THE FISHER X-101

SERVICE MANUAL

MODEL X-101

CHASSIS SERIAL NUMBERS
50001—59999 INCLUSIVE

PRICE: $1.00

FISHER RADIO CORPORATION · NEW YORK

PARTS DESCRIPTION LIST

CHASSIS SERIAL NUMBERS 50001—59999 INCLUSIVE

CAPACITORS

20% tolerance for all fixed capacitors, unless otherwise noted or marked GMV (guaranteed minimum value.)

Symbol	Description	Order No.
C1	Ceramic, 820uuf 10%, 1000V	C50072-7
C2, 3	Ceramic, 390uuf 10%, 1000V	C50072-6
C4	Ceramic, 1800uuf 10%, 1000V	C50072-8
C5	Ceramic, 82uuf 10% N1500, 1000V	C50070-7
C6	Ceramic, 1800uuf 10%, 1000V	C50072-8
C7, 8	Ceramic, 560uuf 10%, 1000V	C50072-14
C9, 10 11, 12	Molded, .01uf 10%, 250V	C50074-25
C13, 14	Ceramic, .005uf, 500V	C50089-1
C15, 16	Molded, .022uf 10%, 250V	C50074-26
C17	Ceramic, 7uuf 10% NPO, 1000V	C50070-20
C18	Ceramic, 8uuf 10% NPO, 1000V	C50070-14
C19, 20	Ceramic, 68uuf 10%, 500V	CC21GP680K5
C21, 22	Electrolytic, 25uf, 6V	C639-114
C23, 24	Molded, .01uf 10%, 250V	C50074-25
C25	Ceramic, 1000uuf 10%, 1000V	C50072-3
C26	Molded, .022uf 10%, 250V	C50074-26
C27	Ceramic, 1000uuf 10%, 1000V	C50072-3
C28	Molded, .022uf 10%, 250V	C50074-26
C29	Electrolytic, 100uf, 100V	C663-143
C30	Ceramic, 150uuf 10%, 500V	CC21GP151K5
C31	Molded, .0027uf 10%, 200V	C68P272K2
C32	Ceramic, 150uuf 10%, 500V	CC21GP151K5
C33	Molded .0027uf 10%, 200V	C68P272K2
C34	Electrolytic, three section: 40uf, 450V 40uf, 450V 20uf, 450V	C563-127
C35, 36	Molded, .01uf 10%, 250V	C50074-25
C37	Electrolytic, two section: 60uf, 450V 40uf, 450V	C663-136
C38, 39, 40, 41	Molded, .01uf 10%, 250V	C50074-25
C42, 43	Not used	———
C44, 45	Ceramic, 68uuf 10%, 500V	CC21GP680K5
C46, 47	Ceramic, 47uuf 10%, 500V	CC21GP470K5
C48	Not used	———
C49	Molded, .047uf 10%, 500V	C50074-37
C50	Not used	———
C51, 52, 53	Molded, .047uf 10%, 500V	C50074-37
C54	Molded, .01uf, 600V	C2747

RESISTORS AND POTENTIOMETERS

In ohms, 10% tolerance, ½ watt, unless otherwise noted. K = kilohm, M = megohm.

Symbol	Description	Order No.
R1, 2	Potentiometer, 250K 20%	R657-134
R3	Composition, 10K	RC20BF103K
R4	Composition, 100K	RC20BF104K
R5	Composition, 10K	RC20BF103K
R6	Composition, 100K	RC20BF104K
R7, 8	Composition, 2.7K, 1W	RC30BF272K
R9	Composition, 3.3M	RC20BF335K
R10	Composition, 2.2M	RC20BF225K
R11	Composition, 1.2M	RC20BF125K
R12	Composition, 270K	RC20BF274K
R13	Composition, 10M	RC20BF106K
R14	Composition, 270K	RC20BF274K
R15	Composition, 10M	RC20BF106K
R16, 17	Composition, 120K	RC20BF124K
R18, 19	Potentiometer, 250K 20%	R657-134
R20, 21	Composition, 330K, 1W	RC30BF334K
R22, 23	Composition, 220K	RC20BF224K
R24, 25	Composition, 10M	RC20BF106K
R26, 27	Composition, 3.3M	RC20BF335K
R28, 29	Composition, 2.2M	RC20BF225K
R30, 31	Composition, 3.3M	RC20BF335K
R32	Composition, 100K	RC20BF104K
R33	Composition 1.2K	RC20BF122K
R34	Composition, 100K	RC20BF104K
R35	Composition, 1.2K	RC20BF122K
R36, 37	Composition, 15M	RC20BF156K
R38, 39	Composition, 180K	RC20BF184K
R40	Composition, 220K	RC20BF224K
R41	Potentiometer, Dual, 1M	R50160-9
R42	Composition, 15K	RC20BF153K
R43	Composition, 220K	RC20BF224K
R44	Composition, 15K	RC20BF153K
R45, 46	Composition, 47K	RC20BF473K
R47	Potentiometer, Dual, 1M	R50160-9
R48	Not used	———
R49	Composition, 100K	RC20BF104K
R50	Composition, 1.2K	RC20BF122K
R51	Composition, 100K	RC20BF104K
R52	Composition, 1.2K	RC20BF122K
R53	Composition, 47K	RC20BF473K
R54	Potentiometer, Dual Volume 500K	R663-138
R55	Composition, 10K, 1W	RC30BF103K
R56, 57	Composition, 47K	RC20BF473K
R58, 59	Composition, 120K	RC20BF124K
R60	Composition, 4.7K, 1W	RC30BF472K
R61, 62	Composition, 270K	RC20BF274K
R63	Wirewound, 2.2K, 7W	R563-148
R64	Composition, 68K	RC20BF683K
R65	Potentiometer, Balance 500K, 20%	R663-131
R66	Composition, 68K	RC20BF683K
R67	Wirewound, 250, 7W (Two Used in Parallel)	R539-121
R68	Composition, 390K	RC20BF394K
R69	Composition, 1.5K	RC20BF152K
R70	Composition, 390K	RC20BF394K
R71	Composition, 1.5K	RC20BF152K
R72	Composition, 100K	RC20BF104K
R73	Composition, 82K	RC20BF823K
R74	Potentiometer, 50K, 20%	R50103-3
R75	Composition, 100K	RC20BF104K
R76	Composition, 82K	RC20BF823K
R77	Potentiometer, 50K, 20%	R50103-3
R78, 79	Composition, 47K	RC20BF473K
R80, 81 82, 83	Composition, 470K	RC20BF474K
R84	Composition, 2.2K	RC20BF222K
R85	Composition, 33K	RC20BF333K
R86	Composition, 2.2K	RC20BF222K
R87	Composition, 33K	RC20BF333K
R88, 89	Composition, 10	RC20BF100K
R90, 91	Composition, 100K	RC20BF104K
R92	Composition, 10K	RC20BF103K
R93	Composition, 6.8K	RC20BF682K

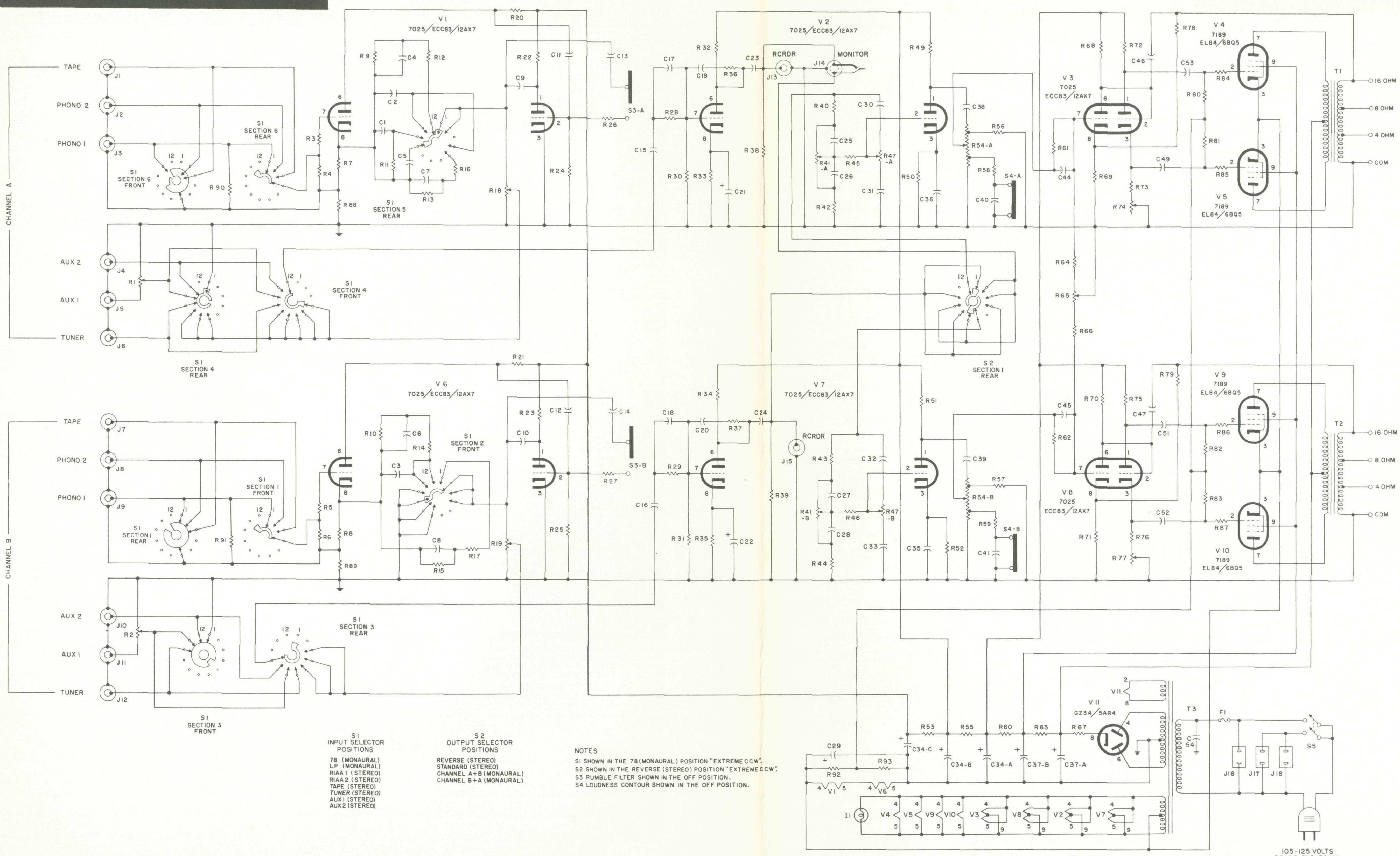
TRANSFORMERS

Symbol	Description	Order No.
T1	Transformer, Output	T663-135
T2	Transformer, Output	T663-114
T3	Transformer, Power	T663-115

MISCELLANEOUS

Symbol	Description	Order No.
F1	Fuse, 3.2 Ampere, Slo-Blo	F3319
I1	Lamp Panel	A50118
S1	Switch, Input Selector	S663-132
S2	Switch, Output Selector	S663-130
S3, 4	Switch, Slide	S663-133
S5	Switch, AC Power	Part of R54

SCHEMATIC DIAGRAM
50001—59999



S1
INPUT SELECTOR
POSITIONS

78 (MONAURAL)
LP (MONAURAL)
RIAA 1 (STEREO)
RIAA 2 (STEREO)
TAPE (STEREO)
TUNER (STEREO)
AUX 1 (STEREO)
AUX 2 (STEREO)

S2
OUTPUT SELECTOR
POSITIONS

REVERSE (STEREO)
STANDARD (STEREO)
CHANNEL A+B (MONAURAL)
CHANNEL B+A (MONAURAL)

NOTES

S1 SHOWN IN THE 78 (MONAURAL) POSITION "EXTREME CCW".
S2 SHOWN IN THE REVERSE (STEREO) POSITION "EXTREME CCW".
S3 RUMBLE FILTER SHOWN IN THE OFF POSITION.
S4 LOUDNESS CONTOUR SHOWN IN THE OFF POSITION.

RESISTORS	R1 R2	R90 R91	R3 TO R6	R7 R8	R88 R89	R9 R10	R11		R12 TO R15	R16 R17	R18 R19	R20 R21	R22 R23	R24 R25	R26 R27		R28 R29	R30 R31	R32 TO R35	R36 R37	R38 R39	R41-A R41-B	R40 TO R44	R45 R46 R92	R47-A R47-B R93		R50 R51 R53	R52	R54-A R54-B R55	R56 R57	R58 TO R60	R63	R61 R62	R64 TO R67	R68 TO R71	R72 TO R77		R78 R79	R80 TO R83	R84 TO R87
CAPACITORS						C1	C2 C3	C4 TO C6	C7 C8			C9 C10		C11 C12	C13 C14	C15 C16	C17 C18		C19 C20	C21 C22	C23 C24		C25 TO C29		C30 TO C33	C34-C	C35 C36	C34-B	C38 C39	C40 C41 C34-A		C37-B		C44 C45 C37-A			C46 C47	C49 C51 C52	C53 C54	

AW#1482C (P663)

VOLTAGE MEASUREMENTS

All readings taken with vacuum tube voltmeter and, except where indicated, are with respect to chassis ground. Volume control at minimum setting. Bass and Treble tone controls at mid-position. 16-ohm load at speaker terminals. Line voltage 117 volts, 50-60 cycles. All readings are DC unless otherwise noted.

TUBE SYMBOL	TUBE SOCKET PINS								
	1	2	3	4	5	6	7	8	9
V1	86	—0.7	0	12	23.5	80	0	0.8	18.0
V2	147	0	1.1	3.1*	3.1*	147	0	1.1	3.1*
V3	210	105	105	3.1*	3.1*	105	0	1.1	3.1*
V4	NC	8.5	21.0	3.1*	3.1*	NC	400	NC	370
V5	NC	8.5	21.0	3.1*	3.1*	NC	400	NC	370
V6	86	—0.7	0	0	12.0	87	0	1.1	6.0
V7	150	0	1.1	3.1*	3.1*	150	0	1.1	3.1*
V8	210	105	105	3.1*	3.1*	105	0	1.1	3.1*
V9	NC	8.5	21.0	3.1*	3.1*	NC	400	NC	370
V10	NC	8.5	21.0	3.1*	3.1*	NC	400	NC	370
V11	NC	430	NC	360AC	NC	360AC	NC	430	—

CAPACITOR	TERMINAL SYMBOL	VOLTAGE
C34A	▲	305
C34B	■	260
C34C	◗	180
C37A	◗	400
C37B	▲	350

NOTES

NC No connection

* AC voltage measured between center tap of filiment and pin indicated.

ADJUSTMENT INSTRUCTIONS

PHASE INVERTER BALANCE ADJUSTMENT

The phase inverter balance adjustments for Channel A and Channel B are located on the top surface of the chassis. These adjustments should not be attempted unless you have an audio generator and a harmonic or intermodulation distortion analyzer. To make the adjustment, proceed as follows:

1. Connect the audio generator to the AUX or TUNER INPUT of the appropriate channel of the X-101 Master Control Amplifier.

2. Load the output of the amplifier and connect the distortion analyzer to it.

3. Set the audio generator to 1000 cycles or use an intermodulation analyzer. Adjust the output so that the amplifier is slightly (approx. 1 db) below the clipping point.

4. Keeping this output constant, adjust the phase inverter balance control (R74 or R77 on the Schematic Diagram) for minimum distortion as observed on the analyzer.

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