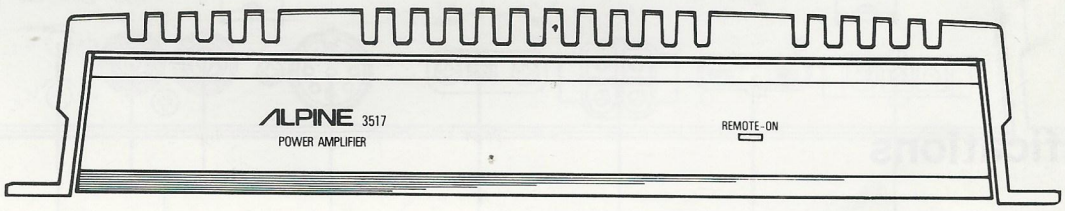
ALPINE SERVICE MANUAL

Power Amplifier



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Specifications

Power Source	14.4V DC (11 ~ 16V)
Polarity	Negative ground
Current Drain	1A
Power Output	35W/2ch
S/N Ratio	100 dB
Input Sensitivity	0.5V ± 2 dB (Fix position) 2V ± 2 dB (Variable position)
Frequency Response (1 kHz)	20 Hz to 40 KHz
Load Impedance	4 ohm
Input Impedance	10 kohm ± 2 kohm
Semiconductors	4 IC's, 23 Transistors, 6 Zener Diodes, 11 Diodes
Dimensions	200(W) x 130(D) x 40(H)
Weight	1.2 kg

NOTE: Due to continuing product improvement, specifications and design subject to change without notice.

Parts Locations

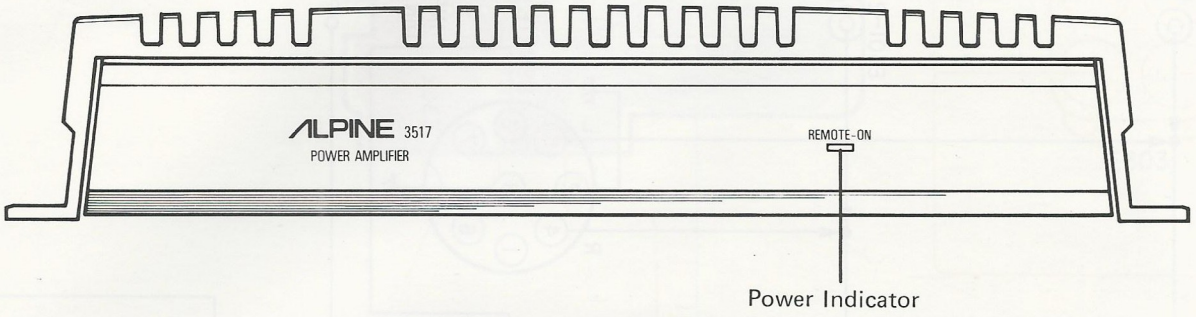


Figure 1

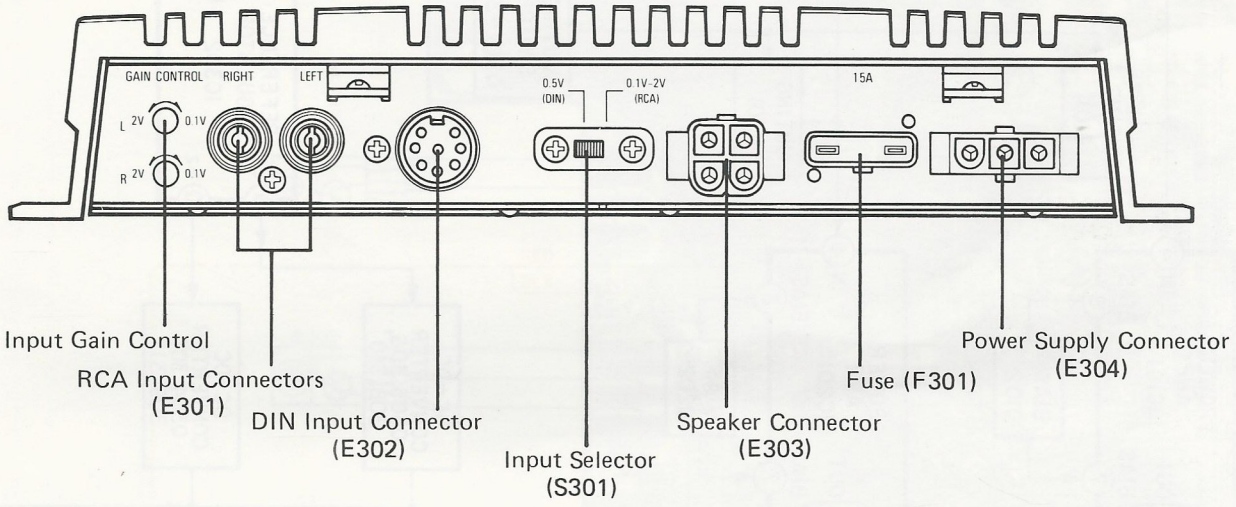
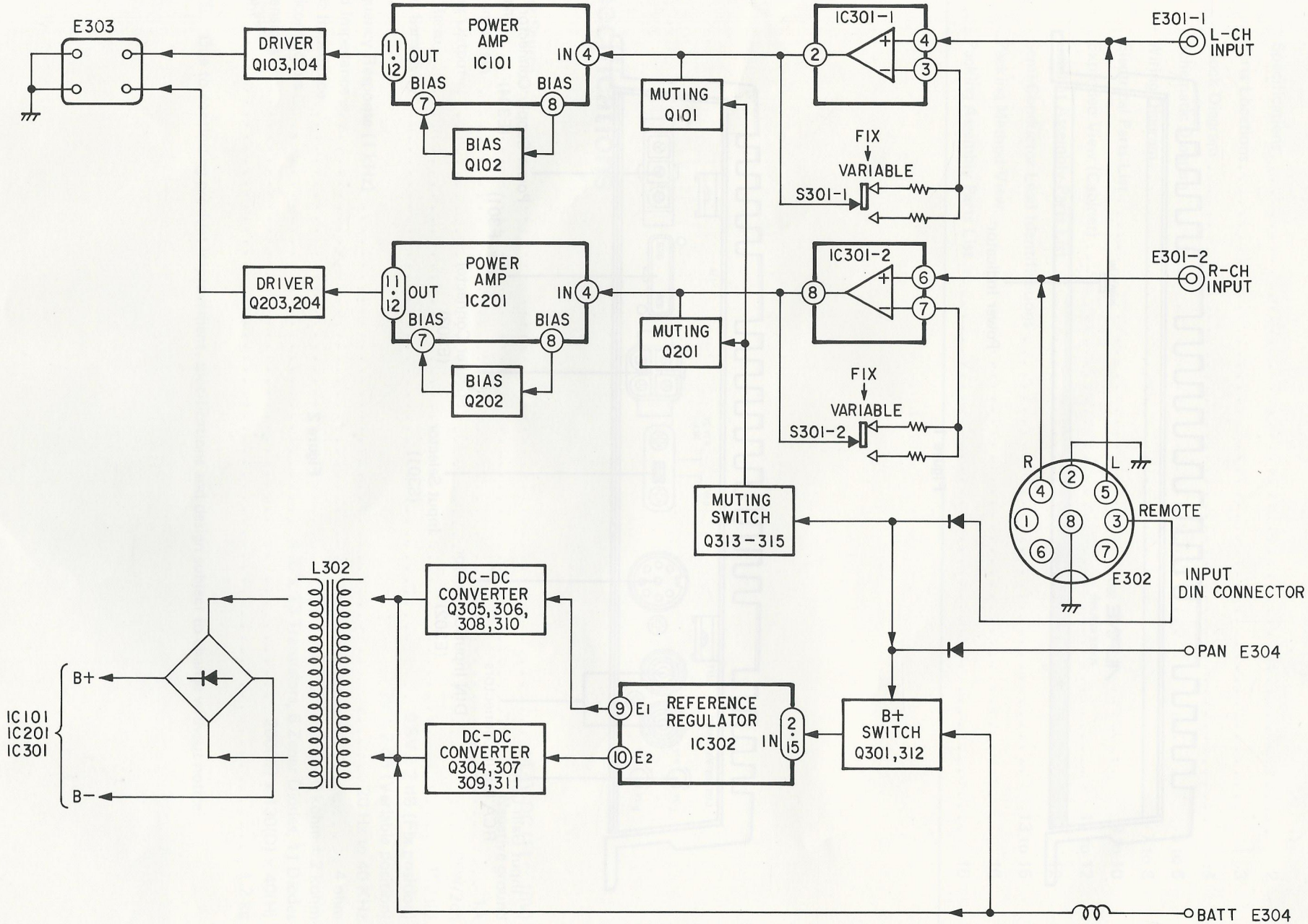
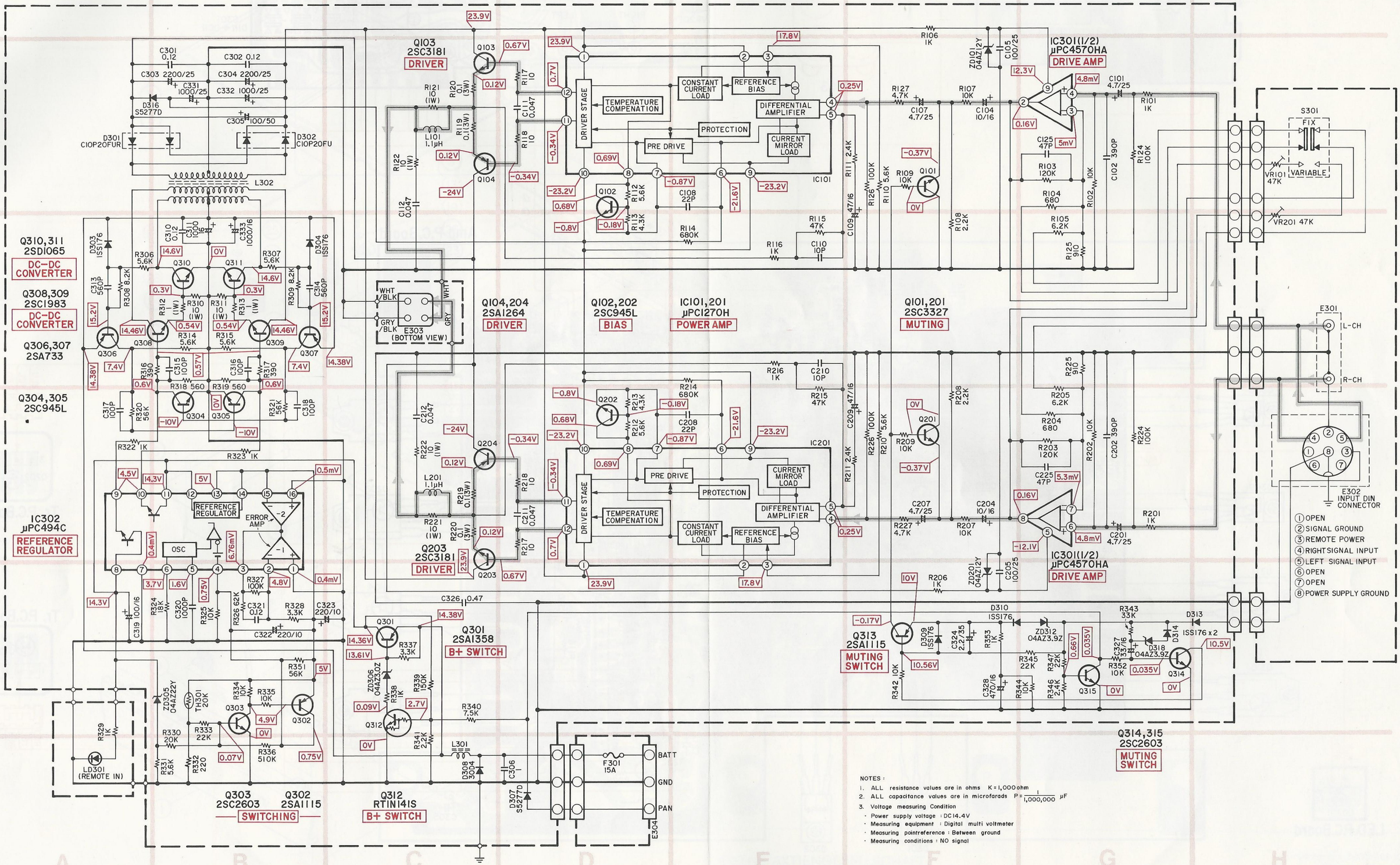


Figure 2

Block Diagram



Schematic Diagram



NOTES :

1. ALL resistance values are in ohms K = 1,000 ohm
2. ALL capacitance values are in microfarads $P = \frac{1}{1,000,000}$ μF
3. Voltage measuring Condition
   - Power supply voltage : DC14.4V
   - Measuring equipment : Digital multi voltmeter
   - Measuring pointreference : Between ground
   - Measuring conditions : NO signal

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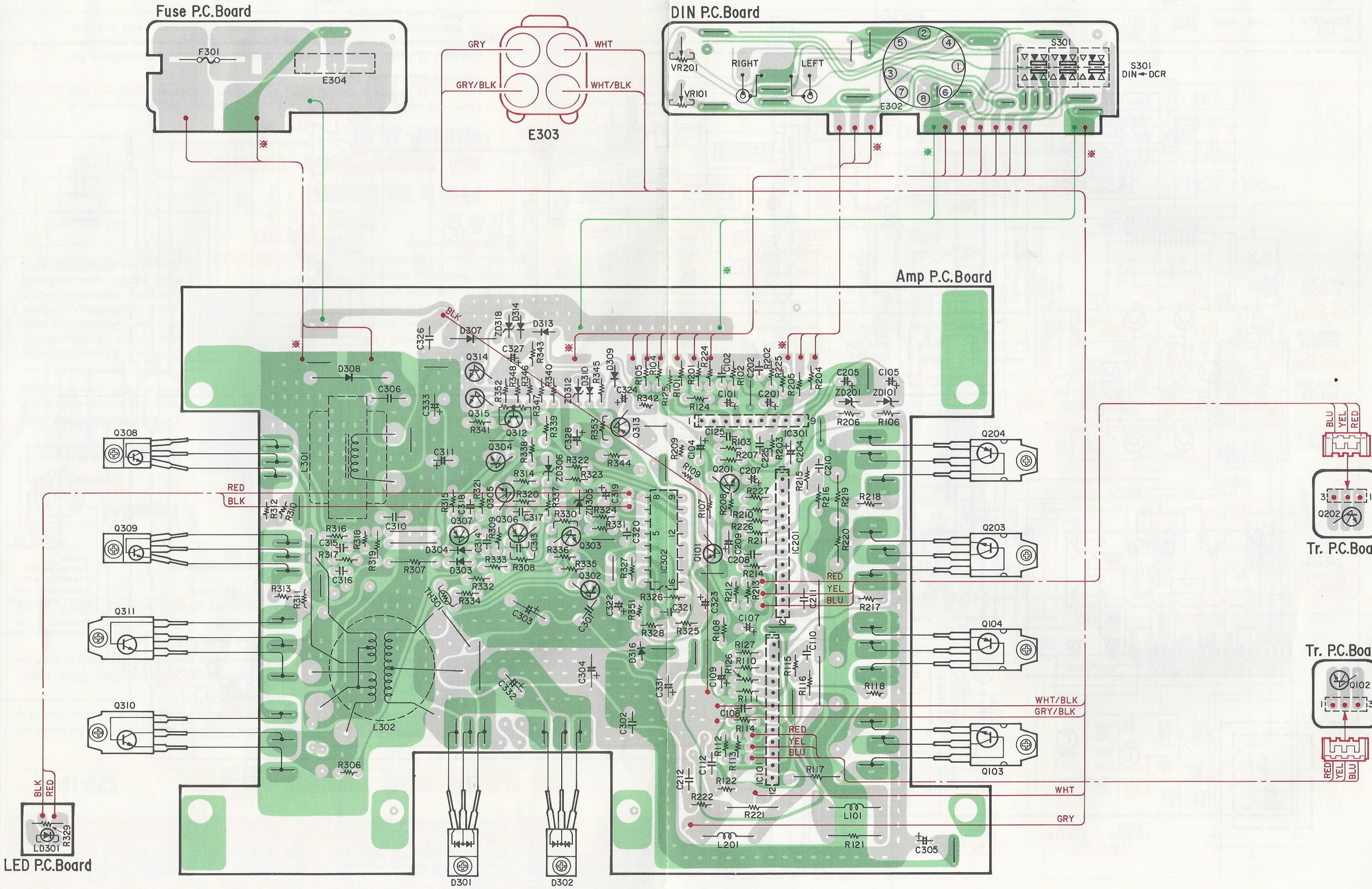
Wiring Diagram



Electrical Parts List

Resistors: Carbon resistors under ¼ watts are not mentioned in the parts list, please confiem them by schematic diagram.
uF = microfarads, pF = picofarads

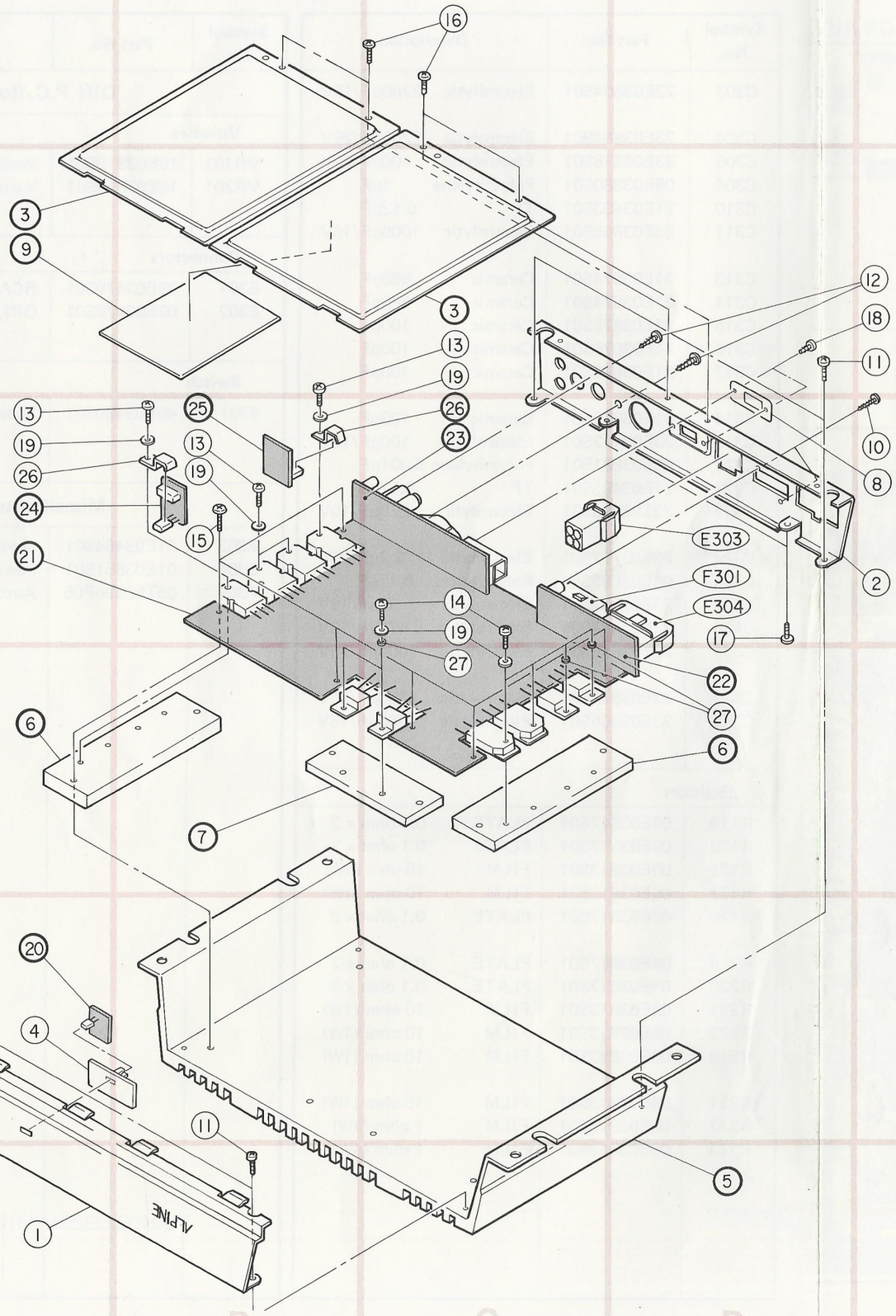
Symbol No.	Part No.	Description
Amp/Power Supply P.C. Board		
IC's		
IC101	51E03492S01	μPC1270H
IC201	51E03492S01	μPC1270H
IC301	51E03808S01	μPC 4570HA
IC302	51E03809S01	μPC 494C
Transistors		
Q101	48E03491S01	2SC3327
Q102	48S44578J01	2SC945L
Q103	48E03811S01	2SC3181
Q104	48E03812S01	2SA1264
Q201	48E03491S01	2SC3327
Q202	48S44578J01	2SC945L
Q203	48E03811S01	2SC3181
Q204	48E03812S01	2SA1264
Q301	48T70761F01	2SA1358
Q302	48E03814S01	2SA1115
Q303	48T50625F01	2SC2603
Q304	48S44578J01	2SC945L
Q305	48S44578J01	2SC945L
Q306	48T40081T03	2SA733
Q307	48T40081T03	2SA733 (A)
Q308	48T69192F01	2SC1983
Q309	48T69192F01	2SC1983
Q310	48T47613F03	2SD1065
Q311	48T47613F03	2SD1065
Q312	48E03490S01	RT-1N141S
Q313	48E03814S01	2SA1115
Q314	48T50625F01	2SC2603
Q315	48T50625F01	2SC2603
Diodes		
ZD101	48E03818S01	Zener 04AZ12Y
ZD201	48E03818S01	Zener 04AZ12Y
D301	48E03819S01	F10P20FR
D302	48E03819S02	F10P20F
D303	48T58583F01	1SS176
D304	48T58583F01	1SS176
ZD305	48E03488S01	Zener 04AZ22Y
ZD306	48E03486S01	Zener 04AZ3.0Z
D307	48E03489S01	S5277D
D308	48T68079F03	30D4

Symbol No.	Part No.	Description
D309	48T58583F01	1SS176
D310	48T58583F01	1SS176
ZD312	48E03485S01	Zener 04AZ 3.9Z
D313	48T58583F01	1SS176
D314	48T58583F01	1SS176
D316	48E03489S01	S5277D
ZD318	48E03485S01	Zener 0.4AZ3.9Z
Coils		
L101	25E03476S01	Inductor 1.1μH
L201	25E03476S01	Inductor 1.1μH
L301	25E03471S01	Choke E1-26
L302	25E03477S01	Inductor
Thermistor/LED		
TH301	48E03820S01	Thermistor, 20 kohm
LD301	48T52238F02	PR5552K
Capacitors		
C101	23E03861S01	Electrolytic 4.7μF/25V
C102	21E03870S01	Ceramic 390pF
C104	23E03862S01	Electrolytic 10μF/16V
C105	23E03869S01	Electrolytic 100μF/25V
C107	23E03861S01	Electrolytic 4.7μF/25V
C108	21E03871S01	Ceramic 22pF
C109	23E03863S01	Electrolytic 47μF/16V
C110	21E03872S01	Ceramic 10pF
C111	08E03876S01	Mylar 0.047μF
C112	08E03879S01	Polyethylene 0.047μF
C125	21E03873S01	Ceramic 47pF
C201	23E03861S01	Electrolytic 4.7μF/25V
C202	21E03870S01	Ceramic 390pF
C204	23E03862S01	Electrolytic 10μF/16V
C205	23E03869S01	Electrolytic 100μF/25V
C207	23E03861S01	Electrolytic 4.7μF/25V
C208	21E03871S01	Ceramic 22pF
C209	23E03863S01	Electrolytic 47μF/16V
C210	21E03872S01	Ceramic 10pF
C211	08E03876S01	Mylar 0.047μF
C212	08E03879S01	Polyethylene 0.047μF
C225	21E03873S01	Ceramic 47pF
C301	08E03877S01	Mylar 0.12μF
C302	21E03493S01	TF 0.12μF

Symbol No.	Part No.	Description
C303	23E03864S01	Electrolytic 2200μF/15V
C304	23E03864S01	Electrolytic 2200μF/25V
C305	23E03878S01	Electrolytic 100μF/50V
C306	08E03880S01	Polyethylene 1μF
C310	21E03493S01	TF 0.12μF
C311	23E03865S01	Electrolytic 1000μF/16V
C313	21E03874S01	Ceramic 560pF
C314	21E03874S01	Ceramic 560pF
C315	21E03875S01	Ceramic 100pF
C316	21E03875S01	Ceramic 100pF
C317	21E03875S01	Ceramic 100pF
C318	21E03875S01	Ceramic 100pF
C319	23E00472S01	Electrolytic 100μF/16V
C320	08E03881S01	Polyethylene 0.001μF
C321	21E03493S01	TF 0.12μF
C322	23E03866S01	Electrolytic 220μF/10V
C324	23E03712S01	Electrolytic 2.2μF/35V
C326	08E03882S01	Polyethylene 0.47μF
C327	23E03867S01	Electrolytic 33μF/16V
C328	23E01897S01	Electrolytic 470μF/16V
C331	23E03868S01	Electrolytic 1000μF/25V
C332	23E03868S01	Electrolytic 1000μF/25V
C333	23E03865S01	Electrolytic 1000μF/16V
Resistors		
R119	09E03817S01	PLATE 0.1 ohm x 2
R120	09E03817S01	PLATE 0.1 ohm x 2
R121	06E03813S01	FILM 10 ohm (1W)
R122	06E03813S01	FILM 10 ohm (1W)
R120	09E03817S01	PLATE 0.1 ohm x 2
R219	09E03817S01	PLATE 0.1 ohm x 2
R220	09E03817S01	PLATE 0.1 ohm x 2
R221	06E03813S01	FILM 10 ohm (1W)
R222	06E03813S01	FILM 10 ohm (1W)
R310	06E03813S01	FILM 10 ohm (1W)
R311	06E03813S01	FILM 10 ohm (1W)
R312	06E03816S01	FILM 1 ohm (1W)
R313	06E03816S01	FILM 1 ohm (1W)

Symbol No.	Part No.	Description
DIN P.C. Board		
Volumes		
VR101	18E03810S01	Variable, 47 kohm
VR201	18E03810S01	Variable, 47 kohm
Connectors		
E301	09E03479S01	RCA, Input (2P)
E302	09E03478S01	DIN, Input (8P)
Switch		
S301	40E03480S01	Slide SSSA06 (Input Selector)
Miscellaneous		
E303	01E03484S01	Speaker Connector
E304	01E03851S01	Power Supply Connector (3P)
F301	65T58596F05	Auto Fuse 15A

Exploded View (Cabinet)



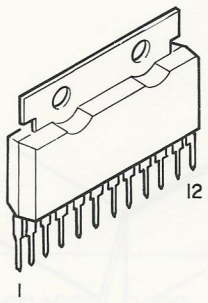
Cabinet Assembly Parts List

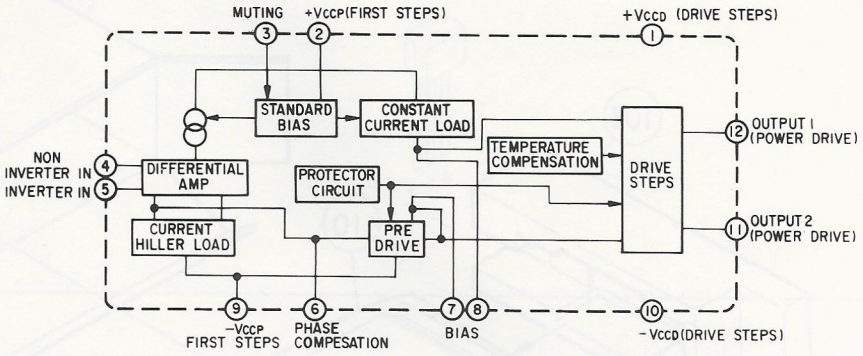
Symbol No.	Index	Part No.	Description
1	6-A	27E03710S01	Chassis, Front
2	3-E	27E03790S01	Chassis, Rear
3	2-A	15E03711S01	Cover, Bottom
4	5-A	15E03841S01	Cover, LED
8	3-E	14A73139F01	Insulator Switch Lock
10	3-E	03E03792S01	Screw, Bind (M2 x 6)
11	5-B	03E03792S02	Screw, Bind (M2.6 x 6)
12	2-E	03E03793S01	Screw, Bind (M3 x 8)
13	3-A	03E03794S01	Screw, Bind (M3 x 10)
14	3-C	03E03793S01	Screw, Bind (M3 x 8)
15	3-B	03E03795S01	Screw, Bind (M2.6 x 12)
16	1-C	03E03796S01	Screw, Sems (M2.6 x 5)
17	3-D	03E03797S01	Screw, Sems (M2.6 x 6)
18	2-E	03E03798S01	Screw, (M2.6 x 4)
19	3-A	04E03451S01	Washer, Flat
27	C-4	04E03975S01	Washer

NOTE : The parts without part numbers are not supplied.

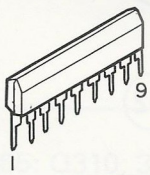
Semi-Conductor Lead Identifications

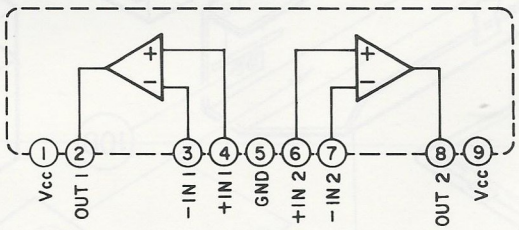
μPC1270H: IC101, 201



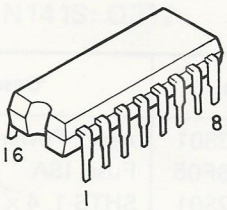


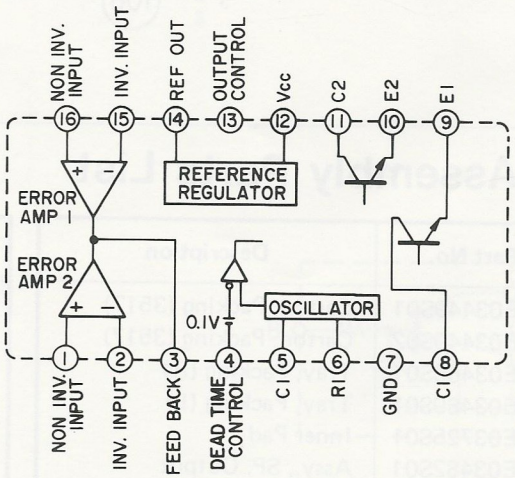
μPC4570H: IC301



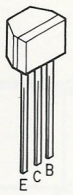


μPC494C: IC302



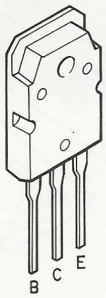


2SC3327: Q101, 201

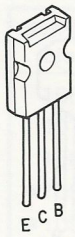


2SC954L: Q102, 202, 304, 305
2SA733: Q306, 307

2SC3181: Q103, 203
2SA1264: Q104, 204

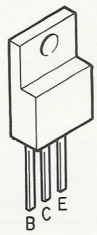


2SA1358: Q301

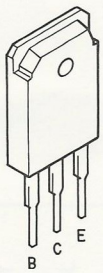


2SA1115: Q302, 313
2SC2603: Q303, 314, 315

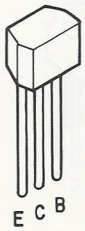
2SC1983: Q308, 309

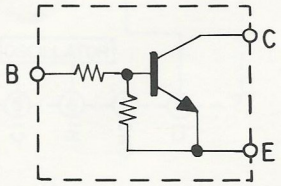


2SD1065: Q310, 311

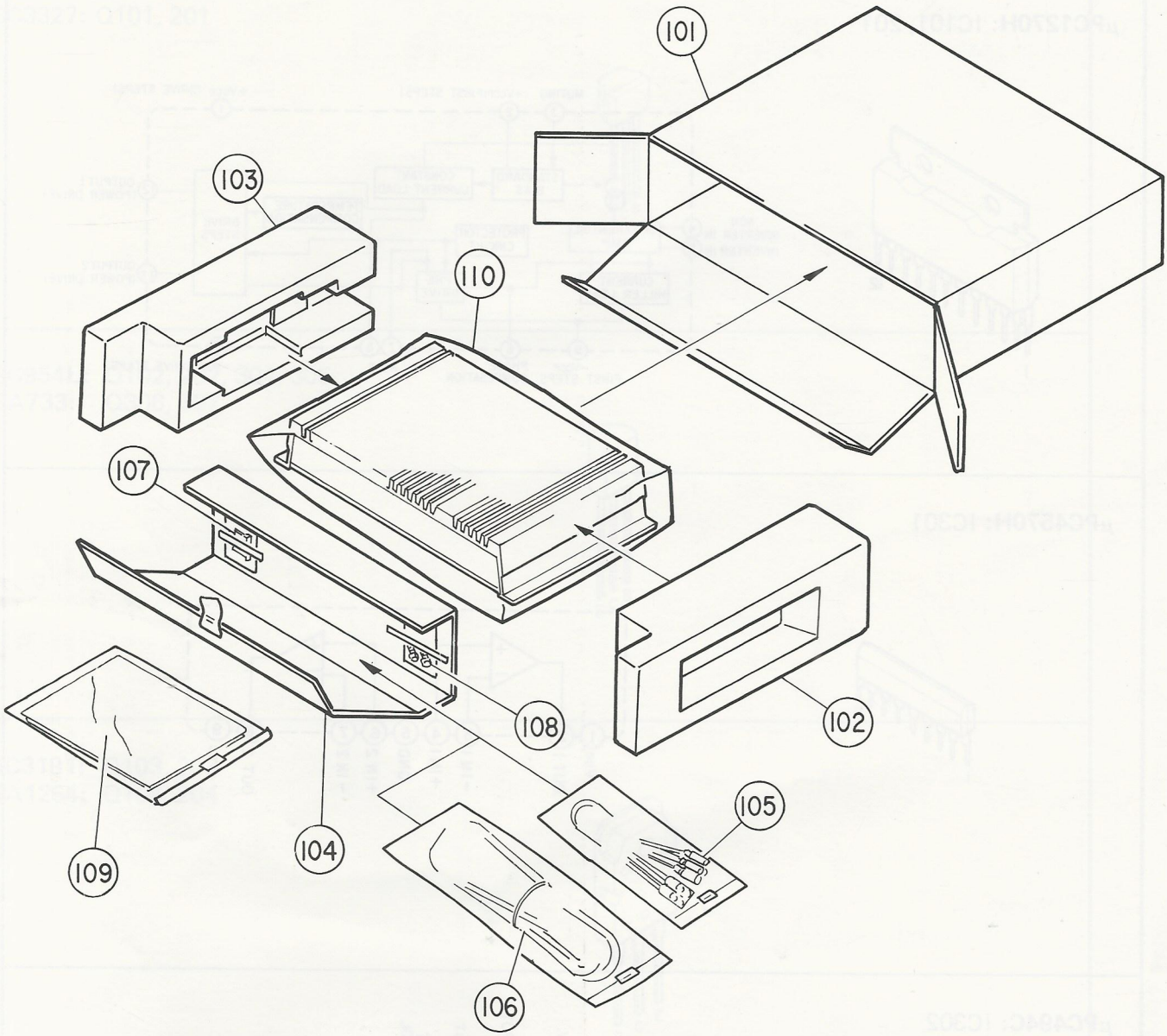


RTIN141S: Q312





Packing Method View



Packing Assembly Parts List

Symbol No.	Part No.	Description
●101	56E03449S01	Carton, Packing (3517)
■101	56E03449S02	Carton, Packing (3517)
102	56E03468S01	Tray, Packing (R)
103	56E03469S01	Tray, Packing (L)
104	75E03725S01	Inner Pad
105	01E03482S01	Assy., SP. Output

Symbol No.	Part No.	Description
106	01E03483S01	Assy., Power Connector
107	65T58596F05	Fuse, ISA
108	03E03807S01	SHTS-1 4 x 14 s) BNP
●109	01E03928S01	Assy., Pamphlet (3517)
■109	68P81880F42	Owners, Manual (3517)
110	56E03636S01	Sack, Polyethylene

Notes : ● : For North American model only.
■ : For West Germany model only. Others : Common.