

CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Tune to a TV station and set all controls for normal operation. Adjust the Horizontal Hold Control, (Horizontal Oscillator Coil), until the picture is in horizontal sync and cannot be disrupted when switching from channel to channel.

DISASSEMBLY INSTRUCTIONS

TV CHASSIS REMOVAL

- 1. Remove 10 screws holding rear cover and remove rear cover. On some models it may be necessary to disconnect antenna leads. Remove all knobs.
- 2. Disconnect high voltage anode lead, picture tube socket, speaker leads, ground wire, and remote control plug.
- 3. Remove 9 screws holding chassis and 4 screws holding tuner and controls.
- 4. Lift out chassis and tuner.

NOTE: Most components may be serviced without removing chassis.

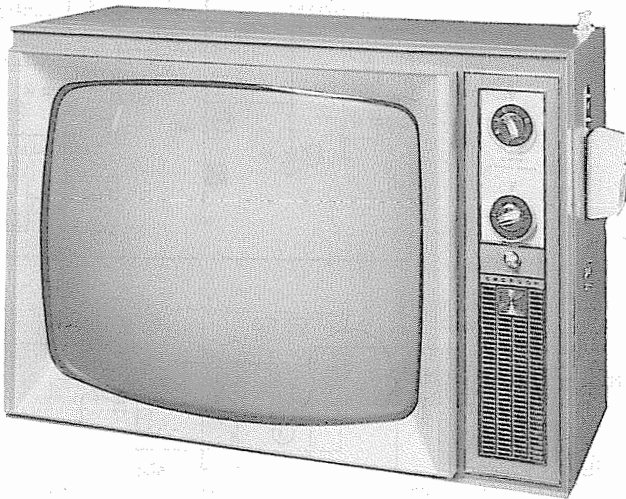
PICTURE TUBE REMOVAL

- 1. Follow "Chassis Removal" procedure. Lay set face down on a soft protective surface.
- 2. Remove 4 nuts holding picture tube bracket and lift out picture tube. Do not lift out by the neck of the tube.

SET 838 FOLDER 2

EMERSON CHASSIS
120837A/839A/840A/840B/
840C/841A/842A/843A/846B/847B/848F

PHOTOFACT® Folder with CIRCUITRACE®



MODEL 13T06

EMERSON CHASSIS
120837A/839A/840A/840B/
840C/841A/842A/843A/846B/847B/848F

IMPORTANT FILING NOTICE

Some models covered by this PHOTOFACT Folder employ chassis in addition to the TV chassis. PHOTOFACT Folders covering these additional chassis are packaged immediately behind this Folder and should be filed with this Folder in the yellow filing jacket provided. For specific coverage see index below.

INDEX

Remote Control Transmitter 471620,
Receiver 471685 SET 838, FOLDER 2-A

CAUTION

ONE SIDE OF AC LINE CONNECTED TO CHASSIS

TRADE NAME	Emerson	Models	Chassis	Models	Chassis	Models	Chassis
		13C16	..120839A	16P04	..120841A	19P24	..120847B
		13C17	..120839A	16P06	..120840B/C	19P25	..120842A
		13C18	..120839A	16P07	..120840A/B/C	19P26	..120842A
		13T05	..120837A			19P27	..120846B
		13T06	..120843A	* With Remote Control Receiver #471685, Transmitter #471620.		19P28	..120848F
SUPPLIER	For current address, see Annual Index.						
TYPE SET	Television Receiver						
TUBES	Thirteen						
POWER SUPPLY	110-120 Volts AC, 60 Cycles						
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

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

FUSE OR FUSE DEVICE

A 1.2 Amp. fuse is used for low voltage power supply protection. (See "Tube Placement Chart" for location.)

VHF OSCILLATOR ADJUSTMENT

The Fine Tuning mechanically engages oscillator slug for adjustment (one slug for each channel).

AGC

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

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

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

WIDTH

A jumper across R68 increases width — removing jumper decreases width.

FOCUS

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

CENTERING

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

HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206



The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. NA847

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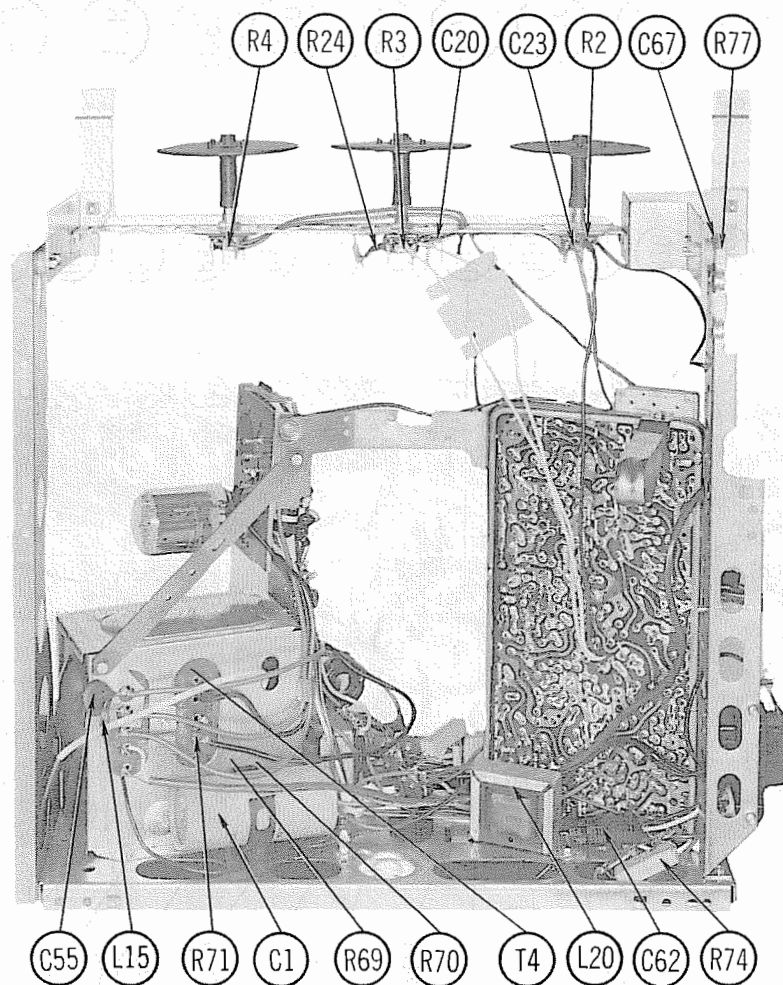
DATE 9 -66 SET 838 FOLDER 2

RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Pin 11	Pin 12
V1	4EH7	142Ω	110K	142Ω	4Ω	6Ω	0Ω	490Ω †	490Ω †	0Ω			
V2	4EJ7	100Ω	0Ω	100Ω	6Ω	7Ω	0Ω	240Ω †	240Ω †	0Ω			
V3	8AW8A	0Ω	1.1meg	5.9meg †	10Ω	7Ω	15Ω	1200Ω ◊	2200Ω †	4100Ω †			
V4	6LX8	200K	400K	22Ω †	22Ω	19Ω	22K †	2200Ω	29K	22K			
V5	6LN8	26K †	10K	8200Ω †	14Ω	12Ω	8200Ω †	220Ω	0Ω	2.6meg			
V6	4DT6	5.5Ω	470Ω	14Ω	15Ω	470K †	3300Ω †	470K					
V7	17CU5	270Ω	NC	15Ω	19Ω	35K	470Ω †	430Ω †					
V8	10CW5	NC	2.5meg	22Ω	10Ω	12Ω	NC	247Ω †	NC	22Ω †			
V9	38HE7	30Ω	22Ω †	NC	500K	7Ω †	NC	NC	0Ω	560K	NC	1900Ω †	22Ω
V10	1K3												
PINS 1 THRU 8 HAVE INFINITE RESISTANCE													
V11	23HWP4	3Ω	22K	470K †	22Ω †	NC	NC	160K	4Ω				
V201	3HQ5	1.3meg	0Ω	1Ω	0Ω	1440Ω †	0Ω	0Ω					
V202	6HB7	0Ω	220K	0Ω	1Ω	3Ω	1240Ω †	22K †	4940Ω †	3300Ω			

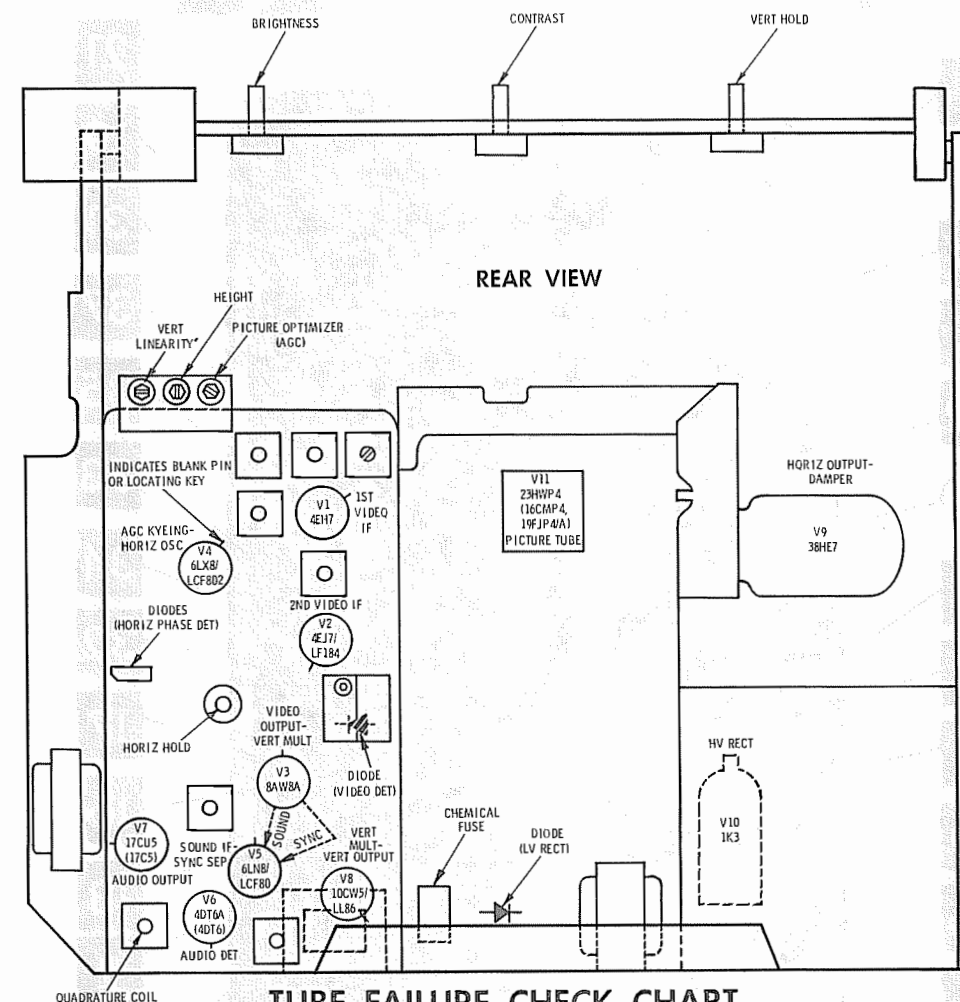
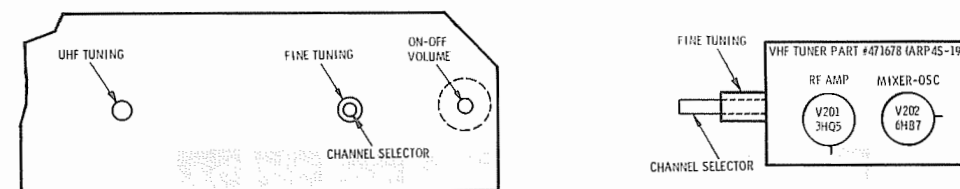
• READING DEPENDS ON POLARITY OF METER CONNECTIONS.
NC NO CONNECTION

† MEASURED FROM OUTPUT OF X1.
◊ MEASURED FROM PIN 4, V9.



CHASSIS—FRONT VIEW

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 Fuse F1, Rectifiers X1, X2

SWEEP FAILURE

No raster, has sound V4, V9, V10, V11
No vertical deflection V3, V8
Poor vert. linearity or foldover V3, V8
Poor horiz. linearity or foldover V4, V9, V10
Narrow picture V4, V9, X1
Vert. off freq. V3, V8
Horiz. off freq. Phase Detector X4, V4

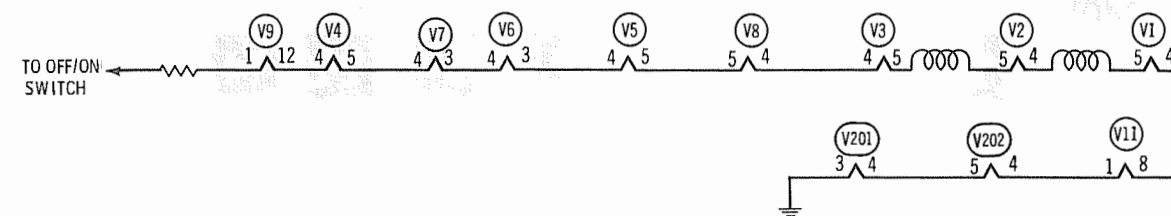
LOSS OF PICTURE OR SOUND

No pic, no sound, has raster V1, V2, Video Detector X3, V3
No pic, no sound, has snow V201, V202, V1
No pic, has sound, has raster V3, V11
Has pic, no sound V5, V6, V7
Overloaded picture V4

SYNC FAILURE

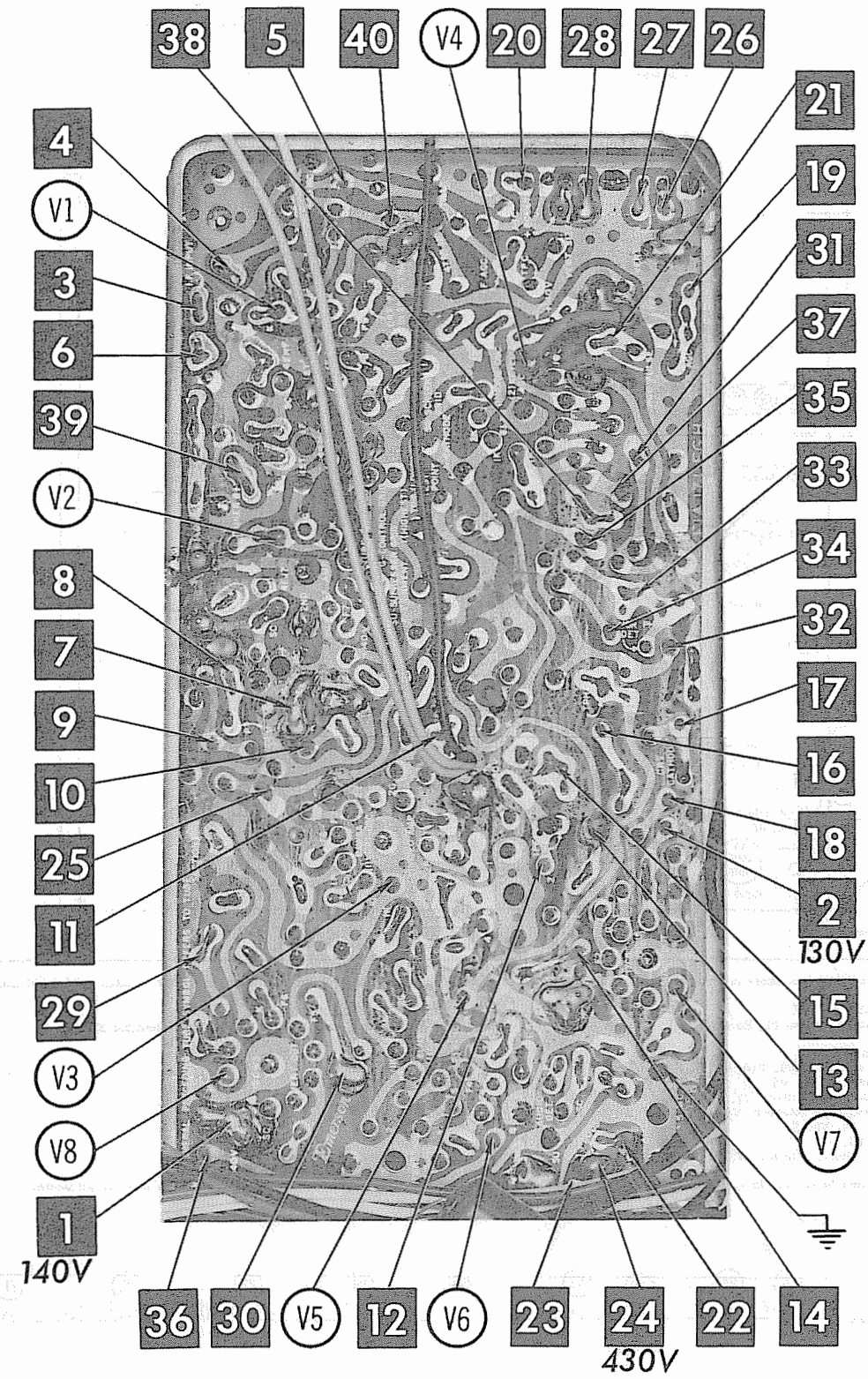
No vert. sync V5
No horiz. sync V5
No vert. or horiz. sync V5

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.)



EMERSON CHASSIS
120837A/839A/840A/840B/
840C/841A/842A/843A/846B/847B/848F

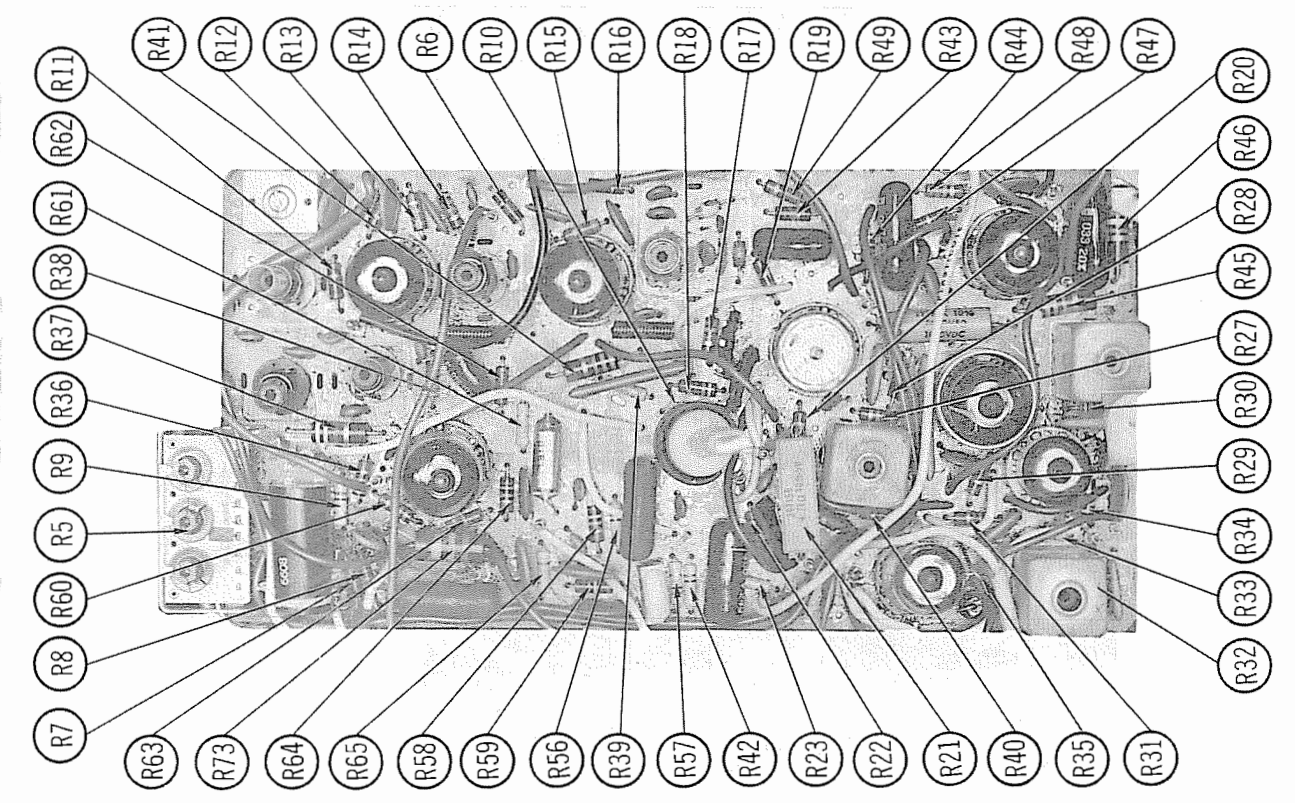
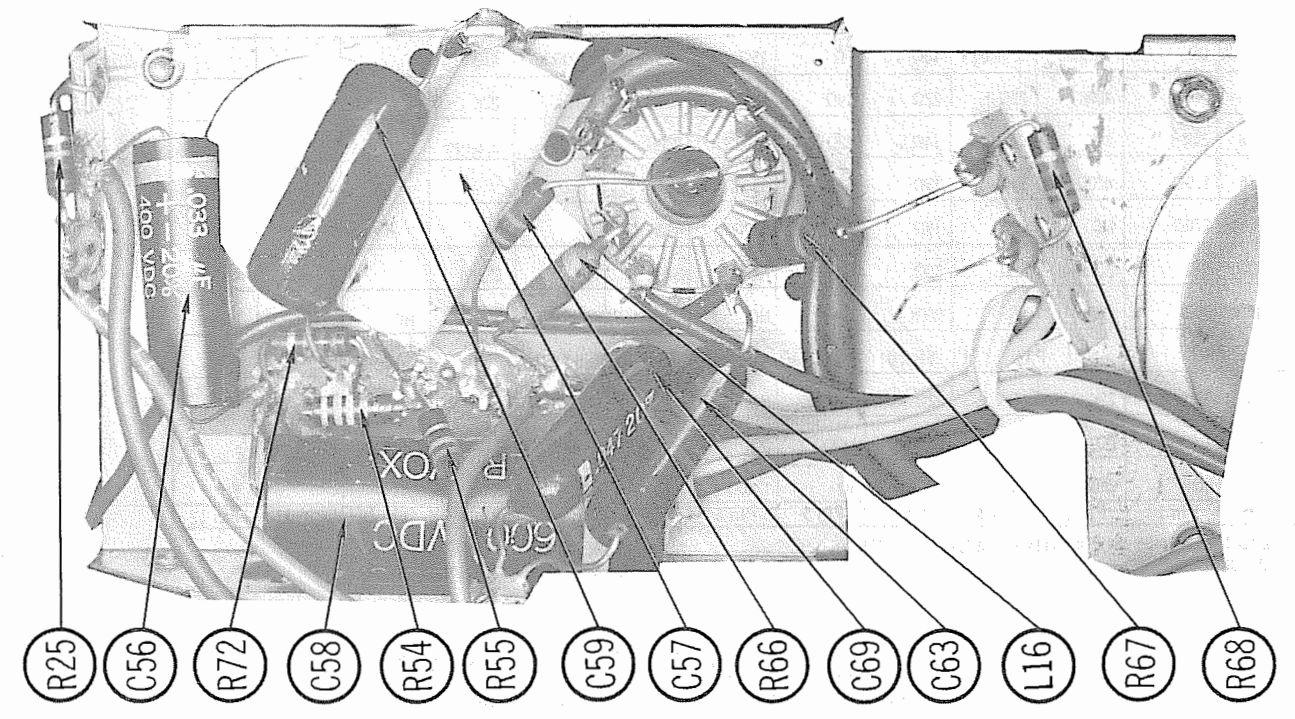
FOLDER 2



PRINTED BOARD

ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

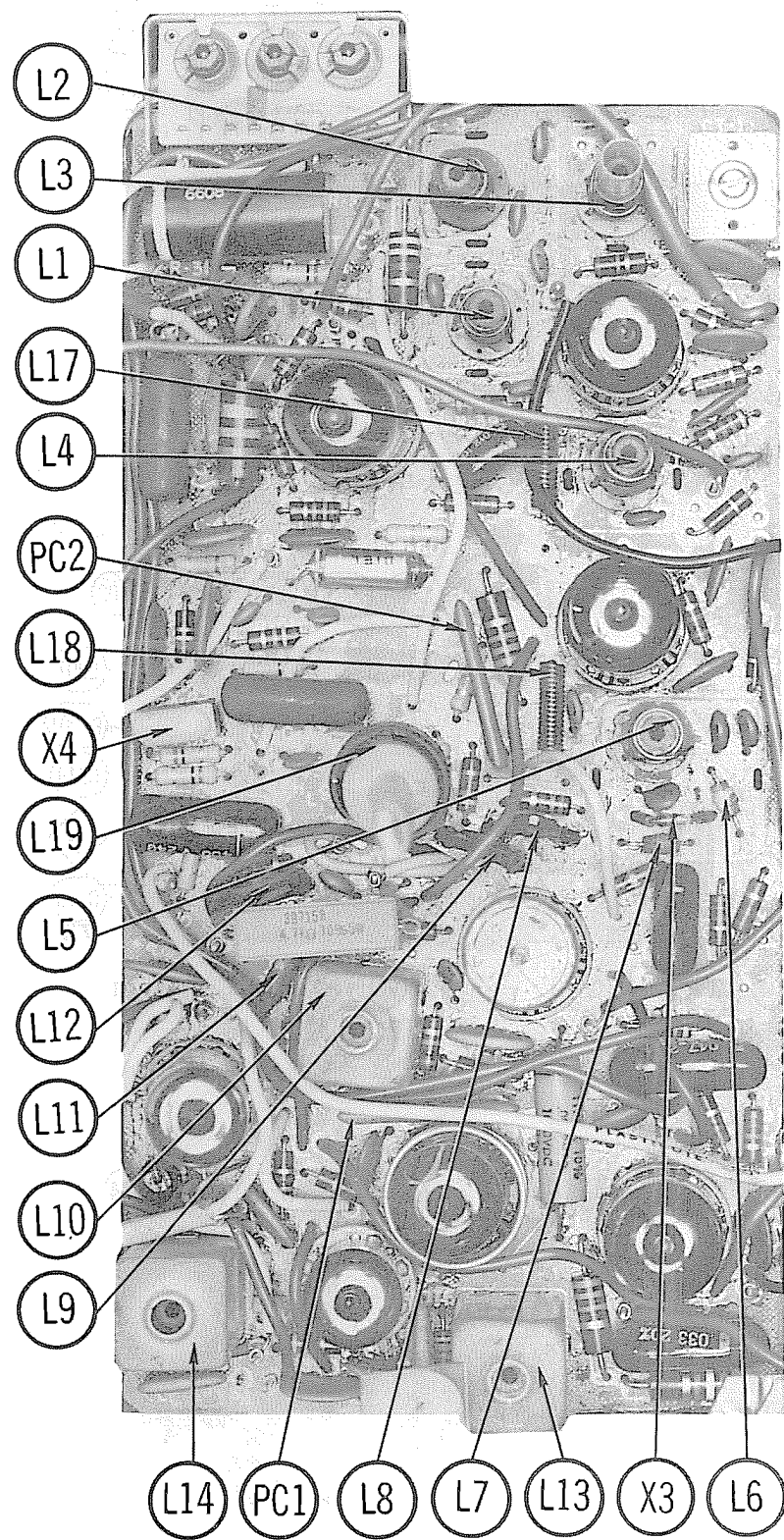
A Howard W. Sams **CIRCUITRACE** Photo



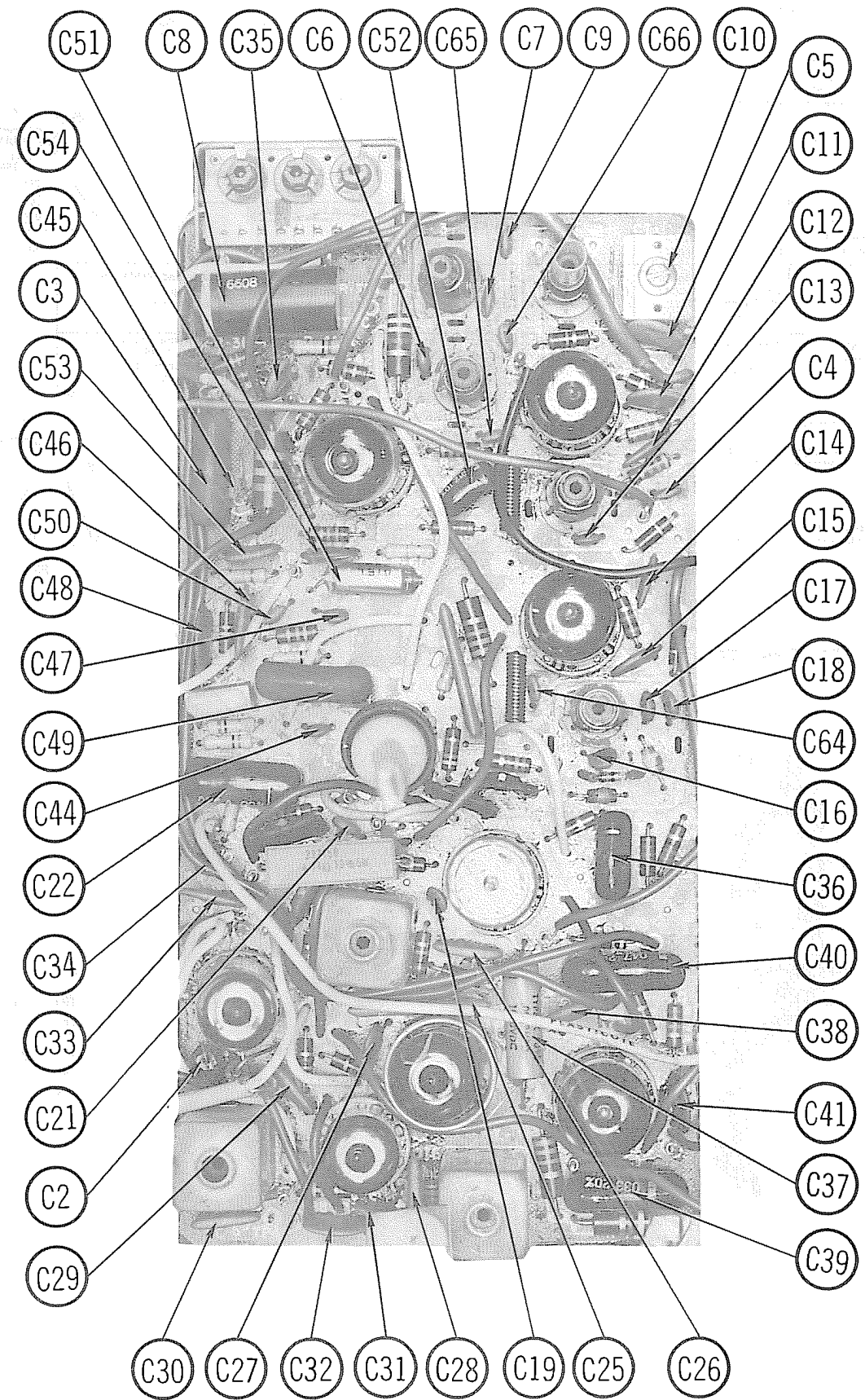
PRINTED BOARD - RESISTOR IDENT.

HORIZ. OUTPUT SECTION

EMERSON CHASSIS 120837A/839A/840A/
840B/840C/841A/842A/843A/846B/847B/848F



PRINTED BOARD - INDUCTOR, MISC. IDENT.



PRINTED BOARD - CAPACITOR IDENT.

EMERSON CHASSIS 120837A/839A/840A/
840B/840C/841A/842A/843A/846B/847B/848F

FOLDER 2

ALIGNMENT INSTRUCTIONS

Use an isolation transformer and maintain voltage at 117 volts. Allow a 20-minute warm-up period for the receiver and test equipment.
Suggested Alignment Tools: A1 thru A7, A8 thru A13 ... GENERAL CEMENT #8606, 8606L, 8889 ... WALSCO #2543, 2544, 2588
Mixer Plate Coil GENERAL CEMENT #9296, 9297, 9300 ... WALSCO #2510, 2546, 2547

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	A1 A2	Adjust for MINIMUM.
2. Connect vertical input of a scope to point B. Low side to ground.	Connect high side thru .001mfd capacitor to pin 2 (grid) of V2. Low side to ground.	44MC (10MC Sweep)	42.25MC 44MC 45.75MC	A3 A4	Adjust for maximum amplitude and MINIMUM tilt with markers as shown in Figure 1. Use peaks nearest outside ends of coil.
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 42.25MC 44.00MC 45.75MC 47.25MC	A5, A6, A7, A8, Mixer Plate Coil	Adjust for maximum gain and symmetry of response with markers as shown in Figure 2. In order to obtain a proper response, it may be necessary to slightly retouch A3 and A4. Use peaks nearest outside ends of coils for A5 & A6.

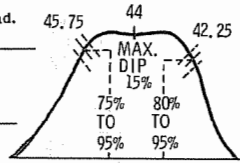


FIG. 1

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 A13 for MINIMUM beat interference.

SOUND IF ALIGNMENT

Tune in a station and adjust A9 for maximum sound. Reduce signal strength at the antenna terminals until distortion appears. Continue to reduce signal while aligning for undistorted output by adjusting A10, A11 and A12.

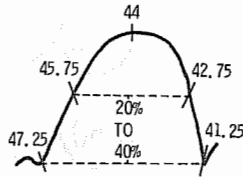
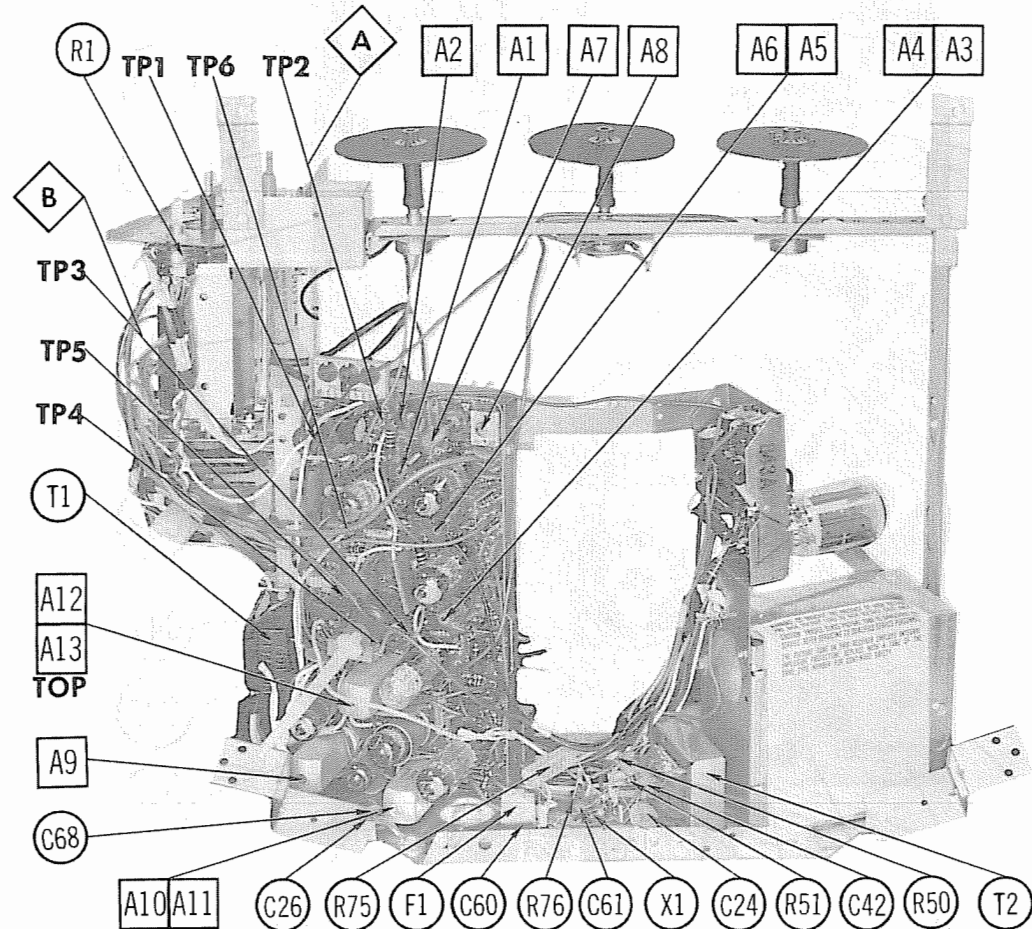
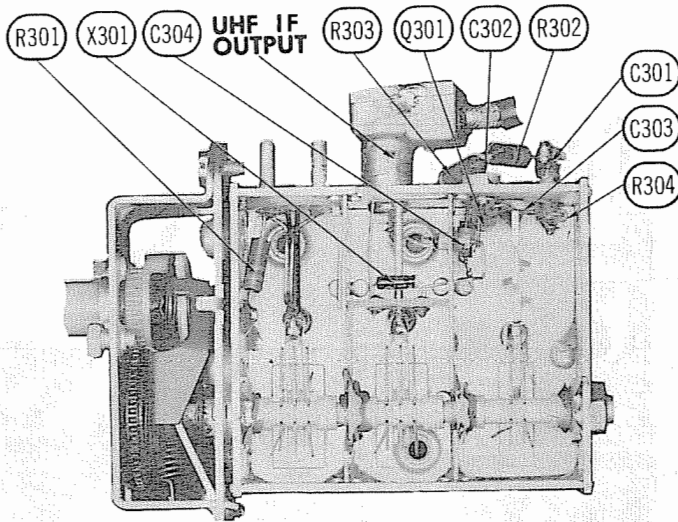


FIG. 2

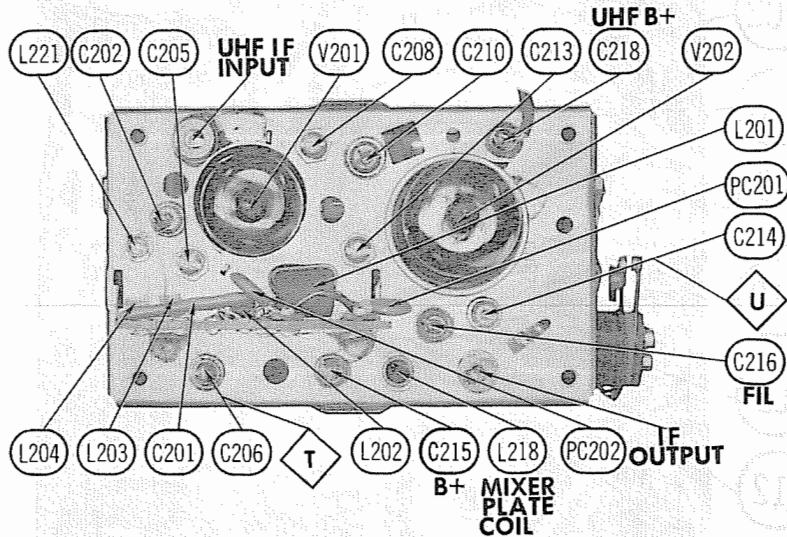


CHASSIS-REAR VIEW

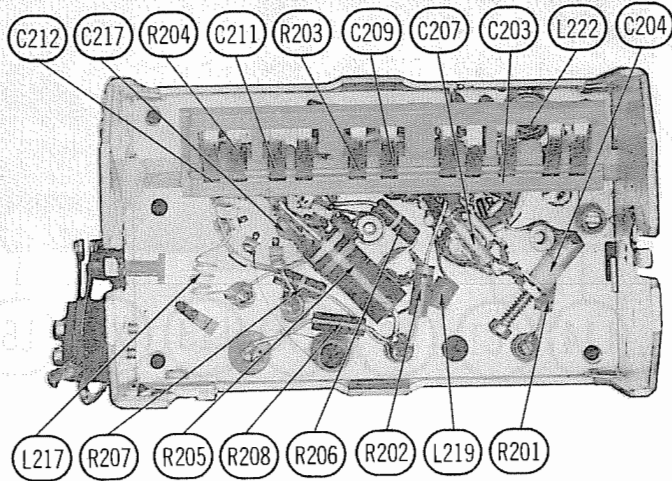
TP1 -.3V TUNER AGC
TP2 2.5V AGC
TP3 -2V VIDEO DET.
TP4 85V VIDEO OUTPUT
TP5 80V SYNC. SEP.
TP6 -25V HORIZ. OUTPUT

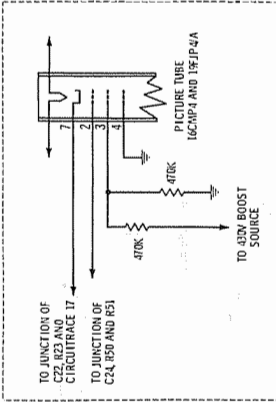
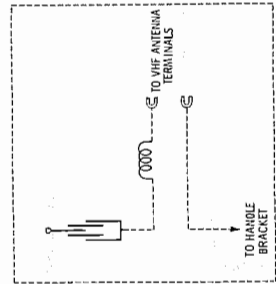
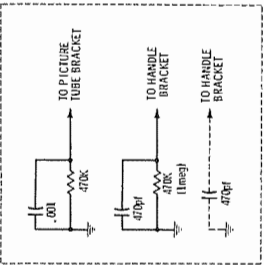
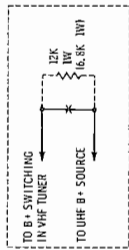
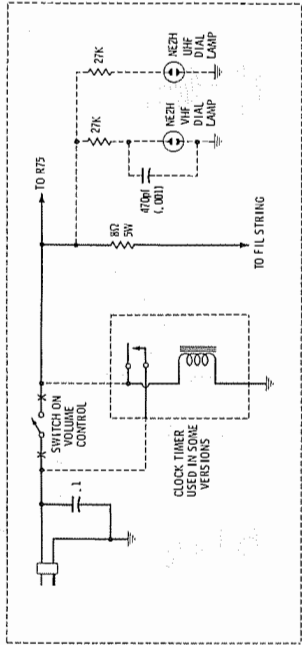
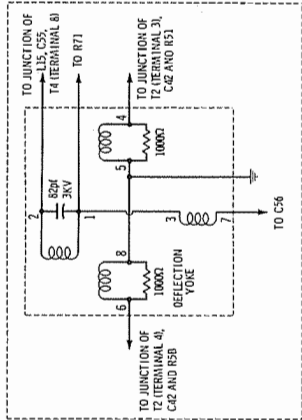
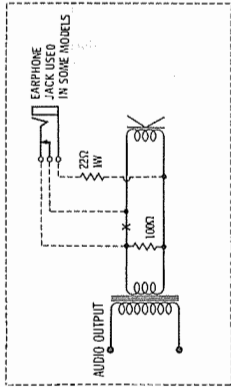
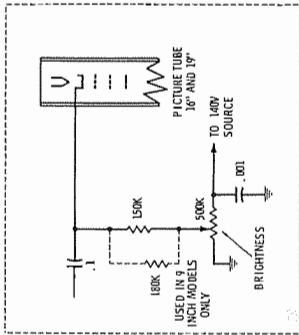
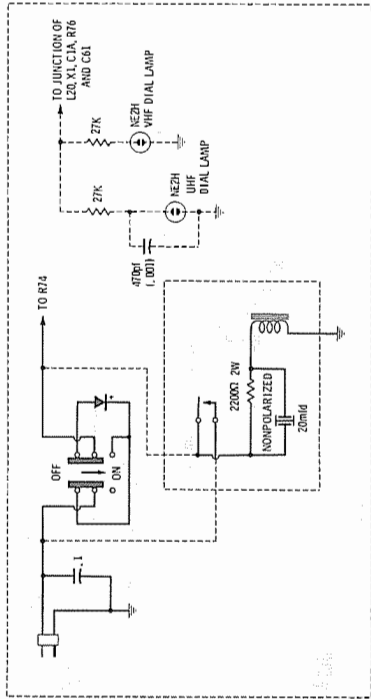


UHF TUNER 471674



VHF TUNER 471678





A PHOTOFACT STANDARD NOTATION SCHEMATIC
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ALTERNATES USED IN 16 INCH AND 19 INCH MODELS
CHASSIS: 120837, 120838, 841, 842, 846, 847, 848, 849

ALTERNATE CIRCUITS

VHF TUNER ALIGNMENT INSTRUCTIONS

OSCILLATOR ADJUSTMENTS VHF TUNERS 471607/617/669/676/682

The oscillator for each channel is preset by means of the fine tuning control. Adjust fine tuning for best picture and sound on each channel.

RF AND MIXER ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. Use 10MC sweep unless otherwise noted. Connect a variable bias to the RF AGC line at point 1. Adjust bias to obtain response curve which shows no indication of overloading.

	SWEEP GENERATOR COUPLING	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	Across antenna terminals with 1200 in each lead.	213MC	13	Vert. Input to Point 1, low side to ground.	A201, A202, A203	Adjust for maximum gain and symmetry of response similar to Figure 201.
2.	"	195MC	10	Across Video Det. load resistor.	A204	Increase bias to -15 volts and adjust for MINIMUM amplitude of response.
3.	"	"	12 thru 2	Vert. Input to Point 1, low side to ground.		Check response on all channels and make compromise adjustments of A201, A202, and A203 if necessary.

OSCILLATOR ADJUSTMENTS VHF TUNERS 471643/683

The individual oscillator slugs are accessible one at a time through a hole in the front of the tuner. Set the Fine Tuning to the center of its range and adjust oscillator 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 a variable bias to the RF AGC line at point 1. Adjust bias to obtain response curve which shows no indication of overloading.

	SWEEP GENERATOR COUPLING	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	Across antenna terminals with 1200 in each lead.	213MC	13	Vert. Input to Point 1, low side to ground.		Expand or compress appropriate coils for maximum gain and symmetry of response similar to Fig. 201 with markers as shown.
2.	"	195MC	10	Across Video Det. load resistor.	Gimmick	Increase bias to -15 volts and adjust for MINIMUM amplitude of response.
3.	"	"	12 thru 2	Vert. Input to Point 1, low side to ground.		Check all channels and make compromise adjustments by expanding or compressing appropriate coils if necessary.

CHANNEL & FREQUENCY CHART

SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL
57MC	55.25MC	2	85MC	83.25MC	6
63MC	59.75MC	3	177MC	175.25MC	7
69MC	67.25MC	4	183MC	181.25MC	8
75MC	71.75MC	5	189MC	187.25MC	9
			195MC	193.25MC	10
			201MC	199.25MC	11
			207MC	205.25MC	12
			213MC	211.25MC	13

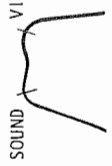


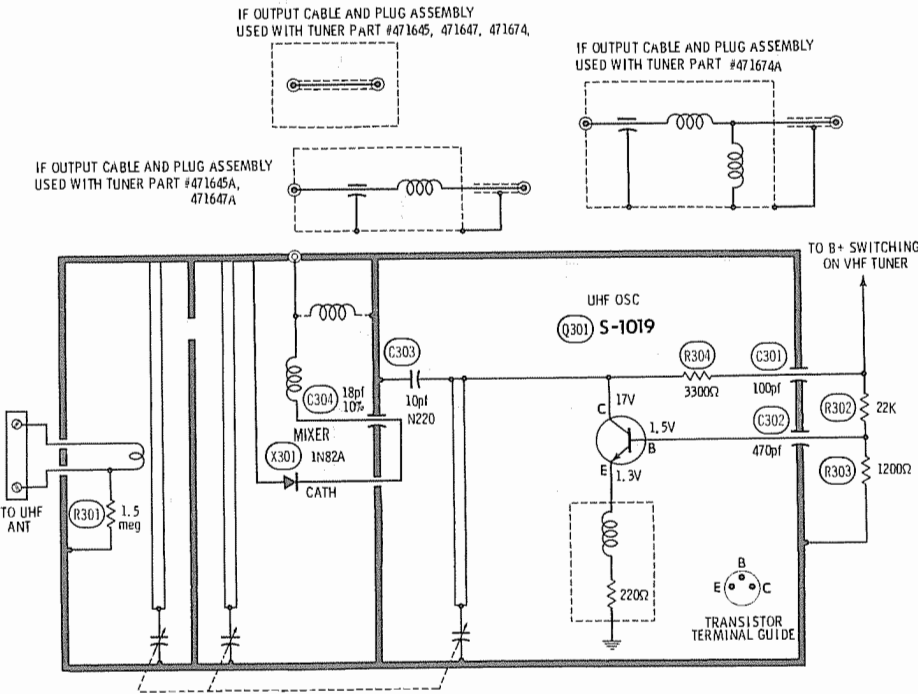
FIG. 201

UHF TUNER ALIGNMENT INSTRUCTIONS

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

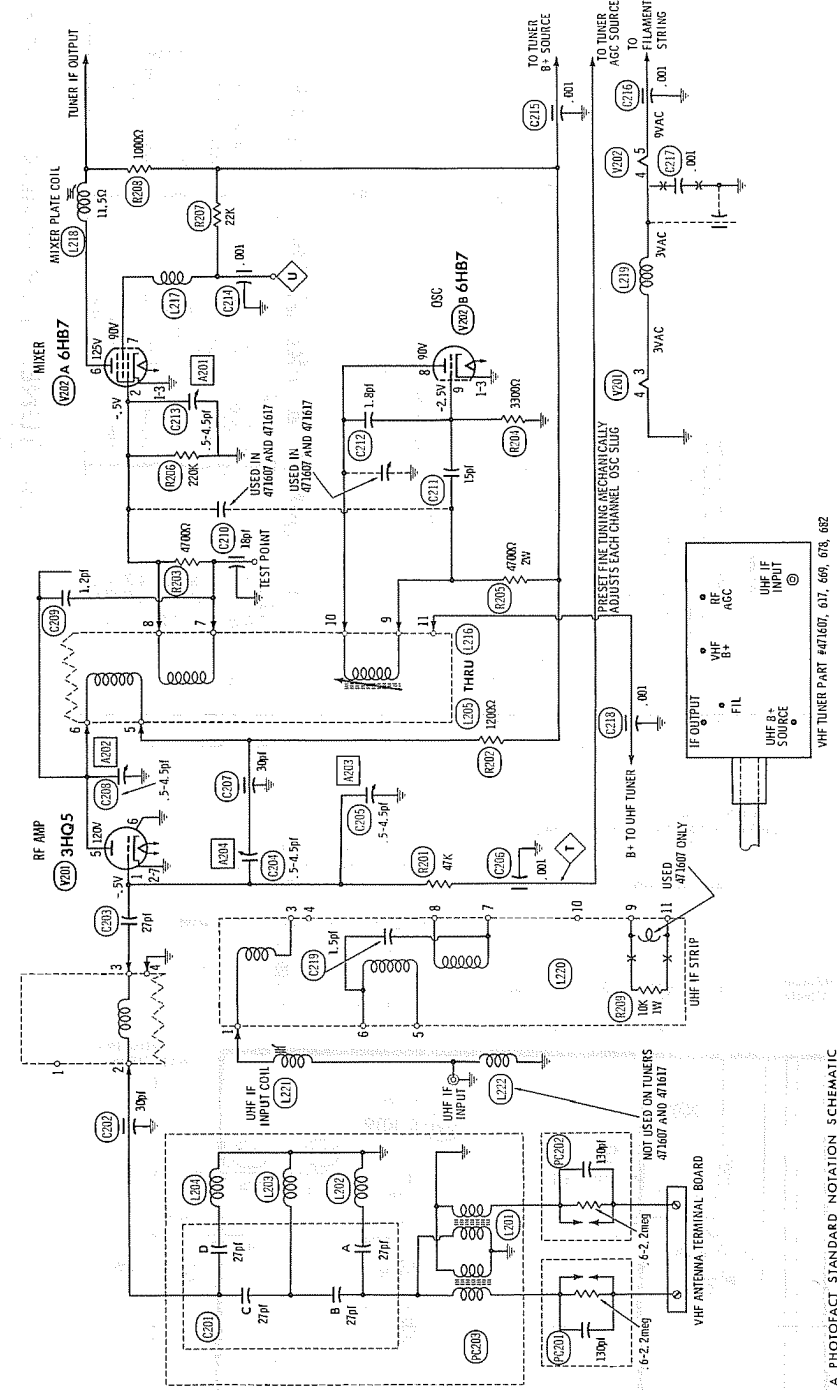
EMERSON CHASSIS
120837A/839A/840A/840B/
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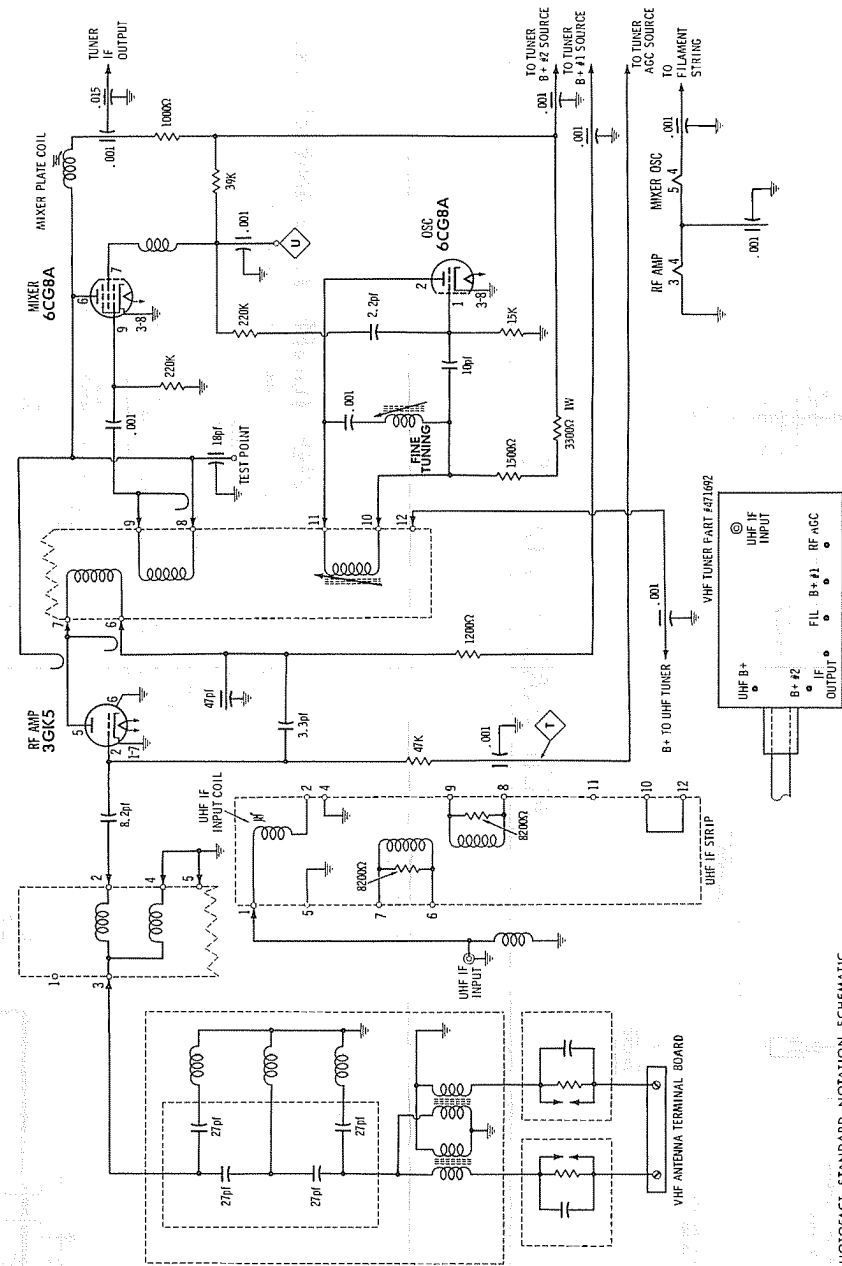


UHF TUNER PART #471674/A, 471647/A, 471645/A

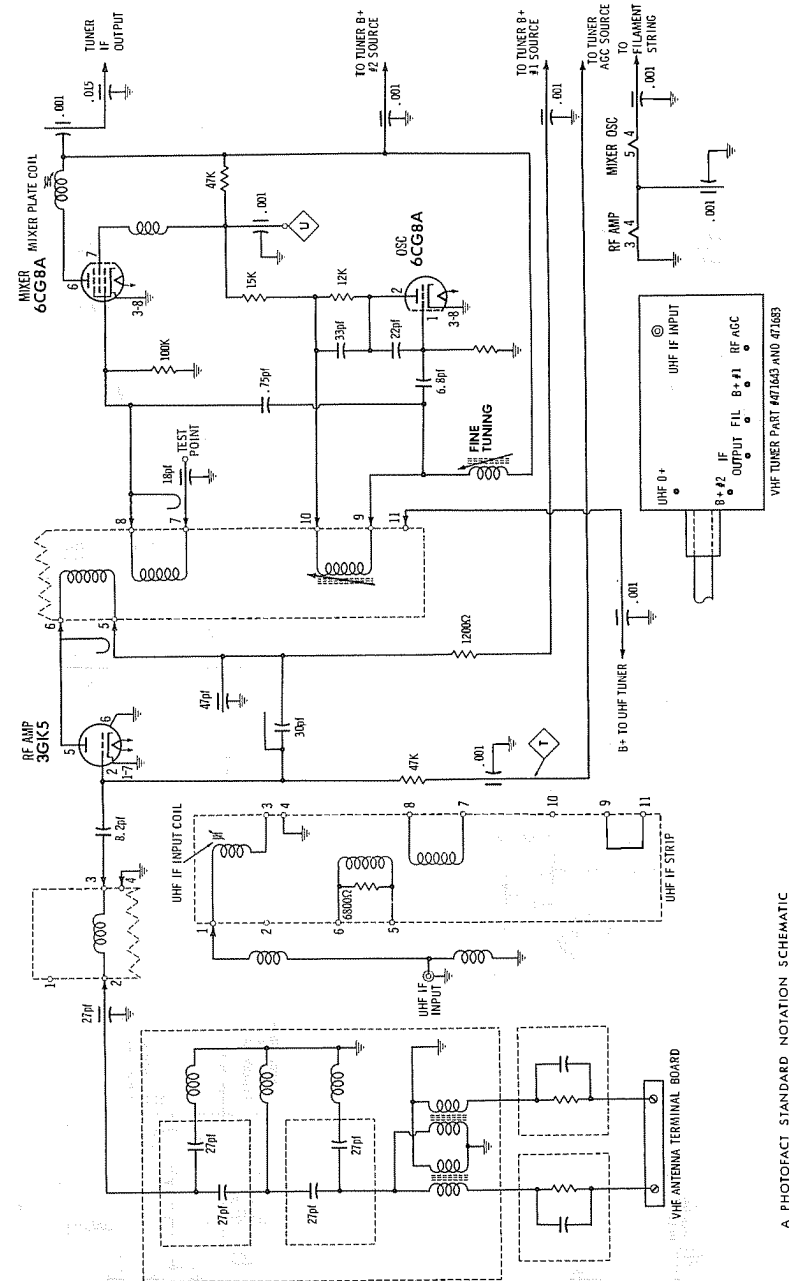
VHF TUNERS 471607/78/17/82/69



VHF TUNER 471692



VHF TUNER 471643/83



TUBES

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

MISCELLANEOUS

ITEM No.	PART NAME	EMERSON PART No.	NOTES
	Shaft Assembly Bracket Gear and Lever Assembly Tension Spring Side Cover Cable Cover Cable Assembly	965348 965349 965350 965351 965001 965002 965068	Tuning Drive. Drive Shaft Assembly.

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA			
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	SPRAGUE PART No.
C201A	27		DI-27	DD-270	Channel 9, IF Strip	GF427
C201B	27		DI-27	DD-270	Channel 10, IF Strip	GF427
C201C	27		DI-27	DD-270	Channel 11, IF Strip	GF427
C201D	27		DI-27	DD-270	Channel 12, IF Strip	GF427
C202	30		DI-27	DD-270	Channel 13, IF Strip	GF427
C203	27				RF Choke	10TS-Q27
C204	5-4.5		EF-001	MFT-1000	Mixer Plate	10TS-Q27
C205	5-4.5				RF Choke	CT280A
C206	.001				RF Choke	
C207	30				RF Choke	
C208	1.2				RF Choke	
C209	1.5				RF Choke	
C210	1.8				RF Choke	
C211	1.5				RF Choke	
C212	1.8				RF Choke	
C213	5-4.5				RF Choke	
C214	.001		EF-001	MFT-1000	RF Choke	
C215	.001		EF-001	MFT-1000	RF Choke	
C216	.001		DI-1000	DD-102	RF Choke	
C217	.001		EF-001	MFT-1000	RF Choke	
C218	.001				RF Choke	
C219	1-5		NPO-DI1.5	DTZ-1R5	RF Choke	

UHF TUNER PARTS LIST

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
Q301	S-1019	UHF Oscillator		GE-11		

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS	
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.
X301		1N82AG				SARKES TARZIAN PART No.

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA			
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOPART No.
C301	100					
C302	470					
C303	10 N220					
C304	18 10%					

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

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	EMERSON PART No.	REPLACEMENT DATA
PC201	Antenna Isolation	6-2, 2meg, 130pf		Centralab RC-428
PC202	Antenna Isolation	6-2, 2meg, 130pf		Centralab RC-428

COILS (RF-IF)

ITEM No.	USE	NOTES	ITEM No.	USE	EMERSON PART No.	NOTES
L201	Balun		L212	Channel 9, IF Strip	31M-9P	Ant. RF, Mix, Osc
L202	RF Choke		L213	Channel 10, IF Strip	31M-10P	Ant. RF, Mix, Osc
L203	RF Choke		L214	Channel 11, IF Strip	31M-11P	Ant. RF, Mix, Osc
L204	RF Choke		L215	Channel 12, IF Strip	31M-12P	Ant. RF, Mix, Osc
L205	Channel 2, IF Strip		L216	Channel 13, IF Strip	31M-13P	Ant. RF, Mix, Osc
L206	Channel 3, IF Strip		L217	RF Choke	965364	
L207	Channel 4, IF Strip		L218	Mixer Plate	964711	
L208	Channel 5, IF Strip		L219	RF Choke	965365	
L209	Channel 6, IF Strip		L220	RF Choke	965366	
L210	Channel 7, IF Strip		L221	UHF IF Input	964693	
L211	Channel 8, IF Strip		L222	RF Choke		

PARTS LIST AND DESCRIPTION

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

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

TUBES

• AMPEREX •			• GENERAL ELECTRIC •			• RCA •			• SYLVANIA •		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
Q301	UHF Osc. (Transistor)	S-1019	V5	Sound IF-Sync Sep	6LN8/LCF80						
V201	RF Amp.	3HQ5①	V6	Audio Det.	(6LN8)*						
		3GK5②			4DT6A						
V202	Mixer - Oscillator	6HB7①	V7	Audio Output	(4DT6)*						
		6CG8A②			17CU5						
V1	1st. Video IF	4EH7	V8	Vert Mult-Vert Output	(17C5/17CU5)*						
V2	2nd. Video IF	4EJ7/LF184			10CW5/LL86						
		(4EJ7)*	V9	Horiz. Output-Damper	(10CW5)*						
V3	Video Output-Vert Mult	8AW8A	V10	HV Rect.	38HE7						
V4	AGC Keying-Horiz. Osc.	6LX8/LCF802			1K3						
		(6LX8)*									

① Tuners #471607/17/69/78/82.

② Tuners #471643/83/92.

* Alternate.

PICTURE TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	EMERSON PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	SYLVANIA PART No.	
V11	23HWP4 16CMP4 19FJP4/A			23HWP4①	① Silver Screen "85"

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS		
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1	.43A	817068	GE-504A or GE-505	SD500 or 5A4-D	1N540 or 1N2070	SK-3016 or SK-3017	F-4 or 40C
X2	.24A	817068	GE-504A or GE-505	SD500 or 5A4-D	1N540 or 1N2070	SK-3016 or SK-3017	F-4 or 40C
X3		817077	1N60	1N60			
X4		817074	6GC1	DD04			

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA				
	CAP.	VOLT.	EMERSON PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.
C1A	250	180	925664		CC0129.5	XC3-20	FP318.85
B	250	180	①		BR40-250	QT1-14	
C	50	180					
C2	10	25	925458	CRE607A	NLW10-25	MT1-5	TT25X10

① Alternate value (250-250-50mfd @ 160V, Part #925621) use with 16" & 19" Models.

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOPART No.	MALLORY PART No.	SPRAGUE PART No.
C3	.22 200V		DBE4P22		DMF4P22	4DP-5-224	PVC4022	4PS-P22
C4	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C5	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C6	5.6			DD-060				10TCC-V56
C7	22 NPO 10%		NPO-DI22	DTZ-22	CY601CG220K	CCTO-220	CN0422	10TCC-Q22
C8	.47 200V		DBE2P47		DMF2P47	2DP-5-474	PVC2047	2PS-P47
C9	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C10	9-180							
C11	.001 10%		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C12	.0015 10%		DI-1500	DD-152		CCD-152	GP215	10TS-D15
C13	4.7 NPO 10%		NPO-DI4.7	DTZ-4R7		CCTO-4R7	CN0547	10TCC-V47
C14	.0015 10%		DI-1500	DD-152		CCD-152	GP215	10TS-D15
C15	.001 10%		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C16	6.8 NPO 10%		NPO-DI6.8	DTZ-6R8	C2601CH6R8D	CCTO-6R8	CN0568	10TCC-V68
C17	4.7		NPO-DI4.7	DTZ-4R7		CCTO-4R7	CN0547	10TCC-V47
C18	4.7		NPO-DI4.7	DTZ-4R7		CCTO-4R7	CN0547	10TCC-V47
C19	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C20	47 10%		DI-50	DD-500	JBZ601YP500K	CCD-500	GP450	10TS-Q50
C21	4.7 10%		NPO-DI4.7	DTZ-4R7		CCTO-4R7	CN0547	10TCC-V47
C22	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC601	4PS-P10
C23	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C24	.01 1KV		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C25	22 NPO 10%		NPO-DI22	DTZ-22	CY601CG220K	CCTO-220	CN0422	10TCC-Q22

EMERSON CHASSIS
120837A/839A/840A/840B/
840C/841A/842A/843A/846B/847B/848F

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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Have your local distributor check Sams COUNTER FACTS® for the most up-to-date replacement.

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.
C26	.01		DI-10000	DD-102	BYX601ZU103M	CCD-103	GP110	10TS-S10
C27	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C28	.01		DI-10000	DD-102	BYX601ZU103M	CCD-103	GP110	10TS-S10
C29	.01		DI-10000	DD-102	BYX601ZU103M	CCD-103	GP110	10TS-S10
C30	.01		DI-10000	DD-102	BYX601ZU103M	CCD-103	GP110	10TS-S10
C31	.820 1KV 10%		DI-820	DD-821	JBY601YP821K	CCD-821	GP382	10TS-T82
C32	.01		DI-10000	DD-102	BYX601ZU103M	CCD-103	GP110	10TS-S10
C33	.015 1KV		BPD-.015	DD-153	BYT601ZU153Z	CCD-153	GP153	10TS-S15
C34	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C35	.470 1KV 10%		DI-470	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C37	.022 400V		DBE4S22		DMF4S22	4DP-2-223	PVC6122	4PS-S22
C38	.0033 1KV 10%		DBE6D33	CPR-3300J	DMF6D33	BDP-1-332	PVC6233	6PS-D33
C39	.001 1KV 10%		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C40	.047 400V		DBE6S33		DMF6S33	6DP-2-333	PVC6133	6PS-S33
C41	.0047		DBE4S47		DMF4S47	4DP-3-473	GP247	10TS-D47
C42	.022 400V		DI-4700	DD-472	JBT601YP472K	CCD-472	PVC6122	4PS-S22
C43	.82 3KV 10%		HVD-3042	DD30-820		4DP-2-223	30GA-Q82	
C44	.330		DI-330	DD-331	JBZ601YP331K	CCD-331	GP331	10TS-T33
C45	.27 N1500 1KV	#929157				*		
C46	.01 1KV		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C47	.220		DI-220	DD-221	JBZ601YP221K	CCD-221	GP322	10TS-T22
C48	.0039 10%					CCD-392	GP239	10TS-D39
C49	.22 200V		DBE4P22		DMF4P22	4DP-5-224	PVC4022	4PS-P22
C50	.470 10%				CD15F471J500	DM-16-471	SK347	MS-347
C51	.0039 500V 5%				CD19F392J500	DM-19-392	SK239	MS-239
C52	.012 400V 10%				DPMS6S12	BDP-2-123	PVC6112	6PS-S12
C53	.001 10%		DBE6S12	DD-100	JBS601YP102K	CCD-102	GP210	10TS-D10
C54	.0047		DI-4700	DD-472	JBT601YP472K	CCD-472	GP247	10TS-D47
C55	.82 5KV 5%	#929040						
C56	.033 400V		DBE4S33		DMF4S33	4DP-2-333	PVC6133	4PS-S33
C57	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C58	.1 600V		DBE6P1		DMF6P1	6DP-4-104	PVC601	6PS-P10
C59	.1 600V		DBE6P1		DMF6P1	6DP-4-104	PVC601	6PS-P10
C60	.1 600V		DBE6P1	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C61	.001		DI-1000		DMF6P1	6DP-4-104	PVC601	6PS-P10
C62	.1 600V		DBE6P1		DMF6P1	6DP-4-104	PVC601	6PS-P10
C63	.047 400V		DBE4S47		DMF4S47	4DP-3-473	PVC4147	4PS-S47
C64	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C65	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C66	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C67	.470 1.5KV		DAC-27	DI-103	ACT142ZU103P		UAC110	125L-S10
C68	.470 1.5KV		DAC-27	CI-103	ACT142ZU103P		UAC110	125L-S10
C69	.047 400V		DBE4S47		DMF4S47	4DP-3-473	PVC4147	4PS-S47

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

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			EMERSON PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume/Switch	1meg	390912②	F2-1meg, SN100, KR-2	A47-1meg-Z, RN-3①, SWE-20	BU2, CF26, SS6①, WF*	UA16A, SN1000①, US42 or (RU16A, SL38, SN1000①, US42)
R2	Volume/Switch	1meg	390814③	F2-1meg, FFS102 KR-1		††QJ-2150	
	Brightness	500K	390895	F1-500K, FFS015	NP-500K-S, UPC-B-015	††QJ-2244	FA55L, OS937A
	Brightness	500K	390748③ (390748N)	F1-500K, SN200	A47-500K-S, RN-3①	B11-133, SK8① or (BU2, CF16, SS8①)*	UA55L, SN2000① or (RU55L, SL38, SN2000①)
R3	Contrast	30K	390894	F51-30K, FFS101		†††QJ-2243	FA34T24, OS1062
	Contrast	15K Tap 30K 20K Tap	390747③ (390747N)	F51-30K, SN200	A47F-30K, RN-3①	B20-121X, SK8① or (BU2, CF49T, SS6①)*	UA34T253, SN2000① or (RU34T24, SL38, SN2000①)
R4	Vert. Hold	1.5meg	390896	F1-1.5meg, FFS015	NP-1.5meg-S, UPC-B-015	††††QJ-1604	FA155L, OS937A
	Vert. Hold	1.5meg	390749③ (390749N)	F1-1.5meg, SN200	A47-1.5meg, RN-3①	B11-138, SK6① or (BU2, CF18, SS6①)*	UA155L, SN2000① or (RU155L, SL38, SN2000①)
R5A	Vert. Linearity	500K	390766				
B	Vert. Size (Height)	2.5meg					
C	Picture Optimizer (AGC)	500K Stop 50K					

* "SNAPTROL" Equivalent: BU5, CF26, SF7, GC.
† "SNAPTROL" Equivalent: K-6 Kit, with Base Elements and Shafts: B11-133, P21-029 (Panel)
†† "SNAPTROL" Equivalent: BU5, CF18, SF5.
††† "CONCENTRIKIT" Equivalent: K-6 Kit, with Base Elements and Shafts: B20-121X, P23, 103 (Panel)
†††† "SNAPTROL" Equivalent: BU5, CF49T, SF7
†††† "CONCENTRIKIT" Equivalent: K-15 Kit, with Base Elements and Shafts: B11-138, P21-029 (Panel)
† "SNAPTROL" Equivalent: BU4, CF18, SF5
① File Flat.
② Part #390911 (Volume) used in Chassis 120839.
Part #390817 (Volume) used in Chassis 120946.
Part #390878 (Volume) used in Chassis 120847.
③ Alternate Part, used in Chassis 120840, 120841, 120842 and 120848.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	EMERSON PART No.			IRC PART No.	WORKMAN PART No.	EMERSON PART No.
R21	4700Ω 5W	PW5-4500	5W-SQ-4.7K	397158	R75	5Ω 7W	PW10-5	10W-SQ-10	394216
R74	8Ω 5W	PW5-7.5	5W-SQ-7.5	394284					

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		EMERSON PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	41.25MC Trap	720453			7510-E	
L2	47.25MC Trap	720452			7515-E	
L3	1st. Sound IF	720451				
L4	2nd. Video IF	720454			7514-E	TB298
L5	3rd. Video IF	720455			7514-E	TA248
L6	RF Choke (4.4uh)	705040	19-1003	BC-564	74F476AP	T858
L7	RF Choke (1.6uh)	705041	19-1001	BC-502	74F156AP	T856
L8	Peaking (90uh)	708400	19-3093	BC-669	6177	T340
L9	Peaking (530uh)	708404	19-2029	BC-678	6144	T354
L10	Sound Take-Off / 4.5MC Trap	720512				
L11	Peaking (530uh)	708410①	19-2029*	BC-678*	6144*	T354*
L12	Peaking (180uh)	708401	19-3180	BC-672	6180	T344
L13	Sound Interstage	720513			7138	
L14	Quadrature	720404	20-1054	TV-234	7137	T269
L15	RF Choke (8.2uh)	705058	19-1009	BC-566	74F826AP	T822
L16	RF Choke (8.2uh)	705058	19-1009	BC-566	74F826AP	T822
L17	Flament Choke (18 turns)	705031				
L18	Flament Choke (18 turns)	705031				

① Wound on 10K Resistor.

* Shunt with 10K Resistor.

COILS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA						
		EMERSON PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	THORDARSON MEISSNER PART No.	TRIAD PART No.	WORKMAN PART No.
L19	Horiz. Oscillator (Hold)	716151		H-111				

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.	
L20	.4A DC	22Ω	.33HY	737058					

TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA					NOTES
		EMERSON PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	126V AC @ .43A DC Tap @ 117V AC	730136					

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	738193			26585		
T3	Yoke (Horiz=24.5MH) (Vert=63MH)	708481	MDF-143①	VO-114 DY-57AT①③	Y-105②	YT-103-1①	
T4	Clamp Horiz. Output	587195					
		738210					

① If excessive sweep, remove (82pf @ 5KV) Cap from H. O. T. Terminals #7 and #8.
② Remove original black lead from Terminal #4 and Connect to replace Terminal #5.
③ Use original damping network, if necessary.

* COMPONENT CONNECTION DATA

ORIGINAL →	REPLACEMENT ↓	HV TRANSFORMER				VERTICAL OUTPUT				YOKE				YOKE PLUG			
		Original Connections				Original Connections				Original Connections				1 2 3 4 5 6 7 8			
						1	2	3	4	1	2	3	4	6	7	8	11
MERIT										1	2	3	5	6	7	8	4
STANCOR						Red	Blue	Grn	Yel	7	3	2	5	6	1	8	4
THORDARSON						Red	Blue	Grn	Yel	1	2	3	5	6	7	8	4
TRIAD										1	2	3	5	6	7	8	4

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	2555Ω	3-4Ω	Part of SP1.	A-3025	A-3332	24553	S-12X	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		EMERSON PART No.	QUAM PART No.	
SP1	4" x 6"	180330①	46A1	① Used in Models 13T05, 13T06, 13C16, 17, 18.
	3" x 5"	180281②	35A05	② Used in Models 16P04, 16P06, 16P07, 19P27.
	3" x 5"	180285③	35A05	③ Used in Models 19P25, 19P26, 19P28.
	3 1/2"	180313④		④ Used in Model 19P24.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	EMERSON PART NO.	REPLACEMENT DATA
PC1	Sync Take-Off	470K, 2.2meg, 220pf, .01	923059	Aerovox Centralab PA-782 PC-420
PC2	Vertical Integrator	8200Ω, 8200Ω, 22K, .002 .0047, .005, .005	923159	Centralab PC-503

FUSE DEVICES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
F1	Chemical	1.2 Amp.	808230	808235	31301.2	357001	MDL 1 2/10	4405

MISCELLANEOUS

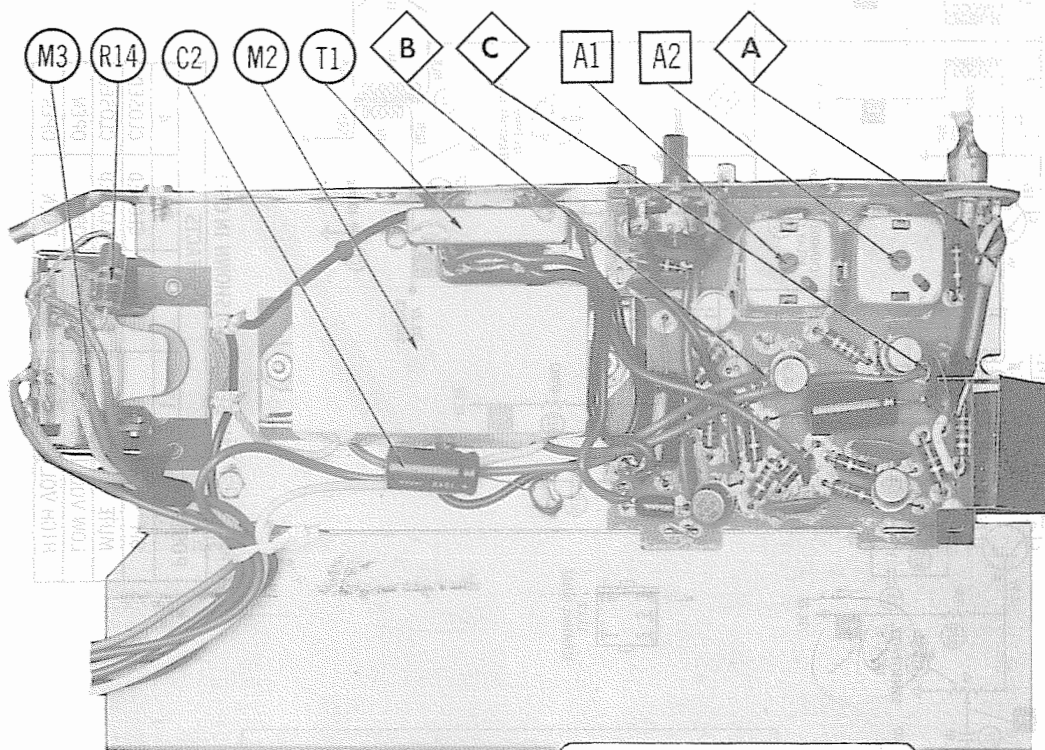
ITEM No.	PART NAME	EMERSON PART No.	NOTES
M1	VHF Tuner	471678	
	VHF Tuner	471669	
	VHF Tuner	471807	
	VHF Tuner	471892	
	VHF Tuner	471862	
	VHF Tuner	471863	



IMPORTANT FILING NOTICE

This PHOTOFACT Folder covers equipment used with the TV chassis covered in PHOTOFACT SET 838 FOLDER 2. File this Folder with the TV Folder in the yellow filing jacket provided.

EMERSON REMOTE CONTROL
TRANSMITTER 471620, RECEIVER 471685



RECEIVER

EMERSON REMOTE CONTROL
TRANSMITTER 471620, RECEIVER 471685

TRADE NAME	Emerson
SUPPLIER	For current address, see Annual Index
TYPE SET	Remote Control Receiver #471685, Transmitter #471620
TRANSISTORS	Six
POWER SUPPLY	110-120 Volts AC, 60 Cycles

HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. NA847

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DATE 9 -66

SET 838 FOLDER 2-A



PARTS LIST AND DESCRIPTION

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REMOTE CONTROL RECEIVER

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES	EMERSON PART No.
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.		
Q1		1st. Amp.	DS-26	GE-2		PNP	815178
Q2		2nd. Amp.	DS-26	GE-2		PNP	815178
Q3		3rd. Amp.	DS-26	GE-2		PNP	815179
Q4		Relay Control	DS-26	GE-2		PNP	815177
Q5		Relay Control	DS-26	GE-2		PNP	815177

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS		
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1	.036A	817121 (CER68)	GE-504A or GE-505	5A4-D or 8D4	A50 or 1N536	SK-3016 or SK-3017	F-4 or 40C

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA					
	CAP.	VOLT.	EMERSON PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	100	15	925510	CRE473A	NLW100-15	MT1-19	TT15X100	TE-1102
C2	100	15	925510	CRE473A	NLW100-15	MT1-19	TT15X100	TE-1102
C3	100	15	925510	CRE473A	NLW100-15	MT1-19	TT15X100	TE-1102

CAPACITORS

ITEM No.	RATING		REMARKS	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.
C4	.1	20V		TTD-1	CK-104	HCZ3R0XR104P		TA010	TG-P10
C5	.05	30V		TTD-05	CK-503	HCZ3R0XR104P	CCD-503	TA150	TG-S50
C6	.1	20V		TTD-1	CK-104	HCZ3R0XR104P		TA010	TG-P10
C7	.05	30V		TTD-05	CK-503	HCZ3R0XR104P	CCD-503	TA150	TG-S50
C8	.1	20V		TTD-1	CK-104	HCZ3R0XR104P		TA010	TG-P10
C9	390	125V 5%			CPR-390J	CD15F391J500	DM-15-391	SX339	MS-339
C10	470	125V 5%			CPR-470J	CD15F471J500	DM-15-471	SX347	MS-347
C11	.1	20V		TTD-1	CK-104	HCZ3R0XR104P		TA010	TG-P10

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	Sensitivity	10K	390891	F1-10K, SNK010	B47-10K-S or (A47-10K-S, RN-3, TT-2)	B11-116, TM4 or (BU11, CF9, SS6)*	RU14L, SL37, SN1000 or (UA14L, SN1000)

* "SNAPTROL"

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		EMERSON PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	Remote Receiver Relay Control	720464				
L2	Remote Receiver Relay Control	720464				

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	117V AC @ .017A AC	10V AC @ .036A DC		730119					

MISCELLANEOUS

ITEM No.	PART NAME	EMERSON PART No.	NOTES
M1	Electrostatic Transducer	825008	
M2	Relay	515017	Mechanical Discriminator.
M3	Relay	515023	4 Position stepping.

REMOTE CONTROL TRANSMITTER

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
Q6	2N408 (2S56)	Transmitter Oscillator	DS-26	GE-2		PNP 815058 (815058X)

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		EMERSON PART No.	REPLACEMENT DATA			
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.
C12	10	12	925498	CRE407A	NLW10-15	MT1-5	TT12X10

CAPACITORS

ITEM No.	RATING		REMARKS	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.
C13	280	5%		ADM-15-271	CPR-270J	CD15F271J500	DM-15-271	SX327	MS-327
C14	.005			DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C15	22	10%		ADM-15-220	CPR-22J	CD15E220J500	DM-15-220	SX422	MS-422
C16	.05	30V		TTD-05	CK-503	HCZ3R0XR503P	CCD-503	TA150	TG-S50
C17	6-60								

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		EMERSON PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L3	Remote Transmitter Oscillator	738185				

BATTERIES

ITEM No.	VOLTAGE	EMERSON PART No.	REPLACEMENT DATA			NOTES
			BURGESS	EVEREADY	MALLORY	
M4	4.5 Volts	818130	H163	E163	TR-163	Mercury

MISCELLANEOUS

ITEM No.	PART NAME	EMERSON PART No.	NOTES
M5	Electrostatic Transducer	825007A	
S1	Switch		Channel Selector
S2	Switch		On/Off and Sound.

ALIGNMENT INSTRUCTIONS

REMOTE RECEIVER ALIGNMENT

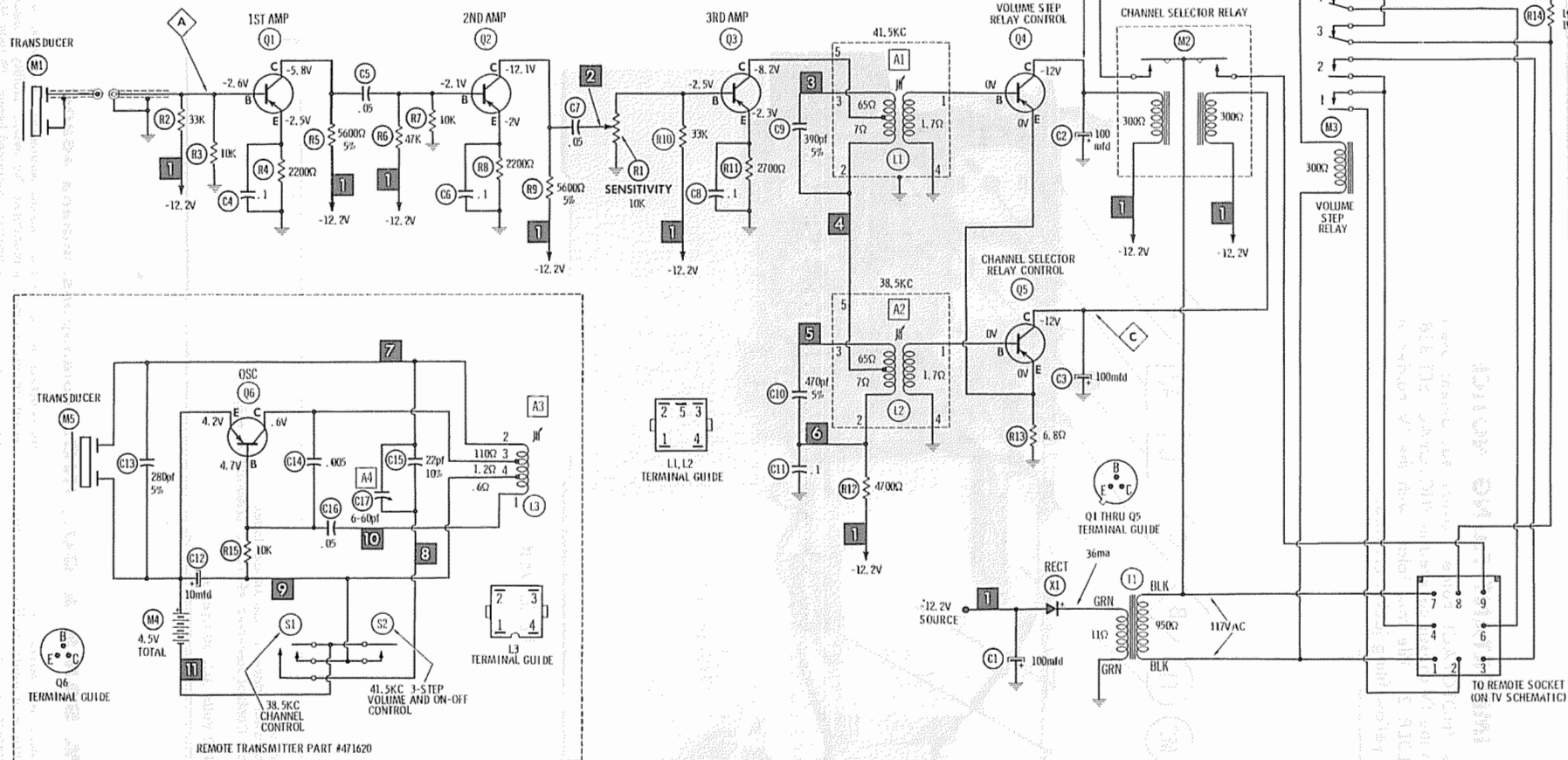
Disconnect transmitter and turn Sensitivity control R1 fully clockwise. Set VTVM for negative voltage. Do not use more output from signal generator than necessary to obtain 2 or 3 volts on VTVM.

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
High side thru .1mf capacitor to point A. Low side to ground.	41.3KC		DC probe to point A. Common to ground.	A1	Adjust for maximum. Readjust Sensitivity control, R1, using a transmitter known to be suitable for proper operation.
"	38.5KC		DC probe to point A. Common to ground.	A2	

REMOTE TRANSMITTER ALIGNMENT

The transmitter should be aligned using a receiver known to be operating properly. Set Sensitivity control on receiver fully clockwise.

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
Use cotton or tape over receiver transducer to limit signal input from transmitter to a usable dip on VTVM (2 or 3 volts)		Volume	DC probe to point A. Common to ground. (On receiver)	A3 on transmitter	Adjust for maximum.
"		Channel	DC probe to point A. Common to ground. (On receiver)	A4 on transmitter	Adjust for maximum. Readjust Sensitivity control, R1, using a transmitter known to be suitable for proper operation.



Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

- ① See parts list.
 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. Resistance measurements not given because of the wide variation in internal resistance of transistor.

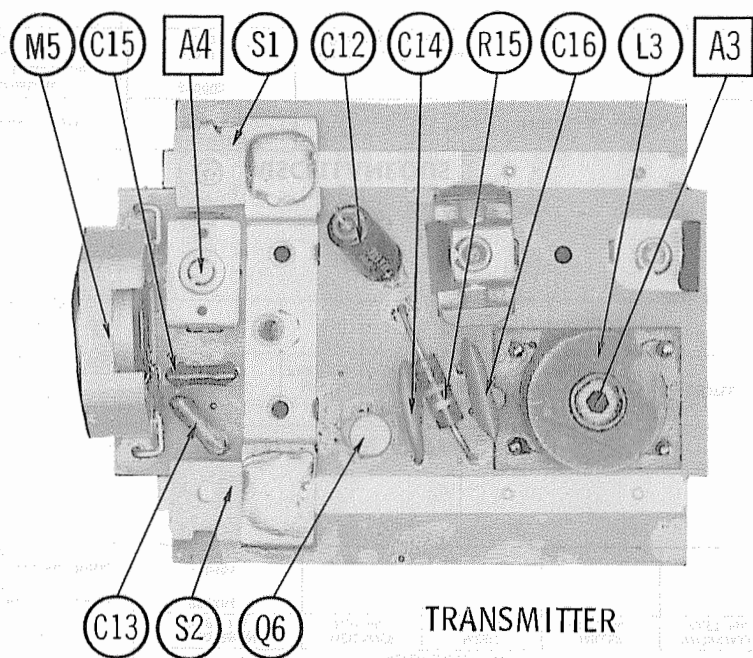
A PHOTOFACIT STANDARD NOTATION SCHEMATIC with **CIRCUITRACE**

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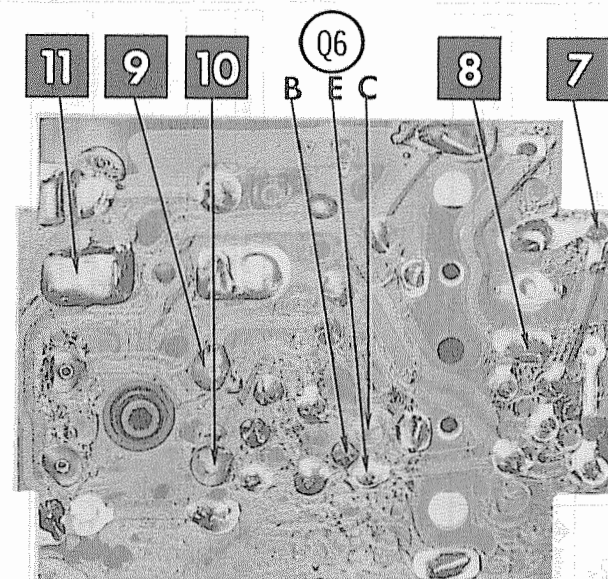
M3 SEQUENCE (SHOWN IN OFF)

POSITION	CONTACTS			
	1	2	3	4
OFF	OPEN	OPEN	CLOSED	CLOSED
MUTE	CLOSED	CLOSED	CLOSED	CLOSED
LOW VOL.	CLOSED	CLOSED	OPEN	OPEN
HIGH VOL.	CLOSED	CLOSED	POEN	OPEN

REMOTE CONTROL RECEIVER 471685, TRANSMITTER 471620

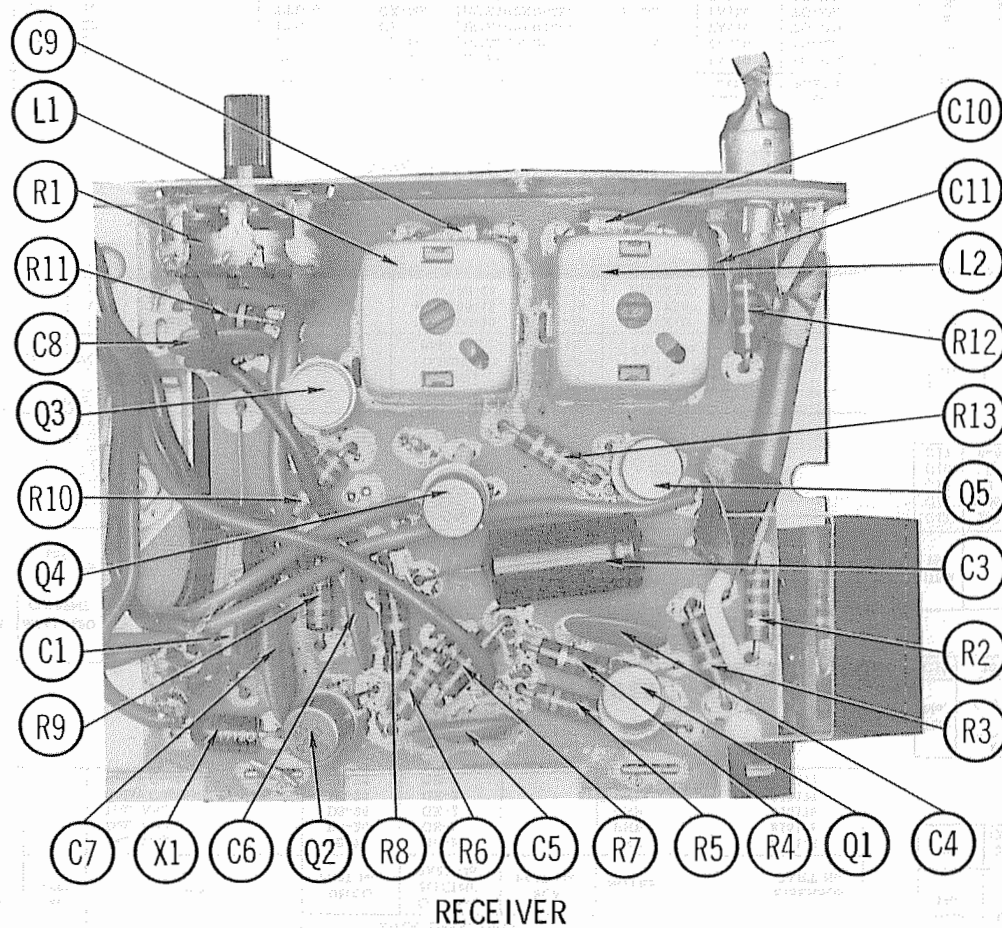


TRANSMITTER

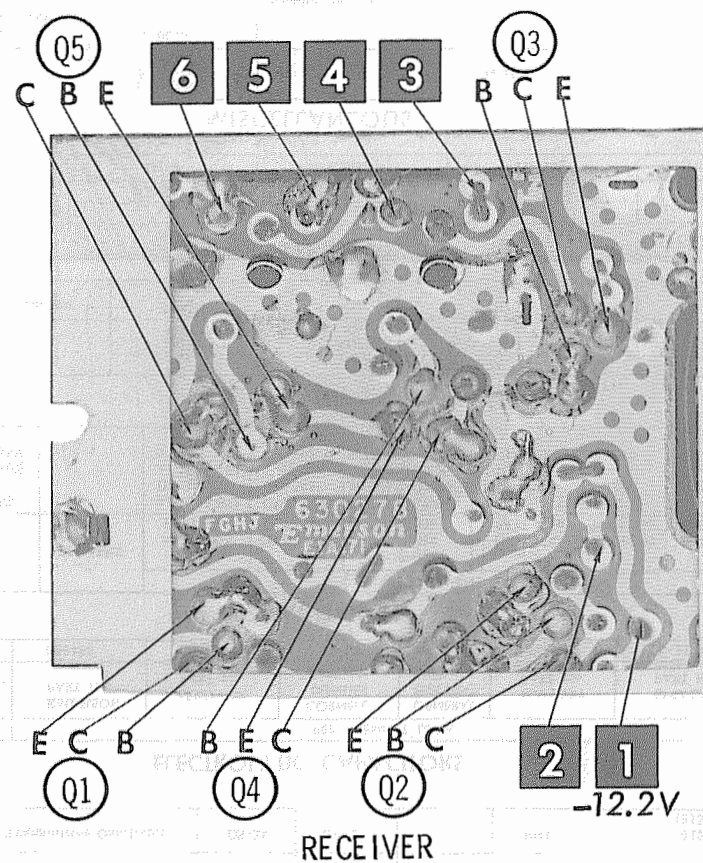


TRANSMITTER

A Howard W. Sams **CIRCUITRACE** Photo



RECEIVER



RECEIVER

A Howard W. Sams **CIRCUITRACE** Photo