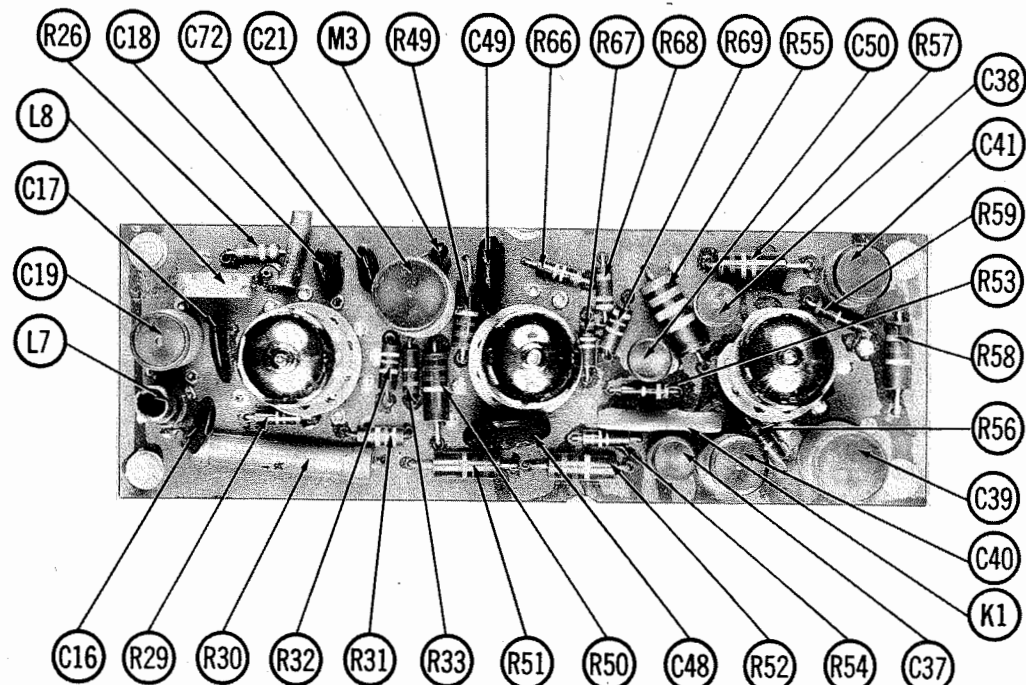


CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably with a test pattern.  
Set the Brightness and Contrast controls for a normal picture.  
Turn the Horizontal Hold clockwise until the picture loses sync. It may be necessary to switch off channel and back again for picture to lose sync.  
Turn the Horizontal Hold slowly counterclockwise until the picture just falls into sync.

Turn to an unused channel. If vertical lines appear near the center of the screen, slowly adjust the Horizontal Drive (R5) until white lines disappear.  
If the Horizontal Drive was adjusted, tune in a TV station and repeat preceding steps.  
Adjust the Width slug (B1) for a picture slightly wider than necessary to fill the picture mask horizontally.



MAIN PRINTED BOARD

FOLDER 1  
SET 442

HOFFMAN MODELS 1277 Series, 1291 Series,  
3411 Series, 3421 Series (Ch. 335, 336)

PHOTOFACT\* Folder



with CIRCUITRACE\*



DISASSEMBLY INSTRUCTIONS

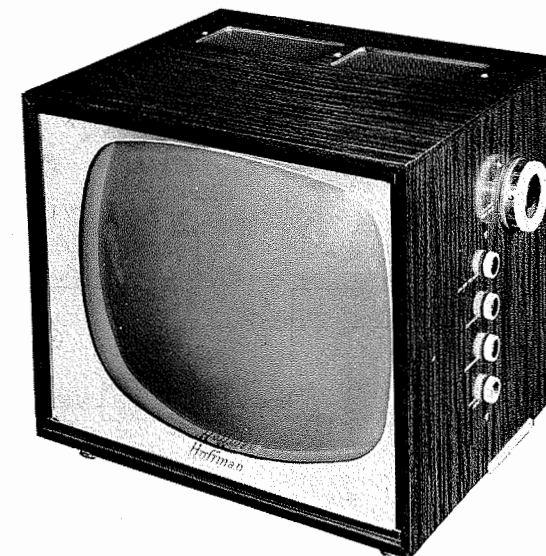
CHASSIS REMOVAL MODEL M1277

1. Remove Channel Selector and Fine Tuning push-on type knobs.
2. Remove 4 wood screws holding rear cover. Remove the rear cover.
3. Remove picture tube socket, yoke plug and speaker leads.
4. Remove 3 wood screws holding AC interlock bracket.
5. Remove 2 bottom chassis bolts.
6. Remove 2 wood screws holding top chassis brackets.
7. Partially remove chassis and remove HV lead. Remove chassis.

NOTE: Control Panel leads are long enough to permit chassis servicing without panel removal.

CONTROL PANEL REMOVAL

1. Remove 4 push-on type knobs.
2. Remove 2 metal screws holding control panel to cabinet.
3. Remove control panel.



MODEL M1277 (Ch. 335)

CAUTION

ONE SIDE OF AC LINE CONNECTED TO CHASSIS.

Care should be exercised when connecting test equipment or physically contacting chassis. Isolation devices employed by manufacturer should be checked and properly connected before returning receiver to owner.

TRADE NAME	Hoffman	MODELS	CHASSIS
		B1277, K1277, M1277, P1277, W1277	335
		B1291, B3411, B3421, K1291, M1291, M3411, M3421, SP1291, SP3411, SP3421, W1291, W3411, W3421	336
MANUFACTURER	Hoffman Radio Corp., 6200 S. Avalon Blvd., Los Angeles 3, Calif.		
TYPE SET	Television Receiver		
TUBES	VHF-Seventeen		
POWER SUPPLY	110-120 Volts AC, 60 cycles		
TUNING RANGE	Channels 2 thru 13 VHF (UHF 14 thru 83 by conversion ), Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)		
		RATING 170 Watts, 1.6 Amp. @ 117 Volts AC	

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.

SAFETY GLASS REMOVAL

17" MODELS: Remove 2 bottom metal screws holding front. Pull front out at bottom and remove.  
21" MODELS: Remove screws in trim strip at top of the safety glass. Tilt out at the top and remove.

AGC

Observe the picture and advance the AGC control to a point where the picture distorts or a buzz is heard in the sound. Back off from this setting until the picture becomes stable with no noise in the sound.

FOCUS

The focus may be varied by connecting the lead from pin 4

of the picture tube to various voltage points. (For location, see photo "Cabinet-Rear View".)

WIDTH

The width may be varied by a Width coil. (For location, see tube placement chart.)

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

The Horizontal Frequency coil is used as the Horizontal Hold control. (For location, see tube placement chart.)

FUSE DEVICE

A 7.5Ω fusible resistor (R83) is used for low voltage power supply protection. (For location, see tube placement chart.)

CENTERING

Centering is accomplished by a centering device behind the yoke.

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 J108

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. © 1959 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America

HOFFMAN MODELS 1277 Series, 1291 Series,  
3411 Series, 3421 Series (Ch. 335, 336)

SET 442 FOLDER 1

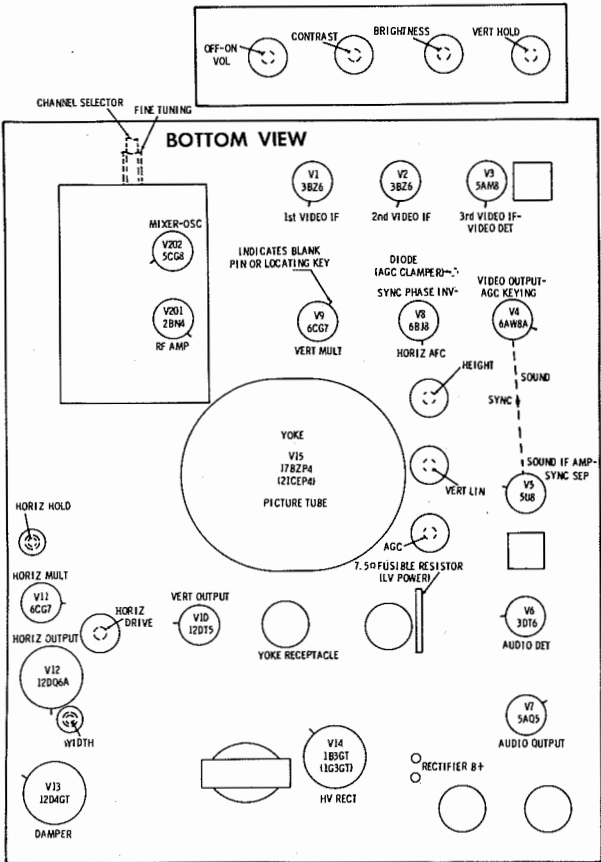


RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	3BZ6	100K	47Ω	2Ω	2.5Ω	†5700Ω	†5700Ω	0Ω		
V2	3BZ6	100K	47Ω	2.5Ω	3Ω	†5700Ω	†5700Ω	0Ω		
V3	5AM8	150Ω	.1Ω	†23K	3Ω	4Ω	†1000Ω	.1Ω	4700Ω	0Ω
V4	6AW8A	†1000Ω	†1800Ω	•500K	5.5Ω	4Ω	•40Ω	4700Ω	†22K	†6500Ω
V5	5U8	†120K	47K	†40K	10Ω	11Ω	†16K	0Ω	0Ω	2.5meg
V6	3DT6	5.5Ω	1000Ω	11Ω	12Ω	†840K	†16K	560K		
V7	5AQ5	0Ω	330Ω	12Ω	13Ω	†1400Ω	†22K	0Ω		
V8	6BJ8	15Ω	4.8meg	15Ω	7Ω	5.5Ω	4.8meg	†4400Ω	†120K	4400Ω
V9	6CG7	†200K	60K	1000Ω	7Ω	8.5Ω	†700K	•2.5meg	1000Ω	1000Ω
V10	12DT5	†7800Ω	NC	1meg	15Ω	13Ω	1meg	0Ω	NC	†300Ω
V11	6CG7	†100K	100K	1500Ω	15Ω	16.5Ω	†7800Ω	5.2meg	1500Ω	0Ω
V12	12DQ6A	NC	16.5Ω	NC	†10K	1meg	NC	18.5Ω	0Ω	TOP CAP †11Ω
V13	12D4GT	NC	NC	†1NF	NC	†0Ω	NC	20Ω	18.5Ω	
V14	1B3GT	PINS 1 THRU 8 HAVE INFINITE RESISTANCE								TOP CAP †330Ω
V15	17BZP4	8.5Ω	22K	†22K	†22K	NC	22K	•250K	10Ω	
V201	2BN4	0Ω	750K	2Ω	1.5Ω	†3500Ω	0Ω	750K		
V202	5CG8	3900Ω	†6400Ω	0Ω	0Ω	1.5Ω	†3500Ω	†12K	0Ω	220K

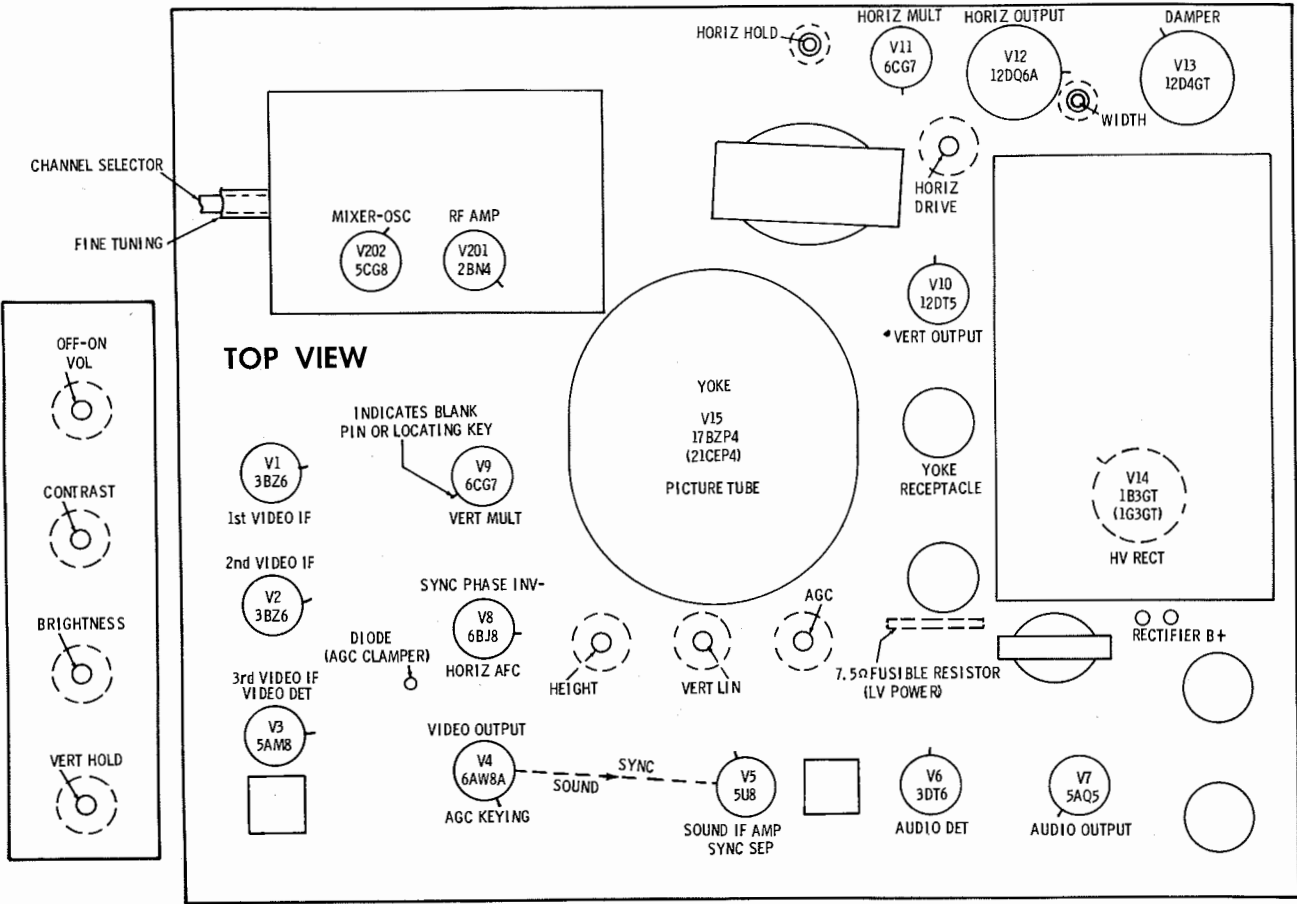
† THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.  
• THIS READING WILL VARY. CONTROL SET FOR NORMAL OPERATION.  
† MEASURED FROM 265 V. SOURCE.  
† MEASURED FROM PIN 3 OF V13

NC NO CONNECTION



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.

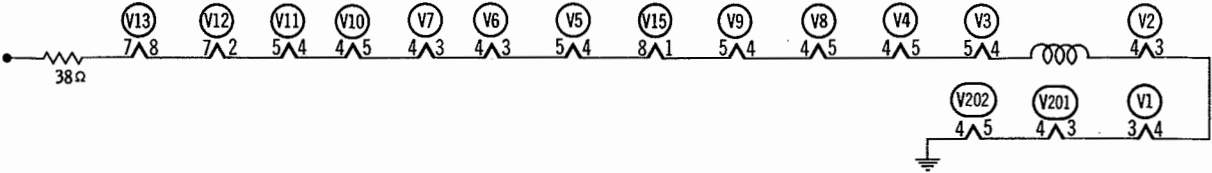
**POWER SUPPLY FAILURE**  
No raster, no sound Fusible Resistor (7.5Ω), Rectifiers (B+)

**SWEEP FAILURE**  
No raster, has sound V8, V11, V12, V13, V14, V15, Rectifiers (B+)  
No vertical deflection V9, V10  
Poor vert. linearity or foldover V9, V10  
Poor horiz. linearity or foldover V11, V12, V13  
Narrow picture V11, V12, V13, Rectifiers (B+)  
Vert. off freq. V9  
Horiz. off freq. V11

**LOSS OF PICTURE OR SOUND**  
No pic, no sound, has raster V1, V2, V3, V4  
No pic, no sound, has snow V201, V202, V1  
No pic, has sound, has raster V4, V15  
Has pic, no sound V5, V6, V7  
Overloaded picture V4

**SYNC FAILURE**  
No vert. sync V5, V8  
No horiz. sync V5, V8  
No vert. or horiz. sync V5, V8

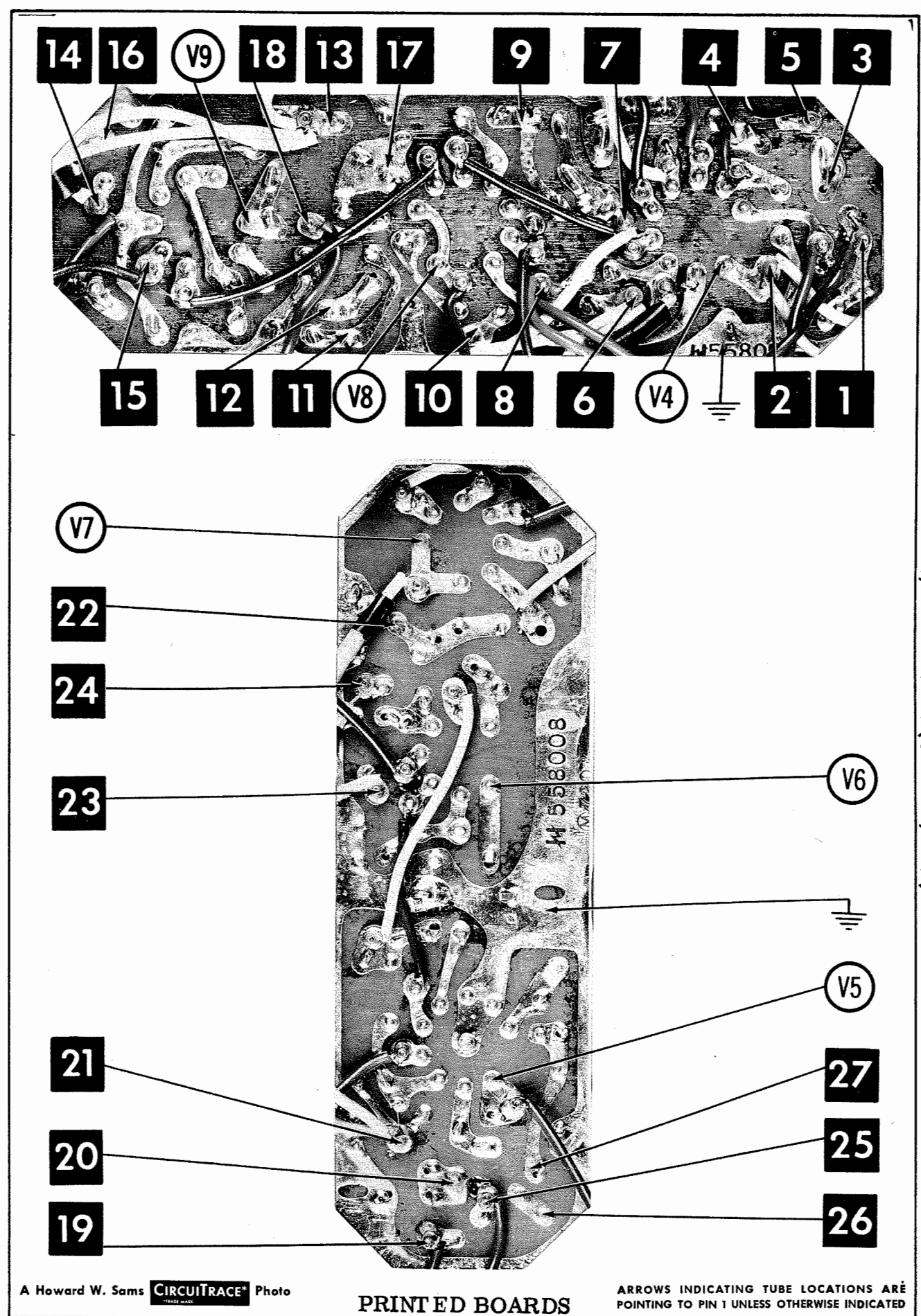
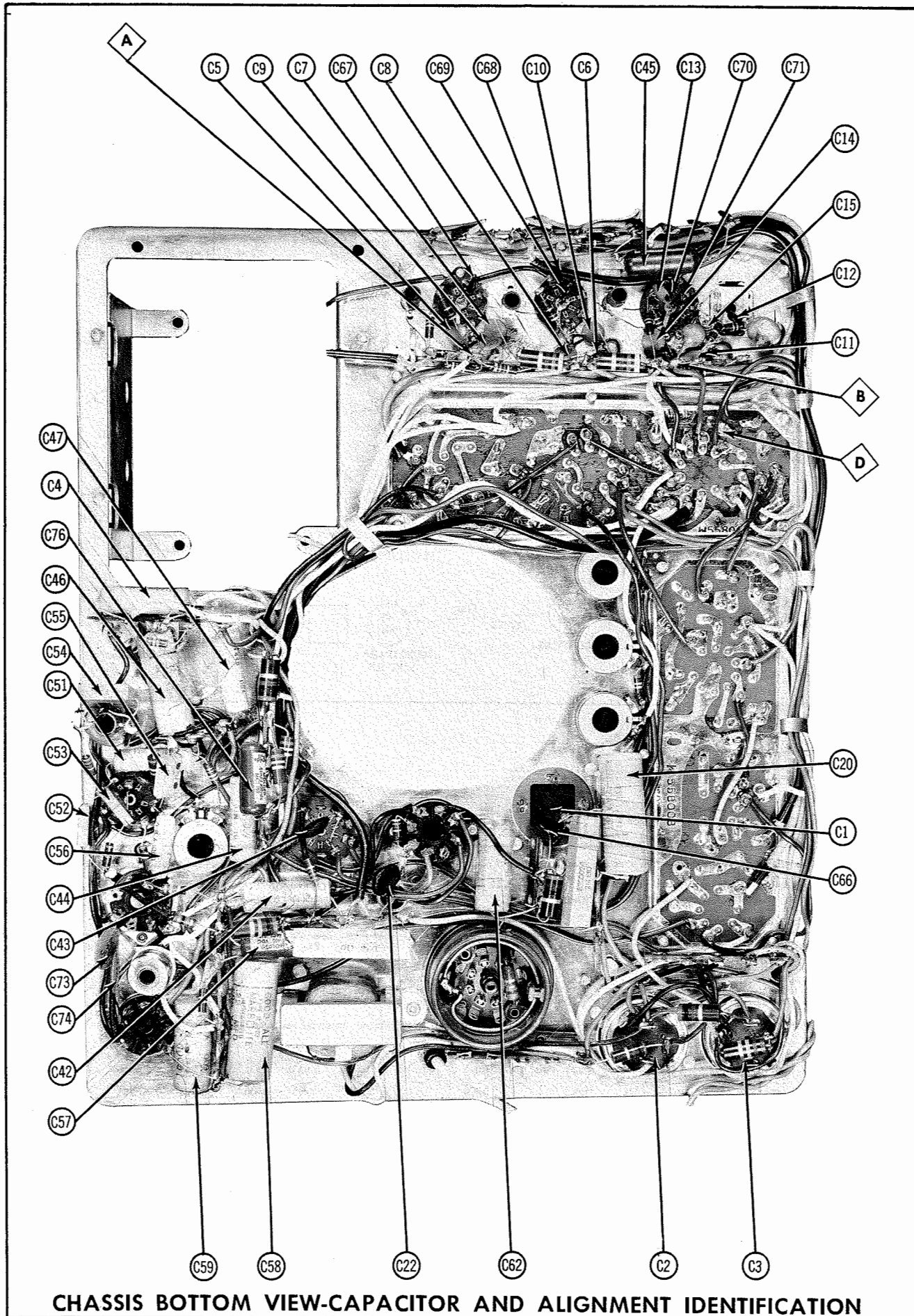
This receiver employs tubes used in a series filament network, an open filament in any tube will cause the set to be inoperative. (See circuit below.)



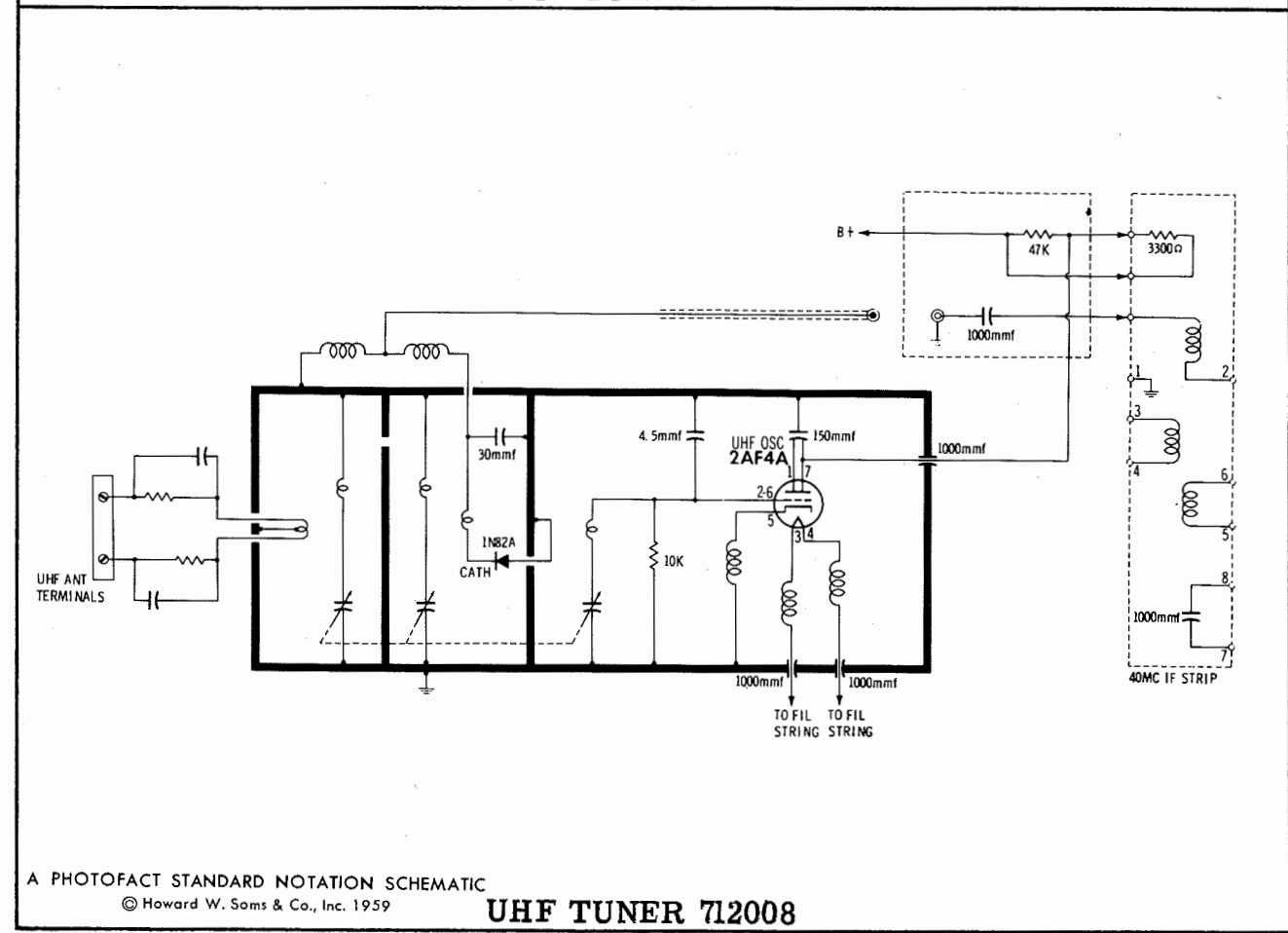
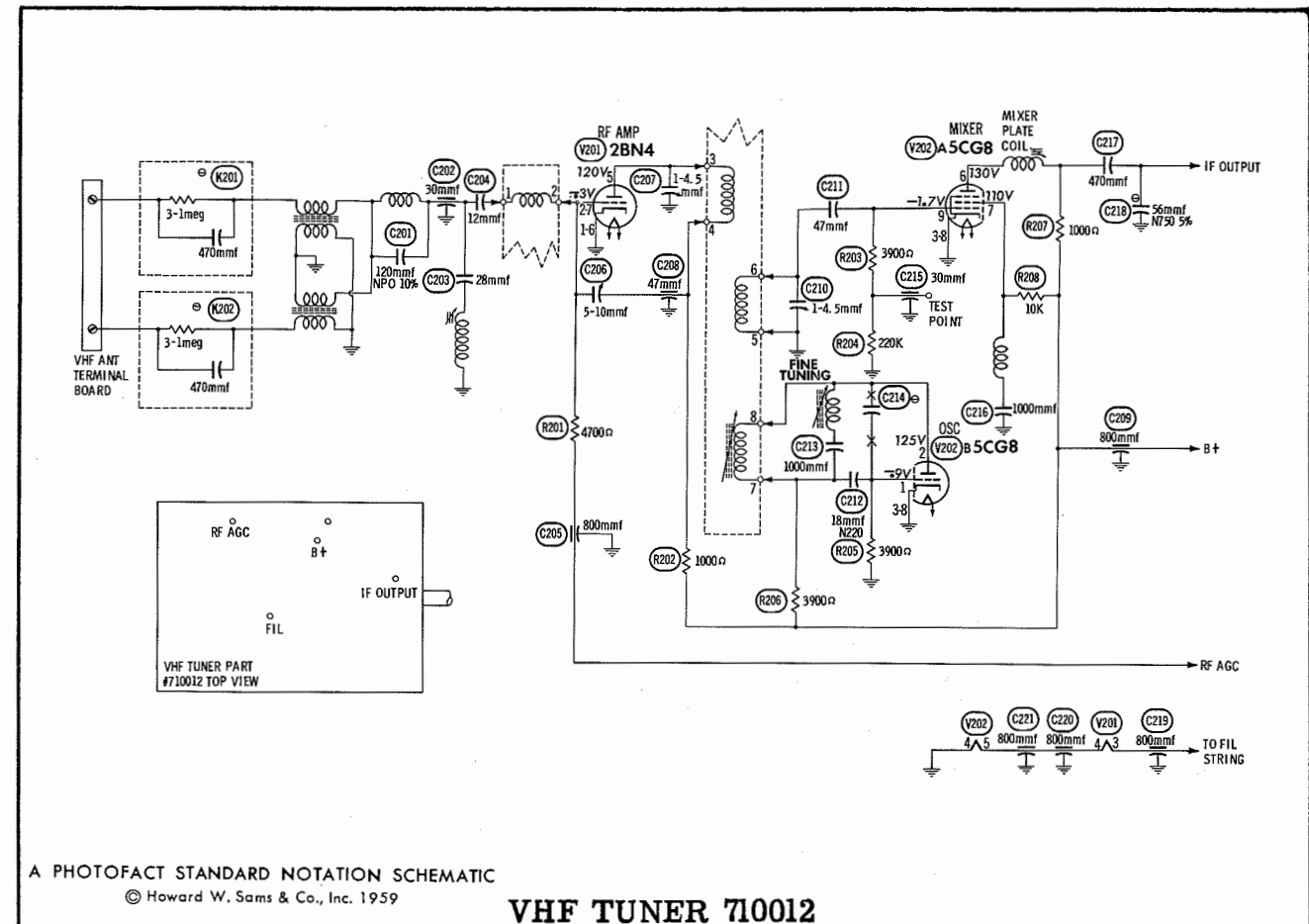
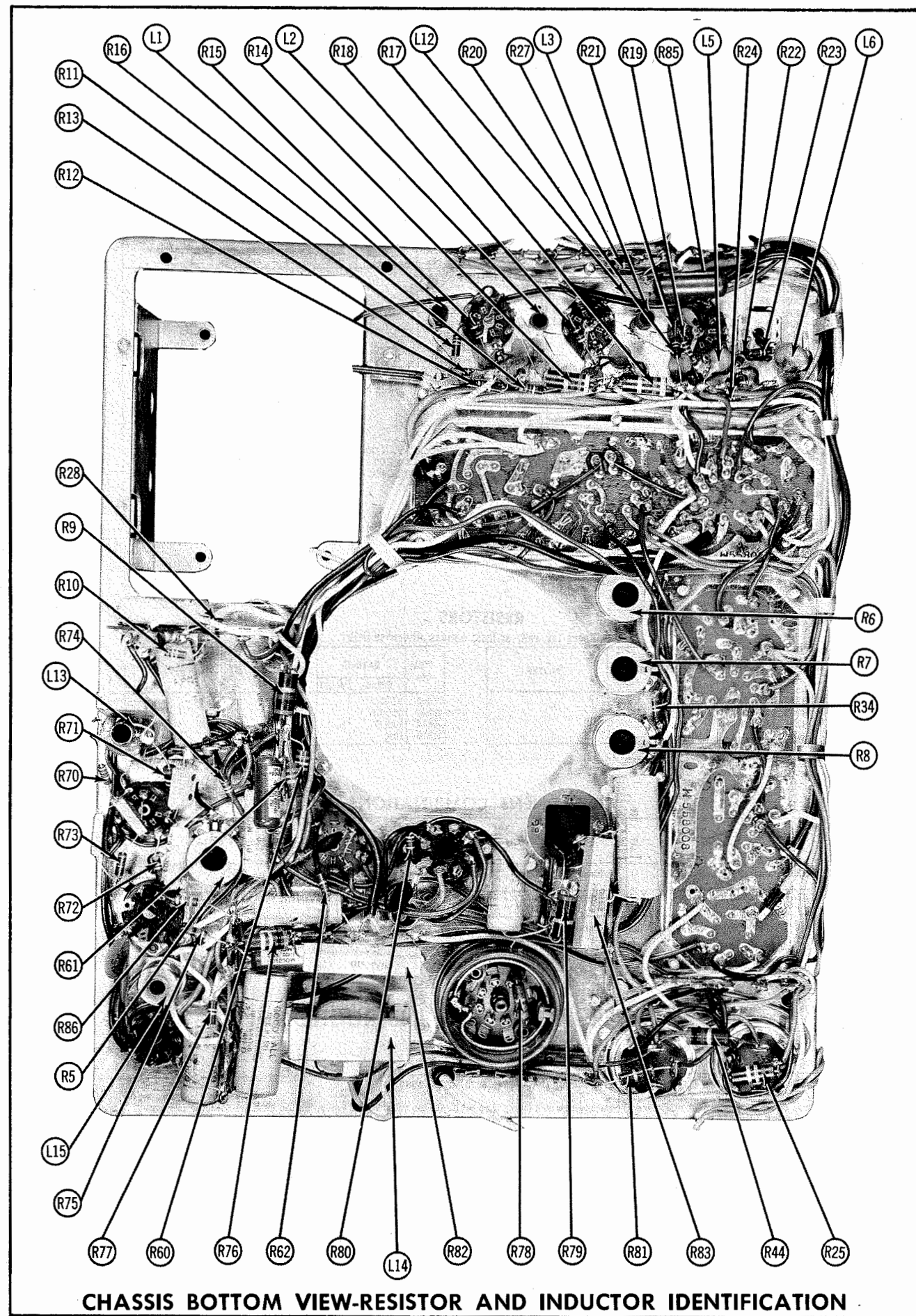
HOFFMAN MODELS 1277 Series, 1291 Series, 3411 Series, 3421 Series (Ch. 335, 336)

FOLDER 1

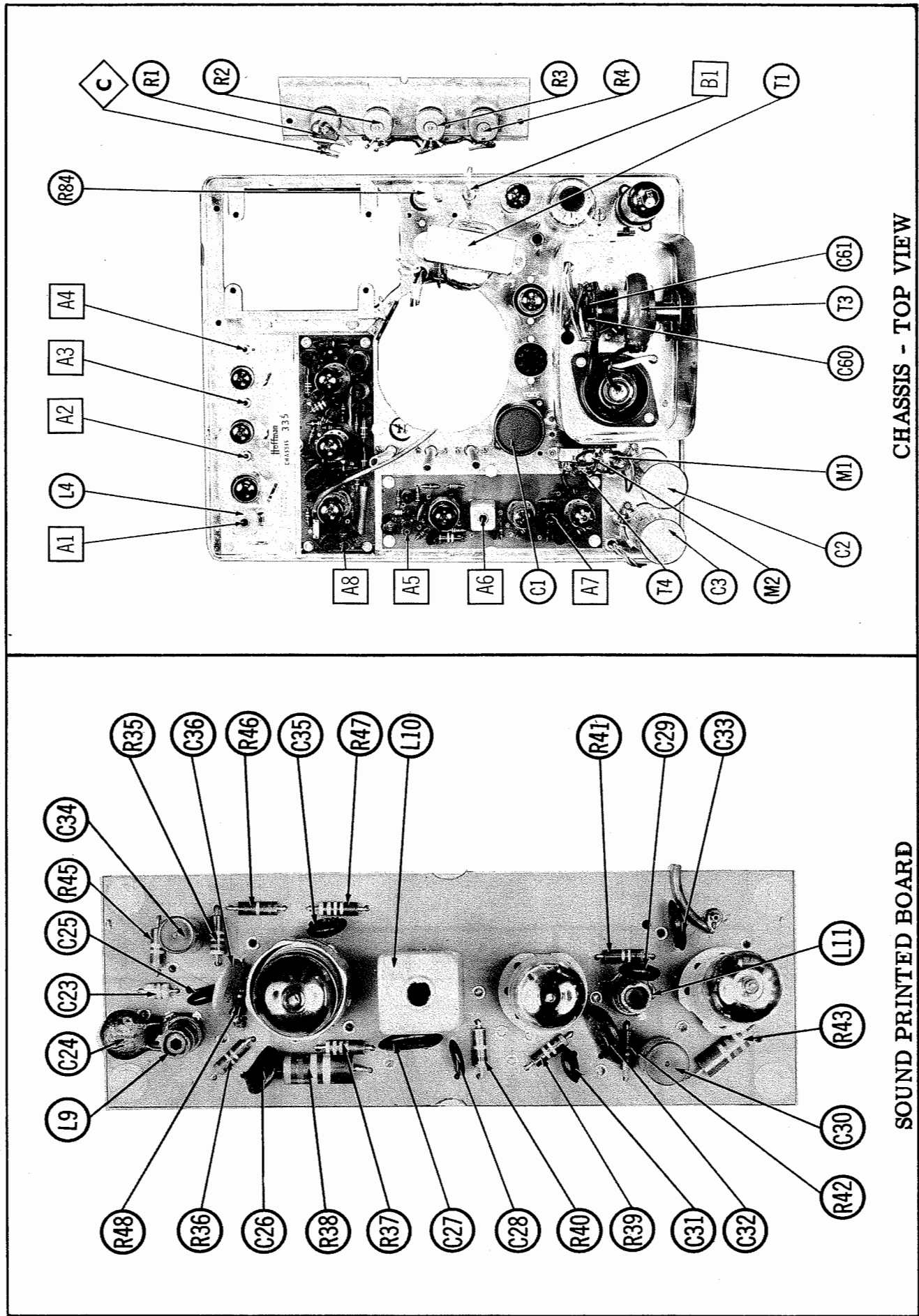




HOFFMAN MODELS 1277 Series, 1291 Series,  
3411 Series, 3421 Series (Ch. 335, 336)







## TUNER PARTS LIST AND DESCRIPTIONS

710012

### TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V201	RF Amp.	2BN4	

ITEM No.	USE	TYPE	NOTES
V202	Mixer-Osc.	5CG8	

### 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.	RATING			HOFFMAN PART No.	AEROVOX PART No.	REPLACEMENT DATA				NOTES
	CAP.	VOLT	TOL			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
C201	120		NPO 10%		NPO-DI 120	DTZ-120		CNO-312	5TCC-T12S 10%*	
C202	30									
C203	28									
C204	12									
C205	800				EF-001	MFT-1000			503C-DI	
C206	5-10					829-10				
C207	1-4.5					829-6		CT551		
C208	47				EF-00005	MFT-50				
C209	800				EF-001	MFT-1000			503C-DI	
C210	1-4.5					829-6		CT551		
C211	47									
C212	18									
C213	1000		N220		BPD-001	DD-102		B-210	5HK-DI	①
C214	30									
C215	1000				BPD-001	DD-102	BYA10DIM	B-210	5HK-DI	
C216	470				BPD-00047	DD-471	BYA10T47	B-347	5GA-T47	
C217	56						C10Q86U	CN7-456		
C218	800		N750 5%		EF-001	MFT-1000			503C-DI	②
C219	800				EF-001	MFT-1000			503C-DI	
C220	800				EF-001	MFT-1000			503C-DI	
C221	800				EF-001	MFT-1000			503C-DI	

\* Not normally in distributors stock. Available thru distributor on order to manufacturer.

① Not used in some versions.

② Some versions may use a 68mmf in this application.

### RESISTORS

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

ITEM No.	RATING		HOFFMAN PART No.	NOTES
	OHMS	WATT		
R201	4700Ω			
R202	1000Ω			
R203	3900Ω			
R204	220K			

ITEM No.	RATING		HOFFMAN PART No.	NOTES
	OHMS	WATT		
R205	3900Ω			
R206	3900Ω			
R207	1000Ω			
R208	10K			

### COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	HOFFMAN PART No.	REPLACEMENT DATA
K201	Ant. Input Isolation	470mmf, .3-1meg	①	Sprague ACI-1
K202	Ant. Input Isolation	470mmf, .3-1meg	①	Sprague ACI-1

① Some versions may use individual components of 680K and 470mmf.

## TUNER ALIGNMENT INSTRUCTIONS

### VHF OSCILLATOR ALIGNMENT

Suggested Alignment Tools: GENERAL CEMENT #5009, 8195, 8274, 8275, 8728, 8987  
WALSCO #2531

The individual channel adjustment slugs are accessible one at a time, thru a hole in the front of the tuner, as the Channel Selector is rotated. Set the Fine Tuning fully counterclockwise and switch to channel to be adjusted. Adjust for sound bars in the picture. Repeat for each channel to be adjusted. Normal picture and sound will then be obtained with the Fine Tuning at about mid-range.

### VHF RF AND MIXER 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.

HOFFMAN MODELS 1277 Series, 1291 Series,  
3411 Series, 3421 Series (Ch. 335, 336)

FOLDER 1

PARTS LIST AND DESCRIPTIONS (Continued)

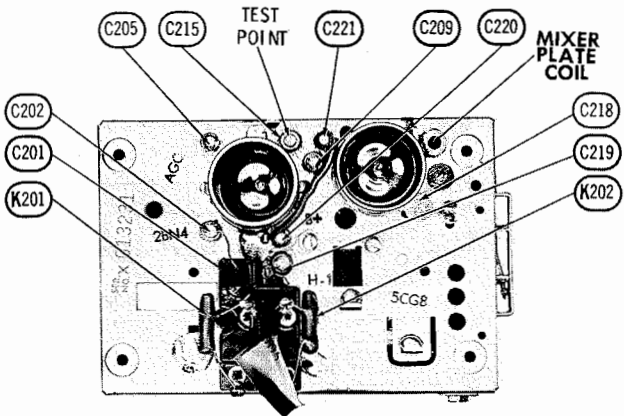
CABINETS & CABINET PARTS

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

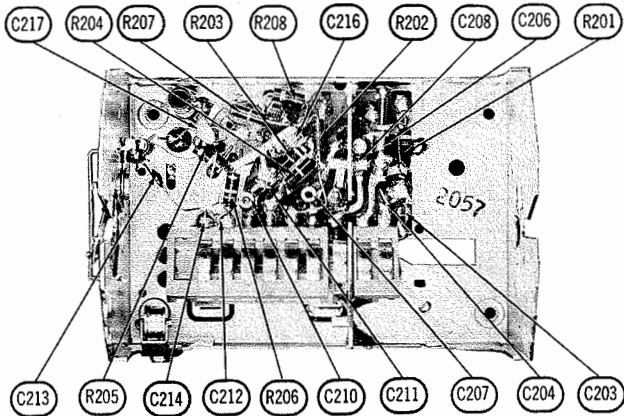
NAME	PART NO.	DESCRIPTION
Safety Glass	408003	1277 Series
Safety Glass	430008	1291 Series, 3411 Series, 3421 Series
Mask	408008	1291 Series, 3411 Series, 3421 Series
Knob	480080	Channel Selector
Knob	486013	Fine Tuning
Knob	500025	Volume-On-Off, Brightness, Contrast, Vert. Hold
Handle	280005	
Cabinet	341018	Black, Model B1277
Cabinet	346016	Mahogany, Model K1277
Cabinet	346017	Oak, Model M1277
Cabinet	346020	Provincial, Model P1277
Cabinet	348019	Walnut, Model W1277
Cabinet	346013	Black, Model B1291
Cabinet	346011	Mahogany, Model K1291
Cabinet	348012	Oak, Model M1291
Cabinet	345015	Provincial, Model SP1291
Cabinet	348014	Walnut, Model W1291
Cabinet	345020	Mahogany, Model B3411
Cabinet	345021	Oak, Model M3411
Cabinet	345023	Provincial, Model SP3411
Cabinet	345022	Walnut, Model W3411
Cabinet	352028	Mahogany, Model B3421
Cabinet	352027	Oak, Model M3421
Cabinet	352028	Provincial, Model SP3421
Cabinet	352029	Walnut, Model W3421

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. 8464 (Flat) or 8484 (Round) - 4 Conductor 8485 (Round) - 5 Conductor 8488 (Round) - 8 Conductor



TUNER—TOP VIEW



TUNER—BOTTOM VIEW

ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS

Use an ISOLATION TRANSFORMER TO PROTECT the Test Equipment.  
Allow a 20 minute warm-up period for the receiver and test equipment.  
Keep all signals below a level which would cause overloading.  
Remove the yoke plug to disable the High Voltage.  
Suggested Alignment Tools: A1 thru A8... GENERAL CEMENT #8606, 8606L, 8282, 9295  
WALSCO #2526, 2543, 2544, 2545

VIDEO IF ALIGNMENT

Connect the negative lead of a 3 volt bias supply to point A. Positive to chassis.  
Connect a 1000mmf capacitor across the VTVM leads.  
Set the Contrast fully counterclockwise.  
Set the Fine Tuning fully clockwise.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1. Direct	High side to ungrounded tube shield floating over Mixer-Osc. tube (V202). Low side to chassis.	44MC (Unmod)	Between Channels	DC probe thru 10K to point B. Common to chassis.	A1	Adjust for maximum deflection.
2. "	"	45.4MC	"	"	A2	"
3. "	"	43.25MC	"	"	A3	"
4. "	"	43MC	"	"	Mixer Plate Coil, & A4	Turn Mixer Plate Coil slug in a couple of turns. Adjust A4 for maximum deflection.
5. "	"	45MC	"	"	Mixer Plate Coil	Adjust for maximum deflection.

OVERALL VIDEO IF RESPONSE CHECK

Connect bias as under "Video IF Alignment".  
Connect a 1000mmf capacitor across the scope leads.  
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.  
Use only enough sweep generator output to provide a usable pattern on scope.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
6. Direct	High side to ungrounded tube shield floating over Mixer-Osc. tube (V202). Low side to chassis.	44.0MC	42.75MC 45.75MC	Between Channels	Vert. Amp. thru 10K to point B. Low side to chassis.		Adjust signal level to just below overload. Check for response similar to Fig. 1. If necessary, retouch A2, A3 and A4 for desired response. DO NOT change A1 setting.

SOUND IF ALIGNMENT

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
7. .05mfd	High side to point B. Low side to chassis.	4.5MC (50KC Swp)	Between Channels	Vert. Amp. to point C. Low side to chassis.	A5	Detune A5, A6 and A7 by turning slugs in several turns. Set generator to maximum output. Adjust A5 for maximum at second peak.
8. "	"	"	"	"	A6	Reduce generator output until sine wave starts to scramble. Adjust for proper sine wave. Repeat until lowest generator output resulting in proper sine wave is achieved.
9. "	"	"	"	"	A7	"
10. "	"	"	"	"		Increase signal level over a wide range. Sine wave amplitude should remain relatively constant over a wide range of signal amplitude.

4.5MC TRAP ALIGNMENT

Set Contrast at maximum.						
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
11. .05mfd	High side to point D. Low side to chassis.	4.5MC (400% Mod)	Between Channels	DC probe thru detector network (Fig. 2) to point D. Common to chassis.	A8	Adjust for MINIMUM deflection.

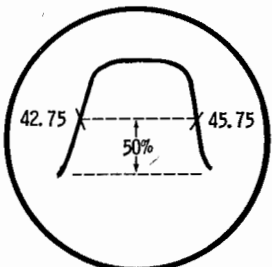


FIG. 1

TUNER ALIGNMENT INSTRUCTIONS LOCATED ON PAGE 11.

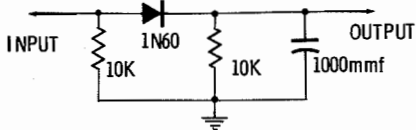


FIG. 2

HOFFMAN MODELS 1277 Series, 1291 Series, 3411 Series, 3421 Series (Ch. 335, 336)

FOLDER 1

## PARTS LIST AND DESCRIPTIONS

## CAPACITORS (cont)

## TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES	ITEM No.	USE	TYPE	NOTES
V1	1st Video IF Amp.	3BZ6		V8	Sync Phase Inv. -Horiz. AFC	6BJ8	
V2	2nd Video IF Amp.	3BZ6		V9	Vert. Mult.	6CG7	
V3	3rd Video IF Amp. - Video Det.	5AM8		V10	Vert. Output	12DT5	
V4	Video Output-AGC Keying	6AW8A		V11	Horiz. Mult.	6CG7	
V5	Limiter-Sync Sep.	5U8		V12	Horiz. Output	12DQ6A	
V6	Audio Det.	3DT6		V13	Damper	12D4GT	
V7	Audio Output	5AQ5		V14	HV Rect.	1B3GT	1G3GT*

\* Alternate.

## PICTURE TUBE

ITEM No.	HOFFMAN PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SYLVANIA PART No.	NOTES
V15	17BZP4	17CKP4 ①	17BZP4 ②	17BZP4/17CAP4 ③	① "Aluminized" ② "Silverama" ③ "Silver Screen 85"
	2ICEP4		2ICEP4 ②	2ICEP4 ③	

## ELECTROLYTIC CAPACITORS

ITEM No.	CAP.	VOLT.	HOFFMAN PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1	160	150	857302	AFH1-31-75	XA0266	FP131	TMS-34	TVL-1473	
C2A	100	350	856909	AFH3-29-95	D0044	FP375.5		TVLS-3647*	
C3A	80	400	857105		D0170	FP378	TMT-43	TVLS-4657.8*	
C4	20	300			BR8045	TC65	TD-20-350		
C5	40	350							
C6	40	350							
C7	40	350							
C8	40	350							
C9	40	350							
C10	40	350							
C11	1000	350							
C12	1000	350							
C13	470	350							
C14	470	350							
C15	10	350							
C16	47	350							
C17	10000	350							
C18	470	350							
C19	.047	400							
C20	.47	200							
C21	.22	200							
C22	.39	3000							
C23	2.2	10%							
C24	47	NPO 10%							
C25	47	NPO 10%							
C26	4700								
C27	10000								
C28	1000								
C29	18	NPO 10%							
C30	.047	200							
C31	1000								
C32	10000								
C33	4700								
C34	.0022	600							
C35	220								
C36	100								
C37	.0047	600							
C38	.0033	600							
C39	.1	600							
C40	.1	200							
C41	.047	200							
C42	.1	200							
C43	12	3000							
C44	.01	1600							
C45	.01	600							
C46	.22	200							
C47	.047	200							
C48	820								
C49	820								
C50	.0047	200							
C51	.047	200							
C52	100								
C53	470								
C54	3900								
C55	330								
C56	.001	600							
C57	.1	400							
C58	.22	600							
C59	.1	600							
C60	390	3000							
C61	390	3000							
C62	.068	600							
C63	120	2500							
C64	120	2500							
C65	95	3000							
C66	1500	1500							
C67	1000								
C68	1000								
C69	1000								

\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

## 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.	CAP.	VOLT.	TOL.	HOFFMAN PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C4	.1	200		866125	P288N-1	DF-104	CUB2P1	GEM-201	2TM-P1
C5	470			85122	BPD-00047	DD-471	BYA0T47	B-347	5GA-T47
C6	1000			851013	BPD-001	DD-102	BYA0D1M	B-210	5HK-D1
C7	470			851122	BPD-00047	DD-471	BYA0T47	B-347	5GA-T47
C8	470			851122	BPD-00047	DD-471	BYA0T47	B-347	5GA-T47
C9	470			851122	BPD-00047	DD-471	BYA0T47	B-347	5GA-T47
C10	470			851122	BPD-00047	DD-471	BYA0T47	B-347	5GA-T47
C11	1000			851013	BPD-001	DD-102	BYA0D1M	B-210	5HK-D1
C12	1000			851013	BPD-001	DD-102	BYA0D1M	B-210	5HK-D1
C13	470			851122	BPD-00047	DD-471	BYA0T47	B-347	5GA-T47
C14	470			851122	BPD-00047	DD-471	BYA0T47	B-347	5GA-T47
C15	10			854043	SI 10	D6-100	LI0Q1	UC-541	5GA-Q1
C16	47		NPO 10%		NPO-DI 47	DTZ-47	CI0Q47C	CNO-447	5TCC-Q47S 10% *
C17	10000				BPD-01	DD-103	5HK-SI	B-110	5HK-SI
C18	470		10%	851122	DI 470	MD-471	JL-347	5GA-T47S 10% *	
C19	.047	400		866221	P415N-047	TCZ-18	BC6547J	ACE6147	2SE-P47
C20	.47	200			P215N-047	TCZ-18	BC2P47J	ACE6022	2SE-P47
C21	.22	200			P215N-22	TCZ-18	BC2P22J	ACE6022	2SE-P22
C22	.39	3000				DD-103	BYA0D1M	B-210	5HK-D1
C23	2.2	10%				DD-103	BYA0D1M	B-210	5HK-D1
C24	47	NPO 10%				DD-103	BYA0D1M	B-210	5HK-D1
C25	47	NPO 10%				DD-103	BYA0D1M	B-210	5HK-D1
C26	4700					DD-103	BYA0D1M	B-210	5HK-D1
C27	10000					DD-103	BYA0D1M	B-210	5HK-D1
C28	1000					DD-103	BYA0D1M	B-210	5HK-D1
C29	18	NPO 10%				DD-103	BYA0D1M	B-210	5HK-D1
C30	.047	200				DD-103	BYA0D1M	B-210	5HK-D1
C31	1000					DD-103	BYA0D1M	B-210	5HK-D1
C32	10000					DD-103	BYA0D1M	B-210	5HK-D1
C33	4700					DD-103	BYA0D1M	B-210	5HK-D1
C34	.0022	600				DD-103	BYA0D1M	B-210	5HK-D1
C35	220					DD-103	BYA0D1M	B-210	5HK-D1
C36	100					DD-103	BYA0D1M	B-210	5HK-D1
C37	.0047	600				DD-103	BYA0D1M	B-210	5HK-D1
C38	.0033	600				DD-103	BYA0D1M	B-210	5HK-D1
C39	.1	600				DD-103	BYA0D1M	B-210	5HK-D1
C40	.1	200				DD-103	BYA0D1M	B-210	5HK-D1
C41	.047	200				DD-103	BYA0D1M	B-210	5HK-D1
C42	.1	200				DD-103	BYA0D1M	B-210	5HK-D1
C43	12	3000				DD-103	BYA0D1M	B-210	5HK-D1
C44	.01	1600				DD-103	BYA0D1M	B-210	5HK-D1
C45	.01	600				DD-103	BYA0D1M	B-210	5HK-D1
C46	.22	200				DD-103	BYA0D1M	B-210	5HK-D1
C47	.047	200				DD-103	BYA0D1M	B-210	5HK-D1
C48	820					DD-103	BYA0D1M	B-210	5HK-D1
C49	820					DD-103	BYA0D1M	B-210	5HK-D1
C50	.0047	200				DD-103	BYA0D1M	B-210	5HK-D1
C51	.047	200				DD-103	BYA0D1M	B-210	5HK-D1
C52	100					DD-103	BYA0D1M	B-210	5HK-D1
C53	470					DD-103	BYA0D1M	B-210	5HK-D1
C54	3900					DD-103	BYA0D1M	B-210	5HK-D1
C55	330					DD-103	BYA0D1M	B-210	5HK-D1
C56	.001	600				DD-103	BYA0D1M	B-210	5HK-D1
C57	.1	400				DD-103	BYA0D1M	B-210	5HK-D1
C58	.22	600				DD-103	BYA0D1M	B-210	5HK-D1
C59	.1	600				DD-103	BYA0D1M	B-210	5HK-D1
C60	390	3000				DD-103	BYA0D1M	B-210	5HK-D1
C61	390	3000				DD-103	BYA0D1M	B-210	5HK-D1
C62	.068	600				DD-103	BYA0D1M	B-210	5HK-D1
C63	120	2500				DD-103	BYA0D1M	B-210	5HK-D1
C64	120	2500				DD-103	BYA0D1M	B-210	5HK-D1
C65	95	3000				DD-103	BYA0D1M	B-210	5HK-D1
C66	1500	1500				DD-103	BYA0D1M	B-210	5HK-D1
C67	1000					DD-103	BYA0D1M	B-210	5HK-D1
C68	1000					DD-103	BYA0D1M	B-210	5HK-D1
C69	1000					DD-103	BYA0D1M	B-210	5HK-D1

ITEM No.	CAP.	VOLT.	TOL.	HOFFMAN PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C70	1000			851013	BPD-001	DD-102	BYA0D1M	B-210	5HK-D1
C71	1000			851013	BPD-001	DD-102	BYA0D1M	B-210	5HK-D1
C72	1000			851013	BPD-001	DD-102	BYA0D1M	B-210	5HK-D1
C73	10000			851119	BPD-01	DD-103	BYA0D1M	B-210	5HK-D1
C74	10000			851119	BPD-01	DD-103	BYA0D1M	B-210	5HK-D1
C75	.01	600		870225	P688N-1	DF-104	CUB6P1	GEM-201	6TM-P1
C76	.01	600		870213	P688N-1	DF-104	CUB6P1	GEM-201	6TM-P1

\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

## CONTROLS

ITEM No.	RATING	HOFFMAN PART No.	CORNELL-DUBILIER PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
RIA	330K	800016	B-60	A47-500K-2	Q13-132	U48	Volume
B	Shaft		Not Req.	KSS-3	Not Req.	Not Req.	
C	Switch		KR-1	SWE-12	76-1	US-26	Off-On
R2A	300K	800040	AB-4	B47-500-S	B11-102	PTA52L	Contrast
B	Shaft		AK-19	Not Req.	SK3	Not Req.	
R3A	150K	800018	B-43	A47-150K-S	Q11-128	U43	Brightness
B	Shaft		Not Req.	KSS-3	Not Req.	Not Req.	
R4A	1.5meg	800017	B-742	A47-1.5meg-S	Q11-138	U155	Vert. Hold
B	Shaft		Not Req.	KSS-3	Not Req.	Not Req.	
R5A	10K	800009	AB-14	A47-10K-S	B11-116	TA141	Horiz. Drive
B	Shaft		AK-1	FKS-1/4	SK-2	Not Req.	
R6A	1meg	800039	AB-69	B47-1meg-S	Q11-137	PTA1254L	Height
B	Shaft		AK-19	Not Req.	TQ	Not Req.	
R7A	1meg	800039	AB-69	B47-1meg-S	Q11-137	PTA1254L	Vert. Lin.
B	Shaft		AK-19	Not Req.	TQ	Not Req.	</