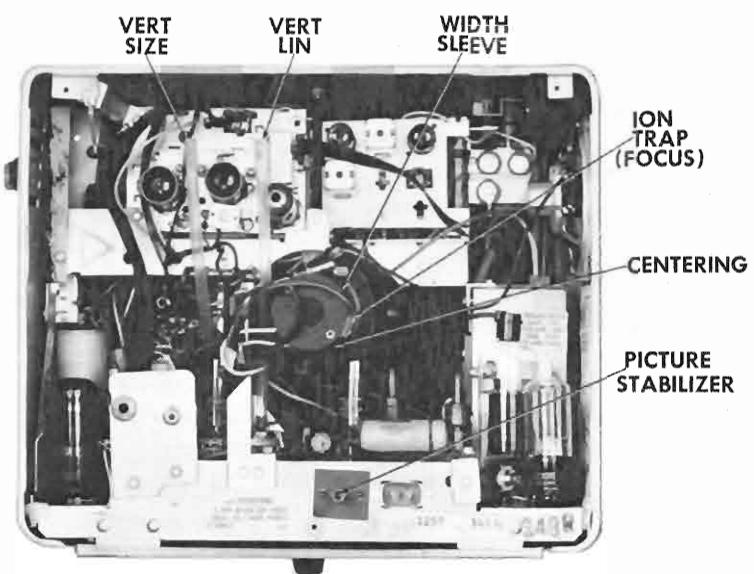




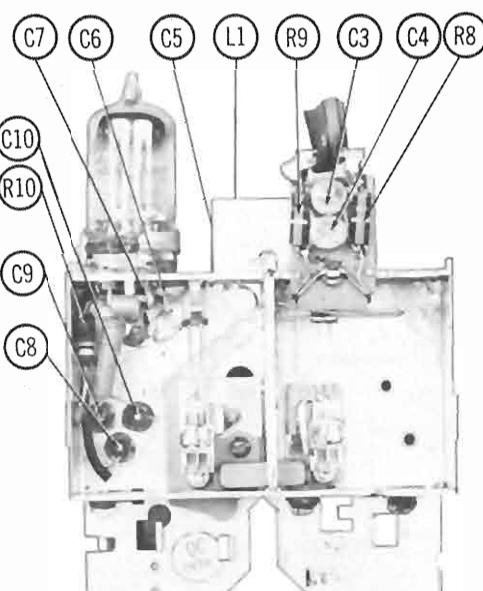
18 pg



### CABINET-REAR VIEW

### HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

1. Connect a clip lead across the horizontal waveform coil (L24).
2. Turn picture stabilizer control (R7) fully clockwise and tune to a known station.
3. Set the horizontal hold control fully clockwise.
4. Starting with the horizontal frequency slug (B1) fully counter clockwise, rotate clockwise until the picture just locks into sync. Then turn one-half turn more.
5. Remove the clip lead from L24 and starting with the horizontal waveform slug (B2) fully counter clockwise; then turn B2 clockwise until the picture almost locks into sync (3-4 diagonal bars).
6. Turn the horizontal hold control counter clockwise until the picture locks in and then back to full clockwise. If the picture falls out of sync, adjust B1 SLIGHTLY.
7. Check for horizontal hold while switching channels. If good hold action is not obtained at full clockwise position of the horizontal hold control, turn B1 in SLIGHTLY until desired results are obtained. If excessive squelching (Christmas Tree effect) is experienced while switching channels, readjust B2 SLIGHTLY. Check to make sure no horizontal bending is introduced at the top of the picture.



TUNER REAR VIEW

### DISASSEMBLY INSTRUCTIONS

#### CHASSIS REMOVAL

1. Remove 9 push-on type knobs from the side and 1 from the top.
2. Remove 3 metal screws from the rear cover and remove the rear cover.
3. Remove the speaker leads, picture tube socket, ion trap, yoke clamp and HV lead.
4. Remove 1 metal screw from the top, by the radio tuning shaft.
5. Remove 2 hex nuts and the speaker.
6. Remove 1 metal screw from the top chassis brace.
7. Remove 4 chassis bolts from the bottom.
8. Remove the chassis and yoke.

#### CAUTION NOTE

#### ONE SIDE OF AC LINE CONNECTED TO CHASSIS

Care should be exercised when connecting test equipment or physically contacting the chassis.



MODEL 1259 (Ch. 120348R)

TRADE NAME	Emerson	MODELS	CHASSIS
		1254, 1264 .....	120341H
		1255, 1265 .....	120342R
		1258, 1268 .....	120347H
		1259, 1269 .....	120348R
		2064 .....	120358H
		2065 .....	120359R
MANUFACTURER	Emerson Radio & Phonograph Corp., 14th. & Coles Sts., Jersey City 2, N.J.		
TYPE SET	Combination Radio, Phono, TV Receiver		
TUBES	Eighteen		
POWER SUPPLY	110-120 Volts AC, 60 Cycle	RATINGS	TV 110 Watts, 1.1 Amp. @ 117 Volts AC Radio 100 Watts, .9 Amp. @ 117 Volts AC Phono 90 Watts, .8 Amp. @ 117 Volts AC
TUNING RANGE	TV Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier) Radio 540KC-1638KC, IF 455KC		

### SERVICING IN THE FIELD

#### TUNER OSCILLATOR ADJUSTMENTS

Touch-up adjustment of the VHF oscillator is possible by removing the channel selector and fine tuning knobs. Set the fine tuning at the center of its range. The adjustments are accessible, one at a time, as the channel selector is rotated. Adjust for best picture and sound.

#### PICTURE TUBE SAFETY GLASS CLEANING

Remove 2 metal screws from the bottom of the front. Pull the bottom of the front out and up to remove.

#### SPECIAL ADJUSTMENTS

A. Focus  
Adjust the ion trap for the best focus consistent with maximum brightness.

B. Width  
The width may be varied by means of a metallic sleeve located between the yoke and the picture tube neck. Adjust sleeve in or out of the yoke for a picture SLIGHTLY larger than necessary to fill the screen.

#### HORIZONTAL OSCILLATOR FIELD ADJUSTMENTS

For adjustment of the horizontal oscillator, it is necessary to remove the rear cover and supply power to set. Set the horizontal hold at the center of its range and adjust the horizontal frequency slug (B1) until the picture synchronizes horizontally. (For location, see tube placement chart).

#### SOUND IF DETECTOR BUZZ ADJUSTMENT

To eliminate sound IF detector buzz, adjust the discriminator secondary (A8) located on top of chassis.

#### FUSES

One fuse is used for LV power supply protection. (For location, see tube placement chart).

#### CENTERING

Centering is accomplished mechanically by adjusting two magnetic rings around the neck of the picture tube. Rotate the two rings around the neck of the tube until the picture is properly centered.

#### HOWARD W. SAMS & CO., INC. • Indianapolis 5, 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 H289

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1958 Howard W. Sams & Co., Inc., Indianapolis 5, Indiana. Printed in U.S. of America

## DISASSEN

## CHASSIS REMOVA

1. Remove 9 push-top.
2. Remove 3 metal the rear cover.
3. Remove the spe yoke clamp and HV
4. Remove 1 metal shaft.
5. Remove 2 hex n
6. Remove 1 metal
7. Remove 4 chass
8. Remove the cha

ONE SIDE OF AT  
Care should be  
equipment or pl

TRADE NAME

MANUFACTURER  
TYPE SET  
TUBES  
POWER SUPPLY

TUNING RANGE

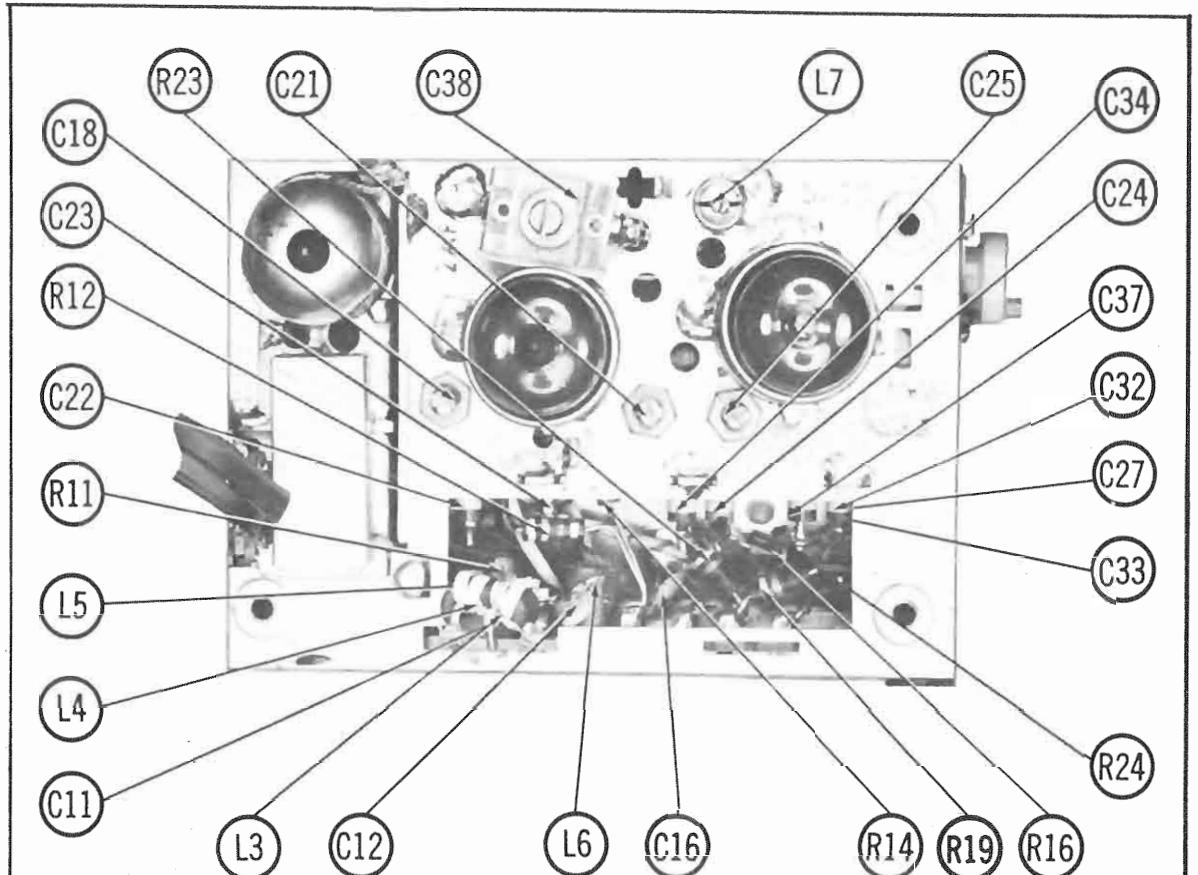
TUNER OSCILLATE  
Touch-up adjustment  
removing the chan  
fine tuning at the ce  
accessible, one at  
Adjust for best pict

PICTURE TUBE SA  
Remove 2 metal sc  
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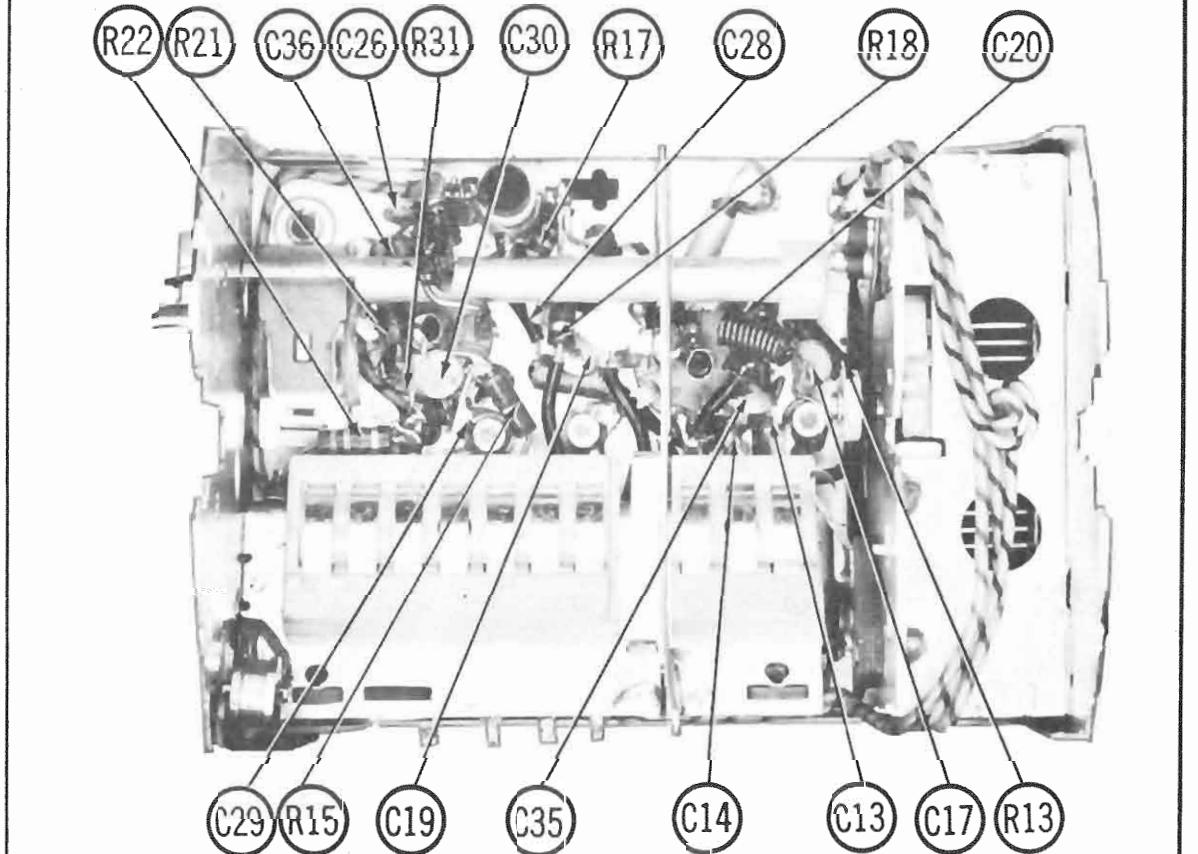
SPECIAL ADJUSTM  
A. Focus  
Adjust the ion trap  
mum brightness.

B. Width  
The width may be v  
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not constitute in any  
guaranty by Howard  
and suitability of suc  
these parts have bee  
to Howard W. Sams  
H209

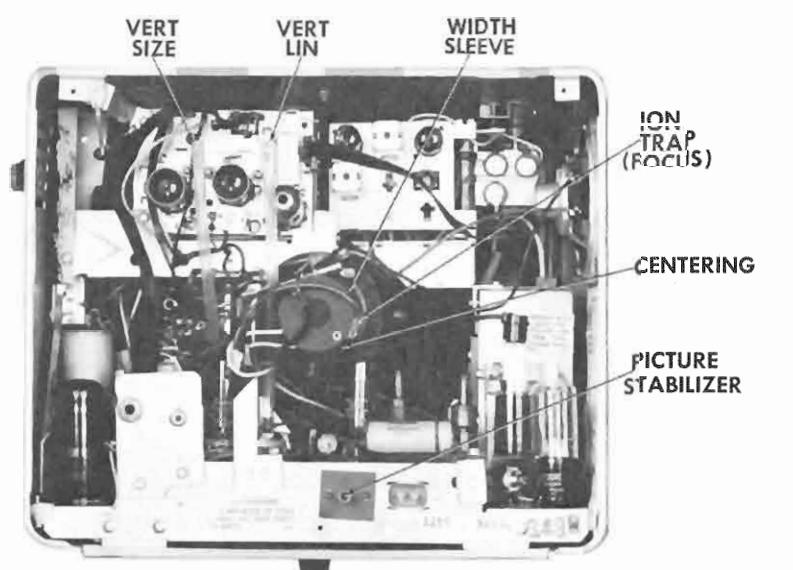


TUNER-TOP VIEW



TUNER-BOTTOM VIEW

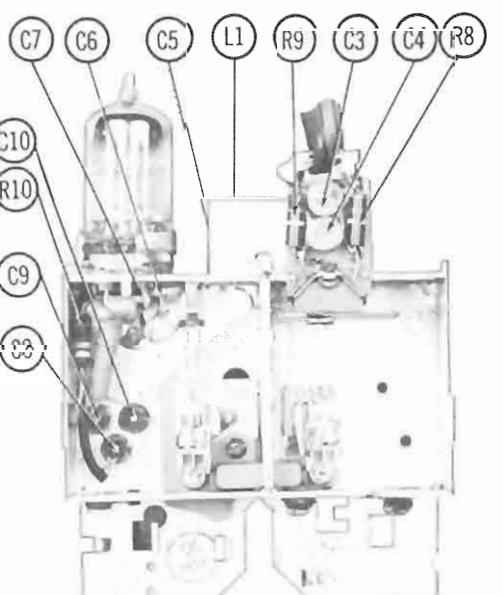
FOLDER 1



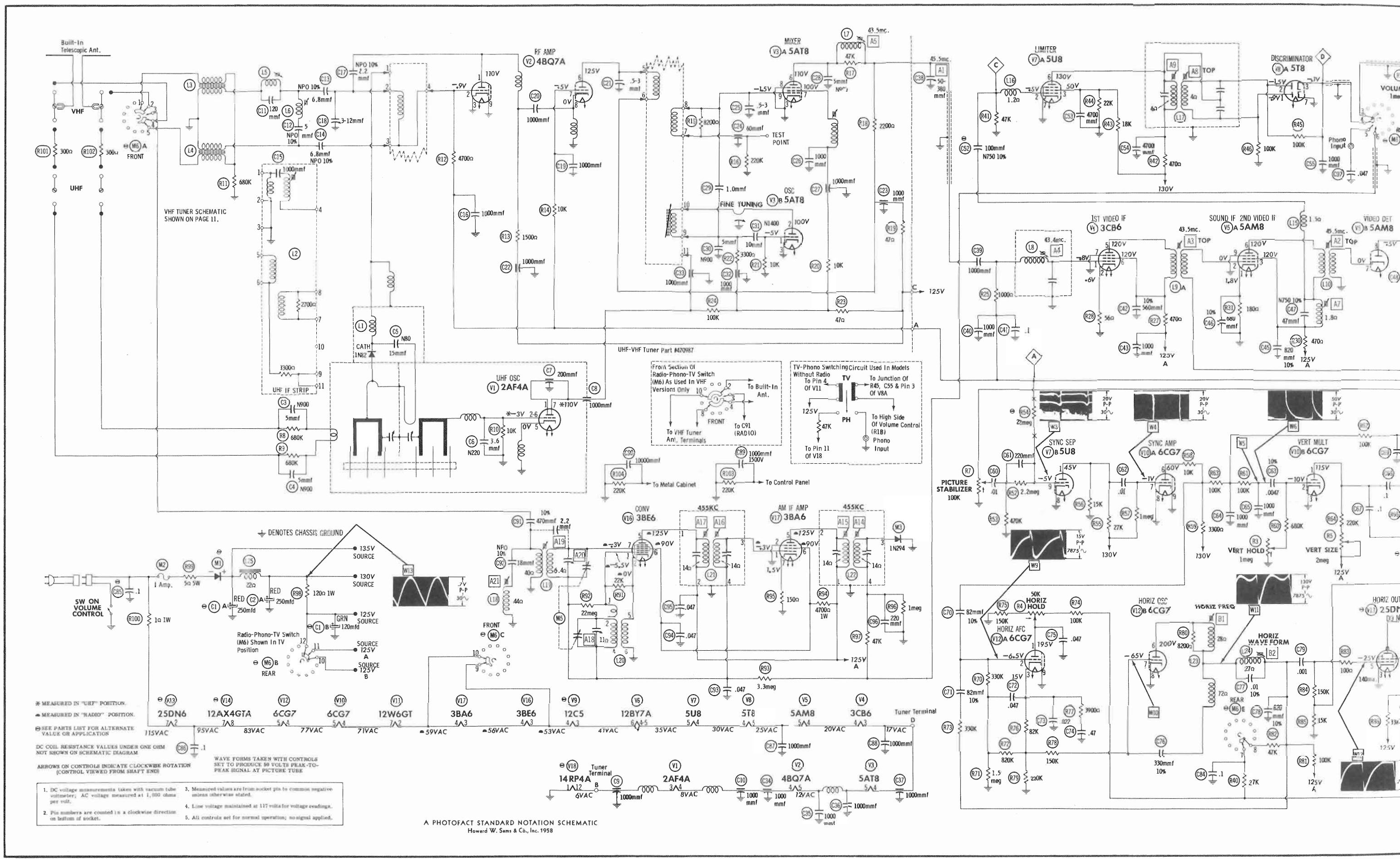
CABINET-REAR VIEW

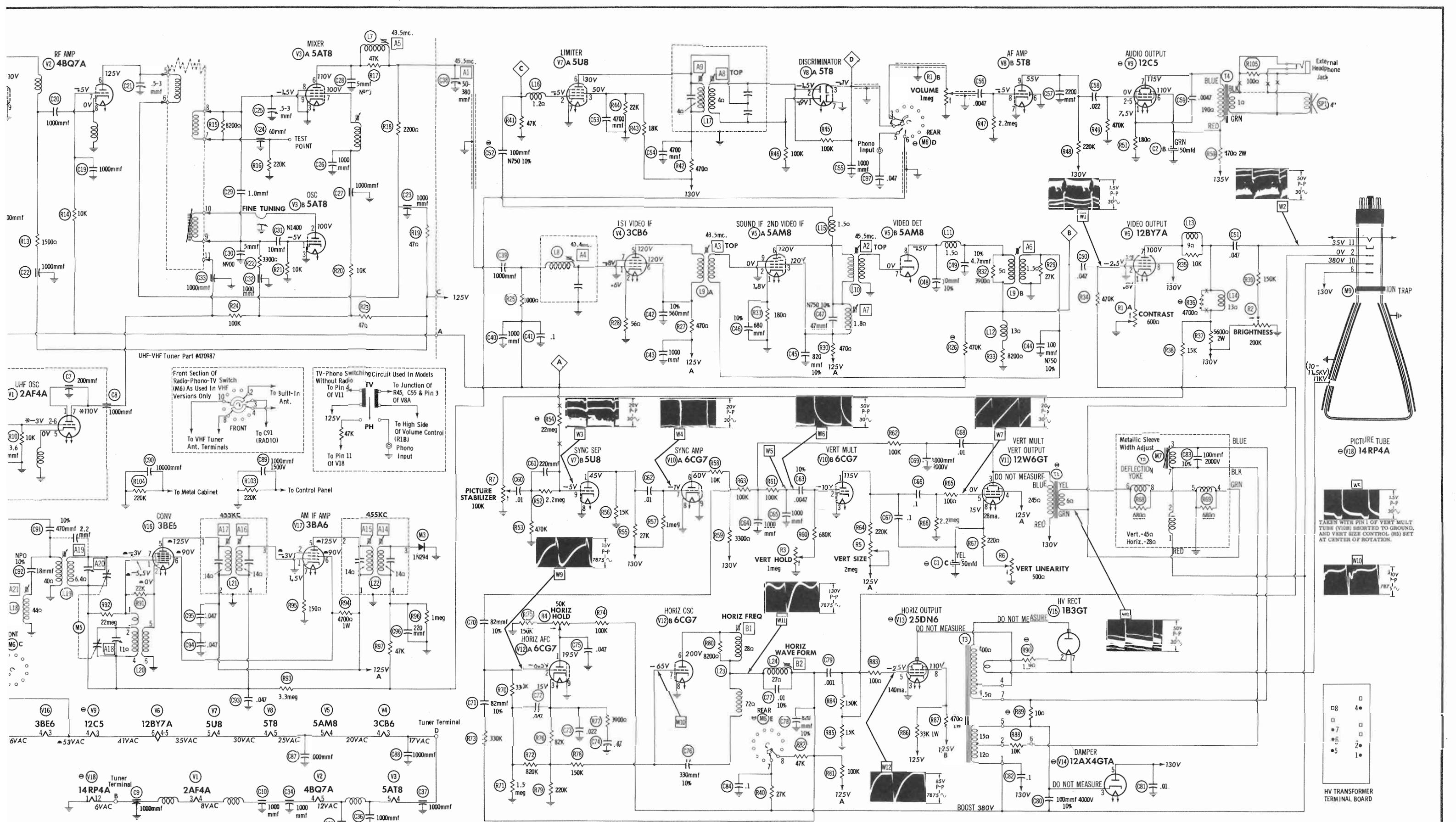
## HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

1. Connect a clip lead across the horizontal waveform coil (L24).
2. Turn picture stabilizer control (R7) fully clockwise and tune to a known station.
3. Set the horizontal hold control fully clockwise.
4. Starting with the horizontal frequency slug (B1) fully counter clockwise, rotate clockwise until the picture just locks into sync. Then turn one-half turn more.
5. Remove the clip lead from L24 and starting with the horizontal waveform slug (B2) fully counter clockwise; then turn B2 clockwise until the Picture almost locks into sync (3-4 diagonal bars).
6. Turn the horizontal hold control counter clockwise until the picture locks in and then pack to full clockwise. If the picture falls out of sync, adjust B1 SLIGHTLY.
7. Check for horizontal hold while switching channels. If good hold action is not obtained at full clockwise position of the horizontal hold control, turn B1 in SLIGHTLY until desired results are obtained. If excessive squelching (Christmas Tree effect) is experienced while switching channels, readjust B2 SLIGHTLY. Check to make sure no horizontal bending is introduced at the top of the picture.



TUNER REAR VIEW



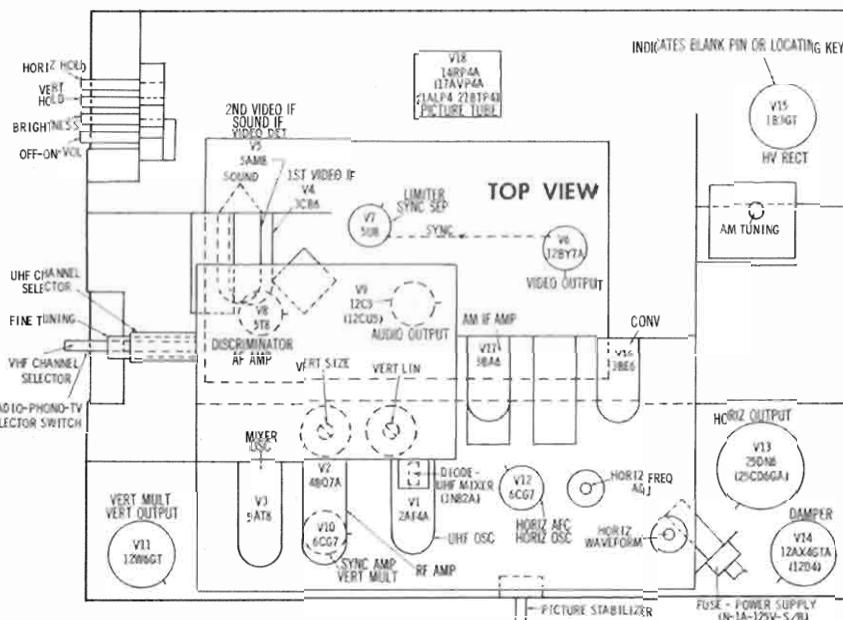


## RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	2AF4A	† = 3450Ω	10K	1.5Ω	2Ω	.1Ω	10K	† = 3450Ω		
V2	4BQ7A	† 1600Ω	480K	0Ω	2Ω	3Ω	† 165Ω	490K	0Ω	0Ω
V3	5AT8	10K	† 3400Ω	0Ω	4Ω	3Ω	† 2300Ω	† 10K	0Ω	220K
V4	3CB6	480K	56Ω	4Ω	5Ω	† 590Ω	† 590Ω	0Ω		
V5	5AM8	180Ω	1.6Ω	† 590Ω	5Ω	6Ω	† 590Ω	.1Ω	8200Ω	0Ω
V6	12BY7A	• 95Ω	485K	0Ω	9.5Ω	9.5Ω	11Ω	† 5600Ω	122Ω	0Ω
V7	5U8	† 14K	47K	† 11K	7Ω	9.5Ω	† 490Ω	0Ω	0Ω	2.6meg
V8	5T8	100K	100K	150K	7Ω	6Ω	0Ω	0Ω	2.2meg	† 220K
V9	12C5	180Ω	470K	11Ω	13.5Ω	470K	† 470Ω	† 660Ω		
V10	6CG7	• † 900K	• 950K	0Ω	18Ω	20Ω	† 13K	† 1meg	0Ω	0Ω
V11	12W6GT	NC	14.5Ω	† 267Ω	† 140Ω	2.2meg	TP	16Ω	• 360Ω	
V12	6CG7	• † 90K	900K	270K	16Ω	18Ω	† 70K	320K	0Ω	0Ω
V13	25DN6	NC	23Ω	0Ω	TP	160K	TP	28Ω	† 590Ω	TOP CAP † 20Ω
V14	12AX4GTA	NC	NC	† 140Ω	NC	23Ω	20Ω			
V15	1B3GT	PINS	1 THRU 8	HAVE	INFINITE	RESISTANCE			TOP CAP † 620Ω	
V16	38E6	• 22K	.7Ω	13.5Ω	4Ω	• † 155Ω	• † 4800Ω	• 3.8meg		
V17	38A6	• 3.8meg	0Ω	14Ω	14.5Ω	• † 155Ω	• † 4800Ω	• 150Ω		
V18	14RP4A	0Ω	12Ω	PIN 6	PIN 10	PIN 11	PIN 12	• 190K	1.5Ω	

- † THIS READING CAN VARY GREATLY, (10K MINIMUM), DUE TO THE CONDITION OF THE ELECTROLYtic CAPACITOR CONNECTED IN THE ASSOCIATED CIRCUIT.  
 • THIS READING WILL VARY, CONTROL SET FOR NORMAL PICTURE.  
 ° MEASURED IN "UHF" POSITION.  
 † MEASURED FROM 135V SOURCE.  
 ‡ MEASURED FROM PIN 3 OF V14.  
 - MEASURED IN "RADIO" POSITION.  
 NC NO CONNECTION.  
 TP TIE POINT.

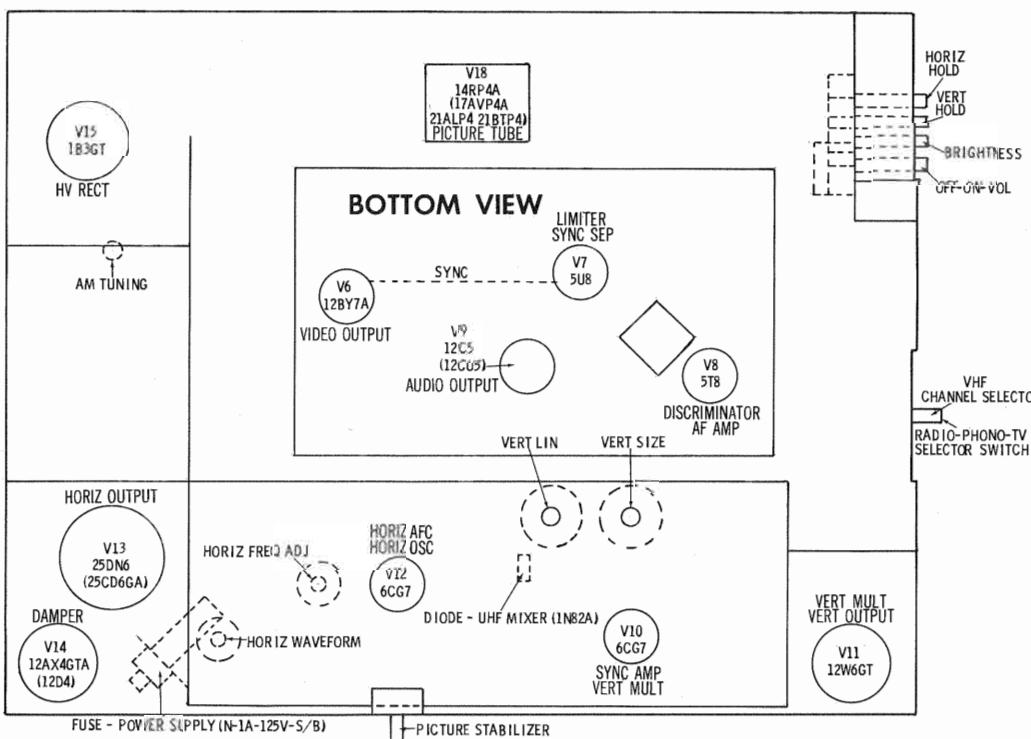
## TUBE PLACEMENT CHART

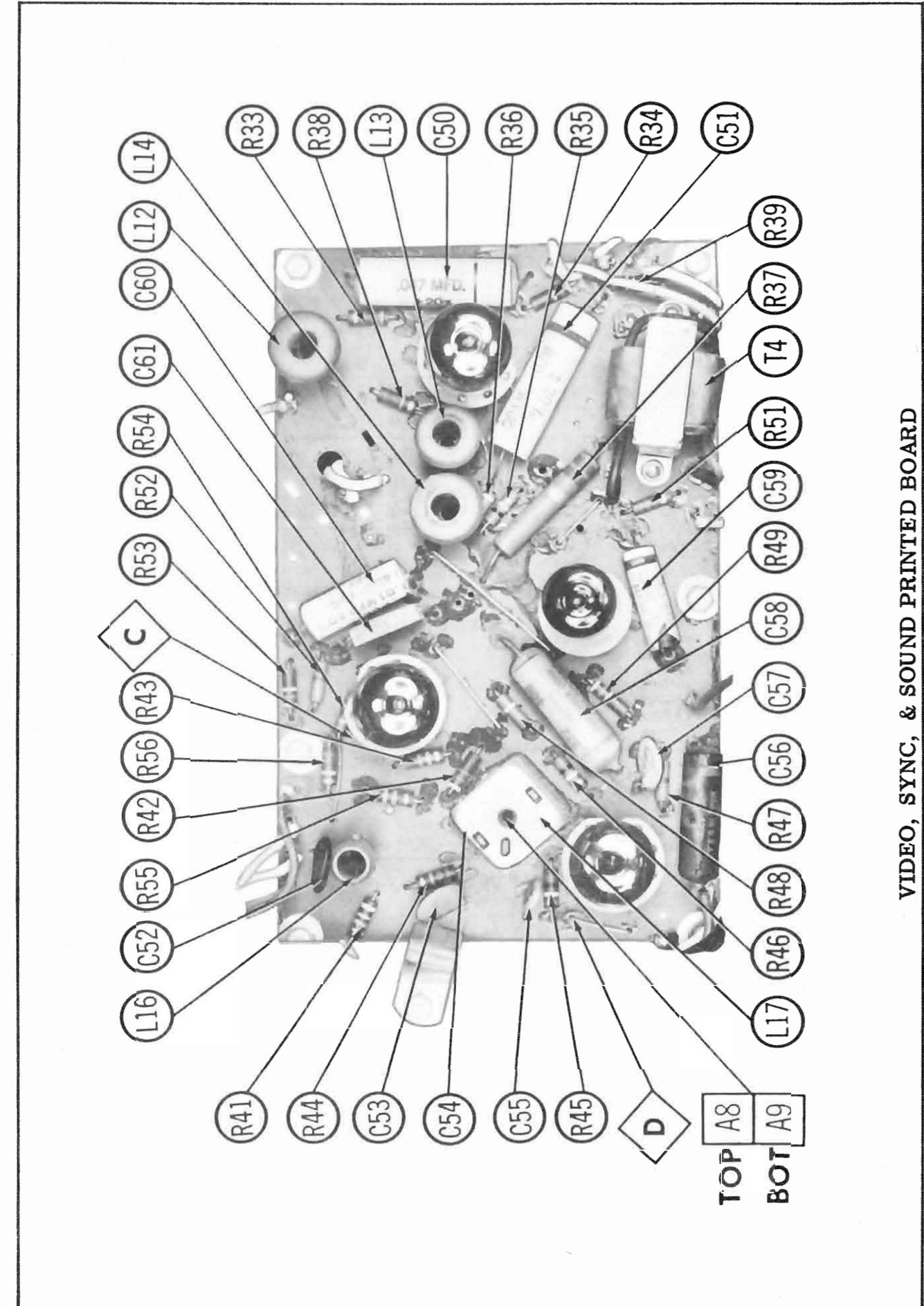
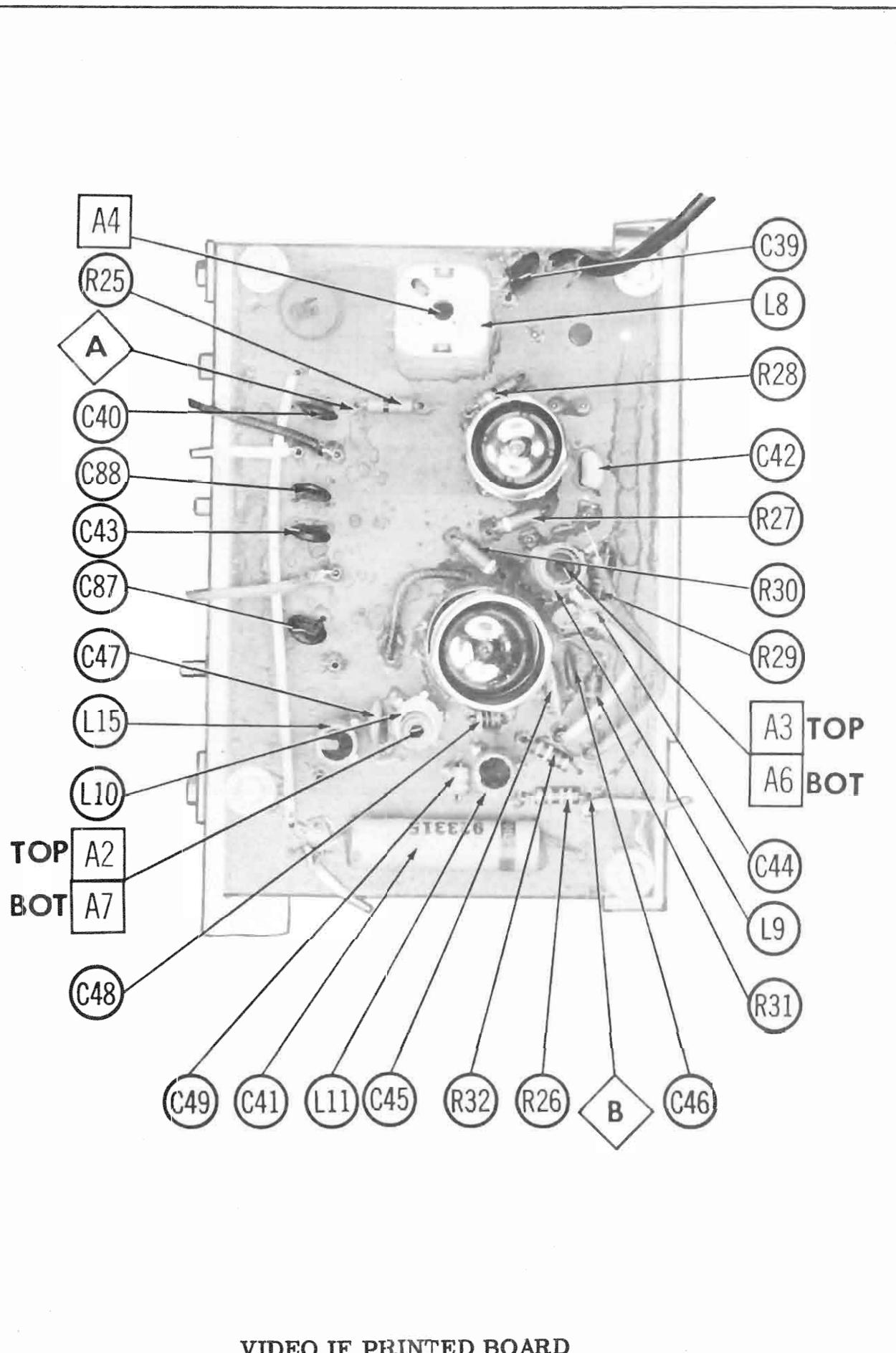


EMERSON MODELS 1254, 1255, 1258, 1259, 1264, 1265, 1268, 1269, 2064,  
 2065 (Ch. 120341H, 120342R, 120347H, 120348R, 120358H, 120359R)

FOLDER 1

## TUBE PLACEMENT CHART

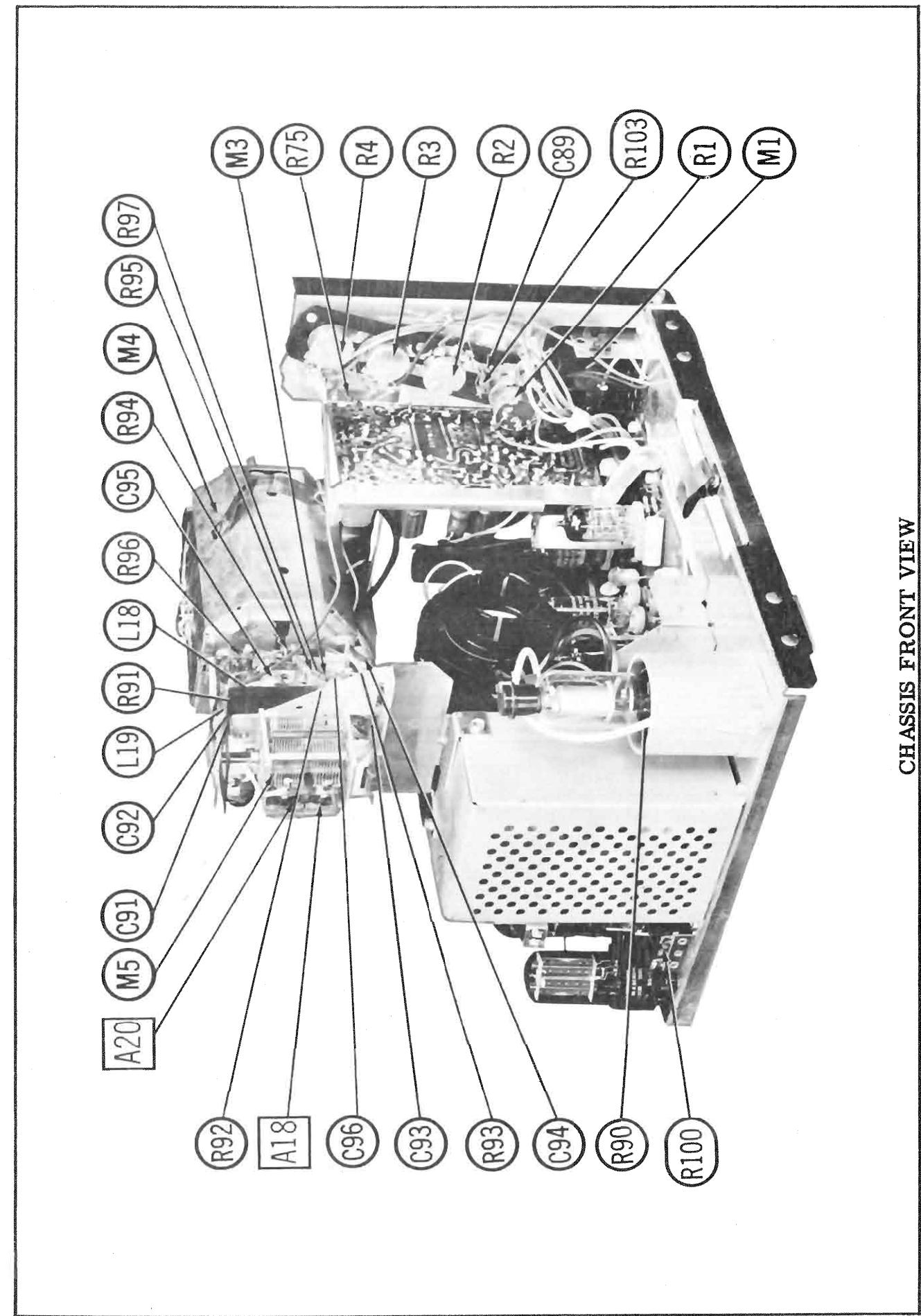
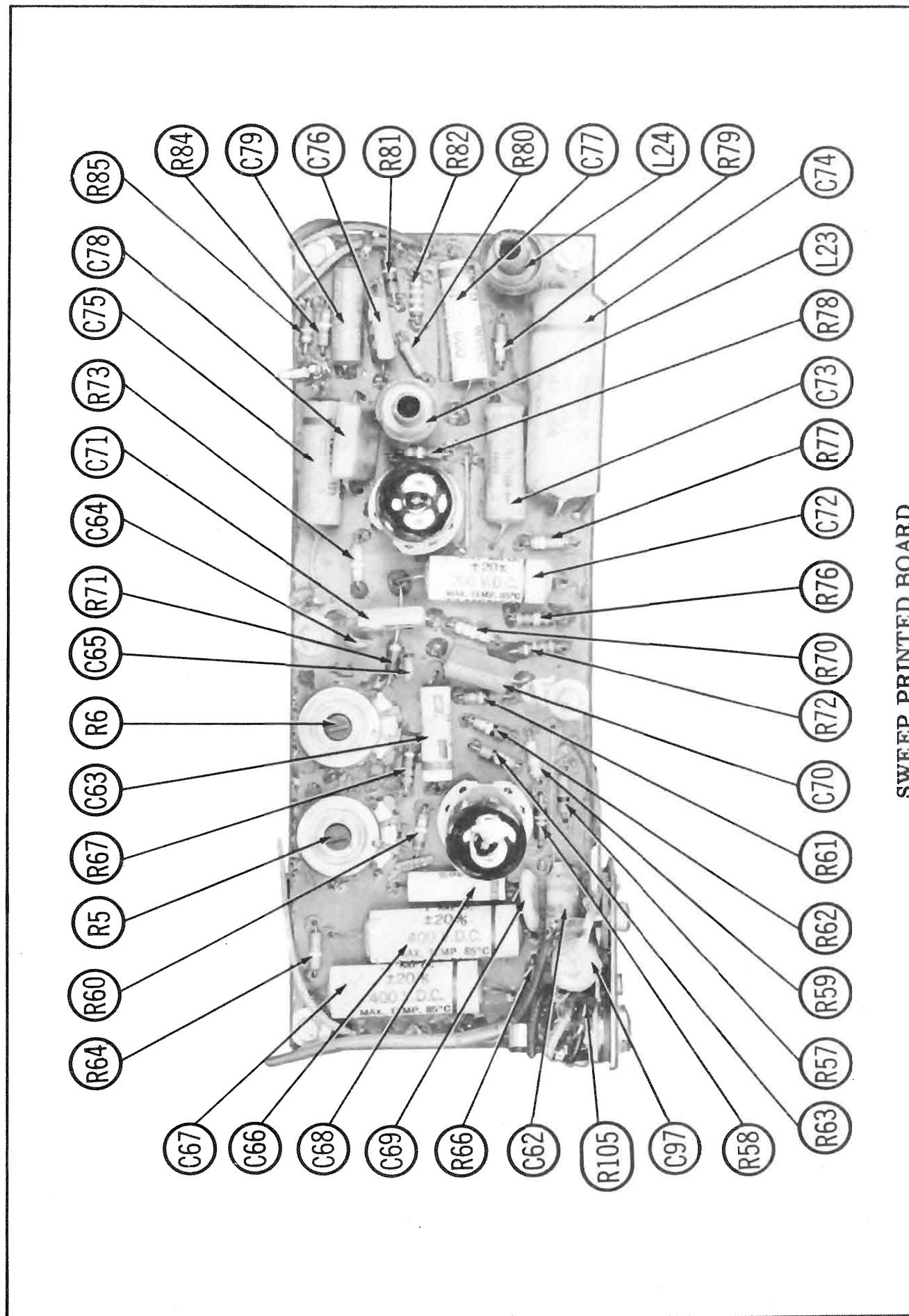




**EMERSON MODELS 1254, 1255, 1258, 1259, 1264, 1265, 1268, 1269, 2064, 2065  
(Ch. 120341H, 120342R, 120347H, 120348R, 120358H, 120359R)**

(Ch. 120341H, 120342R, 120347H, 120348R, 120358H, 120359R)

FOLDER 1



SET 387 FOLDER 1

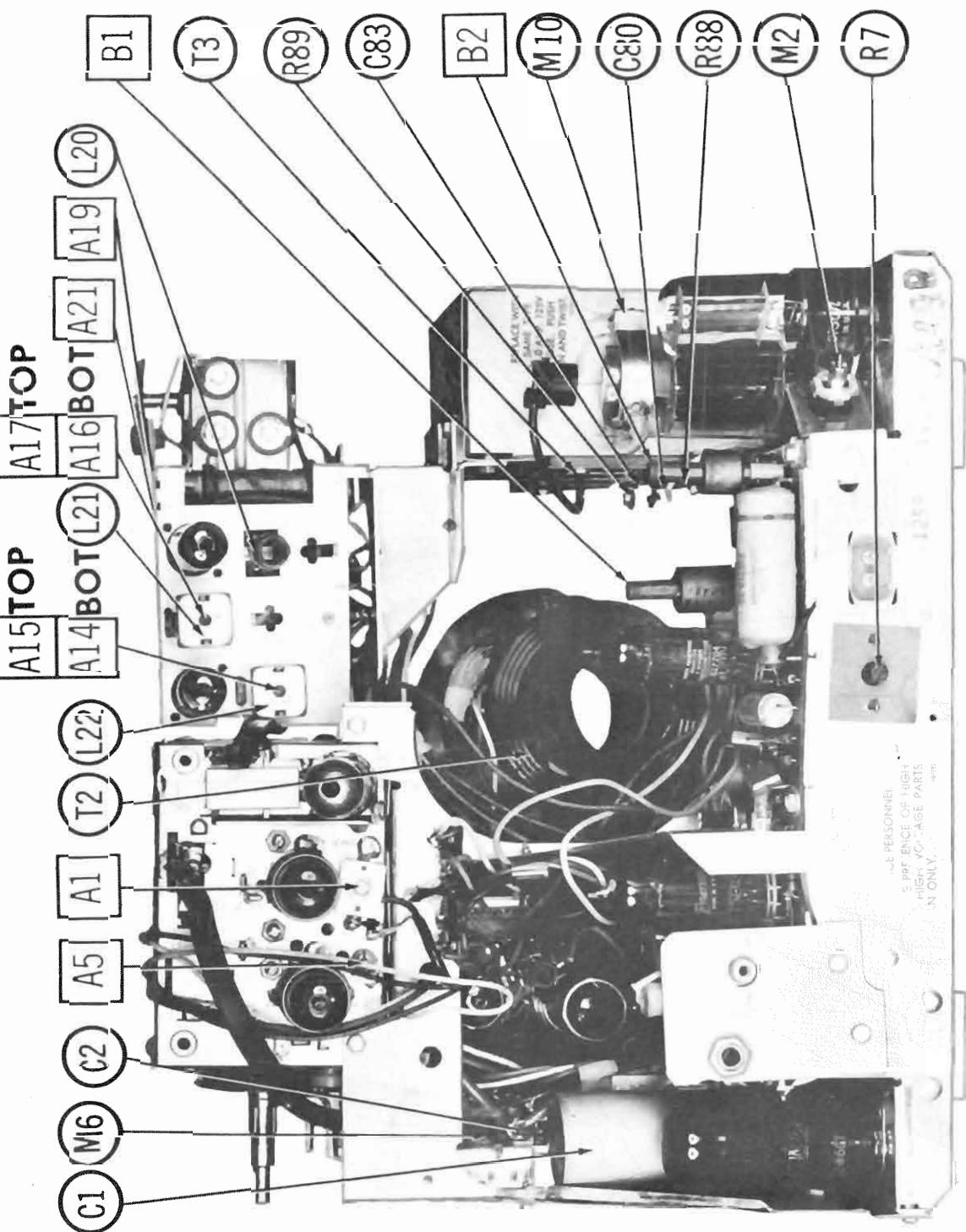
EMERSON MODELS 1254, 1255, 1258, 1259, 1264, 1265, 1268, 1269, 2064, 2065  
(Ch. 120341H, 120342R, 120347H, 120348R, 120358H, 120359R)  
CHASSIS FRONT VIEW

FOLDER 1

**EMERSON MODELS 1254, 1255, 1258, 1259, 1264, 1265, 1268, 1269, 2064, 2065**  
**(Ch. 120341H, 120342R, 120347H, 120348R, 120358H, 120359R)**

FOLDER 1

**CHASSIS REAR VIEW**



## ALIGNMENT INSTRUCTIONS

### PRE-ALIGNMENT INSTRUCTIONS

USE AN ISOLATION TRANSFORMER TO PROTECT THE TEST EQUIPMENT.  
 The high voltage lead should be securely taped and kept away from the chassis.  
 Allow a 20 minute warm-up period for the receiver and test equipment.

### VIDEO IF ALIGNMENT

Connect the negative lead of a 3 volt bias supply to point  $\oplus$ . Positive to chassis.  
 Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.  
 The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. Direct	High side to ungrounded tube shield floating over mixer-osc. tube (V3). Low side to chassis.	Not used	45.5MC (Unmod)	Any non-interfering channel	USE VTVM. Common to chassis.	A1, A2	Preset A1 fully clockwise. Use only enough generator output to provide a usable indication on VTVM. Adjust A2 for maximum deflection on VTVM.
2. "	"	"	43.5MC	"	"	A3, A4, A5	Use only enough generator output to provide a usable indication on VTVM.
3. "	"	44.0MC (10MC Swap)	45.75MC	"	Vert. Amp. thru 10K to point $\oplus$ . Low side to chassis.		Use only enough sweep generator output to provide a usable pattern on scope. Check for response similar to Fig. 1. Adjust A1 to place marker at 40% on curve. A1 also affects bandwidth which should be about 3MC.

### SOUND IF ALIGNMENT

1. Loosely couple the antenna to the antenna terminals of the receiver and tune in a weak TV signal.
2. Connect the DC probe of the VTVM to point  $\oplus$ . Common to chassis.
3. Adjust A6 and A7 for maximum negative reading on the VTVM.
4. Move the DC probe to point  $\ominus$ . Detune A6 for maximum negative reading on the VTVM.
5. Adjust A9 for maximum negative reading on the VTVM.
6. Readjust A8 toward original position of slug for MINIMUM voltage reading on the VTVM. Check the audio, if distorted, repeat steps 1 thru 6.

### VHF OSCILLATOR ALIGNMENT FOR TUNER #470980

Channel 13 oscillator adjustment slug (A10) is also used for adjusting the other high band (2 thru 7) channels. Channel 6 oscillator adjustment slug (A11) is also adjusted for channel 5. Channel 4 oscillator adjustment (A12) is also adjusted for channel 3. Channel 2 oscillator slug (A13) is used only for channel 2. Turn the set on and tune in the highest high band channel operating in the area and adjust controls for normal operation. Set fine tuning to the center of its range. Adjust A10 for best picture and sound. Switch to next high band channel. If necessary to adjust, do so by bending coil loop appearing at the hole to left of tuner shaft for best picture and sound. Switch channel selector to the highest low band channel (6 thru 2) operating in the area. Adjust proper slug for best picture and sound. If channel 5 or 3 needs adjusting, it will be necessary to switch to the next higher channel, adjust slug SLIGHTLY, then switch back to the channel needing adjustment and check picture. Repeat until proper results are obtained. Repeat procedure until all channels operating in the area have been properly adjusted.

### VHF OSCILLATOR ALIGNMENT FOR TUNER #470987

Adjustment of the oscillator may be accomplished by adjustment slugs, accessible one at a time thru a hole in the front of the tuner chassis as the receiver is switched to each channel. Set the fine tuning to the center of its range and adjust the oscillator slug for best picture and sound.

### UHF TUNER ALIGNMENT

This portion of the receiver has been properly aligned at the factory and is very stable. Alignment of this portion should not be required in the field.

### RADIO ALIGNMENT

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
4. .05mfd	High side to AM antenna stator lug on tuning gang. Low side to chassis.	455KC (400% Mod)	Radio	Tuning gang fully open	Across voice coil	A14, A15, A16, A17	Adjust for maximum output.
5.	Loop	1638KC	"	"	"	A18	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
6.	"	600KC	"	600KC	"	A19	"
7.	"	1425KC	"	Tune to 1425KC signal	"	A20	"
8.	"	455KC	"	Tuning gang fully open	"	A21	Adjust for MINIMUM output.

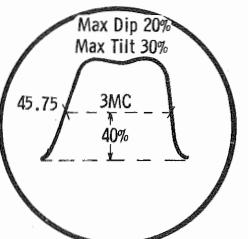


FIG. 1

## PARTS LIST AND DESCRIPTIONS (Continued)

### RECTIFIERS

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	CURRENT (Measured)	EMERSON PART No.	FEDERAL PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL PART No.	SARKES TARZIAN PART No.	
M1 .290A		817047 ① ②	1023A ①	1N1007 ③	RS350SL ①	350A ① M500 ④	① Selenium type. ② Alternate part # 817066 (silicon type) used in Ch. 120358H, 120359R ③ Germanium type. ④ Silicon type.

### FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			EMERSON PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M2 N		1A 125V S/B	808014		333001. (N-1A-125V- S/B)	346011	N1	HN 3/4 to 1 1/4

### CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		EMERSON PART No.	CBS PART No.	SYLVANIA PART No.	
M3 1N294		817061	1N54A	IN34A	AM Det., AVC (Pigtall)

### MISCELLANEOUS

ITEM No.	PART NAME	EMERSON PART No.	NOTES
M4	Tuner	470987	UHF/VHF - Chassis ending with suffix "R"
	Tuner	470980	VHF - Chassis ending with suffix "H"
M5	Tuning Cap.	900166	2 Gang (Ant. 12-295mmf, Osc. 12-115mmf)
M6	Switch	510085	Radio-Phono-TV, Rotary, wafer type
	Switch	510125	Radio-Phono-TV (Alternate)
M7	Width sleeve	412302	Includes yoke cover
M8	Centering Device	708277	
M9	Ion Trap	708316	
M10	Magnet	708234	Barkhausen Eliminator
	Yoke Clamp	412794	

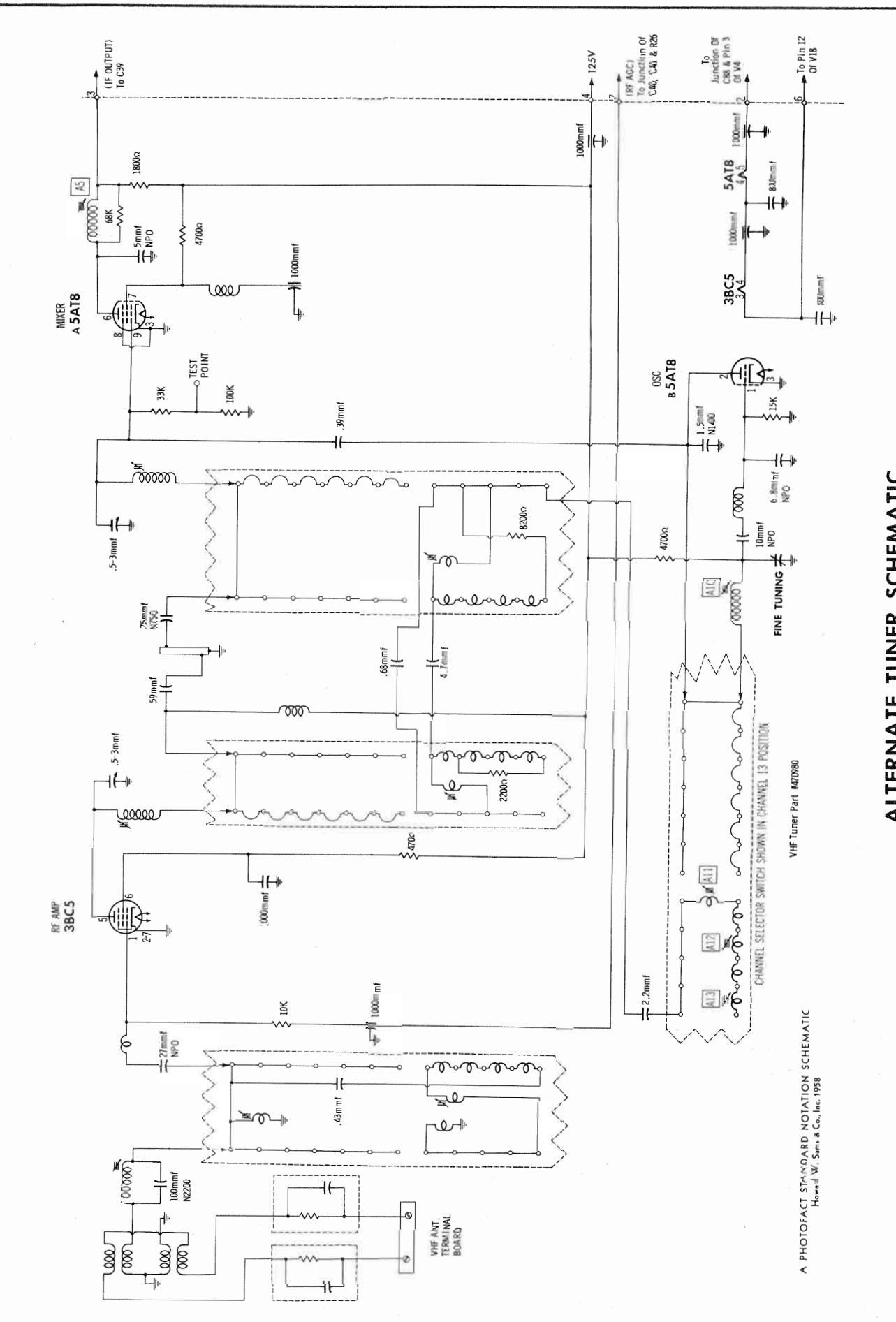
### CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Safety Glass	460803	Models 1254, 1255
Safety Glass	460804	Models 1264, 1265
Safety Glass	520256	Models 2064, 2065
Knob	460859	Radio Tuning - Models 1258, 1259
Knob	460861	Radio Tuning - Models 1266, 1269
Knob	460860	Function Switch - Models 1258, 1259
Knob	460862	Function Switch - Models 1266, 1269
Knob	460830	UHF Selector - Models 1255, 1259
Knob	460831	UHF Selector - Models 1265, 1269
Knob	460828	VHF Channel Selector - UHF Models 1255, 1259
Knob	460829	VHF Channel Selector - UHF Models 1265, 1269
Knob	460844	VHF Channel Selector - VHF Models 1254, 1256
Knob	460821	VHF Channel Selector - VHF Models 1264, 1268
Knob	450256	VHF Channel Selector - Model 2064
Knob	460907	VHF Channel Selector - Model 2065
Knob	460826	Fine Tuning - UHF Models 1255, 1259
Knob	460827	Fine Tuning - UHF Models 1266, 1269
Knob	460765	Fine Tuning - VHF Models 1254, 1258
Knob	460820	Fine Tuning - VHF Models 1264, 1268
Knob	450209A	Fine Tuning - Model 2064
Knob	460692	Fine Tuning - Model 2065
Knob	460908	UHF Channel Selector - UHF Model 2065
Knob	460808	On-off-volume - Models 1254, 1255
Knob	460824	On-off-volume - Models 1264, 1265
Knob	450207A	On-off-volume - Models 2064, 2065
Knob	460807	Contrast - Models 1254, 1255
Knob	460822	Contrast - Models 1264, 1265
Knob	450208A	Contrast - Models 2064, 2065
Knob	460808	Vert. Hold, Horiz. Hold, Brightness - Models 1254, 1255
Knob	460823	Vert. Hold, Horiz. Hold, Brightness - Models 1264, 1265
Knob	450212A	Vert. Hold, Horiz. Hold, Brightness - Models 2064, 2065

### WIRING DATA

High Voltage Lead .....	Use BELDEN No. 8869
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 Ten Colors 8524 (Stranded) Available in Ten Colors
Power Cord (Interlock Type) .....	Use BELDEN No. 8874
300Ω Tuner Input Lead .....	Use BELDEN No. 8225
300Ω Antenna Lead-in .....	Use BELDEN No. 8230 or 8275
Antenna Rotor Cable .....	Use BELDEN No. 8484 (Flat) or 8484 (Round) - 4 Conductor 8485 (Round) - 5 Conductor 8488 (Round) - 8 Conductor



EMERSON MODELS 12341H, 12342R, 1235, 1238, 1259, 1264, 1265, 1268, 1269, 2064, 2065  
(Ch. 120341H, 120342R, 12035, 12038, 12039, 120347H, 120348R, 120358H, 120359R)

### ALTERNATE TUNER SCHEMATIC

FOLDER 1

A PHOTOFACT STANDARD NOTATION SCHEMATIC  
Howe-W. Sams & Co., Inc. 1958

SET 387 FOLDER 1

# PARTS LIST AND DESCRIPTIONS

## CAPACITORS (cont)

### TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	UHF Oscillator	2AF4A	
V2	RF Amp.	4BQ7A	
V3	Mixer-Osc.	5AT8	
V4	1st. V1 deo IF Amp.	3CB6	
V5	2nd. Video IF Amp. - Sound IF Amp. - Video Det.	5AM8	
V6	Video Output Limiter-Sync Sep.	12BY7A	
V7		5U8	

Note 1. Some versions may use 12CU5 in this application.  
 Note 2. Some versions may use 25CD4GA in this application.  
 Note 3. Chassis 120358H, 120359R uses a 12D4 in this application.

### PICTURE TUBE

ITEM No.	REPLACEMENT DATA			NOTES
	EMERSON PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	
V18	14RP4A 17AVP4A	14RP4A① 17ATP4A/ 17ATP4A②	14RP4A① 17ATP4A/ 17AVP4A① 17ATP4/ 17AVP4	① Silver screen "85" ② Aluminized
	21ALP4B	21ALP4B/ 21ALP4②	21ALP4A/ 21ALP4B①	
	21BTP4	21BTP4①	21ALP4 21BTP4	

### ELECTROLYTIC CAPACITORS

ITEM No.	REPLACEMENT DATA									
	RATING	CAP.	VOLT.	EMERSON PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRADE PART No.
CIA	250	150	925386 ①	PR3-043						RI996 *
B	120	120								
C	50	25	925385	PR2-120			WD251			RI995 *
C2A	250	150								
B	50	150								

\* Non-catalog item.

① Alternate part #925387. Chassis 120358H, 120359R use a 250mfd @ 160V, 120mfd @ 160V,

50mfd @ 50V (Part #925412) in this application.

### FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	REPLACEMENT DATA									
	RATING	CAP.	VOLT	EMERSON PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRADE PART No.	NOTES
C3	5									N900
C4	5									N900
C5	15									N80
C6	3.6									N220
C7	200									
C8	1000			961284	EF-001	MFT-1000				
C9	1000			961284	EF-001	MFT-1000				
C10	1000			961284	EF-001	MFT-1000				
C11	120									
C12	5									
C13	6.8									
C14	6.8									
C15	1000									
C16	1000									
C17	2.2									
C18	3-12									
C19	1000			961362	BPD-001	DD-102	BYA6D1	ED-1000	ED-1000	
C20	1000				829-3	TC1V5C	TC1V5C	TC1V5C	TC1V5C	
C21	0.5-3									
C22	1000									
C23	1000									
C24	60			961292	EF-001	MFT-1000				
C25	0.5-3			961086	EF-001	MFT-1000				
C26	1000									
C27	1000			961284	BPD-001	DD-102	BYA6D1	ED-1000	ED-1000	
C28	5				829-3	TC1V5C	TC1V5C	TC1V5C	TC1V5C	
C29	1.0									
C30	5									
C31	10									
C32	1000			961284	EF-001	MFT-1000				
C33	1000			961284	EF-001	MFT-1000				
C34	1000			961284	EF-001	MFT-1000				
C35	1000									
C36	1000									
C37	1000			961284	BPD-001	DD-102	BYA6D1	ED-1000	ED-1000	
C38	50-30			900123	ED-1000	IR5T56	ED-560	MS-356	MS-356	10%
C39	1000			928933	BPD-001	DD-102	BYA6D1	ED-1000	ED-1000	
C40	1000			928933	BPD-001	DD-102	BYA6D1	ED-1000	ED-1000	
C41	.1			923315	P288N-1	IR5T56	ED-1000	IR5T56	IR5T56	
C42	560									
C43	1000			928933	BPD-001	DD-102	BYA6D1	ED-1000	ED-1000	
C44	100			928807	N750-SI 100	TCN-100	IR5T52	ED-820	MS-382	10%
C45	620			928810	D6-681	IR5T56	ED-880	MS-368	MS-368	10%
C46	680			928809	N750-SI 47	TCN-47	IR5T56	ED-5447	NT-5447	NT-5447
C47	47			928895	N750-SI 47	TCN-47	IR5T56	ED-5447	NT-5447	NT-5447
C48	10			928216	NPO-SI 110	D6-100	ZT-541	5TCC-Q1	5TCC-Q1	10%
C49	4.7			928212	NPO-SI 4.7	TCZ-4R7	ZT-555	5TCC-B-V47	5TCC-B-V47	10%
C50	.047	400		930061	P488N-047	DF-503	CUB4S47	GEM-447	4TM-S47	
C51	.047	400		924554	P488N-047	DF-503	CUB4S47	GEM-447	4TM-S47	
C52	100									
C53	4700			928923	BPD-0047	DD-472	BYA6D1	ED-0047	UC-5247	5GA-D47
C54	4700			928923	BPD-0047	DD-472	BYA6D1	ED-0047	UC-5247	5GA-D47
C55	1000			928919	BPD-0047	DD-472	BYA6D1	ED-0047	UC-5247	5GA-D47
C56	.0047	600		930055	P688N-0047	D6-472	CUB6D47	GP-4700	6TM-D47	6TM-D47
C57	2200			928921	BPD-0022	DD-222	BYA6D22	ED-0022	UC-522	5GA-D22
C58	.022	400		930059	P488N-0022	DD-203	CUB4S22	ED-02	GEM-412	4TM-S22
C59	.0047	600		924753	P688N-0047	D6-472	CUB6D47			