

# Technical Manual

# JBL MPA275

## SPECIFICATIONS



	4 ohm/ch	8 ohm/ch	8 ohm/Br	4 ohm Br
<b>Rated Power:</b>	275 W	175 W	550 W	—
<b>Midband Power:</b>	325 W	200 W	—	700 W
<b>Rated Power:</b>	is minimum continuous sine wave output per channel, with both channels driving their rated load over a power bandwidth of 20 Hz to 15 kHz, as the amplifier's output protective circuitry prevents full power output above 15 kHz. THD = 0.1%.			
<b>Midband Power:</b>	is maximum output power per channel @ 1 kHz, with both channels driven to the onset of clipping. THD > 1%.			
<b>Distortion:</b>	SMPT-1M, less than 0.05%			
<b>Frequency Response:</b>	20 Hz to 20 kHz, ± 0.1 dB 8 Hz to 100 kHz, +0/-3 dB			
<b>Damping Factor:</b>	Greater than 200			
<b>Dynamic Headroom:</b>	2 dB at 4 ohms			
<b>Noise:</b>	100 dB below rated output (20 Hz to 20 kHz)			
<b>Sensitivity:</b>	1 Vrms for rated power (8 ohms)			
<b>Voltage Gain:</b>	35.5 (31 dB)			
<b>Input Impedance:</b>	Line: 10 kilohms unbalanced, 20 kilohms balanced			

**Controls:** Front: AC switch, Ch. 1 & Ch. 2 Gain (2 dB detents)  
Rear: Mode select switch (Bridge, Parallel, Stereo)

**Indicators:** Power, Signal Present (2), -20 dB (2), -10 dB (2), Clip (2), Protect (2)

**Connectors:** Input: Barrier Strip & XLR connectors  
Output: 5-Way Binding Posts & Neutrik Speakers

**Cooling:** Continuously variable speed fan, rear-to-front air flow

**Amplifier Protection:** Full short circuit, open circuit, ultrasonic, and RF protection; thermal limiting/muting; stable into reactive or mismatched loads

**Load Protection:** On/Off muting, clip limiting, DC-fault load-grounding relay with internal fault fuses

**Output Circuit Type:** Complementary 1-step linear high efficiency outputs

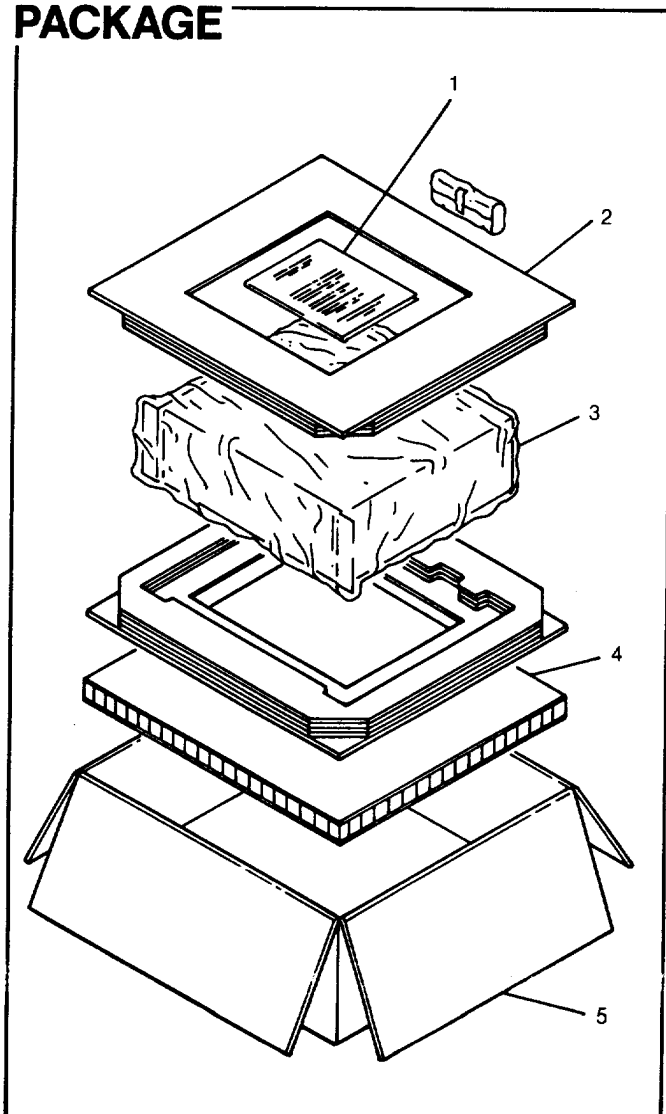
**Power Requirements:** 100, 120, 220-240 VAC, 50-60 Hz

**Power Consumption:** Please refer to chart in MPA Series Owner's Manual

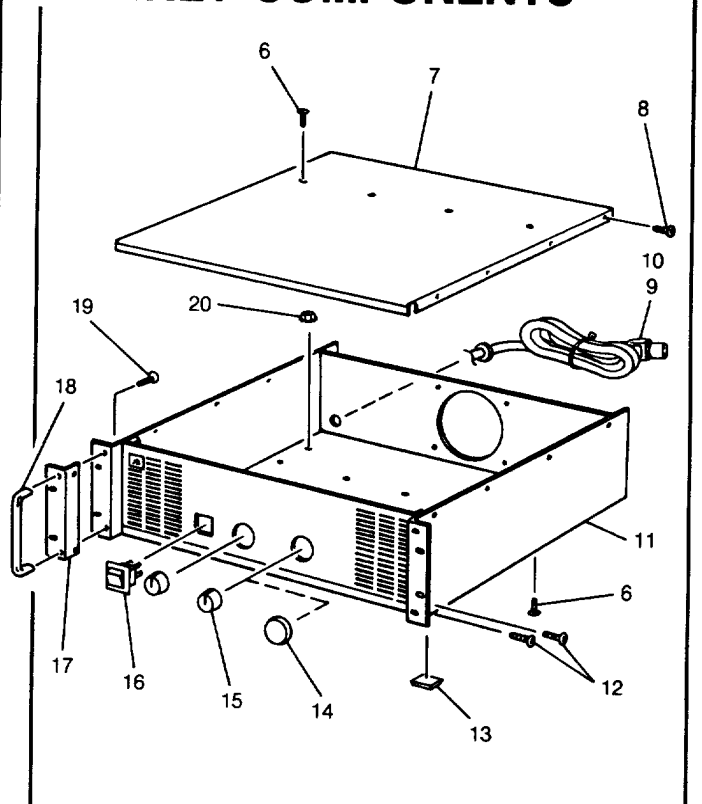
**Dimensions:** 48.3 cm (19") rack mounting  
45.5 cm (17.9") deep (rear support ears)  
8.9 cm (3.5") high (2 spaces)

**Weight:** 18.1 kg. (40 lbs.) net, 20.4 kg. (45 lbs.) shipping

### PACKAGE



### CABINET COMPONENTS



### COMPLETE ASSEMBLIES

Item	Part No.	Qty.	Description	Ref. Des.
<b>COMPLETE ASSEMBLIES</b>				
A	WP-004106-00	1	AC PCB Ass'y, MPA 2 sp	
C	FG-004102-20	2	Main PCB Ass'y, MPA275	
D	WP-004108-00	1	Output PCB Ass'y, MPA 2 spc	
E	WP-004005-01	1	Std. Input PCB Ass'y, MPA Series	
G	WP-002753-00	1	Display PCB Ass'y, MPA Series	

JBL MPA275 REV B

# JBL MPA275

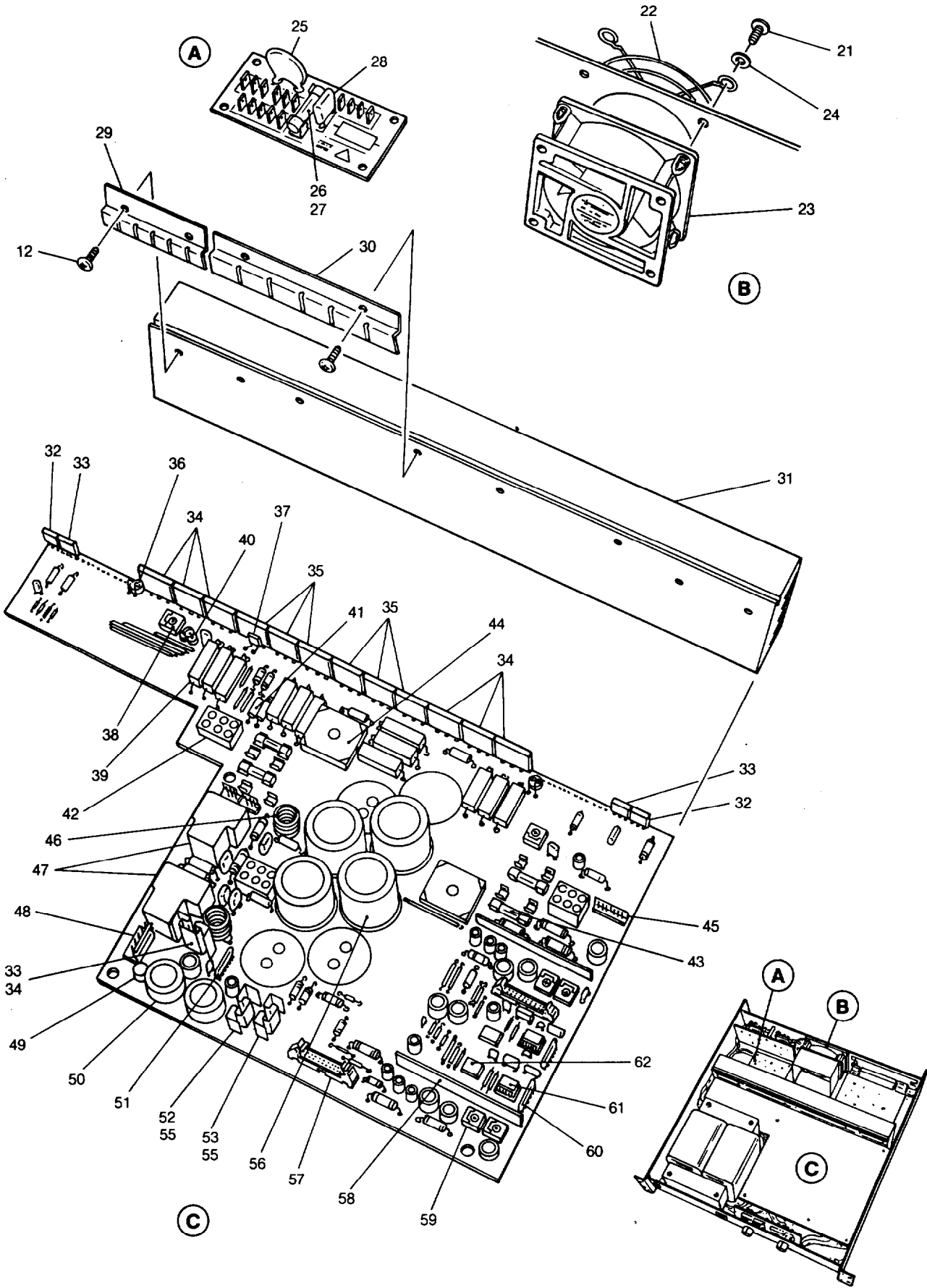
## COMPONENT PARTS LIST

Item	Part No.	Qty.	Description	Ref. Des.
<b>INDIVIDUAL ASSEMBLIES</b>				
0	MPA-MPA SVC	1	MPA Service Manual	
1	TD-007500-00	1	Owner's Manual, MPA Series	
2	PM-004003-00	2	Shipping Insert	
3	PM-004000-00	1	Shipping Bag	
4	PM-004001-00	1	Shipping Pad	
5	PM-002750-00	1	Shipping Carton, MPA 2 spc	
6	SC-082051-PL	10	Scrw, Tap, PHP, 8 x 5/16", Blk	
7	CH-002750-00	1	Top Cover	
8	SC-083061-PF	9	Scrw, #8 x 3/8", FHP, Blk	
9	WC-003053-00	1	AC Cord (100/120V)	
10	WC003069-00	1	AC Cord (230V)	
11	CH-002751-00	1	Chassis, MPA 2 spc	
12	SC-100061-PS	8	Scrw, 10-32 x 3/8", PHP, SEMS, Blk	
13	PL-000000-AF	4	Adhesive Foot	
14	PL-002753-00	2	Security Cover	
15	PL-002752-00	2	Knob, MPA Series	
16	SW-002750-00	1	Power Switch	
17	CH-002752-00	2	Rack Ear, MPA 2 spc	
18	CH-002753-00	2	Handle, MPA 2 spc	
19	SC-100000-SC	4	Scrw, 10-32 x 1/4", PPH, Blk	
20	NW-080500-KP	11	8-32 Keps Nut	
21	PL-000045-PL	4	Rivet, Plastic, Screw Type	
22	MS-000071-00	1	Fan Guard, MPA 2 spc	
23	MS-000052-MS	1	3.5" Fan, 24 VDC	
24	NW-080002-00	4	Washer, #8 Flat	
25	RE-000170-NR	1	Thermistor, NTC, 30A Cur. Lim (100 & 120V models only)	R901
25	RE-000160-NR	1	Thermistor, NTC, 15A Cur. Lim (230V models only)	R901
26	MS-000050-MS	1	Fuse, 20A, 250V (100 & 120V models only)	F901
27	MS-120250-FU	1	Fuse, 12A, 250V (230V models only)	F901
28	CA-368250-AS	1	Cap, Surge, 0.068 $\mu$ F 250VAC	C901
29	CH-400003-00	2	Clamp, TO-220	
30	CH-000624-AX	2	Clamp, T03, 6 Finger	
31	CH-410008-00	1	Heatsink, MPA 2 spc	
32	QD-000019-QD	2	Xstr, PNP TO-220, 230V, 1A	Q501, Q601
33	QD-000018-QD	3	Xstr, NPN TO-220, 230V, 1A	Q51, Q502, Q602
34	QD-003281-NP	6	Xstr, NPN TO-3P, 200V, 15A	Q505, Q506, Q507, Q605, Q606, Q607
35	QD-001302-PN	6	Xstr, PNP, TO-3P, 200V, 15A	Q508, Q509, Q510, Q608, Q609, Q610
36	QD-004004-VP	4	Diode, D041, 400V, 1A	D505, D506, D605, D606
37	RE-000006-VP	2	Res., PTC, 60C, 0.1K max cold	R598, R698
38	PT-110000-AT	2	Var. Res., 100, 20%, 0.15W	VR501, VR601
39	RE-02205-FW	12	Res., WW, 0.22, 10%, 3W	R515, R516, R517, R520, R521, R522, R615, R616, R617, R620, R621, R622
40	RE-000050-NR	2	Thermistor, NTC, 50 ohm	R599, R699
41	QD-005402-XN	4	Diode, Rectifier, D027, 200V, 3A	D507, D508, D607, D608
42	CO-000047-CO	3	Header, Vert. Pin, 6p	J52, J501, J601
43	MS-15.125-MS	4	Fuse, 15A, 125V, 5mm x 20mm	F501, F503, F601 F603
44	QD-400400-BX	4	Diode, Bridge Rect., 400V, 40A	BR501, BR502, BR601, BR602

Item	Part No.	Qty.	Description	Ref. Des.
45	CO-000074-00	2	Header, Polarized 8p	J502, J602
46	XF-200014-CR	2	Inductor, 2 $\mu$ H, 14 AW	L501, L601
47	SW-000029-SW	2	Relay, Spkr Prot., SPDT, 24 VDC	K501, K601
48	CO-000046-CO	1	Header, .156, 5p	J51
49	QD-1.5200-BX	1	Diode, Bridge Rect., 200V, 1.5A	BR51
50	CA-822035-AE	2	Cap, EL, 2200 $\mu$ F 35V	C53, C54
51	RN-127002-BM	1	Res. Ntwk., 8 pin SIP, 2.7K	RN51
52	QD-007815-QD	1	Regulator, Pos 15V, TO-220	U52
53	QD-007915-QD	1	Regulator, Neg 15V, TO-220	U51
54	MS-000048-HS	1	Heatsink, TO-220 Isol.	
55	MS-001220-HS	2	Heatsink, TO-220 AAVID 5939B	
56	CA-882080-BE	4	Cap, EL, 8200 $\mu$ F 80V	C510, C511, C610 C611
57	CO-000055-CO	2	14p Header/Locking Std.	J503, J603
58	IC-000010-00	2	SMT Module, Housekeeping	U503, U603
59	PT-250000-AT	4	Res., Var., 5K, 20%, 0.15W CF	VR502, VR503, VR602, VR603
60	RN-210002-BM	2	Res.Ntwk., 8p, SIP, 10K	RN501, RN601
61	IC-005532-0P	4	IC, Dual OpAmp, NE5532	U505, U506, U605 U606
62	QD-000009-VT	2	Vactrol VTL5C4	U504, U604
63	CO-000001-DB	2	Dual 5-Way Binding Post	
64	HW-060150-SO	2	Standoff, 6-32 x 29/32"	
65	NW-100700-NW	4	#10 Flat Washer	
66	NW-100710-NW	4	#10 Ext. Lockwasher	
67	SC-100000-SC	4	Scrw, 10-32 x 1/4", PPH, Blk	
68	SC-060042-PP	5	Scrw, 6-32 x 1/4", PHP, SEMS, Blk	
69	CO-000036-CO	3	Neutrik Speakon, 4p, PC mt	J74, J706, J806
70	CA-147100-BD	2	Cap, Ceramic, 470pF 100V	C701, 801
71	CH-400016-00	1	Blank Upper Input Panel	
72	SC-080051-PS	4	Scrw, 8-32 x 5/16", PHP, SEMS, Blk	
73	CO-000035-CO	1	Barrier Strip, Rt. Angle, PC mt	J31
74	SW-000051-SW	1	DPDT Toggle Sw, Rt. Angle, PC mt	SW31
75	SC-030000-SC	4	Scrw, 3mm x 4mm, PHP, Blk	
76	NW-04041-NW	4	#4 Flat Washer	
77	CO-000037-CO	2	XLR Recept., Horiz., PC mt	J301, J401
78	CO-000049-CO	1	5p Header, 0.1 ctr	J301, J33
79	CO-000057-CO	1	26p Header/Locking Std.	J32
80	XF-001000-00	1	Xfmr, MPA400	
81	SC-100061-PS	4	Scrw, 10-32 x 3/8", PHP, SEMS, Blk	
82	CO-000043-CO	1	Box Header, 26p	J1
83	WC-000026-WC	1	26p Ribbon Cable Ass'y	
84	CO-000044-CO	2	Box Header, 14p	J101, J201
85	WC-000015-WC	2	14p Ribbon Cable Assy	
86	IC-000012-00	2	IC, Dual OpAmp, OP275	U101, U201
87	RN-210002-BM	4	Res. Ntwk., 8p, SIP, 10K	RN101, RN102, RN201, RN202
88	QD-002750-00	4	LED, Red, .125" x .245", Capped	LD101.1, LD103.1 LD201.1, LD203.1
89	QD-002752-00	2	LED, Yellow, .125" x .245", Capped	LD101.2, LD201.2
90	QD-002751-00	6	LED, Green, .125" x .245", Capped	LD102.1, LD102.2, LD103.2, LD202.1, LD202.2, LD203.2
91	PT-310000-CR	2	Potentiometer, 10K, 0.2W	VR101, VR201
92	RN-110002-BM	4	Res. Ntwk, 8p, SIP, 1K	RN103, RN104 RN203, RN204

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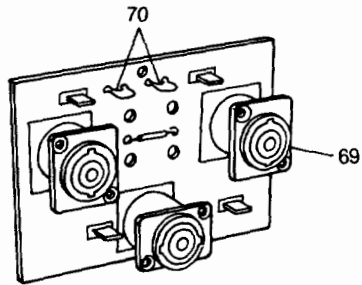
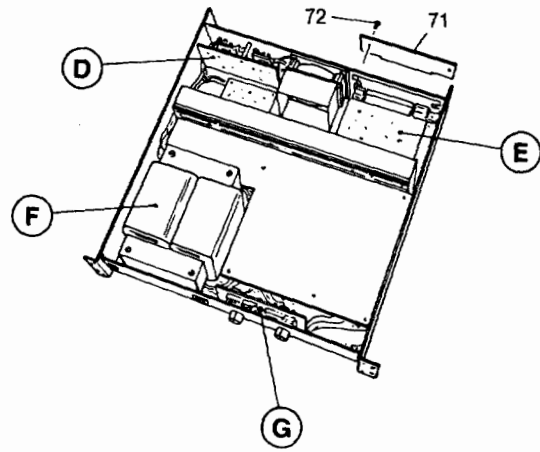
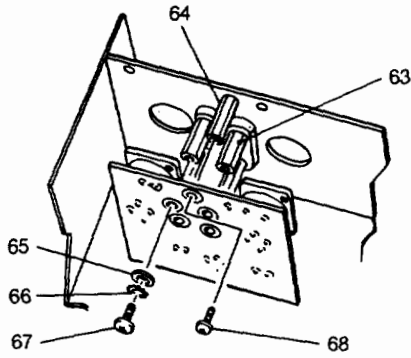
## COMPONENT EXPLODED VIEW



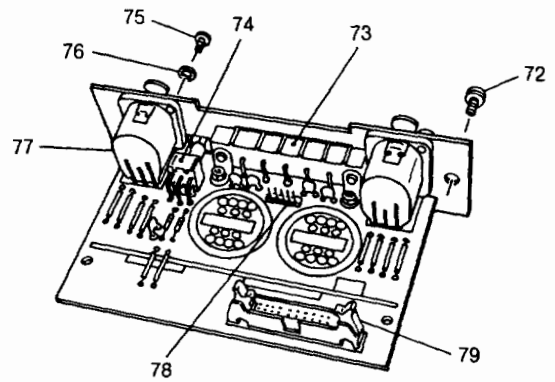
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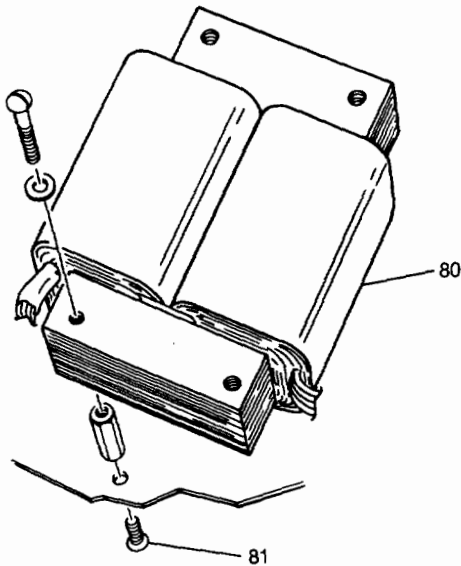
## CIRCUIT BOARDS



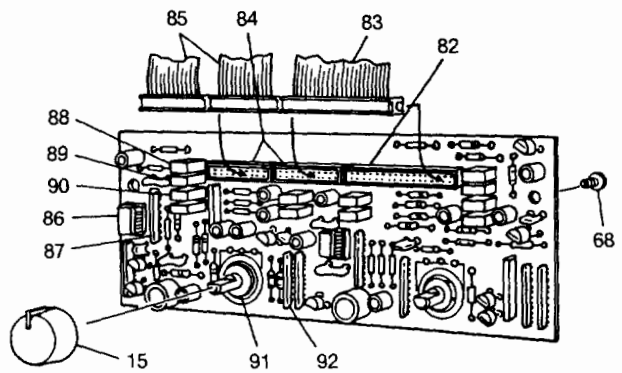
**D**  
Front and Rear View



**E**



**F**



**G**