PORTATONE

PSR-273/PSR-275

SERVICE MANUAL



PSR-273



PSR-275

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YAMAHA

HAMAMATSU, JAPAN

PK 001700

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IMPORTANT NOTICE

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

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

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

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

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

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

WARNING: CHEMICAL CONTENT NOTICE!

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

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

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

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

■ **WARNING**

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

■ SPECIFICATIONS

Keyboards
- 61 standard-size keys (C1 - C6), with Touch Response.

Display
- Large multi-function LCD display (backlit)

Setup
- STANDBY/ON
- MASTER VOLUME: MIN - MAX

Panel Controls
- SONG, VOICE, STYLE, Dict., PC, LESSON L, R, METRONOME, PORTABLE GRAND, DEMO, FUNCTION, TOUCH, HARMONY, DUAL, SPLIT, SUSTAIN, TEMPO/TAP, [0]-[9], [+](YES), [–](NO)

Voice
- 108 panel voices + 12 drum kits + 360 XG Lite voices
- Polyphony: 32
- DUAL
- SPLIT

Style
- 100 styles
- Style Control: ACMP ON/OFF, SYNC START, START/STOP, INTRO/ENDING/rit., MAIN/AUTO FILL
- Fingering: Multi fingering
- Style Volume

Yamaha Educational Suite
- Dictionaly
- Lesson 1-4

Function
- Overall: Transpose, Tuning, Split Point, Touch Sensitivity
- Volume: Style Volume, Song Volume, Metronome Volume, Metronome Time Signature
- Main Voice: Volume, Octave, Reverb Send Level, Chorus Send Level
- Dual Voice: Voice, Volume, Octave, Reverb Send Level, Chorus Send Level
- Split Voice: Voice, Volume, Octave, Reverb Send Level, Chorus Send Level
- Effect/Harmony: Reverb Type, Chorus Type, Harmony Type, Harmony Volume
- Utility: Local On/Off, External Clock, Initial Setup Send

Effects
- Reverb : 9 types
- Chorus : 4 types
- Harmony : 26 types

Song
- 100 Songs
- Song Volume

MIDI
- Local On/Off
- Initial Setup Send
- External Clock

Auxiliary jacks
- PHONES/OUTPUT, DC IN 10-12V, MIDI IN/OUT, SUSTAIN

Amplifier
- 2.7W + 2.7W

Speakers
- 12cm x 2

Power Consumption (when using PA-3C power adaptor)
- 10 W

Power Supply
- Adaptor : Yamaha PA-3C AC power adaptor
- Batteries: Six "D" size, R20P (LR20) or equivalent batteries

Dimensions (W x D x H)
- 933 x 370 x 129 mm (36-3/4" x 14-5/8" x 5")

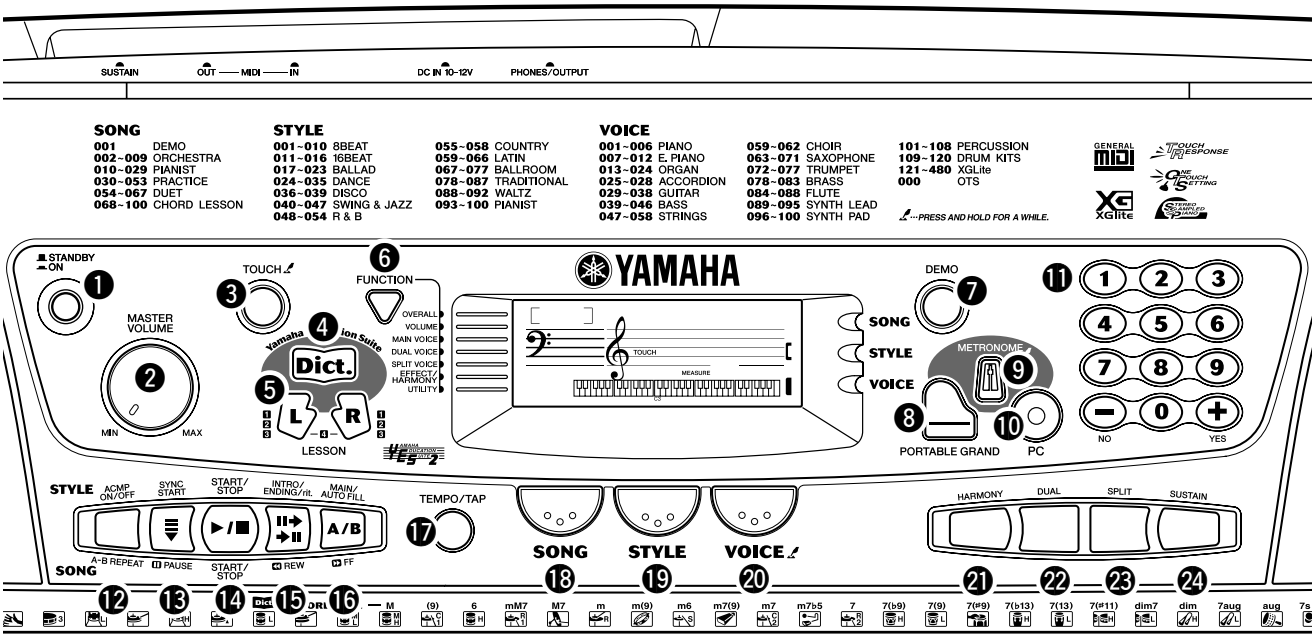
Weight
- 5.3 kg (11 lbs. 11 oz.)

Supplied Accessories
- Music Rest
- Owner's Manual
- Song Book

Optional Accessories
- Headphones : HPE-150
- AC power adaptor : PA-3B/3C
- Footswitch: :FC4, FC5
- Keyboard stand: :L-2C

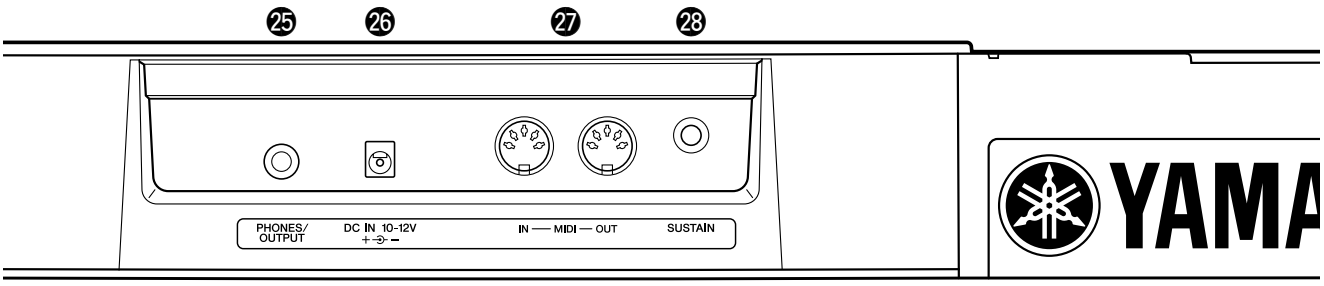
■ PANEL LAYOUT

• Front Panel



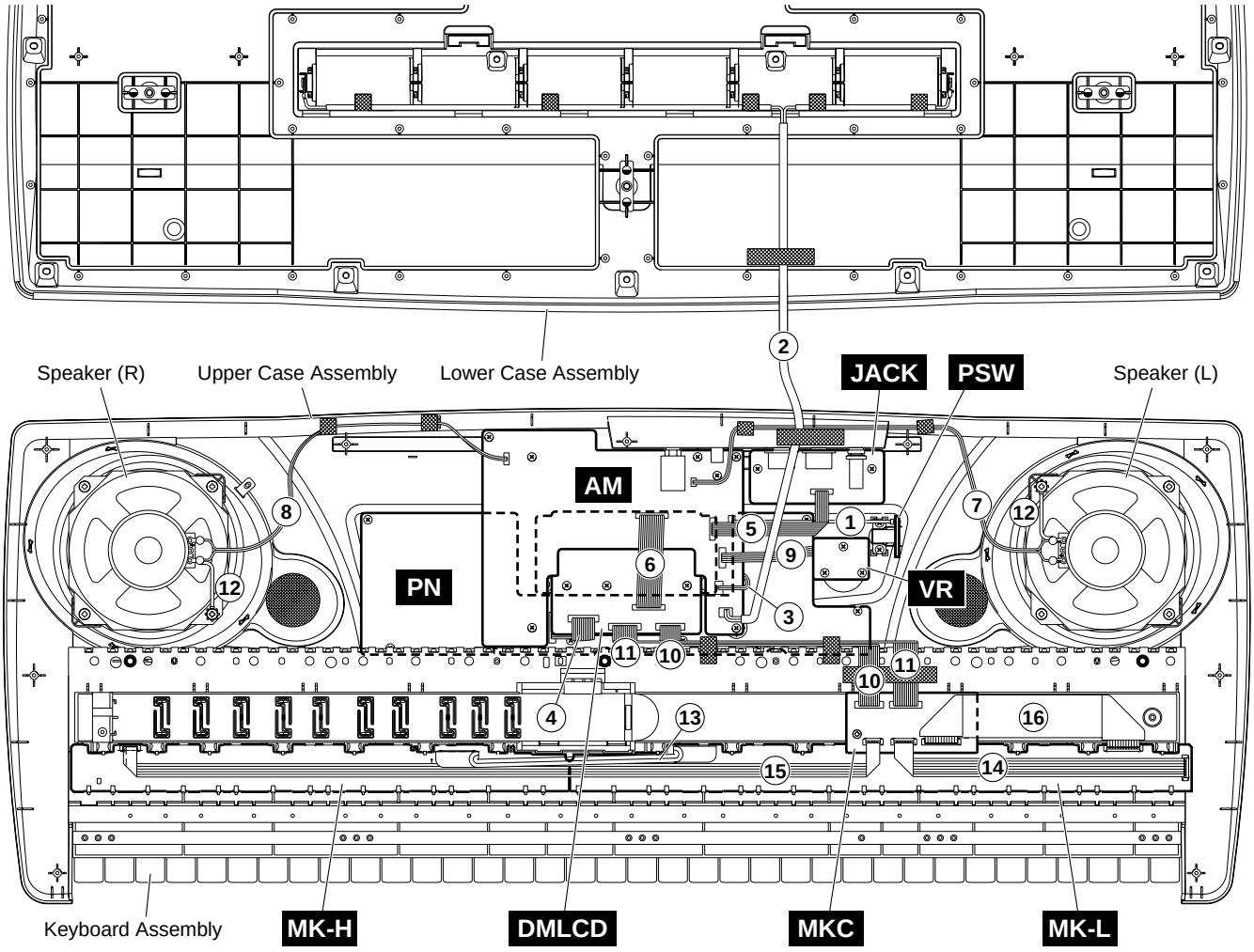
❶ **Power switch ([STANDBY/ON])**
❷ **[MASTER VOLUME] dial**
❸ **[TOUCH] button**
❹ **[Dict.] button**
❺ **LESSON [L] (Left) and [R] (Right) buttons**
❻ **[FUNCTION] button**
❼ **[DEMO] button**
❽ **[PORTABLE GRAND] button**
❾ **[METRONOME] button**
❿ **[PC] button**
⓫ **Numeric keypad, [+/YES] and [—/NO] buttons**
⓬ **[ACMP ON/OFF] / [A-B REPEAT] button**
⓭ **[SYNC START] / [PAUSE] button**
⓮ **[START/STOP] button**
⓯ **[INTRO/ENDING/rit.] / [REW] button**
⓰ **[MAIN/AUTO FILL] / [FF] button**
⓱ **[TEMPO/TAP] button**
⓲ **[SONG] button**
⓳ **[STYLE] button**
⓴ **[VOICE] button**
㉑ **[HARMONY] button**
㉒ **[DUAL] button**
㉓ **[SPLIT] button**
㉔ **[SUSTAIN] button**

• Rear Panel



㉕ **PHONES/OUTPUT jack**
㉖ **DC IN 10-12V jack**
㉗ **MIDI IN, MIDI OUT terminals**
㉘ **SUSTAIN jack**

■ UNIT LAYOUT & WIRING

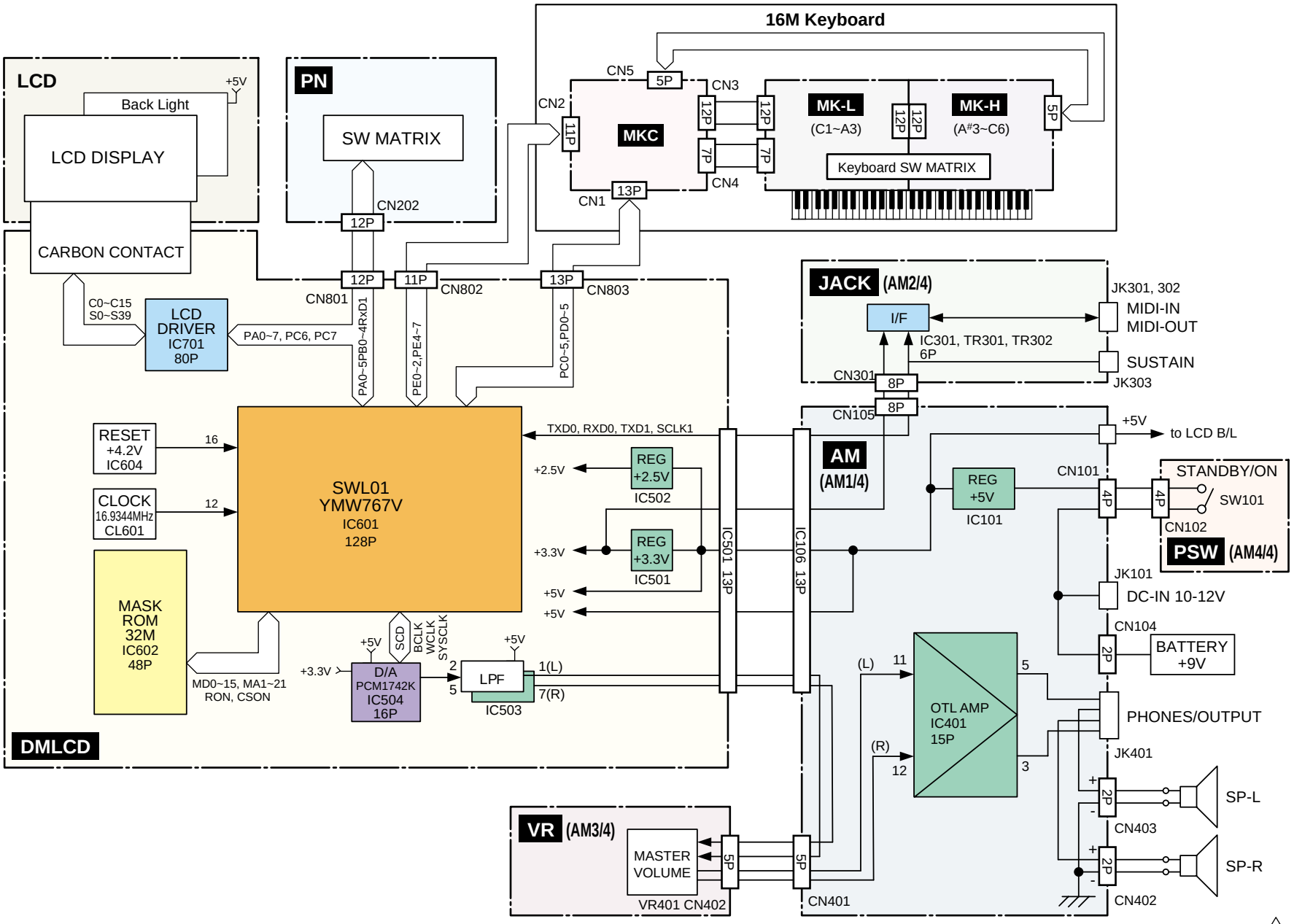


No.	REF. No.	DESTINATION						CONNECTOR ASSEMBLY *5	
①	WH101	PSW-CN102	Dip Soldering (Pin4)	*1	AM-CN101	Installation (Pin4)	*1	STAND	(WA62730)
②	150j	Contact Spring (+),(-)	Manual Soldering	*4	AM-CN104	Installation (Pin3)	*2	BATTERY	(WA62800)
③	L70	LCD B.L Assembly	Manual Soldering	*3	AM-CN103	Installation (Pin2)	*1	B-L	WA627500
④	WH202	PN-CN202	Dip Soldering (Pin12)	*1	DMLCD-CN801	Installation (Pin12)	*1	PN	(WA62760)
⑤	WH105	JACK-CN301	Dip Soldering (Pin8)	*1	AM-CN105	Installation (Pin8)	*1	MIDI	(WA62660)
⑥	WH106	AM-CN106	Dip Soldering (Pin13)	*1	DMLCD-CN501	Installation (Pin13)	*1	5D	(WA62950)
⑦	WH403	AM-CN403	Dip Soldering (Pin2)	*1	SPEAKER Lch	manual soldering	*3	SPL	(WA62790)
⑧	WH404	AM-CN404	Dip Soldering (Pin2)	*1	SPEAKER Rch	manual soldering	*3	SPR	(WA85480)
⑨	WH401	VR-CN402	Dip Soldering (Pin5)	*1	AM-CN401	Installation (Pin5)	*1	VOL	(WA62740)
⑩	330	DMLCD-CN802	Installation (Pin11)	*1	MKC-CN2	Installation (Pin11)	*1	MK1	WA627700
⑪	340	DMLCD-CN803	Installation (Pin13)	*1	MKC-CN1	Installation (Pin13)	*1	MK2	WA627800
⑫	350	SP Frame	Screw Clamp		SP (-)	Soldering		FS	(WB76720)
⑬	160e	MK-H	Installation (Pin12)		MK-L	Installation (Pin12)		MK-B	VV583600
⑭	160f	MKC-CN4	Installation (Pin7)		MK-L	Installation (Pin7)		MK-C	VV583500
⑮	160g	MKC-CN5	Installation (Pin5)		MK-H	Installation (Pin5)		MK-D	VV583700
⑯	160d	MKC-CN3	Installation (Pin12)		MK-L	Installation (Pin12)		MK-A	VV583100

• DIRECTION

*1: Edge mark is adjusted to Pin 1 mark. (▲mark)
*2: Red wire is adjusted to Pin 1 mark. (▲mark)
*3: Edge mark is connected to (+) terminal.
*4: Red wire is connected to (+) terminal. Black wire is connected to (-) terminal.
*5: "( )" are not available as spare parts.

■ BLOCK DIAGRAM



■ DISASSEMBLY PROCEDURE

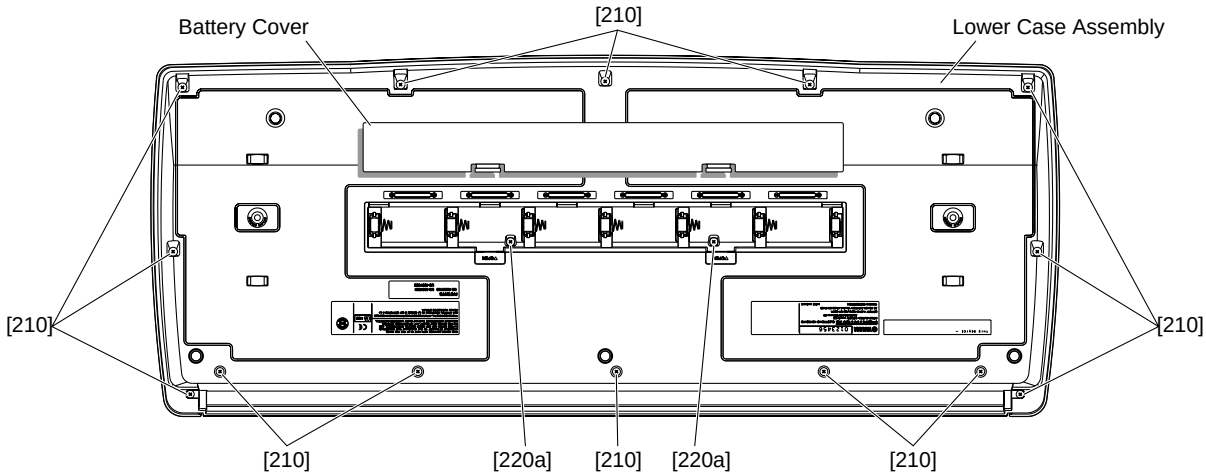
1. Lower Case Assembly

(Time Required: about 3 min)

1-1 Remove the battery cover assembly. (Fig. 1)

1-2 Remove the fourteen (14) screws marked [210] and the two (2) screws marked [220a]. The lower case assembly can then be removed. (Fig. 1)

Caution: Be sure to attach the removed filament tape just as it was before removal.



[210]: Bind Head Tapping Screw-B 3.0x8 MFZN2Y (EP600250)
[220]: Bind Head Tapping Screw-B 3.0x12 MFZN2Y (EP683000)

(Fig. 1)

2. Removing the Spring Terminal (+)/(—) and Spring Terminal

A. Spring Terminal (+)/(-)

2-1 Remove the Lower case assembly. (See procedure 1.)

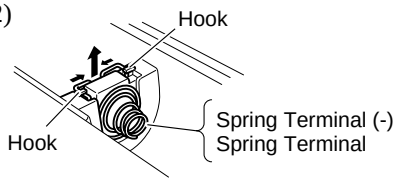
2-2 Remove the battery harness soldered to the spring terminal (+)/(–). (Fig. 2)

2-3 Remove the hooks (two at each place) and pull out the spring terminal (+)/(–). (Fig. 2-1)(Fig. 2-2)

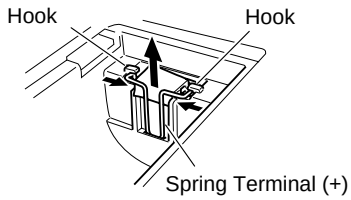
B. Spring Terminal

2-1 Remove the Lower case assembly. (See procedure 1.)

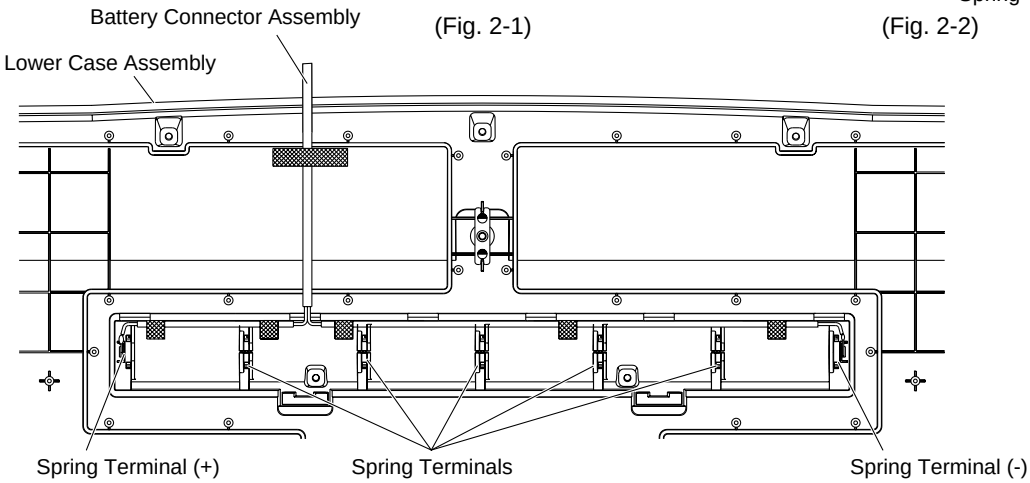
2-2 Remove spring terminal hooks (two at each place) and pull out the spring terminal. (Fig. 2-1)



(Fig. 2-1)



(Fig. 2-2)



(Fig. 2)

3. Speakers (Time Required: about 4 min)

3-1 Remove the lower case assembly. (See procedure 1.)
3-2 Remove the four (4) screws marked [230]. The speaker can then be removed. (Fig. 3)
* The right and left speaker can be removed in the same manner.

4. AM (AM1/4) Circuit Board
(Time Required: about 4 min)

4-1 Remove the lower case assembly. (See procedure 1.)
4-2 Remove the six (6) screws marked [200a]. The AM circuit board can then be removed. (Fig. 3)

5. JACK (AM2/4) Circuit Board
(Time Required: about 4 min)

5-1 Remove the lower case assembly. (See procedure 1.)
5-2 Remove the two (2) screws marked [200b]. The JACK circuit board can then be removed. (Fig. 3)

6. PSW (AM3/4) Circuit Board
(Time Required: about 4 min)

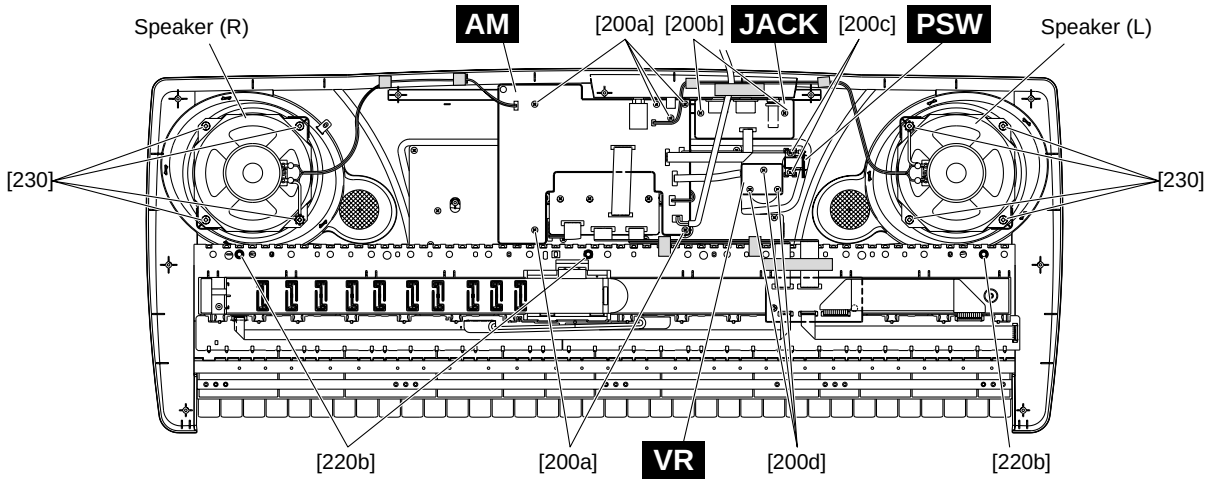
6-1 Remove the lower case assembly. (See procedure 1.)
6-2 Remove the two (2) screws marked [200c]. The PSW circuit board can then be removed. (Fig. 3)

7. VR (AM4/4) Circuit Board
(Time Required: about 4 min)

7-1 Remove the lower case assembly. (See procedure 1.)
7-2 Remove the MASTER VOLUME knob on the control panel.
7-3 Remove the three (3) screws marked [200d]. The VR circuit board can then be removed. (Fig. 3)

8. Keyboard Assembly
(Time Required: about 4 min)

8-1 Remove the lower case assembly. (See procedure 1.)
8-2 Remove the three (3) screws marked [220b]. The keyboard assembly can then be removed. (Fig. 3)



[200]: Bind Head Tapping Screw-B 3.0x8 MFZN2Y (EP600250)
[220]: Bind Head Tapping Screw-B 3x25 MFZN2Y (V8082900)
[230]: Bind Head Tapping Screw-B 4.0x8 MFZN2Y (EP640410)
(Fig. 3)

9. Speakers (Time Required: about 5 min)

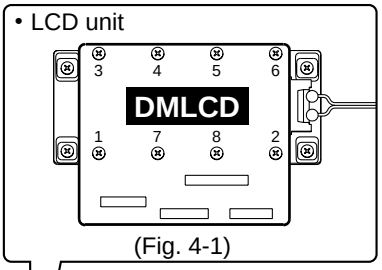
9-1 Remove the lower case assembly. (See procedure 1.)
9-2 Remove the AM circuit board. (See procedure 4.)
9-3 Remove the four (4) screws marked [200e]. The LCD unit can then be removed. (Fig. 4)

10. DMLCD Circuit Board
(Time Required: about 6 min)

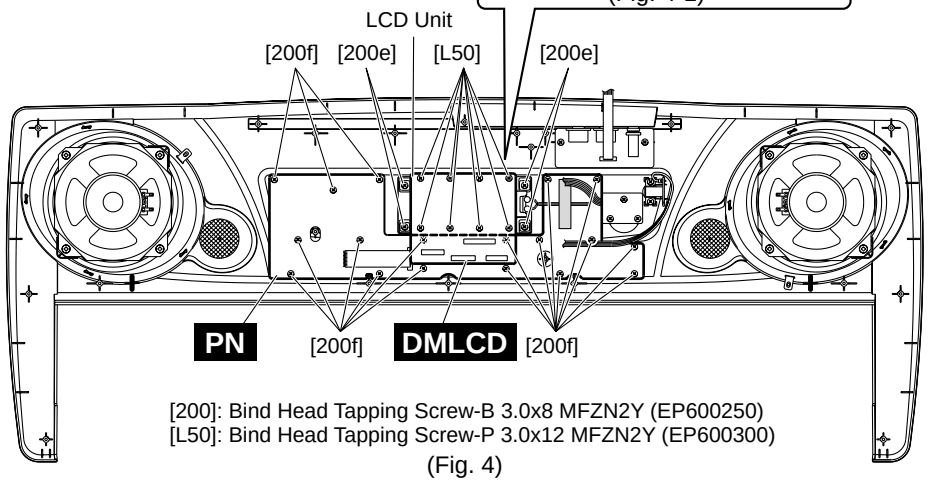
10-1 Remove the lower case assembly. (See procedure 1.)
10-2 Remove the AM circuit board. (See procedure 4.)
10-3 Remove the LCD unit. (See procedure 9.)
10-4 Remove the eight (8) screws marked [L50]. The DMLCD circuit board can then be removed. (Fig. 4)
* To install the DMLCD circuit board, fasten the screws in order of 1 to 8. (Fig. 4-1)

11. PN Circuit Board
(Time Required: about 9 min)

11-1 Remove the lower case assembly. (See procedure 1.)
11-2 Remove the AM circuit board. (See procedure 4.)
11-3 Remove the LCD unit. (See procedure 9.)
11-4 Remove the eighteen (18) screws marked [200f]. The PN circuit board can then be removed. (Fig. 4)



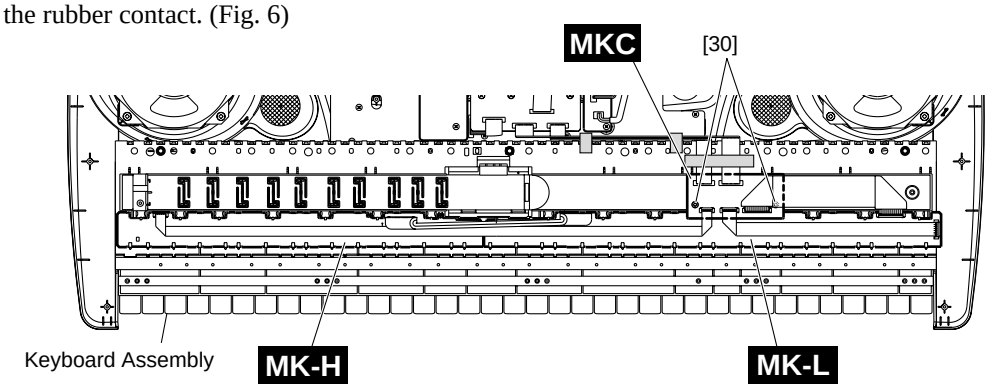
(Fig. 4-1)



[200]: Bind Head Tapping Screw-B 3.0x8 MFZN2Y (EP600250)
[L50]: Bind Head Tapping Screw-P 3.0x12 MFZN2Y (EP600300)
(Fig. 4)

12. Disassembling the keyboard assembly
(Time Required: about 9 min)

12-1 Remove the lower case assembly. (See procedure 1.)
12-2 Remove the keyboard assembly. (See procedure 8.)
12-3 Remove the two (2) screws marked [30]. The MKC circuit board can then be removed. (Fig. 5)
12-4 Remove the MK-H and MK-L circuit board while pressing the fifteen (15) hooks (A) inward, and then remove the rubber contact. (Fig. 6)
12-5 Remove the twenty-one (21) screws marked [140], then remove the black keys from the lower register. Afterward, remove the white keys DFA and C' and then remove the white keys CEFB from the higher register. At this time, lift the keys from the fromt and slide them towards you. The keys can then be removed from the assembly. (Fig. 7)

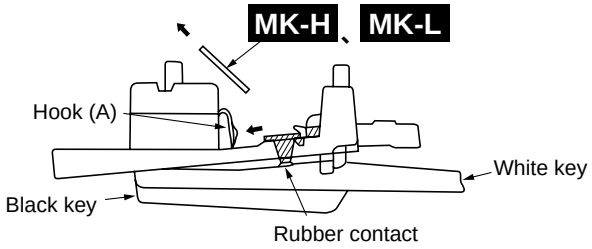


[30]: Bind Head Tapping Screw-P 3.0x8 MFZN2Y (EP600280)
[30]: Bind Head Tapping Screw-P 3.0x8 MFZN2Y (EP630220)
(Fig. 5)

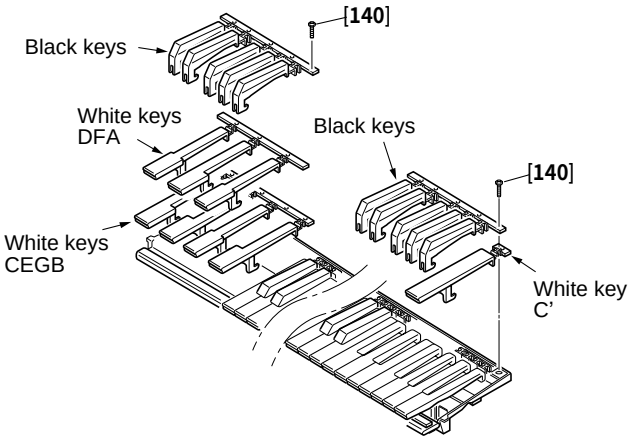
13. Assembling the Keyboard Assembly

(Time Required: about 5 min)

13-1 Install the white keys CEGB from the lower register, and then DFA keys and C' key. Afterwards install the black keys from the higher register, and tighten the twenty-one (21) screwa marked [140]. (Fig. 7)



(Fig. 6)

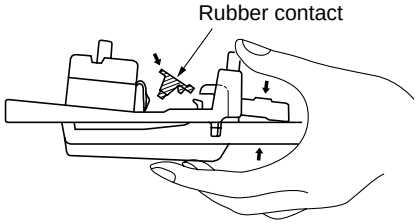


[140]: Bind Head Tapping Screw-P 3.0x16 MFZN2BL (VB205200)
[140]: Bind Head Tapping Screw-P 3.0x16 MFZN2B (VS756700)

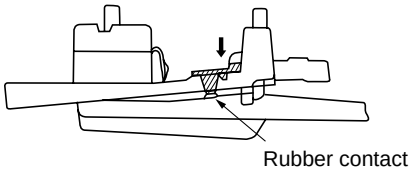
(Fig. 7)

13-2 Install the rubber contaacts in the assembly while pressing the keys as shown in Fig. 8. Check that the rubber contact has been firmly placed into posistion in the area indicated by the arrow in Fig. 9. (Fig. 8, 9)

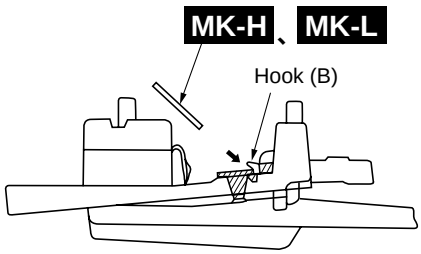
* When fitting the rubber contacts, raise both ends of the frame so that keys do not push the rubber contact up. Install the MK-H and MK-L circuit board in the assembly so that the hooks (B) hold it sa show in Fig 10.



(Fig. 8)



(Fig. 9)



(Fig. 10)

■ LSI PIN DESCRIPTION

• **YMW767-V** (X3271A00) **CPU & XG Lite Generator** DMLCD: IC601

PIN No.	NAME	I/O	FUNCTION	PIN No.	NAME	I/O	FUNCTION
1	VSS	-	Ground	65	VSS	-	Ground
2	TESTN	-	TEST Input (connect to a IOVDD)	66	IOVDD	-	Power Supply (+3.3V)
3	PLLBPN	-	PLL Bypass Select	67	LBN/LWRN/PF6	O	Memory Low Byte Enable
4	PLLVDD	-	Power Supply for PLL	68	UBN/UWRN/PF7	O	Memory Upper Byte Enable
5	CIN	-	Capacitor Connect Terminal for PLL	69	RDN/PF4	O	Memory Read Enable
6	PLLVSS	-	Ground for PLL	70	MD00	I/O	Memory Data Bus 0
7	TRSTN	I	JTAG Input	71	MD08	I/O	Memory Data Bus 8
8	TMS	I		72	MD01	I/O	Memory Data Bus 1
9	TCK	I		73	MD09	I/O	Memory Data Bus 9
10	TDI	I		74	MD02	I/O	Memory Data Bus 2
11	TDO	O	JTAG Output	75	MD10	I/O	Memory Data Bus 10
12	XI	I	Quartz Cristal Input	76	MD03	I/O	Memory Data Bus 3
13	XO	O	Quartz Cristal Output	77	VSS	-	Ground
14	VSS	-	Ground	78	MD11	I/O	Memory Data Bus 11
15	VDD	-	Power Supply (+2.5V)	79	MD04	I/O	Memory Data Bus 4
16	ICN	-	Hardware Reset	80	MD12	I/O	Memory Data Bus 12
17	ECSN	-	CPU I/F Chip Select	81	MD05	I/O	Memory Data Bus 5
18	EWRN/PD5	-	CPU I/F Write Enable	82	MD13	I/O	Memory Data Bus 13
19	ERDN/PD4	-	CPU I/F Read Enable	83	MD06	I/O	Memory Data Bus 6
20	EA3/PD3	I	CPU I/F Address Bus 3	84	MD14	I/O	Memory Data Bus 14
21	EA2/PD2	I	CPU I/F Address Bus 2	85	MD07	I/O	Memory Data Bus 7
22	EA1/PD1	I	CPU I/F Address Bus 1	86	MD15	I/O	Memory Data Bus 15
23	EA0/PD0	I	CPU I/F Address Bus 0	87	WRN/PF5	O	Memory Write Enable
24	IOVDD	-	Power Supply (+3.3V)	88	VSS	-	Ground
25	ED0/PC0	I/O	CPU I/F Data Bus 0	89	VDD	-	Power Supply (+2.5V)
26	ED1/PC1	I/O	CPU I/F Data Bus 1	90	IOVDD	-	Power Supply (+3.3V)
27	ED2/PC2	I/O	CPU I/F Data Bus 2	91	MA17	O	Memory Address Bus 17
28	ED3/PC3	I/O	CPU I/F Data Bus 3	92	MA16	O	Memory Address Bus 16
29	ED4/PC4	I/O	CPU I/F Data Bus 4	93	MA15	O	Memory Address Bus 15
30	ED5/PC5	I/O	CPU I/F Data Bus 5	94	MA14	O	Memory Address Bus 14
31	ED6/PC6	I/O	CPU I/F Data Bus 6	95	MA13	O	Memory Address Bus 13
32	ED7/PC7	I/O	CPU I/F Data Bus 7	96	MA12	O	Memory Address Bus 12
33	VSS	-	Ground	97	MA11	O	Memory Address Bus 11
34	IRQ0N/PH0	I	Interrupt Input	98	MA10	O	Memory Address Bus 10
35	TxD0	O	Serial Output 0	99	MA09	O	Memory Address Bus 9
36	RxD0	I	Serial Input 0	100	MA08	O	Memory Address Bus 8
37	TxD1/PG2	O	Serial Output 1	101	MA07	O	Memory Address Bus 7
38	RxD1/PH1	I	Serial Input 1	102	MA06	O	Memory Address Bus 6
39	SCLK1/PH2	I	Sync Clock Input	103	MA05	O	Memory Address Bus 5
40	SD0	O	Serial Output	104	VSS	-	Ground
41	SDI/PH3	I	Serial Input	105	MA04	O	Memory Address Bus 4
42	BCLK	O	Bit Clock Output	106	MA03	O	Memory Address Bus 3
43	WCLK/SY0	O	Word Clock Output	107	MA02	O	Memory Address Bus 2
44	SYSCLK/PG3	O	Clock Output	108	MA01	O	Memory Address Bus 1
45	VSS	-	Ground	109	CS0N/PG0	O	Memory Chip Select 0
46	VDD	-	Power Supply (+2.5V)	110	MA18	O	Memory Address Bus 18
47	IOVDD	-	Power Supply (+3.3V)	111	MA19	O	Memory Address Bus 19
48	PA0	I/O	I/O Port	112	MA21/PF1	O	Memory Address Bus 21
49	PA1	I/O		113	MA22/PF2	O	Memory Address Bus 22
50	PA2	I/O		114	MA20	O	Memory Address Bus 20
51	PA3	I/O		115	MA23/PF3	O	Memory Address Bus 23
52	PA4	I/O		116	CS1N/PG1	O	Memory Chip Select 1
53	PA5	I/O		117	MA00/PF0	O	Memory Address Bus 0
54	PA6	I/O		118	VSS	-	Ground
55	PA7	I/O		119	VDD	-	Power Supply (+2.5V)
56	VSS	-	Ground	120	IOVDD	-	Power Supply (+3.3V)
57	PB0	I/O	I/O Port	121	CS2N/PE0	O	Memory Chip Select 2
58	PB1	I/O		122	CS3N/PE1	O	Memory Chip Select 3
59	PB2	I/O		123	CS4N/CASN/PE2	O	Memory Chip Select 4
60	PB3	I/O		124	CS5N/PE3	O	Memory Chip Select 5
61	PB4	I/O		125	CS50RDN/PE4	O	Memory Read Enable
62	PB5	I/O		126	CS51WRN/PE5	O	Memory Write Enable
63	PB6	I/O		127	CS52WRN/PE6	O	
64	PB7/SYI	I/O		128	CS53WRN/RASN/PE7	O	

• ML9040A-B01GA (XZ987A00) LCD DRIVER

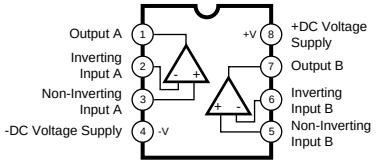
DMLCD: IC701

PIN No.	NAME	I/O	FUNCTION	PIN No.	NAME	I/O	FUNCTION
1	S22	O	Segment signal output for LCD driving	41	DB2	I/O	Data interface
2	S21	O		42	DB3	I/O	
3	S20	O		43	DB4	I/O	
4	S19	O		44	DB5	I/O	
5	S18	O		45	DB6	I/O	
6	S17	O		46	DB7	I/O	
7	S16	O		47	C1	O	Common signal output for LCD driving
8	S15	O		48	C2	O	
9	S14	O		49	C3	O	
10	S13	O		50	C4	O	
11	S12	O		51	C5	O	
12	S11	O		52	C6	O	
13	S10	O		53	C7	O	
14	S9	O		54	C8	O	
15	S8	O		55	C9	O	
16	S7	O		56	C10	O	
17	S6	O		57	C11	O	
18	S5	O		58	C12	O	
19	S4	O		59	C13	O	
20	S3	O		60	C14	O	
21	S2	O		61	C15	O	
22	S1	O		62	C16	O	
23	Vss		Ground	63	S40	O	Segment signal output for LCD driving
24	OSC1	I	Oscillator	64	S39	O	
25	OSC2	O	Oscillator	65	S38	O	
26	V1		Power Supply	66	S37	O	
27	V2			67	S36	O	
28	V3			68	S35	O	
29	V4			69	S34	O	
30	V5			70	S33	O	
31	CLK1	O	Data latch clock	71	S32	O	
32	CLK2	O	Data shift Cokel	72	S31	O	
33	Vdd		Power supply (+5V)	73	S30	O	
34	M	O	Altamated signal for LCD driver output	74	S29	O	
35	D	O	Display data interface	75	S28	O	
36	RS	I		76	S27	O	
37	R/W	I	Read/write	77	S26	O	
38	E	I	Enable	78	S25	O	
39	DB0	I/O	Data interface	79	S24	O	
40	DB1	I/O	Data interface	80	S23	O	

■ IC BLOCK DIAGRAM

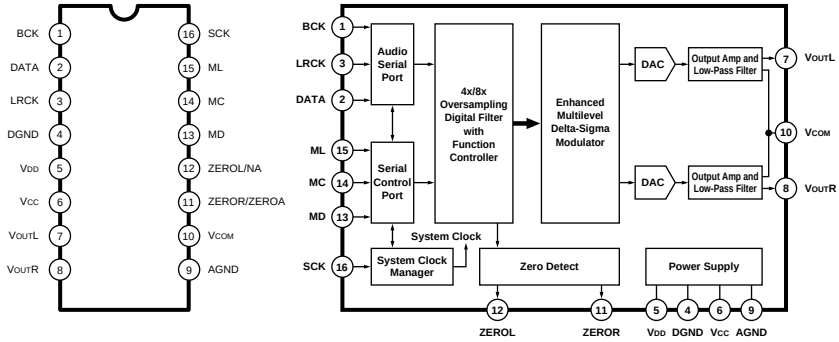
● **UPC4572G2-T1** (XF634A00)
Dual Operational Amplifier

DMLCD: IC503



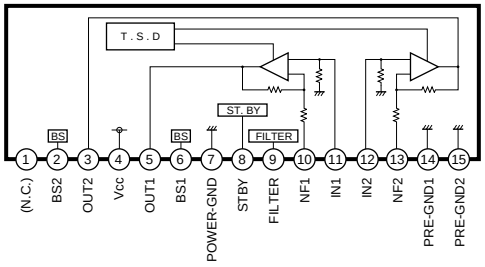
● **PCM1724KE/2K** (X3538A00)
DAC

DMLCD: IC504



● **BA5417** (XV771A00)
Power AMP

AM: IC401

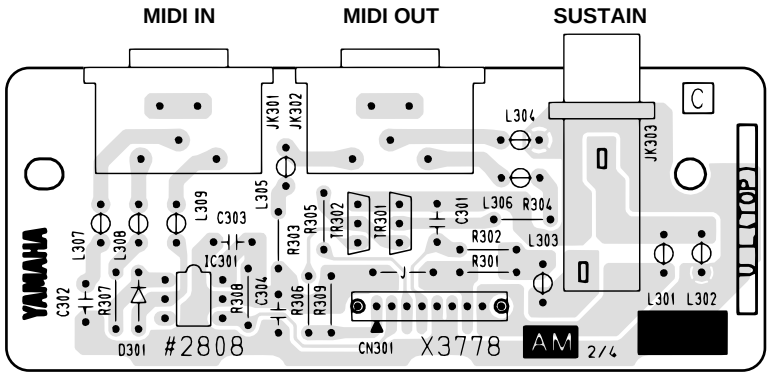


■ CIRCUIT BOARDS

CONTENTS

JACK Circuit Board (AM2/4)	(X3778C0)	..... 14 page
PSW Circuit Board (AM3/4)	(X3778C0)	..... 14 page
VR Circuit Board (AM4/4)	(X3778C0)	..... 14 page
DMLCD Circuit Board	(X3872C0)	..... 15 page
PN Circuit Board	(XY391B0)	..... 16 page
AM Circuit Board (AM1/4)	(X3778C0)	..... 18 page
MKC Circuit Board	(XV855A0)	..... 19 page
MK-L Circuit Board	(XR564B0)	..... 19 page
MK-H Circuit Board	(XR565B0)	..... 20 page

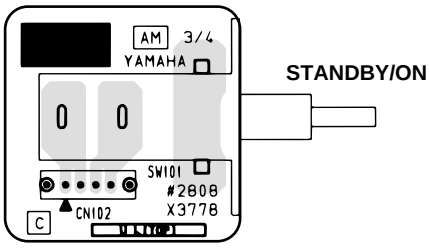
• JACK Circuit Board (AM 2/4)



to AM-CN105

Component side

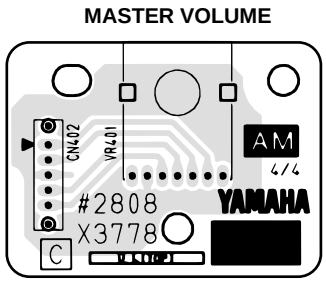
• PSW Circuit Board (AM 3/4)



to AM-CN101

Component side

• VR Circuit Board (AM 4/4)



to AM-CN401

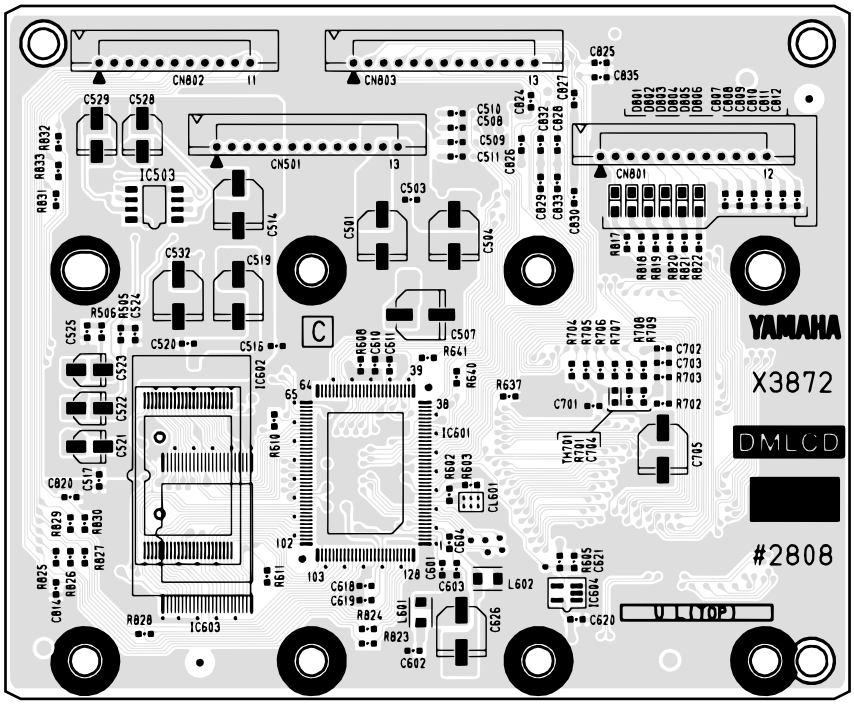
Component side

JACK: 2NA-WA47050 ⚠1
PSW: 2NA-WA47050 ⚠1
VR: 2NA-WA47050 ⚠1

• DMLCD Circuit Board

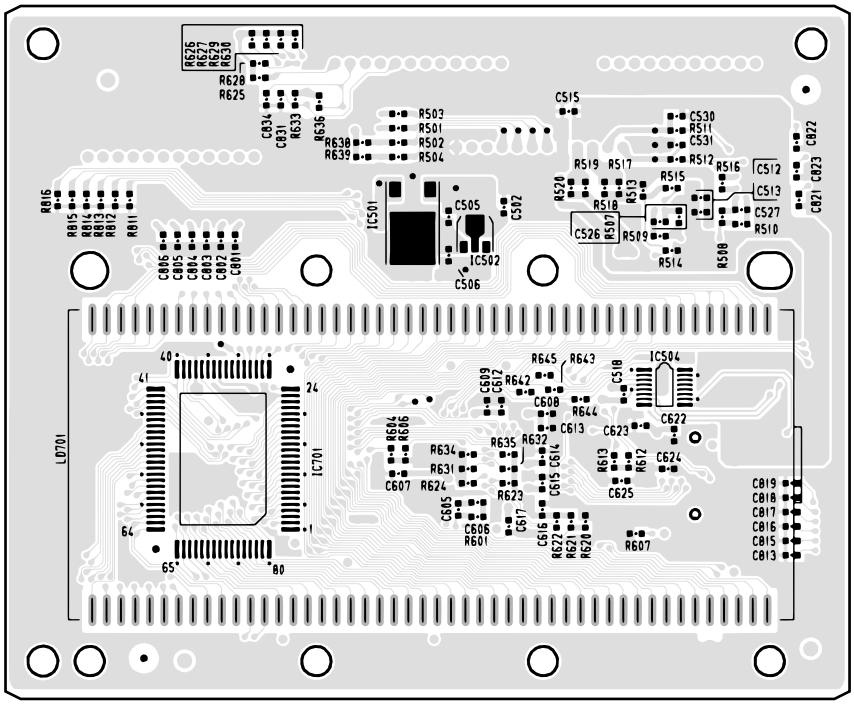
to AM-CN106

to MKC-CN2 to MKC-CN1



to PN-CN202

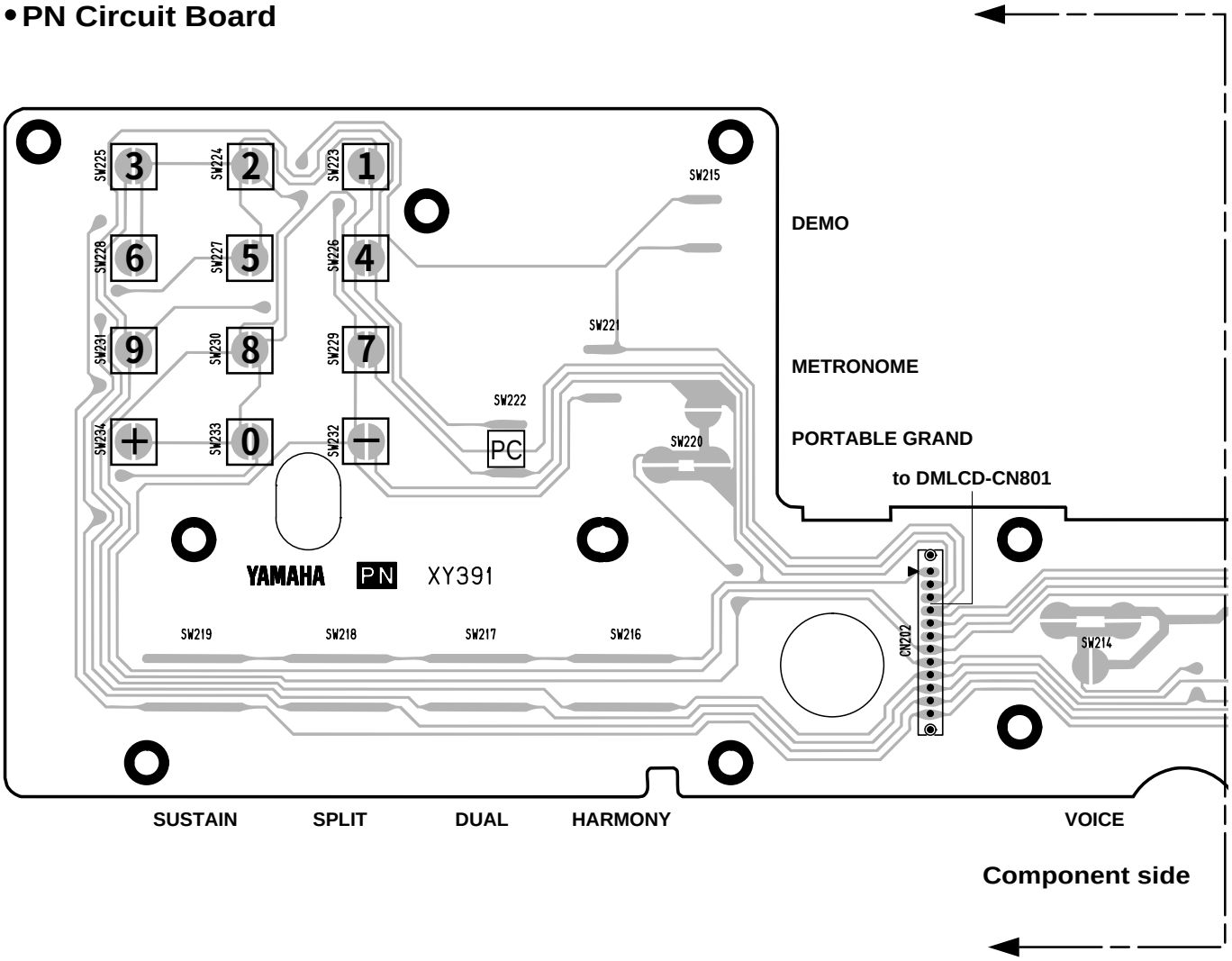
Component side

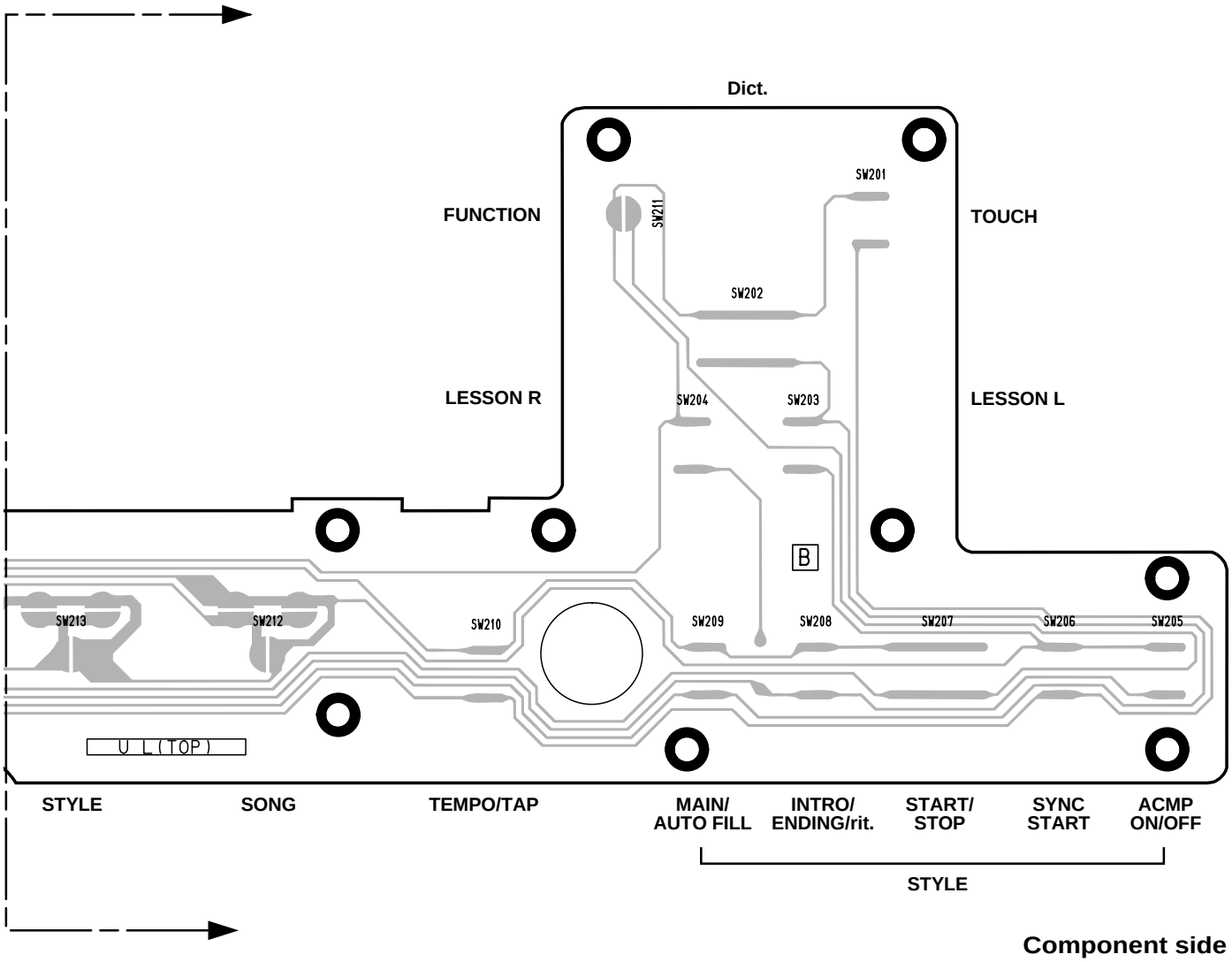


Pattern side

DMLCD: 2NA-WA47030 ①

• PN Circuit Board

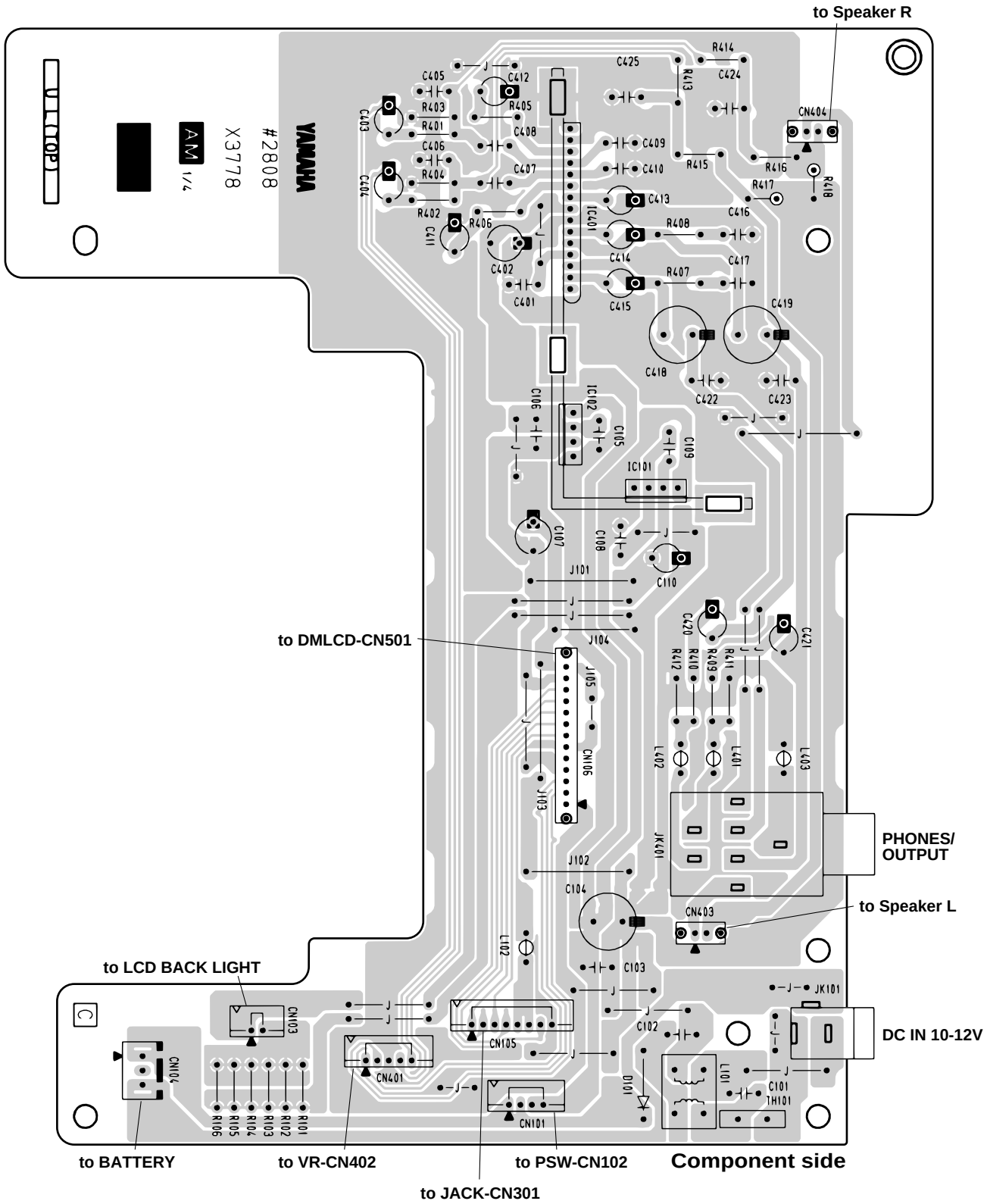




Component side

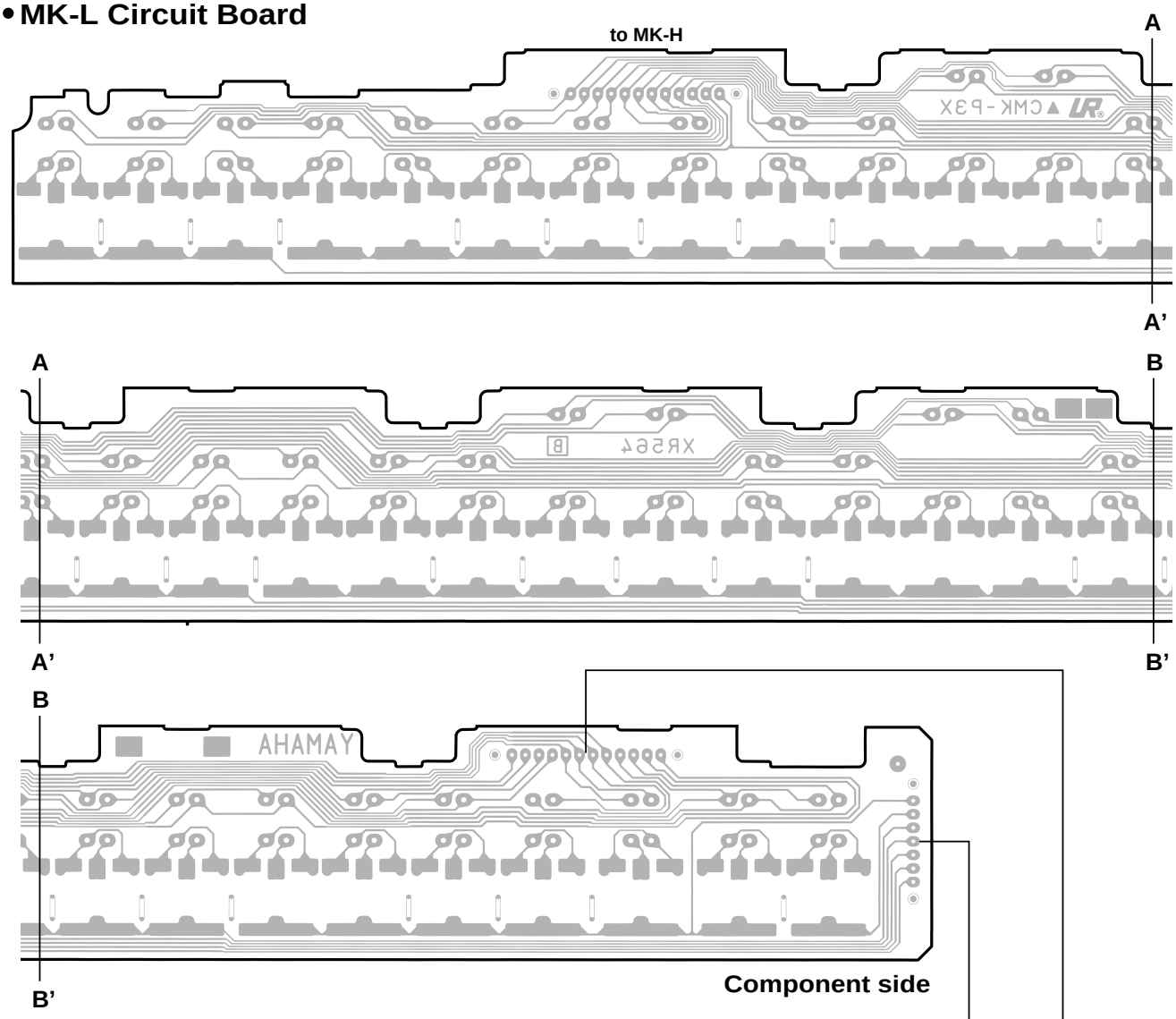
PN: 2NA-WA47120

• **AM Circuit Board** (AM 1/4)

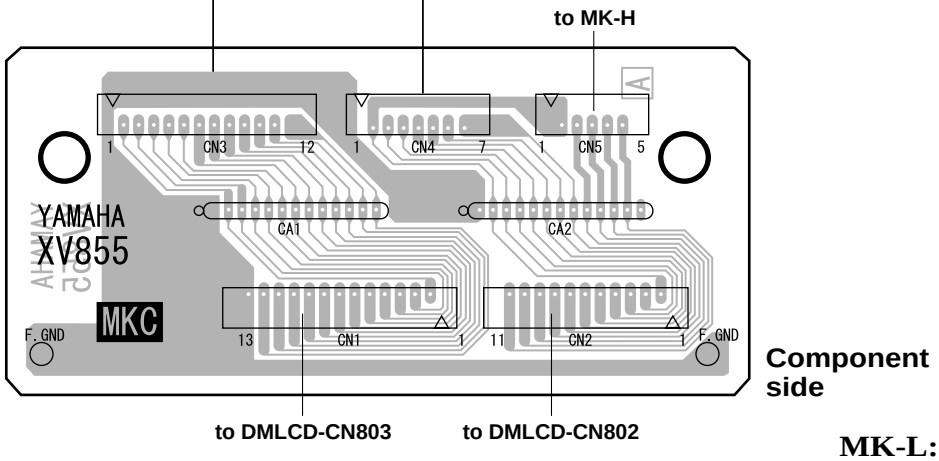


AM: 2NA-WA47050 1

• MK-L Circuit Board

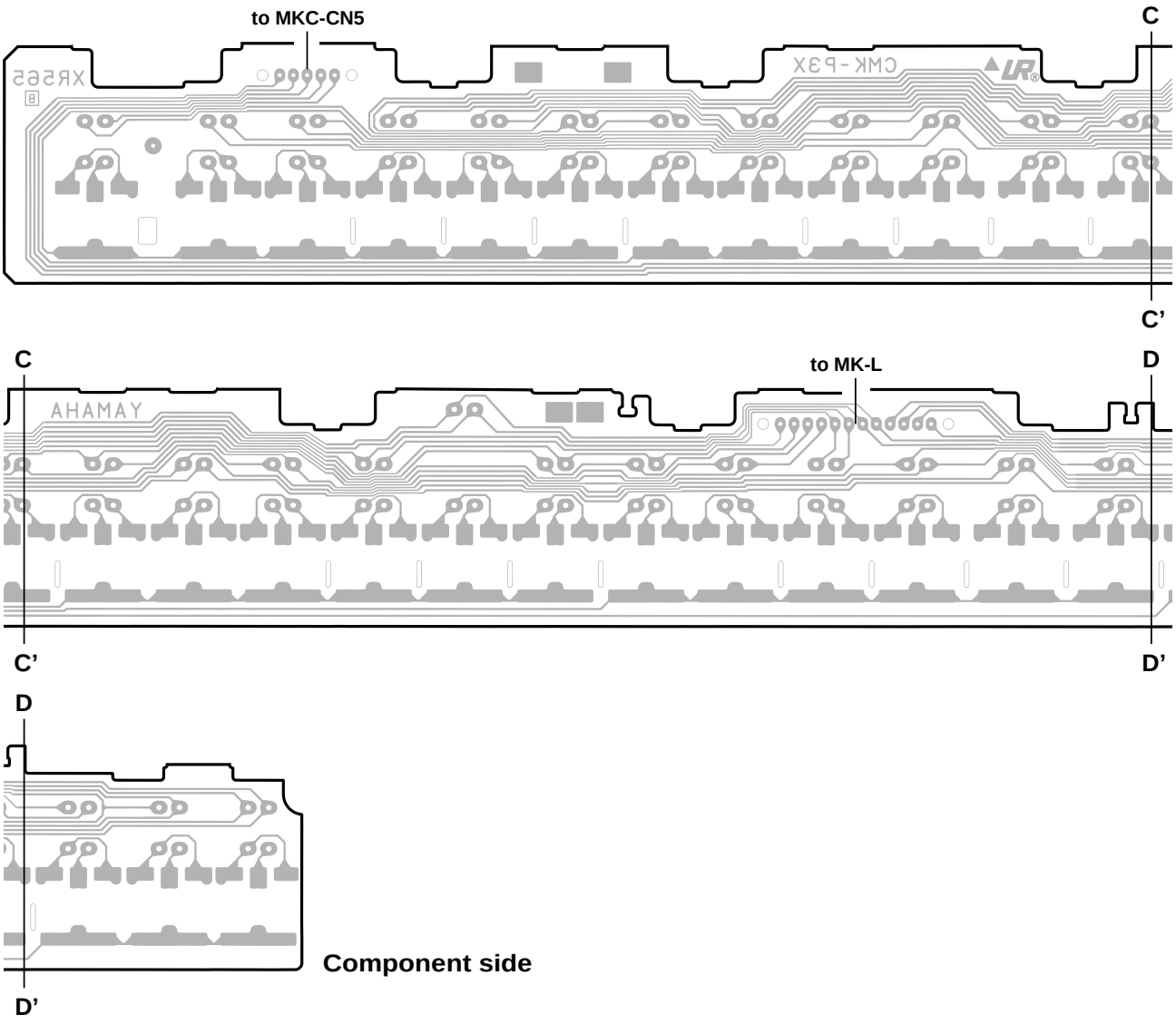


• MKC Circuit Board



MK-L: 2NA-VV58380
MKC: 2NA-V345830

• MK-L Circuit Board



MK-H: 2NA-VV583900

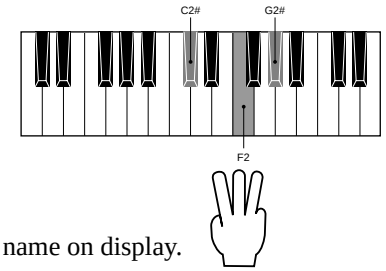
■ TEST PROGRAM

A.PREPARATION

1.PA-3C (AC adaptor) is used. (PA-32, PA-3B are utilizable)
2.The volume is usually moved to the use position when no volume change is required.
3.Measuring instruments: Frequency counter, Level meter (with a JIS-C filter)
Note: Use a stereo plug and connect the 33 ohm load to the [PHONES / OUTPUT] jack.
4.Jigs: Foot switch (FC-4, FC-5), MIDI cabel

B.HOW TO ENTER THE TEST PROGRAM

While pressing the C2#, F2 and G2# keys, turn on the [STAND BY / ON] switch.



C.PROCEEDING THROUGH THE TEST PROGRAM

1.When the test program is started, "TEST" appears on the LCD.
2.Select the test program item to be executed by pressing the [-/NO] or [+/YES] button.
3.Press the [START / STOP] button to execute testing.

- When the test result is OK, press the [START / STOP] button to return to the test item name on display. Proceed to the next test by pressing the [-/NO] or [+/YES] button.
- When the test result is NG, press the [DEMO] button or the lowest (leftmost) white key on the keyboard to return to the test item name on display.

D.TEST PROGRAM LIST

No.	LCD display	**Test Function and Judgment Criteria**
T1	001 Version	Displays ROM version ROM (program) version is displayed on the LCD. If the test result is NG, press the lowest (leftmost) key on the keyboard to execute the test.
T2	002 Rom Chk1	Checks the ROMs The test result appears on the LCD.
T3	003 Ram Chk1	Checks all the RAM The test result appears on the LCD.
T11	011 TG1 Chk	Outputs the sine wave by changing the channels in sequence from C2 to G4. Neither abnormal sound nor noise is allowed. After auto-scaling is finished, individual keys can be played. (If playing two or more keys simulataneously, the first pressed key has priority to make a sound.)
T13	013 Pit Chk	Connect the frequency counter to the [PHONES / OUTPUT] jack. Check that the 440 Hz +/- 1.76 Hz signal is output.
T14	014 Output R	Connect the level meter to the [PHONES / OUTPUT] jack. Set the [MASTER VOLUME] at maximum. Check the output level (1kHz). Phones L: less than -50.0 dBm Phones R: -6.5 dBm +/-2 dB
T15	015 Output L	Connect the level meter to the [PHONES / OUTPUT] jack. Set the [MASTER VOLUME] at maximum. Check the output level (1kHz). Phones L: -6.5 dBm +/-2 dB Phones R: less than -50.0 dBm
T19	019 Noise	Connect the level meter to the [PHONES / OUTPUT] jack. Set the [MASTER VOLUME] at maximum. PHONES R/L: less than -80.0 dBm

No.	LCD display	Test Function and Judgment Criteria
T20	020 SW Chk	Check switches on panel. Press the switches in order according to the display on the LCD (See below). Pressing the switch produces a specified sound. When the last switch is pressed, "SW OK" appears on the LCD. If the test is canceled half way press the lowest (leftmost) key on the keyboard.

No.	Display	SW Name	Note No.	No.	Display	SW Name	Note No.
1	Touch	TOUCH	C2	18	Tenkey 9	9	F3
2	Dict.	Dict.	C#2	19	Tenkey -	-	F#3
3	Lesson L	LESSON L	D2	20	Tenkey 0	0	G3
4	Lesson R	LESSON R	D#2	21	Tenkey +	+/YES	G#3
5	Function	FUNCTION	E2	22	Acmp	ACMP	A3
6	Demo	DEMO	F2	23	Sync Str	SYNC START	A#3
7	GrandPia	PORTABLE GRAND	F#2	24	Str/Stp	START/STOP	B3
8	Metro	METRONEME	G2	25	Int/End	INTRO/ENDING/rit	C4
9	Pc	PC	G#2	26	Main/Fil	MAIN/AUTO FILL	C#4
10	Tenkey 1	1	A2	27	Temp/TAP	TEMPO/TAP	D4
11	Tenkey 2	2	A#2	28	Song	SONG	D#4
12	Tenkey 3	3	B2	29	Style	STYLE	E4
13	Tenkey 4	4	C3	30	Voice	VOICE	F4
14	Tenkey 5	5	C#3	31	Harmony	HARMONY	F#4
15	Tenkey 6	6	D3	32	Dual	DUAL	G4
16	Tenkey 7	7	D#3	33	Split	SPLIT	G#4
17	Tenkey 8	8	E3	34	Sustain	SUSTAIN	A4

T28	028 LCD On	Check that all LCD dots are on.
T29	009 LCD Off	Check that all LCD dots are off.
T31	031 PD1 Chk	Connect the foot switch to the [FOOT SWITCH] jack. Check that the C3 note is output when starting the test program. Check that the C4 note is output when pushing the pedal and that tone is turned off when releasing the pedal. The test result appears on the LCD.
T37	037 MIDI Chk	After connecting the [MIDI IN] jack and [MIDI OUT] jack with a MIDI cable, execute the test. Check that the C4 note is output and that the test result appears on the LCD. If the test result is NG, press the lowest (leftmost) key on the keyboard to execute the test.
T41	041 ROM Chk2	Checks the ROM. The test result appears on the LCD. It will take 10 seconds, until being displayed.
T48	048 Test Exit	Exit from the test program after executing this test.

■ MIDI IMPLEMENTATION CHART

YAMAHA [Portable Keyboard] Date:29-Jan-2003
Model PSR-275/PSR-273 MIDI Implementation Chart Version : 1.0

Function...		Transmitted	Recognized	Remarks
Basic	Default	1 - 16	1 - 16 *1	
Channel	Changed	x	x	
Mode	Default	3	3	
	Messages	x	x	
	Altered	**********	x	
Note Number :	True voice	0 - 127 **********	0 - 127 0 - 127	
Velocity	Note ON	o 9nH,v=1-127	o 9nH,v=1-127	
	Note OFF	o 9nH,v=0	o 9nH,v=0 or 8nH	
After	Key's	x	x	
Touch	Ch's	x	x	
Pitch Bend		x *2	o	
Control Change	0,32	o	o	Bank Select
	1	x *2	o	Modulation wheel
	6	x *2	o	Data Entry(MSB)
	38	x	o	Data Entry(LSB)
	7	o	o	Part Volume
	10	o	o	Pan
	11	x *2	o	Expression
	64	o	o	Sustain
	71	x *2	o	Harmonic Content
	72	o *2	o	Release Time
	73	x *2	o	Attack Time
	74	x *2	o	Brightness
	84	x *2	o	Portamento Cntrl
	91,93	o	o	Effect 1,3 Depth
	94	x *2	o	Effect 4 Depth
	96,97	x	o	RPN Inc,Dec
	100,101	x *2	o	RPN LSB,MSB
Prog Change :	True #	o 0 - 127 **********	o 0 - 127	
System Exclusive		o *3	o *3	
Common	: Song Pos.	x	x	
	: Song Sel.	x	x	
	: Tune	x	x	
System Real Time	: Clock	o	o	
	: Commands	o *4	o *4	
Aux	:All Sound OFF	o	o(120,126,127)	
	:Reset All Cntrls	x	o(121)	
	:Local ON/OFF	x	o(122) *5	
	:All Notes OFF	x	o(123-125)	
Mes- sages	:Active Sense	o	o	
	:Reset	x	x	

Mode 1 : OMNI ON , POLY Mode 2 : OMNI ON ,MONO o : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF,MONO x : No

NOTE:

**1 By default (factory settings) the PSR-275/273 ordinarily functions as a 16-channel multi-timbral tone generator, and incoming data does not affect the panel voices or panel settings. However, the MIDI messages listed below do affect the panel voices, auto accompaniment, and songs.*

- *MIDI Master Tuning*
- *System exclusive messages for changing the Reverb Type and Chorus Type.*

**2 Messages for these control change numbers cannot be transmitted from the PSR-275/273 itself. However, they may be transmitted when playing the accompaniment, song or using the Harmony effect.*

**3 Exclusive*

<GM System ON> F0H, 7EH, 7FH, 09H, 01H, F7H

- *This message automatically restores all default settings for the instrument, with the exception of MIDI Master Tuning.*

<MIDI Master Volume> F0H, 7FH, 7FH, 04H, 01H, ll, mm, F7H

- *This message allows the volume of all channels to be changed simultaneously (Universal System Exclusive).*
- *The values of "mm" is used for MIDI Master Tuning. (Values for "ll" are ignored.)*

<MIDI Master Tuning> F0H, 43H, 1nH, 27H, 30H, 00H, 00H, mm, ll, cc, F7H

- *This message simultaneously changes the tuning value of all channels.*
- *The values of "mm" and "ll" are used for MIDI Master Tuning.*
- *The default value of "mm" and "ll" are 08H and 00H, respectively. Any values can be used for "n" and "cc."*

<Reverb Type> F0H, 43H, 1nH, 4CH, 02H, 01H, 00H, mmH, llH, F7H

- *mm : Reverb Type MSB*
- *ll : Reverb Type LSB*

Refer to the Effect Map (page 69) for details.

<Chorus Type> F0H, 43H, 1nH, 4CH, 02H, 01H, 20H, mmH, llH, F7H

- *mm : Chorus Type MSB*
- *ll : Chorus Type LSB*

Refer to the Effect Map (page 69) for details.

**4 When the accompaniment is started, an FAH message is transmitted. When accompaniment is stopped, an FCH message is transmitted.When the clock is set to External, both FAH (accompaniment start) and FCH (accompaniment stop) are recognized.*

**5 Local ON/OFF*

<Local ON> Bn, 7A, 7F
<Local OFF> Bn, 7A, 00
Value for "n" is ignored.

PORTATONE
PSR-273/PSR-275

PARTS LIST

■ CONTENTS

OVERALL ASSEMBLY 2
KEYBOARD ASSEMBLY 4
ELECTRICAL PARTS 6

Notes: DESTINATION ABBREVIATIONS

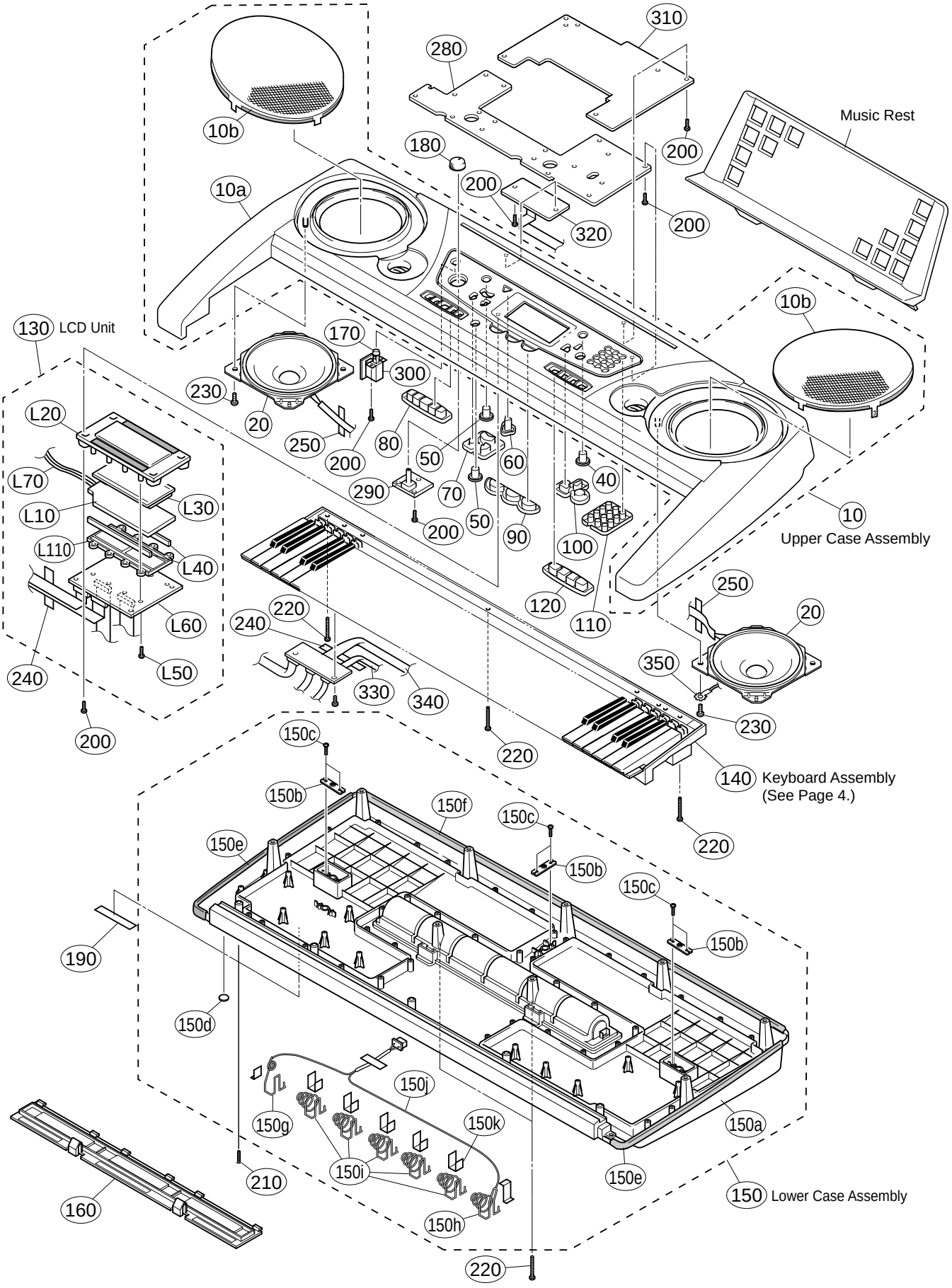
A: Australian model	J: Japanese model
B: British model	U: U.S.A. model
C: Canadian model	V: General export model (110V)
E: European model	W: General export model (220V)
H: North European model	X: General export model
I: Indonesian model	Y: Export model

- The numbers in “QTY” show quantities for each unit.
- The parts with “--” in “Parts No.” are not available as spare parts.
- The mark “ } ” in the remarks column indicates that these parts are interchangeable.
- The second letter of the shaded ( ) part number is I, not one.

■ WARNING

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

■ OVERALL ASSEMBLY

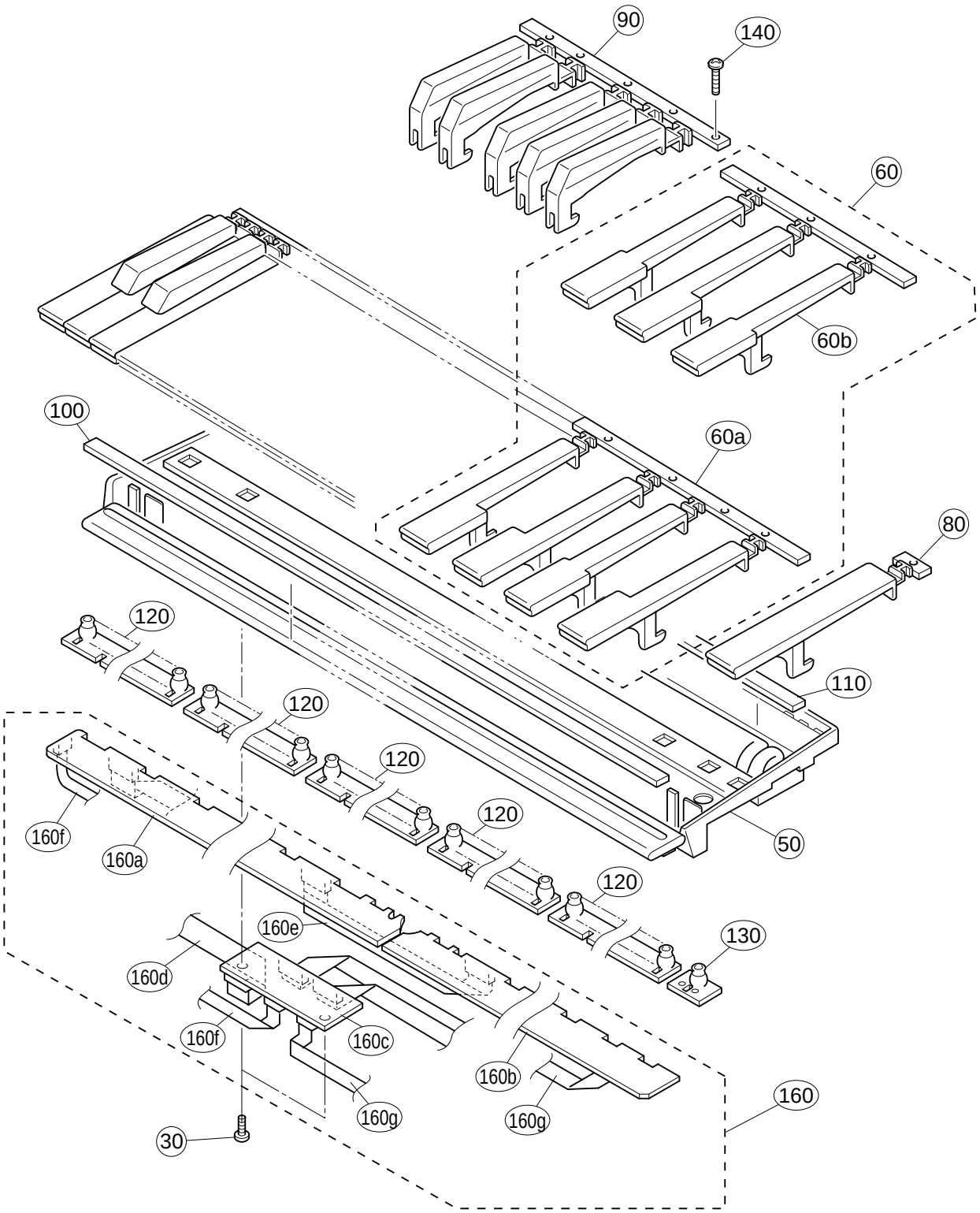


	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
			OVERALL ASSEMBLY			PSR-273/275		
		--	Overall Assembly	FE		PSR-273 (WA06620)		
		--	Overall Assembly	FE		PSR-275 (WA06610)		
*	10	**WA078500**	Upper Case Assembly			PSR-273		
*	10	**WA078400**	Upper Case Assembly			PSR-275		
	10a	**--**	Upper Case			(WA07960)		
*	10b	**V9427100**	Speaker Grille				2	
*	20	**X3805A00**	Speaker	12.0cm 4ohm 3W			2	
*	40	**WA327800**	Rubber Contact	PN		DEMO		
*	50	**WA327900**	Rubber Contact	PN		TOUCH, TEMPO/TAP	2	
*	60	**WA328000**	Rubber Contact	PN		FUNCTION		
*	70	**WA328100**	Rubber Contact	PN		Dict., L, R		
*	80	**WA328400**	Rubber Contact	PN		ACMP ON/OFF, SYNC START, START/STOP, INTRO/ENDING/rit., MAIN/AUTO FILL		
*	90	**WA328600**	Rubber Contact	PN		SONG, STYLE, VOICE		
*	100	**WA328700**	Rubber Contact	PN		METRONOME, PORTABLE GRAND, PC		
*	110	**WA334700**	Rubber Contact	PN		1-9, 0, +, -		
*	120	**WA328900**	Rubber Contact	PN		HARMONY, DUAL, SPLIT, SUSTAIN		
	130	**--**	LCD Unit	03A		(WA08390)		
*	140	**WB120900**	Keyboard Assembly	16M C61 P2M				
*	150	**WA079000**	Lower Case Assembly					
	150a	**--**	Lower Case			(WA07880)		
	150b	**VI104400**	Plate, Leg	CH			3	
	150c	**EP600250**	Bind Head Tapping Screw-B	3.0X8 MFZN2Y			6	01
	150d	**CB043750**	Foot Black	T1.6			5	01
	150e	**--**	Cushion	PE 360X15X1.0		(V642100)	2	
	150f	**--**	Cushion	PE 885X15X1.0		(V642110)		
	150g	**V7060500**	Spring Terminal	+				01
	150h	**V7060700**	Spring Terminal	-				01
	150i	**V7060200**	Spring Terminal				5	01
	150j	**--**	Connector Assembly	BATT		(WA62800)		
	150k	**VA126100**	Adhesive Tape	12X50			5	03
	160	**V9259700**	Battery Caver Assembly	PT				03
	170	**VQ218800**	Knob			STANDBY/ON		03
	180	**V8361300**	Knob	VOLUME		MASTER VOLUME		01
	190	**--**	Lavel	FE		(WA07770)		
	200	**EP600250**	Bind Head Tapping Screw-B	3.0X8 MFZN2Y			36	01
	210	**VE683000**	Bind Head Tapping Screw-B	3.0X12 MFZN2Y			14	01
	220	**V8082900**	Bind Head Tapping Screw-B	3X25 MFZN2Y			5	
	230	**EP640410**	Bind Head Tapping Screw-B	4.0X8 MFZN2Y			8	01
	240	**--**	Adhesive Tape	12X90		(V591240)	3	
	250	**VA126100**	Adhesive Tape	12X50			6	03
*	280	**WA471200**	Circuit Board	PN		(XY391B0)		
*	290	**WA470700**	Circuit Board	VR		(WA47050)(X3778C0)		
*	300	**WA471000**	Circuit Board	PSW		(WA47050)(X3778C0)		
*	310	**WA470800**	Circuit Board	AM		(WA47050)(X3778C0)		
*	320	**WA471100**	Circuit Board	JACK		(WA47050)(X3778C0)		
*	330	**WA627700**	Connector Assembly	MK1				
*	340	**WA627800**	Connector Assembly	MK2				
	350	**--**	Wiring Assembly	SF		(WB76720)	2	
		--	LCD Unit			(WA08390)		
	L10	**V5264900**	Back Light Assembly	A PT				07
	L20	**V5339000**	Panel	LCD TYPE-A				01
*	L30	**WA266900**	LCD	TTR7399 TYPE-03A				
	L40	**V7838000**	Rubber Connector	ZTT-410			2	03
	L50	**EP600300**	Bind Head Tapping Screw-P	3.0X12 MFZN2Y			8	01
*	L60	**WA470400**	Circuit Board	DMLCD		(WA47030)(X3872C0)		
*	L70	**WA627500**	Connector Assembly	B-L				
	L110	**V7172300**	Holder, LCD	BL				01
			ACCESSORIES					
*		**WA293000**	Music Rest					
⚠		**V8028600**	AC Adapter	PA-3C J		PSR-275 J		
⚠		**VY944300**	AC Adapter	PA-32 CH		PSR-275 CHN		10
*		**X4089A00**	CD-ROM	#2814/#2808 J		PSR-275 J		
*		**WA075300**	Sheet			PSR-275 J		
*		**WA075500**	Sheet			PSR-275 CHN		

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■ KEYBOARD ASSEMBLY



	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
			KEYBOARD ASSEMBLY			PSR-273/275		
*		**WB120900**	Keyboard Assembly	16M C61 P2M				
	30	**EP600280**	Bind Head Tapping Screw-P	3.0X8 MFZN2Y		}	2	01
	30	**EP630220**	Bind Head Tapping Screw-P	3.0X8 MFZN2BL		}	2	01
	50	**--**	Frame	C61		} (VS15380)		
	50	**VU328600**	Frame	C61 16M		}		10
*	50	**V6760900**	Frame	C61 16M,L		}		
	60	**VH1809D0**	White Key	16L CEGBDFA			5	05
	60a	**--**	White Key	16L CEGB		(VH18090)	5	
	60b	**--**	White Key	16L DFA		(VH18100)	5	
	80	**VH181100**	White Key	16L C'				01
	90	**VH181200**	Black Key	16L #			5	03
	100	**VH181300**	Felt					03
	110	**VH181400**	Rubber Sheet			}		01
	110	**WA525100**	Cushion Sheet	829		}		01
	120	**VU328400**	Rubber Contact	16M OCT 2M 12KEYS			5	06
	130	**VU328500**	Rubber Contact	16M C' 2M 1KEY				05
	140	**VB205200**	Bind Head Tapping Screw-P	3.0X16 MFZN2BL		}	21	01
	140	**VS756700**	Bind Head Tapping Screw-P	3.0X16 MFZN2B		}	21	01
	150	**VE968500**	Grease	G-31KA		1kg		38
	160	**--**	Circuit Board Assembly	SW MKCTY		(WB12110)		
	160a	**VV583800**	Circuit Board	MK-L		(VV58470)(XR564C0)		09
	160b	**VV583900**	Circuit Board	MK-H		(VV58480)(XR565C0)		09
*	160c	**WB120400**	Circuit Board	MKC		(WB12030)(XV855A0)		
	160d	**VV583100**	Cable	12P				03
	160e	**VV583600**	Cable	12P				03
	160f	**VV583500**	Cable	7P				03
	160g	**VV583700**	Cable	5P				03
	160h	**--**	Sponge	A		(VV61890)	2	
	160i	**--**	Sponge	B		(VV61900)	2	
	160j	**--**	Adhesive Tape	C 12		(VV61910)		
	160k	**--**	Adhesive Tape	D 12		(VV61920)	3	
	180	**VA126100**	Adhesive Tape	12X50			4	03

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■ ELECTRICAL PARTS

	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
			ELECTRICAL PARTS			PSR-273/275		
*		**WA470800**	Circuit Board	AM		(WA47050)(X3778C0)		
*		**WA471100**	Circuit Board	JACK		(WA47050)(X3778C0)		
*		**WA471000**	Circuit Board	PSW		(WA47050)(X3778C0)		
*		**WA470700**	Circuit Board	VR		(WA47050)(X3778C0)		
*		**WA470400**	Circuit Board	DMLCD		(WA47030)(X3872C0)		
		VV583800	Circuit Board	MK-L		(VV58470)(XR564C0)		09
		VV583900	Circuit Board	MK-H		(VV58480)(XR565C0)		09
*		**WB120400**	Circuit Board	MKC		(WB12030)(XV855A0)		
*		**WA471200**	Circuit Board	PN		(XY391B0)		
*		**WA470800**	Circuit Board	AM		AM1/4 (WA47050)(X3778C0)		
*		**WA471100**	Circuit Board	JACK		AM2/4 (WA47050)(X3778C0)		
*		**WA471000**	Circuit Board	PSW		AM3/4 (WA47050)(X3778C0)		
*		**WA470700**	Circuit Board	VR		AM4/4 (WA47050)(X3778C0)		
		EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL				01
		--	Jumper Wire	0.55		(VA07890)		
	C0103	**VC694800**	Semiconductive Cera. Cap.	0.1000 25V Z				01
	C0104	**UR849100**	Electrolytic Cap.	1000 25.0V				01
	C0108	**VC694800**	Semiconductive Cera. Cap.	0.1000 25V Z				01
	C0109	**VC694800**	Semiconductive Cera. Cap.	0.1000 25V Z				01
	C0110	**UR828100**	Electrolytic Cap.	100.00 10.0V				01
	C0301	**UA353100**	Mylar Capacitor	1000P 50V J				01
	C0302	**FG644100**	Electrolytic Cap.	0.0100 50V Z				01
	C0303	**VD930900**	Semiconductive Cera. Cap.	0.1000 25V M				01
	C0304	**VD930900**	Semiconductive Cera. Cap.	0.1000 25V M				01
	C0401	**VC694800**	Semiconductive Cera. Cap.	0.1000 25V Z				01
	C0402	**UR847100**	Electrolytic Cap.	10.00 25.0V				01
	C0403	**UR866100**	Electrolytic Cap.	1.00 50.0V				01
	C0404	**UR866100**	Electrolytic Cap.	1.00 50.0V				01
	C0405	**UA353180**	Mylar Capacitor	1800P 50V J				01
	C0406	**UA353180**	Mylar Capacitor	1800P 50V J				01
	C0407	**VU838100**	Monolithic Mylar Capacitor	1.0000 50V J				
	C0408	**VU838100**	Monolithic Mylar Capacitor	1.0000 50V J				
	C0409	**FG612470**	Ceramic Capacitor-B	470P 50V K				01
	C0410	**FG612470**	Ceramic Capacitor-B	470P 50V K				01
	C0411	**UR837470**	Electrolytic Cap.	47.00 16.0V				01
	-0413	**UR837470**	Electrolytic Cap.	47.00 16.0V				01
	C0414	**UR838100**	Electrolytic Cap.	100.00 16.0V				01
	C0415	**UR838100**	Electrolytic Cap.	100.00 16.0V				01
	C0416	**VR167000**	Monolithic Mylar Capacitor	ECQ-V1H154JLW				01
	C0417	**VR167000**	Monolithic Mylar Capacitor	ECQ-V1H154JLW				01
	C0418	**UR839100**	Electrolytic Cap.	1000 16.0V				01
	C0419	**UR839100**	Electrolytic Cap.	1000 16.0V				01
	C0420	**UR837470**	Electrolytic Cap.	47.00 16.0V				01
	C0421	**UR837470**	Electrolytic Cap.	47.00 16.0V				01
	C0422	**UA353100**	Mylar Capacitor	1000P 50V J				01
	C0423	**UA353100**	Mylar Capacitor	1000P 50V J				01
	CN101	**VK024800**	Wire Trap	52147 4P TE				01
	CN102	**VI878200**	Cable Holder	51048 4P TE				01
	CN103	**VK024600**	Wire Trap	52147 2P TE				01
	CN104	**LB918030**	Base Post Connector	XH 3P TE				01
	CN105	**VK025200**	Wire Trap	52147 8P TE				01
	CN106	**VI879100**	Cable Holder	51048 13P TE				01
	CN301	**VI878600**	Cable Holder	51048 8P TE				01
	CN401	**VK024900**	Wire Trap	52147 5P TE				01
	CN402	**VI878300**	Cable Holder	51048 5P TE				01
	CN403	**VI878000**	Cable Holder	51048 2P TE				01
	CN404	**VI878000**	Cable Holder	51048 2P TE				01
⚠	D0101	**VL723600**	Diode	20E1-FC4		}		01
⚠	D0101	**VV731400**	Diode	2A02M		}		01
⚠	D0101	**VY717100**	Diode	LT2A02-E		}		01
⚠ *	D0101	**V8603100**	Diode	2A02GM		}		
	D0301	**VB941200**	Diode	1SS133,1SS176				01
	IC101	**XU814A00**	IC	PQ05RD11		REGULATOR +5V		03
	IC301	**VG181900**	Photo Coupler	PC-900V				03
*	IC301	**WA645200**	Photo Coupler	PC-900V0NSZX				
	IC401	**XV771A00**	IC	BA5417		POWER AMP 5.0W 2CH		03
	J101	**--**	Jumper Wire	0.55		(VA07890)		
*	J104	**VT279200**	Coil	FL5R200QN 20uH				
	J105	**--**	Jumper Wire	0.55		(VA07890)		
⚠	JK101	**LB302260**	Connector	HEC0470-01-630		} DC IN 10-12V		02
⚠	JK101	**V6557600**	Connector	HTJ-020-05AZ		} DC IN 10-12V		04
	JK301	**VJ107200**	DIN Connector	5P YKF51-5050		MIDI IN		01
	JK302	**VJ107200**	DIN Connector	5P YKF51-5050		MIDI OUT		01

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	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
	JK303	**VC687500**	Phone Jack	YKB21-5014		SUSTAIN		01
	JK401	**LB101870**	Phone Jack	YKB21-5006		PHONES/OUTPUT		03
	K0401	--	Heat Sink			(WA32910)		
*	L0102	**VT279200**	Coil	FL5R200QN 20uH				
*	L0301	**VT279200**	Coil	FL5R200QN 20uH				
*	-0309	**VT279200**	Coil	FL5R200QN 20uH				
*	L0401	**VT279200**	Coil	FL5R200QN 20uH				
*	-0403	**VT279200**	Coil	FL5R200QN 20uH				
	R0101	**HF755220**	Carbon Resistor	220.0 1/4 J				01
	-0106	**HF755220**	Carbon Resistor	220.0 1/4 J				01
	R0301	**HF457470**	Carbon Resistor	47.0K 1/4 J				01
	R0302	**HF756100**	Carbon Resistor	1.0K 1/4 J				01
	R0303	**HF754470**	Carbon Resistor	47.0 1/4 J				01
	R0304	**HF754470**	Carbon Resistor	47.0 1/4 J				01
	R0305	**HF756470**	Carbon Resistor	4.7K 1/4 J				01
	R0306	**HF757220**	Carbon Resistor	22.0K 1/4 J				01
	R0307	**HF755220**	Carbon Resistor	220.0 1/4 J				01
	R0308	**HF756100**	Carbon Resistor	1.0K 1/4 J				01
	R0309	**HF757100**	Carbon Resistor	10.0K 1/4 J				01
	R0401	**HF757150**	Carbon Resistor	15.0K 1/4 J				01
	R0402	**HF757150**	Carbon Resistor	15.0K 1/4 J				01
	R0403	**HF756560**	Carbon Resistor	5.6K 1/4 J				01
	R0404	**HF756560**	Carbon Resistor	5.6K 1/4 J				01
	R0405	**HF755470**	Carbon Resistor	470.0 1/4 J				01
	R0406	**HF755470**	Carbon Resistor	470.0 1/4 J				01
	R0407	**HF753220**	Carbon Resistor	2.2 1/4 J				01
	R0408	**HF753220**	Carbon Resistor	2.2 1/4 J				01
	R0409	**HF755100**	Carbon Resistor	100.0 1/4 J				01
	R0410	**HF755100**	Carbon Resistor	100.0 1/4 J				01
	R0411	**HF755330**	Carbon Resistor	330.0 1/4 J				01
	R0412	**HF755330**	Carbon Resistor	330.0 1/4 J				01
	R0417	--	Jumper Wire	0.55		(VA07890)		
	R0418	--	Jumper Wire	0.55		(VA07890)		
⚠	SW101	**VY980400**	Push Switch	SDDLB1 J,UC,CEE		STANDBY/ON		03
⚠	TH101	**VV458000**	Poly Switch	RUE250 2.50A 30V				03
	TR301	**IC174070**	Transistor	2SC1740S R,S				01
	TR302	**IC174070**	Transistor	2SC1740S R,S				01
	VR401	**VZ048400**	Rotary Variable Resistor	A10K XV0141GPVN20F		MASTER VOLUME		02
	WH101	--	Connector Assembly	STAN		(WA62730)		
	WH105	--	Connector Assembly	MIDI		(WA62660)		
	WH106	--	Connector Assembly	5D		(WA62950)		
	WH401	--	Connector Assembly	VOL		(WA62740)		
	WH403	--	Connector Assembly	SPL		(WA62790)		
	WH404	--	Connector Assembly	SPR		(WA85480)		
*		**WA470400**	Circuit Board	DMLCD		(WA47030)(X3872C0)		
	C0501	**UF028100**	Electrolytic Cap. (chip)	100 10V				01
	C0502	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0503	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0504	**UF028100**	Electrolytic Cap. (chip)	100 10V				01
	C0505	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0506	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0507	**UF028100**	Electrolytic Cap. (chip)	100 10V				01
	C0508	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J				01
	-0511	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J				01
	C0512	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0513	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0514	**UF028100**	Electrolytic Cap. (chip)	100 10V				01
	C0515	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	-0518	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0519	**UF028100**	Electrolytic Cap. (chip)	100 10V				01
	C0520	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0521	**UF037100**	Electrolytic Cap. (chip)	10 16V				01
	-0523	**UF037100**	Electrolytic Cap. (chip)	10 16V				01
	C0524	**US063150**	Ceramic Capacitor-B (chip)	1500P 50V K				01
	C0525	**US063150**	Ceramic Capacitor-B (chip)	1500P 50V K				01
	C0526	**US062470**	Ceramic Capacitor-SL(chip)	470P 50V J				01
	C0527	**US062470**	Ceramic Capacitor-SL(chip)	470P 50V J				01
	C0528	**UF066470**	Electrolytic Cap. (chip)	4.7 50V				01
	C0529	**UF066470**	Electrolytic Cap. (chip)	4.7 50V				01
	C0530	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J				01
	C0531	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J				01
	C0532	**UF028100**	Electrolytic Cap. (chip)	100 10V				01
	C0601	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	-604	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01

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	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
	C0605	**US062220**	Ceramic Capacitor-SL(chip)	220P 50V J				01
	C0606	**US063470**	Ceramic Capacitor-B (chip)	4700P 50V K				01
	C0607	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	-0620	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0621	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J				01
	C0622	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	-0625	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0626	**UF028100**	Electrolytic Cap. (chip)	100 10V				01
	C0701	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	-0704	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z				01
	C0705	**UF028100**	Electrolytic Cap. (chip)	100 10V				01
	C0801	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J				01
	-0835	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J				01
*	CL601	**WA321100**	Ceramic Resonator	16.9344M CSTCE16M9				
	CN501	**VK025700**	Wire Trap	52147 13P TE				01
	CN801	**VK025600**	Wire Trap	52147 12P TE				01
	CN802	**VK025500**	Wire Trap	52147 11P TE				01
	CN803	**VK025700**	Wire Trap	52147 13P TE				01
	D0801	**VT332900**	Diode	1SS355 TE-17				01
	-0806	**VT332900**	Diode	1SS355 TE-17				01
	IC501	**X0638A00**	IC	UPC2933AT-E1		REGULATOR +3.3V		03
*	IC502	**X3679A00**	IC	RH5RZ25CA-T1		REGULATOR +2.5V		
	IC503	**XF634A00**	IC	UPC4572G2-T1		OP AMP		02
*	IC504	**X3538A00**	IC	PCM1742KE/2K		DAC		
*	IC601	**X3271A00**	IC	YMW767-V		CPU		
*	IC602	**X3779100**	IC	MX23L3213TC-90		MASK ROM 32M		
	IC604	**X0165A00**	IC	PST596DNR		RESET		02
	IC701	**XZ987A00**	IC	ML9040A-B01GA		LCD DRIVER		05
	L0601	**VR243700**	Chip Inductance	56U LEM2520 T 560J				01
	L0602	**VR243700**	Chip Inductance	56U LEM2520 T 560J				01
	R0501	**RD356100**	Carbon Resistor (chip)	1.0K 63M J				01
	-0504	**RD356100**	Carbon Resistor (chip)	1.0K 63M J				01
	R0505	**RD356470**	Carbon Resistor (chip)	4.7K 63M J				01
	R0506	**RD356470**	Carbon Resistor (chip)	4.7K 63M J				01
	R0507	**RD356330**	Carbon Resistor (chip)	3.3K 63M J				01
	R0508	**RD356330**	Carbon Resistor (chip)	3.3K 63M J				01
	R0509	**RD356470**	Carbon Resistor (chip)	4.7K 63M J				01
	R0510	**RD356470**	Carbon Resistor (chip)	4.7K 63M J				01
	R0511	**RD355100**	Carbon Resistor (chip)	100.0 63M J				01
	R0512	**RD355100**	Carbon Resistor (chip)	100.0 63M J				01
	R0513	**RD356100**	Carbon Resistor (chip)	1.0K 63M J				01
	R0514	**RD356100**	Carbon Resistor (chip)	1.0K 63M J				01
	R0515	**RD357330**	Carbon Resistor (chip)	33.0K 63M J				01
	R0516	**RD357330**	Carbon Resistor (chip)	33.0K 63M J				01
	R0517	**RD354680**	Carbon Resistor (chip)	68.0 63M J				01
	R0519	**RD354680**	Carbon Resistor (chip)	68.0 63M J				01
	R0601	**RD356100**	Carbon Resistor (chip)	1.0K 63M J				01
	R0602	**RD359100**	Carbon Resistor (chip)	1.0M 63M J				01
	R0603	**RD355470**	Carbon Resistor (chip)	470.0 63M J				01
	R0604	**RD357330**	Carbon Resistor (chip)	33.0K 63M J				01
	R0605	**RD357100**	Carbon Resistor (chip)	10.0K 63M J				01
	R0606	**RD357330**	Carbon Resistor (chip)	33.0K 63M J				01
	R0607	**RD357100**	Carbon Resistor (chip)	10.0K 63M J				01
	R0608	**RD357330**	Carbon Resistor (chip)	33.0K 63M J				01
	R0610	**RD355100**	Carbon Resistor (chip)	100.0 63M J				01
	R0611	**RD355100**	Carbon Resistor (chip)	100.0 63M J				01
	R0612	**RD357330**	Carbon Resistor (chip)	33.0K 63M J				01
	R0613	**RD357330**	Carbon Resistor (chip)	33.0K 63M J				01
	R0620	**RD357100**	Carbon Resistor (chip)	10.0K 63M J				01
	R0622	**RD357100**	Carbon Resistor (chip)	10.0K 63M J				01
	-0636	**RD357100**	Carbon Resistor (chip)	10.0K 63M J				01
	R0637	**RD357330**	Carbon Resistor (chip)	33.0K 63M J				01
	R0638	**RD358470**	Carbon Resistor (chip)	470.0K 63M J				01
	R0639	**RD358470**	Carbon Resistor (chip)	470.0K 63M J				01
	R0640	**RD355100**	Carbon Resistor (chip)	100.0 63M J				01
	-0645	**RD355100**	Carbon Resistor (chip)	100.0 63M J				01
	R0701	**RD356150**	Carbon Resistor (chip)	1.5K 63M J				01
	R0702	**RD355220**	Carbon Resistor (chip)	220.0 63M J				01
	R0703	**RD354680**	Carbon Resistor (chip)	68.0 63M J				01
*	R0704	**RF457910**	Carbon Resistor (chip)	91.0K : D				
	R0705	**RD356220**	Carbon Resistor (chip)	2.2K 63M J				01
	-0709	**RD356220**	Carbon Resistor (chip)	2.2K 63M J				01
	R0811	**RD357330**	Carbon Resistor (chip)	33.0K 63M J				01
	-0816	**RD357330**	Carbon Resistor (chip)	33.0K 63M J				01
	R0817	**RD355100**	Carbon Resistor (chip)	100.0 63M J				01

*: New parts

RANK: Japan only

	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
	-0833	**RD355100**	Carbon Resistor (chip)	100.0 63M J				01
	TH701	**V9140600**		ERTJ1VT152J 1.5K				
		VV583800	Circuit Board	MK-L		(VV58470)(XR564C0)		09
	2	**VV437800**	Diode	1N4148(DO-34)				01
	5	**VK025600**	Wire Trap	52147 12P TE			68	01
	6	**VK025100**	Wire Trap	52147 7P TE			2	01
		VV583900	Circuit Board	MK-H		(VV58480)(XR565C0)		09
	2	**VV437800**	Diode	1N4148(DO-34)				01
	5	**VK025600**	Wire Trap	52147 12P TE			54	01
	6	**VK024900**	Wire Trap	52147 5P TE				01
*		**WB120400**	Circuit Board	MKC		(WB12030)(XV855A0)		
		--	Vibration-proof Tape	10X64X0.5		(VK34680)		
	CN001	**VK025700**	Wire Trap	52147 13P TE				01
	CN002	**VK025500**	Wire Trap	52147 11P TE				01
	CN003	**VK025600**	Wire Trap	52147 12P TE				01
	CN004	**VK025100**	Wire Trap	52147 7P TE				01
	CN005	**VK024900**	Wire Trap	52147 5P TE				01
*		**WA471200**	Circuit Board	PN		(XY391B0)		
	CN202	**VI879000**	Cable Holder	51048 12P TE				01
	WH202	**--**	Connector Assembly	PN		(WA62760)		
*		**X3805A00**	Speaker	12.0cm 4ohm 3W				
*		**WA266900**	LCD	TTR7399 TYPE-03A				
		V5264900	Back Light Assembly	A PT				07

*: New parts

RANK: Japan only

■ PSR-273/PSR-275 OVERALL CIRCUIT DIAGRAM

DMLCD

PN

JACK (AM2/4)

AM (AM1/4)

PSW (AM3/4)

VR (AM4/4)

MKC

MK-H (A#3~C6)

MK-L (C1~A3)

16M 61Key

28CC1-8812655

OVERALL ASSEMBLY: 28CC1-8827442 ⚠

Parts inside of [ ] are not installed.

- **UPC2933AT-E1**(X0638A00) REGULATOR +3.3V
  1: INPUT 2: GND 3: OUTPUT 4: GND
- **RH5RZ25CA-T1**(X3679A00) REGULATOR +2.5V
  1: GND 2: VDD 3: VOUT
- **PQ05RD11**(XU814A00) REGULATOR +5V
  1:INPUT 2:OUTPUT 3:GND 4:ON/OFF CONTROL

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

Note: See parts list for details of circuit board componett parts.

(マ) : Mylar Capacitor
(セ) : Ceramic Capacitor
(半セ) : Semiconductive Ceramic Capacitor
金被 : Metal Film Resistor

PSR-273/PSR-275