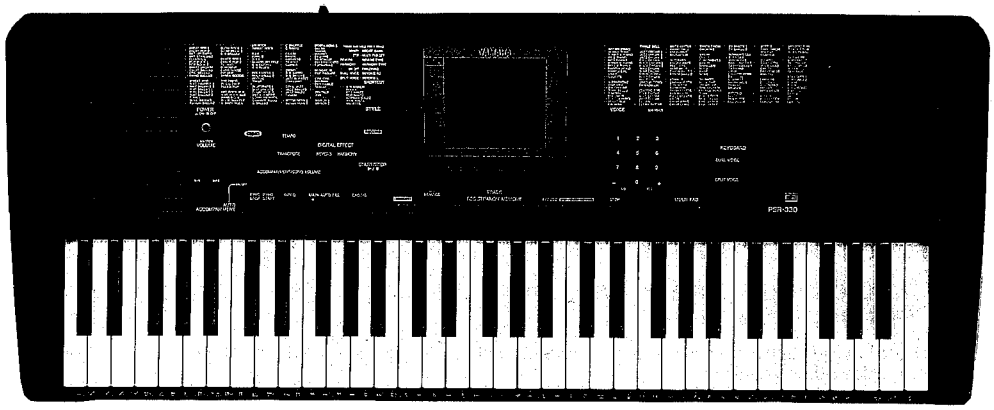
PORTATONE

PSR-330

SERVICE MANUAL



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PK 001584

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

The data provided is belived 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 you body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss.)

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.

SPECIFICATIONS

Keyboards
- 61 standard-size keys (C1 — C6) with touch response.

Display
- Large multi-function LCD display

Setup
- Power : ON/OFF
- Master Volume : MIN — MAX

Control & Number Buttons
- MENU ▲▼, VOICE, STYLE, SONG, CARTRIDGE, SUB MENU ▲▼, [1] — [0], [+] (YES), [–] (NO)

Cartridge Slot

Demo
- 20 Songs

Voice
- 126 Panel Voices +10 Drum Kits + 128 GM Voices
- Polyphony : 31
- Voice Set
- R1/R2/L Voices
- Revoice : Volume, Octave, Pan, Reverb Send Level
- Split Voice Mode
- Dual Voice Mode

Auto Accompaniment
- 100 Styles
- Auto Accompaniment ON/OFF
- Accompaniment Track : RHYTHM1/2, BASS, CHORD1/2, PAD, PHRASE1/2
- Accompaniment Track Settings : ON/OFF
- Accompaniment Control : SYNC START, SYNC STOP, START/STOP, INTRO, MAIN A/B (AUTO FILL), ENDING
- Beat Indicator
- Accompaniment Volume
- Revoice : Volume, Pan, Reverb Send Level

One Touch Setting

Overall Controls
- Tempo : 32 — 280
- Transpose
- Touch Sensitivity
- Master Tuning
- Scale Tuning
- Metronome
- Split Voice Split Point
- Accompaniment Split Point
- Fingering Mode : SINGLE FINGER/FINGERED 1/FINGERED 2/ FULL KEYBOARD/MULTI-FINGER
- Voice Set

Digital Effect
- Reverb : 9 types
- Harmony : 25 types

Registration Memory
- 8 Regist Bank : 1 — 4
- Accompaniment Freeze

Multi Pads
- 26 Multi Pad Sets
- 4 Pads + STOP

User Song
- User Song : 2 Songs
- Recording Tracks : ACCOMPANIMENT, MELODY 1 — 4
- Song Clear, Track Clear
- Song Volume
- Minus One Practice (Minus One Channel Setting)
- Repeat Play
- Revoice : Volume, Octave, Pan, Reverb Send Level

MIDI
- Transmit Settings
- Receive Settings
- Local Control
- Clock
- Bulk Data Send/Receive
- Initial Data Send

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

Amplifiers
- 6.0W + 6.0W (when using PA-5B power adaptor)
- 5.5W + 5.5W (when using batteries)

Speakers
- 12cm (4-3/4") x 2

Power Consumption
- 19 W (when using PA-5B AC power adaptor)

Batteries
- Six SUM-1, "D" size, R-20 or equivalent batteries

Rated Voltage
- DC 10-12V

Dimensions (W x D x H)
- 933 x 372 x 128 mm (36-3/4" x 14-2/3" x 5-1/16")

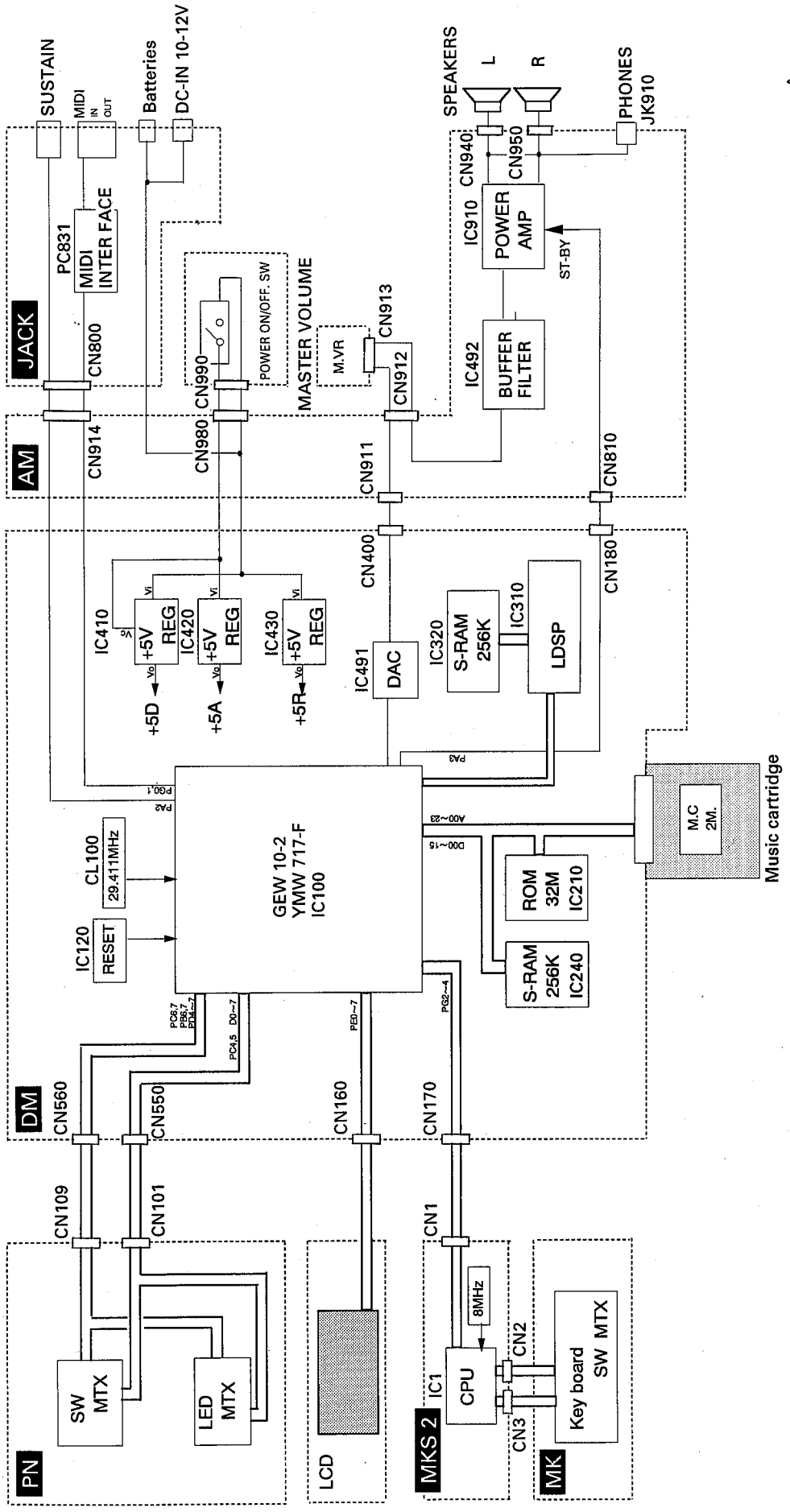
Weight
- 5.9 kg (13 lbs.) excluding batteries

Supplied Accessories
- Music Cartridge
- Music Stand
- Owner's Manual

Optional Accessories
- Headphones : HPE-150
- AC Power Adaptor : PA-5, PA-5B, PA-5C
- Foot Switch : FC4, FC5
- Keyboard Stand : L-6
- Music Cartridge

Output Level
Refer to the TEST PROGRAM section of this manual.

■ BLOCK DIAGRAM



PSR-330

■ PANEL LAYOUT

■ Top Panel Controls

❶ POWER Switch

❷ MASTER VOLUME Control

❸ DEMO Button

❹ TEMPO Buttons

❺ TRANSPOSE Buttons

❻ ACCOMPANIMENT/SONG VOLUME Buttons

❼ AUTO ACCOMPANIMENT SECTION
- AUTO ACCOMPANIMENT ON/OFF Button
- SYNC STOP Button
- SYNC START Button
- INTRO Button
- MAIN/AUTO FILL A & B Buttons
- ENDING Button

❽ RECORD Button

❾ START/STOP Button

❿ DIGITAL EFFECT SECTION
- REVERB Button
- HARMONY Button

⓫ DISPLAY & RELATED CONTROLS
- DISPLAY
- MENU Buttons
- SUB MENU Buttons
- VOICE Button
- STYLE Button
- SONG Button
- CARTRIDGE Button
- REVOICE Button
- TRACK Buttons

⓬ REGISTRATION MEMORY SECTION
- MEMORY Button
- 1, 2, 3, 4 Buttons
- FREEZE Button

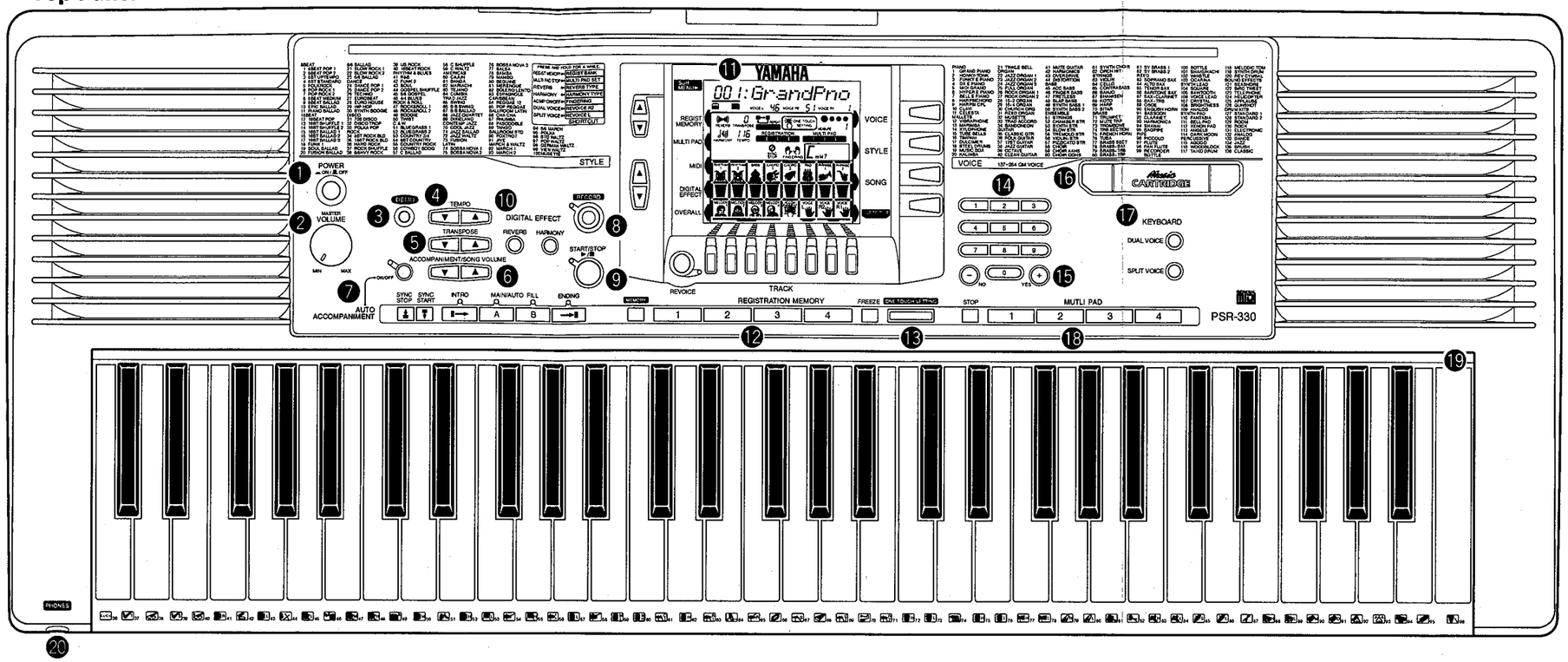
⓭ ONE TOUCH SETTING Button

⓮ NUMBER Buttons

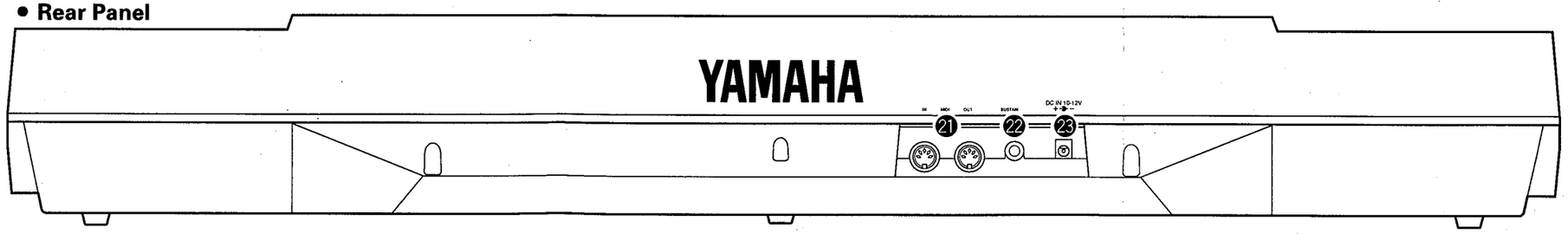
⓯ + and – Buttons

⓰ MUSIC CARTRIDGE Slot

• **Top Panel**



• **Rear Panel**



⓱ KEYBOARD SECTION
- DUAL VOICE Button
- SPLIT VOICE Button

⓲ MULTI PAD SECTION
- STOP Button
- 1, 2, 3, 4 Buttons

⓳ Keyboard

⓴ PHONES Jack

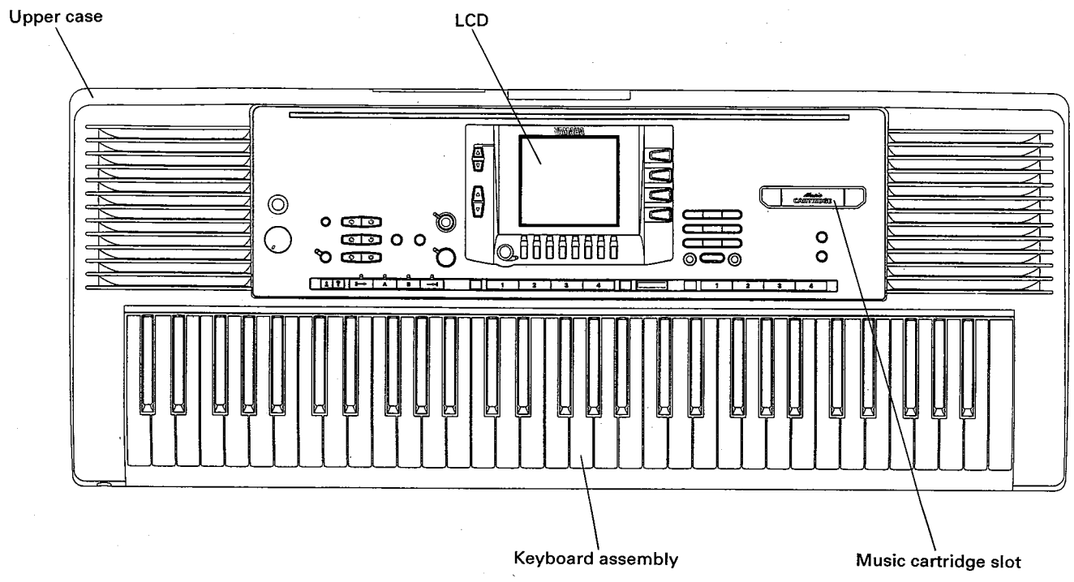
■ Rear Panel Controls

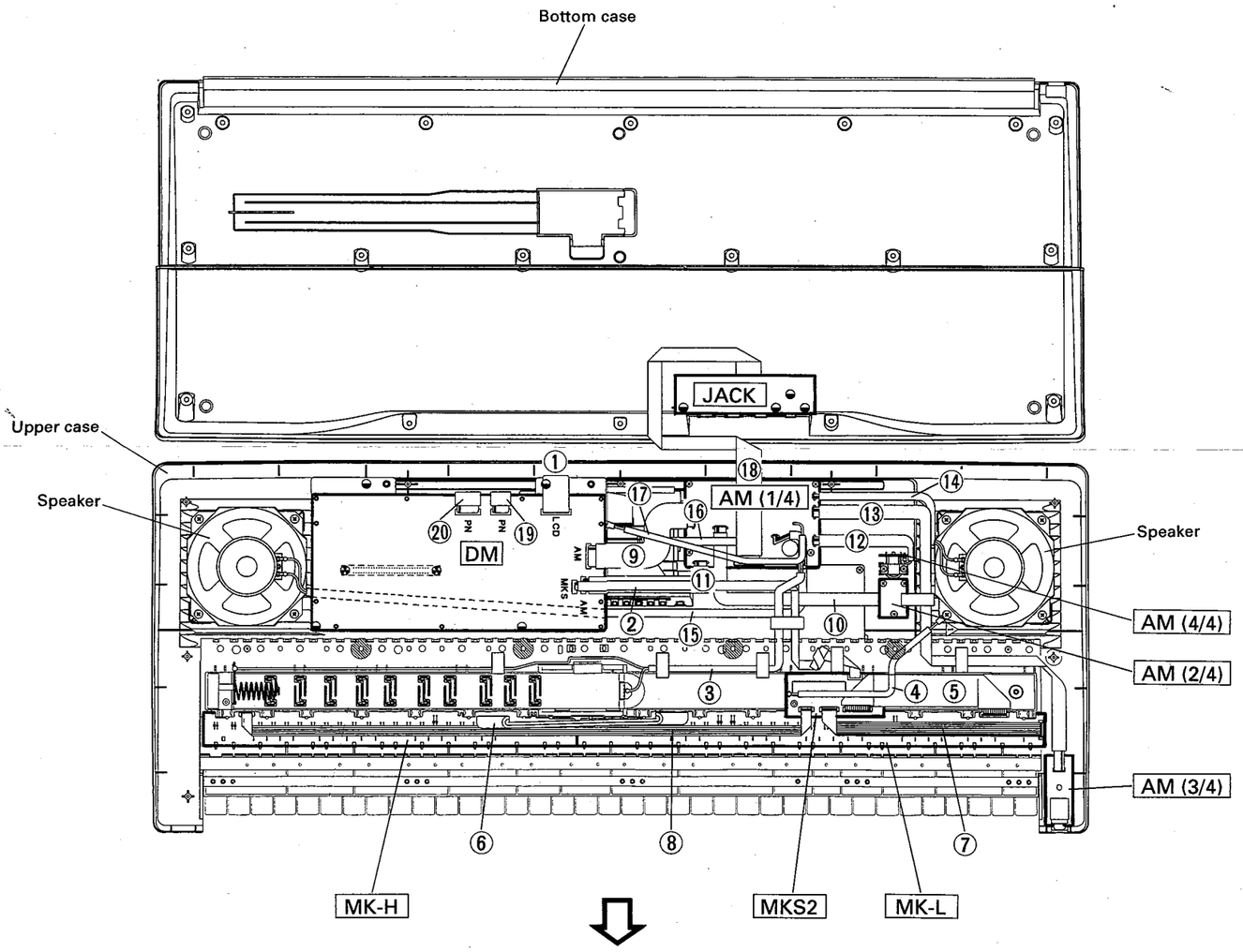
㉑ MIDI IN and OUT Connectors

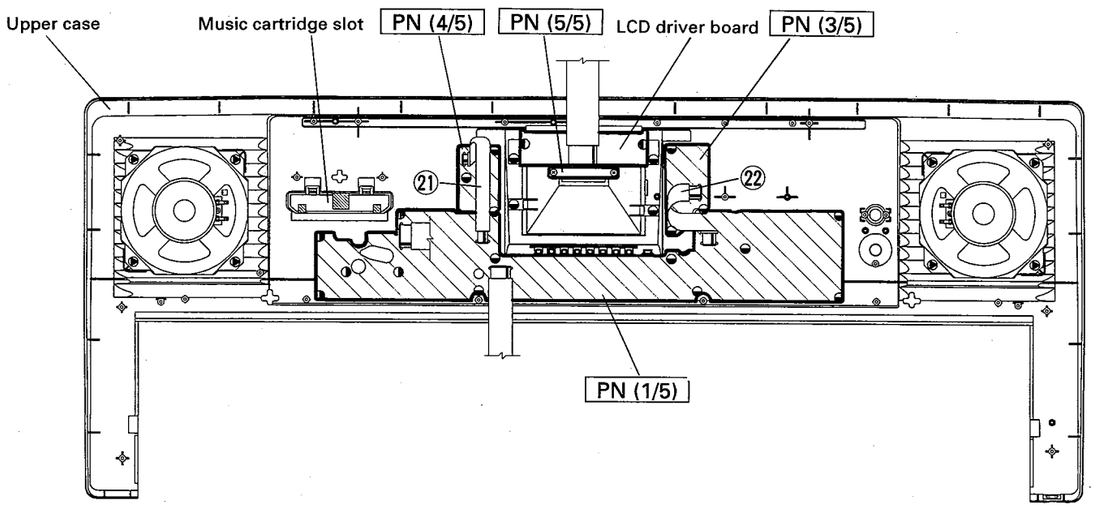
㉒ SUSTAIN Jack

㉓ DC IN 10-12V Jack

■ CIRCUIT BOARD LAYOUT







PSR-330

■ WIRING

REF. NO.	DESTINATION		PART NO.	CONNECTOR ASSEMBLY	REMARKS
①	DM-CN160	LCD	VV89020	LCD	13P/L250
②	DM-CN170	MKS2-CN1	VV89030	MKS	6P/L560
③	AM(1/4)-CN900	Battery	VU47240	BATTERY	2P
④	MKS2-Jumper pin		VZ17130	EARTH 2	1P/L280
⑤	MKS2-CN2	MK-L	VV58310	MK-A	12P/L190
⑥	MK-H	MK-L	VV58360	MK-B	12P/L215
⑦	MKS2-CN3	MK-L	VV58350	MK-C	7P/L250
⑧	MKS2-CN4	MK-H	VV58370	MK-D	5P/L615
⑨	DM-CN400	AM(1/4)-CN911	VV88990	ANALOG	11P/L200
⑩	AM(1/4)-CN912	AM(2/4)-CN913	VV88970	VR	5P/L300
⑪	DM-CN180	AM(1/4)-CN810	VV88980	MIDI	7P/L200
⑫	AM(1/4)-CN980	AM(4/4)-CN990	VV88950	POWER	4P/L150
⑬	AM(1/4)-CN960	AM(3/4)-CN970	VV88960	HP	5P/L550
⑭	AM(1/4)-CN940	Speaker(L)	VV88930	SP-L	2P/L210
⑮	AM(1/4)-CN950	Speaker(R)	VV88940	SP-R	2P/L660
⑯	AM(1/4)-CN920	PN(5/5)	VY70510	B.L	2P/L170
⑰	AM(1/4)		VZ17120	EARTH 1	1P/L250
⑱	JACK-CN800	AM(1/4)-CN914	VV88910	JACK	14P/L200
⑲	DM-CN560	PN(1/5)-CN109	VV89000	PN1	8P/L280
⑳	DM-CN550	PN(1/5)-CN101	VV89010	PN2	10P/L250
㉑	PN(1/5)-CN107	PN(4/5)-CN108	VV89120	PN3	4P/L130
㉒	PN(1/5)-CN105	PN(3/5)-CN106	VV89130	PN4	5P/160

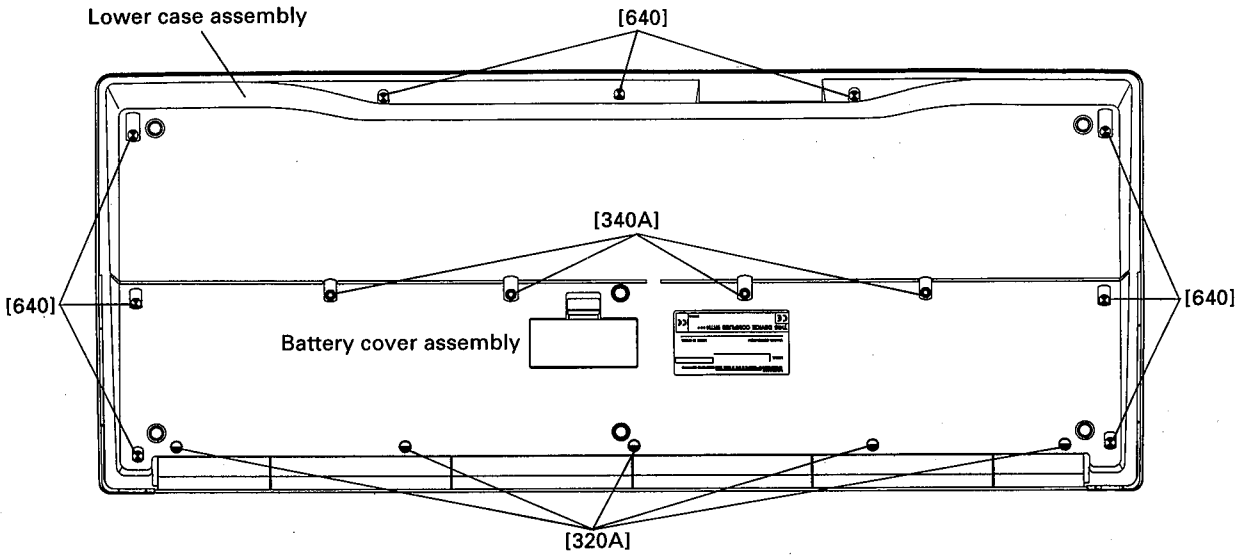
NOTE: These parts are not available as spare parts.
REF. NO. is indicated in the CIRCUIT BOARD LAYOUT figures in page 7.

■ DISASSEMBLY PROCEDURE

1 Lower Case Assembly

1-1 Remove the battery cover assembly.

1-2 Remove the five (5) screws marked [320A], the four (4) screws marked [340A] and nine (9) screws marked [640], then the lower case assembly can be removed. (Fig. 1)



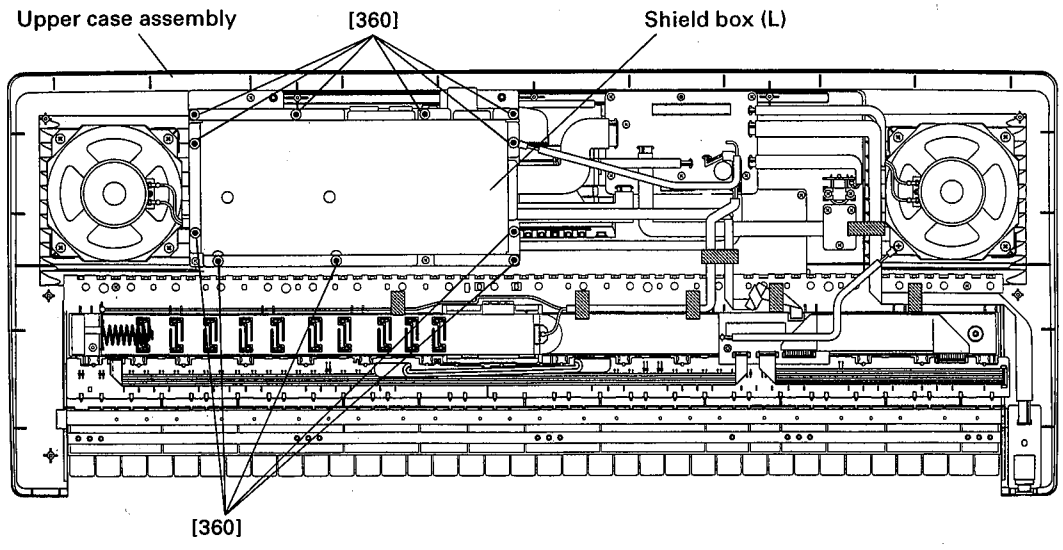
[320A]: Bind Head Tapping Screw-P 3.0X8 MFZN2Y (EP600280)
[340A]: Bind Head Tapping Screw-P 3.0X25 MFZN2Y (VK228100)
(Fig. 1) [640]: Bind Head Tapping Screw-P 3.0X12 MFZN2Y (EP600300)

2 DM Circuit Board

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

2-2 Remove the eleven (11) screws marked [360] and then remove the shield box (L). (Fig. 2)

2-3 Remove the two (2) screws marked [320B], two (2) screws marked [330], then the DM circuit board can be removed. (Fig. 3)



(Fig. 2) [360]: Bind Head Tapping Screw-B 3.0X8 MFZN2BL (EP600190)

3 AM 1/4 Circuit Board

3-1 Remove the lower case assembly. (See procedure 1)
3-2 Remove the seven (7) screws marked [320C], then the AM 1/4 circuit board can be removed. (Fig. 3)

4 AM 2/4 Circuit Board

4-1 Remove the lower case assembly. (See procedure 1)
4-2 Pull off the VOLUME control knob.
4-3 Remove the three (3) screws marked [320D], then the AM 2/4 circuit board can be removed. (Fig. 3)

5 AM 3/4 Circuit Board

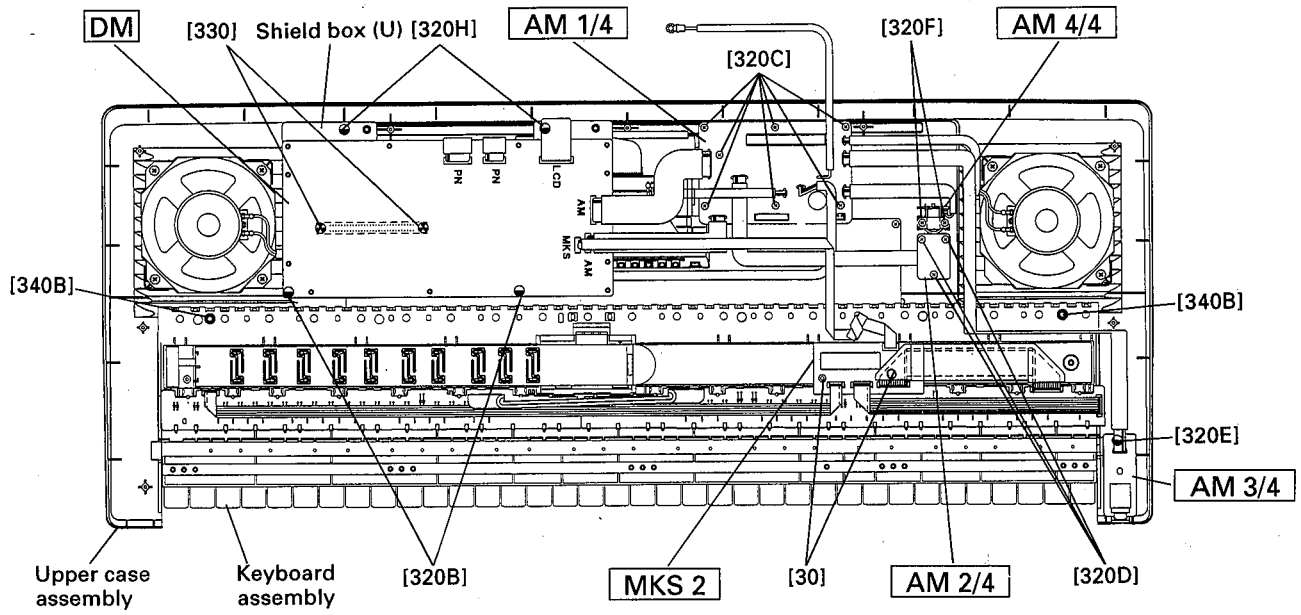
5-1 Remove the lower case assembly. (See procedure 1)
5-2 Remove the one (1) screw marked [320E], then the AM 3/4 circuit board can be removed. (Fig. 3)

6 AM 4/4 Circuit Board

6-1 Remove the lower case assembly. (See procedure 1)
6-2 Remove the two (2) screws marked [320F], then the AM 4/4 circuit board can be removed. (Fig. 3)
6-3 Pull off the push knob from the AM 4/4 circuit board.

7 Keyboard assembly

7-1 Remove the lower case assembly. (See procedure 1)
7-2 Remove the two (2) screws marked [340B], then the keyboard assembly can be removed. (Fig. 3)



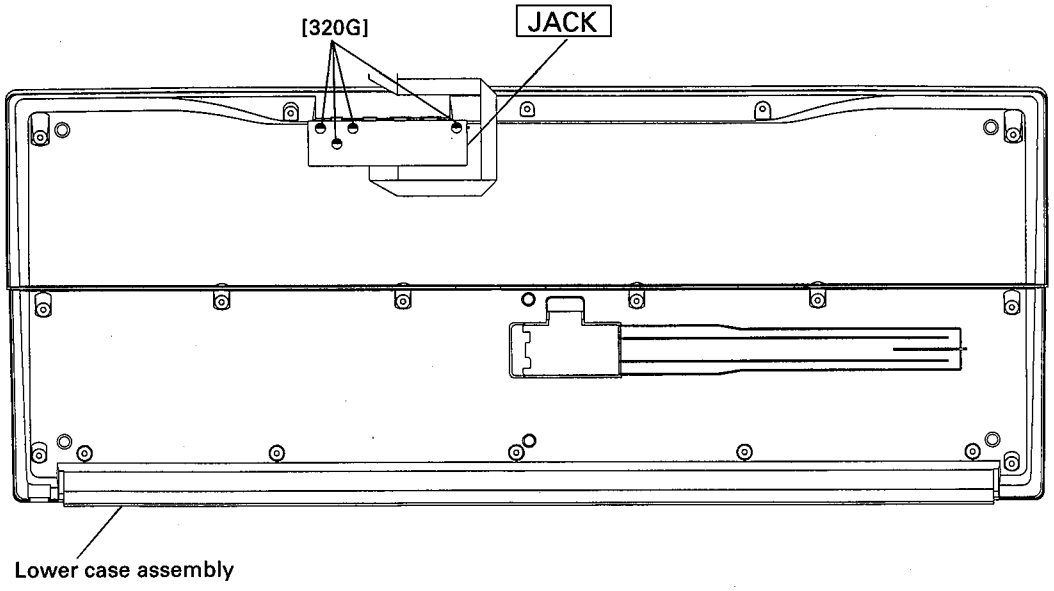
[30]:	Bind Head Tapping Screw-P 3.0X8	MFZN2Y	(EP600280)
[320B]:	Bind Head Tapping Screw-P 3.0X8	MFZN2Y	(EP600280)
[320C]:	Bind Head Tapping Screw-P 3.0X8	MFZN2Y	(EP600280)
[320D]:	Bind Head Tapping Screw-P 3.0X8	MFZN2Y	(EP600280)
[320E]:	Bind Head Tapping Screw-P 3.0X8	MFZN2Y	(EP600280)
[320F]:	Bind Head Tapping Screw-P 3.0X8	MFZN2Y	(EP600280)
[320H]:	Bind Head Tapping Screw-P 3.0X8	MFZN2Y	(EP600280)
[330]:	Bind Head Tapping Screw-P 3.0X16	MFZN2Y	(EP600310)
[340B]:	Bind Head Tapping Screw-P 3.0X25	MFZN2Y	(VK228100)

(Fig. 3)

8 JACK Circuit Board

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

8-2 Remove the four (4) screws marked [320G], then the JACK circuit board can be removed. (Fig. 4)



[320G]: Bind Head Tapping Screw-P 3.0X8 MFZN2Y (EP600280)

(Fig. 4)

9 PN 1/5 and PN 3/5 Circuit Board

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

9-2 Remove the DM circuit board. (See procedure 2)

9-3 Remove the two (2) screws marked [320H] and then remove the shield box (U). (Fig. 3)

9-4 Remove the AM 1/4 circuit board. (See procedure 3)

9-5 Remove the keyboard assembly. (See procedure 7)

9-6 Remove the twelve (12) screws marked [320I], one (1) screw marked [320J], one (1) screw marked [320K], then the PN 1/5 circuit board can be removed. (Fig. 5)

9-7 Remove the one (1) screw marked [320J], two (2) screws marked [320L], then the PN 3/5 circuit board can be removed. (Fig. 5)

10 PN 4/5 and PN 5/5 Circuit Board

10-1 Remove the lower case assembly. (See procedure 1)

10-2 Remove the DM circuit board. (See procedure 2)

10-3 Remove the two (2) screws marked [320H] and then remove the shield box (U). (Fig. 3)

10-4 Remove the one (1) screw marked [320K], two (2) screws marked [320M], then the PN 4/5 circuit board can be removed. (Fig. 5)

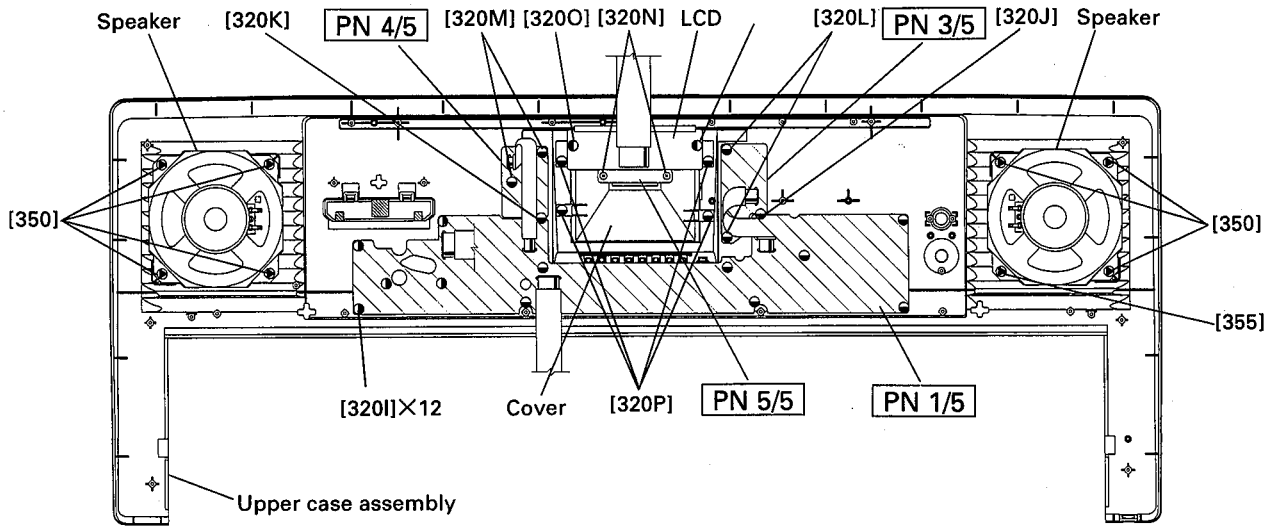
10-5 Remove the two (2) screws marked [320N], then the PN 5/5 circuit board can be removed. (Fig. 5)

11 LCD

11-1 Remove the lower case assembly. (See procedure 1)
11-2 Remove the DM circuit board. (See procedure 2)
11-3 Remove the AM 1/4 circuit board. (See procedure 3)
11-4 Remove the two (2) screws marked [320O], four (4) screws marked [320P] and then remove the cover. After the cover has been removed, you can take the LCD out of the unit. (Fig. 5)

12 Speakers

12-1 Remove the lower case assembly. (See procedure 1)
12-2 Remove the one (1) screw marked [355], eight (8) screws marked [350] and then remove the left and right speakers. (Fig. 5)



[320I]:	Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280)
[320J]:	Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280)
[320K]:	Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280)
[320L]:	Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280)
[320M]:	Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280)
[320N]:	Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280)
[320O]:	Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280)
[320P]:	Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280)
[350]:	Bind Head Tapping Screw-P 4.0X8	MFZN2BL (VB931600)
[355]:	Bind Head Tapping Screw-P 4.0X12	MFZN2Y (EP640110)

(Fig. 5)

13 Disassembling the keyboard assembly

13-1 Remove the keyboard assembly. (see procedure 7)

13-2 Remove the two (2) screws marked [30], then the MKS2 circuit board can be removed. (Fig. 3)

13-3 Remove the MK circuit board while pressing the fifteen (15) hooks (A) inward, and then remove the rubber contact. (Fig. 6)

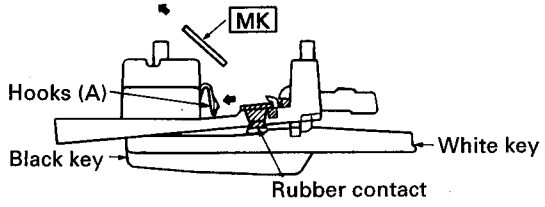
13-4 Remove the twenty-one (21) screws marked [140], then remove the black keys from the lower notes. Afterwards, remove the white keys DFA and C' and then remove the white keys CEGB from the higher notes. At this time, lift the keys from the front and slide them towards you. The keys can be removed from the assembly. (Fig. 7)

14 Assembling the keyboard assembly

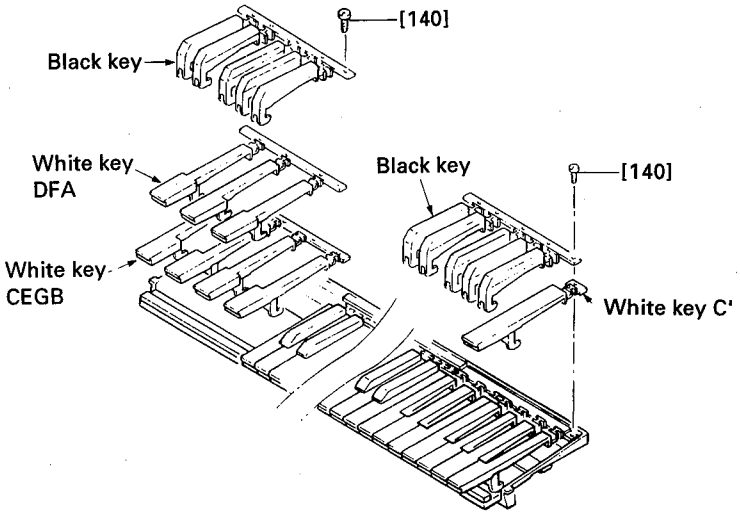
14-1 Install the white keys CEGB from the lower notes, and then DFA keys and C' key. Afterwards install the black keys from the higher notes, and tighten the twenty-one (21) screws marked [140]. (Fig. 7)

14-2 Install the rubber contacts in the assembly while pressing the keys as shown in Figure 8.
Check that the rubber contact has been firmly placed into position in the area indicated by the arrow in Figure 9.

※ When fitting the rubber contacts, raise both ends of the frame so that the keys don't push the rubber contact up.
Install the MK circuit board in the assembly so that the hooks (B) hold it as shown in Figure 10.

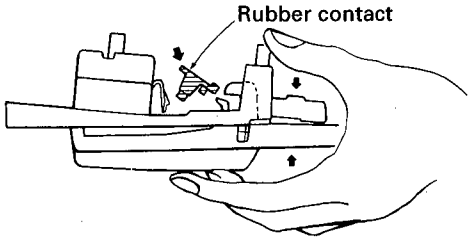


(Fig. 6)

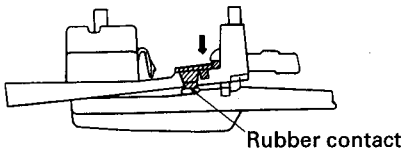


[140]: Bind Head Tapping Screw-P 3.0X16 MFZN2BL (VB205200)

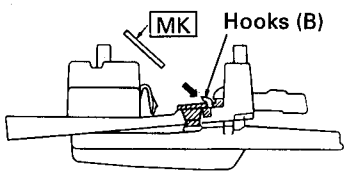
(Fig. 7)



(Fig. 8)



(Fig. 9)



(Fig. 10)

■ LSI PIN DESCRIPTION

• YMW717-F (XS994A00) GEW10-2 (Tone Generator)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	PG0/SC0	I/O	Port G	65	DACVSS		Ground
2	PG1/SC1	I/O		66	DACVDD		Power supply
3	PG2/KBD	I/O		67	INDCKO	O	For wave shaping
4	PG3/KBON	I/O		68	DACVSS		Ground
5	PG4/KBRQ	I/O		69	DACVSS		
6	DVDD		Power supply	70	DACLMI	O	
7	PE0	I/O	Port E	71	DACLPL	O	
8	PE1	I/O		72	DACVDD		Power supply
9	PE2	I/O		73	DACVDD		
10	PE3	I/O		74	DACRPL	O	
11	PE4	I/O		75	DACRMI	O	
12	PE5	I/O		76	DACVSS		Ground
13	PE6	I/O		77	DVSS		Ground
14	PE7	I/O		78	PF0	I/O	Port F
15	DVSS		Ground	79	PF1	I/O	
16	BVDD		Power supply	80	PF2	I/O	
17	/IC	I	Initial clear	81	PF3	I/O	
18	/HOGO	I	Initial clear	82	PF4	I/O	
19	LEDVDD		Power supply	83	DVDD		Power supply
20	PC0	I/O	Port C	84	MA23	O	Memory address bus
21	PC1	I/O		85	MA22	O	
22	PC2	I/O		86	MA21	O	
23	PC3	I/O		87	MA20	O	
24	LEDVSS		Ground	88	MA18	O	
25	PC4	I/O		89	MA19	O	
26	PC5	I/O		90	MA17	O	
27	PC6	I/O		91	MA08	O	
28	PC7	I/O		92	DVSS		Digital ground
29	LEDVSS		Ground	93	MA07	O	
30	PD0	I/O	Port D	94	MA09	O	
31	PD1	I/O		95	MA06	O	
32	PD2	I/O		96	MA10	O	
33	PD3	I/O		97	MA05	O	
34	LEDVDD		Power supply	98	MA11	O	
35	PD4	I/O		99	MA04	O	
36	PD5	I/O		100	MA12	O	
37	PD6	I/O		101	DVDD		Power supply
38	PD7	I/O		102	MA03	O	
39	DVDD		Power supply	103	MA13	O	
40	PA1	I/O	Port A	104	MA02	O	
41	PA2	I/O		105	MA14	O	
42	PA3/MELO01	I/O		106	MA01	O	
43	PA4/MELO23	I/O		107	MA15	O	
44	PA5/MELI01	I/O		108	MA00	O	
45	PA6/MELI23	I/O		109	MA16	O	
46	PA7/CRS	I/O		110	DVSS		Ground
47	DVSS		Digital Ground	111	MD15	I/O	Memory data bus
48	PB0/SYOD	I/O	Port B	112	MD00	I/O	
49	PB1/CDO	I/O		113	MD07	I/O	
50	PB2/QCKO	I/O		114	MD08	I/O	
51	PB3/DAIO	I/O		115	MD14	I/O	
52	PB4/DARD	I/O		116	MD01	I/O	
53	PB5/DAID	I/O		117	MD06	I/O	
54	PB6/WCKO	I/O		118	MD09	I/O	
55	PB7	I/O		119	DVDD		Digital power supply
56	DVDD		Power supply	120	MD13	I/O	
57	DVSS		Ground	121	MD02	I/O	
58	TESTE	I	Test mode select	122	MD05	I/O	
59	TESTD	I		123	MD10	I/O	
60	SEL3VA	I	Memory access architecture select	124	MD12	I/O	
61	SEL3VD	I	Power supply select	125	MD03	I/O	
62	SYI	I	Synch signal	126	MD04	I/O	
63	XTALO	O	Clock	127	MD11	I/O	
64	XTALI	I		128	DVSS		Ground

• HD63B05V0D73P (XR951A00) CPU

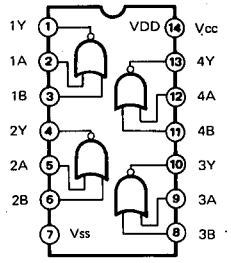
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	/RES	I	Reset	21	C7	I/O	
2	/INT	I	Interrupt request	22	C6	I/O	
3	NUM	I	Non-maskable interrupt	23	C5	I/O	
4	A7	I/O		24	C4	I/O	Port C
5	A6	I/O		25	C3	I/O	
6	A5	I/O		26	C2	I/O	
7	A4	I/O	Port A	27	C1	I/O	
8	A3	I/O		28	C0	I/O	
9	A2	I/O		29	D0	I/O	
10	A1	I/O		30	D1	I/O	Port D
11	A0	I/O		31	D2	I/O	
12	B0	I/O		32	D3/TX	O	(Serial data output)
13	B1	I/O		33	D4/RX	I	(Serial data input)
14	B2	I/O		34	D5//CK	O	(Clock for serial operation)
15	B3	I/O	Port B	35	D6//INT2	I	(Interrupt request 2)
16	B4	I/O		36	/STBY	I	(Standby mode signal)
17	B5	I/O		37	TIMER	I	Timer
18	B6	I/O		38	XTAL	O	Clock
19	B7	I/O		39	EXTAL	I	
20	VSS		Ground	40	VCC		Power supply

• YM3413 (XE449A00) LDSP (Digital Signal Processor)

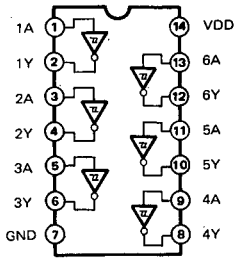
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	VDD		DC supply	21	A5	O	
2	D7	I/O		22	A6	O	
3	D6	I/O		23	A7	O	
4	D5	I/O		24	A8	O	
5	D4	I/O	Data bus	25	A9	O	
6	D3	I/O		26	A10	O	Address bus
7	D2	I/O		27	A11	O	
8	D1	I/O		28	A12	O	
9	D0	I/O		29	A13	O	
10	SI0	I	Serial data input	30	A14	O	
11	SI1	I		31	A15	O	
12	SYN	I	Synch. pulse	32	A16	O	
13	/WE	O	Write enable	33	OUT	O	Serial data output
14	/OE	O	Write enable	34	XCLK		Clock
15	A0	O		35	/IC	I	Initial clear
16	A1	O		36	/CRS	I	CD counter reset
17	A2	O	Address bus	37	CDI	I	CD input
18	A3	O		38	CDO	O	CD output
19	A4	O		39	SO1	O	Serial data output
20	VSS		Ground	40	CLK		Clock

■ IC BLOCK DIAGRAM

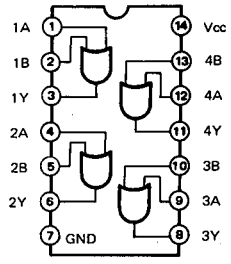
- **TC74HC02P** (IR000200)
  Quad 2 Input NOR



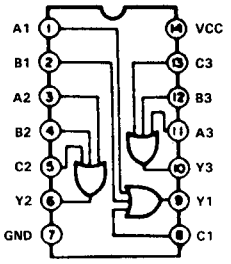
- **TC74HC14AP** (IR001400)
  Hex Inverter



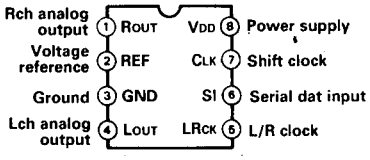
- **TC74HC32P** (IR003200)
  Quad 2 Input OR



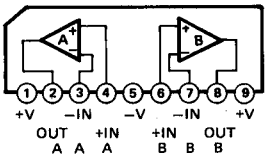
- **TC74HC4075AP** (IR407500)
  Triple 3-Input OR Gate



- **µPD6379A** (XR998A00)
- **BU9480F** (XR999A00)
  Dual Operational Amplifer



- **µPC4570HA** (XB247A00)
  Dual Operational Amplifer



■ TEST PROGRAM

A. SETTING UP CONDITIONS

- **Power supply voltage:**
  DC-IN ..... 10-12 V
  Battery..... 9±0.9 V
- **Measuring equipment:**
  frequency counter, level meter (with a JIS-C Filter)
  MIDI cable, foot switch (FC4 or FC5)
- **Measuring point:**
  Measure the signal at the [PHONES] jack. (30 ohm load)
- **Controls:**
  Set the [MASTER VOLUME] at maximum while the output level and the noise level is measured.

B. HOW TO ENTER THE TEST PROGRAM

While depressing the C2#, F2 and G2# keys, turn the [POWER] switch on. When the test program is initiated, "TEST" will appear on the LCD . And then a back up check of the RAM is performed automatically.

C. PROCEEDING THROUGH THE TEST

At each of the following tests, if the test checks OK, press the [START/STOP] button. If the test is NG (No Good), NG is displayed and testing is stopped. At that time, press the [START/STOP] button. Then the program proceeds to the next test .

Press the [TEMPO▼] button; then the program returns to the previous test .

1. ROM VERSION TEST [TEST-NO. 01]

Press the [TEMPO▲] button. "01 Version" will appear on the LCD.

Press the [START/STOP] button. Then the LCD shows "*** Prog". (*** : ROM version number)

Press the [START/STOP] button again; then the program proceeds to the next test.

2. ROM TEST (1) [TEST-NO. 02]

Initial Display "02 Rom Chk1"

Press the [START/STOP] button; then the program performs all Program data ROM checks. The LCD shows as follows:

OK "ROM OK"

NG "***** NG"(***** : ROM name)

Press the [START/STOP] button again; then the program proceeds to the next test.

3. RAM TEST (1) [TEST-NO. 03]

Initial Display "03 Ram Chk1"

Press the [START/STOP] button; then the program performs all data of RAM checks. The LCD shows as follows:

OK "RAM OK"

NG "***** NG"(***** : RAM name)

Press the [START/STOP] button again; then the program proceeds to the next test.

4. MUSIC CARTRIDGE TEST (1) [TEST-NO. 06]

Initial Display "06 MC Chk1"

Insert the music cartridge into the cartridge slot, and press the [START/STOP] button.

Test Result

OK "Cart OK"

NG "Cart NG"

Press the [START/STOP] button again; the program proceeds to the next test.

5. EFFECT 1 RAM TEST [TEST-NO. 09]

Initial Display "09 Eff1 Chk"

Adjust the [MASTER VOLUME] to an easy-to-listen level.

Press the [START/STOP] button and check that the sine wave sound is C3 during this test.

Press the [START/STOP] button again; the sound stops and the program proceeds to the next test.

6. AUTO SCALING TEST [TEST-NO. 11]

Initial Display "11 TG1 Chk"

Press the [START/STOP] button and check that the sine wave sound progressively moves upscale and the LCD shows "TG1 Chk".

Press the [START/STOP] button again; the program proceeds to the next test.

7. PITCH TEST [TEST-NO. 13]

Connect the frequency counter to the [PHONES] jack on the front of the panel.

Initial Display "13 Pit Chk"

When the [START/STOP] button is pressed, the LCD shows "Pitch". Check that the sine wave sound is A3 and the pitch is 440 Hz±1.76 Hz.

Press the [START/STOP] button again; the sound stops and the program proceeds to the next test.

8. OUTPUT LEVEL (R) TEST [TEST-NO. 14]

Initial Display "14 Output R"

Connect the level meter (with a JIS-C filter) to the [PHONES] jack (30 ohm load). Set the [MASTER VOLUME] at maximum.

When the [START/STOP] button is pressed, the LCD shows "Output R". Check that the sine wave sound is C5.

Check that the output level is less than -44.5 dBm at (L), and -3.0 dBm±2 dB at (R).

Press the [START/STOP] button again; the sound stops and the program proceeds to the next test.

9. OUTPUT LEVEL (L) TEST [TEST-NO. 15]

Initial Display "15 Output L"

When the [START/STOP] button is pressed, the LCD shows "Output L". Check that the sine wave sound is C5.

Check that the output level is less than -44.5 dBm at (R), and -3.0 dBm±2 dB at (L).

Use the same procedure as the output (R) level check.

Press the [START/STOP] button again; the sound stops and the program proceeds to the next test.

10. DAC NOISE LEVEL TEST [TEST-NO. 19]

Initial Display "19 Noise"

Press the [START/STOP] button and the LCD shows "DA NOISE".

Press any key on the keyboard. Check that the noise level is less than -78 dBm at (R) and (L).

Use the same procedure as the output (R) level test.

Press the [START/STOP] button again; the program proceeds to the next test.

11. PANEL SWITCH AND LED TEST [TEST-NO. 20]

Initial Display "20 SW Chk"

Adjust the [MASTER VOLUME] to an easy-to-listen level. Then, press the [START/STOP] button and press each of the switches in the order indicated on Table 1.

When pressing each switch, a corresponding note will sound, and the LED light will turn on.

If all switches are OK, LCD shows "SW OK".

Press the [START/STOP] button again; the program proceeds to the next test.

12. PANEL LED TEST[TEST-NO. 21]

Initial Display "21 P LED"

Press the [START/STOP] button and check all LED lights turn on simultaneously.

Press the [START/STOP] button again; all LEDs go out and the program proceeds to the next test.

13. LCD ON TEST[TEST-NO. 28]

Initial Display "28 LCD On"

Press the [START/STOP] button and check all LCD dots light up simultaneously.

Press the [START/STOP] button again; the program proceeds to the next test.

14. LCD OFF TEST [TEST-NO. 29]

Initial Display "29 LCD Off"

Press the [START/STOP] button and check all LCD dots turn off simultaneously.

Press the [START/STOP] button again; the program proceeds to the next test.

15. PEDAL TEST [TEST-NO. 31]

Initial Display "31 PD1 Chk"

Connect the foot switch to the [SUSTAIN] jack on the rear of the panel. Press the [START/STOP] button; the LCD shows "PD1 IN".

Press down on the pedal. Check the LCD displays "PD1 OK" and the sine wave sound is C4.

When the pedal is lifted to its original position, check that the LCD displays "PD1 OFF" and the sine wave sound is C3.

Press the [START/STOP] button again; the sound stops and the program proceeds to the next test.

16. MIDI TEST [TEST-NO. 37]

Initial Display "37 MIDI Chk"

Connect the MIDI cable to the [MIDI IN] and [MIDI OUT] connectors on the rear of the panel.

Press the [START/STOP] button; the LCD shows "MIDI Send".

If it checks OK, the LCD shows "MIDI OK" and the sine wave sound is C4.

If it checks NG, the LCD shows "MIDI NG".

Press the [START/STOP] button again; the program proceeds to the next test.

17. FACTORY SET [TEST-NO. 47]

Initial Display "47 Factory"

Press the [START/STOP] button. The LCD shows "Factory" and all Ram data is initialized.

Press the [START/STOP] button again, the program

ORDER	SWITCH	NOTE	ORDER	SWITCH	NOTE
1	DEMO	48(C2)	32	VOICE	79 (G4)
2	AUTO ACCOMPANIMENT ON/OFF	49 (C#2)	33	STYLE	80 (G#4)
3	TEMPO ▼	50 (D2)	34	SONG	81 (A4)
4	TEMPO ▲	51 (D#2)	35	CARTRIDGE	82 (A#4)
5	TRANSPOSE ▼	52 (E2)	36	MEMORY	83 (B4)
6	TRANSPOSE ▲	53 (F2)	37	REGISTRATION MEMORY 1	84 (C5)
7	ACCOMP/SONG VOLUME ▼	54 (F#2)	38	REGISTRATION MEMORY 2	85 (C#5)
8	ACCOMP/SONG VOLUME ▲	55 (G2)	39	REGISTRATION MEMORY 3	86 (D5)
9	REVERVE	56 (G#2)	40	REGISTRATION MEMORY 4	87 (D#5)
10	HARMONY	57 (A2)	41	FREEZE	88 (E5)
11	RECORD	58 (A#2)	42	ONE TOUCH SETTING	89 (F5)
12	START/STOP	59 (B2)	43	1 (TEN KEY)	48 (C2)
13	SYNC STOP	60 (C3)	44	2 (TEN KEY)	49 (C#2)
14	SYNC START	61 (C#3)	45	3 (TEN KEY)	50 (D2)
15	INTRO	62 (D3)	46	4 (TEN KEY)	51 (D#2)
16	MAIN/AUTO FILL A	63 (D#3)	47	5 (TEN KEY)	52 (E2)
17	MAIN/AUTO FILL B	64 (E3)	48	6 (TEN KEY)	53 (F2)
18	ENDING	65 (F3)	49	7 (TEN KEY)	54 (F#2)
19	SUB MENU ▲	66 (F#3)	50	8 (TEN KEY)	55 (G2)
20	SUB MENU ▼	67 (G3)	51	9 (TEN KEY)	56 (G#2)
21	MENU ▲	68 (G#3)	52	- (TEN KEY)	57 (A2)
22	MENU ▼	69 (A3)	53	0 (TEN KEY)	58 (A#2)
23	REVOICE	70 (A#3)	54	+ (TEN KEY)	59 (B2)
24	TRACK 1	71 (B3)	55	DUAL VOICE	60 (C3)
25	TRACK 2	72 (C4)	56	SPLIT VOICE	61 (C#3)
26	TRACK 3	73 (C#4)	57	STOP	62 (D3)
27	TRACK 4	74 (D4)	58	MULTI PAD 1	63 (D#3)
28	TRACK 5	75 (D#4)	59	MULTI PAD 2	64 (E3)
29	TRACK 6	76 (E4)	60	MULTI PAD 3	65 (F3)
30	TRACK 7	77 (F4)	61	MULTI PAD 4	66 (F#3)
31	TRACK 8	78 (F#4)			

Table 1

proceeds to the next test.

**** NOTE: The following tests Nos. 41-46, require approximately 25 minutes to conduct.***
If the time is not available to perform the tests, exit the program by pressing the [TEMPO▲] button.

18. ROM TEST (2) [TEST-NO. 41]

Initial Display "41 Rom Chk2"

Press the [START/STOP] button. The LCD shows "Rom Chk2". The program performs all Program data ROM (full address) checks and the LCD shows as follows:

OK "ROM OK"

NG "***** NG"(***** : ROM name)

Press the [START/STOP] button again; the program proceeds to the next test.

19. RAM TEST (2) [TEST-NO. 42]

(It takes about 20 minutes to perform this test.)

Initial Display "42 Ram Chk2"

Press the [START/STOP] button. The LCD shows "Ram Chk2". The program performs all Program data RAM (full address) checks and the LCD shows as follows:

OK "RAM OK"

NG "***** NG"(***** : RAM name)

Press the [START/STOP] button again; the program proceeds to the next test.

20. MUSIC CARTRIDGE TEST (2) [TEST-NO. 45]

Initial Display "45 MC Chk2"

Insert the music cartridge into the [CARTRIDGE] slot, and press the [START/STOP] button.

Test Result

OK "Cart OK"

NG "Cart NG"

Press the [START/STOP] button again; the program proceeds to the next test.

21. RAM BACK UP (2) TEST [TEST-NO. 46]

Initial Display "46 Back Up2"

Turn the [POWER] switch off .Turn the [POWER] switch on. Press the [START/STOP] button. Check that the LCD shows "Back Up NG".

Turn the [POWER] switch off .Turn the [POWER] switch on. Press the [START/STOP] button. Check that the LCD shows "Back Up OK".

Press the [START/STOP] button ; the program proceeds to the next test.

22. EXIT [TEST-NO. 48]

Initial Display "48 END"

After displaying above the test mode will be exited.

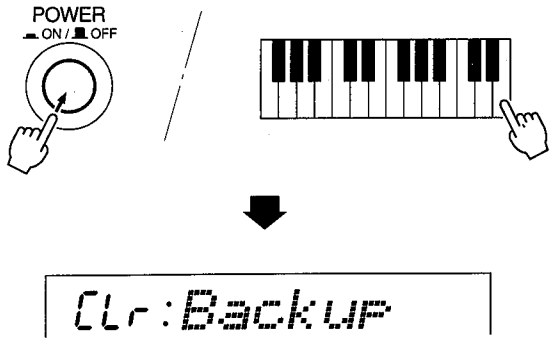
■ INITIALIZE

Except for the data listed below, all PSR-330 panel settings are reset to their initial settings whenever the power is turned on. The data listed below are backed up — i.e. retained in memory — as long as an AC adapter is connected or a set of batteries is installed.

- Registration Memory
- User Song Data
- MIDI Transmit Settings
- MIDI Receive Settings

■ Data Initialization

All data can be initialized and restored to the factory preset condition by turning on the power while holding the highest (rightmost) white key on the keyboard. "CLr BackUp" will appear briefly on the display.



CAUTION

- ***All registration and song memory data, plus the other settings listed above, will be erased and/or changed when the data initialization procedure is carried out.***
- ***Carrying out the data initialization procedure will usually restore normal operation if the PSR-330 freezes or begins to act erratically for any reason.***

■ MIDI DATA FORMAT

<Table-1> Parameter Change

	Address (H)	Size (H)	Data (H)	Parameter	Description	Default Value (H)
SYSTEM	00 00 7E	1	00	XG SYSTEM ON		
EFFECT	02 01 00	2	00 — 7F 00 — 7F	REVERB TYPE MSB REVERB TYPE LSB	Refer Table-2 Refer Table-2	01 (=HALL1) 00
MULTI PART	08 nn 41	1	00 — 7F	SCALE TUNING C	–64 — +63 cent	40
	08 nn 42	1	00 — 7F	SCALE TUNING C♯	–64 — +63 cent	40
	08 nn 43	1	00 — 7F	SCALE TUNING D	–64 — +63 cent	40
	08 nn 44	1	00 — 7F	SCALE TUNING D♯	–64 — +63 cent	40
	08 nn 45	1	00 — 7F	SCALE TUNING E	–64 — +63 cent	40
	08 nn 46	1	00 — 7F	SCALE TUNING F	–64 — +63 cent	40
	08 nn 47	1	00 — 7F	SCALE TUNING F♯	–64 — +63 cent	40
	08 nn 48	1	00 — 7F	SCALE TUNING G	–64 — +63 cent	40
	08 nn 49	1	00 — 7F	SCALE TUNING G♯	–64 — +63 cent	40
	08 nn 4A	1	00 — 7F	SCALE TUNING A	–64 — +63 cent	40
	08 nn 4B	1	00 — 7F	SCALE TUNING A♯	–64 — +63 cent	40
	08 nn 4C	1	00 — 7F	SCALE TUNING B	–64 — +63 cent	40

<Table-2> Effect map

LSB / MSB	00H	01H	02H	.....	7FH
00H	NO EFFECT	NO EFFECT			
01H	HALL1	HALL2			
02H	ROOM1	ROOM2			
03H	HALL1	HALL2			
04H	PLATE1	PLATE2			
05H	DELAY1	DELAY2			
06H	NO EFFECT	NO EFFECT			
⋮	⋮	⋮			
7FH	NO EFFECT	NO EFFECT			

Other than 00H, any LSB effect type that has no effect name in its corresponding part, will be directed to the corresponding effect type of the MSB value and LSB 00H.

■ MIDI IMPLEMENTATION CHART

[Portable Keyboard]
Model: PSR-330

MIDI Implementation Chart

Date: 1997. 1. 31
Version: 1.0

Function	Transmitted	Recognized	Remarks
Basic Default	1~16 CH	1~16 CH (*0)	
Channel Changed	1~16 CH	1~16 CH (*0)	
Default	Mode 3	(*0)	
Mode Messages	X	X	
Altered	*****	X	
Note	0~127	0~127	
Number : True voice	*****	0~127	
Velocity Note on	O 9nH, v=1~127	O 9nH, v=1~127	
Note off	X 9nH, v=0	X 9nH, v=0 or 8nH	
After key's	X	X	
Touch Ch's	X	X	
Pitch Bender	O	O	
Control Change 0, 32	O (*1)	O (*1)	Bank select MSB, LSB
1	O	O	Modulation depth
6, 38	O	O	Data entry MSB, LSB
7	O	O	Volume
10	O	O	Pan
11	O	O	Expression
64	O	O	Sustain
66	X	O	Sostenuto
84	O	O	Portamento control
91	O	O	Reverb depth
96	X	O	RPN Data increment
97	X	O	RPN Data decrement
100, 101	O (*2)	O (*2)	RPN LSB, MSB
120	O	O	All sound off
121	O	O (*3)	Reset all controllers
Program	O 0~127	O 0~127	
Change : True #	*****	0~127	
System Exclusive	O (*4)	O (*4)	
System : Song Position	X	X	
: Song Select	X	X	
Common : Tune	X	X	
System : Clock	O	O (*5)	
Real Time : Commands	O (*6)	O (*6)	
Aux : Local ON/OFF	X	X	
: All Notes Off	X	O	
Messages : 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

*0 By default (factory settings) the PSR-330 ordinarily functions as a 16 channel multi-timbral tone generator. The Remote Channel can be designated with the panel settings. The designated channel can be controlled in the same manner as the PSR-330's keyboard ON/OFF control. The following messages can be received by the designated channel in this mode. All other messages will be ignored.

- Note ON
- Note OFF
- Control change : Bank select MSB, LSB
  Volume
  Pan
  Sustain
  Reverb depth
  All sound off
  Reset all controller
- Program change
- Exclusive

*1 BANK SELECT
- The bank select MSB is used for melody and rhythm voice switching.
  (MSB 00H: Melody Voice/MSB 7FH: Rhythm Voice)
- Refer to the Voice List for details on LSB.

*2 RPN transmission/reception

Pitch bend Sensitivity	BnH, 64H, 00H, 65, 00H
Fine Tune	BnH, 64H, 01H, 65, 00H
Course Tune	BnH, 64H, 02H, 65, 00H
Null	BnH, 64H, 7FH, 65, 00H

*3 Pitch Bend, modulation, expression, sustain, sostenuto and RPN are returned to their default values. Also, resets the portamento control.

*4 EXCLUSIVE

<GM System ON> F0H, 7EH, 7FH, 09H, 01H, F7H
- All parameters except MIDI Master Tuning settings are reset to their default values.

<DISK ORCHESTRA ON> F0H, 43H, 73H, 01H, 14H, F7H

<DISK ORCHESTRA OFF> F0H, 43H, 73H, 01H, 13H, F7H

<MIDI MASTER VOLUME> F0H, 7FH, 7FH, 04H, 01H, ll, mm, F7H
- Allows the volume of all channels to be changed simultaneously. (Universal System Exclusive)
- "mm" is used as the MIDI Master Volume value ("ll" is ignored).
- The relationship between the MIDI Master Volume value and the real volume is the same as the Control Change Master Volume.
- The default value for "mm" is 7FH.

<MIDI MASTER TUNING>
F0H, 43H, 1nH, 27H, 30H, 00H, 00H, mm, ll, cc, F7H
- Simultaneously changes the tuning of all channels.
- "mm, ll" is used as the MIDI Master Tuning Value. The tuning value is represented as follows:

  T=M-128 (28<=M<=228)
  T: Tuning Value (in cents)
  M: is decimal value represented by 1-byte using bits 0..3 of "mm" as the MSB and bits 0..3 of "ll" as the LSB.
- The default values for "mm" and "ll" are 08H, 00H. Also, n and cc are recognized.
- This value is not reset by a GM System ON or Reset All Controllers message.

<BULK DUMP>
Resist Memory
F0H, 43H, 73H, 4CH, 06H, 09H, 0nH, 0nH, 0nH, 0nH, [DATA], sum, F7H

0nH, 0nH, 0nH, 0nH : Data length (nnnnH Byte)
sum : Check Sum

User Song Data
F0H, 43H, 73H, 4CH, 06H, 0AH, 0nH, 0nH, 0nH, 0nH, 0nH, 0nH, [DATA], sum, F7H

0nH, 0nH, 0nH, 0nH, 0nH, 0nH : Data length (nnnnnnH Byte)
sum : Check Sum

<Section Control> F0H, 43H, 7EH, 00H, ss, dd, F7H
- This message is related to the SW section operation.

ss : 00H-07H	INTRO
08H	MAIN A
09H-0FH	MAIN B
10H	FILL IN AA
11H-17H	FILL IN BB
18H	FILL IN AB
19H-1FH	FILL IN BA
20H-27H	ENDING
dd : Switch ON/OFF	7FH (ON)/ 00H (OFF)

<START, STOP Control> F0H, 43H, 6nH, xx, F7H
- This message controls the Start/Stop for the Style. (received only)

  n : Ignores the Device Number.
  xx : 7A= Reset Start, 7D= Stop & Rewind

<TEMPO CONTROL> F0H, 43H, 7EH, 01H, tt, tt, tt, tt, F7H
- This message is used to change the Tempo Value.
  tt, tt, tt, tt : Tempo Data

<Internal Clock, External Clock> (Received Only)
F0H, 43H, 73H, 01H, 02H, F7H (Internal Clock)
F0H, 43H, 73H, 01H, 03H, F7H (External Clock)
- This message controls the Clock Mode of the Style.

<XG System ON> (Received Only)
F0H, 43H, 1nH, 4CH, 00H, 00H, 7EH, 00H, F7H
n : ignores the Device Number.
- All parameters except MIDI Master Tuning are reset to their default values.
- Remote Channel setting is canceled.
- This message requires approximately 50ms to execute, so sufficient time should be allowed before the next message is sent.

<XG Parameter Change>
F0H, 43H, 1nH, 4CH, aaH, bbH, ccH, ddH, ..., F7H

n:	Device number is ignored.
aa, bb, cc:	address High, Mid, Low
dd:	data (successive transmission and reception are possible within the amount of data shown in the following Table-1)

- For more details refer to Table-1.

Caution: The PSR-330 corresponds to the XG parameters in Table-1, but this is only a portion of XG parameters. The PSR-330 does not completely correspond to the XG format.

*5 It is possible to switch between the External and Internal Clocks.

*6 Start/Stop commands for the style can only be received when External Clock is ON.

*7 All MIDI messages will be ignored when in the Song Mode.

■ CIRCUIT BOARDS

Notes)

Circuit Board: DM (VV869300) XS931A0

1. IC

IC 100: YMW717-F (XS994A00) GEW10-2
IC 120: RE5VL46CA-TZ (XR647A00) TO-92 RESET
IC 130: TC74HC14AP (IR001400) S-INVERTER
IC 210: (XT206100)MASK ROM 32M
IC 220: TC74HC02AP (IR000200) NOR
IC 230: (XT205B00) EPROM 8M
IC 240: SRM2B256SLCX55 (XT242A00) SRAM 256K
IC 250: TC74HC32AP (IR003200) OR
IC 260: TC74HC4075AP (IR407500) OR
IC 310: YM3413 (XE449A00) LDSP
IC 320: SRM2B256SLCX70 (XT108A00) or SRM2B256SLCX55 (XT242A00) SRAM 256K
IC 410: PQ05RA1 TO-220 (XL450A00) REGURATOR +5V
IC 420: AN8005-(FTA)TO-9 (XP515A00) REGURATOR +5V
IC 430: S-81350HG-T TO-9 (XM939A00) REGURATOR +5V
IC 491: UPD6379AGR (XR998A00) or BU9480F (XR999A00) D/A CONVERTER

2. Zener Diode

ZD 430: MTZ J 12.0C 12. (VG440300)

3. Semiconductive Cera. Cap.

C 100-102,110,120, 160,162,210,220, 230-232,240,250, 260,261,310,320, 410,413,420,430:
C 433,491: 0.1000 25V M (VD930900)

4. Ceramic Capacitor-2B

C 163,164,180: 470P 50V K (FG612470)

5. Ceramic Capacitor Array

CA 160,180, 530,540: 470P 50V Z SI (VJ006700)

6. Electrolytic Cap.

C 121: 10.00 16.0V (UJ837100)
C 161,412,422, 432,493: 100.00 10.0V (UJ828100)
C 411,431: 100.00 25.0V (UJ848100)
C 421,461,481: 1.00 50.0V (UJ866100)
C 494: 47.00 16.0V (UJ837470)

7. Coil

L 171,172: FL5R200QNT (VB835000) or SBT-0260TF (VF968800)

8. Carbon Resistor

R 100: 1.0M 1/4 J (HF459100)
R 101,162,430: 22.0 1/4 J (HF454220)
R 102,120,181: 1.0K 1/4 J (HF456100)
R 110: 1.8K 1/4 J (HF456180)
R 160: 820.0 1/4 J (HF455820)
R 161,431: 220.0 1/4 J (HF455220)
R 180,231,260: 10.0K 1/4 J (HF457100)
R 220: 100.0K 1/4 J (HF458100)
R 401: 47.0K 1/4 J (HF457470)
R 461,481: 100.0 1/4 J (HF455100)

9. Resistor Array

RA 231,234: EXB-F10V820J 82X (VY714800)
RA 232,233, 235,236: EXB-F12V820J 82X (VY714900)
RA 540: EXB-F9E103J 10K (VC028100)

10. Wire Trap

CN 160: 52147 13P (VK025700) to LCD
CN 180: 52147 7P(VK025100) to AM1/4-CN810
CN 400: 52147 11P (VK025500) to AM1/4-CN911
CN 560: 52147 8P (VK025200) to PN1/5-CN109

11. Connector

CN 170: 52147 6P (VF728300) to MKS-CN1
CN 230: PSB4D 60P (VU538700) to Music Cartridge
CN 550: 52147 10P (VF728200) to PN1/5-CN101

12. Ceramic Resonator

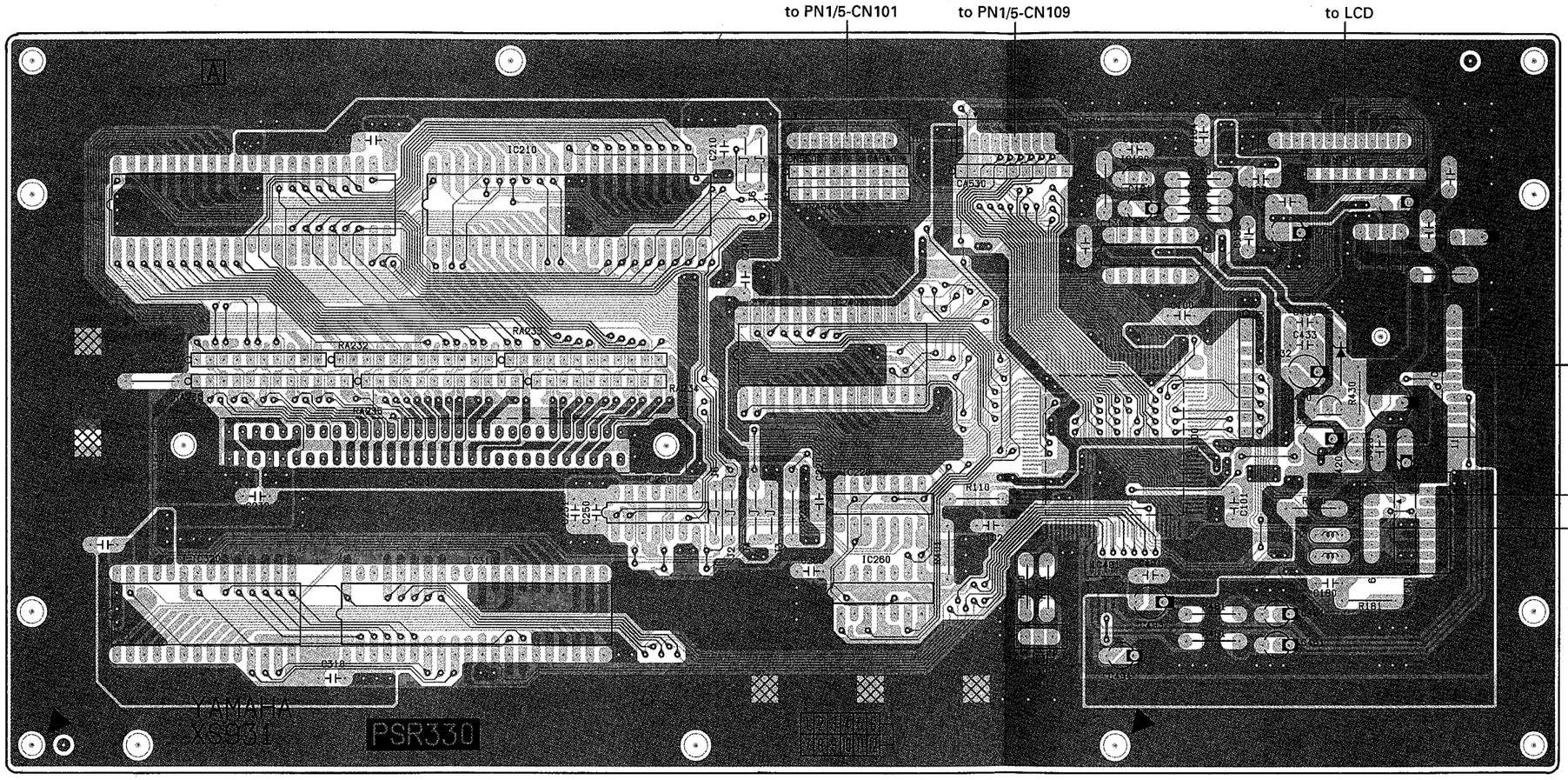
CL 100: CST29.41MXW1H3 (VU363500) or 29.411M EFOEC29 (VV895500)

13. Jumper Wire

J 1,4,5: 0.55 (VA078900)

PSR-330

• DM Circuit Board

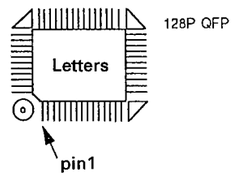


Component side

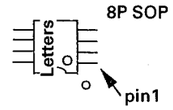
NOTE: Jumper wire (J1 through in J6) connection is shown on the table below.

	IC230	IC210	J1	J2	J3	J4	J5	J6
1st Lot	XT203A0 (16M EP-ROM)	XT204A0 (16M EP-ROM)			○		○	○
2nd Lot	XT205A0 (BM EP-ROM)	XT20610 (32M MASK-ROM)	○			○	○	
3rd Lot	XT205B0 (8M EP-ROM)	XT20610 (32M MASK-ROM)	○			○	○	
4th Lot	not installed not installed	XT20620 (32M MASK-ROM)	○	○		○		

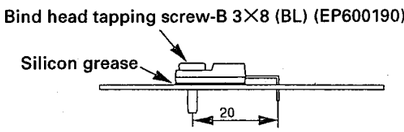
• IC100 installing



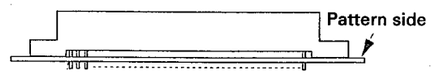
• IC491 installing



• IC490 installing

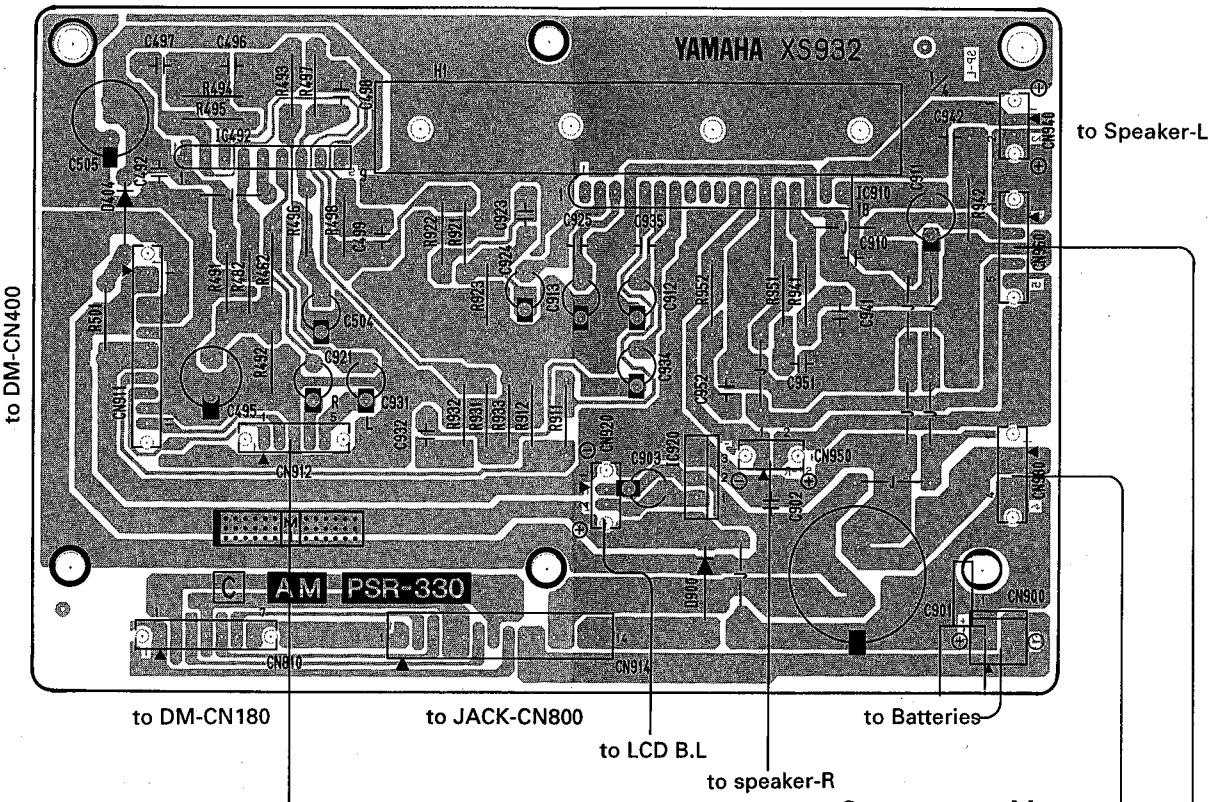


• IC230 installing

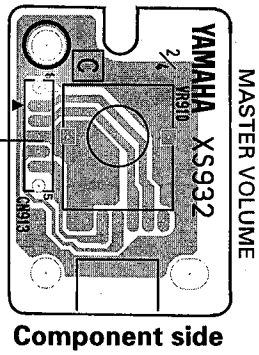


• AM Circuit Board

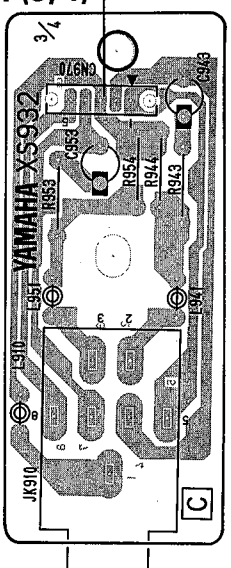
• AM (1/4)



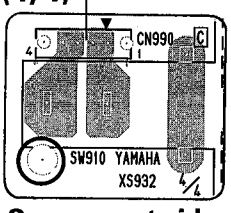
• AM (2/4)



• AM (3/4)



• AM (4/4)



Notes)

Circuit Board: AM (VV869400) XS932C0

1. IC

IC 492: UPC4570HA (XB247A00) OP AMP
IC 910: LA4705 (XM593A00) POWER AMP
IC 920: NJM78M05FA (XJ604A00) REGURATOR +5V

2. Diode

D 404: 1SS133,176,HSS10 (VD631600)
D 900: 20E1-FC4 (VL723600)

3. Mylar Capacitor

C 496,498: 0.0220 50V J (UA654220)
C 941,942,951 952: 0.0470 50V J (UA654470)

4. Electrolytic Cap.

C 495: 470.00 10.0V (UJ828470)
C 504: 22.00 16.0V (UJ837220)
C 505: 470.00 25.0V (UJ848470)
C 901: 2200 25.0V (UJ749220)
C 903: 10.00 25.0V (UJ847100)
C 911: 100.00 25.0V (UJ848100)
C 912: 33.00 16.0V (UJ837330)
C 913: 100.00 10.0V (UJ828100)
C 921,924,931 934: 1.00 50.0V (UJ866100)
C 943,953: 47.00 16.0V (UJ837470)

5. Ceramic Capacitor

C 497,499: 82P 50V K (FG651820)
C 922: 8200P 50V K (FG613820)
C 923,932: 470P 50V K (FG612470)
C 925,935: 2200P 50V K (FG613220)

6. Semiconductive Cera. Cap.

C 492,902 910: 0.1000 25V M (VD930900)

7. Coil

L 910,941 951: FL5R200QNT (VB835000) or SBT-0260TF (VF968800)

8. Carbon Resistor

R 462,482, 912: 100.0K 1/4 J (HF458100)
R 491,492: 4.7K 1/4 J (HF456470)
R 493,496: 15.0K 1/4 J (HF457150)
R 494,497: 18.0K 1/4 J (HF457180)
R 495,498: 33.0K 1/4 J (HF457330)
R 501: 68.0 1/4 J (HF454680)
R 911: 10.0K 1/4 J (HF457100)
R 921,931: 39.0K 1/4 J (HF457390)
R 922,932: 22.0K 1/4 J (HF457220)
R 923,933: 3.9K 1/4 J (HF456390)
R 941,942 951,952: 2.2 1/4 J (HF453220)
R 943,953: 100.0 1/4 J (HF455100)
R 944,954: 330.0 1/4 J (HF455330)

9. Rotary Variable Resistor

VR 910: A10.0K XV0141GPV (VY711800) MASTER VOLUME

10. Push Switch

SW910: SDDLB1 J,UC,CEE (VY980400) POWER ON/OFF

11. Phone Jack

JK 910: JACK YKB21-50 (LB101870) PHONES

12. Cable Holder

CN 810: 51048 7P (VI878500) to DM-CN180
CN 911: 51048 11P (VI878900) to DM-CN400
CN 912: 51048 5P (VI878300) to AM2/4-CN913
CN 913: 51048 5P (VI878300) to AM1/4-CN912
CN 920: 51048 2P (VI878000) to PN5/5(LCD B.L)
CN 940: 51048 2P (VI878000) to Speaker-L
CN 950: 51048 2P (VI878000) to Speaker-R
CN 960: 51048 5P (VI878300) to AM3/4-CN970
CN 970: 51048 5P (VI878300) to AM1/4-CN960
CN 980: 51048 4P (VI878200) to AM4/4-CN990
CN 990: 51048 4P (VI878200) to AM1/4-CN980

13. Base Post Connector

CN 900: XH 2P (LB918020) to Batteries

14. Connector Base Post

CN 914: PH-14P TE (VE352600) or PH-14Y TE (VY709600) to JACK-CN800

15. Connector Assembly

W 1: ANALOG 11P L=200 (VV889900) CN911(AM1/4)-CN400(DM)
W 2: VR 5P L=300 (VV889700) CN912(AM1/4)-CN913(AM2/4)
W 3: MIDI 7P L=200 (VV889800) CN810(AM1/4)-CN180(DM)
W 4: POWER 4P L=150 (VV889500) CN980(AM1/4)-CN990(AM2/4)
W 5: HP 5P L=550 (VV889600) CN960(AM1/4)-CN970(AM3/4)
W 6: SP-L 2P L=210 (VV889300) CN940(AM1/4)-Speaker(L)
W 7: SP-R 2P L=660 (VV889400) CN950(AM1/4)-Speaker(R)
W 8: B.L 2P L=170 (VY705100) CN920(AM1/4)-PN 5/5(LCD B.L)
W 9: EARTH 1P L=250 (VZ171200)

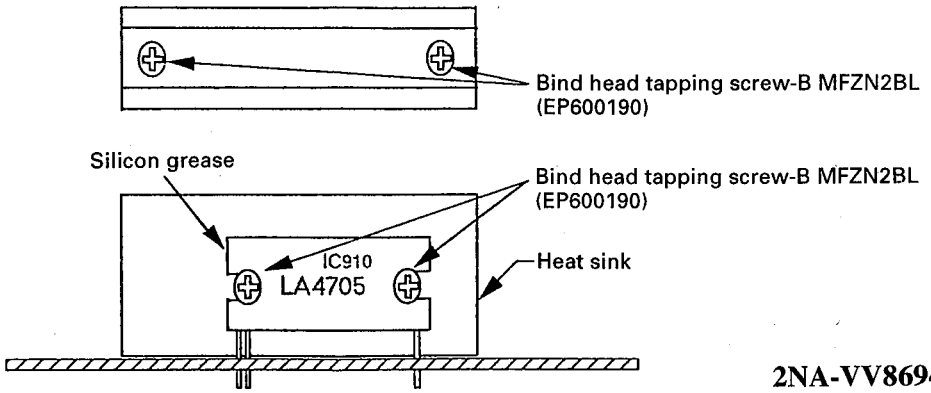
16. Heat Sink

H 1: (VL456900)

17. Jumper Wire

J: 0.55 (VA078900)

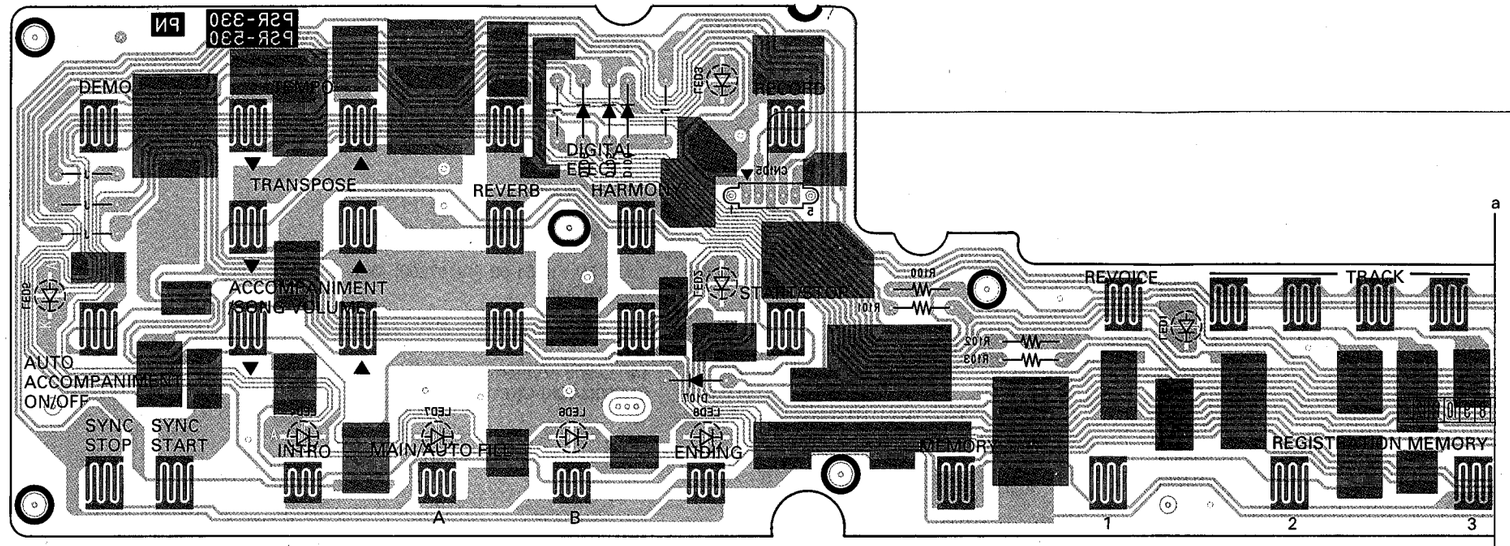
• IC910 installing



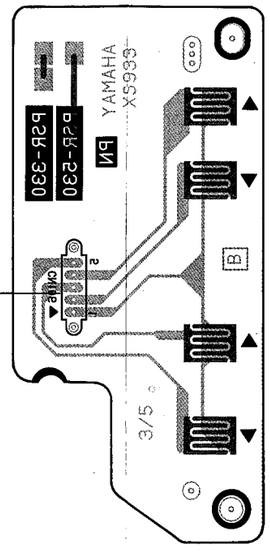
PSR-330

• PN Circuit Board

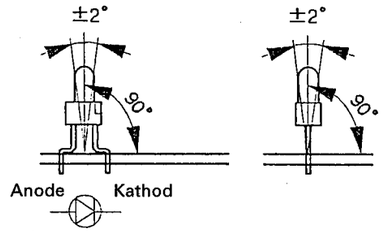
• PN (1/5)



• PN (3/5)



• LA installing



Notes)

Circuit Board: PN (VV869500) XS933A0

1. Diode

D 100-107: 1SS133,176,HSS10 (VD631600)

2. LED

LED01: SLZ-190B-01 RE (VC341300) REVOICE

LED02-08: SLZ-190B-10-T2 R (VT387900) START/STOP, RECORD, INTRO, AUTO ACCOMPANIMENT ON/OFF, MAIN/AUTO FILL,ENDING

3. Carbon Resistor

R 100-103: 470.0 1/4 J (HF455470)

4. Lamp

LA: 1.6W T4.2 6.3V 250mA (VZ057400)

5. Cable Holder

CN 101: 51048 10P (VI878800) to DM-CN550

CN 105: 51048 4P (VI878200) to PN3/5-CN106

CN 106: 51048 4P (VI878200) to PN1/5-CN105

CN 107: 51048 5P (VI878300) to PN4/5-CN108

CN 108: 51048 5P (VI878300) to PN1/5-CN107

CN 109: 51048 8P (VI878600) to DM-CN560

6. Wire

W 1: PN1 8P L=280 (VV890000) CN109(PN1/5)-CN560(DM)

W 2: PN2 10P L=250 (VV890100) CN101(PN1/5)-CN550(DM)

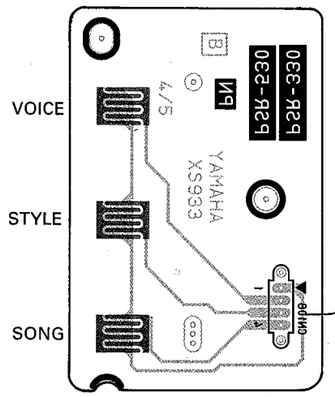
W 3: PN3 4P L=130 (VV891200) CN107(PN1/5)-108(PN4/5)

W 4: PN4 5P L=160 (VV891300) CN105(PN1/5)-106(PN4/5)

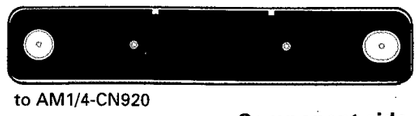
7. Jumper Wire

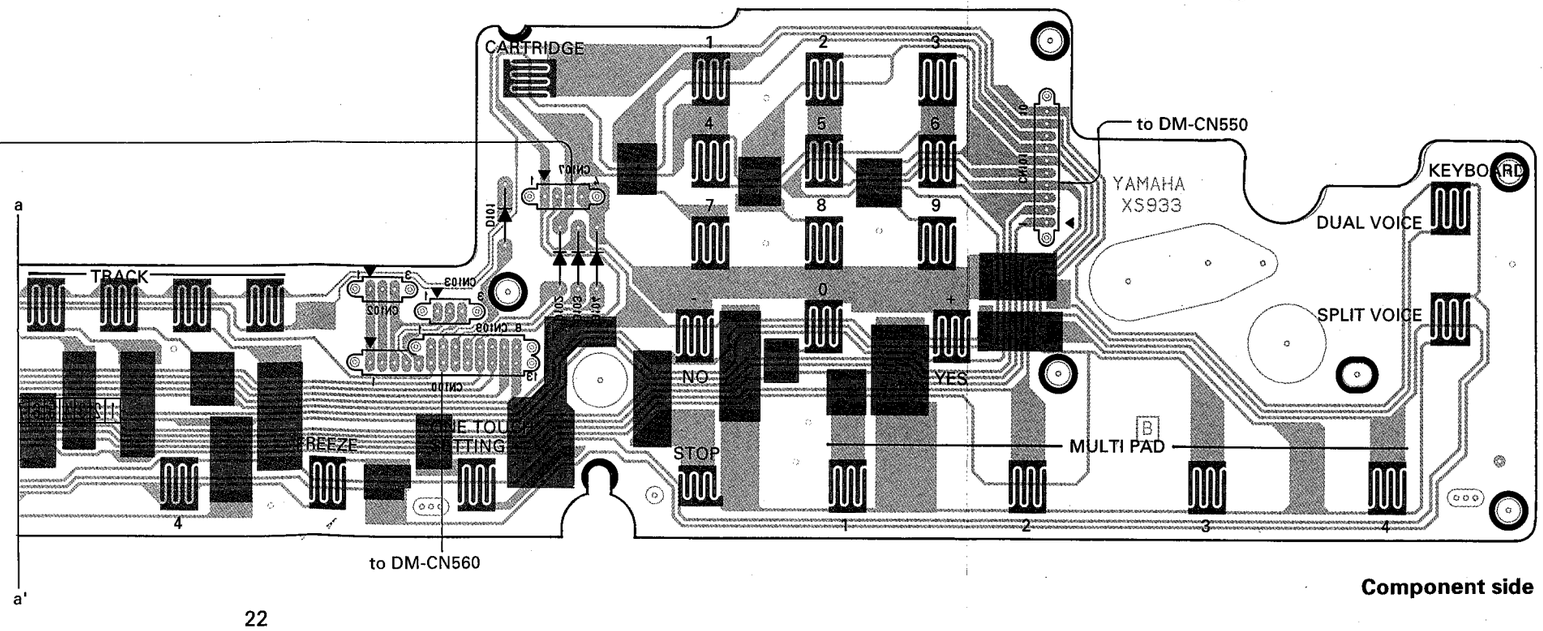
J: 0.55 (VA078900)

• PN (4/5)

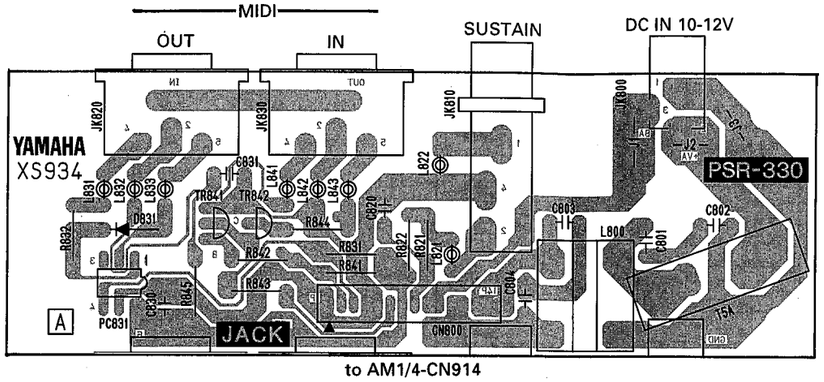


• PN (5/5)



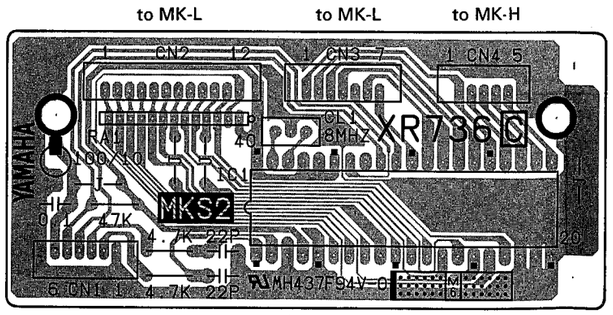


• JACK Circuit Board



Component side

• MKS2 Circuit Board



Component side

Notes)

Circuit Board: JACK (VV876900) XS934A0

1. Transistor
TR 841,842: 2SC1815 Y,GR (IC1815M0)

2. Diode
D 831: 1SS133,176,HSS10 (VD631600)

3. Photo Coupler
PC 830: PC-900V (VG181900)

4. Semiconductive Cera. Cap.
C 801-804
820,830: 0.1000 25V M (VD930900)

5. Ceramic Capacitor
C 831: 0.0100 50V Z (FG644100)

6. Coil (Line Filter)
L 800: SU10VD-10020 (VH227500)
L 821,822
831-833
841-843: FL5R200QNT (VB835000) or SBT-0260TF (VF968800)

7. Carbon Resistor
R 821,841: 10.0K 1/4 J (HF457100)
R 822: 47.0K 1/4 J (HF457470)
R 831: 270.0 1/4 J (HF455270)
R 832,844
845: 220.0 1/4 J (HF455220)
R 842,843: 22.0K 1/4 J (HF457220)

8. Fuse
: 5.00A J (KB003630)

9. Connector
CN 800: HEC23 (VC664500) to AM1/4-CN914

10. Phone Jack
JK 810: JACK YKB21-50(VB312600) SUSTAIN

11. DIN Connector
JK 820,830: JACK 5P YKF51-50 (VJ107200) MIDI OUT, MIDI IN

12. Jumper Wire
J 1-3: 0.55 (VA078900)

13. Connector Assembly
W 1: 14P L=200 (VV889100)
CN800(JACK)-CN914(AM1/4)

Notes)

Circuit Board: MKS2(VU494600) XR736C0,XS829A0

1. IC
IC 1: HD63B05V0F07P (XR951A00) CPU

2. Ceramic Capacitor-SL
C 1,2: 22P 50V J (FG651220)

3. Electrolytic Cap.
C 3: 100.00 10.0V (UJ828100)

4. Semiconductive Cera. Cap.
C 4: 0.1000 25V M (VD930900)

5. Carbon Resistor
R 1,2: 4.7K 1/4 J (HF456470)
R 3: 47.0K 1/4 J (HF457470)

6. Resistor Array
RA 1: RGLE12X473J (VH373200)

7. Ceramic Resonator
CL 1: CST8.00MTW140 (VN002100) or 8.00M EFOEC8004 (VQ305500)

8. Connector(Wire Trap)
CN 1: 52147 6P (VF728300) to DM-CN170
CN 2: 52147 12P (VK025600) to MK-L
CN 3: 52147 7P (VK025100) to MK-L
CN 4: 52147 5P (VK024900) to -MK-H

9. Jumper Wire
: 0.55 (VA078900)

JACK : 2NA-VV86910 ⓪
MKS2 : 2NA-VU49440 ①

PORTATONE

PSR-330

PARTS LIST

■ CONTENTS

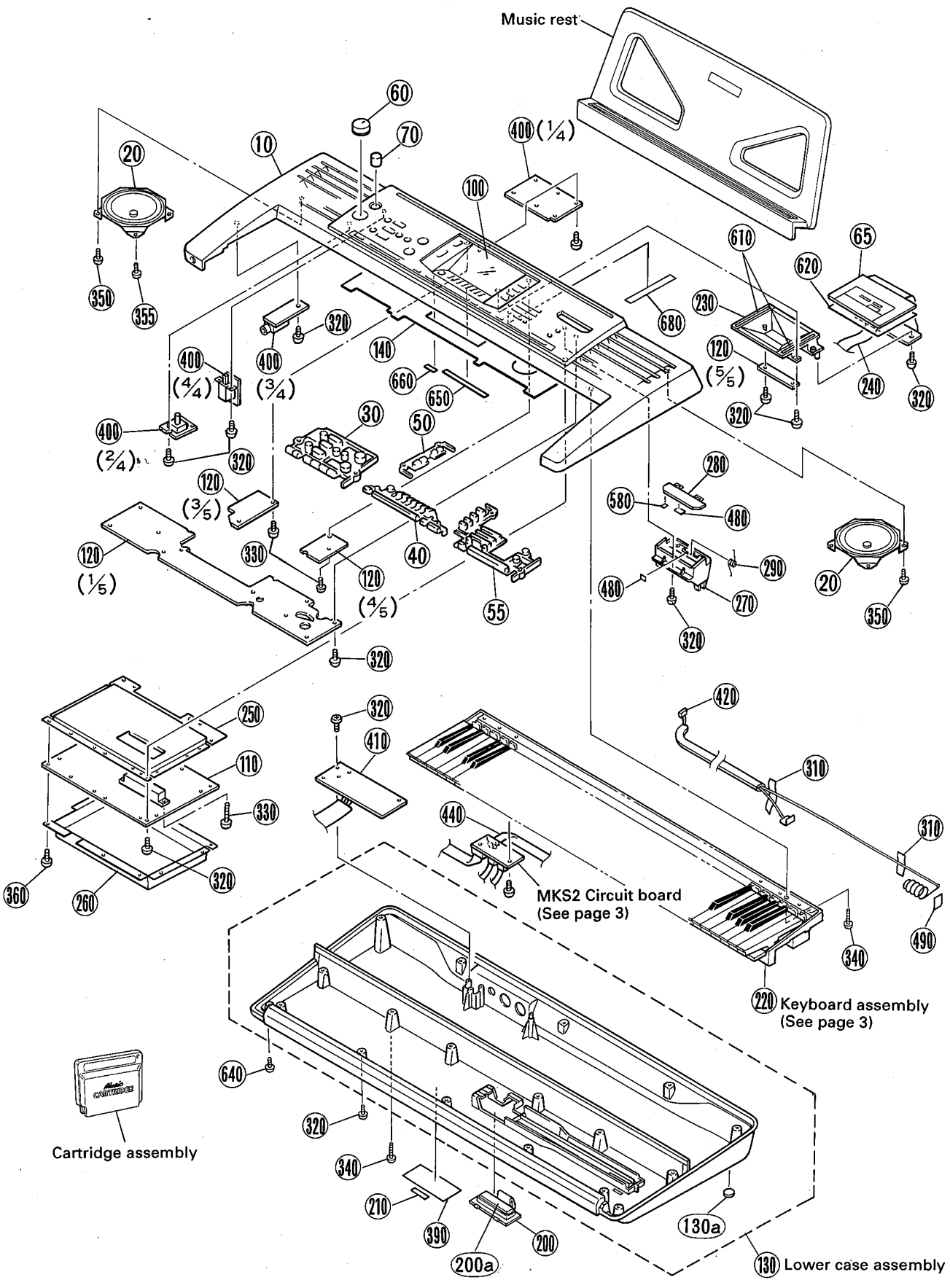
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Notes: DESTINATION ABBREVIATIONS

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

- The numbers in " QTY " show quantities for each unit.
- The parts with "--" in " PART NO. " are not available as spare parts.

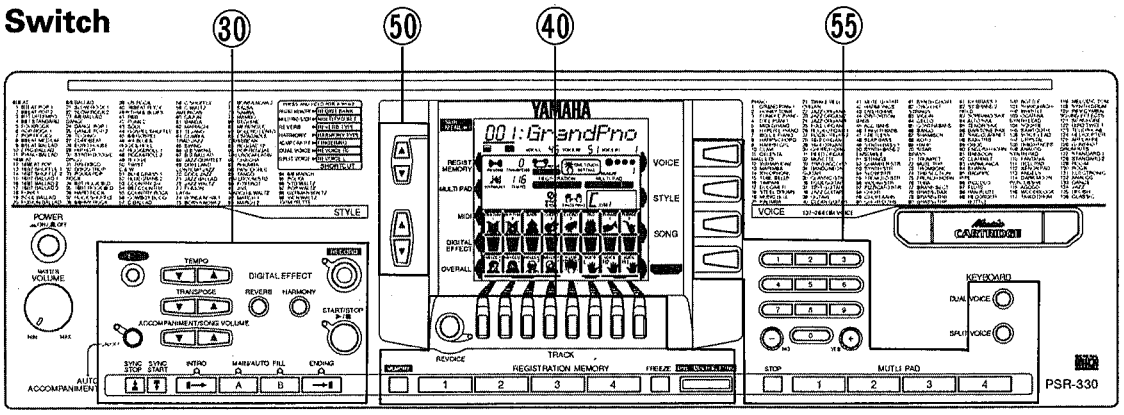
■ OVERALL ASSEMBLY



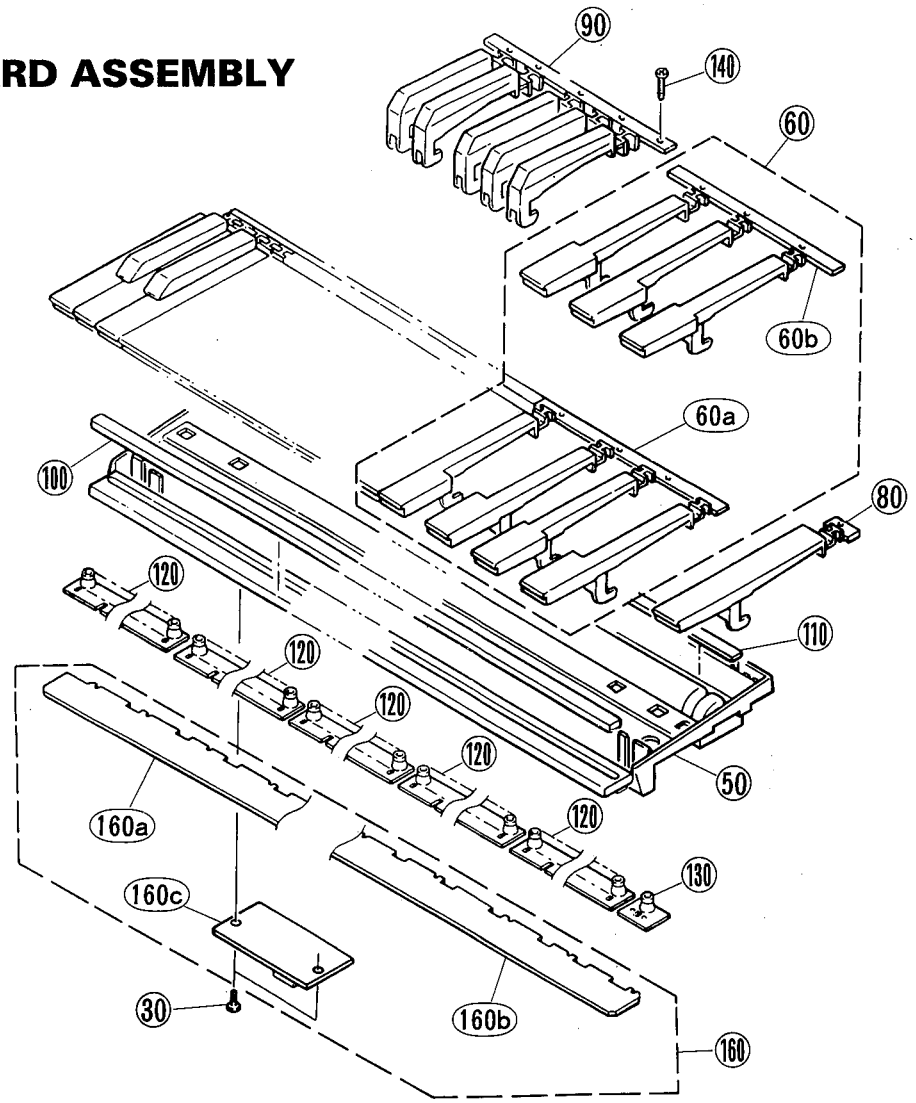
	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	ランク
		--	OVERALL ASSEMBLY	PSR330	総組立	(VV67310)		
*	10	VV673300	Upper Case Assembly		上ケースAss'y			
	20	XN789B00	Speaker	12.0cm 4ohm 5W	スピーカー		2	05
*	30	VY667500	Panel Switch	L	パネルスイッチL	※ Refer to the figure shown below.		
*	40	VY635400	Panel Switch	C	パネルスイッチC			
*	50	VY635500	Panel Switch	U	パネルスイッチU			
*	55	VY735000	Panel Switch	R	パネルスイッチR			
	60	VU432400	Knob	V	VツマミMASTER VOLUME			01
*	65	VY727200	LCD	DM150A-6J	液晶ディスプレイ			
	70	VQ218800	Knob		プッシュツマミPOWER ON/OFF			03
*	100	VY727100	LCD Panel		LCDパネル			
*	110	VV869300	Circuit Board	DM	DMシート			
*	120	VV869500	Circuit Board	PN	PNシート			
*	130	VV673400	Lower Case Assembly		下ケースAss'y			
	130a	CB043750	Foot	BL T1.6	ゴム足		5	01
	140	--	Vibration-proof Sheet	U	防振シートU	(VY85430)		
	200	VM754600	Battery Cover Assembly	KB200	バッテリーカバーAss'y			
	200a	VI107900	Battery Cushion	WH	バッテリークッション			01
	210	--	Label		規格・製番ラベル	(VY84890)		
*	220	VV582900	Keyboard Assembly	16M C61 K6	16M鍵盤Ass'y			
*	230	VV672100	Cover		バックライトカバー			
	240	--	Connector Assembly	13P L=250	LCD束線	(VV89020)		
*	250	VV673500	Shield Box	Upper	シールドボックス上			
*	260	VV673600	Shield Box	Lower	シールドボックス下			
	270	VT367600	Cartridge Guide		CARTガイド成形品			04
	280	VU264600	Cartridge Rid		CART蓋成形品			03
	290	VU264500	Spring		回転バネ			03
	310	VA126100	Adhesive Tape	12X50	粘着テープ		11	03
	320	EP600280	Bind Head Tapping Screw-P	3.0X8 MFZN2Y	+バインドPタイト		54	01
	330	EP600310	Bind Head Tapping Screw-P	3.0X16 MFZN2Y	+バインドPタイト		2	01
	340	VK228100	Bind Head Tapping Screw-P	3.0X25 MFZN2Y	+バインドPタイト		6	01
	350	VB931600	Bind Head Tapping Screw-P	4.0X8 MFZN2BL	+バインドPタイト		7	01
	355	EP640110	Bind Head Tapping Screw-P	4.0X12 MFZN2Y	+バインドPタイト			01
	360	EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL	+バインドBタイト		11	01
	390	--	Sticker	E	承認ラベルE	(VZ14680)		
*	400	VV869400	Circuit Board	AM	AMシート			
*	410	VV876900	Circuit Board	JACK	JACKシート			
	420	--	Battery Wire Assembly		電池線Ass'y	(VU47240)		
	440	--	Connector Assembly	6P L=560	MKS束線	(VV89030)		
	480	VT703200	Vibration-proof Tape	E 15X15X0.5	防振テープE		2	01
	490	VJ861500	Vibration-proof Tape	18X25	防振テープ			03
	580	--	Vibration-proof Tape	8X8X0.5	防振テープ	(VQ76090)	2	
	610	--	Vibration-proof Tape	K 90X5X0.15	防振テープK	(VY83790)	2	
*	620	VZ089000	Diffusion Sheet Assembly		拡散シートAss'y			
	640	EP600300	Bind Head Tapping Screw-P	3.0X12 MFZN2Y	+バインドPタイト		9	01
	650	--	Vibration-proof Tape	M 100X10X0.15	防振テープM	(VZ08770)		
	660	--	Vibration-proof Tape	S 20X10X0.15	防振テープS	(VZ08780)		
	670	--	Wire, Earth	1P L=280	アース束線2	(VZ17130)		
	680	--	Vibration-proof Tape	J 90X3X0.15	防振テープJ	(VY83780)	2	
			ACCESSORIES		付属品			
		VU469500	Music Rest	PSR230	譜面立て			07
*		VU113800	AC Adapter	PA-5C J	ACアダプター	J		
		VS353300	AC Adapter	PA-5B CEE	ACアダプター	O		12
*		VY986700	Japanese Guide Sheet		和文シート	J		
*		VY848500	Chinese Guide Sheet		中文シート	O		
*		VV672400	Cartridge Assembly		CARTAss'y			

* New Parts (新規部品)　　ランク：Japan only

• Panel Switch



■ KEYBOARD ASSEMBLY



※ Refer to the CIRCUIT BOARD LAYOUT section of this manual regarding 160d, 160e, 160f, 160g connector assemblies.

	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	ランク
			KEYBOARD ASSEMBLY		鍵盤Ａｓｓ'ｙ	PSR330		
*		VV582900	Keyboard Assembly	16M C61 K6	１６Ｍ鍵盤Ａｓｓ'ｙ			
	30	EP600280	Bind Head Tapping Screw-P	3.0X8 MFZN2Y	＋バインドＰタイト		2	01
	30	EP630220	Bind Head Tapping Screw-P	3.0X8 MFZN2BL	＋バインドＰタイト		2	01
	50	--	Frame	C61	フレーム	(VS15380)		
	60	VH1809C0	White Keys	CEGBDFA	白鍵ＣＥＧＢＤＦＡ		5	
	60a	--	White Keys	CEGB	白鍵ＣＥＧＢ	(VH18090)	5	
	60b	--	White Keys	DFA	白鍵ＤＦＡ	(VH18100)	5	
	80	VH181100	White Key	C'	白鍵Ｃ'			01
	90	VH181210	Black Keys		黒鍵		5	03
	100	VH181300	Felt		フェルト			03
	110	VH181400	Rubber Sheet		ゴムシート			01
	120	VU328400	Rubber Contact	16M 12KEYS	接点ゴム		5	06
	130	VU328500	Rubber Contact	16M 1KEY	接点ゴム			05
	140	EP600310	Bind Head Tapping Screw-P	3.0X16 MFZN2Y	＋バインドＰタイト		21	01
	140	VB205200	Bind Head Tapping Screw-P	3.0X16 MFZN2BL	＋バインドＰタイト		21	01
	140	VS756700	Bind Head Tapping Screw-P	3.0X16 MFZN2B	＋バインドＰタイト		21	01
	160	--	Circuit Board	SW	鍵盤ＳＷシート	(VV61430)		
*	160a	VV583800	Circuit Board	MK-L	ＭＫ－Ｌシート			
*	160b	VV583900	Circuit Board	MK-H	ＭＫ－Ｈシート			
	160c	VU494600	Circuit Board	MKS2 16M	ＭＫＳ２シート			10
	160d	--	Connector Assembly	MK-A 12P	ケーブルＭＫ－Ａ	(VV58310)		
	160e	--	Connector Assembly	MK-B 12P	ケーブルＭＫ－Ｂ	(VV58360)		
	160f	--	Connector Assembly	MK-C 7P	ケーブルＭＫ－Ｃ	(VV58350)		
	160g	--	Connector Assembly	MK-D 5P	ケーブルＭＫ－Ｄ	(VV58370)		
		--	Sponge	A	スポンジＡ	(VV61890)	2	
		--	Sponge	B	スポンジＢ	(VV61900)	2	
		--	Double-sided Adhesive Tape	C 12	両面テープＣ	(VV61910)		
		--	Double-sided Adhesive Tape	D 12	両面テープＤ	(VV61920)	3	

* New Parts (新規部品)

ランク：Japan only

■ ELECTRICAL PARTS

	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	ランク
			ELECTRICAL PARTS		電気部品	PSR330		
*		VV869400	Circuit Board	AM	AMシート	(XS932B0)		
*		VV869300	Circuit Board	DM	DMシート	(XS931A0)		
*		VV876900	Circuit Board	JACK	JACKシート	(XS934A0)		
*		VV583900	Circuit Board	MK-H	MK-Hシート	(XR565B0)		
*		VV583800	Circuit Board	MK-L	MK-Lシート	(XR564B0)		
		VU494600	Circuit Board	MKS2 16M	MKS2シート			25
*		VV869500	Circuit Board	PN	PNシート	(XS933B0)		
*		VV869400	Circuit Board	AM	AMシート	(XS932B0)		
		EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL	+バインドBタイト			01
		--	Vibration-proof Tape	F	防振テープF	(VT70330)		
		VA078900	Jumper Wire	0.55	ジャンパー線			
		VL456900	Heat Sink		放熱板			04
		--	Connector Assembly, Analog	11P L=200	アナログ束線	(VV88990)		
		--	Connector Assembly, VR	5P L=300	VR束線	(VV88970)		
		--	Connector Assembly, MIDI	7P L=200	MIDI束線	(VV88980)		
		--	Connector Assembly, POWER	4P L=150	電源束線	(VV88950)		
		--	Connector Assembly, H.P	5P L=550	H.P束線	(VV88960)		
		--	Connector Assembly, SP-L	2P L=210	SP-L束線	(VV88930)		
		--	Connector Assembly, SP-R	2P L=660	SP-R束線	(VV88940)		
		--	Connector Assembly, B.L	2P L=170	B.L束線	(VY70510)		
		--	Connector Assembly, EARTH	1P L=250	アース束線	(VZ17120)		
		VD930900	Semiconductive Cera. Cap.	0.1000 25V M	半導体セラコン			01
		UJ828470	Electrolytic Cap.	470.00 10.0V	ケミコン			01
		UA654220	Mylar Capacitor	0.0220 50V J	マイラーコン			01
		FG651820	Ceramic Capacitor	82P 50V K	セラコン(B)			01
		FG651820	Ceramic Capacitor	82P 50V K	セラコン(B)			01
		UJ837220	Electrolytic Cap.	22.00 16.0V	ケミコン			01
		UJ848470	Electrolytic Cap.	470.00 25.0V	ケミコン			01
		UJ749220	Electrolytic Cap.	2200 25.0V	ケミコン			03
		UJ847100	Electrolytic Cap.	10.00 25.0V	ケミコン			01
		UJ848100	Electrolytic Cap.	100.00 25.0V	ケミコン			01
		UJ837330	Electrolytic Cap.	33.00 16.0V	ケミコン			01
		UJ828100	Electrolytic Cap.	100.00 10.0V	ケミコン			01
		UJ866100	Electrolytic Cap.	1.00 50.0V	ケミコン			01
		FG613820	Ceramic Capacitor-B	8200P 50V K	セラコン(B)			01
		FG612470	Ceramic Capacitor-B	470P 50V K	セラコン(B)			01
		FG613220	Ceramic Capacitor-B	2200P 50V K	セラコン(B)			01
		FG612470	Ceramic Capacitor-B	470P 50V K	セラコン(B)			01
		FG613220	Ceramic Capacitor-B	2200P 50V K	セラコン(B)			01
		UA654470	Mylar Capacitor	0.0470 50V J	マイラーコン			01
		UJ837470	Electrolytic Cap.	47.00 16.0V	ケミコン			01
		UJ837470	Electrolytic Cap.	47.00 16.0V	ケミコン			01
		VD631600	Diode	1SS133,176,HSS104	ダイオード			01
		VL723600	Diode	20E1-FC4	ダイオード			01
		VB835000	Coil	FL5R200QNT 20uH	コイル			01
		VF968800	Coil	SBT-0260TF 60uH	コイルSB			01
		HF458100	Carbon Resistor	100.0K 1/4 J	カーボン抵抗			01
		HF456470	Carbon Resistor	4.7K 1/4 J	カーボン抵抗			01
		HF457150	Carbon Resistor	15.0K 1/4 J	カーボン抵抗			01
		HF457180	Carbon Resistor	18.0K 1/4 J	カーボン抵抗			01
		HF457330	Carbon Resistor	33.0K 1/4 J	カーボン抵抗			01
		HF454680	Carbon Resistor	68.0 1/4 J	カーボン抵抗			01
		HF457100	Carbon Resistor	10.0K 1/4 J	カーボン抵抗			01
		HF457390	Carbon Resistor	39.0K 1/4 J	カーボン抵抗			01
		HF457220	Carbon Resistor	22.0K 1/4 J	カーボン抵抗			01
		HF456390	Carbon Resistor	3.9K 1/4 J	カーボン抵抗			01
		HF453220	Carbon Resistor	2.2 1/4 J	カーボン抵抗			01
		HF455100	Carbon Resistor	100.0 1/4 J	カーボン抵抗			01
		HF455330	Carbon Resistor	330.0 1/4 J	カーボン抵抗			01
	CN810	VI878500	Cable Holder	51048 7P TE	ケーブルホルダー			01
	CN900	LB918020	Base Post Connector	XH 2P TE	ベースツキポスト			01
	CN911	VI878900	Cable Holder	51048 11P TE	ケーブルホルダー			01
	CN912	VI878300	Cable Holder	51048 5P TE	ケーブルホルダー			01
	CN913	VI878300	Cable Holder	51048 5P TE	ケーブルホルダー			01
	CN914	VE352600	Connector Base Post	PH-14P TE	コネクタベースポスト			01
*	CN914	VY709600	Connector Base Post	PH-14Y 14P TE	コネクタベースポスト			
	CN920	VI878000	Cable Holder	51048 2P TE	ケーブルホルダー			01
	CN940	VI878000	Cable Holder	51048 2P TE	ケーブルホルダー			01

* New Parts (新規部品)

ランク：Japan only

	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	ランク
	CN950	VI878000	Cable Holder	51048 2P TE	ケーブルホルダー			01
	CN960	VI878300	Cable Holder	51048 5P TE	ケーブルホルダー			01
	CN970	VI878300	Cable Holder	51048 5P TE	ケーブルホルダー			01
	CN980	VI878200	Cable Holder	51048 4P TE	ケーブルホルダー			01
	CN990	VI878200	Cable Holder	51048 4P TE	ケーブルホルダー			01
	IC492	XB247A00	IC	UPC4570HA	IC	OP AMP		01
	IC910	XM593A00	IC	LA4705	IC	POWER AMP		06
	IC920	XJ604A00	IC	NJM78M05FA	IC	REGURATOR +5V		02
	JK910	LB101870	Phone Jack	JACK YKB21-5006	ホーンコネクタ			03
*	SW910	VY980400	Push Switch	SDDLB1 J, UC, CEE	プッシュSW	POWER ON/OFF		
*	VR910	VY711800	Rotary Variable Resistor	A10.0K XV0141GPVN2	二連ロータリーVR	MASTER VOLUME		
*		VV869300	Circuit Board	DM	DMシート	(XS931A0)		
		EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL	+バインドBタイト			01
		VK863100	IC Socket	DICF-42CS-E	ICソケット			03
		VA078900	Jumper Wire	0.55	ジャンパー線			
		VD930900	Semiconductive Cera. Cap.	0.1000 25V M	半導体セラコン			01
		UJ837100	Electrolytic Cap.	10.00 16.0V	ケミコン			01
		UJ828100	Electrolytic Cap.	100.00 10.0V	ケミコン			01
		FG612470	Ceramic Capacitor-B	470P 50V K	セラコンB			01
		UJ848100	Electrolytic Cap.	100.00 25.0V	ケミコン			01
		UJ866100	Electrolytic Cap.	1.00 50.0V	ケミコン			01
		UJ837470	Electrolytic Cap.	47.00 16.0V	ケミコン			01
		VB835000	Coil	FL5R200QNT 20uH	コイル			01
		VF968800	Coil	SBT-0260TF 60uH	コイルSB			01
		HF459100	Carbon Resistor	1.0M 1/4 J	カーボン抵抗			01
		HF454220	Carbon Resistor	22.0 1/4 J	カーボン抵抗			01
		HF456100	Carbon Resistor	1.0K 1/4 J	カーボン抵抗			01
		HF456180	Carbon Resistor	1.8K 1/4 J	カーボン抵抗			01
		HF455820	Carbon Resistor	820.0 1/4 J	カーボン抵抗			01
		HF455220	Carbon Resistor	220.0 1/4 J	カーボン抵抗			01
		HF457100	Carbon Resistor	10.0K 1/4 J	カーボン抵抗			01
		HF458100	Carbon Resistor	100.0K 1/4 J	カーボン抵抗			01
		HF457470	Carbon Resistor	47.0K 1/4 J	カーボン抵抗			01
		HF455100	Carbon Resistor	100.0 1/4 J	カーボン抵抗			01
		VJ006700	Ceramic Capacitor Array	470P 50V Z SIP	セラコンアレイ			02
	CL100	VU363500	Ceramic Resonator	CST29.41MXW1H3	セラミック振動子			02
*	CL100	VV895500	Ceramic Resonator	29.411M EFOEC2945	セラミック振動子			
	CN160	VK025700	Wire Trap	52147 13P TE	ワイヤートラップ			01
	CN170	VF728300	Connector	52147 6P TE	コネクタ			01
	CN180	VK025100	Wire Trap	52147 7P TE	ワイヤートラップ			01
*	CN230	VU538700	Connector	PSB4D 60P TE	P基板用コネクター	Music Cartridge Slot		
	CN400	VK025500	Wire Trap	52147 11P TE	ワイヤートラップ			01
	CN550	VF728200	Connector	52147 10P TE	コネクタ			01
	CN560	VK025200	Wire Trap	52147 8P TE	ワイヤートラップ			01
*	IC100	XS994A00	IC	YMW717-F	IC	GEW10-2		
	IC120	XR647A00	IC	RE5VL46CA-TZ TO-92	IC	RESET		02
	IC130	IR001400	IC	TC74HC14AP	IC	S-INVERTER		05
*	IC210	XT206100	IC		IC	MASK ROM 32M		
	IC220	IR000200	IC	TC74HC02AP	IC	NOR		03
*	IC230	XT205B00	IC		IC	EPROM 8M		
*	IC240	XT242A00	IC	SRM2B256SLCX55	IC	SRAM 256K		
	IC250	IR003200	IC	TC74HC32AP	IC	OR		03
	IC260	IR407500	IC	TC74HC4075AP	IC	OR		02
	IC310	XE449A00	IC	YM3413	IC	LDSP		12
*	IC320	XT108A00	IC	SRM2B256SLCX70	IC	SRAM 256K		
*	IC320	XT242A00	IC	SRM2B256SLCX55	IC	SRAM 256K		
	IC410	XL450A00	IC	PQ05RA1 TO-220	IC	REGURATOR +5V		03
	IC420	XP515A00	IC	AN8005-(FTA)TO-92	IC	REGURATOR +5V		02
	IC430	XM939A00	IC	S-81350HG-T TO-92	IC	REGURATOR +5V		03
	IC491	XR998A00	IC	UPD6379AGR	IC	D/A CONVERTER		04
	IC491	XR999A00	IC	BU9480F	IC	D/A CONVERTER		04
*		VY714800	Resistor Array	EXB-F10V820J 82X5	抵抗アレイ			
*		VY714900	Resistor Array	EXB-F12V820J 82X6	抵抗アレイ			
		VC028100	Resistor Array	EXB-F9E103J 10K X8	抵抗アレイ			01
		VG440300	Zener Diode	MTZ J 12.0C 12.0V	ツェナーダイオード			01
*		VV876900	Circuit Board	JACK	JACKシート	(XS934A0)		
		KB003630	Fuse	5.00A JU	ヒューズ			01
		LB201530	Fuse Holder	PC-PH1	ヒューズホルダ			01

* New Parts (新規部品)

ランク：Japan only

REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	ランク
	--	Vibration-proof Tape	F 35X4	防振テープF	(VT70330)		
	--	Vibration-proof Tape	G 20X3	防振テープG	(VT70340)		
	VA078900	Jumper Wire	0.55	ジャンパー線			
	--	Connector Assembly	14P L=200	JACK束線	(VV88910)		
	VD930900	Semiconductive Cera. Cap.	0.1000 25V M	半導体セラコン			01
	FG644100	Ceramic Capacitor-F	0.0100 50V Z	セラコンF			01
	VD631600	Diode	1SS133,176,HSS104	ダイオード			01
	VH227500	Line Filter	SU10VD-10020	ラインフィルター			03
	VB835000	Coil	FL5R200QNT 20uH	コイル			01
	VF968800	Coil	SBT-0260TF 60uH	コイルSB			01
	HF457100	Carbon Resistor	10.0K 1/4 J	カーボン抵抗			01
	HF457470	Carbon Resistor	47.0K 1/4 J	カーボン抵抗			01
	HF455270	Carbon Resistor	270.0 1/4 J	カーボン抵抗			01
	HF455220	Carbon Resistor	220.0 1/4 J	カーボン抵抗			01
	HF457220	Carbon Resistor	22.0K 1/4 J	カーボン抵抗			01
CN800	VC664500	Connector	HEC2305	電源コネクタ			01
JK810	VB312600	Phone Jack	JACK YKB21-5012	ホーンコネクタ(黒)	SUSTAIN		02
JK820	VJ107200	DIN Connector	JACK 5P YKF51-5050	DINコネクタ	MIDI OUT		01
JK830	VJ107200	DIN Connector	JACK 5P YKF51-5050	DINコネクタ	MIDI IN		01
PC830	VG181900	Photo Coupler	PC-900V	フォトカプラ			03
	TC1815M0	Transistor	2SC1815 Y,GR	トランジスタ			01
‡	VV583800	Circuit Board	MK-L	MKーLシート	(XR564B0)		
‡	VV437800	Diode	1N4148(DO-34)	ダイオード			
	VK025600	Wire Trap	52147 12P TE	ワイヤートラップ			01
	VK025100	Wire Trap	52147 7P TE	ワイヤートラップ			01
‡	VV583900	Circuit Board	MK-H	MKーHシート	(XR565B0)		
‡	VV437800	Diode	1N4148(DO-34)	ダイオード			
	VK025600	Wire Trap	52147 12P TE	ワイヤートラップ			01
	VK024900	Wire Trap	52147 5P TE	ワイヤートラップ			01
	VU494600	Circuit Board	MKS2 16M	MKS2シート	(XR736C0)		10
	--	Vibration-proof Tape	10X64X0.5	防振テープ	(VK34680)		
	VA078900	Jumper Wire	0.55	ジャンパー線			
	FG651220	Ceramic Capacitor-SL	22P 50V J	セラコン(SL)			01
	UJ828100	Electrolytic Cap.	100.00 10.0V	ケミコン			01
	VD930900	Semiconductive Cera. Cap.	0.1000 25V M	半導体セラコン			01
	HF456470	Carbon Resistor	4.7K 1/4 J	カーボン抵抗			01
	HF457470	Carbon Resistor	47.0K 1/4 J	カーボン抵抗			01
CL1	VN002100	Ceramic Resonator	CST8.00MTW140	セラミック振動子			02
CL1	VQ305500	Ceramic Resonator	8.00M EFOEC8004T3	セラミック振動子			02
CN1	VF728300	Connector	52147 6P TE	コネクタ			01
CN2	VK025600	Wire Trap	52147 12P TE	ワイヤートラップ			01
CN3	VK025100	Wire Trap	52147 7P TE	ワイヤートラップ			01
CN4	VK024900	Wire Trap	52147 5P TE	ワイヤートラップ			01
IC1	XR951A00	IC	HD63B05V0F07P	IC	CPU		06
	VH373200	Resistor Array	RGLE12X473J	抵抗アレイ			01
‡	VV869500	Circuit Board	PN	PNシート	(XS933B0)		
	VA078900	Jumper Wire	0.55	ジャンパー線			
‡ LA	VZ057400	Lamp	1.6W T4.2 6.3V 250	ランプ5.5V			
W1	--	Connector Assembly, PN1	8P L=280	PN1束線	(VV89000)		
W2	--	Connector Assembly, PN2	10P L=250	PN2束線	(VV89010)		
W3	--	Connector Assembly, PN3	4P L=130	PN3束線	(VV89120)		
W4	--	Connector Assembly, PN4	5P L=160	PN4束線	(VV89130)		
	VD631600	Diode	1SS133,176,HSS104	ダイオード			01
	HF455470	Carbon Resistor	470.0 1/4 J	カーボン抵抗			01
CN101	VI878800	Cable Holder	51048 10P TE	ケーブルホルダー			01
CN105	VI878200	Cable Holder	51048 4P TE	ケーブルホルダー			01
CN106	VI878200	Cable Holder	51048 4P TE	ケーブルホルダー			01
CN107	VI878300	Cable Holder	51048 5P TE	ケーブルホルダー			01
CN108	VI878300	Cable Holder	51048 5P TE	ケーブルホルダー			01
CN109	VI878600	Cable Holder	51048 8P TE	ケーブルホルダー			04
	VC341300	LED	SLZ-190B-01 RE	LED	REVOICE		01
	VT387900	LED	SLZ-190B-10-T2 RE	LED	START/STOP,RECORD,INTRO, AUTO ACCOMPANIMENT ON/OFF MAIN/AUTO FILL A/B,ENDING		01

‡ New Parts (新規部品)

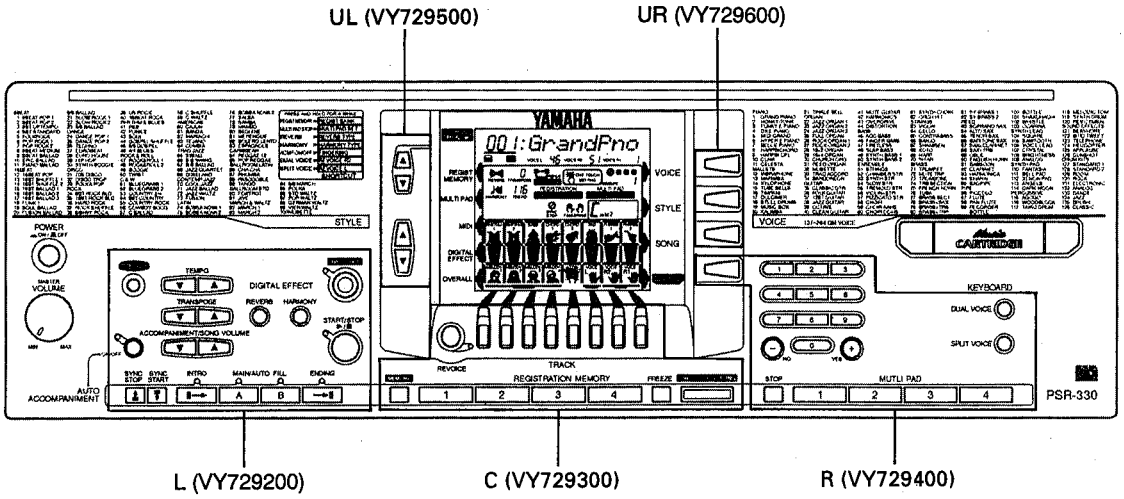
ランク：Japan only

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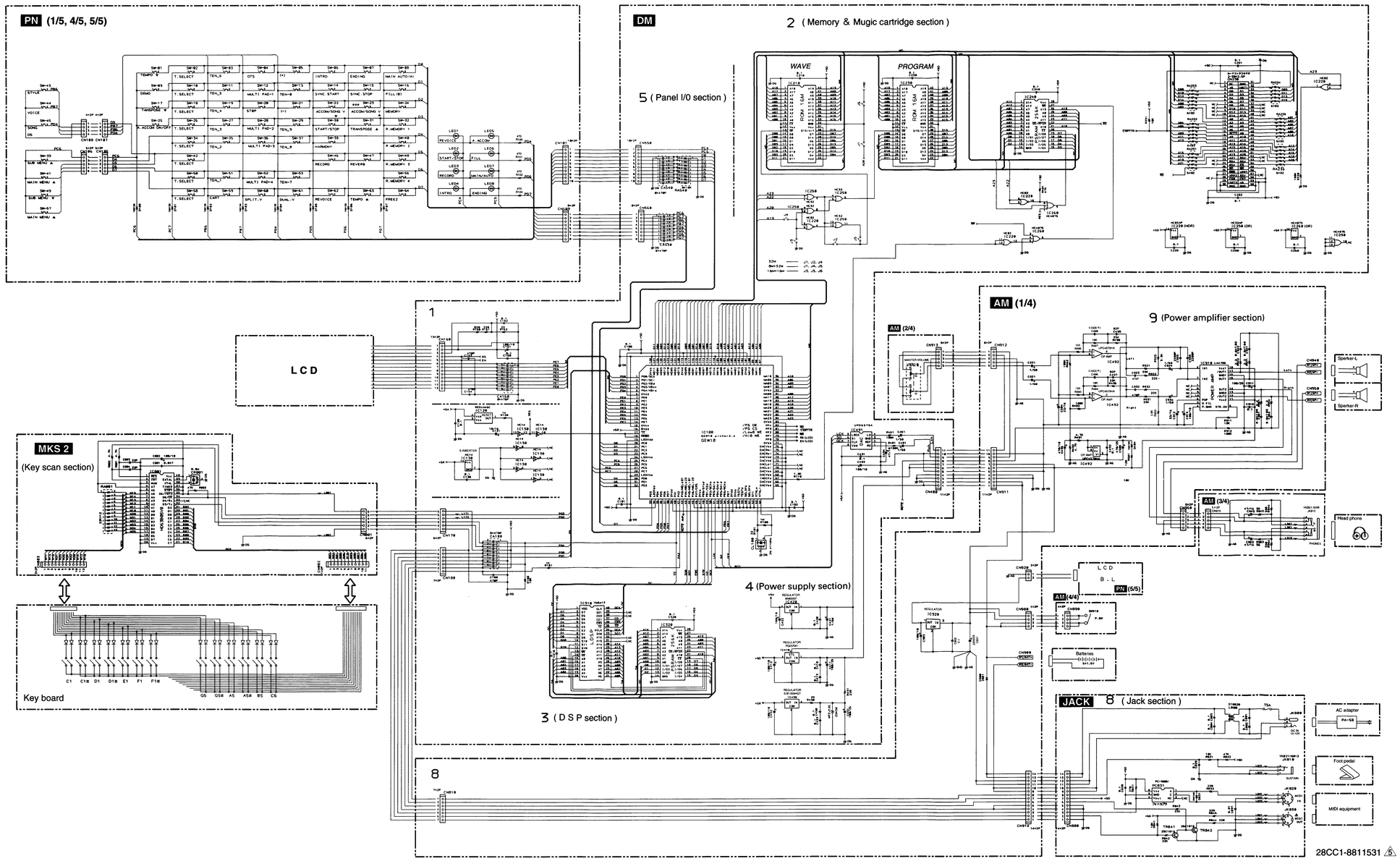
	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	ランク
‡		VY729200	Membrane Switch	L	メンブレンスイッチーL	※ Refer to the figure shown below.		
‡		VY729300	Membrane Switch	C	メンブレンスイッチーC			
‡		VY729400	Membrane Switch	R	メンブレンスイッチーR			
‡		VY729500	Membrane Switch	UL	メンブレンスイッチーUL			
‡		VY729600	Membrane Switch	UR	メンブレンスイッチーUR			
		XN789B00	Speaker	12.0cm 4ohm 5W	スピーカー			
‡		VY727200	LCD	DM150A-6J	液晶ディスプレイ			

‡ New Parts（新規部品）　　ランク：Japan only

• Membrance Switch



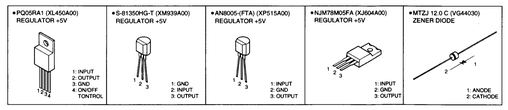
■ PSR-330 OVERALL CIRCUIT DIAGRAM



• DM Circuit Board

NOTE: Jumper wire (J1 through in J6) connection is shown on the table below.

	IC230	IC210	J1	J2	J3	J4	J5	J6
1st Lot	XT203A0 (16M EP-ROM)	XT204A0 (16M EP-ROM)			○		○	○
2nd Lot	XT205A0 (8M EP-ROM)	XT20610 (32M MASK-ROM)	○			○	○	
3rd Lot	XT205B0 (8M EP-ROM)	XT20610 (32M MASK-ROM)	○			○	○	
4th Lot	not installed	XT20620 (32M MASK-ROM)	○	○		○		



Notes)
Circuit Board: PN (VV869500) XS933A0
1. Diode
D 100-107: 1SS133,176,HSS10 (VD631600)
2. LED
LED01: SLZ-190B-01 RE (VC341300) REVOICE
LED02-08: SLZ-190B-10-T2 R (VT387900) START/STOP, RECORD, INTRO, AUTO ACCOMPANIMENT ON/OFF, MAIN/AUTO FILL,ENDING
3. Carbon Resistor
R 100-103: 470.0 1/4 J (HF455470)
4. Lamp
LA: 1.6W T4.2 6.3V 250mA (VZ057400)
5. Cable Holder
CN 101: 51048 10P (VI878000) to DM-CN550
CN 105: 51048 4P (VI878200) to PN3/5-CN106
CN 106: 51048 4P (VI878200) to PN1/5-CN105
CN 107: 51048 5P (VI878300) to PN4/5-CN108
CN 108: 51048 5P (VI878300) to PN1/5-CN107
CN 109: 51048 8P (VI878600) to DM-CN560
6. Wire
W 1: PN1 8P L=280 (VV890000) CN109(PN1/5)-CN560(DM)
W 2: PN2 10P L=250 (VV890100) CN101(PN1/5)-CN550(DM)
W 3: PN3 4P L=130 (VV891200) CN107(PN1/5)-108(PN4/5)
W 4: PN4 5P L=160 (VV891300) CN105(PN1/5)-106(PN4/5)
7. Jumper Wire
J: 0.55 (VA078900)

Notes)
Circuit Board: MKS2(VU4946600 XR736C0,XS829A0
1. IC
IC 1: HD6438051V0F07P (XR951A00) CPU
2. Ceramic Capacitor-SL
C 1,2: 22P 50V J (FG651220)
3. Electrolytic Cap.
C 3: 100.00 10.0V (UJ828100)
4. Semiconductive Cera. Cap.
C 4: 0.1000 25V M (VD930900)
5. Carbon Resistor
R 1,2: 4.7K 1/4 J (HF456470)
R 3: 47.0K 1/4 J (HF457470)
6. Resistor Array
RA 1: RGLE122X473J (VH373200)
7. Ceramic Resonator
CL 1: CST8.00MTW140 (VN002100) or 8.00M EFOEC8004 (VQ305500)
8. Connector(Wire Trap)
CN 1: 52147 6P (VF728300) to DM-CN170
CN 2: 52147 12P (VK025600) to MK-L
CN 3: 52147 7P (VK025100) to MK-L
CN 4: 52147 5P (VK024900) to -MK-H
9. Jumper Wire
: 0.55 (VA078900)

Notes)
Circuit Board: MK-L (VV583800) XR564B0
1. Diode
: 1N4148(DO-34) (VV437800)
2. Wire Trap
: 52147 12P (VK025600) to MK-H
: 52147 12P (VK025600) to MKS2-CN2
: 52147 7P (VK025100) to MKS2-CN3

Notes)
Circuit Board: MK-H (VV583900) XR565B0
1. Diode
: 1N4148(DO-34) (VV437800)
2. Wire Trap
: 52147 12P (VK025600) MK-L
: 52147 5P (VK024900) to MKS2-CN4

Notes)
Circuit Board: DM (VV869300) XS931A0
1. IC
IC 100: YMW717-F (XS894A00) GEW10-2
IC 120: RESVL46CA-TZ (XR647A00) TO-92 RESET
IC 130: TC74HC14AP (IR001400) S-INVERTER
IC 210: (XT20610)32M MASK ROM 32M
IC 220: TC74HC02AP (IR002200) NOR
IC 230: (XT205B0)8M EPROM 8M
IC 240: SRM2B256SLCX55 (XT242A00) SRAM 256K
IC 250: TC74HC32AP (IR003200) OR
IC 260: TC74HC4075AP (IR407500) OR
IC 310: YM3413 (XE448A00) LDSP
IC 320: SRM2B256SLCX70 (XT108A00) or SRM2B256SLCX55 (XT242A00) SRAM 256K
IC 410: PQ05RA1 TO-220 (XL450A00) REGULATOR +5V
IC 420: AN8005-(FTA)TO-9 (XP515A00) REGULATOR +5V
IC 430: S-81350HG-T TO-9 (XM939A00) REGULATOR +5V
IC 491: UPD63794GR (XR998A00) or BU9480F (XR999A00) D/A CONVERTER
2. Zener Diode
ZD 430: MTZ J 12.0C 12. (VG440300)
3. Semiconductive Cera. Cap.
C 100-102,110,120, 160,162,210,220, 230-232,240,250, 260,261,310,320, 410,413,420,430: 0.1000 25V M (VD930900)
C 433,491: 0.1000 25V M (VD930900)
4. Ceramic Capacitor-2B
C 163,164,180: 470P 50V K (FG612470)
5. Ceramic Capacitor Array
CA 160,180, 530,540: 470P 50V Z SI (VJ006700)
6. Electrolytic Cap.
C 121: 10.00 16.0V (UJ837100)
C 161,412,422, 432,433: 100.00 10.0V (UJ828100)
C 411,431: 100.00 25.0V (UJ848100)
C 421,461,481: 1.00 50.0V (UJ866100)
C 494: 47.00 16.0V (UJ837470)
7. Coil
L 171,172: FL5R200GNT (VB835000) or SBT-0260TF (VF968800)
8. Carbon Resistor
R 100: 1.0M 1/4 J (HF459100)
R 101,162,430: 22.0 1/4 J (HF454220)
R 102,120,181: 1.0K 1/4 J (HF456100)
R 110: 1.8K 1/4 J (HF456180)
R 160: 820.0 1/4 J (HF455820)
R 161,431: 220.0 1/4 J (HF455220)
R 180,231,260: 10.0K 1/4 J (HF457100)
R 220: 100.0K 1/4 J (HF458100)
R 401: 47.0K 1/4 J (HF457470)
R 461,481: 100.0 1/4 J (HF455100)
9. Resistor Array
RA 231,234, RA 232,233, 235,236: EXB-F10V820J 82X (VY714800)
RA 540: EXB-F9E103J 10K (VC028100)
10. Wire Trap
CN 160: 52147 13P (VK025700) to LCD
CN 180: 52147 7P(VK025100) to AM1/4-CN810
CN 400: 52147 11P (VK025500) to AM1/4-CN911
CN 560: 52147 8P (VK025200) to PN1/5-CN109
11. Connector
CN 170: 52147 6P (VF728300) to MKS-CN1
CN 230: PSB4D 60P (VU538700) to Music Cartridge
CN 550: 52147 10P (VF728200) to PN1/5-CN101
12. Ceramic Resonator
CL 100: CST29.41MXW1H3 (VU363500) or 29.411M EFOEC29 (VV895500)
13. Jumper Wire
J 1,4,5: 0.55 (VA078900)

Notes)
Circuit Board: AM (VV869400) XS932C0
1. IC
IC 492: UPC4570HA (XB247A00) OP AMP
IC 910: LA4705 (XM593A00) POWER AMP
IC 920: NJM78M05FA (XJ604A00) REGURATOR +5V
2. Diode
D 404: 1SS133,176,HSS10 (VD631600)
D 900: 20E1-FC4 (VL723600)
3. Mylar Capacitor
C 496,498: 0.0220 50V J (UA654220)
C 941,942,951 952: 0.0470 50V J (UA654470)
4. Electrolytic Cap.
C 486: 470.00 10.0V (UJ828470)
C 504: 22.00 16.0V (UJ837220)
C 505: 470.00 25.0V (UJ848470)
C 901: 2200 25.0V (UJ746220)
C 903: 10.00 25.0V (UJ847100)
C 911: 100.00 25.0V (UJ848100)
C 912: 33.00 16.0V (UJ837330)
C 913: 100.00 10.0V (UJ828100)
C 921,924,931 934: 1.00 50.0V (UJ866100)
C 943,953: 47.00 16.0V (UJ837470)
5. Ceramic Capacitor
C 497,499: 82P 50V K (FG651820)
C 922: 8200P 50V K (FG613820)
C 923,932: 470P 50V K (FG612470)
C 925,935: 2200P 50V K (FG613220)
6. Semiconductive Cera. Cap.
C 492,902 910: 0.1000 25V M (VD930900)
7. Coil
L 910,941 951: FLSR200ONT (VB835000) or SBT-0260TF (VF968800)
8. Carbon Resistor
R 462,482, 912: 100.0K 1/4 J (HF458100)
R 491,492: 4.7K 1/4 J (HF456470)
R 493,496: 15.0K 1/4 J (HF457150)
R 494,497: 18.0K 1/4 J (HF457180)
R 495,498: 33.0K 1/4 J (HF457330)
R 501: 68.0 1/4 J (HF454680)
R 911: 10.0K 1/4 J (HF457100)
R 921,931: 39.0K 1/4 J (HF457390)
R 922,932: 22.0K 1/4 J (HF457220)
R 923,933: 3.9K 1/4 J (HF455390)
R 941,942 951,952: 2.2 1/4 J (HF453220)
R 943,953: 100.0 1/4 J (HF455100)
R 944,954: 330.0 1/4 J (HF455330)
9. Rotary Variable Resistor
VR 910: A10.0K X00141GPV (VY711800) MASTER VOLUME
10. Push Switch
SW 910: SDDLB1 J,UC,CEE (VY980400) POWER ON/OFF
11. Phone Jack
JK 910: JACK YKB21-50 (LB101870) PHONES
12. Cable Holder
CN 810: 51048 7P (VI878500) to DM-CN180
CN 911: 51048 11P (VI878900) to DM-CN400
CN 912: 51048 5P (VI878300) to AM2/4-CN913
CN 913: 51048 5P (VI878300) to AM1/4-CN912
CN 920: 51048 2P (VI878000) to PN5/5(LCD B.L)
CN 940: 51048 2P (VI878000) to Speaker-L
CN 950: 51048 2P (VI878000) to Speaker-R
CN 960: 51048 5P (VI878300) to AM3/4-CN970
CN 970: 51048 5P (VI878300) to AM1/4-CN960
CN 980: 51048 4P (VI878200) to AM4/4-CN990
CN 990: 51048 4P (VI878200) to AM1/4-CN980
13. Base Post Connector
CN 900: XH 2P (LB918020) to Batteries
14. Connector Base Post
CN 914: PH-14P TE (VE352600) or PH-14Y TE (VV709600) to JACK-CN800
15. Connector Assembly
W 1: ANALOG 11P L=200 (VV889900) CN911(AM1/4)-CN400(DM)
W 2: VR 5P L=300 (VV889700) CN912(AM1/4)-CN913(AM2/4)
W 3: MIDI 7P L=200 (VV889600) CN810(AM1/4)-CN180(DM)
W 4: POWER 4P L=150 (VV889500) CN980(AM1/4)-CN990(AM2/4)
W 5: HP SP L=50 (VV889800) CN960(AM1/4)-CN970(AM3/4)
W 6: SP-L 2P L=210 (VV889300) CN940(AM1/4)-Speaker(L)
W 7: SP-R 2P L=660 (VV889400) CN950(AM1/4)-Speaker(R)
W 8: B.L 2P L=170 (VV705100) CN920(AM1/4)-PN 5/5(LCD B.L)
W 9: EARTH 1P L=250 (VZ171200)
16. Heat Sink
H 1: (VL456900)
17. Jumper Wire
J: 0.55 (VA078900)

Notes)
Circuit Board: JACK (VV876900) XS934A0
1. Transistor
TR 841,842: 2SC1815 Y,GR (IC1815M0)
2. Diode
D 831: 1SS133,176,HSS10 (VD631600)
3. Photo Coupler
PC 830: PC-900V (VG181900)
4. Semiconductive Cera. Cap.
C 801-804 820,830: 0.1000 25V M (VD930900)
5. Ceramic Capacitor
C 831: 0.0100 50V Z (FG644100)
6. Coil (Line Filter)
L 800
L 821,822 831-833 841-843: FL5R200GNT (VB835000) or SBT-0260TF (VF968800)
7. Carbon Resistor
R 821,841: 10.0K 1/4 J (HF457100)
R 822: 47.0K 1/4 J (HF457470)
R 831: 270.0 1/4 J (HF455270)
R 832,844 845: 220.0 1/4 J (HF455220)
R 842,843: 22.0K 1/4 J (HF457220)
8. Fuse
: 5.00A J (KB003630)
9. Connector
CN 800: HEC23 (VC664500) to AM1/4-CN914
10. Phone Jack
JK 810: JACK YKB21-50(VB312600) SUSTAIN
11. DIN Connector
JK 820,830: JACK 5P YKF51-50 (VJ107200) MIDI OUT, MIDI IN
12. Jumper Wire
J 1-3: 0.55 (VA078900)
13. Connector Assembly
W 1: 14P L=200 (VV889100) CN800(JACK)-CN914(AM1/4)

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