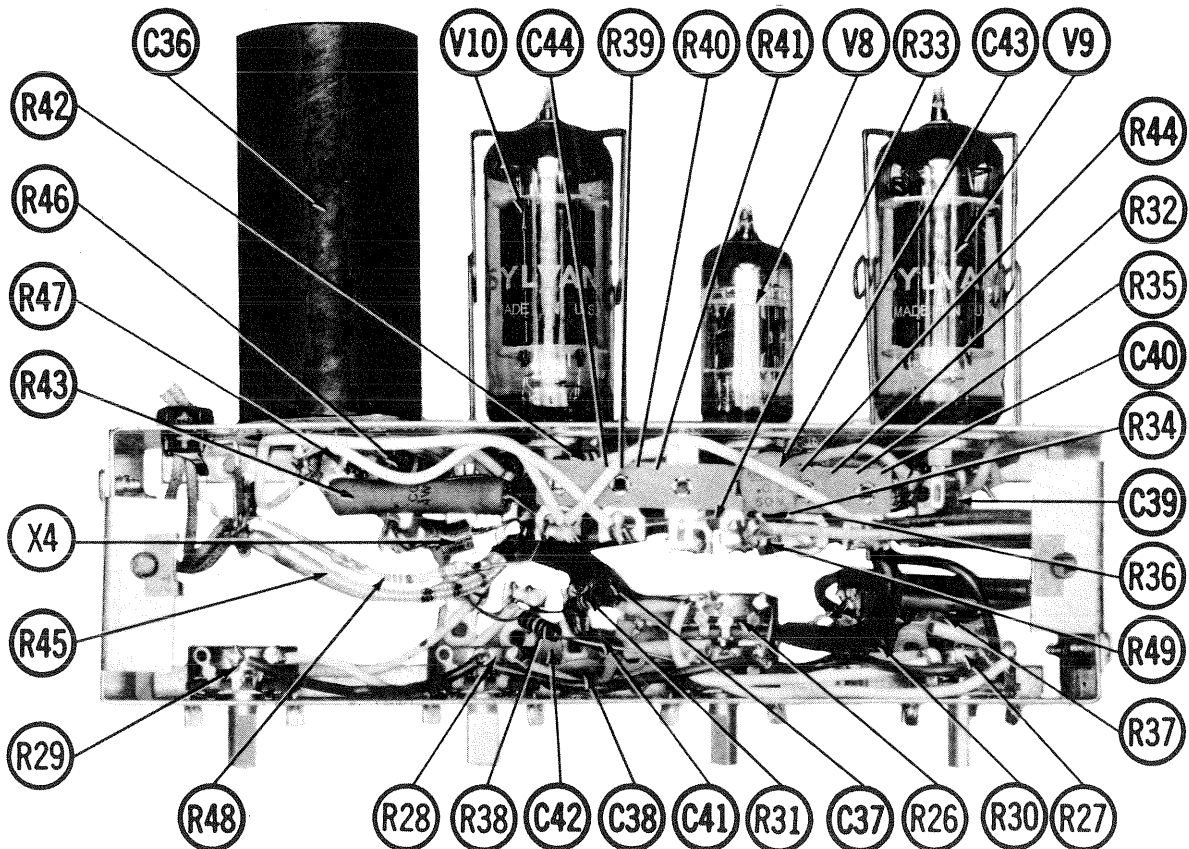


AMP CHASSIS 646 - BOTTOM VIEW



AMP CHASSIS 705 - BOTTOM VIEW

SET 627 FOLDER 8

SYLVANIA, GOLDEN SHIELD
CHASSIS 671-2, 705-1/-2/-3/-4

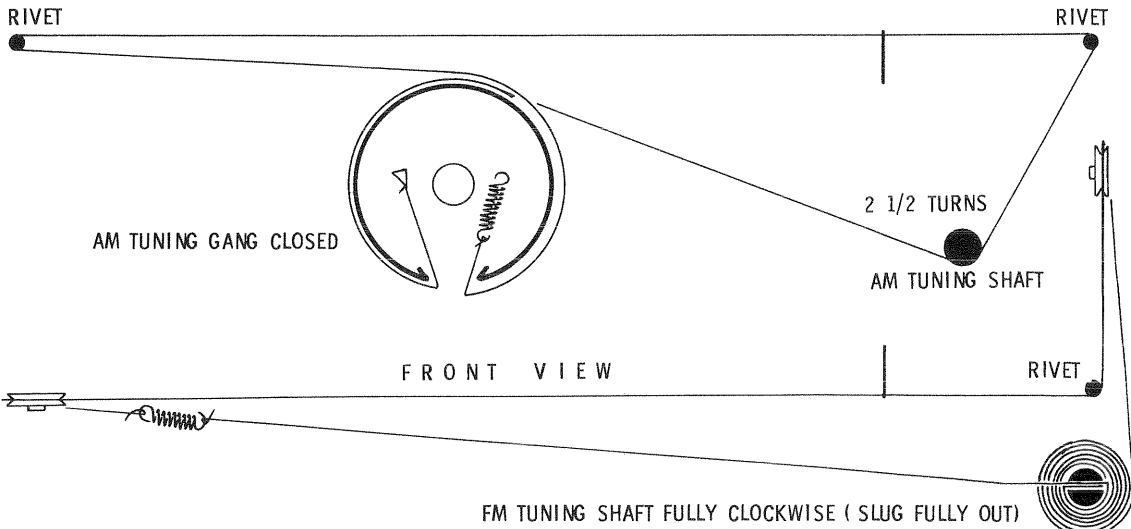
PHOTOFACT® Folder with CIRCUITRACE®



MODEL 55 C31

TRADE NAME	SYLVANIA	MODEL	TUNER CH.	AMP. CH.
		45C31		705-3
		45C36		646-6
		45P23		705-1
		45P24		705-2
		55C31	671-2	705-4
		55C36	671-2	646-6
	GOLDEN SHIELD			
	G931			705-2
MANUFACTURER	Sylvania Home Electronics, Div. of Sylvania Electric Products, Inc., 700 Ellicott St., Batavia, N. Y.			
TYPE SET	AC Operated 7 Tube AM-FM Tuner, 3 (Or 5) tube Stereo Amplifier and 4 Speed Automatic Record Changer			
POWER SUPPLY	110 - 120 Volts AC, 60 Cycles	RATING	Tuner 671-2: 23 Watts, .3 Amp. @117 Volts AC Amp. 646-6: 65 Watts, .63 Amp. @117 Volts AC Amp. 705 : 47 Watts, .59 Amp. @117 Volts AC	
TUNING RANGE - BROADCAST	535 - 1700KC	FREQ. MOD.	88 - 108MC	

FOR SERVICE INFORMATION ON RECORD CHANGER - SEE SIMILAR V-M 1571 - PHOTOFACT SET 527 FOLDER 14



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



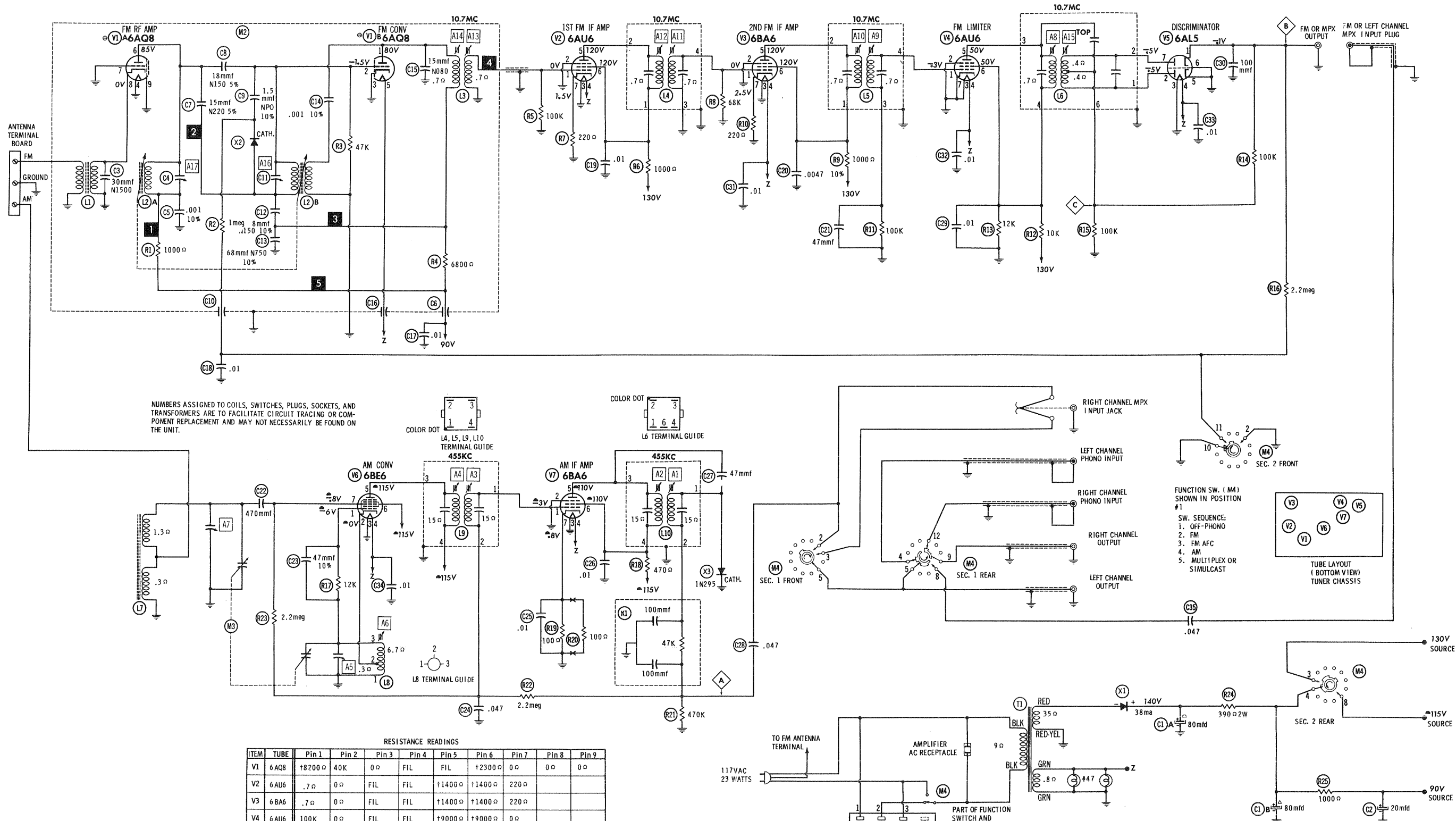
The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement LN680

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SYLVANIA, GOLDEN SHIELD
CHASSIS 671-2, 705-1/-2/-3/-4

SET 627 FOLDER 8



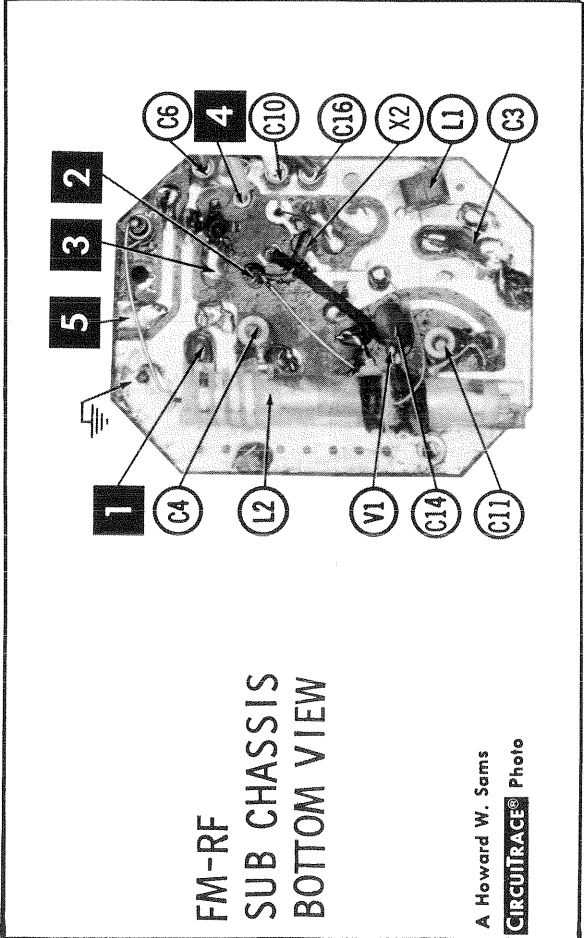
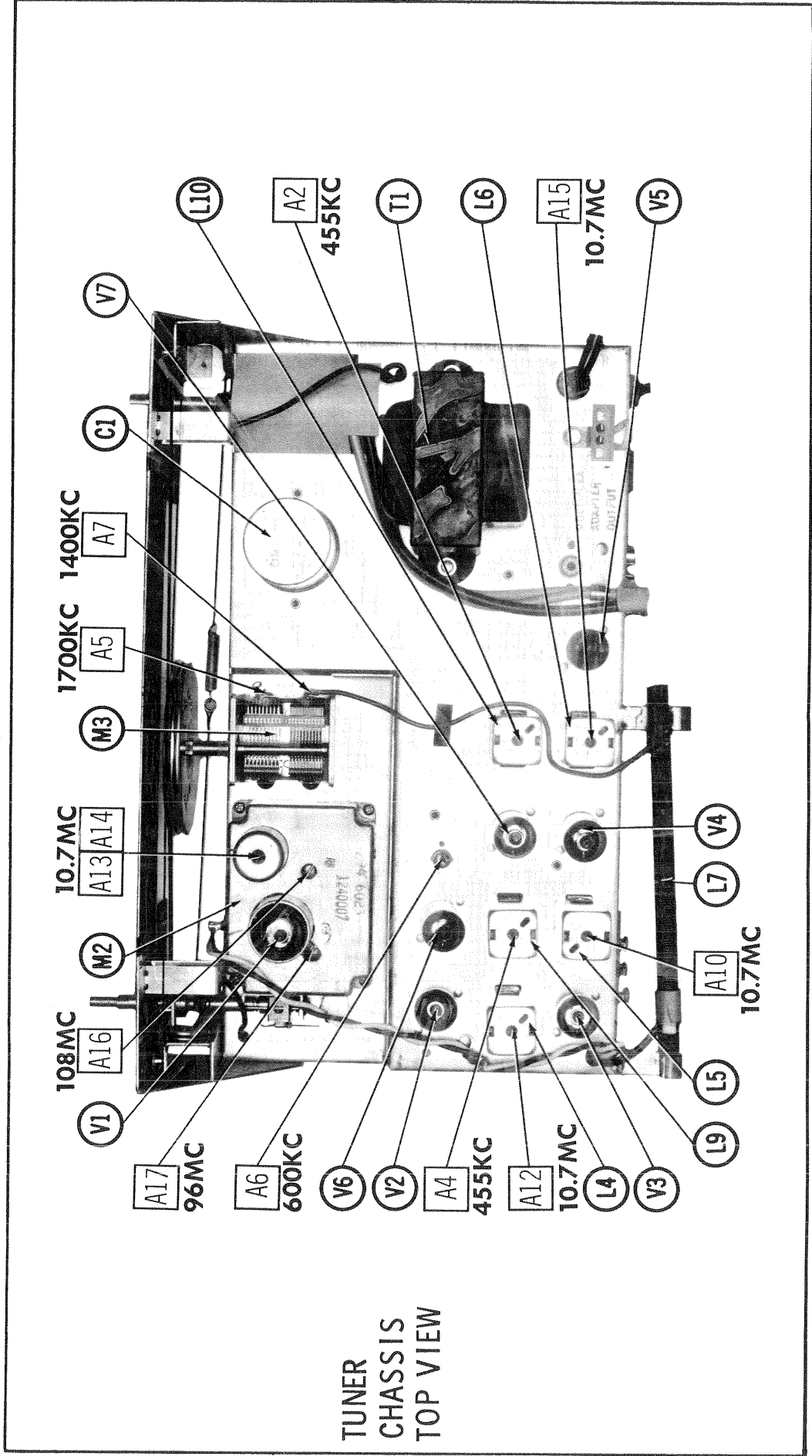
SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

- DC voltage measurements taken with vacuum tube voltmeter;
- AC voltages measured with 1000 ohm per volt voltmeter.
- Socket connections are shown as bottom views.
- Measured values are from socket pin to common ground.
- Line voltage maintained at 117 volts for voltage readings.
- Nominal tolerance of component values makes possible a variation of ±15% in voltage and resistance readings.

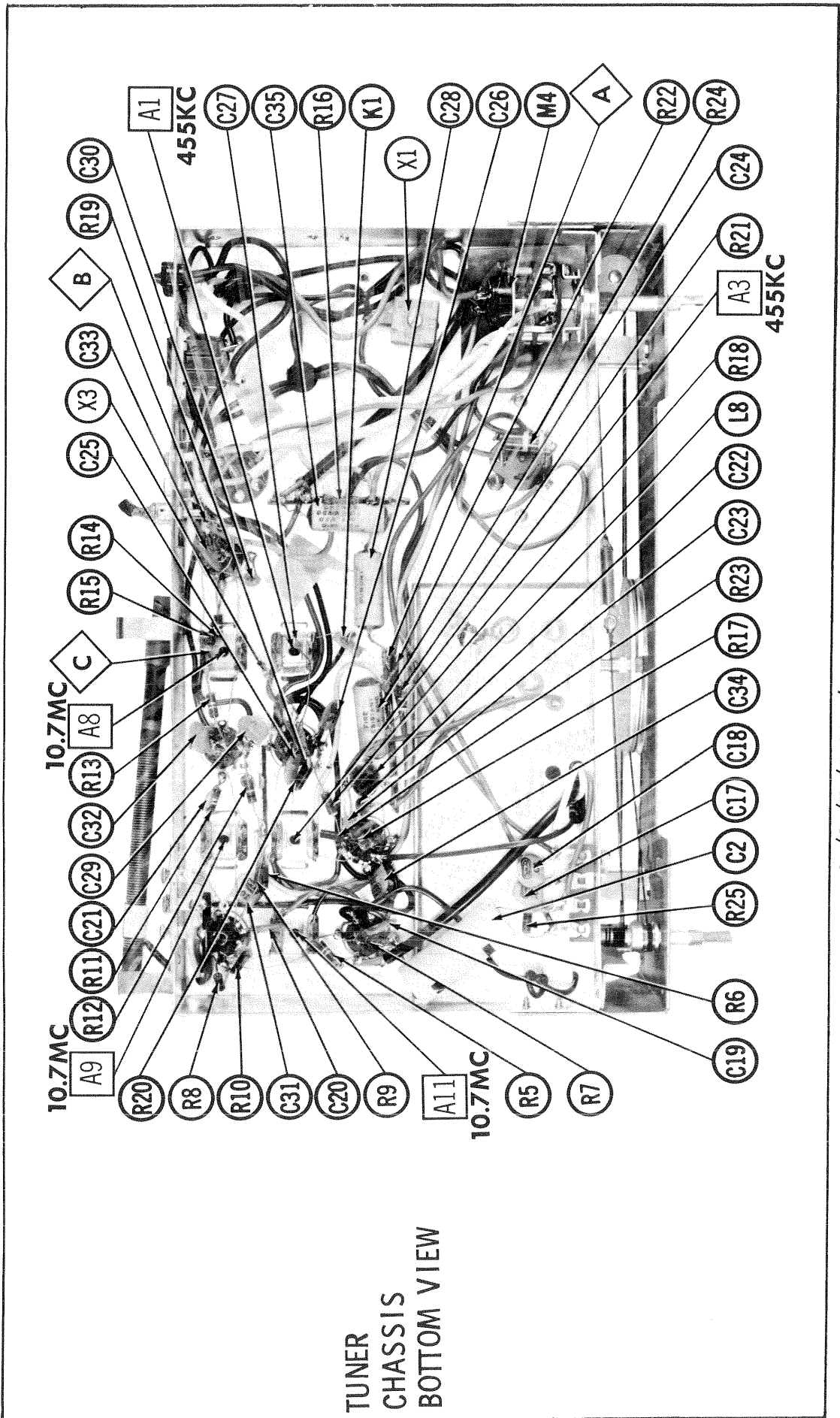
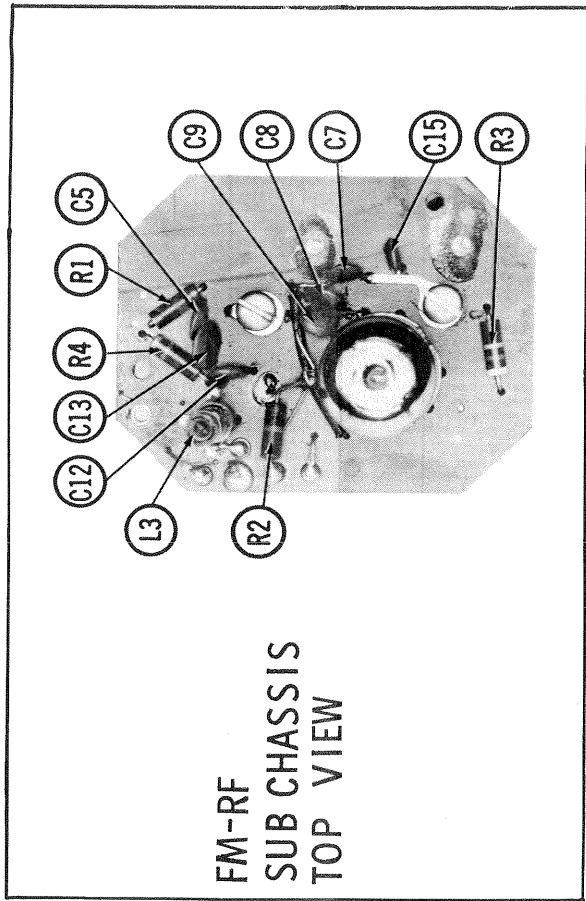
A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITTRACE

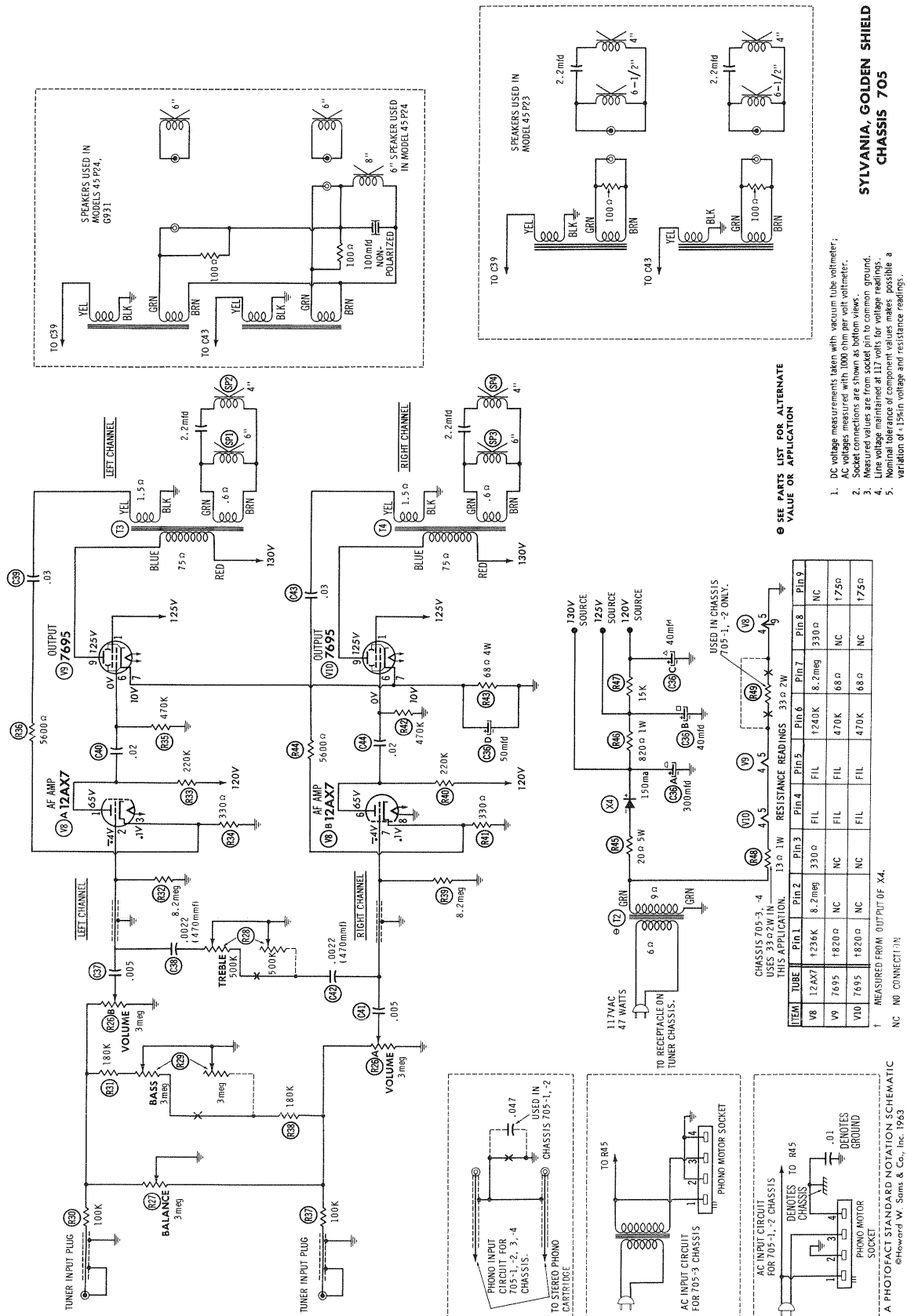
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SYLVANIA
CHASSIS 671-2

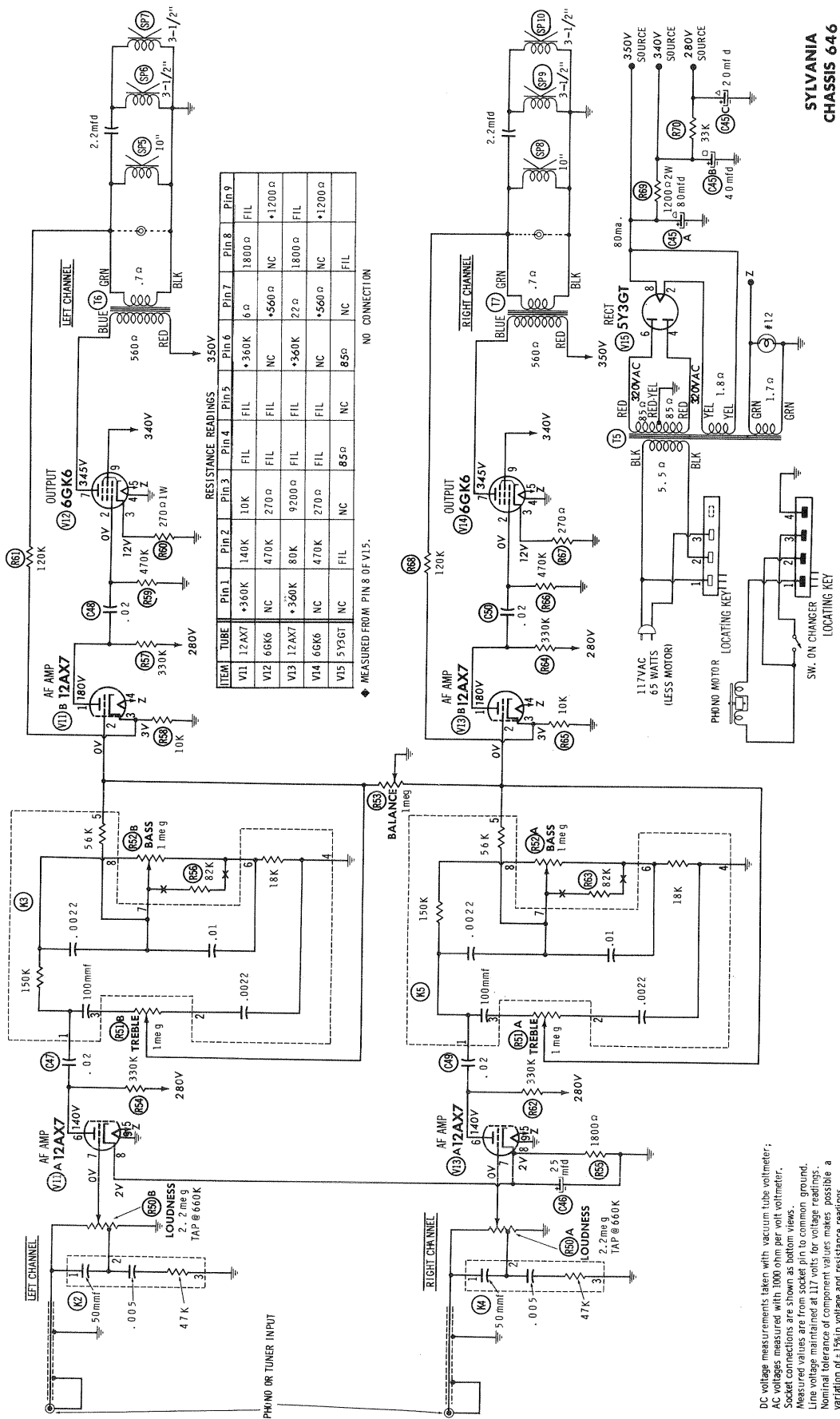


A Howard W. Sams
CIRCUITRACE® Photo





AMP CHASSIS 705 SCHEMATIC




ALIGNMENT INSTRUCTIONS

Use only enough generator output to provide a usable indication.
Suggested Alignment Tools:
A1 thru A4, A8 thru A12, A15...GENERAL CEMENT #5097, 8727
WALSCO #2515
A5, A7, A16, A17... GENERAL CEMENT #5004, 5009, 8195, 8274, 8275, 8607, 8728, 8987, 8988, 8989, 9291
WALSCO #2515, 2520, 2522, 2523, 2531, 2534, 2537, 2538
A6... GENERAL CEMENT #5003, 8271, 8275, 8276, 8609, 8721, 8722, 9150, 9298
WALSCO #2516, 2518, 2519
A13, A14... GENERAL CEMENT #8282, 8606, 8606-L, 9091
WALSCO #2526, 2541, 2542, 2543, 2544



AM ALIGNMENT — SELECTOR IN AM POSITION

1.
2.
3.
4.



	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to Pin 7 (grid) of AM Converter, low side to chassis.	455KC (Unmod.)	(AM) Tuning gang fully open.	DC probe of VTVM to point  , common to chassis.	A1, A2, A3, A4	Adjust for maximum deflection.
2.	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1700KC	"	"	A5	"
3.	"	600KC	600KC	"	A6	Adjust for maximum deflection while rocking tuning gang. Repeat step 2.
4.	"	1400KC	1400KC	"	A7	"

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM — SELECTOR IN FM POSITION

5.
6.


	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
5.	High side to ungrounded tube shield over FM Converter, low side to chassis.	10.7MC (Unmod.)	(FM) Point of non-interference.	DC probe of VTVM to point  , common to chassis.	A8, A9, A10, A11, A12, A13, A14.	Adjust for maximum deflection.
6.	"	"	"	DC probe to point  , common to chassis.	A15	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE — SELECTOR IN FM POSITION

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
5.	High side to ungrounded tube shield over FM Converter, low side to chassis.	10.7MC (450KC Swp.)	(FM) Point of non-interference.	Vert. amp. of scope to point  , low side to chassis.	A8, A9, A10, A11, A12, A13, A14	Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown.
6.	"	"	"	Vert. amp. to point  , low side to chassis.	A15	Adjust to place marker at center of crossover lines similar to Fig. 2. SLIGHTLY retouch A8 for maximum amplitude and straightness of crossover lines.

FM RF ALIGNMENT — SELECTOR IN FM POSITION

7.
8.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
7.	Across FM antenna terminals with 120Ω in each lead.	108MC (Unmod.)	(FM) 108MC	DC probe of VTVM to point  , common to chassis.	A16	Adjust for maximum deflection.
8.	"	96MC	96MC	"	A17	"

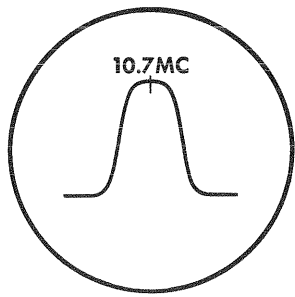


FIG. 1

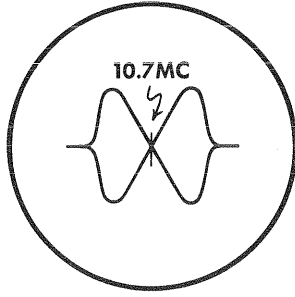


FIG. 2

TUBES

ITEM No.	AMPEREX	GENERAL ELECTRIC	RCA	RAYTHEON	SYLVANIA	TYPE
V1	FM RF Amp., FM Conv., 1st FM IF Amp., 2nd FM IF Amp., FM Limiter	6AQ8 (ECC85)* 6AU6 6BA6 6AU6				
V5	Discriminator AM Converter					6AL5 6BE6 6BA6
V6	AM Converter					
V7	AM IF Amp.					

* Alternate

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	MALLORY PART No.	SARKIS TARZIAN PART No.	NOTES
X1	.038 Amp.	517-0025	A300 †	IN2863 †	† Use Series Resistor to Obtain Original Output Voltage
X2					
X3		IN295			ATC AM Detector

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	SYLVANIA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1A	80	161-2027	AFH2-34	BO270	XC2-34	FP227.6	TMD2330	TYL-2585
C1B	200							
C1C	200							
C2	150		PRS1440	BBR20-150	QTL-8.1	TC-45	TD-20-150	TYA-1410

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ELMCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C3	30 N1500		D1-1000	IR5D1	CCD-102	GP210	10TS-D10
C4	.001 10%						
C5	15 N220 5%						
C6	18 N150 5%						
C7	1.5 NPO 10%						
C8							
C9							
C10							
C11	8 N150 10%						
C12	68 N750 10%						
C13	.001 10%						
C14	15 N080						
C15							
C16							
C17	.01						
C18	.01						
C19	.0047 10%						
C20							
C21	47						
C22	470						
C23	47 10%						
C24	.047 200V						
C25	.01						
C26	.01						
C27	.047 200V						
C28							
C29	.01						
C30	100						
C31	.01						
C32	.01						
C33	.01						
C34	.01						
C35	.047 200V						

* Available thru distributor on order to manufacturer.

TUNER PARTS LIST AND DESCRIPTION COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	SYLVANIA PART No.	REPLACEMENT DATA
K1	Diode RF Filter	100mmf, 100mmf, 47K	190-0044	Aerovox Centralab Sprague BA-97 PC-50 D-1

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA	NOTES
		SYLVANIA PART No.	WORKMAN PART No.
L1	FM Ant.		
L2A	FM RF		
L2B	FM Osc.		
L3	1st FM IF		
L4	2nd FM IF		
L5	3rd FM IF		
L6	Discriminator		
L7	Loopstick		
L8	AM Osc.		
L9	1st AM IF		
L10	2nd AM IF		

TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA	NOTES
		SYLVANIA PART No.	THORADSON PART No.
T1	SEC. 1 SEC. 2 PRI. 117VAC 1.0A SEC. 1 0.35A SEC. 2 0.35A @ .036A @ 2.15A	141-0091	

PHONO CARTRIDGE & NEEDLES

*NEEDLE USINGS SHOWN ARE FOR RESPECTIVE REPLACEMENT CARTRIDGES ONLY.

ITEM No.	REPLACEMENT DATA	SONOTONE PART No.	NOTES
	SYLVANIA PART No.	NEEDLE* CARTRIDGE	
M1	916-0025 NEEDLE* 902-0023 (LP) † (LP) † 902-0022 (78) † 902-0022 (78) †	97 NT-7S N8-3S N7-7d N8-3s	† Sapphire ♦ Diamond Models 45P24, G931 Model 45P23
	916-0036 902-0034 (LP) † 902-0022 (78) †	97D N7-7d N8-3s	
	916-0038 902-0038 (LP) † 902-0037 (78) †	133 N50 N50	Models 45C31, 55C31
	916-0037 902-0036 (LP) † 902-0035 (78RPM)		Models 45C36, 55C36

MISCELLANEOUS

ITEM No.	PART NAME	SYLVANIA PART No.	NOTES
M2	FM Tuner	170-0058	
M3	AM Tuning Cap.	170-0057	
M4	Switch	573-0029	Complete 2 Gang Function

SYLVANIA, GOLDEN SHIELD CHASSIS 671-2, 705-1/-2/-3/-4

♦ AMPEREX ♦ GENERAL ELECTRIC ♦ RCA ♦ RAYTHEON ♦ SYLVANIA ♦				
ITEM No.	USE	TYPE	ITEM No.	TYPE
V8	AF Amplifier	12AX7	V10	Output
V9	Output	7695		

TUBES

705 AMP PARTS LIST AND DESCRIPTION

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		IRC PART No.	WORKMAN PART No.			IRC PART No.	WORKMAN PART No.
R43	680 4W	PW5-68	5W-SQ-68	R48	130 1W		
R45	200 5W	PW5-20	10W-SQ-20	R49	330 2W		

† Value used in Chassis 705-3/-4
Note 1. Chassis 705-1/-2 only.

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS		NOTES
			MALLORY PART No.	SARKES TAZIAN PART No.	
X4	.150 Amp.	517-0021	A300 †	IN3194 †	40H † Use Series Resistor to Obtain Original Output Voltage.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		SYLVANIA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.
C38A B C D	300 150 40 50					
C38	.005					
C39	.0022					
C40	.03					
C41	.02					
C42	.005					
C43	.0022					
C43	.03					
C44	.02					

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELENCO PART No.	MALLORY PART No.
C37	.005						
C38	.0022						
C39	.03						
C40	.02						
C41	.005						
C42	.0022						
C43	.03						
C44	.02						

† Value used in Chassis 705-1/-2/-3

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA			
			SYLVANIA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.
R26A B	Volume, Right Volume, Left	3meg	153-0303	B-85, SR-85, or (F2-3meg, TU304)		FA36A, RU36A, CS3500
R27	Balance	3meg	153-0300	B-84, or (F1-3meg, SU204)	FS-3	BL-140, TM5
R28	Treble (Dual Element)	500K	153-0301			TA36L, or(U59)
R29	Bass (Dual Element)	500K				
R29	Bass (Dual Element)	3meg	153-302			

WIRING DATA

General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors . Power Cord Use BELDEN No. 1709 (Plastic) or 1726 (Rubber) - 6 Ft. 1709 (Plastic) or 1726 (Rubber) - 9 Ft. Power Cord (Interlock Type) Use BELDEN No. 8874 (Rubber) or 8895 (Plastic) Low-Loss Shielded Lead (Interconnecting) Use BELDEN No. 8401 or 8421 Photo Pick-up Arm Cable Use BELDEN No. 8430 (Two Conductor-Unshielded) 8428 (Two Conductor-Shielded) 8419 (Three Conductor-Shielded)

646 AMP PARTS LIST AND DESCRIPTION

TUBES

♦ AMPEREX ♦ GENERAL ELECTRIC ♦ RCA ♦ RAYTHEON ♦ SYLVANIA ♦				
ITEM No.	USE	TYPE	ITEM No.	TYPE
V11	AF Amplifier	12AX7	V14	Output
V12	Output	6GK6	V15	Rectifier
V13	AF Amplifier	12AX7		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	CAP. VOLT.	REPLACEMENT DATA		
			SYLVANIA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.
C45A B C	80 40 20				
C46	12				

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING	REPLACEMENT DATA				NOTES
		IRC PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T5	117VAC	SEC. 1				
		SEC. 2				
		5VAC				
		.080A @ 2A				
		SEC. 3				
		SEC. 4				
		SEC. 5				
		5.5VAC @ 2.1A				

SPEAKER

ITEM No.	IMPEDANCE	REPLACEMENT DATA			NOTES
		SYLVANIA PART No.	Merit PART No.	Stancor PART No.	
T6	5800Ω	3-4Ω	A-3019	A-8092	
T7	5800Ω	3-4Ω	A-3019	A-8092	

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA			
			SYLVANIA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.
R50A B	Loudness, Right Loudness, Left	2.2meg 660K Tap	153-0250	F14-2meg, TU304		
R51A B	Treble, Right Treble, Left	1meg 660K Tap	153-0248	F2-1meg, TU304		
R52A B	Bass, Right Bass, Left	1meg 660K Tap	153-0248	F2-1meg, TU304		
R53	Balance	1meg	153-0246	B-69, or (F1-1meg, SU204)	Q11-137, or(BU1 CF17, SSI, DC1)*	U54, or(UA16L, SF1000)

* "SNAPTROL"

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	SYLVANIA PART No.	REPLACEMENT DATA
K2	Tone Comp.	50mm1, .005mfd, 47K	190-0064	
K3	Tone Comp.	100mmfd, .0022mfd, 47K	190-0063	
K4	Tone Comp.	.01mfd, 150K, 18K, 56K	190-0064	
K5	Tone Comp.	50mm1, .005mfd, 47K	190-0063	
		100mm1, .0022mfd, .0022mfd, .01mfd, 150K, 18K, 56K	190-0063	

FOLDER 8

SYLVANIA, GOLDEN SHIELD CHASSIS 671-2, 705-1/-2/-3/-4

WIRING DATA

General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors . Power Cord Use BELDEN No. 1709 (Plastic) or 1726 (Rubber) - 6 Ft. 1709 (Plastic) or 1726 (Rubber) - 9 Ft. Power Cord (Interlock Type) Use BELDEN No. 8874 (Rubber) or 8895 (Plastic) Low-Loss Shielded Lead (Interconnecting) Use BELDEN No. 8401 or 8421 Photo Pick-up Arm Cable Use BELDEN No. 8430 (Two Conductor-Unshielded) 8428 (Two Conductor-Shielded) 8419 (Three Conductor-Shielded)

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

ITEM No.	NAME	PART NO.	REPLACEMENT DATA		NOTES
			SYLVANIA PART No.	QUAM PART No.	
	Dial Glass	721-0047			
	Dial Pointer	792-0033			
	Knob	740-0433			
	Knob	740-0561			
	Knob	740-0432			
	Knob	740-0563			
	Knob	740-0551			
	Knob	740-0560			
	Knob	740-0522			
	Knob	740-0521			
	Knob	740-0523			