

HP-237

Roland digital piano

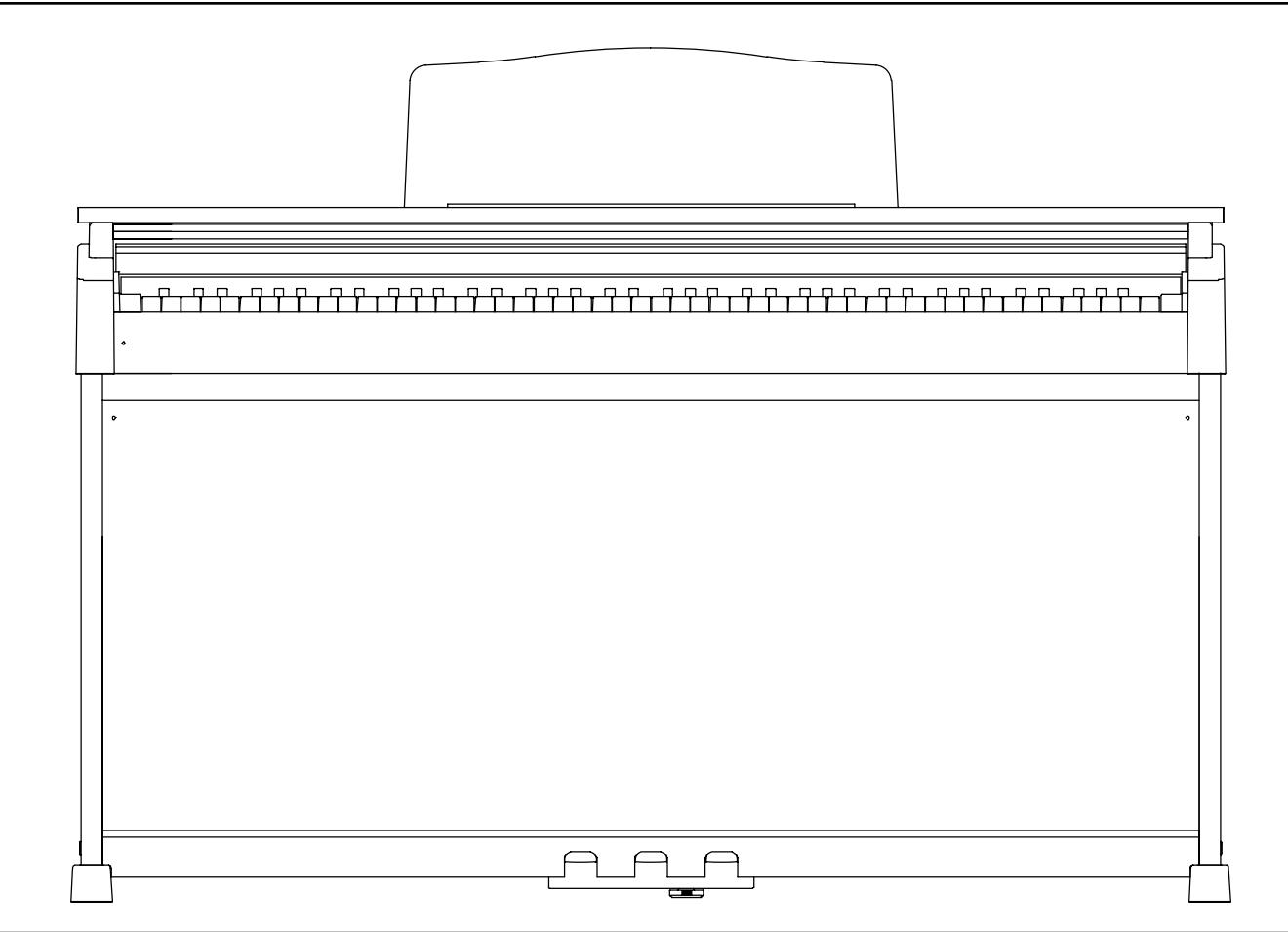
SERVICE NOTES

Second Edition

Issued by RJA

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Roland

17059008

Printed in Japan A000 (DP)

SPECIFICATIONS

HP237: Except Japan area

HP237D: Japan area

<Keyboard>

- Keyboard
- 88 keys
- (Hammer Action Mechanism)

● Touch Sensitivity

3 levels

● Keyboard Mode

Whole
Dual
Split

<Sound Generator>

- Maximum Polyphony
- 64 voices

● Tones

9 (Piano 1, Piano 2, Electric
Piano 1, Electric Piano 2, Harp-
sichord, Vibraphone, Pipe
Organ, Strings, Acoustic Bass
(in Split mode))

● Effects

Chorus (8 levels)
Reverb (8 levels)
Sympathetic Resonance
(8 levels)

● Key Transposition

-6 to +5 (semitone steps)

● Temperament

7 types, selectable tonic

● Stretched Tuning

2 types

● Master Tuning

415.3 Hz to 466.2 Hz
(0.1 Hz steps)

<Composer>

- Metronome
- Beat: 0, 2, 3, 4, 6
- Volume: 8 levels
- Sounds: 3 types

● Track

1 track

● Song

1 song

● Note Storage

Approx. 5,000 notes

● Tempo

Quarter note = 40 to 208

- Option
- MIDI Implementation
- English (#17048509)
Japanese (#17048508)

主な仕様

HP237 : (日本国外モデル)

HP237D : (日本国内モデル)

- テンポ
4 分音符 = 40 ~ 208

- 分解能
96 クロック / 4 分音符

- 鍵盤タッチ
3 段階

- コントロール
再生 / 停止、録音、
テンポ調整

- その他
● ペダル
ダンパー、ソステナート、
ソフト

- スピーカー
12 cm × 2

- 定格出力
15 W × 2

● 接続端子

ヘッドホン端子 (ステレオ) × 2
MIDI 端子 (イン、アウト)
ペダル端子

- 電源
AC 100 V

- 消費電力
29 W

● 外装仕上げ

ローズウッド調仕上げ

- 外形寸法 (スタンド込み)
1,398 (幅) × 428 (奥行) ×
836 (高さ) mm

- 質量 (スタンド込み)
48.5 kg

● 付属品

取扱説明書
和文 : (#71457045)
英文 : (#71459367)

電源コード (#13499229)

椅子 (#02120912)

ヘッドホン (#02127767)

譜面立て (#71457190)

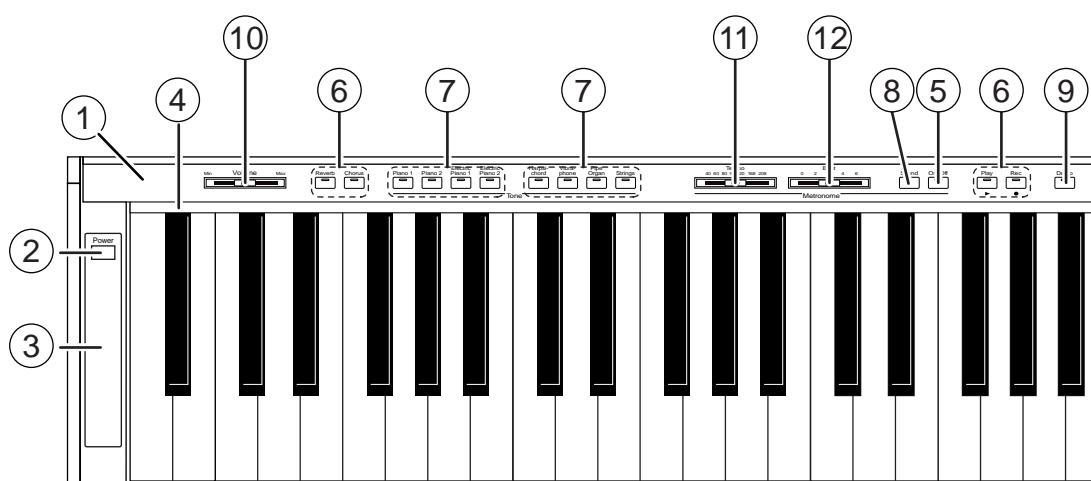
保証書 (#40232345)

● 別売品

MIDI ケーブル
(MSC-15/25/50)
MIDI インプリメンテーション
和文 (#17048508)
英文 (#17048509)

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 31 32 33 34 35 36 37 38 39 40

A LOCATION OF CONTROLS / パネル配置図



LOCATION OF CONTROLS PARTS LIST / パネル配置図パーツリスト

NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY
①	01907434	FRONT PANEL		1
②	12499175	G S-BUTTON	S1H BLK 249-175	1
③	01907534	Panel Sheet		1
④	00341778	KEY FELT		1
⑤	00900145 01121689 01340290	D S-KEYTOP LED (RED/GREEN) TACT SWITCH	SD1H BLK SPR-325MVWT31 EVQ11A H=5.0	1
⑥	00900156 01340290 15039245	D S-KEYTOP TACT SWITCH LED	SD2H BLK EVQ11A H=5.0 SEL6210S TP5	2
⑦	00900178 01340290 15039245	D S-KEYTOP TACT SWITCH LED	SD4H BLK EVQ11A H=5.0 SEL6210S TP5	2
⑧	00900189 01340290	D S-KEYTOP TACT SWITCH	SX1H BLK EVQ11A H=5.0	1
⑨	00900145 01340290 15039245	D S-KEYTOP TACT SWITCH LED	SD1H BLK EVQ11A H=5.0 SEL6210S TP5	1
⑩	22485192 32225353 22245194 00671556	SLIDE KNOB SVR ESCUTCHEON SVR COVER 30M/M SLIDE POTENTIOMETER	248-192 1S-ESCT SXIV BLK L=30 224-194 EWANNKX10B14(10KBX2)	1
⑪	22485192 32225353 22245194 00671589	SLIDE KNOB SVR ESCUTCHEON SVR COVER 30M/M SLIDE POTENTIOMETER	248-192 1S-ESCT SXIV BLK L=30 224-194 EWANFXX10B14	1
⑫	22485192 32225353 22245194 13339355	SLIDE KNOB SVR ESCUTCHEON SVR COVER SLIDE POTENTIOMETER	248-192 1S-ESCT SXIV BLK L=30 224-194 RS30111ZA 10KB	1

EXPLODED VIEW PARTS LIST / 分解図パーツリスト

[PART]

NO.	PART CODE	PART NAME	DESCRIPTION
①	12499175	G S-BUTTON	S1H BLK 249-175
②	01907534	Panel Sheet	
③	02019356	SIDE PANEL L	
④	*A 71457801 *B 71783556	PANEL BOARD ASSY	
⑤	01560389	PANEL BOARD ASSY	
⑥	01453245	FULL-RANGE SPEAKER	CF120101-01
⑦	71459334	PUSH SWITCH	B2-D-2 TV-5
⑧	71457790	AMP BOARD 100V	
⑨	01565912	MAIN BOARD ASSY	(EXG)
⑩	01565923	SIDE HOLDER L	
⑪	01017134	LID RAIL C	
⑫	01566145	LID RAIL STOPPER	
⑬	40017378	TOP HOLDER	
⑭	01907456	COATING CLIP	CS-7
⑮	01907567	TOP BOARD	
⑯	71457089	TOP BLIND	
⑰	71457190	SIDE PANEL (L) ASSY	
⑱	22135459	MUSIC REST ASSY	
⑲	01907601	MUSIC STOPPER	213-459
⑳	71017401	CENTER HOLDER	
㉑	00341778	KEYBOARD ASSY	PA-4A88-C2
㉒	02019345	KEY FELT	
㉓	01907434	BLIND	
㉔	71457090	FRONT PANEL	
㉕	00900378	SIDE PANEL (R) ASSY	
㉖	01907578	LID BLIND CAP	
㉗	01568345	LID BLIND	
㉘	01566301	LID GEAR	
㉙	01566290	SHAFT STAY L	
㉚	00900478	LID SHAFT	
㉛	00890923	TOP BOARD HOLDER	
㉜	01907467	BUSHING	D-71
㉝	01566289	LID BOARD	
㉞	01566101	LID ANGLE	
㉟	01569789	PANEL HOLDER	
㉟	*A 71457145 *B 71783578	TRANS COVER	
㉟	*A 01560112 *B 71783589	PHONES BOARD ASSY	01560112 UNIVERSAL
㉟	*A 01907523 *B 02343012	POWER TRANSFORMER	
㉟		JACK BRD ASSY	
㉟		REAR PANEL	
㉟		REAR PANEL (IN/OUT)	

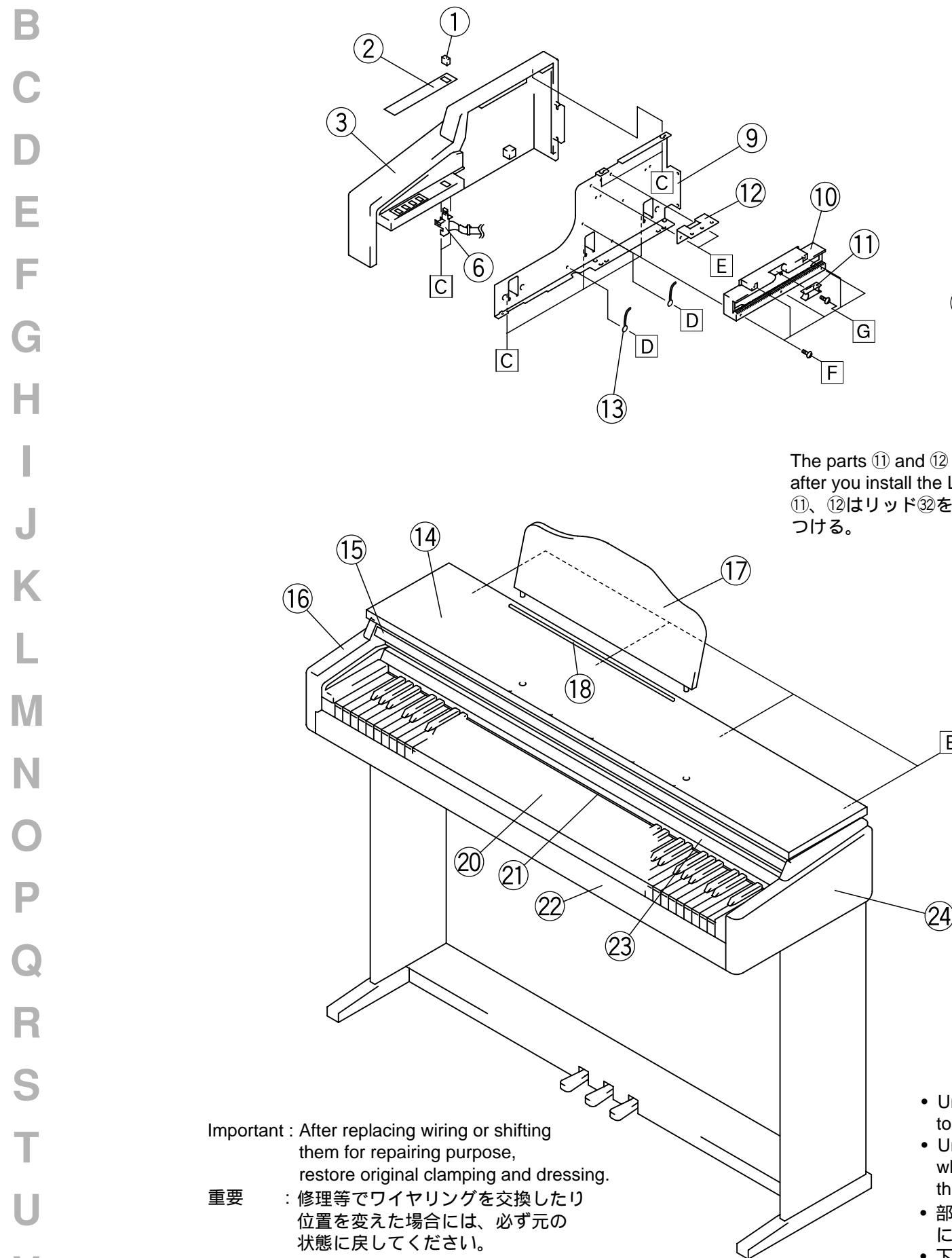
[SCREW]

NO.	PART CODE	PART NAME	DESCRIPTION
A	40012145	SCREW M4×14	TRUSS TAPPING A1 FE BZC
B	40128512	SCREW M4×25	PAN WASHER HEAD TAPTITE B BZC
C	40011312	SCREW M3×8	BINDING TAPTITE P FE BZC
D	40012290	SCREW M4×6	BINDING TAPTITE-B FE ZC
E	40011123	SCREW M4×8	BINDING TAPTITE B BZC
F	40340323	SCREW M3×30	BINDING TAPTITE B ZC
G	40011312	SCREW M3×8	BINDING TAPTITE P FE BZC
H	40012034	SCREW M4×18	TRUSS FE BZC
I	40239401	SCREW M3.5×8	BINDING TAPPING A BZC
J	40011067	SCREW M3×8	BINDING TAPTITE B FE ZC
K	40010678	SCREW M4×20	TRUSS TAPPING A BZC
L	40011490	SCREW M3×6	PAN MACHINE SCREW W/SW BZC

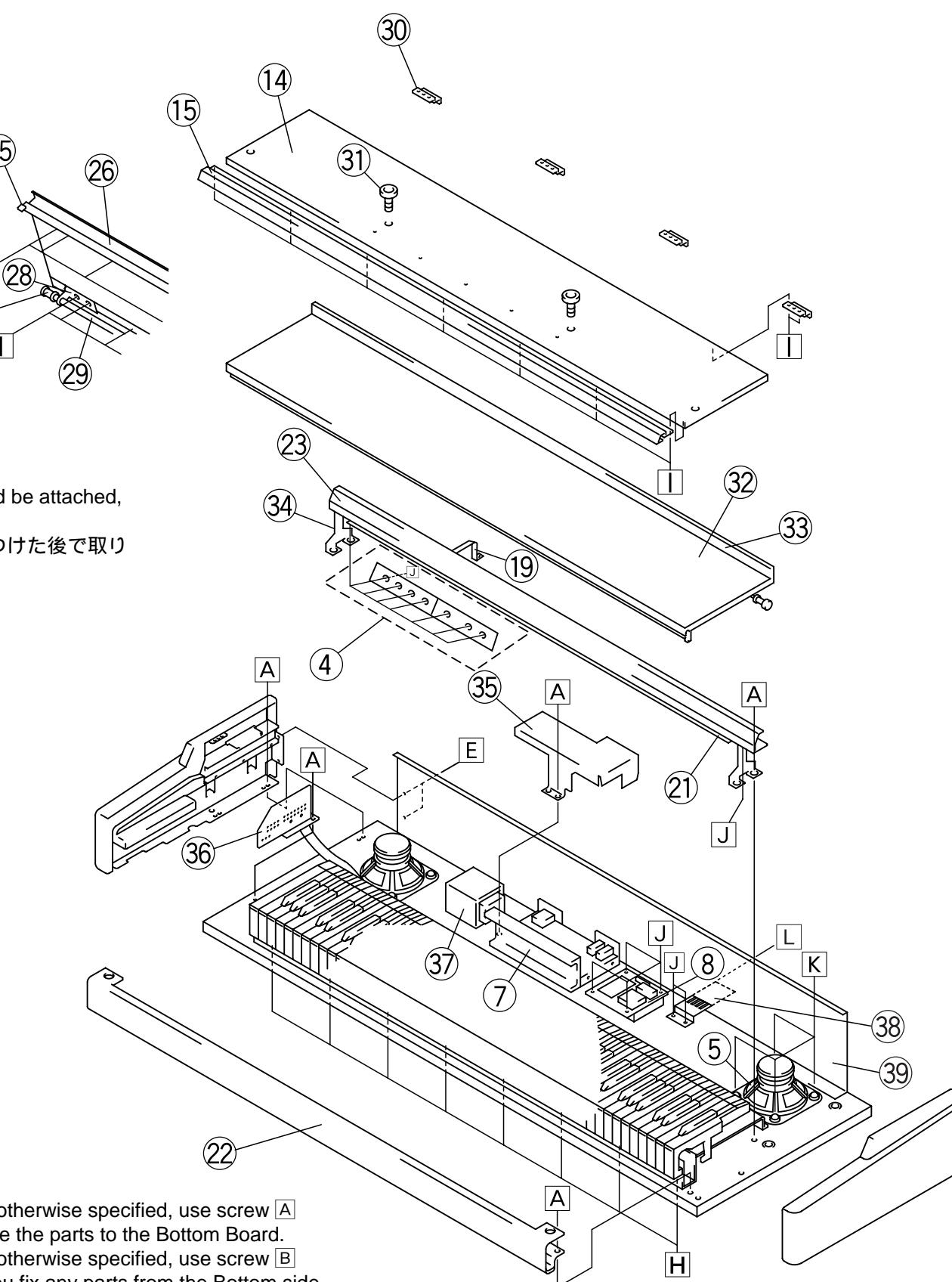
*A このパートは、日本国内モデルと日本国外モデル（シリアル番号 ZN61699まで）で使用しています。
 *A This part is used for Japan area except Japan area (~Serial No. ZN61699)
 *B このパートは、MP-300 と日本国外モデル（シリアル番号 ZN61700まで）
 *B This part is used for MP-300 and except Japan area (~Serial No. ZN61700)

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 31 32 33 34 35 36 37 38 39 40

A EXPLODED VIEW (MAIN UNIT) / 分解図 (本体)



The parts ⑪ and ⑫ should be attached, after you install the Lid ⑬.
⑪、⑫はリッド⑬を取りつけた後で取りつける。



- 3

PARTS LIST / パーツリスト

SAFETY PRECAUTION: *1
The parts marked **△** have safety-related characteristics.
Use only listed parts for replacement.

安全上の注意: *1
△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。

The parts marked **#** are new (initial parts). *2

CONSIDERATIONS ON PARTS ORDERING

When ordering any parts listed in the parts list, please specify the following items in the order sheet.

QTY	PART NUMBER	DESCRIPTION	MODEL NUMBER
Ex. 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.

バージ番注に関するお願い

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)

必要数	バージ番号	品名	使用機種
例) 10	22575241	Sharp key	C-20/50
15	2247017300	Knob (orange)	DAC-15D

もし記入済み、誤記等がある場合、必要部品が発送できなかったり、大幅な遅れの原因になります。御協力をお願いします。

*A このパーツは、日本国内モデルと日本国外モデル（シリアル番号 ZN61699まで）で使用しています。

*A This part is used for Japan area except Japan area (~Serial No. ZN61699)

*B このパーツは、MP-300 と日本国外モデル（シリアル番号 ZN61700まで）

*B This part is used for MP-300 and except Japan area (~Serial No. ZN61700)

*1 *2

↓ ↓

CASING / ケース

#	ITEM	Q'ty
#	01907456 TOP BOARD	1
	NOTE: 'TOP BOARD' does not include the following parts. Please order these parts independently.	
	注意: 補修用 TOP BOARD は、下記の部品は含みません。別途要求願います。	
#	01907567 TOP BLIND	1
#	00900478 TOP BOARD HOLDER	4
	40012145 SCREW M4x14 TRUSS TAPPING A1 FE BZC	Top Blind → Top Board / Top Board Holder → Top Board
	00890923 BUSHING	D-71
	01566378 CUSHION	3
#	01906367 SHOULDER SCREW	1065
	NOTE: This Music Stopper is fixed with the adhesive tape. Please order the adhesive tape independently.	
	注意: 補修用 Music Stopper は両面テープで取り付けます。両面テープは別途要求願います。	
	22135459 MUSIC STOPPER	213-459
#	71457089 SIDE PANEL (L) ASSY	1
	NOTE: 'SIDE PANEL (L) ASSY' includes the following parts.	
	注意: 補修用 SIDE PANEL (L) ASSY は、下記の部品を含みます。	
	01565912 SIDE HOLDER L	1
#	02019356 SIDE PANEL L	1
	01565923 LID RAIL C	1
	40012290 SCREW M4x6 BINDING TAPTITE-B FE ZC	Coating Clip → Side Holder
	40340323 SCREW M3x30 BINDING TAPTITE B ZC	Lid Rail → Side Holder
	40011312 SCREW M3x8 BINDING TAPTITE P FE BZC	Side Holder → Side Panel
	40017378 COATING CLIP CS-7	2
	NOTE: 'SIDE PANEL (L) ASSY' does not include the following parts. Please order these parts independently.	
	注意: 補修用 SIDE PANEL (L) ASSY は、下記の部品は含みません。別途要求願います。	
	01566145 TOP HOLDER	1
	01017134 LID RAIL STOPPER	1
	40011312 SCREW M3x8 BINDING TAPTITE P FE BZC	Lid Rail Stopper → Lid Rail C
	00900534 BRACKET	1
#	01907534 PANEL SHEET	1
#	71457090 SIDE PANEL (R) ASSY	1
	NOTE: 'SIDE PANEL (R) ASSY' includes the following parts.	
	注意: 補修用 SIDE PANEL (R) ASSY は、下記の部品を含みます。	
	01565945 SIDE HOLDER R	1
#	02019367 SIDE PANEL R	1
	01565923 LID RAIL C	1
	40340323 SCREW M3x30 BINDING TAPTITE B ZC	Lid Rail → Side Holder
	40011312 SCREW M3x8 BINDING TAPTITE P FE BZC	Side Holder → Side Panel
	NOTE: 'SIDE PANEL (R) ASSY' does not include the following parts. Please order these parts independently.	
	注意: 補修用 SIDE PANEL (R) ASSY は、下記の部品は含みません。別途要求願います。	
	01566145 TOP HOLDER	1
	01017134 LID RAIL STOPPER	1
	40011312 SCREW M3x8 BINDING TAPTITE P FE BZC	Lid Rail Stopper → Lid Rail C

MAIN BOARD ASSY → Main
PHONES BOARD ASSY → Phones
PANEL BOARD ASSY → Panel
AMP BOARD 100V → AMP
JACK BOARD ASSY → Jack

00900534 BRACKET

01907434 FRONT PANEL

NOTE: 'FRONT PANEL' does not include the following parts. Please order these parts independently.

注意: 補修用 FRONT PANEL は、下記の部品は含みません。別途要求願います。

#	01907601 CENTER HOLDER	1
	01566101 PANEL HOLDER	2
	32225353 SVR ESCUTCHEON	3
	22245194 SVR COVER	3
	00341778 KEY FELT	1
	40011067 SCREW M3×8	2
	40011090 SCREW M3×6	1

I S-ESCT SX1V BLK L=30
224-194

BINDING TAPTITE B FE ZC Panel Holder → Front Panel
BINDING TAPTITE B BZC Center Holder → Front Panel

01907467 LID BOARD

NOTE: 'LID SHAFT ASSY' includes the following parts.

注意: 補修用 LID SHAFT ASSY は、下記の部品を含みます。

#	01907578 LID BLIND	1
	40239401 SCREW M3.5×8	21
	00900378 LID BLIND CAP	2
	71127201 LID SHAFT ASSY	1

NOTE: 'LID SHAFT ASSY' includes the following parts.

注意: 補修用 LID SHAFT ASSY は、下記の部品を含みます。

	01566289 LID ANGLE	1
	01011390 SHAFT CUSHION	2
	01568345 LID GEAR	2
	01566290 LID SHAFT	1
	01566301 SHAFT STAY L	1
	01566312 SHAFT STAY R	1
	40011056 SCREW M3×6	6
	40011112 SCREW M3×10	2
	40011956 PLAIN WASHER 3X10X0.8	2

71457134 BOTTOM BOARD

NOTE: 'BOTTOM BOARD' includes the following parts.

注意: 補修用 BOTTOM BOARD は、下記の部品を含みます。

	01011534 CUSHION	2
	00569156 CUSHION	1
	22285342 CONNECTING PIN	2
	40012634 WOOD ANCHOR NUT B M8×13.5	2
	40011723 WOOD ANCHOR NUT B M5×12	5

NOTE: 'BOTTOM BOARD ASSY' does not include the following parts. Please order these parts independently.

注意: 補修用 BOTTOM BOARD ASSY は、下記の部品は含みません。別途要求願います。

	00568756 STOP SCREW (NEW TYPE)	3
#	02019345 BLIND	1
	01566467 SPEAKER COVER	2
#	01907534 PANEL SHEET	1
#	01907523 REAR PANEL	1
#	*B 02343012 REAR PANEL (IN/OUT)	1

CHASSIS / シャーシ

△ 01569789 TRANS COVER

△ 01566134 MAIN HOLDER

*B 02122956 PWB HOLDER

1

KNOB, BUTTON / つまみ、ボタン

12499175	G S-BUTTON	S1H BLK 249-175	Power Switch	1
00900145	D S-KEYTOP	SD1H BLK	Metronome On/Off, Demo	2
00900178	D S-KEYTOP	SD4H BLK	The Others	2
00900156	D S-KEYTOP	SD2H BLK	Reverb/Chorus, Play/Rec	2
00900189	D S-KEYTOP	SX1H BLK	Metronome Sound	1
22485192	SLIDE KNOB	248-192	30mm Slide VR	3

SWITCH / スイッチ

△ 01453245	SDDB1-B2-D-2-TV-5	PUSH SWITCH	Power Switch	1

<tbl_r

			SW10,SW2,SW8,SW7,SW6,SW5,SW4, SW3,SW11 on Panel Board	10 +5
JACK, SOCKET / ジャック、ソケット				
13449169	YKB21-5078	6.5MM JACK	JK2,3 on Phones	2
13429676	YKF51-5048 (TWIN)	MIDI CONNECTOR	JK1 on AMP	1
13449284	HLJ7001-01-3010	6.5MM JACK	JK4 on AMP	1
JACK, EXP TERMINAL / ジャック、外部接続端子				
*B 13449169	YKB21-5078	6.5MM JACK		2
*B 13449283	HLJ7101-01-3010	6.5MM JACK	JK2,JK3,JK4,JK1 on Jack Board	4
SPEAKER, BUZZER / スピーカー、ブザー				
△ 01560389	CF120101-01	FULL-RANGE SPEAKER		2

KEYBOARD ASSY / 鍵盤完成品				
71017401	KEYBOARD ASSY	PA-4A88-C2		1

NOTE: See 'KEYBOARD PARTS LIST' for details.

注意: 詳しくは、鍵盤パーツリストを参照してください。

PCB ASSY / 基板完成品				
△ # E 71457790	MAIN BOARD ASSY			1

71457145 PHONES BOARD ASSY

NOTE: 'PHONES BOARD ASSY' includes the following parts.

注意: 補修用 PHONES BOARD ASSY は、下記の部品を含みます。

# 02018412	WIRING	5X370-P2.0-51065-JB-F	CN2 to PANEL L CN4	1
01459167	PHONES HOLDER			1
40011067	SCREW M3×8	BINDING TAPITTE B FE ZC	Phones Board → Phones Holder	1
22150756	JACK NUT 2		for Phones Jack	2

71457801 PANEL BOARD ASSY

NOTE: 'PANEL BOARD ASSY' includes the following parts.

注意: 補修用 PANEL BOARD ASSY は、下記の部品を含みます。

*****	PANEL BRD L ASSY			1
# 02018401	WIRING	9X800-P2.0-PH-JB-F	CN3 to AMP CN4	1
40342856	COATING CLIP	CP-1S	CP1,2 on PANEL L	2
*****	PANEL BRD R ASSY			1
# 02018356	WIRING	4X500-P2.0-PH-JB-R	CN2 to MAIN CN4	1
# 02018378	WIRING	10X400-P2.0-IL-S-JB-R	CN1 to MAIN CN3	1
40342856	COATING CLIP	CP-1S	CP1,2 on PANEL L	1
# 02018301	WIRING	15X50-P2.0-JB-JB-F	CN5 to PANEL R CN6	1

NOTE: 'PANEL BOARD ASSY' does not include the following parts. Please order these parts independently.

注意: 補修用 PANEL BOARD ASSY は、下記の部品は含みません。別途要求願います。

# 02018134	CLIP CLAMP	WHC-125-01		2
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△ # 71459334	AMP BOARD 100V			1
NOTE: 'AMP BOARD 100V' includes the following parts.				
注意: 補修用 AMP BOARD 100V は、下記の部品を含みます。				

01908245	WIRING	W1 (MAIN-AMP)	CN5 to MAIN CN8	1
01349978	WIRING	7X250-P2.0-PH-SAN-F	on AMP	1
△ 01565867	WIRING	W3 (TRANS)	on AMP	1
01560745	AMP CHASSIS		on AMP	1
01565834	HEATSINK		on AMP	1
01454001	IC HOLDER		on AMP	4
2215975	TR HOLDER	219-975	on AMP	1
40011067	SCREW M3×8	BINDING TAPITTE B FE ZC		11
40011312	SCREW M3×8	BINDING TAPITTE P FE BZC		4
40012889	SCREW M3×12	PAN MACHINE W/SW+PW FE ZC		5

NOTE: 'AMP BOARD 100V' is exclusively for 100/117V use.

For 230/240V, make the following modifications to this "Lower Voltage PWB".

1. Replace fuse(F1 on AMP) to specific one. See Table A

2. For Safety Standards, Place fuse seal on the PWB

This seal should be just over the printing on the PWB "1.25A 125V". (See Fig.A)

When necessary, please order fuse seal separately from AMP BOARD.

注意: 補修用 AMP BOARD 100V は、100/117V 専用です。

230/240V の製品の補修用としてこの基板を使用する場合には、必ず下記の変更を行ってください。

1. ヒューズ (F1 on AMP) を交換してください。Table A を参照。

2. 安全規格の要求により、ヒューズシールを基板に貼り付けてください。

貼付位置は、基板上のシルク「1.25A 125V」に重ねるようにはってください。(Fig.A 参照)

ヒューズシールは補修用基板とはセットになっておりません。お手数でも別途ローランドサービスまで要求してください。

12559546	S504 630MA T630MAL250V	FUSE 5X20	F1 on AMP(230/240V)
40013645	FUSE SEAL	T630MA/250V #403	

Table A

100/117V	12559439 FUSE 5×20 SB 1.25 1.25A/125V
230/240V	12559546 FUSE 5×20 S504 630MA T630MAL250V

Fig.A



*B 71783578 PHONES BRD ASSY

NOTE: 'PHONES BRD ASSY' includes the following parts.

注意: 補修用 PHONES BRD ASSY は、下記の部品を含みます。

# *B 02343045	WIRING	5X1350-P2.0-PHR-PHR-F	CN3 to CN2 on Jack
*B 01459167	PHONES HOLDER		
*B 40011067	SCREW 3X8	BINDING TAPITTE B FE ZC	
*B 22150756	JACK NUT 2		

*B 71783589 JACK BRD ASSY

NOTE: 'JACK BRD ASSY' includes the following parts.

注意: 補修用 JACK BRD ASSY は、下記の部品を含みます。

*B 12199584	GROUNDING TERMINAL	M1698	TER1,TER2 on Jack Board
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*B 71783556 PANEL BOARD ASSY

NOTE: 'PANEL BOARD ASSY' includes the following parts.

注意: 補修用 PANEL BOARD ASSY は、下記の部品を含みます。

*B 02018301	WIRING	15X50-P2.0-JB-JB-F	
# *B 02343034	WIRING	W1	CN3 to CN3 on Jack
*B 40342856	COATING CLIP	CP-1S	
*B 02018378	WIRING	10X400-P2.0-IL-S-JB-R	
*B 02018356	WIRING	4X500-P2.0-PH-JB-R	
*B 40342856	COATING CLIP	CP-1S	

IC

△	15199189	AN79M09F FULL-MOULD	IC (V.RGL)	IC11 on AMP	1	00902856	EXBV8V104JV	RESISTOR ARRAY	Chip on Main	1					
	1519904	M51953BL-600Y	IC (RESET)	IC6 on AMP	1	00126101	EXBV8V221JV	RESISTOR ARRAY	Chip on Main	5					
	15229706S0	PC910XK	IC (PHOTO CUPLER)	IC1 on AMP	1	00346690	RCE9A682JAG7A	RESISTOR ARRAY	Chip on Main	3					
*B	15189250	M5218AL	IC (BIPOLEAR OP AMP)	IC1,IC2,IC3 on Jack Board	3	15399965	RCE9A103JAG7A (10KOHM X8)	RESISTOR ARRAY	Chip on Main	1					
*B	1519904	M51953BL-600Y	IC (RESET)	IC4 on Jack Board	1	13749789T0	SR25TRE 471 J	CARBON RESISTOR	R38,R68 on AMP	2					
*B	15259738T0	TC74HC138AF(EL)	IC (CMOS)	IC1 on Panel Board	1	13749829T0	SR25TRE 223 J	CARBON RESISTOR	R47,R77,R94 on AMP	3					
*B	15189261	M5218AFT-600E	IC (BIPOLEAR OP AMP)	IC3 on Panel Board	1	13749821T0	SR25TRE 103 J	CARBON RESISTOR	R16,R39,R41,R53,R69,R71,R83 on AMP	6					
*B	15259708T0	TC74HC08AF(TP2)	IC	IC2 on Panel Board	1	13749823T0	SR25TRE 123 J	CARBON RESISTOR	Chip on AMP	1					
	TRANSISTOR / ツランジスター									3					
	01121278	2SA1576A T106 QRS	TRANSISTOR	Q11,13 on PANEL L	2	13749809T0	SR25TRE 332 J 1/6W	CARBON RESISTOR	R26,R34,R57,R61,R62,R67,R89 on AMP	7					
	01121289	2SC4081 T106 QRS	TRANSISTOR	Q10,12 on PANEL L	2	13749797T0	SR25TRE 102 J	CARBON RESISTOR	R5,R49,R51,R52,R79,R81,R82 on AMP	4					
	00898201	RN2421(TE85L)	TRANSISTOR	Q1-5 on PANEL L, Q1 on Main	6	13749813T0	SR25TRE 472 J	CARBON RESISTOR	R105,R106,R107,R108,R109,R110 on AMP	6					
	15329516	DTC114EKT146	TRANSISTOR	Q6,7 on PANEL L, Q8,9 on PANEL R	4	01459156	SR50TR 181 J 1/2W	CARBON RESISTOR	R56,R86 on AMP	2					
	15119132	2SA1015-GR(TPE2)	TRANSISTOR	Q24,27 on AMP	2	13749817T0	SR25TRE 682 J	CARBON RESISTOR	R60,R63,R96,R98,R99,R100 on AMP	6					
△	15119615	2SB647CTZ	TRANSISTOR	Q13,21 on AMP	2	13749775T0	SR25TRE 121 J	CARBON RESISTOR	R4 on AMP	1					
△	15119823	2SB1375	POWER TRANSISTOR	Q10,18 on AMP	2	13749819T0	SR25TRE 822 J 1/6W	CARBON RESISTOR	R48,R78 on AMP	2					
△	15129152	2SC2878-A(TPE2)	TRANSISTOR	Q14,15,17,22 on AMP	4	13749825T0	SR25TRE 153 J	CARBON RESISTOR	R37,R65 on AMP	2					
△	15129151	2SC1815-GR(TPE2)	TRANSISTOR	Q26 on AMP	1	13749833T0	SR25TRE 333 J	CARBON RESISTOR	R43,R59,R73,R88,R97,R101 on AMP	6					
△	15129623	2SD667CTZ	TRANSISTOR	Q11,19 on AMP	2	13749841T0	SR25TRE 683 J	CARBON RESISTOR	R42,R72,R91,R92 on AMP	4					
△	15129844	2SD2012	TRANSISTOR	Q16,23 on AMP	2	13749845T0	SR25TRE 104 J 1/4W	CARBON RESISTOR	R85,R55 on AMP	2					
	15139124	2SK363-GR(TPE2)	FET TRANSISTOR	Q12,23 on AMP	2	13749861T0	SR25TRE 474 J	CARBON RESISTOR	R40,R58,R70,R87 on AMP	4					
	15119163	RN2227(TPE4)	TRANSISTOR	Q2,25 on AMP	2	13749777T0	SR25TRE 151 J	CARBON RESISTOR	R93 on AMP	1					
*B	15119132	2SA1015-GR(TPE2)	TRANSISTOR	Q8,Q9,Q5 on Jack Board	3	13749781T0	SR25TRE 221 J	CARBON RESISTOR	R17,R15 on AMP	2					
*B	15129151	2SC1815-GR(TPE2)	TRANSISTOR	Q6,Q3 on Jack Board	2	13749773T0	SR25TRE 101 J	CARBON RESISTOR	R6,R30,R35,R45,R54,R75,R84,R90, R113,R114 on AMP	10					
*B	15129152	2SC2878-A(TPE2)	TRANSISTOR	Q4,Q2,Q7,Q1 on Jack Board	4	△	01561290	RF2S L20 8R2 OHM J	FUSE RESISTOR	R102 on AMP	1				
	*B 00898201	RN2421(TE85L)	TRANSISTOR	Q1,Q5,Q2,Q3,Q4 on Panel Board	5		01450978	RF50S T52 0R1 OHM J	FUSE RESISTOR	R44,R74 on AMP	2				
	*B 15329516	DTC114EKT146	TRANSISTOR	Q6,Q7,Q8,Q9 on Panel Board	2+2	*B	13749189	SR50TR 101 J (1/2W)	CARBON RESISTOR		4				
	DIODE / ダイオード									1 + 2					
	01345445	L-1384AD/1ID	LED	LED5 on Phones	1	*B	13749793T0	SR25TRE 681 J 680 OHM 1/4W	CARBON RESISTOR	R13,R3 on Jack Board	6				
	15019126	ISS133 T-77	SWITCHING DIODE	D2,D7,D8,D9,D10,D12,D13,D14,D15,D17, D18,D19,D20 on PANEL L, on PANEL R, on AMP	28	*B	13749825T0	SR25TRE 153 J	CARBON RESISTOR	R23,R21,R34,R27 on Jack Board	4				
	15039245	SEL6210S TP5	LED	LED1-10 on PANEL L, LED13-15 on PANEL R	13	*B	13749769T0	SR25TRE 680 J	CARBON RESISTOR	R22,R40,R37,R32,R30,R25,R24 on Jack Board	7				
	01121689	SPR-325MVWT31	LED (RED/GREEN)	LED12 on PANEL R	1	*B	13749809T0	SR25TRE 332 J 1/6W	CARBON RESISTOR	R26,R33 on Jack Board	2				
△	15039176	D3SBA20 4A/200V	BRIDGE DIODE	D16 on AMP	1	*B	13749823T0	SR25TRE 123 J	CARBON RESISTOR	R41 on Jack Board	1				
*B	01345445	L-1384AD/1ID	LED		1	*B	13749829T0	SR25TRE 223 J	CARBON RESISTOR	R36,R29 on Jack Board	2				
*B	15019126	ISS133 T-77	SWITCHING DIODE	D3,D15,D14,D13,D4,D1,D5,D2,D12,D6,D7, D8,D9,D10,D11 on Panel Board	10 + 5	*B	13749833T0	SR25TRE 333 J	CARBON RESISTOR	R39,R17,R12,R11,R7,R1,R2 on Jack Board	5				
*B	15039245	SEL6210S TP5	LED	LED6,LED1,LED2,LED3,LED4,LED5, LED15,LED8,LED9,LED10,LED14,		*B	13749817T0	SR25TRE 682 J	CARBON RESISTOR	R35,R8,R18,R28 on Jack Board	4				
				LED13,LED7 on Panel Board	10 + 3	*B	13749797T0	SR25TRE 102 J	CARBON RESISTOR	R38,R31,R9,R56,R10,R53,R54,R19, R15,R20,R5,R6,R16,R55 on Jack Board12					
*B	01121689	SPR-325MVWT31	LED (RED/GREEN)	LED12 on Panel Board	1	*B	13749841T0	SR25TRE 683 J	CARBON RESISTOR	MTL, FILM RESISTOR	2				
	RESISTOR / 抵抗									4					
	13749793T0	SR25TRE 681 J 680 OHM 1/4W	CARBON RESISTOR	R3,R36,R64,R95 on Phones, on AMP	4	*B	15399409	RPC10T 332 J 1/10W	MTL, FILM RESISTOR	R102 on AMP	1				
	13749189	SR50TR 101 J (1/2W)	CARBON RESISTOR	R9,R13,R27,R32 on Phones	8	*B	15399301	RPC10T 0R0 J	MTL, FILM RESISTOR	R44,R74 on AMP	4				
	15399433	RPC10T 333 J 1/10W	MTL, FILM RESISTOR	R22,R25 on PANEL	2	*B	15399433	RPC10T 333 J 1/10W	MTL, FILM RESISTOR	R26,R33 on Panel Board	2				
	15399373	RPC10T 101 J 1/10W	MTL, FILM RESISTOR	R6,R7,R8,R9 on PANEL L, on PANEL R	4	*B	15399373	RPC10T 101 J 1/10W	MTL, FILM RESISTOR	R21,R20,R27,R18,R17,R9,R8,R7,R6, R28 on Panel Board	2 + 2				
	15399409	RPC10T 332 J 1/10W	MTL, FILM RESISTOR	R17,R21,R23,R28 on PANEL L	4	*B	15399397	RPC10T 102 J 1/10W	MTL, FILM RESISTOR	R4,R3,R2,R5,R16,R14 on Panel Board	2 + 6				
	15399369	RPC10T 680 J 1/10W	MTL, FILM RESISTOR	R19,R26 on PANEL	2										
	15399423	RPC10T 123 J	MTL, FILM RESISTOR	R18,R24 on PANEL	2										
	15399397	RPC10T 102 J 1/10W	MTL, FILM RESISTOR	R2,R3,R4,R5,R14,R16,R20, R27 on PANEL L, on PANEL R	8										
	15399989	MCR50JZH680 1/2W	CHIP RESISTOR	Chip on Main	2	POTENTIOMETER / ポリューム									1
	01783623	MCR50 JZH J 100	MTL, FILM RESISTOR	Chip on Main	1	00671556	EWANNKX10B14(10KBX2)	30M/M SLIDE POTENTIOMETER	VR4 on PANEL L						
	01011856	RPC05T 0R0 J	MTL, FILM RESISTOR	Chip on Main	20	00671589	EWANFXX10B14	30M/M SLIDE POTENTIOMETER	VR2 on PANEL R						
	00567078	RPC05T 271 J	MTL, FILM RESISTOR	Chip on Main	1	13339355	RS30111ZA 10KB	SLIDE POTENTIOMETER	VR3 on PANEL R						
	00567023	RPC05T 101 J	MTL, FILM RESISTOR	Chip on Main	9	*B	00671556	EWANNKX10B14(10KBX2)	30M/M SLIDE POTENTIOMETER	VR4 on Panel Board					
	00567412	RPC05T 104 J	MTL, FILM RESISTOR	Chip on Main	3	*B	00671589	EWANFXX10B14	30M/M SLIDE POTENTIOMETER	VR2 on Panel Board					
	00567267	RPC05T 682 J	MTL, FILM RESISTOR	Chip on Main	8	*B	13339355	RS30111ZA 10KB	SLIDE POTENTIOMETER	VR3 on Panel Board					
	00567178	RPC05T 152 J	MTL, FILM RESISTOR	Chip on Main	1										
	00567378	RPC05T 473 J	MTL, FILM RESISTOR	Chip on Main	1										
	00567345	RPC05T 333 J	MTL, FILM RESISTOR	Chip on Main	4										
	00567289	RPC05T 103 J	MTL, FILM RESISTOR	Chip on Main	15										
	00567390	RPC05T 683 J	MTL, FILM RESISTOR	Chip on Main	2										
	00567556	RPC05T 105 J	MTL, FILM RESISTOR	Chip on Main	1										
	15409113	EXBV8V103JV	RESISTOR ARRAY	Chip on Main	4										
	CAPACITOR / コンデンサー									22					
	13519452	DD306-959F104Z25(100NF/25V Z)	CERAMIC CAPACITOR	C1,C4,C8,C9,C15,C18,C20,C39,C42, C43,C60,C64,C68,C75,C83 on AMP	15										
	15359435R0	GRM40B821K50PT10	CERAMIC CAPACITOR	C11,C15 on PANEL	2										

0167512	GRM39CH330J50PT	CERAMIC CAPACITOR	Chip on Main	8	
01675178	GRM39CH120J50PT	CERAMIC CAPACITOR	Chip on Main	2	
15369144S0	16CV33BS	CHEMICAL CAPACITOR	Chip on Main	4	
15369105S0	6.3CV100B 100/6.3V	CHEMICAL CAPACITOR	Chip on Main	1	
15369142S0	16CV10BS	CHEMICAL CAPACITOR	Chip on Main	11	
△	01453278	DE1307E 472M-KH	CERAMIC CAPACITOR	C65 on AMP	1
	01452189	ECKDBE472ZF	CERAMIC CAPACITOR	CHIP on AMP	1
13549273M0	ECQ-B1H 333JF3 0.033UF	POLYEST. CAPACITOR	C45 on AMP	1	
13549278M0	ECQ-B1H823JF3	POLYEST. CAPACITOR	C24,C44,C48,C53 on AMP	4	
13549251M0	ECQ-M1H471JF3 470PF/50V	POLYEST. CAPACITOR	C52,C29 on AMP	2	
13549269M0	ECQ-MIH153JF3	POLYEST. CAPACITOR	C26,C30 on AMP	2	
13549253	ECQM1H681JF3	POLYEST. CAPACITOR	C25,C47 on AMP	2	
13549254M0	ECQ-B1H821JF3	POLYEST. CAPACITOR	C34,C57 on AMP	2	
13549259M0	ECQ-B1H222JF3	POLYEST. CAPACITOR	C49,C27 on AMP	2	
01239378	ECQV1H104JL3	M.POLYEST. CAPACITOR	C23,C67,C74,C82,C86 on AMP	5	
13639548M0	ECA1CM330B 33UF/16V	CHEMICAL CAPACITOR	C31,C54,C62,C70,C72,C78,C80 on AMP	7	
13639512M0	ECEA0JKA101B	CHEMICAL CAPACITOR	C3,C41,C69 on AMP	3	
△	13649707	ECA1EM102B	CHEMICAL CAPACITOR	C66 on AMP	1
△	13639604M0	ECA1HM3R3B	CHEMICAL CAPACITOR	C63 on AMP	1
△	01233389	ECA1EM331B	CHEMICAL CAPACITOR	C76,84 on AMP	2
13639602	ECEA1HM010B 1UF/50V	CHEMICAL CAPACITOR	C51 on AMP	1	
△	01340389	ECOS1VP682BB	BLOCK CAPACITOR	C73,81 on AMP	2
13519452	DD306-959F104Z25(100NF/25V Z)	CERAMIC CAPACITOR		2	
13519641	DD308-959F104Z50	CERAMIC CAPACITOR	C10,C11,C43 on Jack Board	3	
13519665	DD104-989SL330J50	CERAMIC CAPACITOR	C19,C23 on Jack Board	2	
13549343	ECQ-B1H151KF3	POLYEST. CAPACITOR	C45,C44,C26,C22,C18,C17,C16,C13, C9,C6 on Jack Board	10	
01894601	RC2-16V101MB-T2	CERAMIC CAPACITOR		2	
01454889	RA2-16V470MT2 470UF/16V	CHEMICAL CAPACITOR		8	
01900823	RA2-16V100M-T2	CHEMICAL CAPACITOR		7	
13639605M0	ECEA1HU4R7B 4.7UF/50V	CHEMICAL CAPACITOR		2	
#	15359707R0	GRM40F104Z50PT85 0.1UF/50V	CERAMIC CAPACITOR	C6,C7,C3,C1,C4 on Panel Board	1+4
15359435	ECUV1H821KBN	CERAMIC CAPACITOR		2	
01238323	ECEA1CKA330B	CHEMICAL CAPACITOR	C16,C14,C17,C10 on Panel Board	4	
13639550M0	ECEA1CKA101B 100UF/16V	CHEMICAL CAPACITOR	C9,C2,C13 on Panel Board	2	
CRYSTAL, RESONATOR / クリスタル、発振子					
00901912	MA-406 24.576MHZ TE24	CRYSTAL	X2 on Main	1	
00894034	MA-406 16.000MHZ TE24	CRYSTAL	X1 on Main	1	
FUSE, FUSE HOLDER / ヒューズ、ヒューズホルダー					
△	12559439	SB 1.25 1.25A/125V	FUSE 5X20	F1 on AMP(100/117V)	1
△	12559546	S504 630MA T630MAL250V	FUSE 5X20	F1 on AMP(230/240V)	1
△	12559378	239003 3A/250V	FUSE 5X20	F2, F4 on AMP	2
	12189823	FUSE HOLDER	CNT47-0003A	FH1-6 on AMP	6
INDUCTOR, COIL, FILTER / インダクター、コイル、フィルター					
*B	12449355	FBR07HA850TB00 TAPE	INDUCTOR	L4,L3,L2,L1 on Jack Board	4
CONNECTOR / コネクター					
	13369941	53254-0510	CONNECTOR	CN4 on PANEL L	1
	01908645	16FE-BT-VK-N	CONNECTOR	CN9 on Main	1
	01908634	14FE-BT-VK-N	CONNECTOR	CN7 on Main	1
	13369567	B4B-PH-K-S JST (4P)	CONNECTOR	CN4 on Main	1
	13439298	IL-S-10P-S2T2-EF 10P	CONNECTOR	CN3 on Main	1
	13369565	B11B-PH-K-S JST	CONNECTOR	CN8 on Main	1
	13369503	B7B-PH-K-S JST	CONNECTOR	CN2 on Main	1
	13369516	B9B-PH-KS JST	CONNECTOR	CN4 on AMP	1
△	13439372	5483-04AX	CONNECTOR	CN6 on AMP	1
	13369898	B2P3-VH 7A/250V	CONNECTOR	CN7 on AMP	1
	13369913	B4P-VH 4P 7A/250V	CONNECTOR	CN9 on AMP	1
*B	13369515	B5B-PH-K-S JST	CONNECTOR	CN2 on Jack Board	1+1
*B	13369516	B9B-PH-KS JST	CONNECTOR	CN1 on Jack Board	1+1
*B	13369504	B8B-PH-K-S JST	CONNECTOR	CN3 on Jack Board	1
*B	13369941	53254-0510	CONNECTOR	CN4 on Panel Board	1

WIRING, CABLE / ワイヤリング、ケーブル				
△	01561612	WIRING	W1	CN7 on AMP to Transformer + Power SW 1
	01565856	WIRING	W2 (SP)	CN6 on AMP to Speaker 1
	*B 02343023	WIRING	9x400-P2.0-PHR PHR-F	CN1 on JACK to CN4 on Amp 1
TRANSFORMER / トランス				
△	01560112	01560112 UNIVERSAL	POWER TRANSFORMER	1
AC INLET, OUTLET / AC インレット、アウトレット				
△	23425740	INL-8 10A/125V 2P PO	AC INLET	JK5 on AMP 1
SCREW / ねじ類				
	40012034	SCREW M4×18	TRUSS FE BZC	Bottom Board → Keyboard 6
	*B 40012101	SCREW M4×14	TRUSS TAPPING A1 FE ZC	62
	40010678	SCREW M4×20	TRUSS TAPPING A1 FE BZC	Speaker → Bottom Board 8
	40128512	SCREW M4×25	PAN WASHER HEAD TAPITTE B BZC	Bottom Board → Blind, Side Holder, Panel Holder 8
	40011067	SCREW M3×8	BINDING TAPITTE B FE ZC	Main Board → Main Holder/Panel Board L,R→FrontPanelAssy 11
	40011123	SCREW M4×8	BINDING TAPITTE B BZC	Top Holder → Side Holder / Rear Panel → Side Holder, Top Holder 12
	40011312	SCREW M3×8	BINDING TAPITTE P FE BZC	Push Switch → Side Panel L 2
	*B 40011490	SCREW M3×6	PAN MACHINE SCREW W/SW BZC	Jack Board Assy → PWB Holder 2
				Rear panel → Jack 2
PACKING / 梱包材				
	01566390	PAD R		1
	01566389	PAD L		1
#	02019323	PAD CARTON UPPER		1
#	02019334	PAD CARTON LOWER		1
#	01907556	PACKING CASE		1
MISCELLANEOUS / その他				
△	12339355	SWITCH COVER	721128-18	1
	40016512	INSULOK TIE	80M/M T-18S	5
	40017378	COATING CLIP	CS-7	9
	17048053	GREASE FOR LID RAIL	FLOIL G-953 100CC	
ACCESSORIES (STANDARD) / 標準付属品				
△	13499229	AC CORD SET (100V)	DC-391-J01 VFF2P L-TYPE	1
△	13499220	AC CORD SET (120V)	UC-713-J01 SJT2P18AWG60	1
△	13499221	AC CORD SET (230V)	EC-511-E07 H03VVH2-F 2P	1
△	13499222	AC CORD SET (240V)	SC-078-J02 ES206-75HMA	1
△	00905234	ECP01-5A (PLUG FOR BRC-230T)	EURO CONVERTER PLUG	Only for 230V Version 1
#	71459367	OWNER'S MANUAL	ENGLISH	1
#	71457045	OWNER'S MANUAL	JAPANESE	1
	40232345	保証書	JAPAN ONLY	
#	71457190	MUSIC REST ASSY		1
NOTE: 'MUSIC REST ASSY' includes the following parts.				
注意: 補修用 MUSIC REST ASSY CB は、下記の部品を含みます。				
	22205153	MUSIC REST HOLDER		1
	40010778	SCREW M3×8	BINDING TAPPING A FE BZC	Music Rest Holder → Music Rest 6

STAND PARTS LIST / スタンドパーティリスト

Note : The parts marked # are new (initial parts).
注意 : #マークの付いた部品は新規部品です。

CASING / ケース

#	01909989	REAR BOARD		1	
#	71566489	PEDAL BOARD		1	
#	71560356	SIDE BRD L ASSY		1	
NOTE: 'SIDE BRD L ASSY' includes the following parts.					
注意: 補修用 SIDE BRD L ASSY は、下記の部品を含みます。					
#	*****	SIDE BOARD L		1	
#	02019512	TOE BLOCK		1	
	01568334	REAR HOLDER		1	
	22205517	JOINT HOLDER L	220-517	2	
	40010678	SCREW M4×20	TRUSS TAPPING A1 FE BZC	Joint Holder → Side Board / Rear Holder → Side Board	9
	40010701	SCREW M4×35	TRUSS TAPPING A1 FE BZC	Toe Block → Side Board	3
#	71560367	SIDE BRD R ASSY		1	
NOTE: 'SIDE BRD R ASSY' includes the following parts.					
注意: 補修用 SIDE BRD R ASSY は、下記の部品を含みます。					
#	*****	SIDE BOARD R		1	
#	02019512	TOE BLOCK		1	
	01568334	REAR HOLDER		1	
	22205518	JOINT HOLDER R	220-518	2	
	40010678	SCREW M4×20	TRUSS TAPPING A1 FE BZC	Joint Holder → Side Board / Rear Holder → Side Board	9
	40010701	SCREW M4×35	TRUSS TAPPING A1 FE BZC	Toe Block → Side Board	3

SWITCH / スイッチ

00904112	ESE11SV1	PUSH SWITCH		3
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PEDAL UNIT ASSY / ペダル・ユニット完成品

70780967	PEDAL UNIT			1
NOTE: 'PEDAL UNIT' includes the following parts.				
注意: 補修用 PEDAL UNIT は、下記の部品を含みます。				
22285396	ADJUSTOR BOLT			1
00904190	PEDAL CHASSIS			1
00908023	FELT L			3
00904223	COILED SPRING			3
40011334	SCREW M3×12	BINDING P-TIGHT FE BZC	Pedal Chassis	3
00908034	JOINT BOLT M6×35			3
00677978	JOINT NUT M6×12			3
71018623	PEDAL CENTER ASSY			3
70780467	CONNECT CORD			1
40011278	SCREW M3×8	BINDING P-TIGHT FE BZC	Connect Cord → Pedal chassis	

PCB ASSY / 基板完成品

70780467	CONNECT CORD			1
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DIODE / ダイオード

15019125	ISS133	SWITCHING DIODE	on CONNECT CORD	1
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RESISTOR / 抵抗

02120656	RD25S 822 J	CARBON RESISTOR	on CONNECT CORD	1
02120645	RD25S 222 J	CARBON RESISTOR	on CONNECT CORD	1

WRING, CABLE / ワイヤリング、ケーブル

#	02126401	PEDAL CABLE		1
---	----------	-------------	--	---

SCREW / ねじ類

40010634	SCREW M4×16	TRUSS TAPPING ZC		4
40012123	SCREW M4×25	TRUSS TAPPING A1 FE ZC	Pedal Unit → Pedal Board	4

40011323	SCREW M3×10	BINDING TAPTITE-P FE BZC	Tie Holder → Pedal Chassis	2
40012923	SCREW M4×25	PAN MACHINE W/SW+PW FE ZC	Pedal Unit → Pedal Board	2
40011556	SCREW M3.1×10	ROUND HEAD WOOD ZC	Pedal Unit → Pedal Board	2
40235989	WOOD ANCHOR NUT B M6×15.5	ZC		
40011701	WOOD ANCHOR NUT B M4×9.5	ZC		

PACKING / 梱包材

#	01909890	PACKING CASE	JAPANESE	1
	01907556	PACKING CASE	ENGLISH	1

MISCELLANEOUS / その他

40016512	INSULOK TIE	80M/M T-18S	2
40016578	VINYL TIE 150M/M		1

ACCESSORIES (STANDARD) / 標準付属品

#	02127767	HEADPHONE	RH-25	Only for 100V Version
	40344756	LEAFLET MANUAL	JAPANESE/ENGLISH	1
#	02120912	STOOL G		Only for 100V Version
	71564323	SCREW SET		1
NOTE: 'SCREW SET' includes the following parts.				
注意: 補修用 SCREW SET は、下記の部品を含みます。				
	40010589	SCREW M5×20	TRUUS ORIGINAL BZC	2
	40010689	SCREW M4×25	TRUSS TAPPING A1 FE BZC	4
	40127701	SCREW M4×16	PAN HEAD C-TIGHT BZC W/WASHER	2
	40017712	JOINT BOLT M6×60	JCB-H17 FE BZC	4

TEST MODE

Note:

As the HP-237 is not equipped with a display device, version numbers and test results are indicated with the LED's of the some buttons, [Demo], [Play], [Rec] and [Metronome On/Off] etc, on the Top Panel as they come on, blink or go off.

For this test item, the state of the LED of each button is indicated as shown below.

- solid light
- ▲ blinking
- unlit

0. Entering the test mode

While holding down the [Demo] and [Sound] buttons, turn on power.

1. Indication of device check and ROM version

The software automatically starts the device check sequence upon entering the tes mode, flashing the all LEDs during checking.

When the devices are intact, the sequence is followed by the ROM version number indication. See Table 2.

If the device checking is unsuccessful, the failed device is identified by the blinking LEDs as shown in Table 1.

Table 1

Device Button	Mask ROM	RAM	Wave ROM	DSP RAM
Demo	▲	▲	▲	▲
Metronome On/off	▲	□	▲	□
Play	□	□	□	▲
Rec	□	▲	▲	□

To force the program to proceed to the next test, press the [Demo] button.

The LEDs change lighting pattern as shown in Table 2 to identify the ROM version.

Table 2

Version number Button	1.00	1.01	1.02	1.03	1.04	1.05
Demo	▲	▲	▲	▲	▲	▲
Piano 1	□	□	□	■	■	■
Piano 2	□	■	■	□	□	■
E.Piano	■	□	■	□	■	□

Note: The version numbers shown above include future revisions.

To proceed to the next test, press the [Demo] button.

テストモード

注意！

HP-237にはディスプレイ等の表示器がありませんので、バージョンナンバーやテストの結果はボタンの LED 点灯、点滅、消灯で表現されます。

この項目では、LED の点灯、点滅、消灯をそれぞれ下記のように表現します。

- ：LED 点灯
- ：LED 点滅
- ：LED 消灯

0. テストモードに入る

[Demo] と [Sound] を押しながら電源を入れます。

1. デバイス・チェックと ROM バージョン等の表示

テストモードに入ると自動的にデバイス・チェックが実行されます。

このチェックの間、すべての LED が一瞬点灯します。

正常であれば、自動的に ROM バージョンナンバーを表示します。
(表 2)

異常が発見された場合は、LED が表 1 のようなパターンで点滅し、どのデバイスに異常があるかを示します。

表 1

不良デバイス ボタン名	Mask ROM	RAM	Wave ROM	DSP RAM
Demo	▲	▲	▲	▲
Metronome On/off	▲	□	▲	□
Play	□	□	□	▲
Rec	□	▲	▲	□

上記のようになった場合、次の項目に進むには [Demo] を押してください。表 2 のとおり ROM のバージョンナンバーが表示されます。

表 2

バージョン ナンバー ボタン名	1.00 の 場合	1.01 の 場合	1.02 の 場合	1.03 の 場合	1.04 の 場合	1.05 の 場合
Demo	▲	▲	▲	▲	▲	▲
Piano 1	□	□	□	■	■	■
Piano 2	□	■	■	□	□	■
E.Piano	■	□	■	□	■	□

注意: 上記の表は表示パターンの例をあげたものです。ROM バージョンが 1.05 まで存在するという意味ではありません。

確認が終了したら、[Demo] を押して次の項目へ進んでください。

2. Buttons and LEDs

Pressing the respective buttons causes the piano sound to be played.

Pressing the button whose LED is on starts the piano sound while causing the LED to go off.

Pressing each button once (* press the [Metronome On/Off] button twice) automatically lets you proceed to the next test item.

Note: The [Metronome On/Off] button has a two-color LED.

Press the button to check if its red and green lamps come on and go off.

Press the [Reverb] and [Demo] buttons at the same time, or press the [Demo] button to proceed to the next test item.

3. Effects

The Table below shows LED lighting pattern in the effects checking mode.

Table 4

Button	
Demo	■
Metronome On/Off	▲
Play	▲
Rec	▲

Press [Metronome On/Off], [Play] and [Rec] button, one at a time and verify the effects on the piano sound being produced.

Metronome On/Off: Piano + Chorusing

Play: Piano + Reverberating

Rec: Piano + Resonating

Pressing the [Reverb] and [Demo] buttons at the same time aborts this test to jump to the next test item.

4. Panning

The Table below shows LED lighting pattern in the panning checking mode.

Table 5

Button	
Demo	▲
Metronome On/Off	▲
Play	▲
Rec	▲

Press [Metronome On/Off], [Play] and [Rec] button, one at a time and verify the resulting sounds.

Metronome On/Off: Sine wave from the left speaker

Play: Square wave from the right speaker

Rec: Sine waves from the left and right speakers

2. ボタンおよびLED の確認

それぞれのボタンを押すと、ピアノの音が鳴ります。LED が点灯しているボタンを押すと、ピアノの音が鳴ると同時に LED が消灯します。それぞれのボタンを 1 回ずつ(注 Metronome On/Off ボタンは 2 回)押すと、自動的に次のテスト項目に進みます。

注 : Metronome On/Off ボタンは、2 色 LED になっています。ボタンを押すと、赤点灯、緑点灯、消灯となることを確認してください。

[Reverb] と [Demo] を同時に押すと、このテスト項目を中断し、次のテスト項目にジャンプすることができます。

3. エフェクト音のチェック

エフェクト音のチェックに入ると、各ボタンの LED は次のような状態になります。(表 4)

表 4

ボタン名	
Demo	■
Metronome On/Off	▲
Play	▲
Rec	▲

[Metronome On/Off]、[Play]、[Rec]の各ボタンをそれぞれ押します。下記のようにピアノの音にエフェクトがかかった音が発音されることを確認してください。

Metronome On/Off --> ピアノ音 + Chorus を発音

Play --> ピアノ音 + Reverb を発音

Rec --> ピアノ音 + Resonance を発音

[Reverb] と [Demo] を同時に押すか、[Demo] を押すと、次のテスト項目に進みます。

4. パンニングのチェック

パンニングのチェックに入ると、各ボタンの LED は次のような状態になります。(表 5)

表 5

ボタン名	
Demo	▲
Metronome On/Off	▲
Play	▲
Rec	▲

[Metronome On/Off]、[Play]、[Rec]の各ボタンをそれぞれ押します。下記のように音が発音されることを確認してください。

Metronome On/Off --> 左のスピーカーから正弦波を発音

Play --> 右のスピーカーから矩形波を発音

Rec --> 左右のスピーカーから正弦波を発音

Note that the sine and rectangular waves are at 440 Hz.

Press the [Reverb] and [Demo] buttons at the same time, or press the [Demo] button to proceed to the next test item.

5. [Tempo] and [beat] knobs

Starting check-up of the [Tempo] and [Beat] knobs causes the LED's of the respective buttons to enter the states described below, depending on the positions of the knobs (see Table 6).

Table 6

Knob	Reverb	Chorus
Tempo		
In the left-most position (*Note)	■	□
Approximately in the middle (*Note)	■	■
In the right-most position	□	▲

Table 7

knob	Metronome On/off	Play	Rec
Beat			
0	■	□	□
2	■	■	□
3	■	■	■
4	□	■	■
6	□	□	■

Turn each knob and check if the LED's of each button is operating correctly and he position of the numerical value indicated by the knob is correct.

When the [Tempo] knob is in the position marked (* Note) in Table 6, the values are changing continuously and the sound is played in sine waves.

When the knob is in the right-most, left-most or central position, sine waves stop while the Metronome sound is played once.

Press the [Reverb] and [Demo] buttons at the same time, or press the [Demo] button to proceed to the next test item.

6. A/D and MIDI

Run a MIDI cable between MIDI IN and MIDI OUT sockets.

Verify the LED lighting pattern:

Table 8

Button	
Demo	▲
Metronome On/Off	▲
Play	▲
Rec	▲

[Reverb] と [Demo] を同時に押すか、[Demo] を押すと、次のテスト項目に進みます。

5. Tempo スライダーと Beat スライダーのチェック

Tempo スライダーと Beat スライダーのチェックに入ると、各ボタンの LED はつまみの位置により次のような状態になります。(表 6)

表 6

つまみ	Reverb	Chorus
Tempo		
左いっぽい (注)	■	□
ほぼ中央 (注)	■	■
右いっぽい	□	▲

表 7

つまみ	Metronome On/off	Play	Rec
Beat			
0	■	□	□
2	■	■	□
3	■	■	■
4	□	■	■
6	□	□	■

各つまみを左右に動かして、パネルの表示とつまみの位置が正しいかを確認してください。

Tempo つまみが表 6 の (注) にあるとき、値が連続的に変化していることを示すため、正弦波で発音します。中央、再左端、再右端ではメトロノーム音が 1 回鳴り、正弦波は止まります。

[Reverb] と [Demo] を同時に押すか、[Demo] を押すと、次のテスト項目に進みます。

6. A/D および MIDI のチェック

MIDI IN/OUT を MIDI ケーブルでループ接続します。

LED は次のようになります。(表 8)

表 8

ボタン名	
Demo	▲
Metronome On/Off	▲
Play	▲
Rec	▲

Stepping down the "Soft"(left Pedal) causes the LED of the [Metronome On/Off] button to change as shown below:

The Metronome sound is played each time the LED enters a different state.

Initial state	▲
When the Pedal is stepped down	■
When the Pedal is released	□

左側のペダルを踏み込むと、[Metronome On/Off] の LED は以下のように変化します。

LED の状態が変化するたびに、メトロノーム音が鳴ります。

初期状態	▲
ペダルを踏む	■
ペダルを離す	□

中央のペダルを踏み込むと、[Play] の LED は以下のように変化します。

LED の状態が変化するたびに、メトロノーム音が鳴ります。

初期状態	▲
ペダルを踏む	■
ペダルを離す	□

右側のペダルを踏み込むと、[Rec] の LED は以下のように変化します。

LED の状態が変化するたびに、メトロノーム音が鳴ります。

初期状態	▲
ペダルを踏む	■
ペダルを離す	□

接続していた MIDI ケーブルを抜くと、[Demo] の LED が消灯します。

テストモードが終了すると (LED がすべて消灯すると)、自動的に A/D および MIDI のチェックのモードから抜け、テストモードの終了を示す表示に変わります。

7. テストモードの終了

テストモードが終了すると、[Sound] 以外のボタンが点滅します。ここで [Demo] を押すと、テストモードの最初に戻ることができます。

以上でテストモード終了です。

テストモードから抜けるには、電源を入れ直してください。

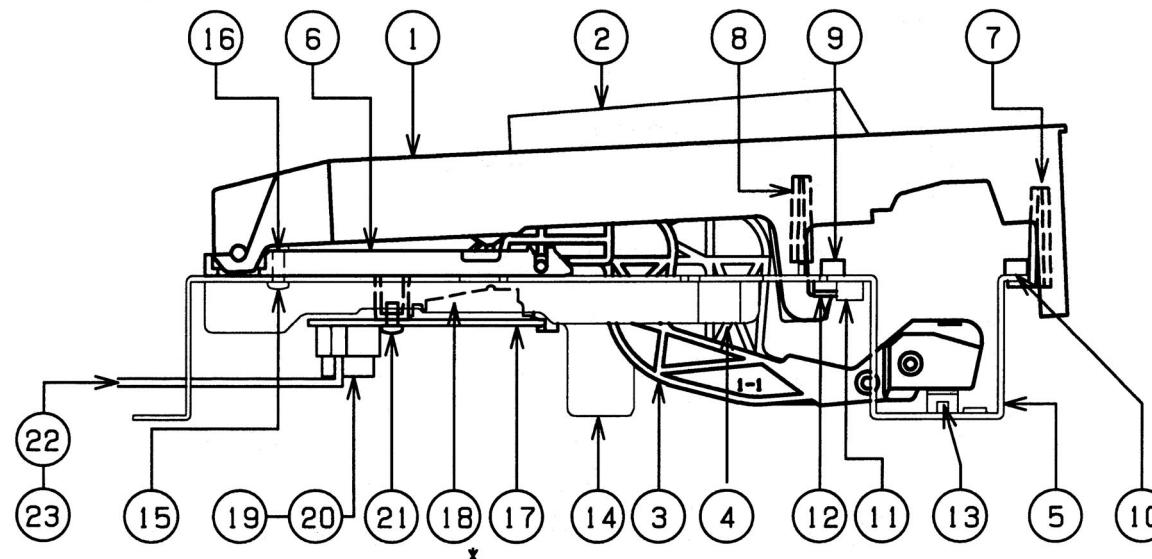
KEYBOARD PARTS LIST / 鍵盤パーツリスト

PA-4A88-C2 KEYBOARD ASSY PARTS LIST
71017401

NO.	PARTS NO.	PARTS NAME	Qty.
1	00455501	PA-4A N-KEY A	7/1
	00455512	PA-4A N-KEY B	8/1
	00455534	PA-4A N-KEY C	7/1
	00455545	PA-4A N-KEY D	7/1
	00455556	PA-4A N-KEY E	7/1
	00455578	PA-4A N-KEY F	7/1
	00455589	PA-4A N-KEY G	7/1
	00458689	PA-4A N-KEY A'	1/1
	00458690	PA-4A N-KEY C'	1/1
2	32575291	PA-4 S-KEY	36/1
3	00458178	PA-4A N-KEY HAMMER	52/1
4	00458189	PA-4A S-KEY HAMMER	36/1
	*****	PA-4A CHASSIS 88P-CK ASSY	1/1
5	00453401	PA-4A CHASSIS 88P	1/1
6	01019690	PA-4A SUB CHASSIS A	7/1
	01019701	PA-4A SUB CHASSIS B	1/1
7	22155784	PA-4 GUIDE BUSHING A	52/1
8	00019912	PA-4 GUIDE BUSHING S-KEY	36/1
9			
10	22265498	PA-4 CUSHION A	2/1
11	00452145	PA-4 CUSHION U ZUREN DBK-2	1/1
12	00564867	PA-4A CUSHION I	1/1
13	01237089	PA-4A CUSHION RZA	1/1
14	00561890	PA-4A CHANNEL	8/1
15	40011067	BINDING TAPWHITE B 3X8 ZC	16/1
16	40012256	BINDING TAPWHITE B 3X10 ZC	30/1
17	70894556	PA-4A PWB LOW ASSY	1/1
	70894567	PA-4A PWB MID ASSY	1/1
	70894578	PA-4A PWB HI ASSY	1/1
* 18	22185247	PA-4 RUBBER SWITCH 12P	8/1
19	23475965	FUJI CARD 14X70-A5.0BB-P1.25-HBL8	1/1
20	23475342	FUJI CARD 8X60-A5.0BB-P1.25-H8	1/1
21	40011267	BINDING TAPWHITE P 3X6 ZC	10/1
22	00347201	FUJI CARD 14X180-A6.0BBR-P1.25-HBL10-S	1/1
23	00347234	FUJI CARD 16X180-A6.0BBR-P1.25-HBL10-S	1/1

Item 18 marked * is included in each unit of 17.

*18は、17の各々のユニットに含まれる部品。



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 31 32 33 34 35 36 37 38 39 40

A KEYBOARD PA-4A88-C2 CIRCUIT BOARD / 鍵盤 PA-4A88-C2 基板図

B

C

D

E

F

G

H

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K

L

M

N

O

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Q

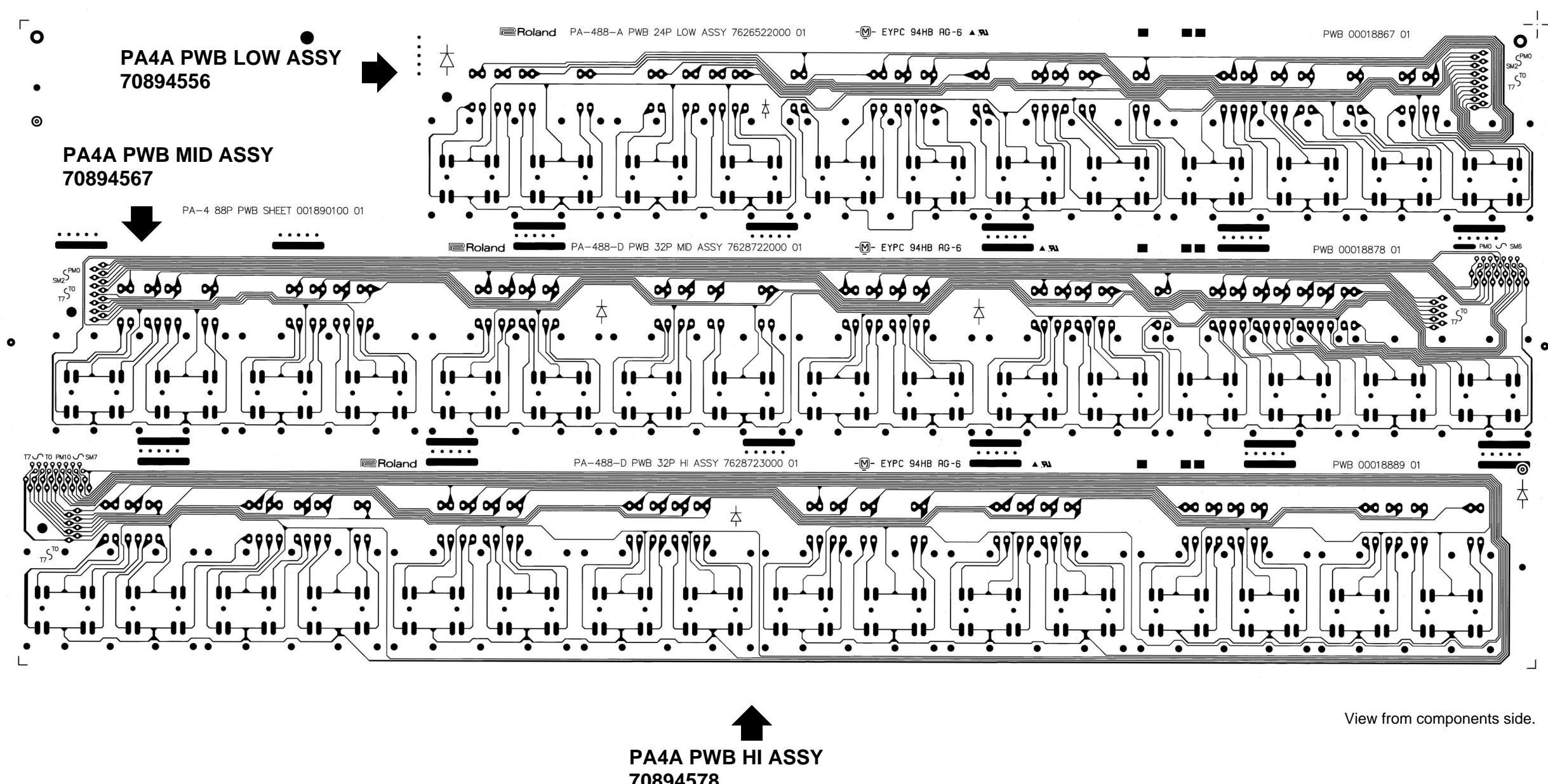
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

A KEYBOARD PA-4A88-C2 CIRCUIT DIAGRAM / 鍵盤 PA-4A88-C2 回路図

B

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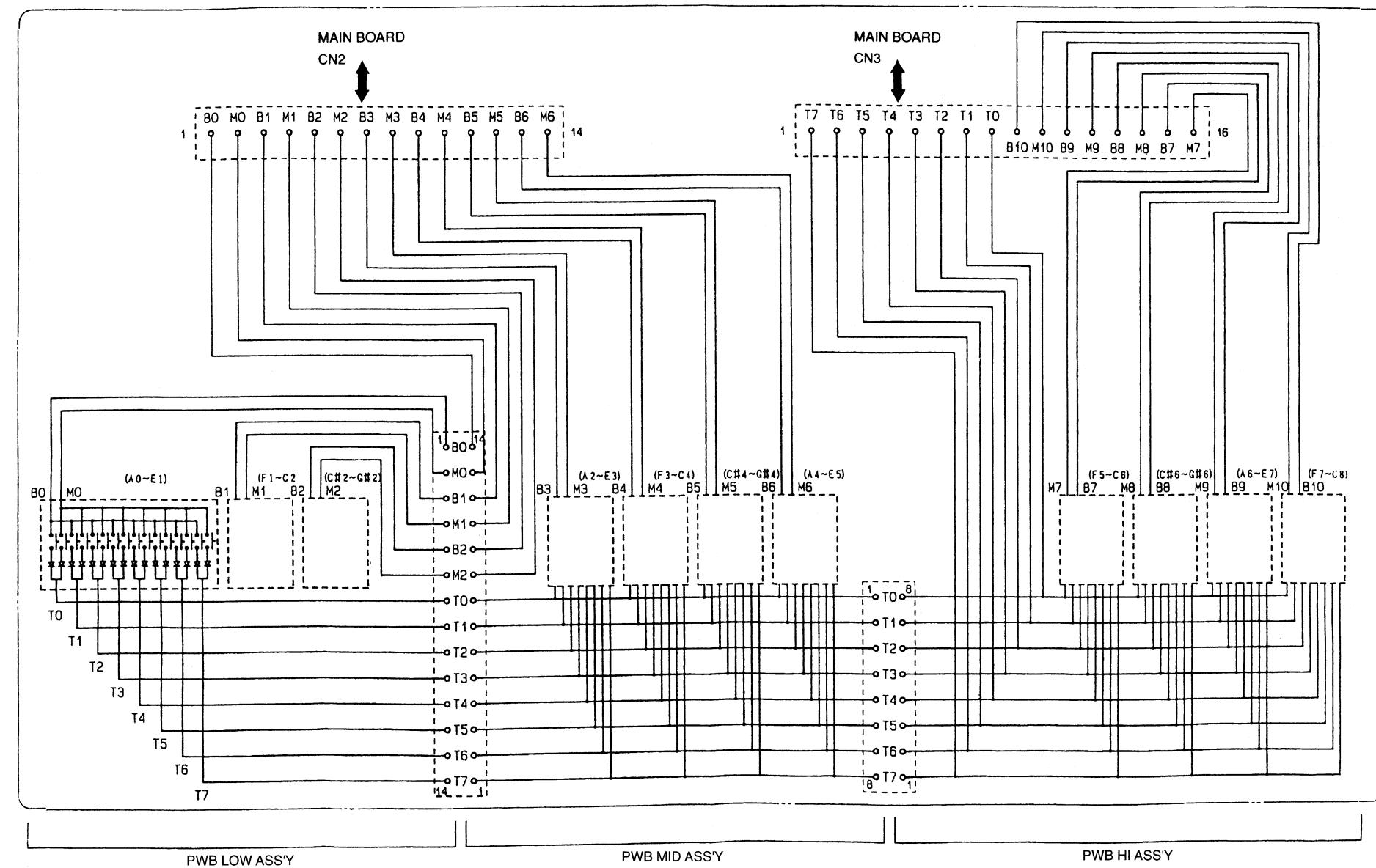
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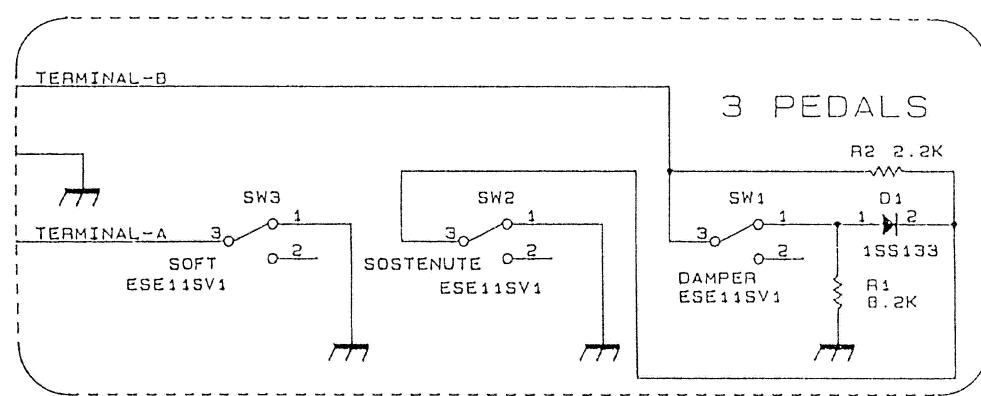
T

U

V



CIRCUIT DIAGRAM FOR PEDAL UNIT AND CONNECT BOARD / ペダルユニット・コネクトボード回路図



KEYBOARD DISASSEMBLY / 鍵盤分解手順

Removing PA-4A key

While holding the front end of the key, insert the tip of long-nose pliers into the U-groove on the shaft side (shaded area in Fig.1) and hold down the key in the direction of arrow A.

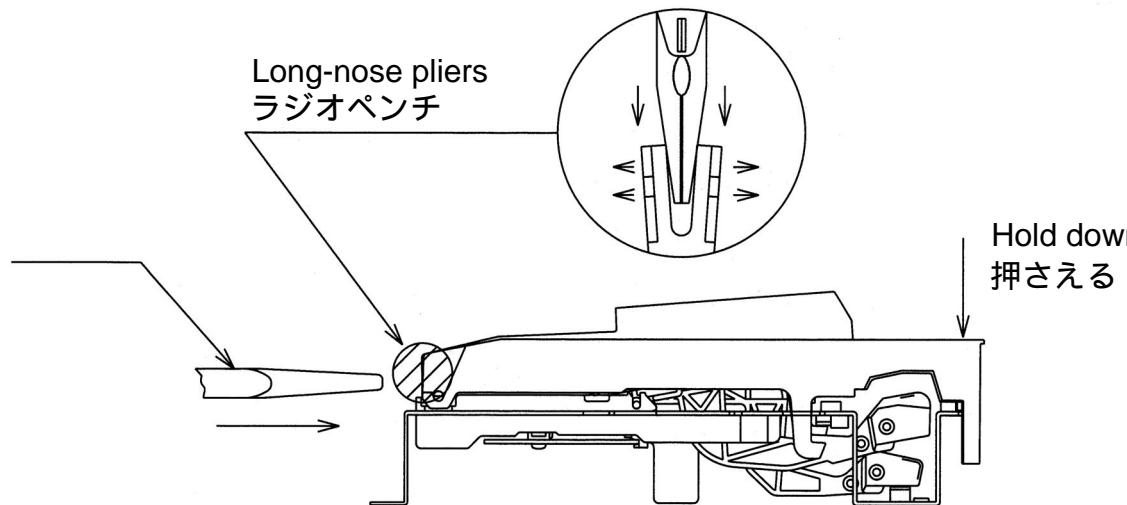


Fig.1

PA-4A Key の取り外し方

Key の先端を押さえながら軸側の U字溝 (Fig.1 斜線部) にラジオ
ペンチを差し込み、矢印 A の方向へ押し込む。

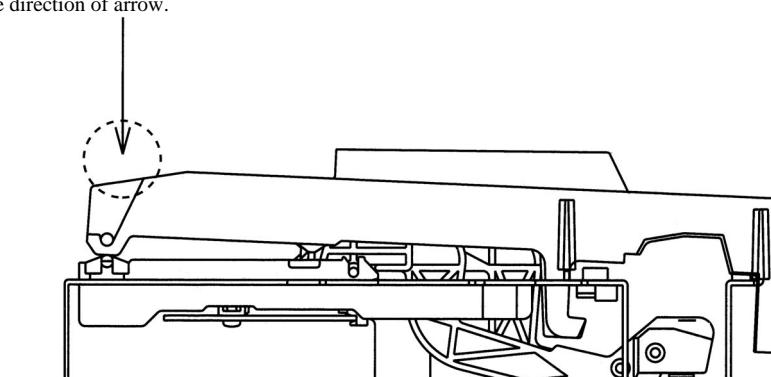


Fig.2

Installing the PA-4A key

While placing the front inner wall of the key against the guide, pass the foot through the hole of the chassis, as shown in Fig.2. Then press the dotted area of the key in the direction of arrow.

Installing the PA-4A board

As shown in Fig.3, place the board against the hook part a of the sub-shassis, and screw the board into the sub-shassis.

Screw in order, from the round hole (positioning hole) on the connector side.

Be sure to screw manually. (Care should be taken to avoid screw damage.)

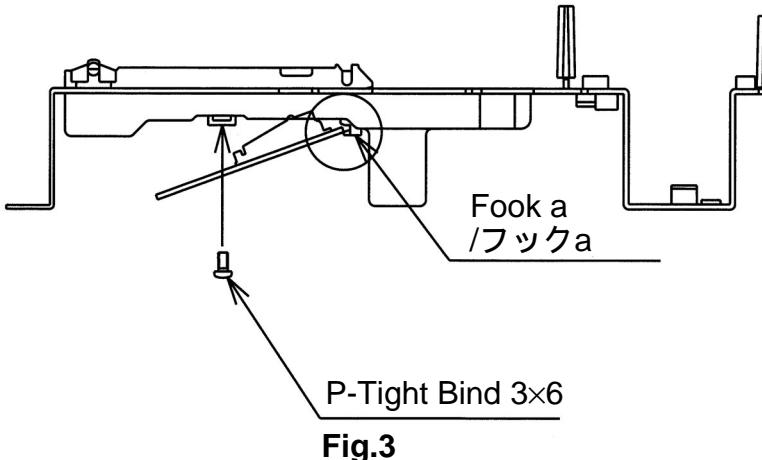


Fig.3

グリス塗布箇所

Key、ハンマーを交換した際は、必ず Fig.4 に示す箇所に所定の
グリスを塗布すること。

図 4

- Fig.4
1. Froir GP-1RS gray (PNo. 17049544)
 - (a) Key and hammer bearing section
 - (b) Key and hammer joint section (actuator section)
 2. Froir G-336A white (PNo. 17049543)
 - (a) Side of guide bushing for white key and black key

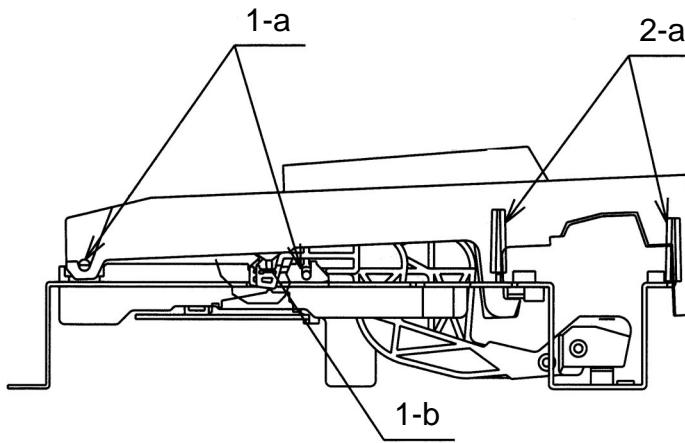
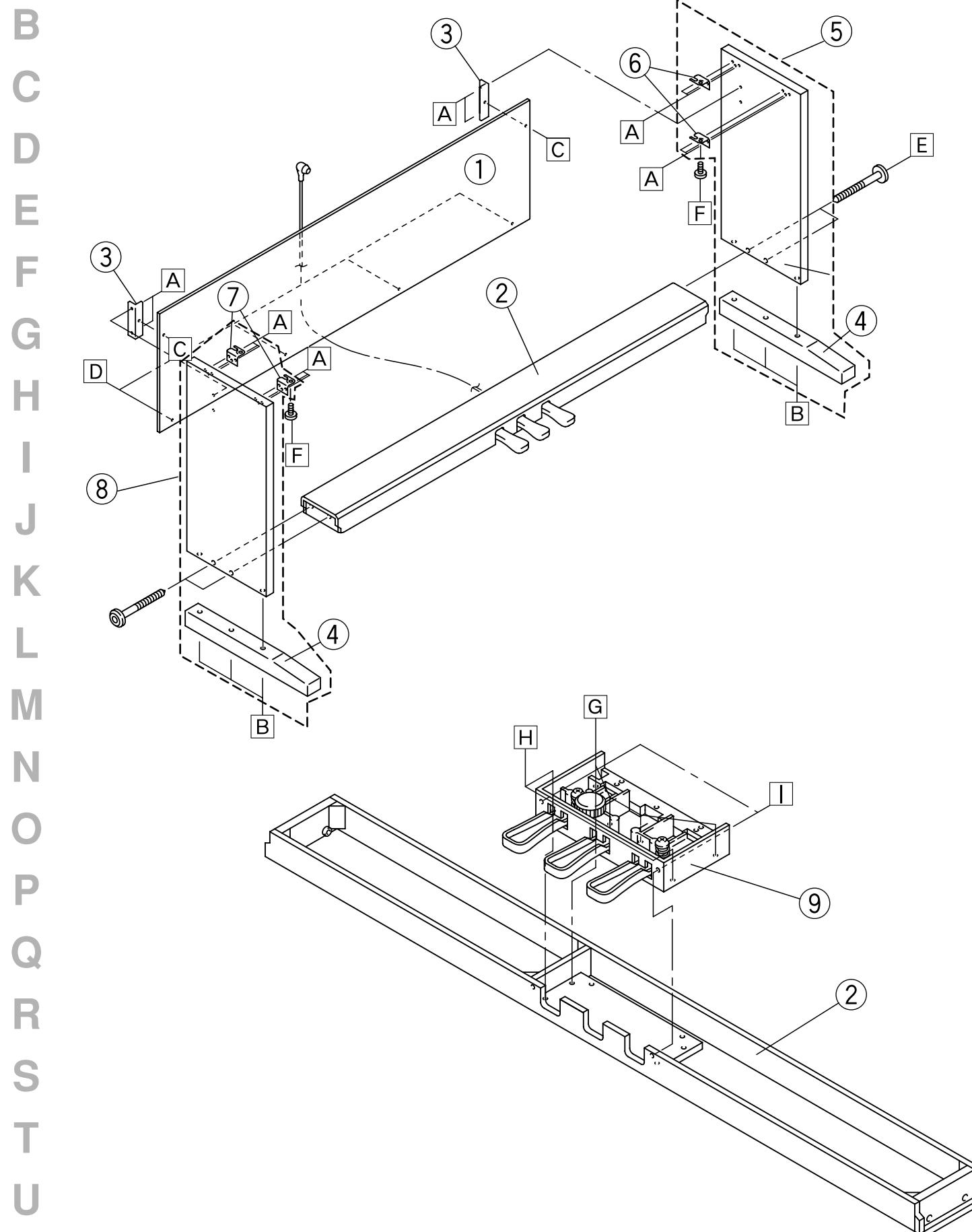


Fig.4

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 31 32 33 34 35 36 37 38 39 40

A EXPLODED VIEW (STAND) / 分解図 (スタンド)



STAND PARTS LIST / スタンドパーツリスト

[PART]

NO.	PART CODE	PART NAME	DESCRIPTION
①	01909989	REAR BOARD	
②	71566489	Pedal Board	
③	01568334	REAR HOLDER	
④	02019512	TOE BLOCK	
⑤	*****	Side Board R	
⑥	22205518	JOINT HOLDER R	220-518
⑦	22205517	JOINT HOLDER L	220-517
⑧	*****	Side Board L	
⑨	70780967	PEDAL UNIT	

[SCREW]

NO.	PART CODE	PART NAME	DESCRIPTION
A	40010678	SCREW M4×20	TRUSS TAPPING A1 FE BZC
B	40010701	SCREW M4×35	TRUSS TAPPING A1 FE BZC
C	40127701	SCREW M4×16	PAN HEAD C-TIGHT BZC W/WASHER
D	40010689	SCREW M4×25	TRUSS TAPPING A1 FE BZC
E	40017712	JOINT BOLT M6×60	JCB-H17 FE BZC
F	40010589	SCREW M5×20	TRUUS ORIGINAL BZC
G	40012123	SCREW M4×25	TRUSS TAPPING A1 FE ZC
H	40012923	SCREW M4×25	PAN MACHINE W/SW+PW FE ZC
I	40011556	SCREW M3.1×10	ROUND HEAD WOOD ZC

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A PEDAL UNIT EXPLODED VIEW / ペダルユニット分解図

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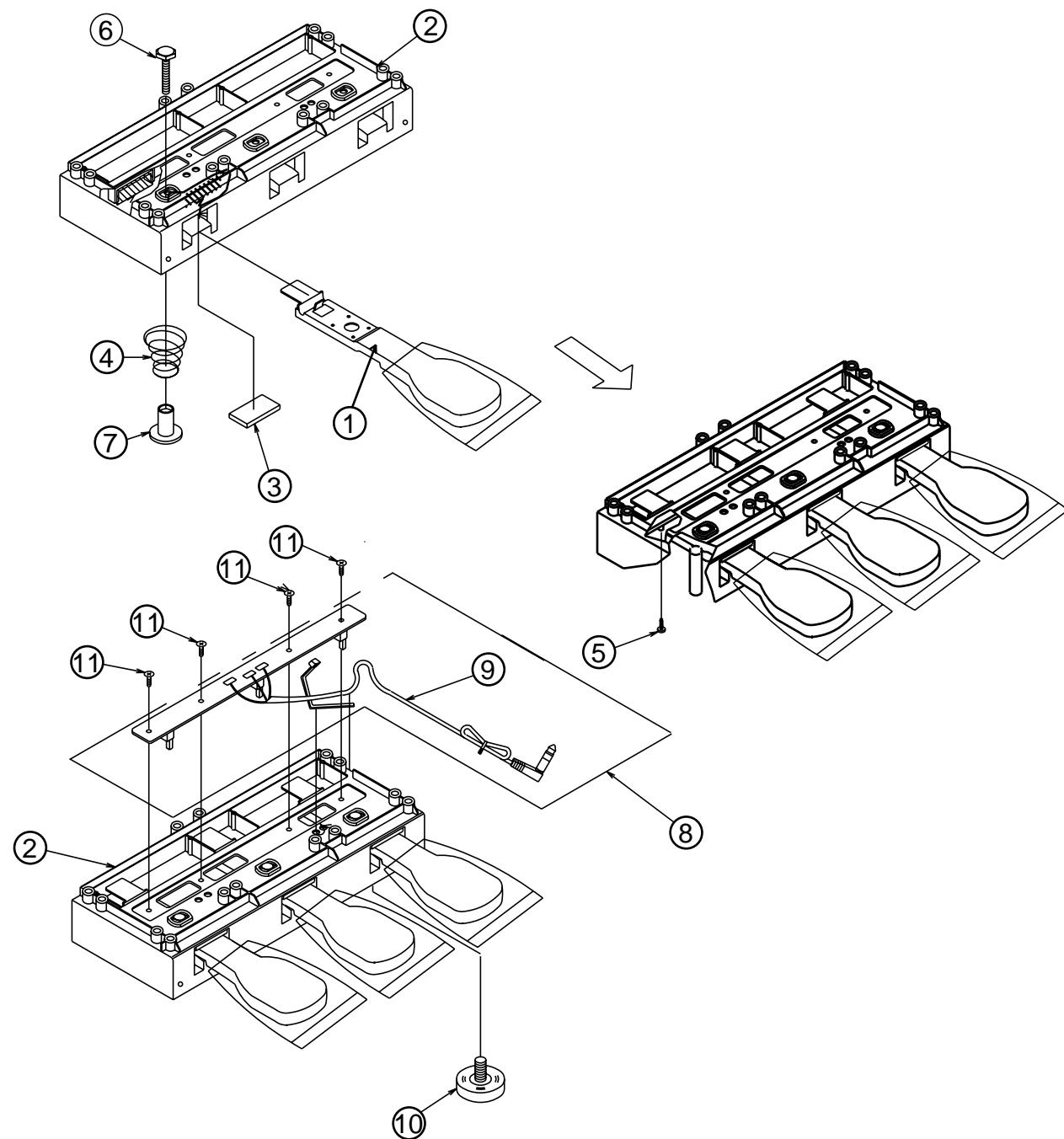
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PARTS LIST

No.	Part No.	Description
①	71018623	PEDAL CENTER
②	00904190	PEDAL CHASSIS
③	00908023	FELT L
④	00904223	COILED SPRING
⑤	40011334	3x12mm Binding Head P-tight Fe BZC
⑥	00908034	6x35mm JOINT BOLT
⑦	00677978	6x12mm JOINT NUT
⑧	70780467	CONNECT CORD
⑨	02126401	PEDAL CABLE
⑩	22285396	ADJUST BOLT
⑪	40011278	3x8mm Binding Head P-tight Fe ZC

STAND ASSEMBLY



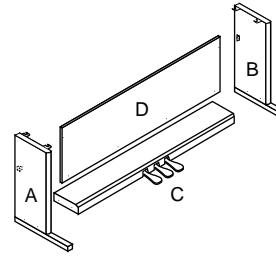
Make sure that another person is on hand to help with the assembly and setup.

Be very careful, when you assemble and move the piano, to make sure that you do not drop it on your hands or feet.

To move the piano, lift it carefully—all the while keeping it level.

● Part Check

Before you begin assembling the stand, check that all the parts were supplied. You will also need to have a Phillips screwdriver.



A: Side Board (left)

B: Side Board (right)

C: Pedal Board

D: Rear Board

- 1: Screw a (4 x 16 mm) × 2
- 2: Screw b (4 x 25 mm) × 4
- 3: Screw c (M6 x 60 mm) × 4
- 4: Screw d (M5 x 20 mm) × 2

1: Screw a (4 x 16 mm) × 2

2: Screw b (4 x 25 mm) × 4

3: Screw c (M6 x 60 mm) × 4

4: Screw d (M5 x 20 mm) × 2

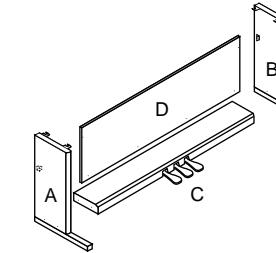
スタンドの組み立てかた



組立作業は、必ず2人で行ってください。
本機を組み立てたり、移動したりする際
は、手をはさんだり、足の上に落とさな
いよう、十分に注意してください。
本機を移動する際は、水平に持ち上げる
ようにしてください。

● 部品の確認

組み立てる前に、部品が揃っていることを確認してください。
また、プラス・ドライバーをご用意ください。



- | | |
|----------------|-----------------------------|
| A : サイド・ボード(左) | 1 : ネジ a (4 × 16mm) ··· 2個 |
| B : サイド・ボード(右) | 2 : ネジ b (4 × 25mm) ··· 4個 |
| C : ペダル・ボード | 3 : ネジ c (M6 × 60mm) ··· 4個 |
| D : リア・ボード | 4 : ネジ d (M5 × 20mm) ··· 2個 |

- 1: ネジ a (4 × 16mm) ··· 2個
- 2: ネジ b (4 × 25mm) ··· 4個
- 3: ネジ c (M6 × 60mm) ··· 4個
- 4: ネジ d (M5 × 20mm) ··· 2個

● Assembly Procedure

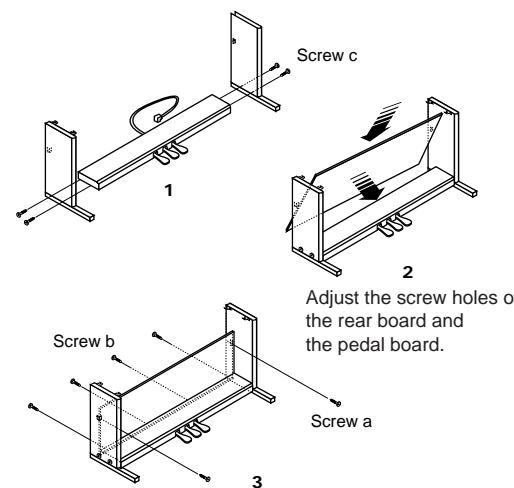
* Fasten each screw tightly, then place the stand in a stable and horizontal place.

* Do not allow the pedal cord or power cable to get twisted or pinched while assembling the stand.

Stand Assembly

At first, assemble the entire stand in a temporary fashion, without really tightening the screws. Then, after checking the overall alignment of the boards (and gently shifting certain parts where necessary), go around and tightly fasten each of the screws.

1. Attach the side boards for the right and left sides to the pedal board (so that the metal parts face inside) using screws "c" (M6 x 60 mm).
2. Place the rear board as shown below and adjust the screw holes of the rear board and the pedal board.
3. Attach the rear board to the metal parts on the side boards from the front using screws "a" (4 x 16 mm). For clamping the rear board, press each upper portion of both side boards. Then, fasten it to the pedal board from the back using screws "b" (4 x 25 mm).



● 組み立て手順

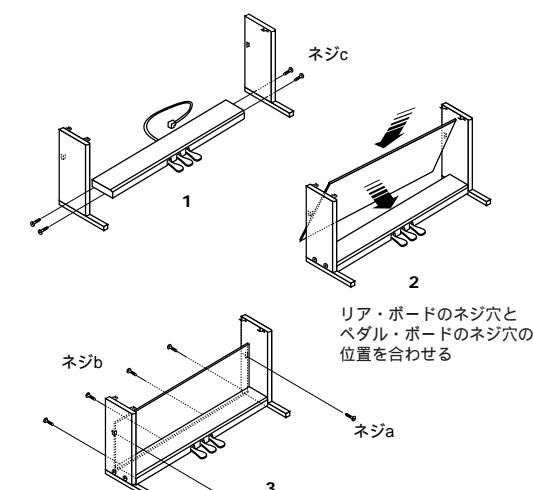
各ネジはしっかりと締め付け、安定した水平な場所に設置してください。

作業中、ペダル・コードや電源コードをはさまないように注意してください。

スタンドの組み立て

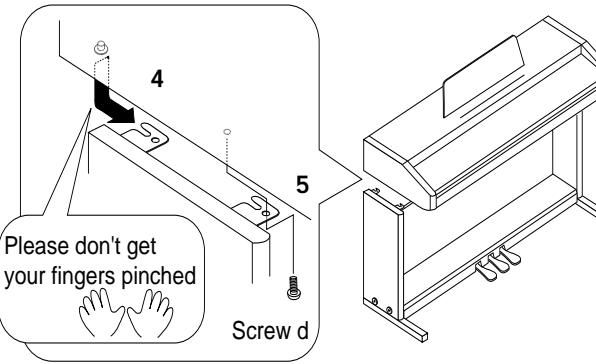
最初はネジを緩めに締めて全体を組みます。そして、ゆがみを補正しながら締め付けるとうまく組み上げることができます。

1. 左右のサイド・ボード(金具が内側になるように)をネジc(M6 × 60mm)でペダル・ボードに固定します。
2. リア・ボードを図のようにセットし、リア・ボードのネジ穴とペダル・ボードのネジ穴の位置を合わせます。
3. リア・ボードをネジa(4 × 16mm)でサイド・ボード内側の金具に前方から固定します。リア・ボードを固定する際はサイド・ボード上部を内側に押さえるようにしてください。さらに、ネジb(4 × 25mm)で後方からペダル・ボードに固定します。



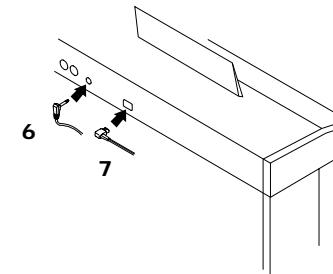
Installing the Piano on the Stand

4. Align the protruding screws (one each at right and left) on the bottom of the piano with the openings in the metal fittings on the side board, then slide the piano forward until the screws are held in place.
 5. Fasten the piano to the stand with the screw "d" (M5 X 20mm) (one each for the right and left).
- * When handling the piano, firmly grasp it at the front and back. Be careful, so you do not get your fingers pinched.



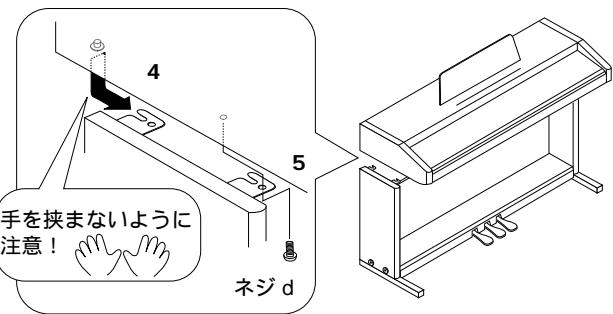
Connecting the Pedal and Power Cords

6. Connect the pedal cord to the Pedal jack on the rear of the piano.
7. Connect the power cord to the power inlet on the piano, then plug the other end into a wall socket.



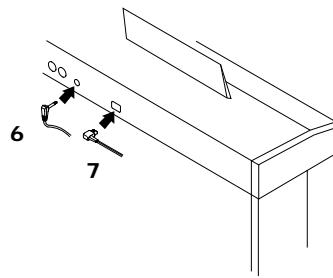
ピアノとスタンドの組み立て

4. ピアノの底面にあるネジ(左右各1本)をサイド・ボードの金具に合わせ、ピアノを手前に引いてネジを金具に引っかけます。
 5. ネジd(M5 × 20mm)でピアノとスタンドを固定します(左右各1本)。
- ピアノを持つときは、ピアノの前と後をつかみ、手をはさまないように注意してください。



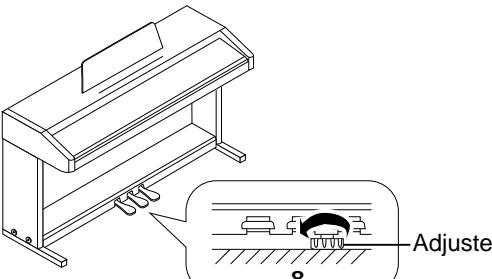
ペダル・コードと電源コードの接続

6. ペダル・コードをPedal端子に接続します。
7. 電源コードをピアノの接続端子につなぎ、コンセントに接続します。



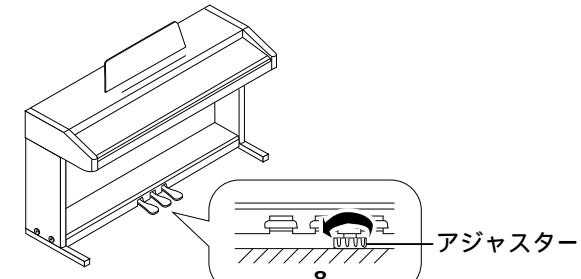
Adjusting the Adjuster

8. Lower the adjuster at the bottom of the pedal board (by rotating it), so that the adjuster touches the floor. If you have the piano placed on a carpet, lower it until it pushes into the carpet.



アジャスターの調節

8. ペダル・ボードの下にあるアジャスターを下げる、床に当るように調節します。ジュウタンの上などに設置する場合は、床面を少し強く押しつけるぐらい下げてください。



When Moving the Piano

Disconnect the power cord and raise the stand's adjuster. Then lift the piano while keeping it level, and move it with care, so that you do not drop it on your feet, or get your hands caught.

本機を移動される場合

電源コードを外し、スタンドのアジャスターを上げます。そして、水平に持ち上げ、手を挟んだり、足の上に落とさないように注意して運んでください。

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 31 32 33 34 35 36 37 38 39 40

A BLOCK DIAGRAM / ブロック図

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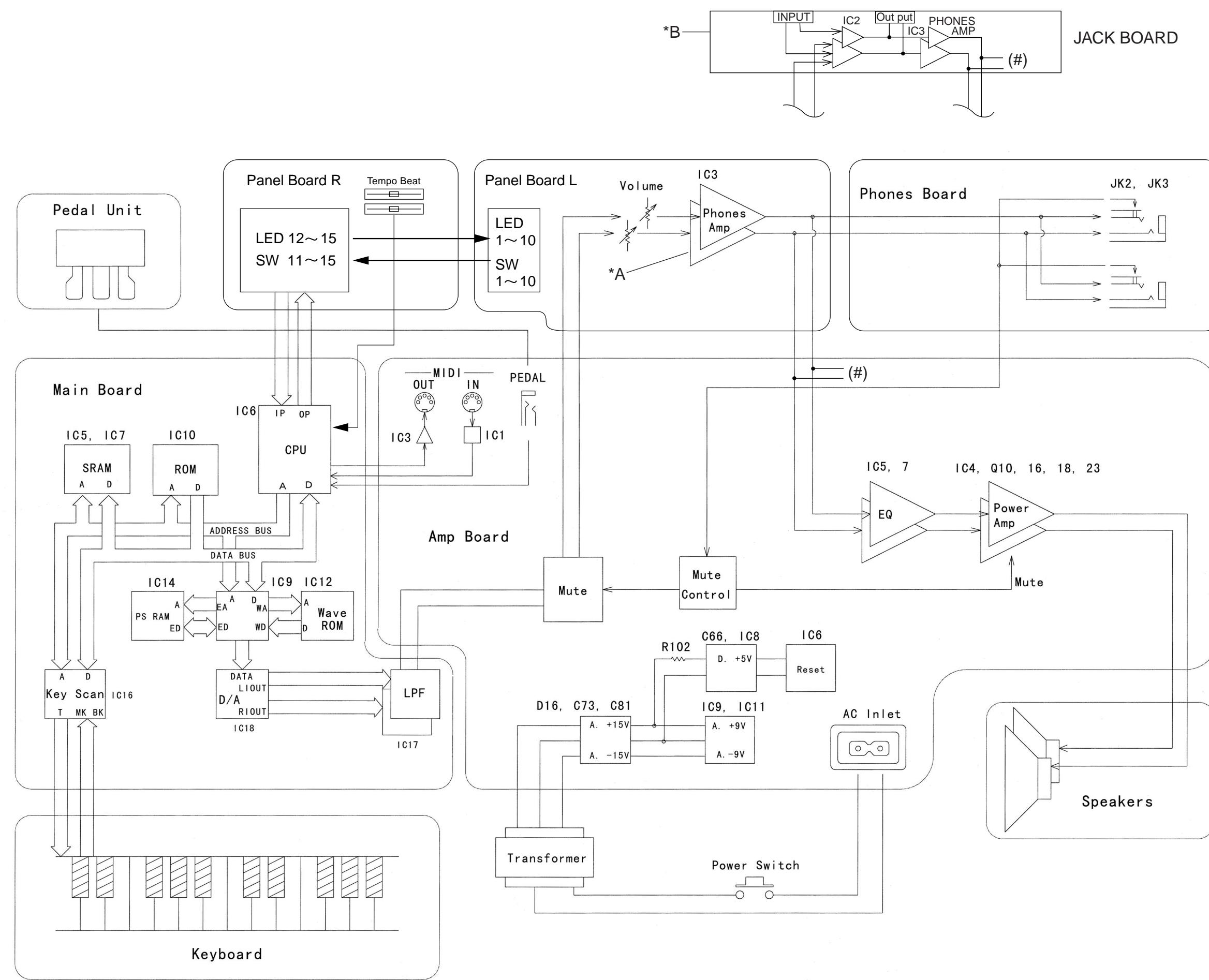
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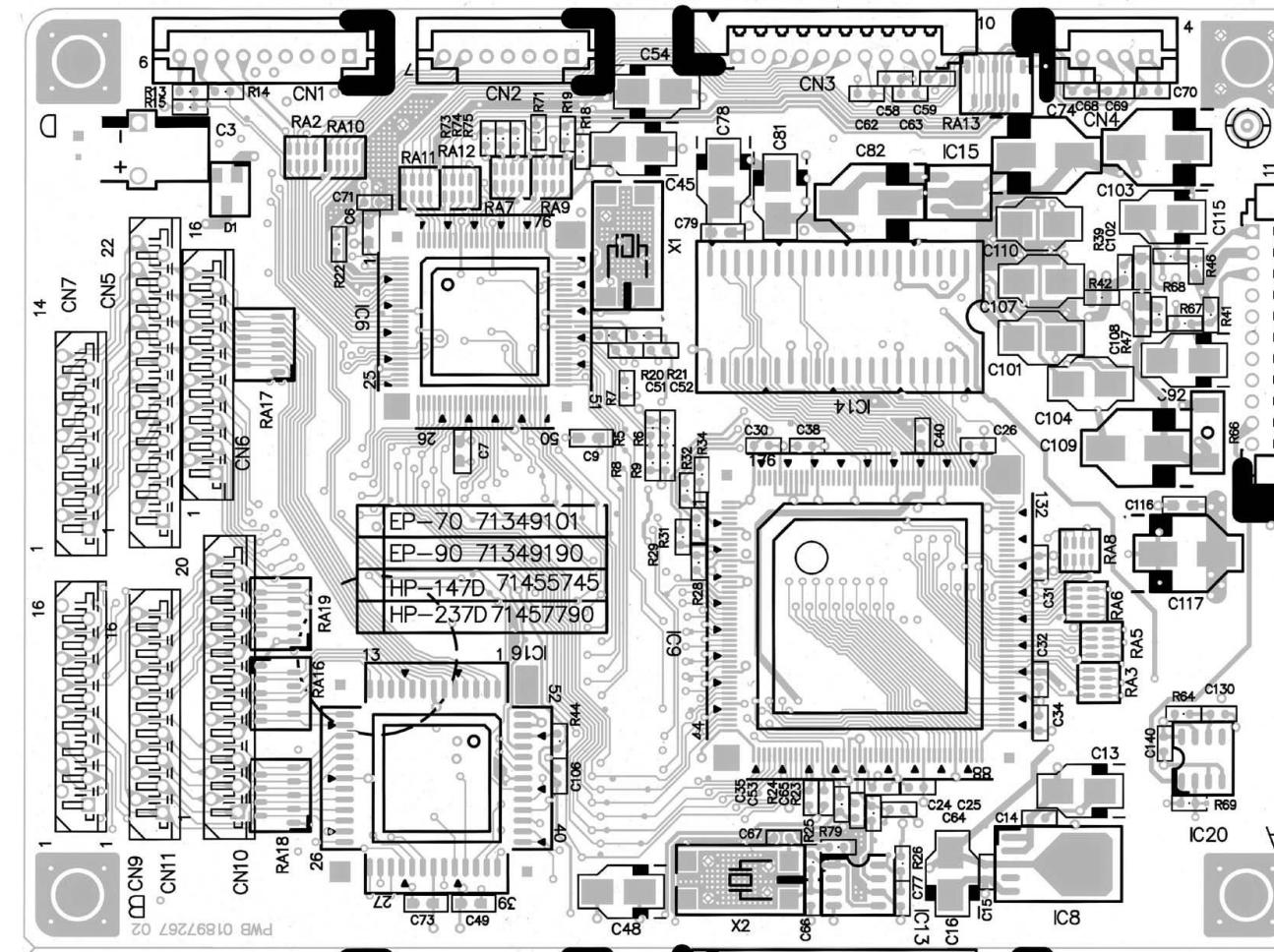


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

A CIRCUIT BOARD (MAIN) / 基板図 (MAIN)

B

E MAIN BOARD ASSY
71457790



View from components side.

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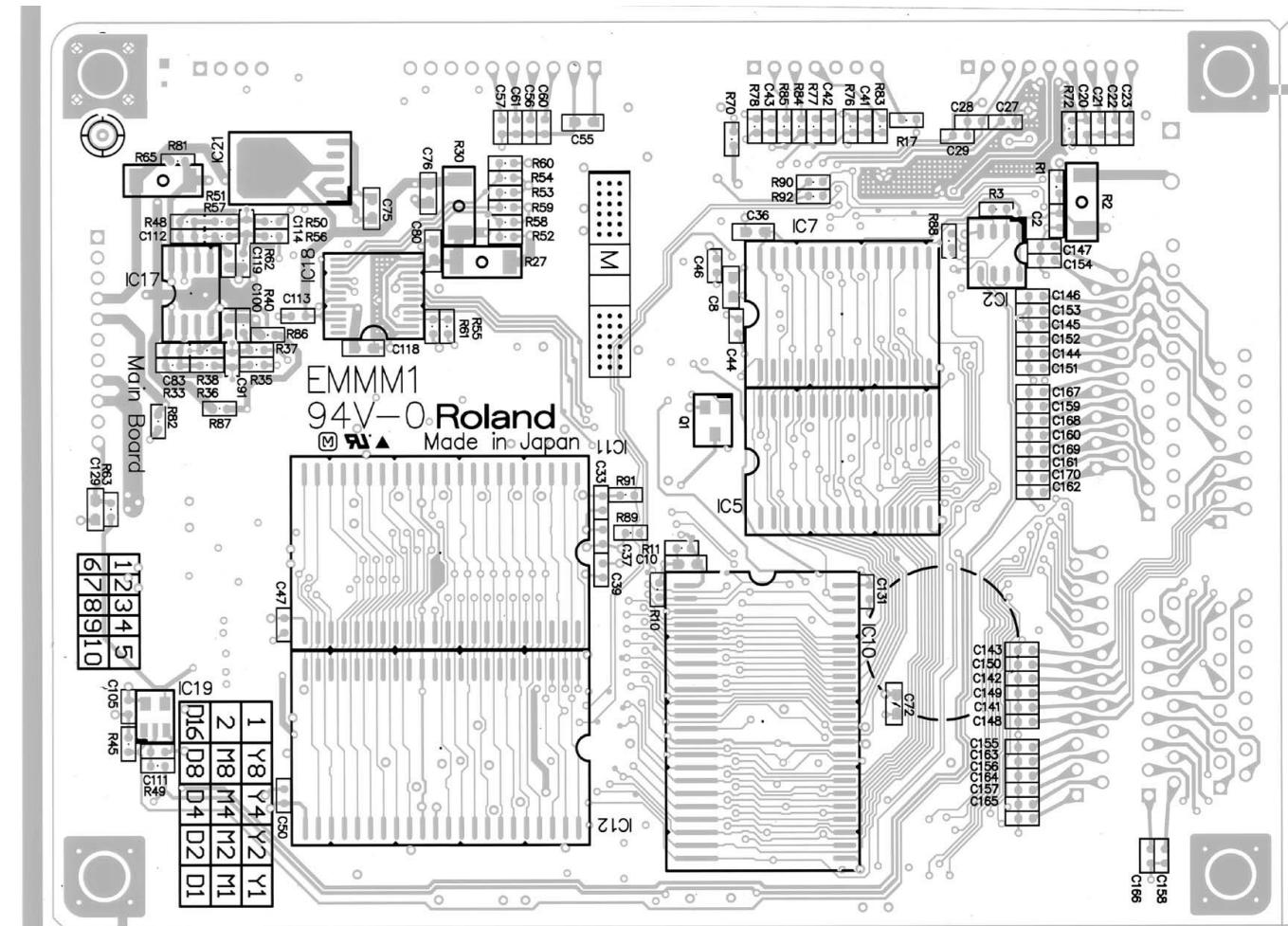
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View from solder side.

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 31 32 33 34 35 36 37 38 39 40

A CIRCUIT DIAGRAM (MAIN) / 回路図 (MAIN)

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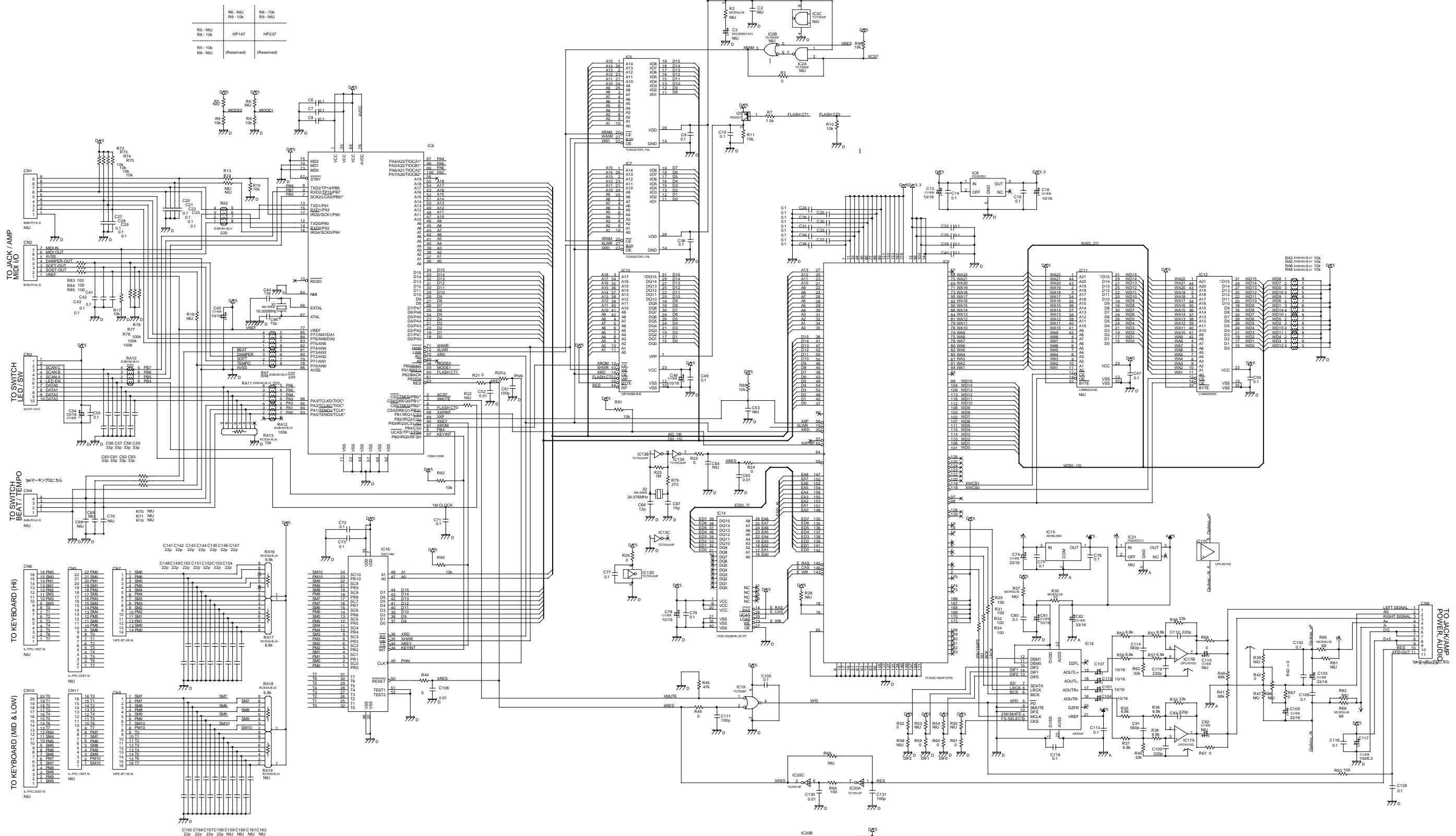
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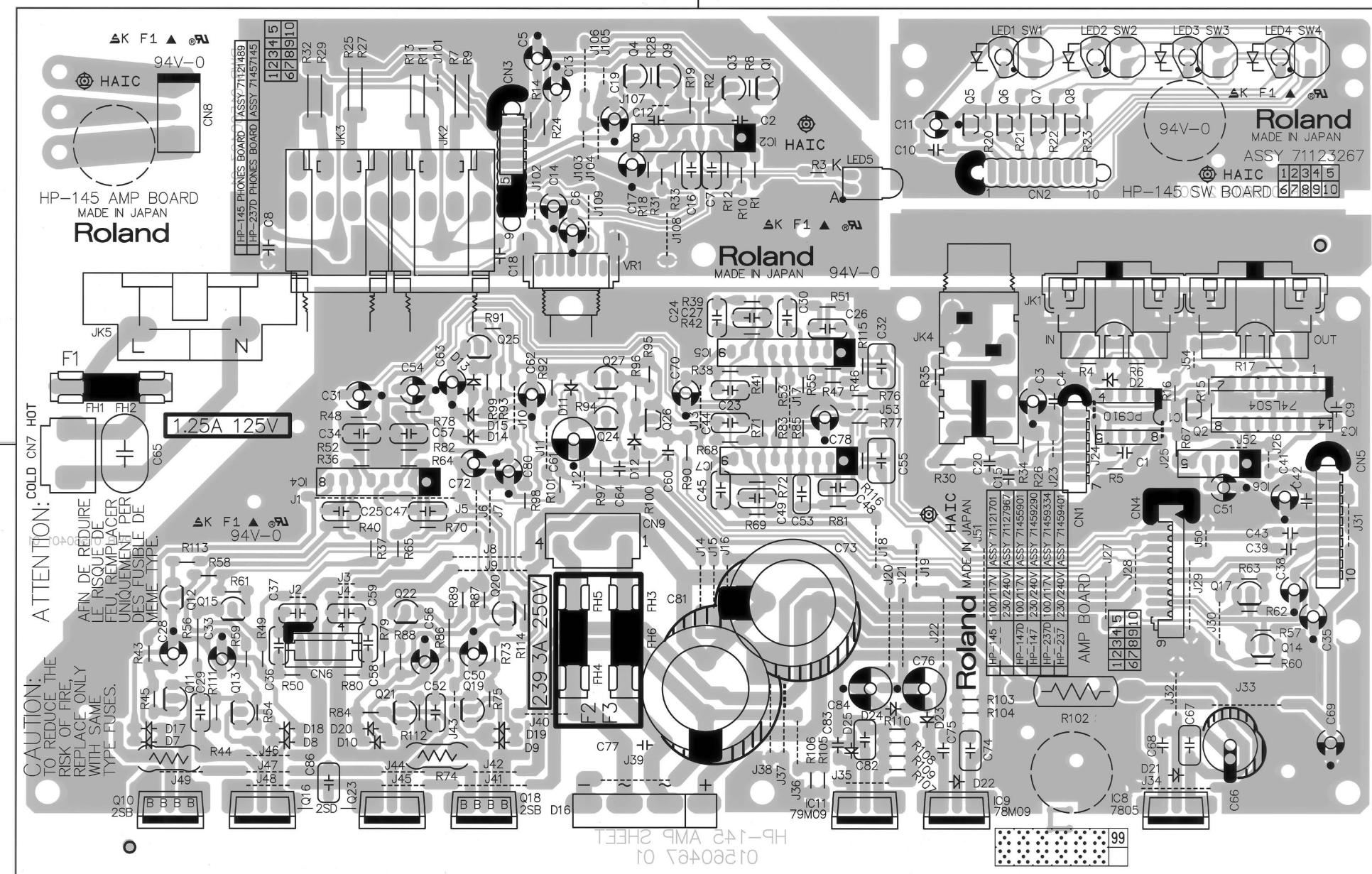
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

A CIRCUIT BOARD (PHONES, AMP) / 基板図 (PHONES, AMP)

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PHONES BOARD
71457145

Not used / 使用しません



AMP BOARD 100V
71459334

View from components side.

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 31 32 33 34 35 36 37 38 39 40

A CIRCUIT DIAGRAM (PHONES, AMP) / 回路図 (PHONES, AMP)

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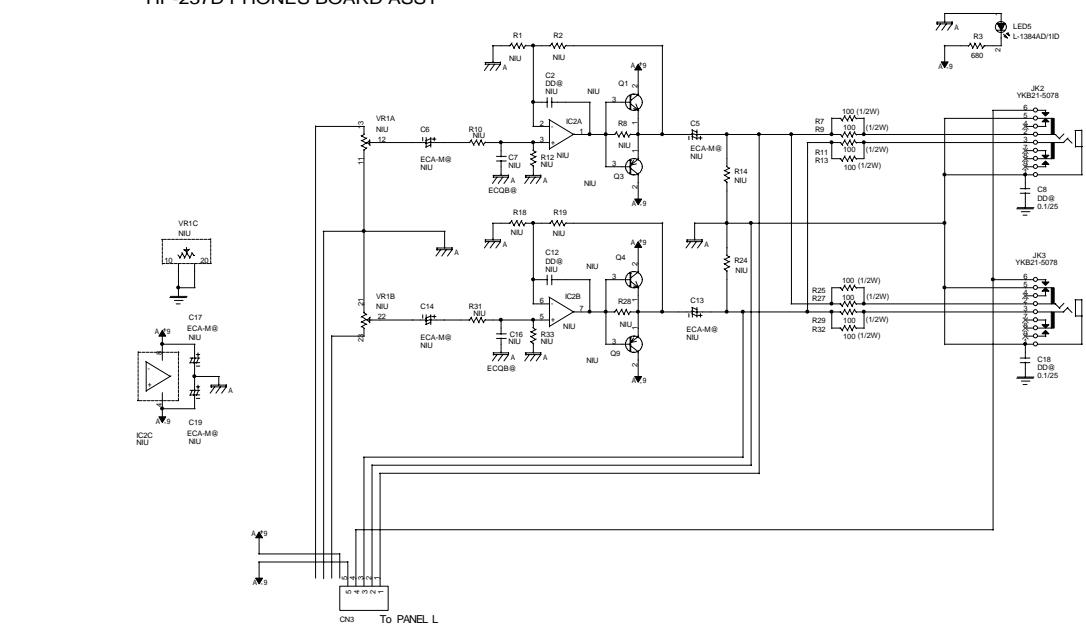
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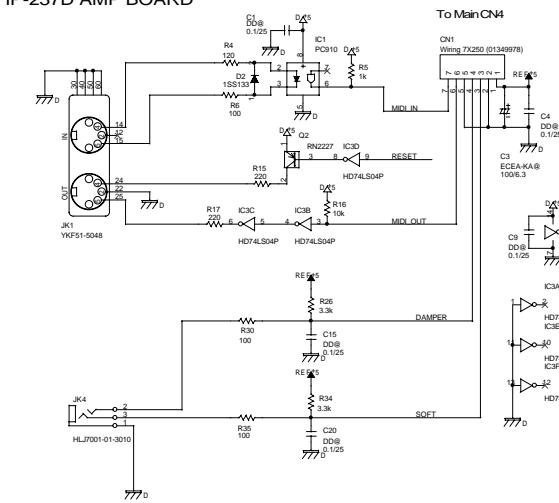
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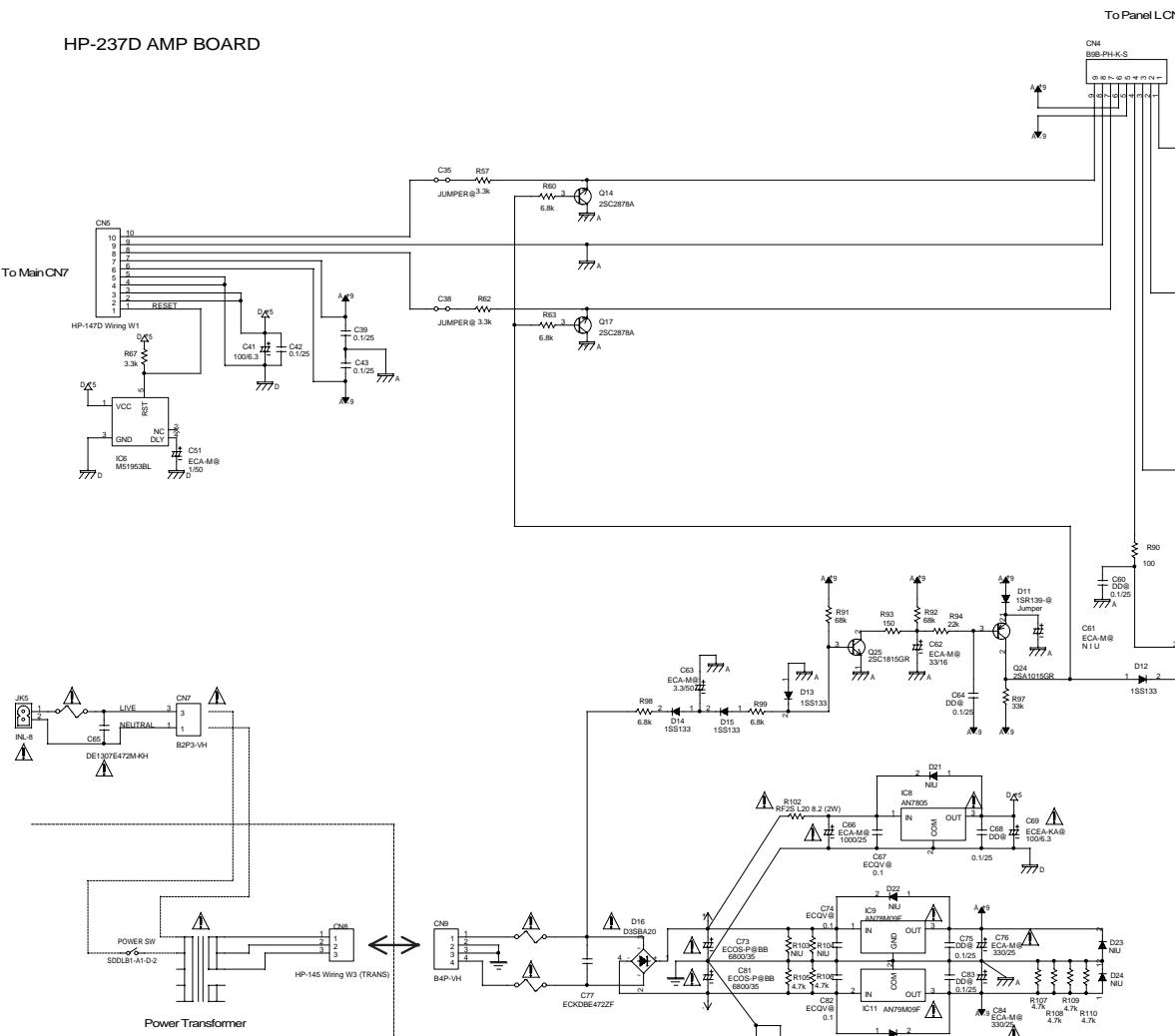
HP-237D PHONES BOARD ASSY



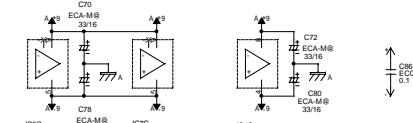
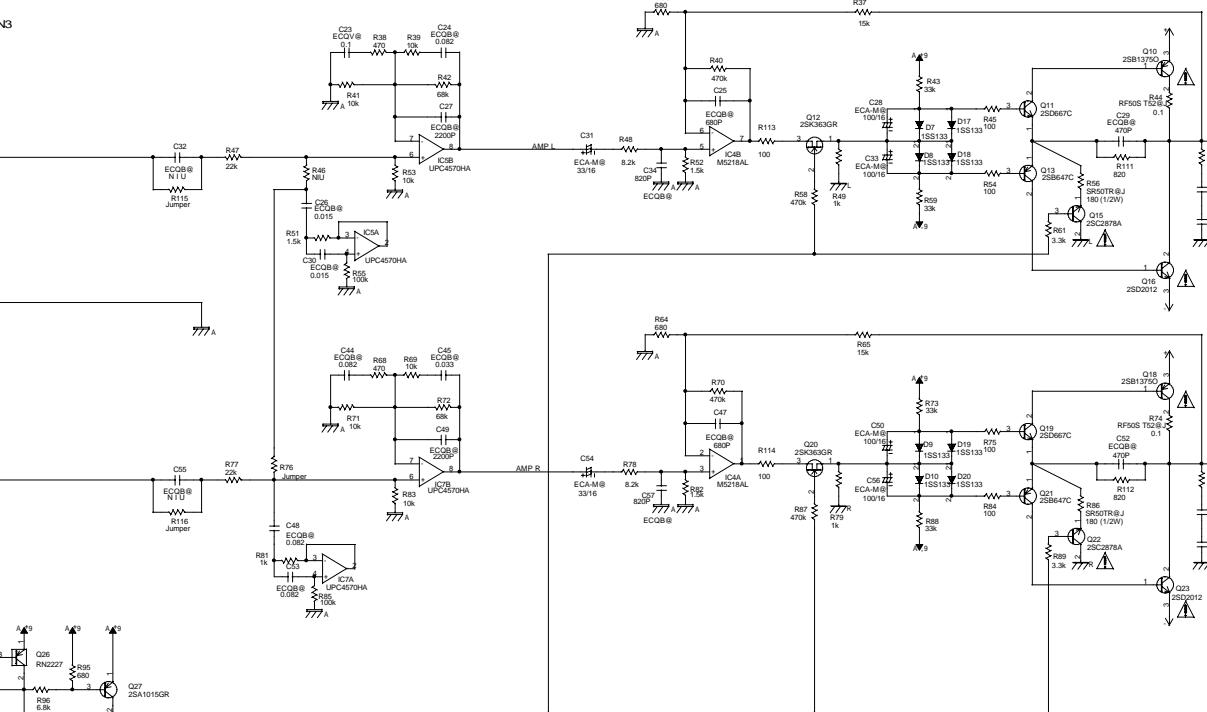
HP-237D AMP BOARD



HP-237D AMP BOARD



Ground for Analogue Circuit
Ground for Digital Circuit
Ground for A/D Convert (Reference)
Chassis
Ground for Power Amp (L/R Channel)



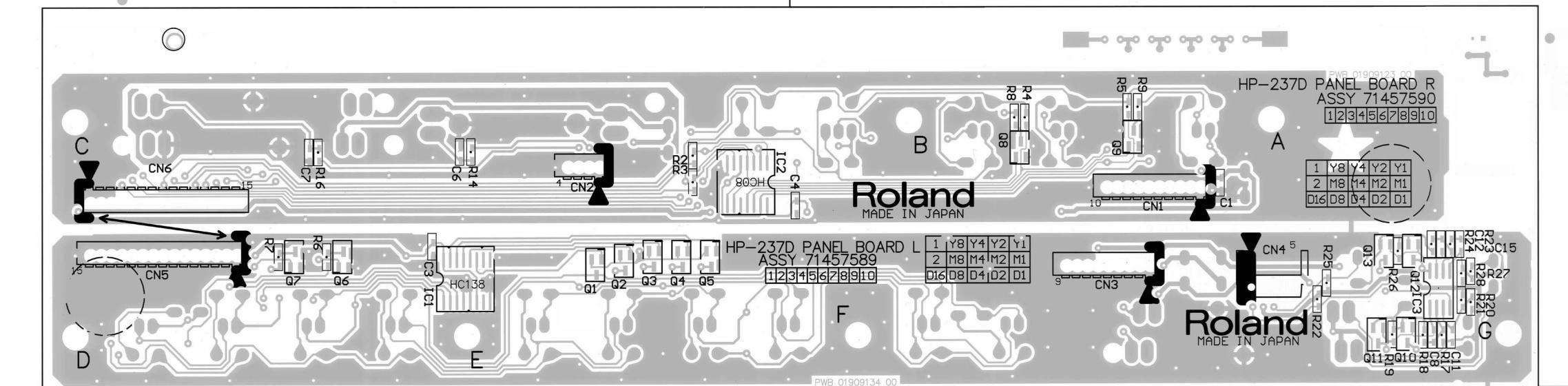
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

A CIRCUIT BOARD (PANEL BOARD) / 基板図 (PANEL BOARD)

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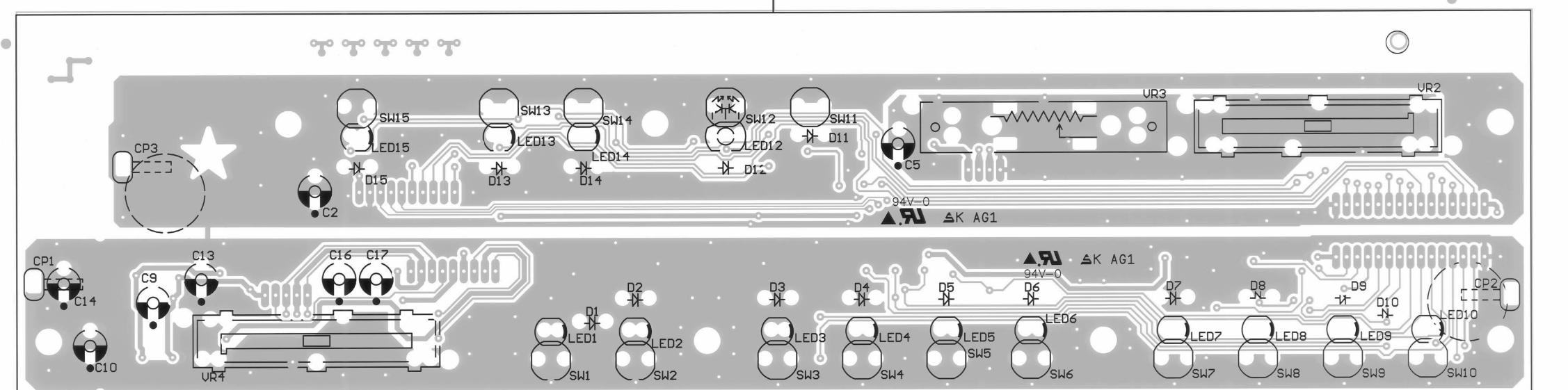
PANEL BOARD ASSY
71457801

PANEL BOARD R ASSY



View from solder side.

PANEL BOARD L ASSY



View from components side.

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 31 32 33 34 35 36 37 38 39 40

A CIRCUIT DIAGRAM (PANEL R/L) *A / 回路図 (PANEL R/L) *A

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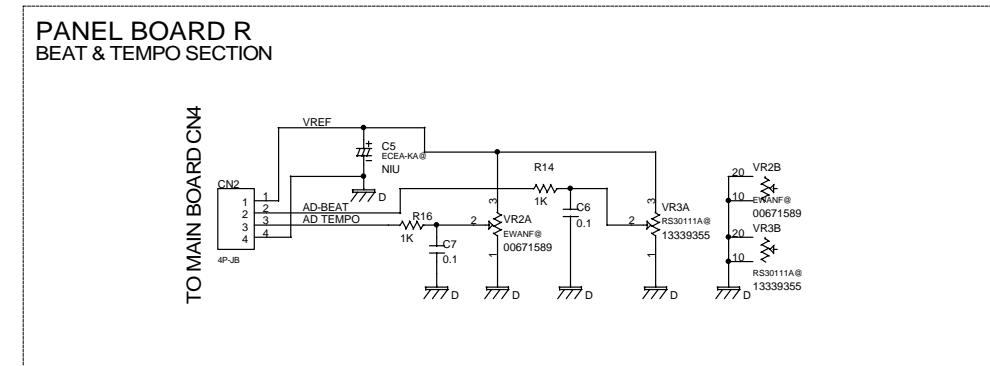
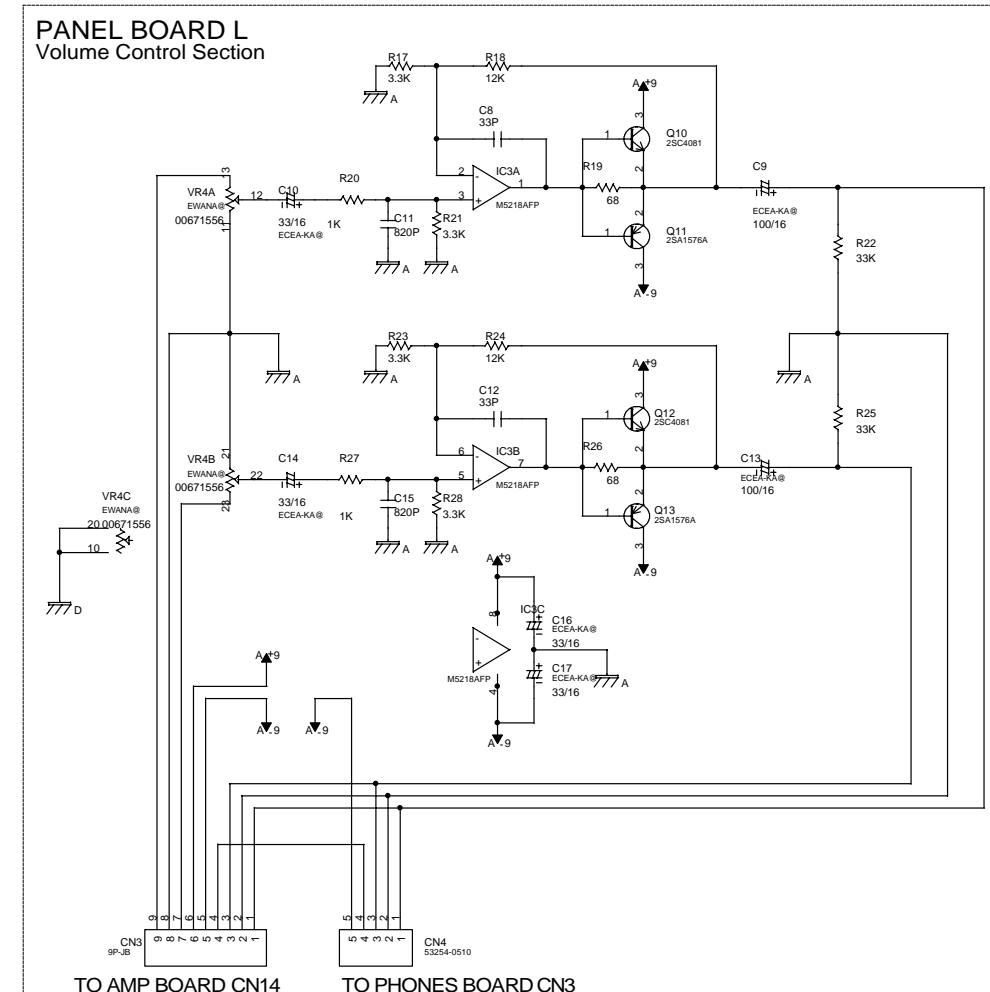
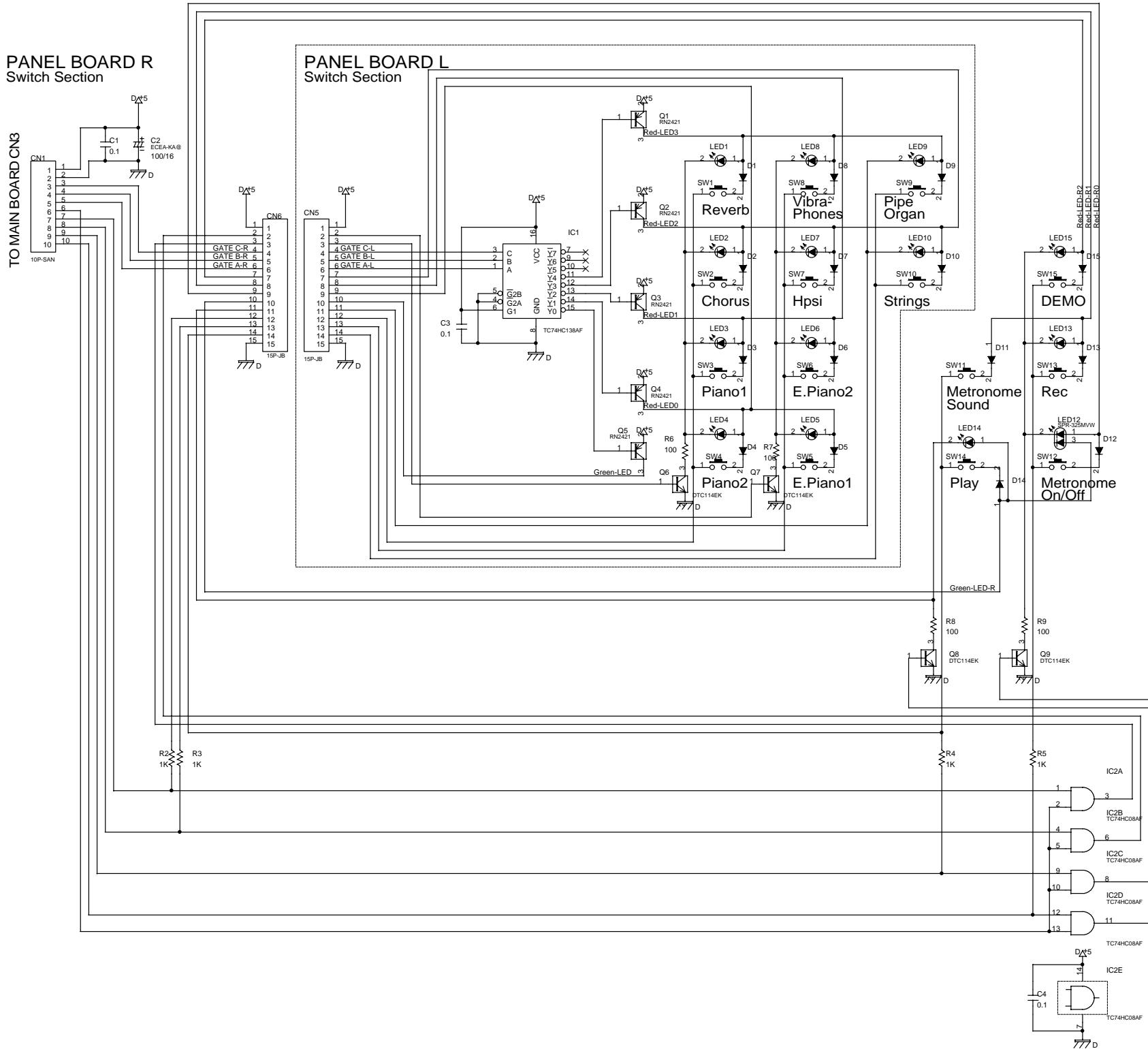
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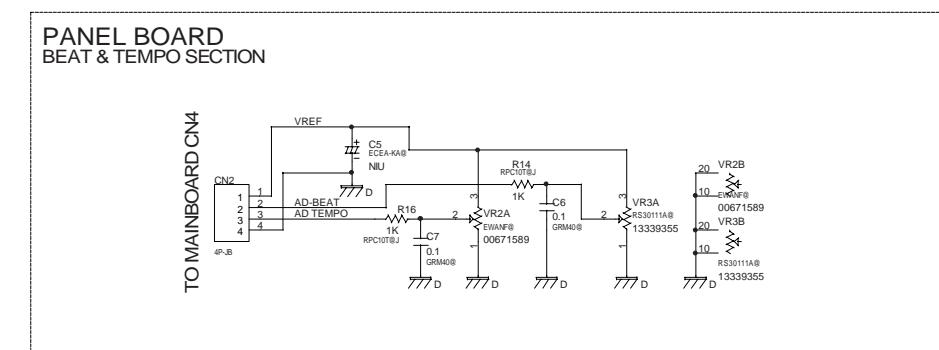
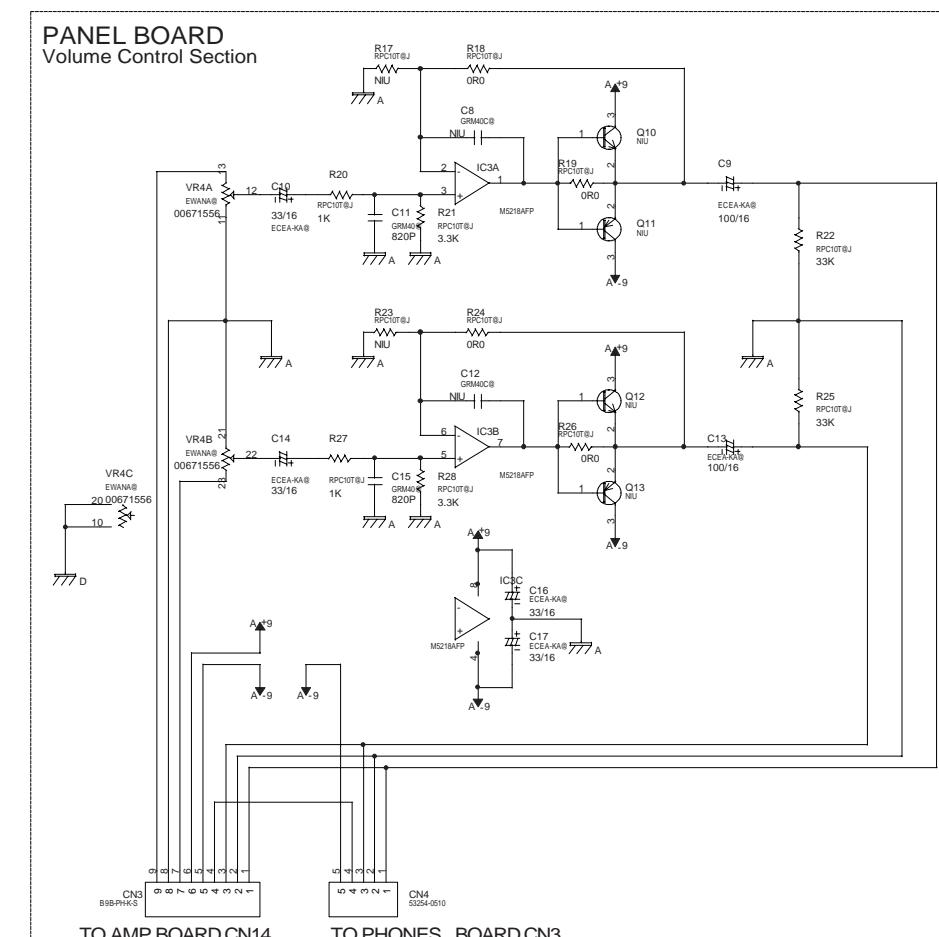
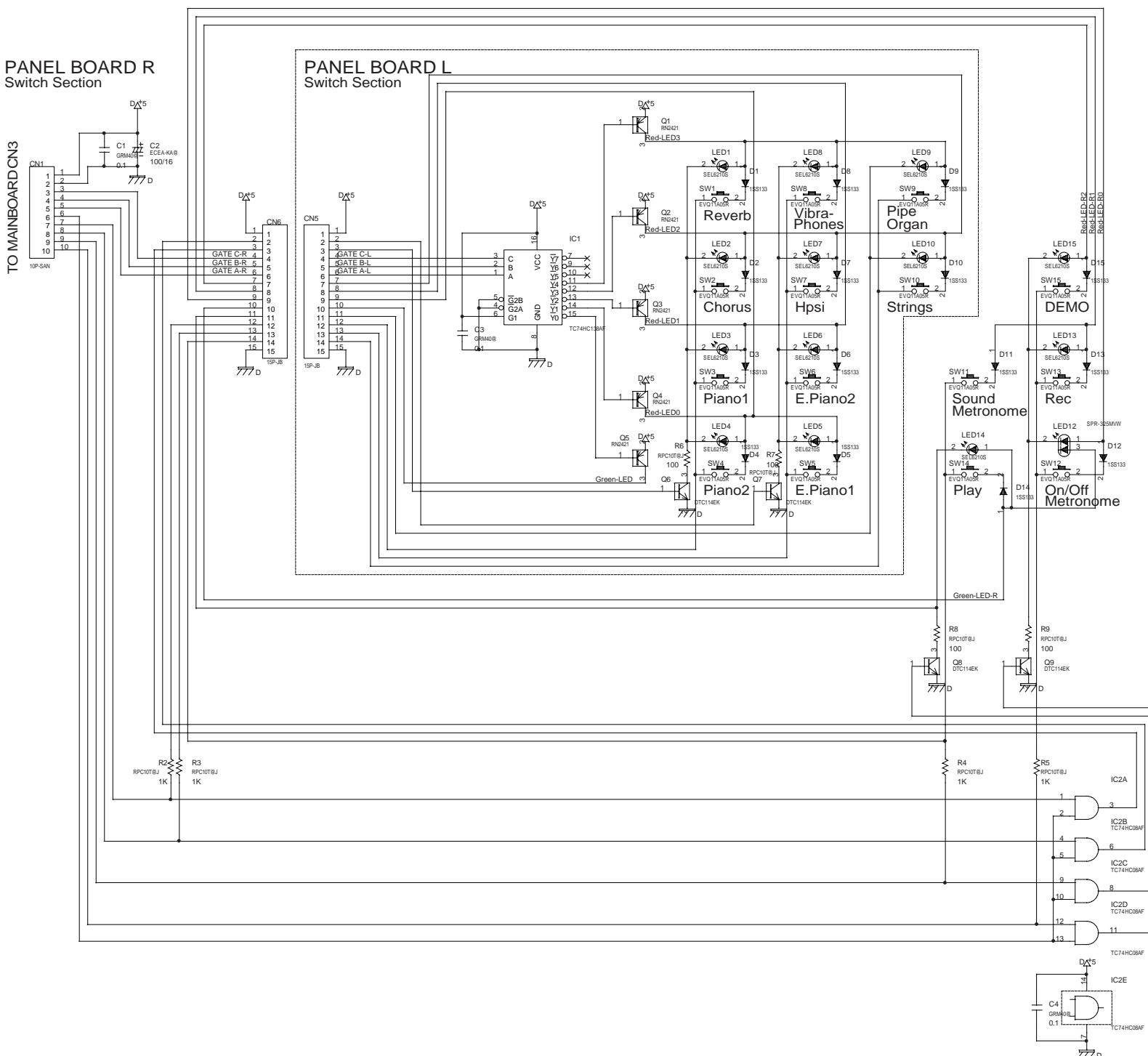
V



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A CIRCUIT DIAGRAM (PANEL R/L) *B / 回路図 (PANEL R/L) *B

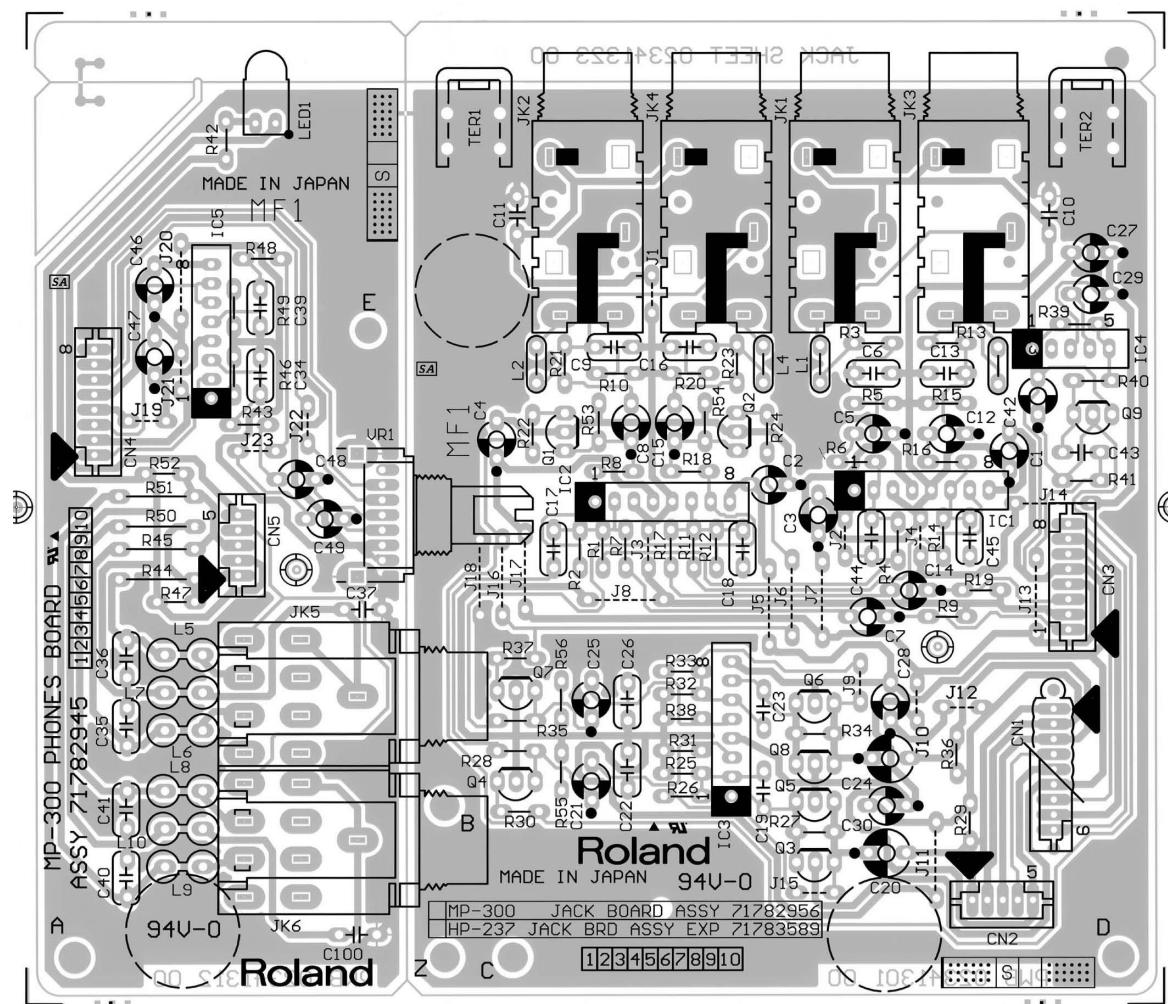
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A CIRCUIT BOARD (JACK BOARD) / 基板図 (JACK BOARD)

CIRCUIT DIAGRAM (JACK BOARD) / 回路図 (JACK BOARD)



View from components side

