POWER AMPLIFIERS

P3500
P2500
P1500

SERVICE MANUAL

• P3500

• P2500

• P1500

■ CONTENTS

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YAMAHA CORP.
HAMAMATSU, JAPAN
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IMPORTANT NOTICE

This manual has been provided for the use of authorized Yamaha Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Yamaha product owners that all service required should be performed by an authorized Yamaha Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification, recognition of any applicable technical capabilities, or establish a principal–agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefore, inevitable and changes in specification are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHAT SO EVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

■ **WARNING**

Components having special characteristics are marked ⚠ and must be replaced with parts having specification equal to those originally installed.

■ SPECIFICATIONS

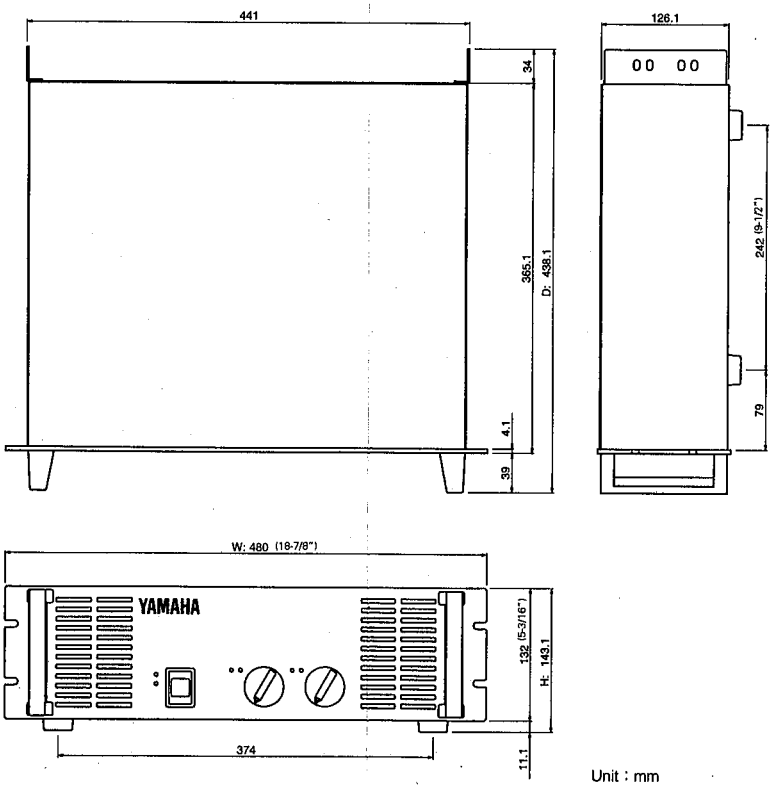
			P3500	P2500	P1500
POWER OUTPUT LEVEL f=20 Hz~20 kHz, THD+N ≤ 0.1%					
	STEREO	RL=8 Ω	350 W + 350 W	250 W + 250 W	150 W + 150 W
		RL=4 Ω	500 W + 500 W	350 W + 350 W	210 W + 210 W
	BRIDGE	RL=8 Ω	1000 W	700 W	420 W
f=1 kHz, THD+N ≤ 0.1% (Typical)					
	STEREO	RL=8 Ω	395 W + 395 W	285 W + 285 W	170 W + 170 W
		RL=4 Ω	620 W + 620 W	430 W + 430 W	240 W + 240 W
		RL=2 Ω*	1000 W + 1000 W	450 W + 450 W	280 W + 280 W
FREQUENCY RESPONSE		RL=8 Ω, Po=1 W	0 dB+0.5, −1.5 dB; f=10 Hz~50 kHz		
POWER BANDWIDTH	HALF POWER, THD+N ≤ 0.1% STEREO	RL=8Ω	10 Hz~40 kHz		
TOTAL HARMONIC DISTORTION (THD+N) f=20 Hz~20 kHz, HALF POWER					
	STEREO	RL=8 Ω	≤ 0.05%		
		RL=4 Ω	≤ 0.07%		
	BRIDGE	RL=8 Ω	≤ 0.07%		
INTERMODULATION DISTORTION (IMD) f=60 Hz: 7 kHz, 4:1, HALF POWER					
	STEREO	RL=8 Ω	≤ 0.05%		
		RL=4 Ω	≤ 0.07%		
	BRIDGE	RL=8 Ω	≤ 0.07%		
CHANNEL SEPARATION	HALF POWER, RL=8 Ω, f=1kHz ATT. max. Input 600 Ω shunt		≥ 80 dB		
RESIDUAL NOISE	DIN AUDIO		≤ −72 dB; ATT min.		
SIGNAL-TO-NOISE RATIO	DIN AUDIO, Input 600 Ω shunt		≥ 100 dB		
DAMPING FACTOR	RL=8 Ω, f=1 kHz		≥ 100	≥ 100	≥ 70
SLEW RATE 8 Ω FULL SWING					
	STEREO		±40V/μs		
	BRIDGE		±40V/μs		
SENSITIVITY (ATT max.) Rated Power into 8 Ω 1kHz			+4 dBm		
VOLTAGE GAIN (ATT max.) 8 Ω 1kHz			33 dB	31 dB	29 dB
INPUT IMPEDANCE (ATT max.)			≥ 15 kΩ (Balance/Unbalance)		
INDICATORS			POWER (STAND-BY) (Red) PROTECTION (MUTE) (Red) CLIP ×2 (Red) SIGNAL ×2 (Green)		
PROTECTION			Power SW ON/OFF muting Heatsink temp ≥ 100°C (212°F)		
PC LIMITER			RL < 2 Ω		
FAN CIRCUIT			— 50°C (122°F) — 60°C (140°F) — Low-speed — variable — Hi-speed		

CONTROLS	(FRONT) POWER SW; Push on/Push off Attenuator; 41-position dB calibrated (REAR) Mode SW; STEREO/BRIDGE = BTL		
POWER REQUIREMENT	UL & Canadian Models: 120 V, 60 Hz General Model: 230 V, 50 Hz British Model: 240 V, 50 Hz		
POWER CONSUMPTION	1000 W/1200 VA	750 W/1000 VA	500 W/600 VA
DIMENSIONS W × H × D	480 × 143.1 × 438.1 (mm) Panel height: 132 mm Depth behind front panel: 395 mm		
WEIGHT	26 kg	24 kg	18 kg
CONNECTORS	INPUT XLR-3-31 type × 2 1/4" Phone (balance) × 2 Barrier strip × 2 OUTPUT 5-way binding posts × 2 Barrier strip × 2		

0 dB = 0.775 Vrms, Half Power = 1/2 Power Output Level (Rated Power)

* Using reactive 2 Ω speakers at high power levels may cause overheating, excessive power consumption, and shutdowns. Please note that below 2 Ω the PC limiter will work. Before using 2 Ω speakers in a real application, test the system completely.

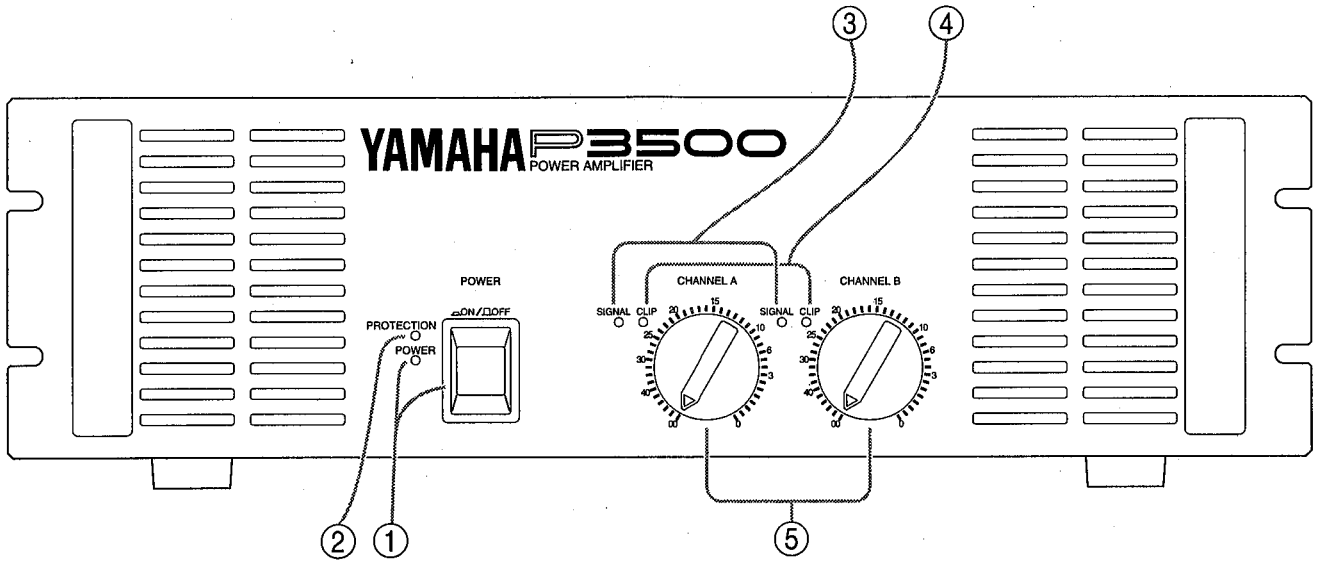
■ DIMENSIONS



Unit : mm

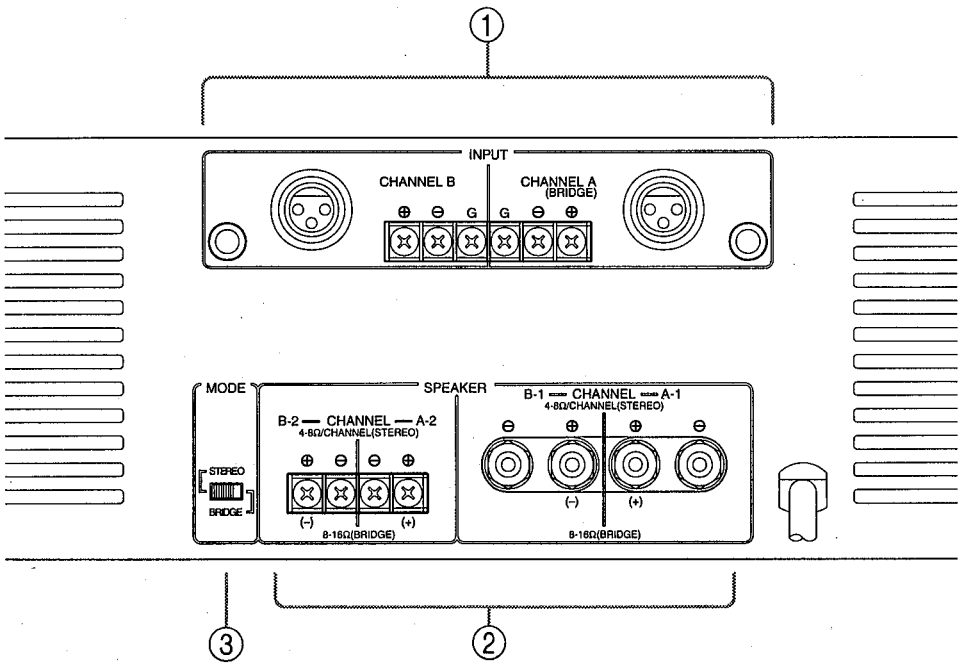
■ PANEL LAYOUT

• Front Panel



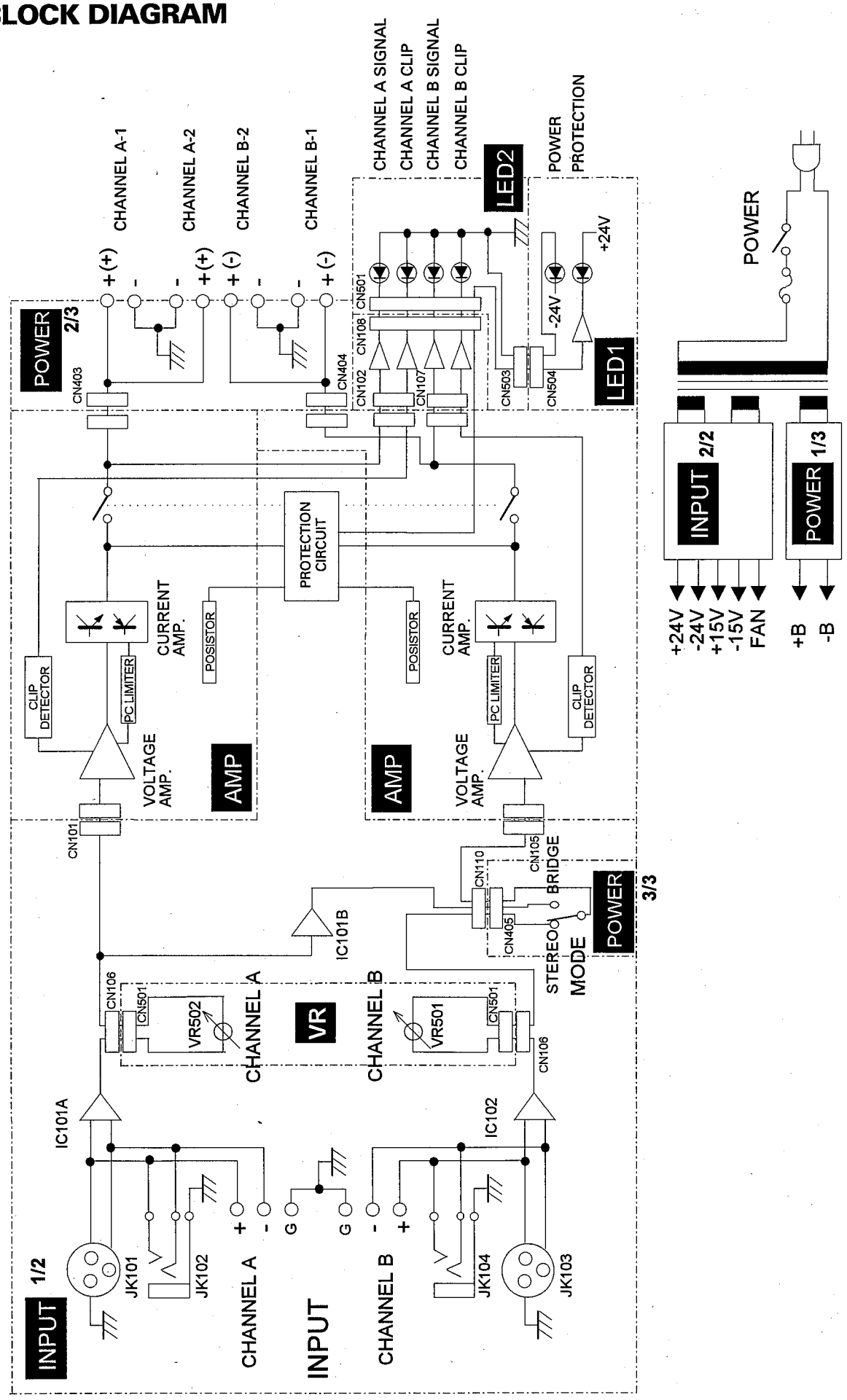
① POWER switch and indicator ② PROTECTION indicator ③ SIGNAL indicator
④ CLIP indicators ⑤ Input attenuators

• Rear Panel



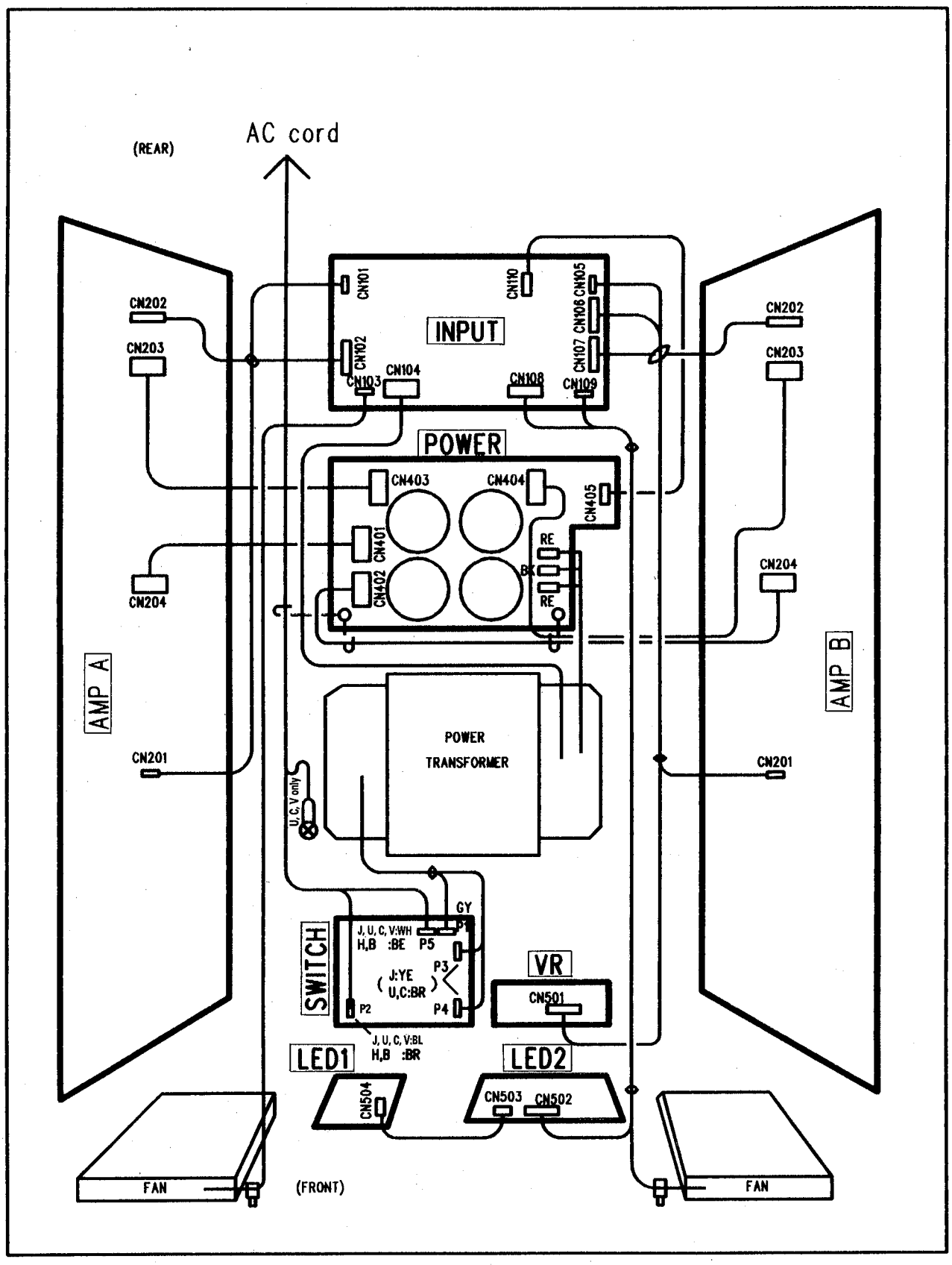
① INPUT terminals (CHANNEL A, B) ② SPEAKER terminals
③ STEREO-BRIDGE switch

■ BLOCK DIAGRAM

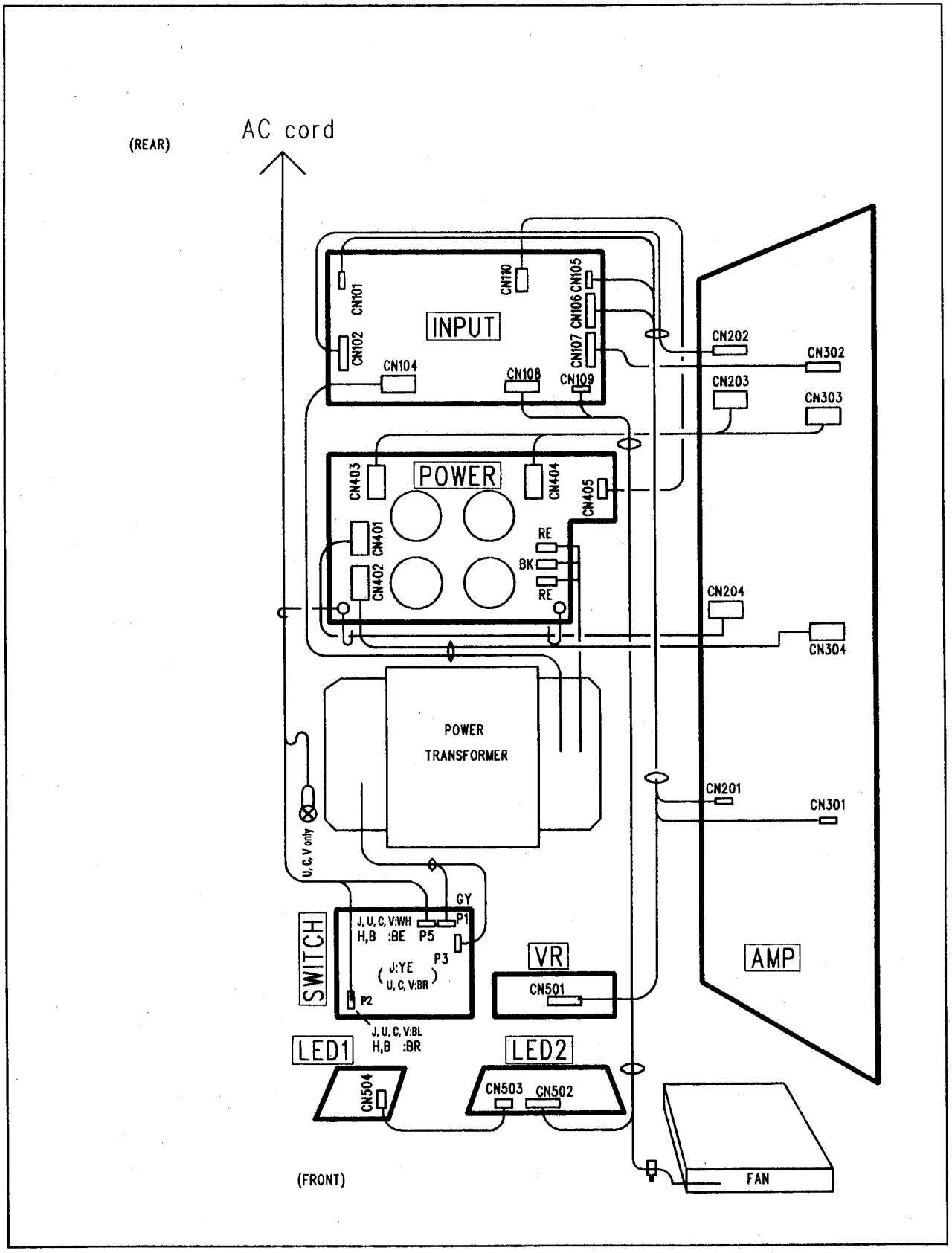


■ CIRCUIT BOARD LAYOUT & WIRING

• P3500, P2500



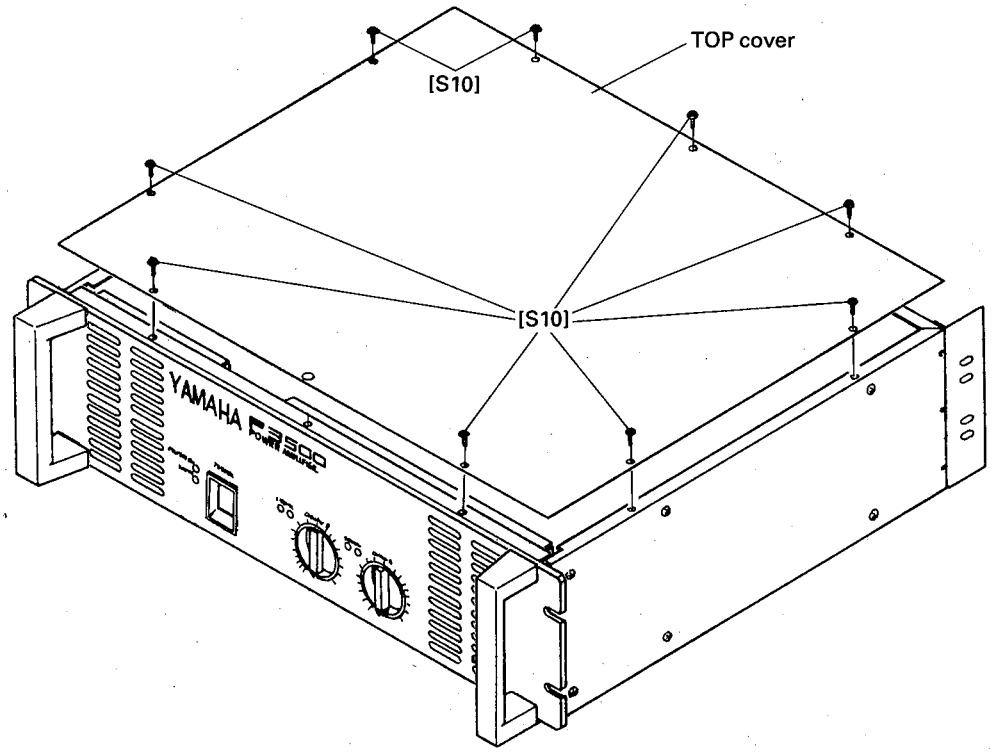
- **P1500**


(REAR)
AC cord
INPUT
CN101
CN102
CN104
CN110
CN105
CN106
CN107
CN108
CN109
POWER
CN403
CN404
CN405
CN401
CN402
RE
BK
RE
POWER
TRANSFORMER
U, C, V only
SWITCH
J, U, C, V:WH
H,B :BE
P5
P1
GY
P3
J:YE
U, C, V:BR
P2
J, U, C, V:BL
H,B :BR
VR
CN501
LED1
CN504
LED2
CN503
CN502
AMP
CN202
CN302
CN203
CN303
CN204
CN304
CN201
CN301
FAN
(FRONT)

■ DISASSEMBLY PROCEDURE

1. Top Cover

1-1. Remove the nine (9) screws marked [S10], then the top cover can be removed. (Fig. 1)



[S10]:Dot Screw #3BTC 3X8B (EX803020)

(Fig. 1)

2. AMP Circuit Board

2-1. Remove the top cover. (See procedure 1)

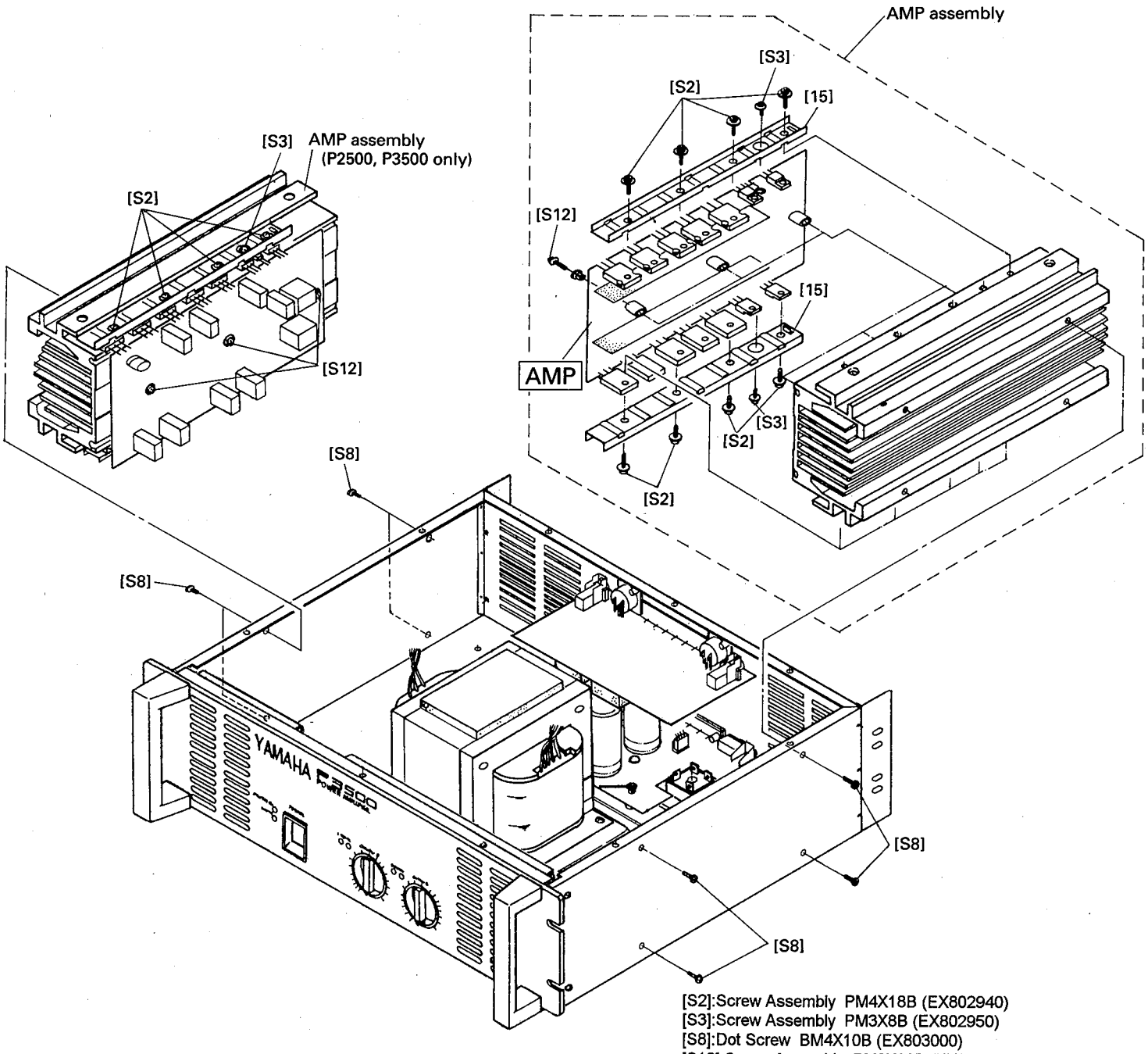
2-2. Remove the four (4) screws marked [S8], then separate the AMP assembly from the side panel. (Fig. 2)

2-3. Remove the eight (8) screws marked [S2], then the two (2) bracket TR marked [15] can be removed. (Fig. 2)

2-4. Remove the two (2) screws marked [S3]. (Fig. 2)

2-5. Remove the three (3) screws marked [S12], then the AMP circuit board can be removed from the AMP assembly. (Fig .2)

Note) P3500,P2500: 2 X AMP Assembly (AMP C.B.)
P1500: 1 X AMP Assembly (AMP C.B.)

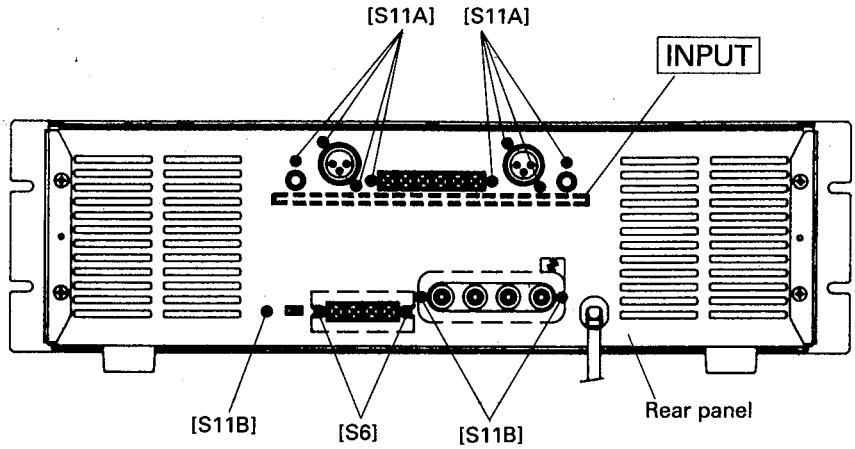


[S2]:Screw Assembly PM4X18B (EX802940)
[S3]:Screw Assembly PM3X8B (EX802950)
[S8]:Dot Screw BM4X10B (EX803000)
[S12]:Screw Assembly PM3X22B (EX802890)

(Fig. 2)

3. INPUT Circuit Board

3-1. Remove the top cover. (See procedure 1)
3-2. Remove the eight (8) screws marked [S11A], then the INPUT circuit board can be removed. (Fig. 3)

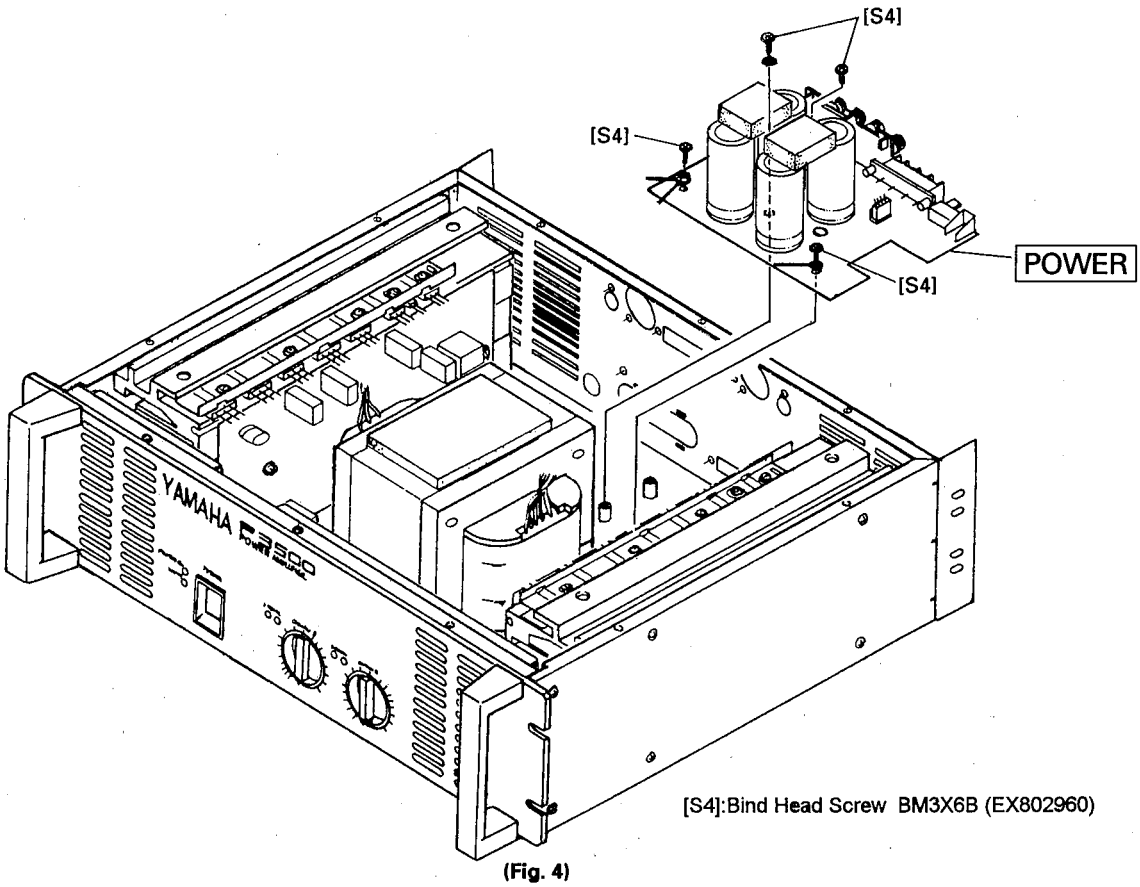


[S6]:Bind Head Tapping Screw #2BTC 3X10B (EX802980)
[S11A][S11B]:Dot Screw #2BTC 3X10B (EX802880)

(Fig. 3)

4. POWER Circuit Board

4-1. Remove the top cover. (See procedure 1)
4-2. Remove the INPUT circuit board. (See procedure 3)
4-3. Remove the two (2) screws marked [S6]. (Fig. 3)
4-4. Remove the three (3) screws marked [S11B]. (Fig. 3)
4-5. Remove the four (4) screws marked [S4], then the POWER circuit board can be removed. (Fig. 4)



[S4]:Bind Head Screw BM3X6B (EX802960)

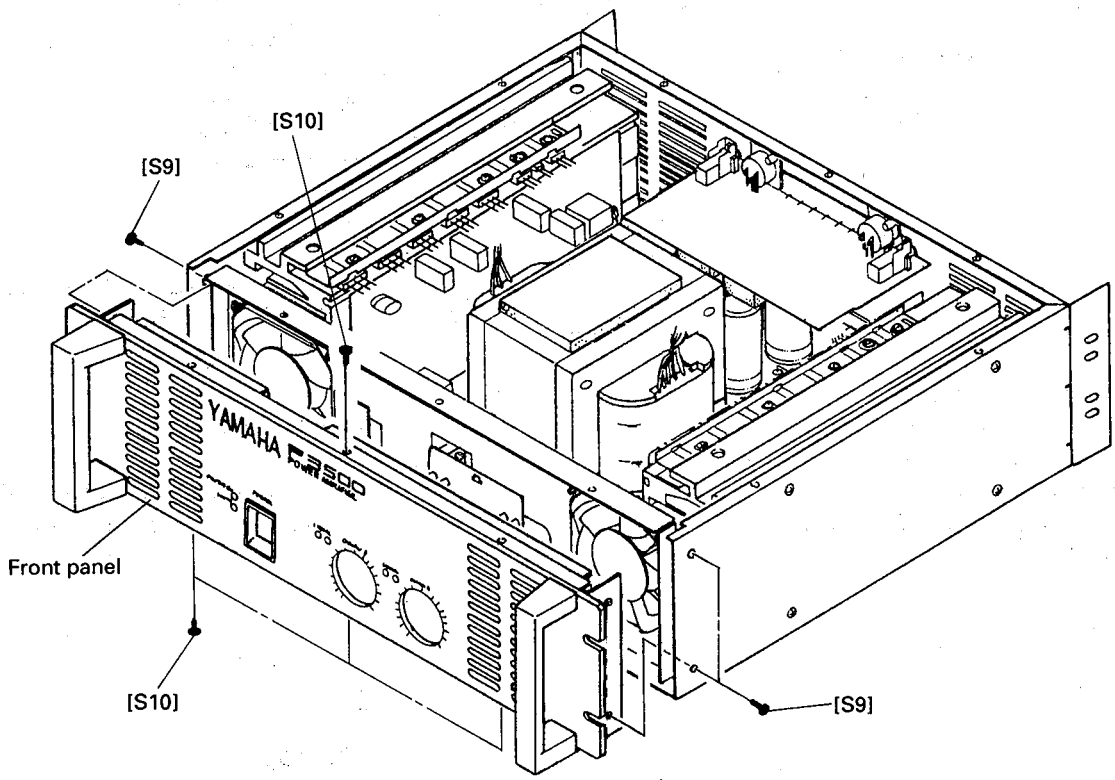
(Fig. 4)

5. Front Panel

5-1. Remove the top cover. (See procedure 1)

5-2. Remove the four (4) screws marked [S10]. (Fig. 5)

5-3. Remove the four (4) screws marked [S9], then the front panel can be removed. (Fig. 5)



[S9]:Dot Screw #3BTC 4X8B (EX802990)
[S10]:Dot Screw #3BTC 3X8B (EX803020)

(Fig. 5)

6. SWITCH Circuit Board

6-1. Remove the top cover. (See procedure 1)
6-2. Remove the front panel. (See procedure 5)
6-3. Remove the power switch knob. (Fig. 6)
6-4. Remove the two (2) screws marked [S4], then the SWITCH circuit board can be removed. (Fig. 6)

7. LED1 Circuit Board

7-1. Remove the top cover. (See procedure 1)
7-2. Remove the front panel. (See procedure 5)
7-3. Remove the one (1) screw marked [S5A], then the LED1 circuit board can be removed. (Fig. 6)

8. LED2 Circuit board

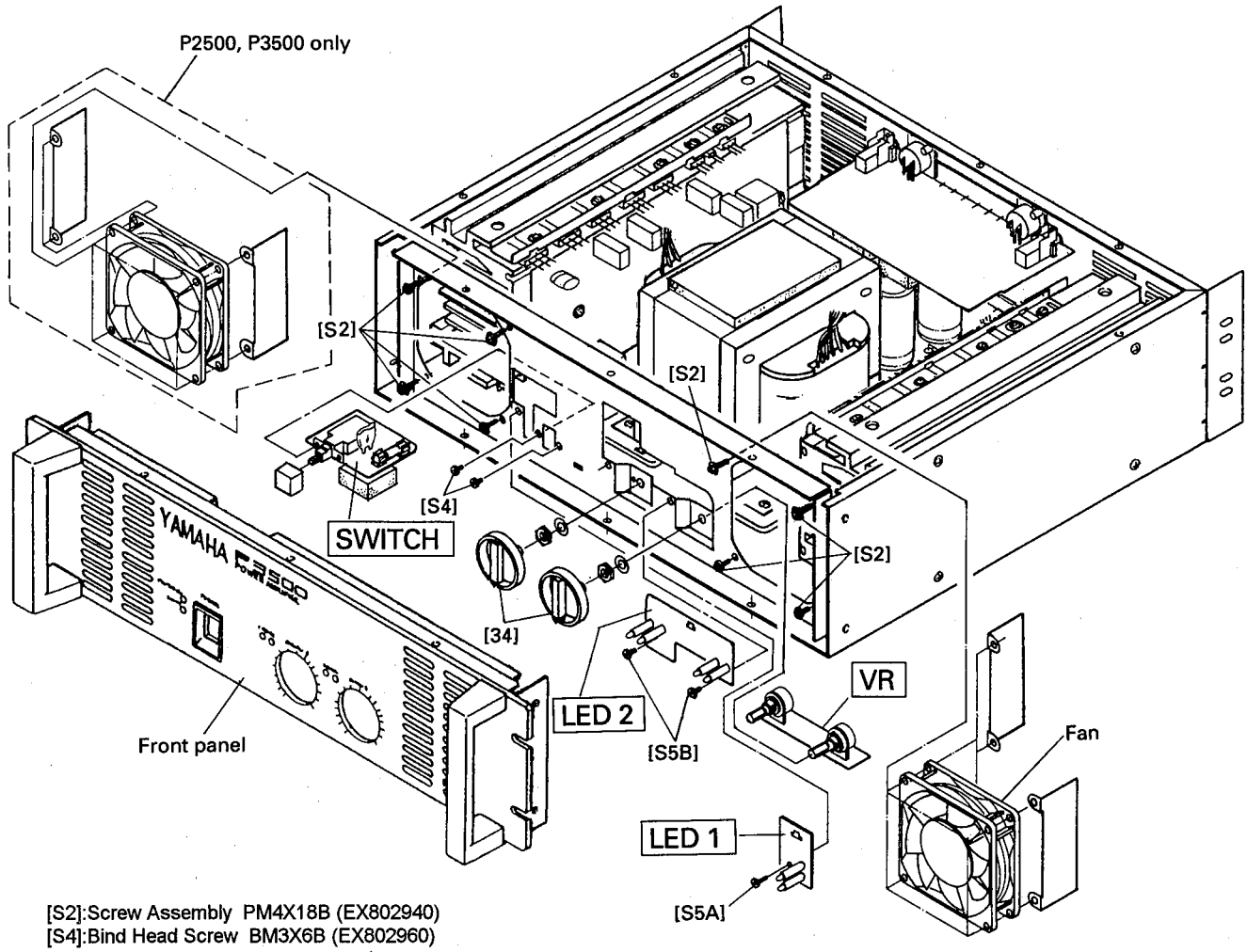
8-1. Remove the top cover. (See procedure 1)
8-2. Remove the front panel. (See procedure 5)
8-3. Remove the two (2) screws marked [S5B], then the LED2 circuit board can be removed. (Fig. 6)

9. VR Circuit Board

9-1. Remove the top cover. (See procedure 1)
9-2. Remove the front panel. (See procedure 5)
9-3. Remove the rotary knobs marked [34]. (Fig. 6)
9-4. Remove the two (2) nuts retaining the variable resistors, then the VR circuit board can be removed. (Fig. 6)

10. FAN

10-1. Remove the top cover. (See procedure 1)
10-2. Remove the front panel. (See procedure 5)
10-3. Remove the four (4) screws marked [S2], then the fan can be removed. (Fig. 6)

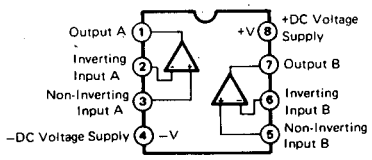


[S2]:Screw Assembly PM4X18B (EX802940)
[S4]:Bind Head Screw BM3X6B (EX802960)
[S5A][S5B]:Bind Head Screw 3X6B (EX802970)

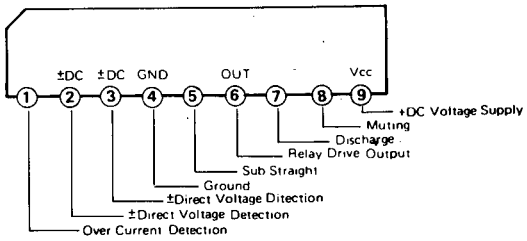
(Fig. 6)

■ IC BLOCK DIAGRAM

- **M5238P** (XA013A00)
  Dual Operational Amplifier



- **TA7317P** (IG034800)
  Relay Driver



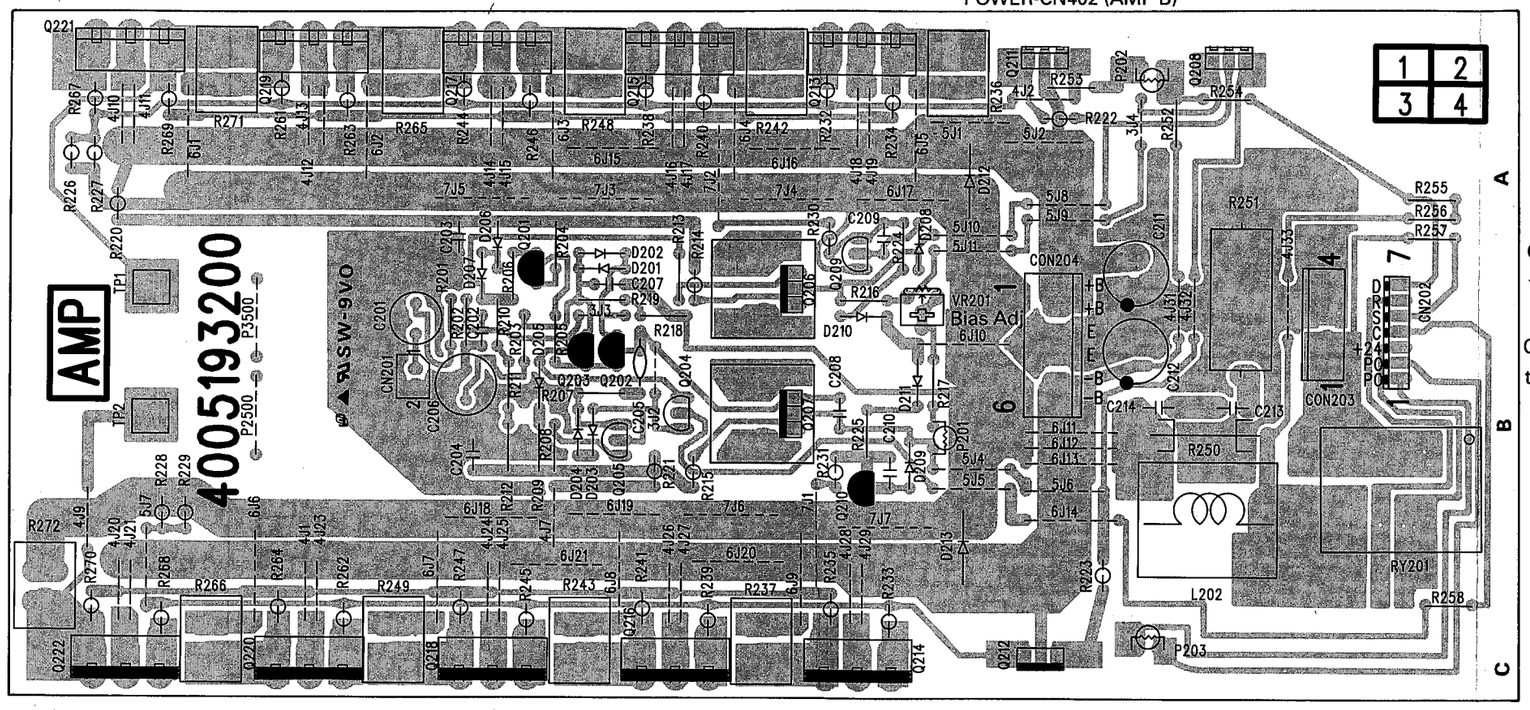
P3500/P2500/P1500

■ CIRCUIT BOARDS

• AMP Circuit Board (P3500, P2500)

CN204:
to POWER-CN401 (AMP A)
POWER-CN402 (AMP B)

CN201:
to INPUT-CN101 (AMP A)
INPUT-CN105 (AMP B)



CN203:
to POWER-CN403 (AMP A)
POWER-CN404 (AMP B)

CN202:
to INPUT-CN102 (AMP A)
INPUT-CN107 (AMP B)

Components side

Notes)

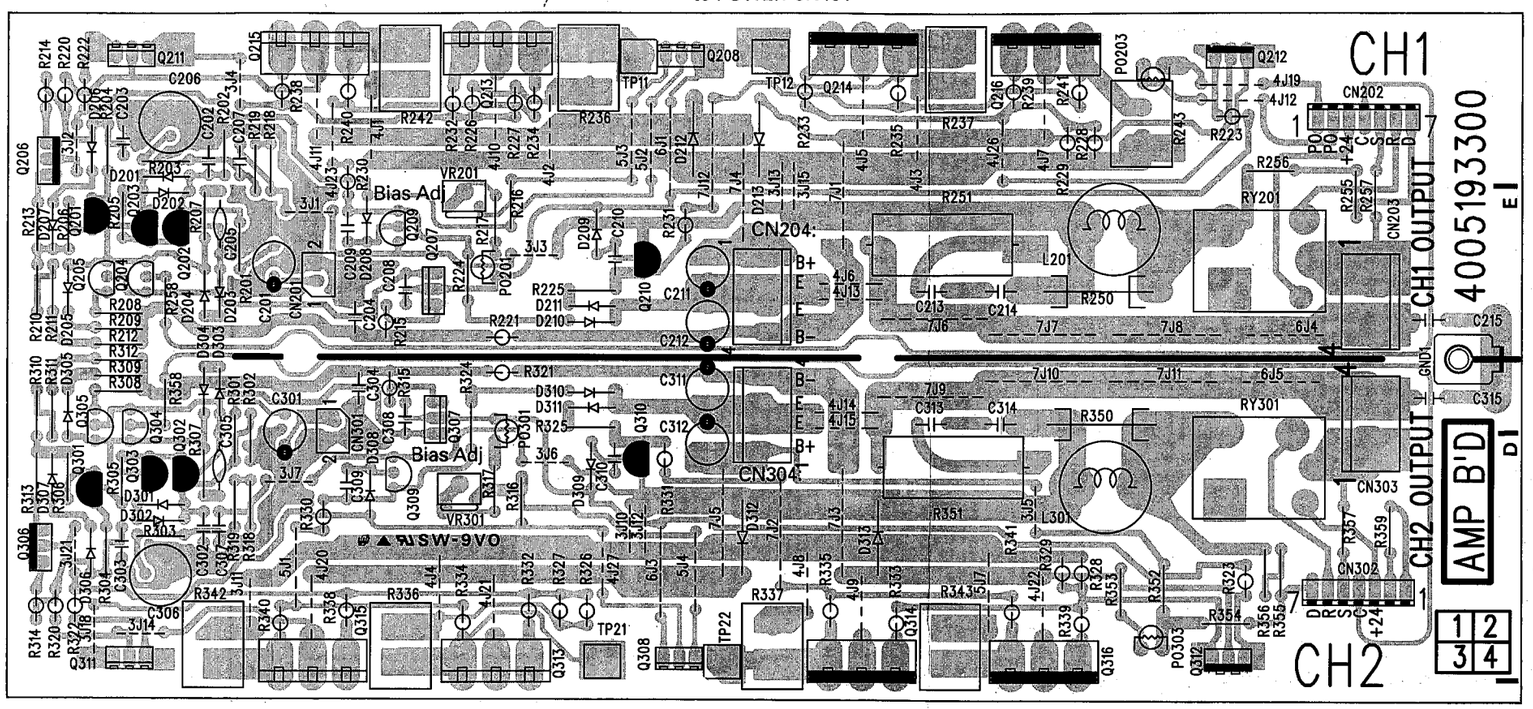
Circuit Board: AMP P3500 (NX814290) U,C,V,H,B
Circuit Board: AMP P2500 (NX814270) U,C,V,H,B

1. Electrolytic Cap.
   - C201: AF 47.0 16V (FX802460)
   - C211,212: AF 4.7 100V (FX802440) P2500
   - C211,212: AF 4.7 160V (FX802450) P3500
2. Monolithic Capacitor
   - C202: MO 470P (FX802590)
3. Mylar Cap.
   - C203,204,213, 214: MA 0.1 100V K (FX802550)
   - C209,210: MA 0.0022 100V (FX802360)
4. Polypropylene Film Cap.
   - C205: NPP POLY 1500P (FX802600)
5. Electrolytic Cap.-BP
   - C206: AF 100.0 25V (FX802470)
6. Maica Cap.
   - C207: MI 22P 500V (FX802580) P2500
   - C207: MI 15P 500V (FX802570) P3500
   - C208: MI 5P 500V (FX802560)
7. Carbon Resistor
   - R201: CF 270.0 1/4 J (HF755270)
   - R202: CF 47.0K 1/4 J (HF757470)
   - R204,208,209: CF 560.0 1/4 J (HF755560)
   - R205: CF 12.0K 1/4 J (HF757120)
   - R206: CF 1.0K 1/4 J (HF756100)
   - R207: CF 220.0 1/4 J (HF755220)
   - R210,211,212, 257: CF 68.0K 1/4 J (HF757680)
   - R213: CF 10.0 1/4 J (HF754100)
   - R216: CF 1.8K 1/4 J (HF756180)
   - R217: CF 470.0 1/4 J (HF755470)
   - R224,225: CF 82.0K 1/4 J (HF757680)
   - R252,253: CF 100.0K 1/4 J (HF758100)
   - R254: CF 180.0K 1/4 J (HF758180)
   - R255,256: CF 22.0K 1/4 J (HF757220)
   - R258: CF 220.0K 1/4 J (HF758220)
8. Metal Film Resistor
   - R203: MF 1K 1/2 F (HX807690) P2500
   - R203: MF 820 1/2 F (HX807710) P3500
   - R218,219: MF 22.0K 1/2 F (HX807670)
9. Fuse Resistor
   - R214,215: NFR 82.0 1/4 J (HX807790)
   - R220,221: NFR 10.0 1/4 J (HX807760)
   - R222,223,226,227, 228,229: NFR 220.0 1/4 J (HX807770)
   - R230,231: NFR 3.3K 1/4 J (HX807780)
   - R232,233,244,245, 267,268: NFR 4.7 1/4 J (HX807540)
   - R234,235,246,247, 269,270: NFR 100.0 1/4 J (HX807760)
10. Wire Wound Resistor
    - R236,237,248,249, 271,272: CE 0.47 5W J (HX807730)
    - R251: CE 10.0 5W J (HX807740)
11. Metal Oxide Film Resistor
    - R250: MO 4.7 2W J (HX807720)
12. Transistor
    - Q201,202,203, 210: 2SA1268 KTA970 (IX807300)
    - Q204,205, 209: 2SC3200 KTC2240BL (IX807160)
    - Q206: 2SA1546 (IX807290)
    - Q207: 2SC4001 (IX807310)
    - Q208,211: 2SC4370 KTC4370A (IX807170)
    - Q212: 2SA1659 (IX807340)
    - Q213,217,221: 2SD2155 (IX807350) P2500
    - Q213,215,217, 219,221: 2SC4029 (IX807360) P3500
    - Q214,218,222: 2SB1429 (IX807320) P2500
    - Q214,216,218,220, 222: 2SA1553 (IX807330) P3500
13. Diode
    - D201,202,203,204, 205,206,207,208, 209: 1N4148 (IX807210)
    - D210,211: 1SS142 (IX807390)
    - D212,213; PS2010 (IX807370)
14. Coil
    - L201: 2uH (GX803940)
15. Positive Thermistor
    - PO201: PTH59F04BE471TS (IX807420)
    - PO202: PTH9M04BE222TS2 (IX807410)
    - PO203: PTH9M04BH471TS (IX807430)
16. Relay
    - RY201: RLY31H42 (KX804080)
17. Terminal
    - TP1,2: CNT1P (BX800850)
18. Trimmer Potentiometer
    - VR201: 470B (HX807810) IDLE CURRENT ADJ.
19. Connector
    - CN201: MOX2P (LX803380)
    - CN203: 11434P (LX803420)
    - CN204: 11436P (LX803440)
20. Connector Assembly
    - CN202: 7P (LX803330)
21. Heat Sink
    - (BX800870)
22. Bind Head Tapping Screw
    - #2BTC 3X6 Y (EX803110)

P3500/P2500/P1500

• AMP Circuit Board (P1500)

CN204:
to POWER-CN401



CN202:
to INPUT-CN102

CN203:
to POWER-CN403

CN303:
to POWER-CN404

CN302:
to INPUT-CN107

CN304: to POWER-CN402

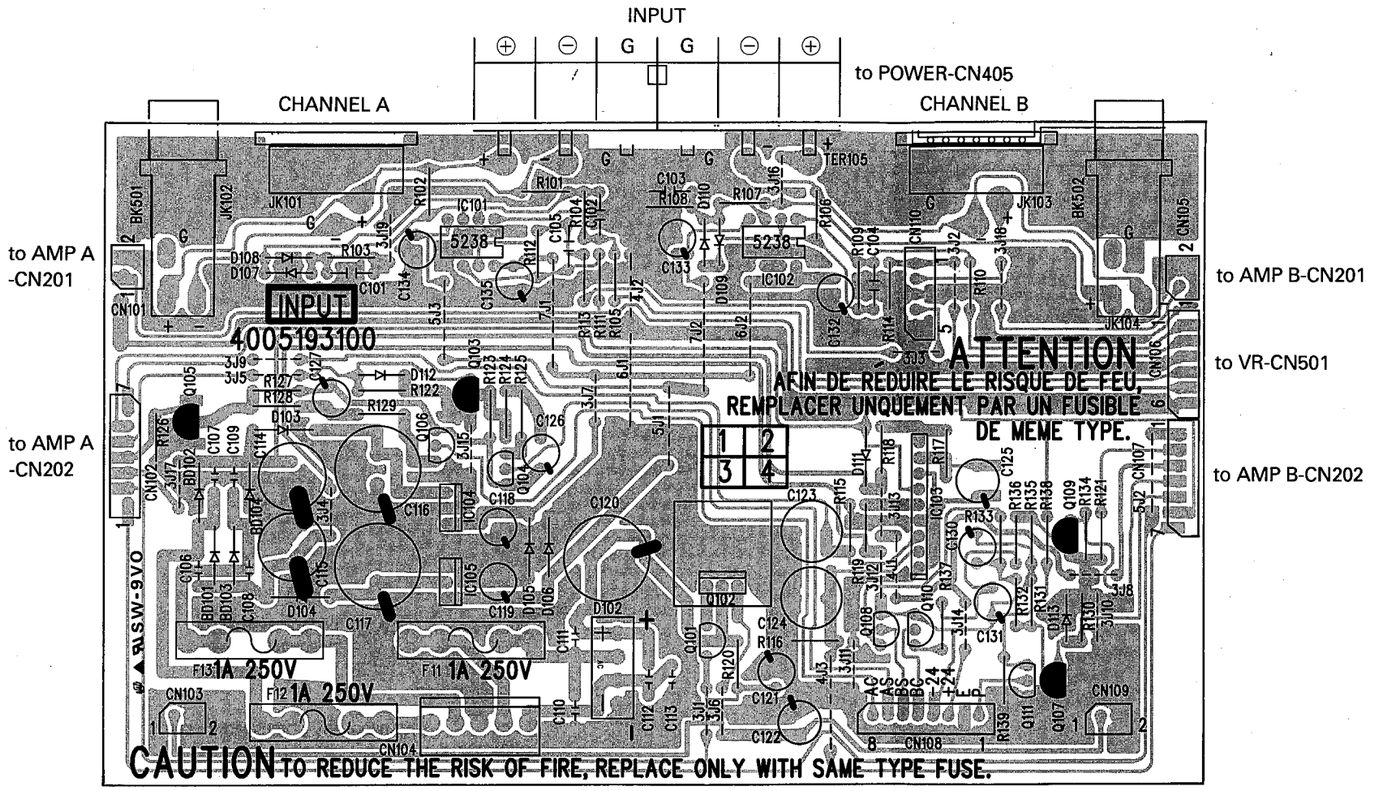
Components side

Notes)
Circuit Board: AMP P1500 (NX814250) U,C,V,H,B

1. Electrolytic Cap.
   C201,301: AF 47.0 16V (FX802460)
   C211,212,311,
   312: AF 4.7 100V (FX802440)
2. Electrolytic Cap.-BP
   C206,306: AF 100.0 25V (FX802470)
3. Monolithic Capacitor
   C202,302: MO 470P (FX802590)
4. Mylar Cap.
   C203,204,213,
   214,303,304,
   313,314: MA 0.1 100V K (FX802550)
   C209,210,309,
   310: MA 0.0022 100V (FX802360)
5. Polypropylene Film Cap.
   C205,305: NPP POLY 1500P (FX802600)
6. Maica Cap.
   C207,307: MI 22P 500V P2500 (FX802580)
   C208,308: MI 5P 500V (FX802560)
7. Ceramic Capcitor
   C215,315: CE 0.01 50V (FX802530)
8. Carbon Resistor
   R201,301: CF 270.0 1/4 J (HF755270)
   R202,210,211,
   212,302,310,
   311,312: CF 47.0K 1/4 J (HF757470)
   R204,208,209,304,
   308,309: CF 560.0 1/4 J (HF755560)
   R205,305: CF 12.0K 1/4 J (HF757120)
   R206,306: CF 1.0K 1/4 J (HF756100)
   R207,307: CF 120.0 1/4 J (HF755120)
   R213,313: CF 10.0 1/4 J (HF754100)
   R216,316: CF 1.8K 1/4 J (HF756180)
   R217,317,359: CF 470.0 1/4 J (HF755470)
   R224,225,324,
   325: CF 56.0K 1/4 J (HF757560)
   R255,256,355,
   356: CF 22.0K 1/4 J (HF757220)
   R257,357: CF 68.0K 1/4 J (HF757680)
   R258,358: CF 220.0K 1/4 J (HF758220)
   R352,353: CF 100.0K 1/4 J (HF758100)
   R354: CF 180.0K 1/4 J (HF758180)
9. Metal Film Resistor
   R203,303: MF 1.2K 1/2 F (HX807700)
   R218,219,318,
   319: MF 22.0K 1/2 F (HX807670)
10. Fuse Resistor
    R214,215,314,
    315: NFR 82.0 1/4 J (HX807790)
    R220,221,320,
    321: NFR 10.0 1/4 J (HX807760)
    R222,223,226,227,
    228,229,322,323,
    326,327,328,
    329: NFR 220.0 1/4 J (HX807770)
    R230,231,330,
    331: NFR 3.3K 1/4 J (HX807780)
    R232,233,238,239,
    332,333,338,
    339: NFR 4.7 1/4 J (HX807540)
    R234,235,240,241,
    334,335,340,
    341: NFR 100.0 1/4 J (HX807760)
11. Wire Wound Resistor
    R236,237,242,243,
    336,337,342,
    343: CE 0.47 5W J (HX807730)
    R251,351: CE 10.0 5W J (HX807740)
12. Metal Oxide Film Resistor
    R250,350: MO 4.7 2W J (HX807720)
13. Transistor
    Q201,202,203,
    210,301,302,
    303,310: 2SA1268 KTA970 (IX807300)
    Q204,205,209,304,
    305,309: 2SC3200 KTC2240BL (IX807160)
    Q206,306: 2SA1546 (IX807290)
    Q207,307: 2SC4001 (IX807310)
    Q208,211,308,
    311: 2SC4370 KTC4370A (IX807170)
    Q212,312: 2SA1659 (IX807340)
    Q213,215,313,
    315: 2SD2155 (IX807350)
    Q214,216,314,
    316: 2SB1429 (IX807320)
14. Diode
    D201,202,203,204,
    205,206,207,208,
    209,301,302,303,
    304,305,306,307,
    308,309: 1N4148 (IX807210)
    D210,211,310,
    311: 1SS142 (IX807390)
    D212,213,312,
    313: PS2010 (IX807370)
15. Positive Thermistor
    PO201,301: PTH59F04BE471TS (IX807420)
    PO302: PTH9M04BE222TS2 (IX807410)
    PO203: PTH9M04BH471TS (IX807430)
16. Coil
    L201,301: 1.2uH (GX803950)
17. Relay
    RY201,301: HR703V DC24V (KX804090)
18. Trimmer Potentiometer
    VR201,301: 470B (HX807810) IDLE CURRENT ADJ.
19. Terminal
    TP11,12,21,22:CNT1P (BX800850)
20. Connector
    CN201,301: MOX2P (LX803380)
    CN203,204,303,
    304: 11434P (LX803420)
21. Connector Assembly
    CN202: 7P (LX803330)
    CN302: 7P (LX803340)
22. Ground Terminal
    GND1: (BX800840)

P3500/P2500/P1500

• INPUT Circuit Board (P3500, P2500, P1500)



CN103: to Fan 1 (Left) CN104: to Power Transformer Secondary CN108: to LED2-CN502 CN109: to Fan 2 (Right)

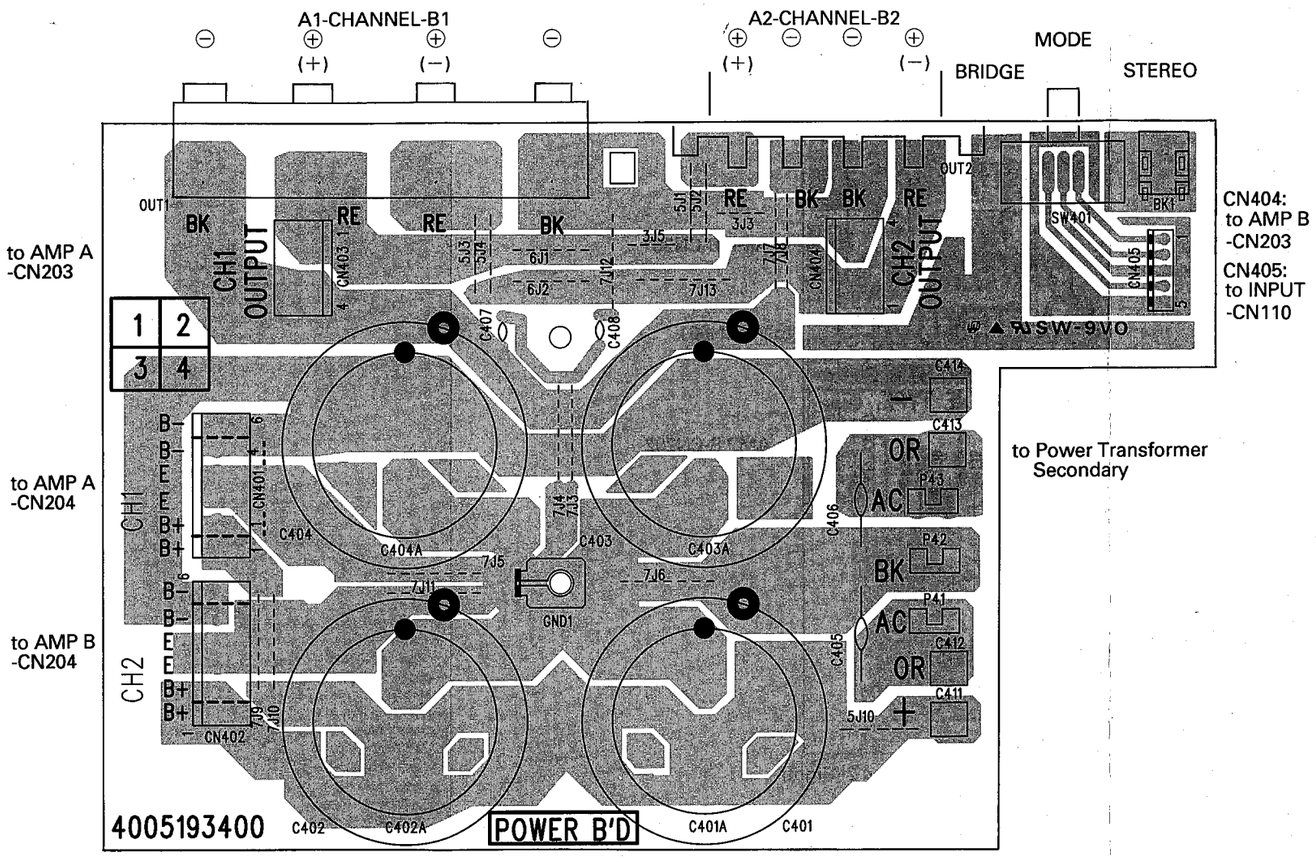
Components side

Notes)
Circuit Board: INPUT (NX814920) U,C,V
Circuit Board: INPUT (NX814930) H,B

1. Ceramic Capacitor-SL
   C101,102,103, 104: CE SL 56P 50V J (FG651560)
   C105: CE SL 10P 50V J (FG651100)
2. Ceramic Capacitor
   C106,107,108,109, 110,111,112, 113: CE F 4700P 500V Z (FX802540)
3. Electrolytic Cap.
   C114,115: AF 220.0 50V (FX802420)
   C116,117: RSA 470.0 35V (FX802410)
   C118,119,121,132, 133,138,139: AF 10.0 50V (FX802110)
   C120: RSA 1000.0 25V (FX802400)
   C122,125: AF 100.0 25V (FX802120)
   C126,127,131, 133: AF 0.22 50V (FX802430)
4. Electrolytic Cap.-BP
   C123,124: AF 100.0 25V (FX802470)
5. Metal Film Resistor
   R101,102,106, 107: MF 15.0K 1/2 F (HX807660)
   R103,104,108, 109: MF 12.0K 1/2 F (HX807650)
   R111,112,114: MF 51.0K 1/2 F (HX807680)
6. Carbon Resistor
   R105,110,113: CF 47.0 1/4 J (HF754470)
   R115,116,122,123, 125,127,129,130, 131,133,135, 137: CF 22.0K 1/4 J (HF757220)
   R117: CF 100.0K 1/4 J (HF758100)
   R118,119: CF 8.2K 1/4 J (HF756820)
   R120: CF 680.0 1/4 J (HF755680)
   R121: CF 560.0 1/4 J (HF755560)
   R124,128,132, 136: CF 220.0 1/4 J (HF755220)
   R126,134: CF 10.0K 1/4 J (HF757100)
   R138: CF 47.0K 1/4 J (HF757470)
   R139: CF 6.8K 1/4 J (HF756680)
7. IC
   IC101,102: M5238P OP AMP (XA013A00)
   IC103: TA7317P RELAY DRI. (IG034800)
   IC104: 7815FA REG. 15 (XD853A00)
   IC105: 7915FA REG.-15 (XD854A00)
8. Transistor
   Q101,104,106,108, 110,111: 2SC3200 KTC2240BL (IX807160)
   Q102: 2SC4370 KTC4370A (IX807170)
   Q103,105,107, 109: 2SA1268 KTA970 (IX807300)
9. Diode
   BD101,102,103,104, D103,104,105, 106: 1N4006 LT1N4006 (IX807200)
   D107,108,109,110, 112,113: 1N4148 (IX807210)
10. Diode Bridge
    D102: KBP152 (IX807380)
11. Fuse
    F11,12,13: 1A/250V (KX803910) U,C,V
    1A/250V (KX804000) H,B
12. XLR, Jack, (F)
    JK101,103: (LX803050) INPUT
13. Phone Connector
    JK102,104: AM-8003 (LX803220) INPUT
14. Connector
    CN101,103,105, 109: MOX2P (LX803380)
    CN102,107: MOX7P (LX803410)
    CN104: 11435P (LX803430)
    CN106: MOX6P (LX803400)
    CN108: MOX8P (LX803260)
    CN110: MOX5P (LX803390)
15. Screw Terminal
    TER105: 6P (LX803030) INPUT
16. Bracket, Jack
    BK501,502: (AX814160)
17. Fuse Holder
    CLIP (CX814150) H,B
18. Heat Sink
    (BX800860)
19. Bind Head Tapping Screw
    #2BTC 3X6 Y (EX803110)

P3500/P2500/P1500

• POWER Circuit Board (P3500, P2500, P1500)



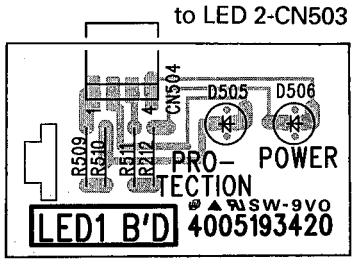
Components side

Notes)

Circuit Board: POWER P3500 (NX814960)
Circuit Board: POWER P2500 (NX814950)
Circuit Board: POWER P1500 (NX814940)

1. Electrolytic Cap.
   C401,402,403, 404: AF 6800 80V (FX802480) P1500
   C401,402,403, 404: AF 6800 100V (FX802510) P2500
   C401,402,403, 404: AF 9000 110V (FX802520) P3500
   C405,406: POL 0.47 250 (FX802500)
2. Ceramic Cap.
   C407,408: CE 0.01 50V (FX802530)
3. Slide Switch
   SW401: SSP322SB011 (KX803990) MODE
4. Bracket, PCB
   BK1: (AX814170)
5. Ground Terminal
   GND1: (BX800840)
6. DC terminal
   OUT1: 4P (LX803020) CHANNEL A-1,B-1
7. Screw Terminal
   OUT2: 4P (LX803040) CHANNEL A-2,B-2
8. Terminal
   P41,42,43: 250T (LX803240)
9. Connector
   CN401,402: 11436P (LX803440)
   CN403,404: 11434P (LX803420)
10. Connector Assembly
    CN405: 5P (LX803310)
    ORANGE (LX803280)
    RED (LX803300)
    BLACK (LX803290)

• LED 1 Circuit Board (P3500, P2500, P1500)

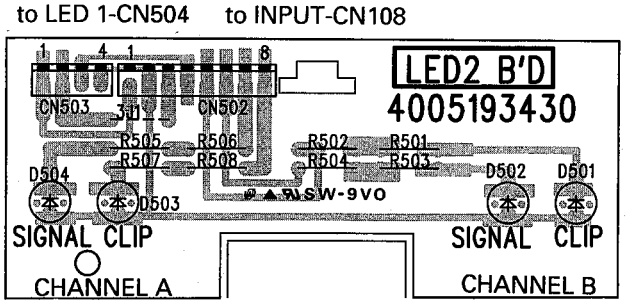


Components side

Notes)
Circuit Board: LED1 (NX814970)

1. Connector
   CN504: MOLEX4PN (LX803370)
2. LED
   D505,506: SLR-34UR R3 RE (IX807250)
   POWER,PROTECTION
3. Carbon Resistor
   R509,510,511,
   512: CF 1.5K 1/4 J (HF756150)
4. LED Limiter
   (IX807130)

• LED 2 Circuit Board (P3500, P2500, P1500)

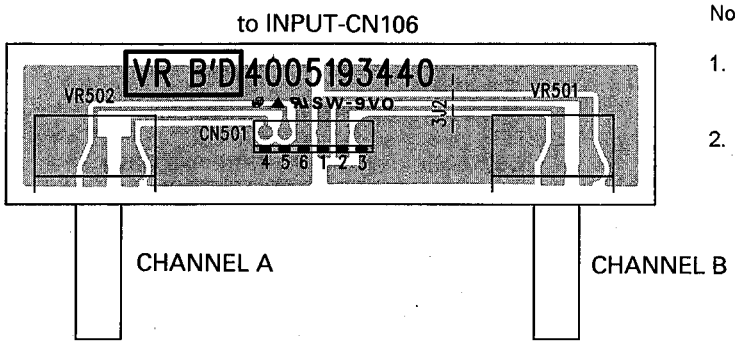


Components side

Notes)
Circuit Board: LED2 (NX814980)

1. Connector Assembly
   CN502: 8P (LX803350)
   CN503: 4P (LX803320)
2. LED
   D501,503: SLR-34UR R3 RE (IX807250) CLIP
   D502,504: EL 204GD R3 GR (IX807400) SIGNAL
3. Carbon Resistor
   R501,502,503,504,
   505,506,507,
   508: CF 1.5K 1/4 J (HF756150)
4. LED Limiter
   (IX807130)

• VR Circuit Board (P3500, P2500, P1500)

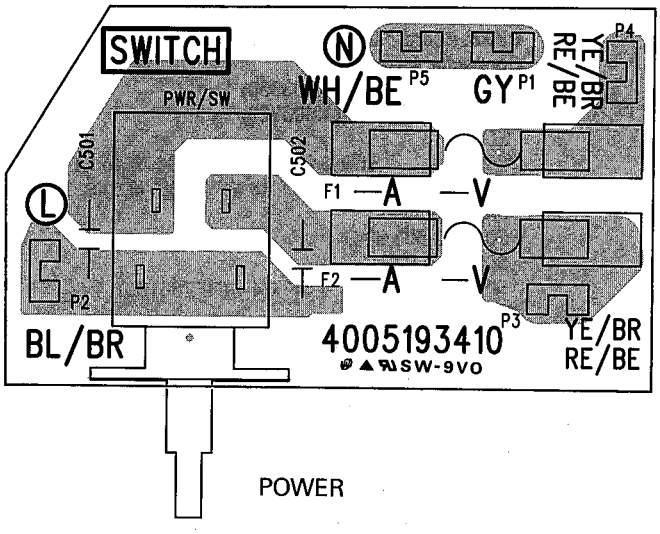


Components side

Notes)
Circuit Board: VR (NX814990)
1. Rotary Variable Resistor
VR501,502: RK16311605A6-5KA (HX807800) CHANNEL A,B
2. Connector
CN501: CON6P (LX803360)

Notes)
Circuit Board: SWITCH P3500 (NX814890) U,C,V
Circuit Board: SWITCH P3500 (NX814900) H,B
1. Ceramic Cap.
C501,502: CE 0.01 400V (FX802340)
2. Push Switch
(KX803820) POWER
3. Fuse
F1,2: 10A/125V (KX804050) U,C,V
4A/250V (KX804020) H,B
4. Fuse Holder
CLIP (CX814140) J,U,C,V
CLIP (CX814150) H,B
5. Tube, Capacitor
(FX802610) H,B
6. Terminal
P1,2,3,4,5: 250T (LX803240)

• SWITCH Circuit Board (P3500, P2500, P1500)



Components side

Notes)
Circuit Board: SWITCH P2500 (NX814860) U,C,V
Circuit Board: SWITCH P2500 (NX814870) H,B
1. Ceramic Cap.
C501,502: CE 0.01 400V (FX802340)
2. Push Switch
(KX803820) POWER
3. Fuse
F1,2: 7A/125V (KX804030) U,C,V
3.15A/250V (KX804010) H,B
4. Fuse Holder
CLIP (CX814140) J,U,C,V
CLIP (CX814150) H,B
5. Tube, Capacitor
(FX802610) H,B
6. Terminal
P1,2,3,4,5: 250T (LX803240)

Notes)
Circuit Board: SWITCH P1500 (NX814830) U,C,V
Circuit Board: SWITCH P1500 (NX814840) H,B
1. Ceramic Cap.
C501: CE 0.01 400V (FX802340)
2. Push Switch
(KX803820) POWER
3. Fuse
F1: 10A/125V (KX804050) U,C,V
4A/250V (KX804020) H,B
4. Fuse Holder
CLIP (CX814140) J,U,C,V
CLIP (CX814150) H,B
5. Tube, Capacitor
(FX802610) H,B
6. Terminal
P1,2,3,4,5: 250T (LX803240)

■ INSPECTIONS

MEASUREMENT EQUIPMENT

Oscilloscope, AC Volt Meter (Level Meter), Distortion Meter

CONDITION

AC Voltage: Less than ± 10 %

METHOD

1. POWER OUTPUT LEVEL

MODEL	INPUT	METHOD	STANDARD
P3500	Sine Wave 1 kHz, 20 Hz, 20 kHz CHANNEL A, B (Both channels working)	Measure T.H.D. when input signal is adjusted to the following; STEREO 8 ohm: 52.92 V STEREO 4 ohm: 44.73 V BRIDGE MONO 8 ohm: 89.45 V ATT: Max.	Less than 0.1 % T.H.D.
P2500		Same as P3500. STEREO 8 ohm: 44.73 V STEREO 4 ohm: 37.42 V BRIDGE MONO 8 ohm: 74.84 V ATT: Max.	
P1500		Same as P3500. STEREO 8 ohm: 34.65 V STEREO 4 ohm: 28.99 V BRIDGE MONO 8 ohm: 57.97 V ATT: Max.	

2. POWER BAND WIDTH

MODEL	INPUT	METHOD	STANDARD
P3500	Sine Wave 1 kHz, 10 Hz, 40 kHz CHANNEL A, B (Both channels working)	Measure T.H.D. when input signal is adjusted to the following; STEREO 8 ohm, 175 W, (37.42 V) BRIDGE MONO 8 ohm, 500 W, (63.25 V) ATT: Max.	Less than 0.1 % T.H.D.
P2500		Same as P3500. STEREO 8 ohm, 125 W, (31.63 V) BRIDGE MONO 8 ohm, 350 W, (52.92 V) ATT: Max.	
P1500		Same as P3500. STEREO 8 ohm, 75 W, (24.50 V) BRIDGE MONO 8 ohm, 210 W, (40.99 V) ATT: Max.	

3. T.H.D.

MODEL	INPUT	METHOD	STANDARD
P3500	Sine Wave 1 kHz, 20 Hz, 20 kHz CHANNEL A, B (Both channels working)	Measure T.H.D. when input signal is adjusted to the following; STEREO 8 ohm, 37.42V STEREO 4 ohm, 31.63V BRIDGE MONO 8 ohm, 63.25V ATT: Max.	8 ohm : Less than 0.05 % 4 ohm : Less than 0.07 % MONO : Less than 0.07 %
P2500		Same as P3500. STEREO 8 ohm, 31.63V STEREO 4 ohm, 26.46V BRIDGE MONO 8 ohm, 52.92V ATT: Max.	
P1500		Same as P3500. STEREO 8 ohm, 24.50V STEREO 4 ohm, 20.5V BRIDGE MONO 8 ohm, 40.99V ATT: Max.	

4. FREQUENCY RESPONSE

MODEL	INPUT	METHOD	STANDARD
P3500 P2500 P1500	Sine Wave 10 Hz, 50 kHz, 1 kHz CHANNEL A, B (Both channels working)	First measure signal level of 1 kHz for reference with 8 ohm load, 1 W (2.82V), and then measure signal level of 10 Hz and 50 kHz. ATT: Max.	+ 0.5 dB ~ - 1.5 dB

5. CHANNEL SEPARATION

MODEL	INPUT	METHOD	STANDARD
P3500	Sine Wave 1 kHz, 20 Hz, 20 kHz Short another Ch. Input with 600 ohm.	Measure Ch.(A), and Ch.(B) output under the following; STEREO 8 ohm, 175 W, 37.42V ATT: Max. 1 kHz, 20 Hz, 20 kHz First, input A and measure B, then input B and measure A.	20 Hz, 20 kHz : 60 dB 1 kHz : 80 dB
P2500		Same as P3500. STEREO 8 ohm, 125 W, 31.63V ATT: Max.	
P1500		Same as P3500. STEREO 8 ohm, 75 W, 24.50V ATT: Max.	20 Hz, 20 kHz : 70 dB 1 kHz : 80 dB

6. RESIDUAL NOISE

MODEL	INPUT	METHOD	STANDARD
P3500 P2500 P1500	No input signal Short measured Ch. input with 600 ohm.	Measure output under the following; 8 ohm load, ATT Min., DIN Audio Filter	Max. : - 76 dB

7. S/N

MODEL	INPUT	METHOD	STANDARD
P3500 P2500 P1500	Sine Wave 1 kHz Short measured Ch. input with 600 ohm when measure noise level.	Measure rated output and output with no signal under the following; 8 ohm load, DIN Audio Filter.	More than 100 dB

8. INPUT SENSITIVITY

MODEL	INPUT	METHOD	STANDARD
P3500 P2500 P1500	Sine Wave 1 kHz	Measure input level when output of rated power is obtained under the following conditions. 8 ohm load, ATT Max.	+ 4 dBm ± 1 dB

9. VOLTAGE GAIN

MODEL	INPUT	METHOD	STANDARD
P3500	Sine Wave 1 kHz	Measure rated output level and input level under the following condition, and calculate voltage gain. 8 ohm load	33 dB ± 1.2 dB
P2500			31 dB ± 1.2 dB
P1500			29 dB ± 1.2 dB

10. INDICATOR

MODEL	INDICATOR	INPUT	METHOD	STANDARD
P3500 P2500 P1500	POWER	POWER sw ON	Confirm the following is working. After turning POWER sw ON, the POWER LED indicator should light ON.	OK or NG
	PROTECTION	POWER sw ON	Confirm the following is working. After turning POWER sw ON, the PROTECTION LED indicator should light ON for 6 ± 2 seconds and the indicator should go out.	OK or NG
	CLIP	Sine Wave 1 kHz	Confirm the following is working. When input signal is adjusted to produce an equal or greater than 0.1 % THD on 8 ohm load, the CLIP indicator should be ON	OK or NG
	SIGNAL	Sine Wave 1 kHz	Confirm the following is working. When an output of 1 W (2 V) on 4 ohm load , the SIGNAL LED indicator should be ON.	OK or NG

11. FAN

MODEL	INPUT	METHOD	STANDARD
P3500 P2500 P1500	No Signal Input	Measure voltage of pin 1 and 2 of CN103 and CN109, after turning POWER ON. When the unit temperature increases, the voltage will increase to 10~11 V. Confirm following working. If disconnect CN102 or CN107, the fan speed is more faster.	4~6V

12. PROTECTION

MODEL	INPUT	METHOD	STANDARD
P3500 P2500 P1500	Sine Wave 1 Hz, 0 dBm	Confirm the following is working. After applying input signal, there should be a time lag of 2 seconds before the protection circuit starts working. After disconnecting input signal, there should be a time lag of 10 seconds before the protection circuit stops working.	OK or NG

■ ADJUSTMENTS

Before performing the following adjustment, set the unit as follows;

1. ATTENUATOR: "0"
2. Input terminal: XLR pin 2 is HOT, pins 1 and 3 ground.
3. MODE switch: STEREO
4. OUTPUT terminal: 4 ohm load

ADJUSTMENT SPECIFICATIONS

Before testing for specifications, confirm AC line voltage is the rated value ± 10 %.

First GROUND the INPUT terminal.

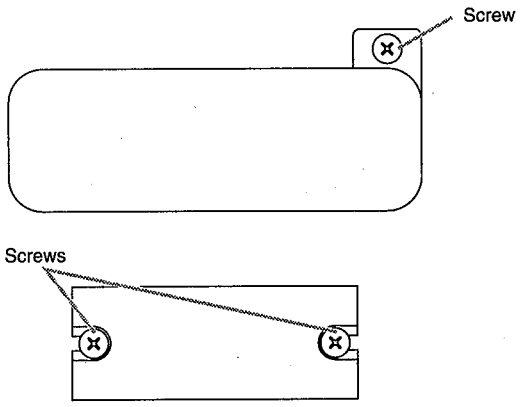
Adjustment item	Adjust	Test Point	Rating	Conditions	Model
IDLE CURRENT	VR201	TP1, TP2	15 mV ± 2 mV	Wait 15 minutes after turning power on.	P3500 P2500
	VR201	TP11, TP12	15 mV ± 2 mV	Wait 15 minutes after turning power on.	P1500
	VR301	TP21, TP22	15 mV ± 2 mV	Wait 15 minutes after turning power on.	
DC OFFSET	OUTPUT Terminal A		0 V ± 0.5 V		P3500 P2500 P1500
	OUTPUT Terminal B		0 V ± 0.5 V		

* VR201, TP1 and TP2 are located on the AMP circuit boards of P3500, P2500.
* VR201, VR301, TP11, TP12, TP21 and TP22 are located on the AMP circuit board of P1500.

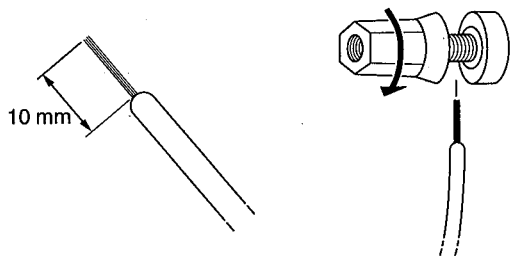
■ CAUTION FOR SPEAKER CONNECTION

1. Turn off the POWER switch.

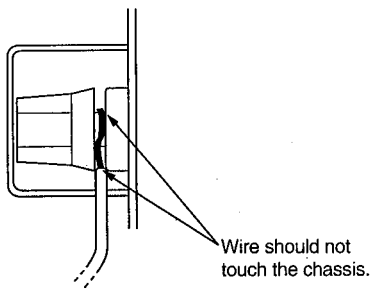
2. Remove the cover attachment screw(s) and remove the protective cover from the speaker terminals.
   * All U.S. models and the Canadian P1500 do not have protective covers.



3. After removing approx. 10 mm of insulation from the ends of the speaker cables, pass the bare ends of the speaker wires through the holes in the corresponding speaker terminals and tighten the terminals to securely clamp the wires.
   Refer to page 4 for speaker porality.

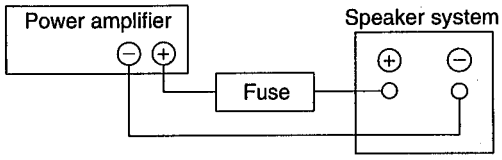


At this time make sure that the bare ends of the speaker cables do not extend from the terminals in such a way that they touch the chassis.



4. Reattach the protective cover over the speaker terminals.

- **Speaker fuse**
  The output capacity of your amplifier is very high: 350W+350W (8 Ω) in stereo and 1000W (8 Ω) in monaural on the P3500; 250W+250W (8 Ω) in stereo and 700W (8 Ω) in monaural on the P2500; 150W+150W (8 Ω) in stereo and 420W (8 Ω) in monaural on the P1500. Be sure to use a speaker system that has sufficient input capacity.
  If the input capacity of your speaker system is lower than the rated output of the power amplifier, you can protect your speakers by connecting a fuse serially between the speaker and amplifier as shown below.



Use the following formula to determine the fuse capacity according to the speaker's input capacity.

$$Po = I^2R \rightarrow I = \sqrt{\frac{Po}{R}}$$

P0 [W] : Speaker's continuous input capacity (noise or RMS)
R [Ω] : Speaker's nominal impedance
I [A] : Required fuse capacity

ex.) Speaker's continuous input capacity : 100W
Speaker's impedance : 8 Ω

$$I = \sqrt{\frac{100}{8}} = 3.5$$

In this example, the required fuse capacity is calculated as 3.5 [A].

- **Speaker cable**
  If you use a long speaker cable, use as thick a cable as possible to prevent deterioration of the damping factor or power loss inside the cable. Even the thickest cable can be used for the speaker terminal of this unit.

POWER AMPLIFIERS

P3500
P2500
P1500

PARTS LIST

■ CONTENTS

Notes DESTINATION ABBREVIATIONS

A	: Australian model	J	: Japanese model
B	: British model	M	: South African model
C	: Canadian model	Q	: South-east Asia model
D	: German model	U	: U.S.A. model
E	: European model	V	: General export model (110V)
F	: French model	W	: General export model (220V)
G	: Belgian model	X	: General export model
H	: North European model	Y	: Export model
I	: Indonesian model		

■ TO SERVICE PERSONNEL

Critical Components Information.
Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equel to those originally installed.

- The number with "pc." or "pcs" in "Remarks" show quantities for each unit.
- The parts with "——" in "Part No." are not available as spare parts.

■ ELECTRICAL PARTS

	Ref.	Part No.	Description		部品名	Remarks	ランク
			<ELECTRICAL PARTS>		＜電気部品＞		
*		NX814290	Circuit Board	AMP P3500 EX	ＡＭＰシート	05400Y0032AP	
*		NX814270	Circuit Board	AMP P2500 EX	ＡＭＰシート	05400Y0022AP	
*		NX814250	Circuit Board	AMP P1500 EX	ＡＭＰシート	05400Y0012AP	
*		NX814920	Circuit Board	INPUT U,C,V	ＩＮＰＵＴシート	05400Y0012IP	
*		NX814930	Circuit Board	INPUT H,B	ＩＮＰＵＴシート	05400Y0014IP	
*		NX814970	Circuit Board	LED1	ＬＥＤ１シート	05400Y1011PW-03	
*		NX814980	Circuit Board	LED2	ＬＥＤ２シート	05400Y0011PW-04	
*		NX814960	Circuit Board	POWER P3500,A350	ＰＯＷＥＲシート	05400Y0031PW-01	
*		NX814950	Circuit Board	POWER P2500,A250	ＰＯＷＥＲシート	05400Y0021PW-01	
*		NX814940	Circuit Board	POWER P1500,A150	ＰＯＷＥＲシート	05400Y0011PW-01	
*		NX814890	Circuit Board	SWITCH P3500 U,C,V	スイッチシート	05400Y0032PW-02	
*		NX814900	Circuit Board	SWITCH P3500 H,B	スイッチシート	05400Y0034PW-02	
*		NX814860	Circuit Board	SWITCH P2500 U,C,V	スイッチシート	05400Y0022PW-02	
*		NX814870	Circuit Board	SWITCH P2500 H,B	スイッチシート	05400Y0024PW-02	
*		NX814830	Circuit Board	SWITCH P1500 U,C,V	スイッチシート	05400Y0012PW-02	
*		NX814840	Circuit Board	SWITCH P1500 H,B	スイッチシート	05400Y0014PW-02	
*		NX814990	Circuit Board	VR	ＶＲシート	05400Y0011PW-05	
*		NX814290	Circuit Board	AMP P3500 EX	ＡＭＰシート	05400Y0032AP	
*		NX814270	Circuit Board	AMP P2500 EX	ＡＭＰシート	05400Y0022AP	
*		LX803380	Connector	M0X2P	コネクタ	4428595002	
*		LX803330	Connector Assembly	7P	コネクタＡｓｓ’ｙ	4355893303	
*		LX803420	Connector	11434P	コネクタ	4428596604	
*		LX803440	Connector	11436P	コネクタ	4428596606	
*		FX802460	Electrolytic Cap.	AF 47.0 16V	ケミコン	3409547031	
*		FX802590	Monolithic Capacitor	M0 470P	積層コン	3688471118	
*		FX802550	Mylar Cap.	MA 0.1 100V K	マイラーコン	3609104122-T	
*		FX802600	Polypropylene Film Cap.	NPP POLY 1500P	ポリプロコン	3698152198	
*		FX802470	Electrolytic Cap.-BP	AF 100.0 25V	ＢＰケミコン	3409810141-T	
*		FX802580	Maica Cap.	MI 22P 500V P2500	マイカコン	3678220177	
*		FX802570	Maica Cap.	MI 15P 500V P3500	マイカコン	3678150177	
*		FX802560	Maica Cap.	MI 5P 500V	マイカコン	3678050177	
*		FX802360	Mylar Cap.	MA 0.0022 100V	マイラーコン	3609222120-T	
*		FX802440	Electrolytic Cap.	AF 4.7 100V	ケミコン	3409247991-T	
*		FX802450	Electrolytic Cap.	AF 4.7 160V P3500	ケミコン	3409247992-T	
*		IX807210	Diode	1N4148	ダイオード	2058304100	
*		IX807390	Diode	1SS142	ダイオード	2058322100	
*		IX807370	Diode	PS2010	ダイオード	2058100110	
*		GX803940	Coil	2uH	コイル	2648099900	
*		IX807420	Positive Thermistor	PTH59F04BE471TS	温度補償用ポジスタ	2438007994	
*		IX807410	Positive Thermistor	PTH9M04BE222TS2	温度検知用ポジスタ	2438007993	
*		IX807430	Positive Thermistor	PTH9M04BH471TS	温度補償用ポジスタ	2438007995	
*		IX807300	Transistor	2SA1268 KTA970	トランジスタ	2008206104-T	
*		IX807160	Transistor	2SC3200 KTC2240BL	トランジスタ	2008606108-T	
*		IX807290	Transistor	2SA1546	トラランジスタ	2008005999	
*		IX807310	Transistor	2SC4001	トラランジスタ	2008405999	
*		IX807170	Transistor	2SC4370 KTC4370A	トラランジスタ	2028407990	
*		IX807340	Transistor	2SA1659	トランジスタ	2028107984	
*		IX807350	Transistor	2SD2155	トランジスタ	2028407112	
*		IX807360	Transistor	2SC4029 P3500	トラランジスタ	2028407121	
*		IX807320	Transistor	2SB1429	トラランジスタ	2028107108	
*		IX807330	Transistor	2SA1553 P3500	トラランジスタ	2028107117	
*		KX804080	Relay	RLY31H42	リレー	5528009810	
		HF755270	Carbon Resistor	CF 270.0 1/4 J	カーボン抵抗	3009271973	
		HF757470	Carbon Resistor	CF 47.0K 1/4 J	カーボン抵抗	3009473973	
*		HX807690	Metal Film Resistor	MF 1K 1/2 F P2500	金属皮膜抵抗	3003100953	
*		HX807710	Metal Film Resistor	MF 820 1/2 F P3500	金属皮膜抵抗	3004820953	
		HF755560	Carbon Resistor	CF 560.0 1/4 J	カーボン抵抗	3009561973	
		HF757120	Carbon Resistor	CF 12.0K 1/4 J	カーボン抵抗	3009123973	
		HF756100	Carbon Resistor	CF 1.0K 1/4 J	カーボン抵抗	3009102973	
		HF755220	Carbon Resistor	CF 220.0 1/4 J	カーボン抵抗	3009221973	
		HF757680	Carbon Resistor	CF 68.0K 1/4 J	カーボン抵抗	3009683973	
		HF754100	Carbon Resistor	CF 10.0 1/4 J	カーボン抵抗	3009100973	
*		HX807790	Fuse Resistor	NFR 82.0 1/4 J	ヒューズ抵抗	3089820275	
		HF756180	Carbon Resistor	CF 1.8K 1/4 J	カーボン抵抗	3009182973	
		HF755470	Carbon Resistor	CF 470.0 1/4 J	カーボン抵抗	3009471973	
*		HX807670	Metal Film Resistor	MF 22.0K 1/2 F	金属皮膜抵抗	3002220953	
*		HX807760	Fuse Resistor	NFR 10.0 1/4 J	ヒューズ抵抗	3089100275	

*New Parts（新規部品）

ランク:Japan only

	Ref.	Part No.	Description		部品名	Remarks	ランク
*		HX807770	Fuse Resistor	NFR 220.0 1/4 J	ヒューズ抵抗	3089221275	
		HF757680	Carbon Resistor	CF 82.0K 1/4 J	カーボン抵抗	3009823973	
*		HX807780	Fuse Resistor	NFR 3.3K 1/4 J	ヒューズ抵抗	3089332275	
*		HX807540	Fuse Resistor	NFR 4.7 1/4 J	ヒューズ抵抗	3079479275	
*		HX807760	Fuse Resistor	NFR 100.0 1/4 J	ヒューズ抵抗	3079101275	
*		HX807730	Wire Wound Resistor	CE 0.47 5W J	セメント抵抗	3059478783	
*		HX807720	Metal Oxide Film Resistor	MO 4.7 2W J	酸化金属被膜抵抗	3039479572-F	
*		HX807740	Wire Wound Resistor	CE 10.0 5W J	セメント抵抗	3049100772	
		HF758100	Carbon Resistor	CF 100.0K 1/4 J	カーボン抵抗	3009104973	
		HF758180	Carbon Resistor	CF 180.0K 1/4 J	カーボン抵抗	3009184973	
		HF757220	Carbon Resistor	CF 22.0K 1/4 J	カーボン抵抗	3009223973	
		HF758220	Carbon Resistor	CF 220.0K 1/4 J	カーボン抵抗	3009224973	
*		BX800850	Terminal	CNT1P	ターミナル	4678699410	
*		HX807810	Trimmer Potentiometer	470B	半固定抵抗器	3248347110 IDLE CUR. ADJ.	
*		BX800870	Heat Sink		放熱板	7505299340	
*		EX803110	Bind Head Tapping Screw	#2BTC 3X6 Y	＋バインドＴＰ	8109230061	
*		NX814250	Circuit Board	AMP P1500 EX	ＡＭＰシート	05400Y0012AP	
*		LX803380	Connector	MOX2P	コネクタ	4428595002	
*		LX803330	Connector Assembly	7P	コネクタＡｓｓ'ｙ	4355893303	
*		LX803340	Connector Assembly	7P	コネクタＡｓｓ'ｙ	4355893313	
*		LX803420	Connector	11434P	コネクタ	4428596604	
*		BX800840	Ground Terminal		ＧＮＤターミナル	4235007210	
*		FX802460	Electrolytic Cap.	AF 47.0 16V	ケミコン	3409547031	
*		FX802590	Monolithic Capacitor	MO 470P	積層コン	3688471118	
*		FX802550	Mylar Cap.	MA 0.1 100V K	マイラーコン	3609104122-T	
*		FX802530	Ceramic Capacitor	CE 0.01 50V	セラコン	3509103130-T	
*		FX802600	Polypropylene Film Cap.	NPP POLY 1500P	ポリプロコン	3698152198	
*		FX802470	Electrolytic Cap.-BP	AF 100.0 25V	ＢＰケミコン	3409810141-T	
*		FX802580	Maica Cap.	MI 22P 500V P2500	マイカコン	3678220177	
*		FX802560	Maica Cap.	MI 5P 500V	マイカコン	3678050177	
*		FX802360	Mylar Cap.	MA 0.0022 100V	マイラーコン	3609222120-T	
*		FX802440	Electrolytic Cap.	AF 4.7 100V	ケミコン	3409247991-T	
*		IX807210	Diode	1N4148	ダイオード	2058304100	
*		IX807390	Diode	1SS142	ダイオード	2058322100	
*		IX807370	Diode	PS2010	ダイオード	2058100110	
*		GX803950	Coil	1.2uH	コイル	2648099940	
*		IX807420	Positive Thermistor	PTH59F04BE471TS	温度補償用ポジスタ	2438007994	
*		IX807410	Positive Thermistor	PTH9M04BE222TS2	温度検知用ポジスタ	2438007993	
*		IX807430	Positive Thermistor	PTH9M04BH471TS	温度補償用ポジスタ	2438007995	
*		IX807300	Transistor	2SA1268 KTA970	トランジスタ	2008206104-T	
*		IX807160	Transistor	2SC3200 KTC2240BL	トランジスタ	2008606108-T	
*		IX807290	Transistor	2SA1546	トランジスタ	2008005999	
*		IX807310	Transistor	2SC4001	トランジスタ	2008405999	
*		IX807170	Transistor	2SC4370 KTC4370A	トランジスタ	2028407990	
*		IX807340	Transistor	2SA1659	トランジスタ	2028107984	
*		IX807350	Transistor	2SD2155	トランジスタ	2028407112	
*		IX807320	Transistor	2SB1429	トランジスタ	2028107108	
*		KX804090	Relay	HR703V DC24V	リレー	5528009991	
		HF755270	Carbon Resistor	CF 270.0 1/4 J	カーボン抵抗	3009271973	
		HF757470	Carbon Resistor	CF 47.0K 1/4 J	カーボン抵抗	3009473973	
*		HX807700	Metal Film Resistor	MF 1.2K 1/2 F	金属皮膜抵抗	3003120953	
		HF755560	Carbon Resistor	CF 560.0 1/4 J	カーボン抵抗	3009561973	
		HF757120	Carbon Resistor	CF 12.0K 1/4 J	カーボン抵抗	3009123973	
		HF756100	Carbon Resistor	CF 1.0K 1/4 J	カーボン抵抗	3009102973	
		HF755120	Carbon Resistor	CF 120.0 1/4 J	カーボン抵抗	3009121973	
		HF754100	Carbon Resistor	CF 10.0 1/4 J	カーボン抵抗	3009100973	
*		HX807790	Fuse Resistor	NFR 82.0 1/4 J	ヒューズ抵抗	3089820275	
		HF756180	Carbon Resistor	CF 1.8K 1/4 J	カーボン抵抗	3009182973	
		HF755470	Carbon Resistor	CF 470.0 1/4 J	カーボン抵抗	3009471973	
*		HX807670	Metal Film Resistor	MF 22.0K 1/2 F	金属皮膜抵抗	3002220953	
*		HX807760	Fuse Resistor	NFR 10.0 1/4 J	ヒューズ抵抗	3089100275	
*		HX807770	Fuse Resistor	NFR 220.0 1/4 J	ヒューズ抵抗	3089221275	
		HF757560	Carbon Resistor	CF 56.0K 1/4 J	カーボン抵抗	3009563973	
*		HX807780	Fuse Resistor	NFR 3.3K 1/4 J	ヒューズ抵抗	3089332275	
*		HX807540	Fuse Resistor	NFR 4.7 1/4 J	ヒューズ抵抗	3079479275	
*		HX807760	Fuse Resistor	NFR 100.0 1/4 J	ヒューズ抵抗	3079101275	
*		HX807730	Wire Wound Resistor	CE 0.47 5W J	セメント抵抗	3059478783	

*New Parts（新規部品）

ランク:Japan only

	Ref.	Part No.	Description		部品名	Remarks	ランク
*		HX807720	Metal Oxide Film Resistor	MO 4.7 2W J	酸化金属被膜抵抗	3039479572-F	
*		HX807740	Wire Wound Resistor	CE 10.0 5W J	セメント抵抗	3049100772	
		HF757220	Carbon Resistor	CF 22.0K 1/4 J	カーボン抵抗	3009223973	
		HF757680	Carbon Resistor	CF 68.0K 1/4 J	カーボン抵抗	3009683973	
		HF758220	Carbon Resistor	CF 220.0K 1/4 J	カーボン抵抗	3009224973	
		HF758100	Carbon Resistor	CF 100.0K 1/4 J	カーボン抵抗	3009104973	
		HF758180	Carbon Resistor	CF 180.0K 1/4 J	カーボン抵抗	3009184973	
*		BX800850	Terminal	CNT1P	ターミナル	4678699410	
*		HX807810	Trimmer Potentiometer	470B	半固定抵抗器	3248347110 IDLE CUR. ADJ.	
*		NX814920	Circuit Board	INPUT U,C,V	ＩＮＰＵＴシート	05400Y0012IP	
*		NX814930	Circuit Board	INPUT H,B	ＩＮＰＵＴシート	05400Y0014IP	
*		IX807200	Diode	1N4006 LT1N4006	ダイオード	2058100996	
*		LX803380	Connector	MOX2P	コネクタ	4428595002	
*		LX803410	Connector	MOX7P	コネクタ	4428595007	
*		LX803430	Connector	11435P	コネクタ	4428596605	
*		LX803400	Connector	MOX6P	コネクタ	4428595006	
*		LX803260	Connector	MOX8P	コネクタ	4428595008	
*		LX803390	Connector	MOX5P	コネクタ	4428595005	
		FG651560	Ceramic Capacitor-SL	CE SL 56P 50V J	セラコン（ＳＬ）	3529560311-A	
		FG651100	Ceramic Capacitor-SL	CE SL 10P 50V J	セラコン（ＳＬ）	3529100311-A	
*		FX802540	Ceramic Capacitor	CE F 4700P 500V Z	セラコン	3509472950-T	
*		FX802420	Electrolytic Cap.	AF 220.0 50V	ケミコン	3409222171-T	
*		FX802410	Electrolytic Cap.	RSA 470.0 35V	ケミコン	3408247161	
*		FX802110	Electrolytic Cap.	AF 10.0 50V	ケミコン	3409210071-T	
*		FX802400	Electrolytic Cap.	RSA 1000.0 25V	ケミコン	3408210241	
*		FX802120	Electrolytic Cap.	AF 100.0 25V	ケミコン	3409210141-T	
*		FX802470	Electrolytic Cap.-BP	AF 100.0 25V	ＢＰケミコン	3409810141-T	
*		FX802430	Electrolytic Cap.	AF 0.22 50V	ケミコン	3409222871-T	
*		IX807380	Diode Bridge	KBP152	ダイオード	2058100987	
*		IX807210	Diode	1N4148	ダイオード	2058304100	
*		KX803910	Fuse	1A/250V U,C,V	ヒューズ	5508412233	
*		KX804000	Fuse	1A/250V H,B	ヒューズ	5508412234	
		XA013A00	IC	M5238P OP AMP.	ＩＣ	2168015100	
		IG034800	IC	TA7317P RELAY DRI.	ＩＣ	2118050410	
		XD853A00	IC	7815FA REG. 15	ＩＣ	2128610900	
		XE403A00	IC	7815FA REG. 15	ＩＣ	2128610900	
		XD854A00	IC	7915FA REG.-15	ＩＣ	2128610800	
		XE404A00	IC	7915FA REG.-15	ＩＣ	2128610800	
*		LX803050	XLR, Jack, (F)		ＸＬＲジャック	4408194410 INPUT	
*		LX803220	Phone Connector	AM-8003	フォーンジャック	4438097310 INPUT	
*		IX807160	Transistor	2SC3200 KTC2240BL	トランジスタ	2008606108-T	
*		IX807170	Transistor	2SC4370 KTC4370A	トランジスタ	2028407990	
*		IX807300	Transistor	2SA1268 KTA970	トランジスタ	2008206104-T	
*		HX807660	Metal Film Resistor	MF 15.0K 1/2 F	金属皮膜抵抗	3002150953	
*		HX807650	Metal Film Resistor	MF 12.0K 1/2 F	金属皮膜抵抗	3002120953	
		HF754470	Carbon Resistor	CF 47.0 1/4 J	カーボン抵抗	3009470973	
*		HX807680	Metal Film Resistor	MF 51.0K 1/2 F	金属皮膜抵抗	3002510953	
		HF757220	Carbon Resistor	CF 22.0K 1/4 J	カーボン抵抗	3009223973	
		HF758100	Carbon Resistor	CF 100.0K 1/4 J	カーボン抵抗	3009104973	
		HF756820	Carbon Resistor	CF 8.2K 1/4 J	カーボン抵抗	3009822973	
		HF755680	Carbon Resistor	CF 680.0 1/4 J	カーボン抵抗	3009681973	
		HF755560	Carbon Resistor	CF 560.0 1/4 J	カーボン抵抗	3009561973	
		HF755220	Carbon Resistor	CF 220.0 1/4 J	カーボン抵抗	3009221973	
		HF757100	Carbon Resistor	CF 10.0K 1/4 J	カーボン抵抗	3009103973	
		HF757470	Carbon Resistor	CF 47.0K 1/4 J	カーボン抵抗	3009473973	
		HF756680	Carbon Resistor	CF 6.8K 1/4 J	カーボン抵抗	3009682973	
*		LX803030	Screw Terminal	6P	ネジ式ターミナル	4465997706	
*		CX814150	Fuse Holder	CLIP H,B	ヒューズクリップ	4458999110	
*		BX800860	Heat Sink		放熱板	7505299310	
*		AX814160	Bracket, Jack		ＪＡＣＫブラケット	6505954910	
*		EX803110	Bind Head Tapping Screw	#2BTC 3X6 Y	＋バインドＴＰ	8109230061	
*		NX814970	Circuit Board	LED1	ＬＥＤ１シート	05400Y1011PW-03	
*		LX803370	Connector	MOLEX4PN	コネクタ	4428594904	

*New Parts（新規部品）

ランク:Japan only

	Ref.	Part No.	Description		部品名	Remarks	ランク
*		IX807250	LED	SLR-34UR R3 RE	ＬＥＤ	2308232222	
						POWER	
		HF756150	Carbon Resistor	CF 1.5K 1/4 J	カーボン抵抗	3009152973	
*		IX807130	LED Limiter		ＬＥＤスペーサー	8545993630	
*		NX814980	Circuit Board	LED2	ＬＥＤ２シート	05400Y0011PW-04	
*		LX803350	Connector Assembly	8P	コネクタＡｓｓ'ｙ	4355893415	
*		LX803320	Connector Assembly	4P	コネクタＡｓｓ'ｙ	4355893101	
*		IX807250	LED	SLR-34UR R3 RE	ＬＥＤ	2308232222 CLIP	
*		IX807400	LED	EL 204GD R3 GR	ＬＥＤ	2308232264 SIG.	
		HF756150	Carbon Resistor	CF 1.5K 1/4 J	カーボン抵抗	3009152973	
*		IX807130	LED Limiter		ＬＥＤスペーサー	8545993630	
*		NX814960	Circuit Board	POWER P3500,A350	ＰＯＷＥＲシート	05400Y0031PW-01	
*		NX814950	Circuit Board	POWER P2500,A250	ＰＯＷＥＲシート	05400Y0021PW-01	
*		NX814940	Circuit Board	POWER P1500,A150	ＰＯＷＥＲシート	05400Y0011PW-01	
*		LX803440	Connector	11436P	コネクタ	4428596606	
*		LX803420	Connector	11434P	コネクタ	4428596604	
*		LX803310	Connector Assembly	5P	コネクタＡｓｓ'ｙ	4355893013	
*		FX802480	Electrolytic Cap.	AF 6800 80V P1500	ケミコン	3419068208	
*		FX802510	Electrolytic Cap.	AF 6800 100V P2500	ケミコン	3419568198	
*		FX802520	Electrolytic Cap.	AF 9000 110V P3500	ケミコン	3419590208	
*		FX802490	Electrolytic Cap.	POL 0.33 250 P1500	ケミコン	3419334153	
*		FX802500	Electrolytic Cap.	POL 0.47 250	ケミコン	3419474153	
*		FX802530	Ceramic Cap.	CE 0.01 50V	セラコン	3509103130-T	
*		AX814170	Bracket, PCB		基板ブラケット	6505956710	
*		BX800840	Ground Terminal		ＧＮＤターミナル	4235007210	
*		LX803020	DC terminal	4P	ＤＣターミナル	4438194310	
						OUT1	
*		LX803040	Screw Terminal	4P	ネジ式ターミナル	4465997704	
						OUT2	
*		LX803240	Terminal	250T	ターミナル	4465998210	
*		KX803990	Slide Switch	SSP322SB011	スライドスイッチ	4618001110	
						MODE	
*		LX803280	Connector Assembly	ORANGE	コネクタＡｓｓ'ｙ	4353988201	
*		LX803300	Connector Assembly	RED	コネクタＡｓｓ'ｙ	4355892801	
*		LX803290	Connector Assembly	BLACK	コネクタＡｓｓ'ｙ	4355892701	
*		NX814890	Circuit Board	SWITCH P3500 U,C,V	スイッチシート	05400Y0032PW-02	
*		NX814900	Circuit Board	SWITCH P3500 H,B	スイッチシート	05400Y0034PW-02	
*	⚠	FX802340	Ceramic Cap.	CE 0.01 400V	セラコン	3549103107	
*	⚠	KX804050	Fuse	10A/125V U,C,V	ヒューズ	5508423823	
*	⚠	KX804020	Fuse	4A/250V H,B	ヒューズ	5508413334	
*	⚠	KX803820	Push Switch		プッシュスイッチ	4628988610	
						POWER	
*		LX803240	Terminal	250T	ターミナル	4465998210	
*		CX814140	Fuse Holder	CLIP J,U,C,V	ヒューズクリップ	4255000410	
*		CX814150	Fuse Holder	CLIP H,B	ヒューズクリップ	4458999110	
*		FX802610	Tube, Capacitor	H,B	チューブ	4835002010	
*		NX814860	Circuit Board	SWITCH P2500 U,C,V	スイッチシート	05400Y0022PW-02	
*		NX814870	Circuit Board	SWITCH P2500 H,B	スイッチシート	05400Y0024PW-02	
*	⚠	FX802340	Ceramic Cap.	CE 0.01 400V	セラコン	3549103107	
*	⚠	KX804030	Fuse	7A/125V U,C,V	ヒューズ	5508423623	
*	⚠	KX804010	Fuse	3.15A/250V H,B	ヒューズ	5508413034	
*	⚠	KX803820	Push Switch		プッシュスイッチ	4628988610	
						POWER	
*		LX803240	Terminal	250T	ターミナル	4465998210	
*		CX814140	Fuse Holder	CLIP J,U,C,V	ヒューズクリップ	4255000410	
*		CX814150	Fuse Holder	CLIP H,B	ヒューズクリップ	4458999110	
*		FX802610	Tube, Capacitor	H,B	チューブ	4835002010	
*		NX814830	Circuit Board	SWITCH P1500 U,C,V	スイッチシート	05400Y0012PW-02	
*		NX814840	Circuit Board	SWITCH P1500 H,B	スイッチシート	05400Y0014PW-02	
*	⚠	FX802340	Ceramic Cap.	CE 0.01 400V	セラコン	3549103107	

*New Parts（新規部品）

ランク:Japan only

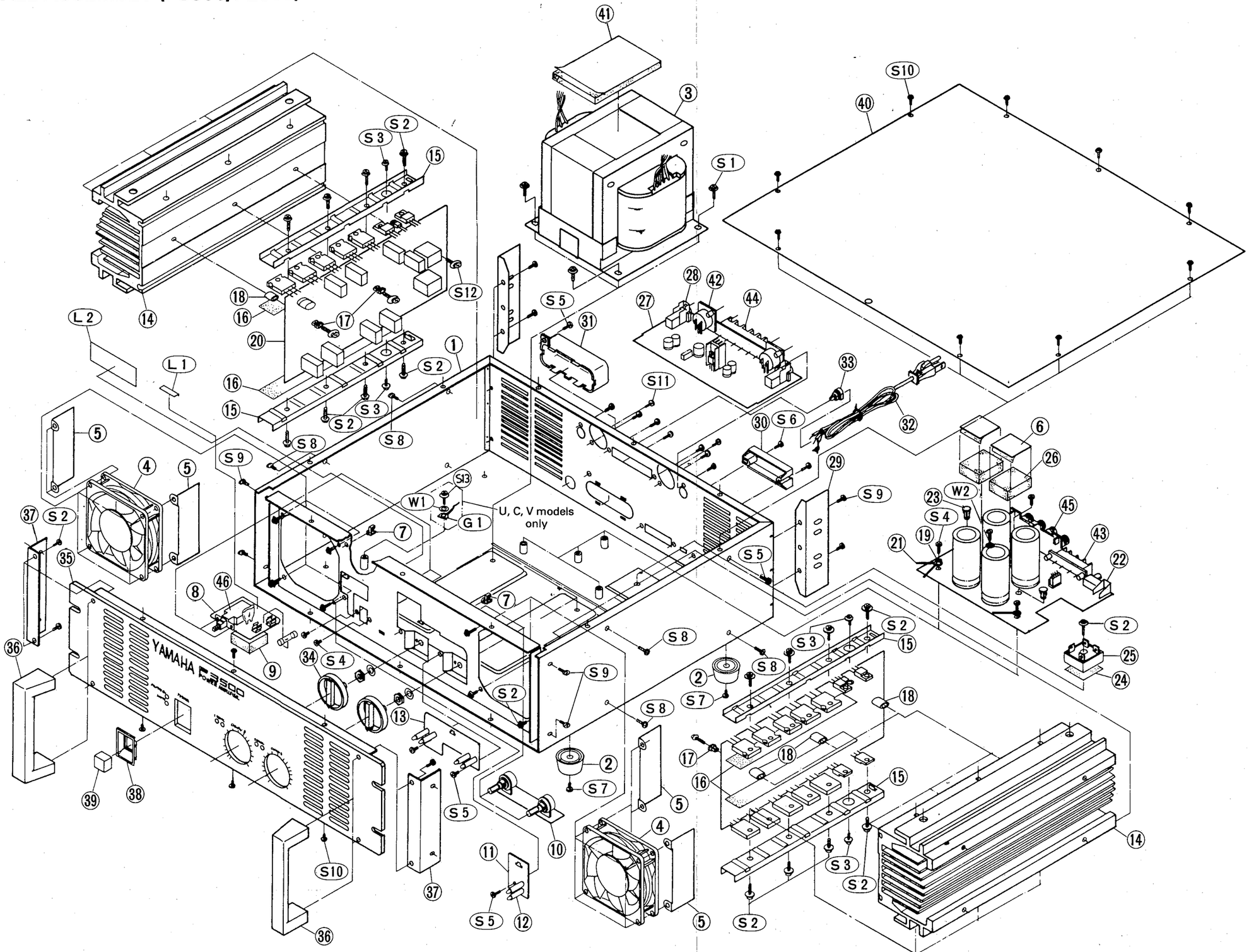
	Ref.	Part No.	Description		部品名	Remarks	ランク
*	⚠	KX804050	Fuse	10A/125V U,C,V	ヒューズ	5508423823	
*	⚠	KX804020	Fuse	4A/250V H,B	ヒューズ	5508413334	
*	⚠	KX803820	Push Switch		プッシュスイッチ	4628988610 POWER	
*		LX803240	Terminal	250T	ターミナル	4465998210	
*		CX814140	Fuse Holder	CLIP J,U,C,V	ヒューズクリップ	4255000410	
*		CX814150	Fuse Holder	CLIP H,B	ヒューズクリップ	4458999110	
*		FX802610	Tube, Capacitor	H,B	チューブ	4835002010	
*		NX814990	Circuit Board	VR	ＶＲシート	05400Y0011PW-05	
*		HX807800	Rotary Variable Resistor	RK16311605A6-5KA	ロータリーＶＲ	3228096410 CHANNEL	
*		LX803360	Connector	CON6P	コネクタ	4355893615	
*	⚠	GX803850	Power Transformer	P3500 U,C,V	電源トランス	2828077310	
*	⚠	GX803860	Power Transformer	P3500 H	電源トランス	2828077320	
*	⚠	GX803870	Power Transformer	P3500 B	電源トランス	2828077330	
*	⚠	GX803820	Power Transformer	P2500 U,C,V	電源トランス	2828077210	
*	⚠	GX803830	Power Transformer	P2500 H	電源トランス	2828077220	
*	⚠	GX803840	Power Transformer	P2500 B	電源トランス	2828077230	
*	⚠	GX803790	Power Transformer	P1500 U,C,V	電源トランス	2828077110	
*	⚠	GX803800	Power Transformer	P1500 H	電源トランス	2828077120	
*	⚠	GX803810	Power Transformer	P1500 B	電源トランス	2828077130	
*		JX800710	DC Fan		ＤＣファン	7308998710	
*		IX807120	Diode	KBPC3504P3500,A350	ダイオード	2058100998	
*		IX807110	Diode	KBPC2504P2500,A250	ダイオード	2058100103	
				P1500,A150			
*	⚠	MX801620	AC Cord	P3500 U,C,V	電源コード	4308996210	
*	⚠	MX801630	AC Cord	P2500,P1500 U,C,V	電源コード	4308999910	
*	⚠	MX801610	AC Cord	P3500,P2500,P1500H	電源コード	4308996410	
*	⚠	MX801600	AC Cord	P3500,P2500,P1500B	電源コード	4308996310	

*New Parts（新規部品）

ランク:Japan only

P3500/P2500/P1500

■ OVERALL ASSEMBLY (P3500/P2500)



	Ref.	Part No.	Description		部品名	Remarks	ランク
			<OVERALL ASSEMBLY>		＜総組立＞	P3500,P2500	
*	1	AX814630	Chassis	046121688432	シャーシ	P3500 U	
*	1	AX814640	Chassis	046121688433	シャーシ	P3500 C	
*	1	AX814650	Chassis	046121688434	シャーシ	P3500 H	
*	1	AX814660	Chassis	046121688435	シャーシ	P3500 B	
*	1	AX814670	Chassis	046121688436	シャーシ	P3500 V	
*	1	AX814570	Chassis	046121688422	シャーシ	P2500 U	
*	1	AX814580	Chassis	046121688423	シャーシ	P2500 C	
*	1	AX814590	Chassis	046121688424	シャーシ	P2500 H	
*	1	AX814600	Chassis	046121688425	シャーシ	P2500 B	
*	1	AX814610	Chassis	046121688426	シャーシ	P2500 V	
*	2	CX813890	Rubber Foot	6335000610	ゴム足	4pcs	
*	⚠3	GX803850	Power Transformer	2828077310	電源トランス	P3500 U,C,V	
*	⚠3	GX803860	Power Transformer	2828077320	電源トランス	P3500 H	
*	⚠3	GX803870	Power Transformer	2828077330	電源トランス	P3500 B	
*	⚠3	GX803820	Power Transformer	2828077210	電源トランス	P2500 U,C,V	
*	⚠3	GX803830	Power Transformer	2828077220	電源トランス	P2500 H	
*	⚠3	GX803840	Power Transformer	2828077230	電源トランス	P2500 B	
*	4	JX800710	DC Fan	7308998710	ＤＣファン	2pcs	
*	5	AX814180	Bracket, Fan	6505953810	ファンブラケット	2pcs	
*	6	CX813900	Insulation Sheet	6705992910	絶縁シート	P3500,A350	
*	7	LX803100	Wire Clamp	6538997901 TM9043	ワイヤクランプ		
*	8	NX814890	Circuit Board	SWITCH P3500 U,C,V	スイッチシート	05400Y0032PW-02	
*	8	NX814900	Circuit Board	SWITCH P3500 H,B	スイッチシート	05400Y0034PW-02	
*	8	NX814860	Circuit Board	SWITCH P2500 U,C,V	スイッチシート	05400Y0022PW-02	
*	8	NX814870	Circuit Board	SWITCH P2500 H,B	スイッチシート	05400Y0024PW-02	
*	9	CX813910	Sponge Guide	6715991810	スポンジガイド		
*	10	NX814990	Circuit Board	VR	ＶＲシート	05400Y0011PW-05	
*	11	NX814970	Circuit Board	LED1	ＬＥＤ１シート	05400Y0011PW-03	
*	12	IX807130	LED Limiter	8545993630	ＬＥＤスペーサー		
*	13	NX814980	Circuit Board	LED2	ＬＥＤ２シート	05400Y0011PW-04	
*	14	BX800810	Heat Sink	7502094420 P2500	放熱板		
*	15	AX814210	Bracket, Transistor	6503983010	ＴＲブラケット		
*	16	CX813880	Cool Sheet	1605998510 BFG-20	放熱シート	P3500,A350	
*	16	CX813870	Cool Sheet	1605998520 BFG-20	放熱シート	P2500,A250	
*	17	CX813850	Spacer Holder	6705998410	スペーサーホルダー	6pcs	
*	18	CX813840	Spacer	6705998510	スペーサー	6pcs	
*	19	NX814290	Circuit Board	AMP P3500 EX	ＡＭＰシート	05400Y0032AP	
*	19	NX814270	Circuit Board	AMP P2500 EX	ＡＭＰシート	05400Y0022AP	
*	20	NX814960	Circuit Board	POWER P3500,A350	ＰＯＷＥＲシート	05400Y0031PW-01	
*	20	NX814950	Circuit Board	POWER P2500,A250	ＰＯＷＥＲシート	05400Y0021PW-01	
*	21	LX803080	Wire Clamp	6538998310	ワイヤクランプ	3pcs	
*	22	AX814170	Bracket, PCB	6505956710	基板ブラケット		
*	23	AX814190	Card Board Support	6538998110	サポート	2pcs	
*	24	CX813830	Cool Sheet	1605998410 (B)	放熱シート		
*	25	IX807120	Diode	2058100998KBPC3504	ダイオード	P3500,A350	
*	25	IX807110	Diode	2058100103KBPC2504	ダイオード	P2500,A250	
*	26	CX813820	Sponge Rubber	6715992010	スポンジ	2pcs	
*	27	NX814920	Circuit Board	INPUT U,C,V	ＩＮＰＵＴシート	05400Y0012IP	
*	27	NX814930	Circuit Board	INPUT H,B	ＩＮＰＵＴシート	05400Y0014IP	
*	28	AX814160	Bracket, Jack	6505954910	ＪＡＣＫブラケット	2pcs	
*	29	AX814150	Bracket, Rear	046505954810	リアブラケット	2pcs	
*	30	LX803070	Terminal Cover	8545992410	ターミナルカバー	J,C,H,B	
*	31	LX803060	Housing, Terminal	048523993010	ハウジング	J,C,H,B	
*	⚠32	MX801620	AC Cord	4308996210	電源コード	P3500 U,C,V	
*	⚠32	MX801630	AC Cord	4308999910	電源コード	P2500 U,C,V	
*	⚠32	MX801610	AC Cord	4308996410	電源コード	H	
*	⚠32	MX801600	AC Cord	4308996310	電源コード	B	
*	33	CX612970	Cord Stopper	6518000710	コード止め	U,C,V	
*	33	CX813810	Cord Stopper	6518999410	コード止め	H,B	
*	34	CX813800	Knob, Rotary	048523993811	ロータリーノブ	CHANNEL A,B	
*	35	AX814120	Front Panel	048602981513	フロントパネル	P3500 U,C,V,H,B	
*	35	AX814130	Front Panel	048602981512	フロントパネル	P2500 U,C,V,H,B	
*	36	AX814110	Handle	048603995230	ハンドル	2pcs	
*	37	AX814450	Bracket Handle	6503982910	ハンドルブラケット	2pcs	
*	38	CX813790	Bezel	8523993410	ベゼル		
*	39	CX813780	Knob, Push	8545993510	ノブ	POWER	
*	40	AX814090	Top Cover	046122095211	トップカバー	U	
*	40	AX814080	Top Cover	046122095210	トップカバー	J,C,V,H,B	
*	41	CX813770	Sponge, Power Transformer	6715991710	スポンジ		

*New Parts（新規部品）

ランク:Japan only

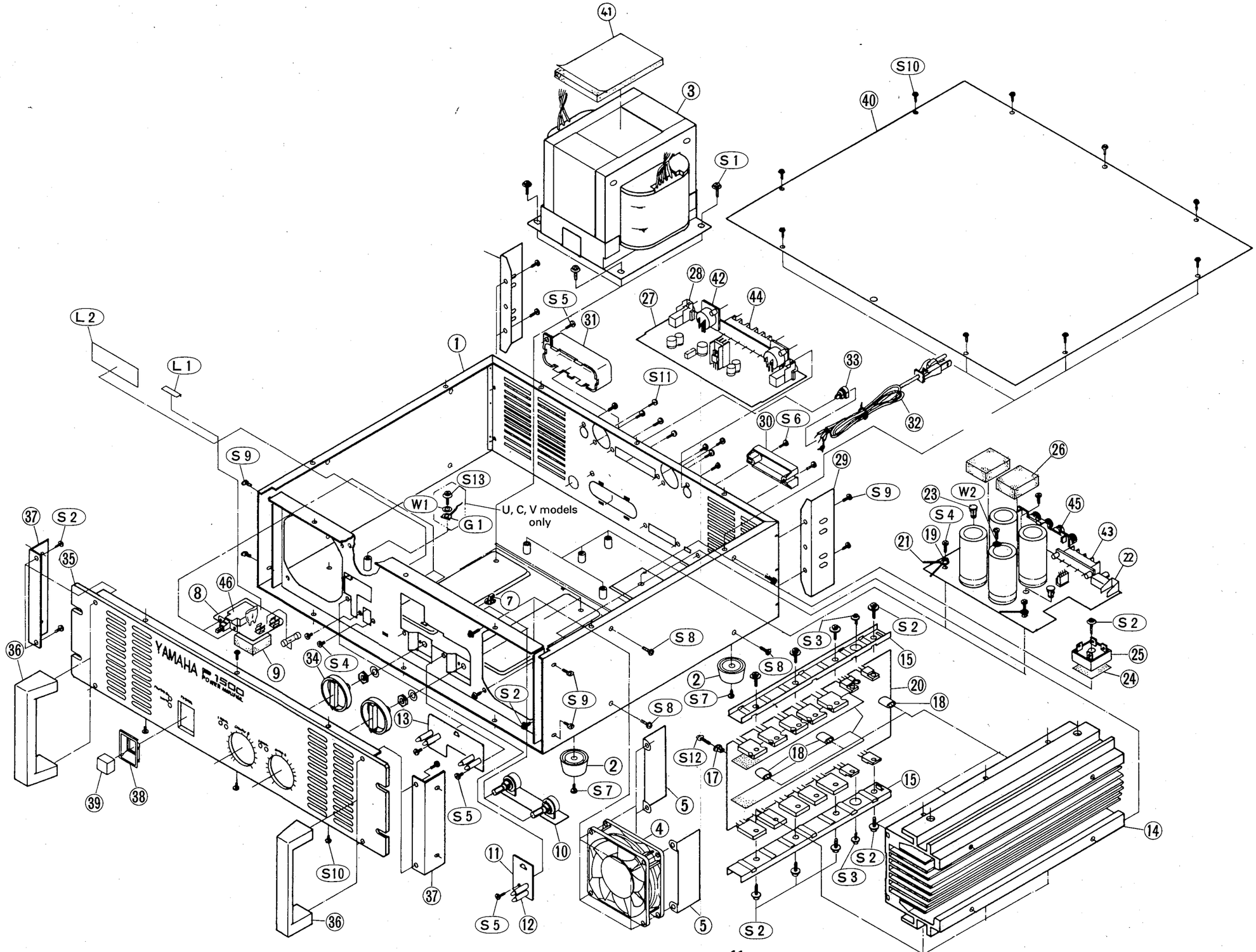
	Ref.	Part No.	Description		部品名	Remarks	ランク
*	42	LX803050	XLR, Jack, (F)	4408194410	ＸＬＲジャック	INPUT-CH. A,B	
*	43	LX803040	Screw Terminal	4465997704 4P	ネジ式ターミナル	SPEAKER-A2,B2	
*	44	LX803030	Screw Terminal	4465997706 6P	ネジ式ターミナル	INPUT-CH. A,B	
*	45	LX803020	DC terminal	4438194310 4P	ＤＣターミナル	SPEAKER-A1,B1	
*	46	KX803820	Push Switch	4628988610	プッシュスイッチ	POWER	
*	S 1	EX802930	Screw Assembly	8095995710 PM5X9B	＋ナベ小ネジAssy	4pcs	
*	S 2	EX802940	Screw Assembly	8095996930 PM4X18B	＋ナベ小ネジAssy	29pcs	
*	S 3	EX802950	Screw Assembly	8095997120 PM3X8B	＋ナベ小ネジAssy	4pcs	
*	S 4	EX802960	Bind Head Screw	8009130063 BM3X6B	＋バインド小ネジ	6pcs	
*	S 5	EX802970	Bind Head Screw	8109330063 3X6B	＋バインド小ネジ	4pcs #3BTC	
*	S 6	EX802980	Bind Head Tapping Screw	8109230103 3X10B	＋バインドＴＰネジ	2pcs #2BTC	
*	S 7	EX803010	Bind Head Tapping Screw	8109230123 3X12B	＋バインドＴＰネジ	4pcs #2BTC	
*	S 8	EX803000	Dot Screw	8095995610 BM4X10B	ボンディング小ネジ	8pcs	
*	S 9	EX802990	Dot Screw	8095995510 4X8B	ボンディング小ネジ	8pcs #3BTC	
*	S10	EX803020	Dot Screw	8095996620 3X8B	＋ボンディング小ネジ	13pcs #3BTC	
*	S11	EX802880	Dot Screw	8095996520 3X10B	＋バインドＴＰネジ	11pcs #2BTC	
*	S12	EX802890	Screw Assembly	8095997110 PM3X22B	＋ナベ小ネジAssy	6pcs	
*	S13	EX802900	Screw Assembly	8095996910 PM4X8B	＋ナベ小ネジAssy	U,C,V 1pc.	
*	G 1	BX600650	Ground Terminal	4465100110	ＧＮＤターミナル	U,C,V	
*	W 1	EX802920	THD Washer	8329040011 A 1N 4Y	歯付座金	U,C,V 1pc.	
*	W 2	EX802910	THD Washer	8329030011 A 1N 3Y	歯付座金	1pc.	
	L 1	--	Fuse Label	9057925200	ヒューズラベル		
	L 1	--	Fuse Label	9057925000 7A/125V	ヒューズラベル		
	L 2	--	Caution Label	9057926200	注意ラベル		

*New Parts（新規部品）

ランク:Japan only

P3500/P2500/P1500

■ OVERALL ASSEMBLY (P1500)



	Ref.	Part No.	Description		部品名	Remarks	ランク
			<OVERALL ASSEMBLY>		＜総組立＞	P1500	
*	1	AX814220	Chassis	046121688412	シャーシ	U	
*	1	AX814230	Chassis	046121688413	シャーシ	C	
*	1	AX814240	Chassis	046121688414	シャーシ	H	
*	1	AX814250	Chassis	046121688415	シャーシ	B	
*	1	AX814260	Chassis	046121688416	シャーシ	V	
*	2	CX813890	Rubber Foot	6335000610	ゴム足	4pcs	
*	⚠3	GX803790	Power Transformer	2828077110	電源トランス	U,C,V	
*	⚠3	GX803800	Power Transformer	2828077120	電源トランス	H	
*	⚠3	GX803810	Power Transformer	2828077130	電源トランス	B	
*	4	JX800710	DC Fan	7308998710	ＤＣファン		
*	5	AX814180	Bracket, Fan	6505953810	ファンブラケット	2pcs	
*	7	LX803100	Wire Clamp	6538997901 TM9043	ワイヤクランプ		
*	8	NX814940	Circuit Board	POWER P1500,A150	ＰＯＷＥＲシート	05400Y0011PW-01	
*	9	CX813910	Sponge Guide	6715991810	スポンジガイド		
*	10	NX814990	Circuit Board	VR	ＶＲシート	05400Y0011PW-05	
*	11	NX814250	Circuit Board	LED1	ＬＥＤ１シート	05400Y0011PW-03	
*	12	IX807130	LED Limiter	8545993630	ＬＥＤスペーサー		
*	13	NX814980	Circuit Board	LED2	ＬＥＤ２シート	05400Y0011PW-04	
*	14	BX800820	Heat Sink	7502094410 P1500	放熱板		
*	15	AX814200	Bracket, Transistor	6503983020	ブラケット		
*	16	CX813860	Cool Sheet	1605998530 BFG-20	放熱シート	2pcs	
*	17	CX813850	Spacer Holder	6705998410	スペーサーホルダー	5pcs	
*	18	CX813840	Spacer	6705998510	スペーサー	6pcs	
*	19	NX814250	Circuit Board	AMP P1500 EX	ＡＭＰシート	05400Y0012AP	
*	20	NX814940	Circuit Board	POWER P1500,A150	ＰＯＷＥＲシート	05400Y0011PW-01	
*	21	LX803080	Wire Clamp	6538998310	ワイヤクランプ	3pcs	
*	22	AX814170	Bracket, PCB	6505956710	基板ブラケット		
*	23	AX814190	Card Board Support	6538998110	サポート	2pcs	
*	24	CX813830	Cool Sheet	1605998410 (B)	放熱シート		
*	25	IX807110	Diode	2058100103KBPC2504	ダイオード		
*	26	CX813820	Sponge Rubber	6715992010	スポンジ	2pcs	
*	27	NX814920	Circuit Board	INPUT U,C,V	ＩＮＰＵＴシート	05400Y0012IP	
*	27	NX814930	Circuit Board	INPUT H,B	ＩＮＰＵＴシート	05400Y0014IP	
*	28	AX814160	Bracket, Jack	6505954910	ＪＡＣＫブラケット	2pcs	
*	29	AX814150	Bracket, Rear	046505954810	リアブラケット	2pcs	
*	30	LX803070	Terminal Cover	8545992410	ターミナルカバー	J,C,H,B	
*	31	LX803060	Housing, Terminal	048523993010	ハウジング	J,C,H,B	
*	⚠32	MX801630	AC Cord	4308999910	電源コード	U,C,V	
*	⚠32	MX801610	AC Cord	4308996410	電源コード	H	
*	⚠32	MX801600	AC Cord	4308996310	電源コード	B	
*	33	CX612970	Cord Stopper	6518000710	コード止め	U,C,V	
*	33	CX813810	Cord Stopper	6518999410	コード止め	H,B	
*	34	CX813800	Knob, Rotary	048523993811	ロータリーノブ	CHANNEL A,B	
*	35	AX814140	Front Panel	048602981511	フロントパネル	P1500 U,C,V,H,B	
*	36	AX814110	Handle	048603995230	ハンドル	2pcs	
*	37	AX814450	Bracket Handle	6503982910	ハンドルブラケット	2pcs	
*	38	CX813790	Bezel	8523993410	ベゼル		
*	39	CX813780	Knob, Push	8545993510	ノブ	POWER	
*	40	AX814090	Top Cover	046122095211	トップカバー	U	
*	40	AX814080	Top Cover	046122095210	トップカバー	J,C,V,H,B	
*	41	CX813760	Sponge, Power Transformer	6715991720	スポンジ		
*	42	LX803050	XLR, Jack, (F)	4408194410	ＸＬＲジャック	INPUT-CH. A,B	
*	43	LX803040	Screw Terminal	4465997704 4P	ネジ式ターミナル	SPEAKER-A2,B2	
*	44	LX803030	Screw Terminal	4465997706 6P	ネジ式ターミナル	INPUT-CH. A,B	
*	45	LX803020	DC terminal	4438194310 4P	ＤＣターミナル	SPEAKER-A1,B1	
*	46	KX803820	Push Switch	4628988610	プッシュスイッチ	POWER	
*	S 1	EX802930	Screw Assembly	8095995710 PM5X9B	＋ナベ小ネジAssy	4pcs	
*	S 2	EX802940	Screw Assembly	8095996930 PM4X18B	＋ナベ小ネジAssy	17pcs	
*	S 3	EX802950	Screw Assembly	8095997120 PM3X8B	＋ナベ小ネジAssy	2pcs	
*	S 4	EX802960	Bind Head Screw	8009130063 BM3X6B	＋バインド小ネジ	6pcs	
*	S 5	EX802970	Bind Head Screw	8109330063 3X6B	＋バインド小ネジ	4pcs #3BTC	
*	S 6	EX802980	Bind Head Tapping Screw	8109230103 3X10B	＋バインドＴＰネジ	2pcs #2BTC	
*	S 7	EX803010	Bind Head Tapping Screw	8109230123 3X12B	＋バインドＴＰネジ	4pcs #2BTC	
*	S 8	EX803000	Dot Screw	8095995610 BM4X10B	ボンディング小ネジ	4pcs	
*	S 9	EX802990	Dot Screw	8095995510 4X8B	ボンディング小ネジ	8pcs #3BTC	
*	S10	EX803020	Dot Screw	8095996620 3X8B	＋ボンディング小ネジ	13pcs #3BTC	
*	S11	EX802880	Dot Screw	8095996520 3X10B	＋バインドＴＰネジ	11pcs #2BTC	
*	S12	EX802890	Screw Assembly	8095997110 PM3X22B	＋ナベ小ネジAssy	3pcs	
*	S13	EX802900	Screw Assembly	8095996910 PM4X8B	＋ナベ小ネジAssy	U,C,V 1pc.	

*New Parts（新規部品）

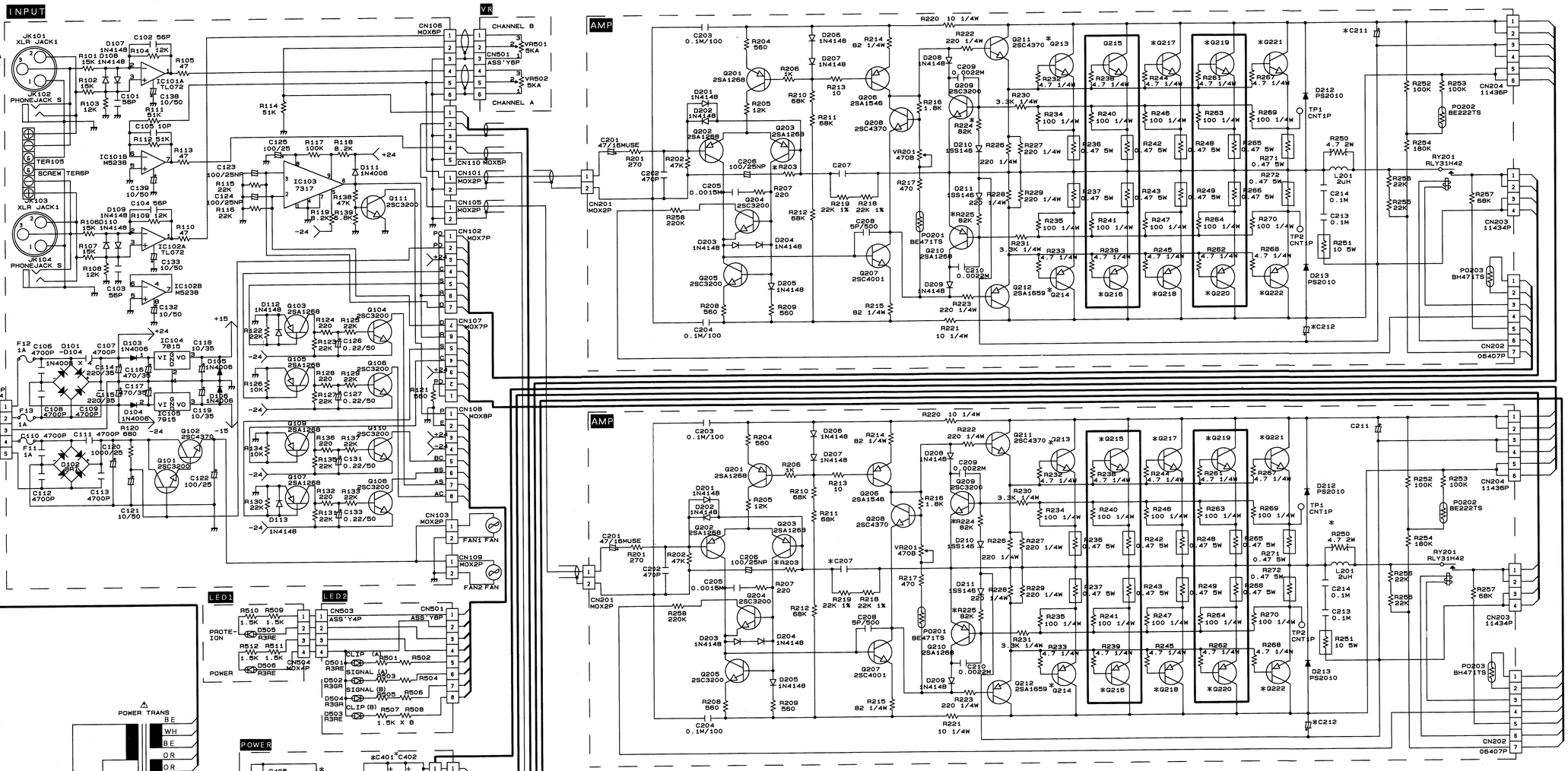
ランク:Japan only

	Ref.	Part No.	Description		部品名	Remarks	ランク
*	G 1	BX600650	Ground Terminal	4465100110	ＧＮＤターミナル	U,C,V	
*	W 1	EX802920	THD Washer	8329040011 A 1N 4Y	歯付座金	U,C,V 1pc.	
*	W 2	EX802910	THD Washer	8329030011 A 1N 3Y	歯付座金	2pcs	
	L 1	--	Fuse Label	9057925200	ヒューズラベル		
	L 1	--	Fuse Label	9057925000 7A/125V	ヒューズラベル		
	L 2	--	Caution Label	9057926200	注意ラベル		

*New Parts（新規部品）

ランク:Japan only

■ P3500, P2500 OVERALL CIRCUIT DIAGRAM



Notes)
Circuit Board: AMP P3500 (NX814290) U,C,V,H,B
Circuit Board: AMP P2500 (NX814270) U,C,V,H,B

1. Electrolytic Cap.
C201: AF 47.0 16V (FX802460)
C211,212: AF 4.7 100V (FX802440) A250,P2500
C211,212: AF 4.7 160V (FX802450) A350,P3500
2. Monolithic Capacitor
C202: MO 470P (FX802590)
3. Mylar Cap.
C203,204,213, 214: MA 0.1 100V K (FX802550)
C209,210: MA 0.0022 100V (FX802360)
4. Polypropylene Film Cap.
C205: NPP POLY 1500P (FX802600)
5. Electrolytic Cap.-BP
C206: AF 100.0 25V (FX802470)
6. Maica Cap.
C207: MI 22P 500V (FX802580) A250,P2500
C207: MI 15P 500V (FX802570) A350,P3500
C208: MI 5P 500V (FX802560)
7. Carbon Resistor
R201: CF 270.0 1/4 J (HF755270)
R202: CF 47.0K 1/4 J (HF757470)
R204,208,209: CF 560.0 1/4 J (HF755560)
R205: CF 12.0K 1/4 J (HF757120)
R206: CF 1.0K 1/4 J (HF756100)
R207: CF 220.0 1/4 J (HF755220)
R210,211,212, 257: CF 68.0K 1/4 J (HF757680)
R213: CF 10.0 1/4 J (HF754100)
R216: CF 1.8K 1/4 J (HF756180)
R217: CF 470.0 1/4 J (HF755470)
R224,225: CF 82.0K 1/4 J (HF757680)
R252,253: CF 100.0K 1/4 J (HF758100)
R254: CF 180.0K 1/4 J (HF758180)
R255,256: CF 22.0K 1/4 J (HF757220)
R258: CF 220.0K 1/4 J (HF758220)
8. Metal Film Resistor
R203: MF 1K 1/2 F (HX807690) A250,P2500
R203: MF 820 1/2 F (HX807710) A350,P3500
R218,219: MF 22.0K 1/2 F (HX807670)
9. Fuse Resistor
R214,215: NFR 82.0 1/4 J (HX807790)
R220,221: NFR 10.0 1/4 J (HX807760)
R222,223,226,227, 228,229: NFR 220.0 1/4 J (HX807770)
R230,231: NFR 3.3K 1/4 J (HX807780)
R232,233,244,245, 267,268: NFR 4.7 1/4 J (HX807540)
R234,235,246,247, 269,270: NFR 100.0 1/4 J (HX807760)
10. Wire Wound Resistor
R236,237,248,249, 271,272: CE 0.47 5W J (HX807730)
R251: CE 10.0 5W J (HX807740)
11. Metal Oxide Film Resistor
R250: MO 4.7 2W J (HX807720)
12. Transistor
Q201,202,203, 210: 2SA1268 KTA970 (IX807300)
Q204,205, 209: 2SC3200 KTC2240BL (IX807160)
Q206: 2SA1546 (IX807290)
Q207: 2SC4001 (IX807310)
Q208,211: 2SC4370 KTC4370A (IX807170)
Q212: 2SA1659 (IX807340)
Q213,217,221: 2SD2155 (IX807350) A250,P2500
Q213,215,217, 219,221: 2SC4029 (IX807360) A350,P3500
Q214,218,222: 2SB1429 (IX807320) A250,P2500
Q214,216,218,220, 222: 2SA1553 (IX807330) A350,P3500
13. Diode
D201,202,203,204, 205,206,207,208, 209: 1N4148 (IX807210)
D210,211: 1SS142 (IX807390)
D212,213; PS2010 (IX807370)
14. Coil
L201: 2uH (GX803940)
15. Positive Thermistor
PO201: PTH59F04BE471TS (IX807420)
PO202: PTH9M04BE222TS2 (IX807410)
PO203: PTH9M04BH471TS (IX807430)
16. Relay
RY201: RLY31H42 (KX804080)
17. Terminal
TP1,2: CNT1P (BX800850)
18. Trimmer Potentiometer
VR201: 470B (HX807810)
19. Connector
CN201: MOX2P (LX803380)
CN203: 11434P (LX803420)
CN204: 11436P (LX803440)
20. Connector Assembly
CN202: 7P (LX803330)
21. Heat Sink
(BX800870)
22. Bind Head Tapping Screw
#2BTC 3X6 Y (EX803110)

Notes)
Circuit Board: LED1 (NX814970)
1. Connector
CN504: MOLEX4PN (LX803370)
2. LED
D505,506: SLR-34UR R3 RE (IX807250) POWER,PROTECTION
3. Carbon Resistor
R509,510,511, 512: CF 1.5K 1/4 J (HF756150)
4. LED Limiter
(IX807130)

Notes)
Circuit Board: LED2 (NX814980)
1. Connector Assembly
CN501: 8P (LX803350)
CN503: 4P (LX803320)
2. LED
D501,503: SLR-34UR R3 RE (IX807250) CLIP
D502,504: EL 204GD R3 GR (IX807400) SIGNAL
3. Carbon Resistor
R501,502,503,504, 505,506,507, 508: CF 1.5K 1/4 J (HF756150)
4. LED Limiter
(IX807130)

Notes)
Circuit Board: VR (NX814990)
1. Rotary Variable Resistor
VR501,502: RK16311605A6-5KA (HX807800) CHANNEL A,B
2. Connector
CN501: CON6P (LX803360)

Parts list marked *

AMP Circuit Board			
R, C, Q No		P2500	P3500
R203		1K 1%	820 1%
C211, C212		4.7/100	4.7/160
Q213, Q217, Q221		2SD2155	2SC4029
Q214, Q218, Q222		2SB1429	2SA1553
Q215, Q219		—	2SC4029
Q216, Q220		—	2SA1553
C401 - C404		6800/100V	9000/100V
FUSE F1, F2	J	8A 125V	10A 125V
	U, C, V	7A 125V	10A 125V
	H, B	T3.15AL	T4AL
D100		KBPC2504	KBPC3504
C207		22P/500V	15P/500V

Notes)
Circuit Board: SWITCH P2500 (NX814860) U,C,V
Circuit Board: SWITCH P2500 (NX814870) H,B
1. Ceramic Cap.
C501,502: CE 0.01 400V (FX802340)
2. Push Switch
(KX803820) POWER
3. Fuse
F1,2: 7A/125V (KX804030) U,C,V
3.15A/250V (KX804010) H,B
4. Fuse Holder
CLIP (CX814140) J,U,C,V
CLIP (CX814150) H,B
5. Tube, Capacitor
(FX802610) H,B
6. Terminal
P1,2,3,4,5: 250T (LX803240)

The circuits have been enclosed by thick line are not appliable for the P2500.

KBPC3504 (IX807120)
KBPC2504 (IX807110)
DIODE BRIDGE

7815FA (XE403A00)
(XD853A00)
REGULATOR +15V

7915FA (XE404A00)
(XD854A00)
REGULATOR –15V

2SC3200 (IX807160)
TRANSISTOR

2SC4370 (IX807170)
TRANSISTOR

1N4006 (IX807200)
DIODE

KBP152 (IX807380)
DIODE BRIDGE

Notes)
Circuit Board: POWER P3500 (NX814960)
Circuit Board: POWER P2500 (NX814950)
Circuit Board: POWER P1500 (NX814940)
1. Electrolytic Cap.
C401,402,403, 404: AF 6800 80V (FX802480) P1500
C401,402,403, 404: AF 6800 100V (FX802510) P2500
C401,402,403, 404: AF 9000 110V (FX802520) P3500
C405,406: POL 0.47 250 (FX802500)
2. Ceramic Cap.
C407,408: CE 0.01 50V (FX802530)
3. Slide Switch
SW401: SSP322SB011 (KX803990) MODE
4. Bracket, PCB
BK1: (AX814170)
5. Ground Terminal
GND1: (BX800840)
6. DC terminal
OUT1: 4P (LX803020) CHANNEL A-1,B-1
7. Screw Terminal
OUT2: 4P (LX803040) CHANNEL A-2,B-2
8. Terminal
P41,42,43: 250T (LX803240)
9. Connector
CN401,402: 11436P (LX803440)
CN403,404: 11434P (LX803420)
10. Connector Assembly
CN405: 5P (LX803310)
ORANGE (LX803280)
RED (LX803300)
BLACK (LX803290)

Notes)
Circuit Board: SWITCH A350 (NX814880) J
Circuit Board: SWITCH P3500 (NX814890) U,C,V
Circuit Board: SWITCH P3500 (NX814900) H,B
1. Ceramic Cap.
C501,502: CE 0.01 400V (FX802340)
2. Push Switch
(KX803820) POWER
3. Fuse
F1,2: 10A/125V (KX804060) J
10A/125V (KX804050) U,C,V
4A/250V (KX804020) H,B
4. Fuse Holder
CLIP (CX814140) J,U,C,V
CLIP (CX814150) H,B
5. Tube, Capacitor
(FX802610) H,B
6. Terminal
P1,2,4,5: 250T (LX803240)

Notes)
Circuit Board: INPUT (NX814920) U,C,V
Circuit Board: INPUT (NX814930) H,B
1. Ceramic Capacitor-SL
C101,102,103, 104: CE SL 56P 50V J (FG651560)
C105: CE SL 10P 50V J (FG651100)
2. Ceramic Capacitor
C106,107,108,109, 110,111,112, 113: CE F 4700P 500V Z (FX802540)
3. Electrolytic Cap.
C114,115: AF 220.0 50V (FX802420)
C116,117: RSA 470.0 35V (FX802410)
C118,119,121,132, 133,138,139: AF 10.0 50V (FX802110)
C120: RSA 1000.0 25V (FX802400)
C122,125: AF 100.0 25V (FX802120)
C126,127,131, 133: AF 0.22 50V (FX802430)
4. Electrolytic Cap.-BP
C123,124: AF 100.0 25V (FX802470)
5. Metal Film Resistor
R101,102,106, 107: MF 15.0K 1/2 F (HX807660)
R103,104,108, 109: MF 12.0K 1/2 F (HX807650)
R111,112,114: MF 51.0K 1/2 F (HX807680)
6. Carbon Resistor
R105,110,113: CF 47.0 1/4 J (HF754470)
R115,116,122,123, 125,127,129,130, 131,133,135, 137: CF 22.0K 1/4 J (HF757220)
R117: CF 100.0K 1/4 J (HF758100)
R118,119: CF 8.2K 1/4 J (HF756820)
R120: CF 680.0 1/4 J (HF755680)
R121: CF 560.0 1/4 J (HF755560)
R124,128,132, 136: CF 220.0 1/4 J (HF755220)
R126,134: CF 10.0K 1/4 J (HF757100)
R138: CF 47.0K 1/4 J (HF757470)
R139: CF 6.8K 1/4 J (HF756680)
7. IC
IC101,102: M5238P OP AMP (XA013A00)
IC103: TA7317P RELAY DRI (IG034600)
IC104: 7815FA REG. 15 (XD853A00)
IC105: 7915FA REG.-15 (XD854A00)
8. Transistor
Q101,104,106,108, 110,111: 2SC3200 KTC2240BL (IX807160)
Q102: 2SC4370 KTC4370A (IX807170)
Q103,105,107, 109: 2SA1268 KTA970 (IX807300)
9. Diode
BD101,102,103,104, D103,104,105, 106: 1N4006 LT1N4006 (IX807200)
D107,108,109,110, 112,113: 1N4148 (IX807210)
10. Diode Bridge
D102: KBP152 (IX807380)
11. Fuse
F11,12,13: 1A/250V (KX803910) U,C,V
1A/250V (KX804000) H,B
12. XLR, Jack (F)
JK101,103: (LX803050) INPUT
13. Phone Connector
JK102,104: AM-8003 (LX803220) INPUT
14. Connector
CN101,103,105, 109: MOX2P (LX803380)
CN102,107: MOX7P (LX803410)
CN104: 11435P (LX803430)
CN106: MOX6P (LX803400)
CN108: MOX8P (LX803260)
CN110: MOX5P (LX803390)
15. Screw Terminal
TER105: 6P (LX803030) INPUT
16. Bracket, Jack
BK501,502: (AX814160)
17. Fuse Holder
CLIP (CX814150) H,B
18. Heat Sink
(BX800860)
19. Bind Head Tapping Screw
#2BTC 3X6 Y (EX803110)

P3500/P2500/P1500