

POWER AMPLIFIERS

P3500

P2500

P1500

SERVICE MANUAL



• P3500



• P2500



• P1500

■ CONTENTS

SPECIFICATIONS	2
DIMENSIONS	3
PANEL LAYOUT	4
BLOCK DIAGRAM	5
CIRCUIT BOARD LAYOUT & WIRING	6
DISASSEMBLY PROCEDURE	8
IC BLOCK DIAGRAM	13
CIRCUIT BOARDS	14
INSPECTIONS	24
ADJUSTMENTS	26
CAUTION FOR SPEAKER CONNECTION	27
PARTS LIST	

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

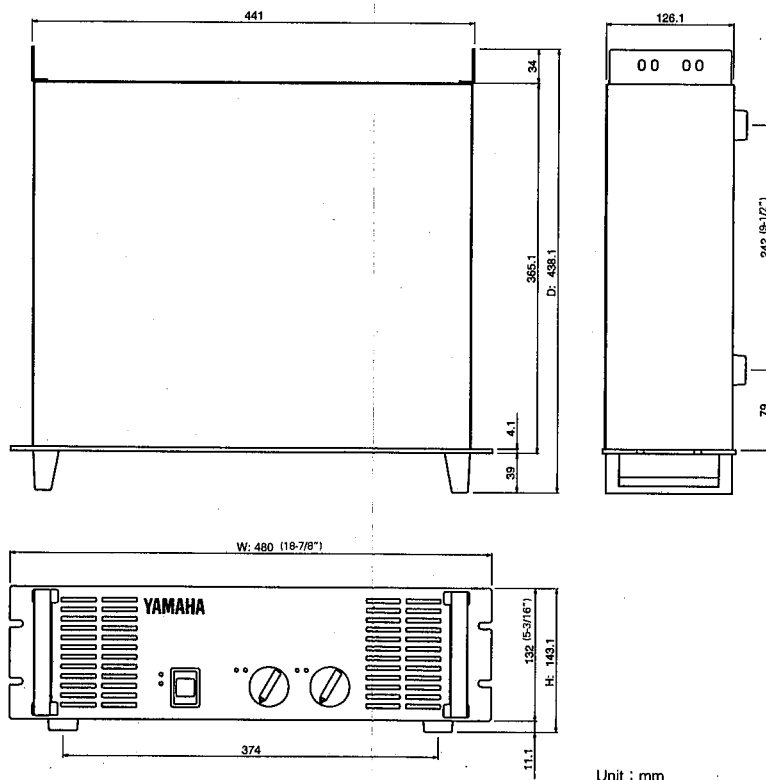
	P3500	P2500	P1500
POWER OUTPUT LEVEL $f=20\text{ Hz}\sim 20\text{ kHz}$, $\text{THD+N} \leq 0.1\%$ STEREO $\text{RL}=8\ \Omega$ $\text{RL}=4\ \Omega$ BRIDGE $\text{RL}=8\ \Omega$ $f=1\text{ kHz}$, $\text{THD+N} \leq 0.1\%$ (Typical) STEREO $\text{RL}=8\ \Omega$ $\text{RL}=4\ \Omega$ $\text{RL}=2\ \Omega^*$	350 W + 350 W 500 W + 500 W 1000 W 395 W + 395 W 620 W + 620 W 1000 W + 1000 W	250 W + 250 W 350 W + 350 W 700 W 285 W + 285 W 430 W + 430 W 450 W + 450 W	150 W + 150 W 210 W + 210 W 420 W 170 W + 170 W 240 W + 240 W 280 W + 280 W
FREQUENCY RESPONSE $\text{RL}=8\ \Omega$, $P_o=1\text{ W}$	0 dB+0.5, -1.5 dB; $f=10\text{ Hz}\sim 50\text{ kHz}$		
POWER BANDWIDTH HALF POWER, $\text{THD+N} \leq 0.1\%$ STEREO $\text{RL}=8\ \Omega$	10 Hz~40 kHz		
TOTAL HARMONIC DISTORTION (THD+N) $f=20\text{ Hz}\sim 20\text{ kHz}$, HALF POWER STEREO $\text{RL}=8\ \Omega$ $\text{RL}=4\ \Omega$ BRIDGE $\text{RL}=8\ \Omega$	$\leq 0.05\%$ $\leq 0.07\%$ $\leq 0.07\%$		
INTERMODULATION DISTORTION (IMD) $f=60\text{ Hz}$: 7 kHz, 4:1, HALF POWER STEREO $\text{RL}=8\ \Omega$ $\text{RL}=4\ \Omega$ BRIDGE $\text{RL}=8\ \Omega$	$\leq 0.05\%$ $\leq 0.07\%$ $\leq 0.07\%$		
CHANNEL SEPARATION HALF POWER, $\text{RL}=8\ \Omega$, $f=1\text{ kHz}$ ATT. max. Input 600 Ω shunt	$\geq 80\text{ dB}$		
RESIDUAL NOISE DIN AUDIO	$\leq -72\text{ dB}$; ATT min.		
SIGNAL-TO-NOISE RATIO DIN AUDIO, Input 600 Ω shunt	$\geq 100\text{ dB}$		
DAMPING FACTOR $\text{RL}=8\ \Omega$, $f=1\text{ kHz}$	≥ 100	≥ 100	≥ 70
SLEW RATE 8 Ω FULL SWING STEREO BRIDGE	$\pm 40\text{ V}/\mu\text{s}$ $\pm 40\text{ V}/\mu\text{s}$		
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.)	$\geq 15\text{ k}\Omega$ (Balance/Unbalance)		
INDICATORS	POWER (STAND-BY) (Red) PROTECTION (MUTE) (Red) CLIP $\times 2$ (Red) SIGNAL $\times 2$ (Green)		
PROTECTION	Power SW ON/OFF muting Heatsink temp $\geq 100^\circ\text{C}$ (212°F)		
PC LIMITER	$\text{RL} < 2\ \Omega$		
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)

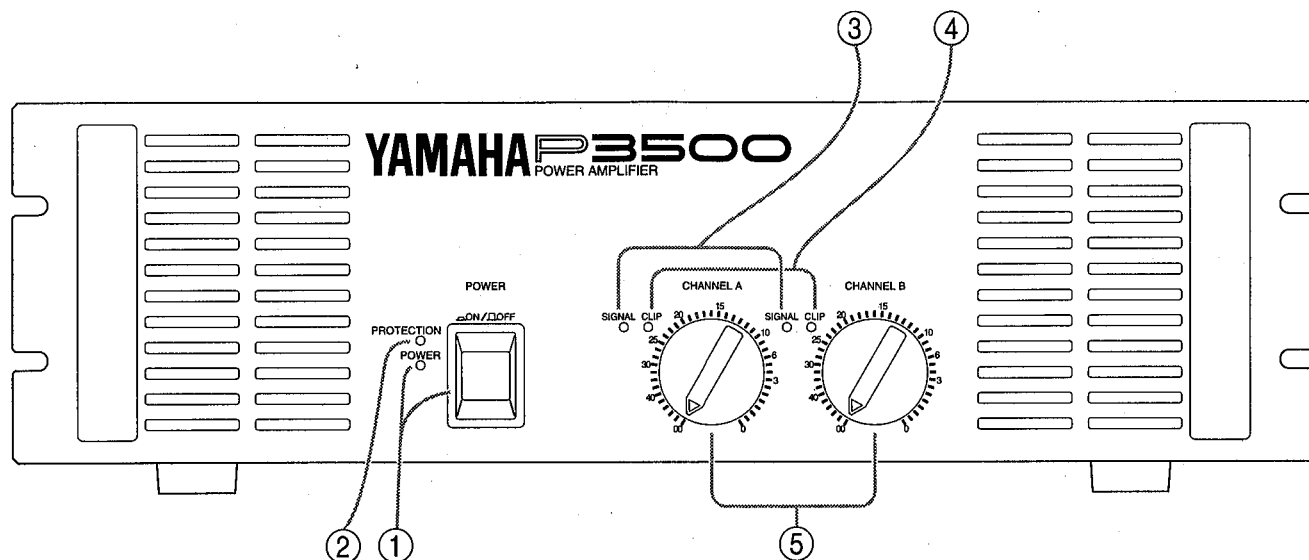
* Using reactive 2 Ω speakers at high power levels may cause overheating, excessive power consumption, and shutdowns. Please note that below 2 Ω the PC limiter will work. Before using 2 Ω speakers in a real application, test the system completely.

■ DIMENSIONS



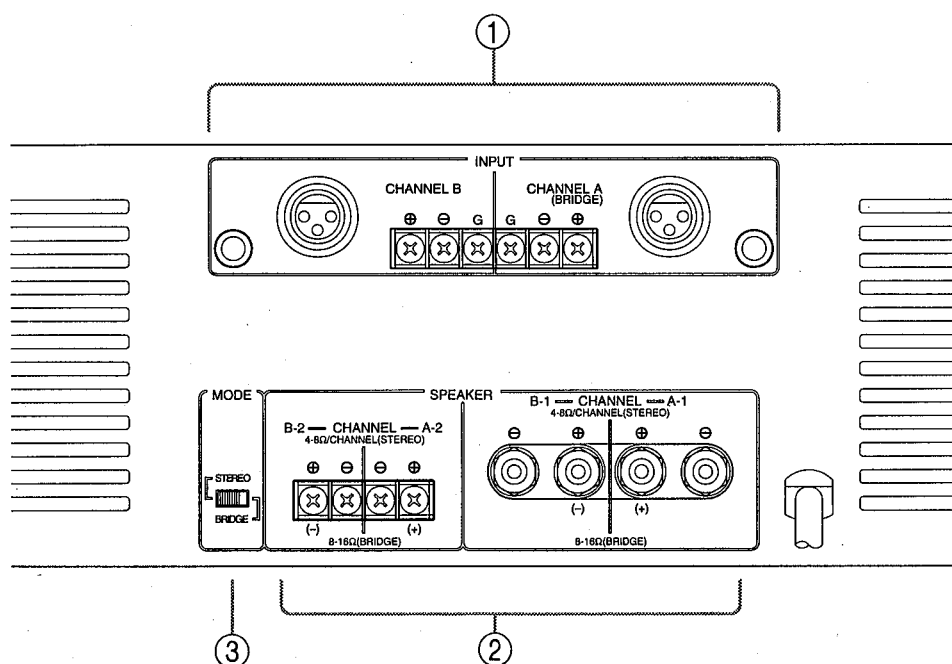
■ PANEL LAYOUT

• Front Panel



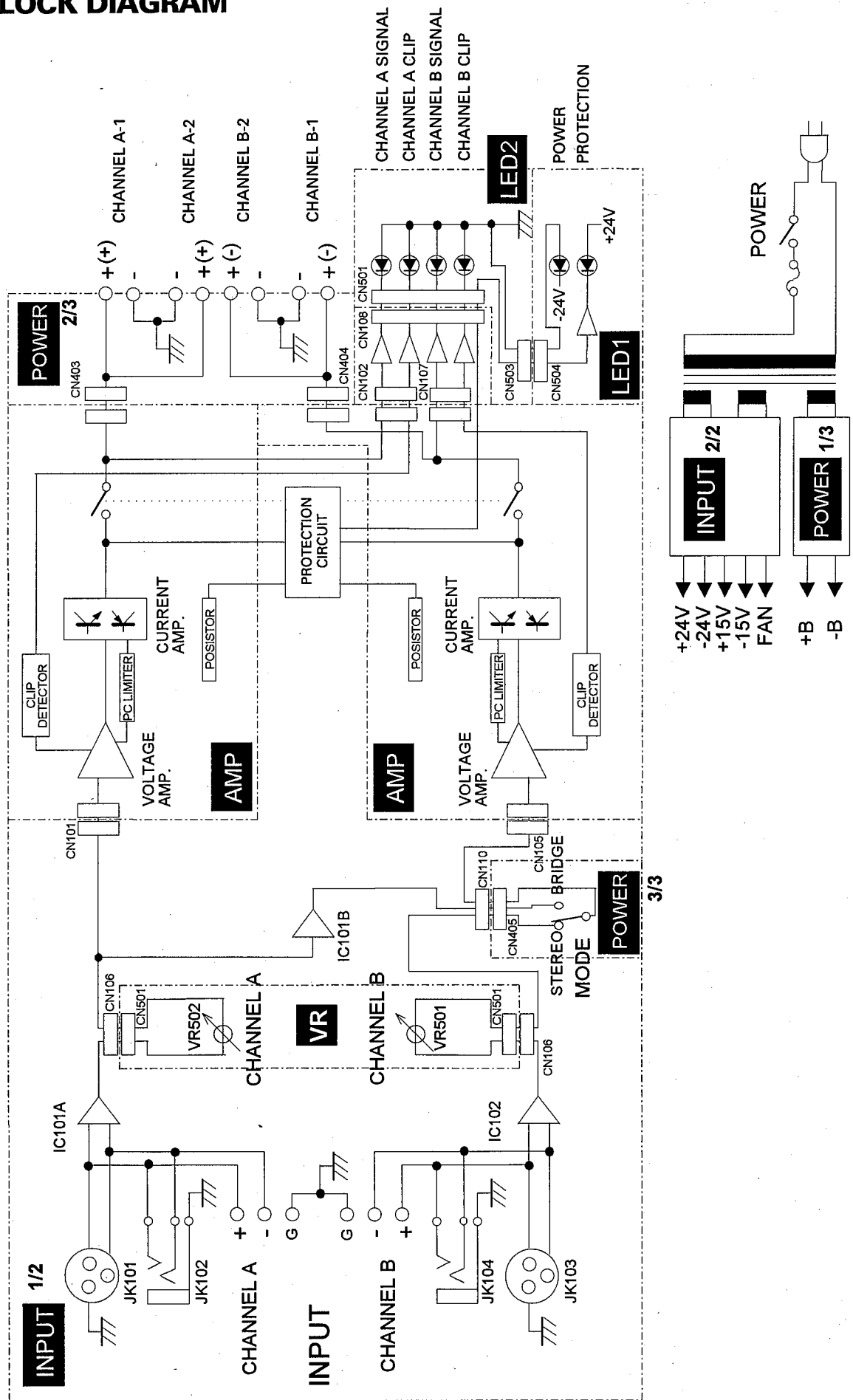
- ① POWER switch and indicator ② PROTECTION indicator ③ SIGNAL indicator
- ④ CLIP indicators ⑤ Input attenuators

• Rear Panel



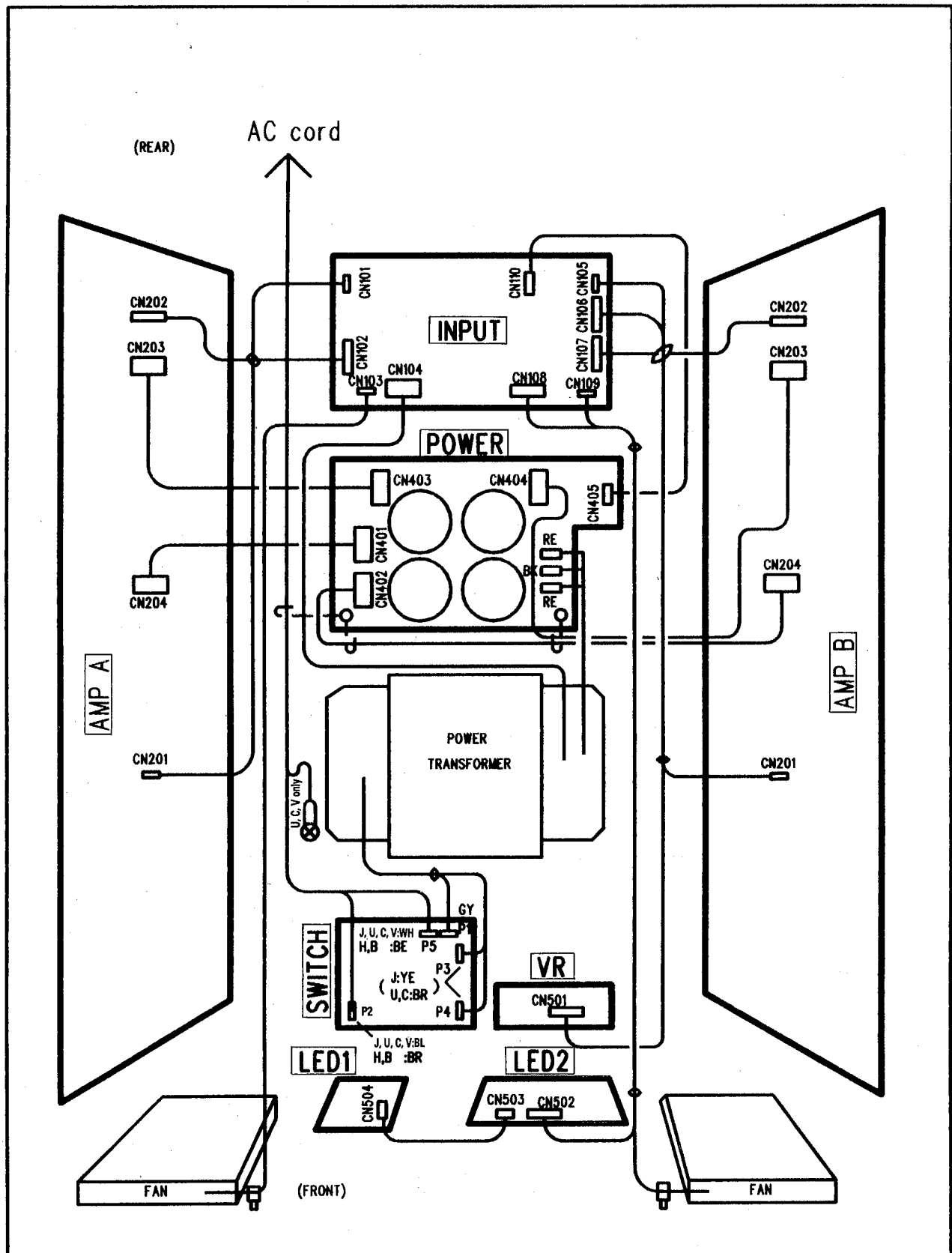
- ① INPUT terminals (CHANNEL A, B) ② SPEAKER terminals
- ③ STEREO-BRIDGE switch

■ BLOCK DIAGRAM

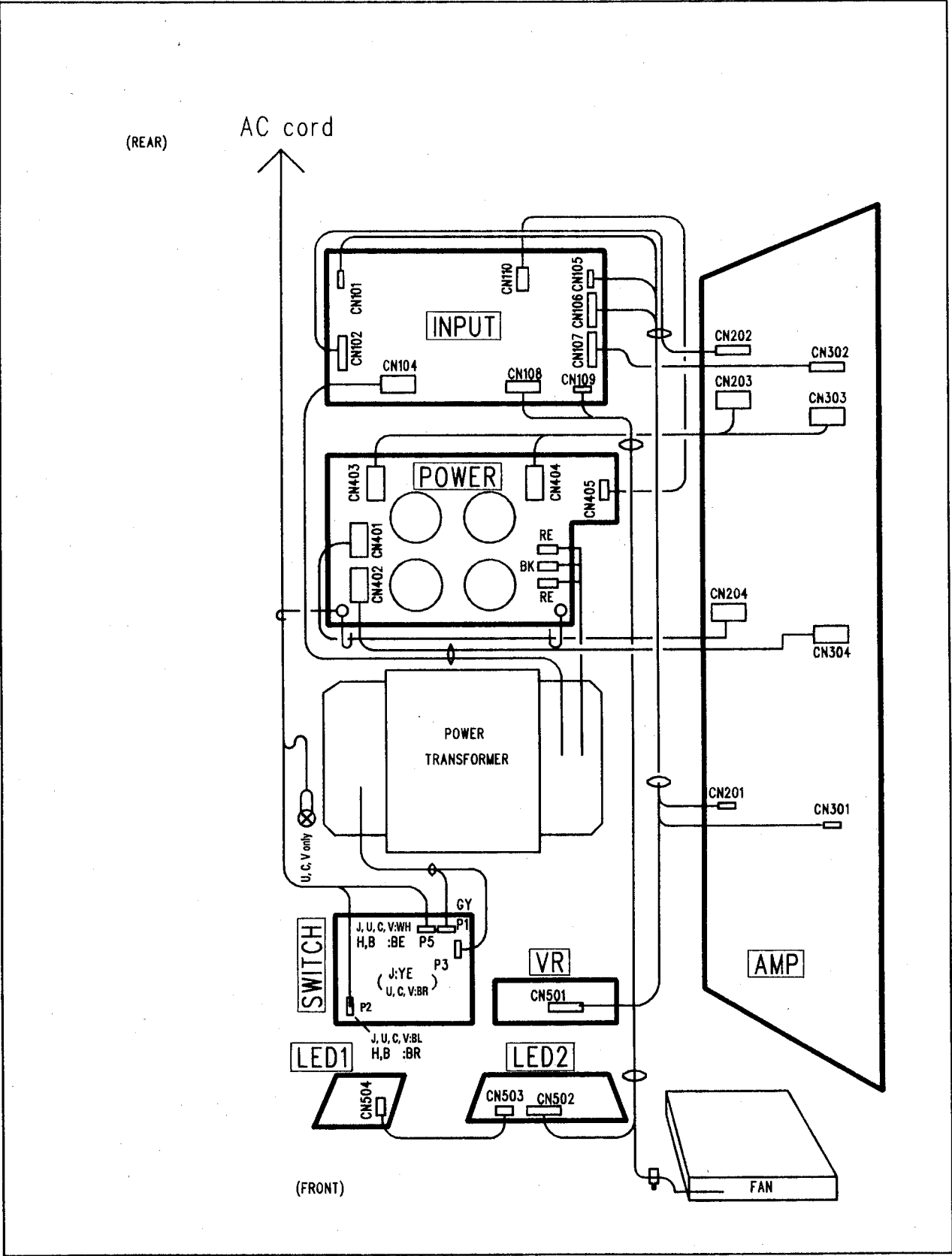


■ CIRCUIT BOARD LAYOUT & WIRING

- **P3500, P2500**



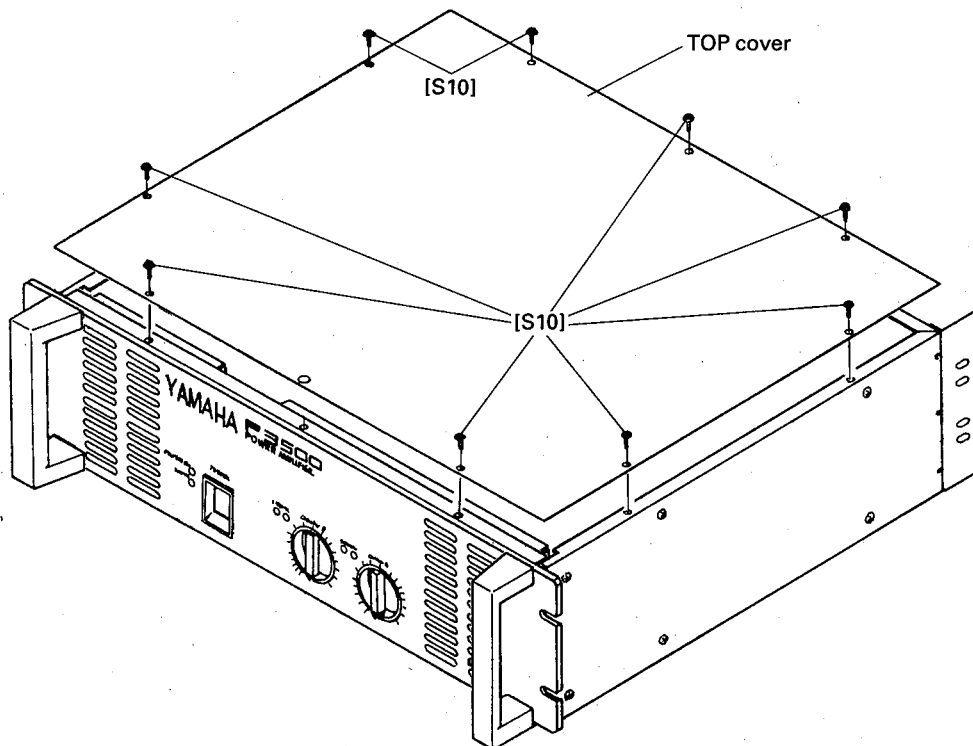
• P1500



■ 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)

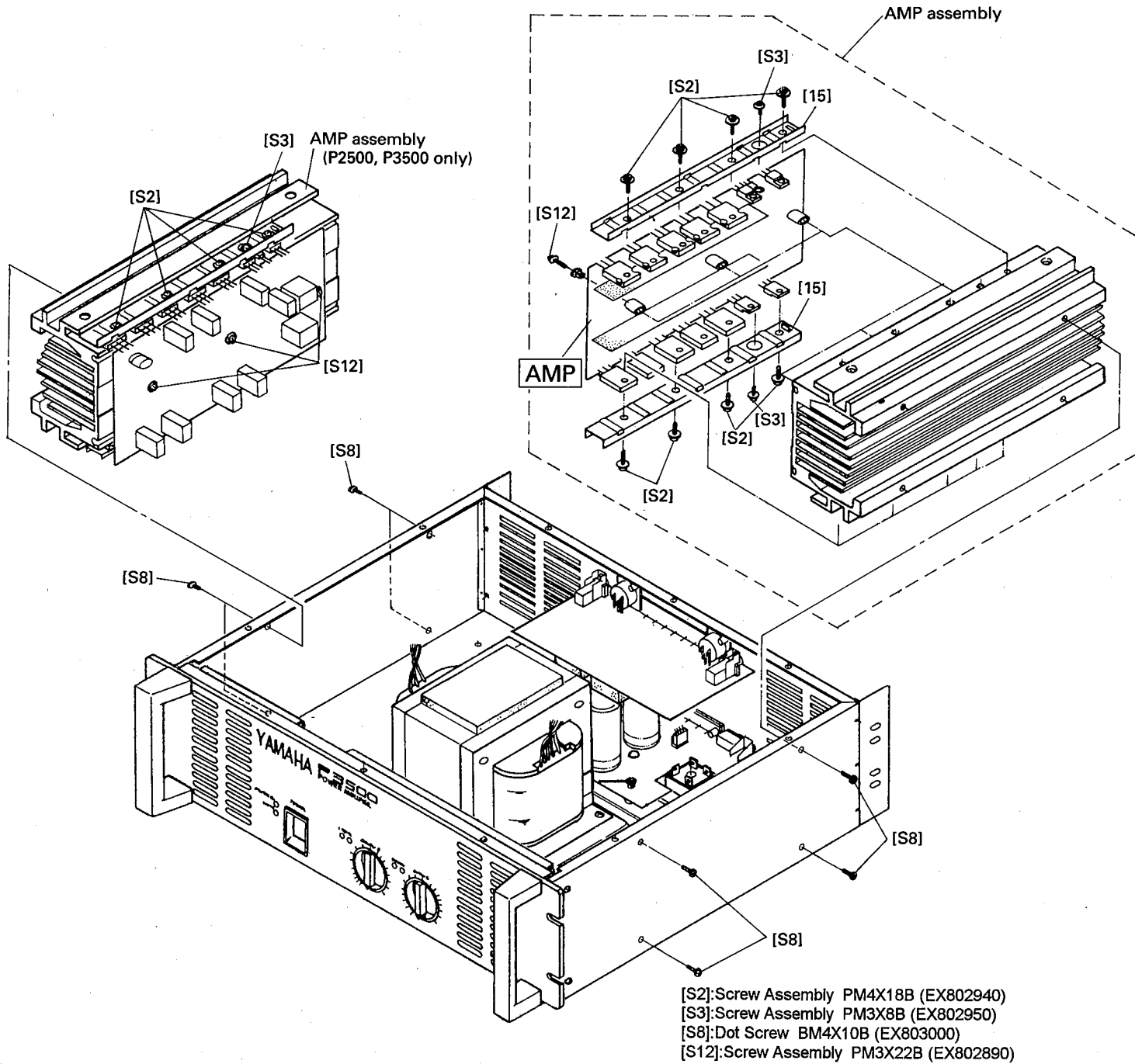
(Fig. 1)

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)

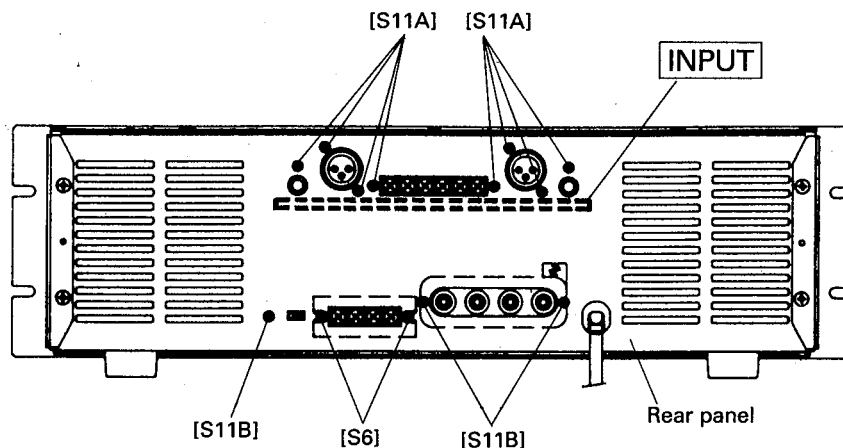
Note) P3500, P2500: 2 X AMP Assembly (AMP C.B.)
P1500: 1 X AMP Assembly (AMP C.B.)



(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)

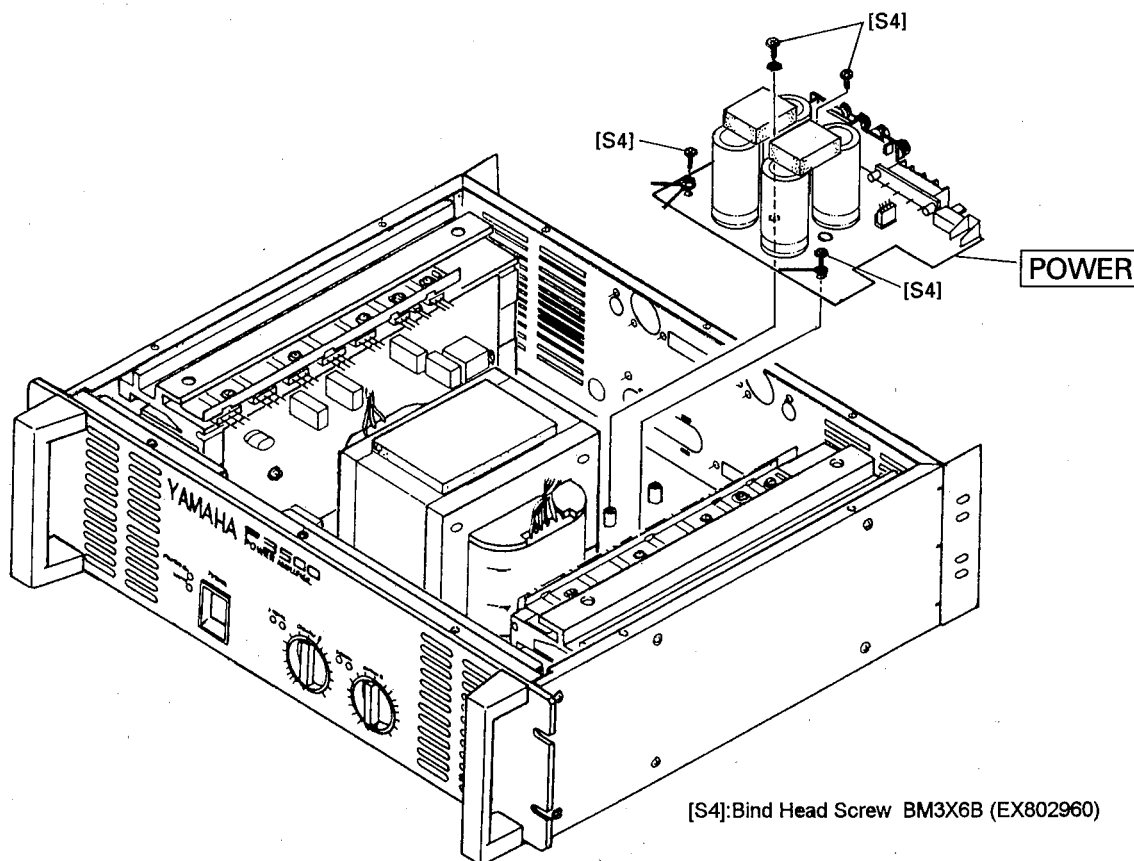


[S6]: Bind Head Tapping Screw #2BTC 3X10B (EX802980)
 [S11A][S11B]: Dot Screw #2BTC 3X10B (EX802880)

(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)

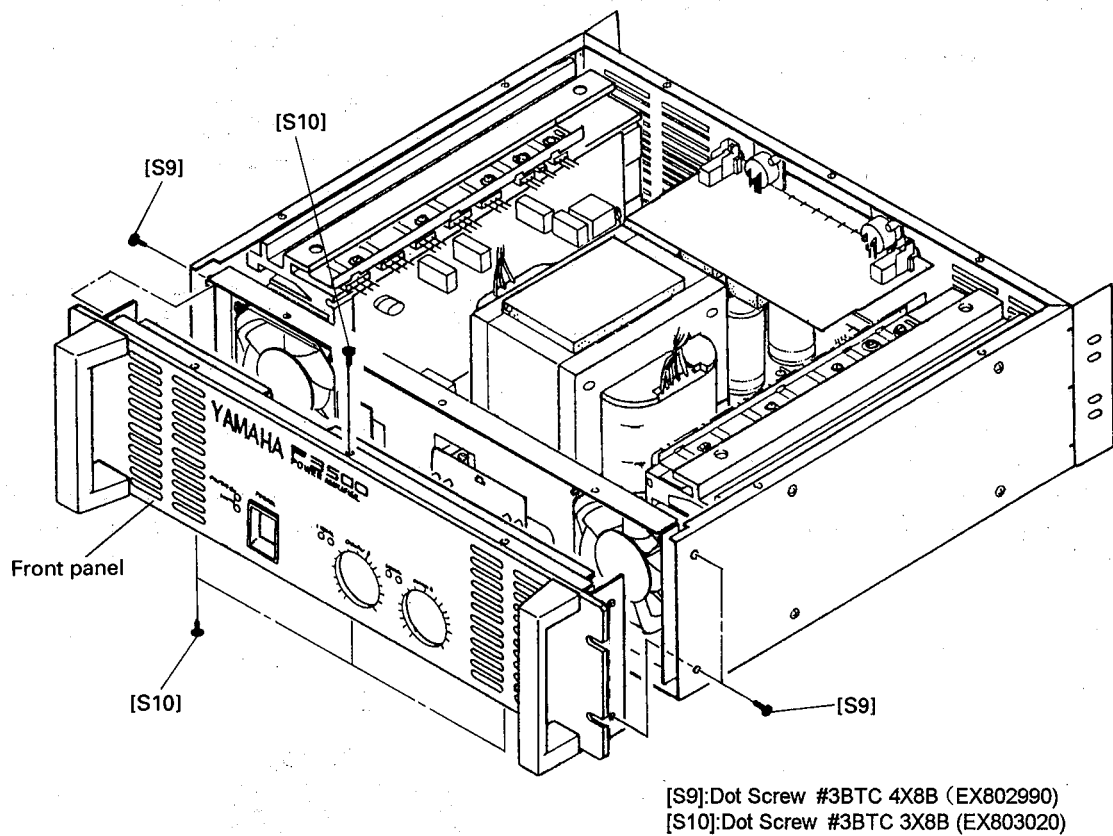


[S4]: Bind Head Screw BM3X6B (EX802960)

(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)



(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

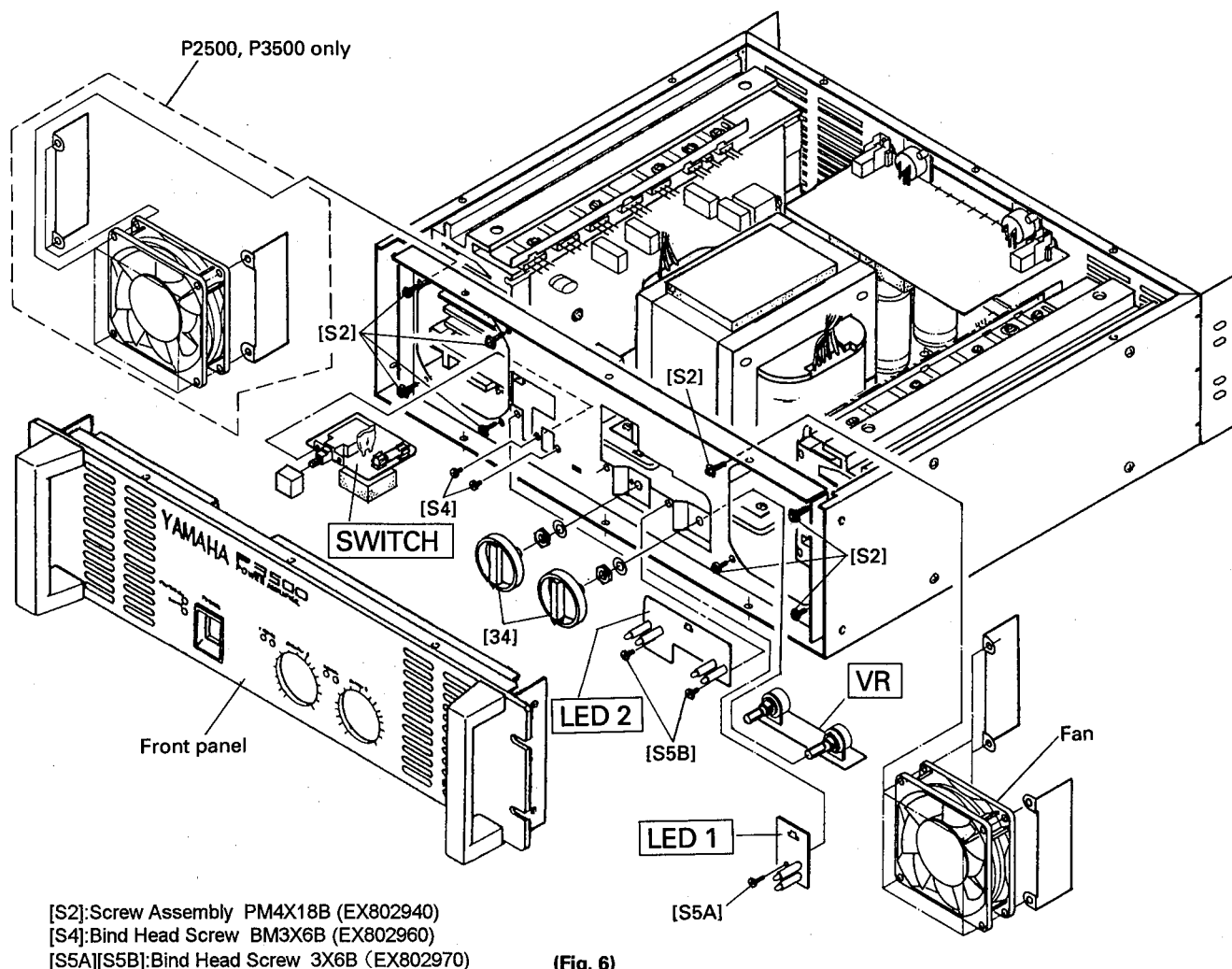
- 8-1. Remove the top cover. (See procedure 1)
- 8-2. Remove the front panel. (See procedure 5)
- 8-3. Remove the two (2) screws marked [S5B], then the LED2 circuit board can be removed. (Fig. 6)

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

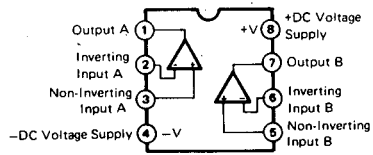
- 10-1. Remove the top cover. (See procedure 1)
- 10-2. Remove the front panel. (See procedure 5)
- 10-3. Remove the four (4) screws marked [S2], then the fan can be removed. (Fig. 6)



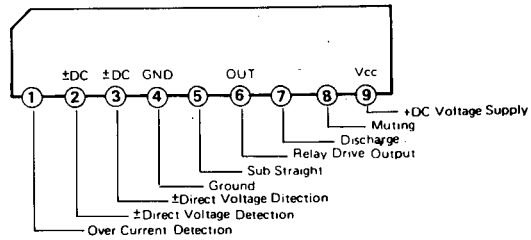
(Fig. 6)

■ IC BLOCK DIAGRAM

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

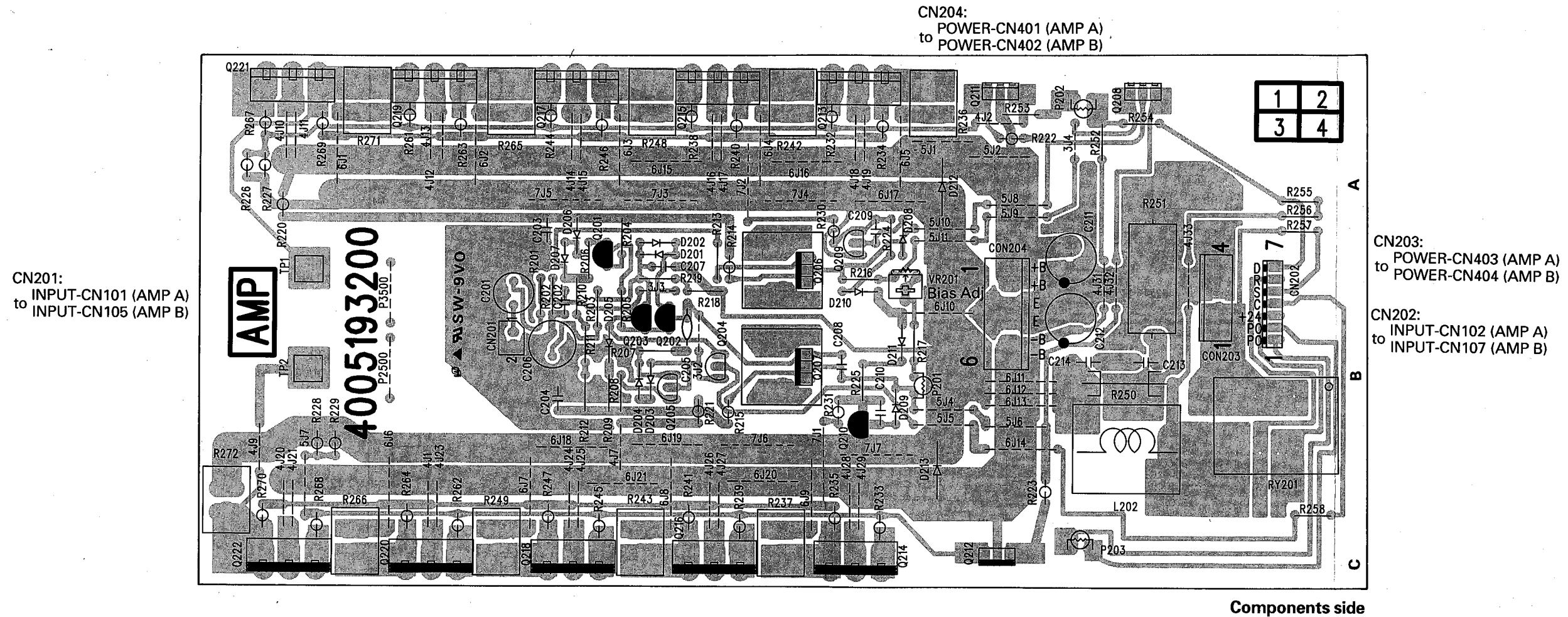


- **TA7317P (IG034800)**
Relay Driver



■ CIRCUIT BOARDS

● AMP Circuit Board (P3500, P2500)



Notes

- Circuit Board: AMP P3500 (NX814290) U,C,V,H,B
Circuit Board: AMP P2500 (NX814270) U,C,V,H,B
- Electrolytic Cap.
C201: AF 47.0 16V (FX802460)
C211,212: AF 4.7 100V (FX802440) P2500
C211,212: AF 4.7 160V (FX802450) P3500
 - Monolithic Capacitor
C202: MO 470P (FX802590)
 - Mylar Cap.
C203,204,213,214: MA 0.1 100V K (FX802550)
C209,210: MA 0.0022 100V (FX802360)
 - Polypropylene Film Cap.
C205: NPP POLY 1500P (FX802600)
 - Electrolytic Cap.-BP
C206: AF 100.0 25V (FX802470)
 - 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)

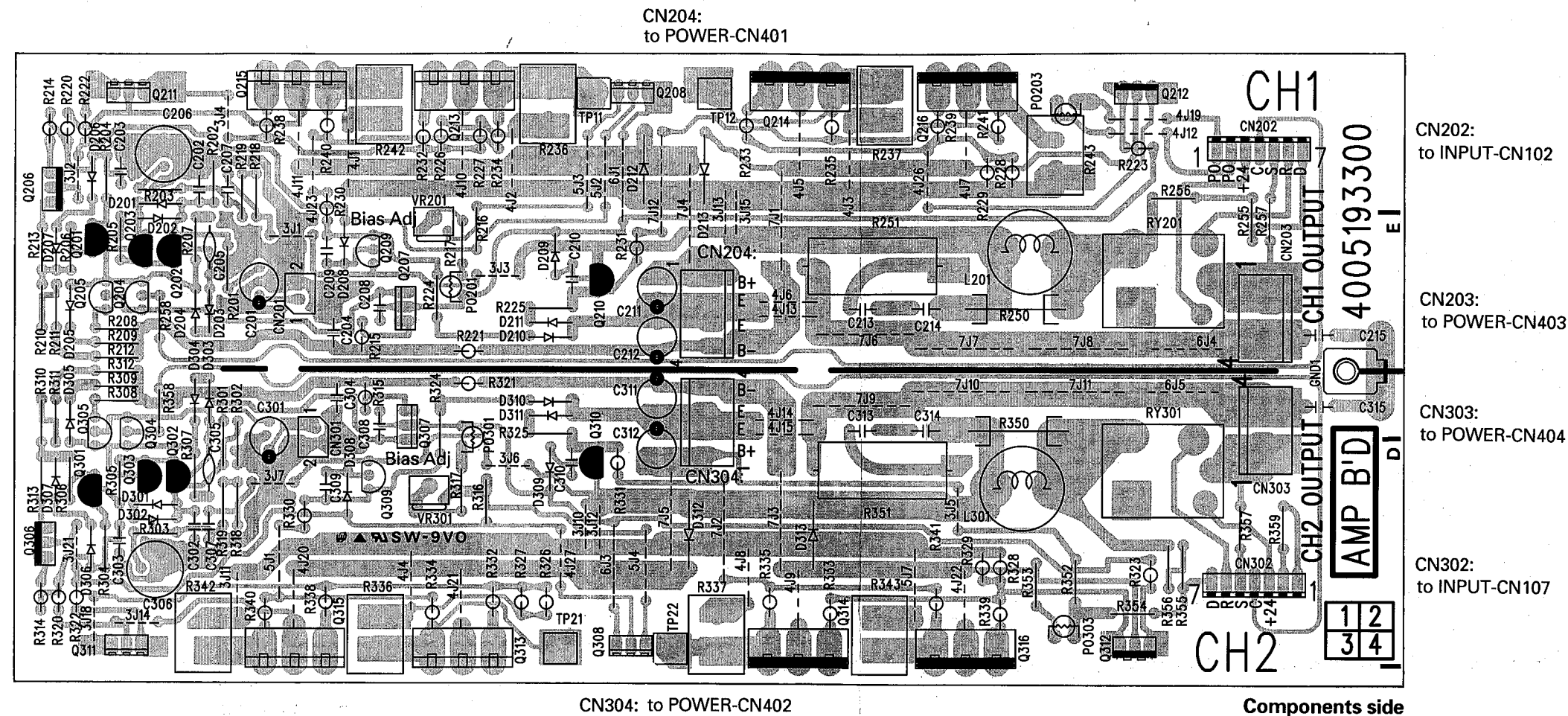
21. Heat Sink

- (BX800870)

22. Bind Head Tapping Screw

- #2BTC 3X6 Y (EX803110)

• AMP Circuit Board (P1500)



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 Capacitor

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

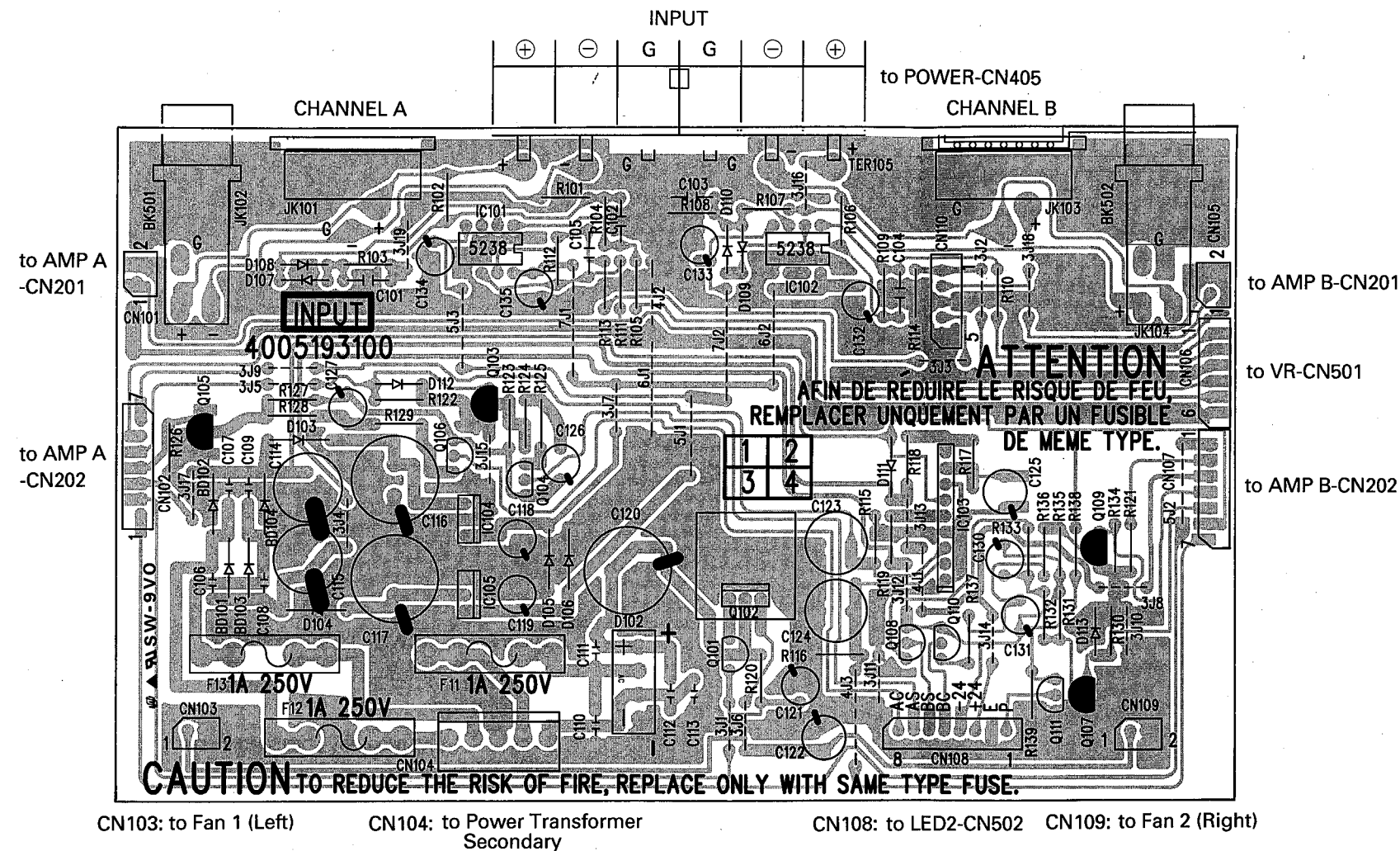
CN202: 7P (LX803330)

CN302: 7P (LX803340)

22. Ground Terminal

GND1: (BX800840)

• INPUT Circuit Board (P3500, P2500, P1500)



Components side

Notes)

- Circuit Board: INPUT (NX814920) U,C,V
Circuit Board: INPUT (NX814930) H,B
- Ceramic Capacitor-SL
C101,102,103,
104: CE SL 56P 50V J (FG651560)
C105: CE SL 10P 50V J (FG651100)
 - Ceramic Capacitor
C106,107,108,109,
110,111,112,
113: CE F 4700P 500V Z (FX802540)
 - 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)
 - 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

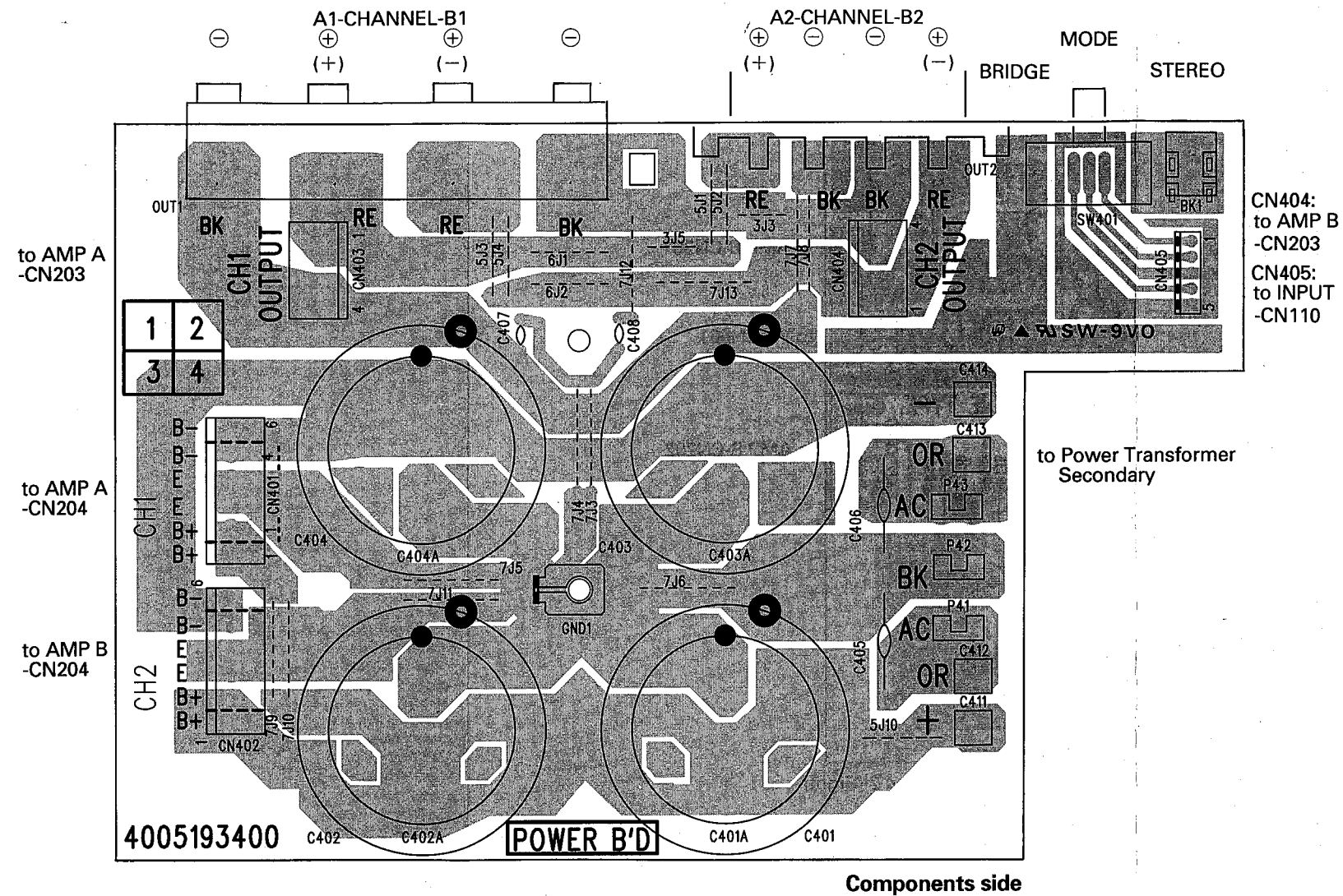
18. Heat Sink

- (BX800860)

19. Bind Head Tapping Screw

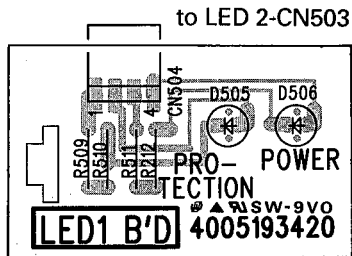
- #2BTC 3X6 Y (EX803110)

• POWER Circuit Board (P3500, P2500, P1500)



- Notes)
- Circuit Board: POWER P3500 (NX814960)
 - Circuit Board: POWER P2500 (NX814950)
 - Circuit Board: POWER P1500 (NX814940)
- 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)
 - Ceramic Cap.
C407,408: CE 0.01 50V (FX802530)
 - Slide Switch
SW401: SSP322SB011 (KX803990) MODE
 - Bracket, PCB
BK1: (AX814170)
 - Ground Terminal
GND1: (BX800840)
 - DC terminal
OUT1: 4P (LX803020) CHANNEL A-1,B-1
OUT2: 4P (LX803040) CHANNEL A-2,B-2
 - Terminal
P41,42,43: 250T (LX803240)
 - Connector
CN401,402: 11436P (LX803440)
CN403,404: 11434P (LX803420)
 - Connector Assembly
CN405: 5P (LX803310)
ORANGE (LX803280)
RED (LX803300)
BLACK (LX803290)

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

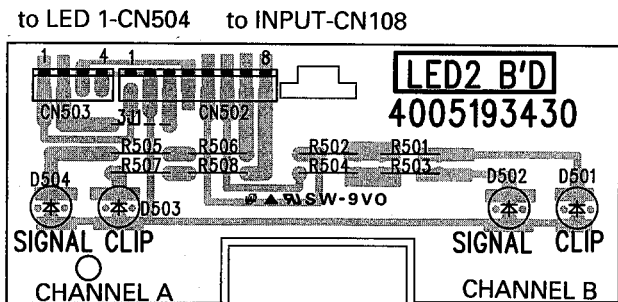


Components side

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)

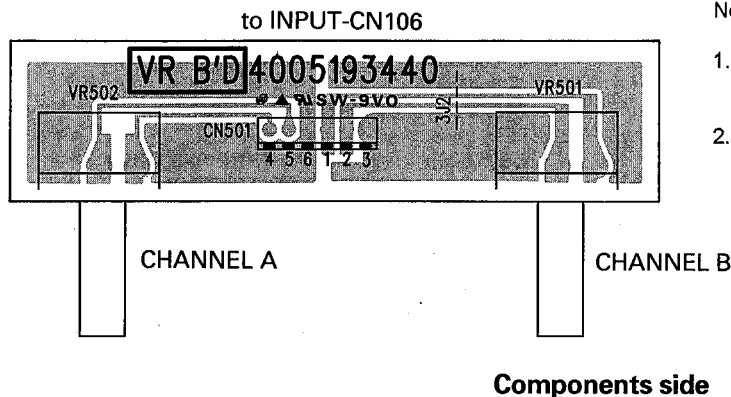


Components side

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)



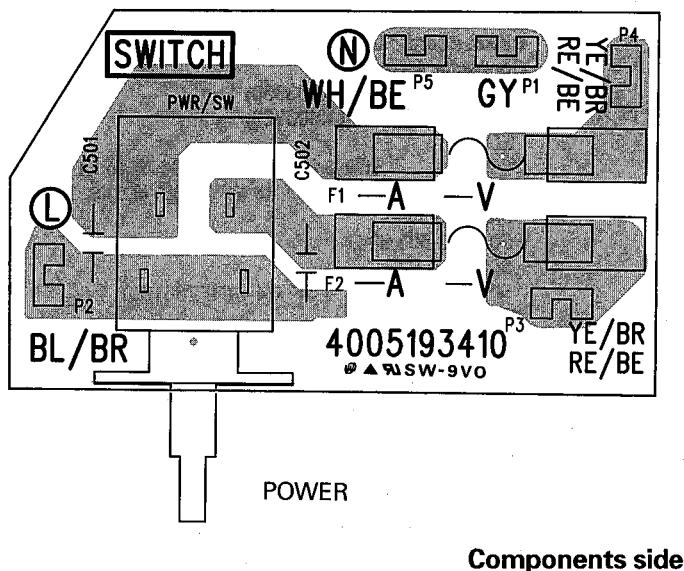
Notes)

- 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)



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 $\pm 10\%$

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.	

P3500/P2500/P1500**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 $\pm$ 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 $\pm$ 1.2 dB
P2500			31 dB $\pm$ 1.2 dB
P1500			29 dB $\pm$ 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 $\pm 10\%$.

First GROUND the INPUT terminal.

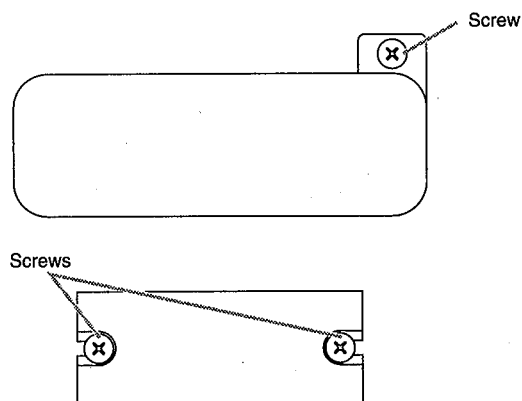
Adjustment item	Adjust	Test Point	Rating	Conditions	Model
IDLE CURRENT	VR201	TP1, TP2	$15 \text{ mV} \pm 2 \text{ mV}$	Wait 15 minutes after turning power on.	P3500 P2500
	VR201	TP11, TP12	$15 \text{ mV} \pm 2 \text{ mV}$	Wait 15 minutes after turning power on.	P1500
	VR301	TP21, TP22	$15 \text{ mV}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

* VR201, TP1 and TP2 are located on the AMP circuit boards of P3500, P2500.

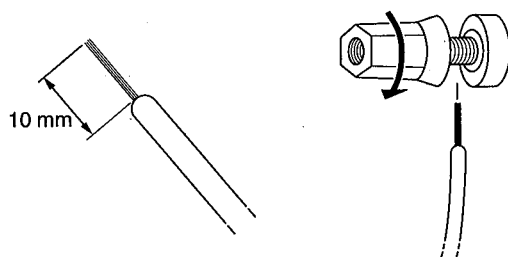
* VR201, VR301, TP11, TP12, TP21 and TP22 are located on the AMP circuit board of P1500.

■ CAUTION FOR SPEAKER CONNECTION

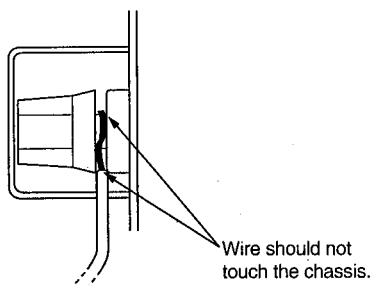
1. Turn off the POWER switch.
2. Remove the cover attachment screw(s) and remove the protective cover from the speaker terminals.
* All U.S. models and the Canadian P1500 do not have protective covers.



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 polarity.



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.

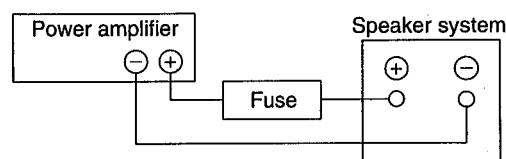


4. Reattach the protective cover over the speaker terminals.

• 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.

$$P_0 = I^2 R \rightarrow I = \sqrt{\frac{P_0}{R}}$$

P_0 [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

ELECTRICAL PARTS	1
OVERALL ASSEMBLY (P3500/P2500)	6
OVERALL ASSEMBLY (P1500)	10~13

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 equal 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	05400Y0032AP	
	NX814270	Circuit Board	AMP P2500 EX	05400Y0022AP	
	NX814250	Circuit Board	AMP P1500 EX	05400Y0012AP	
	NX814920	Circuit Board	INPUT U,C,V	05400Y0012IP	
	NX814930	Circuit Board	INPUT H,B	05400Y0014IP	
	NX814970	Circuit Board	LED1	05400Y1011PW-03	
	NX814980	Circuit Board	LED2	05400Y0011PW-04	
	NX814960	Circuit Board	POWER P3500,A350	05400Y0031PW-01	
	NX814950	Circuit Board	POWER P2500,A250	05400Y0021PW-01	
	NX814940	Circuit Board	POWER P1500,A150	05400Y0011PW-01	
	NX814890	Circuit Board	SWITCH P3500 U,C,V	05400Y0032PW-02	
	NX814900	Circuit Board	SWITCH P3500 H,B	05400Y0034PW-02	
	NX814860	Circuit Board	SWITCH P2500 U,C,V	05400Y0022PW-02	
	NX814870	Circuit Board	SWITCH P2500 H,B	05400Y0024PW-02	
	NX814830	Circuit Board	SWITCH P1500 U,C,V	05400Y0012PW-02	
	NX814840	Circuit Board	SWITCH P1500 H,B	05400Y0014PW-02	
	NX814990	Circuit Board	VR	05400Y0011PW-05	
	NX814290	Circuit Board	AMP P3500 EX	05400Y0032AP	
	NX814270	Circuit Board	AMP P2500 EX	05400Y0022AP	
	LX803380	Connector	MOX2P	4428595002	
	LX803330	Connector Assembly	7P	4355893303	
	LX803420	Connector	11434P	4428596604	
	LX803440	Connector	11436P	4428596606	
	FX802460	Electrolytic Cap.	AF 47.0 16V	3409547031	
	FX802590	Monolithic Capacitor	MO 470P	3688471118	
	FX802550	Mylar Cap.	MA 0.1 100V K	3609104122-T	
	FX802600	Polypropylene Film Cap.	NPP POLY 1500P	3698152198	
	FX802470	Electrolytic Cap.-BP	AF 100.0 25V	3409810141-T	
	FX802580	Maica Cap.	MI 22P 500V P2500	3678220177	
	FX802570	Maica Cap.	MI 15P 500V P3500	3678150177	
	FX802560	Maica Cap.	MI 5P 500V	3678050177	
	FX802360	Mylar Cap.	MA 0.0022 100V	3609222120-T	
	FX802440	Electrolytic Cap.	AF 4.7 100V	3409247991-T	
	FX802450	Electrolytic Cap.	AF 4.7 160V P3500	3409247992-T	
	IX807210	Diode	1N4148	2058304100	
	IX807390	Diode	1SS142	2058322100	
	IX807370	Diode	PS2010	2058100110	
	GX803940	Coil	2uH	2648099900	
	IX807420	Positive Thermistor	PTH59F04BE471TS	2438007994	
	IX807410	Positive Thermistor	PTH9M04BE222TS2	2438007993	
	IX807430	Positive Thermistor	PTH9M04BH471TS	2438007995	
	IX807300	Transistor	2SA1268 KTA970	2008206104-T	
	IX807160	Transistor	2SC3200 KTC2240BL	2008606108-T	
	IX807290	Transistor	2SA1546	2008005999	
	IX807310	Transistor	2SC4001	2008405999	
	IX807170	Transistor	2SC4370 KTC4370A	2028407990	
	IX807340	Transistor	2SA1659	2028107984	
	IX807350	Transistor	2SD2155	2028407112	
	IX807360	Transistor	2SC4029 P3500	2028407121	
	IX807320	Transistor	2SB1429	2028107108	
	IX807330	Transistor	2SA1553 P3500	2028107117	
	KX804080	Relay	RLY31H42	5528009810	
	HF755270	Carbon Resistor	CF 270.0 1/4 J	3009271973	
	HF757470	Carbon Resistor	CF 47.0K 1/4 J	3009473973	
	HX807690	Metal Film Resistor	MF 1K 1/2 F P2500	3003100953	
	HX807710	Metal Film Resistor	MF 820 1/2 F P3500	3004820953	
	HF755560	Carbon Resistor	CF 560.0 1/4 J	3009561973	
	HF757120	Carbon Resistor	CF 12.0K 1/4 J	3009123973	
	HF756100	Carbon Resistor	CF 1.0K 1/4 J	3009102973	
	HF755220	Carbon Resistor	CF 220.0 1/4 J	3009221973	
	HF757680	Carbon Resistor	CF 68.0K 1/4 J	3009683973	
	HF754100	Carbon Resistor	CF 10.0 1/4 J	3009100973	
	HX807790	Fuse Resistor	NFR 82.0 1/4 J	3089820275	
	HF756180	Carbon Resistor	CF 1.8K 1/4 J	3009182973	
	HF755470	Carbon Resistor	CF 470.0 1/4 J	3009471973	
	HX807670	Metal Film Resistor	MF 22.0K 1/2 F	3002220953	
	HX807760	Fuse Resistor	NFR 10.0 1/4 J	3089100275	

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 T P	8109230061
*	NX814250	Circuit Board	AMP P1500 EX	A M P シート	05400Y0012AP
*	LX803380	Connector	MOX2P	コネクタ	4428595002
*	LX803330	Connector Assembly	7P	コネクタ A s s ' y	4355893303
*	LX803340	Connector Assembly	7P	コネクタ A s s ' y	4355893313
*	LX803420	Connector	11434P	コネクタ	4428596604
*	BX800840	Ground Terminal		G N D 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	B P 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	温度補償用ボジスタ	2438007994
*	IX807410	Positive Thermistor	PTH9M04BE222TS2	温度検知用ボジスタ	2438007993
*	IX807430	Positive Thermistor	PTH9M04BH471TS	温度補償用ボジスタ	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

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

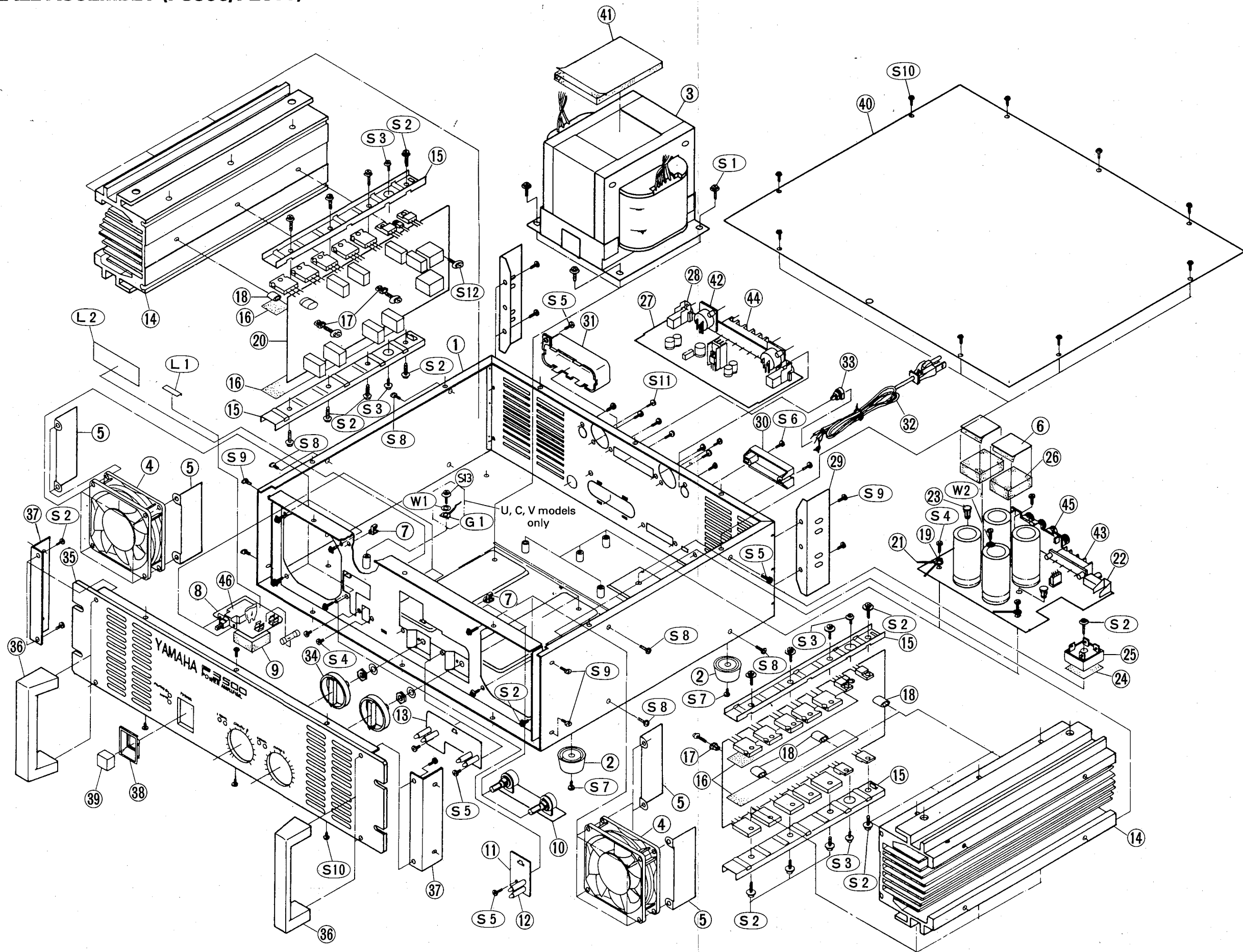
Ref.	Part No.	Description		部品名	Remarks	ランク
* * * *	IX807250 HF756150 IX807130	LED Carbon Resistor LED Limiter	SLR-34UR R3 RE CF 1.5K 1/4 J	LED カーボン抵抗 LED スペーサー	2308232222 POWER 3009152973 8545993630	
* * * *	NX814980 LX803350 LX803320 IX807250	Circuit Board Connector Assembly Connector Assembly LED	LED2 8P 4P SLR-34UR R3 RE	LED 2 シート コネクタ Ass'y コネクタ Ass'y LED	05400Y0011PW-04 4355893415 4355893101 2308232222 CLIP	
* * * *	IX807400 HF756150 IX807130	LED Carbon Resistor LED Limiter	EL 204GD R3 GR CF 1.5K 1/4 J	LED カーボン抵抗 LED スペーサー	2308232264 SIG. 3009152973 8545993630	
* * * * *	NX814960 NX814950 NX814940 LX803440 LX803420	Circuit Board Circuit Board Circuit Board Connector Connector	POWER P3500,A350 POWER P2500,A250 POWER P1500,A150 11436P 11434P	POWER シート POWER シート POWER シート コネクタ コネクタ	05400Y0031PW-01 05400Y0021PW-01 05400Y0011PW-01 4428596606 4428596604	
* * * * *	LX803310 FX802480 FX802510 FX802520 FX802490	Connector Assembly Electrolytic Cap. Electrolytic Cap. Electrolytic Cap. Electrolytic Cap.	5P AF 6800 80V P1500 AF 6800 100V P2500 AF 9000 110V P3500 POL 0.33 250 P1500	コネクタ Ass'y ケミコン ケミコン ケミコン ケミコン	4355893013 3419068208 3419568198 3419590208 3419334153	
* * * * *	FX802500 FX802530 AX814170 BX800840 LX803020	Electrolytic Cap. Ceramic Cap. Bracket, PCB Ground Terminal DC terminal	POL 0.47 250 CE 0.01 50V 4P	ケミコン セラコン 基板ブラケット GND ターミナル DC ターミナル	3419474153 3509103130-T 6505956710 4235007210 4438194310	
* * *	LX803040 LX803240 KX803990	Screw Terminal Terminal Slide Switch	4P 250T SSP322SB011	ネジ式ターミナル ターミナル スライドスイッチ	OUT1 4465997704 OUT2 4465998210 4618001110	
* * *	LX803280 LX803300 LX803290	Connector Assembly Connector Assembly Connector Assembly	ORANGE RED BLACK	コネクタ Ass'y コネクタ Ass'y コネクタ Ass'y	MODE 4353988201 4355892801 4355892701	
* * * *	NX814890 NX814900 △ FX802340 △ KX804050	Circuit Board Circuit Board Ceramic Cap. Fuse	SWITCH P3500 U,C,V SWITCH P3500 H,B CE 0.01 400V 10A/125V U,C,V	スイッチシート スイッチシート セラコン ヒューズ	05400Y0032PW-02 05400Y0034PW-02 3549103107 5508423823	
* * * *	△ KX804020 △ KX803820 LX803240 CX814140	Fuse Push Switch Terminal Fuse Holder	4A/250V H,B 250T CLIP J,U,C,V	ヒューズ プッシュスイッチ ターミナル ヒューズクリップ	5508413334 4628988610 POWER 4465998210 4255000410	
* *	CX814150 FX802610	Fuse Holder Tube, Capacitor	CLIP H,B H,B	ヒューズクリップ チューブ	4458999110 4835002010	
* * * *	NX814860 NX814870 △ FX802340 △ KX804030 △ KX804010 △ KX803820	Circuit Board Circuit Board Ceramic Cap. Fuse Fuse Push Switch	SWITCH P2500 U,C,V SWITCH P2500 H,B CE 0.01 400V 7A/125V U,C,V 3.15A/250V H,B	スイッチシート スイッチシート セラコン ヒューズ ヒューズ プッシュスイッチ	05400Y0022PW-02 05400Y0024PW-02 3549103107 5508423623 5508413034 4628988610	
* * * *	LX803240 CX814140 CX814150 FX802610	Terminal Fuse Holder Fuse Holder Tube, Capacitor	250T CLIP J,U,C,V CLIP H,B H,B	ターミナル ヒューズクリップ ヒューズクリップ チューブ	POWER 4465998210 4255000410 4458999110 4835002010	
* * *	NX814830 NX814840 △ FX802340	Circuit Board Circuit Board Ceramic Cap.	SWITCH P1500 U,C,V SWITCH P1500 H,B CE 0.01 400V	スイッチシート スイッチシート セラコン	05400Y0012PW-02 05400Y0014PW-02 3549103107	

[illegible]

*New Parts (新規部品)

ランク: Japan only

OVERALL ASSEMBLY (P3500/P2500)



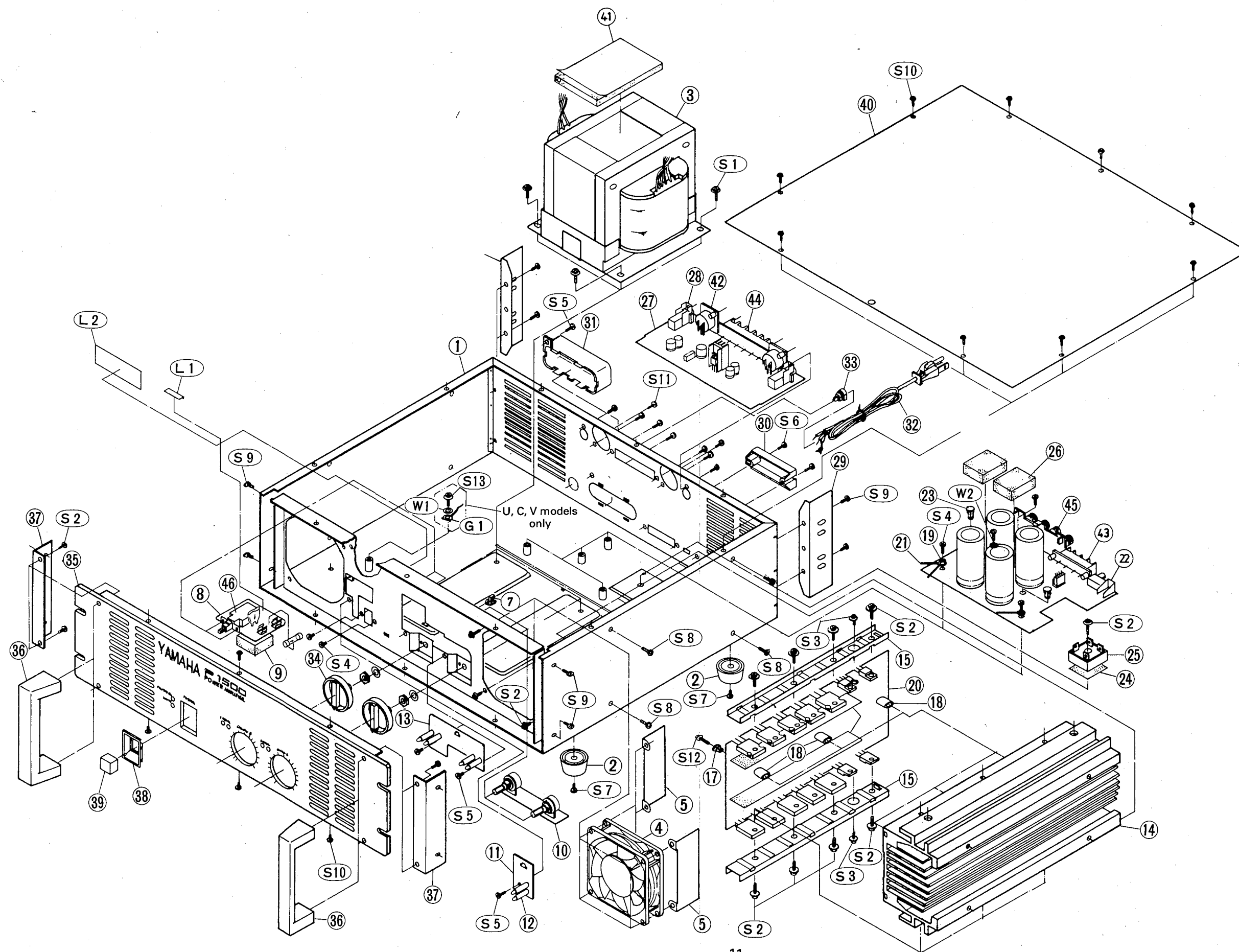
Ref.	Part No.	Description	部品名	Remarks	ランク
		<OVERALL ASSEMBLY>	<総組立>	P3500, P2500	
* 1	AX814630	Chassis	シャーシ	P3500 U	
* 1	AX814640	Chassis	シャーシ	P3500 C	
* 1	AX814650	Chassis	シャーシ	P3500 H	
* 1	AX814660	Chassis	シャーシ	P3500 B	
* 1	AX814670	Chassis	シャーシ	P3500 V	
* 1	AX814570	Chassis	シャーシ	P2500 U	
* 1	AX814580	Chassis	シャーシ	P2500 C	
* 1	AX814590	Chassis	シャーシ	P2500 H	
* 1	AX814600	Chassis	シャーシ	P2500 B	
* 1	AX814610	Chassis	シャーシ	P2500 V	
* 2	CX813890	Rubber Foot	ゴム足	4pcs	
* Δ3	GX803850	Power Transformer	電源トランス	P3500 U,C,V	
* Δ3	GX803860	Power Transformer	電源トランス	P3500 H	
* Δ3	GX803870	Power Transformer	電源トランス	P3500 B	
* Δ3	GX803820	Power Transformer	電源トランス	P2500 U,C,V	
* Δ3	GX803830	Power Transformer	電源トランス	P2500 H	
* Δ3	GX803840	Power Transformer	電源トランス	P2500 B	
* 4	JX800710	DC Fan	D C ファン	2pcs	
* 5	AX814180	Bracket, Fan	ファンブラケット	2pcs	
* 6	CX813900	Insulation Sheet	絶縁シート	P3500, A350	
* 7	LX803100	Wire Clamp	ワイヤクランプ		
* 8	NX814890	Circuit Board	SWITCH P3500 U,C,V	05400Y0032PW-02	
* 8	NX814900	Circuit Board	SWITCH P3500 H,B	05400Y0034PW-02	
* 8	NX814860	Circuit Board	SWITCH P2500 U,C,V	05400Y0022PW-02	
* 8	NX814870	Circuit Board	SWITCH P2500 H,B	05400Y0024PW-02	
* 9	CX813910	Sponge Guide	スポンジガイド		
* 10	NX814990	Circuit Board	VRシート	05400Y0011PW-05	
* 11	NX814970	Circuit Board	LED1シート	05400Y0011PW-03	
* 12	IX807130	LED Limiter	LEDスパーサー		
* 13	NX814980	Circuit Board	LED2シート	05400Y0011PW-04	
* 14	BX800810	Heat Sink	放熱板		
* 15	AX814210	Bracket, Transistor	TRブラケット		
* 16	CX813880	Cool Sheet	放熱シート	P3500, A350	
* 16	CX813870	Cool Sheet	放熱シート	P2500, A250	
* 17	CX813850	Spacer Holder	スパーサーホルダー	6pcs	
* 18	CX813840	Spacer	スパーサー	6pcs	
* 19	NX814290	Circuit Board	AMP P3500 EX	05400Y0032AP	
* 19	NX814270	Circuit Board	AMP P2500 EX	05400Y0022AP	
* 20	NX814960	Circuit Board	POWER P3500, A350	05400Y0031PW-01	
* 20	NX814950	Circuit Board	POWER P2500, A250	05400Y0021PW-01	
* 21	LX803080	Wire Clamp	ワイヤクランプ	3pcs	
* 22	AX814170	Bracket, PCB	基板ブラケット		
* 23	AX814190	Card Board Support	サポート	2pcs	
* 24	CX813830	Cool Sheet	放熱シート		
* 25	IX807120	Diode	ダイオード	P3500, A350	
* 25	IX807110	Diode	ダイオード	P2500, A250	
* 26	CX813820	Sponge Rubber	スポンジ	2pcs	
* 27	NX814920	Circuit Board	INPUT U,C,V	05400Y0012IP	
* 27	NX814930	Circuit Board	INPUT H,B	05400Y0014IP	
* 28	AX814160	Bracket, Jack	JACKブラケット	2pcs	
* 29	AX814150	Bracket, Rear	リアブラケット	2pcs	
* 30	LX803070	Terminal Cover	ターミナルカバー	J,C,H,B	
* 31	LX803060	Housing, Terminal	ハウジング	J,C,H,B	
* Δ32	MX801620	AC Cord	電源コード	P3500 U,C,V	
* Δ32	MX801630	AC Cord	電源コード	P2500 U,C,V	
* Δ32	MX801610	AC Cord	電源コード	H	
* Δ32	MX801600	AC Cord	電源コード	B	
* 33	CX612970	Cord Stopper	コード止め	U,C,V	
* 33	CX813810	Cord Stopper	コード止め	H,B	
* 34	CX813800	Knob, Rotary	ロータリーノブ	CHANNEL A,B	
* 35	AX814120	Front Panel	フロントパネル	P3500 U,C,V,H,B	
* 35	AX814130	Front Panel	フロントパネル	P2500 U,C,V,H,B	
* 36	AX814110	Handle	ハンドル	2pcs	
* 37	AX814450	Bracket Handle	ハンドルブラケット	2pcs	
* 38	CX813790	Bezel	ベゼル		
* 39	CX813780	Knob, Push	ノブ	POWER	
* 40	AX814090	Top Cover	トップカバー	U	
* 40	AX814080	Top Cover	トップカバー	J,C,V,H,B	
* 41	CX813770	Sponge, Power Transformer	スポンジ		

*New Parts (新規部品)

ランク: Japan only

[illegible]

■ OVERALL ASSEMBLY (P1500)



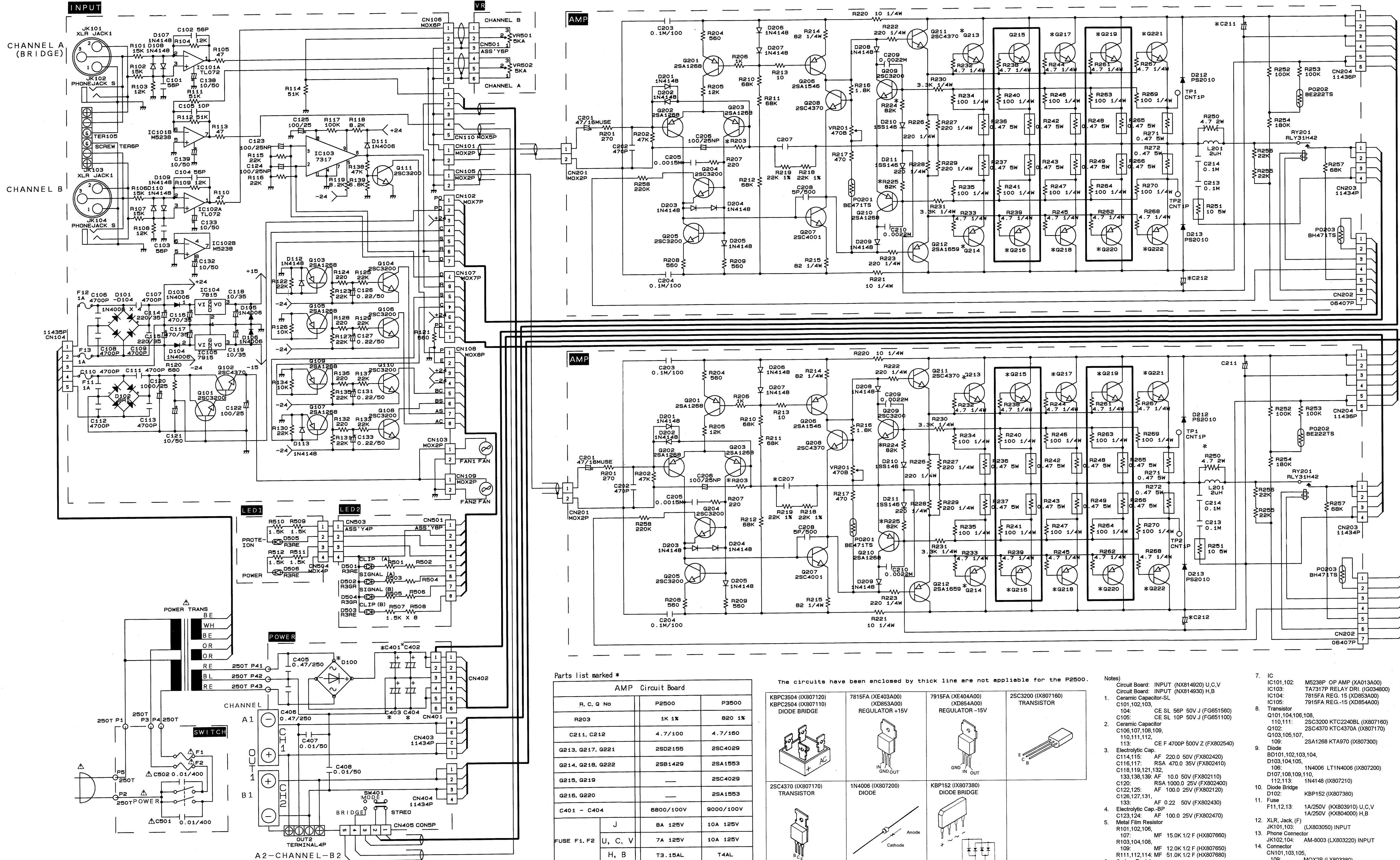
Ref.	Part No.	Description	部品名	Remarks	ランク
		<OVERALL ASSEMBLY>	<総組立>	P1500	
* 1	AX814220	Chassis	シャーシ	U	
* 1	AX814230	Chassis	シャーシ	C	
* 1	AX814240	Chassis	シャーシ	H	
* 1	AX814250	Chassis	シャーシ	B	
* 1	AX814260	Chassis	シャーシ	V	
* 2	CX813890	Rubber Foot	ゴム足	4pcs	
* Δ3	GX803790	Power Transformer	電源トランス	U,C,V	
* Δ3	GX803800	Power Transformer	電源トランス	H	
* Δ3	GX803810	Power Transformer	電源トランス	B	
* 4	JX800710	DC Fan	D C ファン	2pcs	
* 5	AX814180	Bracket, Fan	ファンブラケット		
* 7	LX803100	Wire Clamp	ワイヤクランプ	05400Y0011PW-01	
* 8	NX814940	Circuit Board	P O W E R シート		
* 9	CX813910	Sponge Guide	スポンジガイド		
* 10	NX814990	Circuit Board	V R シート	05400Y0011PW-05	
* 11	NX814250	Circuit Board	L E D 1 シート	05400Y0011PW-03	
* 12	IX807130	LED Limiter	L E D スペーサー		
* 13	NX814980	Circuit Board	L E D 2 シート	05400Y0011PW-04	
* 14	BX800820	Heat Sink	放熱板		
* 15	AX814200	Bracket, Transistor	ブラケット	2pcs	
* 16	CX813860	Cool Sheet	放熱シート	5pcs	
* 17	CX813850	Spacer Holder	スペーサーホルダー	6pcs	
* 18	CX813840	Spacer	スペーサー	05400Y0012AP	
* 19	NX814250	Circuit Board	A M P シート		
* 20	NX814940	Circuit Board	P O W E R シート	05400Y0011PW-01	
* 21	LX803080	Wire Clamp	ワイヤクランプ	3pcs	
* 22	AX814170	Bracket, PCB	基板ブラケット		
* 23	AX814190	Card Board Support	サポーター	2pcs	
* 24	CX813830	Cool Sheet	放熱シート		
* 25	IX807110	Diode	ダイオード	2pcs	
* 26	CX813820	Sponge Rubber	スポンジ	05400Y0012IP	
* 27	NX814920	Circuit Board	I N P U T シート	05400Y0014IP	
* 27	NX814930	Circuit Board	I N P U T シート		
* 28	AX814160	Bracket, Jack	J A C K ブラケット	2pcs	
* 29	AX814150	Bracket, Rear	リアブラケット	2pcs	
* 30	LX803070	Terminal Cover	ターミナルカバー	J,C,H,B	
* 31	LX803060	Housing, Terminal	ハウジング	J,C,H,B	
* Δ32	MX801630	AC Cord	電源コード	U,C,V	
* Δ32	MX801610	AC Cord	電源コード	H	
* Δ32	MX801600	AC Cord	電源コード	B	
* 33	CX612970	Cord Stopper	コード止め	U,C,V	
* 33	CX813810	Cord Stopper	コード止め	H,B	
* 34	CX813800	Knob, Rotary	ロータリーノブ	CHANNEL A,B	
* 35	AX814140	Front Panel	フロントパネル	P1500 U,C,V,H,B	
* 36	AX814110	Handle	ハンドル	2pcs	
* 37	AX814450	Bracket Handle	ハンドルブラケット	2pcs	
* 38	CX813790	Bezel	ベゼル		
* 39	CX813780	Knob, Push	ノブ	POWER	
* 40	AX814090	Top Cover	トップカバー	U	
* 40	AX814080	Top Cover	トップカバー	J,C,V,H,B	
* 41	CX813760	Sponge, Power Transformer	スポンジ		
* 42	LX803050	XLR, Jack, (F)	X L R ジャック	INPUT-CH. A,B	
* 43	LX803040	Screw Terminal	ネジ式ターミナル	SPEAKER-A2,B2	
* 44	LX803030	Screw Terminal	ネジ式ターミナル	INPUT-CH. A,B	
* 45	LX803020	DC terminal	D C ターミナル	SPEAKER-A1,B1	
* 46	KX803820	Push Switch	プッシュスイッチ	POWER	
* S 1	EX802930	Screw Assembly	+ナベ小ネジAssy	4pcs	
* S 2	EX802940	Screw Assembly	+ナベ小ネジAssy	17pcs	
* S 3	EX802950	Screw Assembly	+ナベ小ネジAssy	2pcs	
* S 4	EX802960	Bind Head Screw	+バインド小ネジ	6pcs	
* S 5	EX802970	Bind Head Screw	+バインド小ネジ	4pcs #3BTC	
* S 6	EX802980	Bind Head Tapping Screw	+バインドTPネジ	2pcs #2BTC	
* S 7	EX803010	Bind Head Tapping Screw	+バインドTPネジ	4pcs #2BTC	
* S 8	EX803000	Dot Screw	ボンディング小ネジ	4pcs	
* S 9	EX802990	Dot Screw	ボンディング小ネジ	8pcs #3BTC	
* S10	EX803020	Dot Screw	+ボンディング小ネジ	13pcs #3BTC	
* S11	EX802880	Dot Screw	+バインドTPネジ	11pcs #2BTC	
* S12	EX802890	Screw Assembly	+ナベ小ネジAssy	3pcs	
* S13	EX802900	Screw Assembly	+ナベ小ネジAssy	U,C,V 1pc.	

*New Parts (新規部品)

ランク:Japan only

[illegible]

■ P3500, P2500 OVERALL CIRCUIT DIAGRAM

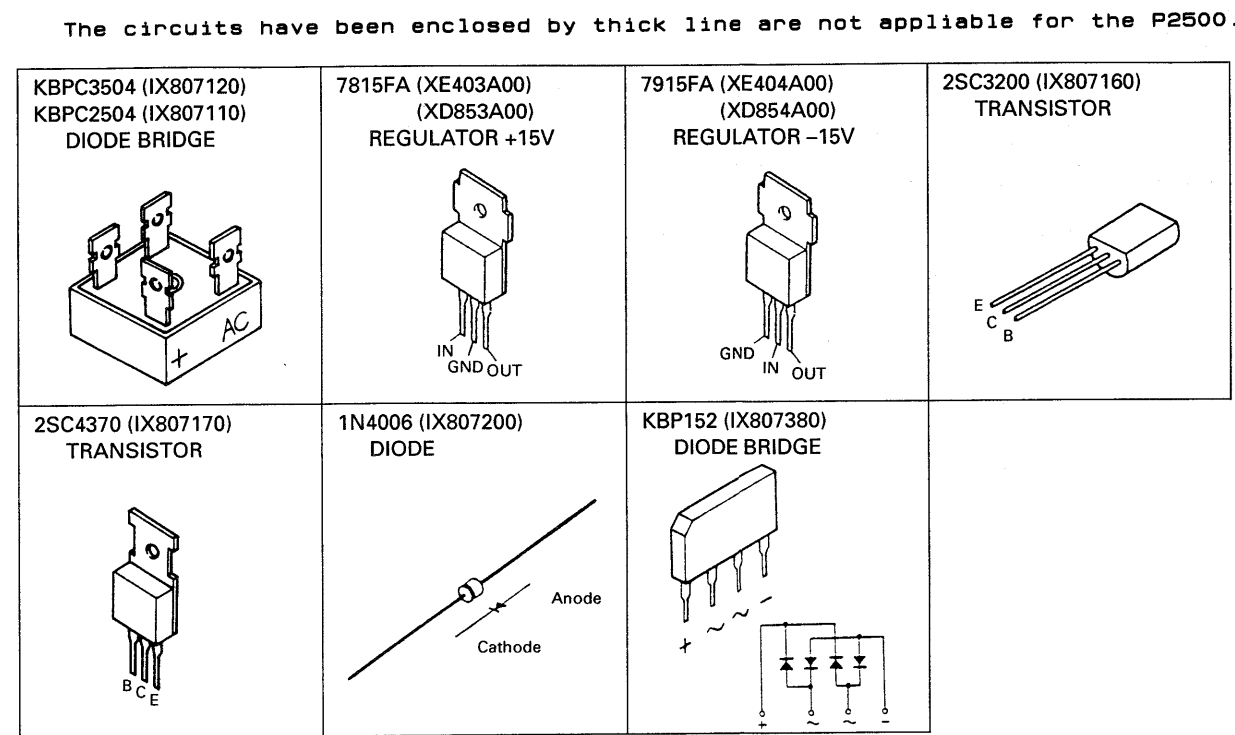


- Notes:
- Circuit Board: AMP P3500 (NX814290) U.C.V.H.B
Circuit Board: AMP P2500 (NX814270) U.C.V.H.B
- Electrolytic Cap.
C201, C202: AF 470 16V (FX802460)
C211, C212: AF 47 100V (FX802440) A350, P3500
C211, C212: AF 47 160V (FX802450) A350, P3500
 - Metallic Capacitor
C202: MO 470P (FX802590)
 - Mylar Cap.
C203, C204, C213: MA 0.1 100V K (FX802550)
C214: MA 0.0022 100V (FX802360)
C205: NPP POLY 1500P (FX802600)
 - Electrolytic Cap.-BP
C206: AF 100.0 25V (FX802470)
 - Maica Cap.
C207: MI 22P 500V (FX802580) A250, P2500
C207: MI 15P 500V (FX802570) A350, P3500
C208: MI 5P 500V (FX802560)
 - Carbon Resistor
R201: CF 270.0 1/4 J (HF755270)
R202: CF 47.0K 1/4 J (HF754700)
R204, R208, R209: CF 560.0 1/4 J (HF755660)
R205: CF 12.0K 1/4 J (HF757120)
R206: CF 82.0K 1/4 J (HF757680)
R207: CF 220.0 1/4 J (HF755220)
R210, R211, R212: 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 (HF754700)
R224, R225: CF 22.0K 1/4 J (HF758100)
R224, R225: CF 100.0K 1/4 J (HF758100)
R254: CF 180.0K 1/4 J (HF758180)
R255, R256: CF 22.0K 1/4 J (HF757220)
R258: CF 220.0K 1/4 J (HF755220)
 - Metal Film Resistor
R203: MF 1K 1/2 F (HX807690) A250, P2500
R203: MF 820 1/2 F (HX807710) A350, P3500
R218, R219: MF 22.0K 1/2 F (HX807670)
 - Fuse Resistor
R214, R215: NFR 62.0 1/4 J (HX807790)
R220, R221: NFR 10.0 1/4 J (HX807790)
R222, R223, R226, R227: NFR 220.0 1/4 J (HX807770)
R228, R229: NFR 220.0 1/4 J (HX807770)
R230, R231: NFR 3.3K 1/4 J (HX807780)
R232, R233, R244, R245: NFR 4.7 1/4 J (HX807540)
R234, R235, R246, R247: NFR 100.0 1/4 J (HX807760)
R248, R249: NFR 10.0 1/4 J (HX807760)
 - Wire Wound Resistor
R271, R272: CE 0.47 5W J (HX807730)
R251: CE 10.0 5W J (HX807740)
 - Metal Oxide Film Resistor
R250: MO 4.7 2W J (HX807720)
 - Transistor
Q201, Q202, Q203: 2SA1268 KTA970 (IX807300)
Q204, Q205: 2SC3200 KTC2240BL (IX807160)
Q206: 2SA1546 (IX807290)
Q207: 2SC4001 (IX807310)
Q208, Q211: 2SC4370 KTC4370A (IX807170)
Q212: 2SA1553 (IX807330)
Q213, Q217, Q221: 2SD2155 (IX807350) A250, P2500
Q213, Q215, Q217: 2SD2155 (IX807350) A350, P3500
Q214, Q218, Q222: 2SB1429 (IX807320) A250, P2500
Q214, Q218, Q222: 2SA1553 (IX807330) A350, P3500
 - Diode
D201, D202, D203, D204: 1N4148 (IX807210)
D210, D211: 1SS142 (IX807390)
D212, D213: PS2010 (IX807370)
 - Coil
L201: 2uH (GX803940)
 - Positive Thermistor
PO201: PTH59F048E471TS (IX807420)
PO202: PTHM048E222TS (IX807410)
PO203: PTHM048E3471TS (IX807430)
 - Relay
RY201: RLY31H42 (KX804080)
 - Terminal
T201: CNT1P (BX800850)
 - Trimmer Potentiometer
VR201: 470B (HX807810)
 - Connector
CN201: MOX2P (LX803380)
CN203: 11434P (LX803420)
CN204: 11436P (LX803440)
CN205: 11436P (LX803440)
CN202: 7P (LX803330)
 - Heat Sink
HS201: (BX800870)
 - Bind Head Tapping Screw
#2BTC 3X6 Y (EX803110)
- Notes:
- Circuit Board: LED1 (NX814970)
- Connector
CN501: 8P (LX803350)
CN503: 4P (LX803320)
 - LED
D505, D506: SLR-34UR R3 RE (IX807250) POWER PROTECTION
 - Carbon Resistor
R509, R510, R511: CF 1.5K 1/4 J (HF756150)
 - LED Limiter
L501: (IX807130)
- Notes:
- Circuit Board: LED2 (NX814980)
- Connector Assembly
CN501: 8P (LX803350)
CN503: 4P (LX803320)
 - LED
D501, D502: SLR-34UR R3 RE (IX807250) CLIP
D502, D504: EL 204GD R3 GR (IX807400) INPUT
 - Carbon Resistor
R501, R502, R503, R504: CF 1.5K 1/4 J (HF756150)
 - LED Limiter
L501: (IX807130)
- Notes:
- Circuit Board: VR (NX814990)
- Rotary Variable Resistor
VR501, VR502: RK1631 1605A6-5KA (HX807800) CHANNEL A, B
 - 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
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 P3500 (NX814860) U.C.V
Circuit Board: SWITCH P2500 (NX814870) H.B
- Ceramic Cap.
C501, C502: CE 0.01 400V (FX802340)
 - Push Switch
(KX803820) POWER
 - Fuse
F1, F2: 10A/125V (KX804050) U.C.V
4A/250V (KX804020) H.B
 - Fuse Holder
C407, C408: CLIP (CX814140) J.U.C.V
CLIP (CX814150) H.B
 - Tube, Capacitor
(FX802610) H.B
 - Terminal
P1, P2, P3, P4: 250T (LX803240)



- Notes:
- Circuit Board: POWER P3500 (NX814860) U.C.V
Circuit Board: POWER P2500 (NX814870) H.B
Circuit Board: POWER P1500 (NX814840) H.B
- Electrolytic Cap.
C401, C402, C403: AF 6800 80V (FX802480) P1500
C401, C402, C403: AF 6800 100V (FX802510) P2500
C401, C402, C403: AF 9000 110V (FX802520) P3500
C405, C406: POL 0.47 250V (FX802500)
 - Push Switch
(KX803820) POWER
 - Fuse
F1, F2: 7A/125V (KX804030) U.C.V
3.15A/250V (KX804010) H.B
 - Fuse Holder
C407, C408: CLIP (CX814140) J.U.C.V
CLIP (CX814150) H.B
 - Tube, Capacitor
(FX802610) H.B
 - Terminal
P1, P2, P3, P4: 250T (LX803240)
- Notes:
- Circuit Board: SWITCH A350 (NX814880) J
Circuit Board: SWITCH P3500 (NX814890) U.C.V
Circuit Board: SWITCH P2500 (NX814900) H.B
- Electrolytic Cap.
C501, C502: CE 0.01 400V (FX802340)
 - Push Switch
(KX803820) POWER
 - Fuse
F1, F2: 10A/125V (KX804050) J
10A/125V (KX804050) U.C.V
4A/250V (KX804020) H.B
 - Fuse Holder
C407, C408: CLIP (CX814140) J.U.C.V
CLIP (CX814150) H.B
 - Tube, Capacitor
(FX802610) H.B
 - Terminal
P1, P2, P3, P4: 250T (LX803240)
- Notes:
- Circuit Board: SWITCH P3500 (NX814890) U.C.V
Circuit Board: SWITCH P2500 (NX814900) H.B
- Electrolytic Cap.
C501, C502: CE 0.01 400V (FX802340)
 - Push Switch
(KX803820) POWER
 - Fuse
F1, F2: 10A/125V (KX804050) J
10A/125V (KX804050) U.C.V
4A/250V (KX804020) H.B
 - Fuse Holder
C407, C408: CLIP (CX814140) J.U.C.V
CLIP (CX814150) H.B
 - Tube, Capacitor
(FX802610) H.B
 - Terminal
P1, P2, P3, P4: 250T (LX803240)