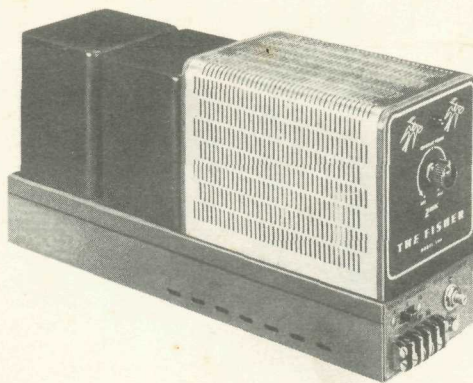




**THE FISHER** "100"  
**SERVICE**  
**MANUAL**

MODEL 100



CHASSIS SERIAL NUMBERS  
10001 - 19999 INCLUSIVE

PRICE: \$1.00

FISHER RADIO CORPORATION • NEW YORK

# PARTS DESCRIPTION LIST

20% tolerance for all capacitors, unless otherwise noted.

## CAPACITORS

SYMBOL ORDER NO.	DESCRIPTION
C1	C69P224V2 Molded tubular, 0.22 uf, +20/-10%, 200V
C2	CC21GP301K5 Ceramic, 300 uf, 10%, 500V
C3	CC21GP121K5 Ceramic, 120 uf, 10%, 500V
C4, 5	C68P223M4 Molded tubular, .022 uf, 400V
C6, 7	C68P473M4 Molded tubular, .047 uf, 400V
C8	C-508-115 Electrolytic, 50 uf, 50V
C9	C-2747 Molded tubular, .01 uf, 600V
C10	C-522-114 Electrolytic, two-section, each 40 uf, 500V
C11	C-1798 Electrolytic, two-section, each 40 uf, 450V

## RESISTORS

Values in ohms, 10% tolerance, 1/2 watt, unless otherwise noted. K=Kilohms, M=Megohms.

SYMBOL ORDER NO.	DESCRIPTION
R1	R-2815-9 Potentiometer, composition, 500K, 1/4 W, input level
R2	RC20BF152K Composition, 1500
R3	RC20BF224K Composition, 220K
R4	RC20BF334K Composition, 330K
R5	RC20BF823K Composition, 82K
R6	R-50000-5 Potentiometer, composition, 50K, 1/4 W, phase inverter balance
R7	RC20BF104K Composition, 100K
R8, 9	RC20BF474K Composition, 470K
R10	RC20BF272K Composition, 2700
R11, 12	RC20BF154K Composition, 150K
R13, 14	RC20BF474K Composition, 470K
R15, 16	RC20BF680K Composition, 68
R17	R-649-117 Wirewound, four-section: R17-A: 240, 10W R17-B: 1, 5W R17-C: 1, 5W R17-D: 100, 10W
R18	RC20BF472K Composition, 4700
R19	RC20BF222K Composition, 2200
R20	RC20BF331K Composition, 330

R21	R-557-140 Composition, 0.82, 5W
R22	R-557-126 Potentiometer, composition, 1K, 1/4 W, Z-Matic control with switch S2

R23, 24	RC30BF103K Composition, 10K, 1W
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## TRANSFORMERS

SYMBOL ORDER NO.	DESCRIPTION
T1	T-557-145 Transformer, output
T2	T-649-114 Transformer, power

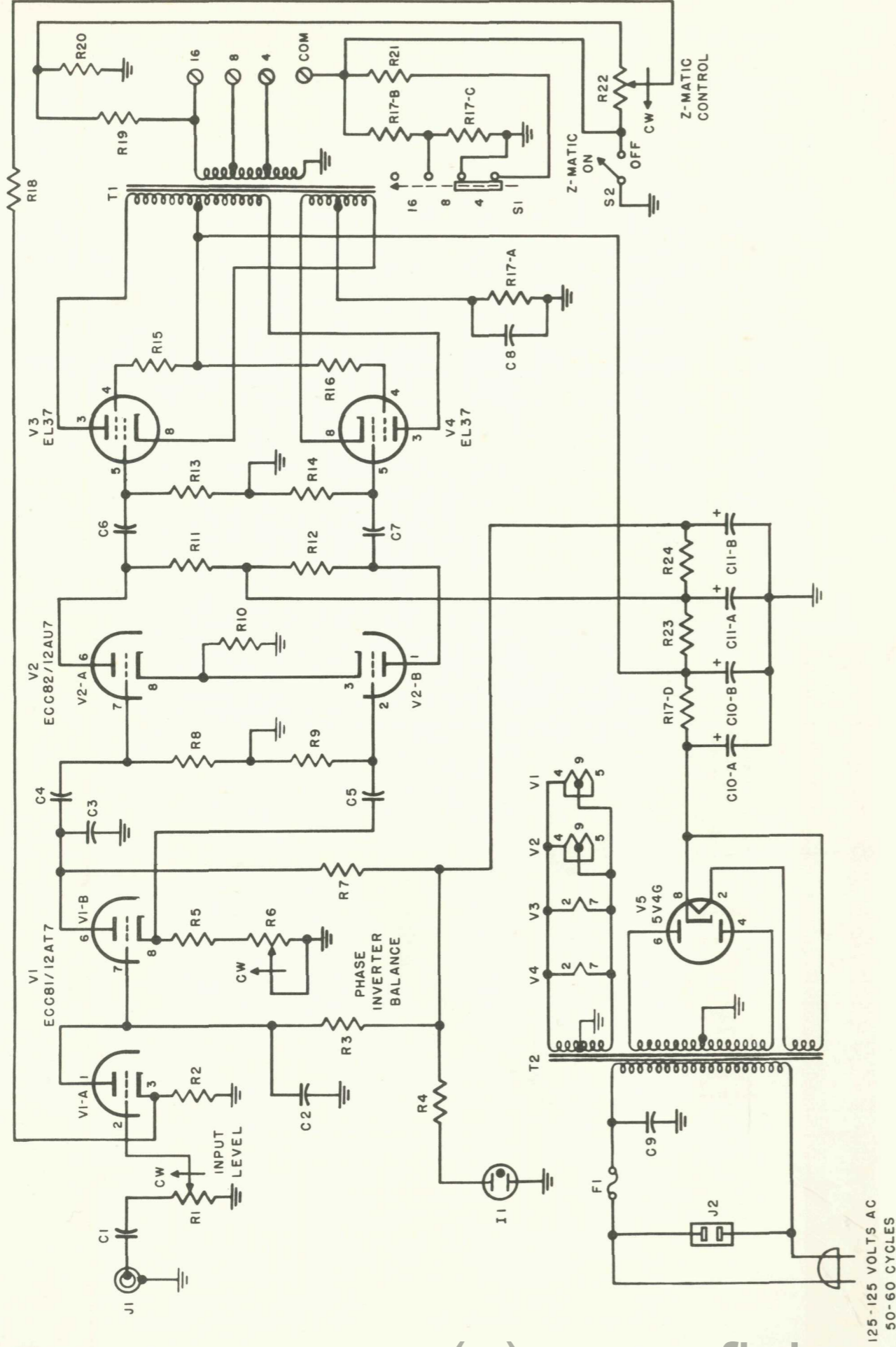
## MISCELLANEOUS

SYMBOL ORDER NO.	DESCRIPTION
F1	F-3000 Fuse, 3 ampere
I1	I-557-144 Pilot lamp, neon, with red cover
J1	J-3143 Jack, input
J2	J-546-129 Receptacle, auxiliary AC
P*	P-1031 Plug, input, for jack J1
S1	S-557-138 Switch, impedance matching
S2	Part of R22 Switch, Z-Matic on-off

## MECHANICAL PARTS

SYMBOL ORDER NO.	DESCRIPTION
A5-649-103	Front panel:
E-557-127	Control panel
(Part of I1)	Knob, Z-Matic control
E-557-139	Cover, pilot lamp
H-181S320BB	Speaker terminal board
	Retaining screw, brass, for speaker terminal board
X-1036	Rear panel:
	Fuse holder, with cover
A-557-107	Perforated cover, brass
A-649-118	THE FISHER nameplate
H3325140BB	Retaining screw, brass, for perforated cover
E-3287	Tube shield, nine-pin miniature
H3325140BB	Chassis bottom:
	Retaining screw, brass, for bottom cover
H-50079	Rubber foot
H1215571AA	Mounting Hardware:
H103W142AA	Mounting screw, four required
	Flat washer, four required

# SCHEMATIC DIAGRAM • MODEL 100



All measurements taken with a vacuum-tube voltohmmeter with respect to chassis ground. Set input level adjustment counterclockwise to zero. Set Z-Matic control to Off position.

## VOLTAGE AND RESISTANCE MEASUREMENTS

# Danger!

Extremely high voltages capable of causing serious injury exist inside the chassis both during operation and for some time after power is turned off. The bottom cover should not be removed for any reason whatever, except by an authorized and fully qualified serviceman. Do not attempt to handle any of the tubes while power is on.

### Voltage Reference Chart

Connect a 16-ohm load to the output terminal strip. Set line voltage at 117 volts AC, 50-60 cycles. Allow 15-minute warm-up before taking measurements. Readings are in DC volts, unless otherwise noted, 10% tolerance.

SYMBOL	TUBE SOCKET TERMINAL NUMBERS								
	1	2	3	4	5	6	7	8	9
TUBES	V1	V2	V3	V4	V5	V6	V7	V8	V9
	88	0	1.5	3.2 AC	3.2 AC	255	88	94	3.2 AC
	150	0	8	3.2 AC	3.2 AC	150	0	8	3.2 AC
	X	3.2 AC	435 5%	440 5%	0	445a	3.2 AC	34	X
	X	3.2 AC	435 5%	440 5%	0	445b	3.2 AC	34	X
	X	460 5%	X	380AC 2%	X	380AC 2%	X	460 5%	X
SUPPLY CAPACITORS	TERMINAL SYMBOLS		VOLTAGE		NOTES				
C10-A	▲		460 5%	AC Reading in AC volts					
C10-B	●		445 5%	X No connection					
C11-A	▲		375 5%	a Tie point only, R15 and B+ lead					
C11-B	●		355 5%	b Tie point only, R16 and B+ lead					

### Resistance Reference Chart

Disconnect AC cord and all cables to associated equipment. Discharge electrolytic capacitors through 100-ohm resistor to chassis ground. Readings are in ohms, unless otherwise noted, 10% tolerance.

SYMBOL	TUBE SOCKET TERMINAL NUMBERS								
	1	2	3	4	5	6	7	8	9
TUBES	V1	V2	V3	V4	V5	V6	V7	V8	V9
	2M+	0	1K	L	L	2M+	2M+	100Kc	L
	2M+	470K	2700	L	L	2M+	470K	2700	L
	X	L	2M+	2M+	470K	2M+	L	260	X
	X	L	2M+	2M+	470K	2M+	L	260	X
	X	2M+	X	60	X	60	X	2M+	X
SUPPLY CAPACITORS	TERMINAL SYMBOLS		RESISTANCE		NOTES				
C10-A	▲		2M+	K Kiloohms					
C10-B	●		2M+	L Less than 1 ohm					
C11-A	▲		2M+	M Megohms					
C11-B	●		2M+	X No connection					
				a Zero to 500K, depending on R1					
				b 82K-132K, depending on R6					

NOTES

## ADJUSTMENT INSTRUCTIONS

### PHASE INVERTER BALANCE ADJUSTMENT

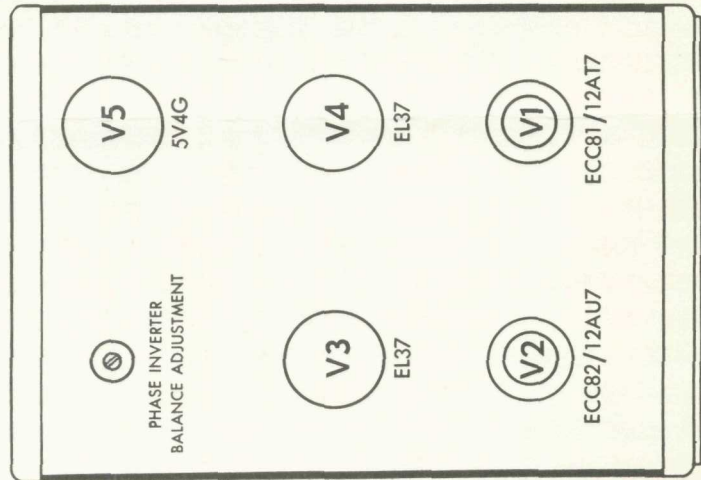
The phase inverter balance adjustment is located on the top surface of the chassis, under the perforated cover. Do not attempt this adjustment without an audio generator, or harmonic or intermodulation distortion analyzer.

1. Connect the audio generator to the amplifier input.
2. Connect a 16-ohm, load resistor to the COM and 16 terminals on the speaker terminal board. Then connect the analyzer across the resistor.
3. Set the amplifier impedance selector switch in the 16-ohm position. Turn the Z-Matic control completely counterclockwise to the Off position.

4. Turn on the amplifier and test equipment, allowing them to warm up for 30 minutes.
5. Set the audio generator to 1,000 cycles or use an intermod. analyzer. Adjust its output so that the amplifier is slightly below the clipping point (about 1 db). Be sure this output is kept constant while the adjustment is being made.
6. Set the phase inverter balance adjustment for minimum distortion, as observed on the analyzer.

## TUBE FUNCTION AND LOCATION

- V1, Voltage amplifier and phase inverter
- V2, Push-pull driver
- V3/V4, Push-pull power amplifier
- V5, Full-wave power rectifier



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