

SRA-5000 SERVICE NOTES

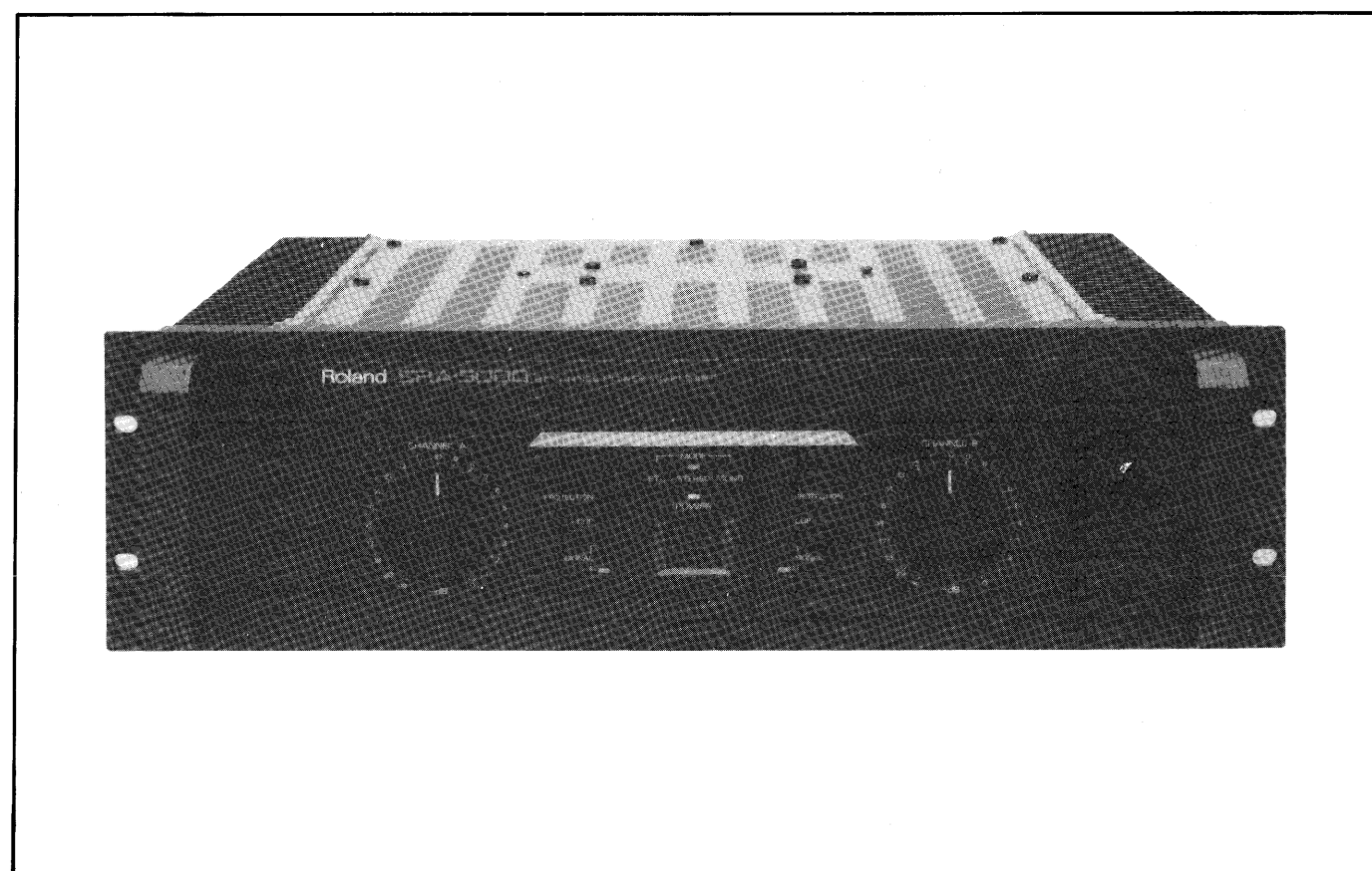
First Edition

2 CHANNEL POWER AMPLIFIER

ERRATA & SUPPLEMENT is attached at the end of the page.
最終頁に正誤表&追加情報があります。

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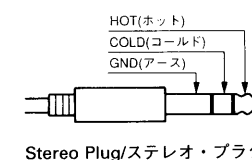
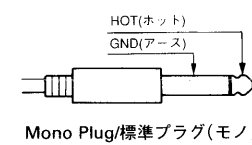
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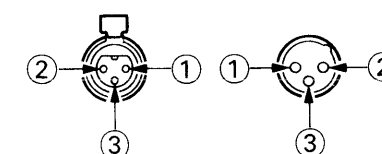
SPECIFICATIONS/仕様

- ◎Rated Output/定格出力 250W x 2 (stereo, 8Ω load, 20Hz~20kHz, 0.1% or less THD /ステレオ 8Ω 負荷, 20Hz~20kHz, 0.1% THD 以下)
400W x 2 (stereo, 4Ω load, 20Hz~20kHz, 0.1% or less THD /ステレオ 4Ω 負荷, 20Hz~20kHz, 0.1% THD 以下)
800W (BTL, 8Ω load, 20Hz~20kHz, 0.1% or less THD /BTL 8Ω 負荷, 20Hz~20kHz, 0.1% THD 以下)
- ◎Frequency Response/周波数特性 10Hz to 100kHz (+0dB -1dB, 1W/8Ω)
- ◎Input Impedance/入力インピーダンス Balanced Input :20kΩ
Unbalanced Input :10kΩ
- ◎Input Sensitivity/入力感度 Balanced Input :+4dBm/-10dBm
Unbalanced input :+4dBm/-10dBm
- ◎Maximum Input/最大許容入力 +24dBm
- ◎Recommended Load Impedance/推奨負荷インピーダンス 4Ω or greater/4Ω 以上 (stereo, MONO)
8Ω or greater/8Ω 以上 (BTL)
- ◎Power Band Width/出力帯域幅 10Hz to 50kHz
(stereo, 8Ω load, 125W, 0.2% or less THD/ステレオ 8Ω, 125W, 0.2% THD 以下)
10Hz to 50kHz
(BTL, 8Ω load, 400W, 0.2% or less THD/BTL 8Ω, 400W, 0.2% THD 以下)
- ◎Total Harmonic Distortion/全高調波歪率 0.002% or less/0.002% 以下
(stereo, 8Ω load, 1kHz, 125W/ステレオ 8Ω 負荷, 1kHz, 125W)
0.003% or less/0.003% 以下
(stereo, 4Ω load, 1kHz, 200W/ステレオ 4Ω 負荷, 1kHz, 200W)
0.002% or less/0.002% 以下
(BTL, 8Ω load, 1kHz, 400W/BTL 8Ω 負荷, 1kHz, 400W)
- ◎S/N Ratio/SN 比 108dB or greater/108dB 以上
(Input terminal with 150Ω, IHF-A/入力 150Ω ターミネート, 感度設定+4dBm, IHF-A)
- ◎Damping Factor/ダンピング・ファクター 250 or greater/250 以上 (8Ω load, 1kHz/8Ω 負荷, 1kHz)
- ◎Channel Separation/チャンネル・セパレーション 90dB or greater/90dB 以上
(8Ω load, 1kHz, 125W, DIN Audio/8Ω 負荷, 1kHz, 125W, DIN Audio)
- ◎Slew Rate/スルー・レイト 35V/usec or greater/35V/usec 以上
(stereo, 8Ω load/ステレオ 8Ω 負荷)
- ◎Power Supply/電源 AC 100 / 117 / 230 / 240 V
- ◎Power Consumption/消費電力 490W (AC100V), 630W (AC117V), 1220W (AC230V), 1220W (AC240V)
- ◎Dimensions/外形寸法 482(W) x 511.5(D) x 144.4(H) mm
19"(W) x 20"-9/64(D) x 5"-11/16(H) inches
(EIU-3U rack mount type/EIA-3U ラック・マウント・タイプ)
- ◎Weight/重量 28kg/61.7lbs
- ◎Accessories/標準付属品 Owner's Manual Set :PNo.26015717
(Common to English/Japanese/和英共通)
- ◎Options/別売品 SYR series (System Rack)
TB series (Hard Case)

◎Input Jacks/インプットジャック

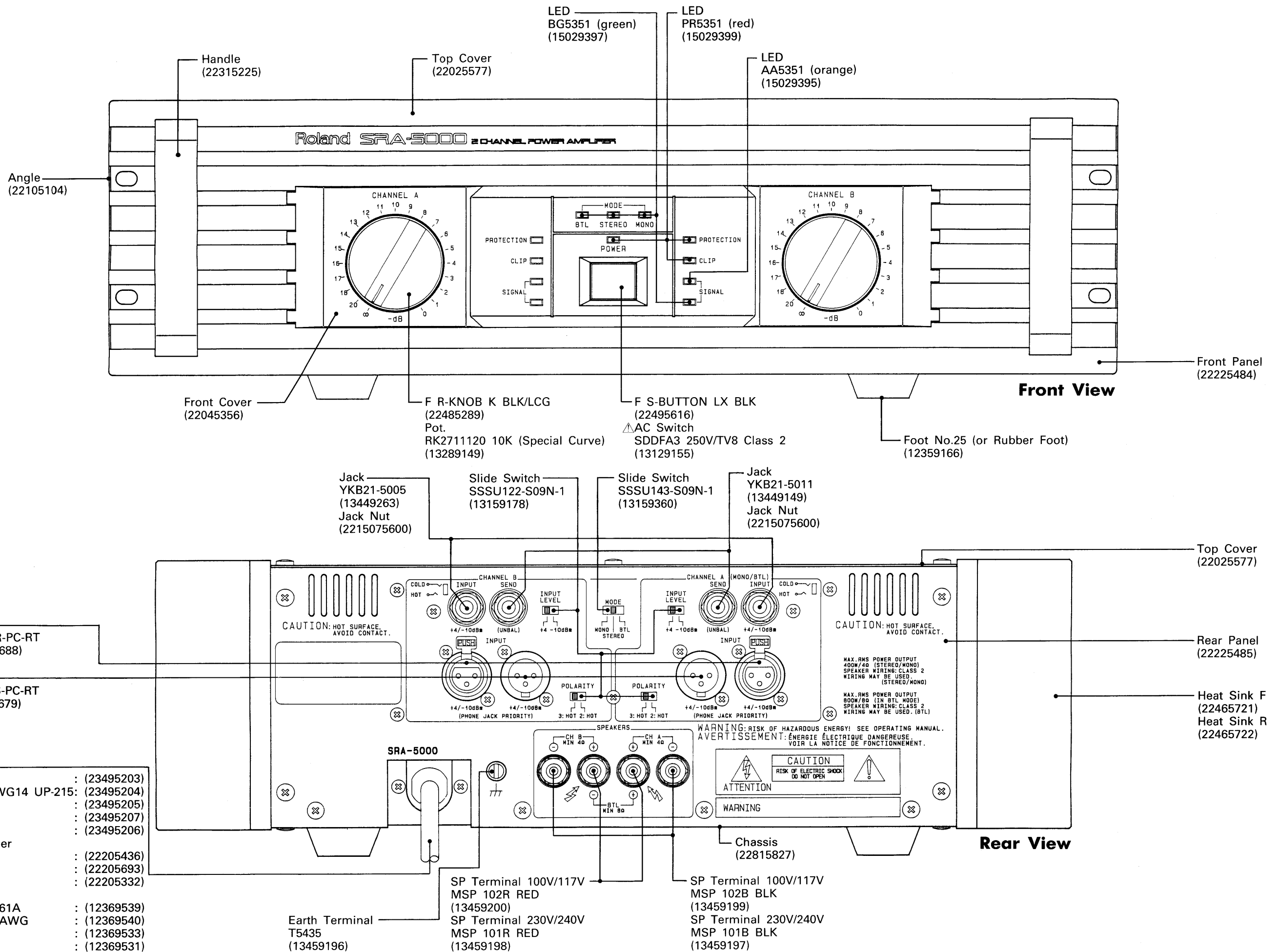


◎Pin positions of the XLR Connectors/XLR コネクタのピン配置



Polarity Switch/ ポラリティー・スイッチ	Polarity/極性		
	①	②	③
2 : HOT	GROUND	HOT	COLD
3 : HOT	GROUND	COLD	HOT

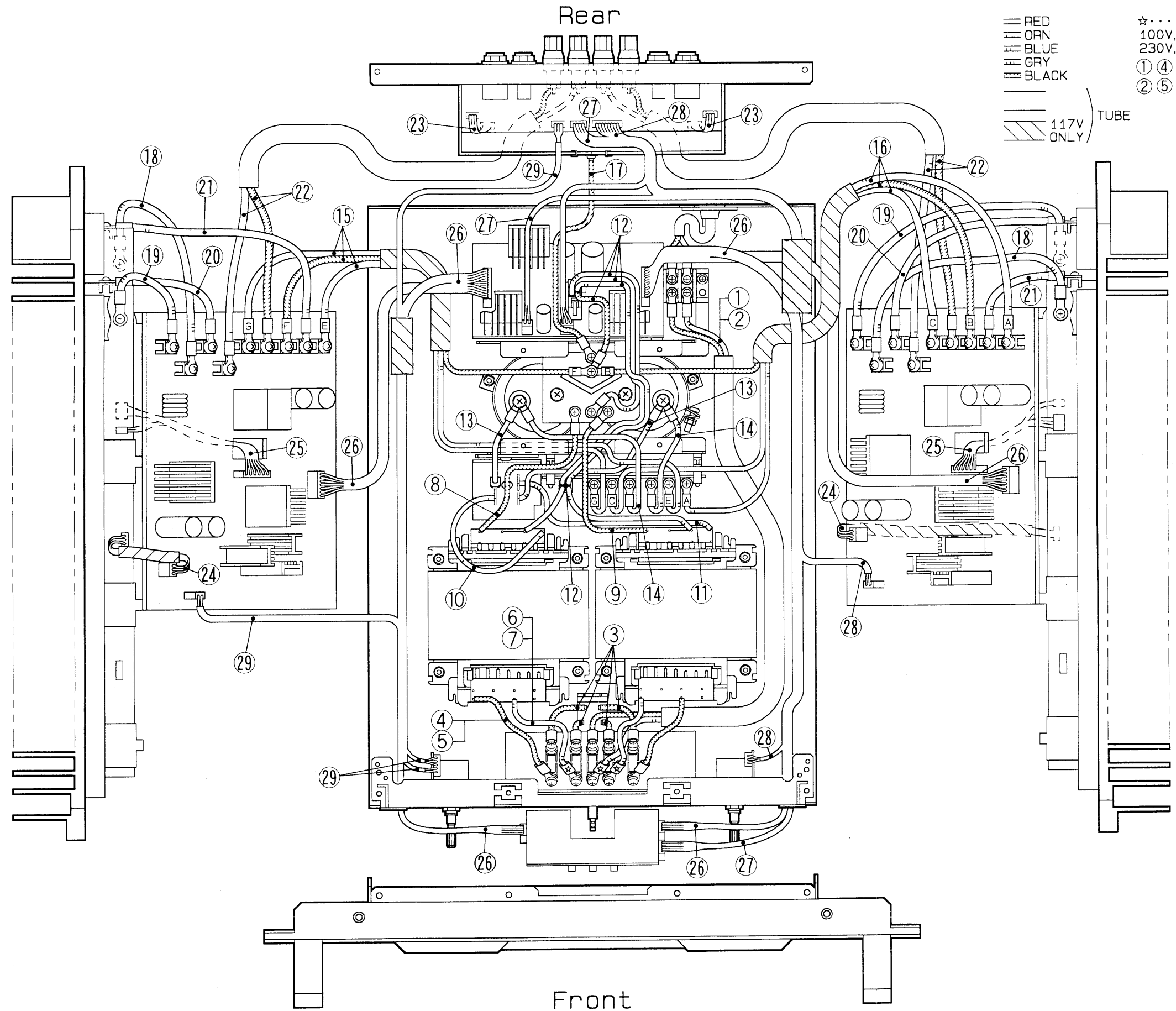
LOCATION OF CONTROLS/パネル配置図



WIRING DIAGRAM/ワイヤリング ダイアグラム

[PARTS]

NO.	PARTS NUMBER	PARTS NAME	
①	23485942	Wiring Harnnes 1	100V/117V
②	23485943	Wiring Harnnes 2	230V/240V
③	23485944	Wiring Harnnes 3	
④	23485945	Wiring Harnnes 4	100V/117V
⑤	23485946	Wiring Harnnes 5	230V/240V
⑥	23485947	Wiring Harnnes 6	100V/117V
⑦	23485948	Wiring Harnnes 7	230V/240V
⑧	23485949	Wiring Harnnes 8	
⑨	23485950	Wiring Harnnes 9	
⑩	23485951	Wiring Harnnes 10	
⑪	23485952	Wiring Harnnes 11	
⑫	23485953	Wiring Harnnes 12	
⑬	23485954	Wiring Harnnes 13	
⑭	23485955	Wiring Harnnes 14	
⑮	23485956	Wiring Harnnes 15	
⑯	23485957	Wiring Harnnes 16	
⑰	23485958	Wiring Harnnes 17	
⑱	23485959	Wiring Harnnes 18	
⑲	23485960	Wiring Harnnes 19	
⑳	23485961	Wiring Harnnes 20	
㉑	23485962	Wiring Harnnes 21	
㉒	23485963	Wiring Harnnes 22	
㉓	23485964	Wiring Harnnes 23	
㉔	23485965	Wiring Harnnes 24	
㉕	23485966	Wiring Harnnes 25	
㉖	23485967	Wiring Harnnes 26	
㉗	23485968	Wiring Harnnes 27	
㉘	23485969	Wiring Harnnes 28	
㉙	23485970	Wiring Harnnes 29	



EXPLODED VIEW/分解図

CAUTION

Notes on repairing the SRA-5000
 Before disassembling, the chemical capacitors C101 and 102 must be discharged.
 When refitting L (transistor holder 220-676) after changing the power transistor, etc. securely tighten the screws 13. (Recommended torque: 11kgf/cm, to a degree that L is deformed lightly)
 If the screws are loose, the power transistor is not discharged properly, leading to a fault.

注意!

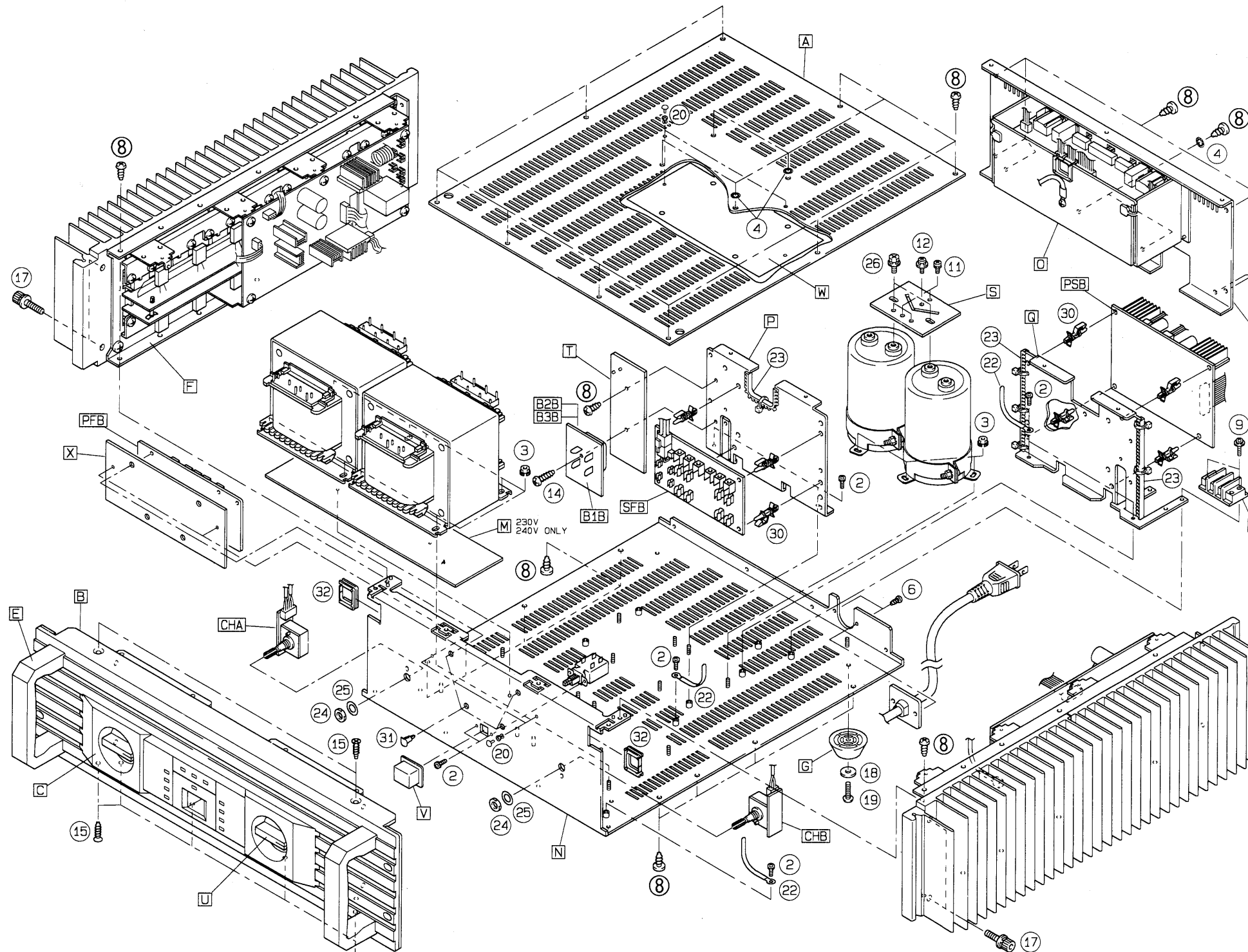
SRA-5000 修理に関する注意
 ・分解前に必ずケミコン C101, 102 の放電, ディスチャージを行ってください。
 ・パワトラ等を交換し, L (Tr Holder 220-676) を再びつけるときは, 確実に Screws13 を締めてください。
 (推奨トルク 11Kgf/Cm, L が軽く変形する程度。) 締めが緩いと, パワトラの放熱が悪くなり不良の原因となります。

CAUTION

Notes on the aging of the SRA-5000
 When aging is performed with a sine wave, do not perform it with full power. (4 stereo, 8 stereo) The temperature fuse of the transformer is designed to blow.
 In actual use, 1/8 power (50W, 4 stereo or 31.25W, 8 stereo) is enough.
 When aging is performed with a music signal (CD, demo play, etc.), it may be performed with full power (non-clip maximum).

注意!

SRA-5000 エージングに関する注意
 ・エージングを正弦波で行う場合, フルパワーで行わないでください。(4Ωステレオ, 8Ωステレオ) トランスの温度ヒューズが切れる設計になっています。
 実際の使用では, 1/8 パワー (50W, 4Ωステレオまたは, 31.25W, 8Ωステレオ) で十分です。
 ・エージングを音楽信号 (CD, デモプレイ等) で行う場合, フルパワー (ノンクリップ最大) で行っても構いません。



[SCREWS]

- | | | |
|---|----------|---|
| ① | ***** | 4 x 8mm C1 Tapping Binding Head FeCm |
| ② | ***** | 3 x 6mm Pan Head Sems FeBc |
| ③ | ***** | M4 Nut FeBc W/Spring |
| ④ | ***** | M4 Internal Tooth Washer FeBc |
| ⑤ | ***** | 3 x 10mm Binding Head P-Tight FeCm |
| ⑥ | ***** | 3 x 8mm Binding Head B-Tight FeBc |
| ⑦ | ***** | 3 x 8mm Binding Head S-Tight FeBc W/Internal Tooth Washer |
| ⑧ | ***** | 4 x 10mm Binding Head B-Tight FeBc |
| ⑨ | ***** | 3 x 15mm Pan Head W Sems FeBc |
| ⑩ | ***** | M4 Nut FeNi W/Spring |
| ⑪ | ***** | 4 x 6mm Pan Head Sems FeNi |
| ⑫ | ***** | 4 x 10mm Pan Head W Sems FeNi |
| ⑬ | ***** | 3 x 15mm Binding Head B-Tight FeBc |
| ⑭ | ***** | 4 x 20mm Binding Head B-Tight FeBc |
| ⑮ | ***** | 4 x 16mm Flat Head B-Tight FeBc |
| ⑯ | ***** | M6 External Tooth Washer FeCm |
| ⑰ | ***** | 6 x 25mm Hexagon Sochet Head Bolt W Sems FeBc |
| ⑱ | ***** | 4 x 12 x 1 Flat W FeBc |
| ⑲ | ***** | 4 x 14mm Binding Head S-Tight FeBc |
| ⑳ | ***** | Nylon rivet NRP-345 |
| ㉑ | ***** | Binder Mount SKM-1 |
| ㉒ | ***** | Coating Clip CS-4U |
| ㉓ | ***** | Flexible Bush KG-016 |
| ㉔ | ***** | M8 VR Nut |
| ㉕ | ***** | M8 VR Washer |
| ㉖ | ***** | 5 x 10mm Cross-Recessed Hexagon Head W Sems BsNi |
| ㉗ | ***** | M6 x 0.75 Nut BsNi |
| ㉘ | ***** | M11 x 1 Nut Bs |
| ㉙ | 12189810 | Spacer WLS-14-0 |
| ㉚ | 12189811 | Spacer SHCBS-8U |
| ㉛ | 12189809 | Spacer RSPLS-6LU |
| ㉜ | 12159905 | Edge Holder EH-18U |

94V-0
94V-0

DISASSEMBLY / 分解手順

Common

Remove the 13 screws 8 in A (Top Cover 202-577).
Discharge the electrolytic capacitors C101, 102.

Removing the power (heat sink) block (common to CH. A and CH. B)

Remove the following screws:

Four screws 8 in the bottom of N (Chassis 281-827)
One screw 15 in the bottom of B (Front Panel 222-484)
One screw 15 in the top of B (Front Panel 222-484)
Two screws 8 in D (Rear Panel 222-485)
Two screws 17 in H (Heat Sink F)
One screw 8 in the top of F (Side Holder 220-675)
By unclamping in this state, the power (heat sink) block can be laid down with the wiring connected, allowing for operation check.

Removing LB (LED board)

Remove the following screws:

Two screws 15 in the top of B (Front Panel 222-484)
Six screws 15 in the bottom of B (Front Panel 222-484)
Four screws 17 in the right- and left-hand side Hs (Heat Sink F).
In this state, B comes off and LB can be removed.

共通

• A (Top Cover 202-577) の Screws 8 x 13 本を外す。
• ケミコン C101, 102 の放電, ディスチャージを行う。

パワー (ヒートシンク) ブロックの外し方 (CH. A, CH. B 共通)

• N (Chassis 281-827) の底の Screws 8 x 4 本
• B (Front Panel 222-484) の底側の Screws 15 x 1 本
• B (Front Panel 222-484) の天側の Screws 15 x 1 本
• D (Rear Panel 222-485) の Screws 8 x 2 本
• H (Heat Sink F) の Screws 17 x 2 本
• F (Side Holder 220-675) の天側の Screws 8 x 1 本を外す。
この状態でクランプを切れば, 配線は接続したままでパワー (ヒートシンク) ブロックを横に倒すことが出来, 動作チェックが出来ます。

Removing PSB (Power Supply Board)

Remove the following parts:

Connectors CN4, 5 and 6 on BAB (Balance Amp Board)
One screw 11 on the S side of the wiring connecting S (Grounding Plate) and O (Shield Cover 202-578)
Eight screws 8 in D (Rear Panel 222-485)
In this state, D comes off and PSB can be removed.

Removing BAB (Balance Amp Board) and IB (Input Board)

Remove 11 nuts (Jack Nut 215-756) and screws 7 from each jack. In this state, BAB and IB can be removed.

PSB (Power Supply Board) の外し方.

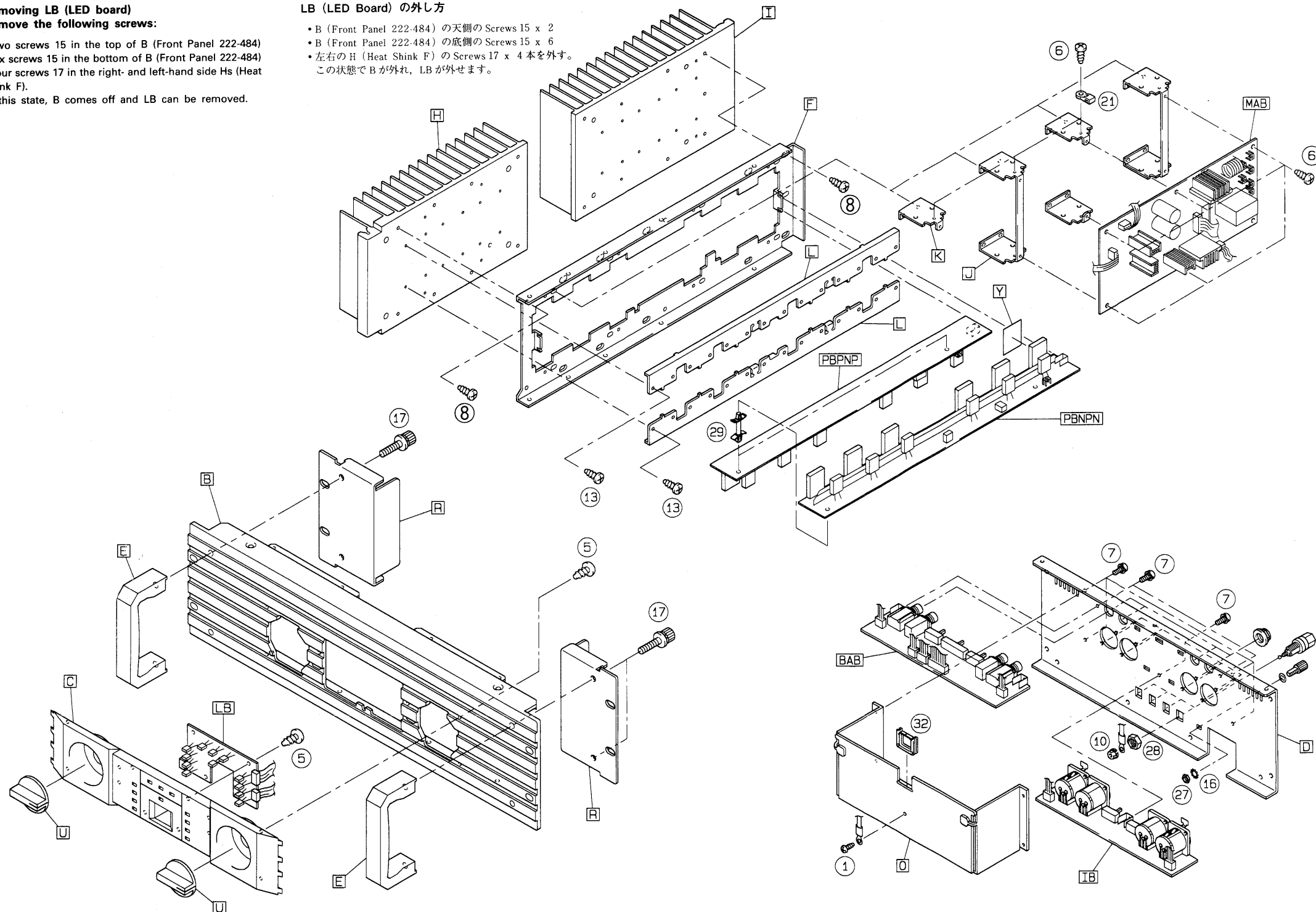
• BAB (Balance Amp Board) のコネクタ CN4, 5, 6
• S (Grounding Plate) と O (Shield Cover 202-578) を結ぶワイヤリングの S 側の Screws 11 x 1 本
• D (Rear Panel 222-485) の Screws 8 x 8 本を外す。
この状態で D が外れ, PSB が外れます。

BAB (Balance Amp Board), IB (Input Board) の外し方.

• 各ジャックの NUT (Jack Nut 215-756), Screws 7 x 11 本を外す。この状態で BAB, IB が外れます。

LB (LED Board) の外し方

• B (Front Panel 222-484) の天側の Screws 15 x 2
• B (Front Panel 222-484) の底側の Screws 15 x 6
• 左右の H (Heat Sink F) の Screws 17 x 4 本を外す。
この状態で B が外れ, LB が外れます。



[PARTS]

- PBPNP =====> Power Board PNP
PBNPN =====> Power Board NPN
NOTE: PBPNP and PBNPN are supplied as the Power Boards (PNo. 7130540000).
注: PBPNP, PBNPN は, Power Board (PNo. 7130540000) として供給されます。
- MAB =====> Main Amp Board (PNo. 7130541000)
NOTE: Replacement MAB is supplied as one set for use in 2 separate units.
注: 補修用 MAB は, 2 枚単位で供給されます。
- IB =====> Input Board
BAB =====> Balance Amp Board
CHA =====> CH.A Volume Board
CHB =====> CH.B Volume Board
NOTE: IB, BAB, CHA and CHB are supplied as the Head Amp Boards (PNo. 7130542000).
注: IB, BAB, CHA, CHB は, Head Amp Board (PNo. 7130542000) として供給されます。
- SFB =====> Secondary Fuses Board
PSB =====> Power Supply Board
PFB =====> Primary Fuses Board
B1B =====> Brige 1 Board
LB =====> LED Board
B2B =====> Brige 2 Board
B3B =====> Brige 3 Board
NOTE: SFB, PSP, PFB, B1B, LB, B2B and B3B are supplied as the LED/PS Boards (100V/117V: 7130543100, 230V/240V: 7130543400).
注: SFB, PSP, PFB, B1B, LB, B2B, B3B は, LED/PS Board (100V/117V: 7130543100, 230V/240V: 7130543400) として供給されます。

- | | | |
|---|-----------|----------------------------|
| A | 22025577 | Top Cover 202-577 |
| B | 22225484 | Front Panel 222-484 |
| C | 22045356 | Front Cover 204-356 |
| D | 22225485 | Rear Panel 222-485 |
| E | 22315225 | Handle 231-225 |
| F | 22205675 | Side Holder 220-675 |
| G | 12359166 | Foot No25 (or Rubber Foot) |
| H | 22465721 | Heat Sink F |
| I | 22465722 | Heat Sink R |
| J | 22205680 | MA Board Holder L |
| K | 22205677 | MA Board Holder S |
| L | 22205676 | Tr Holder 220-676 |
| M | 22465727 | Trans Heat Sink |
| N | 22815827 | Chassis 281-827 |
| O | 22025578 | Shield Cover 202-578 |
| P | 22205679 | FU2 Board Holder |
| Q | 22205678 | PS2 Board Holder |
| R | 22105104 | Angle 210-104 |
| S | 22055159 | Grounding Plate |
| T | 22465726 | Bridge Heat Sink |
| U | 22485289 | F R-KNOB K BLK/LCG 248-289 |
| V | 22495616 | F S-BUTTON LX BLK 249-616 |
| W | 22255165 | Insulating Sheet GND |
| X | 22255166 | Insulating Sheet FU1 |
| Y | △22165598 | Insulating Spacer |
| Z | 13459203 | Block Terminal MDH67A-2 |

VR KNOB
POWER BUTTON

94V-0

PARTS LIST/パーツリスト

SAFETY PRECAUTIONS:
 The parts marked Δ have safety-related characteristics. Use only listed parts for replacement.
 安全上の注意：
 Δ が付いている部品は、安全上特別な規格でつくられたものです。交換の際は、指定された部品番号以外の部品は使わないようにして下さい。

CONSIDERATIONS ON PARTS ORDERING
 When ordering any parts listed in the parts list, please specify the following items in the order sheet.
 Ex. QTY PART NUMBER DESCRIPTION MODEL NUMBER
 10 22575241 Sharp Key C-20/50
 15 2247017300 Knob (orange) DAC-15D
 Failure to completely fill the above items with correct number and description will result in delayed or even undelivered replacement.
 パーツ発注に関するお願い
 オーダーシートには、必ず下記の4項目は正確に記入して下さい。(例外は除く)
 例) 必要数 パーツナンバー 品名 使用機種
 10 22575241 Sharp Key C-20/50
 15 2247017300 Knob (orange) DAC-15D
 もし記入漏れ、誤記等がある場合、必要部品が発送出来なかつたり、大幅な遅れの原因になります。御協力をお願いします。

PBPNP ----->	Power Board PNP	PBNPN ----->	Power Board NPN
MAB ----->	Main Amp Board	IB ----->	Input Board
BAB ----->	Balance Amp Board	CHA ----->	CH.A Volume Board
CHB ----->	CH.B Volume Board	SFB ----->	Secondary Fuses Board
PSB ----->	Power Supply Board	PFB ----->	Primary Fuses Board
B1B ----->	Brige 1 Board	LB ----->	LED Board
B2B ----->	Brige 2 Board	B3B ----->	Brige 3 Board

CASING/ケース

22025577	Top Cover 202-577
22225484	Front Panel 222-484
22045356	Front Cover 204-356
22225485	Rear Panel 222-485
22315225	Handle 231-225
22205675	Side Holder
12359166	Foot No25 (or Rubber Foot)

CHASSIS/シャーシ

22465721	Heat Sink F
22465722	Heat Sink R
22205680	MA Board Holder L
22205677	MA Board Holder S
22205676	Tr Holder
22465727	Trans Heat Sink
22815827	Chassis 281-827
22025578	Shield Cover 202-578
22205679	FU2 Board Holder
22205678	PS2 Board Holder
22105104	Angle 210-104
22055159	Grounding Plate
22465726	Bridge Heat Sink

KNOB, BOTTOM/ツマミ, ボタン

22485289	F.R-KNOB K BLK/LCG	VR KNOB
22495616	F.S-BUTTON LX BLK 249-616	POWER BUTTON

SWITCH/スイッチ

13159178	SSSU122-S09N-1	Slide SW	on BAB, IB
13159360	SSSU143-S09N-1	Slide SW	MODE on BAB
Δ 13129155	SDDFA3 250V/TV8 Class2	AC SW	POWER SW

JACK, SOCKET/ジャック, ソケット

13429688	AF-3LR-PC-RT	JK1, 4 on IB
13429679	AF-3LS-PC-RT	JK2, 3 on IB
13449263	YKB21-5005	INPUT JK5, 8 on BAB
13449149	YKB21-5011	SEND JK6, 7 on BAB

PCB ASSY/基板完成品

7130540000	Power Board (pcb 2293521500)
<i>NOTE: Replacement Power Board consists of the following 2 PCBs.</i>	
注: 補修用 Power Board は、下記の2基板から構成されます。	
Power Board PNP (pcb 2293521500 1/2)	
Power Board NPN (pcb 2293521500 2/2)	

7130541000	Main Amp Board (pcb 2293521200)
<i>NOTE: Replacement Main Amp Board is supplied as one set for use in 2 separate units.</i>	
注: 補修用 Main Amp Board は、2枚単位で供給されます。	
Input Board (pcb 2293521300 1/4)	
Balance Amp Board (pcb 2293521300 2/4)	
CH.A Volume Board (pcb 2293521300 3/4)	
CH.B Volume Board (pcb 2293521300 4/4)	

7130542000	Head Amp Board (pcb 2293521300)
<i>NOTE: Replacement Head Amp Board consists of the following 4 PCBs.</i>	
注: 補修用 Head Amp Board は、下記の4基板から構成されます。	
Input Board (pcb 2293521300 1/4)	
Balance Amp Board (pcb 2293521300 2/4)	
CH.A Volume Board (pcb 2293521300 3/4)	
CH.B Volume Board (pcb 2293521300 4/4)	

7130543100	LED/PS Board (pcb 2293521400)	(100V/117V)
7130543400	LED/PS Board (pcb 2293521400)	(230V/240V)

NOTE: Replacement LED/PS Board consists of the following 7 PCBs.

注: 補修用 LED/PS Board は、下記の7基板から構成されます。

Secondary Fuses Board	(pcb 2293521400 1/7)
Power Supply Board	(pcb 2293521400 2/7)
Primary Fuses Board	(pcb 2293521400 3/7)
Brige 1 Board	(pcb 2293521400 4/7)
LED Board	(pcb 2293521400 5/7)
Brige 2 Board	(pcb 2293521400 6/7)
Brige 3 Board	(pcb 2293521400 7/7)

IC/集積回路

15189168X0	NE-5532P	OP Amp	on BAB
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TRANSISTOR/トランジスター

Δ 15119721	2SA968B-Y	PW TR	on MAB, PSB
Δ 15119714	2SA1302-O	PW TR	on PBNPN
Δ 15119623	2SB1110C	PW TR	on MAB
Δ 15129727	2SC2238B-Y	PW TR	on MAB, PSB
Δ 15129722	2SC3281-O	PW TR	on PBNPN
Δ 15129627	2SD1610C	PW TR	on MAB
15119111	2SA970-GR		
15119113	2SA1015-GR		
15119160	2SA1349-GR		
15129114	2SC1815-GR		
15129120	2SC2240-GR		
15129418	2SC3421-Y		
15129602	2SD667-C		

DIODE/ダイオード

Δ 15019272	2B4B41	BRIGE	on PSB
Δ 15039118	S5688G		
Δ 15039157	S25VB40	BRIGE	on B1B
15019125	1SS-133		
15019166	RU4Z 250V 2A		on MAB
15019437	MTZ5.6B	ZENER	on PSB
15019431	MTZ20B	ZENER	on PSB
15019436	MTZ6.8B	ZENER	on MAB
15029399	PR5351	LED(RED)	on LB
15029395	AA5351	LED(ORN)	on LB
15029397	BG5351	LED(GRN)	on LB

RESISTOR/抵抗

13749537T0	SR25NJ	3.9 Ω	
13799805	MR16N KF	180 Ω	
13799806	MR16N KF	820 Ω	
13799812	MR16N KF	1k Ω	
13799811	MR16N KF	1.5k Ω	
13799791	CRB20FX	2.2k Ω	
13799800	MR16N KF	5.6k Ω	
13799810	MR16N KF	6.8k Ω	
13799801	MR16N KF	15k Ω	
13799808	MR16N KF	56k Ω	
13799803	MR16N KF	82k Ω	
Δ 13829365	CRH300FH34J	10 Ω	
Δ 13829366	CRH300FH34J	330 Ω	
Δ 13829277	CRH200FH34J	12k Ω	
Δ 12559740	MF25NQ	4.7 Ω	Fuse Resistor
Δ 12559739	MF25NQ	18 Ω	Fuse Resistor
Δ 12559750	MF25NQ	27 Ω	Fuse Resistor
Δ 12559742	MF25NQ	56 Ω	Fuse Resistor
Δ 12559744	MF25NQ	120 Ω	Fuse Resistor
Δ 12559746	MF25NQ	330 Ω	Fuse Resistor
Δ 12559748	MF25NQ	820 Ω	Fuse Resistor
Δ 13869302	MPC74 5W	0.47 Ω	

POTENTIOMETER/ポリューム

13289149	RK2711120	10K (Special Curve)	on CHA, CHB
13299315	EVEND2AA0052	500B	on MAB

CAPACITOR/コンデンサ

13549194	ECQ-B1H	100P
13639110J0	SME6.3VB100	100uF/6.3V
13639150J0	SME16VB100	100uF/16V
13639165J0	SME25VB4.7	4.7uF/25V
13639167J0	SME25VB22	22uF/25V
13639170J0	SME25VB100	100uF/25V
13639171J0	SME25VB220	220uF/25V
13649693	SME35VB100	100uF/35V
13649648J0	SME35VB470	470uF/35V
13639202J0	SME50VB1	1uF/50V
13639205J0	SME50VB4.7	4.7uF/50V
13639209J0	SME50VB47	47uF/50V
13639210J0	SME50VB100	100uF/50V
13649145J0	SME50VB1000	1000uF/50V
13639158	16VB10 NS-I	10uF/16V

13639922M0	ECEA1CN100S	10uF/16V	BP
13639944M0	ECEA1HN100S	10uF/50V	BP
Δ 13639256	SME100VB220	220uF/100V	C16, 17, 29, 30 on MAB
Δ 13639242S0	100MV1HW	1uF/100V	C35 on MAB
Δ 13659274	100LGSN22000C	22000uF/100V	
Δ 13529104	DE7150F472MVA1KC	0.0047uF/600V	C1, 2, 3, 4 on PFB
Δ 13599103	ECQE2473KF	0.047uF/250V	C5, 6, 7, 8 on B1B
Δ 13599102	ECQE1104KF	0.1uF/100V	C24, 25, 27, 28 on MAB
Δ 13519684	DD05-979SL	22pF/500V	C9, 10, 13 on MAB
Δ 13519689	DD05-979SL	68pF/500V	C19, 22 on MAB

INDUCTOR, COIL, FILTER/インダクタ, コイル, フィルター

Δ 12449437	0.9mH 244-437	Coil	L1 on MAB
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RELAY/リレー

Δ 12439231	AR3222739 DC24V	10A	RY1 on MAB
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FUSE, FUSE HOLDER/ヒューズ, ヒューズ・ホルダー

Δ 12559422	CES6N1 6x32	10A/125V	100V/117V
Δ 12559399	TSC 5x20	1.6A/125V	100V/117V
Δ 12559546	CEE-630mAT		230V/240V
Δ 12559555	CEE-5AT		230V/240V
Δ 12559520	CEE-10AT		230V/240V
Δ 12189807	CNT41-0013	Fuse Holder	
Δ 12199550	H0446	Fuse Holder	

CONNECTOR/コネクタ

13429308	MOLEX53025-0510	(5P)	CN6, 7 on LB
13429309	MOLEX53025-0610	(6P)	CN8 on LB
13369809	MOLEX53052-0210	(2P)	CN4 on PSB, CN1 on MAB
13369794	MOLEX53052-0310	(3P)	CN1, 2 on IB, CN3, 6, 7 on BAB
13369795	MOLEX53052-0410	(4P)	CN3 on PSB, CN2 on MAB
13369797	MOLEX53052-0610	(6P)	CN5 on BAB
13369798	MOLEX53052-0710	(7P)	CN3 on MBA
13369799	MOLEX53052-0810	(8P)	CN4 on MBA
13369803	MOLEX53052-1210	(12P)	CN4 on BAB
13369812	MOLEX53053-0210	(2P)	CN1, 5 on PSB
13369813	MOLEX53053-0310	(3P)	CN1 on PBNPN
13369814	MOLEX53053-0410	(4P)	CN9 on CHB
13369815	MOLEX53053-0510	(5P)	CN3 on PBNPN
13439314	MOLEX5566-04A	(4P)	CN8 on CHA
13369918	MOLEX5569-04A1	(4P)	CN2 on PSB
			CN9 on SFB

WIRING, CABLE/ワイヤリング, ケーブル

23485942	Wiring Harnnes 1	100V/117V
23485943	Wiring Harnnes 2	230V/240V
23485944	Wiring Harnnes 3	
23485945	Wiring Harnnes 4	100V/117V
23485946	Wiring Harnnes 5	230V/240V
23485947	Wiring Harnnes 6	100V/117V
23485948	Wiring Harnnes 7	230V/240V
23485949	Wiring Harnnes 8	
23485950	Wiring Harnnes 9	
23485951	Wiring Harnnes 10	
23485952	Wiring Harnnes 11	
23485953	Wiring Harnnes 12	
23485954	Wiring Harnnes 13	
23485955	Wiring Harnnes 14	
23485956	Wiring Harnnes 15	
23485957	Wiring Harnnes 16	
23485958	Wiring Harnnes 17	
23485959	Wiring Harnnes 18	
23485960	Wiring Harnnes 19	
23485961	Wiring Harnnes 20	
23485962	Wiring Harnnes 21	
23485963	Wiring Harnnes 22	
23485964	Wiring Harnnes 23	
23485965	Wiring Harnnes 24	
23485966	Wiring Harnnes 25	
23485967	Wiring Harnnes 26	
23485968	Wiring Harnnes 27	
23485969	Wiring Harnnes 28	
23485970	Wiring Harnnes 29	

TRANSFORMER/トランス

Δ 22455652N0	Power Transformer	100V/117V
Δ 22455653D0	Power Transformer	230V/240V

AC CORD (Installed)/ACコード (据え付け式)

Δ 23495203	AC CORD ASSY 100V	100V
Δ 23495204	AC CORD SJT/3P AWG14 UP-215	117V
Δ 23495205	AC CORD ASSY 230V	230V

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△23495207	AC CORD ASSY 240VE	240VE
△23495206	AC CORD ASSY 240VA	240VA

SCREWS/ネジ類

*****	4 x 8mm C1 Tapping Binding Head FeCm	
*****	3 x 6mm Pan Head Sems FeBc	
*****	M4 Nut FeBc w/Spring	
*****	M4 Internal Tooth Washer FeBc	
*****	3 x 10mm Binding Head P-Tight FeCm	
*****	3 x 8mm Binding Head B-Tight FeBc	
*****	3 x 8mm Binding Head S-Tight FeBc w/Internal Tooth Washer	
*****	4 x 10mm Binding Head B-Tight FeBc	
*****	3 x 15mm Pan Head W Sems FeBc	
*****	M4 Nut FeNi w/Spring	
*****	4 x 6mm Pan Head Sems FeNi	
*****	4 x 10mm Pan Head W Sems FeNi	
*****	3 x 15mm Binding Head B-Tight FeBc	
*****	4 x 20mm Binding Head B-Tight FeBc	
*****	4 x 16mm Flat Head B-Tight FeBc	
*****	M6 External Tooth Washer FeCm	
*****	6 x 25mm Hexagon Sochet Head Bolt W Sems FeBc	
*****	4 x 12 x 1 Flat W FeBc	
*****	4 x 14mm Binding Head S-Tight FeBc	
*****	Nylon rivet NRP-345	
*****	Binder Mount SKM-1	
*****	Coating Clip CS-4U	
*****	Flexible Bush KG-016	
*****	M8 VR Nut	
*****	M8 VR Washer	
*****	5 x 10mm Cross-Recessed Hexagon Head W Sems BsNi	
*****	M6 x 0.75 Nut BsNi	
*****	M11 x 1 Nut Bs	

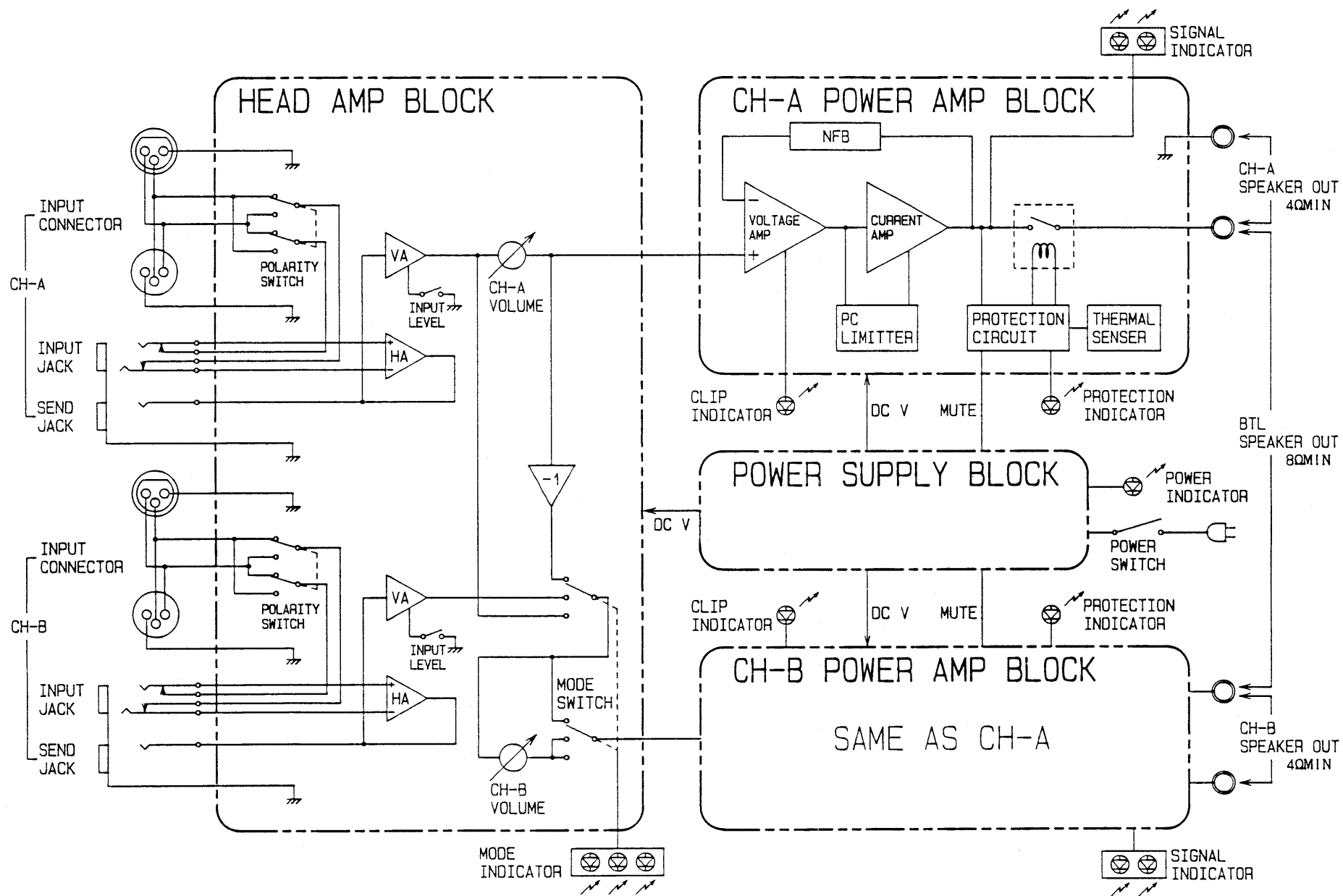
MISCELLANEOUS/その他

22255165	Insulating Sheet GND	
12189810	Spacer WLS-14-0	
22255166	Insulating Sheet FU1	94V-0
12189811	Spacer SHCBS-8U	94V-0
12189809	Spacer RSPLS-6LU	94V-0
12159905	Edge Holder EH-18U	
△12469211	Heatsink PC1530-30-PBD	
△12469212	Heatsink PC1115-246-212	
△12559752	Thermal Protector T100AR1U1	on PBPNP
△22145851	Bus Bar 214-851	on PB
△22165598	Insulating Spacer	
△22205436	Cord Bush Holder	100V/240VE
△22205693	Cord Bush Holder	117V
△22205332	Cord Bush Holder 220-332	230V/240VA
△12369539	Cord Bush KR-61A	100V/240VE
△12369540	Cord Bush MP7P2 14AWG	117V
△12369533	Cord Bush KF-41	230V
△12369531	Cord Bush KR-51	240VA
13459199	SP Terminal MSP 102B	100V/117V BLK
13459200	SP Terminal MSP 102R	100V/117V RED
13459197	SP Terminal MSP 101B	230V/240V BLK
13459198	SP Terminal MSP 101R	230V/240V RED
12199584	M3 Ground Terminal M1698	Angle Type
13459202	M4 Ground Terminal M1713	Straight Type
13459201	M4 Ground Terminal M1714	Angle TType
13459196	Earth Terminal	T5435
2215075600	Jack Nut 215-756	
△13459203	Block Terminal MDH67A-2	

ACCESSORIES/標準付属品

26015717	Owner's Manual Set	(Common to English/Japanese/和英共通)
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BLOCK DIAGRAM/ブロック図



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REPLACEMENT/補修用

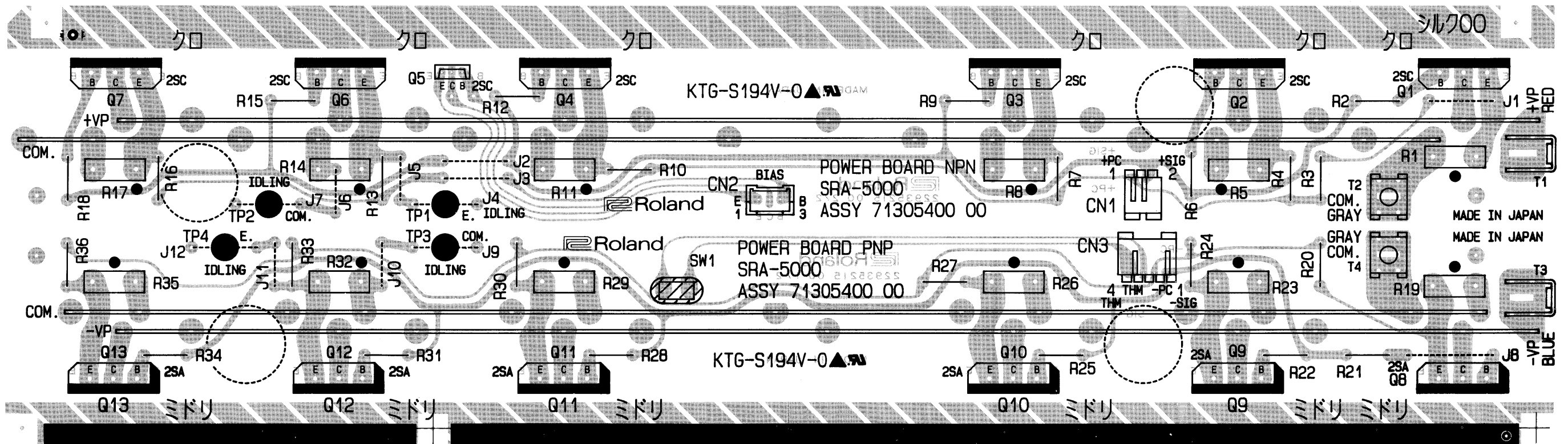
POWER BOARD
 ASSY 7130540000

- ◆ Replacement Power Board consists of the following 2PCBs.
- ◆ 補助用パワー基板は、下記の2基板から構成されます。
 - Power Board PNP (pcb 2293521500 1/2)
 - Power Board NPN (pcb 2293521500 2/2)

Power Board NPN
 (pcb 2293521500 2/2)



POWER BOARD
 ASSY 7130540000 (pcb 2293521500)



View from component side

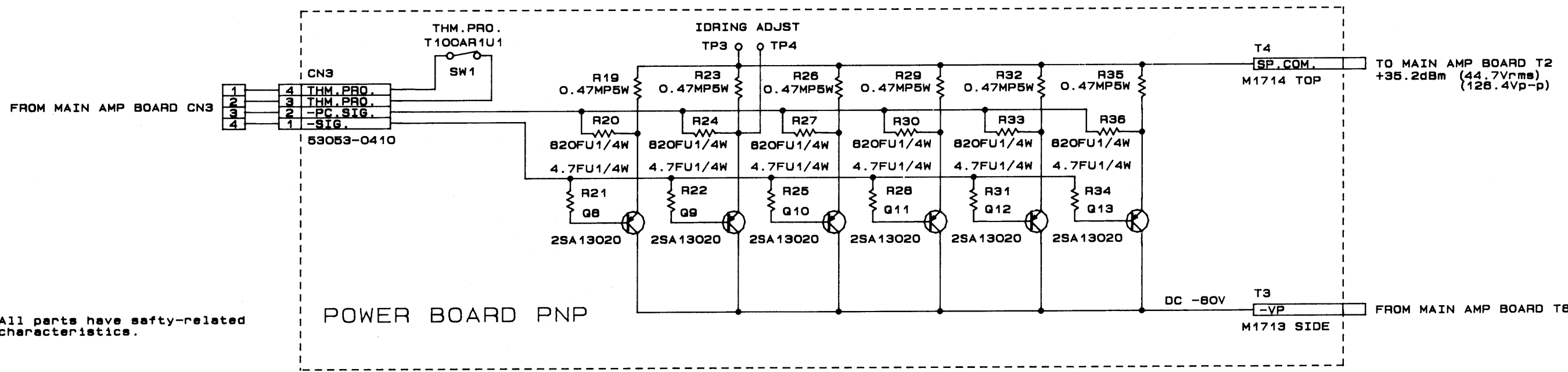
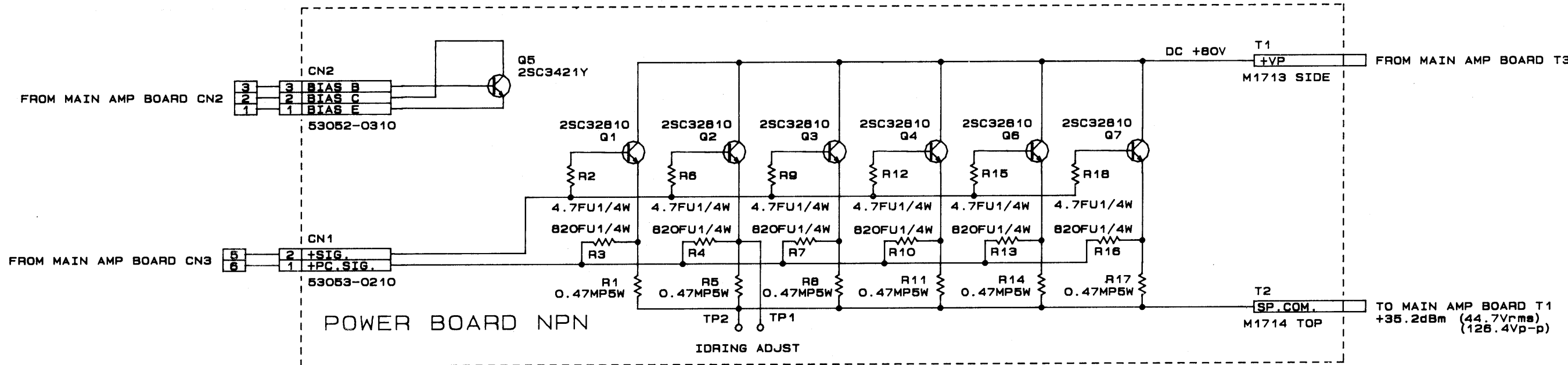
Power Board PNP
 (pcb 2293521500 1/2)



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POWER BOARD



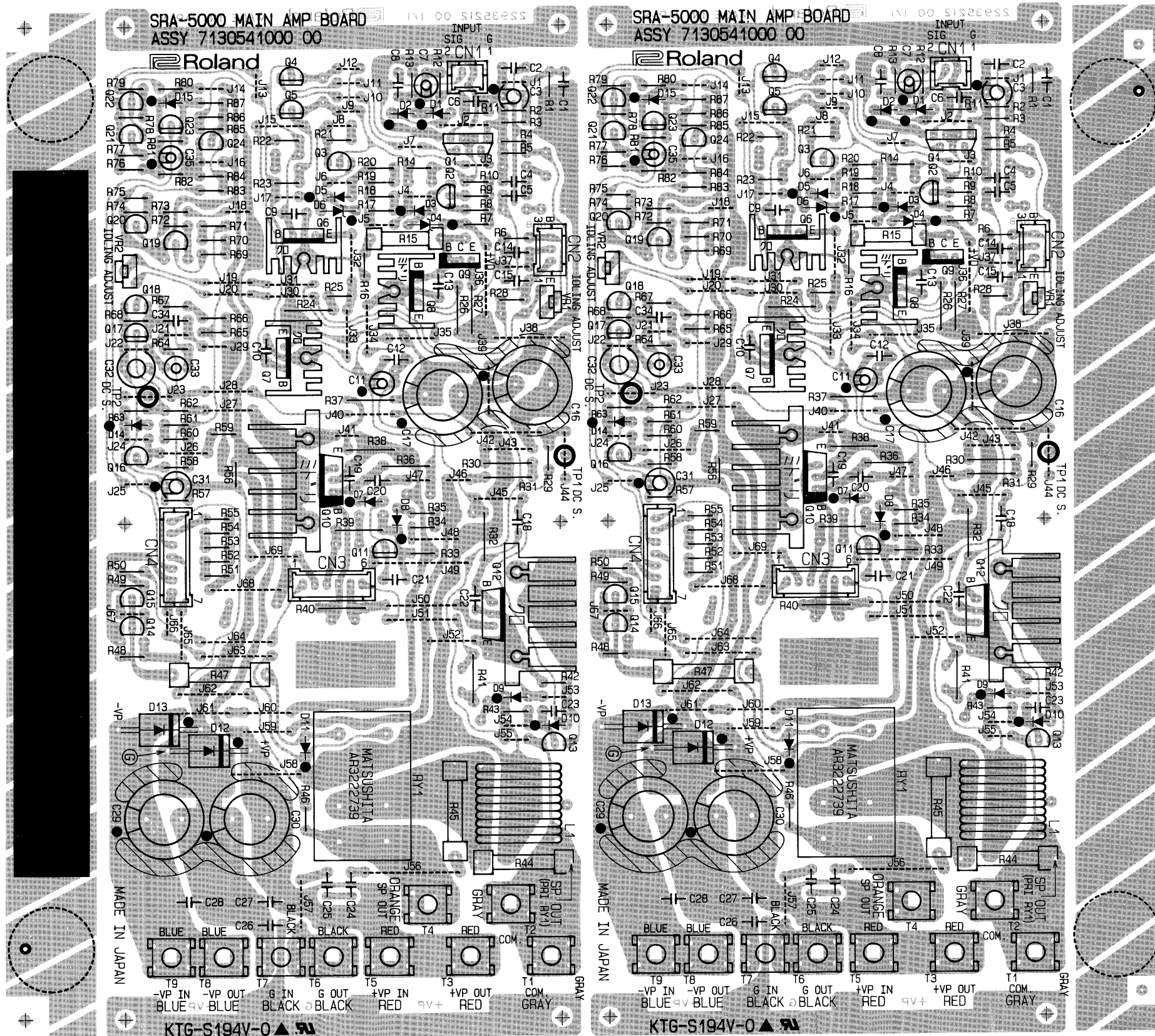
All parts have safety-related characteristics.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

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MAIN AMP BOARD

ASSY 7130541000 (pcb 2293521200)



REPLACEMENT/補修用

MAIN AMP BOARD
ASSY 7130541000

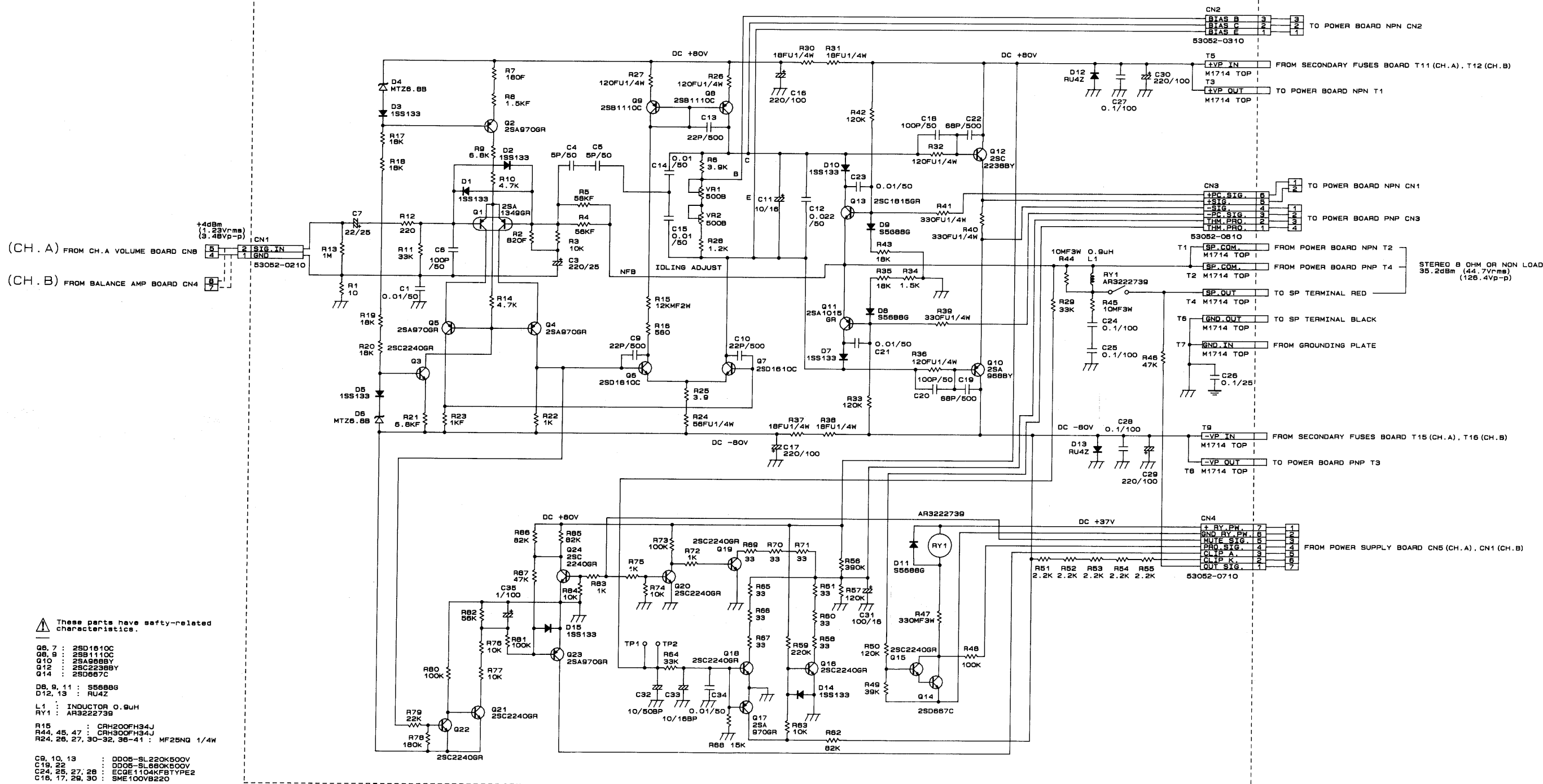
- ◆ Replacement Main Amp Board is supplied as one set for use in 2 separate units.
- ◆ 補助用メインアンプ基板は、2枚単位で供給されます。

View from component side

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MAIN AMP BOARD



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REPLACEMENT/補修用

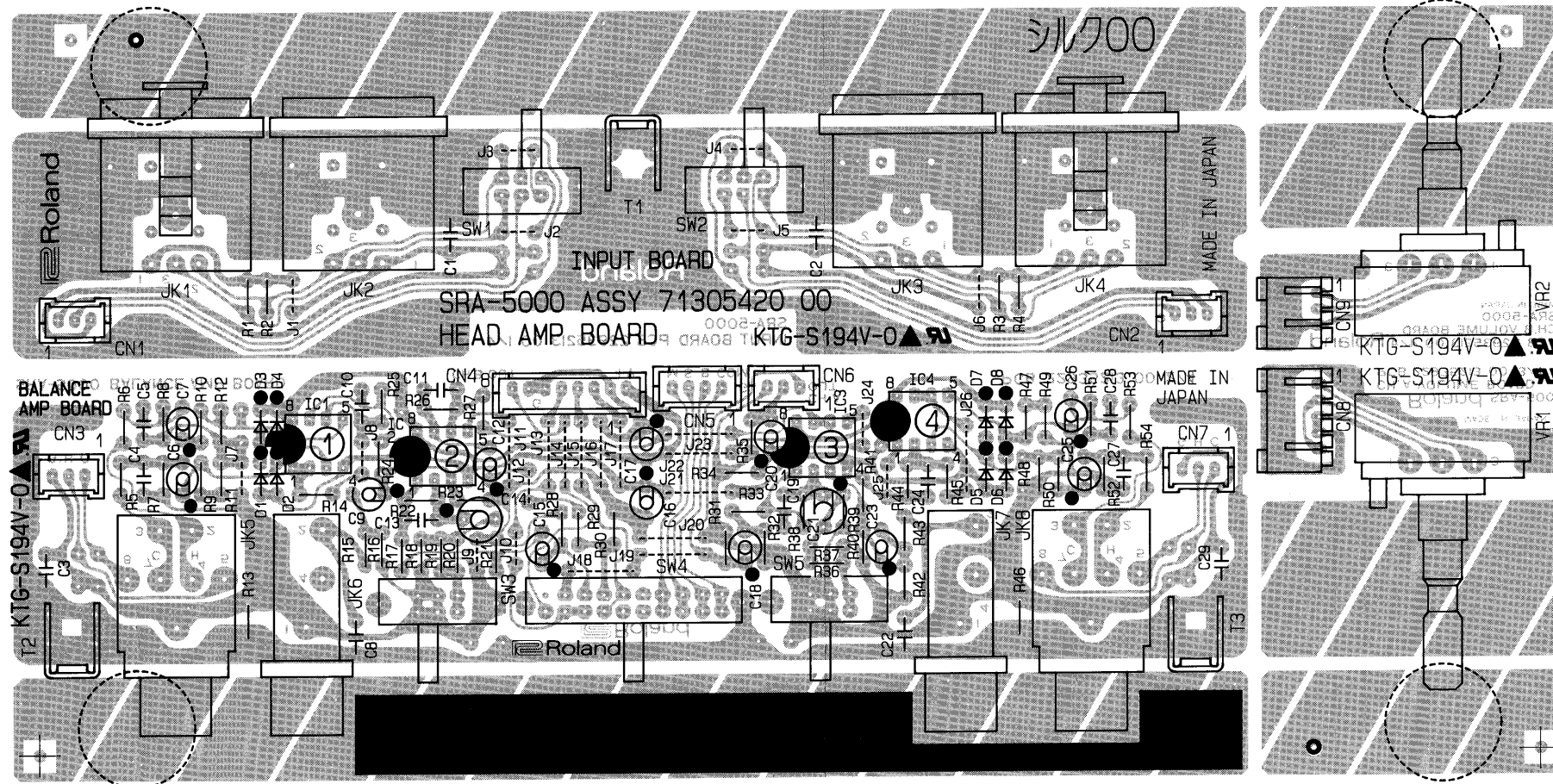
HEAD AMP BOARD
ASSY 7130542000

◆ Replacement Head Amp Board consists of the following 4PCBs.
◆ 補助用ハードアンプ基板は、下記の4基板から構成されます。

- Input Board PNP (pcb 2293521300 1/4)
- Balance Amp Board (pcb 2293521300 2/4)
- CH.A Volume Board (pcb 2293521300 3/4)
- CH.B Volume Board (pcb 2293521300 4/4)

HEAD AMP BOARD
ASSY 7130542000 (pcb 2293521300)

Input Board
(pcb 2293521300 1/4)



CH.B Volume Board
(pcb 2293521300 4/4)

CH.A Volume Board
(pcb 2293521300 3/4)

Balance Amp Board
(pcb 2293521300 2/4)



View from component side

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HEAD AMP BOARD

INPUT BOARD

BALANCE BOARD

CH. A

CANNON INPUT
+3.5dBm/-10.5dBm
1.16Vrms/0.23Vrms
3.28Vp-p/0.65Vp-p

PHONE INPUT
+3.5dBm/-10.5dBm

SEND
+3.5dBm/-10.5dBm

CH. A

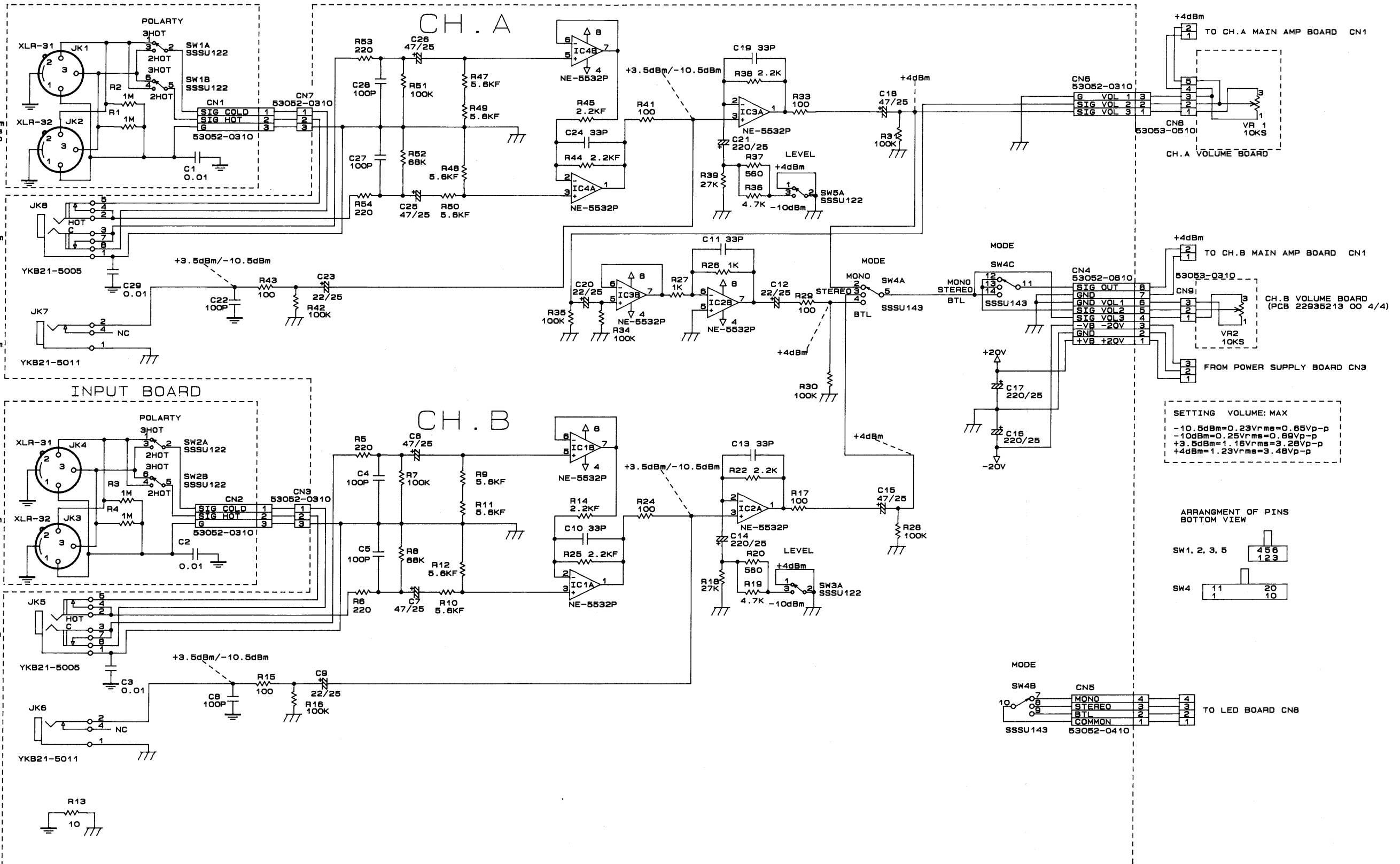
CH. B

CH. B

CANNON INPUT
+3.5dBm/-10.5dBm
1.16Vrms/0.23Vrms
3.28Vp-p/0.65Vp-p

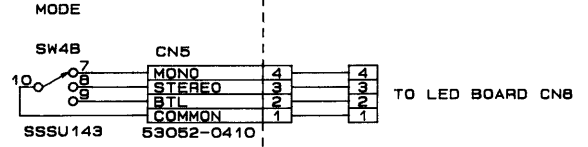
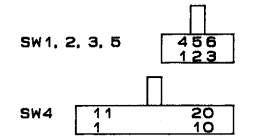
PHONE INPUT
+3.5dBm/-10.5dBm

SEND
+3.5dBm/-10.5dBm



SETTING VOLUME: MAX
 -10.5dBm=0.23Vrms=0.65Vp-p
 -10dBm=0.25Vrms=0.69Vp-p
 +3.5dBm=1.16Vrms=3.28Vp-p
 +4dBm=1.23Vrms=3.48Vp-p

ARRANGEMENT OF PINS
 BOTTOM VIEW



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LED/PS BOARD

ASSY 7130543100 (100V/117V) (pcb 2293521400)
ASSY 7130543400 (230V/240V) (pcb 2293521400)

LED Board

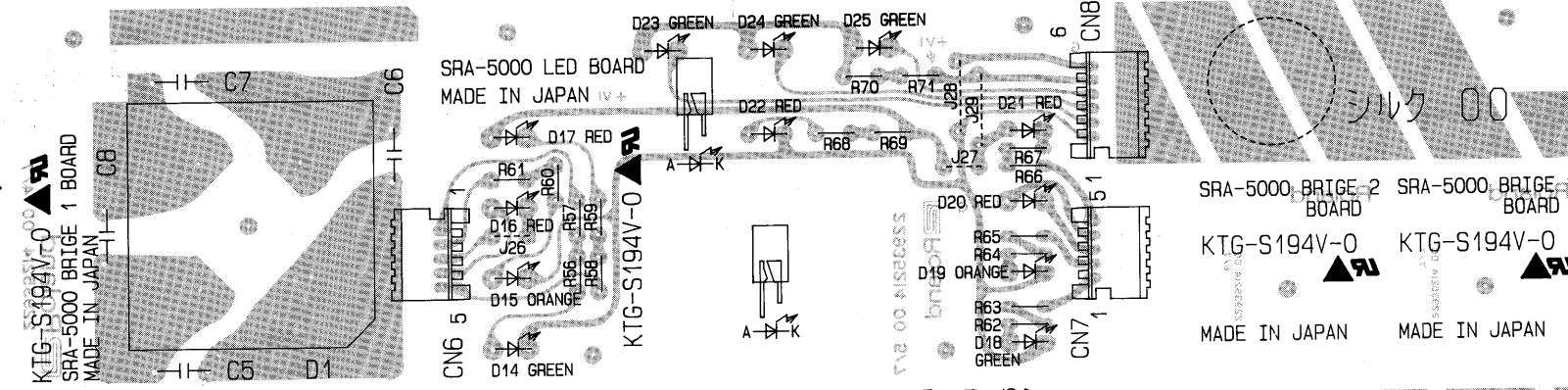
(pcb 2293521400 5/7)

Brige 2 Board

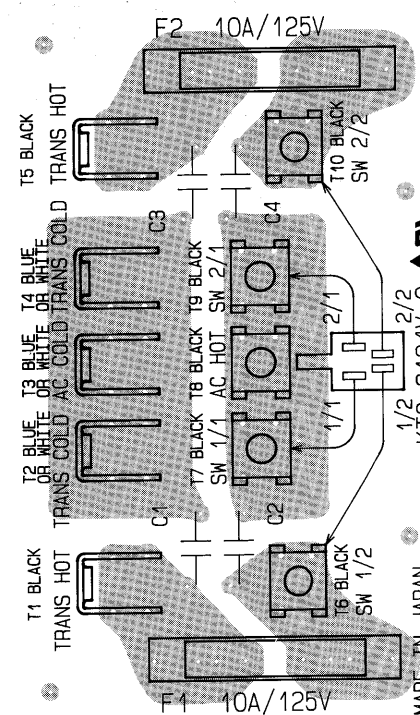
(pcb 2293521400 6/7)

Brige 1 Board

(pcb 2293521400 4/7)

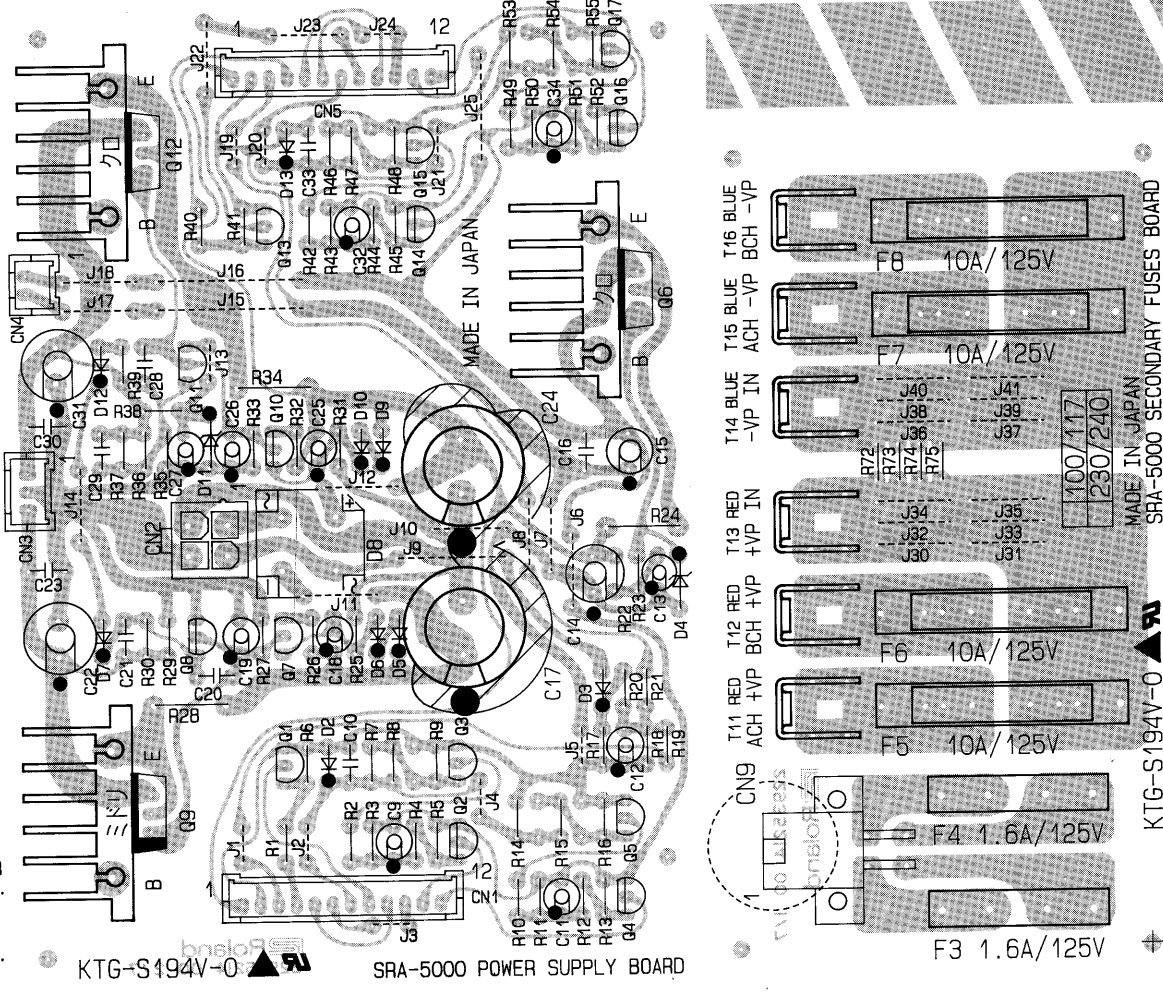


SRA-5000 LED/PS BOARD	
100/117	ASSY 7130543100 00
230/240	ASSY 7130543400 00

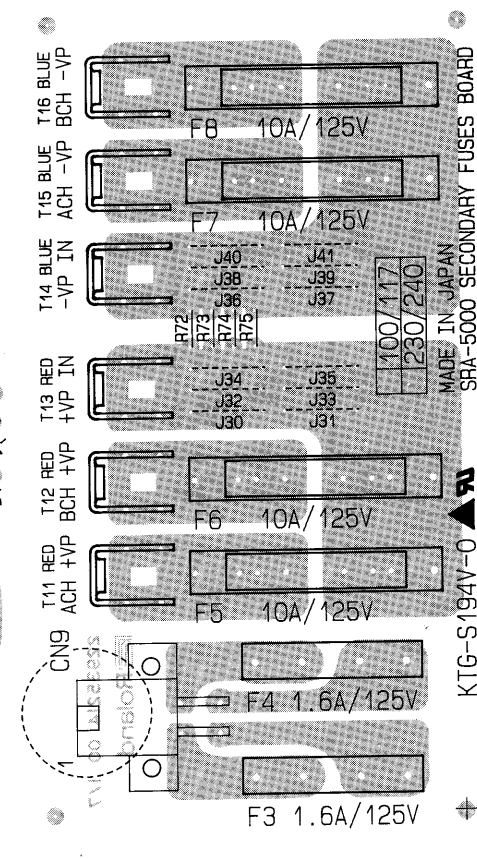


ATTENTION: AFIN D'ASSURER UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR DES FUSIBLES DE MEME TYPE.
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE FUSES. SRA-5000 PRIMARY FUSES BOARD

Primary Fuses Board
(pcb 2293521400 3/7)



Power Supply Board
(pcb 2293521400 2/7)



View from component side

REPLACEMENT/補修用

LED/PS BOARD
ASSY 7130543100 (100 V/117 V)
ASSY 7130543400 (230 V/240 V)

◆ Replacement LED/PS Board consists of the following 7PCBs.
◆ 補助用 LED/PS 基板は、下記の 7 基板から構成されます。

- Secondary Fuses Board (pcb 2293521400 1/7)
- Power Supply Board (pcb 2293521400 2/7)
- Primary Fuses Board (pcb 2293521400 3/7)
- Brige/Board (pcb 2293521400 4/7)
- LED Board (pcb 2293521400 5/7)
- Brige 2 Board (pcb 2293521400 6/7)
- Brige 3 Board (pcb 2293521400 7/7)

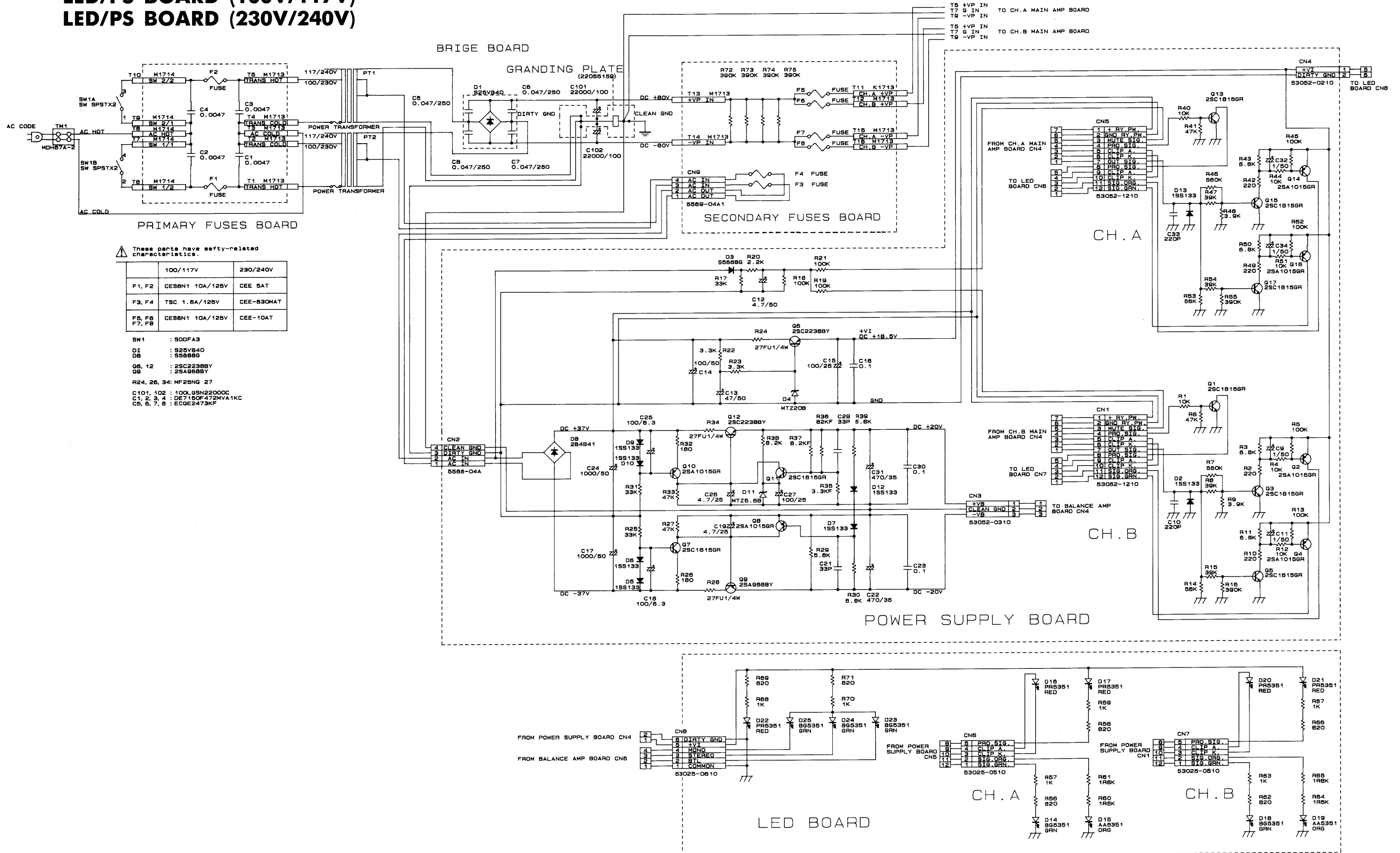
Brige 3 Board
(pcb 2293521400 7/7)

Secondary Fuses Board
(pcb 2293521400 1/7)

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LED/PS BOARD (100V/117V) LED/PS BOARD (230V/240V)



⚠ These parts have safety-related characteristics.

	100/117V	230/240V
F1, F2	CES6N1 10A/125V	CEE 5AT
F3, F4	TSC 1.6A/125V	CEE-B30MAT
F5, F6 F7, F8	CES6N1 10A/125V	CEE-10AT

SW1 : S00FA3
 D1 : S25VB40
 D6 : S5588G
 Q6, 12 : 2SC2238BY
 Q6 : 2SA988BY
 R24, 26, 34: MF25NG 27

C101, 102 : 100L6SN22000C
 C1, 2, 3, 4 : DE718K472MVA1K
 C5, 6, 7, 8 : ECGE2473KF

ADJUSTMENT/調整仕様

ADJUSTMENT

1. IDOLING (CH. A/CH. B Main Amp Board)
 - Keep AC source to the rated voltage on the unit's nameplate during adjustments.
 - Disconnect the DC voltmeter to be used from any ground points. (IDRING only)
 - Do not attempt adjustment while the unit is overlated (above 50°C or 120°F) at power heatsinks.
 - The lower VR is factory-adjusted to the center.
 - Note that after the lower VR has been changed, the new VR must be adjusted to the center. (If it is not in the center, idling cannot be adjusted up to 10mVDC.)

Allow at least 5 minute for warm up period.
 INPUT no signal
 SP-OUT no load
 CH.A, CH.B VOLUME ∞dB

Connect the DC voltmeter between any pair of test points of a channel.
 Adjust the VR (CH.A--VR1, CH.B--VR2) for 10mV resding.

調整仕様

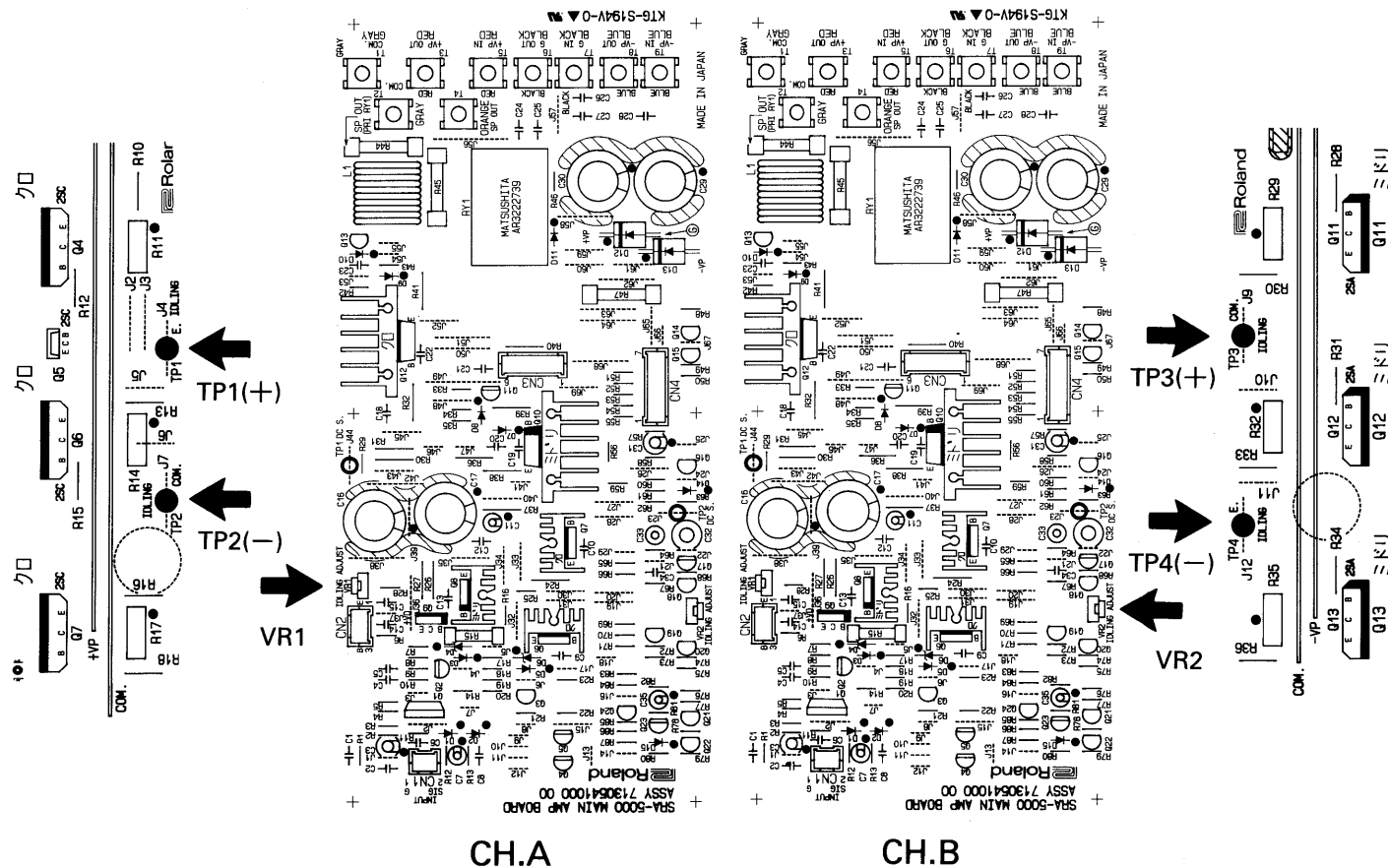
1. アイドリング (CH.A/CH.B Main Amp Board)

注) ・長時間又は過負荷使用で、ヒートシンクが過熱している場合は 50°C 以下になってから行うこと。

 - 測定器の GND はアースされていないこと。(アイドリング調整のみ)
 - 調整時下側の VR (CH.A は VR2, CH.B は VR1) は、調整する必要はありません。
 - 下側の VR は工場出荷時センターに調整してあります。
 - 但し、下側の VR を交換した場合は、センターに調整する必要があります。(もしセンターでないとアイドリングが 10mVDC 迄調整しきれません。)

電源電圧を定格電圧に合わせる
 入力.....無信号
 SP-OUT.....無負荷
 CH.A, CH.B VOLUME..... ∞dB

電源 SW ON してから 5 分後に、下図の各テストポイント間の電圧が、10mVDC になる様に CH.A は VR1, CH.B は VR2 を調整する。



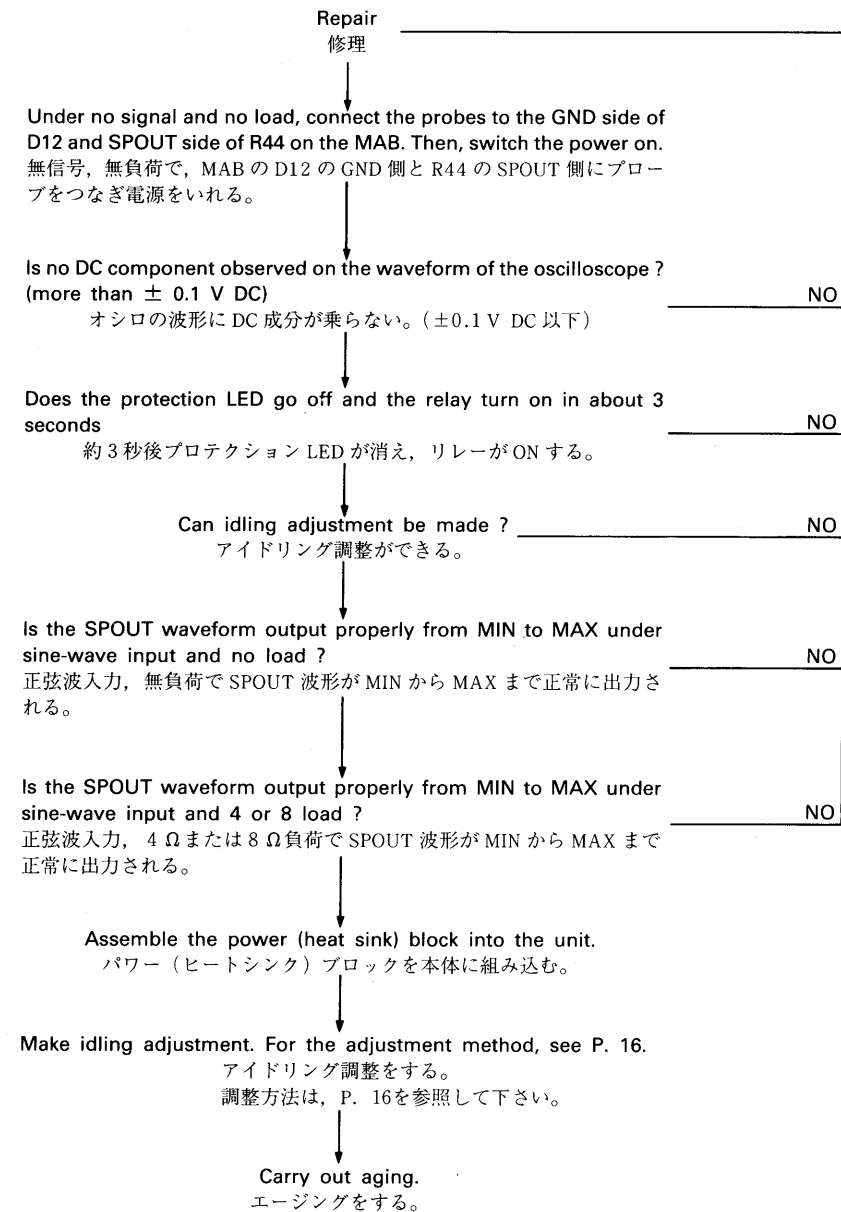
IC DATA/IC データ

<p>PW TR 2SA968B-Y (15119721) 2SC2238B-Y (15129727)</p> <p>1. BASE 2. COLLECTOR 3. EMITTER</p>	<p>OP Amp NE-5532P (15189168X0)</p> <p>(TOP VIEW)</p>
<p>PW TR 2SC3421-Y (15129418)</p> <p>1. EMITTER 2. COLLECTOR 3. BASE</p>	<p>PW TR 2SB1110C (15119623) 2SD1610C (15129627)</p> <p>1. EMITTER 2. COLLECTOR 3. BASE</p>
<p>PW TR 2SA1302-0 (15119714) 2SC3281-0 (15129722)</p> <p>1. BASE 2. COLLECTOR 3. EMITTER</p>	<p>TR (DUAL) 2SA1349-GR (15119160)</p> <p>1. BASE 1 2. COLLECTOR 1 3. EMITTER 1 4. SUB STRAIGHT 5. EMITTER 2 6. COLLECTOR 2 7. BASE 2</p>

APPENDIX/付録

Guide for checking operation after repairing PBPNP (Power Board PNP), PBNPN (Power Board NPN) and MAB (Main Amp Board)

PBPNP (Power Board PNP), PBNPN (Power Board NPN), MAB (Main Amp Board) 修理後の動作チェックガイド



CAUTION/注意

<p>Notes on the aging of the SRA-5000 When aging is performed with a sine wave, do not perform it with full power. (4 stereo, 8 stereo) The temperature fuse of the transformer is designed to blow. In actual use, 1/8 power (50W, 4 stereo or 31.25W, 8 stereo) is enough. When aging is performed with a music signal (CD, demo play, etc.), it may be performed with full power (non-clip maximum).</p>	<p>SRA-5000 エージングに関する注意</p> <ul style="list-style-type: none"> エージングを正弦波で行う場合、フルパワーで行わないでください。(4Ωステレオ、8Ωステレオ) トランスの温度ヒューズが切れる設計になっています。 実際の使用では、1/8パワー(50W、4Ωステレオまたは、31.25W、8Ωステレオ)で十分です。 エージングを音楽信号(CD、デモプレイ等)で行う場合、フルパワー(ノンクリップ最大)で行っても構いません。
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Repair complete
修理完了

Since NO in any item indicates that the repair is not complete, immediately switch the power off and repair one more time.

各項目でNOとなった場合は、完全に直りきっていないのですぐに電源を切って再度修理して下さい。

Page	WRONG 誤	CORRECT 正
6	<p data-bbox="343 331 542 362"><Parts List></p> <p data-bbox="359 432 662 463">* FUSE, FUSE HOLDER</p> <p data-bbox="391 495 829 555"><u>12559422</u> CES6N1 10A/125V (110/117V)</p>	<p data-bbox="949 495 1396 555"><u>12559467</u> CES6N1 10A/125V (110/117V)</p>

SERVICE NOTES**Issued by RJA****ERRATA & SUPPLEMENT / サービスノート正誤表 & 追加情報**

1996-12-03

SRA-5000**ER00182**

There are errors in the supplied unit as a service parts.
Please amend all existing service notes as follows.

/ Main Amp Board の供給単位について誤記がありました。
該当サービスノートを下記のように訂正して下さい。

Page 5 and 6 DISASSEMBLY and PARTS LIST**WRONG / 誤 :**

7130541000

Main Amp Board (pcb 22935213000)

NOTE : Replacement Main Amp Board is supplied
as one set for use in 2 separate unit.

注 : 補修用 Main Amp Board は、2 枚単位で供給されます。

CORRECT / 正 :

7130541000

Main Amp Board (pcb 22935213000)

NOTE : Replacement Main Amp Board is supplied
as one unit.

注 : 補修用 Main Amp Board は 1 枚単位で供給されます。