer. (Refer to Miscellaneous Adjustments.)

SOUND IF ALIGNMENT

Tune in a station and adjust T201 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 T202.

3.58MHz TRAP ALIGNMENT

Connect scope and signal generator from point B (on A-Board), low side to ground. Adjust T301 for MINIMUM indication.

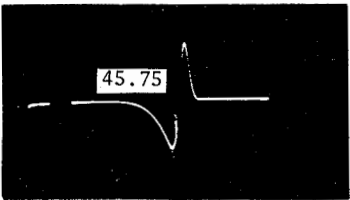


FIG. 3

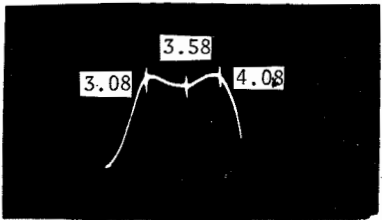


FIG. 4

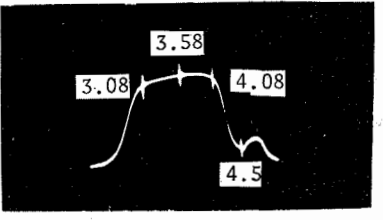
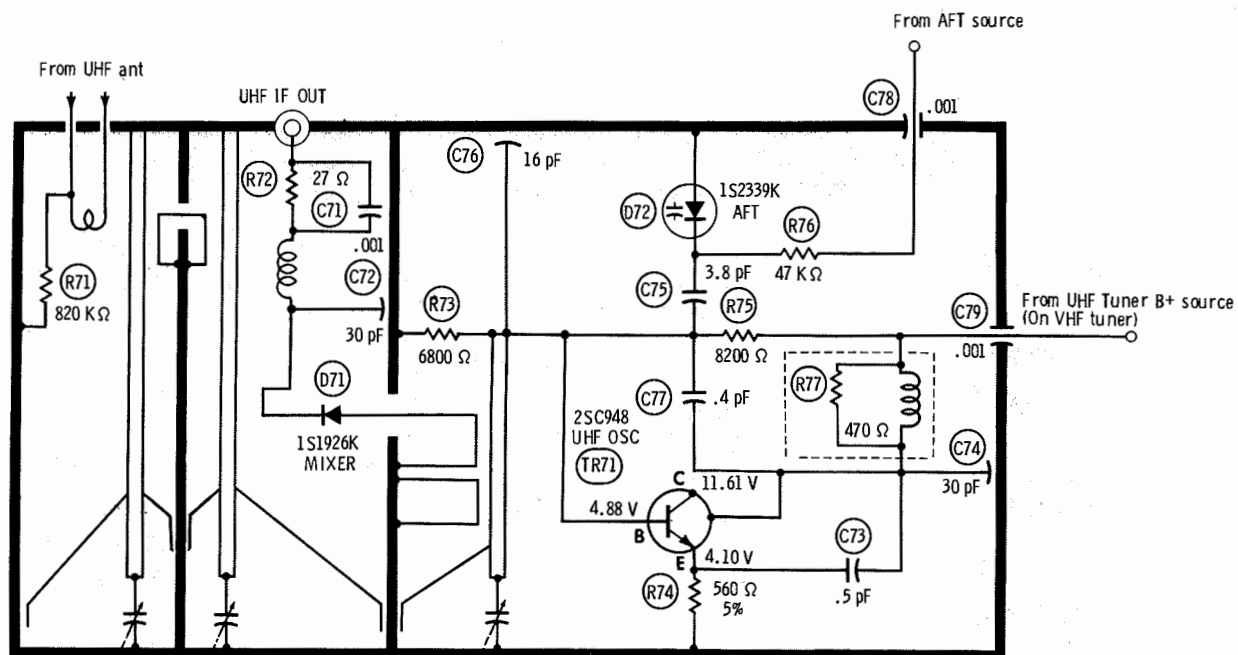
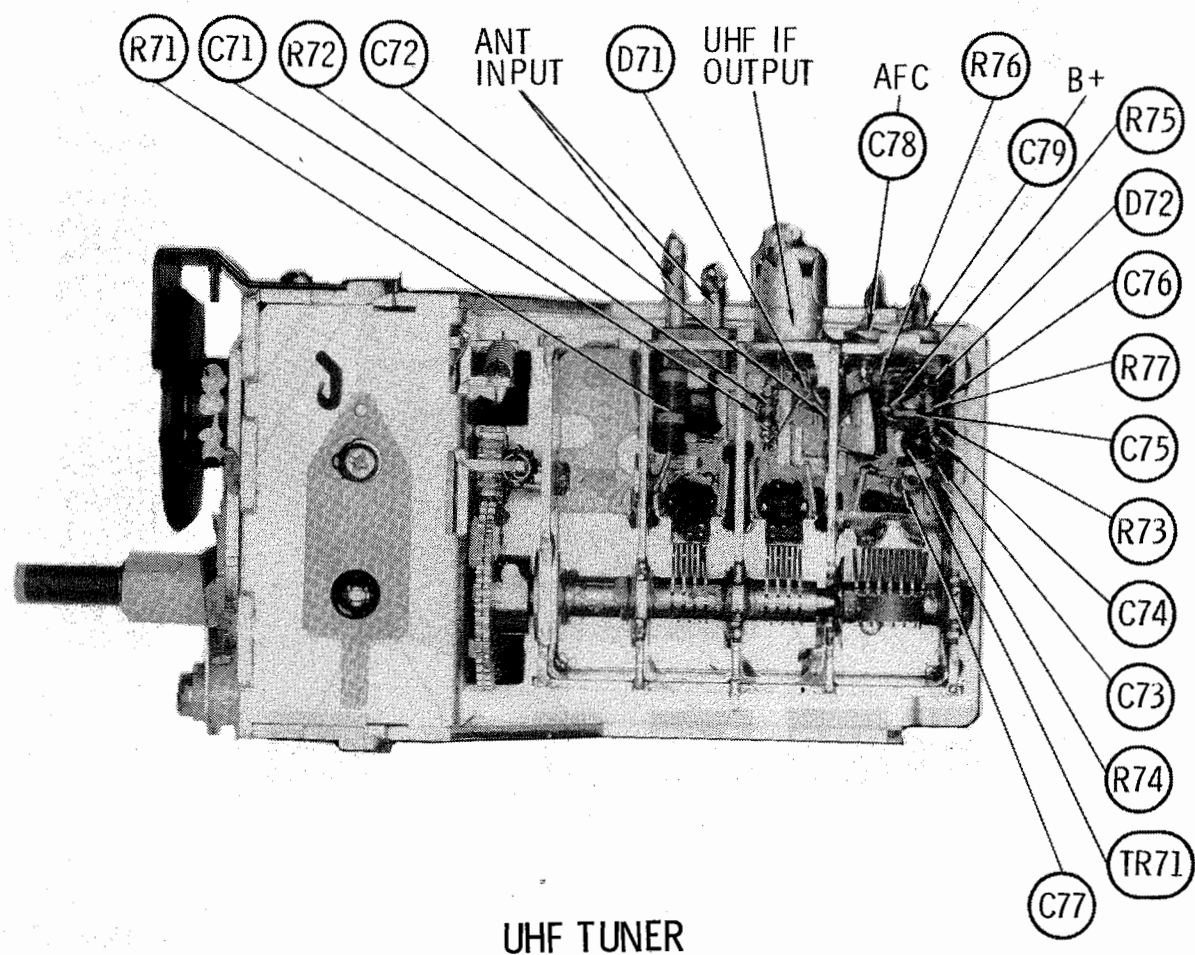


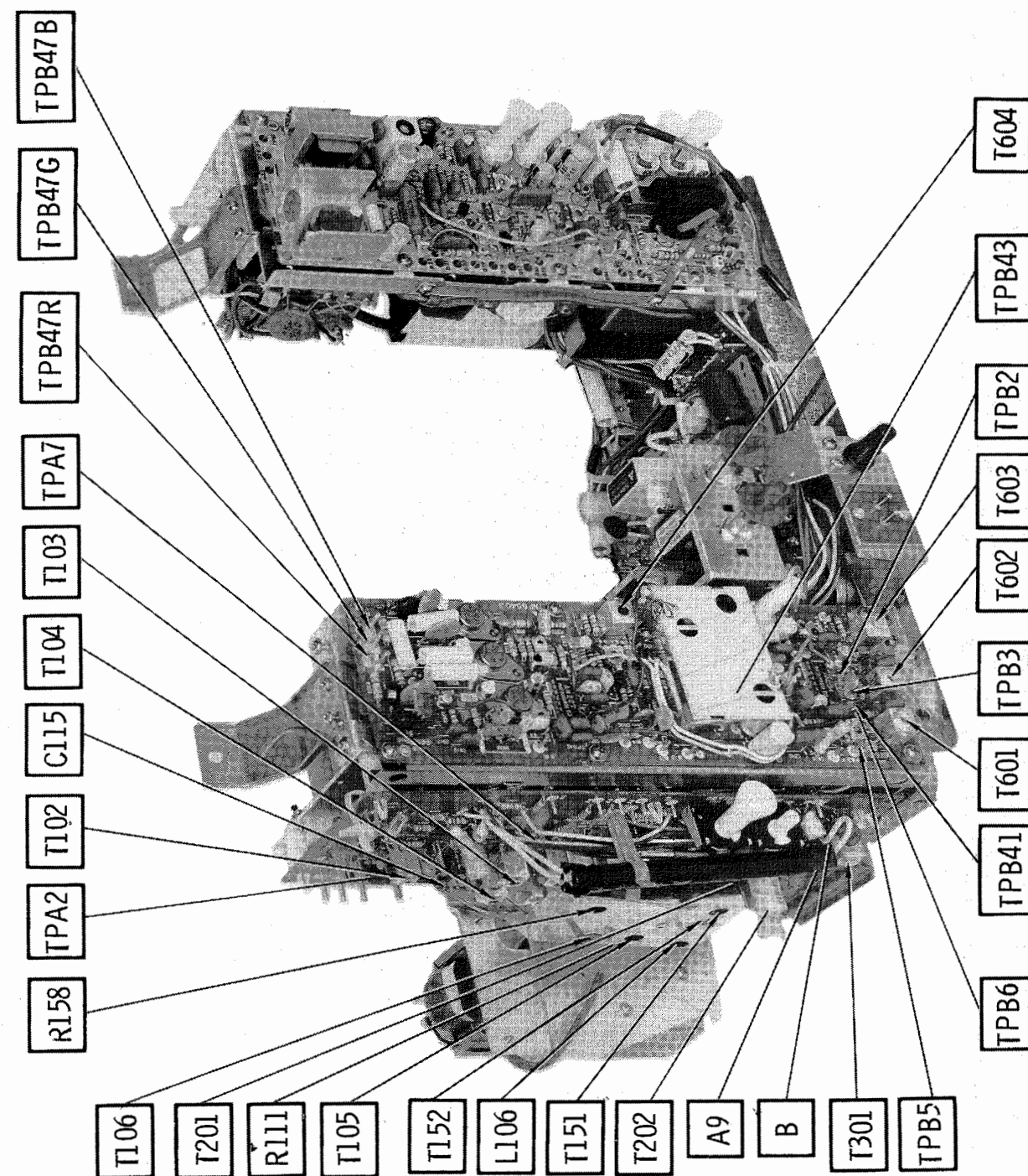
FIG. 5



A PHOTOFACT STANDARD NOTATION SCHEMATIC  
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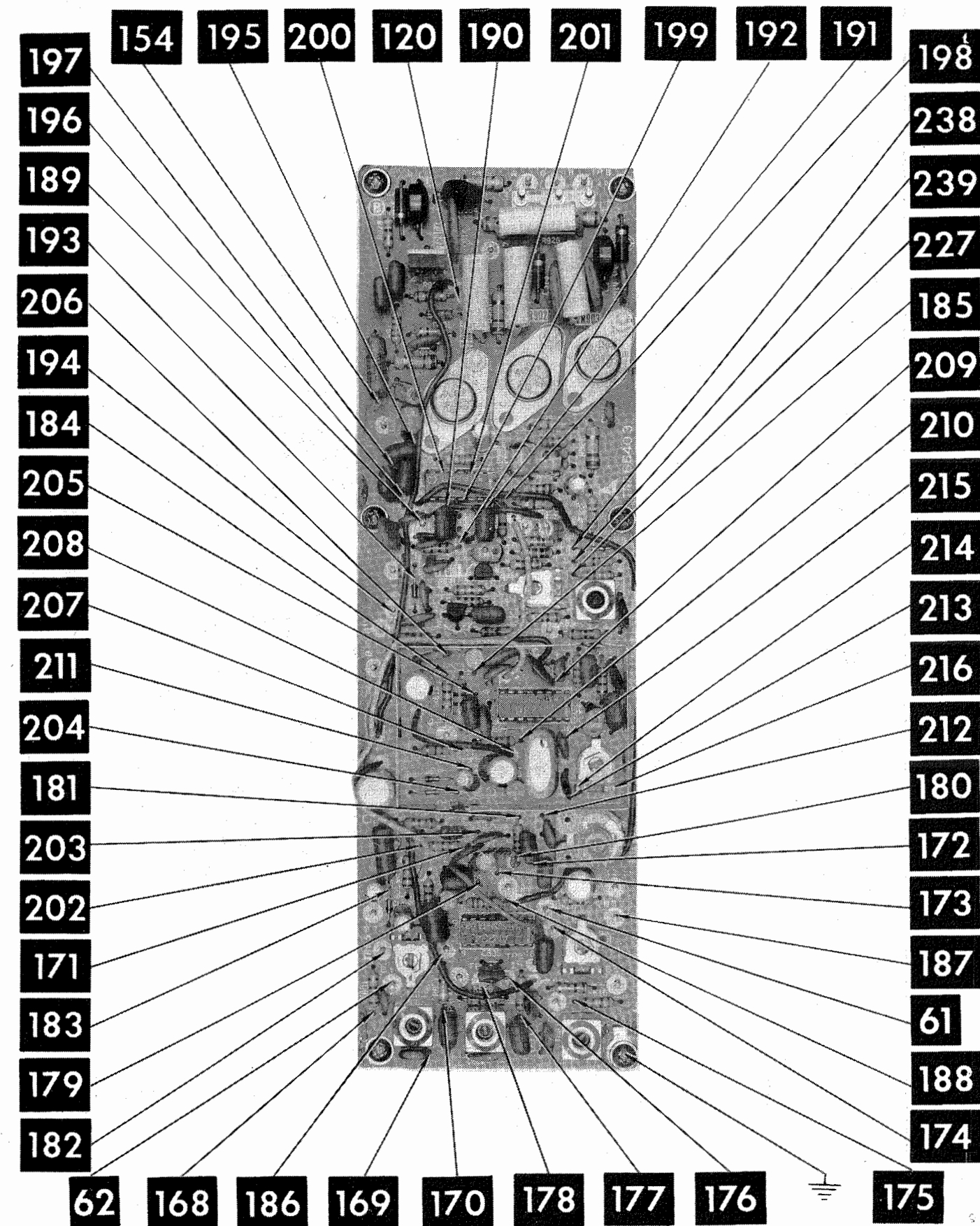


UHF TUNER



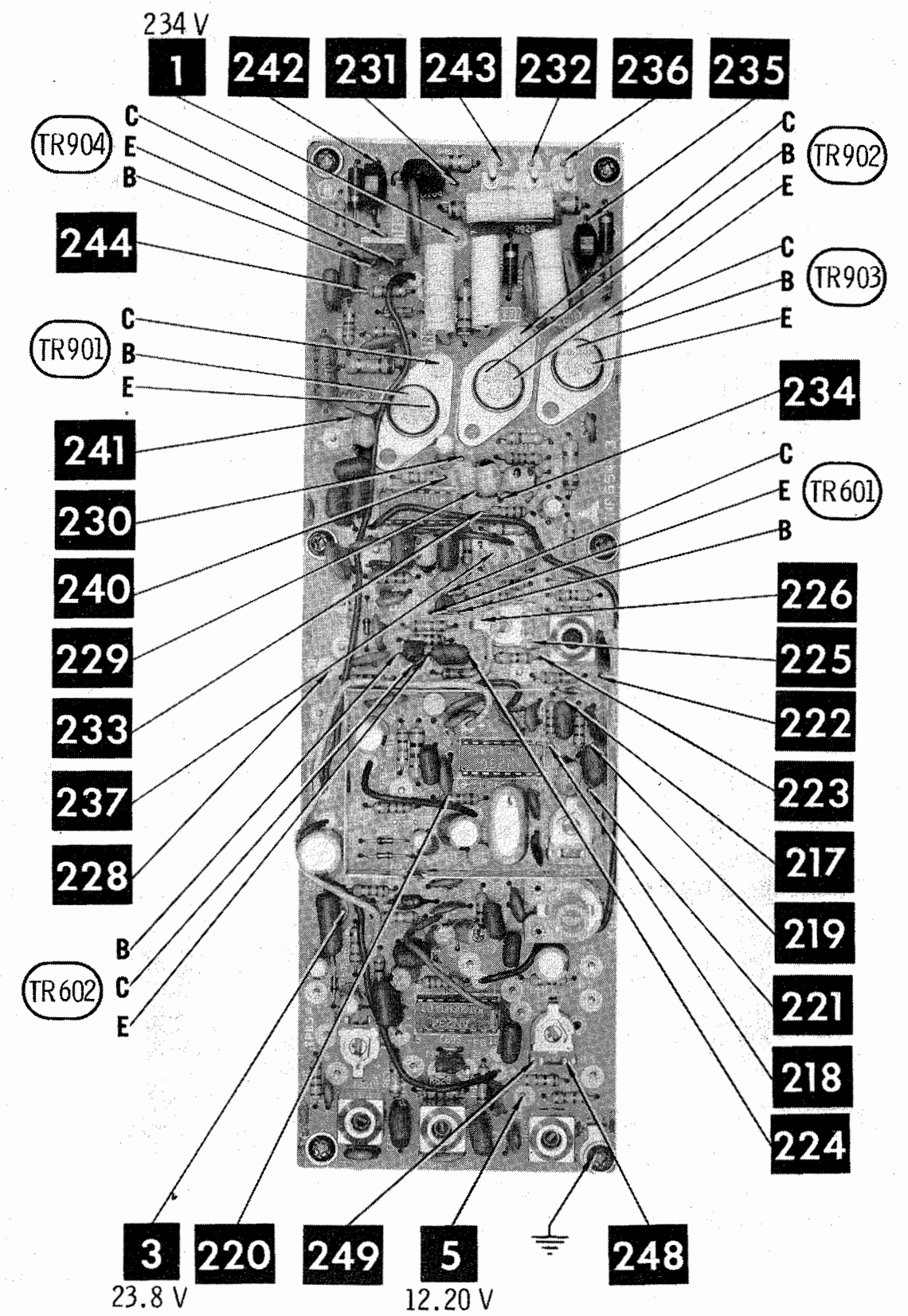
CHASSIS-REAR VIEW





A Howard W. Sams CIRCUITRACE® Photo

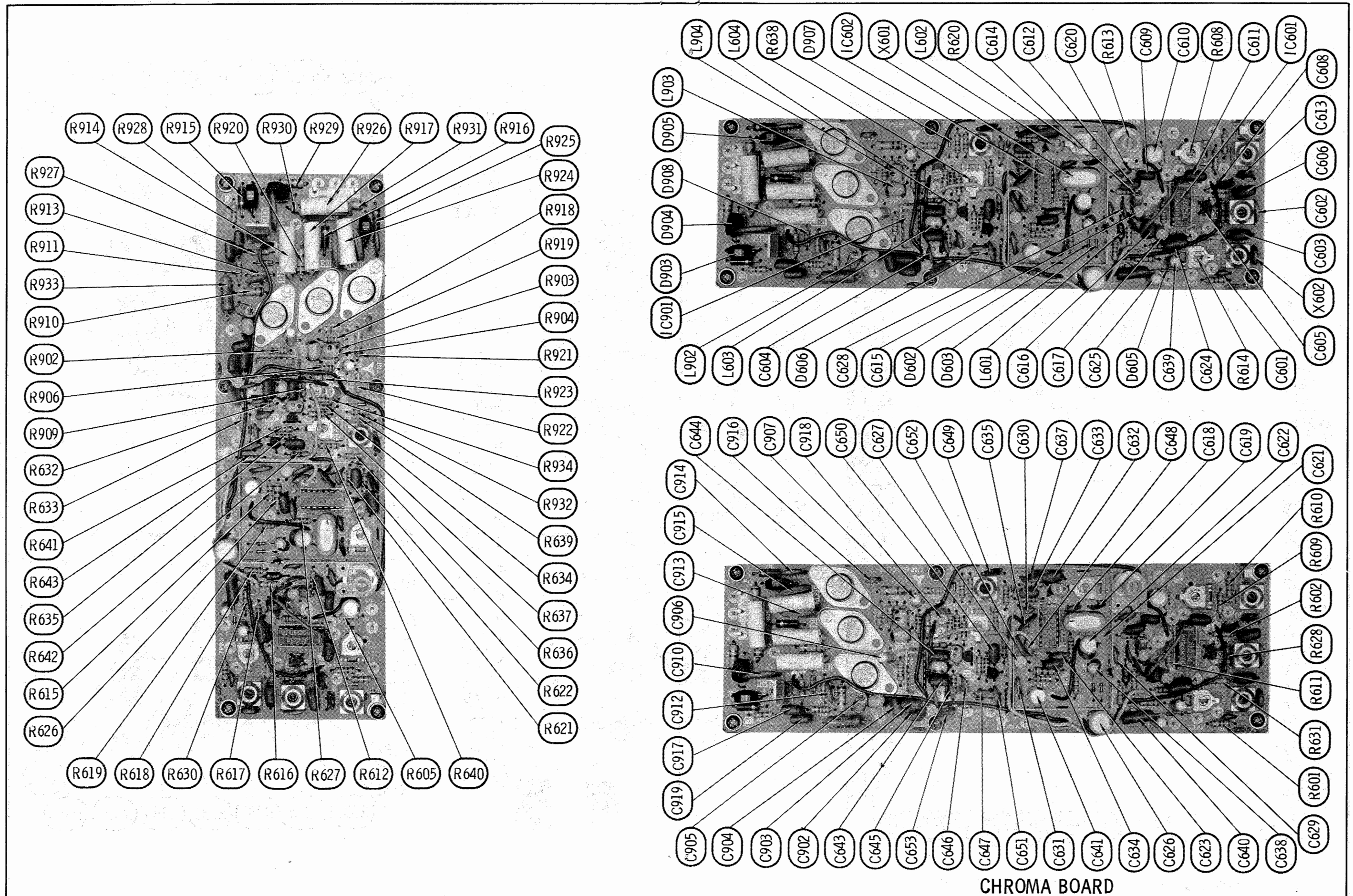
CHROMA BOARD



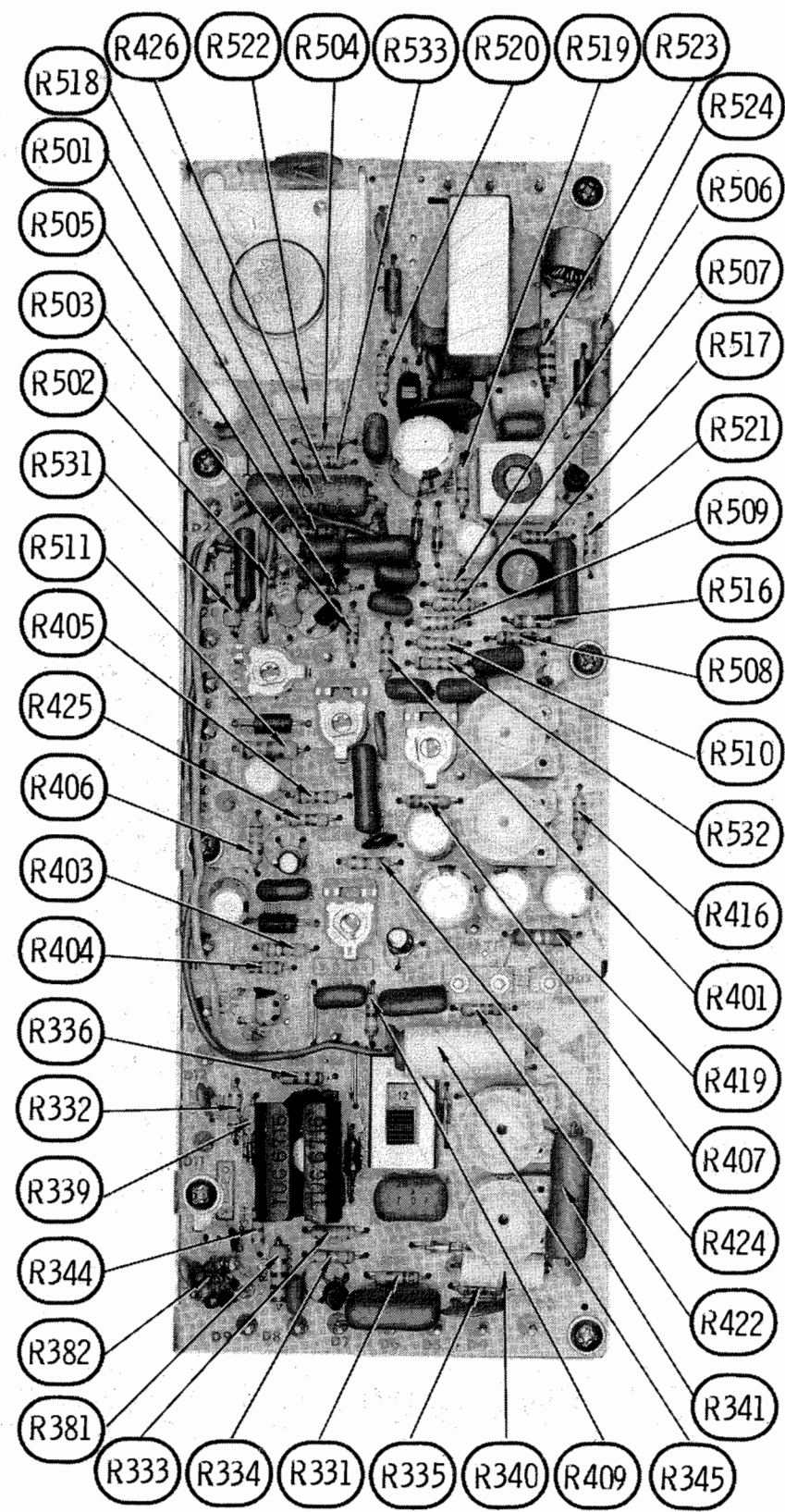
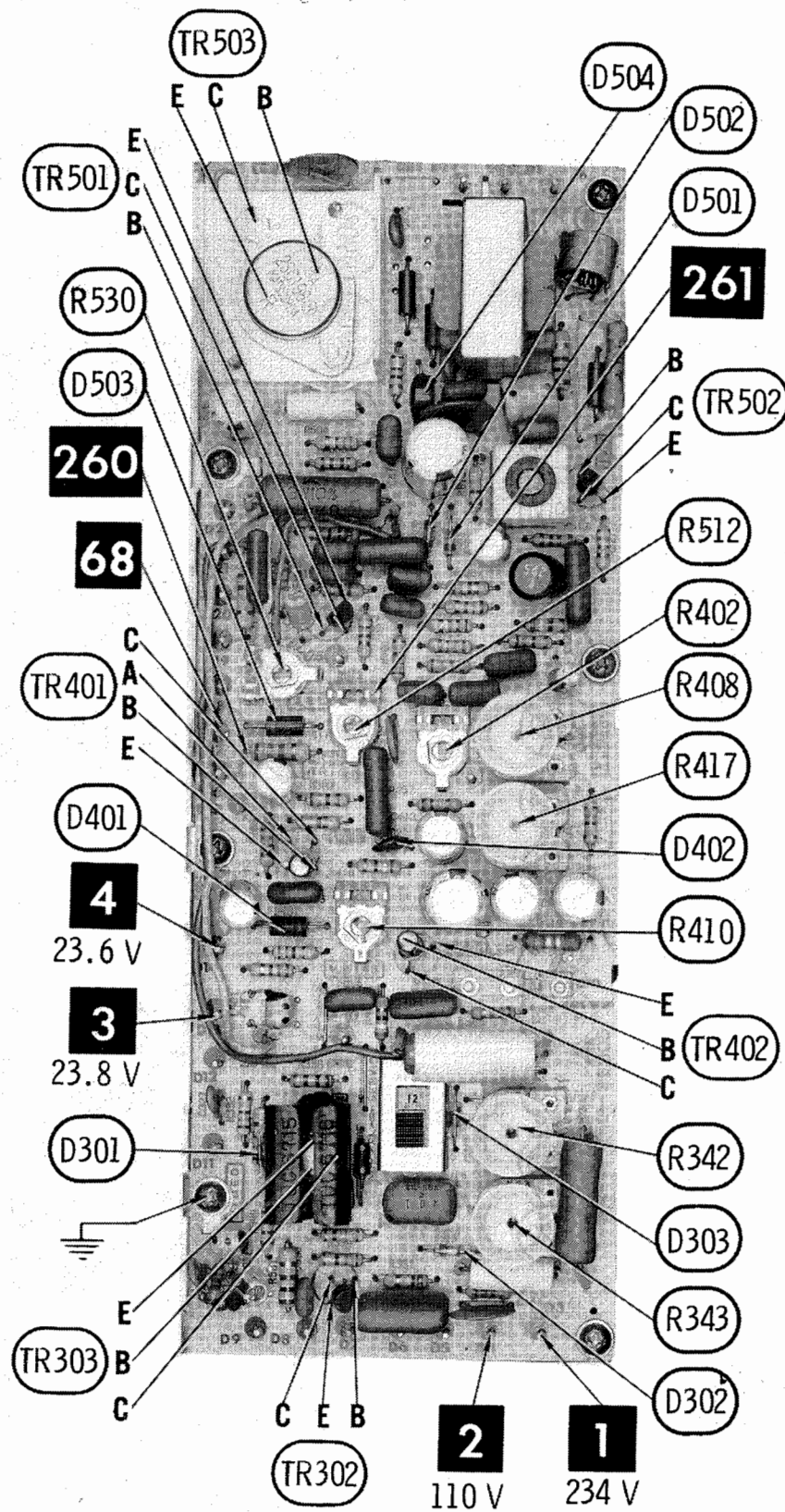
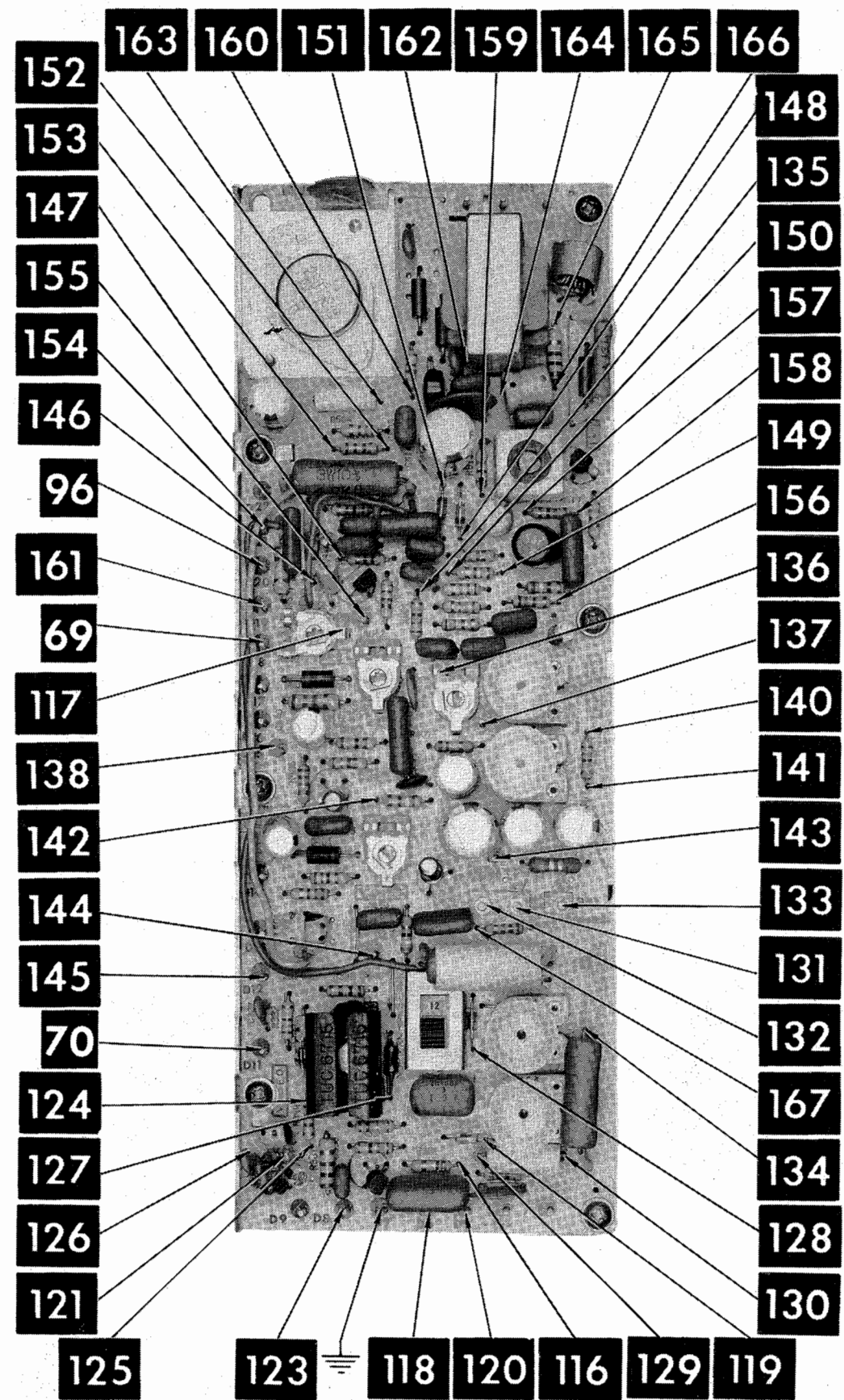
A Howard W. Sams CIRCUITRACE® Photo

BRADFORD MODEL  
1104A34 (WTG-79301)

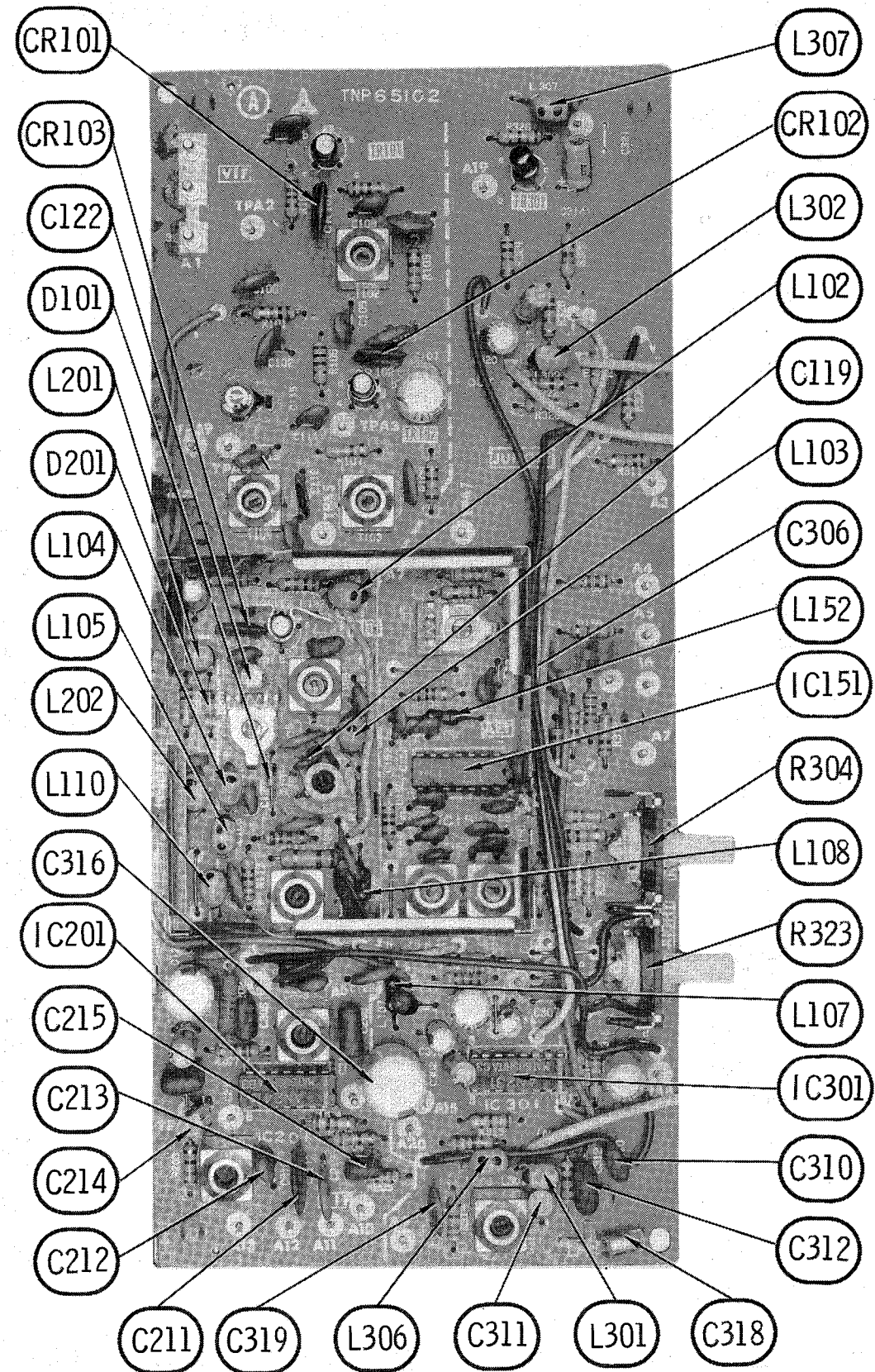
FOLDER 1



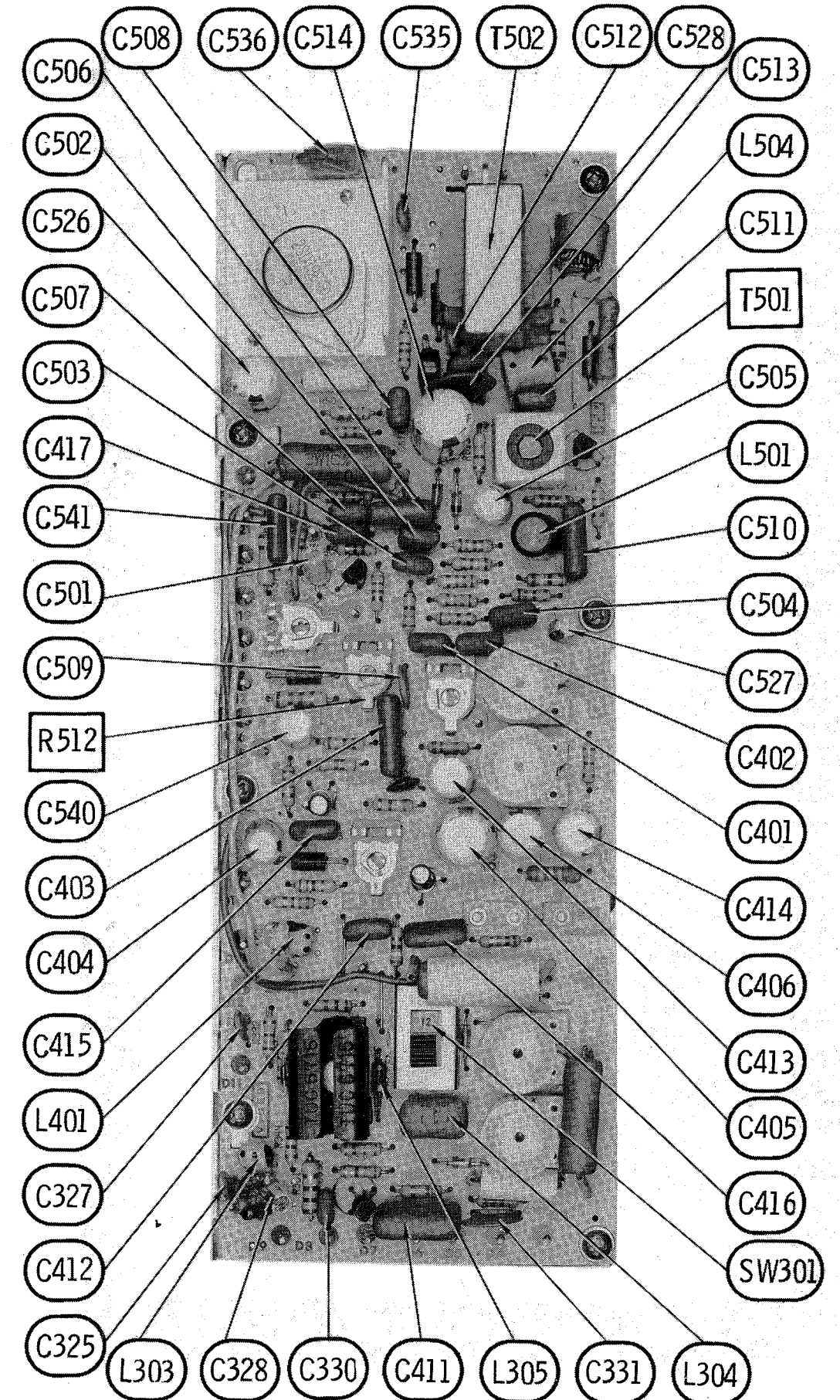






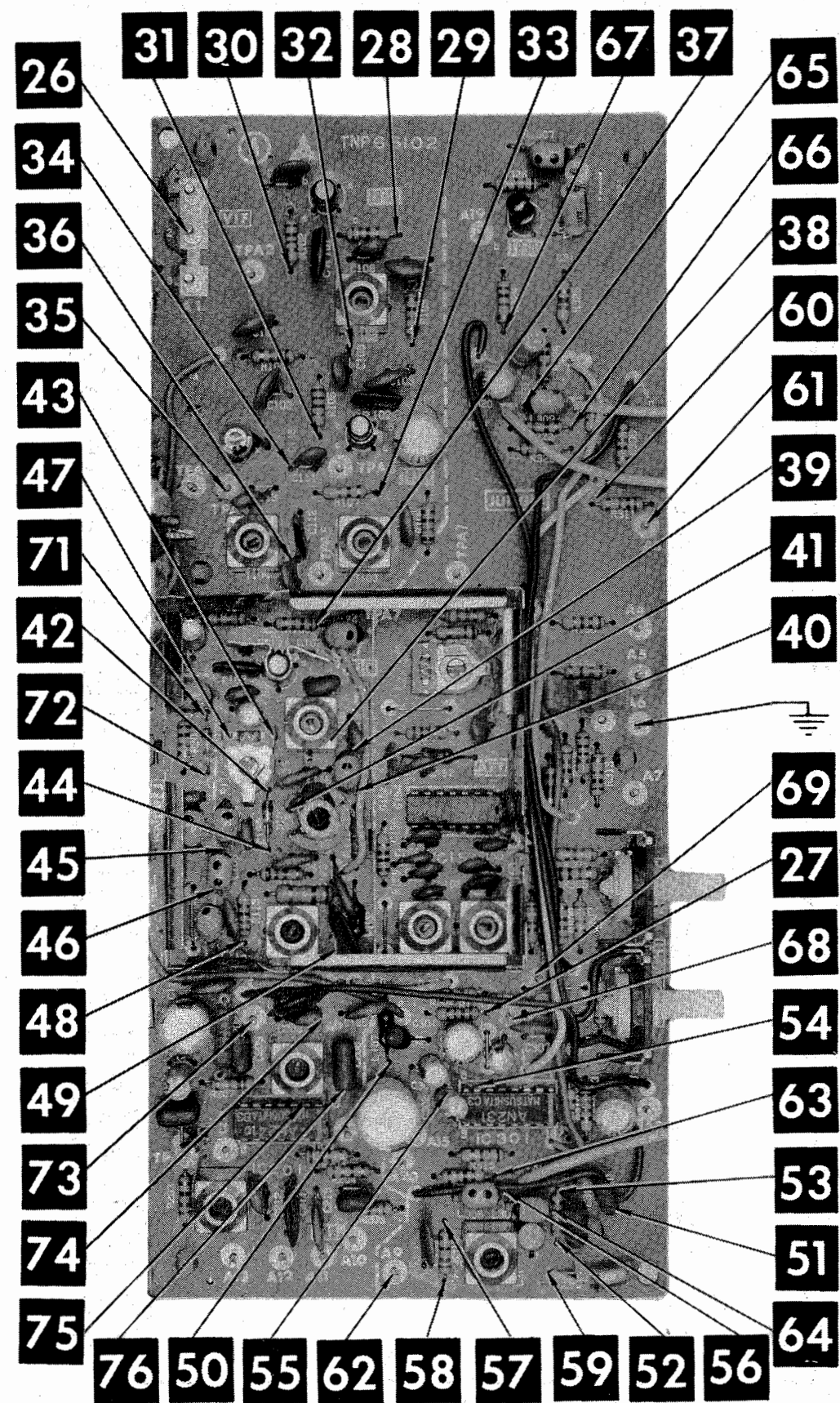


VIDEO BOARD



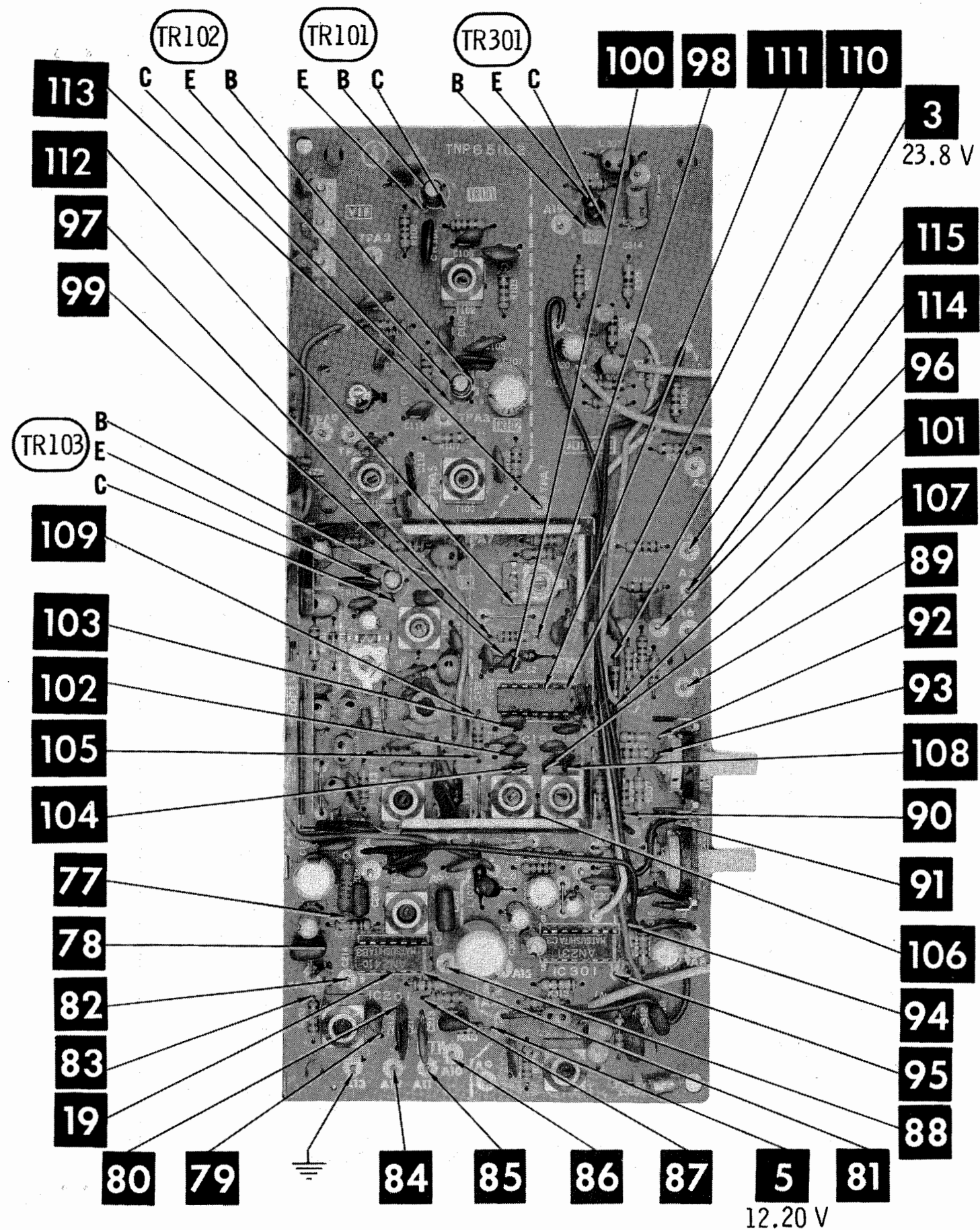
DEFLECTION BOARD



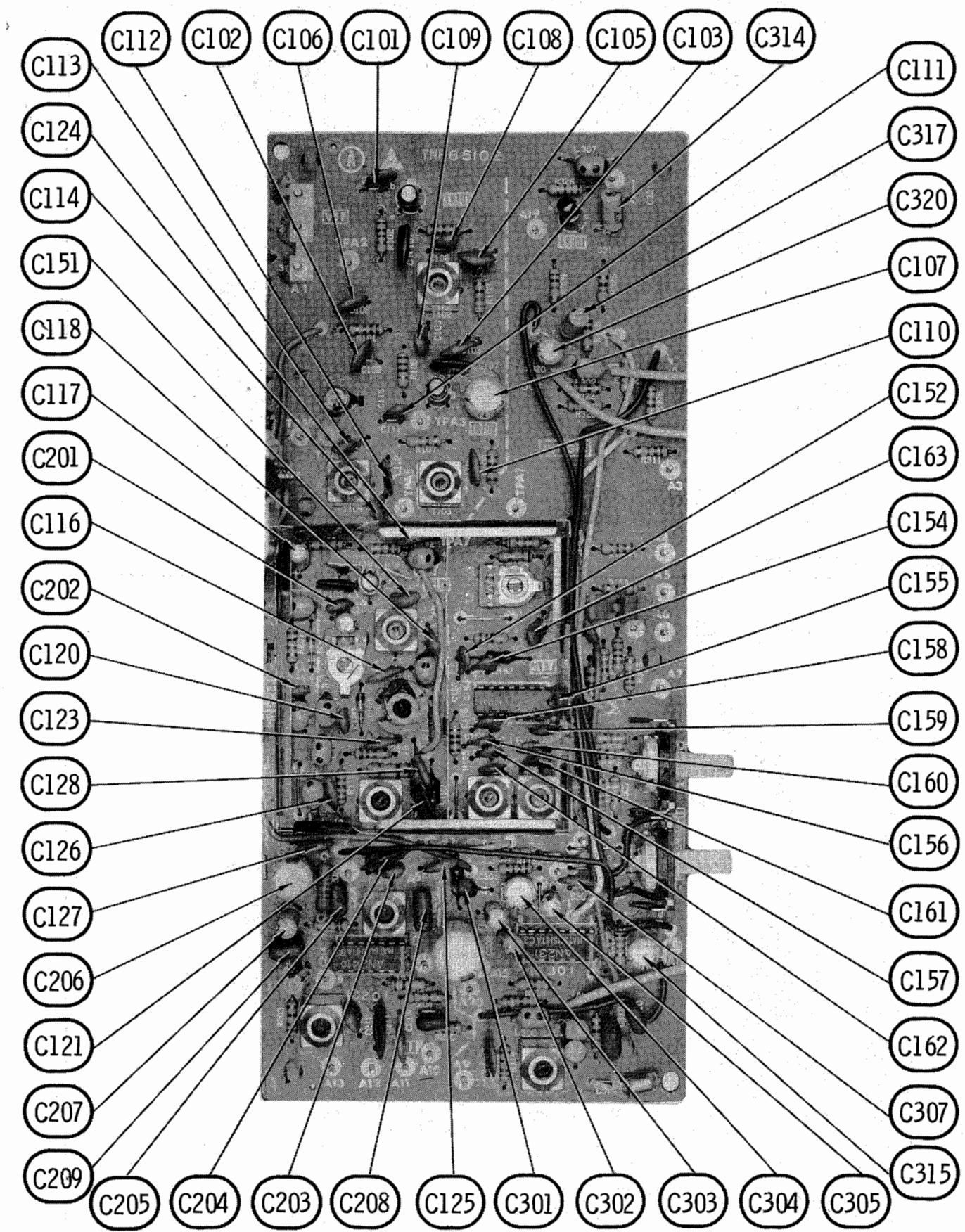
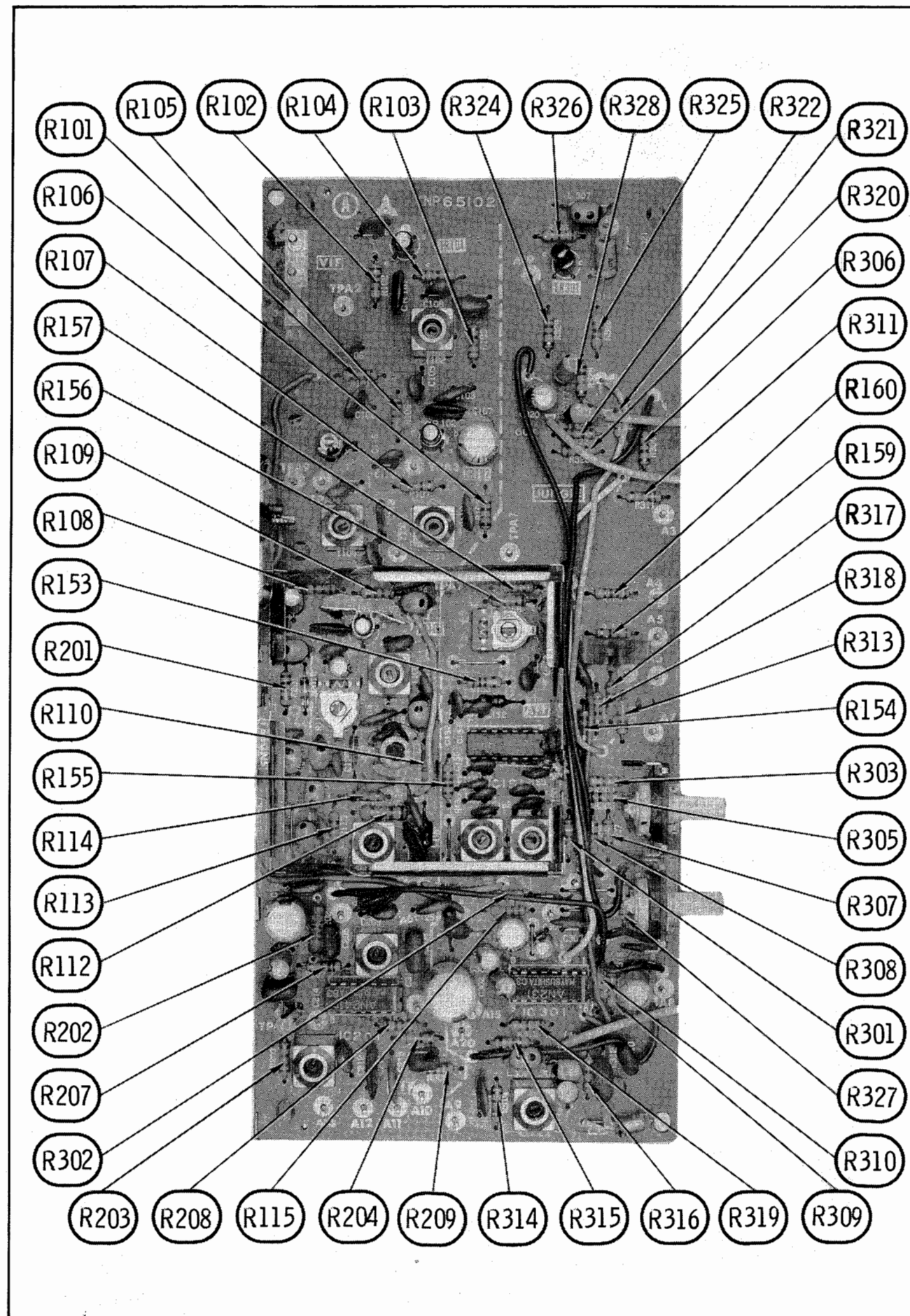


A Howard W. Sams CIRCUITRACE® Photo

VIDEO BOARD

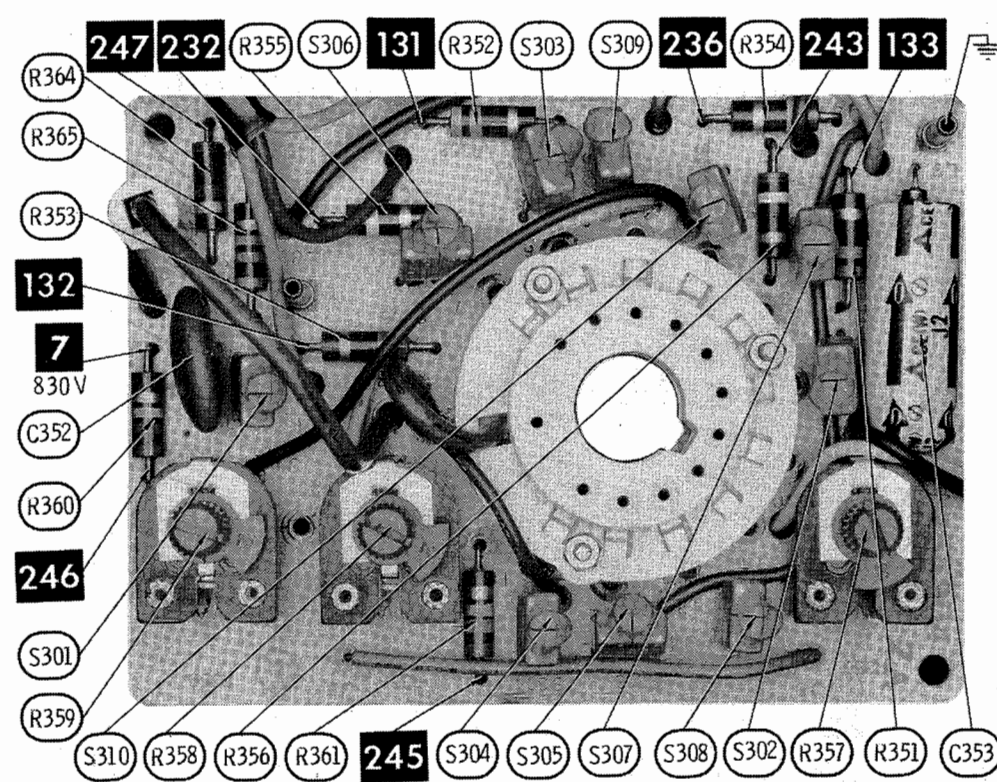






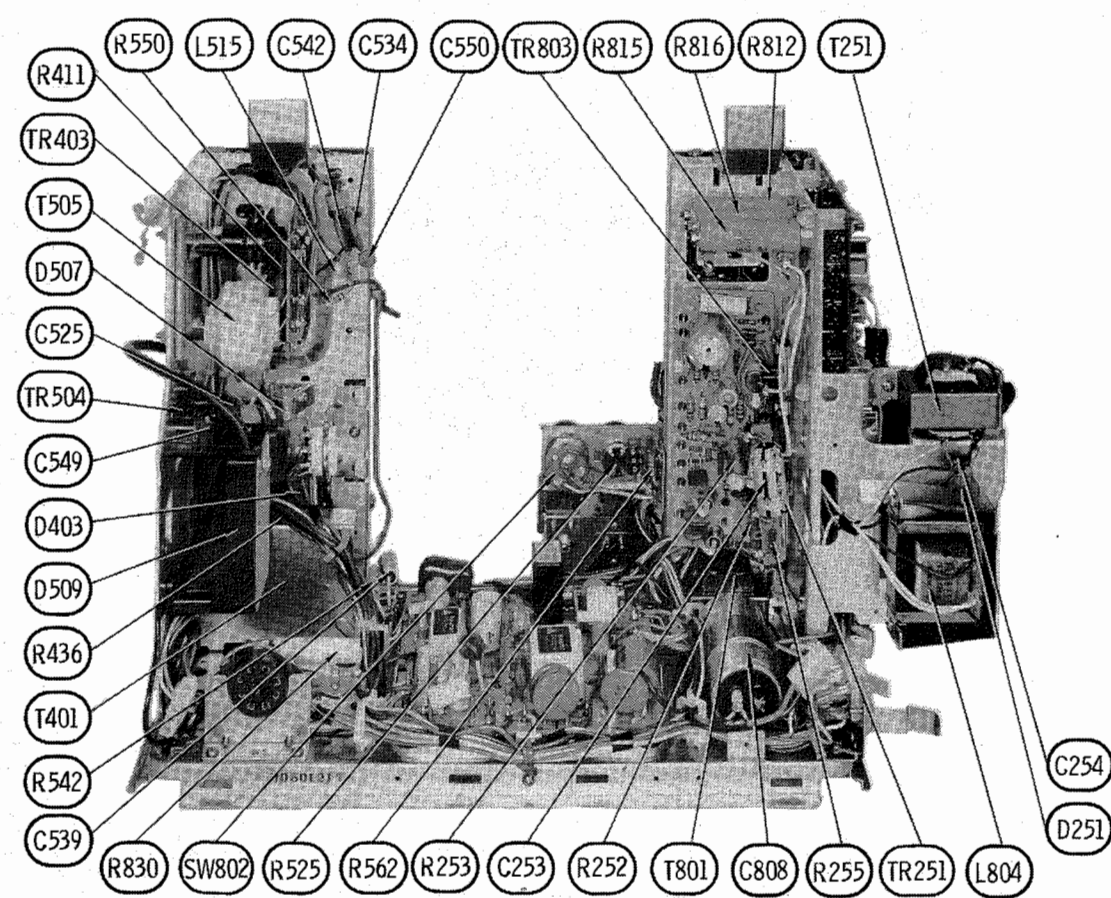
VIDEO BOARD



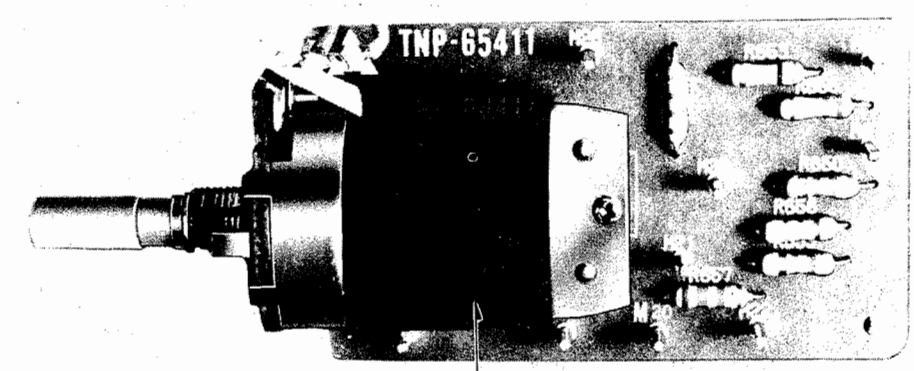


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CRT BOARD

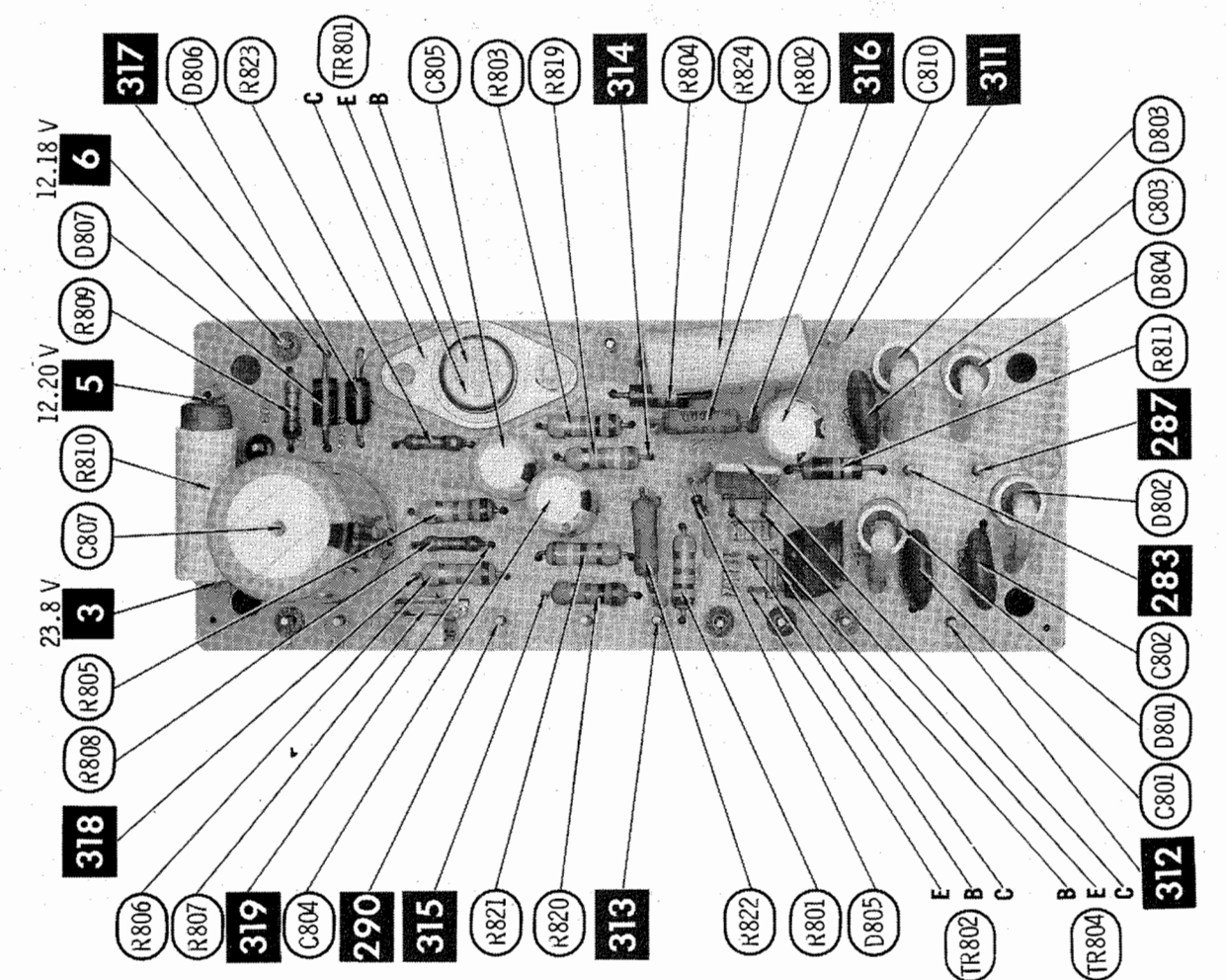
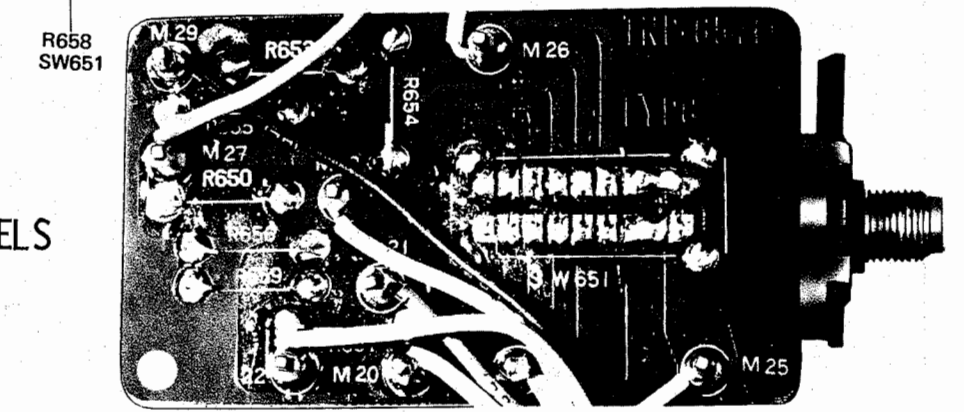


CHASSIS-FRONT VIEW



Courtesy of the Manufacturer

Q LOCK BOARD  
USED IN SOME MODELS



ARV BOARD

A Howard W. Sams CIRCUITRACE® Photo

BRADFORD MODEL  
1104A34 (WTG-79301)

FOLDER 1

## 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.	REMARKS
T104	2nd Video IF	TL161390			
T105	3rd Video IF	TL161363			
T106	41.25 Mhz Trap	TL161391			
T151	AFT	TL167375			
T152	AFT Detector	TL167374			
T191	Video Input IF	TL161651			
T201	Sound Input IF	TL562358			
T202	Sound Detector	TL563318			
T301	3.58 Mhz	TLK66006			
T601	Chroma Input	TLK61007			
T602	Burst (Primary)	TLK63110			
T603	Burst (Secondary)	TLK63111			
T604	Chroma Phase	TLK64058			

## COILS (Sweep Circuits)

ITEM No.	FUNCTION	REPLACEMENT DATA				
		MFGR. PART No.	MILLER PART No.	STANCOR PART No.	THORDARSON MEISSNER PART No.	TRIAD PART No.
L506	Pincushion Phase	TLH6857				
L701	Blue Amp Right	TLCL6F205				
L702	R/G Amp Right Conv Yoke	TLCL6F204 TNS9925				
L703	Blue Coil					
L704	R/G Coil					
T501	Horiz Osc	TLH6302-2				

## FILTER CHOKE

ITEM No.	RATINGS		REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	
L804	.6 A DC	1.3	15 mH	TLP6157			

## TRANSFORMERS (Sweep Circuits)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T401	Vertical Output	TLV-6206				
T402	Yoke Horiz = 1.25 90° Vert = 41 mil	TLY53465				
T502	Horiz Driver	TLH6420				
T503	Vert Pincushion	TLH6727				
T504	Horiz Pincushion	TLH6714-1				
T505	Horiz Output	TLF64035				

## TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	PRI.	SEC. 1	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T801	120 V AC (1) 0.08 A AC	6.3 V AC 0.88 A AC	TLP6274				(1) Primary has standby tap.

## TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA				NOTES
	PRI.	SEC.	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T251	2600	8	ETA41016A (ETA41B16A)(1)	TR117			(1) May be used in some versions.

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
	3" x 5" PM, 8 ohms	EAS120315	35A0528	

## FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA					
		PART No.		BUSS PART No.		LITTELFUSE PART No.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER
F1	3A, 125 V	TSF35302-1		AGC 3		312003	
F2	2A, 125 V	TSF35202-1		AGC 2		312002	

## MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
	UHF Antenna	TS4325E1	
	VHF Antenna	TS4834	
	VHF Tuner	TNT96180ME	
	UHF Tuner	TKN36901KE	
CR1	Component Combination	EXAG471G02	VHF Filter Network
CR2	Component Combination	EXAG471G02	VHF Filter Network
CR3	Component Combination	EXAG131G05	UHF Filter Network
CR4	Component Combination	EXAG131G05	UHF Filter Network
CR101	Component Combination	EXAP2032561	Emitter Stabilizer
CR102	Component Combination	E:AP2032561	Emitter Stabilizer
CR103	Component Combination	EXAP2032391	Emitter Stabilizer
L802	Degaussing Coil	TLK69058	(1)
L803	Degaussing Coil		(1) Part of L802
S301	Spark Gap	TGPS152GL	
S310 thru S310			
SW101	Switch	ESB5027	AFT
SW301	Switch	ES0276D	Service (Normal-Service)
SW601	Switch	TSE482	Q-Lock (Manual-Auto)
SW801	Switch	ESB1151-B	On-Off
SW802	Switch	EVQ59HF25	Vacation
TD301	Delay Line	TLK804-2	
X601	Crystal	TSE616-1	3.58 Mhz Oscillator
X602	Crystal	EFC4AR5MC1	4.5 Mhz
	Printed Circuit Board	TNP65102	A-Board, VIF, SIF, AGC, AFT, 1st Video
	Printed Circuit Board	TNP65403	B-Board, BPA, APC, ACC, Demod
	Printed Circuit Board	TNP65405	C-Board, H-Osc, AFC, Drive, V-Osc, V-Out
	Printed Circuit Board	TNP65306	G-Board, Power, Pincushion
	Printed Circuit Board	TNP65502	K-Board, AVR



## 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 (cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C505	10 50 V	ECEA50V10L	RME-0-J-010	EP50-10	PC10-50	MTV10C850	EV-1622
C514	4.7 350 V	ECEA350V47R	CTA-1410	EA50-250	WBR50-150	TC60A	TVA-1602.5
C523	330 35 V	ECEA35V330L	ME-1250	EA50-250	WBR350-150	MTA300G50	EV-1545
C524	330 35 V	ECEA35V330L	ME-1250	EA50-250	WBR350-150	MTA300G50	EV-1545
C526	10 160 V	ECEA160V10Q	CTA-1310	EP15-10	PC10-25	VT110A25	TVA-1441
C527	10 16 V	ECEA16V10L	RME-B-E-010	EP15-10	PC10-25	VT110A25	EV-1222
C528	220 10 V	ECEA10V220L	ME-6-D-200	EP15-10	PC10-25	VT110A25	EV-1140
C530	10 25 V	ECEA25V10L	RME-B-G-010	EP30-10	PC10-25	VT110A25	EV-1322
C539	4.7 160 V	ECEA160V47R	CTA-1300	EP30-10	PC10-25	VT110A25	EV-1322
C540	1 16 V	ECEA16V1L	CTA-1400	EP30-10	PC10-25	VT110A25	EV-1322
C610	33 16 V	ECEA16V33L	ME-3-E-035	EP15-25	PC10-25	MTV30C825	EV-1325
C611	1 50 V	ECEA50V1L	RME-A-J-001	EP50-2	PC1-50	MTV1C850	EV-1615
C614	1 50 V	ECEA50V1L	RME-A-J-001	EP50-2	PC1-50	MTV1C850	EV-1615
C615	1 50 V	ECEA50V1L	RME-A-J-001	EP50-2	PC1-50	MTV1C850	EV-1615
C617	1 50 V	ECEA50V1L	RME-A-J-001	EP50-2	PC1-50	MTV1C850	EV-1615
C621	1 10 V	ECEA10V1L	ME-1-0-001	EP15-2	PC1-50	MTV1C850	EV-1315
C622	3.3 50 V	ECEA50V3R3L	ME-2-J-003	EP30-5	WBR5-50	VT13R3A50	EV-1618
C625	3.3 25 V	ECEA25V3R3L	RME-A-H-003	EP30-5	WBR5-50	VT13R3A50	EV-1618
C626	220 10 V	ECEA10V220L	ME-6-E-200	EP15-25	PC10-25	VT110A25	EV-1322
C627	1 10 V	ECEA10V1L	ME-1-0-001	EP15-2	PC1-50	MTV1C850	EV-1315
C638	4.7 25 V	ECEA25V47R	RME-A-G-005	EP30-5	WBR5-50	VT13R3A50	EV-1618
C639	1 50 V	ECEA50V1L	RME-A-J-001	EP50-2	PC1-50	MTV1C850	EV-1615
C641	1.5 50 V	ECEA50V1R5L	RME-A-J-002	EP50-2	PC1-50	MTV1C850	EV-1615
C703	4.7 25 V	ECEA25V47R	RME-A-G-005	EP30-5	WBR5-50	VT13R3A50	EV-1618
C706	33 16 V	ECEA16V33L	ME-3-E-035	EP15-25	PC10-25	VT110A25	EV-1322
C804	10 160 V	ECEA160V10Q	CTA-1310	EP30-5	WBR5-50	VT13R3A50	EV-1618
C805	10 160 V	ECEA160V10Q	CTA-1310	EP30-5	WBR5-50	VT13R3A50	EV-1618
C807	1000 35 V	ECEA35V1000L	RME-R-H-1000	EP50-2	PC1-50	MTV1C850	EV-1615
C808	800 160 V	ECEA160V800L	CTA-1310	EP30-5	WBR5-50	VT13R3A50	EV-1618
C910	10 160 V	ECEA160V10Q	CTA-1310	EP30-5	WBR5-50	VT13R3A50	EV-1618
C905	3.3 25 V	ECEA25V3R3L	RME-A-H-003	EP30-5	WBR5-50	VT13R3A50	EV-1618
C906	3.3 25 V	ECEA25V3R3L	RME-A-H-003	EP30-5	WBR5-50	VT13R3A50	EV-1618
C907	3.3 25 V	ECEA25V3R3L	RME-A-H-003	EP30-5	WBR5-50	VT13R3A50	EV-1618
C918	1 50 V	ECEA50V1L	RME-A-J-001	EP50-2	PC1-50	MTV1C850	EV-1615

## CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			ARCO/ELMENDO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C001	.01		CCO-103	00-103	GP10000	JF110	10T5-S10
C002	.01		CCO-103	00-103	GP10000	JF110	10T5-S10
C101	150 50 V	10%	CCO-103	00-103	GP150	GP150	10T5-T15
C102	.01 50 V		CCO-103	00-103	GP150	GP150	10T5-T15
C103	.01 50 V		CCO-103	00-103	GP150	GP150	10T5-T15
C105	.01 50 V		CCO-103	00-103	GP150	GP150	10T5-T15
C106	.01 50 V		CCO-103	00-103	GP150	GP150	10T5-T15
C108	13 50 V	10%	CCO-103	00-103	GP150	GP150	10T5-T15
C109	56 50 V	10%	CCO-103	00-103	GP150	GP150	10T5-T15
C110	.01 50 V		CCO-103	00-103	GP150	GP150	10T5-T15
C111	22 50 V	10%	CCO-103	00-103	GP150	GP150	10T5-T15
C112	120 50 V/NP0	10%	CCO-103	00-103	GP150	GP150	10T5-T15
C113	18 50 V	10%	CCO-103	00-103	GP150	GP150	10T5-T15
C114	68 50 V	10%	CCO-103	00-103	GP150	GP150	10T5-T15
C115	50 50 V		CCO-103	00-103	GP150	GP150	10T5-T15
C116	.01 50 V		CCO-103	00-103	GP150	GP150	10T5-T15
C118	18 50 V	10%	CCO-103	00-103	GP150	GP150	10T5-T15
C119	82 50 V	N150	CCO-103	00-103	GP150	GP150	10T5-T15
C120	10 50 V		CCO-103	00-103	GP150	GP150	10T5-T15
C121	82 50 V/N150	10%	CCO-103	00-103	GP150	GP150	10T5-T15
C123	.01 50 V		CCO-103	00-103	GP150	GP150	10T5-T15
C124	.01 50 V		CCO-103	00-103	GP150	GP150	10T5-T15
C125	.01 50 V		CCO-103	00-103	GP150	GP150	10T5-T15
C126	.01 50 V		CCO-103	00-103	GP150	GP150	10T5-T15
C127	.01 50 V		CCO-103	00-103	GP150	GP150	10T5-T15
C128	.01 50 V		CCO-103	00-103	GP150	GP150	10T5-T15
C151	1 50 V	±.25	CCO-222	00-222	GP2200	GP222	10T5-T15
C152	.0022 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C154	.0022 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C155	.0022 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C156	.0022 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C157	22 50 V	10%	CCO-222	00-222	GP2200	GP222	10T5-T15
C158	.001 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C159	.0022 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C160	.0022 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C161	27 50 V/N150	10%	CCO-222	00-222	GP2200	GP222	10T5-T15
C162	27 50 V/N150	10%	CCO-222	00-222	GP2200	GP222	10T5-T15
C163	.0022 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C191	15 50 V	10%	CCO-222	00-222	GP2200	GP222	10T5-T15
C192	6 50 V	±.5	CCO-222	00-222	GP2200	GP222	10T5-T15
C193	.01 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C194	.001 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C195	1 50 V	±.25	CCO-222	00-222	GP2200	GP222	10T5-T15
C196	4 50 V	±.25	CCO-222	00-222	GP2200	GP222	10T5-T15
C197	6 50 V	±.25	CCO-222	00-222	GP2200	GP222	10T5-T15
C198	.01 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C201	2 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C202	10 50 V	±.5	CCO-222	00-222	GP2200	GP222	10T5-T15
C203	5 50 V	±.5	CCO-222	00-222	GP2200	GP222	10T5-T15
C204	82 50 V/N150	10%	CCO-222	00-222	GP2200	GP222	10T5-T15
C205	.01 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C208	.047 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C209	.01 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C211	82 50 V	10%	CCO-222	00-222	GP2200	GP222	10T5-T15
C212	12 50 V/N150	5%	CCO-222	00-222	GP2200	GP222	10T5-T15
C213	.01 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C215	.0047 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C254	.022 400 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C306	100 50 V	10%	CCO-222	00-222	GP2200	GP222	10T5-T15
C307	.01 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C310	.001 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C312	.022 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C318	270 125 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C319	270 50 V	10%	CCO-222	00-222	GP2200	GP222	10T5-T15
C321	220 12 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C325	680 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C327	82 50 V	10%	CCO-222	00-222	GP2200	GP222	10T5-T15
C330	.0033 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C331	330 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C332	47 50 V	10%	CCO-222	00-222	GP2200	GP222	10T5-T15
C352	820 2 K V	10%	CCO-222	00-222	GP2200	GP222	10T5-T15
C402	.022 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C403	.033 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C411	.022 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C412	.033 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C415	.033 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C416	.068 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C417	.015 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C502	.01 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C503	.01 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C504	.039 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15
C506	.1 50 V		CCO-222	00-222	GP2200	GP222	10T5-T15

## CAPACITORS (cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA					
			ARCO/ELMENDO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
C508	.022 50 V	10%	10P-1-223	CK-103	DPMS6522	EWFA1A12	22SP22391W03	
C509	.01 50 V		CCD-103		TA110	TG-S10		
C510	.0082 400V							
C511	.22 50 V		10P-1-223		DPMS6522	EWFA1A12	22SP22391W03	
C512	330 500 V		CCO-331		GP330	GP333	10T5-T33	
C513	.01 500 V		CCD-103		GP10000	JF1110	10T5-S10	
C515	560 2 KV		3CCO-461		HW3-560	3HW356	30GA-756	
C516	.0022 2 KV				D030-222	3HW222	30GA-022	
C517	.0022 2 KV				D030-222	3HW222	30GA-022	
C518	.068 1.5 KV		ECQW1568K				3HW222	30GA-022
C519	.0022 2 KV	0030-222		WMFAW1	EFW410	47M-01		
C520	1 400 V			DPMS6582		6PS-582		
C521	.082	60P-4-823		0030-222	3HW222	30GA-022		
C522	.0022 2 KV			0030-222	3HW222	30GA-022		
C523	.0022 2 KV			0030-222	3HW222	30GA-022		
C524	.012 50 V	10P-1-153		00-153	DPMS6515	22SP15391W03		
C525	.0022 2 KV	40P-2-333		DPMS6533	EWFA115	4PS-533		
C526	.012 50 V							
C531	.033	ECK030182KB9		CCO-471	DD-471	GP470	10T5-T47	
C532	.0018 2 KV			0030-222	3HW222	30GA-022		
C533	470 500 V		CCO-103	00-331	GP330	10T5-S31		
C534	.0022 2 KV		CCO-103	00-103	GP10000	10T5-S10		
C535	330 500 V		40P-2-223	DPMS6522	EWFA122	4PS-522		
C536	.01 50 V							
C541	.002 400 V							
C542	.0012 2 KV			0030-122	3HW212	30GA-012		
C549	150 2 KV			0030-151	HW3-150	30GA-T15		
C550	.022			3CCO-151	00-203	GP120	10T5-S20	
C601	82 50 V	ECC01H220KS	CCO-203	DTZ-82	NP082	CN0482		
C602	27 50 V		CCO-820	CCO-270	CPR-10000J	DPMS651	EWFA110	
C603	.01 50 V		10P-1-103	CCO-151	00-151	GP150	10T5-T15	
C604	150 50 V							
C605	22 50 V/N330							
C606	.01 50 V							
C608	.56 50 V/NPO							
C609	.001 50 V							
C611	.01 50 V							
C612	.01 50 V							
C613	39 50 V/N330	ECC01H390K	10P-1-103	CPR-10000J	DPMS651	EWFA110		
C616	.01 50 V							
C618	27 50 V/N750		CCO-151	00-151	GP150	10T5-T15		
C619	47 50 V/NPO		CCO-470	DTZ-47	NP047	CN0447		
C620	15 50 V/N750		CCO-150	DTN-15	N15	10T5-T15		
C623	.0022 50 V		CCO-222	00-222	GP2200	GP222		
C624	.047 50 V		10P-2-473	CCO-151	00-151	GP150		
C628	150 50 V							
C629	100 50 V							
C630	47 50 V							
C631	270 50 V							
C632	.01 50 V							
C633	.01 50 V							
C634	.01 50 V							
C635	.0033 50 V							
C637	120 50 V/NPO	ECC01H151KU	CCO-101	00-101	GP100	GP1010		
C640	.1 50 V		10P-2-104	DPMS651	EWFA110	22SP10391W03		
C643	.01 50 V		10P-1-103	CPR-10000J	DPMS651	EWFA110		
C644	.01 50 V		10P-1-103	CPR-10000J	DPMS651	EWFA110		
C645	56 50 V		CCO-560	00-560	NP057	CN0427		
C646	27 50 V		CCO-270					
C647	150 50 V/N150							
C648	47 50 V/N750							
C649	150 50 V/NPO							
C650	.01 50 V							
C651	.01 50 V							
C652	.01 50 V							
C653	.01 50 V							
C701	.047 50 V	10%	10P-2-473	00-4726	DPMS6547	EWFA1A17	22SP47391W03	
C702	.082 50 V		60P-4-823		DPMS6582	6PS-582		
C704	.082 50 V		60P-4-823		DPMS6582	6PS-582		
C705	.082 50 V		60P-4-823		DPMS6582	6PS-582		
C801	.0047 50 V		CCO-472		GP4702	JF247	10T5-T47	
C802	.0047 50 V		CCO-472		GP4702	JF247	10T5-T47	
C803	.0047 50 V		CCO-472		GP4702	JF247	10T5-T47	
C811	.068 250 WAC							
C812	.01 500 V		CCO-103		DD-103	GP10000	JF110	10T5-S10
C813	.01 500 V		CCO-103		DD-103	GP10000	JF110	10T5-S10
C902	.01 50 V	10P-1-103	CPR-10000J	DPMS651	EWFA110	22SP10391W03		
C903	.01 50 V	10P-1-103	CPR-10000J	DPMS651	EWFA110	22SP10391W03		
C904	.01 50 V	10P-1-103	CPR-10000J	DPMS651	EWFA110	22SP10391W03		
C910	.01 500 V	CCO-103	DD-103	GP10000	JF110	10T5-S10		
C912	.0015 50 V	CCO-152	00-152	GP215	10T5-T15			
C913	.01 500 V	CCO-203	CK-203	MP02	TA120	TG-S20		
C914	.0015 50V	CCO-152	DD-152	GP215	10T5-T15			
C915	.01 500 V	CCO-103	DD-103	GP10000	JF110	10T5-S10		
C916	.001 50 V	CCO-102	DD-102	GP1000	GP210	10T5-S10		
C917	.0082 50 V							
C919	.0082 50 V	1MD-1-822	CPR-2BD0J	DPMS6082	PVC6282	1PB-082		