

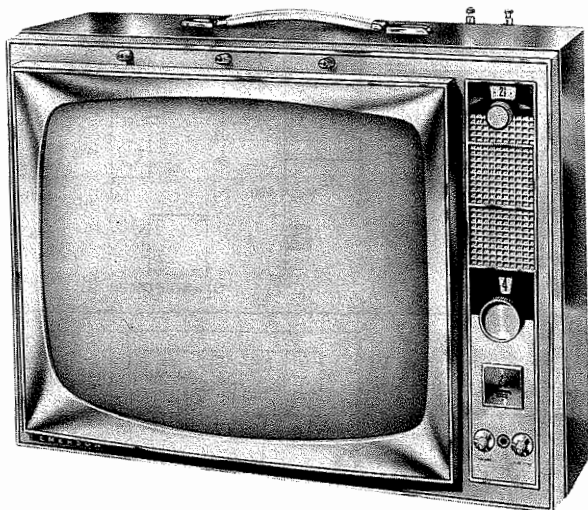
702 FOLDER 1
SET
EMERSON CHASSIS 120707B/D,
708B/D, 710F, 711F, 712A, 717B, 721F

PHOTOFACT® Folder

with CIRCUITRACE™



EMERSON CHASSIS 120707B/D,
708B/D, 710F, 711F, 712A, 717B, 721F



MODEL T-1876

TRADE NAME	EMERSON	MODELS	CHASSIS
		T-1865, T-1866, T-1867	120711/-F
		U-1865, U-1866, U-1867	120707-B/-D
		T-1870, T-1872, T-1875	120710-F
		U-1870, U-1872, U-1875	120708-B/-D
		T-1876	120721-F
		T-1880, T-1881, T-1882	120712-A
		U-1880, U-1881, U-1882	120717-B
SUPPLIER	Emerson Radio, 524 W. 23rd Street, New York 11, New York		
TYPE SET	Television Receiver		
TUBES	VHF - Seventeen, UHF - Eighteen		
POWER SUPPLY	110-120 Volts AC, 60 Cycles, RATING 180 Watts, 1.75 Amp. @ 117 Volts AC		
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)		

SERVICING IN THE FIELD

SAFETY GLASS

Remove 3 screws holding the trim strip at the bottom edge of the safety glass. Tilt glass out and remove.

FUSE OR FUSE DEVICE

A Chemical fuse is used for low voltage power supply protection. (See "Tube Placement Chart" for location.)

A .2" length of fuse wire is used for filament protection.

VHF OSCILLATOR ADJUSTMENT

Set fine tuning at the center of its range and adjust osc. slug (one for each channel) for best sound and picture.

AGC

The AGC may be varied by means of a Picture Optimizer Control. (See "Tube Placement Chart" for location.)

SYNC STABILITY

Sync stability may be varied by means of a Noise-Lok Control. (See "Tube Placement Chart" for location.)

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

The Horizontal Frequency Slug is used for the horizontal hold. (See "Tube Placement Chart" for location.)

HORIZONTAL DRIVE

The horizontal drive may be varied by a Horizontal Drive Control. (See "Tube Placement Chart" for location.)

WIDTH

The width may be varied by a Width Coil Slug. (See "Tube Placement Chart" for location.)

FOCUS

The focus may be varied by connecting the lead from pin 4 of the picture tube to various voltage points. (For location, see "Cabinet - Rear View".)

CENTERING

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

EMERSON CHASSIS 120707B/D,
708B/D, 710F, 711F, 712A, 717B, 721F

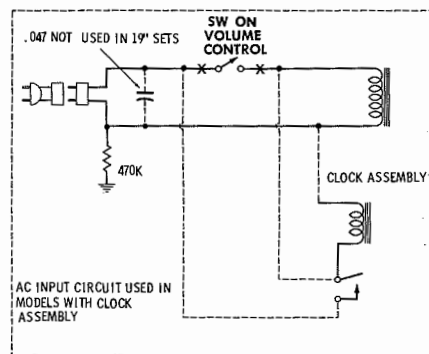
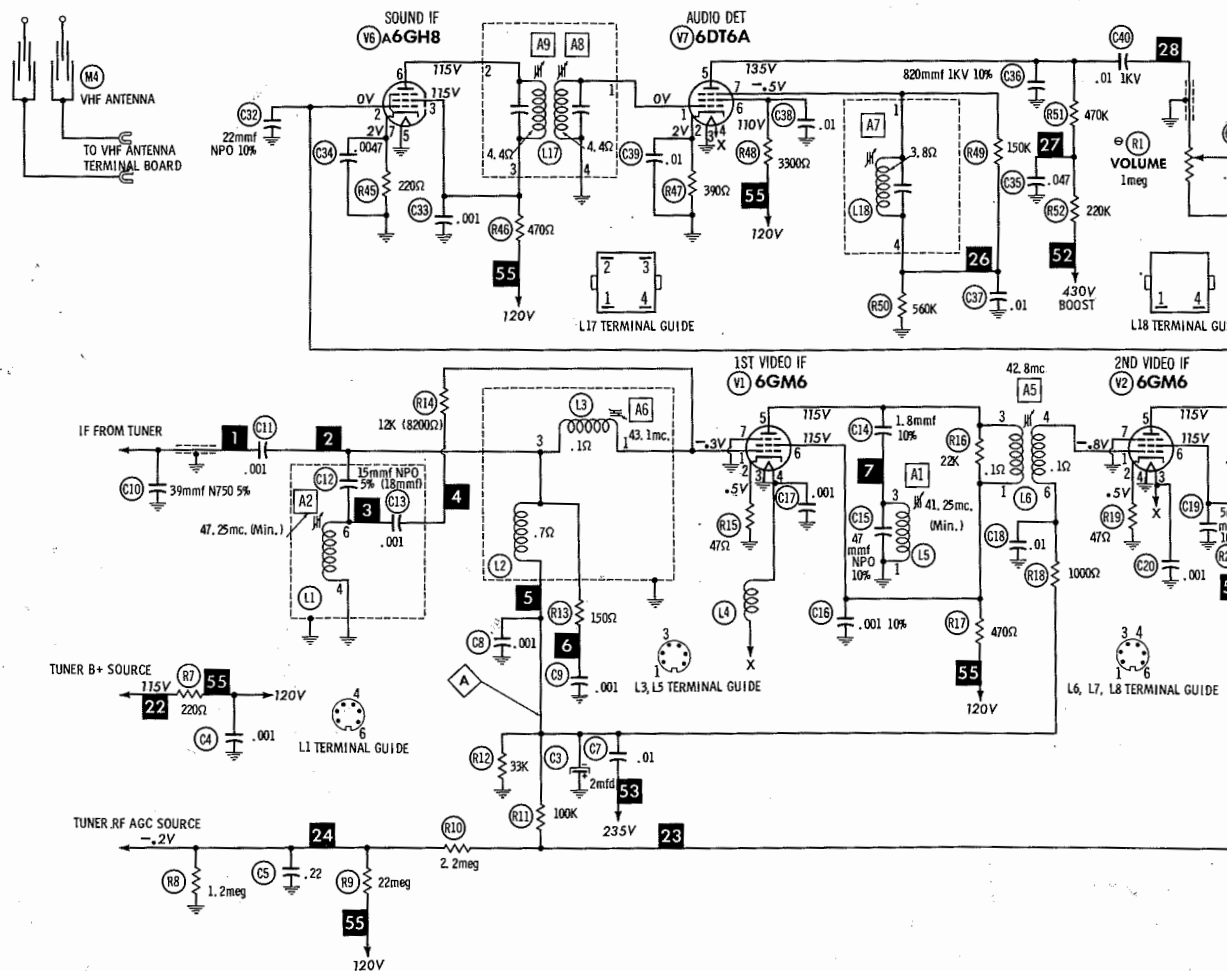
SET 702 FOLDER 1

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

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. MA661R 10 9 8 7 6 5 4 3 2 1 0

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DATE 7-64 SET 702 FOLDER 1

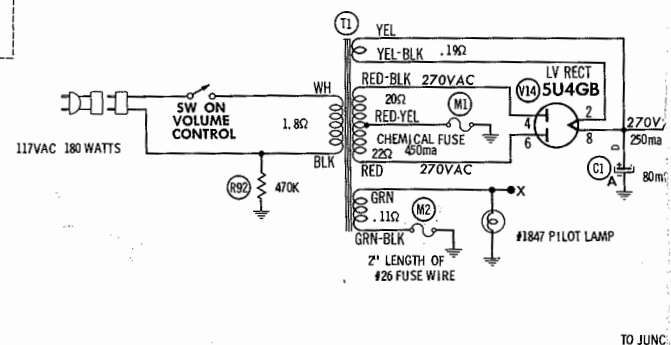


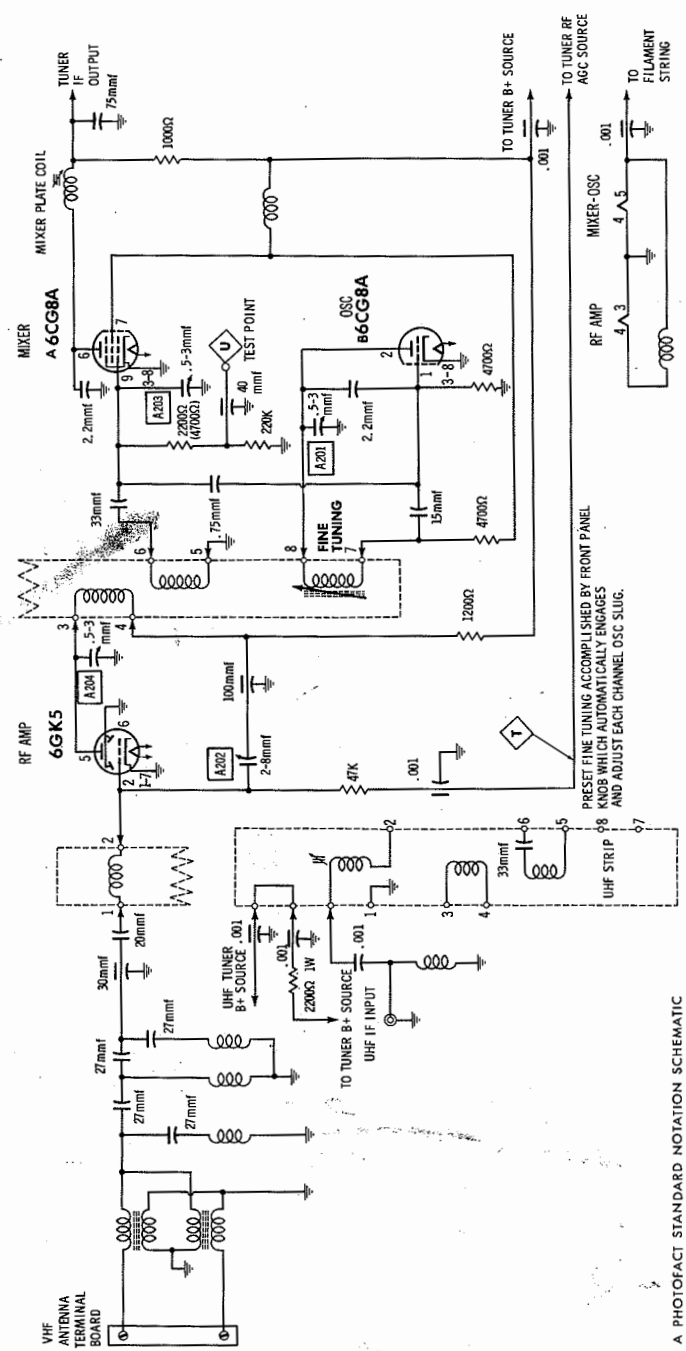
VHF TUNER SCHEMATICS PAGES 6, 11, & 15
UHF TUNER SCHEMATIC PAGE 10

⊥ DENOTES CHASSIS GROUND

- ⊕ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned to terminals may not be found on the unit.
- 6. Supply voltage maintained at rated value for voltage readings.
- 7. Waveforms taken with controls set to produce 80 volts peak-to-peak signal at picture tube.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC
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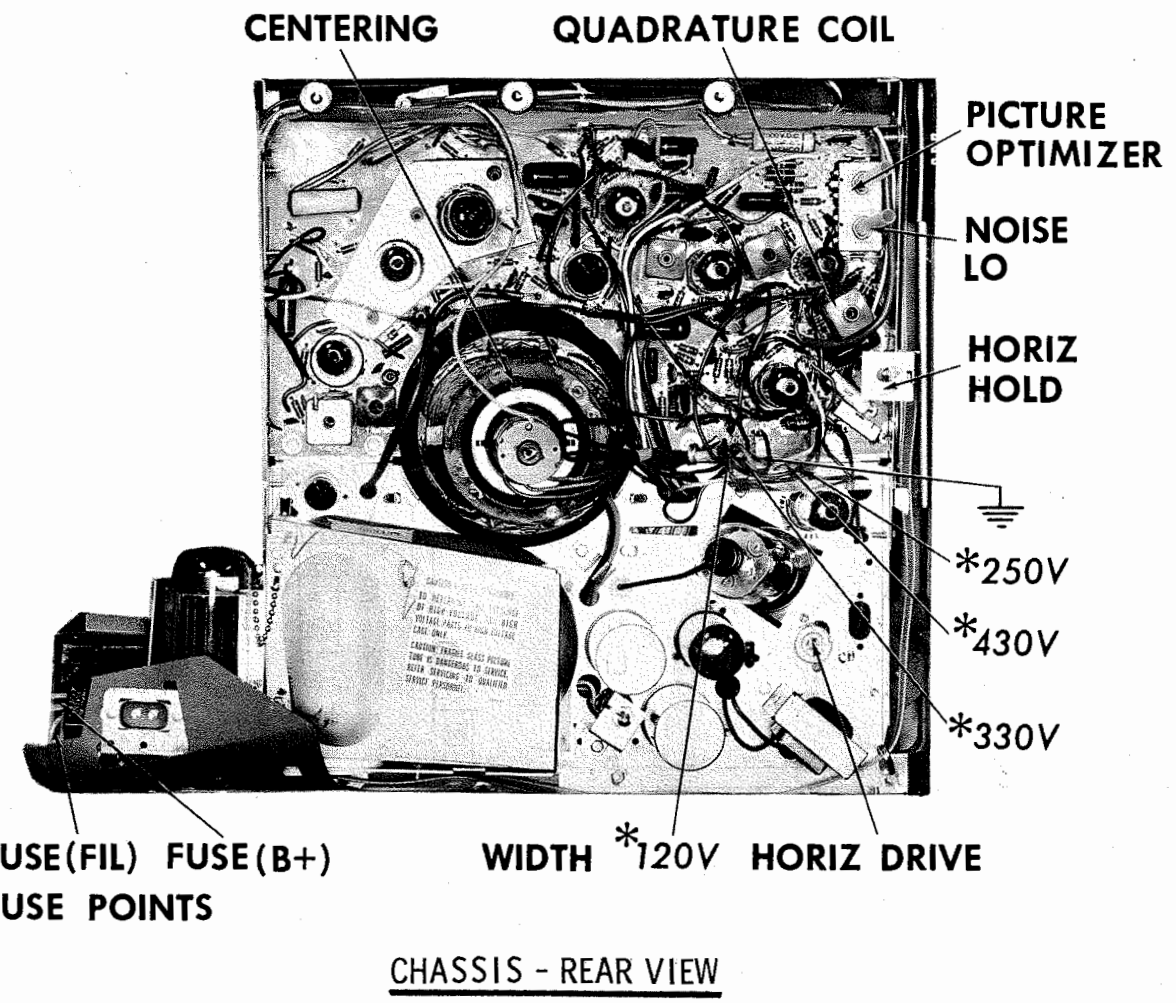




A PHOTOFACT STANDARD NOTATION SCHEMATIC
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13 POSITION TURRET-TYPE VHF TUNER 471449, 471464
EMERSON CHASSIS 120707B/D, 708B/D, 710F, 711F, 712A, 717B, 721F

FOLDER 1



CHASSIS - REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Tune in a TV station and set all controls for normal operation. Adjust the Horizontal Hold (Oscillator Coil Slug) until the picture is in proper sync. Change channels to see that the picture remains in sync.

Adjust the Horizontal Drive Control (R8) clockwise until a drive line appears in the center of the picture, then counterclockwise until the

line just disappears. If no drive line appears leave control fully clockwise.

Adjust the Width Coil Slug (B1) until the picture is just wider than necessary to fill the screen.

DISASSEMBLY INSTRUCTIONS

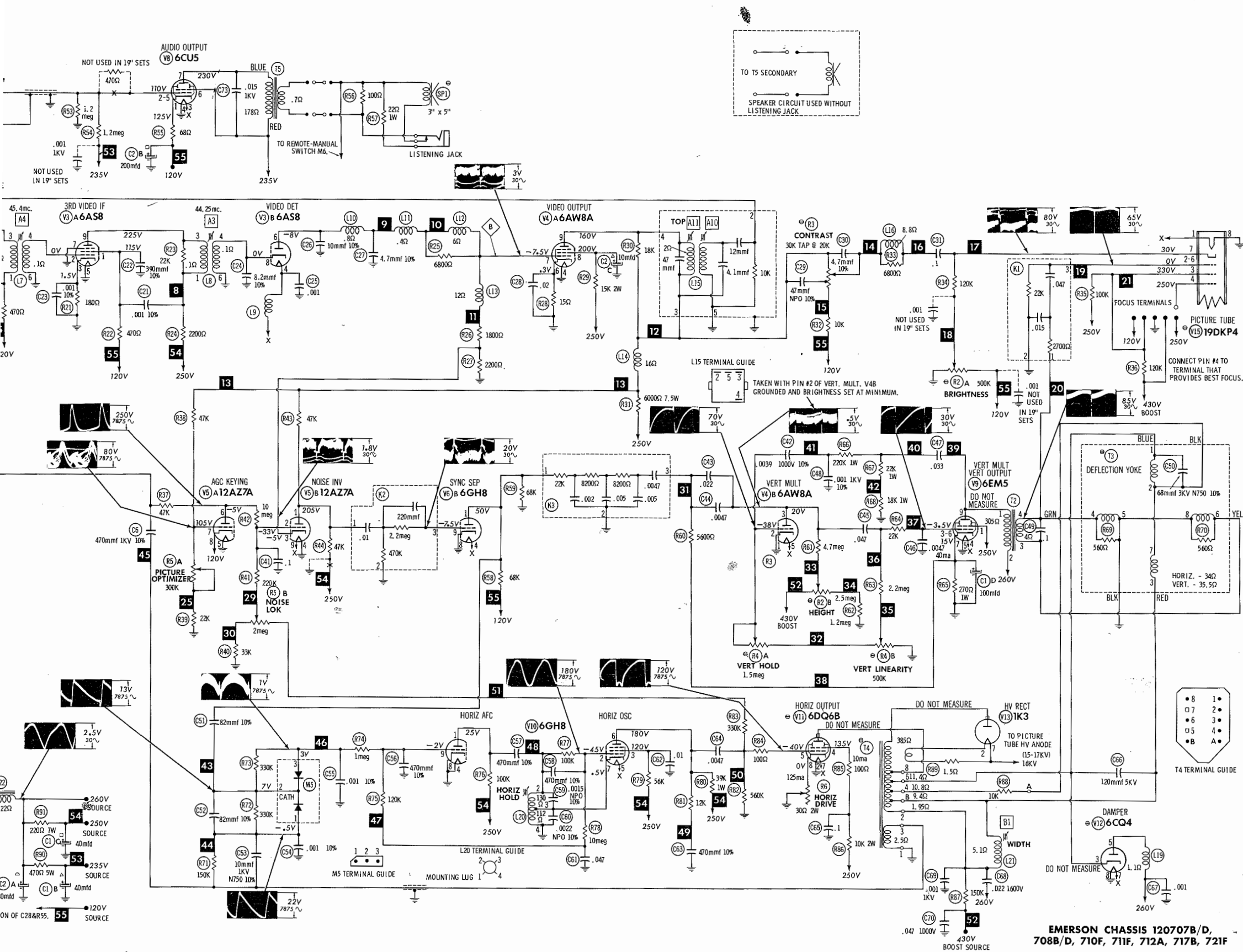
CHASSIS REMOVAL

1. Remove all knobs and cabinet back held by 6 screws. Unplug remote control amp and remove 2 screws.
2. Remove front bezel held by 3 screws at bottom. Loosen tuner assembly held by 1 screw.
3. Remove 2 screws at top of chassis and 6 screws at bottom.
4. Unplug speaker leads, high voltage lead, and picture tube socket.

5. Remove yoke clamp and remove chassis.

PICTURE TUBE REMOVAL

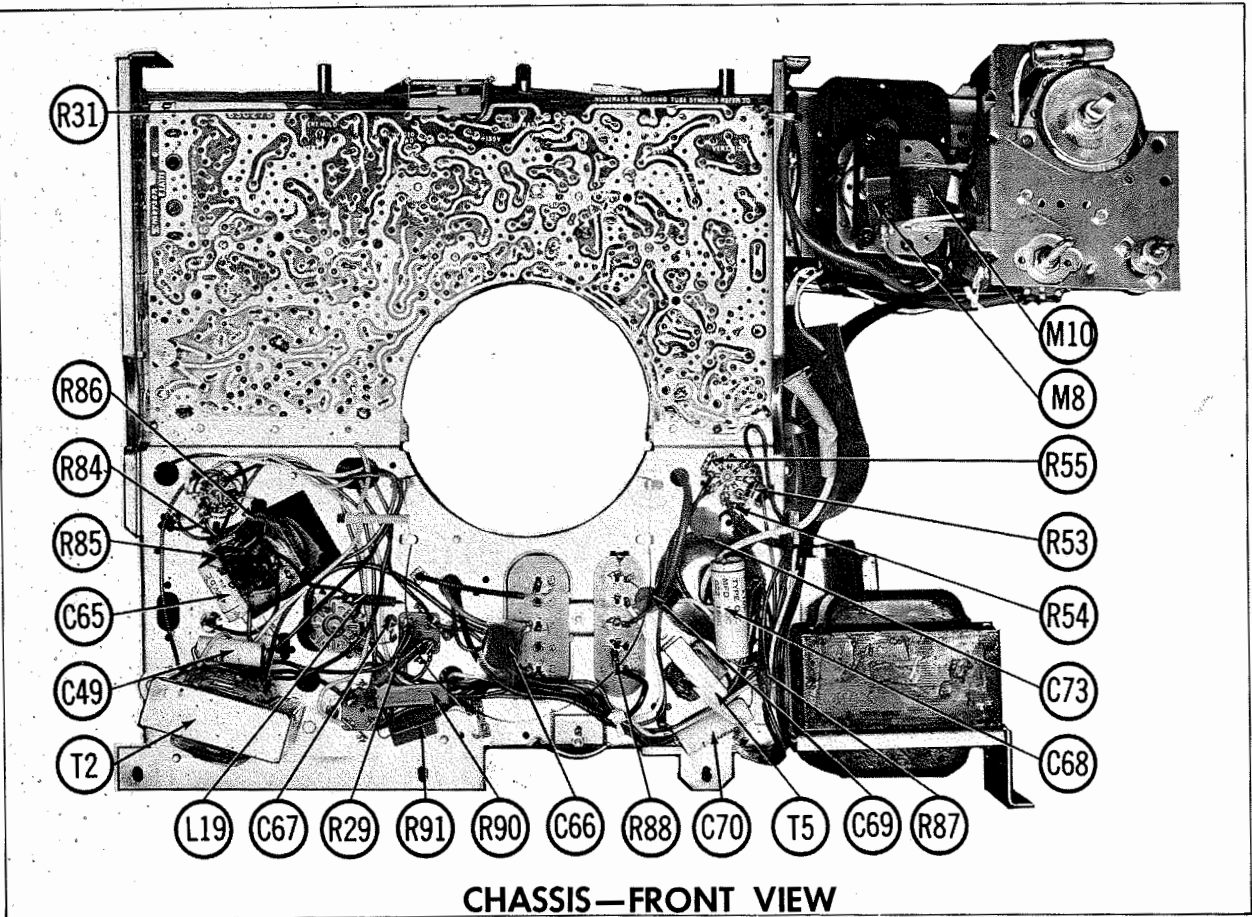
1. Remove cabinet back held by 6 screws and front bezel held by 3 screws at bottom edge.
2. Unplug picture tube socket, and high voltage lead. Remove yoke clamp. Remove 4 corner bracket screws and picture tube.



RESISTANCE MEASUREMENTS

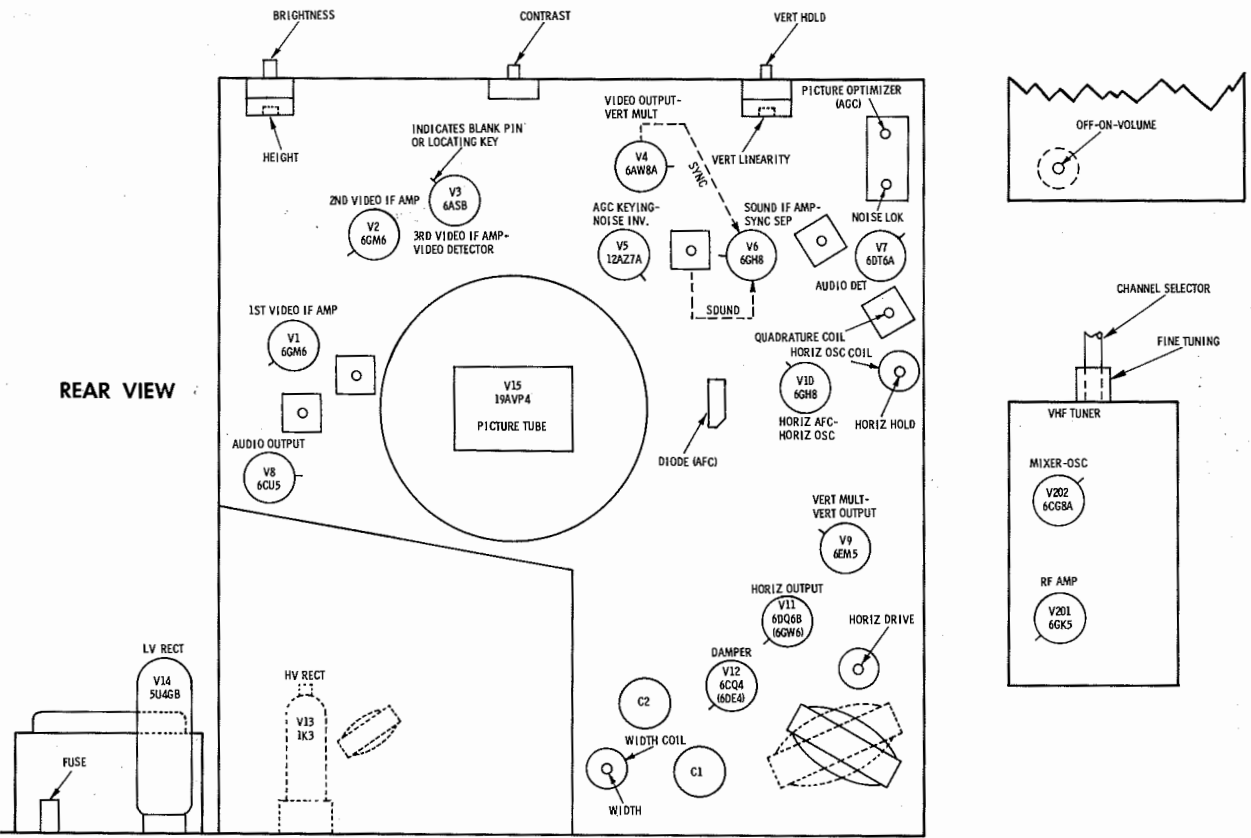
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6GM6	33K	47Ω	FIL	FIL	▲ 540Ω	▲ 540Ω	0Ω		
V2	6GM6	34K	47Ω	FIL	FIL	▲ 540Ω	▲ 540Ω	0Ω		
V3	6AS8	▲ 540Ω	.1Ω	180Ω	FIL	FIL	4000Ω	0Ω	.1Ω	† 2500Ω
V4	6AW8A	0Ω	1meg	† 6meg	FIL	FIL	15Ω	4000Ω	† 15K	† 6000Ω
V5	12AZ7	† 25K	800K	2200Ω	FIL	FIL	175K	† 43K	▲ 68Ω	FIL
V6	6GH8	▲ 50K	10K	▲ 540Ω	FIL	FIL	▲ 540Ω	220Ω	0Ω	2.7meg
V7	6DT6A	4.4Ω	390Ω	FIL	FIL	† 800K	▲ 3400Ω	550K		
V8	6CU5	# 50K	NC	FIL	FIL	† 650K	† 500Ω	† 700Ω		
V9	6EM5	† 240Ω	TP	NC	FIL	FIL	2.3meg	270Ω	NC	† 327Ω
V10	6GH8	† 100K	100K	† 56K	FIL	FIL	† 39K	112Ω	0Ω	1.7meg
V11	6DQ6B	NC	FIL	NC	† 10K	440K	TP	FIL	10Ω	
V12	6CQ4	NC	NC	460K	NC	† 23Ω	NC	FIL	FIL	
V13	1K3	PINS 1 THRU 8 HAVE INFINITE RESISTANCE								TOP CAP † 11Ω
V14	5U4GB	NC	# 100K	NC	20Ω	NC	22Ω	TP	# 100K	
V15	19AVP4	FIL	22K	† 270K	† 240Ω	NC	NC	160K	FIL	
V201	6GK5	0Ω	800K	FIL	FIL	▲ 2100Ω	0Ω	0Ω		
V202	6CG8A	12K	▲ 5000Ω	0Ω	FIL	FIL	▲ 1300Ω	▲ 27K	0Ω	100K

THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
▲ MEASURED FROM PIN 1 OF V8. † MEASURED FROM PIN 8 OF V14.
NC NO CONNECTION TP TIE POINT ‡ MEASURED FROM PIN 3 OF V12.



CHASSIS—FRONT VIEW

TUBE PLACEMENT CHART



REAR VIEW

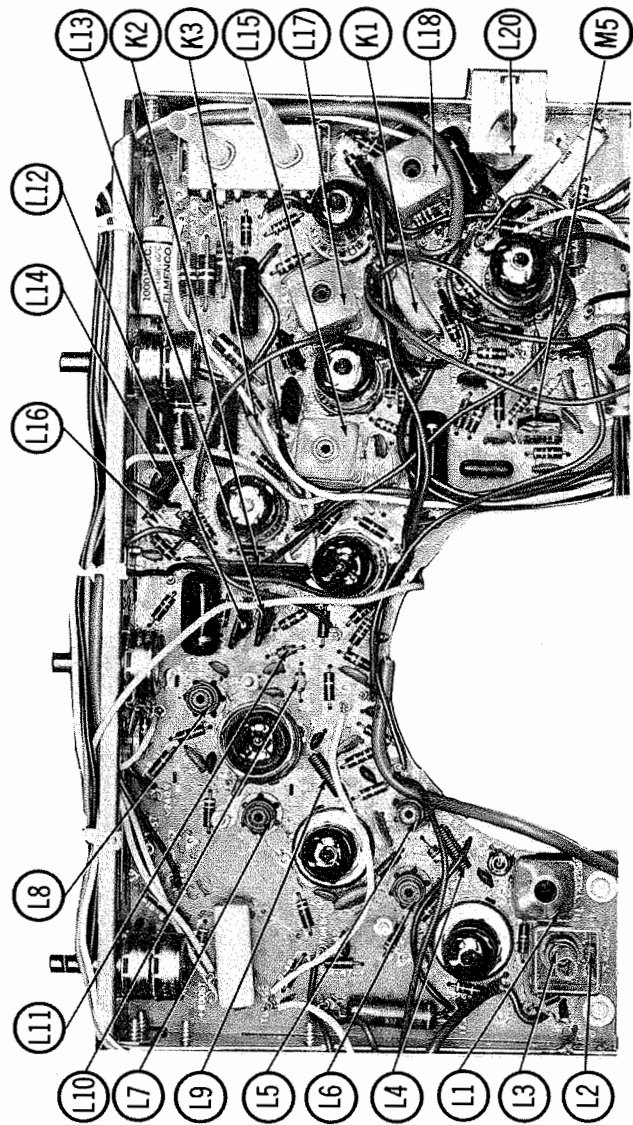
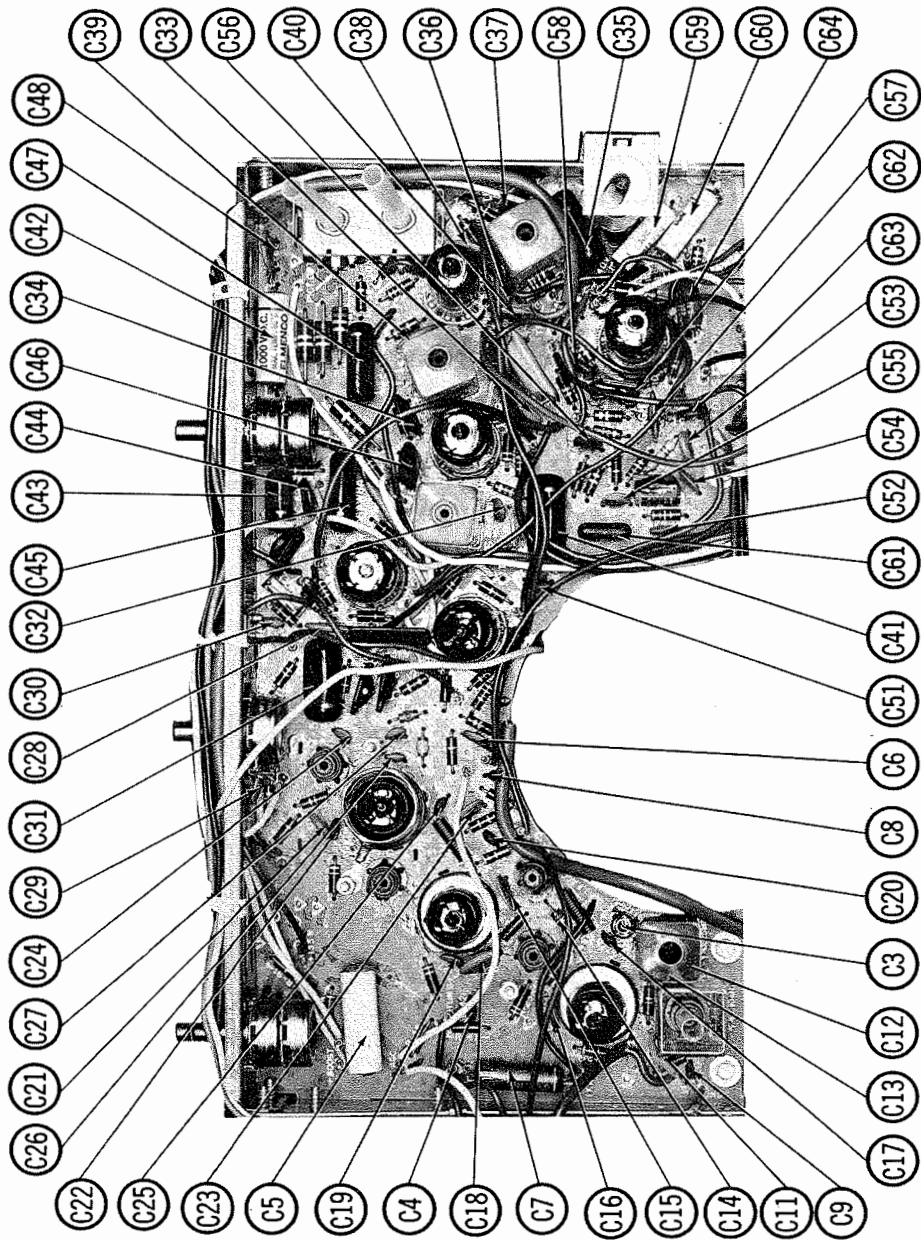
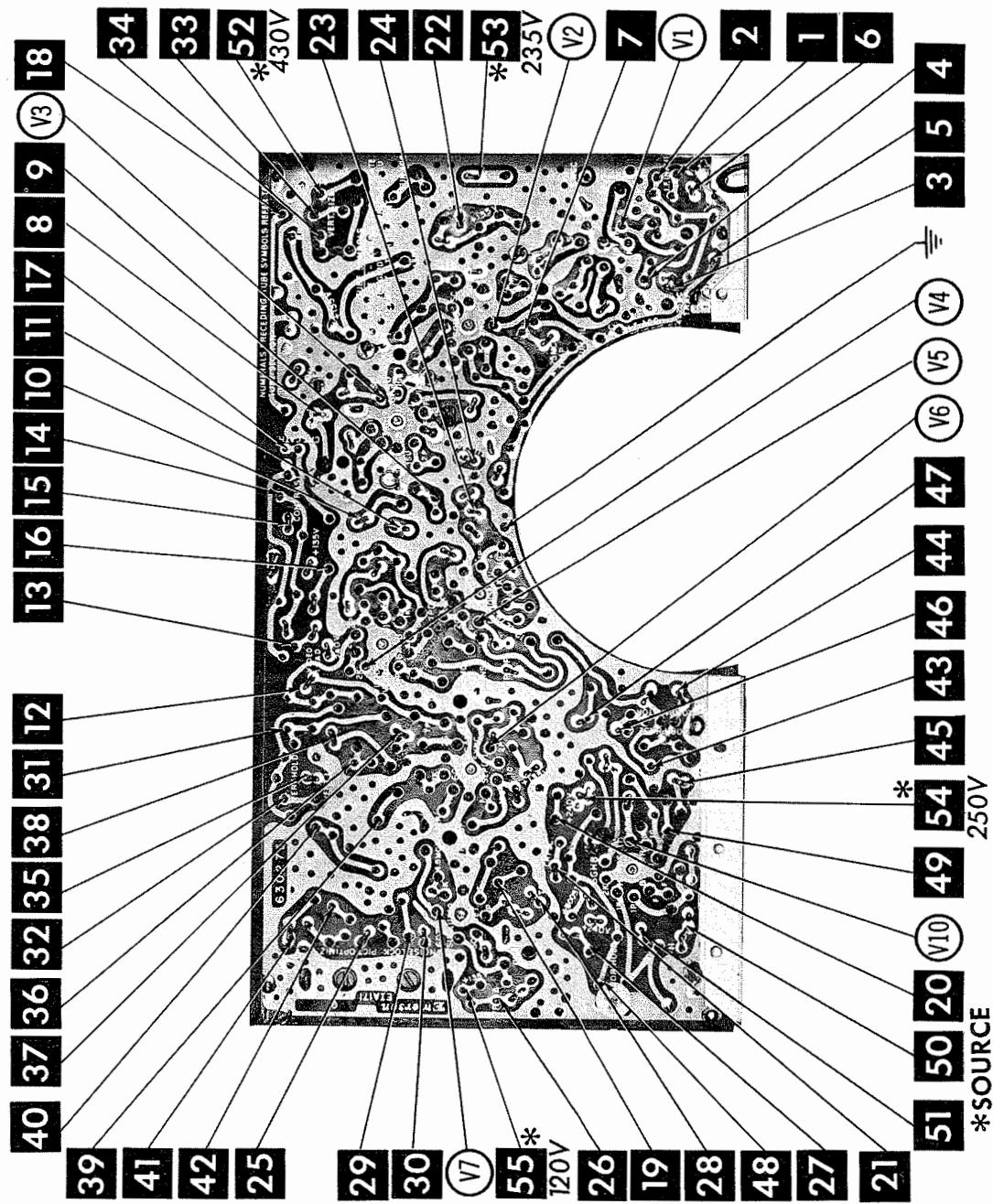
TUBE FAILURE CHECK CHART

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 M1, M2, V14	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 V6, V7, V8 Overloaded picture V5
SWEEP FAILURE No raster, has sound V10, V11, V12, V13, V15 No vertical deflection V4, V9 Poor vert. linearity or foldover V4, V9 Poor horiz. linearity or foldover V10, V11, V12 Narrow picture V10, V11, V12, V14 Vert. off freq. V4, V9 Horiz. off freq. V10, M5 (Horiz. AFC)	SYNC FAILURE No vert. sync V5, V6 No horiz. sync V5, V6 No vert. or horiz. sync V5, V6

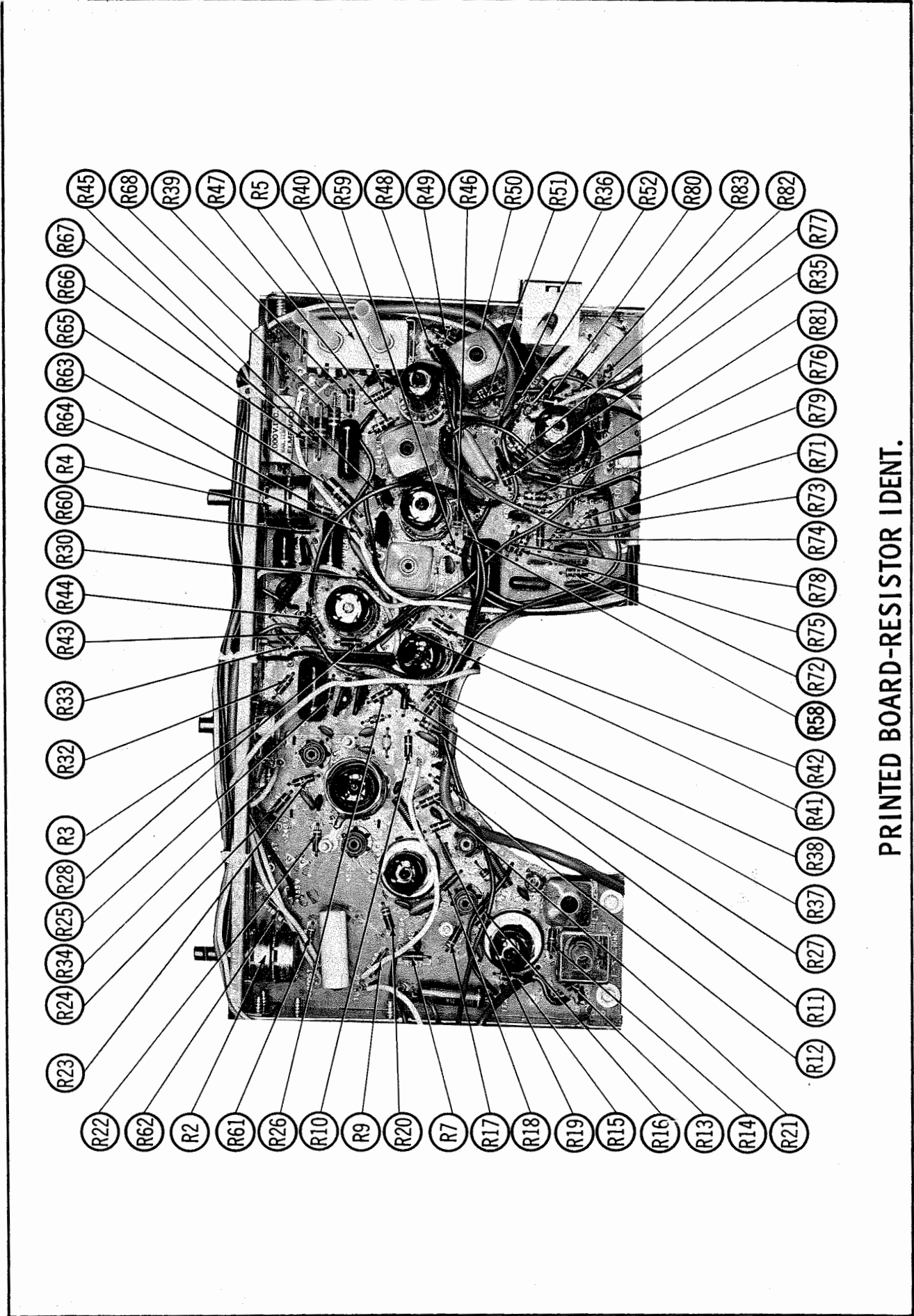
EMERSON CHASSIS 120707B/D,
708B/D, 710F, 711F, 712A, 717B, 721F

FOLDER 1



PRINTED BOARD

EMERSON CHASSIS 120707B/D,
708B/D, 710F, 711F, 712A, 717B, 721F



PRINTED BOARD-RESISTOR IDENT.

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: GENERAL CEMENT #8606, 8606L, 8867; WALSCO #2543, 2544, 2588

VIDEO IF ALIGNMENT

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

INDICATOR	GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	ADJUST	REMARKS
1. Connect DC probe of a VTVM thru a 47K resistor to point B. Common to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.		41.25MC 47.25mc.	AA1 A2	Adjust for MINIMUM.
2. Connect DC probe of a VTVM thru a 47K resistor to point B. Common to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.		44.25MC 45.3MC 42.8MC 43.1MC 45.0MC	A3 A4 A5 A6 Mixer Plate Coil	Adjust for maximum.
3. Connect vertical input of a scope to point B. Low side to ground.	Connect high side to ungrounded tube shield over Mixer-Osc. Low side to ground.	44MC (10MC Sweep)	41.25MC 42.4MC 44.0MC 45.6MC 47.25MC		Check for maximum gain and symmetry of response with markers as shown in Figure 1. In order to obtain a proper response, it may be necessary to slightly retouch A3, A4, A5, A6, and Mixer Plate Coil.

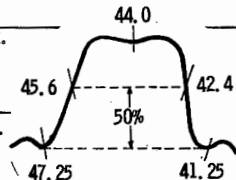


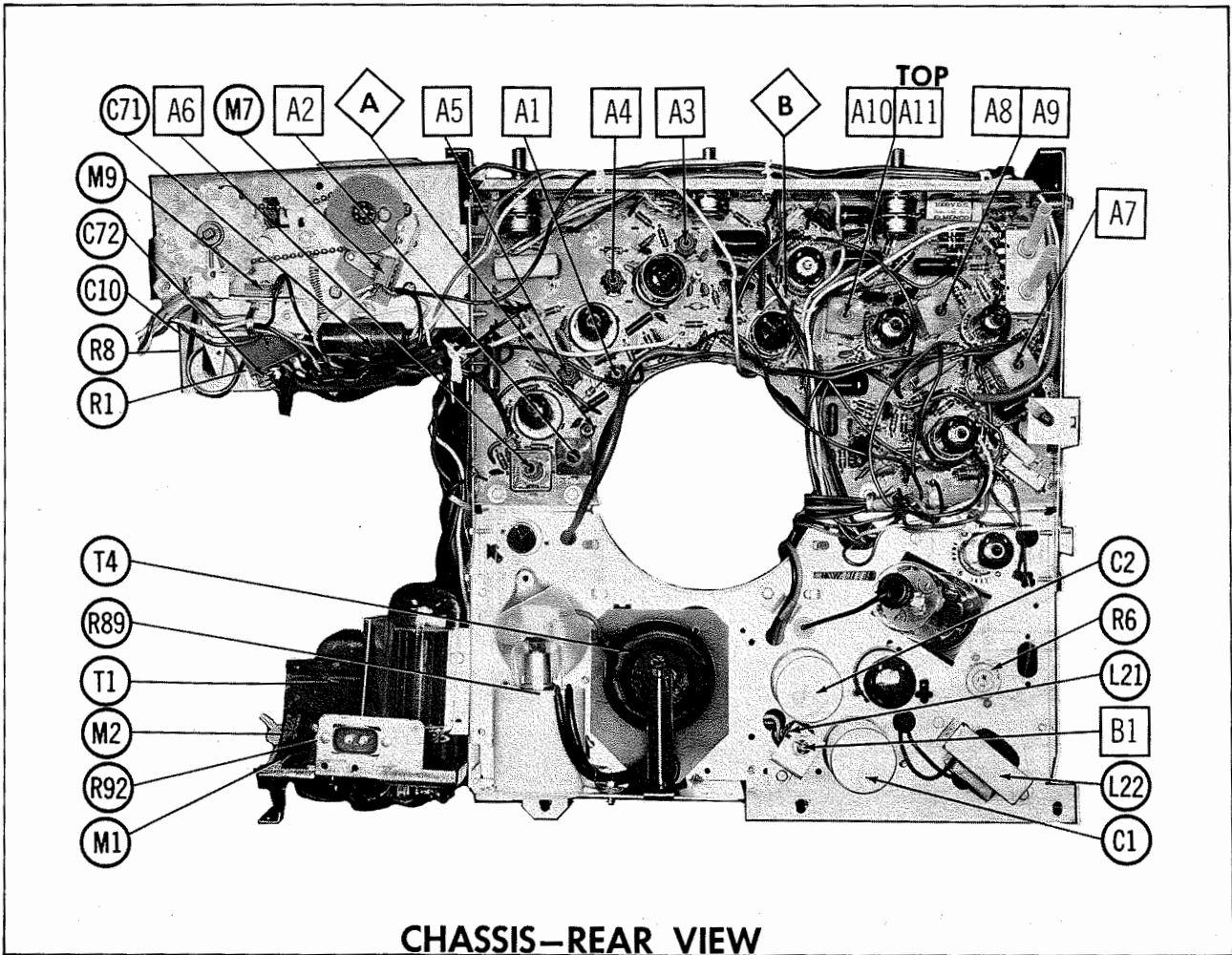
FIG. 1

4.5 MC TRAP ALIGNMENT

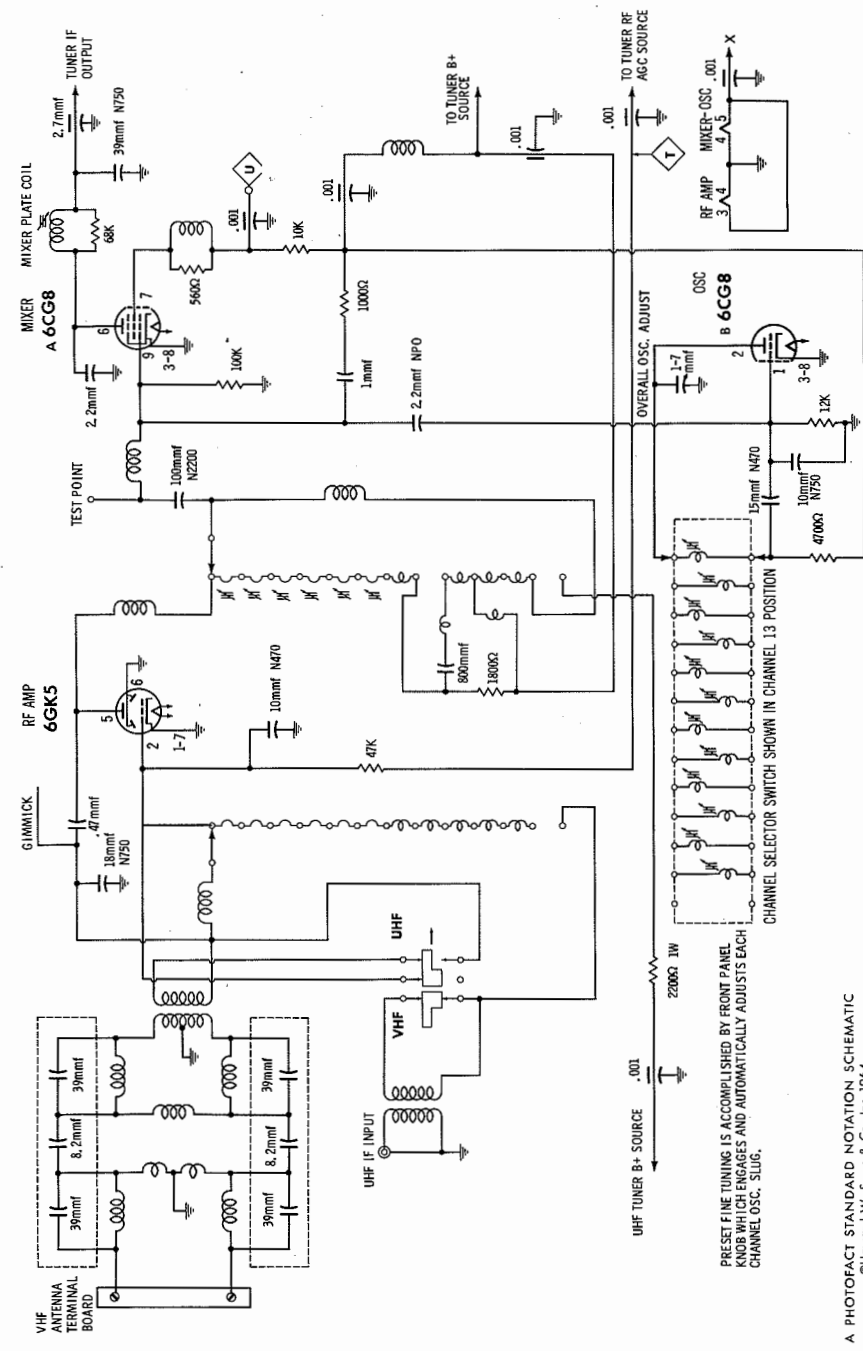
Tune in a strong TV signal and set the Contrast at maximum. Adjust the Fine Tuning until a beat pattern is visible on the screen. Adjust A11 for MINIMUM beat interference.

SOUND IF ALIGNMENT

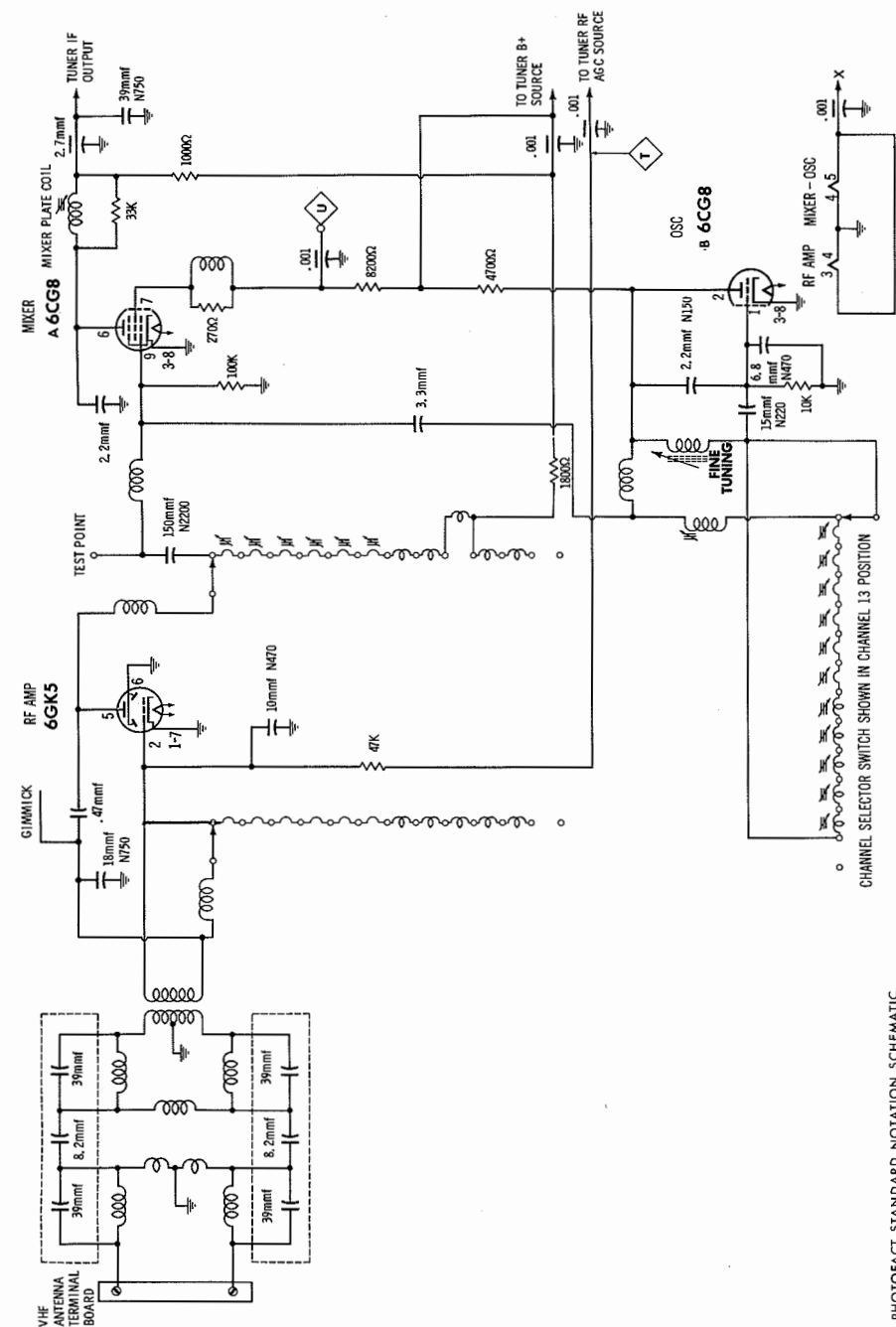
Tune in a station and adjust A7 for maximum sound. Reduce signal strength at the antenna terminals until distortion appears. Continue to reduce signal while aligning for undistorted output by adjusting A7, A8, A9, and A10.



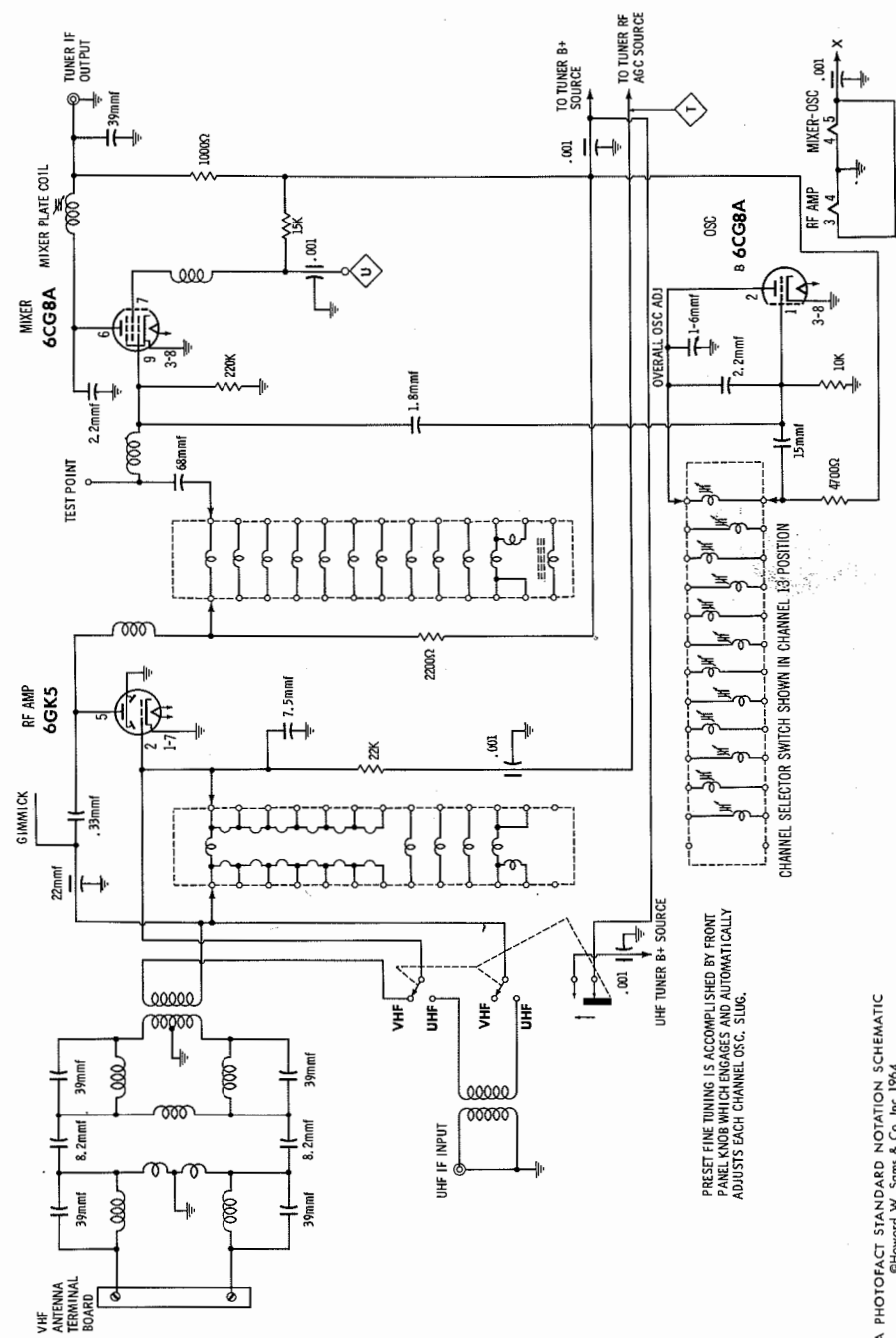
CHASSIS-REAR VIEW



13 POSITION SWITCH-TYPE VHF TUNER 471461



13 POSITION SWITCH-TYPE VHF TUNER 471468



13 POSITION TURRET-TYPE VHF TUNER 471462

**EMERSON CHASSIS 120707B/D,
708B/D, 710F, 711F, 712A, 717B, 721F**

VHF TUNER ALIGNMENT INSTRUCTIONS

OSCILLATOR ALIGNMENT TUNERS 471449, 471461, 471462, 471464

The oscillator in each channel is preset by means of the Fine Tuning Control. Depress the Fine Tuning and adjust for best picture and sound in each active channel. If any channel cannot be properly tuned in with Fine Tuning, adjust overall oscillator adjustment. Recheck all active channels.

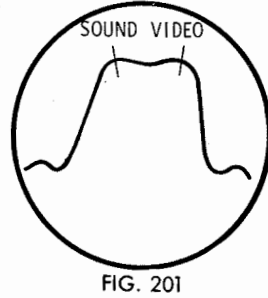
OSCILLATOR ALIGNMENT TUNER 471468

Adjust Fine Tuning Control until the holes in the Fine Tuning Pulley are in alignment with the corresponding holes at the front of the tuner chassis. Starting with the highest available channel in area and working toward the lowest, adjust each oscillator screw for best picture and sound on each active channel.

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 variable bias to RF AGC line at point ①. 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 120Ω in each lead.	213MC	211.25MC 215.75MC	13	Vert. input to point ①, low side to ground.	A201, A202	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.	A203	Increase bias to -15 volts and adjust for MINIMUM response.
3.	"	207MC	205.25MC 209.75MC	12	Vert. input to point ①, low side to ground.		Decrease bias. Check response on all channels and make compromise adjustments of A201 and A202 if required.
	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	Across antenna terminals with 120Ω in each lead.	213MC	211.25MC 215.75MC	13	Vert. input to point ①, low side to ground.		Compress or expand appropriate coils for maximum gain and symmetry of response as shown in Fig. 201 with markers as shown.
2.	"	195MC	193.25MC 197.75MC	10	Across video det. load resistor.	Gimmick	Increase bias to -15 volts and adjust for MINIMUM response.
3.	"	207MC	205.25MC 209.75MC	12			Decrease bias. Check all channels and if necessary, make compromise adjustments by expanding or compressing appropriate coils.
		201MC	199.25MC 203.75MC	11			
		189MC	187.25MC 191.75MC	9			
		183MC	181.25MC 185.75MC	8			
		177MC	175.25MC 179.75MC	7			
		85MC	83.25MC 87.75MC	6			
		79MC	77.25MC 81.75MC	5			
		69MC	67.25MC 71.75MC	4			
		63MC	61.25MC 65.75MC	3			
		57MC	55.25MC 59.75MC	2			



VHF TUNER PARTS LIST AND DESCRIPTIONS

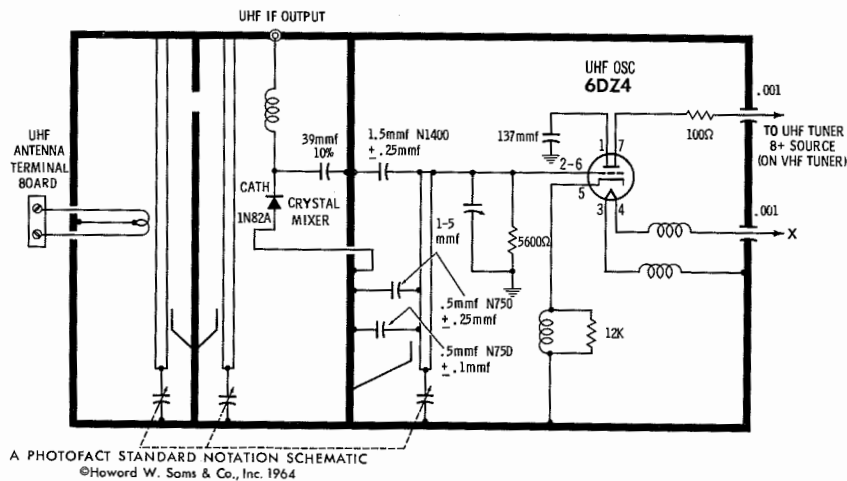
TUBES

AMPEREX			GENERAL ELECTRIC			RCA			RAYTHEON			SYLVANIA		
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE								
V201	R.F. Amp.	6GK5		V202	Mixer - Osc.	6CG8A								

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOR PART No.	MALLORY PART No.	SPRAGUE PART No.
R201	39		DI-39	DD-390	L10Q39	CCD-390	GP439	10TS-Q39
R202	8.2	5%	DI-8.2	DD-080	L10V8	CCD-390	GP580	10TS-V80
C203	39		DI-39	DD-390	L10Q39	CCD-390	GP439	10TS-Q39
C204	39		DI-39	DD-390	L10Q39	CCD-390	GP439	10TS-Q39
C205	8.2	5%	DI-8.2	DD-080	L10V8	CCD-390	GP580	10TS-V80
C206	39		DI-39	DD-390	L10Q39	CCD-390	GP439	10TS-Q39
C207	18.0		DI-8.2	DD-080	L10V8	CCD-390	GP580	10TS-V80
C208	10	N470						
C209	.001		EF-6-1000	MFT-1000				
C210	.33mmf							
C211	15	N470						
C212	10	N750						
C213								
C214	100	N2200						
C215	2.2	5%	NPO-DI-2.2	DTZ-2R2	C10V22C	CCCTO-2R2	CNO-522	10TCC-V22
C216	2.2	NPO 10%	NPO-DI-2.2	DTZ-2R2	C10V22C	CCCTO-2R2	CNO-522	10TCC-V22
C217	.001		EF-6-1000	MFT-1000				
C218	2.7	10%						
C219	100	10%	DI-100	DD-101	L10T1	CCD-101	GP310	10TS-T10
C220	.001		EF-6-1000	MFT-1000				
C221	.001		EF-6-1000	MFT-1000				
C222	.001		EF-6-1000	MFT-1000				

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



UHF TUNER 471450, 471451

PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements. Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

TUBES

* AMPEREX *			* GENERAL ELECTRIC *			* RCA *			* RAYTHEON *			* SYLVANIA *		
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE		ITEM No.	USE	TYPE		ITEM No.	USE	TYPE
V1	1st Video IF Amp.	6GM6		V8	Audio Output	6CU5		V9	Vert. Mult. - Vert. Output	6EM5		V10	Horiz. AFC - Horiz. Osc.	6GH8
V2	2nd Video IF Amp.	6GM6		V9	Horiz. Output	6DQ8B (6GW6) *		V10	Horiz. Output	6DQ8B (6GW6) *		V11	Damper	6CQ4 (6DE4) *
V3	3rd Video IF Amp. - Video Detector	6AS8		V10	Horiz. AFC - Horiz. Osc.	6GH8		V11	Horiz. Output	6DQ8B (6GW6) *		V12	Damper	6CQ4 (6DE4) *
V4	Video Output - Vert. Mult.	6AW8A		V11	Horiz. Output	6DQ8B (6GW6) *		V12	Damper	6CQ4 (6DE4) *		V13	HV Rectifier	1K3
V5	AGC Keying - Noise Inv.	12A27A		V12	Damper	6CQ4 (6DE4) *		V13	HV Rectifier	1K3		V14	LV Rectifier	5U4GB
V6	Sound IF Amp. - Sync Sep.	6CB8		V13	HV Rectifier	1K3		V14	LV Rectifier	5U4GB				
V7	Audio Detector	6DT6A		V14	LV Rectifier	5U4GB								

* Alternate

PICTURE TUBE

ITEM No.	REPLACEMENT DATA	NOTES
V15	19DKP4 23CP4	23CP4 ① 23CP4 ②

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	EMERSON PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	80	300	925513	AFH4-46-25	C0194 BR100-50	XC4-83	TMT-3304 TD-100-50	FP420.97	TVLS4623.5
B	40	300							
C	40	300							
D	100	50							
C2A	80	300	925514	AFH3-100-90	B0350 BR200-250	XC2-18 QT1-27	TMD-2490 TD-200-200	FP326.61	TVLS3577.9
B	200	200							
C	10	300							
C3	2	50							
			925578	PTT88	NLW2-50	MT1-1	MLV2-50	TT50X2	TE-1301

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

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL- DUBILIER PART No.	ELMENCOR PART No.	MALLORY PART No.	SPRAGUE PART No.
C4	.001		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C5	.22	300V	P268N-22	PM2P22		2DP-4-224	GEM-2022	2TM-P22
C6	470	1KV 10%	DI-470	DD-471	BYA10S1	CCD-471	GP347	10TS-T47
C7	.01	600V	P888N-01	DD-103	PM6S1	6DP-2-103	GEM-611	6TM-S10
C8	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C9	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C10	39	N750 5%		TCN-39	C10Q39U		CNT-439	10TCC-Q39
C11	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C12	15	NPO 5%	(18) †	DTZ-15	C10Q15C		CNO-415	10TCC-Q15
C13	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C14	1.8	10%						
C15	47	NPO 10%	NPO-DI 47	DTZ-47	C10Q47C	CCCTO-470	CNO-447	10TCC-Q47
C16	.001	10%	DI-1000	DD-102	JB8D1	CCD-102	GP210	10TS-D10
C17	.001	10%	BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C18	.01		BPD-001	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C19	580	10%	DI-580	DD-561	JB8T56	CCD-561	GP356	10TS-T56
C20	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C21	.001	10%	DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10
C22	390	10%	DI-390	DD-391	LA10T39-C4	CCD-391	GP339	10TS-T39
C23	.001	10%	DI-1000	DD-102	JB8D1	CCD-102	GP210	10TS-D10
C24	8.2	10%	DI-8.2	DD-080	L*10V8-SL		GP580	10TCC-V82
C25	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C26	10	10%	DI-10	DD-100	LA10Q1-SL	CCD-100	GP410	10TS-Q10
C27	4.7	10%	NPO-DI 4.7	DTZ-4R7	C10V47C	CCCTO-4R7	CNO-547	10TCC-V47
C28	.02		BPD-02	DD-203	BYA6S2	CCD-203	B-120	5HK-S20
C29	47	NPO 10%	NPO-DI 47	DTZ-47	C10Q47C	CCCTO-470	CNO-447	10TCC-Q47
C30	4.7	10%	NPO-DI 4.7	DTZ-4R7	C10V47C	CCCTO-4R7	CNO-547	10TCC-V47
C31	.1	400V	P488N-1	DF-104	PM4P1	4DP-3-104	GEM-601	4TM-P10
C32	22	NPO 10%	NPO-DI 22	DTZ-2-22	C10Q22C	CCCTO-220	CNO-422	10TCC-Q22
C33	.001	10%	DI-1000	DD-102	JB8D1	CCD-102	GP210	10TS-D10
C34	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47
C35	.047	600V	P888N-047	DD-503	PM6S47	6DP-3-473	GEM-6147	6TM-S47
C36	820	1KV 10%	DI-820	DD-821		CCD-821	GP382	10TS-T82
C37	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C38	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C39	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C40	.01	1KV	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10

SET 702 FOLDER 1

EMERSON CHASSIS 120707B/D,
708B/D, 710F, 711F, 712A, 717B, 721F

FOLDER 1

PARTS LIST AND DESCRIPTION (CONTINUED)

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.

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOR PART No.	MALLORY PART No.	SPRAGUE PART No.
C41	.1 400V		P488N-1	DF-104	PM4P1	4DP-3-104	GEM-401	4TM-P10
C42	.0039 1000V 10%		P488N-022	DD-203	PM4P1	16DP-2-402	GEM-1824	10TM-P40
C43	.022 400V		BPD-0047	DD-472	BYA10D47	4DP-2-223	GEM-4122	4TM-S22
C44	.0047 400V		P488N-047	DD-503	PM4P1	CCD-472	B-247	5HK-D47
C45	.047 400V		BPD-0047	DD-472	BYA10D47	4DP-3-473	GEM-4147	4TM-S47
C46	.0047 400V		P688N-033	DD-303	PM6833	CCD-472	B-247	5HK-D47
C47	.033 600V		DX-1000	DD-102	PM4P1	8DP-3-333	GEM-6133	6TM-S33
C48	.001 1KV 10%		P488N-1	DF-104	PM4P1	CCD-102	GP210	10TS-D10
C49	.1 400V		P488N-1	DF-104	PM4P1	4DP-3-104	GEM-401	4TM-P10
C50	88 3KV N750 10%		DX-82	DD-820	LA10Q82-S3	CCD-820	GP482	10TS-Q82
C51	82 10%		DI-82	DD-820	LA10Q82-S3	CCD-820	GP482	10TS-Q82
C52	82 10%		DI-82	DD-820	LA10Q82-S3	CCD-820	GP482	10TS-Q82
C53	10 1KV N750 10%		DI-1000	DD-102	JB6D1	CCTN-100	CPN-410	10TCU-Q10
C54	.001 10%		DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10
C55	.001 10%		DI-1000	DD-102	JB6D1	CCD-102	GP210	10TS-D10
C56	.001 10%		DI-470	DD-471	JB6T47	CCD-471	GP210	10TS-T47
C57	.470 10%		ADM-19-471	CPR-470J	CD19E471K	DM-19-471K	MCB244	MS-347
C58	.470 10%		DI-470	DD-471	JB6T47	CCD-471	GP347	10TS-T47
C59	.0015 500V NPO 10%		P288N-047	DD-503	PM2847	4DP-3-473	GEM-2147	2TM-S47
C60	.0022 500V NPO 10%		BPD-01	DD-103	BYA1081	CCD-103	B-110	5HK-S10
C61	.047 200V		DX-470	DD-471	JB6T47	CCD-471	GP347	10TS-T47
C62	.01 10%		P488N-0047	DD-472	WMF4D47	8DP-1-472	PVC4247	6TM-D47
C63	.470 10%		P488N-1	DF-104	PM4P1	4DP-3-104	GEM-401	4TM-P10
C64	.0047 400V		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C65	.1 400V		BPD-001	DD-102	BYA10D1	16DP-5-223	GEM-16122	MB-S22
C66	120 5KV 5%		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C67	.001 10%		P1088N-047	DD-503	PK10847	16DP-5-473	GEM-10147	10TM-S47
C68	.001 1KV		P688N-1	DF-104	PM681	8DP-4-104	GEM-801	6TM-P10
C69	.001 1KV		P688N-1	DF-104	PM681	8DP-4-104	GEM-801	6TM-P10
C70	.470 1000V		P488N-01	CPR-1000J	PM481	4DP-1-103	GEM-411	4TM-Q10
C71	.1 600V		BPD-015	DD16-153	BYA10815	B-115	B-115	10TS-S15
C72	.01 400V							
C73	.015 1KV							

† Alternate Value
Note 1. Not used in Models without Remote Control.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			EMERSON PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	Volume, Switch	1meg	390741 ①	F2-1meg, SP212, KR-8 or (APL-70, AK-33)	C478-1meg-Z RS-3/18	B13-137, SK8 or (PPQ13-137, SK8) or (BU2, CF28, SS11, K) * † QJ-1432	RUP18A, SL35 or (PP18A, DS-37)	
R2A	Brightness	500K	390628 ③	F1-500K, RI-2.5meg, FFS100	P-500K-S R-2.3meg-S CP-015	• QJ-1600	† UE4317	
R2B	Height	2.5meg	390722	F1-500K, RI-2.5meg, FK101	P-500K-S R-2.5meg-S KP-102	† QJ-1684	† UE3898	
R3	Contrast	30K	390706	F51-30K, FFS100		† QJ-1434	UA34T253, SD3500 or (RU34T24, SL35, IS1000) or (UT-415, DS-37) * † UE4318	
R3	Contrast	20K Tap 30K 20K Tap	390707 ③	F51-30K, SF8212		• QJ-1601	† UE3885	
R4A	Vert. Hold	1.5meg	390628	F1-1.5meg, RI-500K, FFS100	P-1.5meg-S R-500K-S CP-015	• QJ-1601	† UE3885	
R4B	Vert. Linearity	500K	390723 ③	F1-1.5meg, RI-500K, FK101	P-1.5meg-S R-500K-S, KP-102			
R4A	Vert. Hold	1.5meg	390723 ③	F1-1.5meg, RI-500K, FK101	P-1.5meg-S R-500K-S, KP-102			
R4B	Vert. Linearity	500K	390723 ③	F1-1.5meg, RI-500K, FK101	P-1.5meg-S R-500K-S, KP-102			
R5A	Picture Optimizer	300K	390740			B11-131 ②④, TM9 or (BU11, CF14 ④, SS8, DC2) * B11-139 ②④, TM9 or (BU11, CG19 ④, SS8, DC2) * 112-50 or W11-030, SK5 or (BU1, WF18, SS2) *	VW30 or (R30L)	
B	Noise-Lok	2meg						
R6	Horiz. Drive	30Ω 2W	390625	WN-030 or (WW-030)	39-50			

† "CONCENTRIKIT" Equivalent: K-8 Kit with Base Elements and Shafts: B11-133 ②, P22-103 (Panel)
"SNAPTROL" Equivalent: BU5, CF18, CR14, SF8, SR100.
• "CONCENTRIKIT" Equivalent: K-8 Kit with Base Elements and Shafts: B11-133, P20-104 (Panel)
"SNAPTROL" Equivalent: BU7, CF18, CR15, SF54, SR100.
B11-239, R15-005 (Rear), R5
• "CONCENTRIKIT" Equivalent: K-8 Kit with Base Elements and Shafts: B11-138 ②, P22-103 (Panel)
"SNAPTROL" Equivalent: BU5, CF18, CR11, SF8, SR100.
B11-133 ②, R15-005 (Rear)
• "CONCENTRIKIT" Equivalent: K-8 Kit with Base Elements and Shafts: B11-138, P20-104 (Panel)
"SNAPTROL" Equivalent: BU7, CF18, CR11, SF54, SR100.
B11-133, R15-005 (Rear), R5
† "STA-LOC" Equivalent: FA55L, RU28L, OS1000A, 1K825. ① 23" Receivers use Part #390742. Chassis 120677A uses Part #390743.
• "STA-LOC" Equivalent: FB55L, RU25L, OS1187, 1K825.
• "STA-LOC" Equivalent: FA155L, RU55L, OS1000A, 1K825. ② Use Base Elements with "PC" terminals.
• "STA-LOC" Equivalent: FA155L, RU55L, OS1187, 1K825. ③ Used in 23" Receivers.
• "SNAPTROL".
④ Special Dual Unit; when replacing either, both must be replaced.
†† "CONCENTRIKIT" Equivalent: K-15 Kit with Base Elements and Shafts: B20-121X, P22-100 (Panel)
"SNAPTROL" Equivalent: BU4, CF49T, SF6

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R31	8000Ω 7.5W	MR 4	10W-SQ-6000	#394243	R92	470Ω 5W	MR 3	5W-SQ-470	#397149
R90	220Ω 7W	MR 3	7W-SQ-220	#394234					

* Emerson Part Number

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		EMERSON PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	47.25MC Trap	720315		7515-E			
L2	RF Choke (4.4uh)	705042	BC-564	74F470AF	RTC-8518	T858	
L3	1st Video IF	720418					
L4	5th Choke (18 turns)	705031					
L5	41.25MC Trap	720317		7516-E		T273	
L6	2nd Video IF	720318		7514-E		T272	
L7	3rd Video IF	720318		7514-E		T272	
L8	4th Video IF	720318		7514-E		T272	
L9	5th Choke (18 turns)	705031					
L10	RF Choke (4.4uh)	705040	BC-564	79F470AF	RTC-8518	T858	
L11	RF Choke (1.6uh)	705041	BC-562	74F156AF	RTC-8518	T856	
L12	Peaking (90uh)	708406	BC-869	8177	RTC-8594	T340	
L13	Peaking (270uh)	708405	BC-874	8130	RTC-8576	T316	
L14	Peaking (530uh)	708404	BC-878	8144	RTC-8581	T354	
L15	Sound Takeoff - 4.5MC Trap	720447					
L16	Peaking (180uh)	708401	BC-872	8180	RTC-8597	T344	
L17	Sound IF Interstage	720337				T270	
L18	Quadrature	720404	TV-234			T268	
L19	RF Choke (10uh)	705021	BC-568	71F105AF	RTC-8522	T860	

COILS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA							NOTES
		EMERSON PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	WORKMAN PART No.	
L20	Horiz. Osc. (Hold)	718148							
L21	Width	708416	MWC-11	8314	RTC-8628	WC-18	WLC-6	TB114	

FILTER CHOKE

ITEM No.	RATINGS		REPLACEMENT DATA						NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	EMERSON PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L22	.250A	22Ω	.45 Hy.	737047	C-4115	C-2343	28C77	C-27X	

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	EMERSON PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC ① 1.75A	540VCT ② .250A DC	6.3VAC ③ 7.5A	730114		P-8377	26R116	R-87BC	
	SEC. 3	SEC. 4	SEC. 5						
	6.3VAC ④ 3A								

* TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		EMERSON PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	Vert. Output	738189	A-4098	YO-112		A-132X ①	① Drill new mounting hole(s).
T3	Yoke (Horiz. 21MH)	708403 †	MDF-128 ②	DY-38A ②	Y-53 ②	Y-62 & NW22	② Use original horizontal damping capacitor if necessary.
	110° (Vert. 36MH)	708402 †	MDF-111 ②	DY-38A ②	Y-53 ②	Y-62 & NW22	③ Used in 19" Models.
	Yoke Clamp	587195					④ Used in 21" Models.
T4	Horiz. Output	738190 †					
		738191 †					

* COMPONENT CONNECTION DATA

ORIGINAL →	HV TRANSFORMER		VERTICAL OUTPUT				YOKE				YOKE PLUG			
	Original Connections		Original Connections				Original Connections				TO YOKE TERMINAL			
MERIT			Blue	Red	Black/White	Yel.	2	1	10	5	4	8	3	6
STANCOR			Blue	Red	Green	Yel.	1	2	3	4	5	6	7	8
THORDARSON							2	1	7	6	8	4	3	5
TRIAD			Blue	Red	Green	Yel.	2	1	7	6	8	4	3	5

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	EMERSON PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T5	2000Ω	3-4Ω	734221	A-3025	A-3332	24853	S-20X	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		EMERSON PART No.	QUAM PART No.	
SP1	3" x 5" PM 3-4Ω	180262	35A05	Used in Models T/U-1870/1872/1875.
	4" x 6" PM 3-4Ω	180229		Used in Models T/U-1865/1866/1867.
	4" x 6" PM 6-8Ω	180222	46A1528	Used in Models T/U-1880/1881/1882.
	4" x 6" PM 6-8Ω	180222	46A1528	Model T-1876
	3 1/2" PM 3-4Ω	180297		

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	EMERSON PART No.	REPLACEMENT DATA
K1	Vert. Retrace Suppression	2700Ω, 22K, .01mfd, .047mfd	923174	
K2	Sync Separator	470K, 2.2meg, 220mmf, .01mfd	923175	
K3	Vertical Integrator	8200Ω, 8200Ω, 22K, .002mfd, .0047mfd, .005mfd, .005mfd	923159	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA				BUSS PART No.
			EMERSON PART No.	LITTELFUSE PART No.	FUSE	HOLDER	
M1	Chemical	450MA	808232				
M2	2" length of #26 fuse wire		808231				

MISCELLANEOUS

ITEM No.	PART NAME	EMERSON PART No.	NOTES
M3	VHF Tuner VHF Tuner VHF Tuner VHF Tuner UHF Tuner		
M2	Antenna Antenna Antenna	471444 471348 471348A	JFD REPLACEMENT TA393 JFD REPLACEMENT TA38
M5	Diode	817074	Horizontal AFC (Dual)