

# Technical Manual



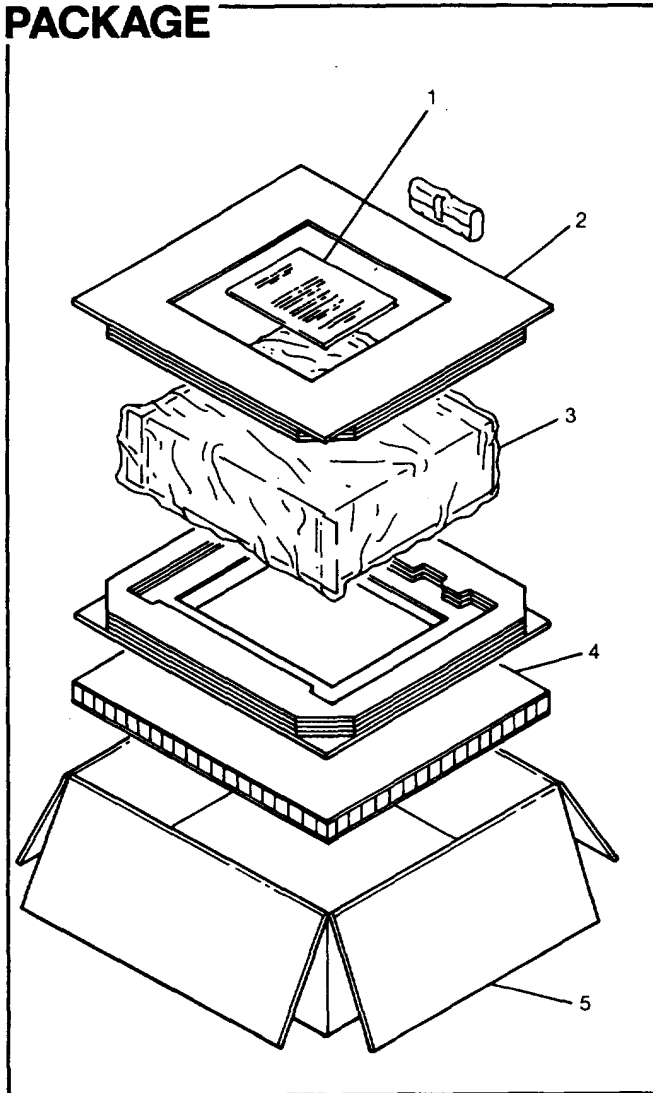
# JBL MPA750

## SPECIFICATIONS

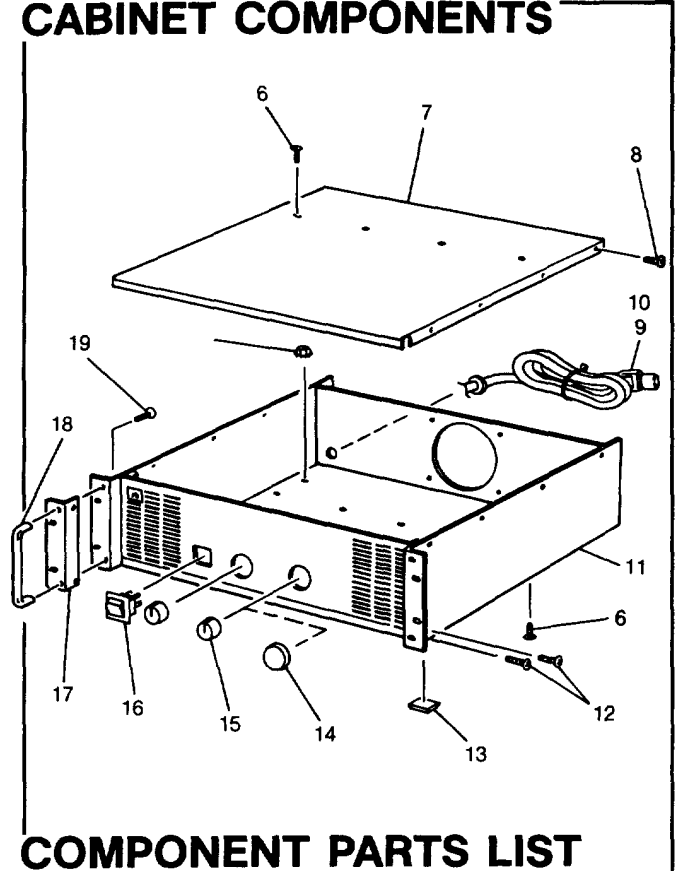
	<b>4 ohm/ch</b>	<b>8 ohm/ch</b>	<b>8 ohm/Br</b>	<b>4 ohm Br</b>
<b>Rated Power:</b>	750 W	500 W	1500 W	—
<b>Midband Power:</b>	325 W	550 W	—	2000 W
<b>Rated Power:</b>	is minimum continuous sine wave output per channel, with both channels driving their rated load over a power bandwidth of 20 Hz to 15 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>	SMPTÉ-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>	3 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>	63 (36 dB)			
<b>Input Impedance:</b>	Line: 10 kilohms unbalanced, 20 kilohms balanced			

<b>Controls:</b>	Front: AC switch, Ch. 1 & Ch. 2 Gain (2 dB detents) Rear: Mode select switch (Bridge, Parallel, Stereo)
<b>Indicators:</b>	Power, Signal Present (2), -20 dB (2), -10 dB (2), Clip (2), Protect (2)
<b>Connectors:</b>	Input: Barrier Strip & XLR connectors Output: 5-Way Binding Posts & Neutrik Speakons
<b>Cooling:</b>	Continuously variable speed fan, rear-to-front air flow
<b>Amplifier Protection:</b>	Full short circuit, open circuit, ultrasonic, and RF protection; thermal limiting/muting; stable into reactive or mismatched loads
<b>Load Protection:</b>	On/Off muting, clip limiting, DC-fault load-grounding relay with internal fault fuses
<b>Output Circuit Type:</b>	Complementary 2-step linear high efficiency outputs
<b>Power Requirements:</b>	100, 120, 220-240 VAC, 50-60 Hz
<b>Power Consumption:</b>	Please refer to chart in MPA Series Owner's Manual
<b>Dimensions:</b>	48.3 cm (19") rack mounting 45.5 cm (17.9") deep (rear support ears) 13.3 cm (5.25") high (3 spaces)
<b>Weight:</b>	24.8 kg. (55 lbs.) net, 26.8 kg. (49 lbs.) shipping

## PACKAGE



## CABINET COMPONENTS



## COMPONENT PARTS LIST

Item	Part No.	Qty.	Description	Ref. Des.
<b>COMPLETE ASSEMBLIES</b>				
B	FG-002502-00	2	Main PCB Ass'y, MPA 750	
C	WP-004006-00	1	AC PCB Ass'y, MPA 3 spc	
D	WP-004008-00	1	Output PCB Ass'y, MPA 3 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 MPA750 REV B

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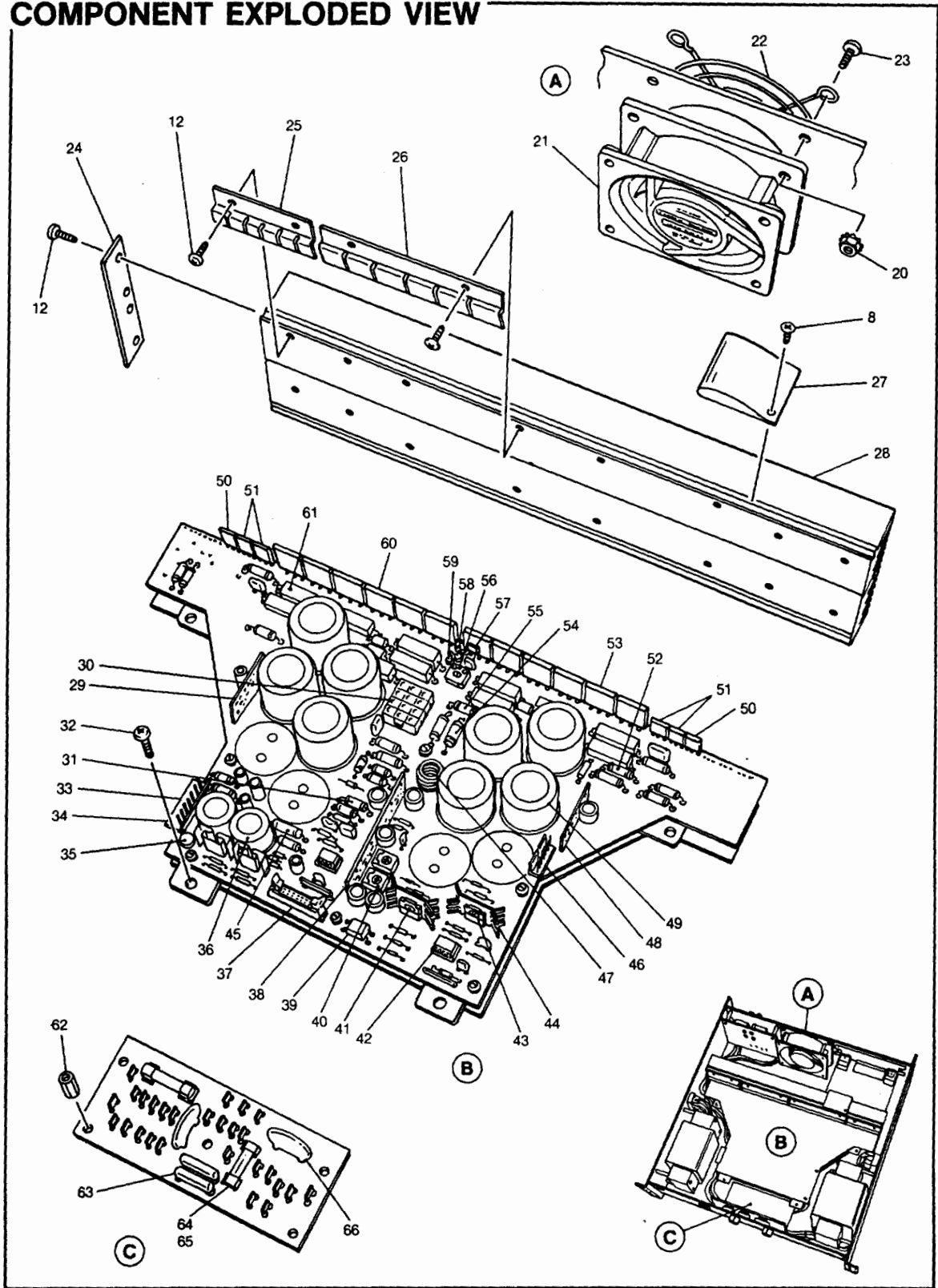
## COMPONENT PARTS LIST

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-007500-00	1	Shipping Carton, MPA 3 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-007500-00	1	Chassis, MPA 3 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-007503-00	2	Rack Ear, MPA 3 spc	
18	CH-007502-00	2	Handle, MPA 3 spc	
19	SC-100000-SC	4	Scrw, 10-32 x 1/4", PPH, Blk	
20	NW-080500-KP	11	8-32 Keps Nuts	
21	MS-000049-MS	1	24V DC Fan, MPA Series	
22	MS-000072-00	1	Fan Guard, MPA 3 spc	
23	SC-080121-PP	4	Scrw, 8-32 x 3/4", PHP, Blk	
24	CH-400007-00	2	Heatsink Bracket	
25	CH-400003-00	4	Clamp, T0-220	
26	CH-000624-AX	4	Clamp, T03, 6 Finger	
27	PL-000006-00	1	Insulator, Ribbon Cable, MPA 3 spc	
28	CH-400008-00	2	Heatsink, MPA 3 spc	
29	IC-000008-00	2	SMT Module, Pos. Step Driver	U907
30	CO-000041-CO	2	12p Header Ass'y, PC mt	J901
31	RE-210005-EM	4	Res., MF, 10K, 5%, 2W	R994, R1000
32	SC-080051-PS	8	Scrw, 8-32 x 5/16", PHP, SEMS, Blk	
33	CO-000045-CO	2	.156 Header, 4 pin	J902
34	CO-000046-CO	2	.156 Header, 5 pin	VR904
35	QD-1.5200-BX	2	Bridge Rectifier, 200V, 1.5A	B901
36	CA-822035-AE	4	Cap, EL, 2200µF 35V	C945, C946
37	CO-000055-CO	2	14p Header/Locking Std.	J903
38	IC-000010-00	2	SMT Module, Housekeeping	U910
39	QD-000009-VT	2	Vactrol VTL5C4	U903
40	PT-250000-AT	4	Var. Res., 5K, 20%, 0.15W	VR902, VR903
41	QD-000018-QD	2	Xstr, NPN T0-220, 230V, 1A	Q933
42	IC-005532-OP	4	IC, Dual OpAmp, NE5532	U901, U902
43	QD-000019-QD	2	Xstr, PNP T0-220, 230V, 1A	Q934
44	MS-000054-MS	4	Heatsink, T0-220 (high power)	
45	RE-182005-EM	2	Res., MOFP, 8.2K, 5%, 2W	R988
46	CO-000074-00	2	Header, 8p	J905
47	XF-200014-CR	1	Inductor, 2µH	L901
48	IC-000009-00	2	SMT Module, Neg. Step Driver	U908
49	CA-912063-00	16	Cap, EL, 12000µF 63V	C929, C930, C931, C932, C935, C936, C937, C938
50	QD-000014-QD	8	Diode, T0220, 100V, 15A	D902, D906
51	QD-000030-QD	8	FET, NCHAN, T0220, 100V, 25A	Q903, Q904, Q917, Q918

Item	Part No.	Qty.	Description	Ref. Des.
52	RE-130005-EM	4	Res., MOFP, 3K, 5%, 2W	R956, R976
53	QD-003281-NP	12	Xstr, NPN, T0-3P, 200V, 15A	Q911, Q912, Q913, Q914, Q915, Q916
54	RE-001005-EM	8	Res., MOFP, 10, 5%, 2W	R933, R934, R935, R936
55	RE-39005-EM	2	Res., MOFP, 3.9, 5%, 2W	R932
56	PT-110000-AT	2	Var. Res., 100, 20%, 0.15W	VR901
57	RE-000006-VP	2	Res., PTC, 60C, 0.1K max cold	R1007
58	QD-004004-VP	4	Diode, D041, 400V, 1A	D903, D904
59	RE-000050-NR	2	Thermistor, NTC, 50 ohm	R931
60	QD-001302-PN	12	Xstr, PNP, T0-3P, 200V, 15A	Q905, Q906, Q907, Q908, Q909, Q910
61	RE-02205-FW	24	Res., WW, 0.22, 10%, 3W	R924, R925, R926, R928, R929, R930, R949, R950, R951, R952, R953, R954
62	HW-060000-HW	5	Nylon Standoff, 6-32 x 9/16"	
63	CA-368250-AS	2	Cap, Surge, 0.068µF 250VAC	C501, C601
64	MS-000050-MS	2	Fuse, 20A, 250V (100 & 120V models only)	F501, F601
65	MS-120250-FU	2	Fuse, 12A, 250V (230V models only)	F501, F601
66	RE-000170-NR	2	Thermistor, NTC, 30A Cur. Lim (100 & 120V models only)	R501, R601
66	RE-000160-NR	2	Thermistor, NTC, 15A Cur. Lim (230V models only)	R501, R601
67	CO-000001-DB	2	Dual 5-Way Binding Post	
68	HW-100001-HW	4	Standoff, 10-32 x 0.7"	
69	HW-060150-SO	2	Standoff, 6-32 x 29/32"	
70	NW-060010-IT	2	#6 Int. Lockwasher	
71	SC-060042-PP	5	Scrw, 6-32 x 1/4", PHP, SEMS, Blk	
72	NW-100700-NW	4	#10 Flat Washer	
73	NW-100710-NW	4	#10 Ext. Lockwasher	
74	SC-100000-SC	4	Scrw, 10-32 x 1/4", PPH, Blk	
75	CH-400016-00	1	Blank Upper Input Panel	
76	MS-000050-MS	2	Fuse, Spkr Prot., 20A, 250V	F701, F801
77	CO-641119-AH	1	Header, 8p, .156"	J73
78	CA-647010-BN	1	Cap, EL, 47µF 10V	C70
79	RE-012005-EM	1	Res., MOFP, 120, 5%, 2W	R76
80	QD-002763-TU	1	Xstr, PNP, T0-220, 150V, 8A	Q70
81	MS-000220-HS	1	Heatsink, T0-220	
82	CA-722025-BE	1	Cap, EL, 220F 25V	C71
83	SW-000029-SW	2	Relay, SPDT, 24 VDC	RY701, RY801
84	CO-000036-CO	3	Neutrik Speakon, 4p, PC mt	J74, J706, J806
85	CO-000035-CO	1	Barrier Strip, Rt. Angle, PC mt	J31
86	SW-000041-SW	1	DPDT Toggle Sw, Rt. Angle, PC mt	SW31
87	SC-030000-SC	4	Scrw, 3mm x 4mm, PHP, Blk	
88	NW-04041-NW	4	#4 Flat Washer	
89	CO-000037-CO	2	XLR Recept., Horiz., PC mt	J301, J401
90	CO-000049-CO	1	5p Header, 0.1 ctr	J33
91	CO-000057-CO	1	26p Header/Locking Std.	J32
92	QD-250400-BX	4	Bridge Rectifier, 400V, 25A	
93	SC-100061-PS	8	Scrw, 10-32 x 3/8", PHP, SEMS, Blk	
94	NW-100711-NW	8	#10 Flat Washer, Blk	
95	XF-002501-00	2	Xfmr, MPA750	
96	CO-000043-CO	1	Box Header, 26p	J1
97	WC-000026-WC	1	26p Ribbon Cable Ass'y	
98	CO-000044-CO	2	Box Header, 14p	J101, J201

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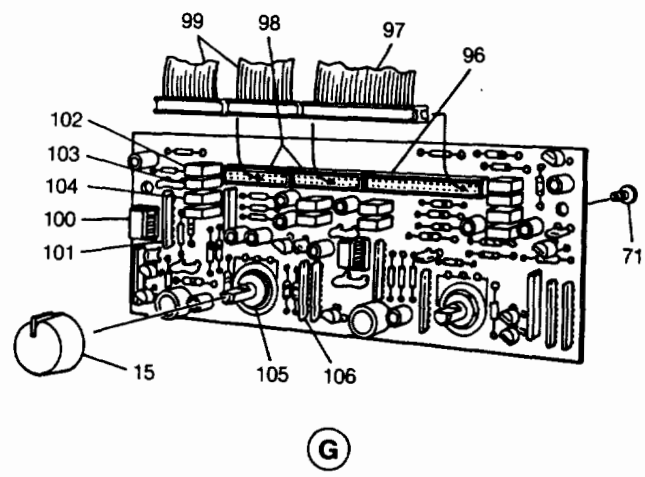
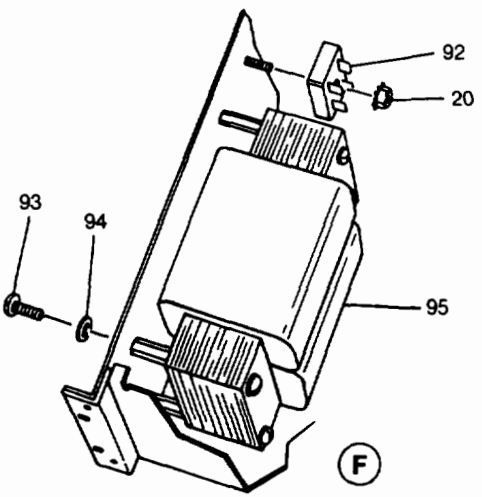
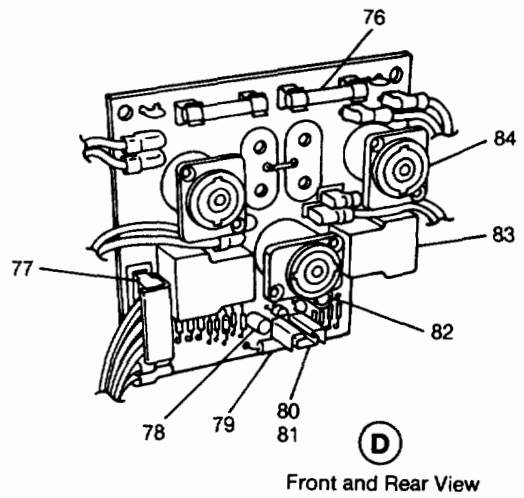
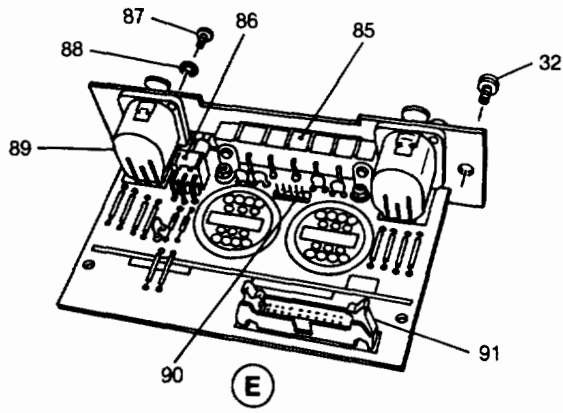
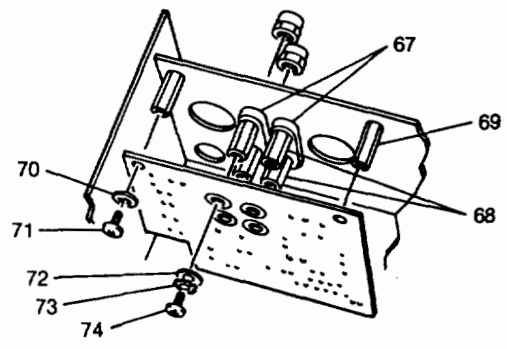
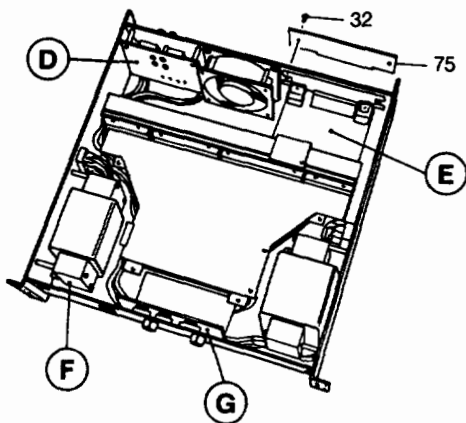
## COMPONENT EXPLODED VIEW



JBL MPA750

# JBL MPA750

## CIRCUIT BOARDS



## COMPONENT PARTS LIST

JBL MPA750

Item	Part No.	Qty.	Description	Ref. Des.
99	WC-000015-WC	2	14p Ribbon Cable Ass'y	
100	IC-000012-00	2	IC, Dual OpAmp, OP275	U101, U201
101	RN-210002-BM	4	Res. Ntwk., 8p, SIP, 10K	RN101, RN102, RN201, RN202
102	QD-002750-00	4	LED, Red, .125" x .245", Capped	LD101.1, LD103.1, LD201.1, LD203.1
103	QD-002752-00	2	LED, Yellow, .125" x .245", Capped	LD101.2, LD201.2

Item	Part No.	Qty.	Description	Ref. Des.
104	QD-002751-00	6	LED, Green, .125" x .245", Capped	LD102.1, LD102.2, LD103.2, LD202.1, LD202.2, LD203.2
105	PT-310000-CR	2	Potentiometer, 10K, 0.2W	VR101, VR201
106	RN-110002-BM	4	Res. Ntwk., 8p, SIP, 1K	RN103, RN104, RN203, RN204