

CABINET—REAR VIEW

DISASSEMBLY INSTRUCTIONS

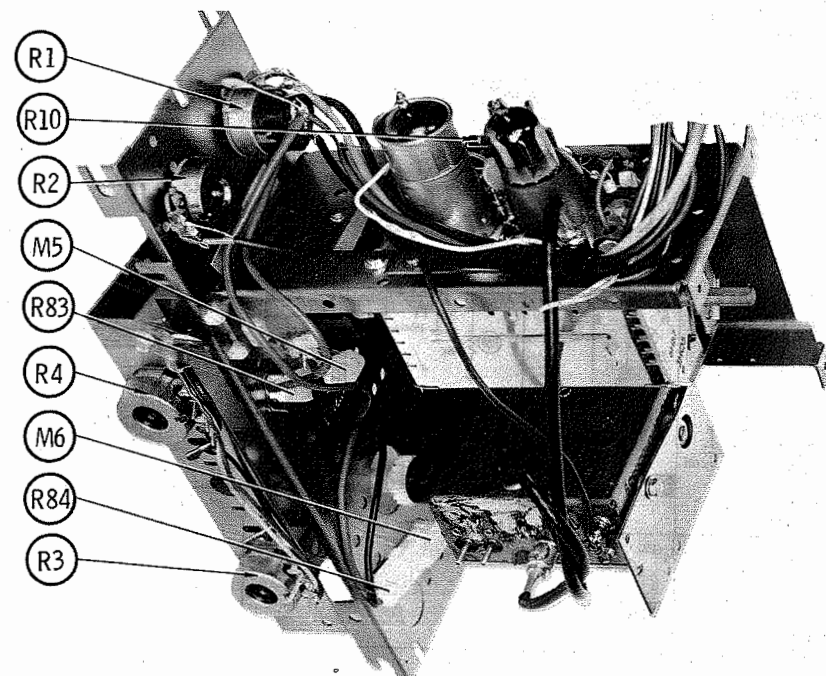
CHASSIS REMOVAL

1. Remove 8 screws holding back cover and disconnect antenna leads. Remove all knobs.
2. Remove picture-tube socket, high-voltage anode lead, yoke plug, speaker leads, and ground strap.
3. Remove 2 screws holding chassis. Remove 1 clutch-head screw, and loosen 3 screws holding tuners. Remove 2 screws holding con-

trol assembly. Raise VHF antennas and lift tuner up and out. Lay tuner on chassis and slide chassis and tuner out of cabinet.

PICTURE TUBE REMOVAL

1. Follow "Chassis Removal", and lay setface down on a soft protective surface. Loosen retaining wire screw.
2. Remove 4 screws holding picture-tube brackets and lift tube out. Do not lift picture tube by the neck of the tube.



TUNER ASSEMBLY

SET 1085 FOLDER 1

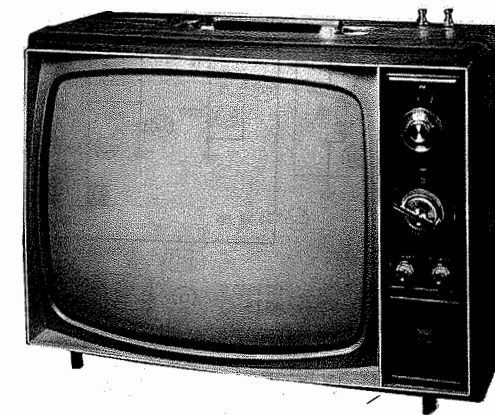
MAGNAVOX CHASSIS
T944-01-AA/-02-AA/-03-AA/-04-AA

PHOTOFACT® Folder

with CIRCUITRACE®

For Supplier Address See PHOTOFACT Index

MAGNAVOX CHASSIS
T944-01-AA/-02-AA/-03-AA/-04-AA



REPRESENTATIVE MODEL USING CHASSIS T944-02-AA

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.

CAUTION: One side of AC line connected to chassis. Use isolation transformer for servicing. Make certain isolation networks are in place and exposed metal is safe to touch before returning set to customer.

SERVICING IN THE FIELD

SAFETY GLASS

The safety glass is an integral part of the picture tube.

FUSE OR FUSE DEVICE

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

VHF OSCILLATOR ADJUSTMENT

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

AGC

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

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

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

FOCUS

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

CENTERING

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

REMEMBER TO ASK— "What else needs fixing?"

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. UA583

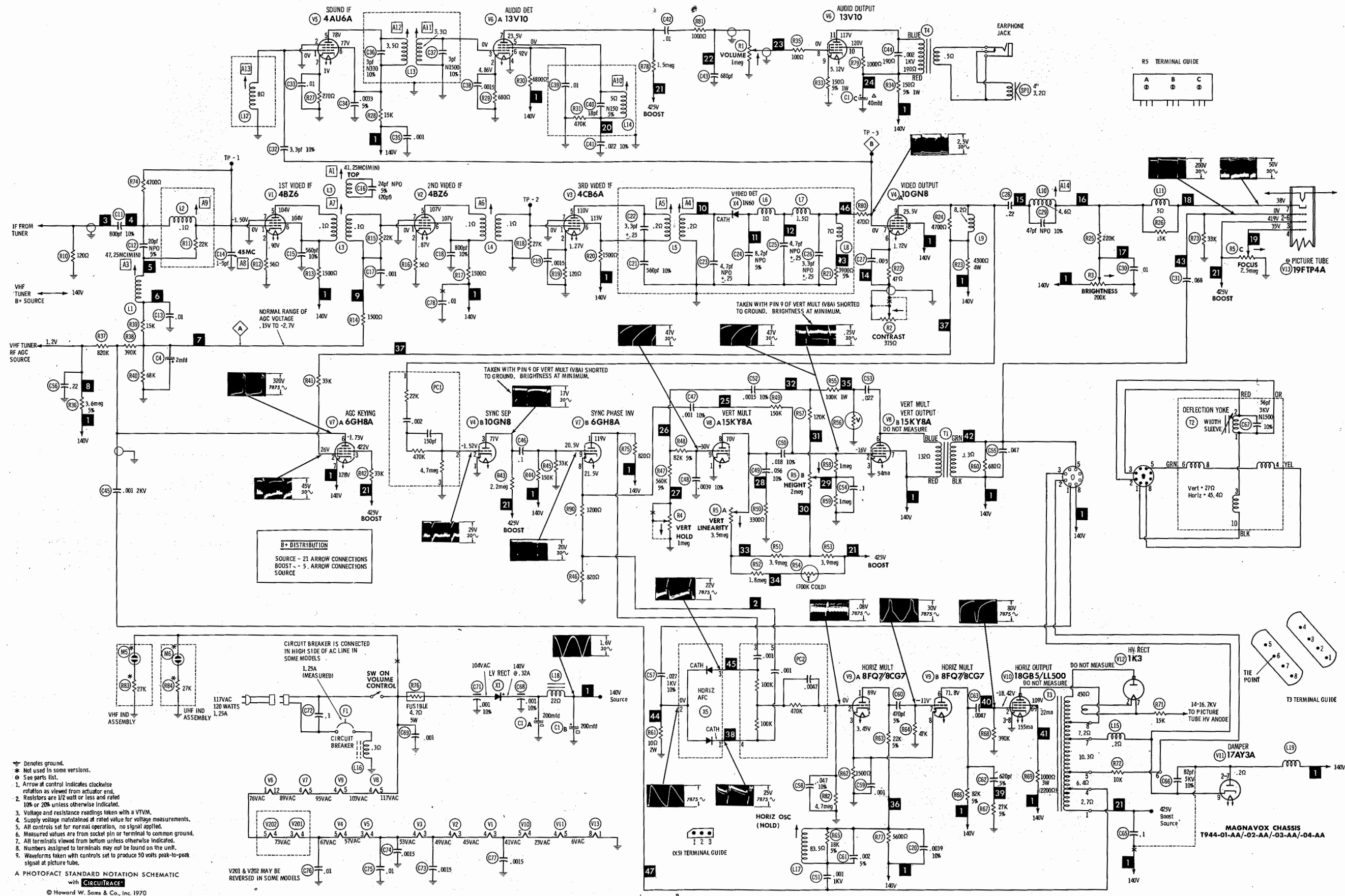
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DATE 2-70

SET 1085 FOLDER 1

MAGNAVOX CHASSIS
T944-01-AA/-02-AA/-03-AA/-04-AA

SET 1085 FOLDER 1



RESISTANCE MEASUREMENTS

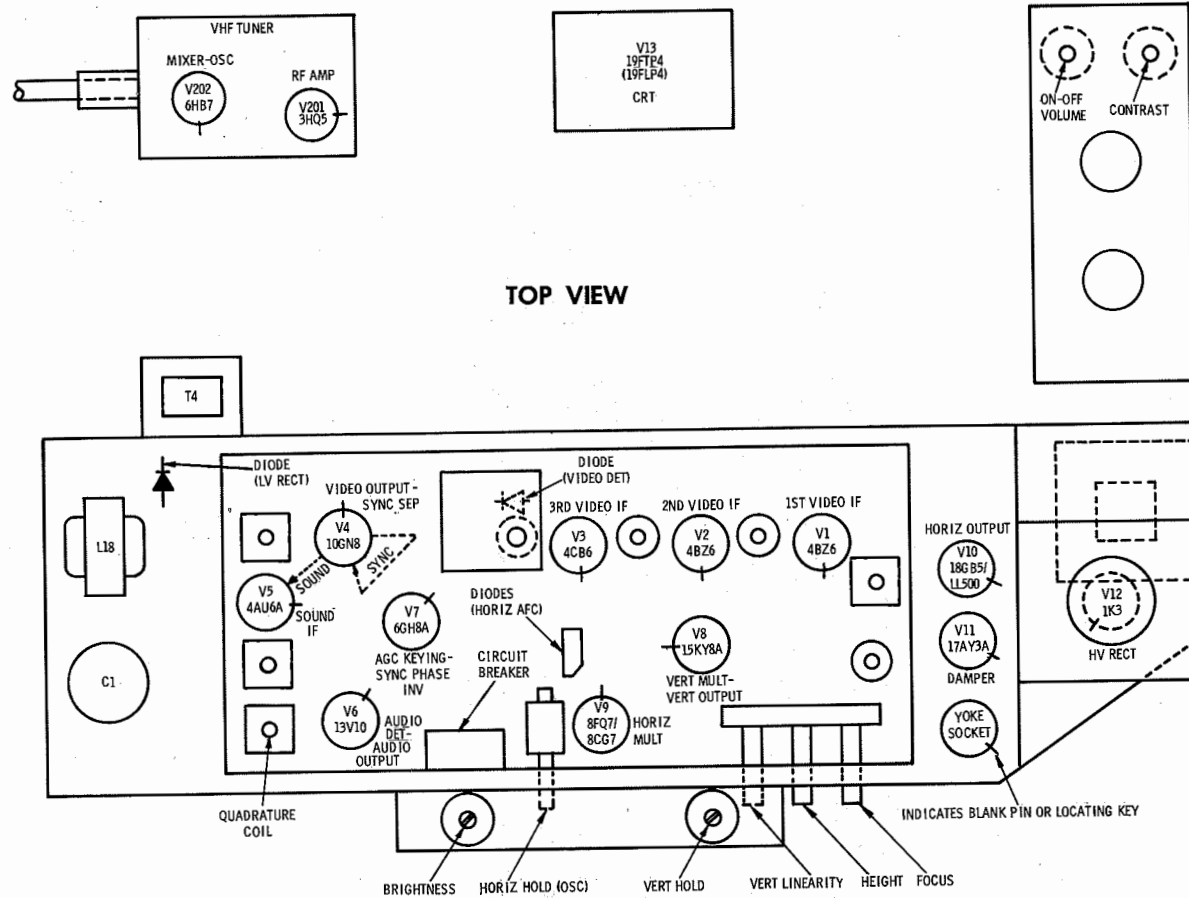
ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN 12	TOP CAP
V1	4BZ6	92K	56Ω	12Ω	13.7Ω	1560Ω †	1560Ω †	0Ω						
V2	4BZ6	67K	56Ω	13.7Ω	15.2Ω	1522Ω †	1522Ω †	0Ω						
V3	4CB6A	.1Ω	120Ω	15.2Ω	16.7Ω	1522Ω †	1522Ω †	0Ω						
V4	10GN8	0Ω	4.7Meg	2.2Meg †	17.9Ω	21.5Ω	100Ω	2000Ω *	22Ω †	4300Ω †				
V5	4AU6A	8Ω	0Ω	17.9Ω	16.7Ω	15K †	15K †	270Ω						
V6	13V10	25Ω	680Ω	5.3Ω	0Ω	470K	6800Ω †	1.5Meg †	150K	150Ω	1172Ω †	362Ω †	29.3Ω	
V7	6GH8A	842Ω †	37K †	33K †	29.3Ω	32.5Ω	443K	22Ω †	2020Ω	32K				
V8	15KY8A	0Ω	1.9Meg	0Ω	35.6Ω	41.3Ω	154Ω †	22Ω †	4Meg †	1.3Meg				
V9	8FQ7/8CG7	27K †	3Meg *	1500Ω	32.5Ω	35.6Ω	82K †	47K	1500Ω	NC				
V10	18GB5/LL500	NC	390K	NC	7.90Ω	12.0Ω	NC	1022Ω †	0Ω	NC				7.4Ω †
V11	17AY3A	NC	22Ω †	NC	7.90Ω	2Ω	NC	NC	NC	1.6Meg				
V12	1K3													437Ω †
V13	19FTP4	0Ω	33K	18Ω †	60Ω	NC	33K	190K	2Ω					
V201	3HQ5	1Meg	0Ω	24.0Ω	25.0Ω	1222Ω †	0Ω	0Ω						
V202	6HB7	0Ω	220K	0Ω	24.0Ω	21.5	1022Ω †	22K †	4700Ω †	3300Ω				
ITEM	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN 12	TOP CAP

* Reading Depends on Polarity of Meter Connections.
NC No Connection

† Measured from Cathode of X1.
‡ Measured from Pin 9 of V11.

PINS 1 THRU 8 HAVE INFINITE RESISTANCE

TUBE PLACEMENT CHART



TUBE FAILURE CHECK CHART

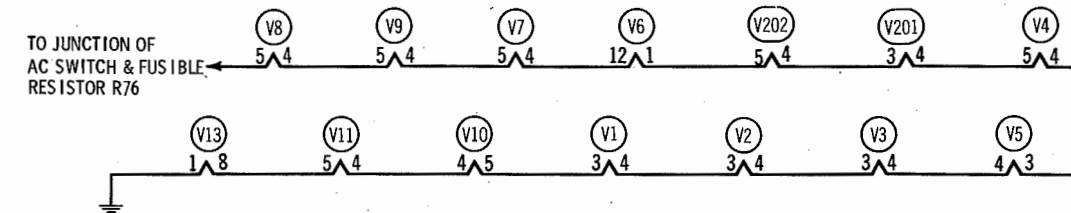
The following chart lists tubes whose failures are most likely to produce indicated symptoms. Refer to tube placement chart for location and type of tube.

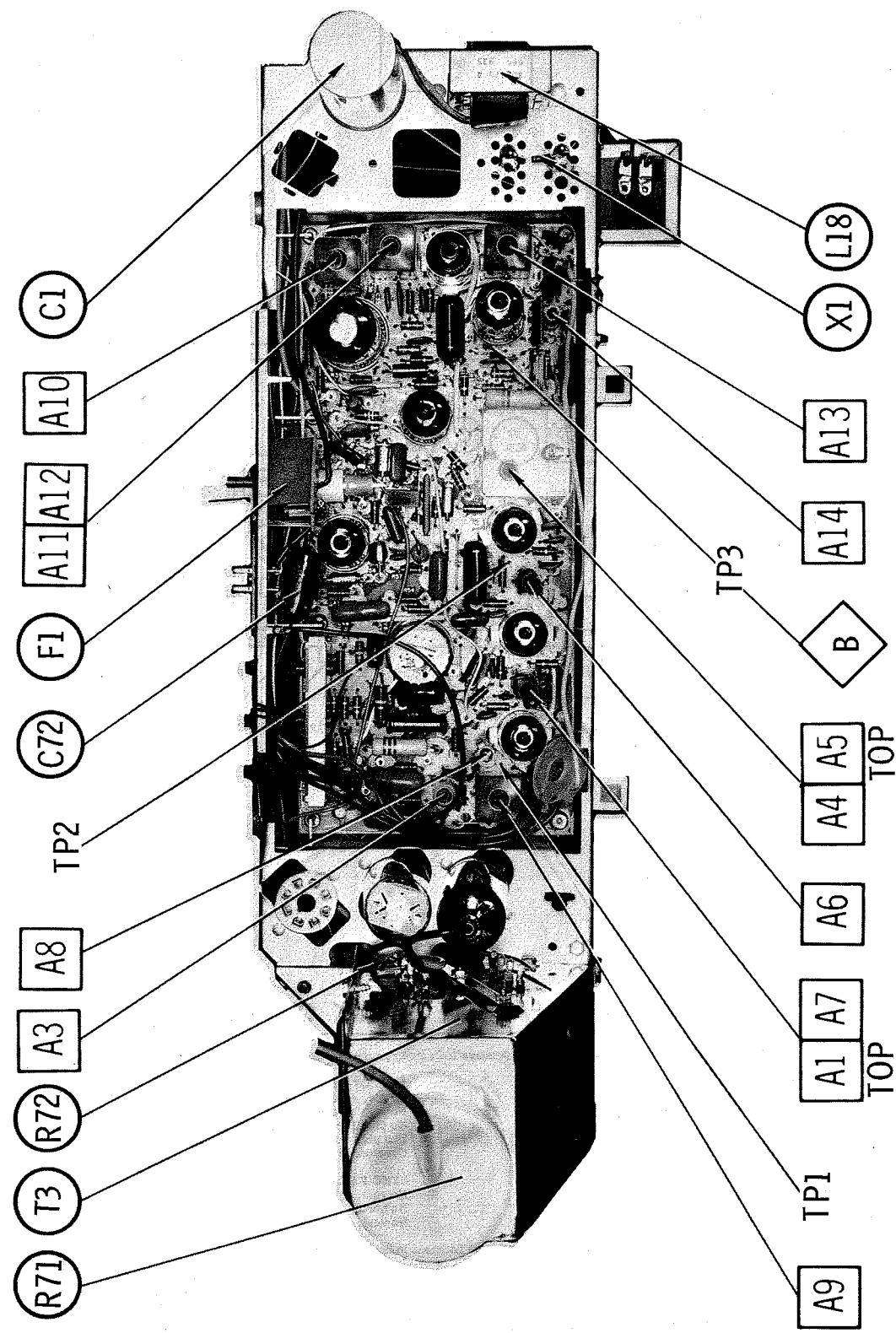
- POWER SUPPLY FAILURE**
No raster, no sound Rectifiers X1, Circuit Breaker F1, Fusible Resistor R76.

SWEEP FAILURE
No raster, has sound V9, V10, V11, V12, V13
No vertical deflection V8
Poor vert. linearity or foldover V8
Poor horiz. linearity or foldover V9, V10, V11
Narrow picture V9, V10, V11, X1
Vert. off freq. V8
Horiz. off freq. V9, X5
- LOSS OF PICTURE OR SOUND**
No pic, no sound, has raster V1, V2, V3, X4, Video Det. Diode, V4
No pic, no sound, has snow V201, V202, V1
No pic, has sound, has raster V4, V13
Has pic, no sound V5, V6
Overloaded picture V7

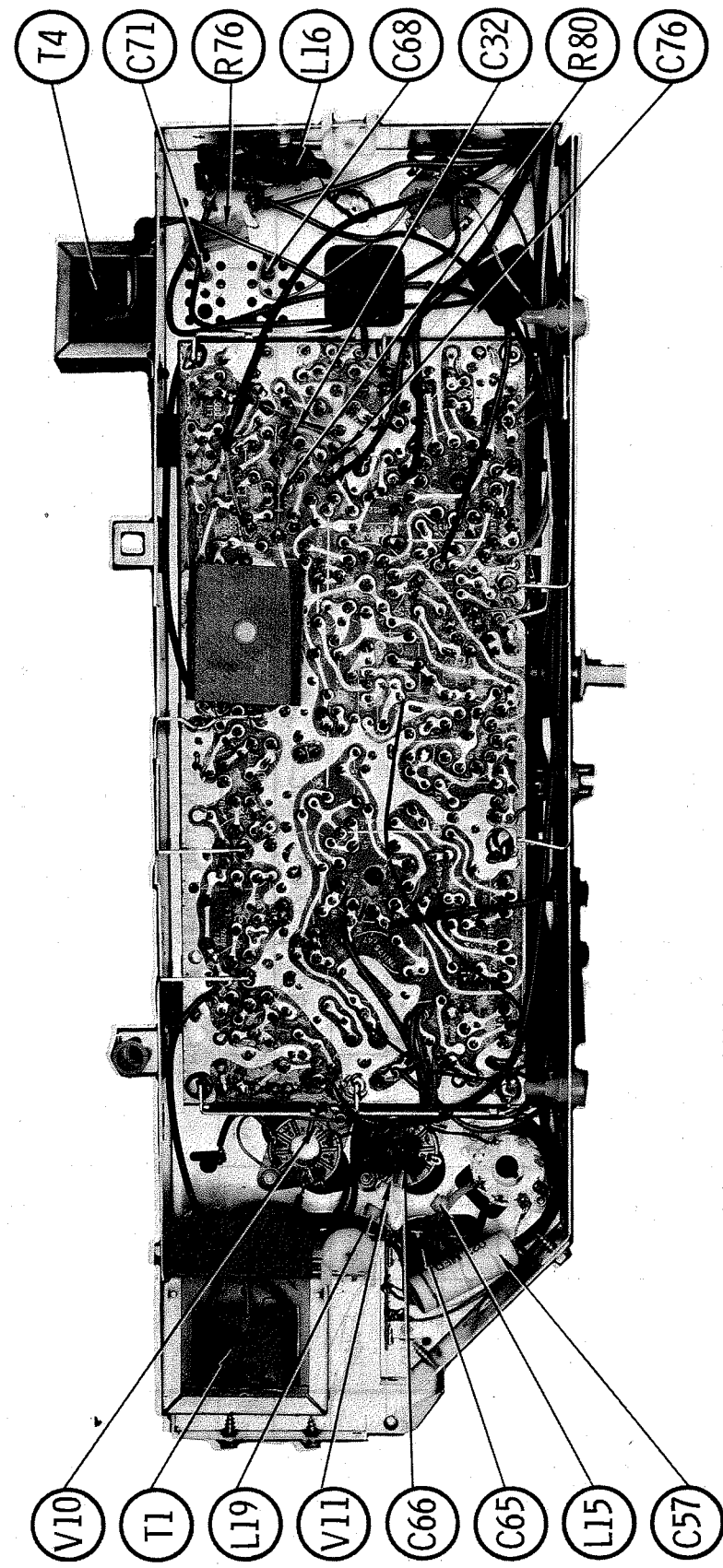
SYNC FAILURE
No vert. sync V4, V7
No horiz. sync
No vert. or horiz. sync

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.)





TP1-1.5V VIDEO IF INPUT TP2 0V 3RD VIDEO IF INPUT TP3 0V VIDEO OUTPUT



CHASSIS - BOTTOM VIEW

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 A7, A9 thru A14... GENERAL CEMENT #8606, 8869, 9302..... WALSCO #2511, 2543, 2588
A8..... GENERAL CEMENT #9087..... WALSCO #2528

VIDEO IF ALIGNMENT

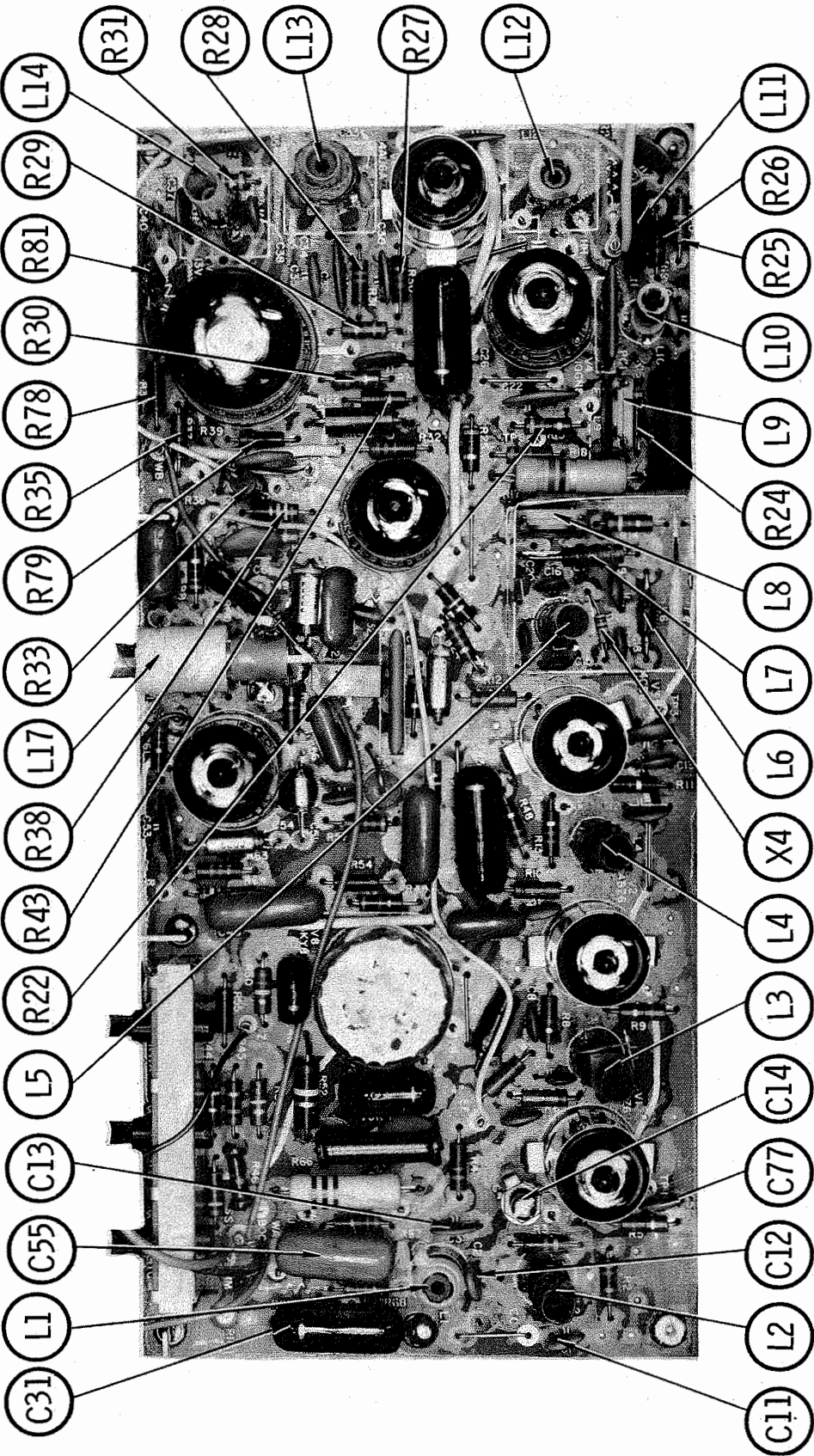
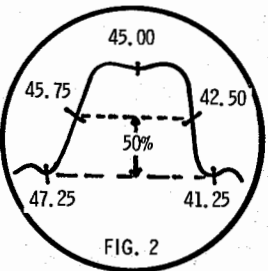
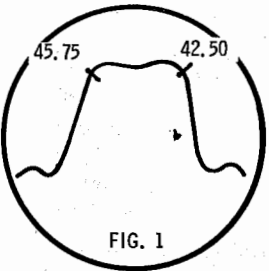
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. Use only enough generator output to provide a usable indication. Note: Response may vary slightly from those shown. Connect a variable bias supply to the IF AGC line (point \diamond) 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 \diamond . Common to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.		41.25MC 47.25MC	A1 A3	Adjust for MINIMUM.
2. Connect vertical input of a scope to point \diamond . Low side to ground.	Connect high side to pin 1 (grid) of V3. Low side to ground.	44MC (10MC Sweep)	42.5MC 45.75MC	A4, A5	Adjust for maximum amplitude and MINIMUM tilt with markers as shown in Figure 1.
3. Connect vertical input of a scope to point \diamond . Low side to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.	44MC (10MC Sweep)	41.25MC 42.5MC 45.0MC 45.75MC 47.25MC	A6, A7, A8, A9, Mixer Plate Coil	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 A4 and A5.

4.5 MC TRAP ALIGNMENT

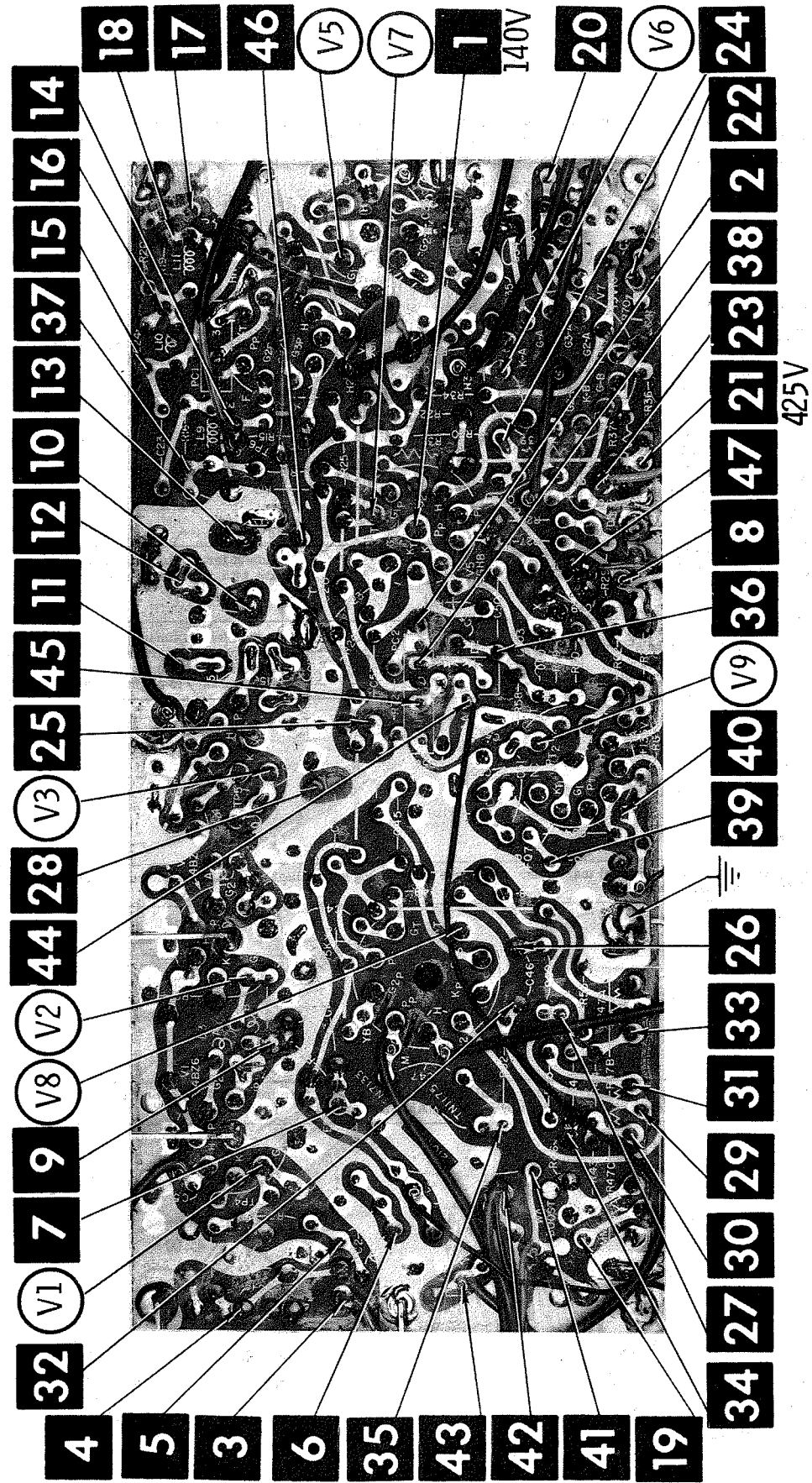
Tune in a strong TV signal and set the Contrast at maximum. Adjust the Fine Tuning until a beat pattern is visible on the screen. Adjust A14 for MINIMUM beat interference.

SOUND IF ALIGNMENT

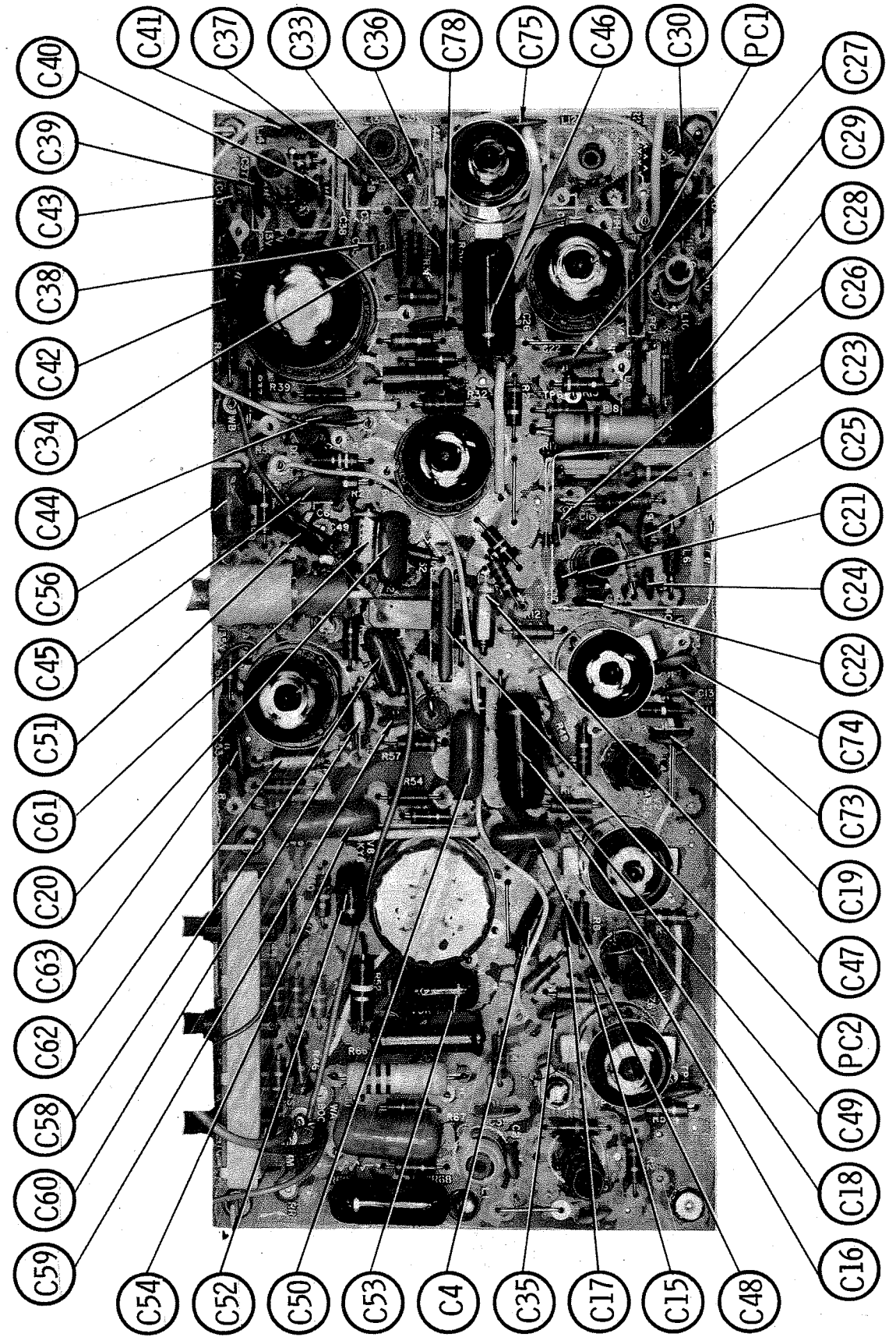
Tune in a station and adjust A10 for maximum sound. Reduce signal strength at the antenna terminals until distortion appears. Continue to reduce signal while aligning for undistorted output by adjusting A11, A12 and A13

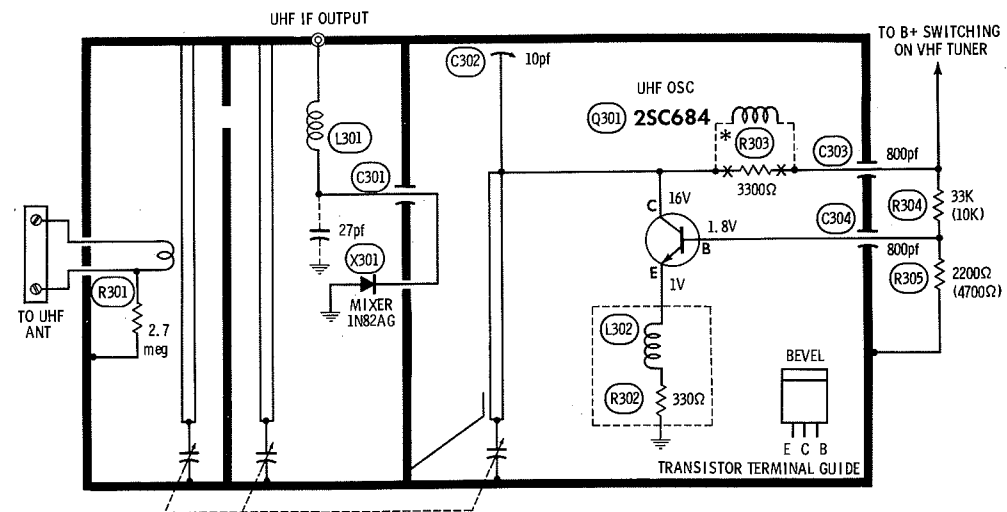


PRINTED CIRCUIT BOARD

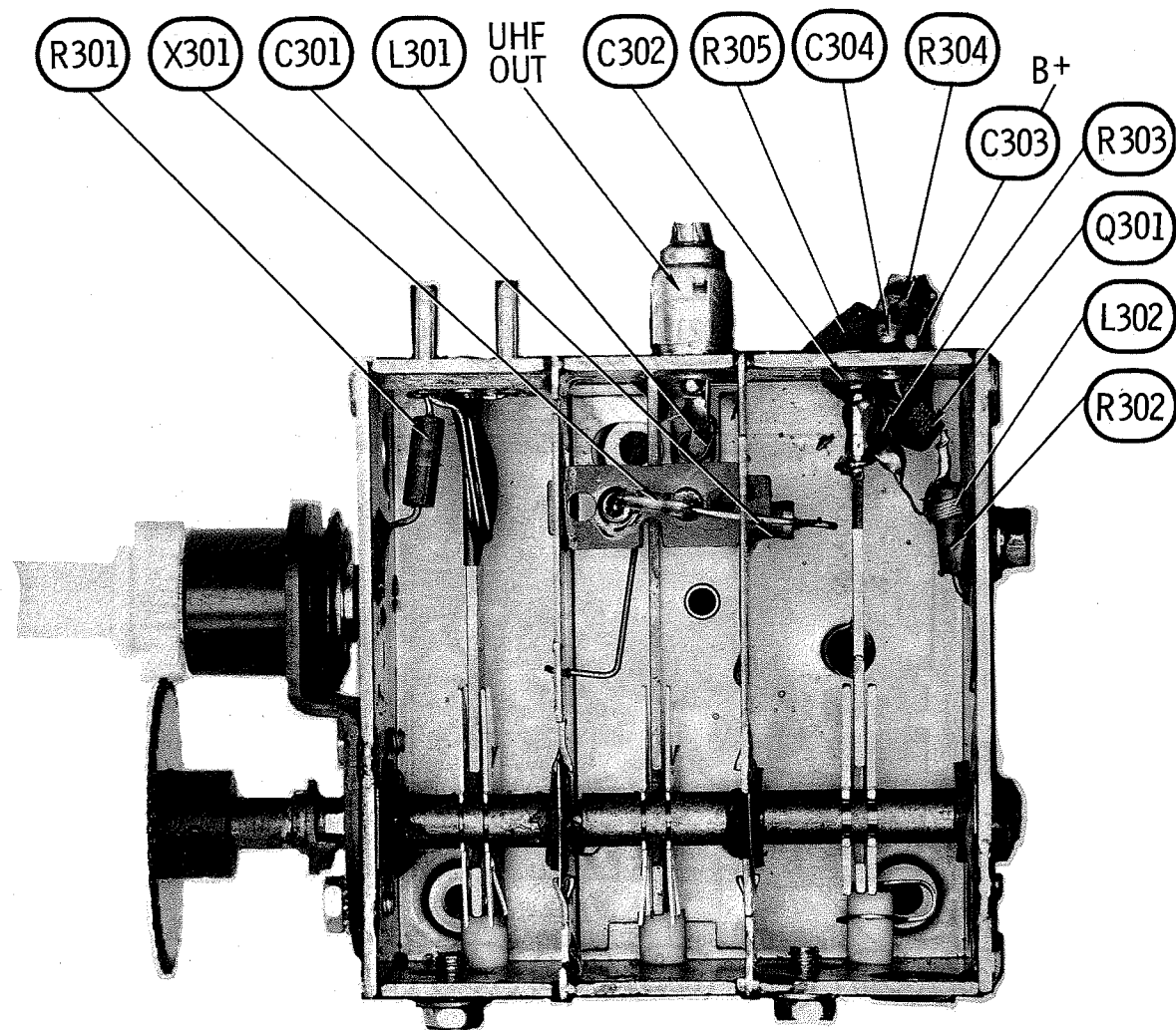


PRINTED CIRCUIT BOARD

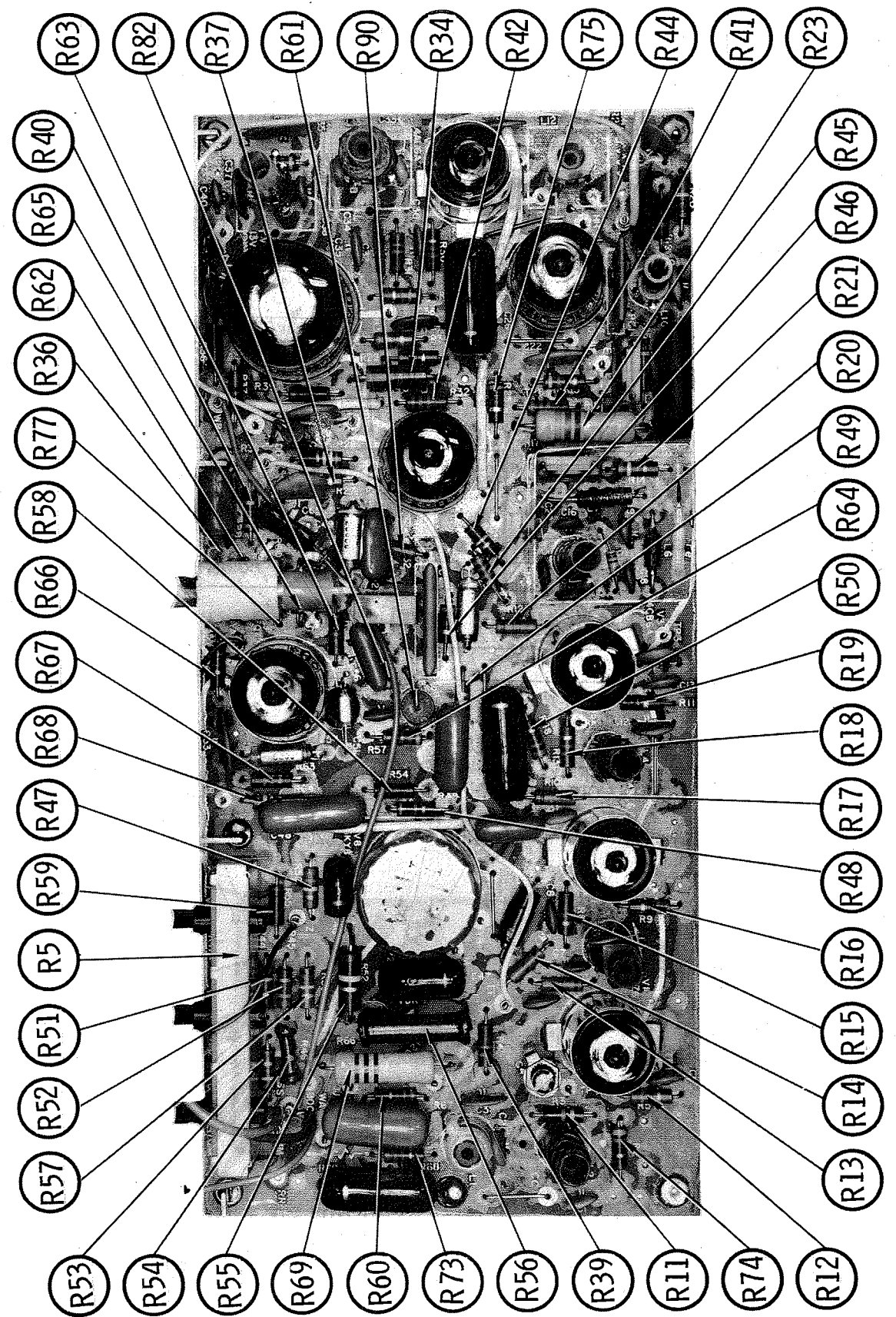




A PHOTOFAC STANDARD NOTATION SCHEMATIC
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UHF TUNER



PRINTED CIRCUIT BOARD

VHF TUNER ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools: A201, A202, A203, A204GENERAL CEMENT #9087.....WALSCO #2528

OSCILLATOR ADJUSTMENTS
The oscillator for each channel is preset by means of the fine tuning control. Adjust fine tuning for best picture and sound on each channel. If any channel cannot be properly tuned in with the fine tuning, adjust overall oscillator adjustment and recheck all available channels.

RF AND 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 a variable bias to the 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
1. 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, A202, A203	Adjust for maximum gain and symmetry of response similar to Fig. 201 with markers as shown.
2. "	195MC	193.25MC 197.75MC	10	Across Video Det. load resistor.	A204	Increase bias to -15 volts and adjust for MINIMUM amplitude of response.
3. "	See Chart	See Chart	12 thru 2	Vert. Input to Point \diamond , low side to ground.		Decrease bias. Check response on all channels. Make compromise adjustments of A201, A202 and A203 if necessary.

CHANNEL & FREQUENCY CHART

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

SOUND VIDEO


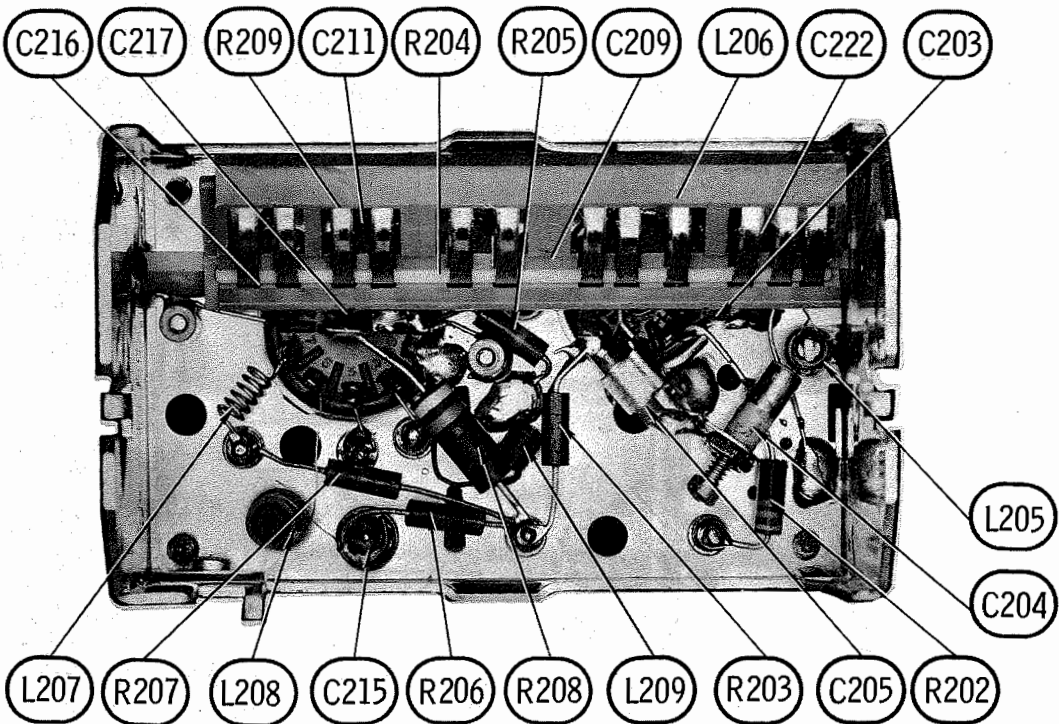
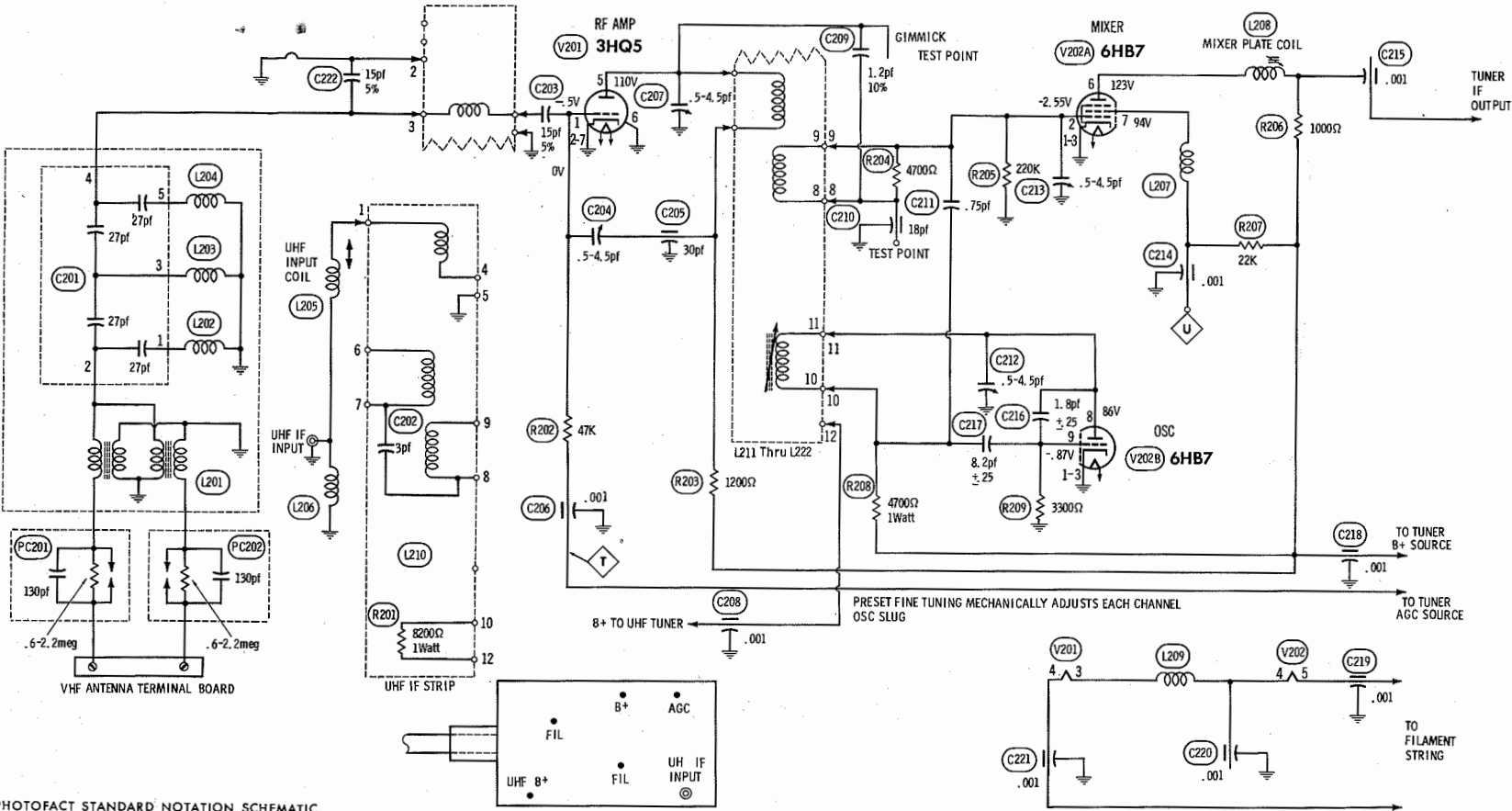
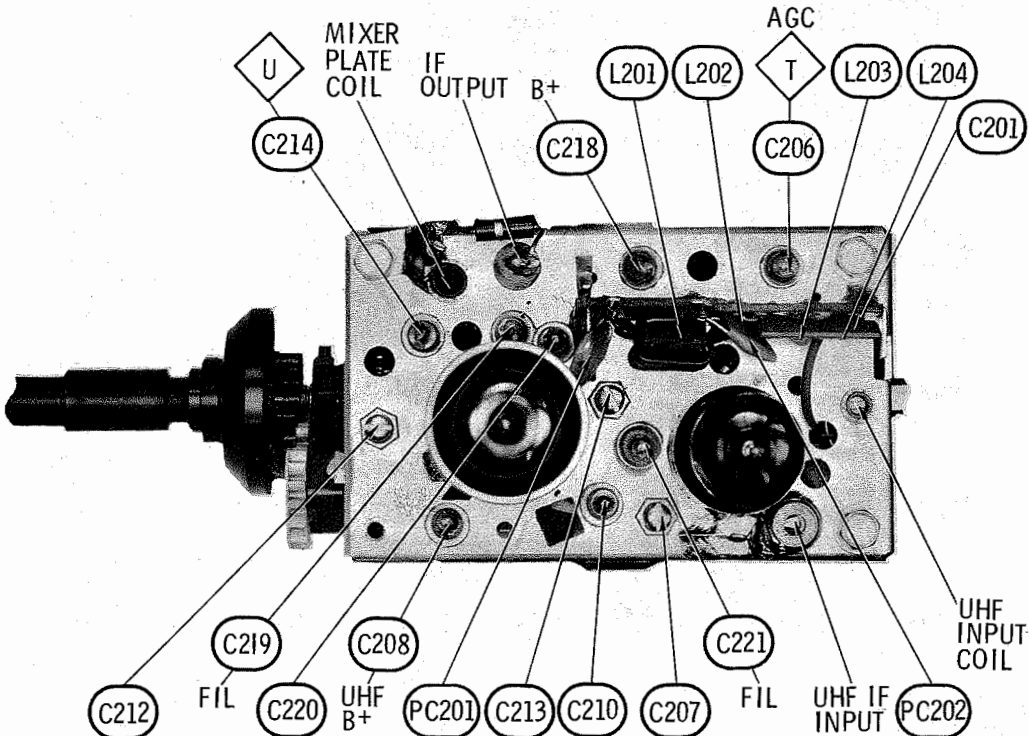


FIG. 201

UHF TUNER ALIGNMENT INSTRUCTIONS

Tune to a UHF station and adjust UHF IF Input Coil for best picture and sound.



VHF TUNER

VHF TUNER PARTS LIST

TUBES

• AMPEREX • GENERAL ELECTRIC • RCA • SYLVANIA •					
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V201	RF Amp.	3HQ5	V202	Mixer - Osc.	6HB7

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.
C201A	27pf	#13P-203	DD-270			CCD-270	GP427	10TS-Q27
B	27pf		DD-270			CCD-270	GP427	10TS-Q27
C	27pf		DD-270			CCD-270	GP427	10TS-Q27
D	27pf		DD-270			CCD-270	GP427	10TS-Q27
C202	3pf		NPO-DI 3.0	DTZ-3R3	CZ601CG150J	CCD-270	CNO533	10TCC-V33
C203	15pf 5%		NPO-DI 15	DTZ-15		CCTO-150	CNO415	10TCC-Q15
C204	.5-4.5pf							
C205	30pf			TCZ-30		CCTO-300		10TCC-Q30
C206	.001							
C207	.5-4.5pf							
C208	.001							
C209	1.2pf		NPO-DI 1.5	DTZ-1R5		CCTO-180	CNO515	10TCC-V12
C210	18pf			TCZ-18			CNO418	10TCC-V18
C211	.75pf							
C212	.5-4.5pf	GPD C0H8R2K						
C213	.5-4.5pf							
C214	.001							
C215	.001							10TCC-V18
C216	1.8pf							10TCC-V82
C217	8.2pf							
C218	.001							
C219	.001							
C220	.001							
C221	.001							
C222	15pf 5%		NPO-DI 15	DTZ-15	CZ601CG150J	CCTO-150	CNO415	10TCC-Q15

Magnavox Part Number

COILS (RF-IF)

ITEM No.	USE	MFGR. PART No.	NOTES	ITEM No.	USE	MFGR. PART No.	NOTES
L201	Balun Assembly	31T-4460-011	† Part of Balun Assembly L201 Part # 31T-4460-011	L212	Ant., RF, Osc., Mixer	31M-3PKN	Channel 3
L202	Filter	†		L213	"	31M-4PKN	Channel 4
L203	Filter	†		L214	"	31M-5PKN	Channel 5
L204	Filter	†		L215	"	31M-6PKN	Channel 6
L205	UHF IF Input	†		L216	"	31M-7PKN	Channel 7
L206	RF Choke			L217	"	31M-8PKN	Channel 8
L207	RF Choke			L218	"	31M-9PKN	Channel 9
L208	Mixer Plate			L219	"	31M-10PKN	Channel 10
L209	Flament Choke	31U-648-001		L220	"	31M-11PKN	Channel 11
L210	UHF Strip	31T-4730-009	Channel 1	L221	"	31M-12PKN	Channel 12
L211	Ant., RF, Osc., Mixer	31M-2PKN	Channel 2	L222	"	31M-13PKN	Channel 13

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	MAGNAVOX PART No.	REPLACEMENT DATA
PC201	Antenna Isolation	.6 - 2.2meg, 130pf	13P-203	
PC202	Antenna Isolation	.6 - 2.2meg, 130pf	13P-203	

UHF TUNER PARTS LIST

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.
Q301	2SC884	UHF Osc.			GE-11	TR-22	SK-3019	ECG 108

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS		NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	SARKES TARZIAN PART No.	
X301	1N82AG	1N82A	1N82AG				

† Alternate Type S2020, Part #170906-1

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.
C301	10pf							
C302	800pf							
C303	800pf							
C304	800pf							

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.

WIRING DATA

High Voltage Lead	Use BELDEN No. 8869 (17KV)
Shielded Hook-up Wire	Use BELDEN No. 8885 (Single Conductor)
	8738 (Two Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
	8524 (Stranded) Available in 12 Colors
300Ω Tuner Input Lead	Use BELDEN No. 8225
300Ω Antenna Lead-in	Use BELDEN No. 8230 or 8275
Antenna Rotor Cable	Use BELDEN No. 8464 (Flat) or 8484 (Round) - 4 Conductor
	8485 (Round) - 5 Conductor
	8488 (Round) - 8 Conductor

TUBES

• AMPEREX • GENERAL ELECTRIC • RCA • SYLVANIA •					
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
Q301	UHF Osc. (Transistor)		V7	AGC Keying-Sync Phase Inv.	6GH8A
V201	RF Amp.	3HQ5	V8	Vert. Mult/Vert. Output	15KY8A
V202	Mixer - Osc.	6HB7	V9	Horiz. Mult.	8FQ7/8CG7
V1	1st Video IF	4BZ6	V10	Horiz. Output	18GB5/LL500
V2	2nd Video IF	4BZ6	V11	Damper	17AY3A
V3	3rd Video IF	4CB6	V12	HV Rectifier	1K3 (1G3)†
V4	Video Output -Sync Sep.	10GN8			
V5	Sound IF	4AU6A			
V6	Audio Det.-Audio Output	13V10			

† Alternate

PICTURE TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	MFGR. PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SYLVANIA PART No.	
V13	19FTP4(A) B19FTP4(A) 19FLP4 23HGP4 23HQP4(A)	19FLP4 ① 19FLP4 ① 19FLP4 ①	19DWP4 ①	19FTP4 ② 19FTP4 ② 19FTP4 ②	① Aluminized ② Silver Screen "85"

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X1	530082-2	GE-504A	8D6	ECG 116	SK3017A	
X4	530085-2 (1N60)	1N60	1N60	ECG 109		
X5	530045-4	6GD1	DD05	ECG 114		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		MAGNAVOX PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	200 μ 200V	270071-18	AFH3-86-85		CC0129.5A	XC2-43A & QT1-13	FP318.85A	TVL-3461.7
C4	40 μ 150V							
C4	2 50V	270082-701	CRE751A	EA2-50	PC5-100	MT1-1	MTA2D50	TE-1301

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

RESISTORS (Power and Special)

† Voltage Dependent Resistor

† Duplicate original Circuit Connections.
* Remove original 18pf Cap from set.

① Ignore Tap and install plastic sleeve over adjustment screw

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
118	.380A	22Ω	.6 H	320125-4					

***COMPONENT CONNECTION DATA**

† Remove Grn Lead From Plug Pin #4 and Connect To Plug Pin #5

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

All wattages 1/2 watt, or less, unless otherwise listed.

① Alternate Part, used in Models using Chassis T944-03-AA. ④ Must be CTS switch Type 080.
② Alternate Part, used in Models using Chassis T944-04-AA. * "SNAPTROL"
③ Alternate Part, used in Models using Chassis T944-01-AA and T944-04-AA.

ITEM No.	PART NAME	MAGNAVOX PART No.	NOTES
M1	VHF Tuner	340089-3	
M2	UHF Tuner	340087-4	
M3	Antenna, VHF	700893-4	JFD RE PLACEMENT #TA484 (2 used)
M4	Antenna, UHF	701209-1	JFD RE PLACEMENT #TA545
M5	VHF Channel Ind. Lamp	180864-2	(Neon) Must be replaced with original Part Number
M6	UHF Channel Ind. Lamp	180864-2	(Neon) Must be replaced with original Part Number

(When Ordering Specify Model, Chassis & Color)