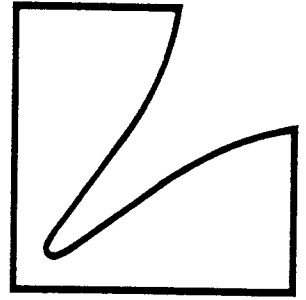


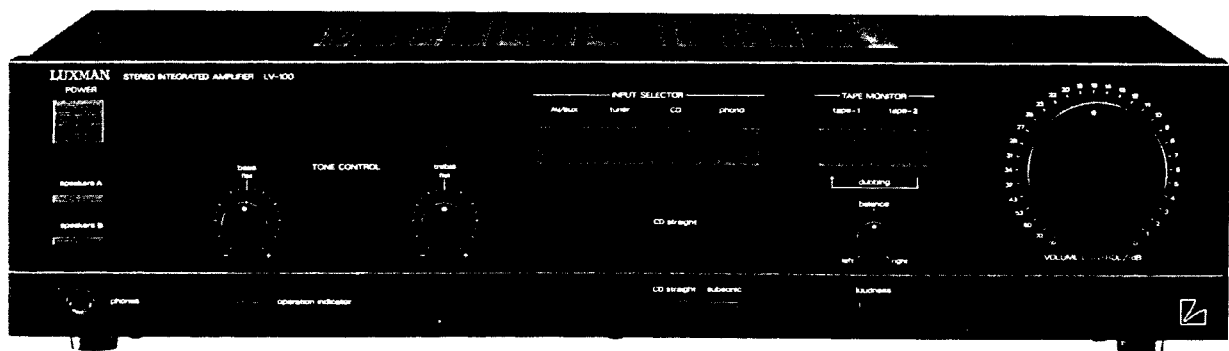
SERVICE MANUAL



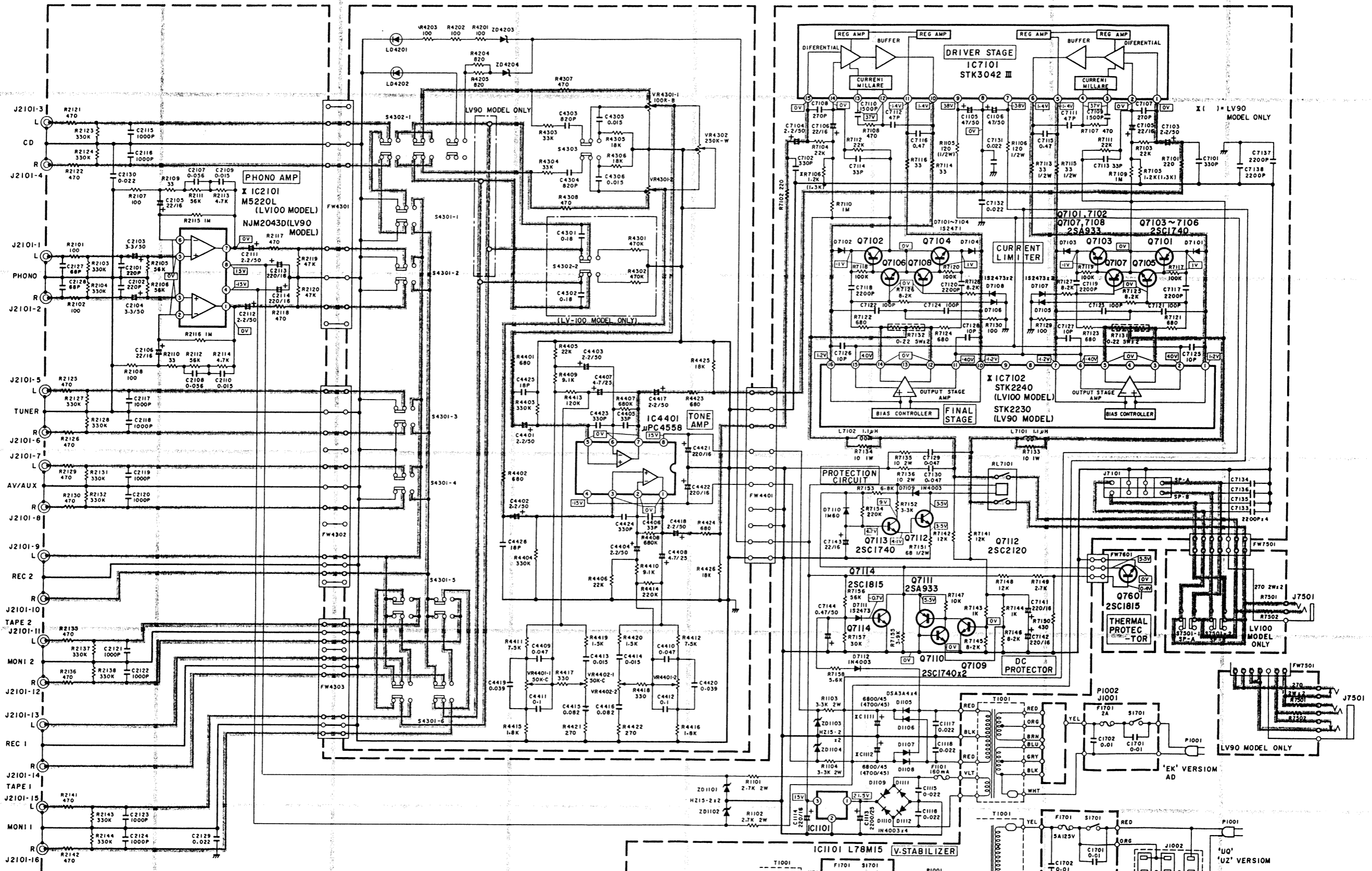
Stereo Integrated Amplifier

LV-100/LV-90

Temporary

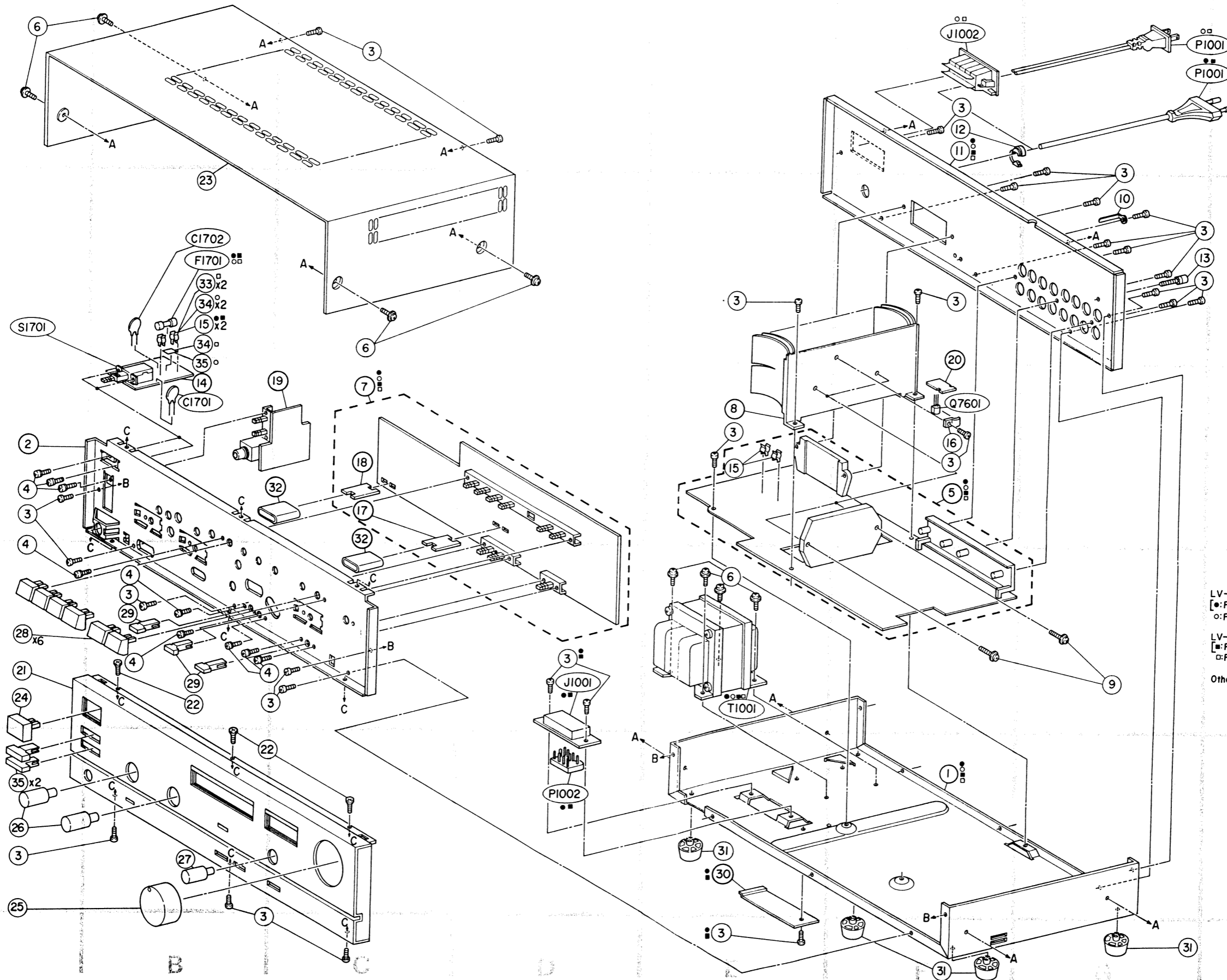


Schematic Diagram



NOTES:
 1. All resistance values are in ohms. K = 1,000
 2. All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

Exploded View (Cabinet)



LV-100model
 [●: For West Germany model only (AD)]
 [○: For North American model only (UZ)]

LV-90model
 [■: For West Germany model only (AD)]
 [□: For North American model only (UZ)]

Others : Common

6 A B C

Electrical Parts List

Resistors (All resistors are carbon film, 1/4W, ±5% unless otherwise noted.)
 uF = microfarads, pF = picofarads

Symbol No.	Part No.	Description
Main P.C. Board		
IC's		
IC1101	51T68838F01	L78M15
IC2101	51T72167F01	M5220L
IC7101	51T68833F02	STK3042 MARK3
IC7102	51T74072F01	STK2240
Transistors		
Q7101 or Q7102 or Q7103 or	48T55349F01 48T51118F03 48T55349F01 48T51118F03 48T55181F01 48S43525F05	2SA933A 2SA1015 2SA933A 2SA1015 2SC1740 2SC1815
Q7104 or Q7105 or Q7106 or	48T55181F01 48S43525F05 48T55181F01 48S43525F05 48T55181F01 48S43525F05	2SC1740 2SC1815 2SC1740 2SC1815 2SC1740 2SC1815
Q7107 or Q7108 or Q7109 or	48T55349F01 48T51118F03 48T55349F01 48T51118F03 48T55181F01 48S43525F05	2SA933A 2SA1015 2SA933A 2SA1015 2SC1740 2SC1815
Q7110 or Q7111 or Q7112	48T55181F01 48S43525F05 48T55349F01 48T51118F03 48T43015U01	2SC1740 2SC1815 2SA933A 2SA1015 2SC2120
Q7113 or Q7114	48T55181F01 48S43525F05 48S43525F03	2SC1740 2SC1815 2SC1815

Symbol No.	Part No.	Description
Diodes		
D1105 D1106 D1107 D1108 D1109	48T68580F04 48T68580F04 48T68580F04 48T68580F04 48S40477U01	DSA3A4 DSA3A4 DSA3A4 DSA3A4 IN4003
D1110 D1111 D1112 D7101 D7102	48S40477U01 48S40477U01 48S40477U01 48T68764F01 48T68764F01	IN4003 IN4003 IN4003 1S2471 1S2471
D7103 D7104 D7105 D7106 D7107	48T68764F01 48T68764F01 48T68764F03 48T68764F03 48T68764F03	1S2471 1S2471 1S2473 1S2473 1S2473
D7108 D7109 D7110 D7111 D7112	48T68764F03 48S40477U01 48T57425F01 48T68764F03 48S40477U01	1S2473 IN4003 1M60FM 1S2473 IN4003
ZD1101 ZD1102 ZD1103 ZD1104	48T52739F77 48T52739F77 48T52739F77 48T52739F77	Zener HZ15-2 Zener HZ15-2 Zener HZ15-2 Zener HZ15-2
Coils		
L7101 L7102	24T74614F01 24T74614F01	1.1μH 1.1μH
Relay		
RL7101	80T53350F01	G2Z-222P
Jacks		
J2101 J7101	09T74073F01 09T66953F01	RCA 16P Terminal, Speaker

Symbol No.	Part No.	Description
Fuse		
F1101	65T42077U08	SEMKO T160mA
Capacitors		
C1105	23S40657F35	Electrolytic 47 μ F/50V
C1106	23S40657F35	Electrolytic 47 μ F/50V
C1111	23T74080F01	Electrolytic 6800 μ F/45V
C1112	23T74080F01	Electrolytic 6800 μ F/45V
C1113	23C42170G3E	Electrolytic 2200 μ F/25V
C1114	23S40567F52	Electrolytic 220 μ F/16V
C1115	08S40805F21	Ceramic 0.022 μ F
C1116	08S40805F21	Ceramic 0.022 μ F
C1117	08S40805F21	Ceramic 0.022 μ F
C1118	08S40805F21	Ceramic 0.022 μ F
● C2101	08S40805F03	Ceramic 330 pF
■ C2101	08S40805F03	Ceramic 220 pF
● C2102	08S40805F03	Ceramic 330 pF
■ C2102	08S40805F03	Ceramic 220 pF
C2103	23S40657F30	Electrolytic 3.3 μ F 50V
C2104	23S40657F30	Electrolytic 3.3 μ F 50V
C2105	23S40657F11	Electrolytic 22 μ F/16V
C2106	23S40657F11	Electrolytic 22 μ F/16V
C2107	08T57851F10	TF 0.056 μ F
C2108	08T57851F10	TF 0.056 μ F
C2109	08T57851F03	TF 0.015 μ F
C2110	08T57851F03	TF 0.015 μ F
C2111	23S40657F29	Electrolytic 2.2 μ F/50V
C2112	23S40657F29	Electrolytic 2.2 μ F/50V
C2113	23S40657F52	Electrolytic 220 μ F/16V
C2114	23S40657F52	Electrolytic 220 μ F/16V
● C2115	08S40805F07	Ceramic 1000 pF
■ C2115	08S40805F07	Ceramic 1000 pF
● C2116	08S40805F07	Ceramic 1000 pF
■ C2116	08S40805F07	Ceramic 1000 pF
● C2117	08S40805F07	Ceramic 1000 pF
■ C2117	08S40805F07	Ceramic 1000 pF
● C2118	08S40805F07	Ceramic 1000 pF
■ C2118	08S40805F07	Ceramic 1000 pF
● C2119	08S40805F07	Ceramic 1000 pF
■ C2119	08S40805F07	Ceramic 1000 pF
● C2120	08S40805F07	Ceramic 1000 pF
■ C2120	08S40805F07	Ceramic 1000 pF
● C2121	08S40805F07	Ceramic 1000 pF
■ C2121	08S40805F07	Ceramic 1000 pF

Symbol No.	Part No.	Description
● C2122	08S40805F07	Ceramic 1000 pF
■ C2122	08S40805F07	Ceramic 1000 pF
● C2123	08S40805F07	Ceramic 1000 pF
■ C2123	08S40805F07	Ceramic 1000 pF
● C2124	08S40805F07	Ceramic 1000 pF
■ C2124	08S40805F07	Ceramic 1000 pF
● C2127	21S40655F21	Ceramic 68 pF
■ C2127	21S40655F21	Ceramic 68 pF
● C2128	21S40655F21	Ceramic 68 pF
■ C2128	21S40655F21	Ceramic 68 pF
● C2129	08S40805F21	Ceramic 0.022 μ F
■ C2129	08S40805F21	Ceramic 0.022 μ F
● C2130	08S40805F21	Ceramic 0.022 μ F
■ C2130	08S40805F21	Ceramic 0.022 μ F
C7101	08S44505P43	Ceramic 330 pF
C7102	08S44505P43	Ceramic 330 pF
C7103	23S40657F29	Electrolytic 2.2 μ F/50V
C7104	23S40657F29	Electrolytic 2.2 μ F/50V
C7105	23S40657F11	Electrolytic 22 μ F/16V
C7106	23S40657F11	Electrolytic 22 μ F/16V
C7107	08S44505P42	Ceramic 270 pF
C7108	08S44505P42	Ceramic 270 pF
C7109	08S44505P51	Ceramic 1500 pF
C7110	08S44505P51	Ceramic 1500 pF
C7111	08S44505P29	Ceramic 47 pF
C7112	08S44505P29	Ceramic 47 pF
C7113	08S44505P25	Ceramic 33 pF
C7114	08S44505P25	Ceramic 33 pF
C7115	08T57851F21	TF 0.47 μ F
C7116	08T57851F21	TF 0.47 μ F
C7117	08S44505P53	Ceramic 2200 pF
C7118	08S44505P53	Ceramic 2200 pF
C7119	08S44505P53	Ceramic 2200 pF
C7120	08S44505P53	Ceramic 2200 pF
C7121	08S44505P37	Ceramic 100 pF
C7122	08S44505P37	Ceramic 100 pF
C7123	08S44505P37	Ceramic 100 pF
C7124	08S44505P37	Ceramic 100 pF
C7125	08S44505P13	Ceramic 10 pF
C7126	08S44505P13	Ceramic 10 pF
C7127	08S44505P13	Ceramic 10 pF
C7128	08S44505P13	Ceramic 10 pF
C7129	08T57851F09	TF 0.047 μ F
C7130	08T57851F09	TF 0.047 μ F
● C7131	08S40805F21	Ceramic 0.022 μ F

NOTE: LV-100 [● : For West Germany model only (AD) ○ : For North American model only (UZ)]
 LV-90 [■ : For West Germany model only (AD) □ : For North American model only (UZ)]
 Others: Common

Symbol No.	Part No.	Description
■ C7131	08S40805F21	Ceramic 0.022 uF
● C7132	08S40805F21	Ceramic 0.022 uF
■ C7132	08S40805F21	Ceramic 0.022 uF
● C7133	08S44505P53	Ceramic 2200 pF
■ C7133	08S44505P53	Ceramic 2200 pF
● C7134	08S44505P53	Ceramic 2200 pF
■ C7134	08S44505P53	Ceramic 2200 pF
● C7135	08S44505P53	Ceramic 2200 pF
■ C7135	08S44505P53	Ceramic 2200 pF
● C7136	08S44505P53	Ceramic 2200 pF
■ C7136	08S44505P53	Ceramic 2200 pF
● C7137	08S44505P53	Ceramic 2200 pF
■ C7137	08S44505P53	Ceramic 2200 pF
● C7138	08S44505P53	Ceramic 2200 pF
■ C7138	08S44505P53	Ceramic 2200 pF
C7141	23S40657F52	Electrolytic 220 uF/16V
C7142	23S40657F52	Electrolytic 220 uF/16V
C7143	23S40657F11	Electrolytic 22 uF/16V
C7144	23S40657F27	Electrolytic 0.47 uF/50V
Resistors		
R1101	06T00007L75	Metal Film 2.7K ohm 2W
or	06T55179F75	Metal Film 2.7K ohm 2W
or	06T00007L75	Metal Film 2.7K ohm 2W
R1102	06T00007L75	Metal Film 2.7K ohm 2W
or	06T55179F75	Metal Film 2.7K ohm 2W
or	06T00007L75	Metal Film 2.7K ohm 2W
R1103	06T00007L77	Metal Film 3.3K ohm 2W
or	06T55179F77	Metal Film 3.3K ohm 2W
or	06T00007L77	Metal Film 3.3K ohm 2W
R1104	06T00007L77	Metal Film 3.3K ohm 2W
or	06T55179F77	Metal Film 3.3K ohm 2W
or	06T00007L77	Metal Film 3.3K ohm 2W
R1105	06T00003L43	Metal Film 120 ohm 1/2W
or	06T55175F43	Metal Film 120 ohm 1/2W
or	06T00003L43	Metal Film 120 ohm 1/2W

Symbol No.	Part No.	Description
R1106	06T00003L43	Metal Film 120 ohm 1/2W
or	06T55175F43	Metal Film 120 ohm 1/2W
or	06T00003L43	Metal Film 120 ohm 1/2W
R7113	06T00003L29	Metal Film 33 ohm 1/2W
or	06T55175F29	Metal Film 33 ohm 1/2W
or	06T00003L29	Metal Film 33 ohm 1/2W
R7114	06T00003L29	Metal Film 33 ohm 1/2W
or	06T55175F29	Metal Film 33 ohm 1/2W
or	06T00003L29	Metal Film 33 ohm 1/2W
R7115	06T00003L29	Metal Film 33 ohm 1/2W
or	06T55175F29	Metal Film 33 ohm 1/2W
or	06T00003L29	Metal Film 33 ohm 1/2W
R7116	06T00003L29	Metal Film 33 ohm 1/2W
or	06T55175F29	Metal Film 33 ohm 1/2W
or	06T00003L29	Metal Film 33 ohm 1/2W
R7131	06T67397F01	MPC 0.22 ohm
R7132	06T67397F01	MPC 0.22 ohm
R7133	06T00005L17	Metal Film 10 ohm 1W
or	06T55177F17	Metal Film 10 ohm 1W
or	06T00005L17	Metal Film 10 ohm 1W
R7134	06T00005L17	Metal Film 10 ohm 1W
or	06T55177F17	Metal Film 10 ohm 1W
or	06T00005L17	Metal Film 10 ohm 1W
R7135	06T73186F17	Metal Film 10 ohm 2W
or	06T55179F17	Metal Film 10 ohm 2W
or	06T00007L17	Metal Film 10 ohm 2W
R7136	06T73186F17	Metal Film 10 ohm 2W
or	06T55179F17	Metal Film 10 ohm 2W
or	06T00007L17	Metal Film 10 ohm 2W
R7151	06T00003L37	Metal Film 68 ohm 1/2W
or	06T55175F37	Metal Film 68 ohm 1/2W
or	06T00003L37	Metal Film 68 ohm 1/2W
Function P.C. Board		
IC		
IC4401	51S43471U02	μPC4558C

NOTE: LV-100 [● : For West Germany model only (AD) ○ : For North American model only (UZ)]
 LV-90 [■ : For West Germany model only (AD) □ : For North American model only (UZ)]
 Others: Common

Symbol No.	Part No.	Description
Diodes		
D4201	48T70949F01	LED, SLR54DC3F
D4202	48T66959F01	LED, SLR54VC3F
D4203	48T52741F30	Zener HZ11A-3L
D4204	48T52741F30	Zener HZ11A-3L
Switches		
S4301	40T74064F01	Push SPEC 6K (AV/AUX, TUNER, CD, PHONO, TAPE 1, TAPE 2)
S4302	40T74065F01	Push SPEC 2K (CD STRAIGHT)
S4303	40T74066F01	Push SPEC 1K (LOUDNESS)
Capacitors		
C4301	08T57851F16	TF 0.18 μ F
C4302	08T57851F16	TF 0.18 μ F
C4303	08T52448F11	Polypropylene 820 pF
C4304	08T52448F11	Polypropylene 820 pF
C4305	08T57851F03	TF 0.015 μ F
C4306	08T57851F03	TF 0.015 μ F
C4401	23T57007F06	Electrolytic 2.2 μ F/50V
C4402	23T57007F06	Electrolytic 2.2 μ F/50V
C4403	23T57007F06	Electrolytic 2.2 μ F/50V
C4404	23T57007F06	Electrolytic 2.2 μ F/50V
C4405	08S44505P25	Ceramic 33 pF
C4406	08S44505P25	Ceramic 33 pF
C4407	23T57007F08	Electrolytic 4.7 μ F/25V
C4408	23T57007F08	Electrolytic 4.7 μ F/25V
C4409	08T57851F09	TF 0.047 μ F
C4410	08T57851F09	TF 0.047 μ F
C4411	08T57851F13	TF 0.1 μ F
C4412	08T57851F13	TF 0.1 μ F
C4413	08T57851F03	TF 0.015 μ F
C4414	08T57851F03	TF 0.015 μ F
C4415	08T57851F12	TF 0.082 μ F
C4416	08T57851F12	TF 0.082 μ F
C4417	23T57007F06	Electrolytic 2.2 μ F/50V
C4418	23T57007F06	Electrolytic 2.2 μ F/50V
C4419	08T57851F08	TF 0.039 μ F

Symbol No.	Part No.	Description
C4420	08T57851F08	TF 0.039 μ F
C4421	23S40657F52	Electrolytic 220 μ F/16V
C4422	23S40657F52	Electrolytic 220 μ F/16V
● C4423	08S44505P43	Ceramic 330 pF
■ C4423	08S44505P43	Ceramic 330 pF
● C4424	08S44505P43	Ceramic 330 pF
■ C4424	08S44505P43	Ceramic 330 pF
● C4425	08S44505P19	Ceramic 18 pF
■ C4425	08S44505P19	Ceramic 18 pF
● C4426	08S44505P19	Ceramic 18 pF
■ C4426	08S44505P19	Ceramic 18 pF
Resistors		
VR4301	18T74082F01	Volume RKD100K.B.C.
VR4302	18T74067F01	Volume RKD41,250K.W.C.
VR4401	18T74068F01	Volume RKD42.50K.C.C.
VR4402	18T74068F01	Volume RKD42.50K.C.C.
Speaker Switch P.C. Board		
Switch		
S7501	40T74063F01	Push SUN
Resistors		
R7501	06T0007L51	Metal Film 270 ohm 2W
R7502	06T0007L51	Metal Film 270 ohm 2W
Miscellaneous		
C1701	08T57437F09	Capacitor, Ceramic 0.01 μ F
C1702	08T57437F09	Capacitor, Ceramic 0.01 μ F
■ F1701	65T42077U19	Fuse, Semko T-2.0A
□ F1701	65T52486F12	Fuse, MF61NM 5-125V
● F1701	65T42077U19	Fuse, Semko T-2.0A

NOTE: LV-100 [● : For West Germany model only (AD) ○ : For North American model only (UZ)]
 LV-90 [■ : For West Germany model only (AD) □ : For North American model only (UZ)]
 Others: Common

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
○	F1701	65T52486F12			Fuse, MF61NM 5-125V
●	J1001	09T51831F01			Socket, Switch M-1615
■	J1001	09T51831F01			Socket, Switch
○	J1002	09T68841F02			Outlet, AC
□	J1002	09T68841F02			Outlet, AC
●	P1001	28T43182P04			Plug, Cord
○	P1001	28T70972F01			Plug, AC Cord
■	P1001	28T43812P04			Plug, AC Cord
□	P1001	28T70972F01			Plug, AC Cord
●	P1002	09T51830F01			Plug, Switch P-2120
■	P1002	09T51830F01			Plug, Switch
	Q7601	48S43525F06			Transistor, 2SC1815
	S1701	40T70311F03			Switch, Power Sdb (1P)
●	T1001	25T74069F01			Trans, Power
○	T1001	25T74141F01			Trans, Power
■	T1001	25T74143F01			Trans, Power
□	T1001	25T74145F01			Trans, Power

NOTE: LV-100 [● : For West Germany model only (AD) ○ : For North American model only (UZ)]
 LV-90 [■ : For West Germany model only (AD) □ : For North American model only (UZ)]
 Others: Common

Cabinet Assembly Parts List

Symbol No.	Index	Part No.	Description	Symbol No.	Index	Part No.	Description
	3	03S71031F04	Screw, Bind (M3 x 8)				
	4	03D40014G04	Screw, W/Washer (M3 x 6)				
	6	03S40012G95	Screw, Tapping (M4 x 8)				
	9	03C40121T21	Screw, W/Washer (M3 x 16)				
	10	29A737272	Lug, Wrap Around				
●	11	15D74162F01	Cover, Rear				
○	11	15D74162F03	Cover, Rear				
■	11	15D74162F02	Cover, Rear				
□	11	15D74162F04	Cover, Rear				
	12	43B41625J02	Support, Cord				
	13	29T66964F01	Terminal, Ground				
	15	09T51410F01	Holder, Fuse				
	16	07R51146F01	Support, Transistor				
	21	01V74200F95	Assembly, Front Panel				
	22	03S71031F05	Screw, Countersink(M3 x 8)				
	23	15C74161F01	Cover, Top				
	24	36A67330F01	Knob, Power				
	25	36B67336F01	Knob, Main Volume				
	26	36A74341F01	Knob, Tone Volume				
	27	36A74342F01	Knob, Rotary Volume (A)				
	28	36B74343F01	Knob, Function				
	29	36A67333F01	Knob, Push (M3 x 10)				
	31	75A60070F01	Pad, Rubber				
□	33	09T51960F01	Holder, Fuse				
○	34	09T51960F01	Holder, Fuse				
	35	36B67331F01	Knob, Push (SP)				

NOTE: LV-100 [● : For West Germany model only (AD) ○ : For North American model only (UZ)]
 LV-90 [■ : For West Germany model only (AD) □ : For North American model only (UZ)]
 Others: Common

Parts List by the Destination

Symbol No.	Description	Power Source			
		LV-100		LV-90	
		AD ● 220V	UZ ○ 120V	AD ■ 220V	UZ □ 120V
C2101	Capacitor	08S40805F03	Not Used	08S40805F03	Not Used
C2102	Capacitor	08S40805F03	Not Used	08S40805F03	Not Used
C2115	Capacitor	08S40805F07	Not Used	08S40805F07	Not Used
C2116	Capacitor	08S40805F07	Not Used	08S40805F07	Not Used
C2117	Capacitor	08S40805F07	Not Used	08S40805F07	Not Used
C2118	Capacitor	08S40805F07	Not Used	08S40805F07	Not Used
C2119	Capacitor	08S40805F07	Not Used	08S40805F07	Not Used
C2120	Capacitor	08S40805F07	Not Used	08S40805F07	Not Used
C2121	Capacitor	08S40805F07	Not Used	08S40805F07	Not Used
C2122	Capacitor	08S40805F07	Not Used	08S40805F07	Not Used
C2123	Capacitor	08S40805F07	Not Used	08S40805F07	Not Used
C2124	Capacitor	08S40805F07	Not Used	08S40805F07	Not Used
C2127	Capacitor	21S40655F21	Not Used	21S40655F21	Not Used
C2128	Capacitor	21S40655F21	Not Used	21S40655F21	Not Used
C2129	Capacitor	08S40805F21	Not Used	08S40805F21	Not Used
C2130	Capacitor	08S40805F21	Not Used	08S40805F21	Not Used
C4423	Capacitor	08S44505P43	Not Used	08S44505P43	Not Used
C4424	Capacitor	08S44505P43	Not Used	08S44505P43	Not Used
C4425	Capacitor	08S44505P19	Not Used	08S44505P19	Not Used
C4426	Capacitor	08S44505P19	Not Used	08S44505P19	Not Used
C7131	Capacitor	08S80805F21	Not Used	08S40805F21	Not Used
C7132	Capacitor	08S40805F21	Not Used	08S40805F21	Not Used
C7133	Capacitor	08S44505P53	Not Used	08S44505P53	Not Used
C7134	Capacitor	08S44505P53	Not Used	08S44505P53	Not Used
C7135	Capacitor	08S44505P53	Not Used	08S44505P53	Not Used
C7136	Capacitor	08S44505P53	Not Used	08S44505P53	Not Used
C7137	Capacitor	08S44505P53	Not Used	08S44505P53	Not Used
C7138	Capacitor	08S44505P53	Not Used	08S44505P53	Not Used
F1701	Fuse	65T42077U19	65T52486F12	65T42077U19	65T52486F12
J1001	Socket, Switch	09T51831F01	Not Used	09T51831F01	Not Used
J1002	Outlet AC	Not Used	09T68841F02	Not Used	09T68841F02
P1001	Plug, AC Cord	28T43812P04	28T70972F01	28T43812P04	28T70972F01
P1002	Plug, Switch	09T51830F01	Not Used	09T51830F01	Not Used
T1001	Trans, Power	25T74069F01	25T74141F01	25T74143F01	25T74143F01
11	Cover, Rear	15D74162F01	15D74162F03	15D74162F02	15D74162F04
33	Holder, Fuse	Not Used	Not Used	Not Used	09T51960F01
34	Holder, Fuse	Not Used	09T51960F01	Not Used	Not Used
101	Owners, Manual	68P73333F62	68P73333F64	68P73333F62	68P73333F64

NOTE: LV-100 [● : For West Germany model only (AD) ○ : For North American model only (UZ)]
 LV-90 [■ : For West Germany model only (AD) □ : For North American model only (UZ)]
 Others: Common

Packing Assembly Parts List

Symbol No.	Part No.	Description
●	101	68P73333F62 Owners, Manual
○	101	68P73333F64 Owners, Manual
■	101	68P73333F62 Owners, Manual
□	101	68P73333F64 Owners, Manual
	102	56B63425F11 Sack, Polyethylene
	103	56D74347F01 Tray, Packing (R)
	104	56D74349F01 Tray, Packing (L)
	105	56S71001F41 Carton, Packing

Symbol No.	Part No.	Description
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NOTE: LV-100 [● : For West Germany model only (AD) ○ : For North American model only (UZ)]
 LV-90 [■ : For West Germany model only (AD) □ : For North American model only (UZ)]
 Others: Common