

CABINET—REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS:

Tune in a TV station and set all controls for normal operation. Connect a jumper across the horizontal stabilizer coil L1. Connect a jumper from point Ⓢ to ground. Set the horizontal hold (Fine) control R7 to the center of its range. Adjust the horizontal hold (coarse) R8 until the

picture appears to float back and forth across the screen. Remove the jumper from across L12 and adjust the horizontal stabilizer coil slug B1 until the picture again appears to float. Remove the jumper from point Ⓢ. Check to see if the picture remains in sync when switching from channel to channel.

DISASSEMBLY INSTRUCTIONS

DISASSEMBLY INSTRUCTIONS

1. Remove all knobs. Remove cabinet back held by 11 screws. Disconnect antenna leads.
2. Unplug high voltage lead, picture tube, socket, yoke, speaker leads and ground lead from picture tube retainer to high voltage cage.
3. Remove 1 screw from tuner, 1 screw at upper rear and 2 screws from bottom of chassis. Remove chassis.

PICTURE TUBE REMOVAL

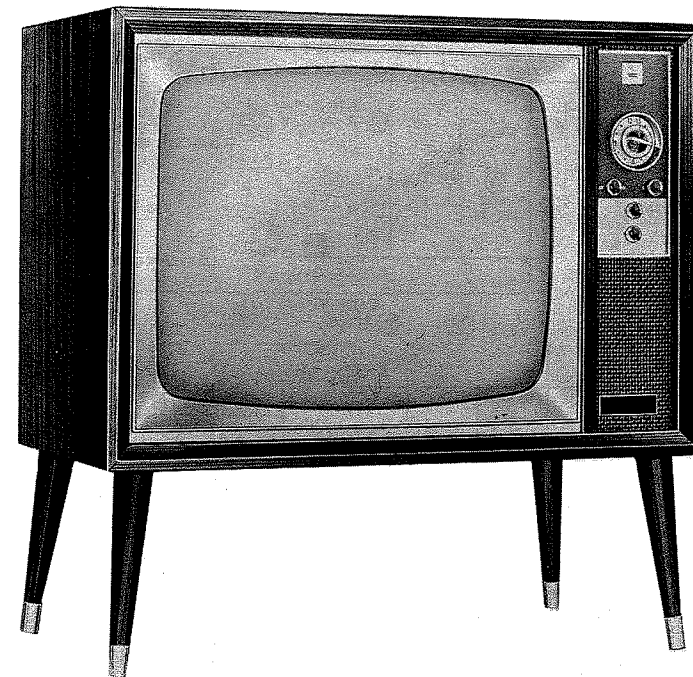
1. Follow steps 1 through 3 of disassembly instructions.
2. Lay cabinet face down on a soft protective surface. Loosen retainer bolt. Remove 4 bolts from corner brackets of picture tube. Remove picture tube.

SET 692 FOLDER 1
CLARK or CORONADO MODELS
TV2-9668B/70B/74A

PHOTOFACT® Folder

with CIRCUITRACE®

CLARK or CORONADO MODELS
TV2-9668B/70B/74A



MODEL TV2-9674A

CAUTION

ONE SIDE OF AC LINE CONNECTED TO CHASSIS

TRADE NAME	Clark or Coronado Models TV2-9668B/70B/74A		
SUPPLIER	Gamble-Skogmo, Inc. 15 N. Eighth Street, Minneapolis 3, Minn.		
TYPE SET	Television Receiver		
TUBES	VHF — Fourteen, UHF — Fifteen		
POWER SUPPLY	110 — 120 Volts AC, 60 Cycles	RATING	120 Watts, 1.4 Amp. @ 117 Volts AC
TUNING RANGE	Channels 2 thru 13 UHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)		

SERVICING IN THE FIELD

SAFETY GLASS

For picture tube and safety glass cleaning, it is necessary to remove the chassis. (See "Disassembly Instructions".)

FUSE OR FUSE DEVICE

A 4.7Ω fusible resistor is used for low voltage power supply protection. (For location, see Chassis Top View.)

VHF OSCILLATOR ADJUSTMENT

To touch up VHF Oscillator, adjust osc. slug (one for each channel). It may be necessary to adjust over-all oscillator trimmer for best results.

AGC

No provision is made to vary the AGC on this receiver.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

Coarse adjustment of the horizontal hold is accomplished

by the proper setting of the Horizontal Stabilizer Coil & Horizontal Hold Coarse. (See "Tube Placement Chart" for location.)

WIDTH

The width may be varied by adjusting a metallic sleeve, located between the yoke and the picture tube neck.

BUZZ ADJUSTMENT

To eliminate intercarrier buzz, adjust the Buzz Control for MINIMUM buzz and maximum sound. (See "Tube Placement Chart" for location.)

CENTERING

Centering is accomplished by 2 magnetic rings located on yoke rear cover.

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana



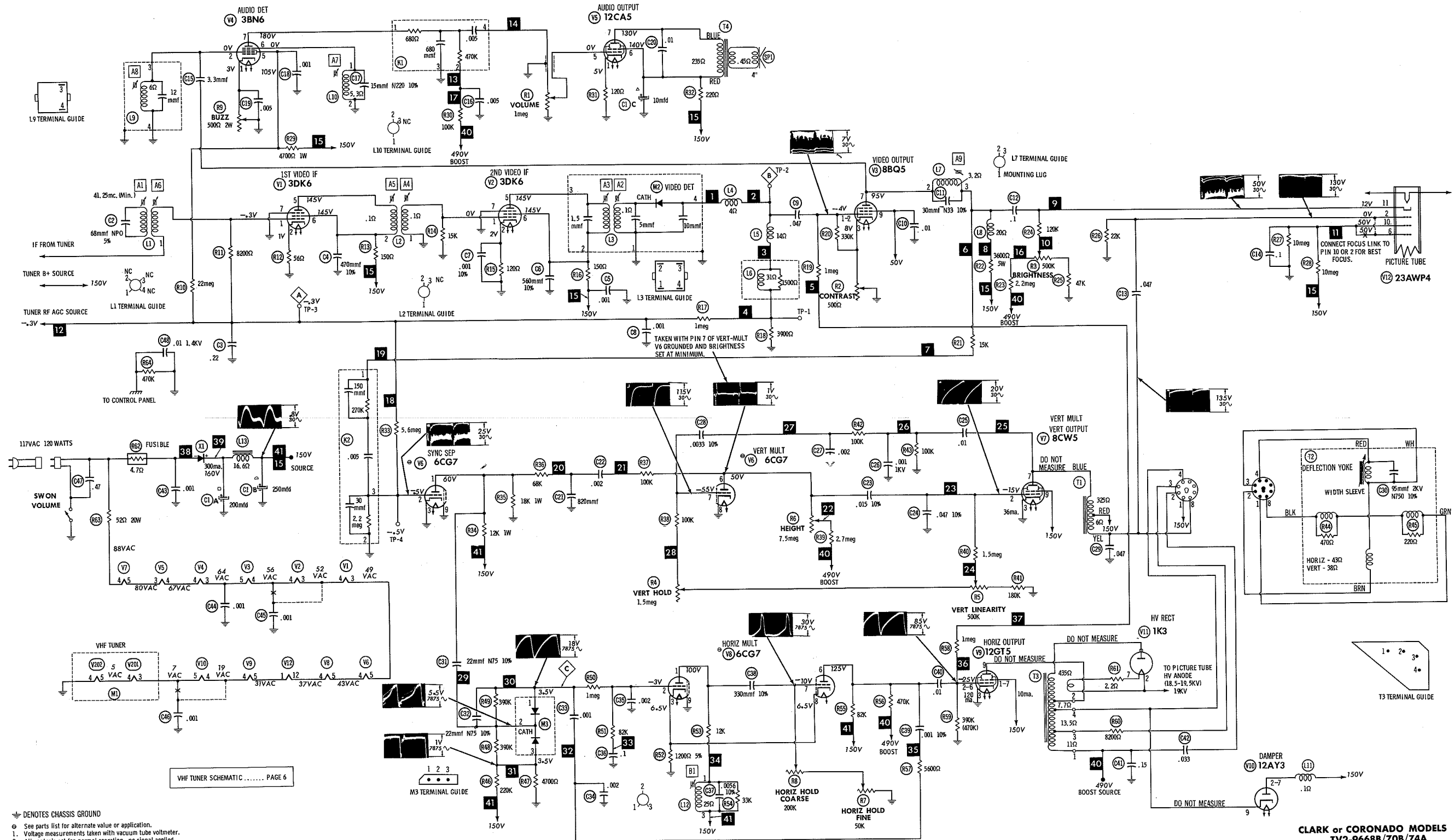
The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. MA527R 10 9 8 7 6 5 4 3 2 1 0

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DATE 5-64 SET 692 FOLDER 1

CLARK or CORONADO MODELS
TV2-9668B/70B/74A

SET 692 FOLDER 1



⊕ DENOTES CHASSIS GROUND
 Ⓢ See parts list for alternate value or application.
 1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Waveforms taken with controls set to produce 50 volts peak-to-peak signal at picture tube.

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CLARK or CORONADO MODELS
 TV2-9668B/70B/74A

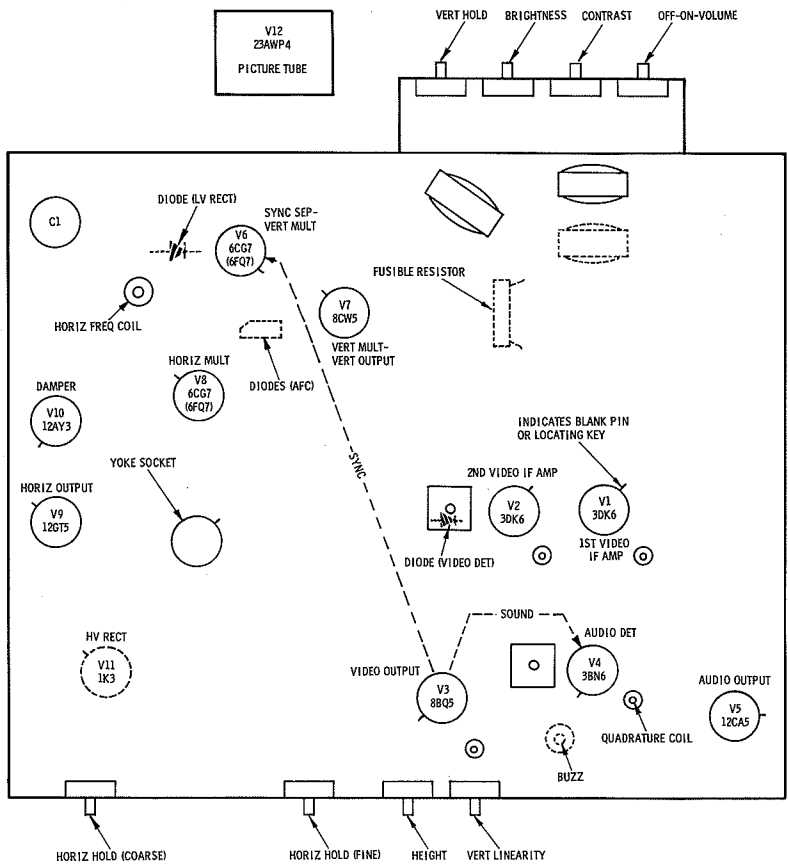
FOLDER 1

RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	3DK6	1meg	56Ω	9Ω	10Ω	† 166Ω	† 166Ω	0Ω		
V2	3DK6	.1Ω	120Ω	10Ω	11Ω	† 166Ω	† 166Ω	0Ω		
V3	8BQ5	NC	330K	400Ω	11Ω	13Ω	NC	† 3600Ω	NC	† 16Ω
V4	3BN6	340Ω	6Ω	13Ω	14Ω	† 4700Ω	5.3Ω	‡ 570K		
V5	12CA5	120Ω	NC	17Ω	14Ω	30K	† 236Ω	† 470Ω		
V6	6CG7	‡ 10K	1.8meg	0Ω	8Ω	9Ω	‡ 7.5meg	1.6meg	0Ω	0Ω
V7	8CW5	NC	1.5meg	0Ω	19Ω	17Ω	NC	† 340Ω	NC	† 16Ω
V8	6CG7	† 12K	1.5meg	1200Ω	7Ω	8Ω	† 82K	86K	1200Ω	0Ω
V9	12GT5	NC	NC	0Ω	4Ω	6Ω	390K	† 16Ω	NC	‡ 7.7Ω
V10	12AY3	NC	† 16Ω	NC	4Ω	2Ω	TP	NC	NC	500K
V11	1K3	PINS 1 THRU 8 HAVE INFINITE RESISTANCE								TOP CAP ‡ 442Ω
V12	23AWP4	6Ω	22K	NC	NC	NC	NC	NC	NC	NC
					Pin 10 ‡ 5meg	Pin 11 200K	Pin 12 7Ω			
V201	2GK5	0Ω	1meg	2Ω	1Ω	† 1216Ω	0Ω	0Ω		
V202	5CG8	15K	† 6616Ω	0Ω	0Ω	1Ω	† 3316Ω	† 6616Ω	0Ω	100K
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

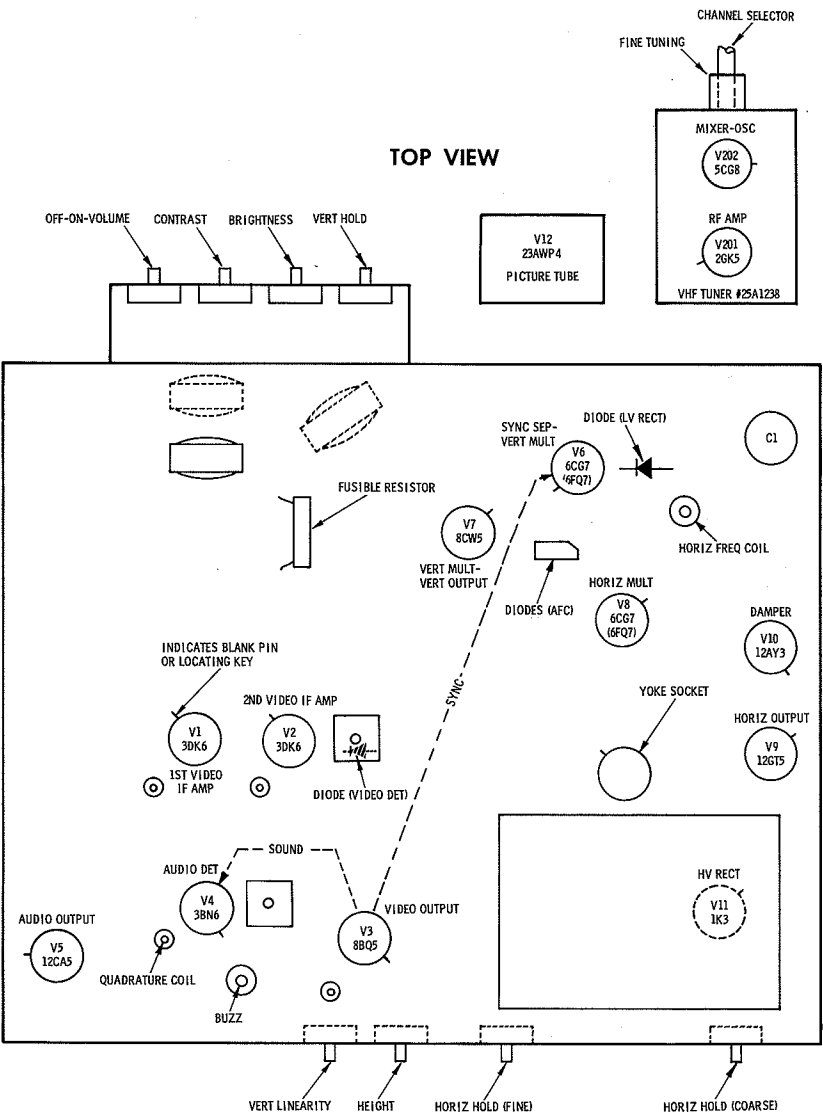
THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
† MEASURED FROM OUTPUT OF X1.
‡ MEASURED FROM PIN 9 OF V10.
NC NO CONNECTION
TP TIE POINT

BOTTOM VIEW



TUBE PLACEMENT CHART

TUBE PLACEMENT CHART

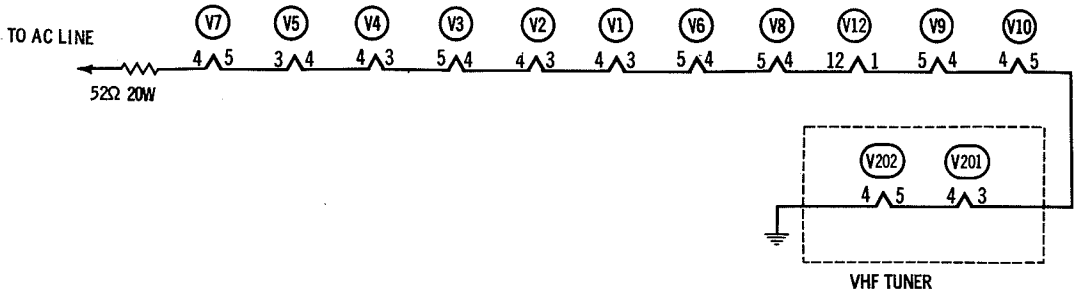


TUBE FAILURE CHECK CHART

The following chart lists tubes whose failures are most likely to produce indicated symptoms. Refer to tube placement chart for location and type of tube.

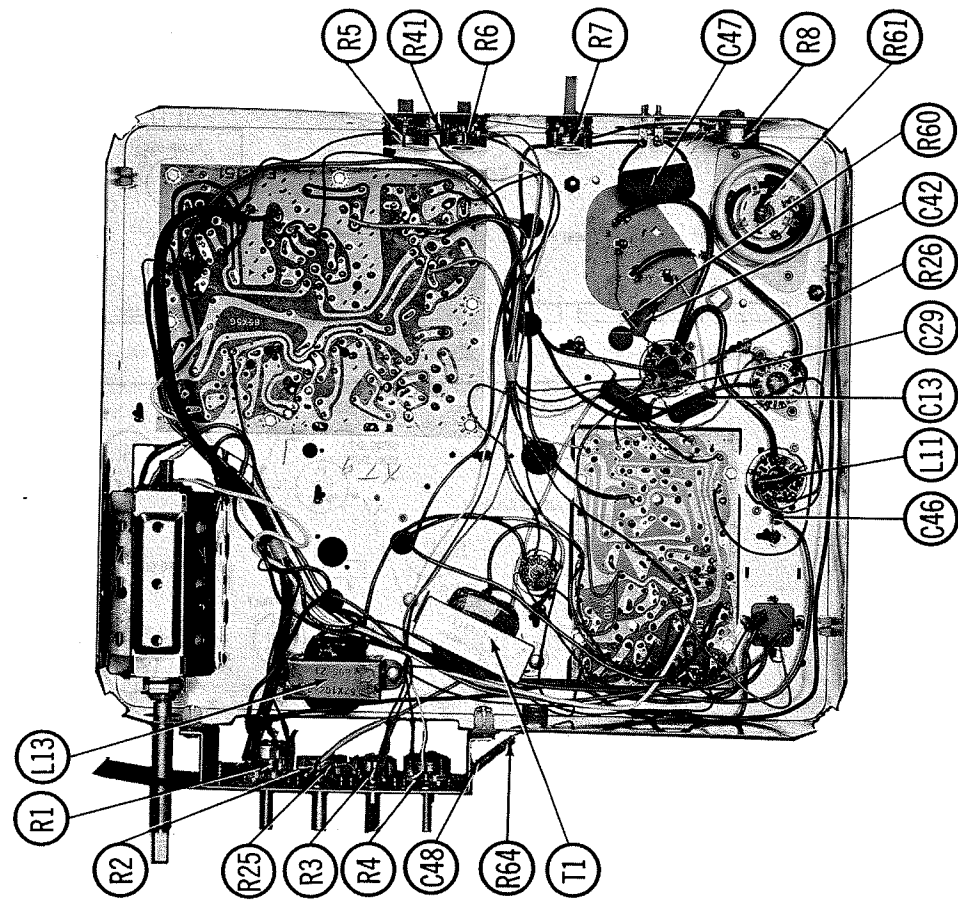
POWER SUPPLY FAILURE		LOSS OF PICTURE OR SOUND	
No raster, no sound	R52 (Fusible Resistor), X1	No pic, no sound, has raster	V1, V2, M2 (Video Det.), V3
No raster, has sound	V8, V9, V10, V11, V12	No pic, no sound, has snow	V201, V202, V1
No vertical deflection	V6, V7	No pic, has sound, has raster	V3, V12
Poor vert. linearity or foldover	V6, V7	Has pic, no sound	V3, V4, V5
Poor horiz. linearity or foldover	V8, V9, V10		
Narrow picture	V8, V9, V10, X1	SYNC FAILURE	
Vert. off freq.	V8, V7	No vert. sync	V6
Horiz. off freq.	V8	No horiz. sync	V6
		No vert. or horiz. sync	V8

This receiver employs tubes used in a series filament network, an open filament in any tube will cause the set to be inoperative. (See circuit below.)

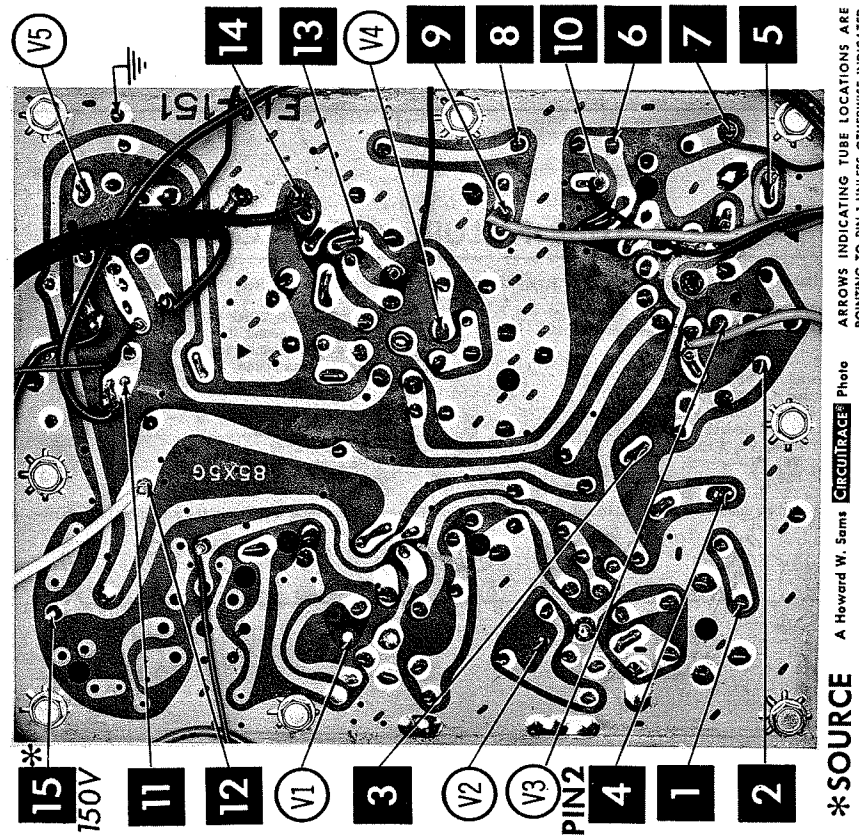


CLARK or CORONADO MODELS
TV2-9668B/70B/74A

FOLDER 1

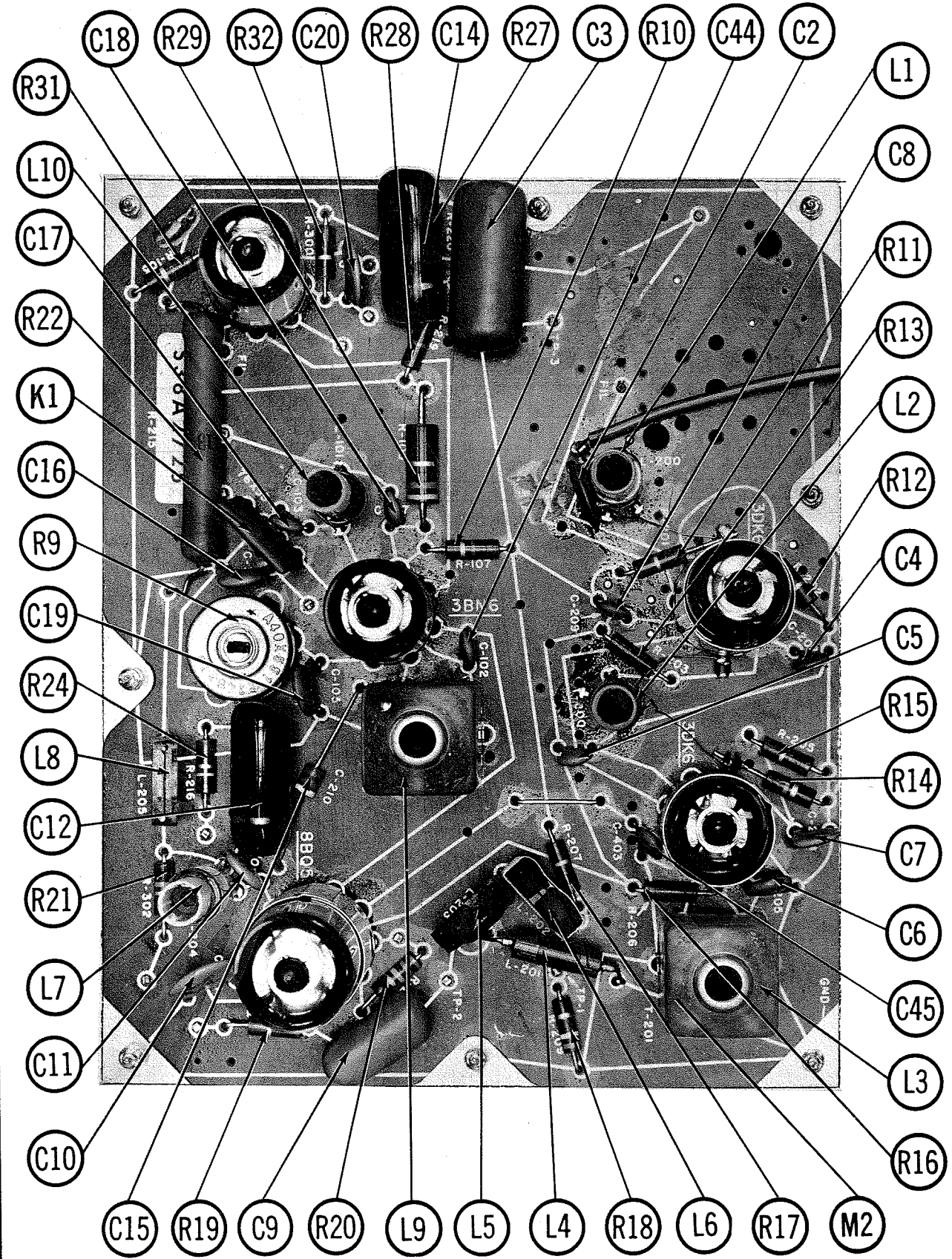


CHASSIS - BOTTOM VIEW



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

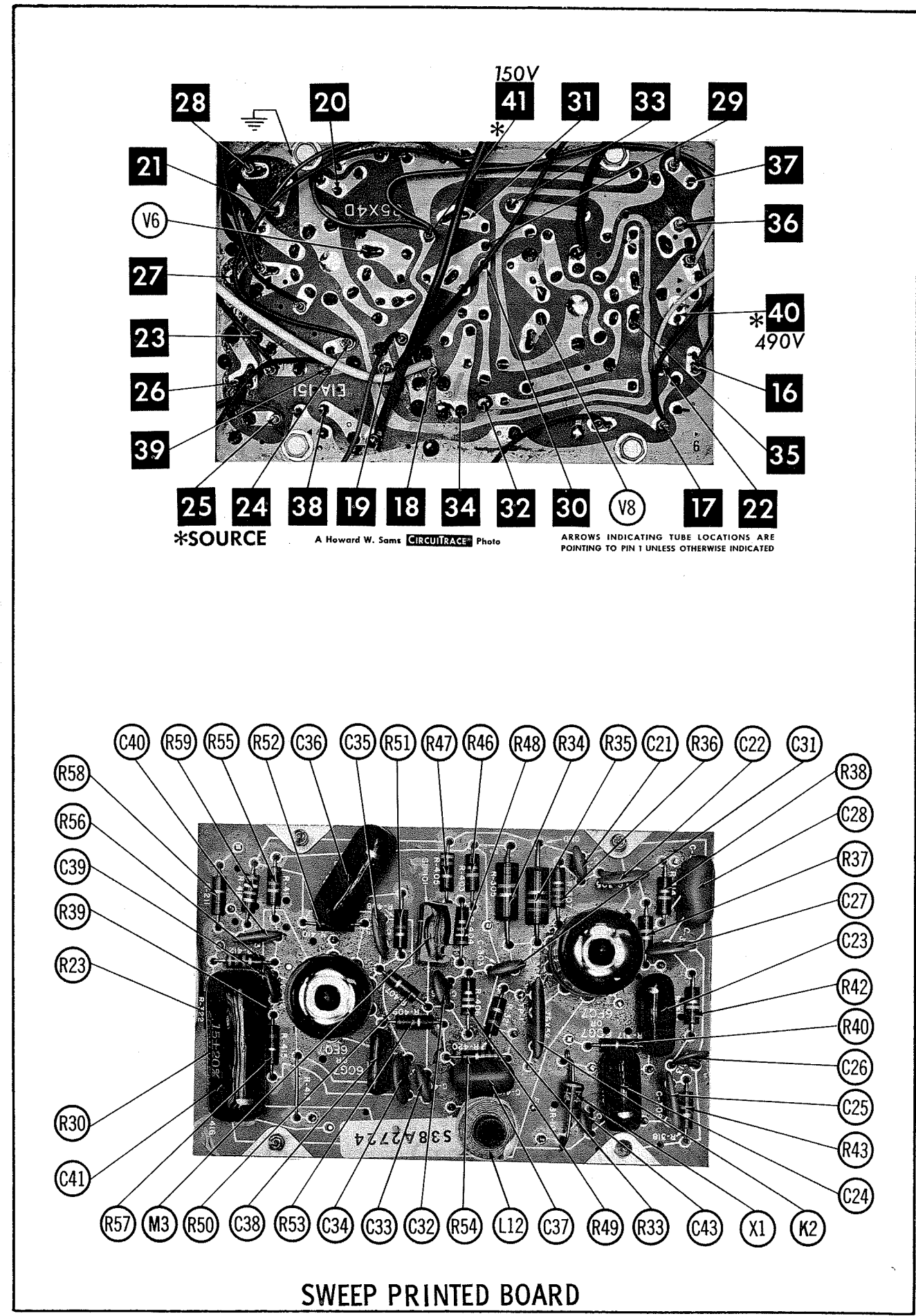
MAIN PRINTED BOARD



MAIN PRINTED BOARD

CLARK or CORONADO MODELS
TV2-9668B/70B/74A

FOLDER 1



ALIGNMENT INSTRUCTIONS

Use an isolation transformer and maintain voltage at 117 volts. Allow a 20-minute warm-up period for the receiver and test equipment.
Suggested Alignment Tools: A1 thru A9.....GENERAL CEMENT #9302, 8606, 8869.... WALSCO #2511, 2544, 2588
Mixer Plate Coll.....GENERAL CEMENT #9302, 9296, 9297.... WALSCO #2511, 2546, 2547

VIDEO IF ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. Use only enough generator output to provide a usable indication. Note: Response may vary slightly from those shown. Connect a variable bias supply to the IF AGC line (point A) and adjust to obtain a response curve which shows no indication of overload. Disable Oscillator section of Mixer-Osc. Set the Channel Selector to any non-interfering channel.

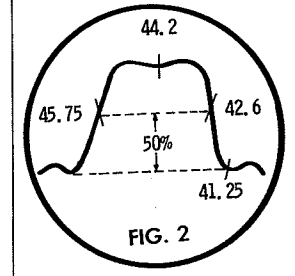
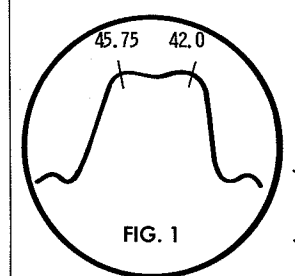
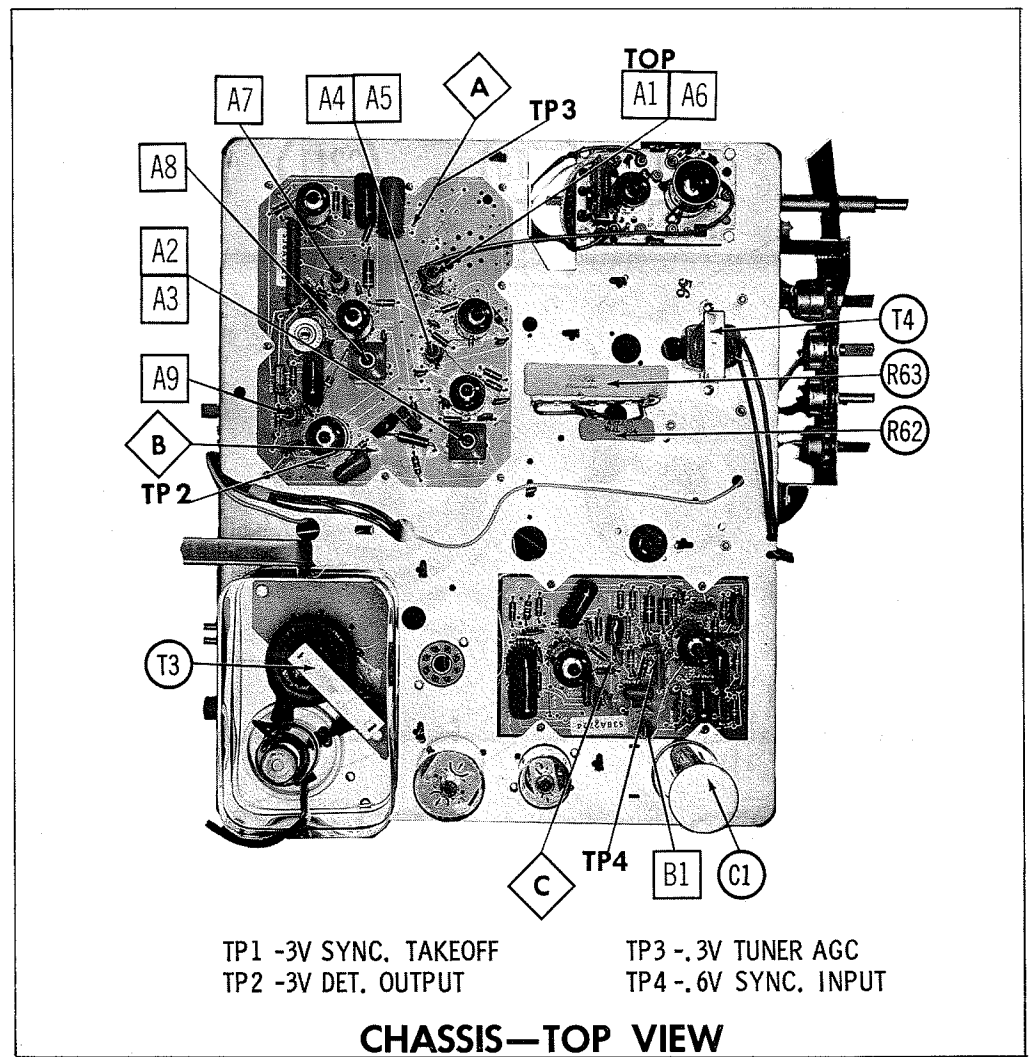
INDICATOR	GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	ADJUST	REMARKS
1. Connect DC probe of a VTVM thru a 47K resistor to point B. Common to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.		41.25MC	A1	Adjust for MINIMUM.
2. Connect vertical input of a scope to point B. Low side to ground.	Connect high side to pin (grid) of V. Low side to ground.	44MC (10MC Sweep)	42.0MC 45.75MC	A2, A3	Adjust for maximum amplitude and MINIMUM tilt with markers as shown in Figure 1.
3. Connect vertical input of a scope to point B. Low side to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.	44MC (10MC Sweep)	41.25MC 42.6MC 44.2MC 45.75MC	A4, A5, A6, Mixer Plate Coll	Adjust for maximum gain and symmetry of response with markers as shown in Figure 2. In order to obtain a proper response, it may be necessary to slightly retouch A2 and A3.

SOUND IF ALIGNMENT

Tune in a station and reduce the signal strength at the antenna terminals until a hiss is heard in the sound. Align for maximum undistorted sound with MINIMUM buzz by adjusting A7, A8, Buzz Control. If the hiss disappears during alignment, further reduce the signal strength.

4.5 MC TRAP ALIGNMENT

Tune in a strong TV signal and set the Contrast at maximum. Adjust the Fine Tuning until a beat pattern is visible on the screen. Adjust A9 for MINIMUM beat interference.



CLARK or CORONADO MODELS
TV2-9668B/70B/74A

FOLDER 1

VHF TUNER ALIGNMENT INSTRUCTIONS

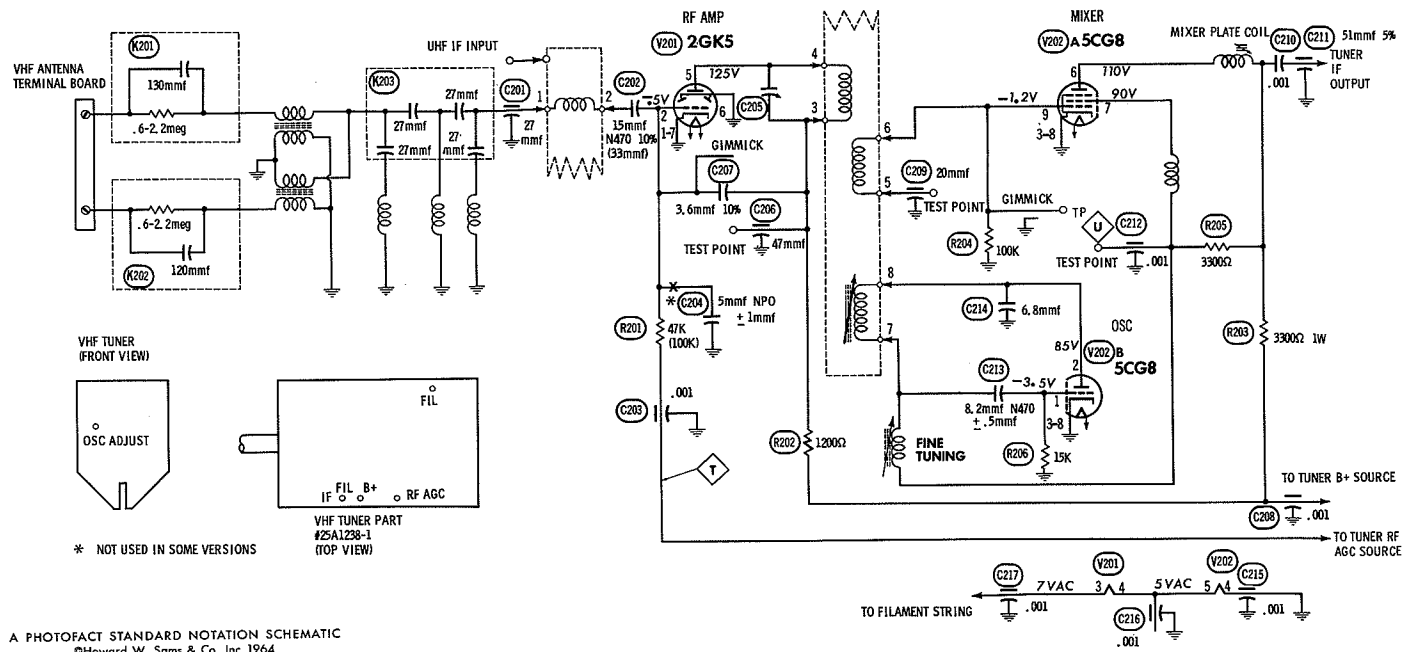
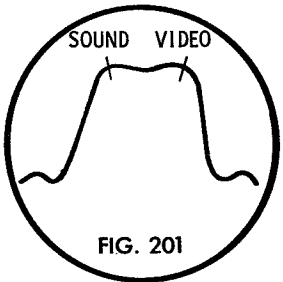
OSCILLATOR ALIGNMENT

Set Fine Tuning to center of its range. Starting with highest channel in area, adjust the appropriate oscillator screw for best picture and sound.

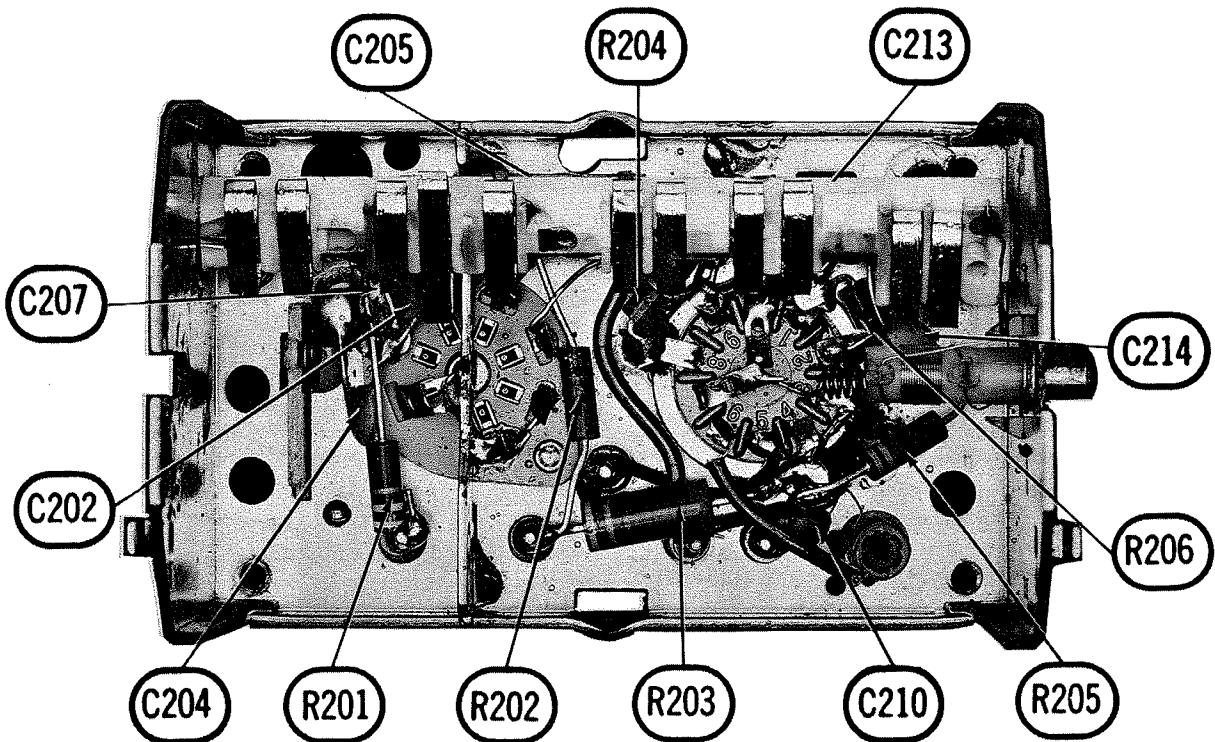
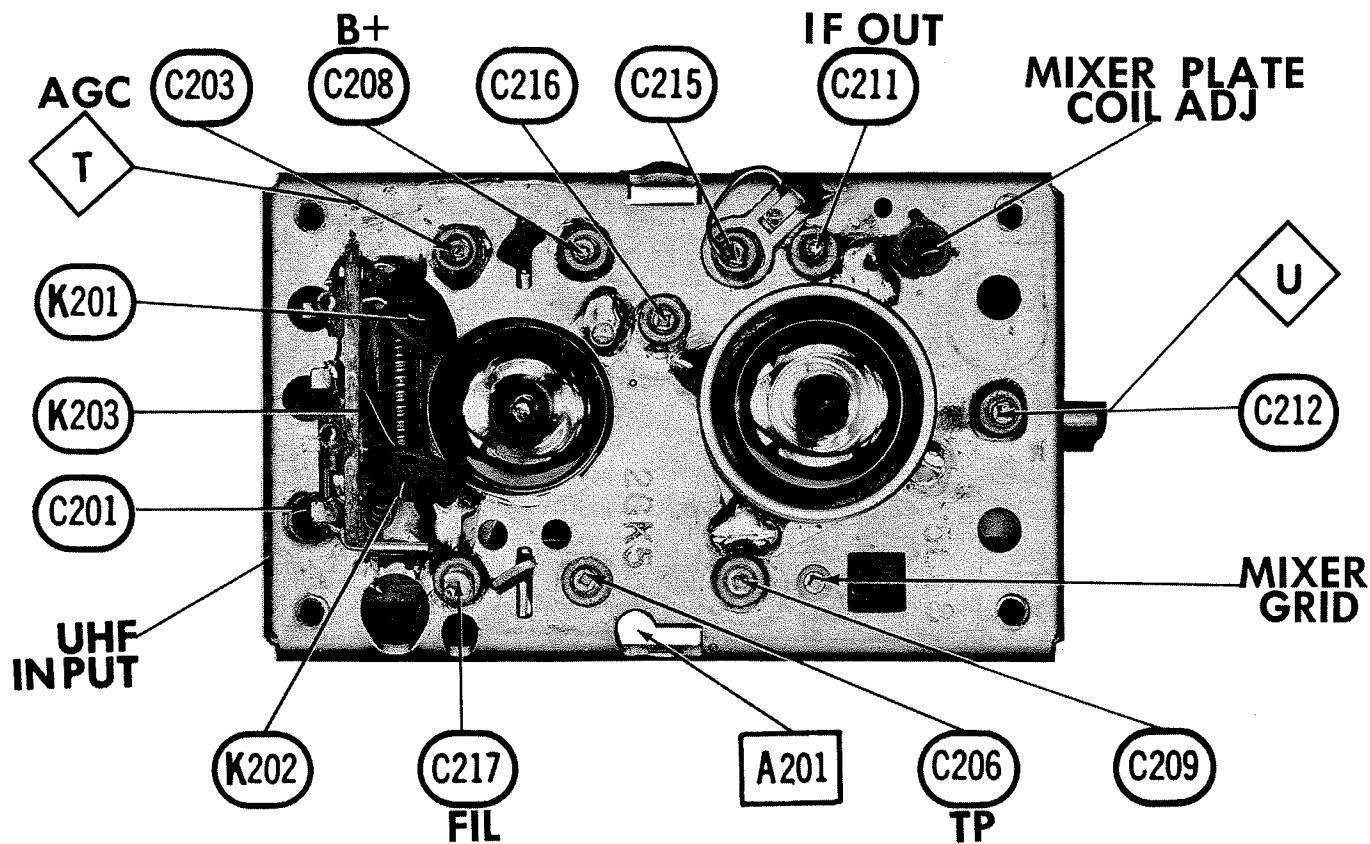
RF & MIXER ALIGNMENT

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

SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
Across antenna terminals with 120 Ω in each lead.	213MC	211.25MC 215.75MC	13	Vert. input to point \diamond , low side to ground.	A201	Adjust for maximum gain and symmetry of response similar to Fig. 201 with markers as shown. If necessary expand or compress coils.
	207MC	205.25MC 209.75MC	12			Check response on all channels and make compromise adjustments of A201 if required.
	201MC	199.25MC 203.75MC	11			
	195MC	193.25MC 197.75MC	10			
	189MC	187.25MC 191.75MC	9			
	183MC	181.25MC 185.75MC	8			
	177MC	175.25MC 179.75MC	7			
	85MC	83.25MC 87.75MC	6			
	79MC	77.25MC 81.75MC	5			
	69MC	67.25MC 71.75MC	4			
	63MC	61.25MC 65.75MC	3			
	57MC	55.25MC 59.75MC	2			



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13 POSITION TURRET-TYPE VHF TUNER 25A1238-1

CLARK or CORONADO MODELS
TV2-9668B/70B/74A

FOLDER 1

VHF TUNER PARTS LIST AND DESCRIPTION

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V201	RF Amp.	2GK5	V202	Mixer - Osc.	5CG8

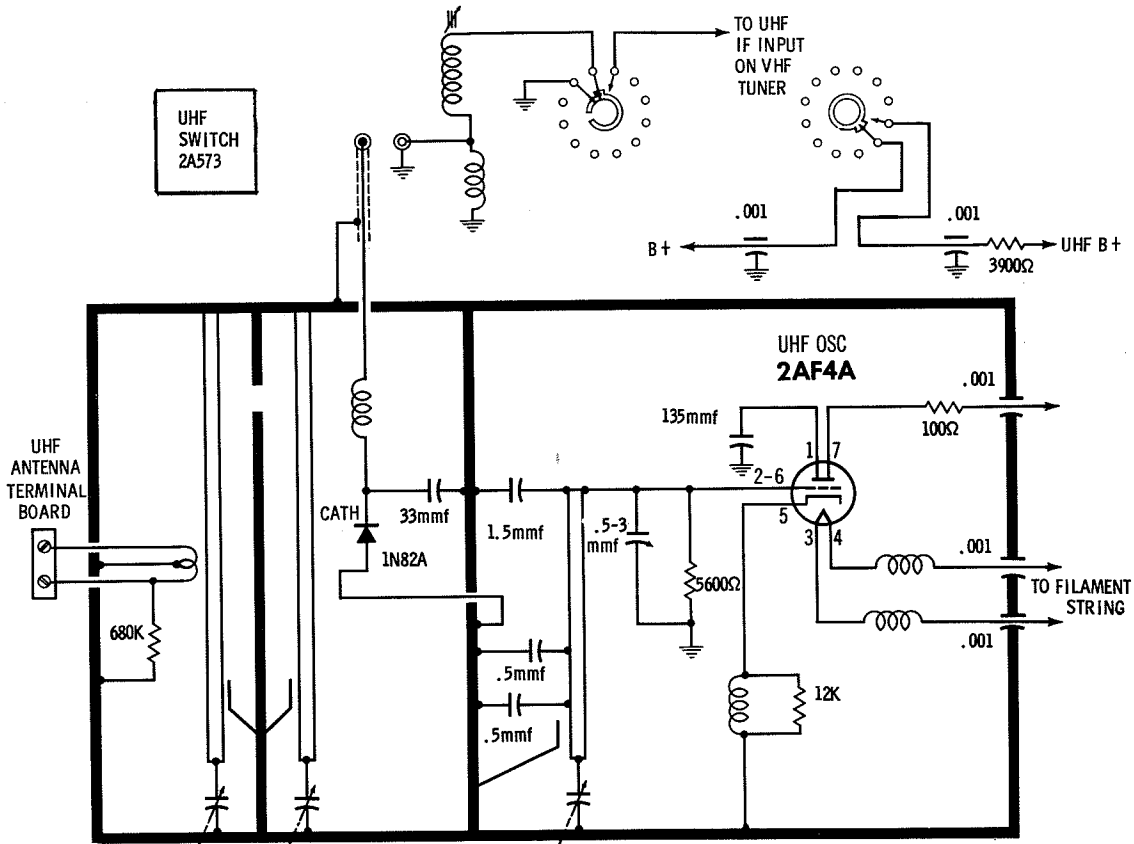
FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.
C201	27 15 N470 10% .001	(33) †	EF-001	MFT-1000	C10V47C	* CCF-102	CT280A
C202	5mmf NPO ±1mmf	Note 1	NPO-DI 5.0	DTZ-4R7		CCTO-050	CNO-547
C203							
C204	47 3.6mmf 10% .001		EF-001	MFT-1000		CCF-102	CT280A
C205	20 .001		BPD-001	DD-102	BYA10D1	CCD-102	B-210
C206	51 5% .001		EF-001	MFT-1000		CCF-102	CT280A
C207	8.2mmf N470 ±.5mmf		NPO-DI 6.8	DTZ-6R8	C10V68C	* CCTO-6R8	CNO-568
C208	6.8mmf .001		EF-001	MFT-1000		CCF-102	CT280A
C209	.001		EF-001	MFT-1000		CCF-102	CT280A
C210							
C211							
C212							
C213							
C214							
C215							
C216							
C217							

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
Note 1. Not used in some versions. † Alternate Value.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	PART No.	REPLACEMENT DATA
K201	Antenna Isolation	.6-2.2meg, 130mmf		
K202	Antenna Isolation	.6-2.2meg, 130mmf		
K203	Antenna Network	27mmf, 27mmf, 27mmf, 27mmf	147-1	



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UHF TUNER 25A1221-2

PARTS LIST 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.

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	1st Video IF Amp.	3DK6	V7	Vert. Mult. -Vert. Output	8CW5
V2	2nd Video IF Amp.	3DK6	V8	Horiz. Mult.	6CG7 (6FQ7)*
V3	Video Output	8BQ5	V9	Horiz. Output	12GT5
V4	Audio Det.	3BN6	V10	Damper	12AY3
V5	Audio Output	12CA5	V11	HV Rectifier	1K3
V6	Sync Sep. -Vert. Mult.	6CG7 (6FQ7)*			

* Alternate Value

PICTURE TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	CORONADO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SYLVANIA PART No.	
V12	23AWP4	23AWP4 ①	23BJP4 ①	23AWP4 ②	① Aluminized ② Silver Screen "85"

POWER RECTIFIERS

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS		
			MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1	.300A	66X23	1N2070 or 1N3194	1N1764 or 1N2863 or 1N3195	40H or F-4

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA					
	CAP.	VOLT.	CORONADO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.
C1A	200	200	45X485-A	AFHS3-13-90	C0238	XC3-20	TMT-3447	FP318.8
C1B	250	200			BBRD0286		CDB-D-1014	
C1C	10	200						

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	68 NPO 5%		P288N-22	DTZ-68	C10Q68C		CNO-468	10TCC-Q68
C3	.22 200V		DI-470	DD-471	PM2P22	2DP-4-224	GEM-2022	2TM-P22
C4	470 10%		BPD-001	DD-102	JB6T47	CCD-471	GP347	10TS-T47
C5	.001		DI-560	DD-561	BYA10D1	CCD-102	B-210	5HK-D10
C6	560 10%		DI-1000	DD-102	JB6T56	CCD-561	GP356	10TS-T56
C7	.001 10%		BPD-001	DD-102	JB6D1	CCD-102	GP210	10TS-D10
C8	.001		P288N-047	DD-503	BYA10D1	CCD-102	B-210	5HK-D10
C9	.047 200V		BPD-01	DD-103	PM2S47	4DP-3-473	GEM-2147	2TM-S47
C10	.01				BYA10S1	CCD-103	B-110	5HK-S10
C11	30 N33 10%	#80X99-14						
C12	.1 200V		P288N-1	DF-104	PKM2P1	2DP-3-104	GEM-201	2TM-P10
C13	.047 400V		P488N-047	DD-503	PM4S47	4DP-3-473	GEM-4147	4TM-S47
C14	.1 200V		P288N-1	DF-104	PKM2P1	2DP-3-104	GEM-201	2TM-P10
C15	3.3mmf	#47X589						
C16	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C17	15 N220 10%	#80X99-15						
C18	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C19	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C20	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C21	820		DI-820	DD-821	LA10T82-C4	CCD-821	B-382	10TS-T82
C22	.002		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20

CLARK or CORONADO MODELS
TV2-9668B/70B/74A

FOLDER 1

