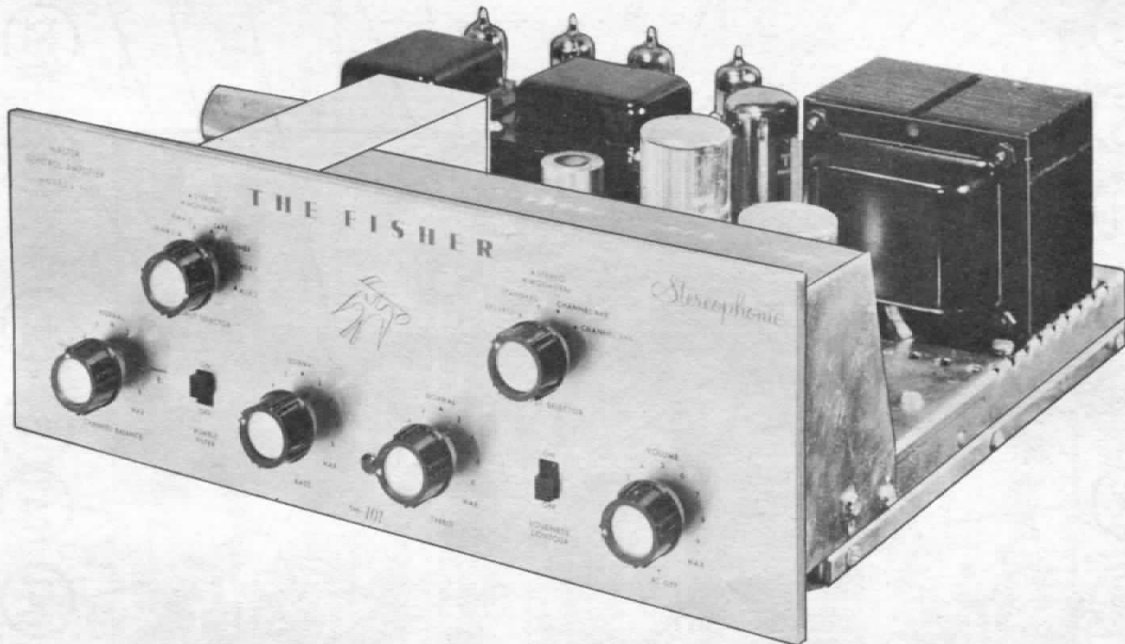




FISHER
MODEL X-101



FISHER
MODEL X-101

TRADE NAME	Fisher Model X-101		
MANUFACTURER	Fisher Radio Corp., 21-21 44th Drive, Long Island City 1, N. Y.		
TYPE SET	AC Operated 11 Tube Stereo Amplifier		
POWER SUPPLY	105-125 Volts AC, 50-60 Cycles	RATING	150 Watts, 1.4 Amp. @ 117 Volts AC

ADJUSTMENTS

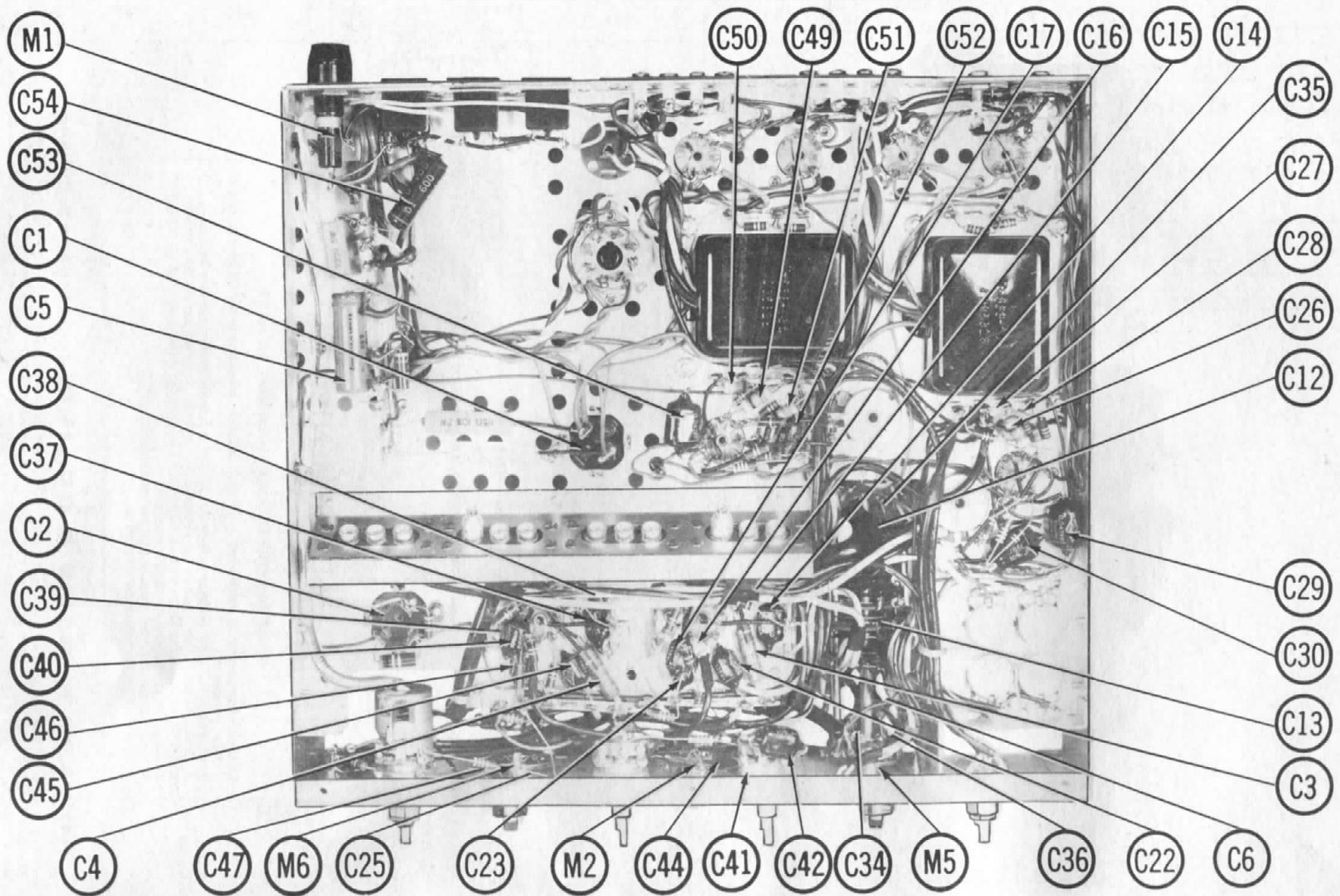
PHASE INVERTER BALANCE ADJUSTMENT (R5 and R6)

1. Connect an accurately calibrated, low distortion audio generator to the Channel A Tuner input receptacle.
2. Connect a 16Ω 100W resistor across the Channel A 16Ω and ground speaker terminals.
3. Connect either a harmonic or intermodulation distortion analyzer across the resistor.
4. Set the generator to 1000^c with an output slightly below the clipping point of the amplifier output. Keep generator output constant.
5. Adjust Phase Inverter Balance (R5) for minimum distortion.
6. Repeat above procedure for Channel B.

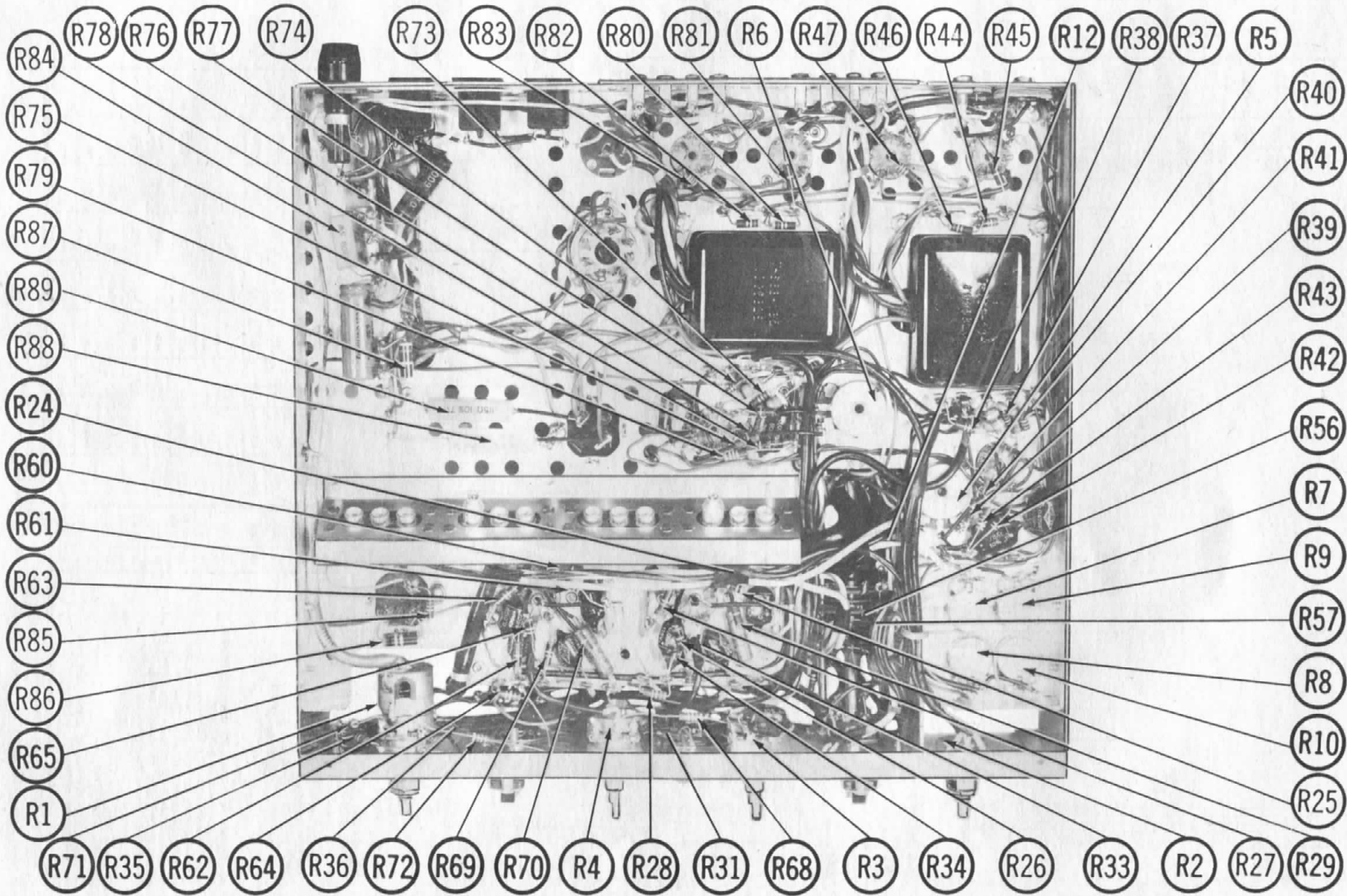
HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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 J26

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1959 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America

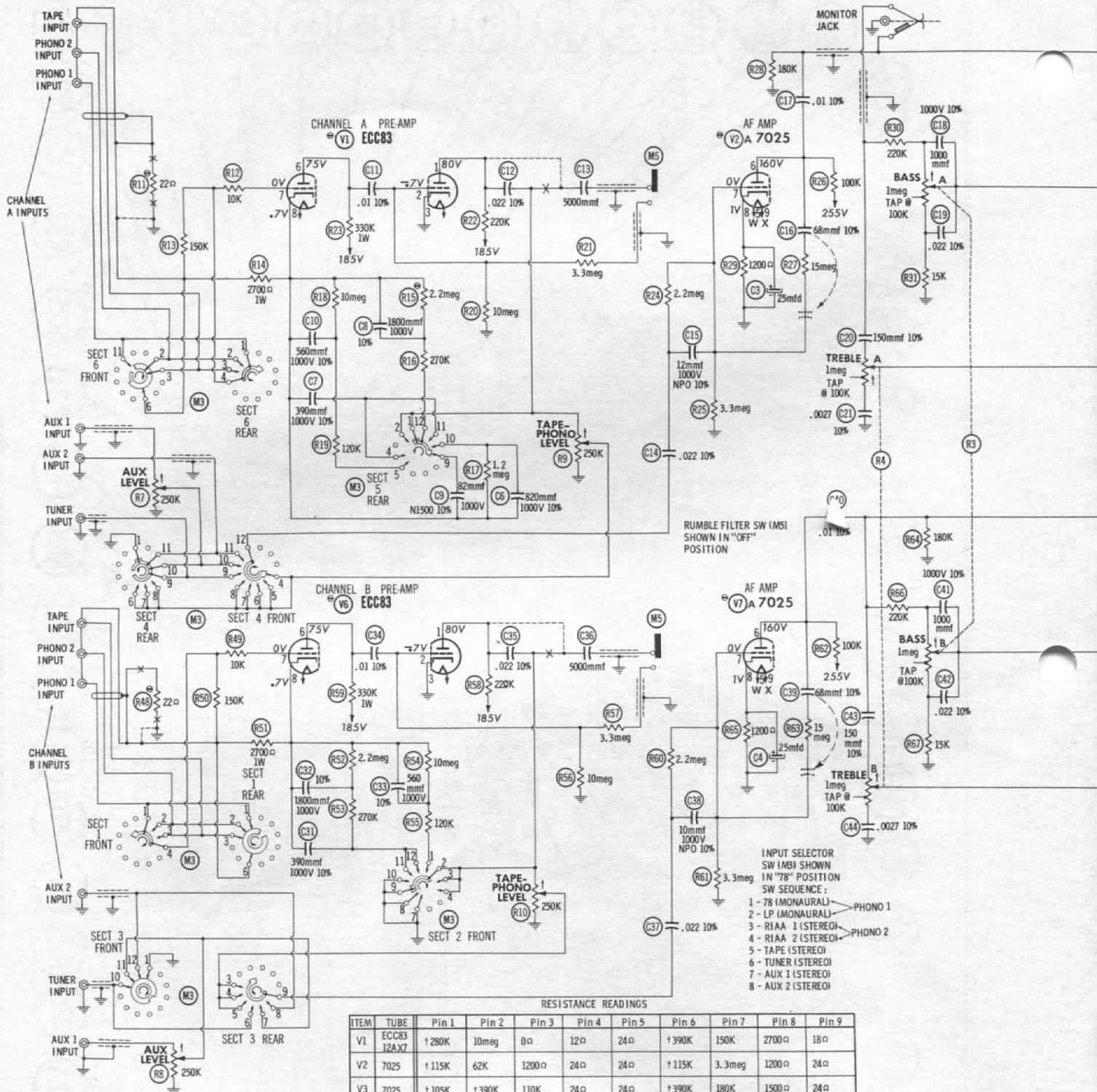


CHASSIS BOTTOM VIEW - CAPACITOR & MISC IDENT



CHASSIS BOTTOM VIEW - RESISTOR IDENT

FISHER
MODEL X-101



RUMBLE FILTER SW (M5) SHOWN IN "OFF" POSITION

INPUT SELECTOR SW (M6) SHOWN IN "78" POSITION
SW SEQUENCE:
1 - 78 (MONAURAL)
2 - LP (MONAURAL)
3 - RIAA 1 (STEREO)
4 - RIAA 2 (STEREO)
5 - TAPE (STEREO)
6 - TUNER (STEREO)
7 - AUX 1 (STEREO)
8 - AUX 2 (STEREO)

RESISTANCE READINGS

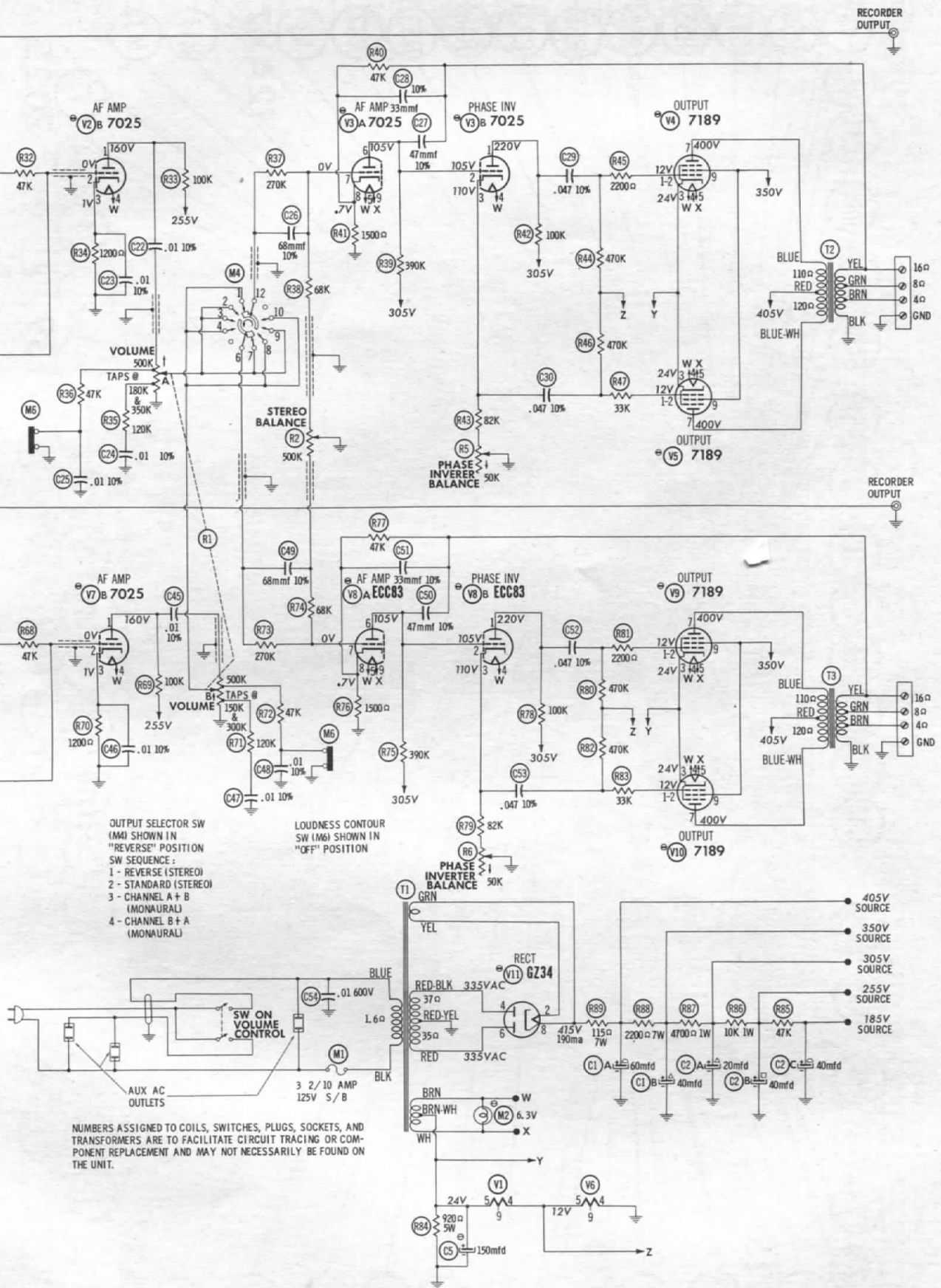
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	ECC83 12AX7	+280K	10meg	0Ω	12Ω	24Ω	+390K	150K	2700Ω	18Ω
V2	7025	+115K	62K	1200Ω	24Ω	24Ω	+115K	3.3meg	1200Ω	24Ω
V3	7025	+105K	+390K	110K	24Ω	24Ω	+390K	180K	1500Ω	24Ω
V4	7189	470K	470K	24Ω	24Ω	24Ω	NC	+225Ω	NC	+2300Ω
V5	7189	470K	470K	24Ω	24Ω	24Ω	NC	+235Ω	NC	+2300Ω
V6	ECC83 12AX7	+280K	10meg	0Ω	0Ω	12Ω	+390K	150K	2700Ω	6Ω
V7	7025	+115K	62K	1200Ω	24Ω	24Ω	+115K	3.3meg	1200Ω	24Ω
V8	ECC83 12AX7	+105K	+390K	100K	24Ω	24Ω	+390K	60K	1500Ω	24Ω
V9	7189	470K	470K	24Ω	24Ω	24Ω	NC	+225Ω	NC	+2300Ω
V10	7189	470K	470K	24Ω	24Ω	24Ω	NC	+235Ω	NC	+2300Ω
V11	G234 5AR4	NC	†	NC	37Ω	NC	35Ω	NC	†	

† THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
‡ MEASURED FROM PIN 8 OF V11.
NC NO CONNECTION.

- DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
- Socket connections are shown as bottom views.
- Measured values are from socket pin to common negative.
- 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.
- All controls at minimum, proper output load connected.

SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION
DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM
ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

A PHOTOFAC STANDARD NOTATION SCHEMATIC
©Howard W. Sams & Co., Inc. 1959

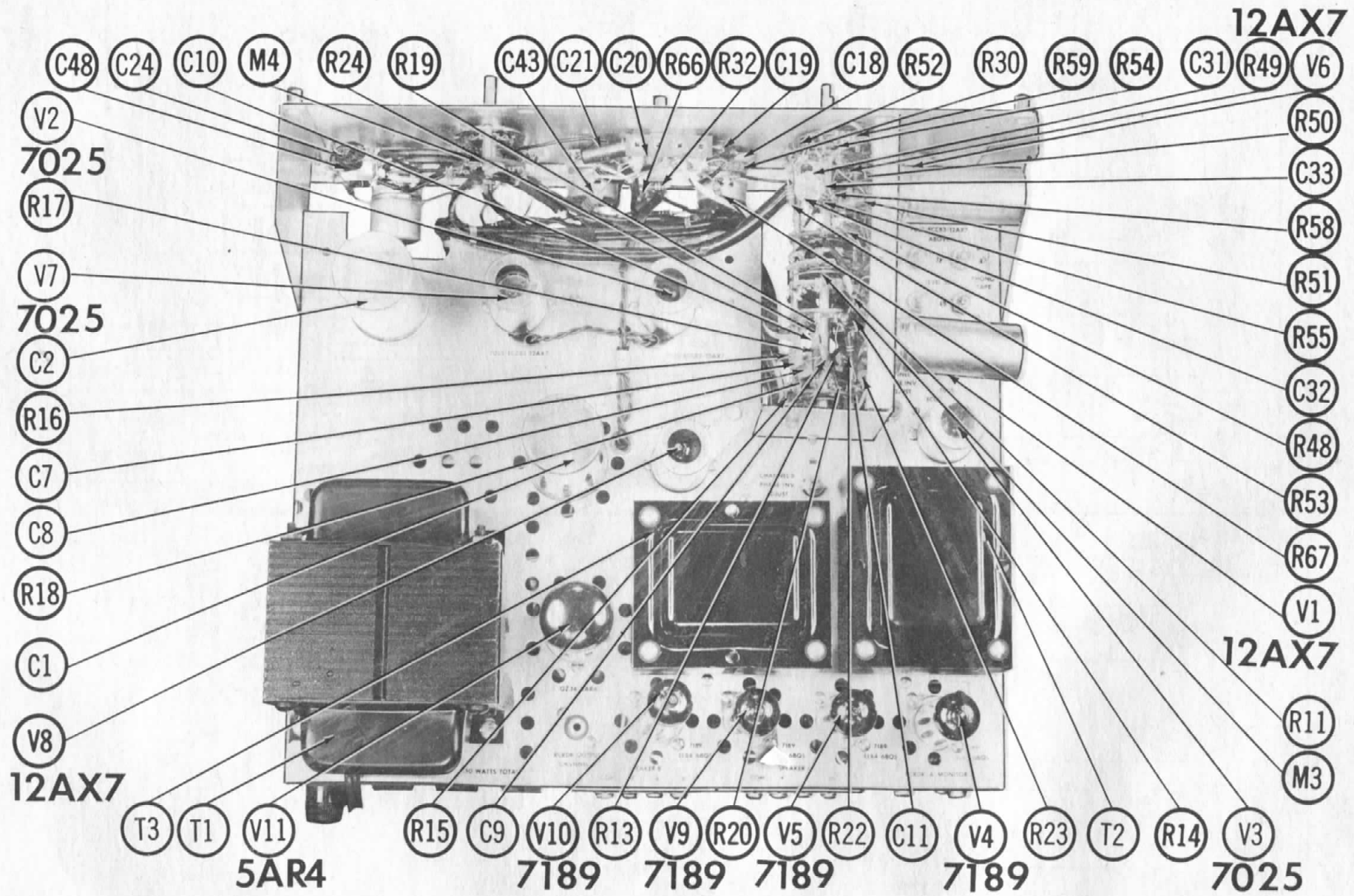


OUTPUT SELECTOR SW (M4) SHOWN IN "REVERSE" POSITION
SW SEQUENCE:
1 - REVERSE (STEREO)
2 - STANDARD (STEREO)
3 - CHANNEL A + B (MONAURAL)
4 - CHANNEL B + A (MONAURAL)

LOUDNESS CONTOUR SW (M6) SHOWN IN "OFF" POSITION

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

FISHER
MODEL X-101



CHASSIS - TOP VIEW

PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	Channel A Preamplifier	ECC83/12AX7 ①	V6	Channel B Preamplifier	ECC83/12AX7 ①
V2	Channel A AF Amplifier	7025 ②	V7	Channel B AF Amplifier	7025 ②
V3	Channel A AF Amplifier-Phase Inverter	7025 ②	V8	Channel B AF Amplifier-Phase Inverter	ECC83/12AX7 ①
V4	Channel A Output	7189 ③	V9	Channel B Output	7189 ③
V5	Channel A Output	7189 ③	V10	Channel B Output	7189 ③
			V11	Rectifier	GZ34/5AR4 ③

① Alternate Type 7025. ② Alternate Type ECC83/12AX7. ③ Alternate Type EL84/6BQ5.

CAPACITORS (cont)

ITEM No.	RATING			REPLACEMENT DATA						NOTES
	CAP.	VOL.	TOL.	FISHER PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
C40	.01	250	10%	C50074-25				GEM-1611	4TM-SIS 10%*	
C41	1000	1000	10%	C50072-3				JL-210	10HKB-D18 10%*	
C42	.022	250	10%	C50074-26				JL-315	4TM-S22S 10%*	
C43	150		10%	CC21GP151K5	NPO-SI 150	D6-151	CTA6T15C		5TCC-T15S 10%*	
C44	.0027	200	10%	C68P272K2					6TM-D27S 10%*	
C45	.01	250	10%	C50074-25				GEM-1611	4TM-SIS 10%*	
C46	.01	250	10%	C50074-25				GEM-1611	4TM-SIS 10%*	
C47	.01	250	10%	C50074-25				GEM-1611	4TM-SIS 10%*	
C48	.01	250	10%	C50074-25				GEM-1611	4TM-SIS 10%*	
C49	68		10%	CC21GP680K5	NPO-SI 68	D6-680	CTA6Q68C	CNO-468	5TCC-Q68S 10%*	
C50	47		10%	CC21GP470K5	NPO-SI 47	D6-470	CTA6Q47C	CNO-447	5TCC-Q47S 10%*	
C51	33		10%	CC21GP330K5	NPO-SI 33	D6-330	CTA6Q33C	CNO-433	5TCC-Q33S 10%*	
C52	.047	500	10%	C50074-37					6TM-S47S 10%*	
C53	.047	500	10%	C50074-37					6TM-S47S 10%*	
C54	.01	600		C2747	P688N-01	D6-103	CUB6S1	GEM-611	6TM-S1 10%*	

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOL.	FISHER PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	
C1A	.60	450	C663-136	AFH2-58	A0500	FP239	TMD-56	TVL-2766	
B	.40	450			BR4045				
C2A	.20	450	C563-127	AFH3-43-50	B0450	FP376.9	TMT-39	TVL-3786	
B	.40	450			BR2045				
C	.40	450							
C3	.25	6	C639-114	SRE6V25	BBR25-6	TT6X25	TD-25-25	TVA-1205	
C4	.25	6	C639-114	SRE6V25	BBR25-6	TT6X25	TD-25-25	TVA-1205	
C5	150	30		PRS50V150	BRI505	TC25015	TD-150-50	TVA-1311	

① Some versions may use 100mfd @ 100V in this application (Part #C663-143).

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.	TOL.	FISHER PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
C6	820	1000	10%	C50072-7				JL-382	10HKB-T82S 10%*	
C7	390	1000	10%	C50072-6		MD-391	L10T39		10GAB-T39S 10%*	
C8	1800	1000	10%	C50072-8				JL-218	10HKB-D18S 10%*	
C9	82	1000	N1500 10%	C50070-7						
C10	560	1000	10%	C50072-14		MD-561		JL-356	10GAB-T56S 10%*	
C11	.01	250	10%	C50074-25				GEM-1611	4TM-SIS 10%*	
C12	.022	250	10%	C50074-26					4TM-S22S 10%*	
C13	5000			C50089-1	BPD-005	DD-502	BYA10D5	B-250	5HK-D5	
C14	.022	250	10%	C50074-26					4TM-S22S 10%*	
C15	12	1000	NPO 10%	C50070-2				C10Q12C	CNO-412	
C16	68		10%	C50070-2					CNO-468	
C17	.01	250	10%	CC21GP680K5	NPO-SI 68	D6-680		CTA6Q68C	GEM-1611	
C18	1000	1000	10%	C50074-25					5TCC-Q68S 10%*	
C19	.022	250	10%	C50072-3				JL-210	4TM-SIS 10%*	
C20	150		10%	C50072-3					10HKB-D18 10%*	
C21	.0027	200	10%	CC21GP151K5	NPO-SI 150	D6-151	CTA6T15C	JL-315	4TM-S22S 10%*	
C22	.01	250	10%	C68P272K2					5TCC-T15S 10%*	
C23	.01	250	10%	C50074-25				GEM-1611	6TM-D27S 10%*	
C24	.01	250	10%	C50074-25				GEM-1611	4TM-SIS 10%*	
C25	.01	250	10%	C50074-25				GEM-1611	4TM-SIS 10%*	
C26	68		10%	CC21GP680K5	NPO-SI 68	D6-680		CTA6Q68C	4TM-SIS 10%*	
C27	47		10%	CC21GP470K5	NPO-SI 47	D6-470		CTA6Q47C	5TCC-Q68S 10%*	
C28	33		10%	CC21GP330K5	NPO-SI 33	D6-330		CTA6Q33C	5TCC-Q47S 10%*	
C29	.047	500	10%	C50074-37					5TCC-Q33S 10%*	
C30	.047	500	10%	C50074-37					6TM-S47S 10%*	
C31	390	1000	10%	C50072-6		MD-391	L10T39		6TM-S47S 10%*	
C32	1800	1000	10%	C50072-8				JL-218	10GAB-T39S 10%*	
C33	560	1000	10%	C50072-14		MD-561		JL-356	10HKB-D18S 10%*	
C34	.01	125	10%	C50074-25				GEM-1611	10GAB-T56S 10%*	
C35	.022	250	10%	C50074-26					4TM-SIS 10%*	
C36	5000			C50089-1	BPD-005	DD-502	BYA10D5	B-250	4TM-S22S 10%*	
C37	.022	250	10%	C50074-26					5HK-D5	
C38	10	1000	NPO 10%	C50070-11				C10Q1C	4TM-S22S 10%*	
C39	68		10%	CC21GP680K5	NPO-SI 68	D6-680		CTA6Q68C	4TM-S22S 10%*	

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CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	FISHER PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1A	500K	1/2	R663-138					Volume, Channel A, Taps @ 180K, 350K
B	500K	1/2						Volume, Channel B, Taps @ 150K, 300K
C	Switch							
R2	500K	1/2	R663-131					Stereo Balance
R3A	1meg	1/2	R663-134	BB-107	AD47-1meg-Z	Q13-137		Bass, Channel A, Tap @ 100K, Not used
B	1meg	1/2		Not Req.	Not Req.	MI3-137	UE3913	Bass, Channel B, Tap @ 100K, Not used
C	Shaft			Not Req.	FS-3	Not Req.		
R4A	1meg	1/2	R663-134	BB-107	AD47-1meg-Z	Q13-137		Treble, Channel A, Tap @ 100K, Not used
B	1meg	1/2		Not Req.	Not Req.	MI3-137	UE3913	Treble, Channel B, Tap @ 100K, Not used
C	Shaft			Not Req.	FS-3	Not Req.		
R5A	50K	1/2	R50103-3	BX-31	A47-50K-S	Q11-123	SU-35	Phase Inverter, Channel A
B	50K	1/2		Not Req.	FKS-1/4	Not Req.	Not Req.	
R6A	50K	1/2	R50103-3	BX-31	A47-50K-S	Q11-123	SU-35	Phase Inverter, Channel B
B	50K	1/2		Not Req.	FKS-1/4	Not Req.	Not Req.	
R7	250K	1/10	R657-134	JP-254	48M-250K-S			Aux. Level Set, Chan. A
R8	250K	1/10	R657-134	JP-254	48M-250K-S			Aux. Level Set, Chan. B
R9	250K	1/10	R657-134	JP-254	48M-250K-S			Tape-Phono Level Set, Chan. A
R10	250K	1/10	R657-134	JP-254	48M-250K-S			Tape-Phono Level Set, Chan. B

* "STA-LOC" Equivalent: FA16A, RU16A, CS3500.

RESISTORS

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

ITEM No.	RATING		FISHER PART No.	NOTES	ITEM No.	RATING		FISHER PART No.	NOTES
	OHMS	WATT				OHMS	WATT		
R11	22Ω		RC20BF220K	①	R21	3.3meg		RC20BF335K	
R12	10K		RC20BF103K		R22	220K		RC20BF224K	
R13	150K		RC20BF154K		R23	330K	1	RC30BF334K	
R14	2700Ω	1	RC30BF272K		R24	2.2meg		RC20BF225K	
R15	2.2meg		RC20BF225K	②	R25	3.3meg		RC20BF335K	
R16	270K		RC20BF274K		R26	100K		RC20BF104K	
R17	1.2meg		RC20BF125K		R27	15meg		RC20BF156K	
R18	10meg		RC20BF106K		R28	180K		RC20BF184K	
R19	120K		RC20BF124K		R29	1200Ω		RC20BF122K	
R20	10meg		RC20BF106K		R30	220K		RC20BF224K	

FISHER MODEL X-101

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PARTS LIST AND DESCRIPTIONS (Con't)

RESISTORS (cont)

ITEM No.	RATING		FISHER PART No.	NOTES	ITEM No.	RATING		FISHER PART No.	NOTES
	OHMS	WATT				OHMS	WATT		
R31	15K		RC20BF153K		R61	3.3meg		RC20BF335K	
R32	47K		RC20BF473K		R62	100K		RC20BF104K	
R33	100K		RC20BF104K		R63	15meg		RC20BF156K	
R34	1200Ω		RC20BF122K		R64	180K		RC20BF184K	
R35	120K		RC20BF124K		R65	1200K		RC20BF122K	
R36	47K		RC20BF473K		R66	220Ω		RC20BF224K	
R37	270K		RC20BF274K		R67	15K		RC20BF153K	
R38	68K		RC20BF683K		R68	47K		RC20BF473K	
R39	390K		RC20BF394K		R69	100K		RC20BF104K	
R40	47K		RC20BF473K		R70	1200Ω		RC20BF122K	
R41	1500Ω		RC20BF152K		R71	120K		RC20BF124K	
R42	100K		RC20BF104K		R72	47K		RC20BF473K	
R43	82K		RC20BF823K		R73	270K		RC20BF274K	
R44	470K		RC20BF474K		R74	68K		RC20BF683K	
R45	2200Ω		RC20BF222K		R75	390K		RC20BF394K	
R46	470K		RC20BF474K		R76	1500Ω		RC20BF152K	
R47	33K		RC20BF333K		R77	47K		RC20BF473K	
R48	22Ω		RC20BF220K	①	R78	100K		RC20BF104K	
R49	10K		RC20BF103K		R79	82K		RC20BF823K	
R50	150K		RC20BF154K		R80	470K		RC20BF474K	
R51	2700Ω	1	RC30BF272K		R81	2200Ω		RC20BF222K	
R52	2.2meg		RC20BF225K		R82	470K		RC20BF474K	
R53	270K		RC20BF274K		R83	33K		RC20BF333K	
R54	10meg		RC20BF106K		R84	920Ω	5	R592-167	
R55	120K		RC20BF124K		R85	47K		RC20BF473K	
R56	10meg		RC20BF106K		R86	10K	1	RC30BF103K	
R57	3.3meg		RC20BF335K		R87	4700Ω	1	RC30BF472K	
R58	220K		RC20BF224K		R88	2200Ω	7	R563-148	
R59	330K	1	RC30BF334K		R89	115Ω	7	R563-205	
R60	2.2meg		RC20BF225K						

① Not used in some versions.
 ② Some versions may use 3.3meg in this application (Part #RC20BF335K).

MISCELLANEOUS

ITEM No.	PART NAME	FISHER PART No.	NOTES
M2	Lamp	A5018	6.3V (JALUX)
	Lamp	I568-120	(Used in early versions)
M3	Switch	S663-132	Input Selector (8 Position, Rotary Wafer Type)
M4	Switch	S663-130	Output Selector (4 Position, Rotary Wafer Type)
M5	Switch	S663-133	Rumble Filter On-Off (SPDT, Slide Type)
M6	Switch	S663-133	Loudness Contour On-Off (SPDT, Slide Type)

CABINETS & CABINET PARTS

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

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors
	8524 (Stranded) Available in Ten Colors
Power Cord	Use BELDEN No. 1765-B (6 Ft. Length)
	1725-K (7½ Ft. Length)
Low-Loss Shielded Lead (Interconnecting)	Use BELDEN No. 8401
Phono Pick-up Arm Cable	Use BELDEN No. 8430 (Two Conductor - Twisted)

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA						
	PRI.	SEC. 1	SEC. 2	FISHER PART No.	Haldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117V ① 1.4A	770VCT ① .190A	5V ① 3A	T663-115						
	SEC. 3 ① 6.3VCT ① 4.2A	SEC. 4	SEC. 5							

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES	
	PRI.	SEC.	FISHER PART No.	Haldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.		Triad PART No.
T2	7500Ω CT	16Ω Tap ① 8Ω, 4Ω	T663-135							
T3	7500Ω CT	16Ω Tap ① 8Ω, 4Ω	T663-114							

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			FISHER PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	3AG	3 2/10A 125V S/B	F3319		31303.2 (3 2/10A 125V S/B)	342012	MDX3 2/10	HKP