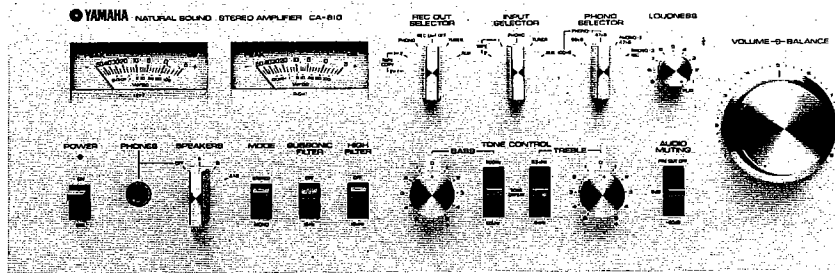


23

SERVICE MANUAL

CA-810

STEREO INTEGRATED AMPLIFIER



SINCE 1887



YAMAHA

NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN

CONTENTS

SPECIFICATIONS	1
EXTERNAL VIEW	
FRONT PANEL	2
REAR PANEL	2
INTERNAL VIEW	
TOP VIEW	4
BOTTOM VIEW	4
DISASSEMBLY PROCEDURES	5
BLOCK DIAGRAM	7
MEASUREMENTS AND ADJUSTMENTS	8
PRINTED CIRCUIT BOARD	9
OVERALL SCHEMATIC DIAGRAM	13
LINE VOLTAGE CONVERSION	15
PACKAGE	17
PARTS LIST	18

SPECIFICATIONS

- **INPUT SENSITIVITY AND IMPEDANCE**

PHONO 1	2.5mV/47K, 68K, 100K Ω
PHONO 2	2.5mV/47K Ω
PHONO 3	60 μ V/10 Ω
TUNER, AUX	150mV/50K Ω
MAIN IN	1V/50K Ω
- **MAXIMUM INPUT CAPACITY**

PHONO 1	230mV (1KHz)
PHONO 2	230mV (1KHz)
PHONO 3	6mV (1KHz)
- **SIGNAL OUTPUT AND OUTPUT IMPEDANCE**

REC OUT	150mV/600 Ω
PRE OUT	1.0V/2K Ω
- **MAXIMUM OUTPUT LEVEL**

REC OUT	14V (1KHz)
PRE OUT	3V (1KHz)
- **FREQUENCY RESPONSE**

PHONO 1, 2, 3	30 ~ 15KHz, 0 \pm 0.3dB (DEVIATION from RIAA)
MAIN IN \rightarrow SP OUT	10 ~ 100KHz, (0 ~ -1.5dB)
TUNER \rightarrow SP OUT	10 ~ 100KHz, (0 ~ -2.5dB)
- **TONE CONTROLS**

BASS	ft: 125Hz } 20Hz \pm 10dB 500Hz }
TREBLE	ft: 8KHz } 20KHz \pm 10dB 2.5KHz }
- **FILTERS**

SUBSONIC	fc: 15Hz, 12dB/OCT
HIGH	fc: 10KHz, 12dB/OCT
- **LOUDNESS (at 1KHz)**

0 ~ +13dB at 50Hz (VOL, -30dB)
0 ~ +7dB at 20KHz (VOL, -30dB)
- **NOISE LEVEL, S/N**

PHONO 1, 2	83dB (IHF A Network)
PHONO 3 (MC)	73dB (" " 50 Ω , short)
TUNER, AUX	100dB (" ")
MAIN	115dB (" ")
RESIDUAL NOISE	200 μ V(" , VOL \rightarrow MIN)
- **DISTORTION**

PHONO 1, 2	0.005% (REC OUT 10V, 20 ~ 20 KHz)
PHONO 3 (MC)	0.01% (REC OUT 3V, 20~20KHz)
TUNER \rightarrow PRE OUT	0.01% (PRE OUT 3V, 20 ~ 20KHz)
MAIN IN \rightarrow SP OUT	0.01% (SP OUT 32.5W/8 Ω)
TUNER \rightarrow SP OUT	0.02% (SP OUT 32.5W/8 Ω)
PHONO 1, 2 \rightarrow SP OUT (N.D.C.R)	0.1W ~ 65W/8 Ω (VOL -20dB, 1KHz, 0.1%)
- **OUTPUT**

8 Ω , 20 ~ 20KHz	65W + 65W (0.05%)(RMS)
1KHz	70W + 70W (0.02%)
4 Ω , 20 ~ 20KHz	80W + 80W (0.1%)(RMS)
1KHz	90W + 90W (0.1%)
- **POWER BAND WIDTH**

10 ~ 50KHz	0.05% (32.5W/8 Ω)
------------------	---------------------------
- **DAMPING FACTOR**

30 (1KHz, 8 Ω)

- **LEVEL METER**

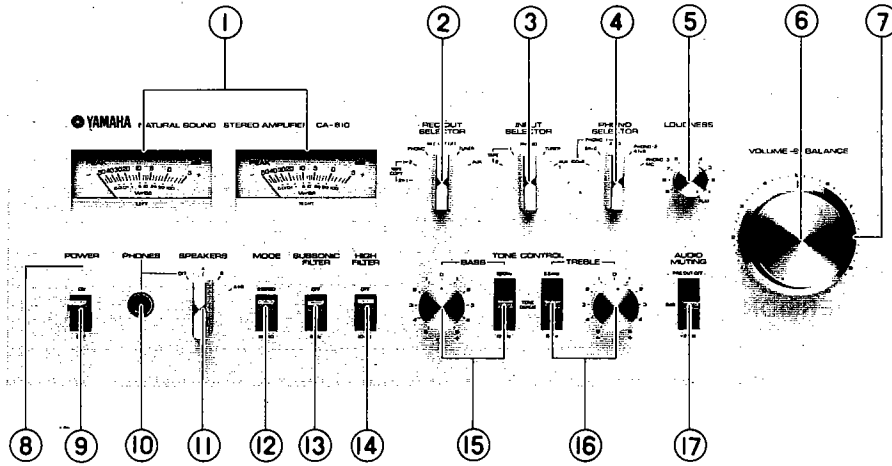
INDICATION RANGE	-50dB ~ +5dB
.....	0.5mW ~ 158W/8 Ω
RESPONSE TIME	100 μ S
DECAY TIME	0.75 Sec.
- **CHANNEL SEPARATION**

PHONO \rightarrow SP OUT	1KHz, 70dB (OTHER CHANNEL \rightarrow SHORT)
.....	20 ~ 20KHz, 60dB
.....	1KHz, 70dB
.....	20 ~ 20KHz, 55dB (OTHER CHANNEL 5.1K Ω SHORT)
- **OTHERS**

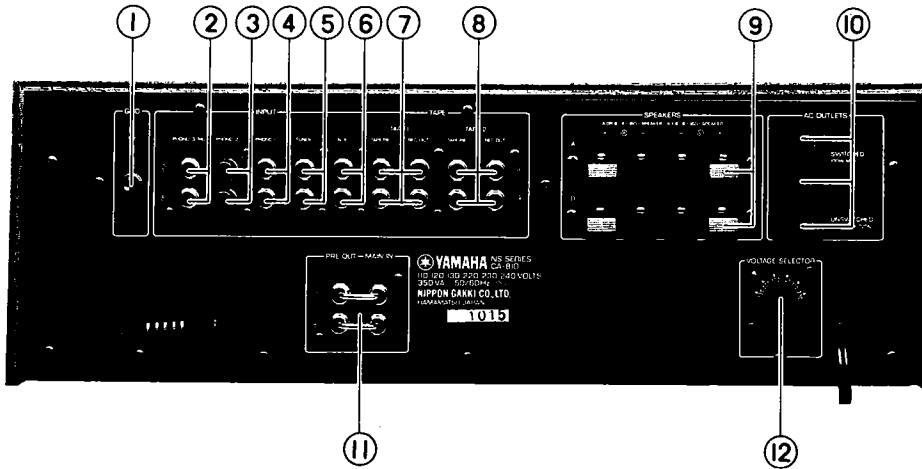
DIMENSIONS	435 x 337 x 160 (W x D x H)
WEIGHT	12 kg
POWER SOURCE	AC110 ~ 240V 50/60Hz
POWER CONSUMPTION	GENERAL, US & CANADIAN, MODELS: 350W EUROPEAN, BRITISH, AUST- RALIAN MODELS: 550W

EXTERNAL VIEW

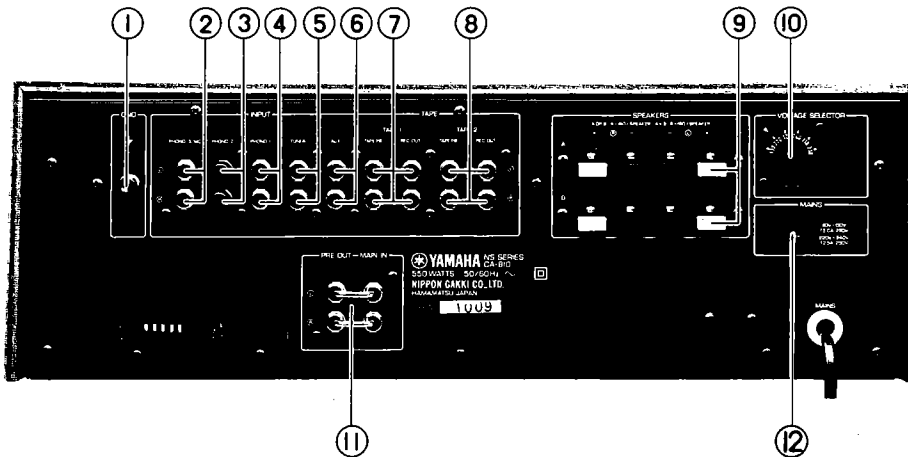
FRONT PANEL



REAR PANEL (GENERAL MODEL)



REAR PANEL (EUROPEAN MODEL)



FRONT PANEL

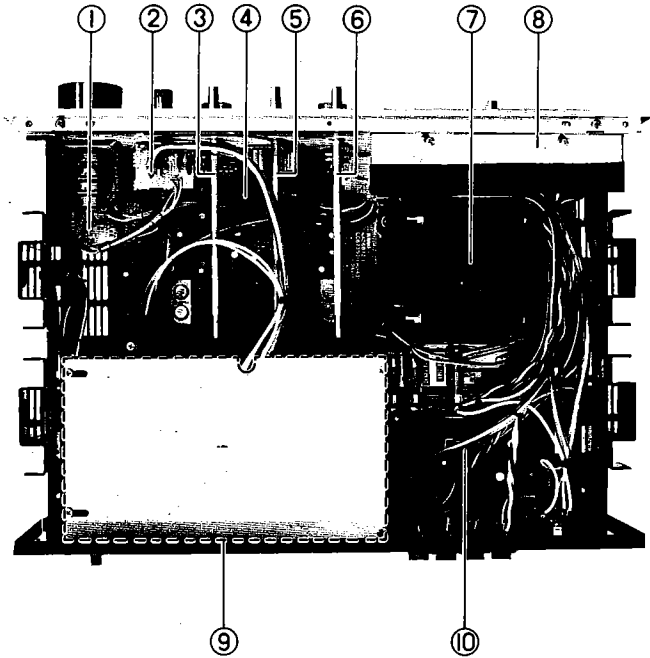
- ① PEAK LEVEL METERS
- ② REC OUT SELECTOR
- ③ INPUT SELECTOR
- ④ PHONO SELECTOR
- ⑤ LOUDNESS CONTROL
- ⑥ VOLUME CONTROL
- ⑦ BALANCE CONTROL
- ⑧ POWER INDICATOR LAMP
- ⑨ POWER SWITCH
- ⑩ HEADPHONE JACK
- ⑪ SPEAKERS SELECTOR
- ⑫ MODE SWITCH
- ⑬ SUBSONIC FILTER SWITCH
- ⑭ HIGH FILTER SWITCH
- ⑮ BASS TONE CONTROL & TURNOVER SWITCH
- ⑯ TREBLE TONE CONTROL & TURNOVER SWITCH
- ⑰ AUDIO MUTING SWITCH

REAR PANEL (GENERAL MODEL)

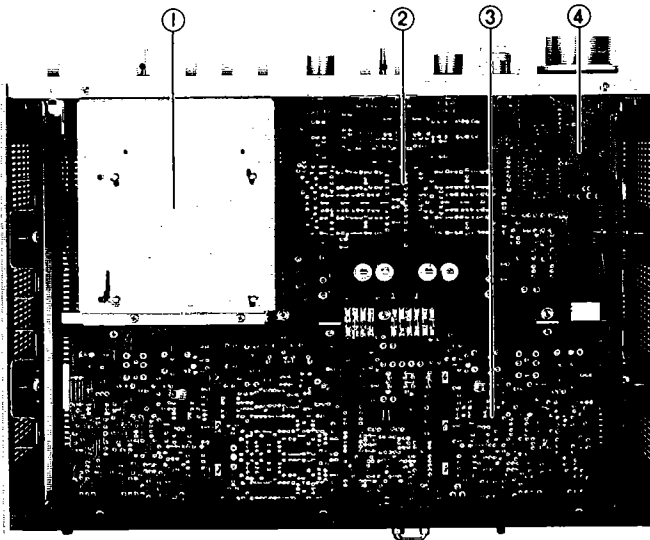
- ① GROUND TERMINAL
- ② PHONO-3/MC INPUT JACKS
- ③ PHONO-2 INPUT JACKS
- ④ PHONO-1 INPUT JACKS
- ⑤ TUNER INPUT JACKS
- ⑥ AUX INPUT JACKS
- ⑦ TAPE 1 PB/REC OUT JACKS
- ⑧ TAPE 2 PB/REC OUT JACKS
- ⑨ SPEAKER TERMINALS
- ⑩ AC OUTLETS
- ⑪ PRE OUT/MAIN IN JACKS
- ⑫ VOLTAGE SELECTOR

REAR PANEL (EUROPEAN MODEL)

- ① GROUND TERMINAL
- ② PHONO-3/MC INPUT JACKS
- ③ PHONO-2 INPUT JACKS
- ④ PHONO-1 INPUT JACKS
- ⑤ TUNER INPUT JACKS
- ⑥ AUX INPUT JACKS
- ⑦ TAPE 1 PB/REC OUT JACKS
- ⑧ TAPE 2 PB/REC OUT JACKS
- ⑨ SPEAKER TERMINALS
- ⑩ VOLTAGE SELECTOR
- ⑪ PRE OUT/MAIN IN JACKS
- ⑫ PRIMARY FUSE

INTERNAL VIEW**TOP VIEW**

- ① VOLUME CIRCUIT BOARD
- ② MUTING CIRCUIT BOARD
- ③ PHONO. SELECTOR SWITCH
- ④ TONE CONTROL CIRCUIT BOARD
- ⑤ INPUT SELECTOR SWITCH
- ⑥ REC OUT SELECTOR SWITCH
- ⑦ POWER TRANSFORMER
- ⑧ LAMP CIRCUIT BOARD
- ⑨ FUNCTION CIRCUIT BOARD
- ⑩ MAIN CIRCUIT BOARD

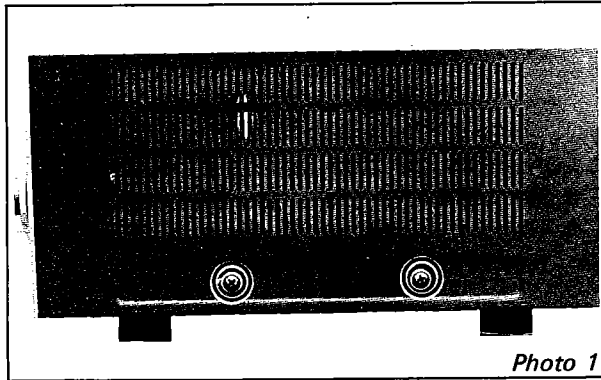
BOTTOM VIEW

- ① POWER TRANSFORMER
- ② TONE CONTROL CIRCUIT BOARD
- ③ MAIN CIRCUIT BOARD
- ④ VOLUME CIRCUIT BOARD

DISASSEMBLY PROCEDURES

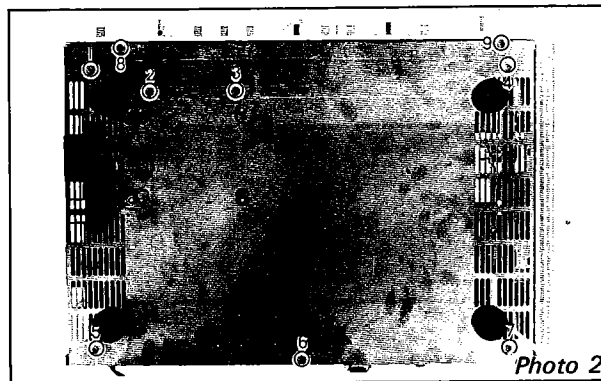
1. CABINET REMOVAL

Remove the two machine screws at each side of the amplifier, and lift off the cabinet.



2. BOTTOM COVER REMOVAL

Remove screws 1 ~ 7 shown in Photo 2 and remove the bottom cover.

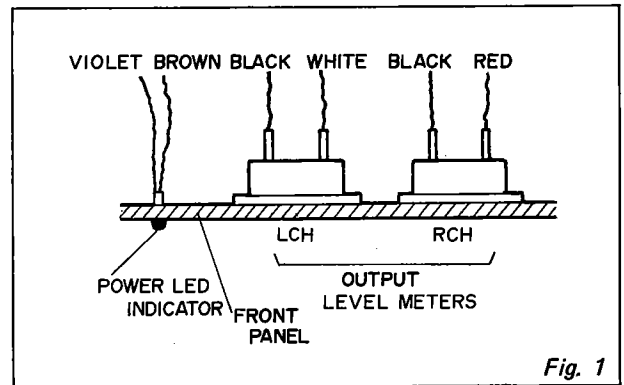
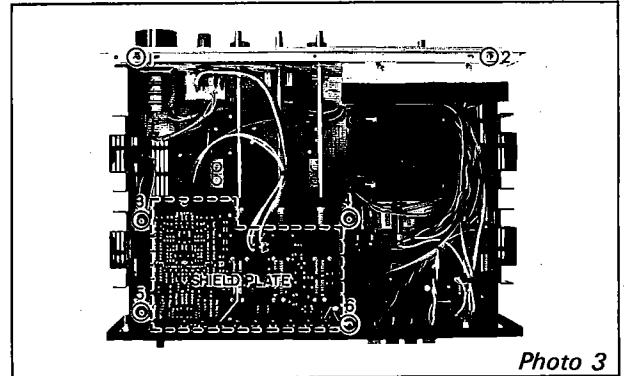


3. FRONT PANEL REMOVAL

- Remove the cabinet as described in Procedure 1.
- Pull off the switch and volume knobs on the front panel.

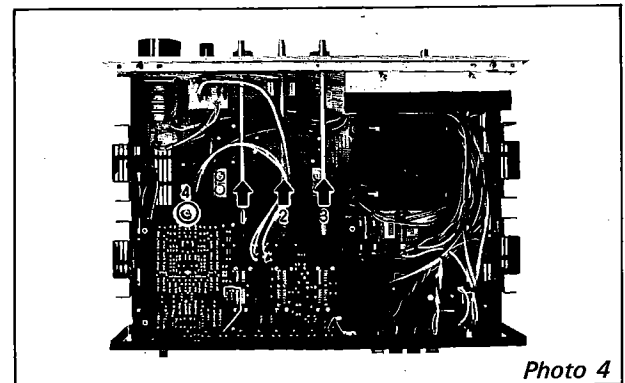
Use a hexagonal wrench to remove the knobs of the Phono Selector, Input Selector, Rec Out Selector and Speakers.

- Remove screws 8 and 9 shown in Photo 2 and screws 1 and 2 shown in Photo 3, and remove front panel by pulling forward gently. In this case, please unsolder the lead wires from the Meter and the Power Source Indication L.E.D. For connections, see Fig. 1.



4. FUNCTION CIRCUIT BOARD REMOVAL

- Remove the cabinet, as described in procedure 1.
- Loosen screws 3 ~ 6 shown in Photo 3 and slide out the shield plate.
- Slide joints 1 ~ 3 in the direction of the arrow as shown in Photo 4.
- Unsolder the leads from the circuit board.
- Remove screw 4 shown in Photo 4 and screws 1 ~ 10 shown in Photo 5, and remove the function circuit board.



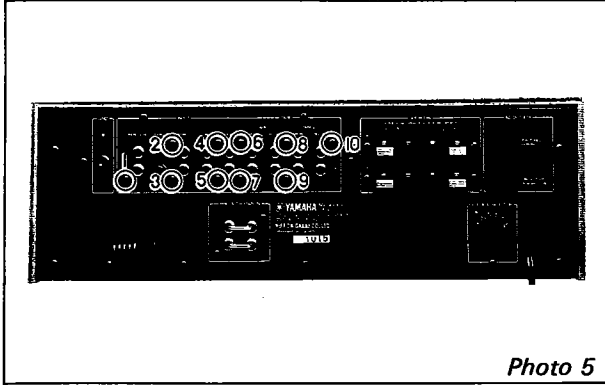


Photo 5

5. MAIN CIRCUIT BOARD REMOVAL

- Remove the cabinet as described in procedure 1.
- Remove the bottom cover as described in procedure 2.
- First remove screws 1 ~ 6 and two short pins shown in Photo 6, then remove screws 1 ~ 3 as shown in Photo 7.
- Unsolder joint wires 4 and 5 shown in Photo 7 and remove the main circuit board.

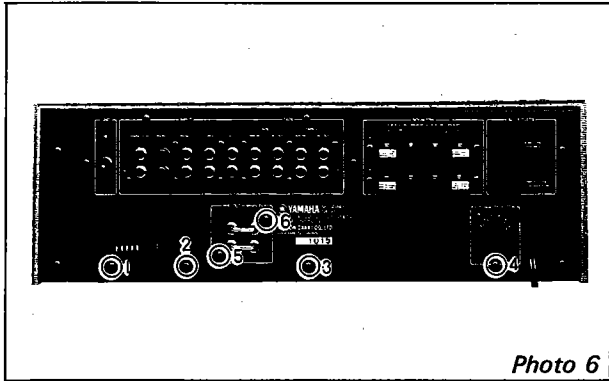


Photo 6

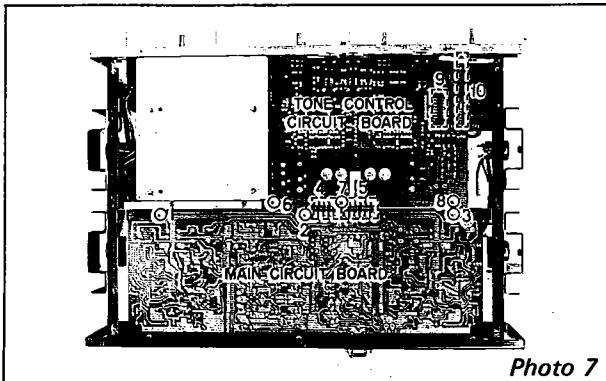


Photo 7

6. TONE CONTROL CIRCUIT BOARD REMOVAL

- Remove the front panel as described in procedure 3.
- Remove the bottom cover.
- Unsolder joint wires 4 and 5 shown in Photo 7.

- Remove screws 6 ~ 8 and joint wire 9 as shown in Photo 7.
- Remove knobs 1 ~ 6 of the lever switch, mounting screws 7 ~ 18 and VR nuts A and B, then remove the tone control circuit board together with the muting circuit board as shown photo 8.

7. LOUDNESS CIRCUIT BOARD REMOVAL

- Remove the front panel. (See procedure 3.)
- Remove volume nut C shown in Photo 8, and remove Loudness circuit board.

8. VOLUME CIRCUIT BOARD REMOVAL

- Remove the front panel. (See procedure 1.)
- Remove joint wire 10 shown in Photo 7.
- Remove nut 22 shown in Photo 8 and remove the volume circuit board.

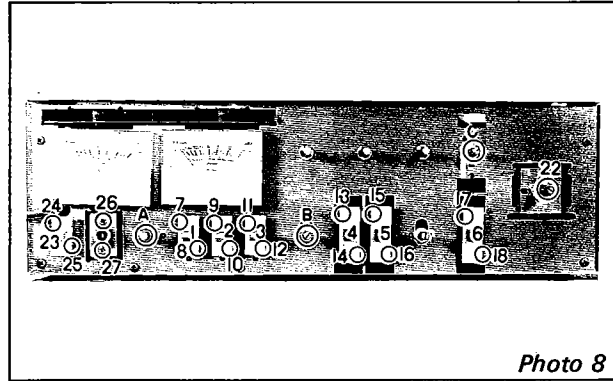


Photo 8

9. POWER TRANSFORMER REMOVAL

- Remove the cabinet. (See procedure 1.)
- Unsolder the transformer leads.
- Remove screws 1 ~ 4 shown in Photo 9, and gently pull out the power transformer.

10. POWER SWITCH AND HEAD PHONE JACK REMOVAL

- Remove the front panel. (See procedure 1.)
- Remove screws 24 and 25 of lever knob 23 shown in Photo 8 and remove the power switch.
- Remove screws 26 and 27 shown in Photo 8 and remove the head phone jack.

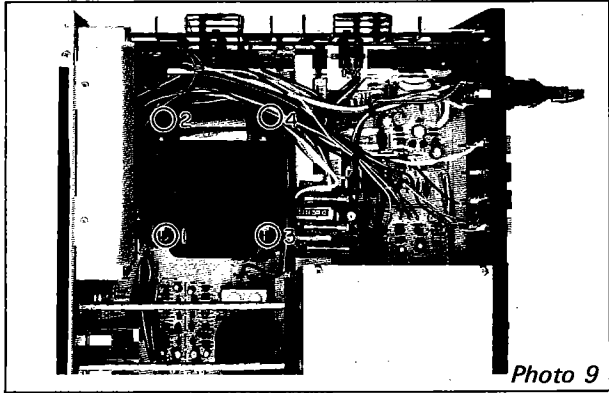


Photo 9

- b. Remove the illuminating acryl plate of the output level meter.
- c. Remove screws 1 and 2 as shown in Photo 10, then remove the lamp circuit board.

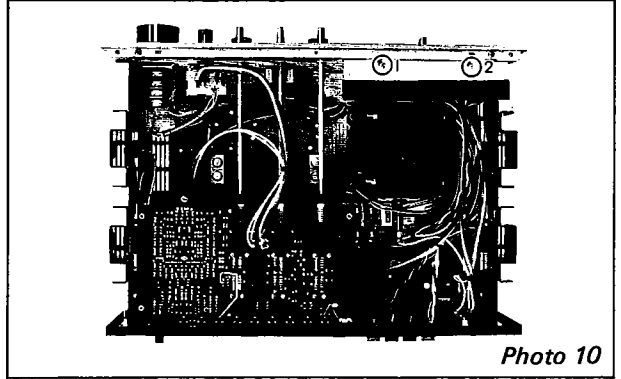
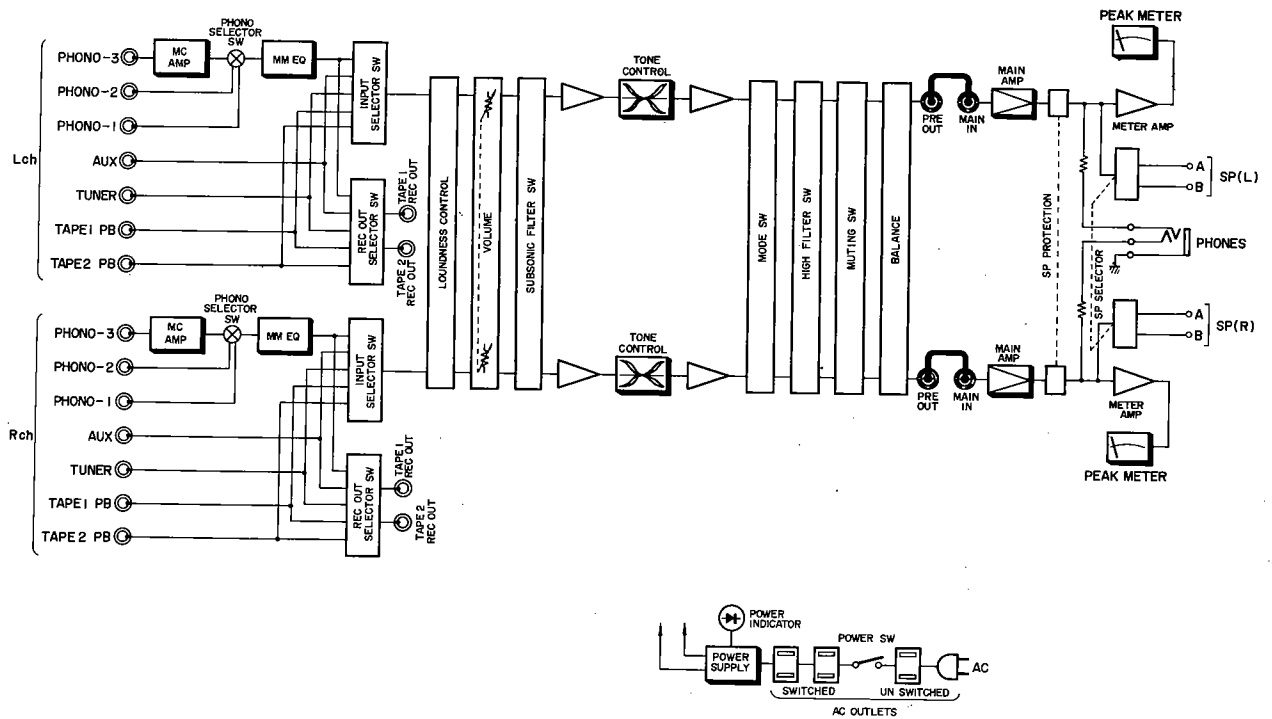


Photo 10

11. LAMP CIRCUIT BOARD REMOVAL

- a. Remove the front panel. (See procedure 3.)

BLOCK DIAGRAM



MEASUREMENTS AND ADJUSTMENTS

PRIOR TO MEASUREMENT

- Start adjustments after an elapse of over 10 minutes after setting the power switch ON to enable the amp to stabilize.
- Do not connect speaker or dummy resistor etc. to the SP terminal. Leave in open condition.
- Set main volume to minimum.

a. Adjustment of the idling power source.

- Adjust voltage between CP 3 ~ E on main circuit board (LCH) to 20mV ± 5mV with VR 401.
- Adjust voltage between CP-2 ~ E on main circuit board to 20mV ± 5mV with VR 402.
- Repeat above adjustments several times.

Caution: Turn variable resistor for adjustment slowly and carefully.

Note polarity of test points.

b. Adjustment of mid-potential.

Check voltage between Lo - E & Ro - E of main circuit and confirm that the board is 0V.

c. Adjustment of Meter AMP.

- Setting of 0 dB.

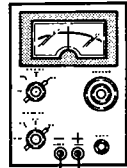
When speaker output is 50W (8Ω, 20V r.m.s., 1 KHz) adjust VR 701 (LCH) & VR 702 (RCH) so the output level meter indicates 0 dB.

a. Adjust idling current to 20 mV ± 5mV.

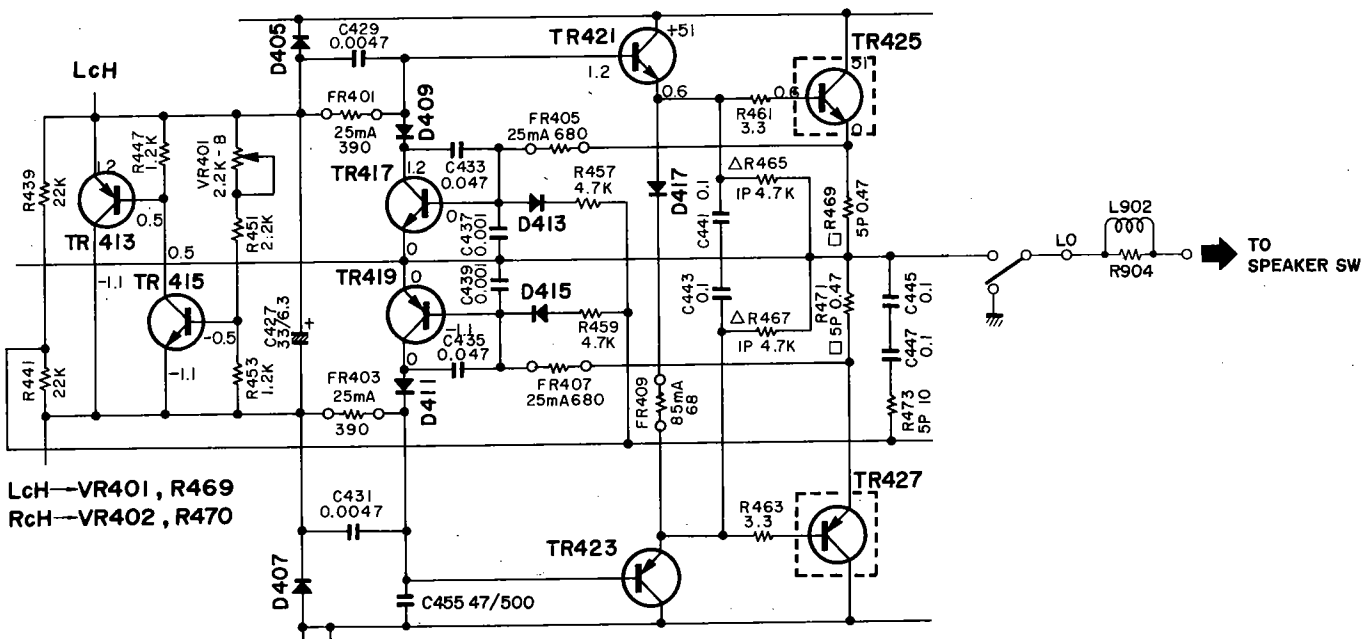
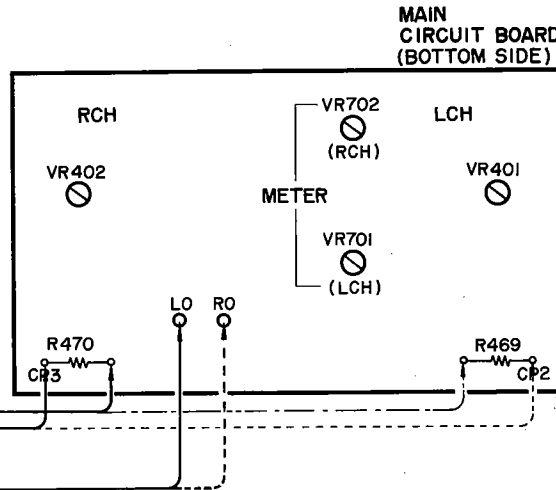
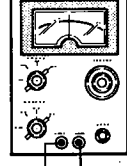
b. Adjust for mid-potential.

Main circuit board (rear side)

a. IDLING CURRENT ADJUSTMENT 20mV ± 5mV



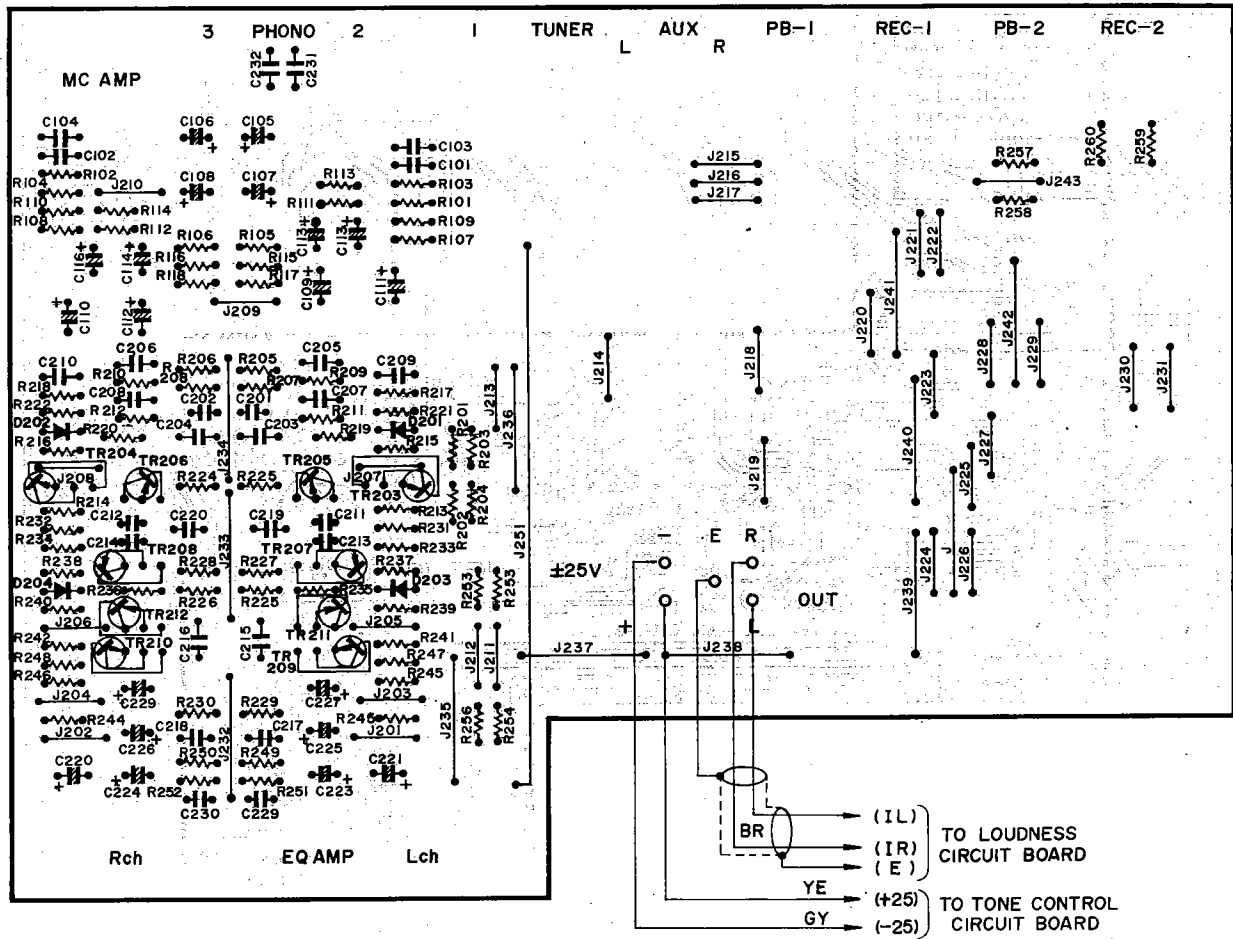
b. MIP. POINT POTENTIAL CHECKING UP



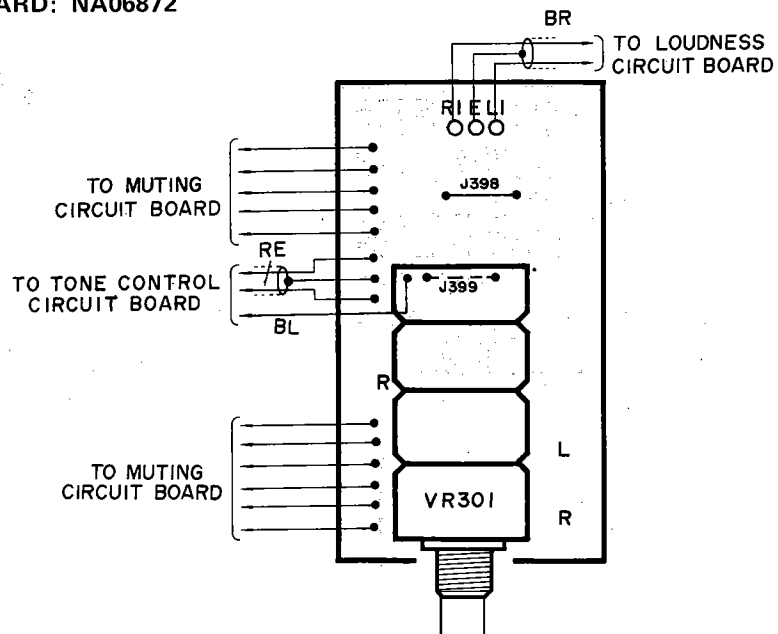
Lch → VR401, R469
Rch → VR402, R470

PRINTED CIRCUIT BOARD

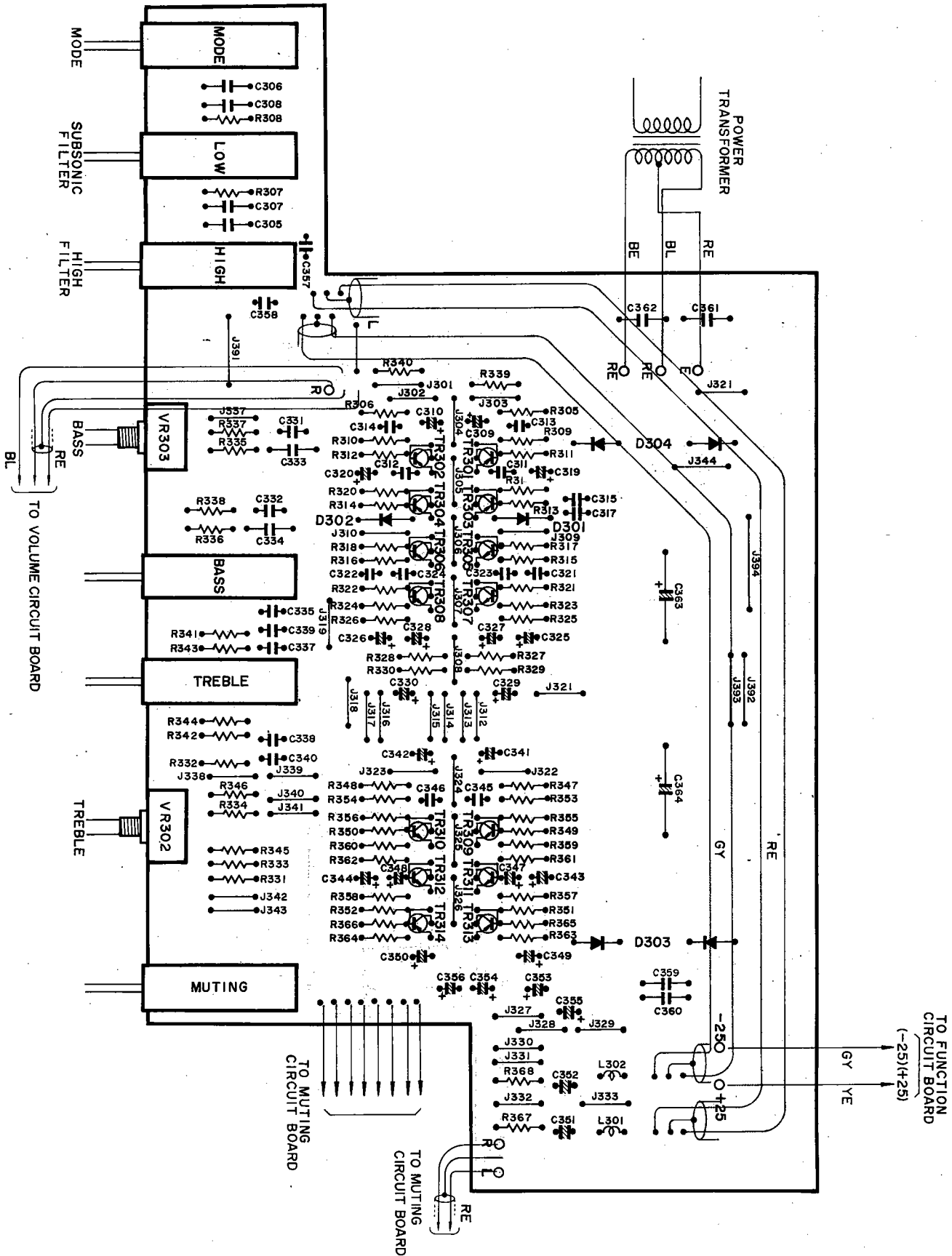
1. FUNCTION CIRCUIT BOARD: NA06864



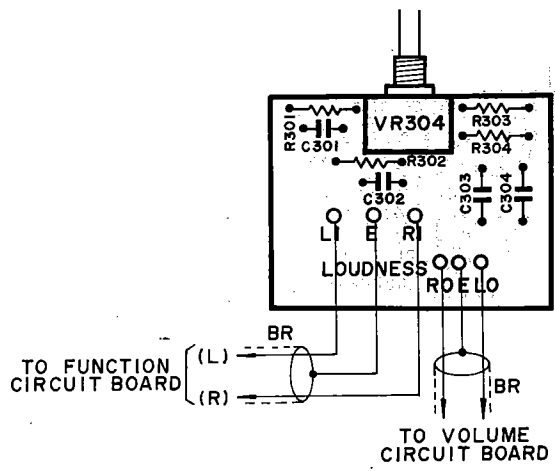
2. VOLUME CIRCUIT BOARD: NA06872



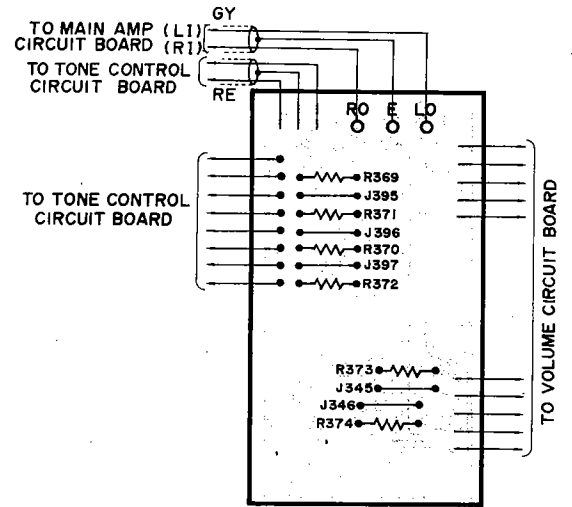
3. TONE CONTROL CIRCUIT BOARD: NA06872



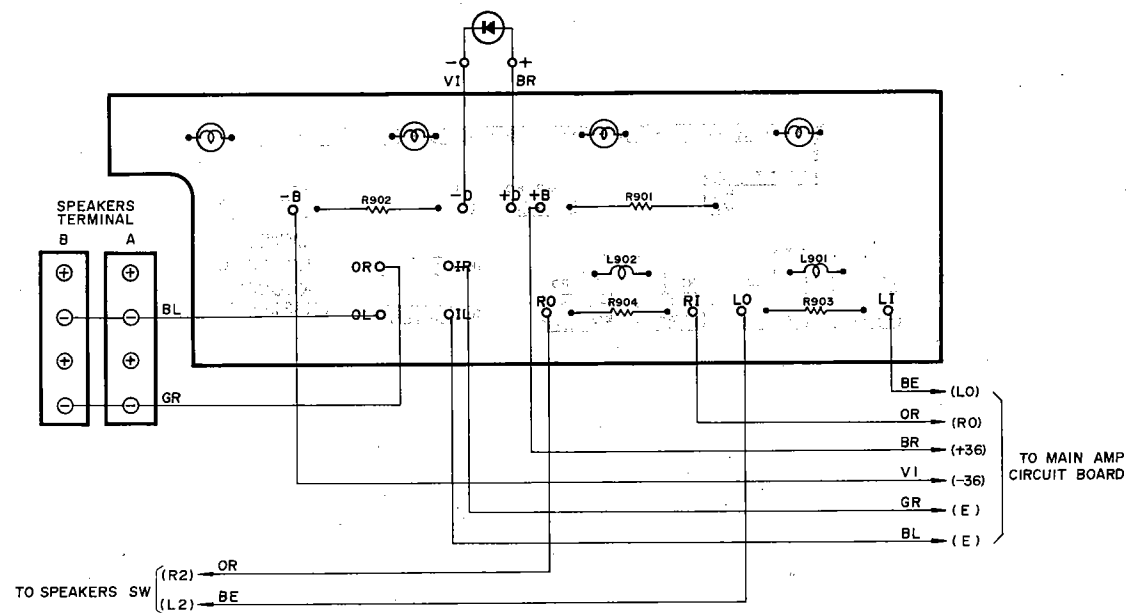
4. LOUDNESS CIRCUIT BOARD: NA06872



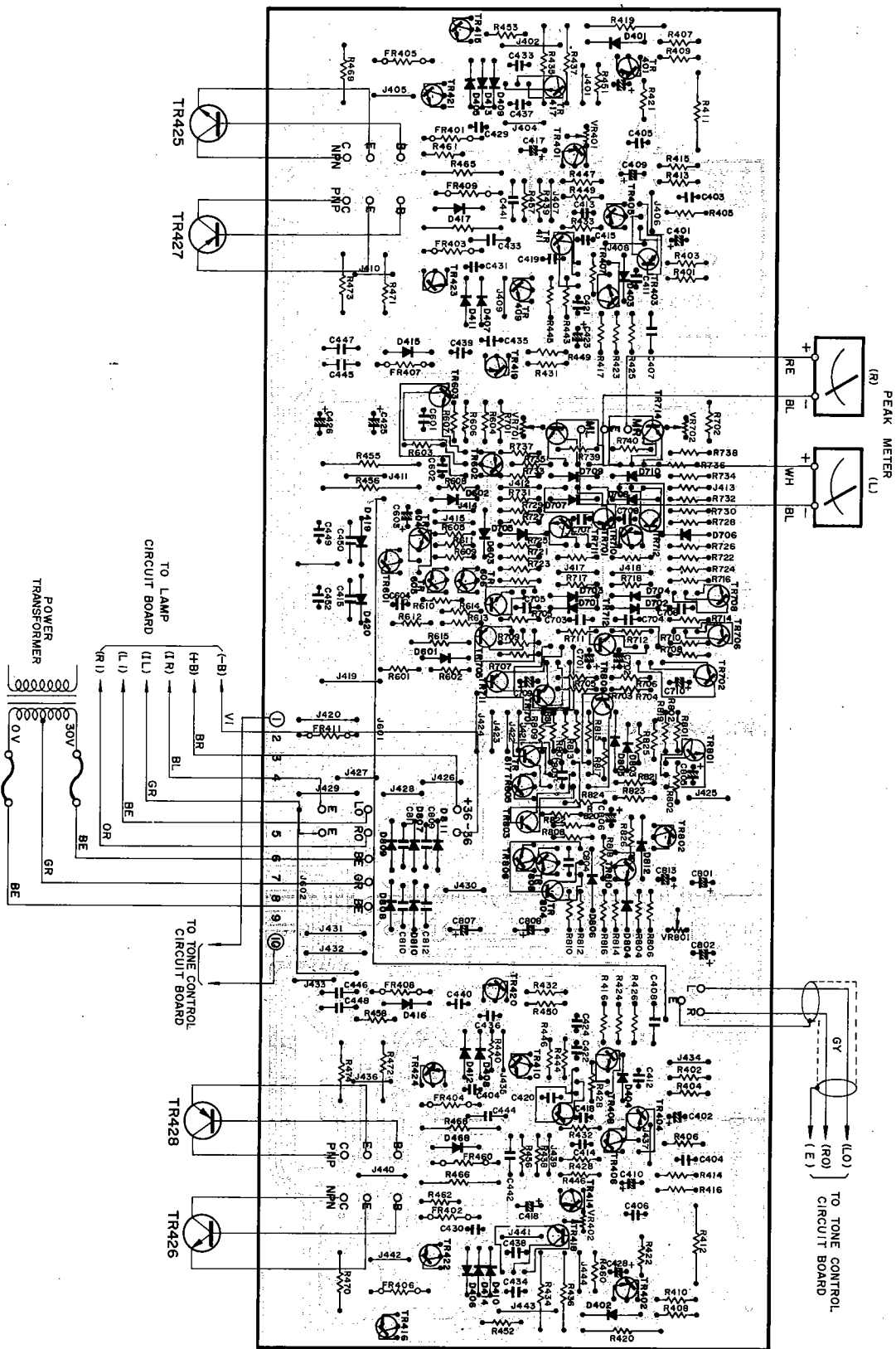
5. MUTING CIRCUIT BOARD: NA06872



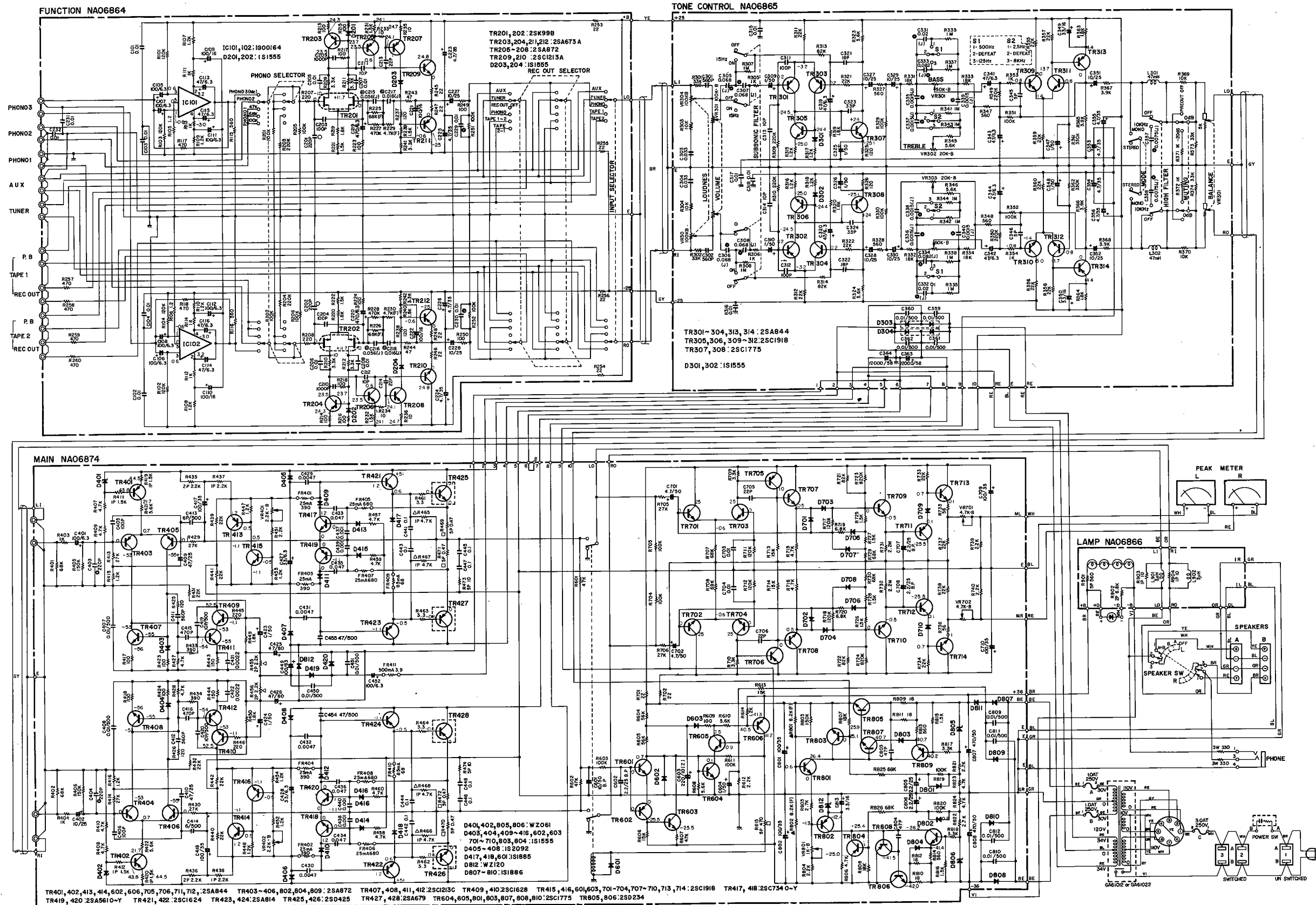
6. LAMP CIRCUIT BOARD: NA06866



7. MAIN AMP CIRCUIT BOARD: NA06874
 (NA06873: US Model only)

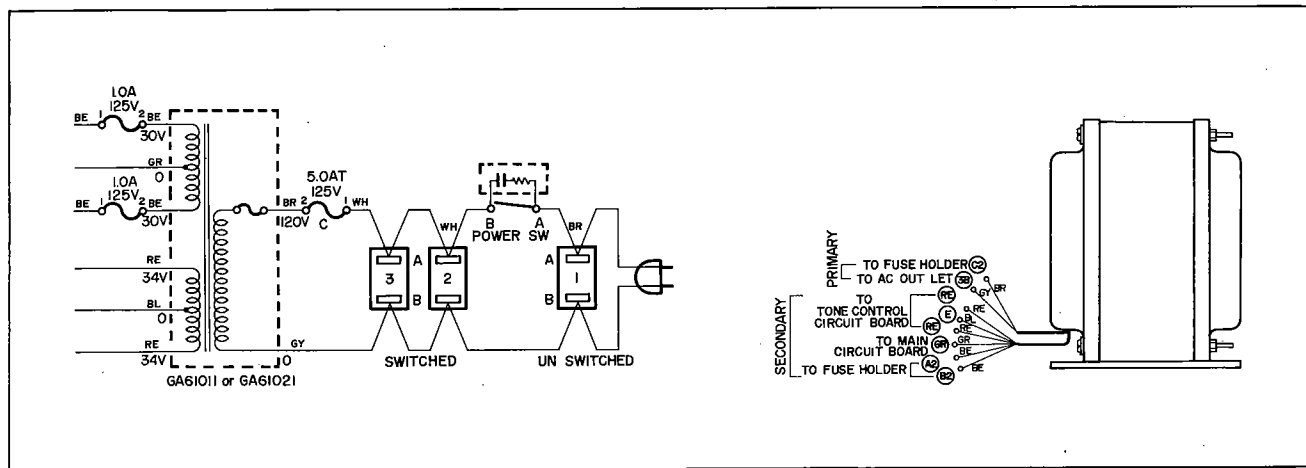


OVERALL SCHEMATIC DIAGRAM

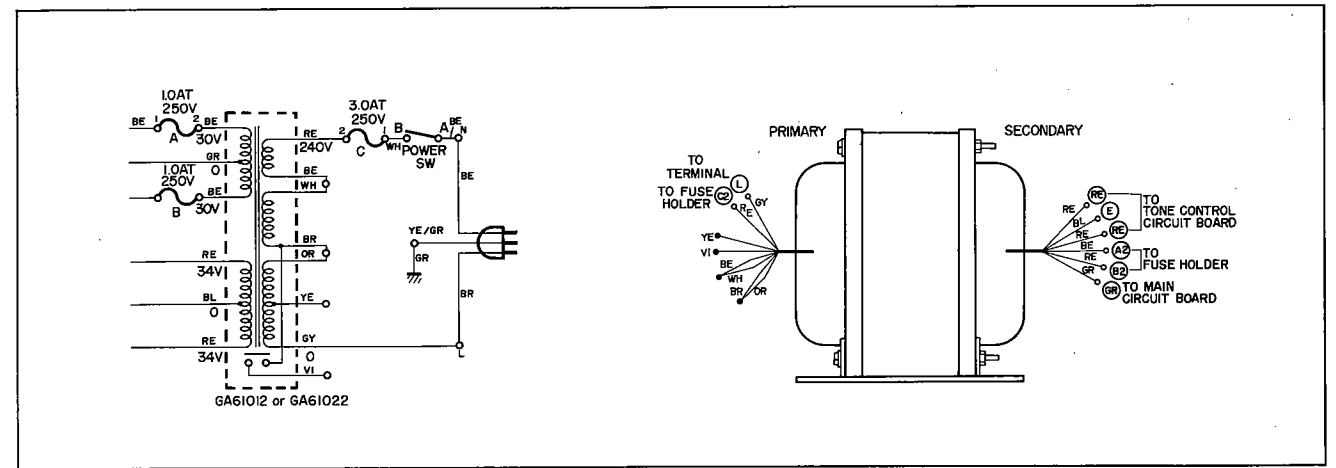


LINE VOLTAGE CONVERSION

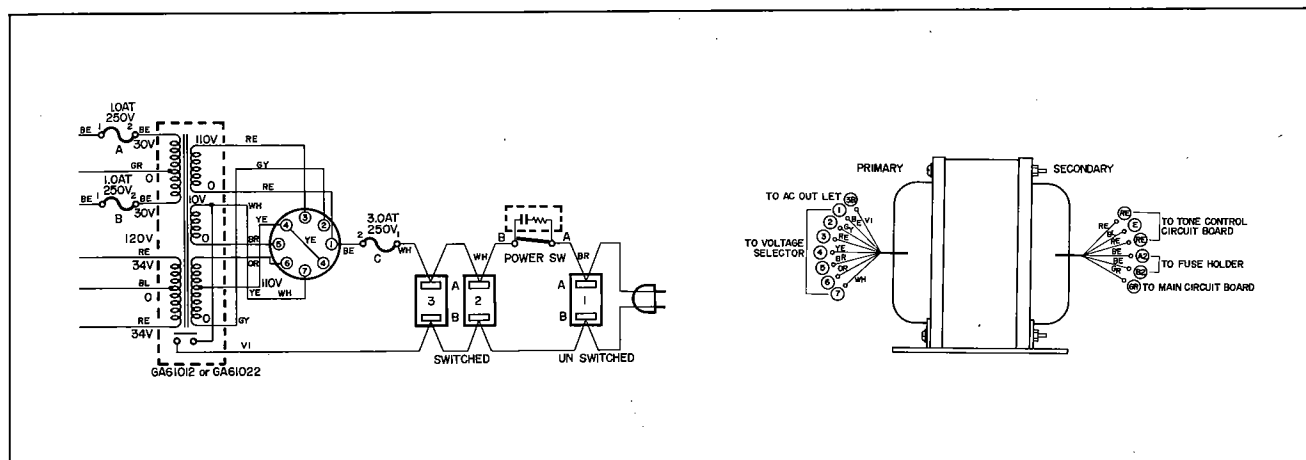
▼ U.S. & CANADIAN MODELS



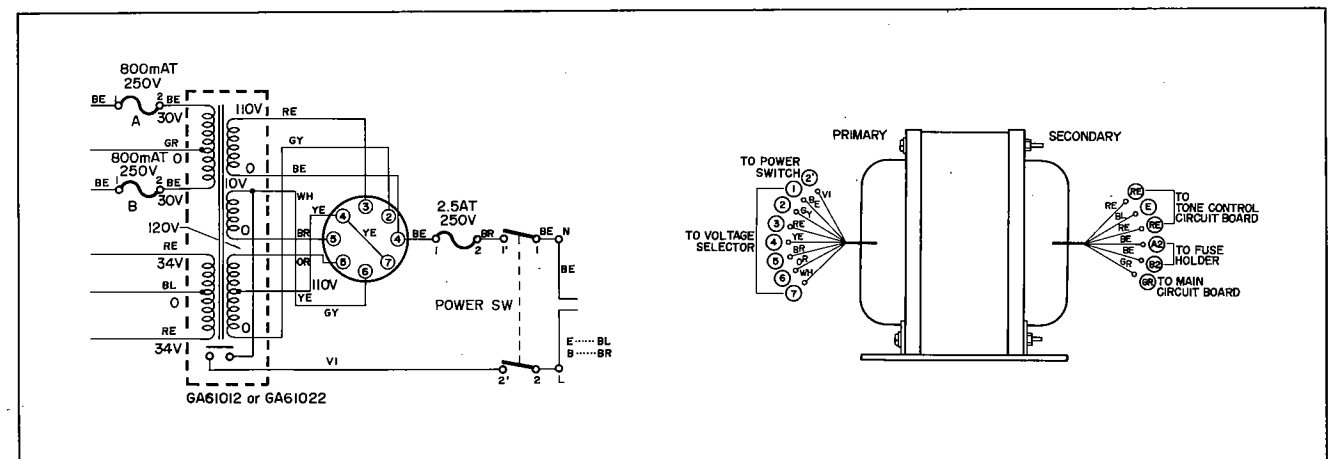
▼ AUSTRALIAN MODEL



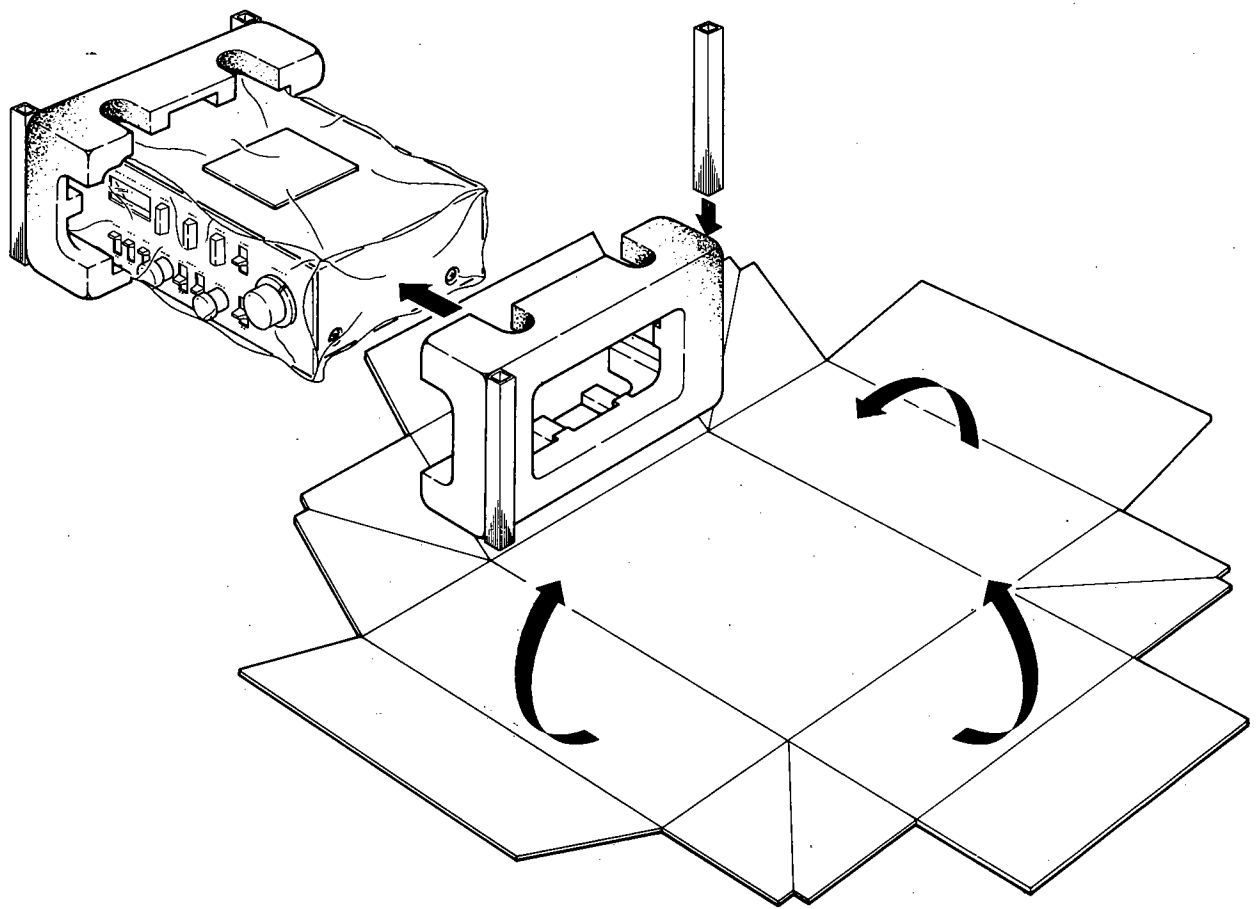
▼ GENERAL MODEL



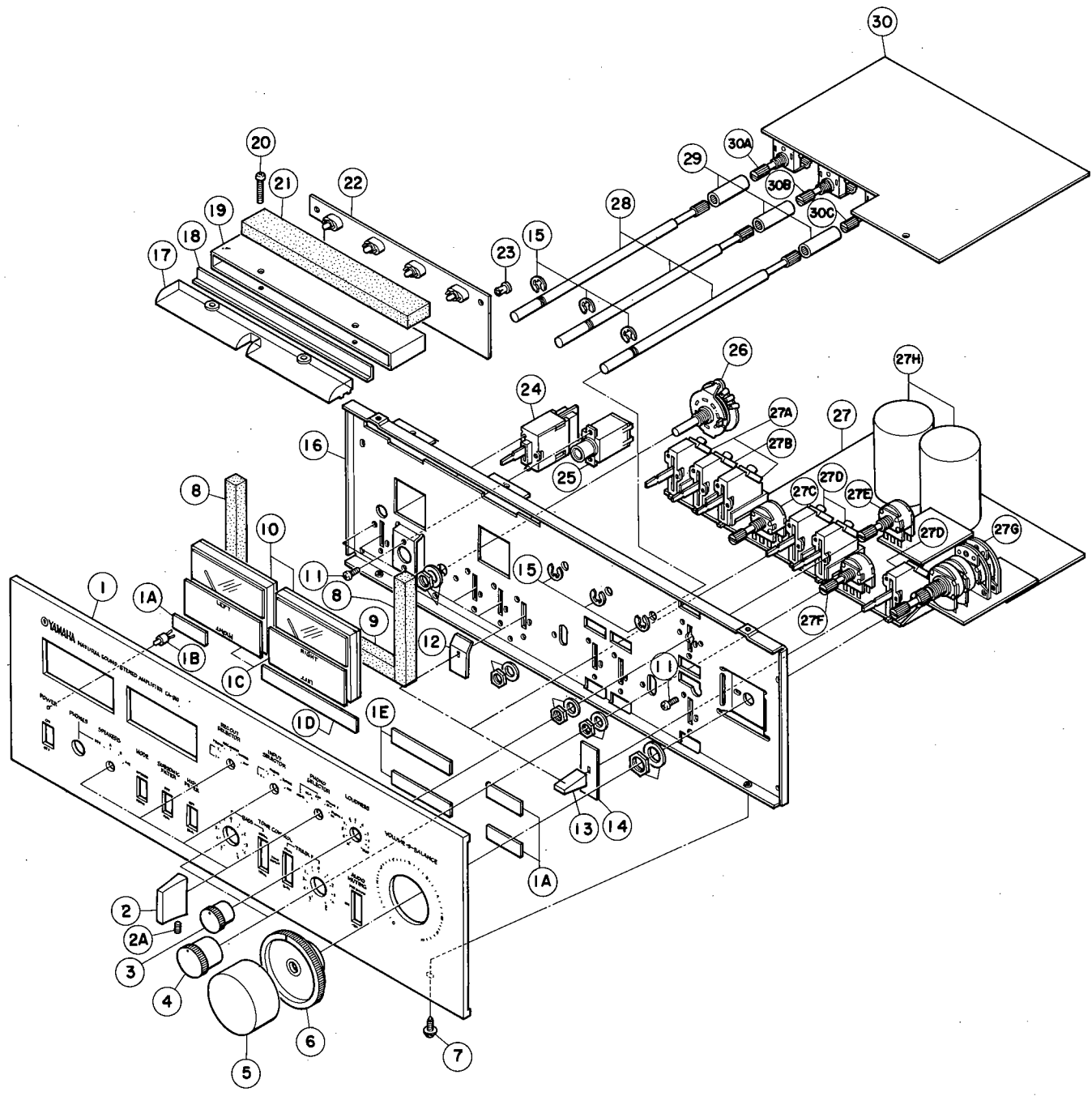
▼ EUROPEAN MODEL



PACKAGE

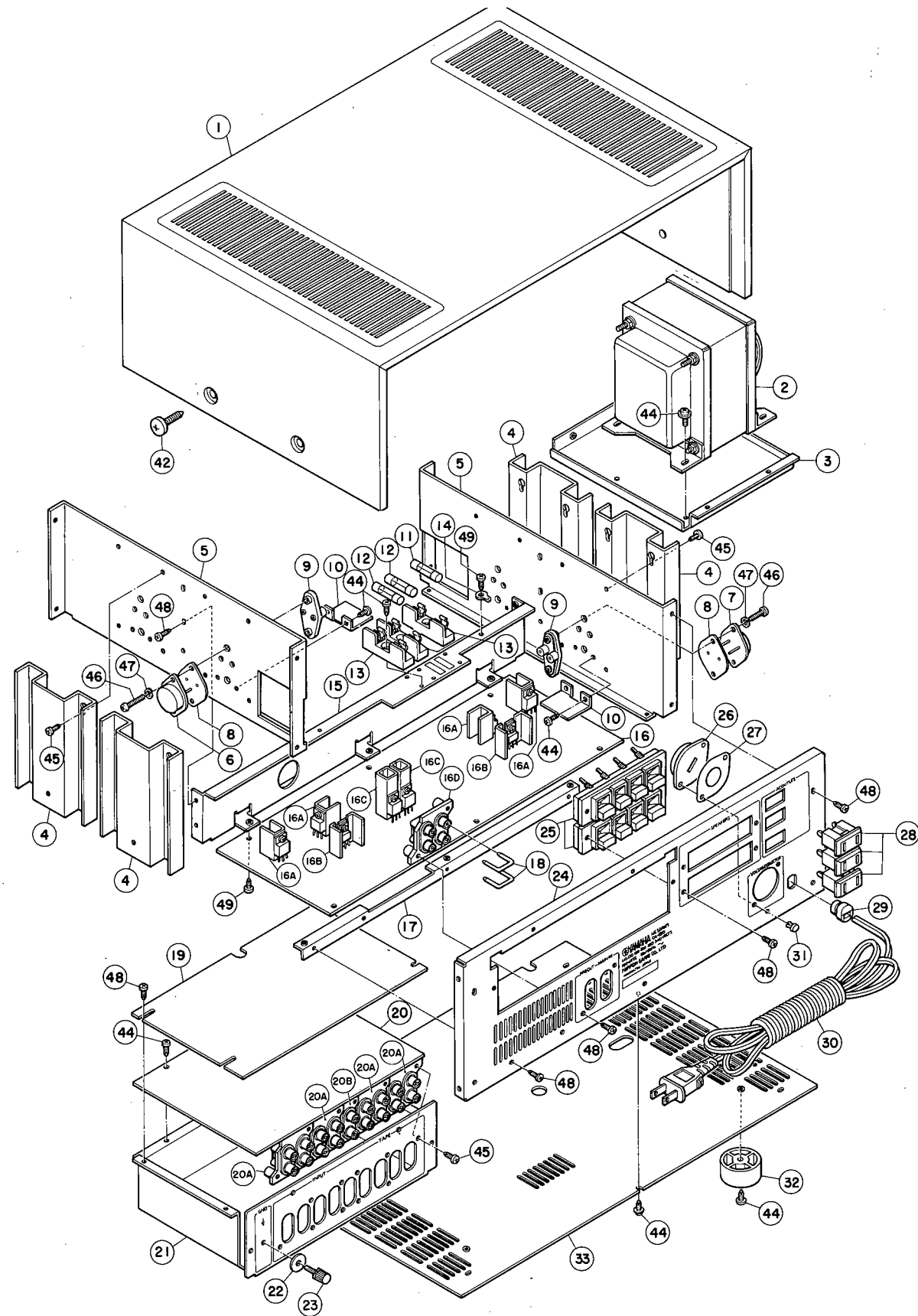


PARTS LIST

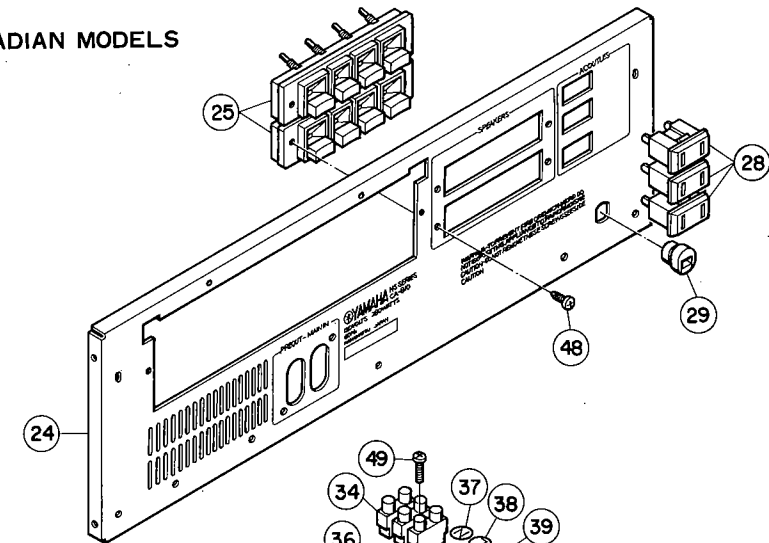


Ref. No.	Part No.	Description	Remarks	Common Models
1	32:00:00 BA:06:95:20	Front Panel	フロントパネル	J
	32:00:00 BA:06:95:70	-do.-	"	R, U, C, A, E, B
A	42:00:00 CB:07:90:20	Film for Apron	エプロン受フィルム	ℓ = 30
B	42:00:00 IF:00:06:80	L.E.D	L · E · D	
C	32:00:00 BA:06:91:10	Meter Panel	メーターパネル	
D	42:00:00 CB:07:90:00	Film for Apron	エプロン受フィルム	
E	42:00:00 CB:07:91:00	-do.-	"	ℓ = 55
2	32:00:00 BA:06:77:90	Knob	ツマミ (ロータリーSW用)	
A	42:00:00 EZ:00:01:90	Hexagonal Set Screw	六角セットスクリュー	
3	32:00:00 BA:06:48:90	Knob	ツマミ(ラウドネス用)	
4	32:00:00 BA:06:92:30	-do.-	ツマミ(トーン用)	
5	32:00:00 BA:06:95:60	-do.-	ツマミ(ボリューム用)	
6	32:00:00 BA:06:91:20	-do.-	ツマミ(バランス用)	
7	42:00:00 EI:03:00:80	Bind Tapping Screw	バインドタッピングネジ	M3 x 8 ZMC2-Y
8	42:00:00 CB:07:90:60	Shade Tape	遮光テープ	
9	42:00:00 CB:07:79:10	-do.-	"	ℓ = 132
10	42:00:00 JI:00:06:00	Peak Level Meter	ピークレベルメーター	
11	42:00:00 ED:03:00:60	Binding Head Screw	バインドコネジ M3 x 6	ZMC2-Y
12	42:00:00 CB:07:95:10	Apron, Switch	SWエプロン	
13	32:00:00 CB:07:94:80	Lever Knob	レバーツマミ	
14	42:00:00 CB:07:95:00	Apron, Switch	SWエプロン	
15	42:00:00 EV:50:15:00	Ring E	Eリング φ5用	
16	32:00:00 AA:08:44:30	Sub Shassis	サブシャーシ	
17	32:00:00 CB:07:81:10	Lens, Lamp	ランプレンズ	
18	32:00:00 CB:07:81:20	Collar Plate	カラープレート	
19	32:00:00 AA:08:46:70	Lens Holder	レンズホルダー	
20	42:00:00 ED:03:01:40	Binding Head Screw	バインドコネジ M3 x 14S	ZMC2-Y
21	42:00:00 CB:07:94:50	Shade Tape	遮光テープ	
22	32:00:00 NA:06:86:60	Lamp C.B	ランプシート	
23	32:00:00 CB:06:88:80	Plastic Rivet	プラスチックリベット	
24	42:00:00 KA:20:05:90	Power Switch	パワーSW(TV-5)	J, R, U, C, A
	42:00:00 KA:20:06:30	-do.-	"	E, B
	42:00:00 FZ:00:01:10	Spark Killer	スパークキラー (DC500/A C300)	0.033 + 120Ω U, C
	42:00:00 FZ:00:05:40	-do.-	"	-do.- R
25	42:00:00 LB:30:04:80	Headphone Jack	ヘッドホンジャック	
26	42:00:00 KA:50:09:70	Rotary Switch	ロータリーSW (SP切替用)	SR-32/UL
	42:00:00 HM:53:53:30	Cement Molded Resistor	セメント抵抗	3P 330Ω
27	32:00:00 NA:06:86:50	Tone Control C.B	トーン コントロールシート	J
	32:00:00 NA:06:87:20	-do.-	"	R, U, C, A, E, B
A	42:00:00 KA:20:06:00	Lever Switch (Shorting)	レバースW (ショータイング)	SMK
B	42:00:00 KA:20:06:20	-do.-	"	-do.-
C	42:00:00 HS:41:04:40	Variable Resistor (Bass Control)	ボリューム(低音用)	B-50K
D	42:00:00 KA:20:06:10	Lever Switch (Shorting)	レバースW (ショータイング)	SMK
E	42:00:00 HS:41:05:80	Variable Resistor (Loudness Control)	ボリューム (ラウドネス用)	B-100K
F	42:00:00 HS:41:04:50	-do.- (Treble Control)	(高音用)	B-20K
G	42:00:00 HS:42:02:10	-do.- (Volume & Balance Control)	(音量・バランス用)	A-200K + 5K
H	42:00:00 FZ:00:07:40	Electlytic Cap. (Terminal lug)	ケミコンラグ端子型	12,000/58
28	32:00:00 BA:06:95:30	Extension Shaft	延長シャフト	
29	32:00:00 CB:07:13:80	Joint	ジョイント	24L

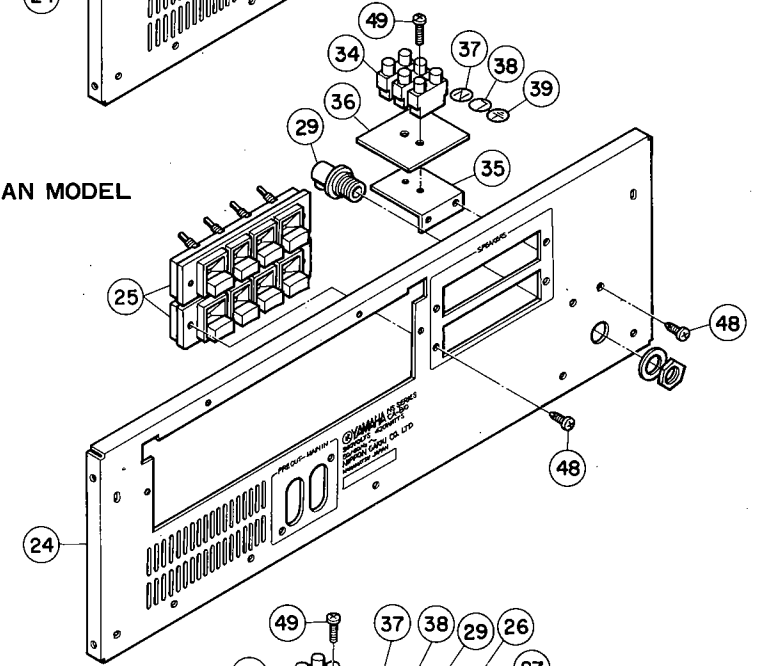
Ref. No.	Part No.	Description	Remarks	Common Models
30	32:00:00 NA:06:86:40	Function C, B	ファンクションシート	
A	42:00:00 KA:50:09:20	Rotary Switch (Non Shorting)	ロータリーSW (ノンショータイング)	SRZ-046
B	42:00:00 KA:50:09:10	-do.- (Non Shorting)	(")	SRZ-045
C	42:00:00 KA:50:09:00	-do.- (Shorting)	(ショータイング)	SRZ-045



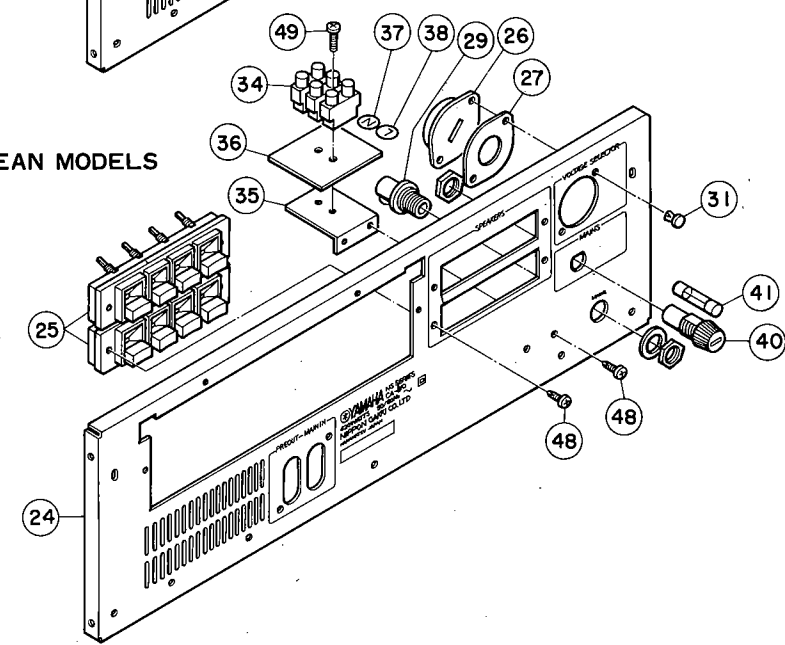
US/CANADIAN MODELS



AUSTRALIAN MODEL



BS&EUROPEAN MODELS



Ref. No.	Part No.	Description	Remarks	Common Models
1	32:00:00:DC:61:48:10	Cabinet	外 装	
2	42:00:00:GA:61:01:10	Power Transformer	電 源 ト ラ ン ス	U, C
2	42:00:00:GA:61:01:20	-do.-	"	R, A, E, B
3	32:00:00:AA:08:45:30	Holder, Power Transformer	ト ラ ン ス ホ ル ダ ー	
4	32:00:00:BA:06:95:40	Sub Radiator	サ ブ ラ ジ エ タ ー	
5	32:00:00:BA:06:95:10	Main Radiator	メ イン ラ ジ エ タ ー	
6	42:00:00:ID:04:25:00	Transistor 2SD425 Toshiba	ト ラ ン ジ ス タ	
7	42:00:00:IB:05:55:00	-do.- 2SB555 -do.-	"	
8	42:00:00:IL:00:02:30	Mica Base	マイ カ ベ ー ス	
9	32:00:00:LB:30:04:90	Socket, Transistor	ト ラ ン ジ ス タ ソ ケ ッ ト	
10	32:00:00:BB:06:05:30	Holder, Transistor	ト ラ ン ジ ス タ ホ ル ダ ー	
11	42:00:00:KB:00:03:60	Fuse 3.0AT 250V	ヒ ュ ー ズ	R, A
11	42:00:00:KB:00:14:20	-do.- 5.0A 125V ULST-6	"	U, C
12	42:00:00:KB:00:03:30	-do.- 1.0AT 250V	"	R, A
12	42:00:00:KB:00:10:60	-do.- 1.0AT 250V ULST-4	"	U, C
12	42:00:00:KB:00:07:20	-do.- 800mA 250V	"	E, B
13	42:00:00:LB:20:08:40	Holder, Fuse	ヒ ュ ー ズ ホ ル ダ ー	
13	42:00:00:LB:20:09:40	-do.-	"	
14	42:00:00:LA:00:02:80	Earth Lug	ア ー ス ラ グ	
15	32:00:00:AA:08:44:50	Center Frame	セ ン タ ー フ レ ー ム	
16	32:00:00:NA:06:87:30	Main C.B	メ イン シ ー ト	U
16	32:00:00:NA:06:87:40	-do.-	"	R, C, A, E, B
A	32:00:00:BA:06:96:20	Heat Sink	放 熱 板	
B	32:00:00:BA:06:57:50	Radiator	放 熱 器	
C	32:00:00:BA:06:95:50	Heat Sink	放 熱 板	
D	32:00:00:LB:40:03:10	Pin Jack P.C 4P	ピ ン ジャ ッ ク	
17	32:00:00:AA:08:45:50	Stay, Main C.B	シ ー ト ス テ ー	
18	32:00:00:LB:10:03:70	Connection Plug	コ ネ ク シ ョ ン プ ラ グ	
19	32:00:00:AA:08:45:40	Shield Cover	シ ー ル ド カ バ ー	
20	32:00:00:NA:06:86:40	Function C.B	フ ン ク シ ョ ン シ ー ト	
A	32:00:00:LB:40:03:10	Pin Jack P.C 4P	ピ ン ジャ ッ ク	
B	32:00:00:LB:20:10:10	-do.- 2P	"	
21	32:00:00:AA:08:44:60	Shield Box	シ ー ル ド ボ ッ ク ス	
22	32:00:00:EV:90:13:60	Cums Flat Washer φ3.6 x 10 x 0.8t	セ ム ス 平 座 金	
23	32:00:00:LA:00:10:70	Earth Terminal Knob Type	ア ー ス 端 子 ツ マ ミ 式	
24	32:00:00:AA:08:44:90	Rear Panel	リ ア パ ネ ル	R
24	32:00:00:AA:08:45:00	-do.-	"	U, C
24	32:00:00:AA:08:45:10	-do.-	"	A
24	32:00:00:AA:08:45:20	-do.-	"	E, B
25	32:00:00:LA:00:18:80	SP Terminal 4P	ス ピ ー カ ー ミ ナ ル	
26	32:00:00:LB:20:02:60	Voltage Selector	電 圧 切 換 器	R, E, B
27	32:00:00:CB:07:64:00	Isolation Plate for V.S	絶 縁 板	E, B
28	32:00:00:LB:20:09:10	A.C Concent	A C コ ン セ ン ト	R
28	32:00:00:LB:20:07:10	-do.-	"	U, C
29	32:00:00:CB:06:86:30	Cord Stopper	コ ー ド ス ト ッ パ ー	R, U, C
29	32:00:00:CB:07:06:90	-do.-	"	A, E, B
30	32:00:00:MG:00:03:40	A.C.Cord	電 源 コ ー ド	R, U, C
30	32:00:00:MG:00:05:00	-do.-	"	A
30	32:00:00:MG:00:04:60	-do.-	"	E

Ref. No.	Part No.	Description	Remarks	Common Models
30	32:00:00:MZ:06:78:40	A.C Cord Ass'y	電 源 コ ー ド Ass'y	B
31	32:00:00:CB:06:88:80	Plastic Rivet	プ ラ ス チ ッ ク リ ヱ ッ ト	R, E, B
32	32:00:00:CB:07:83:90	Leg	脚	
33	32:00:00:AA:08:44:70	Bottom Cover	底 板	
34	32:00:00:LA:00:10:40	Connection Terminal Plate	中 継 端 子 台	A, E, B
35	32:00:00:AA:08:46:20	Stay, Connection Terminal Plate	端 子 ス テ ー	A, E, B
36	32:00:00:CB:07:49:70	Isolation Plate	絶 縁 板	A, E, B
37	32:00:00:CA:06:06:70	Mark Neutral	中 立 線 マ ー ク	A, E, B
38	32:00:00:CA:06:06:80	-do.- Line	充 電 線 マ ー ク	A, E, B
39	32:00:00:CA:06:06:90	-do.- Earth	ア ー ス マ ー ク	A
40	32:00:00:LB:20:05:90	Fuse Holder	ヒ ュ ー ズ ホ ル ダ ー	E, B
41	32:00:00:KB:00:06:90	Fuse, Time Lug	ヒ ュ ー ズ	E, B
42	32:00:00:EZ:00:04:30	BW Head Screw M5 x 14 FNM3-3g	B W ベ ッ ド 小 ネ ジ	
44	32:00:00:EI:03:00:80	Binding Tapping Screw M3 x 8 ZMC2-Y	バ イ ン ド タ ッ ピ ン グ ネ ジ	
45	32:00:00:EI:33:00:80	Binding Tapping Screw M3 x 8 FCM3-BI	"	
46	32:00:00:EA:33:01:40	Pan Head Screw M3 x 14 BNM1-3m	ナ ベ 小 ネ ジ	
47	32:00:00:EV:30:13:00	Spring Washer φ3 BNM1-3m	ス プ リ ン グ ワ ッ シ ャ ー	
48	32:00:00:EZ:00:04:60	Bonding Tapping Screw M3 x 8 FCM3-BI	ボ ン デ ィ ン グ タ ッ ピ ン グ ネ ジ	
49	32:00:00:ED:03:01:60	Binding Head Screw M3 x 16 ZMC2-Y	バ イ ン ド 小 ネ ジ	

Ref. No.	Part No.	Description	Remarks	Common Models
32:00:00	NA 06:86:40	Function C.B	ファンクションシート	
42:00:00	IA 06:73:10	Transistor 2SH673A	トランジスタ	
42:00:00	IA 08:72:00	-do.- 2SA872	"	
42:00:00	IC 12:13:10	-do.- 2SC1213A	"	
32:00:00	IE 10:00:70	Dual F.E.T 2SK99B	F E T	
42:00:00	IF 00:00:40	Diode 1S1555	ダイオード	
42:00:00	IG 00:16:40	I.C	I . C	
42:00:00	HB 15:31:20	Carbon Resistor 1.2K	カーボン抵抗	
42:00:00	HU 57:64:70	Metal Fixed Film Resistor 4.7K	金属皮膜抵抗	
42:00:00	HU 57:76:80	-do.- 6.8K	"	
42:00:00	FD 11:22:20	Polystyrene Cap. 220P/50	スチコン	
42:00:00	FA 11:41:00	Mylar Cap. 0.01/50	マイラーコン	
32:00:00	NA 06:86:50	Tone Control C.B	トーンコントロールシート	J
32:00:00	NA 06:87:20	-do.-	"	R, U, C, A, E, B
42:00:00	IA 08:44:00	Transistor 2SA844	トランジスタ	
42:00:00	IC 17:75:00	-do.- 2SC1775	"	
42:00:00	IC 19:18:00	-do.- 2SC1918	"	
42:00:00	IF 00:00:40	Diode 1S1555	ダイオード	
42:00:00	IH 00:02:10	-do.- S5151	") With another
42:00:00	IH 00:05:00	-do.- SS-5	"	
42:00:00	IH 00:02:20	-do.- S5151R	") With another
42:00:00	IH 00:05:10	-do.- SS-5R	"	
42:00:00	GE 20:01:10	MPX Coil	MPX固定コイル	
32:00:00	NA 06:86:60	Lamp C.B	ランプシート	
42:00:00	HL 61:41:00	Metal Oxide Film Resistor	酸金抵抗	1P 10Ω
42:00:00	HL 62:66:80	-do.-	"	2P 6.8K
42:00:00	HM 55:58:20	Cement Molded Resistor	セメント抵抗	5P 820Ω
32:00:00	NA 06:87:40	Main C.B	メインシート	R, U, C, A, E, B
42:00:00	IA 05:61:70	Transistor 2SA561	トランジスタ	(O, Y)
42:00:00	IA 08:14:00	-do.- 2SA814	"	
42:00:00	IA 08:44:00	-do.- 2SA844	"	
42:00:00	IA 08:72:00	-do.- 2SA872	"	
42:00:00	IC 07:34:30	-do.- 2SC734	"	(O, Y)
42:00:00	IC 12:13:10	-do.- 2SC1213A	"	
42:00:00	IC 16:24:00	-do.- 2SC1624	"	
42:00:00	IC 16:28:00	-do.- 2SC1628	"	
42:00:00	IC 17:75:00	-do.- 2SC1775	"	
42:00:00	IC 19:18:00	-do.- 2SC1918	"	(E, F, G)
42:00:00	ID 02:34:00	-do.- 2SD234	"	(O)
42:00:00	IF 00:00:40	Diode 1S1555	ダイオード	
42:00:00	IF 00:02:00	Zener Diode WZ120	シェナーダイオード	
42:00:00	IF 00:03:20	-do.- WZ061	"	
42:00:00	IF 00:08:00	Diode 1S2092	ダイオード	
42:00:00	IH 00:02:40	-do.- 1S1885	"	
42:00:00	IH 00:02:50	-do.- 1S1886	"	
42:00:00	IH 00:03:30	-do.- 1S1887	"	
42:00:00	HT 41:00:20	Solide V.R	ソリッドVR B-11T	SR-19R
42:00:00	HT 41:00:30	-do.-	" B-2.2K	SR-19R
42:00:00	HT 41:00:40	-do.-	" B-4.7K	SR-19R

Ref. No.	Part No.	Description	Remarks	Common Models
42:00:00	HK 35:33:30	Carbon Fixed Resistor	カーボン抵抗	3.3Ω
42:00:00	HL 61:61:50	Metal Oxide Film Resistor	酸金抵抗	1P 1.5K
42:00:00	HL 61:62:20	-do.-	"	1P 2.2K
42:00:00	HL 61:64:70	-do.-	"	1p 4.7K
42:00:00	HL 62:62:20	-do.-	"	2P 2.2K
43:00:00	HM 05:41:00	Cement Molded Resistor	セメント抵抗	5P 0.47
42:00:00	HM 05:41:00	-do.-	"	5P 10
42:00:00	HM 05:47:00	-do.-	"	5P 470
42:00:00	HU 57:68:20	Metal Oxide Film Resistor	酸金抵抗	8.2K (F)
42:00:00	HW 10:46:80	Fuse Resistor 85mA 68Ω	ヒューズ抵抗	J, R, C, B, A, E
42:00:00	HW 20:46:80	-do.- -do.-	"	U
42:00:00	HW 11:33:90	-do.- 500mA 3.9Ω	"	J, R, C, B, A, E
42:00:00	HW 21:33:90	-do.- -do.-	"	U
42:00:00	HW 10:53:90	-do.- 25mA 390Ω	"	J, R, C, B, A, E
42:00:00	HW 29:53:90	-do.- -do.-	"	U
42:00:00	HW 10:56:80	-do.- 25mA 680Ω	"	J, R, C, B, A, E
42:00:00	HW 20:56:80	-do.- -do.-	"	U
42:00:00	FJ 54:62:20	Electlytic Cap. 2.2/25	ケミコン(立型)KU Type	
42:00:00	FM 22:62:20	-do.- (B.P) 2.2/25	" B, P	
42:00:00	FM 11:71:00	-do.- (B.P) 10/25	" "	
42:00:00	FZ 00:07:60	-do.- 220/10	"	
42:00:00	FD 11:22:20	Polystyrene Cap. 220P	スチコン	
32:00:00	BA 06:57:50	Radiator	放熱器	
32:00:00	BA 06:96:20	-do.-	放熱板	
32:00:00	BA 06:95:50	-do.-	"	
42:00:00	KC 00:03:60	Relay HC-2 24V	リレー	J, R, C, B, A, E
42:00:00	KC 00:03:70	-do.- -do.-	"	U