

CABINET—REAR VIEW

## HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

- Turn the set on and tune in a TV station, preferably with a test pattern.
- Turn the picture stabilizer control (R7) fully clockwise.
- Turn the horizontal hold control fully clockwise.
- Connect a short jumper across L15.
- Adjust the horizontal frequency slug (B1) to the center of the range in which the picture synchronizes horizontally.
- Remove the short from L15.
- Connect the scope to point  $\diamond$ . Low side to chassis.
- Adjust the horizontal waveform slug (B2) until the broad and narrow peaks are of equal amplitude as shown in Fig. 3.
- Remove the scope. The picture should be in sync and remain in synchronization through the entire range of the horizontal hold control.

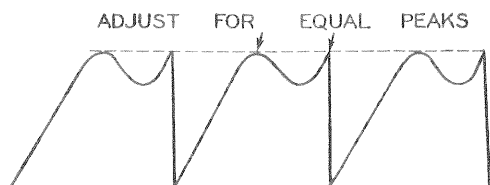


FIG. 3

PHOTOFACT\* Folder



EMERSON MODELS 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211 (Ch. 120306-CM, -EM, 120307-RM)

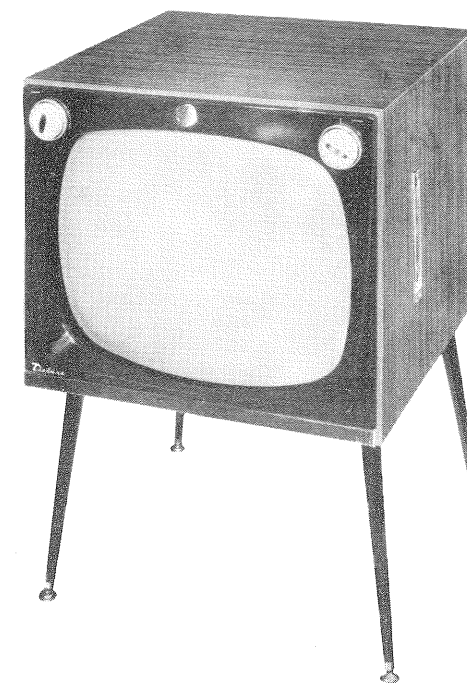
## DISASSEMBLY INSTRUCTIONS

### CHASSIS REMOVAL

- Remove 4 push-on type control knobs from the front.
- Remove mask by pulling off.
- Remove the screws holding the on-off-volume and contrast control bracket.
- Remove the screws holding the tuner support bracket.
- Remove 8 wood screws and the rear cover.
- Remove 2 wood screws and the antenna terminal board.
- Remove 2 hex nuts holding the side control panel.
- Remove 2 speaker leads, picture tube socket, ion trap, centering device, width sleeve and HV lead.
- Remove 4 wood screws holding the top chassis brackets to the cabinet.
- Remove 3 metal screws (inside the cabinet along the bottom) holding the chassis to the support brackets.
- Remove the chassis.
- Remove 2 speaker nuts and the speaker.

### CAUTION NOTE

ONE SIDE OF AC LINE CONNECTED TO CHASSIS



MODELS	CHASSIS
1200, 1202, 1204, 1206, 1208, 1210	120306CM
1200, 1202, 1204, 1206, 1208, 1210	120306EM
1201, 1203, 1205, 1207, 1209, 1211	120307RM

## 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 4 push-on type control knobs.  
Pull mask off (this is held on by means of clips).  
Remove 2 metal screws and the safety glass.

### SPECIAL ADJUSTMENTS

#### A. Picture Stabilizer

In normal signal areas the picture stabilizer control should be set at full clockwise position. In noisy fringe areas rotate counter clockwise for best sync stability.

#### B. Width

The width may be varied by means of an aluminum 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.

#### C. Focus

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

### HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

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 (A10) 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.

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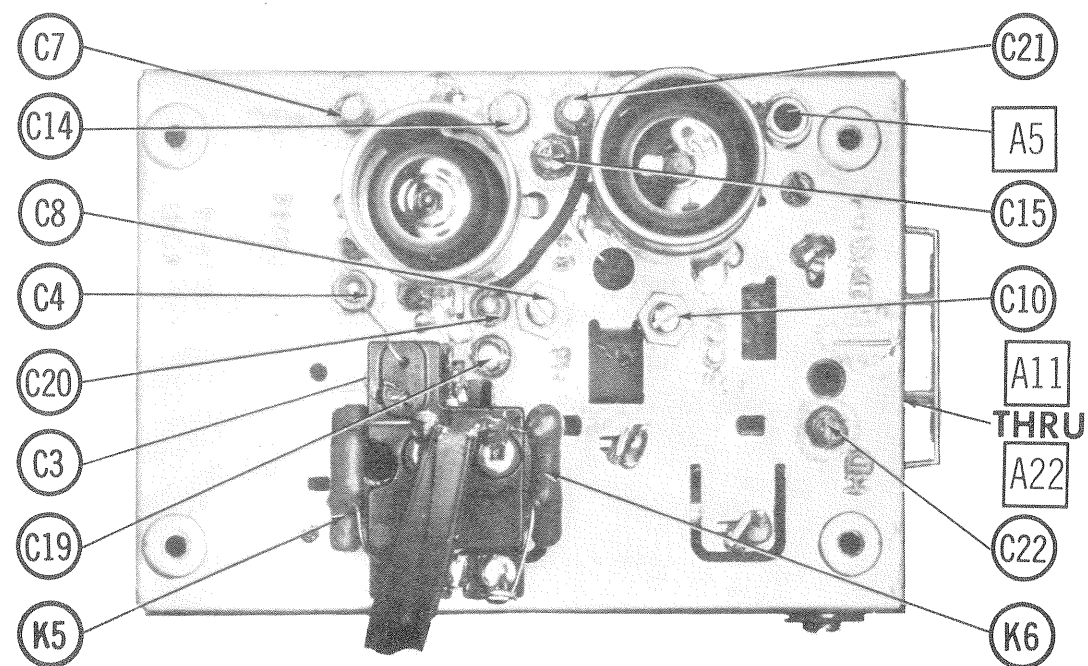
"The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed." "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. Copyright 1957 by Howard W. Sams & Co., Inc., Indianapolis 5, Indiana, U. S. of America. Copyright under International Copyright Union. All rights reserved under Inter-American Copyright Union (1910) by Howard W. Sams & Co., Inc." Printed in U. S. of America

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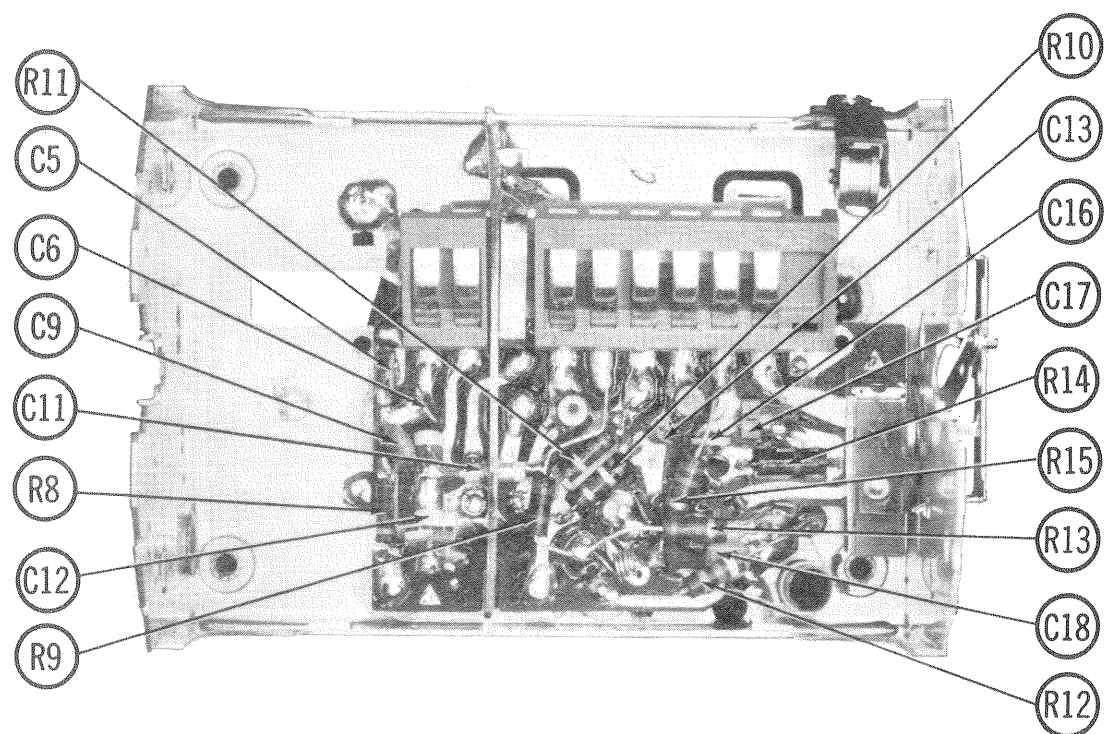
SET 360

FOLDER 4

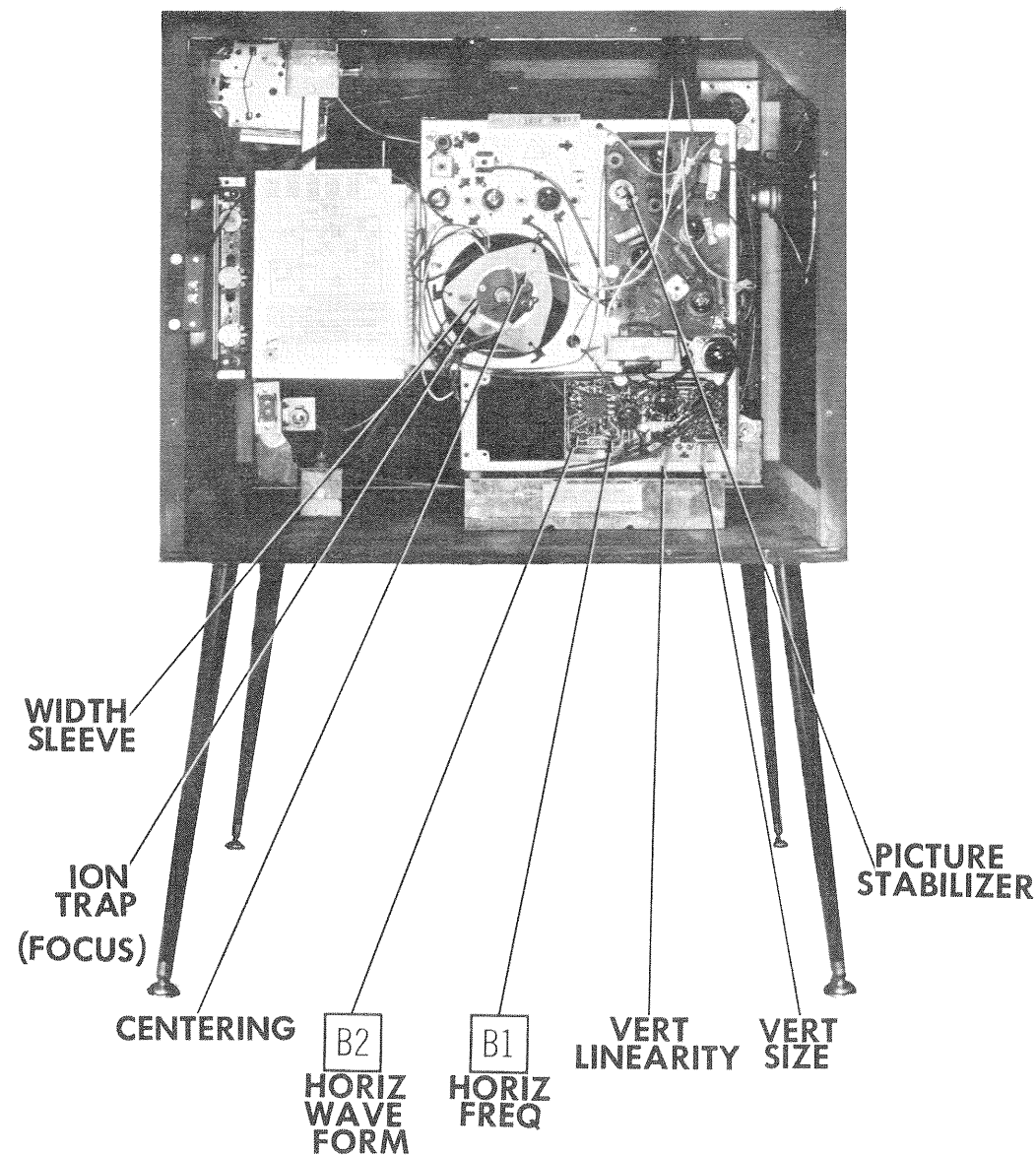
EMERSON MODELS 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211 (Ch. 120306-CM, -EM, 120307-RM)



RF TUNER-TOP VIEW



RF TUNER-BOTTOM VIEW



CABINET-REAR VIEW

## HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably with a test pattern.

Turn the picture stabilizer control (R7) fully clockwise.

1. Turn the horizontal hold control fully clockwise.

2. Connect a short jumper across L15.

3. Adjust the horizontal frequency slug (B1) to the center of the range in which the picture synchronizes horizontally.

4. Remove the short from L15.

5. Connect the scope to point  $\diamond$ . Low side to chassis.

6. Adjust the horizontal waveform slug (B2) until the broad and narrow peaks are of equal amplitude as shown in Fig. 3.

7. Remove the scope. The picture should be in sync and remain in synchronization through the entire range of the horizontal hold control.

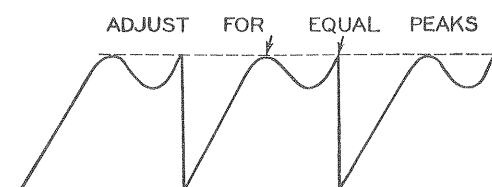


FIG. 3

## CHASSIS REMOVA

1. Remove 4 push-
2. Remove mask b
3. Remove the scr  
contrast control br
4. Remove the scr
5. Remove 8 wood
6. Remove 2 wood
7. Remove 2 hex n
8. Remove 2 speak  
centering device, '
9. Remove 4 wood  
to the cabinet.
10. Remove 3 metz  
bottom) holding the
11. Remove the cha
12. Remove 2 spea

## ONE SIDE OF AC

## TUNER OSCILLA'

Touch-up adjustm  
removing the char  
the fine tuning at t  
are accessible, or  
rotated. Adjust fo

## PICTURE TUBE S

Remove 4 push-on  
Pull mask off (this  
Remove 2 metal s

## SPECIAL ADJUST

### A. Picture Stabili

In normal signal a  
should be set at fu  
areas rotate count

### B. Width

The width may be  
located between th  
sleeve in or out of  
than necessary to





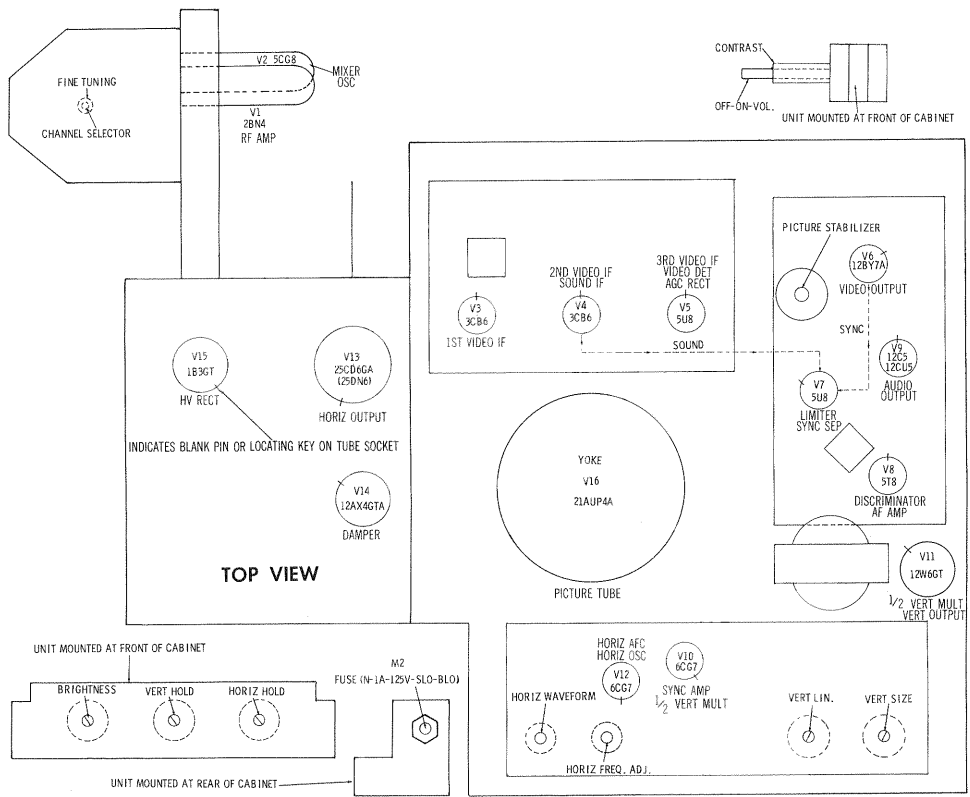


RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	2BN4	0Ω	2.3Meg	1.5Ω	2Ω	† 1140Ω	0Ω	2.3Meg		
V2	5CG8	10K	† 6940Ω	0Ω	3Ω	2Ω	† 1140Ω	† 140Ω	0Ω	224K
V3	3CB6	2.5Meg	47Ω	3Ω	4Ω	† 600Ω	† 600Ω	0Ω		
V4	3CB6	1.4Ω	180Ω	4Ω	5Ω	† 600Ω	† 600Ω	0Ω		
V5	5U8	2.2Meg	.1Ω	† 600Ω	5Ω	6Ω	† 600Ω	180Ω	.1Ω	4700Ω
V6	12BY7A	120Ω	480K	0Ω	8Ω	8Ω	9Ω	† 5600Ω	† 22Ω	0Ω
V7	5U8	† 12K	27K	† 12K	7Ω	8Ω	† 600Ω	0Ω	0Ω	2.7Meg
V8	5T8	100K	100K	170K	7Ω	6Ω	0Ω	0Ω	2.2Meg	† 220K
V9	12C5	180Ω	470K	9Ω	11.5Ω	470K	† 470Ω	† 650Ω		
V10	6CG7	† • 1.2Meg	• 1Meg	0Ω	14Ω	15Ω	† 13K	† 1Meg	0Ω	0Ω
V11	12W6GT	TP	11.5Ω	† 270Ω	† 140Ω	2.2Meg	TP	14Ω	• 500Ω	
V12	6CG7	† • 80K	850K	250K	15Ω	16Ω	† 70K	300K	0Ω	0Ω
V13	25CD6GA	NC	18Ω	0Ω	TP	160K	TP	23Ω	† 700Ω	TOP CAP † 28Ω
V14	12AX4GTA	NC	NC	†	NC	† 28Ω	NC	16Ω	18Ω	
V15	1B3GT	PINS 1 THRU 8 HAVE		INF		RESISTANCE		TOP CAP † 700Ω		
V16	21AUP4A	0Ω	12Ω	PIN 6 † 22Ω	PIN 10 † 27K	PIN 11 • 170K	PIN 12 1.5Ω			

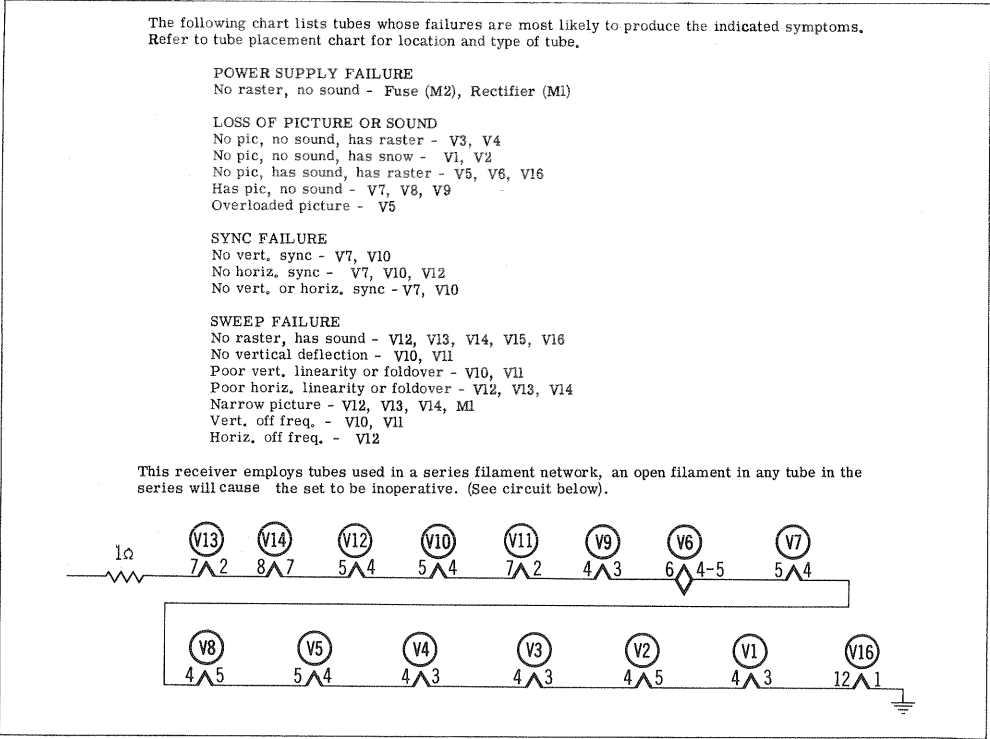
TP TIE POINT  
NC NO CONNECTION  
† MEASURED FROM OUTPUT OF M1.  
• THIS READING WILL VARY, CONTROL SET FOR NORMAL OPERATION.  
MEASURED FROM PIN 3 OF V14.  
† THIS READING CAN VARY GREATLY, (10K MINIMUM), DUE TO THE CONDITION OF THE ELECTROLYTIC CAPACITOR CONNECTED IN THE ASSOCIATED CIRCUIT.

TUBE PLACEMENT CHART

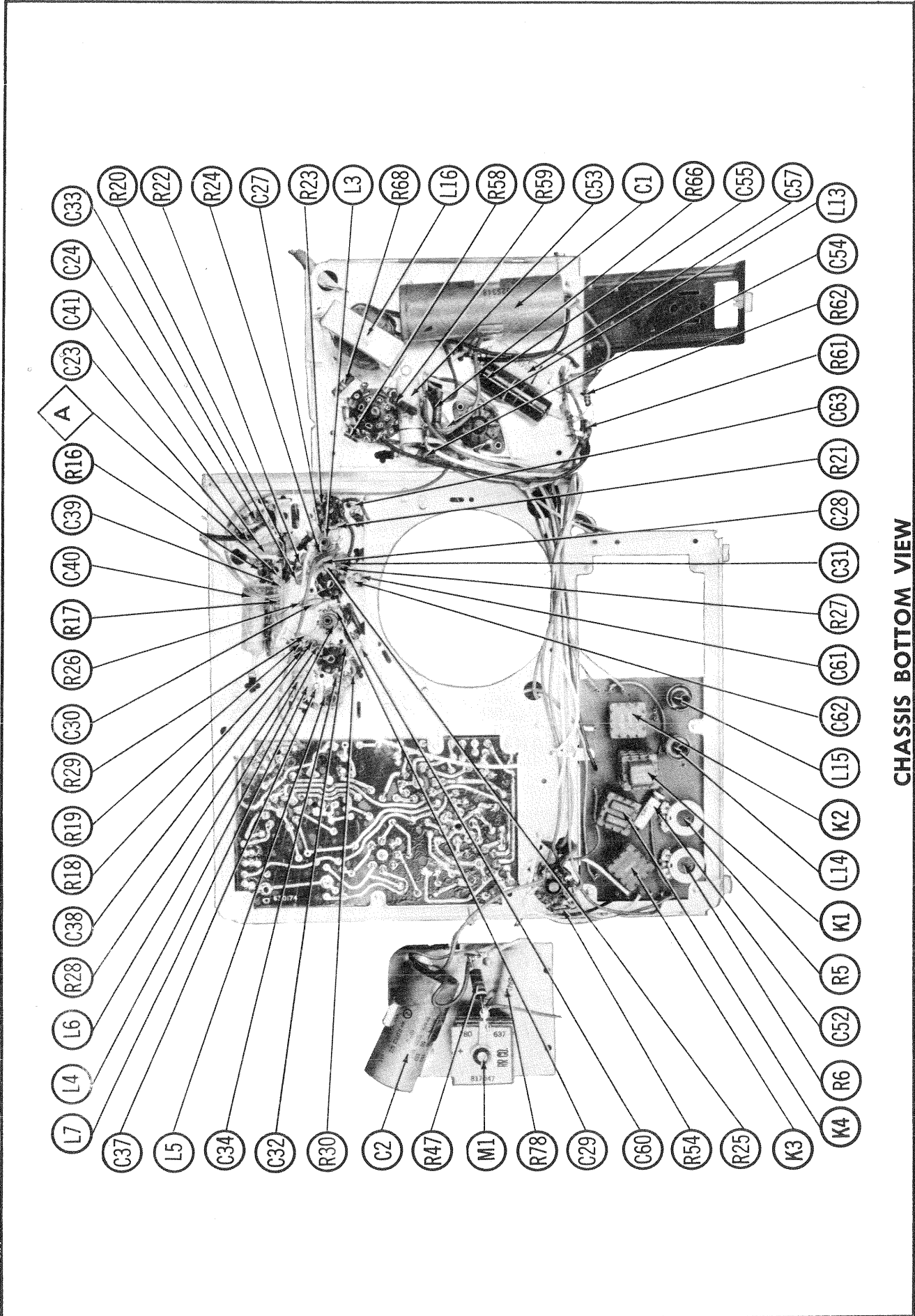


EMERSON MODELS 1200, 1201, 1202, 1203,  
1204, 1205, 1206, 1207, 1208, 1209, 1210,  
1211 (Ch. 120306-CM, -EM, 120307-RM)

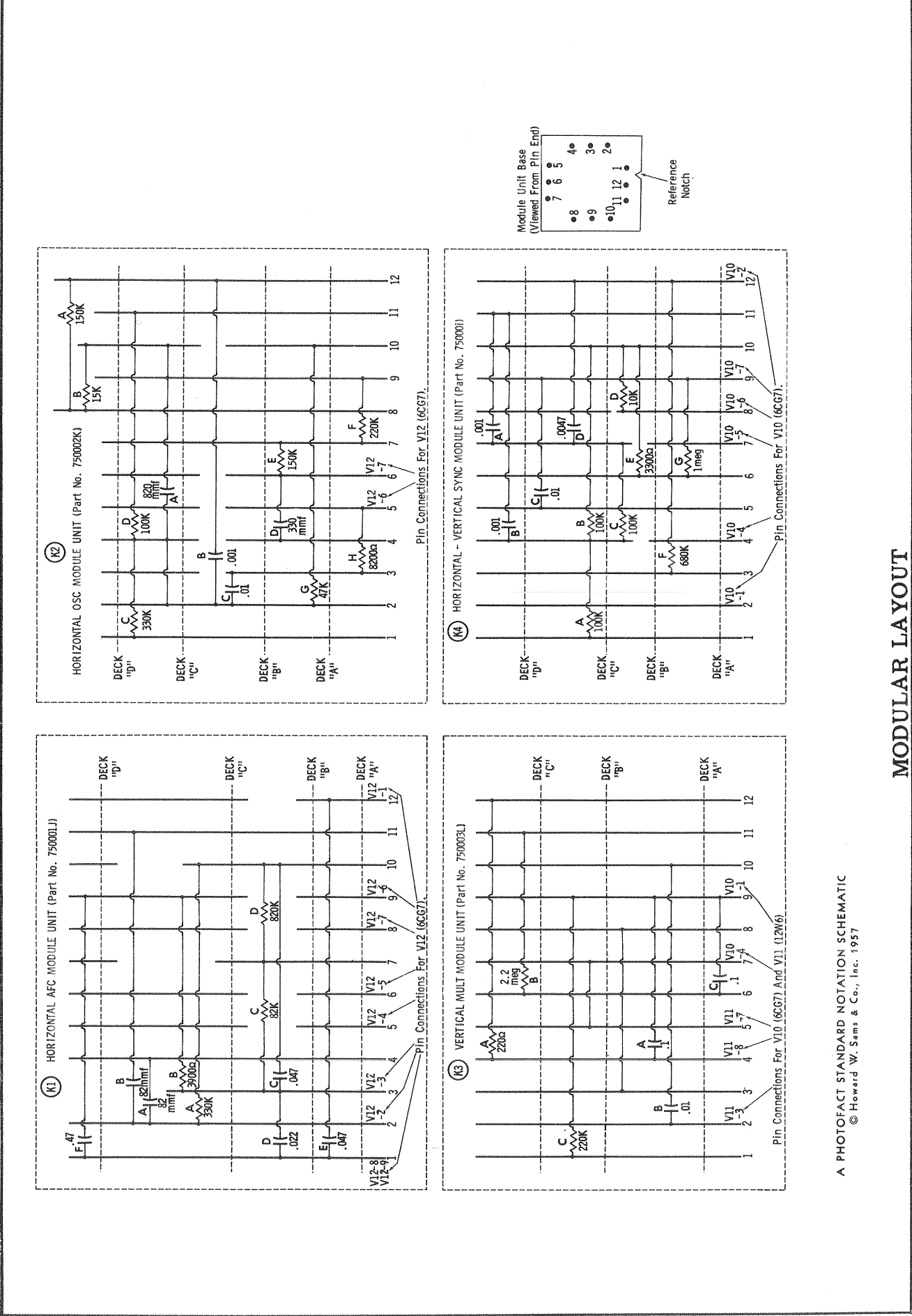
TUBE FAILURE CHECK CHART

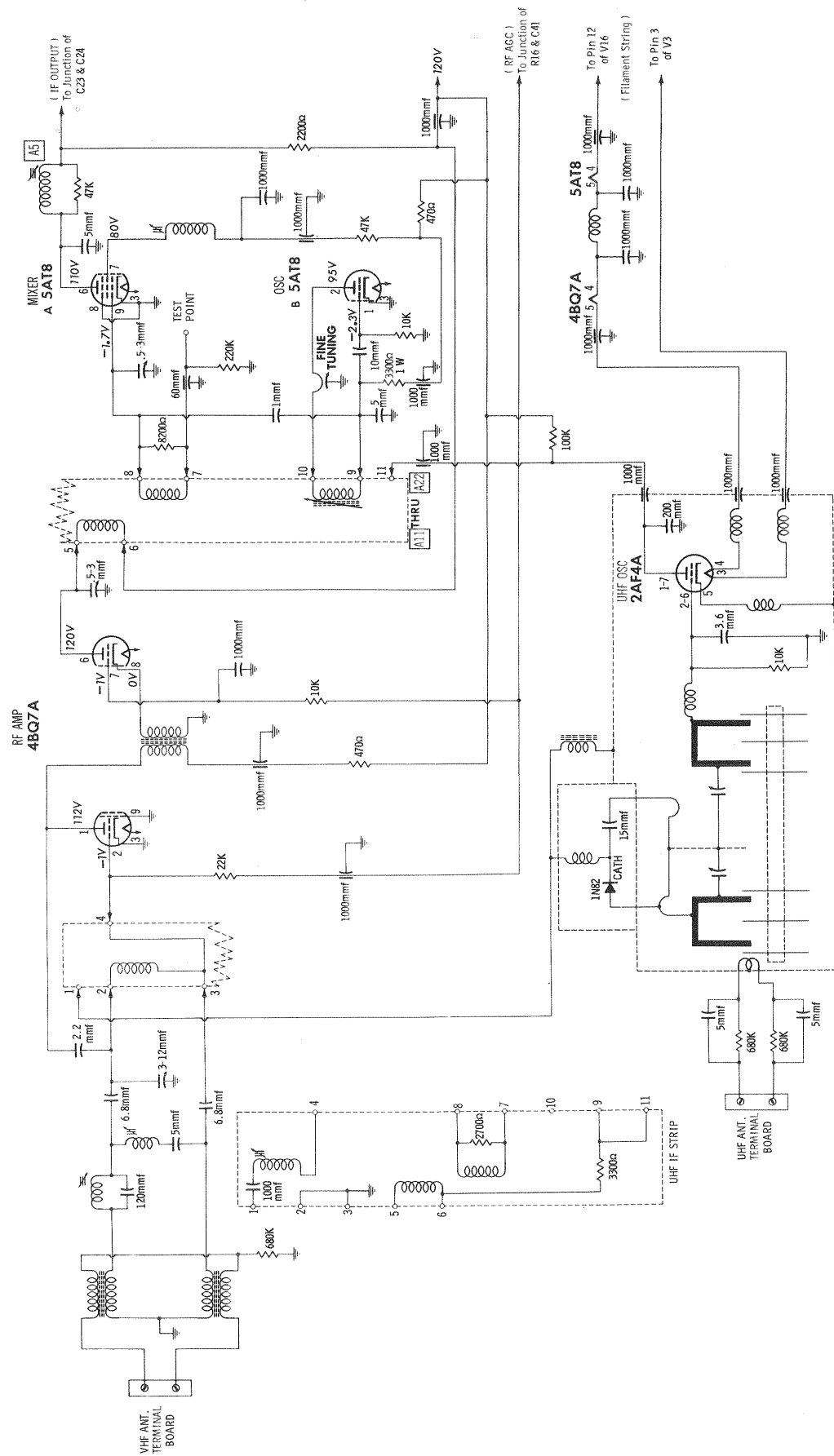
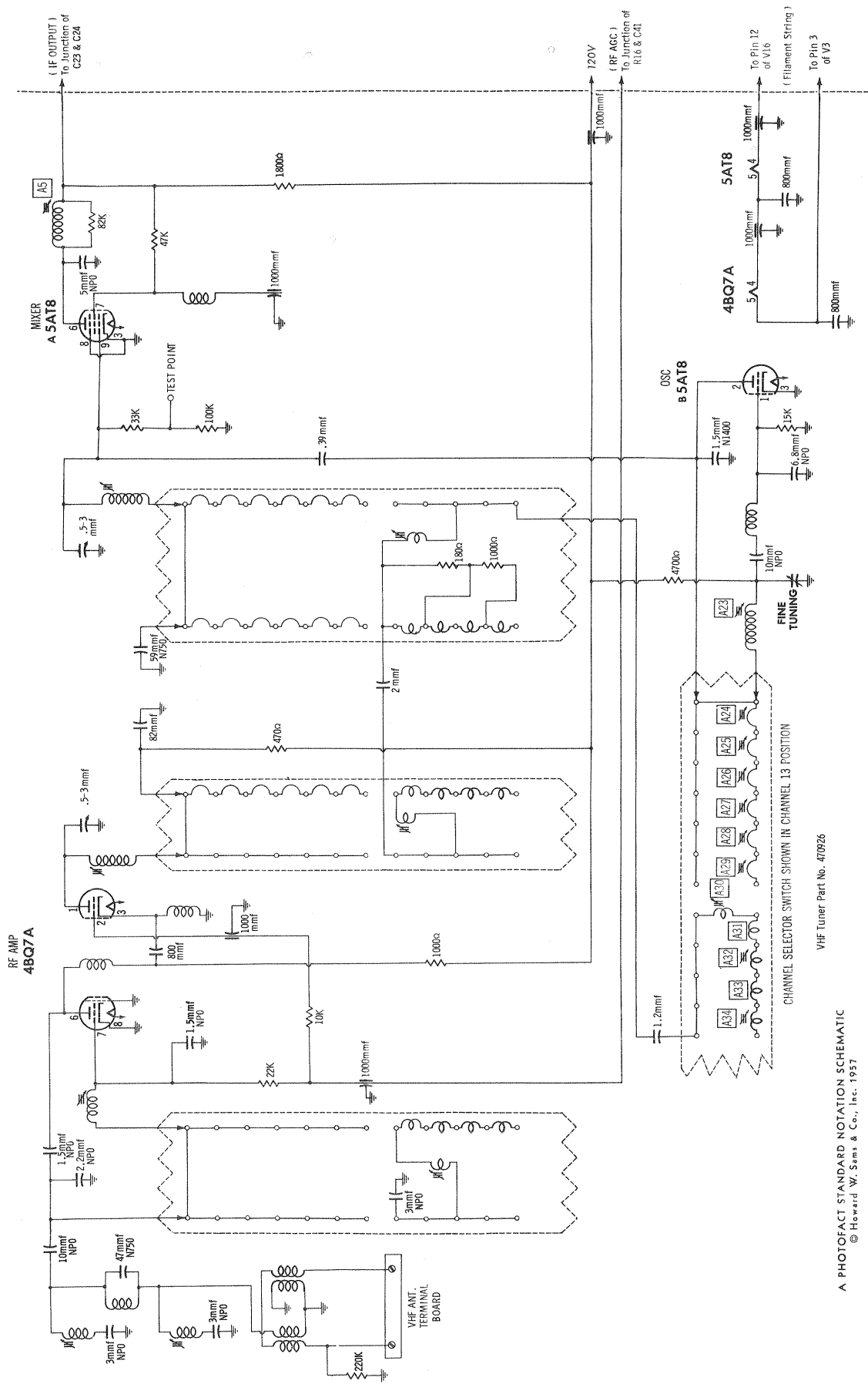


TUBE PLACEMENT CHART



CHASSIS BOTTOM VIEW





**EMERSON MODELS 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207,  
1208, 1209, 1210, 1211 (Ch. 120306-CM, -EM, 120307-RM)  
ALTERNATE VHF-TUNER SCHEMATIC**

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT						
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 $\text{Ⓢ}$ . Positive to chassis. Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.							
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
Direct	High side to ungrounded tube shield floating over mixer-oscillator tube (V2). Low side to chassis. If tube shield cannot be removed, place a thin insulated metal strip between tube and shield for connection.	Not used	45.3MC (Unmod)	Any non-interfering channel	USE VTVM. DC probe to point $\text{Ⓢ}$ . Common to chassis.	A1, A5	Attenuate generator output for not more than 2 volts reading on VTVM. Adjust for maximum deflection.
"	"	"	43.2MC	"	"	A2, A4	"
"	"	"	44.25MC	"	"	A3	Adjust for maximum deflection. Repeat steps 1 thru 3.
"	"	"	47.25MC (400%Mod)	"	Vert. Amp. thru 10K to point $\text{Ⓢ}$ . Low side to chassis.	A6	Adjust for MINIMUM 400% indication on scope. Use high scope gain and increase generator output.
"	"	44MC (10MC Swp)	41.25MC 44.0MC 45.75MC 47.25MC	"	"		Use only enough sweep generator output to provide usable pattern on scope. Check for response curve similar to Fig. 1. If necessary, SLIGHTLY retouch A1 thru A5 to obtain desired response. If video carrier marker (45.75MC) is too high, readjust A5. If too low, readjust A3.

SCUND IF ALIGNMENT						
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
6. .1MFD	High side to pin 9 (grid) of 5U8 (V6). Low side to chassis.	4.5MC (Unmod)	Any non-interfering channel	DC probe to point $\text{Ⓢ}$ . Common to chassis.	A7, A8	Adjust for maximum deflection.
7. "	"	"	"	DC probe to point $\text{Ⓢ}$ . Common to chassis.	A9, A10	Detune A10 for maximum negative deflection. Adjust A9 for maximum deflection. Readjust A10 for zero reading on VTVM. A positive and negative reading will be obtained on either side of correct setting.

VHF OSCILLATOR ALIGNMENT FOR TUNERS #470936 & 470881						
Connect bias as under "Video IF Alignment". 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. Set the fine tuning control to the center of its range. Use only enough sweep generator output to provide usable pattern on scope.						

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
8. Two 120 $\Omega$ Carbon Resistors	Across antenna terminals with 120 $\Omega$ in each lead.	213MC (10MC Swp)	211.25MC	13	Vert. Amp. thru 47K to point $\text{Ⓢ}$ . Low side to chassis.	A11	Adjust to place sound marker in trap notch as in Fig. 2. Video marker should fall at 30 to 50%.
		207MC (10MC Swp)	215.75MC	12		A12	
		201MC (10MC Swp)	205.25MC	11		A13	
		195MC (10MC Swp)	209.75MC	10		A14	
		189MC (10MC Swp)	199.25MC	9		A15	
		183MC (10MC Swp)	203.75MC	8		A16	
		177MC (10MC Swp)	193.25MC	7		A17	
		171MC (10MC Swp)	187.75MC	6		A18	
		165MC (10MC Swp)	183.25MC	5		A19	
		159MC (10MC Swp)	177.75MC	4		A20	
		153MC (10MC Swp)	173.25MC	3		A21	
		147MC (10MC Swp)	167.75MC	2		A22	
		141MC (10MC Swp)	163.25MC				
		135MC (10MC Swp)	157.75MC				
		129MC (10MC Swp)	153.25MC				
		123MC (10MC Swp)	147.75MC				
		117MC (10MC Swp)	143.25MC				
		111MC (10MC Swp)	137.75MC				
		105MC (10MC Swp)	133.25MC				
		99MC (10MC Swp)	127.75MC				
		93MC (10MC Swp)	123.25MC				
		87MC (10MC Swp)	117.75MC				

ALIGNMENT INSTRUCTIONS (cont)

VHF OSCILLATOR ALIGNMENT FOR TUNER #470926						
Connect bias as under "Video IF Alignment". 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. Set the fine tuning control to the center of its range. Use only enough sweep generator output to provide usable pattern on scope.						

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
9. Two 120 $\Omega$ Carbon Resistors	Across antenna terminals with 120 $\Omega$ in each lead.	213MC (10MC Swp)	211.25MC	13	Vert. Amp. thru 47K to point $\text{Ⓢ}$ . Low side to chassis.	A23	Adjust to place sound marker in trap notch as in Fig. 2. Video marker should fall at 30 to 50%. Adjustments A24 thru A29 are adjusted by bending coil loops. A31 and A33 are adjusted by expanding or compressing coil turns.
		207MC (10MC Swp)	215.75MC	12		A24	
		201MC (10MC Swp)	205.25MC	11		A25	
		195MC (10MC Swp)	209.75MC	10		A26	
		189MC (10MC Swp)	199.25MC	9		A27	
		183MC (10MC Swp)	203.75MC	8		A28	
		177MC (10MC Swp)	193.25MC	7		A29	
		171MC (10MC Swp)	187.75MC	6		A30	
		165MC (10MC Swp)	183.25MC	5		A31	
		159MC (10MC Swp)	177.75MC	4		A32	
		153MC (10MC Swp)	173.25MC	3		A33	
		147MC (10MC Swp)	167.75MC	2		A34	
		141MC (10MC Swp)	163.25MC				
		135MC (10MC Swp)	157.75MC				
		129MC (10MC Swp)	153.25MC				
		123MC (10MC Swp)	147.75MC				
		117MC (10MC Swp)	143.25MC				
		111MC (10MC Swp)	137.75MC				
		105MC (10MC Swp)	133.25MC				
		99MC (10MC Swp)	127.75MC				
		93MC (10MC Swp)	123.25MC				
		87MC (10MC Swp)	117.75MC				
		81MC (10MC Swp)	113.25MC				

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.						

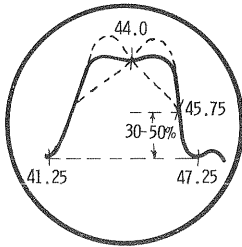


FIG. 1

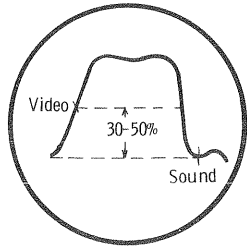


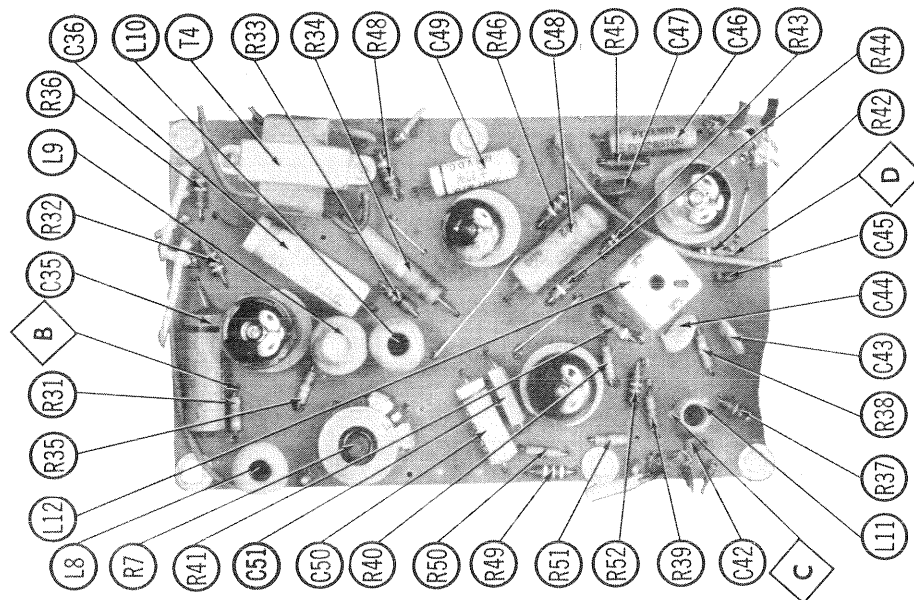
FIG. 2

EMERSON MODELS 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211 (Ch. 120306-CM, -EM, 120307-RM)

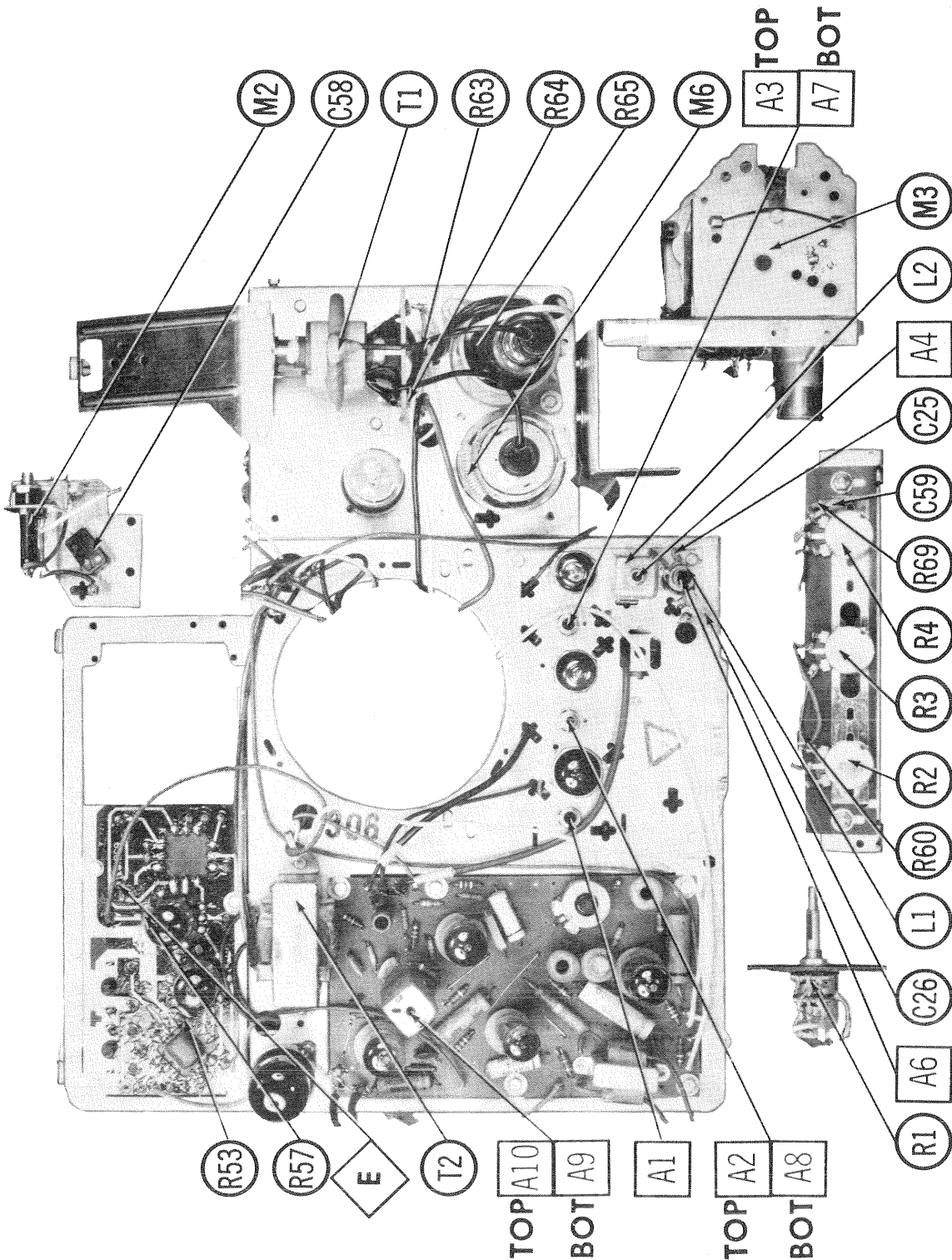


## MISCELLANEOUS

ITEM No.	PART NAME	EMERSON PART No.	NOTES
M3	Tuner	470936	VHF, Used in Ch. 120306EM
	Tuner	470881	UHF/VHF, Used in Ch. 120307RM
	Tuner	470926	VHF, Used in Ch. 120306CM
M4	Centering Device	708277	
M5	Ion Trap	708235	
M6	Barkhausen		
	Eliminator	708234	
	Timer	470948	Used in Models 1210, 1211
	Printed Board	630174	Video Amp. and sound
	Printed Board	630183	Horiz. Osc.
	Safety Glass	520243	
	Mask	480697	
	Knob	460691C	UHF Channel Selector, Models 1201, 3, 7, 9, 11
	Knob	460691A	UHF Channel Selector, Model 1205
	Knob	460690C	VHF Channel Selector, Models 1201, 3, 7, 9, 11
	Knob	450227	VHF Channel Selector, Model 1204
	Knob	450227A	VHF Channel Selector, Models 1200, 2, 6, 8, 10
	Knob	460690A	VHF Channel Selector, Model 1205
	Knob	460692	Fine tuning, Models 1201, 3, 5, 7, 9, 11
	Knob	460234A	Fine tuning, Models 1200, 2, 6, 8, 10
	Knob	460693B	On-off-volume, Models 1201, 3, 7, 9, 11
	Knob	450228	On-off-volume, Model 1204
	Knob	450228A	On-off-volume, Models 1200, 2, 6, 8, 10
	Knob	460693A	On-off-volume, Model 1205
	Knob	460694B	Contrast, Models 1201, 3, 7, 9, 11
	Knob	460233A	Contrast, Models 1200, 2, 6, 8, 10
	Knob	460694A	Contrast, Model 1205
	Knob	460713	Control 3 used, Models 1204, 5
	Cabinet	140769A	Mahogany, Models 1200, 1
	Cabinet	140769A	Blonde, Models 1200, 1
	Cabinet	140769B	Ebony, Models 1200, 1
	Cabinet	140803	Mahogany, Models 1202, 3
	Cabinet	140803A	Blonde, Models 1202, 3
	Cabinet	140803B	Walnut, Models 1202, 3
	Cabinet	140772	Mahogany, Models 1204, 5
	Cabinet	140772A	Blonde, Models 1204, 5
	Cabinet	140772B	Walnut, Models 1204, 5
	Cabinet	140776	Mahogany, Models 1206, 7
	Cabinet	140776A	Blonde, Models 1206, 7
	Cabinet	140776B	Walnut, Models 1206, 7
	Cabinet	140775	Mahogany, Models 1208, 9
	Cabinet	140775A	Blonde, Models 1208, 9
	Cabinet	140775B	Walnut, Models 1208, 9
	Cabinet	140798	Mahogany, Models 1210, 11
	Cabinet	140798A	Blonde, Models 1210, 11
	Cabinet	140798B	Walnut, Models 1210, 11



## VIDEO OUTPUT & SOUND PRINTED BOARD



**EMERSON MODELS 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207,  
1208, 1209, 1210, 1211 (Ch. 120306-CM, -EM, 120307-RM)**

## TUBES ( GENERAL ELECTRIC, SYLVANIA )

ITEM No.	USE	TYPE	NOTES	ITEM No.	USE	TYPE	NOTES
V1	RF Amplifier	2BN4		V8	Discriminator AF Amp.	5T8	
V2	Mixer-Oscillator	5CG8		V9	Audio Output	12C5	Note 1
V3	1st. Video IF Amp.	3CB6		V10	Sync Amplifier-Vert. Mult.	6CG7	
V4	2nd. Video IF Amp. - Sound IF Amp.	3CB6		V11	Vert. Mult. -Vert. Output	12W6GT	
V5	3rd. Video Amp. -Video Det. -AGC Rectifier	5U8		V12	Horiz. AFC-Horiz. Osc.	6CG7	Note 2
V6	Video Output	12BY7A		V13	Horiz. Output	25CD6GA	
V7	Limiter-Sync Sep.	5U8		V14	Damper	12AX4GTA	
				V15	HV Rectifier	1B3GT	

Note 1. A 12CU5 may be used in some applications.  
Note 2. A 25DN6 may be used in some applications.

## PICTURE TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	EMERSON PART No.	CBS PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	
V16	21AUP4A	21AUP4A ② 21AUP4	21AUP4B/21AUP4A ② 21AUP4	21AUP4A/ 21AUP4B①  21AVP4A/ 21AVP4B①	① Silver screen "85" ② Aluminized

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	EMERSON PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	250	150	925348	PR3-043	WD251 TC495	WD251	S-115 MT-1550		R1996 *
B	120	150							
C	50	25							
C2A	250	150	925342	PR2-120					R1995 *
B	50	150							

\* Non-catalog item.

## 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		REPLACEMENT DATA							NOTES
	CAP.	VOLT	EMERSON PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C3	120			BPD-00012	DD-121	LI0T12	ED-120	UC-5312	5GA-T12	N800
C4	30									
C5	28									
C6	12									
C7	1000			EF-001	MFT-1000				503C-D1	
C8	1-4.5				829-6		532-B			
C9	5									
C10	1-4.5				829-6		532-B			
C11	47									
C12	1-4.5				829-6		532-B			
C13	47									
C14	30			EF-001	MFT-1000				503C-D1	
C15	1000									
C16	6.8									
C17	6.8									
C18	470			BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C19	1000			EF-001	MFT-1000				503C-D1	
C20	1000			EF-001	MFT-1000				503C-D1	
C21	1000			EF-001	MFT-1000				503C-D1	
C22	1000			EF-001	MFT-1000				503C-D1	
C23	180		928900	BPD-00018	DD-181	LI0T18	ED-180	UC-5318	5GA-T18	
C24	1000		928933	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C25	15		928972	NPD-S1 15	TCZ-15	CI0Q5C	TCO-15		5TCC-Q15	
C26	6.8		928986	N750-S1 6.8	TCN-6R8	CI0V68U	TC7-6.8	ZT-5568	5TCCB-V68	
C27	680		928909	BPD-00068	DD-681	BYA10T68	ED-680	UC-5368	5GA-T68	
C28	100		928997	N750-S1 100	TCN-100	CI0T1U	TC7-100	NT-531	5TCU-T1	
C29	47		928995	N750-S1 47	TCN-47	CI0Q47U	TC7-47	NT-5447	5TCU-Q47	
C30	470		928907	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C31	1000		928933	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C32	330		928905	BPD-00033	DD-331	LI0T33	ED-330	UC-5333	5GA-T33	
C33	1000		928933	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C34	1000		928933	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C35	.047	400	930027	BPD-05	DF-503	CUB4S47	GEM-4147		4TM-S47	
C36	.047	400	924554	BPD-05	DF-503	CUB4S47	GEM-4147		4TM-S47	
C37	4.7		928912	NPD-S1 4.7	TCZ-47	CI0V47C	TCO-4.7	ZT-5547	5TCCB-V47	
C38	15		928972	NPD-S1 15	TCZ-15	CI0Q5C	TCO-15		5TCC-Q15	
C39	.01	400	923514	BPD-01	DD-103	CUB4S1	GP-10000	GEM-411	4TM-S1	
C40	.15	200	923321	P288N-15		CUB2P15	GEM-2015		2TM-P15	
C41	.01	400	923514	BPD-01	DD-103	CUB4S1	GP-10000	GEM-411	4TM-S1	
C42	150		928903	BPD-00015	DD-151	LI0T15	ED-150	UC-5315	5GA-T15	
C43	4700		928923	BPD-0047	DD-472	BYA10D47	ED-0047	UC-5247	5HK-D47	
C44	4700		928923	BPD-0047	DD-472	BYA10D47	ED-0047	UC-5247	5HK-D47	
C45	1000		928919	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C46	.0047	400		BPD-0047	DD-472	CUB4D47	GP-4700	GEM-4247	4TM-D47	
C47	2200		928921	BPD-0022	DD-222	BYA10D22	ED-0022	UC-5222	5GA-D22	
C48	.022	400		BPD-02	DF-303	CUB4S22	ED-02	GEM-4122	4TM-S22	
C49	.0047	600	924753	BPD-0047	DD-472	CUB6D47	GP-4700	GEM-4247	6TM-D47	
C50	.01	400	924514	BPD-01	DD-103	CUB4S1	GP-10000	GEM-411	4TM-S1	
C51	220		911184	1468-00022	DD-221	5W5T22	ED-220	UC-5322	1FM-322	
C52	.001	600	928930	BPD-001	DD-102	CUB6D1	GP-1000	GEM-621	6TM-D1	
C53	.1	400	924515	P488N-1	DF-104	CUB4P1	GEM-401		4TM-P1	
C54	.01	400	923514	BPD-01	DD-103	CUB4S1	GP-10000	GEM-411	4TM-S1	
C55	.1	600	924515	P688N-1	DF-104	CUB6P1	GEM-601		6TM-P1	
C56	47	2000	928929	HVD-30-47	DD30-47	HVD30Q47	HD3-47	DC30447	20GAB-Q47	
C57	.1	400	924515	P488N-1	DF-104	CUB4P1	GEM-401		4TM-P1	
C58	10000		922201	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C59	1000		928927	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C60	1000		928933	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C61	1000		928933	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C62	1000		928933	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C63	1000		928933	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	

Note 1. Some versions use a .0022MFD (Part #930053 or 923523) in this application.

## PARTS LIST AND DESCRIPTIONS

### CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES	
	RESIST-ANCE	WATTS	EMERSON PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.		MALLORY PART No.
R1A	600Ω	$\frac{1}{2}$	390407	F3-2	RTV-585		UE415	Contrast
B	1Meg			R2-52	Not Req.		Not Req.	Volume
C	Switch			KB-1	Not Req.	• QJ-1008	Not Req.	
R2A	50K	$\frac{1}{2}$	390410	B-31	A47-50K-S	Q11-123	U35	Horiz. Hold
B	Shaft			Not Req.	FS-3	Not Req.	Not Req.	
R3A	1Meg	$\frac{1}{2}$	390425	B-69	A47-1Meg-S	Q11-137	U54	Vert. Hold
B	Shaft			Not Req.	FS-3	Not Req.	Not Req.	
R4A	200K	$\frac{1}{2}$	390408	B-46	A47-200K-S	Q11-129	U43	Brightness
B	Shaft			Not Req.	FS-3	Not Req.	Not Req.	
R5A	500Ω	$\frac{1}{2}$	390427 ①				PTA52L	Vert. Lin.
B	Shaft						Not Req.	
R6A	2Meg	$\frac{1}{2}$	390426 ②				PTA26L	Vert. Size
B	Shaft						Not Req.	
R7	100K	$\frac{1}{2}$	390404					Picture Stabilizer

• Conectrik Kit Equivalent: K-6 Kit, Base Elements & Shafts B17-105, P17-105 (Panel)  
B13-137, R1-118 (Rear)  
T6-1 (Switch)

① Alternate part #390405.  
② Alternate part #390403.

### RESISTORS

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

ITEM No.	RATING	REPLACEMENT DATA	NOTES
OHMS	WATT	EMERSON PART No.	IRC PART No.
R8	4700Ω		BTS-4700
R9	1000Ω	350492	BTS-1000
R10	3900Ω		BTS-3900
R11	220K	351052	BTS-220K
R12	47K		BTS-47K
R13	1000Ω	350492	BTS-1000
R14	10K	340892	BTS-10K
R15	6800Ω		BTS-6800
R16	330K	351092	
R17	330K	351092	
R18	2.2Meg	351292	BTS-2.2Meg
R19	27K	340832	
R20	1000Ω	350492	
R21	8200Ω		BTS-8200
R22	470Ω	350412	BTS-470
R23	47Ω	340172	BTS-47
R24	22K	340812	BTS-22K
R25	15K	340772	BTS-15K
R26	470Ω	350412	BTS-470
R27	180Ω	340312	BTS-180
R28	15K	340772	BTS-15K
R29	470Ω	350412	BTS-470
R30	180Ω	340312	BTS-180
R31	4700Ω		BTS-4700
R32	470K	351132	BTS-470K
R33	10K	340732	BTS-10K
R34	5600Ω	397102	BTS-5600
R35	15K	340772	BTS-15K
R36	150K	341012	BTS-150K
R37	27K	340832	BTS-27K
R38	22K	340812	BTS-22K

Note 1. Some versions may use a 10Meg in this application.  
Note 2. Not used in some versions.

### TRANSFORMERS (SWEEP CIRCUITS)

		REPLACEMENT DATA							
ITEM No.	USE	EMERSON PART No.	Halldorson PART No.	Merit PART No.	RCA TYPE No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	Horiz. Output Trans.	738120	FB419① * 8	HVO-36① * 8	235T1① * 8	X093 * 8	HO-256① * 8	FLY-16① * 8	D-50① * 8
T2	Vert. Output Trans.	738127 738126 ②	Z1900③	A-2822①				26871①	A-108X①
T3A	Yoke(70°) Horiz. (20MH)	708321 708270 ②	DF605 ④⑤ ⑥	MDF-73 ⑤⑥	222D1 ④⑤⑥	Y70F20/43 ④⑤⑥	DY-22A ④	Y-10⑤⑥	Y-22-1 & NW9 ⑥
B	Vert. (40MH)								

① Drill one new mounting hole(s).

② Alternate part number.

③ Use 6 to 1 turns ratio.

④ Connect horizontal damping capacitor across yoke terminals #1 and #2.

⑤ Use original yoke damping network if necessary.

⑥ Cut and form a piece of .010 gauge fish paper inside the yoke itself and support with an acetate cement, to provide an insulation between the width sleeve and the yoke proper.

### \* HORIZONTAL OUTPUT TRANSFORMER CONNECTION DATA

Use Original Width Coil Unless Replacement Type Is Listed

	ORIGINAL TERMINAL CONNECTIONS	Halldorson Replacement Connections	Merit Replacement Connections	RCA Replacement Connections	Ram Replacement Connections	Stancor Replacement Connections	Thordarson Replacement Connections	Triad Replacement Connections
	8	9	9	9	2	9	9	9
	7	7	7	7	1	7	7	7
	6	7	7	7	6	7	7	7
	2	NC See Note ⑦	NC See Note ⑦	NC See Note ⑦	4	NC See Note ⑦	NC See Note ⑦	NC See Note ⑦
	1	1	1	1	7	1	1	1
Special Notes →		⑦	⑦	⑦		⑦	⑦	⑦

⑦ Install new horizontal damping network consisting of 1000Ω resistor in series with capacitor C56 across horizontal yoke terminals #1 and #2.

### TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
			EMERSON PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
	PRI.	SEC.							
T4	2000Ω	3-4Ω	734122	Z1101 ①	A-3025 ①	A-3332 ①	26858	S-12X ①	① Use original channel mounting frame.

### SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
				EMERSON PART No.	QUAM PART No.	
	SIZE	FIELD	V. C. IMP.			
SPI	6" 4"	PM PM	3-4Ω 3-4Ω	180140 180111 ①	6A1 4A07	① Alternate speaker used in some versions.

### COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		EMERSON PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	47.25MC Trap	708213	20-1049 *		6225 *	Includes Cap.
L2	1st. Video IF	720244				
L3A	2nd. Video IF	720241				
L4A	1st. Sound IF					
L4A	3rd. Video IF	720199				
L5	2nd. Sound IF					
L5	4th. Video IF	720247	17-4523 *	TV-130 *	6219 *	
L6	RF Choke	705024	19-1004		4610	
L7	Shunt Peaking Coil	708209	19-1003		4608	
L8	Shunt Peaking Coil	708274	19-3660		6146	
L9	Shunt Peaking Coil	708272	19-3300	TV-190	6132	
L10	Shunt Peaking Coil	708274	19-3660		6148	
L11	RF Choke	708271	19-1003		4608	
L12	Sound Discriminator	708276	17-3490			
L13	RF Choke		19-1005		4612	

						6.8 Microhenries
						IRC Part #CLA
						4.6 Microhenries
						660 Microhenries
						330 Microhenries
						660 Microhenries
						4.6 Microhenries
						10 Microhenries,
						IRC Part # CL-1
						Note 1