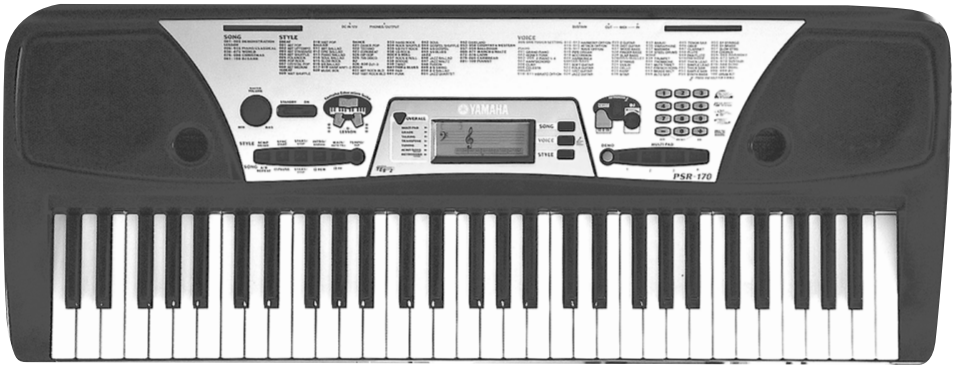
PORTATONE

PSR-170

SERVICE MANUAL



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PK **001652**

YAMAHA
HAMAMATSU, JAPAN
1.412K-355 I·T Printed in Japan '01.05

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 : This presentation or sale of this manual to any individual or firm does not constitute authoriza-tion, certification, recognition of any applicable technical capabilities, or establish a principal-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit (s) indicated on the cover. The research engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefor, 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 parts replacement. Recheck all work before you apply power to the unit.

WARNING : CHEMICAL CONTENT NOTICE !

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

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

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

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

■ WARNING

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

■ SPECIFICATIONS

Keyboard
61 standard-size keys (C1 - C6)

Display
Large multi-function LCD display (backlit)

Setup
STANDBY/ON
MASTER VOLUME : MINI-MAX

Panel controls
Overall, SONG, VOICE, STYLE, DEMO, POTABLE GRAND, DJ, METRONOME, Dict., L, R, TEMPO/TAP numeric keypad (0 - 9, +,-)

Voices
100 panel voices (max. polyphony : 16)

Effects
Dual (Included in Voice),
Harmony/Echo (Included in Voice),
Split (Included in Voice),
Sustain

Auto Accompaniment
100 styles
Fingering : Multi Fingering
Sections : Intro, Main A, B, Ending, Fill

Overall controls
Multi Pad, Grade, Talking, Transpose, Tuning, Accompani-ment Volume, Song Volume, Metronome Volume

Style controls
Acmp On/Off, Sync-Start, Start, Stop, Intro/Ending, Main A, B (Auto Fill)

Song controls
Start, Stop, Pause, A-B Repeat, Fast Forward, Rewind, Melody Voice Change

One Touch Setting
1/style, 1/song

Multi Pads
4 pads x 10 banks

Yamaha Education Suite
Dictionary, Lesson 1-4

Preset songs
100 songs

Amplifier
2.0W + 2.0W

MIDI
IN/OUT

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

Speakers
10cm x 2

Power consumption
VL/CSA 6-8W, CE7.5W (when using PA-3B power adaptor)

Power supply
Adaptor : Yamaha PA-3B AC power adaptor
Batteries : Six “D” size, R20P(LR20) or equivalent batteries

Dimensions
931 x 348.8 x 127.9 mm (36-2/3" x 13-3/4" x 5-1/16")

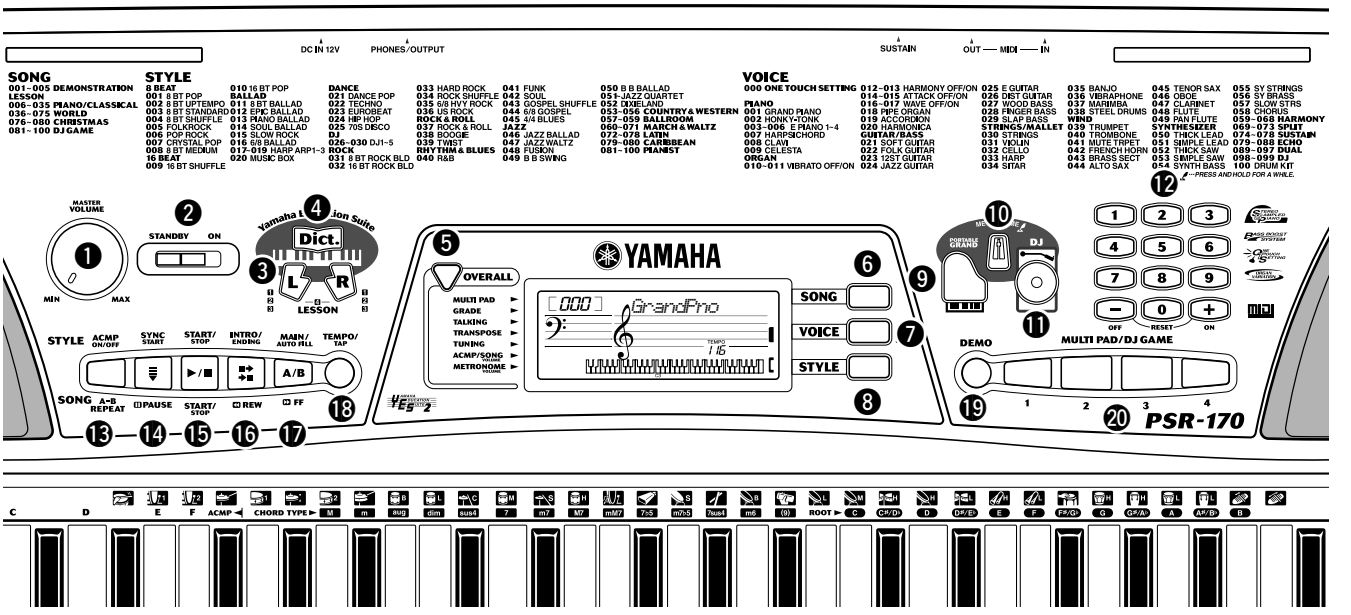
Weight
4.4kg (9 lbs., 11 oz.)

Supplied accessories
Music Stand, Owner’s Manual, Song Book

Optional accessories
Headphones : HPE-150
AC power adaptor : PA-3B
Keyboard stand : L-2L, L-2C

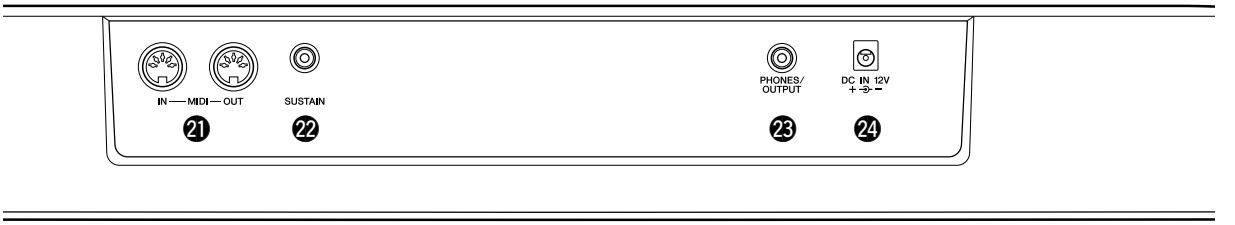
■ PANEL LAYOUT

● Top Panel

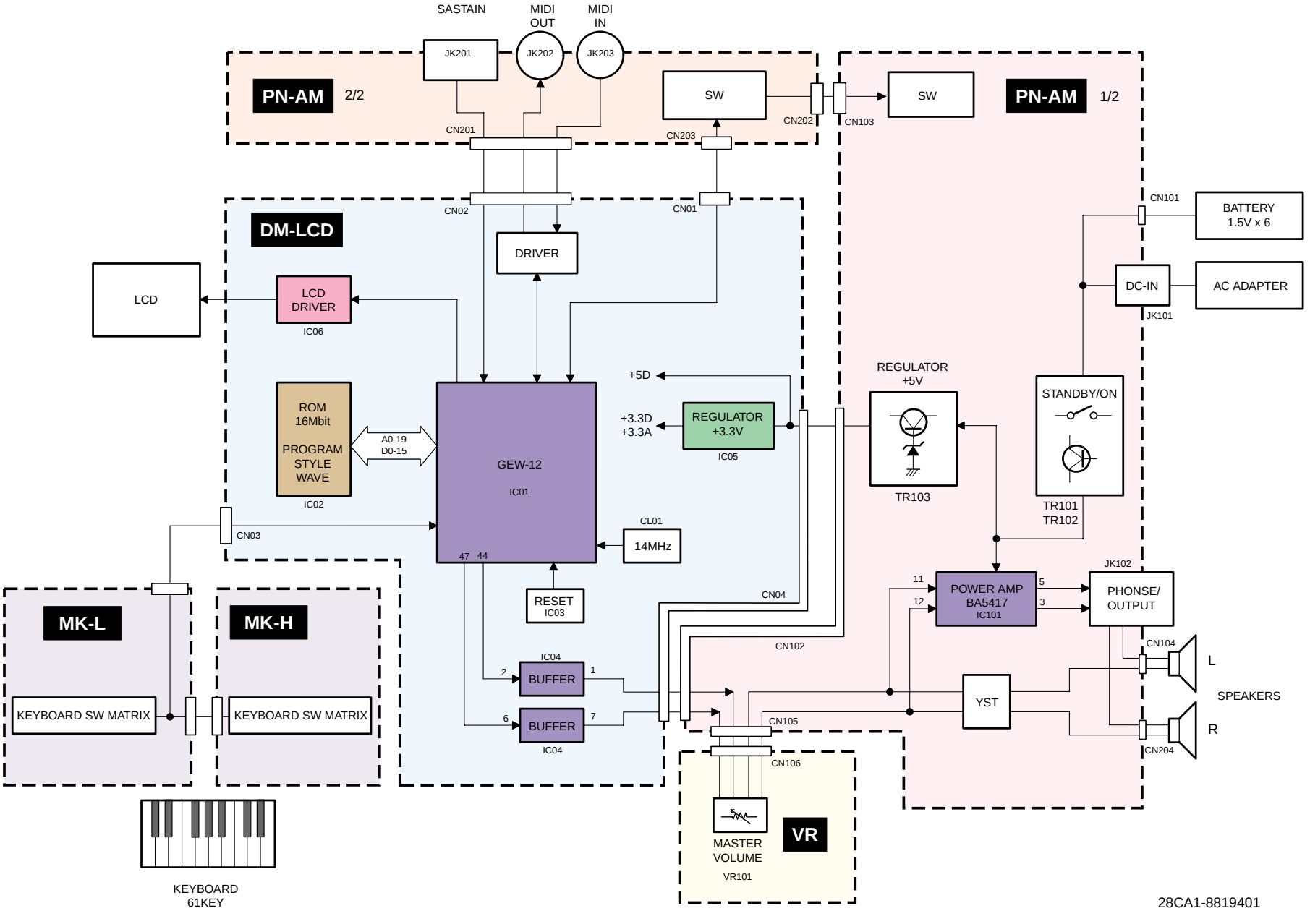


❶ [MASTER VOLUME] dial
❷ Power switch ([STANDBY/ON])
❸ LESSON [L] (Left) and [R] (Right) buttons
❹ [Dict.] (DICTIONARY) button
❺ [OVERALL] button
❻ [SONG] button
❼ [VOICE] button
❽ [STYLE] button
❾ [PORTABLE GRAND] button
❿ [METRONOME] button
⓫ [DJ] button
⓬ Numeric keypad, [+/ON] and [-/OFF] buttons
⓭ [ACCOMPANIMENT ON/OFF] ([A-B REPEAT]) button
⓮ [SYNC START] ([❚❚ PAUSE]) button
⓯ [START/STOP] button
⓰ [INTRO/ENDING] ([◀◀ REW]) button
⓱ [MAIN/AUTO FILL] ([▶▶ FF]) button
⓲ [TEMPO/TAP] button
⓳ [DEMO] button
⓴ [MULTI PAD/DJ GAME] buttons

● Rear Panel



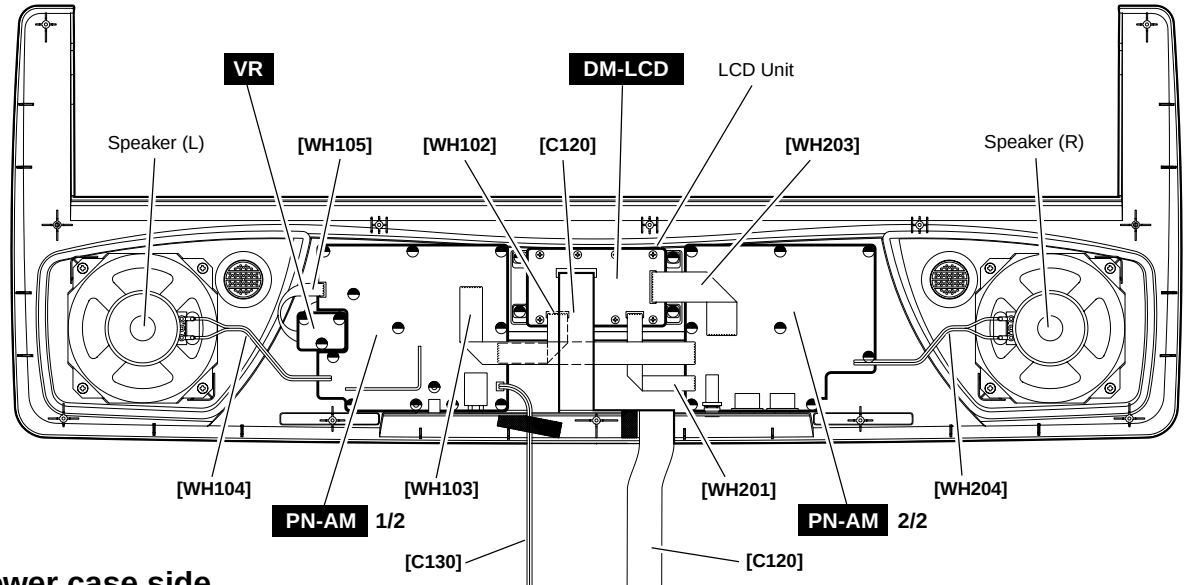
㉑ [MIDI IN], [MIDI OUT] terminals
㉒ [SUSTAIN] jack
㉓ [PHONES/OUTPUT] jack
㉔ [DC IN 12V] jack



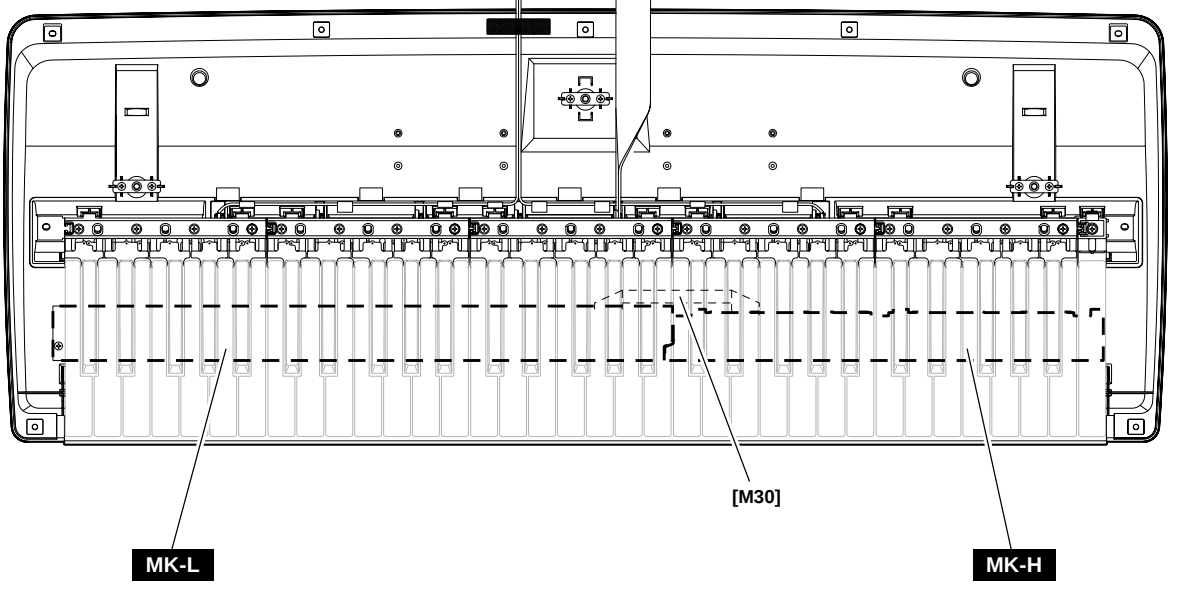
28CA1-8819401

■ CIRCUIT BOARD LAYOUT & WIRING

● Upper case side



● Lower case side



Location	Part No.	Connector Assembly	Destination				Remarks
C120	- -	MK	MK-L		DM-LCD-CN03	*1	17P (V718700)
C130	- -	BATTRY	PN-AM 1/2-CN101	*1	Contact Spring		2P (V718670)
M30	- -	MK	MK-L		MK-H		11P (V719030)
WH102	- -	AM	PN-AM 1/2-CN102	*1	DM-LCD-CN04	*1	8P (V719700)
WH103	- -	PN2	PN-AM 1/2-CN103	*1	PN-AM 2/2-CN202	*1	9P (V719710)
WH104	- -	SP	PN-AM 1/2-CN104	*1	Speaker L		2P (V719660)
WH105	- -	VR	VR-CN106	*1	PN-AM 1/2-CN105	*1	5P (V719680)
WH201	- -	MIDI	PN-AM 2/2-CN201	*1	DM-LCD-CN02	*1	6P (V719690)
WH203	- -	PN1	PN-AM 2/2-CN203	*1	DM-LCD-CN01	*1	12P (V719720)
WH204	- -	SP	PN-AM 2/2-CN204	*1	Speaker R		2P (V719660)

* The parts with "**–**" in "**Part No**." are not available as spare parts.
* 1 : Edge mark is adjusted to Pin 1 mark (△mark).

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

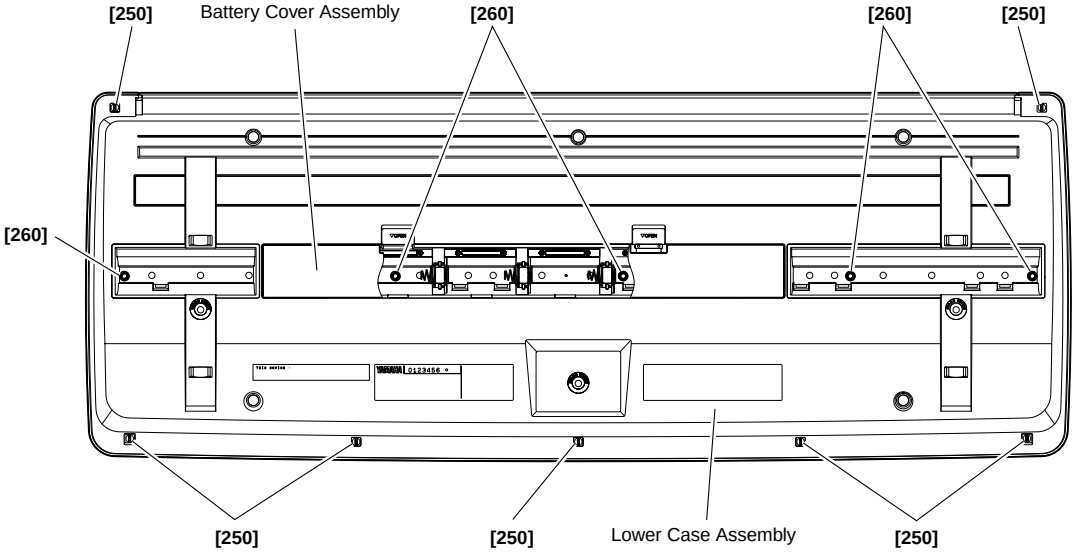
■ DISASSEMBLY PROCEDURE

1. Lower Case Assembly

(Time required : About 3 min.)

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

1-2. Remove the seven (7) screws marked [250] and the five (5) screws marked [260]. The lower case assembly can then be removed. (Fig. 1)



[250] : Bind Head Tapping Screw-B 3.0X12 MFZN2Y (VE683000)
[260] : Bind Head Tapping Screw-B 3.0X30 MFZN2Y (V7213700)

(Fig. 1)

2. Spring Terminal

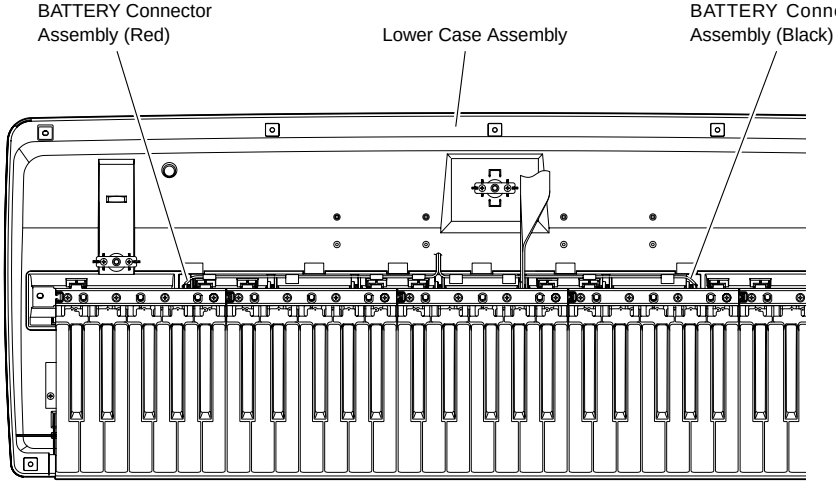
(Time required : About 10 min.)

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

2-2. Remove the BATTERY connector assembly (red/ black) soldered to the spring terminal (+)/(-). (Fig. 2)

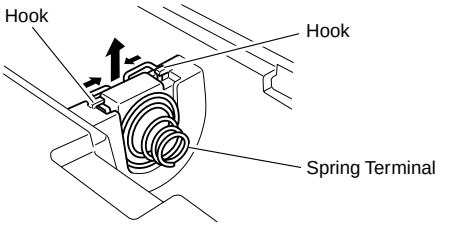
2-3. Remove the spring terminal by releasing hooks (2 locations for each). (Fig. 3)

<Top View>



(Fig. 2)

<Bottom View>



(Fig. 3)

3. PN-AM 1/2 Circuit Board

(Time required : About 8 min.)

3-1. Remove the lower case assembly. (See procedure 1)

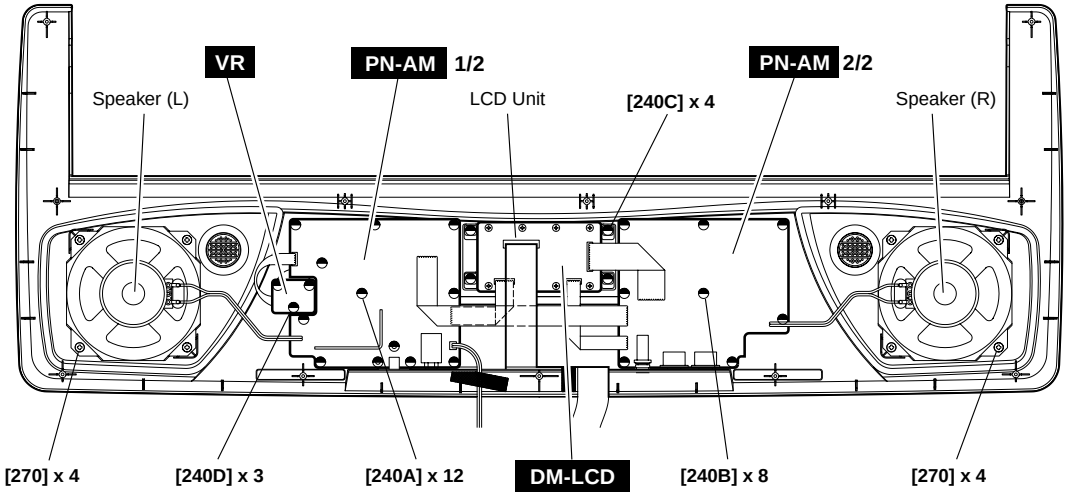
3-2. Remove the twelve (12) screws marked [240A]. The PN-AM 1/2 circuit board can then be removed. (Fig. 4)

4. PN-AM 2/2 Circuit Board

(Time required : About 8 min.)

4-1. Remove the lower case assembly. (See procedure 1)

4-2. Remove the eight (8) screws marked [240B]. The PN-AM 2/2 circuit board can then be removed. (Fig. 4)



[240] : Bind Head Tapping Screw-B 3.0X8 MFZN2Y (EP600250)
[270] : Bind Head Tapping Screw-B 4.0X8 MFZN2Y (VP640410)

(Fig. 4)

5. LCD Unit and DM-LCD Circuit Board

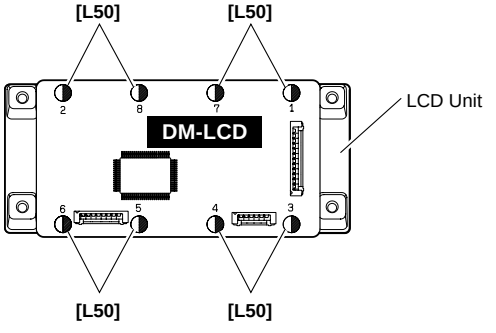
(Time required : About 10 min.)

5-1. Remove the lower case assembly. (See procedure 1)

5-2. Remove the four (4) screws marked [240C]. The LCD unit can then be removed. (Fig. 4)

5-3. Remove the eight (8) screws marked [L50]. The DM-LCD circuit board can then be removed from the LCD unit. (Fig. 5)

* **When you install the DM-LCD circuit board, tighten the screws from No.1 to No. 8 in order as shown in Figure 5.**



[L50] : Bind Head Tapping Screw-P 3.0X8 MFZN2Y (EP600280)

(Fig. 5)

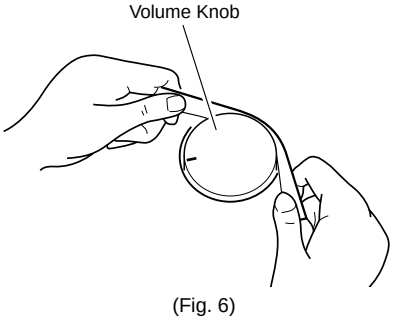
6. VR Circuit Board

(Time required : About 8 min.)

6-1. Remove the lower case assembly. (See procedure 1)

6-2. Remove the volume knob from the control panel side. (Fig. 6)

6-3. Remove the three (3) screws marked [240D]. The VR circuit board can then be removed. (Fig. 4)



(Fig. 6)

7. Speaker (Time required : About 8 min.)

7-1. Remove the lower case assembly. (See procedure 1)

7-2. Remove the right and left speakers by removing four (4) screws marked [270] from each speaker. (Fig. 4)

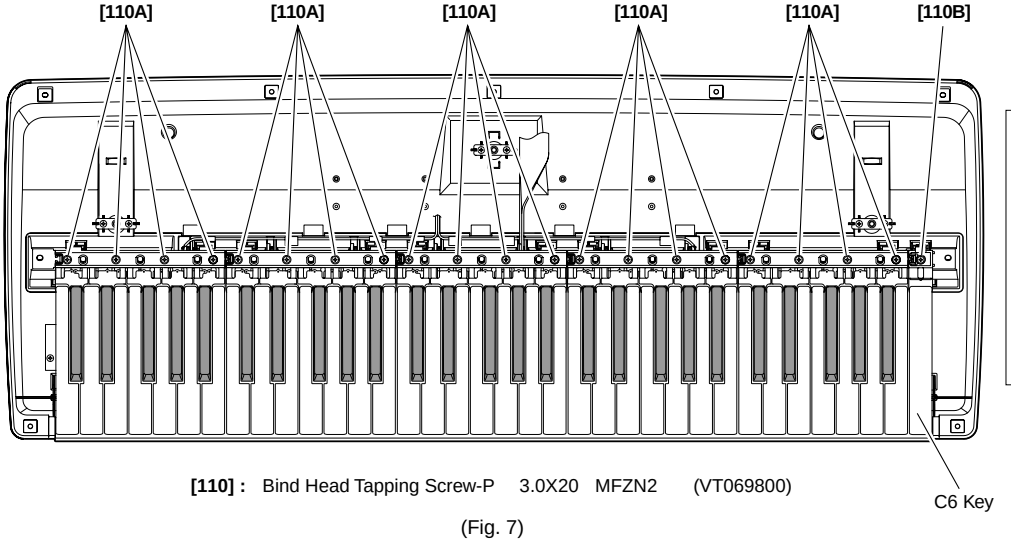
8. White key and Black key

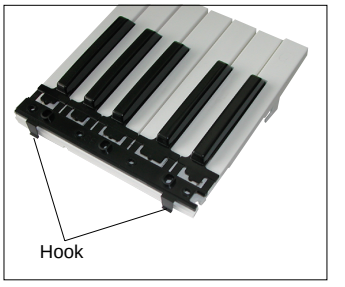
(Time required : About 10 min. each)

8-1. Remove the lower case assembly. (See procedure 1)

8-2. Remove the four (4) screws marked [110A] fixing the black and white keys for one octave. The black and white keys of each octave can then be removed. (Fig.7) At this time, lift the back of black key with pushing the hooks of it and slide the black key towards you. (Photo 1)

8-3. When removing the C6 key, remove a screw marked [110B] and then lift the back of C6 key with pushing the hook of it and slide it towards you. (Fig.7)





(Photo 1)

[110] : Bind Head Tapping Screw-P 3.0X20 MFZN2 (VT069800)

(Fig. 7)

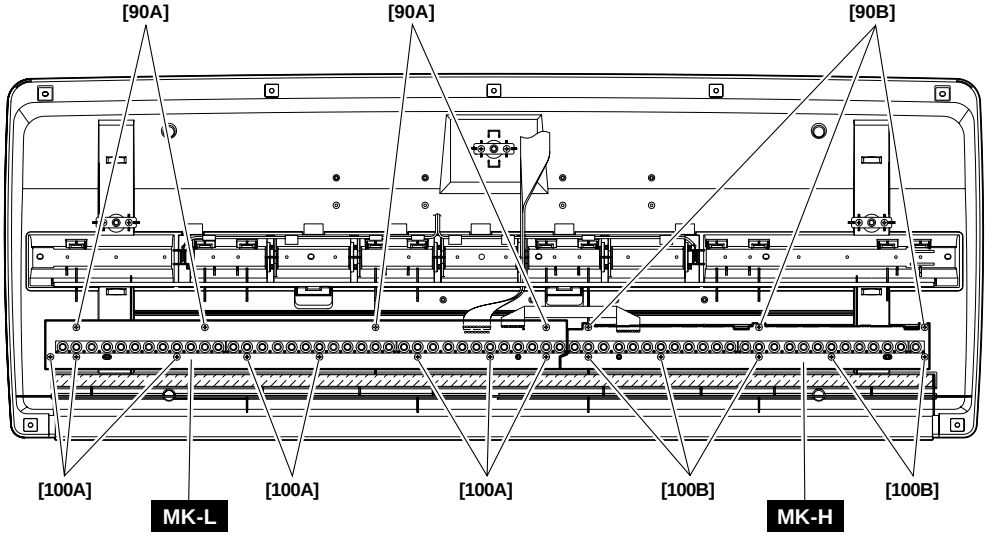
9. MK-L and MK-H Circuit Board

(Time required : About 15 min. each)

9-1. Remove the lower case assembly. (See procedure 1)

9-2. Remove the black and white keys (C1–B3).(See procedure 8.)
Remove the four (4) screws marked [90A] and the eight (8) screws marked [100A]. The MK-L circuit board can then be removed. (Fig. 8)

9-3. Remove the black and white keys (C4–C6).(See procedure 8.) Remove the three (3) screws marked [90B] and the five (5) screws marked [100B]. The MK-H circuit board can then be removed. (Fig. 8)



[90] : Bind Head Tapping Screw-B 3.0X8 MFZN2Y(EP600250)
[100] : Bind Head Tapping Screw-P SP 3.0X12 MFZNBL(VZ313100)

(Fig. 8)

■ LSI PIN DESCRIPTION

● **YMW728-F** (XU355A00) **GEW12** (AWM Tone Generator)

DM-LCD : IC001

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	PL0	I/O	Port L	51	DAC_Vdd		Power supply
2	PL1	I/O		52	SYI	I	Synch. signal
3	PL2	I/O		53	ICN	I	Inicial Clear
4	PL3	I/O		54	Vss		Ground
5	PL4	I/O		55	MA19	O	Memory address bus
6	PL5	I/O		56	MA18	O	
7	PL6	I/O		57	MA8	O	
8	Vdd		Power supply	58	Vdd		Power supply
9	PA0	I/O	Port A	59	MA17	O	Memory address bus
10	PA1	I/O		60	MA9	O	
11	PA2	I/O		61	MA7	O	
12	PA3	I/O		62	MA10	O	
13	PA4	I/O		63	MA6	O	
14	PA5	I/O		64	MA11	O	
15	PB0	I/O	Port B	65	Vss		Ground
16	PB1	I/O		66	MA5	O	Memory address bus
17	PB2	I/O		67	MA12	O	
18	PB3	I/O		68	MA4	O	
19	PB4	I/O		69	MA13	O	
20	PB5	I/O		70	MA3	O	
21	Vss		Ground	71	MA14	O	
22	PC0	I/O	Port C	72	Vdd		Power supply
23	PC1	I/O		73	MA2	O	Memory address bus
24	PC2	I/O		74	MA15	O	
25	PC3	I/O		75	MA1	O	
26	PC4	I/O		76	MA16	O	
27	PC5	I/O		77	MA0	O	
28	PD0	I/O	Port D	78	MA20	O	
29	PD1	I/O		79	Vss		Ground
30	PD2	I/O		80	ROMLOEN	O	OEN pin
31	PD3	I/O		81	MD15	I/O	Memory data Input / output
32	PD4	I/O		82	MD0	I/O	
33	PD5	I/O		83	MD7	I/O	
34	Vdd		Power supply	84	MD8	I/O	
35	PE0	I/O	Port E	85	MD14	I/O	
36	PE1	I/O		86	MD1	I/O	
37	PE2	I/O		87	MD6	I/O	
38	PE3	I/O		88	MD9	I/O	
39	PE4	I/O		89	Vdd		Power supply
40	PE5	I/O		90	MD13	I/O	Memory data Input / output
41	TESTE	I	Test Mode E	91	MD2	I/O	
42	TESTD	I	Test Mode D	92	MD5	I/O	
43	Vss		Ground	93	MD10	I/O	
44	DACLMM	O	1bit DAC Output L (-)	94	MD12	I/O	
45	DACLPP	O	1bit DAC Output L (+)	95	MD3	I/O	
46	DACRPP	O	1bit DAC Output R (+)	96	MD4	I/O	
47	DACRMM	O	1bit DAC Output R (-)	97	MD11	I/O	
48	DAC_Vss		Ground	98	Vss		Ground
49	X_O	O	Crystal quarts Output	99	MIDII	I	MIDI Input
50	X_I	I	Crystal quarts Input	100	MIDIO	O	MIDI Output

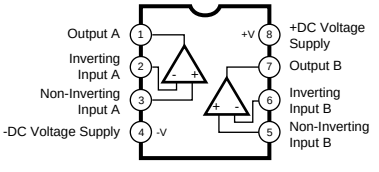
● **S6A0069X10-Q0RJ** (XV226A00) **LCD DRIVER**

DM-LCD : IC006

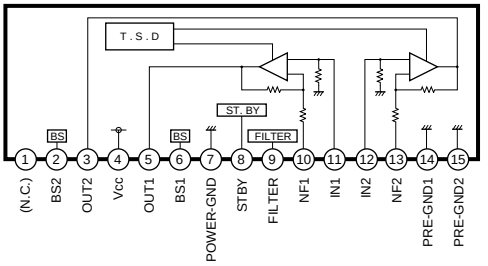
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	S22	O		41	DB2	I/O	
2	S21	O		42	DB3	I/O	
3	S20	O		43	DB4	I/O	
4	S19	O		44	DB5	I/O	Data interface
5	S18	O		45	DB6	I/O	
6	S17	O		46	DB7	I/O	
7	S16	O		47	C1	O	
8	S15	O		48	C2	O	
9	S14	O		49	C3	O	
10	S13	O		50	C4	O	
11	S12	O	Segment signal output for LCD	51	C5	O	
12	S11	O	driving	52	C6	O	
13	S10	O		53	C7	O	
14	S9	O		54	C8	O	Common signal output for LCD
15	S8	O		55	C9	O	driving
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	
24	OSC1	I	Oscillator	64	S39	O	
25	OSC2	O	Oscillator	65	S38	O	
26	V1			66	S37	O	
27	V2			67	S36	O	
28	V3		Power supply	68	S35	O	
29	V4			69	S34	O	
30	V5			70	S33	O	
31	CLK1	O	Data latch clock	71	S32	O	Segment signal output for LCD
32	CLK2	O	Data shift clock	72	S31	O	driving
33	Vdd		Power supply (+5 V)	73	S30	O	
34	M	O	Altamated signal for LCD driver outout	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

● **μPC4570G2** (XF291A00)
Dual Operational Amplifier
DM-LCD : IC004



● **BA5417** (XV771A00)
Power Amplifier
PN-AM 1/2 : IC101

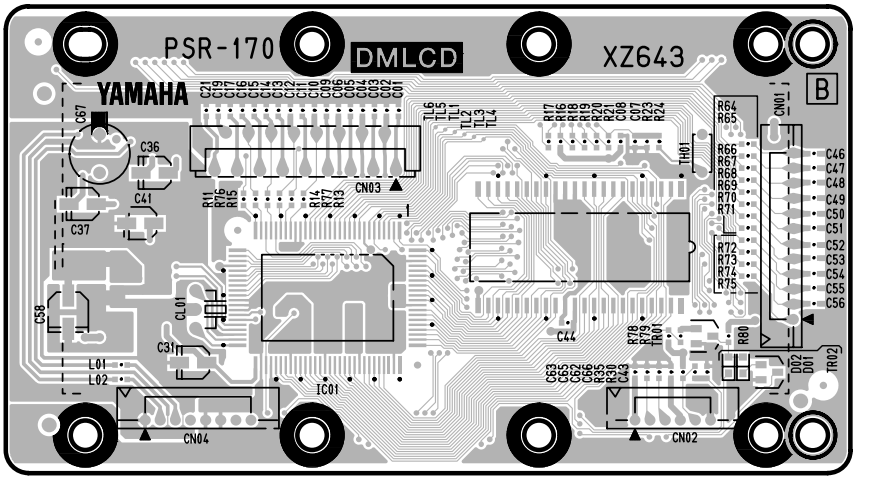


■ CIRCUIT BOARDS INDEX

DM-LCD (XZ643B0) 12
PN-AM 1/2 (XZ644B0) 13
PN-AM 2/2 (XZ644B0) 14
VR (XZ644B0) 14

● DM-LCD Circuit Board

to MK-L

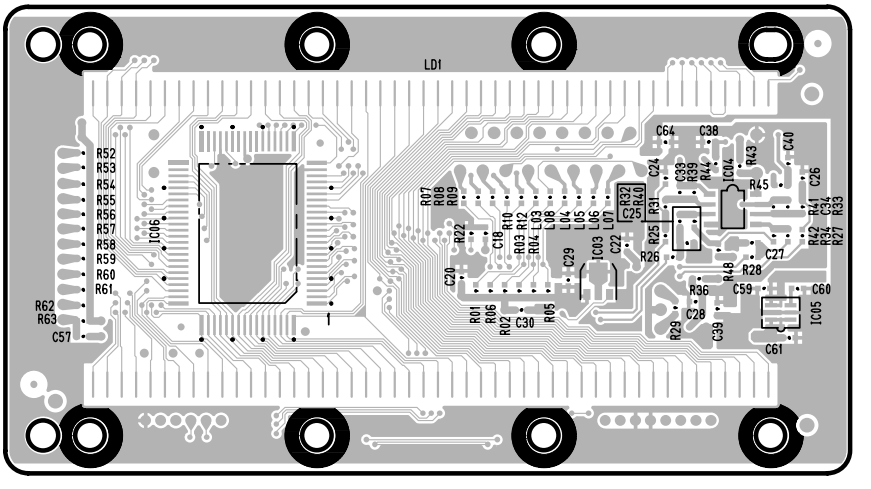


to PN-AM 2/2-CN203

to PN-AM 1/2-CN102

to PN-AM 2/2-CN201

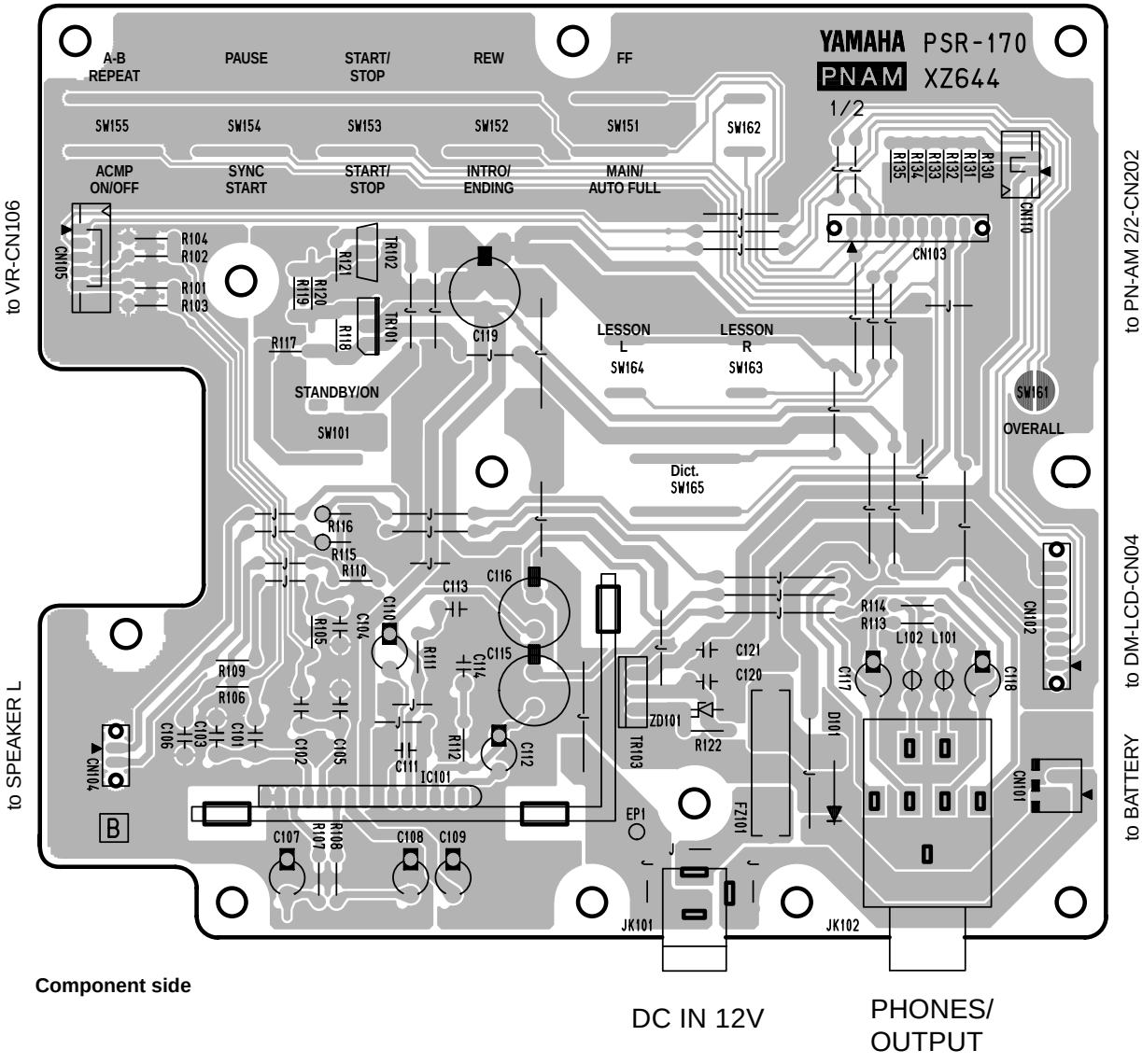
Component side



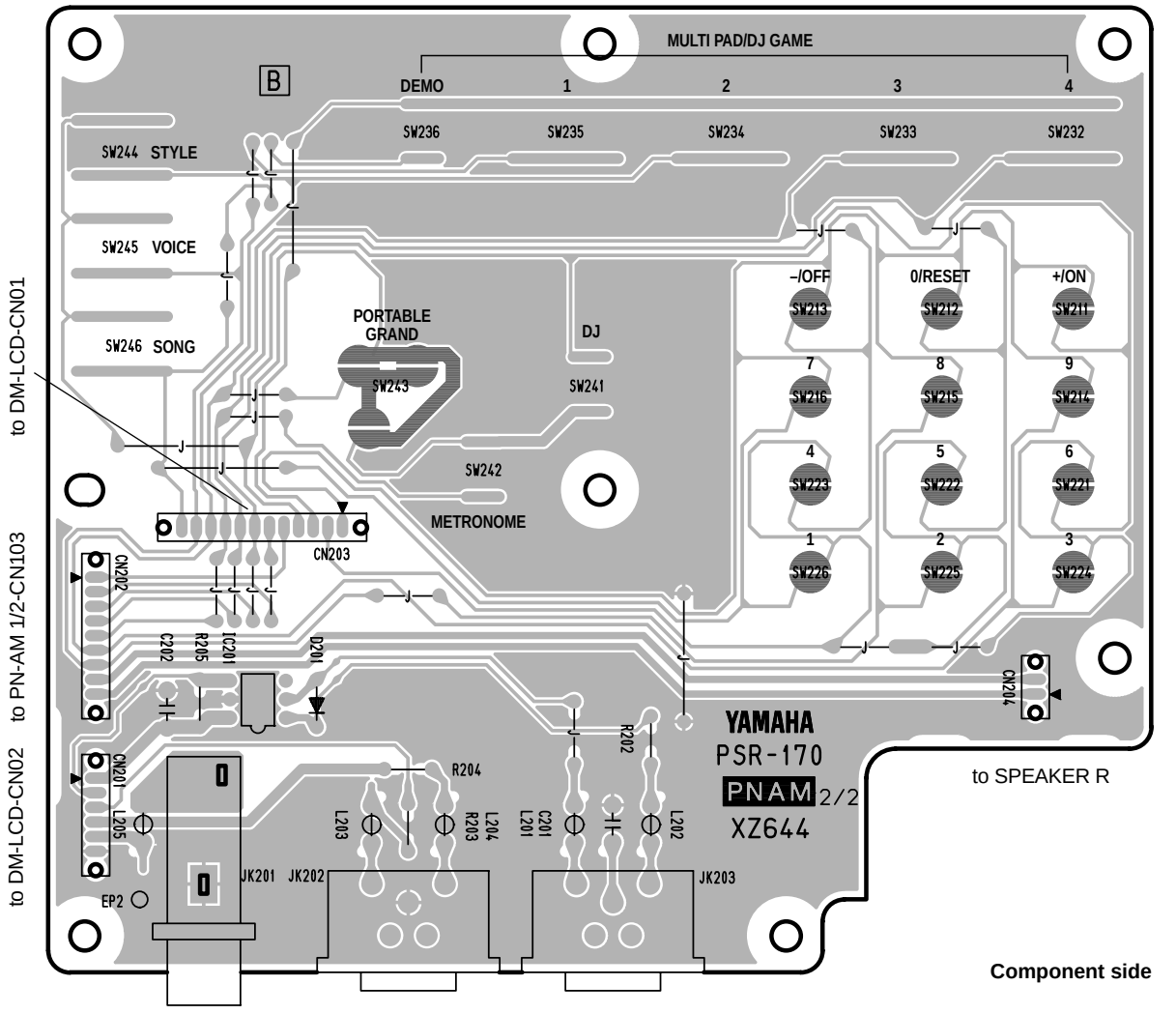
Pattern side

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

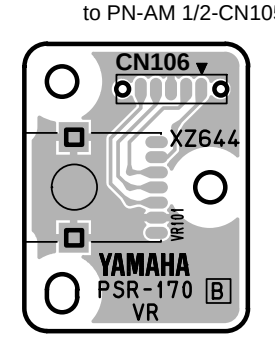
● PN-AM 1/2 Circuit Board



● PN-AM 2/2 Circuit Board



● VR Circuit Board



PN-AM 2/2, VR : 2NA-V708340 4

■ TEST PROGRAM

1. PREPARATION

1) PA-3B or PA-3(AC adaptor) is used.
2) The volume is usually moved to the use position when no volume change is required.
3) Measuring instruments : frequency counter, level meter (with JIS-C filter)
   Note : Connect a stereo plug to the [PHONES/OUTPUT] jack at 33 ohms.
4) Jigs : foot switch, MIDI cable

2. HOW TO ENTER THE TEST PROGRAM

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

3. 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 OK, a cursor (_) is added under the first character of the test item name on display.

- When the test result is NG, press the lowest (leftmost) white key on the keyboard to return to the test item name on display and then turn off the [STANDBY/ON] switch to end the test program.

4. TEST PROGRAM LIST

TEST No.	LCD (initial)	Test Functions and Judgment Criteria
1	[001] Version	Displays ROM version. ROM (Program) versions are displayed alternately on the LCD.
2	[002] Rom Chk1	Checks the ROM. The test results appear on the LCD.
3	[003] Ram Chk1	Checks the RAM. (GEW12) The test results appear on the LCD.
11	[011] TG1 Chk	Outputs the sine wave by changing the channels in sequence from C2 to D#3. After auto-scaling is finished, individual keys can be played. (If playing two or more keys simultaneously, the first pressed key has priority to make a sound.)
13	[013] Pit Chk	Connect the frequency counter to the [PHONES] jack. Sets PAN to Center and produces a signal at 440 +/- 1.76 Hz Check that the correct signal is produced.
14	[014] Output R	Connect the level meter (with a JIS-C filter) to the [PHONES] jack. (33 ohm load) Set the [MASTER VOLUME] at maximum and check the output level (1 kHz). **PHONES L :** less than -60.0 dBm **PHONES R :** -24.5 dBm +/- 2 dB
15	[015] Output L	Connect the level meter (with a JIS-C filter) to the [PHONES] jack. (33 ohm load) Set the [MASTER VOLUME] at maximum and check the output level (1 kHz). **PHONES L :** -24.5 dBm +/- 2 dB **PHONES R :** less than -60.0 dBm
19	[019] Noise	Connect the level meter (with a JIS-C filter) to the [PHONES] jack. (33 ohm load) Set the [MASTER VOLUME] at maximum. Check D/A converter noise. **PHONES L/R :** Less than -75.0 dBm
20	[020] SW Chk	Check the switches on the panel. Press the switches on the LCD as instructed. A pre-assigned note is output when the switch is pressed (See table 1.). As the check result appears on the LCD when all the switches are pressed as instructed,. Check that OK is displayed. (To stop this check before reaching its end, press the lowest (leftmost) white key on the keyboard to return to the test item name on display.

TEST No.	LCD (initial)	Test Functions and Judgment Criteria
28	[028] LCD On	Check that all LCD dots are on.
29	[029] LCD Off	Check that all LCD dots are off.
31	[031] PD1 Chk	Connect the foot switch (FC-4 or FC-5) to the [SUSTAIN] jack. Check that the C3 note is output when the [START/STOP] button is pressed while stepping the pedal and the C4 note is output when releasing the pedal.
37	[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 results appear on the LCD.
41	[041] Rom Chk2	Checks the ROM. The test results appear on the LCD.
42	[042] Ram Chk2	Checks the RAM. (GEW12) The test results appear on the LCD.
48	[048] TestExit	Exit from the test program after executing this test.

*** NOTE :** The above tests **Nos. 41-42**, require approximately 20 minutes to conduct.

● TABLE 1

Order of SW check	Switch name	Pitch (note number)	Lcd display	Order of SW check	Switch name	Pitch (note number)	Lcd display
1	Dictionary	60 (C3)	Dict.	**18**	Tenkey 8	77 (F4)	Tenkey 8
2	Lesson L	61 (C#3)	Lesson L	**19**	Tenkey 9	78 (F#4)	Tenkey 9
3	Lesson R	62 (D3)	Lesson R	**20**	Tenkey –	79 (G4)	Tenkey –
4	Overall	63 (D#3)	Overall	**21**	Tenkey 0	80 (G#4)	Tenkey 0
5	Song	64 (E3)	Song	**22**	Tenkey +	81 (A4)	Tenkey +
6	Voice	65 (F3)	Voice	**23**	Acmp ON/OFF	82 (A#4)	Accomp
7	Style	66 (F#3)	Style	**24**	Synchro start	83 (B4)	Sync Str
8	Grand piano	67 (G3)	GrandPia	**25**	Start/Stop	84 (C5)	Str/Stp
9	Metronome ON/OFF	68 (G#3)	Metro	**26**	Intro/Ending	85 (C#5)	Int/End
10	DJ	69 (A3)	DJ	**27**	Main A/B	86 (D5)	Main AB
11	Tenkey 1	70 (A#3)	Tenkey 1	**28**	Tempo	87 (D#5)	Tempo
12	Tenkey 2	71 (B3)	Tenkey 2	**29**	Demo	88 (E5)	Demo
13	Tenkey 3	72 (C4)	Tenkey 3	**30**	Pat 1	89 (F5)	Pad 1
14	Tenkey 4	73 (C#4)	Tenkey 4	**31**	Pat 2	90 (F#5)	Pad 2
15	Tenkey 5	74 (D4)	Tenkey 5	**32**	Pat 3	91 (G5)	Pad 3
16	Tenkey 6	75 (D#4)	Tenkey 6	**33**	Pat 4	92 (G#5)	Pad 4
17	Tenkey 7	76 (E4)	Tenkey 7				

■ MIDI IMPLEMENTATION CHART

YAMAHA [PSR-170] Date:26-JAN-2001
Model PSR-170 MIDI Implementation Chart Version : 1.0

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default	1 - 7,10	1 - 7,10	
	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 *1	o 9nH,v=1-127	
	Note OFF	x 9nH,v=0	x 9nH,v=0 or 8nH	
After Touch	Key's	x	x	
	Ch's	x	x	
Pitch Bend		x	x	
Control Change	0,32	o *2	o *2	Bank Select LSB,MSB
	7	o	o	Volume
	10	o	o	Pan
	6,38	x	x	Data Entry
	64	o	o	Sustain
	71-74	x	x	
	84	o	o	Portamento Cntrl
	91,93,94	x	x	
	96-97	x	x	RPN Inc,Dec
	98,99	x	x	NRPN LSB,MSB
	100-101	x	x	RPN LSB,MSB
Prog Change	: True #	o 0 - 127 *3 **********	o 0 - 127 *3 *3	
System Exclusive		o *4	o *4	
Common	: Song Pos.	x	x	
	: Song Sel.	x	x	
	: Tune	x	x	
System Real Time	: Clock	x	x	
	: Commands	x	x	
Aux Mes- sages	:All Sound OFF	x	x	
	:Reset All Cntrls	x	x	
	:Local ON/OFF	x	x	
	:All Notes OFF	x	x	
	: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

PORTATONE

PSR-170

PARTS LIST

■ CONTENTS

OVERALL ASSEMBLY **2**
KEYBOARD ASSEMBLY **4**
ELECTRICAL PARTS ..... **5 – 8**

Notes : DESTINATION ABBREVIATIONS

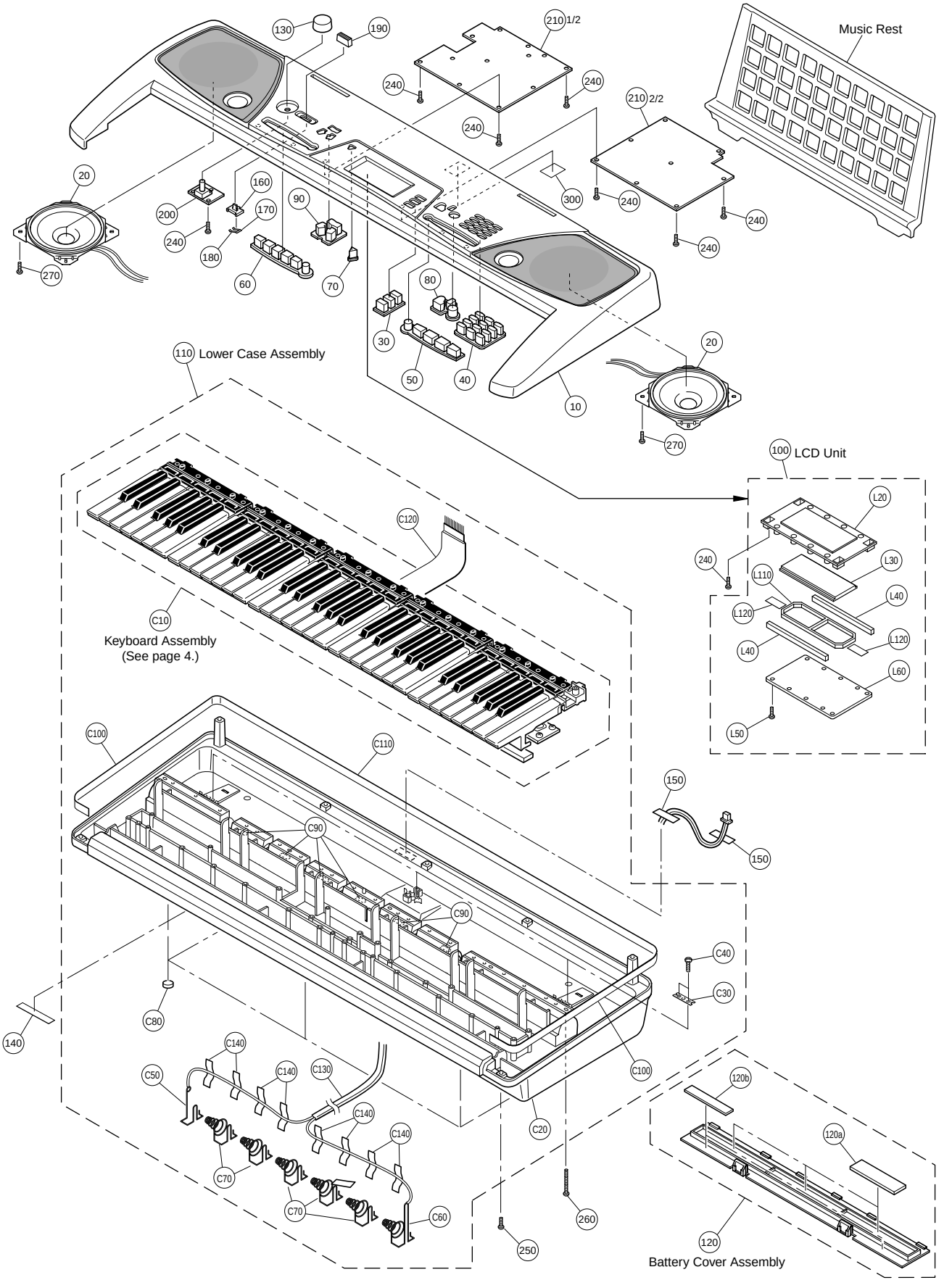
A :	Australian model	M :	South African model
B :	British model	O :	Chinese model
C :	Canadian model	Q :	South-east Asia model
D :	German model	T :	Taiwan model
E :	European model	U :	U.S.A. model
F :	French model	V :	General export model (110V)
H :	North European model	W:	General export model (220)
I :	Indonesian model	N,X :	General export model
J :	Japanese model	Y :	Export model

■ WARNING

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

- The numbers “QTY” show quantities for each unit.
- The parts with “--” in “**PART NO.**” are not available as spare parts.
- This mark “ } ” in the REMARKS column means these parts are interchangeable.
- The second letter of the shaded ( ) part number is O, not zero.
- The second letter of the shaded ( ) part number is I, not one.

■ OVERALL ASSEMBLY

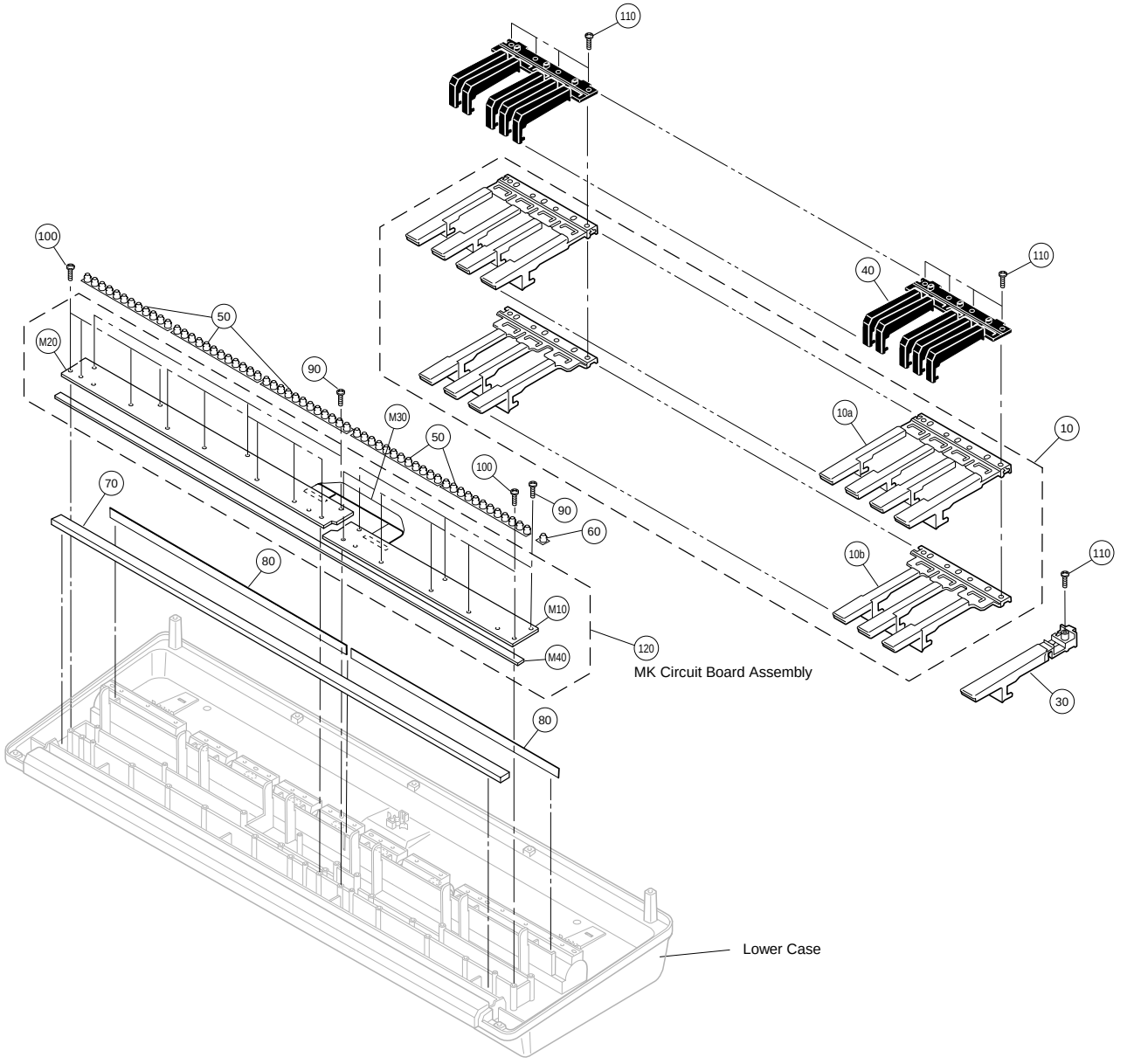


	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
		--	OVERALL ASSEMBLY			PSR-170 (V702380)		
*	10	V7024000	Upper Case					
*	20	XZ871A00	Speaker	12.0cm 4 ohm 3W			2	
*	30	V7031700	Panel Switch	3 DOME BLACK		SONG,VOICE,STYLE		
*	40	V7202300	Panel Switch	12 DOME WHITE		0-9,OFF/-,ON/+		
*	50	V7032100	Panel Switch	5 DOME YELLOW/BLACK		DEMO,MULTI PAD 1-4		
*	60	V7032200	Panel Switch	6 DOME BLACK		ACMP ON/OFF,SYNC START, START/STOP,INTRO/ENDING, MAIN/AUTO FILL,TEMPO/TAP		
*	70	V7032300	Panel Switch	1 DOME BLACK		OVERALL		
*	80	V7032400	Panel Switch	3 DOME BLACK/YELLOW		METRONOME,PORTABLE GRAND, DJ		
*	90	V7032500	Panel Switch	3 DOME WHITE/YELLOW		Dict.,LESSON L,LESSON R		
	100	--	LCD Unit	M		(V709880)		
	110	--	Lower Case Assembly			(V702430)		
*	120	V7042300	Battery Cover Assembly	BLACK				
	120a	--	Battery Cushion	WHITE		(V710060)	3	
	120b	--	Nonworen Fabric Cloth	10X70X0.5		(V781030)	2	
	130	VU432400	Knob	BLACK		MASTER VOLUME		01
	140	--	Label	FE		(V709870)		
	150	VA126100	Adhesive Tape	12X50			2	03
	160	VF073800	Slider	LC				01
	170	BB005650	Brush	YCUT-MEH				02
	180	VA010200	Grease	G-902, 1kg				40
	190	VV490600	Knob	BLACK		STANDBY/ON		03
*	200	V7083700	Circuit Board	VR				
*	210	V7083600	Circuit Board	PN-AM				
	240	EP600250	Bind Head Tapping Screw-B	3.0X8 MFZN2Y			27	01
	250	VE683000	Bind Head Tapping Screw-B	3.0X12 MFZN2Y			7	01
*	260	V7213700	Bind Head Tapping Screw-B	3.0X30 MFZN2Y			5	
	270	EP640410	Bind Head Tapping Screw-B	4.0X8 MFZN2Y			8	01
	300	--	Adhesive Tape	12X90		(V591240)		
		--	LCD Unit	M		(V709880)		
	L20	V5339000	LCD Panel	TYPE-A				01
*	L30	V6968000	LCD	TTR5297DPRDCN-C3				
	L40	V3755900	Rubber Connector	SS-105L			2	01
	L40	V5415400	Rubber Connector	SS-105L			2	
	L50	EP600280	Bind Head Tapping Screw-P	3.0X8 MFZN2Y			8	01
*	L60	V6925200	Circuit Board	DM-LCD				
*	L110	V7172200	LCD Holder	A				
	L120	VA119300	Adhesive Tape	12x25			2	01
		--	Lower Case Assembly			(V702430)		
	C10	--	Keyboard Assembly	16N C61 P1M		(V709960)		
*	C20	V6997500	Lower Case					
	C30	VI104400	Holder	CH			3	
	C40	EP600250	Bind Head Tapping Screw-B	3.0X8 MFZN2Y			6	01
*	C50	V7060500	Spring Terminal	(+)				
*	C60	V7060700	Spring Terminal	(-)				
*	C70	V7060200	Spring Terminal				5	
	C80	CB043750	Foot	T1.6 BLACK			5	01
	C90	--	Dust Proof Cloth			(V720600)	6	
	C100	--	Cushion	360X15X1.0 PE		(V642100)	2	
	C110	--	Cushion	885X15X1.0 PE		(V642110)		
	C120	--	Connector Assembly	17P		(V718700)		
	C130	--	Connector Assembly	XH 2P		(V718670)		
	C140	VA119300	Adhesive Tape	12X25			8	01
			ACCESSORIES					
		V2115000	Music Rest					06
		VY944300	AC Adapter	PA-32 CH		O		10
*		V7199200	Chinese Guide Sheet			O		

*: New Parts

RANK: Japan only

■ KEYBOARD ASSEMBLY



REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
	--	KEYBOARD ASSEMBLY	16N C61 P1M		PSR-170 (V709960)		
10	**V34107A0**	White Keys	16N CEGBDFA			5	
10a	--	White Keys	16N CEGB		(V341260)	5	
10b	--	White Keys	16N DFA		(V341270)	5	
* 30	**V4760300**	White Key	16N C				
40	**VZ271700**	Black Keys	16N			5	06
50	**VZ271800**	Rubber Contact	16N-1M OCT 1M			5	05
60	**VZ271900**	Rubber Contact	16N-1M C' 1M				04
70	**VZ303000**	Felt L	16N				02
* 80	**V7100100**	Rubber Support	16N L832				
90	**EP600250**	Bind Head Tapping Screw-B	3.0X8 MFZN2Y			7	01
100	**VZ313100**	Bind Head Tapping Screw-P	SP 3.0X12 MFZNBL			13	01
110	**VT069800**	Bind Head Tapping Screw-P	3.0X20 MFZN2			21	01
120	--	MK Circuit Board Assembly	16N1M C61 P1		(V718920)		
	--	MK Circuit Board Assembly	16N1M C61 P1		(V718920)		
M10	**VZ272400**	Circuit Board	MK-H 16N-1M				09
* M20	**V7189900**	Circuit Board	MK-L 16N-1M C61 P1				
M30	--	Connector Assembly	MK 16N-1M-C61		(V719030)		
M40	**VZ302900**	Felt U	16N				02

*: New Parts

RANK: Japan only

■ ELECTRICAL PARTS

	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
			ELECTRICAL PARTS			PSR-170		
*		**V6925200**	Circuit Board	DM-LCD		(XZ643B0)		
		VZ272400	Circuit Board	MK-H 16N-1M		(XT701A0)		09
*		**V7189900**	Circuit Board	MK-L 16N-1M C61 P1		(XZ850C0)		
*		**V7083600**	Circuit Board	PN-AM		(XZ644C0)		
*		**V7083700**	Circuit Board	VR		(XZ644B0)		
*		**V6925200**	Circuit Board	DM-LCD		(XZ643B0)		
	C0001	**US062470**	Ceramic Capacitor-SL(chip)	470P 50V J				01
	-0006	**US062470**	Ceramic Capacitor-SL(chip)	470P 50V J				01
	C0007	**US135100**	Ceramic Capacitor-F (chip)	0.1000 16V Z				01
	C0008	**US135100**	Ceramic Capacitor-F (chip)	0.1000 16V Z				01
	C0009	**US062470**	Ceramic Capacitor-SL(chip)	470P 50V J				01
	-0017	**US062470**	Ceramic Capacitor-SL(chip)	470P 50V J				01
	C0018	**US135100**	Ceramic Capacitor-F (chip)	0.1000 16V Z				01
	C0019	**US062470**	Ceramic Capacitor-SL(chip)	470P 50V J				01
	C0020	**US135100**	Ceramic Capacitor-F (chip)	0.1000 16V Z				01
	C0021	**US062470**	Ceramic Capacitor-SL(chip)	470P 50V J				01
	C0022	**US135100**	Ceramic Capacitor-F (chip)	0.1000 16V Z				01
	C0024	**US063150**	Ceramic Capacitor-B (chip)	1500P 50V K				01
	-0027	**US063150**	Ceramic Capacitor-B (chip)	1500P 50V K				01
	C0028	**US135100**	Ceramic Capacitor-F (chip)	0.1000 16V Z				01
	-0030	**US135100**	Ceramic Capacitor-F (chip)	0.1000 16V Z				01
	C0031	**UF017220**	Electrolytic Cap. (chip)	22 6.3V				01
	C0033	**US063100**	Ceramic Capacitor-B (chip)	1000P 50V K				01
	C0034	**US063100**	Ceramic Capacitor-B (chip)	1000P 50V K				01
	C0036	**UF046470**	Electrolytic Cap. (chip)	4.7 25V				01
	C0037	**UF046470**	Electrolytic Cap. (chip)	4.7 25V				01
	C0038	**US064100**	Ceramic Capacitor-B (chip)	0.0100 50V K				01
	C0039	**US135100**	Ceramic Capacitor-F (chip)	0.1000 16V Z				01
	C0040	**US064100**	Ceramic Capacitor-B (chip)	0.0100 50V K				01
	C0041	**UF017220**	Electrolytic Cap. (chip)	22 6.3V				01
	C0043	**US135100**	Ceramic Capacitor-F (chip)	0.1000 16V Z				01
	C0044	**US135100**	Ceramic Capacitor-F (chip)	0.1000 16V Z				01
	C0046	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J				01
	-0057	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J				01
	C0058	**UF017470**	Electrolytic Cap. (chip)	47 6.3V				01
	C0059	**US135100**	Ceramic Capacitor-F (chip)	0.1000 16V Z				01
	-0061	**US135100**	Ceramic Capacitor-F (chip)	0.1000 16V Z				01
	C0062	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J				01
	C0063	**US135100**	Ceramic Capacitor-F (chip)	0.1000 16V Z				01
	C0064	**US135100**	Ceramic Capacitor-F (chip)	0.1000 16V Z				01
	C0065	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J				01
	C0066	**US135100**	Ceramic Capacitor-F (chip)	0.1000 16V Z				01
	C0067	**UR838470**	Electrolytic Cap.	470.00 16.0V				01
	CL001	**V2905100**	Ceramic Resonator	14M CST14.00MXW140				02
	CL001	**V3522500**	Ceramic Resonator	14M EFOEX1405E38				01
	CN001	**VK025600**	Wire Trap	52147 12P TE				01
	CN002	**VF728300**	Wire Trap	52147 6P TE				01
	CN003	**VG924500**	Wire Trap	52328 17P TE				02
	CN004	**VK025200**	Wire Trap	52147 8P TE				01
	D0001	**VT332900**	Diode	1SS355 TE-17				01
	D0002	**VT332900**	Diode	1SS355 TE-17				01
	IC001	**XU355A00**	IC	YMW728-F		GEW12		10
*	IC002	**XZ870100**	IC	MX23L1610MC-10		MASK ROM 16M PROGRAM		
*	IC003	**XZ625A00**	IC	M62722ML		SYSTEM RESET		
	IC004	**XF291A00**	IC	UPC4570G2		OP AMP		03
*	IC005	**XZ624A00**	IC	MM1385ENRE		REGULATOR +3.3V		
	IC006	**XV226A00**	IC	S6A0069X10-Q0RJ		LCD DRIVER		05
	L0001	**VY657200**	Chip Inductance	600 BK1608HM601				01
	L0001	**V3063400**	Chip Inductance	BLM11B601S 1608				01
	L0002	**VY657200**	Chip Inductance	600 BK1608HM601				01
	L0002	**V3063400**	Chip Inductance	BLM11B601S 1608				01
	L0003	**RD355100**	Carbon Resistor (chip)	100 63M J				01
	-0008	**RD355100**	Carbon Resistor (chip)	100 63M J				01
	R0001	**RD357470**	Carbon Resistor (chip)	47K 63M J				01
	-0006	**RD357470**	Carbon Resistor (chip)	47K 63M J				01
	R0007	**VY657200**	Chip Inductance	600 BK1608HM601				01
	-0015	**VY657200**	Chip Inductance	600 BK1608HM601				01
	R0007	**V3063400**	Chip Inductance	BLM11B601S 1608				01

*: New Parts

RANK: Japan only

	REF NO.	PART NO.	DESCRIPTION		REMARKS	QTY	RANK
	-0015	**V3063400**	Chip Inductance	BLM11B601S 1608			01
	R0016	**RD356220**	Carbon Resistor (chip)	2.2K 63M J			01
	R0017	**RD357910**	Carbon Resistor (chip)	91K 63M J			01
	R0018	**RD356220**	Carbon Resistor (chip)	2.2K 63M J			01
	-0021	**RD356220**	Carbon Resistor (chip)	2.2K 63M J			01
	R0022	**RD357470**	Carbon Resistor (chip)	47K 63M J			01
	R0023	**RD354680**	Carbon Resistor (chip)	68 63M J			01
	R0024	**RD355220**	Carbon Resistor (chip)	220 63M J			01
	R0025	**RD357150**	Carbon Resistor (chip)	15K 63M J			01
	-0028	**RD357150**	Carbon Resistor (chip)	15K 63M J			01
	R0029	**RD359100**	Carbon Resistor (chip)	1.0M 63M J			01
	R0030	**RD357100**	Carbon Resistor (chip)	10K 63M J			01
	R0031	**RD357220**	Carbon Resistor (chip)	22K 63M J			01
	R0032	**RD357100**	Carbon Resistor (chip)	10K 63M J			01
	R0033	**RD357220**	Carbon Resistor (chip)	22K 63M J			01
	R0034	**RD357100**	Carbon Resistor (chip)	10K 63M J			01
	R0035	**RD357470**	Carbon Resistor (chip)	47K 63M J			01
	R0036	**RD354470**	Carbon Resistor (chip)	47 63M J			01
	R0039	**RD357220**	Carbon Resistor (chip)	22K 63M J			01
	R0040	**RD357100**	Carbon Resistor (chip)	10K 63M J			01
	R0041	**RD357220**	Carbon Resistor (chip)	22K 63M J			01
	R0042	**RD357100**	Carbon Resistor (chip)	10K 63M J			01
	R0043	**RD355680**	Carbon Resistor (chip)	680 63M J			01
	R0044	**RD355150**	Carbon Resistor (chip)	150 63M J			01
	R0045	**RD355150**	Carbon Resistor (chip)	150 63M J			01
	R0048	**RD356220**	Carbon Resistor (chip)	2.2K 63M J			01
	R0052	**RD357470**	Carbon Resistor (chip)	47K 63M J			01
	-0063	**RD357470**	Carbon Resistor (chip)	47K 63M J			01
	R0064	**RD354470**	Carbon Resistor (chip)	47 63M J			01
	-0075	**RD354470**	Carbon Resistor (chip)	47 63M J			01
	R0076	**VY657200**	Chip Inductance	600 BK1608HM601			01
	R0076	**V3063400**	Chip Inductance	BLM11B601S 1608			01
	R0077	**VY657200**	Chip Inductance	600 BK1608HM601			01
	R0077	**V3063400**	Chip Inductance	BLM11B601S 1608			01
	R0078	**RD357100**	Carbon Resistor (chip)	10K 63M J			01
	R0079	**RD357220**	Carbon Resistor (chip)	22K 63M J			01
	R0080	**RD357220**	Carbon Resistor (chip)	22K 63M J			01
	TH001	**VR346900**	Thermistor	ERTD2FGJ801S 800			03
	TR001	**VV556400**	Transistor	2SC2412K Q,R,S			01
	TR002	**VV556400**	Transistor	2SC2412K Q,R,S			01
		VZ272400	Circuit Board	MK-H 16N-1M	(XT701A0)		09
		VB941200	Diode	1SS133,1SS176			01
		VK025500	Wire Trap	52147 11P TE			01
*		**V7189900**	Circuit Board	MK-L 16N-1M C61 P1	(XZ850A0)		
		VB941200	Diode	1SS133,1SS176			01
		VV437800	Diode	1N4148(DO-34)			01
		VK025500	Wire Trap	52147 11P TE			01
		VG924500	Wire Trap	52328 17P TE			02
*		**V7083600**	Circuit Board	PN-AM	(XZ644C0)		
*		**V7083700**	Circuit Board	VR	(XZ644C0)		
		EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL		2	01
		--	Jumper Wire	0.55	(VA07890)		
	C0101	**VE327200**	Monolithic Mylar Capacitor	1.0 50V J			02
	C0101	**VU838100**	Monolithic Mylar Capacitor	1.0000 50V J			
	C0102	**VE327200**	Monolithic Mylar Capacitor	1.0 50V J			02
	C0102	**VU838100**	Monolithic Mylar Capacitor	1.0000 50V J			
	C0104	**VE326600**	Monolithic Mylar Capacitor	0.33 50V J			01
	C0104	**VR169000**	Monolithic Mylar Capacitor	ECQ-V1H334JL3			01
	C0106	**VE326600**	Monolithic Mylar Capacitor	0.33 50V J			01
	C0106	**VR169000**	Monolithic Mylar Capacitor	ECQ-V1H334JL3			01
	C0107	**UR837470**	Electrolytic Cap.	47.00 16.0V			01
	-0109	**UR837470**	Electrolytic Cap.	47.00 16.0V			01
	C0110	**UR838100**	Electrolytic Cap.	100.00 16.0V			01
	C0111	**VC694800**	Semiconductive Cera. Cap.	0.1000 25V Z			01
	C0112	**UR838100**	Electrolytic Cap.	100.00 16.0V			01
	C0113	**VE326200**	Monolithic Mylar Capacitor	0.15 50V J			
	C0113	**VR168500**	Monolithic Mylar Capacitor	ECQ-V1H154JL3			01

*: New Parts

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	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
	C0114	**VE326200**	Monolithic Mylar Capacitor	0.15 50V J				
	C0114	**VR168500**	Monolithic Mylar Capacitor	ECQ-V1H154JL3				01
	C0115	**UR839100**	Electrolytic Cap.	1000 16.0V				01
	C0116	**UR839100**	Electrolytic Cap.	1000 16.0V				01
	C0117	**UR837470**	Electrolytic Cap.	47.00 16.0V				01
	C0118	**UR837470**	Electrolytic Cap.	47.00 16.0V				01
	C0119	**UR848470**	Electrolytic Cap.	470.00 25.0V				01
	C0120	**VC694800**	Semiconductive Cera. Cap.	0.1000 25V Z				01
	C0121	**VC694800**	Semiconductive Cera. Cap.	0.1000 25V Z				01
	C0201	**FG644100**	Ceramic Capacitor-F	0.0100 50V Z				01
	C0202	**VC694800**	Semiconductive Cera. Cap.	0.1000 25V Z				01
	CN101	**LB918020**	Base Post Connector	XH 2P TE				01
	CN102	**VI878600**	Cable Holder	51048 8P TE				01
	CN103	**VI878700**	Cable Holder	51048 9P TE				01
	CN104	**VI878000**	Cable Holder	51048 2P TE				01
	CN105	**VK024900**	Wire Trap	52147 5P TE				01
	CN106	**VI878300**	Cable Holder	51048 5P TE				01
	CN201	**VI878400**	Cable Holder	51048 6P TE				01
	CN202	**VI878700**	Cable Holder	51048 9P TE				01
	CN203	**VI879000**	Cable Holder	51048 12P TE				01
	CN204	**VI878000**	Cable Holder	51048 2P TE				01
⚠	D0101	**VL723600**	Diode	20E1-FC4				01
⚠	D0101	**VV731400**	Diode	2A02M				01
⚠	D0101	**VY717100**	Diode	LT2A02-E				01
	D0201	**VB941200**	Diode	1SS133,1SS176				01
⚠ *	FZ101	**V6979300**	Fuse	3.00A J				
	HS101	**--**	Heat Sink			(V561400)		
	IC101	**XV771A00**	IC	BA5417		POWER AMP. 5W 2CH		03
	IC201	**VG181900**	Photo Coupler	PC-900V				03
⚠	JK101	**LB302260**	Connector	HEC0470-01-630		DC IN 12V		02
	JK102	**LB101870**	Phone Jack	YKB21-5006		PHONES		03
	JK201	**VC687500**	Phone Jack	YKB21-5014 BLACK		SUSTAIN		01
	JK202	**VJ107200**	DIN Connector	5P YKF51-5050		MIDI OUT		01
	JK203	**VJ107200**	DIN Connector	5P YKF51-5050		MIDI IN		01
	L0101	**VB835000**	Coil	FL5R200QNT 20uH				01
	L0102	**VB835000**	Coil	FL5R200QNT 20uH				01
	L0201	**VB835000**	Coil	FL5R200QNT 20uH				01
	-0205	**VB835000**	Coil	FL5R200QNT 20uH				01
	R0101	**HF757150**	Carbon Resistor	15.0K 1/4 J				01
	R0102	**HF757150**	Carbon Resistor	15.0K 1/4 J				01
	R0103	**HF756470**	Carbon Resistor	4.7K 1/4 J				01
	R0104	**HF756470**	Carbon Resistor	4.7K 1/4 J				01
	R0105	**HF756560**	Carbon Resistor	5.6K 1/4 J				01
	R0106	**HF756560**	Carbon Resistor	5.6K 1/4 J				01
	R0107	**HF755470**	Carbon Resistor	470.0 1/4 J				01
	R0108	**HF755470**	Carbon Resistor	470.0 1/4 J				01
	R0109	**HF756100**	Carbon Resistor	1.0K 1/4 J				01
	R0110	**HF756100**	Carbon Resistor	1.0K 1/4 J				01
	R0111	**HF753220**	Carbon Resistor	2.2 1/4 J				01
	R0112	**HF753220**	Carbon Resistor	2.2 1/4 J				01
	R0113	**HF755100**	Carbon Resistor	100.0 1/4 J				01
	R0114	**HF755100**	Carbon Resistor	100.0 1/4 J				01
	R0115	**VU317000**	Metal Oxide Film Resistor	0.1 1W J				01
	R0116	**VU317000**	Metal Oxide Film Resistor	0.1 1W J				01
	R0117	**HF758100**	Carbon Resistor	100.0K 1/4 J				01
	R0118	**HF757470**	Carbon Resistor	47.0K 1/4 J				01
	R0119	**HF756180**	Carbon Resistor	1.8K 1/4 J				01
	R0120	**HF756180**	Carbon Resistor	1.8K 1/4 J				01
	R0121	**HF757470**	Carbon Resistor	47.0K 1/4 J				01
	R0122	**HF756100**	Carbon Resistor	1.0K 1/4 J				01
	R0202	**HF755220**	Carbon Resistor	220.0 1/4 J				01
	-0204	**HF755220**	Carbon Resistor	220.0 1/4 J				01
	R0205	**HF756100**	Carbon Resistor	1.0K 1/4 J				01
	TR101	**VT459200**	Transistor	2SB1326 Q,R				01
	TR102	**IC174070**	Transistor	2SC1740S R,S				01
	TR103	**VS883400**	Transistor	2SD2394 E,F				02
	VR101	**VZ048400**	Rotary Variable Resistor	A10.0K XV0141GPVN2		MASTWER VOLUME		02
	WH102	**--**	Connector Assembly	AM 8P-100		(V719700)		
	WH103	**--**	Connector Assembly	PN2 9P-270		(V719710)		
	WH104	**--**	Connector Assembly	SP 2P-140		(V719660)		

✻: New Parts

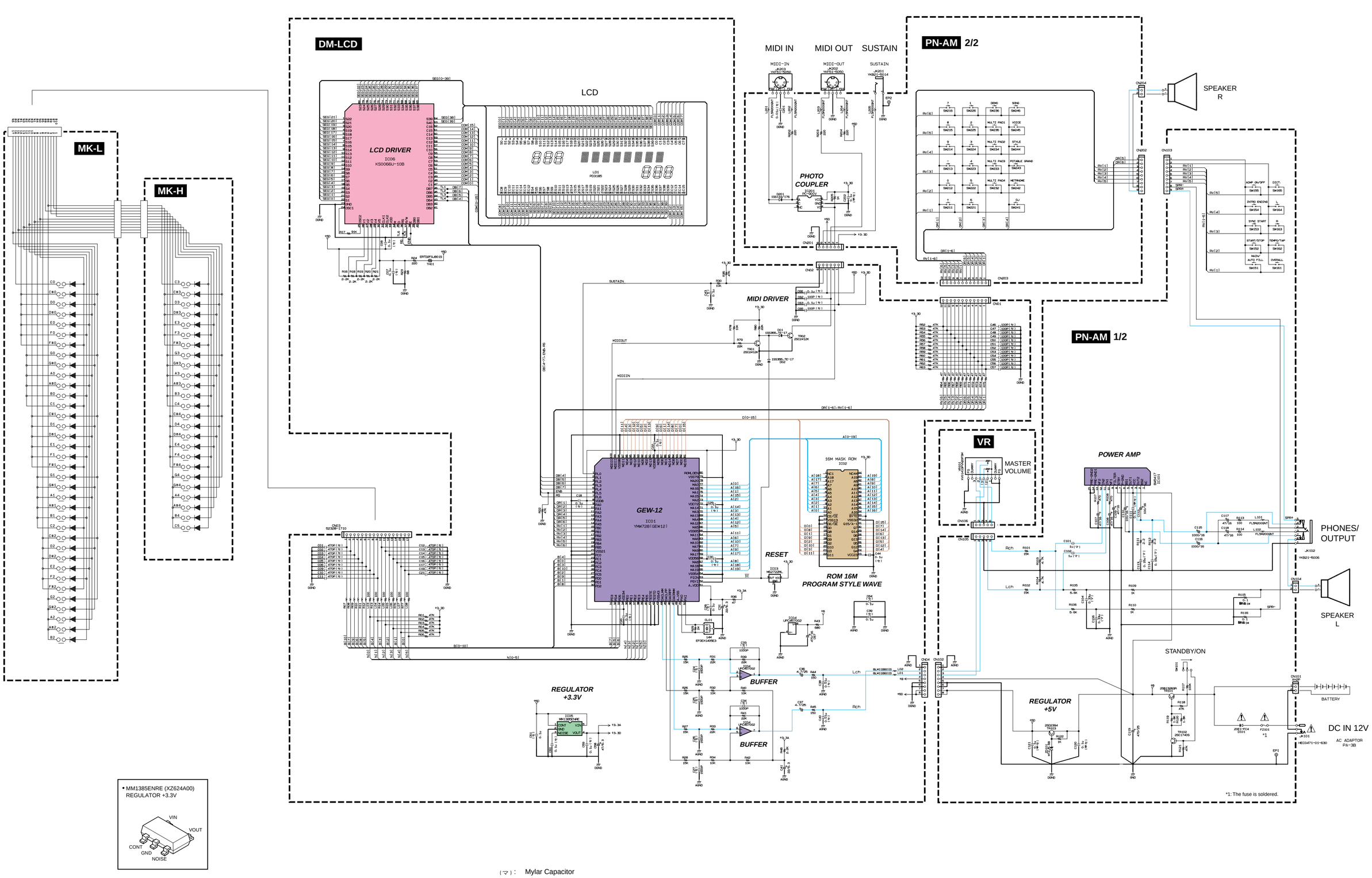
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	REF NO.	PART NO.	DESCRIPTION			REMARKS	QTY	RANK
	WH105	--	Connector Assembly	VR 5P-90		(V719680)		
	WH201	--	Connector Assembly	MIDI 6P-110		(V719690)		
	WH203	--	Connector Assembly	PN1 12P-110		(V719720)		
	WH204	--	Connector Assembly	SP 2P-140		(V719660)		
	ZD101	**VG437700**	Zener Diode	MTZ J 5.6B 5.6V				01
*		**XZ871A00**	Speaker	12.0cm 4 ohm 3W			2	
*		**V6968000**	LCD	TTR5297DPRDCN-C3				

*: New Parts

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■ PSR-170 OVERALL CIRCUIT DIAGRAM



- MM1385ENRE (XZ624A00)
  REGULATOR +3.3V

（マ）: Mylar Capacitor
（セ）: Ceramic Capacitor
（半セ）: Semiconductive Ceramic Capacitor
酸金: Metal Oxide Film Resistor
Note : See parts list for details of circuit board component parts.

WARNING

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

DM-LCD, PN-AM, VR : 28CC1-8819402 ⚠5
MK-L, MK-H : 28CC1-8819596