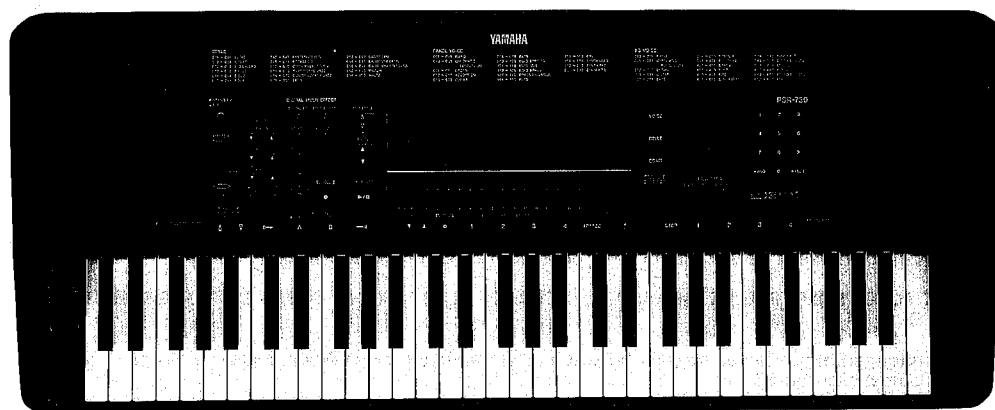


PORTATONE PSR-730

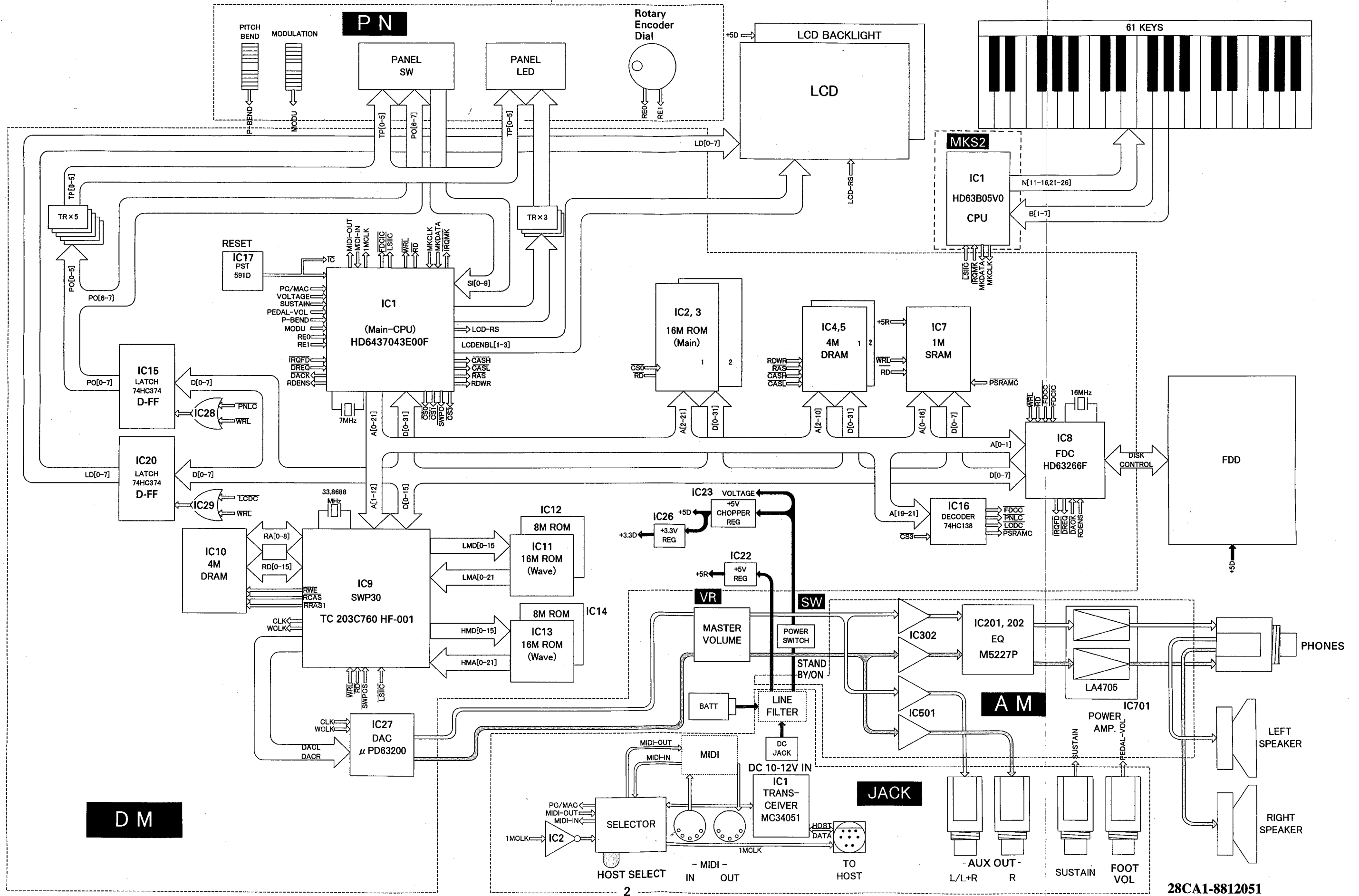
SERVICE MANUAL



■ CONTENTS (目次)

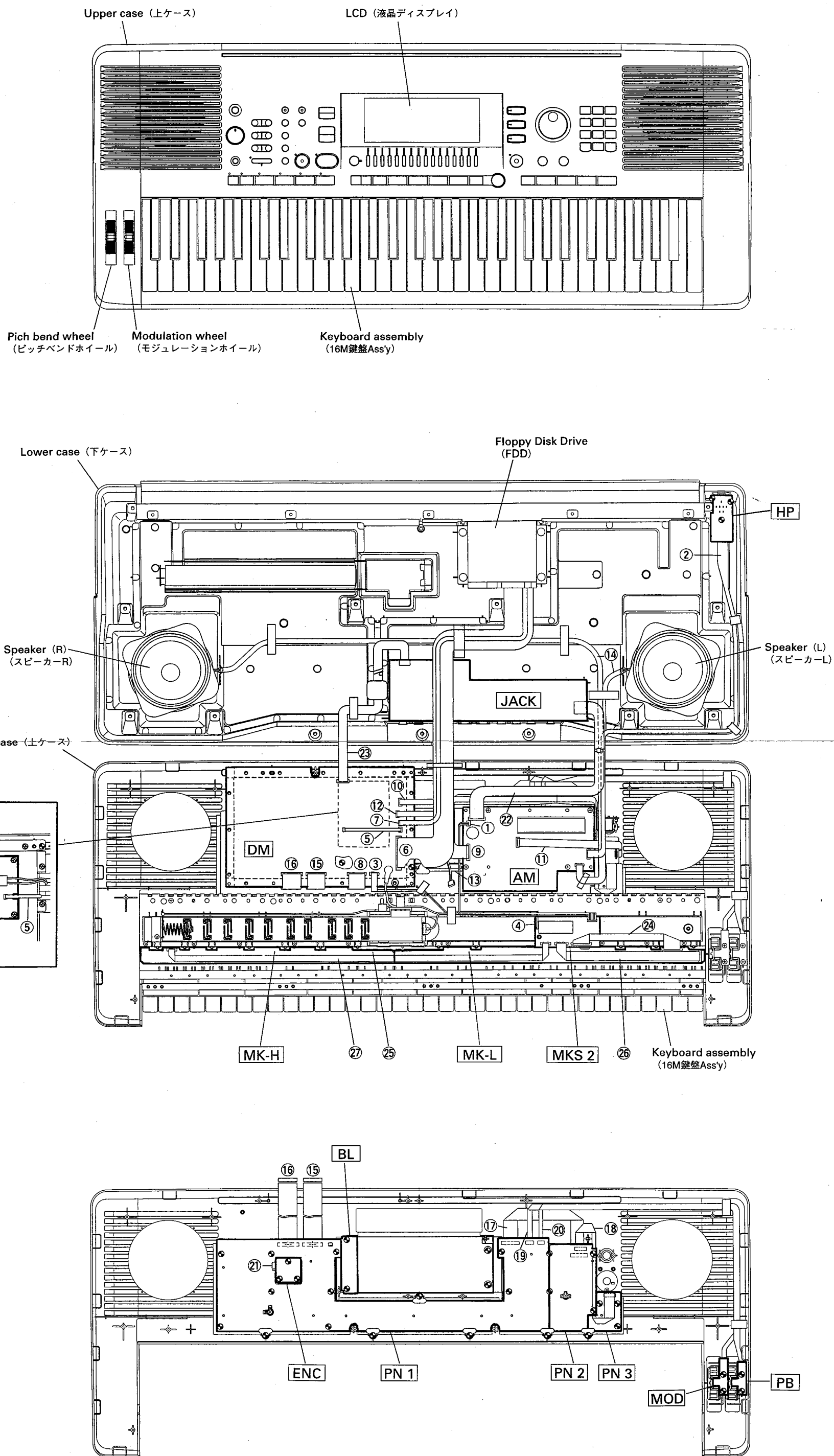
BLOCK DIAGRAM(ブロックダイアグラム)	2
CIRCUIT BOARD LAYOUT (ユニットレイアウト)	4
DISASSEMBLY PROCEDURE (分解手順)	7
LSI PIN DESCRIPTION (LSI端子機能表)	13
IC BLOCK DIAGRAM (ICブロック図)	17
CIRCUIT BOARDS (シート基板図)	18
TEST PROGRAM (テストプログラム)	30/33
INITIALIZE (初期化)	32/36
SPECIFICATIONS (総合仕様)	37/42
PANEL LAYOUT (パネルレイアウト)	38/40
MDI DATA FORMAT	43
MIDI IMPLEMENTATION CHART	58
PARTS LIST	
OVERALL CIRCUIT DIAGRAM (総回路図)	

■ BLOCK DIAGRAM (ブロックダイアグラム)



28CA1-8812051

CIRCUIT BOARD LAYOUT (ユニットレイアウト)



• WIRING

REF. NO.	DESTINATION		CONNECTOR ASSEMBLY	REMARKS	PART NO.	AVAILA- BILITY
①	AM-CN701	Battery	BATT	2P/L210,600	VY83590	×
②	AM-CN705	HP-CN706	AM-HP	5P/L850	VY83260	×
③	DM-CN1	MK2-CN1	DM-MK	6P/L430	VY83280	×
④	MK-G	GND	MK EARTH	1P/L300	VZ49430	×
⑤	DM-CN11	INV-CN1	DM-INV	2P	VY83310	×
⑥	DM-CN7	FDD IO Connector	FDD	34P	VY83570	×
⑦	DM-CN9	FDD POWER	FDD POWER	3P	VY83580	×
⑧	DM-CN5	LCD	LCD	15P/L300	VY83270	×
⑨	AM-CN704	SW-CN707	AM-SW	10P/L380	VY83190	×
⑩	DM-CN8	SW-CN708	DM-SW	5P/L450	VY83200	×
⑪	AM-CN301	VR-CN302	AM-VR	5P/L220	VY83210	×
⑫	DM-CN10	VR-CN303	DM-VR	4P/L500	VY83220	×
⑬	AM-G	GND	AM EARTH	1P/L200	VZ49400	×
⑭	AM-CN702	Speaker(L),(R)	SP-L/R	4P	VY83290	×
⑮	PN1-CN1	DM-CN3	PN-DM 1	14P/L300	VY83110	×
⑯	PN1-CN2	DM-CN4	PN-DM 2	13P/L300	VY83120	×
⑰	PN1-CN3A	PN2-CN3B	PN1-PN2	11P/L260	VY83130	×
⑱	PN2-CN4A	PN3-CN4B	PN2-PN3	6P/L220	VY83140	×
⑲	PN1-CN6A	PB-CN6B	PN1-PB	3P/L650	VY83150	×
⑳	PN1-CN7A	MOD-CN7B	PN1-MOD	4P/L680	VY83160	×
㉑	PN1-CN5A	RE-CN5B	PN1-RE	3P/L50	VY83170	×
㉒	AM-CN709	JACK-JK9	AM-JACK	9P/L400	VY83240	×
㉓	DM-CN2	JACK-JK5	DM-JACK	8P/L450	VZ53090	×
㉔	MKS2-CN2	MK-L	(160d)	12P/L190	VU95890	○
㉕	MK-H	MK-L	(160e)	12P/L215	VU65950	○
㉖	MKS2-CN3	MK-L	(160f)	7P/L250	VU65940	○
㉗	MKS2-CN4	MK-H	(160g)	5P/L615	VU65960	○

NOTE : REF. NO. is indicated in the CIRCUIT BOARD LAYOUT figures in page 4 and page 5.

Parts No.1-23 are not available as spare parts, and parts No.24-27 are available as spare parts.

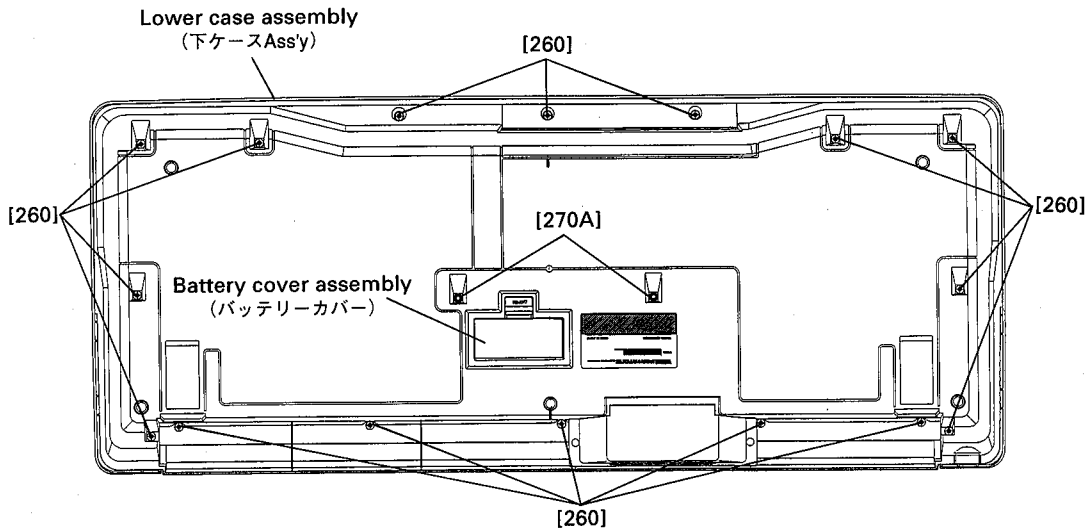
■ DISASSEMBLY PROCEDURE (分解手順)

1. Lower Case Assembly

- 1-1 Remove the battery cover assembly. (Fig. 1)
- 1-2 Remove the sixteen (16) screws marked [260] and the two (2) screws marked [270A]. Then the lower case assembly can be removed. (Fig. 1)

1. 下ケース Ass'y

- 1-1 バッテリーカバーを外します。(図 1)
- 1-2 [260]のネジ 16 本と[270A]のネジ 2 本を外し、下ケース Ass'y を外します。(図 1)



[260]: Bind Head Tapping Screw-P 3.0X12 MFZN2Y (EP600300) + バインド P タイト
 [270A]: Bind Head Tapping Screw-P 3.0X25 MFZN2Y (VK228100) + バインド P タイト

(Fig. 1)

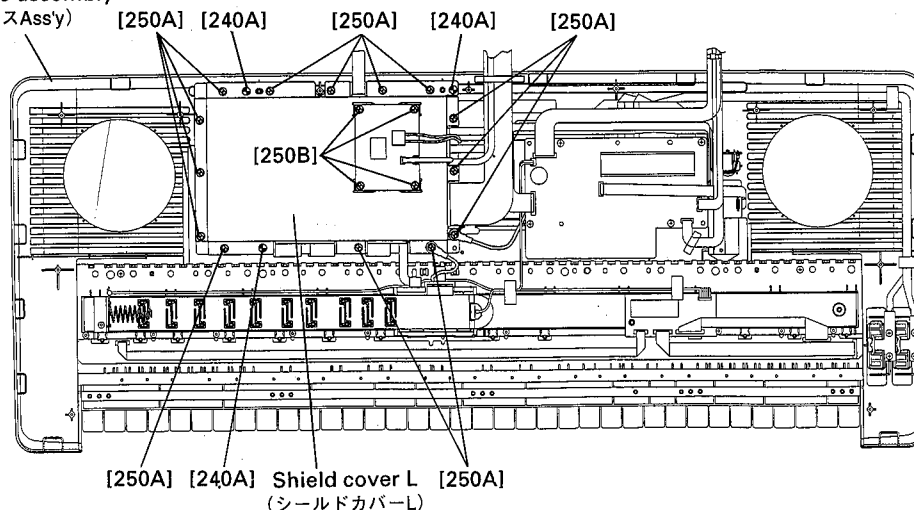
2. DM Circuit Board

- 2-1 Remove the lower case assembly. (See Procedure 1.)
- 2-2 Remove the three (3) screws marked [240A] and the fourteen (14) screws marked [250A]. Then the shield cover L can be removed. (Fig. 2)
- 2-3 Remove the screw marked [240B]. Then the DM circuit board can be removed. (Fig. 2, 3)

2. DM シート

- 2-1 下ケース Ass'y を外します。(1 項参照)
- 2-2 [240A]のネジ 3 本と[250A]のネジ 14 本を外し、シールドカバー L を外します。(図 2)
- 2-3 [240B]のネジ 1 本を外し、DM シートを外します。(図 2、図 3)

Upper case assembly
(上ケース Ass'y)



[240A]: Bind Head Tapping Screw-P 3.0X8 MFZN2Y (EP600280) + バインド P タイト
 [240B]: Bind Head Tapping Screw-P 3.0X8 MFZN2Y (EP600280) + バインド P タイト
 [250A]: Bind Head Tapping Screw-B 3.0X6 MFZN2Y (EP600130) + バインド B タイト
 [250B]: Bind Head Tapping Screw-B 3.0X6 MFZN2Y (EP600130) + バインド B タイト

(Fig. 2)

3. INV Circuit Board

- 3-1 Remove the lower case assembly. (See Procedure 1.)
 3-2 Remove the four (4) screws marked [250B]. Then the INV circuit board can be removed. (Fig. 2)

4. Keyboard Assembly

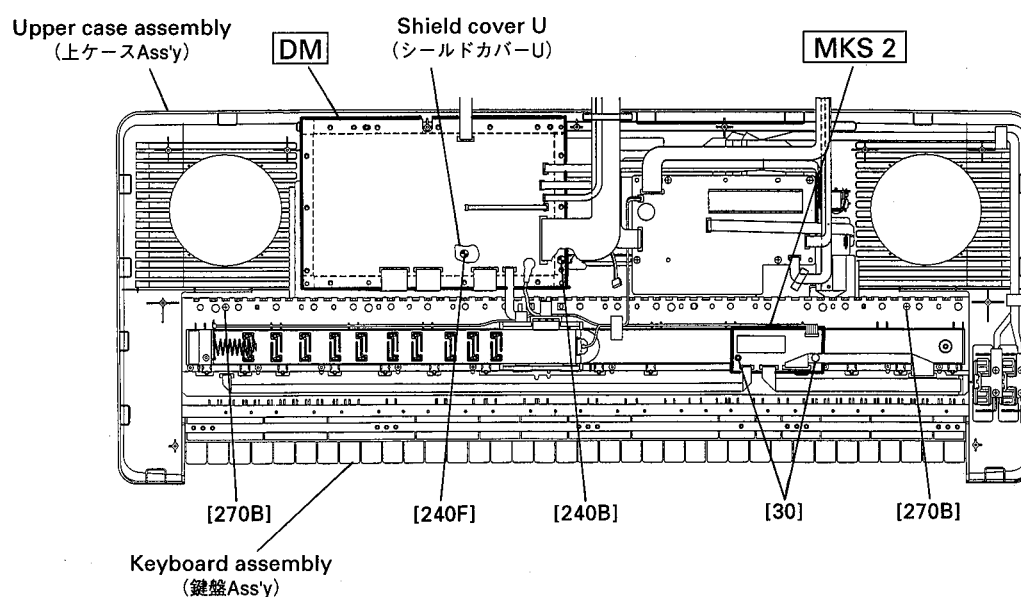
- 4-1 Remove the lower case assembly. (See Procedure 1.)
 4-2 Remove the two (2) screws marked [270B]. Then the keyboard assembly can be removed. (Fig. 3)

3. INV シート

- 3-1 下ケース Ass'y を外します。 (1 項参照)
 3-2 [250B]のネジ 4 本を外し、INV シートを外します。
 (図 2)

4. 鍵盤 Ass'y

- 4-1 下ケース Ass'y を外します。 (1 項参照)
 4-2 [270B]のネジ 2 本を外し、鍵盤 Ass'y を外します。
 (図 3)



- [30]: Bind Head Tapping Screw-P 3.0X8 MFZN2BL (EP630220) + バインド P タイト
 [240B]: Bind Head Tapping Screw-P 3.0X8 MFZN2Y (EP600280) + バインド P タイト
 [240F]: Bind Head Tapping Screw-P 3.0X8 MFZN2Y (EP600280) + バインド P タイト
 [270B]: Bind Head Tapping Screw-P 3.0X25 MFZN2Y (VK228100) + バインド P タイト

(Fig. 3)

5. AM Circuit Board

- 5-1 Remove the lower case assembly. (See Procedure 1.)
 5-2 Remove the four (4) screws marked [240C]. Then the AM circuit board can be removed. (Fig. 4)

6. VR Circuit Board

- 6-1 Remove the MASTER VOLUME knob on the control panel. (Fig. 4)
 6-2 Remove the lower case assembly. (See Procedure 1.)
 6-3 Remove the three (3) screws marked [240D]. Then the VR circuit board can be removed. (Fig. 4)

7. SW Circuit Board

- 7-1 Remove the lower case assembly. (See Procedure 1.)
 7-2 Remove the two (2) screws marked [240E]. Then the SW circuit board can be removed. (Fig. 4)
 7-3 Pull off the button from the SW circuit board.

5. AM シート

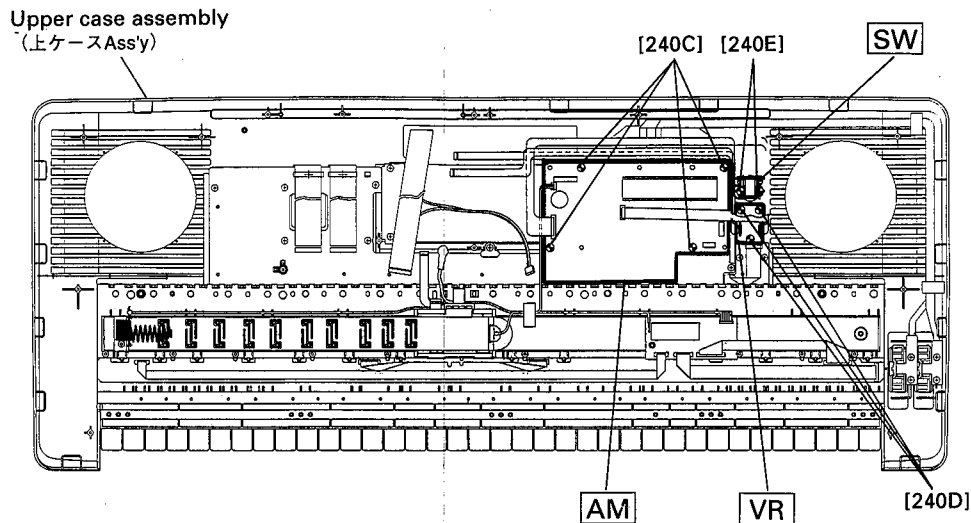
- 5-1 下ケース Ass'y を外します。 (1 項参照)
 5-2 [240C]のネジ 4 本を外し、AM シートを外します。
 (図 4)

6. VR シート

- 6-1 コントロールパネル上のボリュームツマミを外します。
 6-2 下ケース Ass'y を外します。 (1 項参照)
 6-3 [240D]のネジ 3 本を外し、VR シートを外します。
 (図 4)

7. SW シート

- 7-1 下ケース Ass'y を外します。 (1 項参照)
 7-2 [240E]のネジ 2 本を外し、SW シートを外します。
 (図 4)
 7-3 SW シートより、プッシュツマミを引き抜きます。



[240C]: Bind Head Tapping Screw-P 3.0X8 MFZN2Y (EP600280) + バインド P タイト
 [240D]: Bind Head Tapping Screw-P 3.0X8 MFZN2Y (EP600280) + バインド P タイト
 [240E]: Bind Head Tapping Screw-P 3.0X8 MFZN2Y (EP600280) + バインド P タイト

(Fig. 4)

8. PN1, PN2, PN3, ENC, BL, PB, MOD Circuit Board

- 8-1 Remove the lower case assembly. (See Procedure 1.)
- 8-2 Remove the DM circuit board. (See Procedure 2.)
- 8-3 Remove the screw marked [240F]. Then the shield cover U can be removed. (Fig. 3)
- 8-4 Remove the AM circuit board. (See Procedure 4.)
- 8-5 Remove the keyboard assembly. (See Procedure 3.)
- 8-6 Each circuit board can be removed in the manner as below.
- 8-6-1 PN1 Circuit Board
Remove the thirteen (13) screws marked [190A] and the three (3) screws marked [190B]. Then the PN1 circuit board can be removed. (Fig. 5)
- 8-6-2 PN2 Circuit Board
Remove the three (3) screws marked [190B], the two (2) screws marked [190C] and the screw marked [190D]. Then the PN2 circuit board can be removed. (Fig. 5)
- 8-6-3 PN3 Circuit Board
Remove the screw marked [190D] and the three (3) screws marked [190E]. Then the PN3 circuit board can be removed. (Fig. 5)
- 8-6-4 ENC Circuit Board
Remove the three (3) screws marked [190F]. Then the ENC circuit board can be removed. (Fig. 5)
* When removing the ENC circuit board, the ENC knob will be removed simultaneously
- 8-6-5 BL Circuit Board
Remove the two (2) screws marked [190G]. Then the BL circuit board can be removed. (Fig. 5)
* The BL circuit board is used only for fixing the LCD.
- 8-6-7 PB Circuit Board
Remove the two (2) screws marked [190H]. Then the wheel assembly can be removed. Remove the wheel with the spring from the wheel assembly. (Fig. 5)

8. PN1, PN2, PN3, ENC, BL, PB, MOD シート

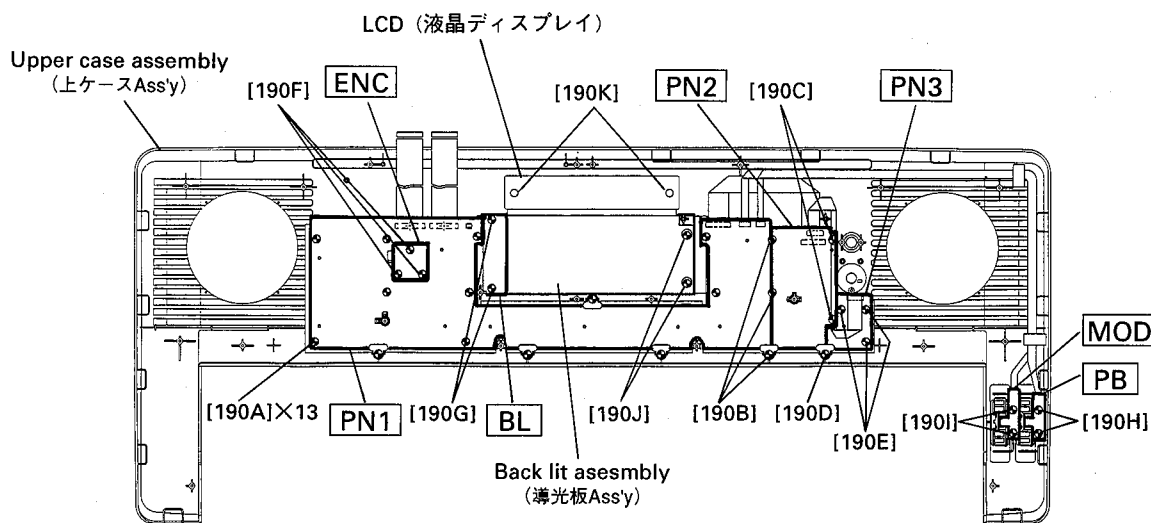
- 8-1 下ケース Ass'y を外します。 (1 項参照)
- 8-2 DM シートを外します。 (2 項参照)
- 8-3 [240F] のネジ 1 本を外し、シールドカバー U を外します。 (図 3)
- 8-4 AM シートを外します。 (4 項参照)
- 8-5 鍵盤 Ass'y を外します。 (3 項参照)
- 8-6 各シートを下記の様にして外します。
- 8-6-1 PN1 シート
[190A] のネジ 13 本と [190B] のネジ 3 本を外し、PN1 シートを外します。 (図 5)
- 8-6-2 PN2 シート
[190B] のネジ 3 本と [190C] のネジ 2 本と [190D] のネジ 1 本を外し、PN2 シートを外します。 (図 5)
- 8-6-3 PN3 シート
[190D] のネジ 1 本と [190E] のネジ 3 本を外し、PN3 シートを外します。 (図 5)
- 8-6-4 ENC シート
[190F] のネジ 3 本を外し、ENC シートを外します。 (図 5)
※ ENC シートを外すと、コントロールパネル上のエンコーダツマミも同時に外れます。
- 8-6-5 BL シート
[190G] のネジ 2 本を外し、BL シートを外します。 (図 5)
※ PSR730 では BL シートは LCD の押さえの為に使用されています。
- 8-6-6 PB シート
[190H] のネジ 2 本を外し、ホイール Ass'y を外します。ホイール Ass'y からバネの付いたホイールを抜き取ります。 (図 5)
- 8-6-7 MOD シート
[190I] のネジ 2 本を外し、ホイールの付いた MOD シートを外します。MOD シートからホイールを抜き取ります。 (図 5)

9. LCD

- 9-1 Remove the lower case assembly. (See Procedure 1.)
- 9-2 Remove the DM circuit board. (See Procedure 2.)
- 9-3 Remove the screw marked [240F]. Then the shield cover U can be removed. (Fig. 3)
- 9-4 Remove the BL circuit board. (See Procedure 7.)
- 9-5 Remove the two (2) screws marked [190J]. Then the back lit assembly can be removed. (Fig. 5)
- 9-6 Remove the two (2) screws marked [190K]. Then the LCD can be removed. (Fig. 5)

9. 液晶ディスプレイ

- 9-1 下ケース Ass'y を外します。(1 項参照)
- 9-2 DM シートを外します。(2 項参照)
- 9-3 [240F]のネジ 1 本を外し、シールドカバーUを外します。(図 3)
- 9-4 BL シートを外します。(8 項参照)
- 9-5 [190J]のネジ 2 本を外し導光板 Ass'y を外します。(図 5)
- 9-6 [190K]のネジ 2 本を外し、液晶ディスプレイを外します。(図 5)



[190A]: Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280) + バインド P タイト
[190B]: Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280) + バインド P タイト
[190C]: Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280) + バインド P タイト
[190D]: Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280) + バインド P タイト
[190E]: Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280) + バインド P タイト
[190F]: Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280) + バインド P タイト
[190G]: Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280) + バインド P タイト
[190H]: Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280) + バインド P タイト
[190J]: Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280) + バインド P タイト
[190K]: Bind Head Tapping Screw-P 3.0X8	MFZN2Y (EP600280) + バインド P タイト

(Fig. 5)

10. JACK Circuit Board

- 10-1 Remove the lower case assembly. (See Procedure 1.)
- 10-2 Remove the eight (8) screws marked [50A]. Then the JACK circuit board can be removed. (Fig. 6)

10. JACK シート

- 10-1 下ケース Ass'y を外します。(1 項参照)
- 10-2 [50A]のネジ 8 本を外し、JACK シートを外します。(図 6)

11. HP Circuit Board

- 11-1 Remove the lower case assembly. (See Procedure 1.)
- 11-2 Remove the three (3) screws marked [240G]. Then the HP circuit board can be removed. (Fig. 6)

11. HP シート

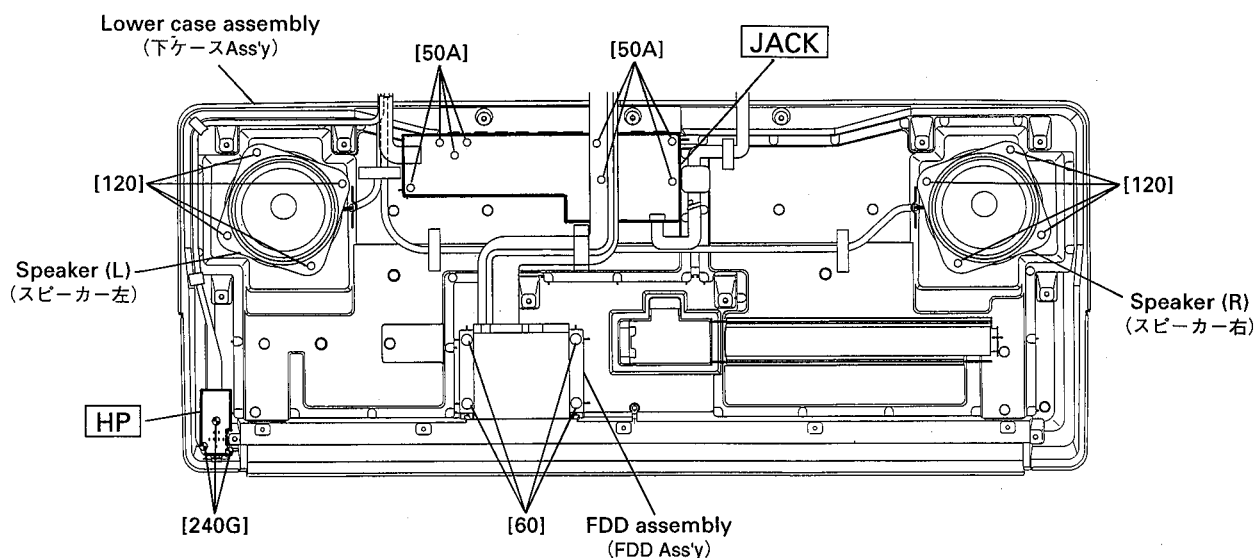
- 11-1 下ケース Ass'y を外します。(1 項参照)
- 11-2 [240G]のネジ 3 本を外し、HP シートを外します。(図 6)

12. Speakers

- 12-1 Remove the lower case assembly. (See Procedure 1.)
- 12-2 Remove the eight (8) screws marked [120]. Then the right and left speakers can be removed. (Fig. 6)

12. スピーカー

- 12-1 下ケース Ass'y を外します。(1 項参照)
- 12-2 [120]のネジ 8 本を外し、左右のスピーカーを外します。(図 6)



[50A]: Bind Head Tapping Screw-P 3.0X8 MFZN2Y (EP600280) + バインド P タイト
 [60]: Bind Head Tapping Screw-P 4.0X16 MFZN2Y (VM839600) + バインド P タイト
 [120]: Bind Head Tapping Screw-P 4.0X10 MFZN2Y (EP640500) + バインド P タイト
 [240G]: Bind Head Tapping Screw-P 3.0X8 MFZN2Y (EP600280) + バインド P タイト

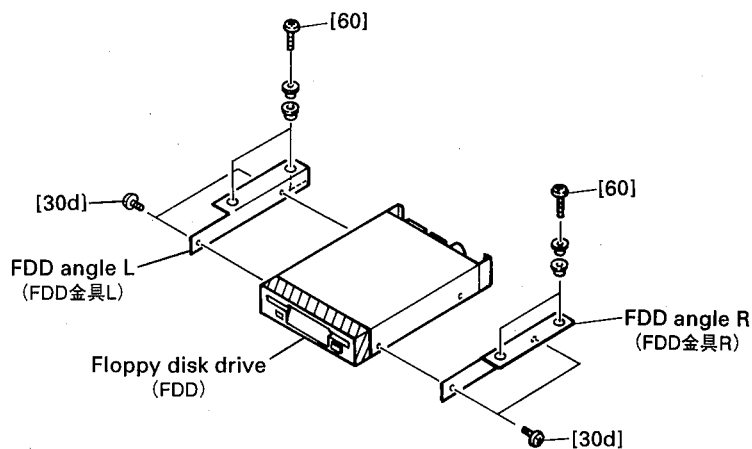
(Fig. 6)

13. Floppy Disk Drive

- 13-1 Remove the lower case assembly. (See Procedure 1.)
- 13-2 Remove the four (4) screws marked [60]. Then the FDD assembly can be removed. (Fig. 6, 7)
- 13-3 Remove the four (4) screws marked [30d]. Then the FDD angle L/R can be removed from the FDD assembly. (Fig. 7)

13. FDD

- 13-1 下ケース Ass'y を外します。(1 項参照)
- 13-2 [60]のネジ 4 本を外し、FDD Ass'y を外します。(図 6、図 7)
- 13-3 [30d]のネジ 4 本を外し、FDD Ass'y より、FDD 金具 L/R を取り外します。(図 7)



[30d]: Bind Head Screw 3.0X6 MFZN2BL (EG330360) + バインド小ネジ

(Fig. 7)

14 Disassembling the keyboard assembly

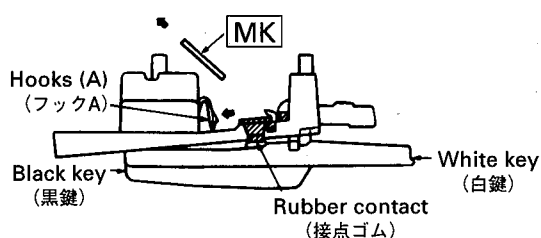
- 14-1 Remove the keyboard assembly. (See procedure 3)
 14-2 Remove the two (2) screws marked [30], then the MKS2 circuit board can be removed. (Fig. 3)
 14-3 Remove the MK circuit board while pressing the fifteen (15) hooks (A) inward, and then remove the rubber contact. (Fig. 8)
 14-4 Remove the twenty-one (21) screws marked as [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. 9)

15 Assembling the keyboard assembly

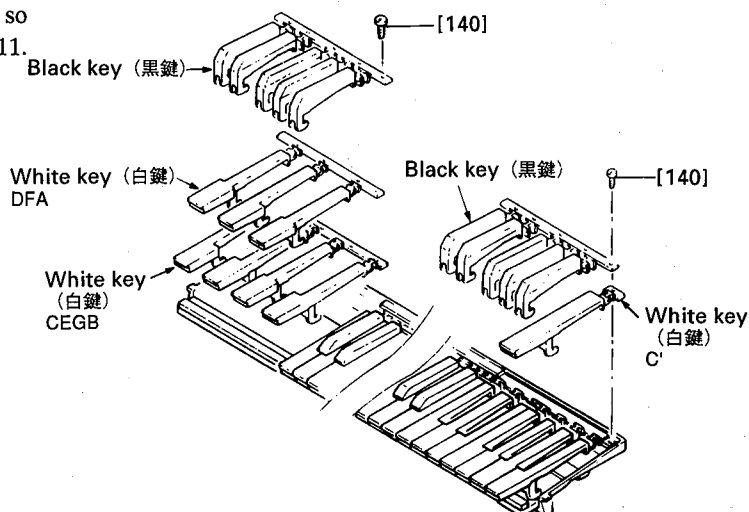
- 15-1 Install the white keys CEGB from the lower notes, and then DFA keys and C' key. Afterwards install the back keys from the higher notes, and tighten the twenty-one (21) screws marked [140]. (Fig. 9)
 15-2 Install the rubber contacts in the assembly while pressing the keys as shown in Figure 10. Check that the rubber contact has been firmly placed into position in the area indicated by the arrow in Figure 11.

※ When fitting the rubber contacts, raise both ends of the frame so that keys do not push the rubber contact up.

Install the MK circuit board in the assembly so that the hooks (B) hold it as shown in Figure 11. (Fig. 10, 11, 12)

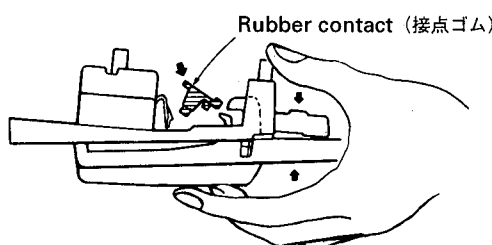


(Fig. 8)

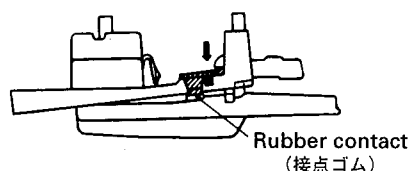


[140]: Bind Head Tapping Screw-P 3.0X16 MFZN2BL (VB205200) + バインド P タイト or
 Bind Head Tapping Screw-P 3.0X16 MFZN2B (VS756700) + バインド P タイト

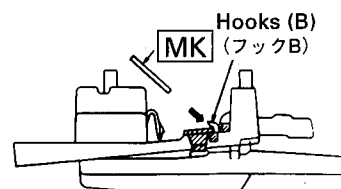
(Fig. 9)



(Fig. 10)



(Fig. 11)



(Fig. 12)

14. 鍵盤 Ass'y の分解

- 14-1 鍵盤 Ass'y を外します。 (3 項参照)
 14-2 [30] のネジ 2 本を外し、MKS2 シートを外します。 (図 3)
 14-3 MK シートを止めているフック A 15 個を矢印の方向に押し外して MK シートを取り外します。接点ゴムは、上へ引くと外れます。 (図 8)
 14-4 白鍵と黒鍵を止めている [140] のネジ 21 本を外し黒鍵を音程の低い方から外します。次に白鍵 DFA と白鍵 C' を外し、最後に白鍵 CEGB を音程の高い方から外します。このとき、鍵盤の手前を持ち上げ、手前にスライドさせて取り外して下さい。 (図 9)

15. 鍵盤 Ass'y の組立て

- 15-1 白鍵 CEGB を音程の低い方からはめ込みます。白鍵 DFA と白鍵 C' をはめ込みます。黒鍵を音程の高い方からはめ込みます。白鍵、黒鍵を止めていた [140] のネジ 21 本を取付けます。 (図 9)
 15-2 接点ゴムは、図 10 のように鍵盤を押し上げながら図 11 のようにしっかりとはめ込んで下さい。このとき、鍵盤が接点ゴムを押し上げて、接点ゴムが浮かないように、MK フレームの両端を上げて作業を行って下さい。MK シートは、図 11 のようにフック B にはめ込んで取り付けます。 (図 10、図 11、図 12)

■ LSI PIN DESCRIPTION (LSI端子機能表)

● HD6437043E00F (XS936A00) CPU

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	/WRHH	O	HH write	73	D15	I/O	Data bus
2	DACK0	O	DMA transfer strobe	74	D14	I/O	
3	/WRHL	O	HL write	75	D13	I/O	
4	/CASHH	O	HH Column address strobe	76	D12	I/O	
5	PE15	I/O	Port E	77	VCC	I	Power supply
6	VSS	I	Ground	78	D11	I/O	Data bus
7	A0	O	Address bus	79	VSS	I	Ground
8	A1	O		80	D10	I/O	Data bus
9	A2	O		81	D9	I/O	
10	A3	O		82	D8	I/O	
11	A4	O	Power supply	83	D7	I/O	Data bus
12	VCC	I		84	D6	I/O	
13	A5	O		85	VCC	I	
14	VSS	I		86	D5	I/O	Data bus
15	A6	O	Address bus	87	VSS	I	Ground
16	A7	O		88	D4	I/O	Data bus
17	A8	O		89	D3	I/O	
18	A9	O		90	D2	I/O	
19	A10	O	Address bus	91	D1	I/O	Ground
20	A11	O		92	D0	I/O	
21	A12	O		93	VSS	I	
22	A13	O		94	XTAL	I	Crystal oscillator
23	A14	O	Power supply	95	MD3	I	Mode select
24	A15	O		96	EXTAL	I	Crystal oscillator
25	A16	O		97	MD2	I	Mode select
26	VCC	I		98	NMI	I	Non-maskable interrupt
27	A17	O	Address bus	99	VCC	I	Power supply
28	VSS	I	Ground	100	PA16	I/O	Port A
29	/CASHL	O	HL Column address strobe	101	PA17	I/O	Port A
30	PA19	I/O	Port A	102	MD1	I	Mode select
31	/RAS	O	Row address strobe	103	MD0	I	Mode select
32	/CASL	O	Column address strobe (low)	104	PLL VCC	I	PLL Power supply
33	PA18	I/O	Port A	105	PLLCAP	I	PLL capacitor
34	/CASH	O	Column address strobe (high)	106	PLL VSS	I	PLL Ground
35	VSS	I	Ground	107	PA15	I/O	Port A
36	RDWR	O	DRAM read/write	108	/RES	I	Reset
37	A18	O	Address bus	109	/DREQ0	I	DMA transfer request
38	A19	O		110	TIOC0B	I/O	MTU input capture/output compare (ch 0)
39	A20	O		111	PE2	I/O	Port E
40	VCC	I		112	VCC	I	Power supply
41	A21	O	Address bus	113	PE3	I/O	Port E
42	VSS	I	Ground	114	PE4	I/O	
43	/RD	O	Read	115	PE5	I/O	
44	/WDTOVF	O	Watch dog timer overflow	116	PE6	I/O	
45	D31	I/O	Data bus	117	VSS	I	Ground
46	D30	I/O	Data bus	118	AN0	I	Analog input
47	/WRH	O	High write	119	AN1	I	
48	/WRL	O	Low write	120	AN2	I	
49	/CS1	O	Chip select	121	AN3	I	
50	/CS0	O	Chip select	122	PF4	I/O	Port F
51	/IRQ3	I	Interrupt request	123	PF5	I/O	Port F
52	/IRQ2	I	Interrupt request	124	AVSS	I	Analog ground
53	/CS3	O	Chip select	125	PF6	I/O	Port F
54	/CS2	O	Chip select	126	PF7	I/O	Port F
55	VSS	I	Ground	127	AVREF	I	Analog reference voltage
56	D29	I/O	Data bus	128	AVCC	I	Analog power supply
57	D28	I/O		129	VSS	I	Ground
58	D27	I/O		130	RxD0	O	Receive data
59	D26	I/O		131	TxD0	O	Transmit data
60	D25	I/O	Ground	132	/IRQ1	I	Interrupt request
61	VSS	I		133	RxD1	I	Receive data
62	D24	I/O		134	PA4	I/O	Port A
63	VCC	I		135	VCC	I	Power supply
64	D23	I/O	Data bus	136	SCK1	I/O	Serial clock
65	D22	I/O		137	PE7	I/O	Port E
66	D21	I/O		138	PE8	I/O	
67	D20	I/O		139	PE9	I/O	
68	D19	I/O	Ground	140	PE10	I/O	
69	D18	I/O		141	VSS	I	Ground
70	D17	I/O		142	TIOC3D	I/O	MTU input capture/output compare (ch 3)
71	VSS	I	Ground	143	PE12	I/O	Port E
72	D16	I/O	Data bus	144	PE13	I/O	Port E

• TC203C760HF-001 (XR738A00) SWP30 (AWM Tone Generator coped with MEG) Standard Wave Processor)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	VSS		(Ground)	121	VSS		(Ground)
2	CA0			122	HMD0	I/O	
3	CA1			123	HMD1	I/O	
4	CA2			124	HMD2	I/O	
5	CA3			125	HMD3	I/O	
6	CA4			126	HMD4	I/O	
7	CA5			127	HMD5	I/O	
8	CA6			128	HMD6	I/O	
9	CA7			129	HMD7	I/O	
10	CA8			130	HMD8	I/O	
11	CA9			131	HMD9	I/O	
12	CA10			132	HMD10	I/O	
13	CA11			133	HMD11	I/O	
14	VSS		(Ground)	134	HMD12	I/O	
15	CD0	I/O		135	HMD13	I/O	
16	CD1	I/O		136	HMD14	I/O	
17	CD2	I/O		137	HMD15	I/O	
18	CD3	I/O		138	VSS		(Ground)
19	CD4	I/O		139	HMA0	O	
20	CD5	I/O		140	HMA1	O	
21	CD6	I/O		141	HMA2	O	
22	CD7	I/O		142	HMA3	O	
23	CD8	I/O		143	HMA4	O	
24	CD9	I/O		144	HMA5	O	
25	CD10	I/O		145	HMA6	O	
26	CD11	I/O		146	HMA7	O	
27	CD12	I/O		147	HMA8	O	
28	CD13	I/O		148	HMA9	O	
29	CD14	I/O		149	HMA10	O	
30	VDD		(Power supply)	150	VSS		(Ground)
31	VSS		(Ground)	151	VDD		(Power supply)
32	CD15	I/O		152	HMA11	O	
33	/CS		Chip select	153	HMA12	O	
34	/WR		Write strobe	154	HMA13	O	
35	/RD		Read strobe	155	HMA14	O	
36	VDDS		(Power supply)	156	HMA15	O	
37	SYSH0	O		157	HMA16	O	
38	SYSH1	O		158	HMA17	O	
39	SYSH2	O		159	HMA18	O	
40	SYSH3	O		160	HMA19	O	
41	SYSH4	O		161	HMA20	O	
42	SYSH5	O		162	HMA21	O	
43	SYSH6	O		163	HMA22	O	
44	SYSH7	O		164	HMA23	O	
45	KON00	O		165	HMA24	O	
46	KON01	O		166	VSS		(Ground)
47	KON02	O		167	/MRAS	O	
48	KON03	O		168	/MCAS	O	
49	VSS		(Ground)	169	/MOE	O	
50	SYSL0	I/O		170	/MWE	O	
51	SYSL1	I/O		171	VSS		(Ground)
52	SYSL2	I/O		172	LMD0	I/O	
53	SYSL3	I/O		173	LMD1	I/O	
54	SYSL4	I/O		174	LMD2	I/O	
55	SYSL5	I/O		175	LMD3	I/O	
56	SYSL6	I/O		176	LMD4	I/O	
57	SYSL7	I/O		177	LMD5	I/O	
58	KON10	O		178	LMD6	I/O	
59	KON11	O		179	LMD7	I/O	
60	VDD		(Power supply)	180	VDD		(Power supply)
61	VSS		(Ground)	181	VSS		(Ground)
62	KON12	O		182	LMD8	I/O	
63	KON13	O		183	LMD9	I/O	
64	DAC0	O		184	LMD10	I/O	
65	DAC1	O		185	LMD11	I/O	
66	WCLK	O		186	LMD12	I/O	
67	MEL00	O		187	LMD13	I/O	
68	MEL01	O		188	LMD14	I/O	
69	MEL02	O		189	LMD15	I/O	
70	MEL03	O		190	VSS		(Ground)
71	MEL04	O		191	LMA0	O	
72	MEL05	O		192	LMA1	O	
73	MEL06	O		193	LMA2	O	
74	MEL07	O		194	LMA3	O	
75	VDDS		(Power supply)	195	LMA4	O	
76	ADLR	O		196	LMA5	O	
77	MEL10	O		197	LMA6	O	
78	MEL11	O		198	LMA7	O	
79	MEL12	O		199	LMA8	O	
80	MEL13	O		200	LMA9	O	
81	MEL14	O		201	LMA10	O	
82	MEL15	O		202	LMA11	O	
83	MEL16	O		203	VSS		(Ground)
84	MEL17	O		204	LMA12	O	
85	VSS		(Ground)	205	LMA13	O	
86	/RCAS	O		206	LMA14	O	
87	RA8	O		207	LMA15	O	
88	RA7	O		208	LMA16	O	
89	RA6	O		209	LMA17	O	
90	VDD		(Power supply)	210	VDD		(Power supply)
91	VSS		(Ground)	211	VSS		(Ground)
92	RA5	O		212	LMA18	O	
93	RA4	O		213	LMA19	O	
94	RA3	O		214	LMA20	O	
95	RA2	O		215	LMA21	O	
96	RA1	O		216	LMA22	O	
97	RA0	O		217	LMA23	O	
98	/RRAS	O		218	LMA24	O	
99	/RWE	O		219	VSS		(Ground)
100	VSS		(Ground)	220	SYOD	O	
101	RD7	I/O		221	SYOD	O	
102	RD6	I/O		222	QCLK	O	
103	RD5	I/O		223	HCLK	O	
104	RD4	I/O		224	CK256	O	
105	RD3	I/O		225	SYSCLK	O	
106	RD2	I/O		226	VDDS		(Power supply)
107	RD1	I/O		227	SYI	I	
108	RD0	I/O		228	MCLKI	I	
109	VSS		(Ground)	229	MCLKO	O	
110	RD17	I/O		230	VDD		(Power supply)
111	RD16	I/O		231	XIN	I	
112	RD15	I/O		232	XOUT	O	
113	RD14	I/O		233	VSS		(Ground)
114	RD13	I/O		234	/IC	I	
115	RD12	I/O		235	CHIP2	I	
116	RD11	I/O		236	SLAVE	I	
117	RD10	I/O		237	/TESTO	I	
118	RD9	I/O		238	/ACI	I	
119	RD8	I/O		239	DCTEST	I	
120	VDDS		(Power supply)	240	VDDS		(Power supply)

● HD63B05V0F07P (XR951A00) CPU

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	/RES	I	Reset	21	C7	I/O	Port C
2	/INT	I	Interrupt request	22	C6	I/O	
3	NUM	I	Non-maskable interrupt	23	C5	I/O	
4	A7	I/O	Port A	24	C4	I/O	
5	A6	I/O		25	C3	I/O	
6	A5	I/O		26	C2	I/O	Port D
7	A4	I/O		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	
11	A0	I/O		31	D2	I/O	
12	B0	I/O	Port B	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		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	Ground	39	EXTAL	I	Clock
20	VSS			40	VCC		Power supply

● HD63266FP (XI939A00) FDC (Floppy Disk Controller)

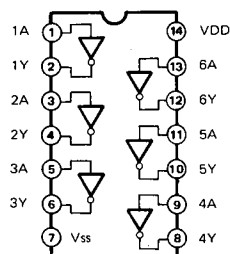
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	8"/5"	I	Data transmission speed	33	/TRK0	I	Track 00 signal
2	XTALSET	I	Clock select	34	/INDEX	I	Index signal
3	/RESET	I	Rest	35	/RDATA	I	Read data input from FDD
4	E//RD	I	Enable/Read	36	XTAL2		Clock
5	RW//WR	I	Read/write/Write	37	EXTAL2		
6	/CS	I	Chip select	38	NC		Clock
7	/DACK	I	DMA acknowledge	39	XTAL1		
8	RS0	I	Register select	40	EXTAL1		Ground
9	RS1	I		41	VSS4		
10	VSS1		Ground	42	VSS5		Power supply
11	VSS2			43	NC		
12	D0	I/O	Data bus	44	VCC2		Write control
13	D1	I/O		45	VCC3		
14	D2	I/O		46	VCC4		Ground
15	D3	I/O		47	/WGATE	O	
16	D4	I/O		48	/WDATA	O	Write data to FDD
17	D5	I/O		49	VSS6		Ground
18	D6	I/O		50	/STEP	O	Step signal to control head of FDD
19	D7	I/O	DMA request	51	/HDIR	O	Direction
20	/DREQ	O		52	/HLOAD	O	Head load
21	/IRQ	O	Interrupt request	53	/HSEL	O	Head select
22	/DEND	I	Data end	54	VSS7		Ground
23	VSS3		Ground	55	/DS0	O	
24	1/2 EX1		Power supply	56	/DS1	O	Drive select
25	VCC1			57	/DS2	O	
26	NUM1	I	Host interface select	58	/DS3	O	Ground
27	NUM3	I		59	VSS8		
28	IFS	I	Format data	60	/MON0	O	Motor on
29	SFORM	I	Index pulse	61	/MON1	O	
30	/INP	I	Ready from FDD	62	/MON2	O	Ground
31	/READY	I	Write control signal	63	/MON3	O	
32	/WPRT	I		64	VSS9		

• **μPD63200GS-E1 (XP867A00) DAC** (Digital to Analog Converter)

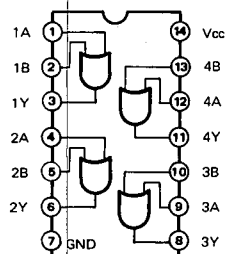
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	4/8F	I	4/8 Fs selection	9	R. REF		Channel R voltage reference
2	D. GND		Digital ground	10	L. REF		Channel L voltage reference
3	16 BIT	I	16 bit/18 bit selection	11	L. OUT	O	Channel L output
4	D. VDD		Digital power supply	12	A. GND		Analog ground
5	A. GND		Analog ground	13	WDCK	I	Word clock
6	R. OUT	O	Channel R output	14	RSI	I	Channel R series input
7	A. VDD		Analog power supply	15	SI/LSI	I	Series input/Channel L series input
8	A. VDD			16	CLK	I	Clock

■ IC BLOCK DIAGRAM (ICブロック図)

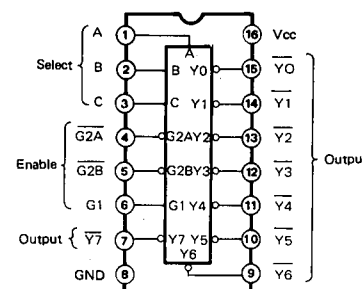
- **SN74HCU04N** (IG142250)
Hex Inverter



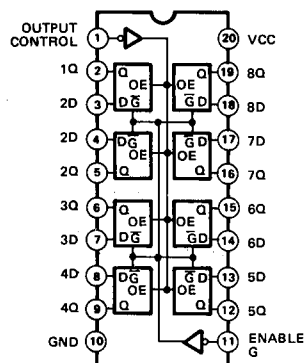
- **HD74AC32NSR** (XD833A00)
Quad 2 Input OR



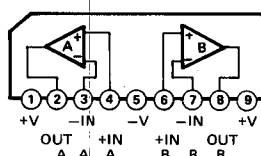
- **TC74HC138NSR** (XD835A00)
3 to 8 Demultiplexer



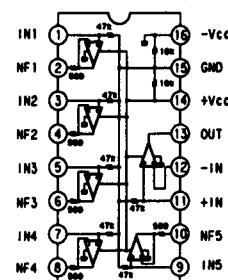
- **SN74HC374ANSR** (XQ042A00)
Octal 3-State D-Type Flip-Flop



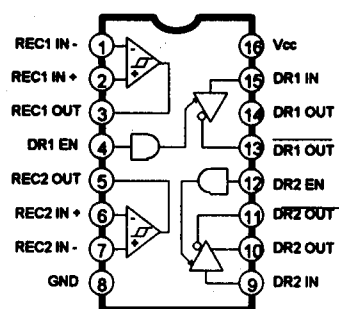
- **μPC4570HA** (XB247A00)
Dual Operational Amplifier



- **M5227P** (XF751A00)
5-Band Graphic Equalizer

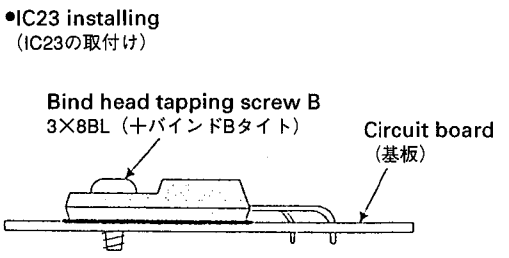
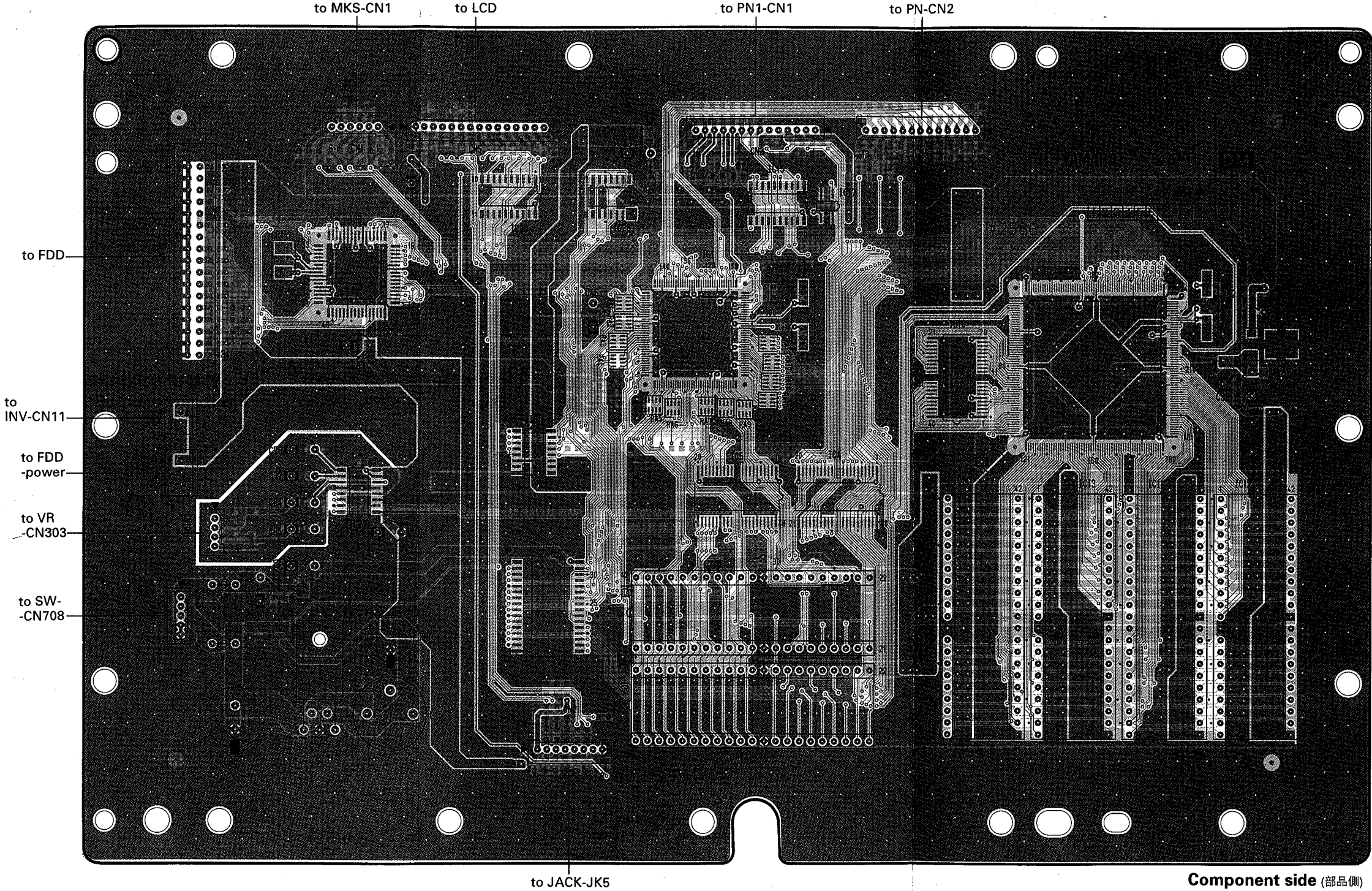


- **MC34051P** (XP094A00)
Dual EIA-422/423 Transceiver



■ CIRCUI T BOARDS (シート基板図)

● DM Circuit Board (DMシート)



- Notes)
- Circuit Board: DM (VV888000) XS991B0
1. IC
- IC1: HD6437043E00F (XS936A00) CPU
- IC2: MAIN-L (XS988100) ROM 4M
- IC3: MAIN-H (XS989100) ROM 4M
- IC4,5,10: M5M44260CTP-7 (XS438A00) or UPD424260G5-70 (XT776A00) DRAM 4M
- IC7: M5M51008BFP-70LL (XS681A00) SRAM
- IC8: HD63266F (XI939A00) FDC
- IC9: TC203C760HF-001 (XR738A00) SWP30
- IC11: WAVE1 (XS984100) ROM 16M
- IC12: WAVE2 (XS985100) ROM 8M
- IC13: WAVEH1 (XS986100) ROM 16M
- IC14: WAVEH2 (XS987100) ROM8M
- IC15,20: SN74HC374ANSR (XQ042A00) D-FF
- IC16: SN74HC138NSR (XD835A00) DECODER
- IC17: IC-PST591DMT (XP226A00) RESET
- IC22: S-81250SGUP-DQD- (XT170A00) REGULATOR +5V
- IC23: SI-8050S(LF1103) (XT514A00) CONVERTER DC-DC
- IC26: UPC2933T (XS516A00) REGULATOR +3.3V
- IC27: UPD63200GS-E1 (XP867A00) DA CONVERTER
- IC28: SN74HC32NSR (XD833A00) OR
2. Digital Transistor
- Q 1-5: DTB123YK TP (VY677700)
- Q 6-8: DTC123JKA TP (VY677600)
3. Diode
- D 1: MA221 (VB493900)
- D 2: SFPB-62V (VZ060500)
4. Monolithic Ceramic Cap.
- C 1-10,14-28,30, 32-34,47,101: B 470P 50V K (UB012470)
- C 11,12,29,31,35- 38,40,44,50,52, 53,55-57,60-62, 64-66,68-71,73, 75,76,82,86,89, 96,102,103, 105: F 0.010 50V Z (UB044100)
- C 41,42,80,81: SL 10P 50V D (UB051100)
- C 45,104,106, 107: SL 100P 50V J (UB052100)
- C 48,49: SL 27P 50V J (UB051270)
- C 87,88: F 0.047 50V Z (UB044470)
5. Electrolytic Cap.
- C 13,39,46,58,67, 72,74,83,92: 100.00 6.3V (UJ818100)
- C 77,78: 47.00 10.0V (UJ827470)
- C 79,100: 10.00 50.0V (UJ867100)
- C 84,85: 1.00 50.0V (UJ866100)
- C 90: 1000 6.3V (UJ819100)
- C 98: 1000.0 25.0 (VR641000)
6. Coil
- SN 1,2: SNT-D20TF (VN381200)
7. Chip Inductance
- L 7-14,16-21: BK2125HM601 (VQ724900)
8. Choke Coil
- L 15: 220U ELC15E221 1 (VZ060700)

Component side (部品側)

9. Carbon Resistor (chip)

L 1-6,58,111,112: 0.0 0.0 J (RD250000)

R 1-8,16,18,24-
42,52,55-57,60,
73,87,90,93-
100-103,105: 47.0K 0.1 J (RD257470)R 9,10,22,23,89,
106,107,109,
110: 10.0K 0.1 J (RD257100)

R 11,12: 22.0 0.1 J (RD254220)

R 13-15: 100.0 0.1 J (RD255100)

R 19,21: 100.0K 0.1 J (RD258100)

R 20,88: 470.0K 0.1 J (RD258470)

R 43,59,61-63,65-
68: 220.0 0.1 J (RD255220)R 44,64,74,76,81-
83: 1.0K 0.1 J (RD256100)

R 45,48: 680.0 0.1 J (RD255680)

R 46: 1.0M 0.1 J (RD259100)

R 47: 3.3K 0.1 J (RD256330)

R 69,70,104,108: 220.0 0.1 J (RD255220)

R 71,72: 180.0 0.1 J (RD255180)

R 75,77-80,84: 330.0 0.1 J (RD255330)

R 85: 22.0K 0.1 J (RD257220)

R 86: 39.0K 0.1 J (RD257390)

10. Resistor Array

RA 1-13: 0X4 (RE044000)

11. Quartz Crystal Unit

XL 1: 7M SMD-49 (VV762900)

XL 2: 33.8688M SMD-49 (VT685200)

12. Ceramic Resonator

CR 1: 16M CSACS16.00MX (VQ274900)

13. Base Post Connector

CN 9: XH 3P (LB918030)

to FDD power

CN 11: XH 2P (LB918020)

to INV-CN1

14. Connector

CN 1: 52147 6P (VF728300)

to MKS2-CN1

CN 5: 52147 15P (VF667600)

to LCD

CN 7: 34P (VQ391300) to FDD

15. Wire Trap

CN 2: 52147 8P (VK025200)

to JACK-JK5

CN 3: 52147 14P (VK025800)

to PN1(PN1/8)-CN1

CN 4: 52147 13P (VK025700)

to PN1(PN1/8)-CN2

CN 8: 52147 5P (VK024900)

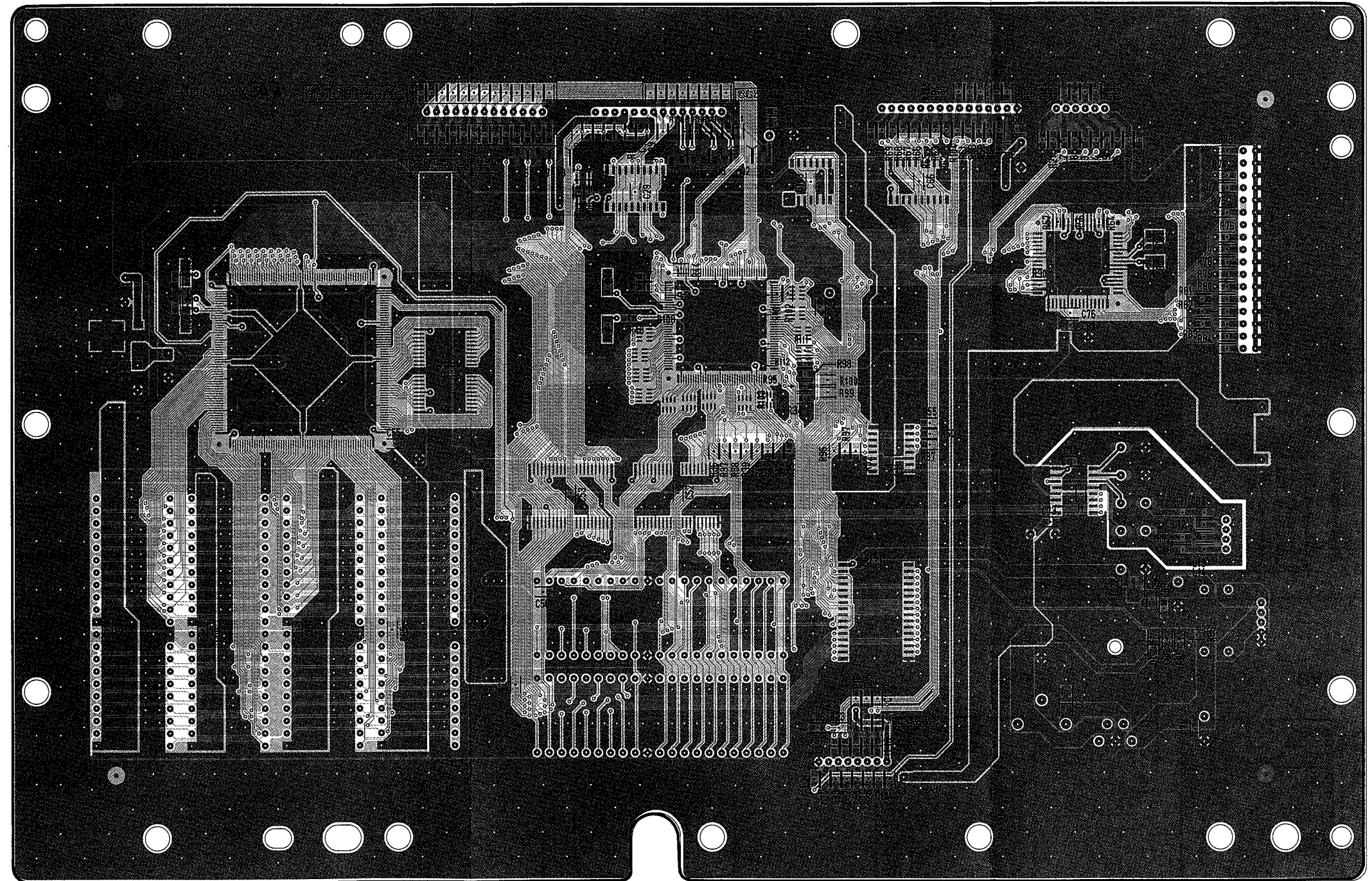
to SW(AM4/4)-CN708

CN 10: 52147 4P (VK024800)

to VR(AM2/4)-CN303

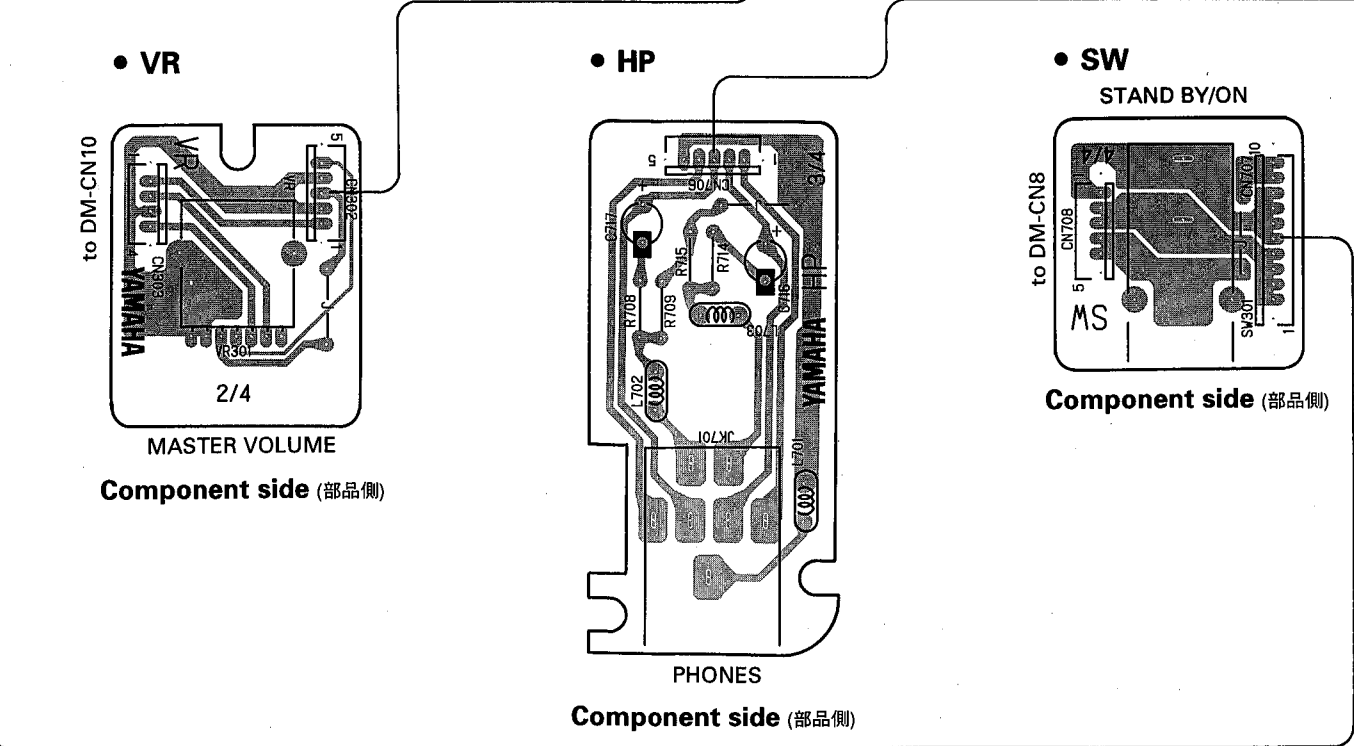
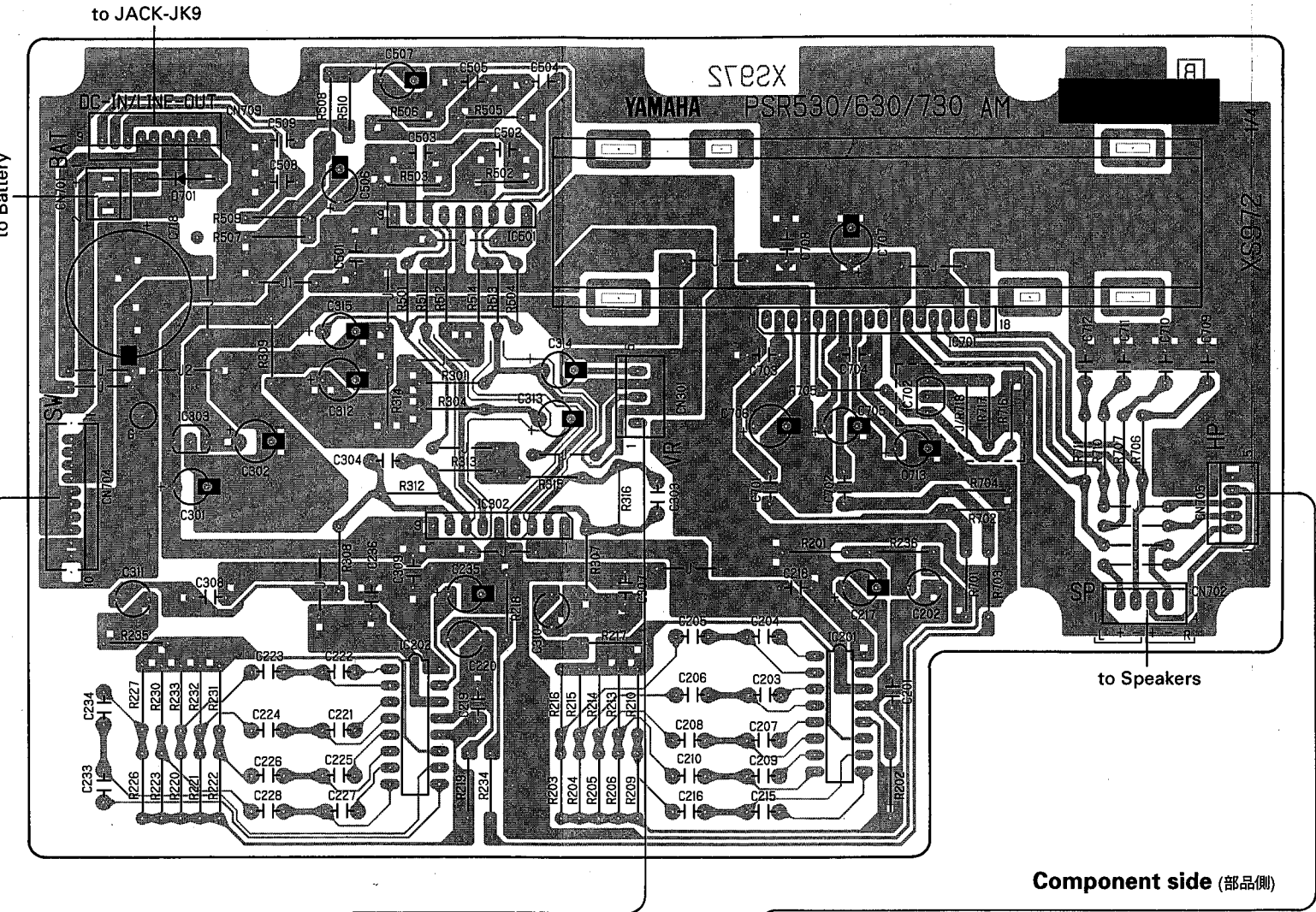
16. Blind Head Tapping Screw-B

3.0X8 MFZN2BL (EP600190)



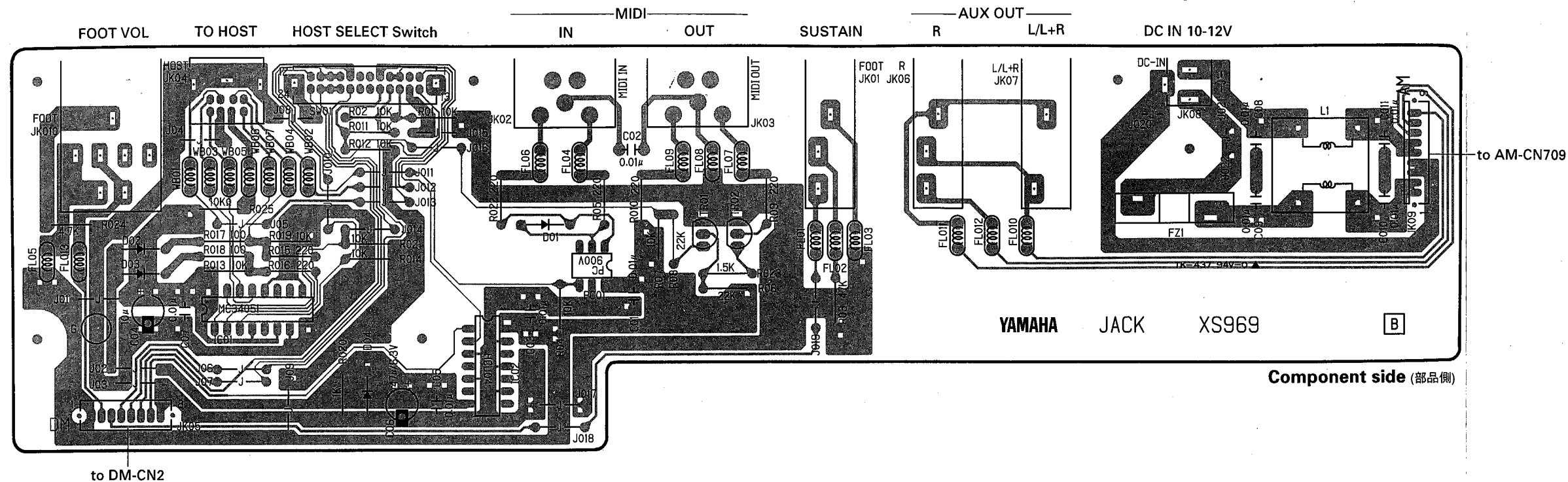
Pattern side (パターン側)

• AM Circuit Board (AMシート)
• AM



- Notes)
- Circuit Board: AM (AM1/4) (NX007870) XS972B0
VR (AM2/4) (NX007880) XS972B0
HP (AM3/4) (NX007890) XS972B0
SW (AM4/4) (NX007900) XS972B0
1. IC
IC201,202: M5227P (XF751A00) EQUALIZER
IC302,304,501: UPC4570HA (XB247A00) OP AMP
IC303: AN77L09-TA (XT676A00) REGULATOR +9V
IC701: LA4705NA (XQ619A00) 17W BTL
2. Diode
D 701: 20E1-FC4 (VL723600) or LT2A02-E (VY717100)
3. Mylar Capacitor
C 207,225: 0.0680 50V J (UA654680)
C 209,227,307,308: 0.0100 50V J (UA654100)
C 210,228: 0.0560 50V J (UA654560)
C 216,234: 0.0180 50V J (UA654180)
C 709-712: 0.0470 50V J (UA654470)
4. Monolithic Mylar Capacitor
C 203,221: ECQ-V1H124JL3 (VR168400)
C 204,222: ECQ-V1H564JL3 (VR169300)
C 205,223: ECQ-V1H105JL3 (VU838100)
C 206,224: ECQ-V1H684JL3 (VR169400)
C 208,226: ECQ-V1H274JL3 (VR168900)
C 502,504: ECQ-V1H104JL3 (VR168300)
5. Ceramic Capacitor-B
C 201,219: 1500P 50V K (FG613150)
C 508,509: 5600P 50V K (FG613560)
C 703,704: 470P 50V K (FG612470)
6. Ceramic Capacitor-SL
C 215,233: 100P 50V J (FG652100)
C 503,505: 22P 50V J (FG651220)
7. Monolithic Ceramic Cap.
C 701,702: 1.000 25V Z (VT757800)
8. Electrolytic Cap.
C 217,235,315,716,717: 47.00 16.0V (UJ837470)
C 301: 100.00 16.0V (UJ838100)
C 302,707: 100.00 25.0V (UJ848100)
C 312-314: 10.00 16.0V (UJ837100)
C 506,507: 1.00 50.0V (UJ866100)
C 705: 33.00 10.0V (UJ827330)
C 706: 100.00 10.0V (UJ828100)
C 713: 0.47 50.0V (UJ865470)
C 718: 6800 25.0V (VT848900)
9. Electrolytic Cap.-BP
C 202,220: 3.30 50.0V (UN866330)
C 310,311: 10.00 16.0V (UN837100)
10. Semiconductive Cera. Cap.
C 218,236,306,309,501,708: 0.1000 25V Z (VC694800)
11. Coil
L 701-703: FL5R200QNT (VB835000)
12. Carbon Resistor
R 201,218,313,315,705: 10.0K 1/4 J (HF757100)
R 202,219: 3.3K 1/4 J (HF756330)
R 203,205,210,220,222,227: 22.0K 1/4 J (HF757220)
R 204,221: 2.7K 1/4 J (HF756270)
R 206,215,223,232: 18.0K 1/4 J (HF757180)
R 209,213,226,230: 1.0K 1/4 J (HF756100)
R 214,231,509,510: 680.0 1/4 J (HF755680)
R 217,235,702,704: 4.7K 1/4 J (HF756470)
R 234,236: 560.0 1/4 J (HF755560)
R 301,304,503,506-508: 100.0K 1/4 J (HF758100)
R 307,308: 150.0 1/4 J (HF755150)
R 309,314: 2.2K 1/4 J (HF756220)
R 312,316,511,513: 47.0K 1/4 J (HF757470)
R 501,504: 12.0K 1/4 J (HF757120)
R 502,505,701,703: 27.0K 1/4 J (HF757270)
R 512,514: 470.0K 1/4 J (HF758470)
R 706,707,710,711: 2.2 1/4 J (HF753220)
R 708,714: 100.0 1/4 J (HF755100)
R 709,715: 330.0 1/4 J (HF755330)
13. Rotary Variable Resistor
VR 301: A10.0K XV0141GPV (VZ048400) MASTER VOLUME
14. Push Switch
SW301: SDDL B1 J.UC.CEE (VY980400) STAND BY/ON (Power Switch)
15. Phone Jack
JK 701: YKB21-50 (LB101870) or HTJ064-0 (VV943300) PHONES
16. Base Post Connector
CN 701: XH 2P (LB918020) to BATTERIES
CN 702: XH 4P (LB918040) to SPEAKERS
17. Connector
CN 704: 52147 10P (VF728200) to SW(AM4/4)-CN707
18. Cable Holder
CN 302,708: 51048 5P (VI87830C) CN302: to AM(AM1/4)-CN301
CN708: to DM-CN8
CN 303: 51048 4P (VI87820C) to DM-CN10
CN 707: 51048 10P (VI87880C) to AM(AM1/4)-CN704
19. Wire Trap
CN 301,705,706: 52147 5P (VK024900) CN301: to VR(AM2/4)-CN302
CN705: to HP(AM3/4)-CN706
CN706: to AM(AM1/4)-CN705
CN 709: 52147 9P (VK025300) to JACK-JK9
20. Heat Sink
HS 1: (VV856400)
21. Jumper Wire
0.55 (--)
22. Bind Head Tapping Screw-B
3.0X8 MFZN2BL (EP600190)

• JACK Circuit Board (JACKシート)



Notes)

Circuit Board: JACK (VY842800) XS969B0

1. IC

IC1: MC34051P (XP094A00)
LINE TRANSCEIVE
IC2: SN74HCU04N (IG142250)
INVERTER

2. Transistor

TR 1,2: 2SC1740S R,S (IC174070)

3. Diode

D 1-4: 1SS133,1SS176 (VB941200)

4. Photo Coupler

PC 1: PC-900V (VG181900)

5. Ceramic Capacitor-F

C 1-3,5,7-11: 0.0100 50V Z (FG644100)

6. Electrolytic Cap.

C 4: 10.00 16.0V (UJ837100)
C 6: 47.00 6.3V (UJ817470)

7. Line Filter

L 1: SU10VD-20020 (VI486800)

8. Coil

FL 1-13: FL5R200QNT (VB835000) or
SBT-0260TF (VF968800)

9. Ferrite Bead

WB1-7: BL02RN2-R62T4 (GE300670)

10. Carbon Resistor

R 1,2,4,7,11-14,
19,21,25: 10.0K 1/4 J (HF757100)
R 3: 47.0K 1/4 J (HF757470)
R 5,9,10,15,16,
22: 220.0 1/4 J (HF755220)
R 6,8: 22.0K 1/4 J (HF757220)
R 17,18: 100.0 1/4 J (HF755100)
R 20: 1.0K 1/4 J (HF756100)
R 23: 1.5K 1/4 J (HF756150)
R 24: 4.7K 1/4 J (HF756470)

JACK : 2NA-VV85580

INV : 2NA-VY84290

11. Slide Switch

SW 1: SSSF144-S06N-0 (VQ665200)
HOST SELECT

12. Fuse

10: 5.00A S (KB003240)

13. Phone Jack

JK 1: YKB21-50 (VB312600) or
JY6314-01-1 (VV943400) SUSTAIN
JK 6: YKB21-50 (VB312600) or
JY6314-01-1 (VV943400)
AUX OUT R
JK 7: YKB21-50 (VC687500)
AUX OUT L/L+R
JK 10: YKB21-50 (LB101870) or
HTJ064-0 (VV943300) FOOT VOL

14. Connector

JK 8: HEC23 (VC664500) DC IN

15. DIN Connector

JK 2: 5P YKF51-50 (VJ107200) MIDI IN
JK 3: 5P YKF51-50 (VJ107200) MIDI OUT
JK 4: DIN 8P MD-S8 (VM761000)
TO HOST

16. Cable Holder

20: 51048 8P (VI878600)
to DM-CN2
30: 51048 9P (VI878700)
to AM-CN709

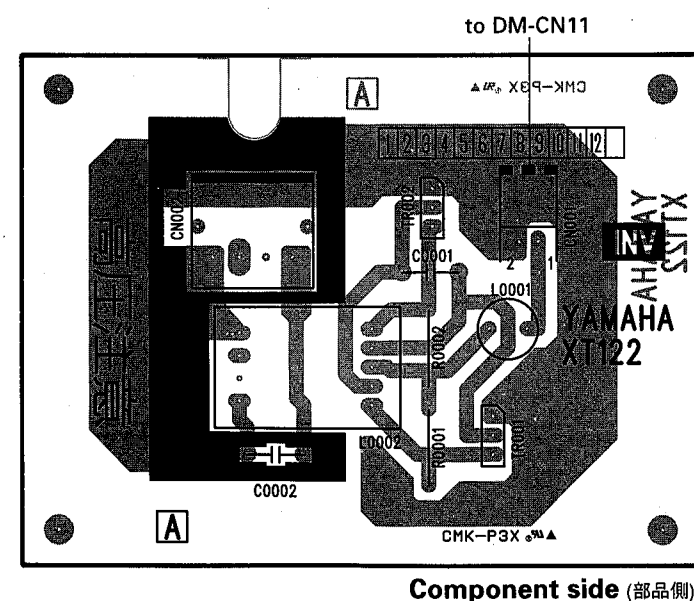
17. Fuse Holder

40: EYF-52B (VP206500)

18. Connector Assembly

JACK (--)

• INV Circuit Board (INVシート)



Notes)

Circuit Board: INV (VY843000) XT122A0

1. Transistor

TR 1,2: 2SC3669-O/Y(TPF2 (VS185700) or
2SD1863 TV2 82-3 (VS185600)

2. Ceramic Capacitor-SL

C 2: 18P 3KV J (VS147400)

3. Electrolytic Cap. (chip)

C 1: 0.068 250 ECQE (VP318400)

4. Inverter Transformer

L 2: YMH-16A(5V IN) (VY843100)

5. Coil

L 1: LH L 08TB221K (VS587900)

6. Carbon Resistor

R 1,2: 5.6K 1/4 J (HF756560)

7. Base Post Connector

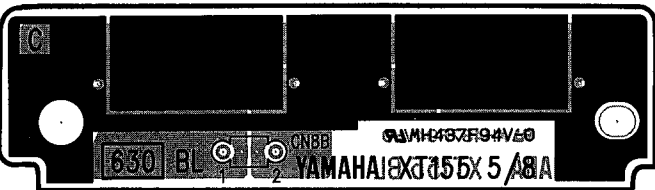
CN 1: XH 2P (LB919020)
to DM-CN11
CN 2: 53259 4P (VT389600)
to Back-light Assembly

- PN Circuit Board (PNシート)
- PN1

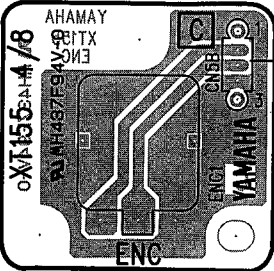
- BL

- ENC

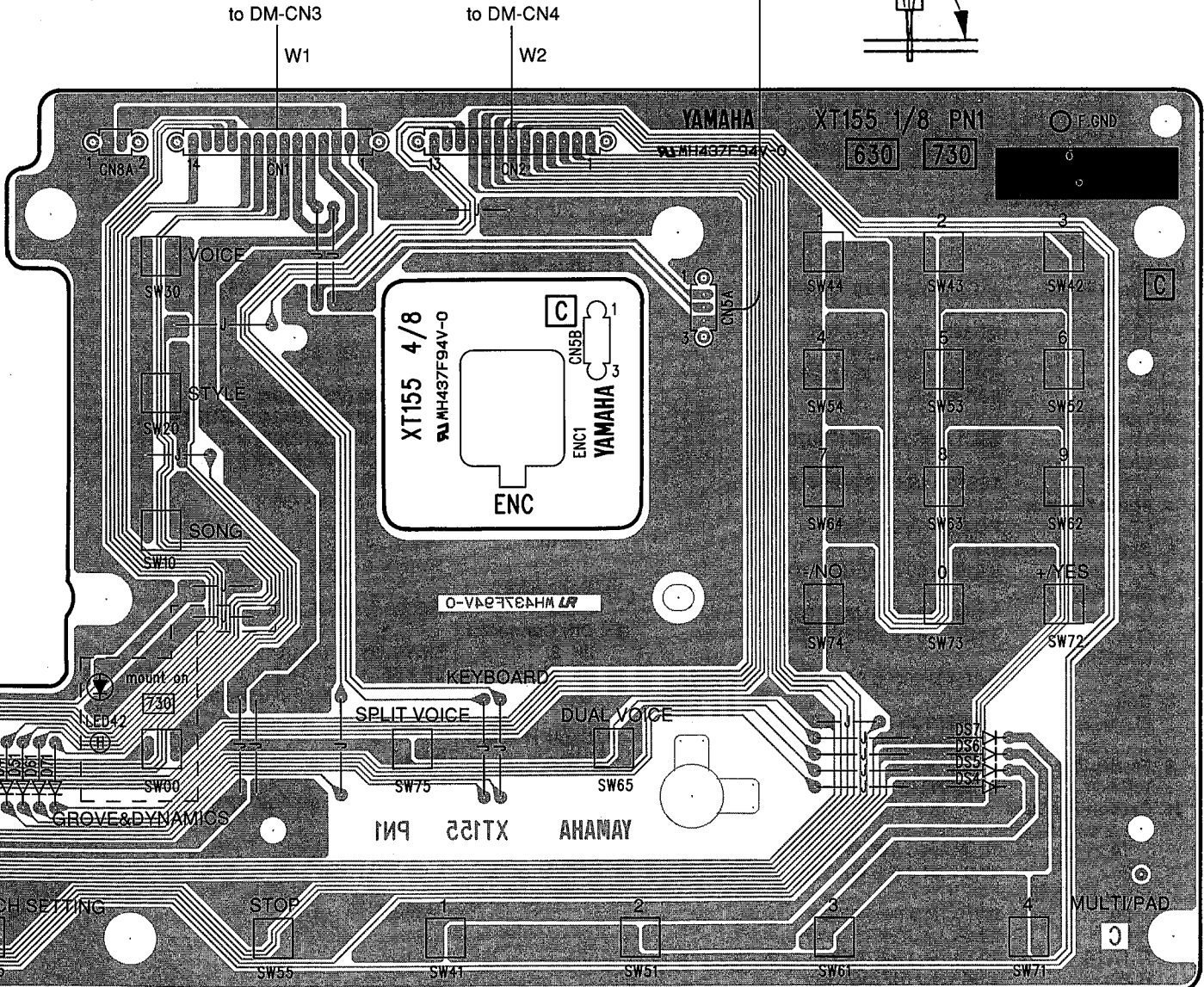
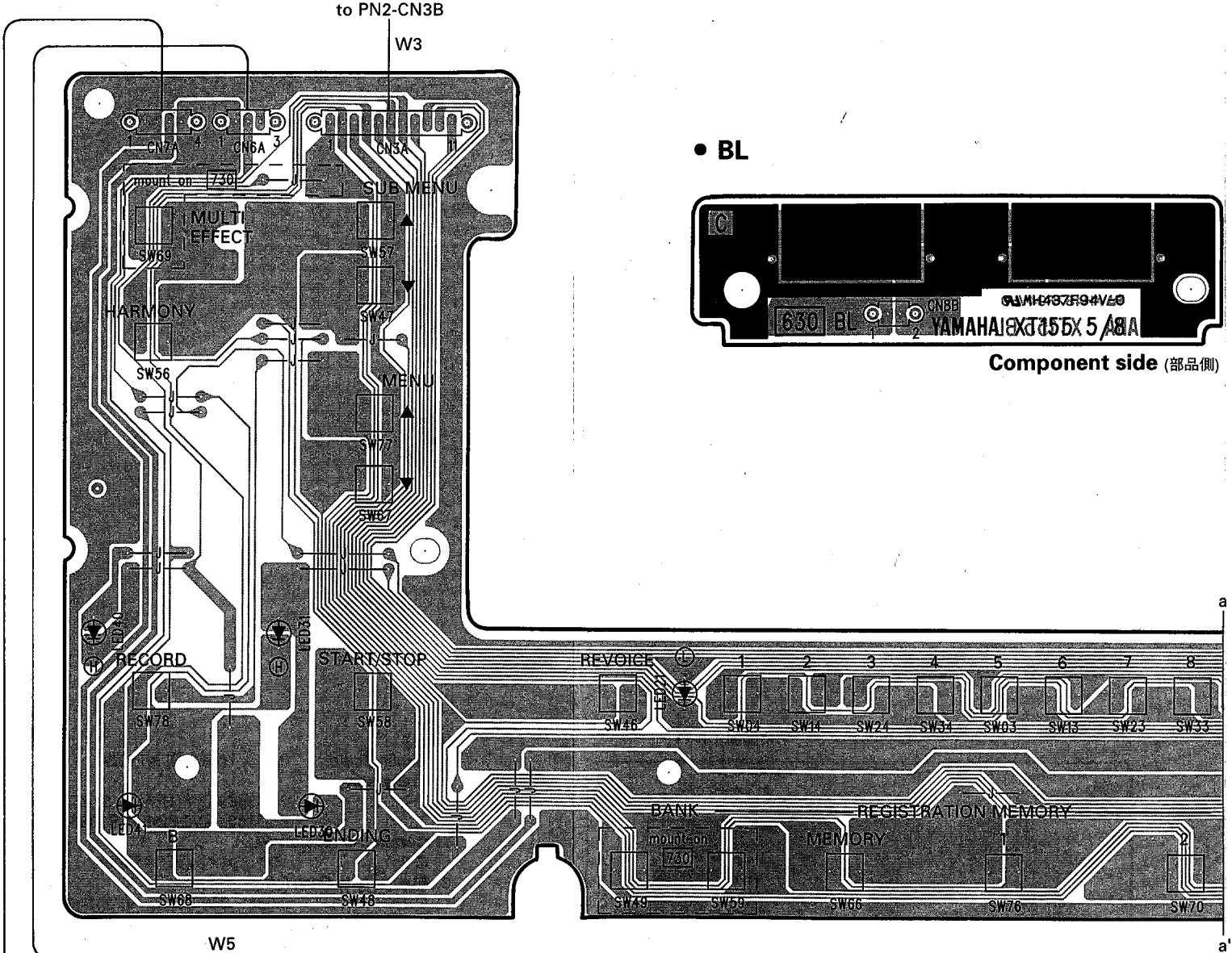
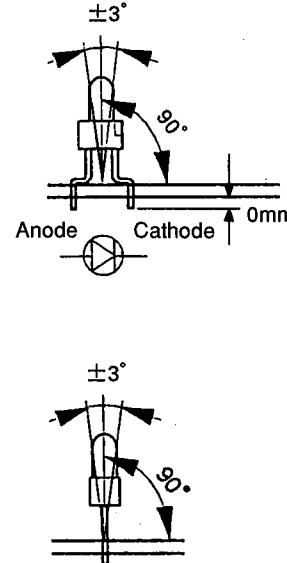
- LED installing



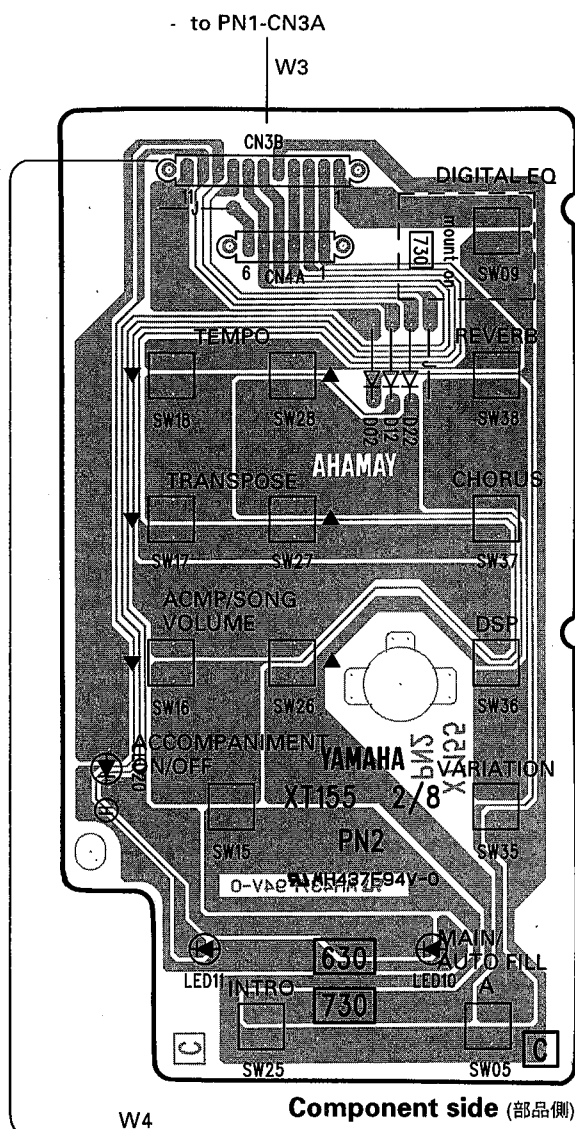
Component side (部品側)



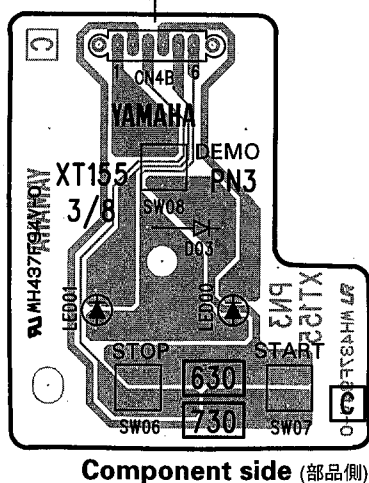
Component side (部品側)



• PN2



• PN3



Notes)

Circuit Board: PN1 (PN1/8) (NX007800) XT155C0
 PN2 (PN2/8) (NX007810) XT155C0
 PN3 (PN3/8) (NX007820) XT155C0
 ENC (PN4/8) (NX007830) XT155C0
 BL (PN5/8) (NX007840) XT155C0
 PB (PN7/8) (NX007850) XT155C0
 MOD (PN8/8) (NX007860) XT155C0

1. Diode

D 01-03,11,12,21,
 22,31,41,51,61,
 71,S1-S4: 1SS133,1SS176 (VB941200)

2. LED

LED 21: SLZ-190B-01 RE (VC341300)
 REVOICE
 LED 20,31,40,42: SLZ-190B-11-T1 R (VI100100)
 LED20:ACCOMPANIMENT
 ON/OFF
 LED31:START/STOP
 LED40:RECORD
 LED42:GROOVE & DYNAMICS
 LED 00,01,10,11,
 30,41: SLZ-190B-02-T1 R (VT940900)
 LED00:SYNC-START
 LED01:SYNC-STOP
 LED10:MAIN/AUTO FILL A
 LED11:INTRO
 LED30:ENDING
 LED41:MAIN/AUTO FILL B

3. Rotary Variable Resistor

VR 1,2: B10K EVJ05DF20B1 (VZ486300)
 PITCH BEND,MODULATION

4. Encoder

ENC 1: REB161 PVB 15F (VU481300) Dial

5. Light Touch Switch

SW00-18,20-28,
 30-38,40-78: EVQ 22C 05B (VT513600)

6. Cable Holder

CN 1: 51048 14P (VI879200)
 to DM-CN3
 CN 2: 51048 13P (VI879100)
 to DM-CN4
 CN 3A,3B: 51048 11P (VI878900)
 CN3A: to PN2(PN2/8)-CN3B
 CN3B: to PN1(PN1/8)-CN3A
 CN 4A,4B: 51048 6P (VI878400)
 CN4A: to PN3(PN3/8)-CN3B
 CN4B: to PN2(PN2/8)-CN4A
 CN 5A,5B,6A,6B: 51048 3P (VI878100)
 CN5A: to ENC(PN4/8)-CN5B
 CN5B: to PN1(PN1/8)-CN5A
 CN6A: to PB(PN7/8)-CN6B
 CN6B: to PN1(PN1/8)-CN6A
 CN 7A,7B: 51048 4P (VI878200)
 CN7A: to MOD(PN8/8)-CN7B
 CN7B: to PN1(PN1/8)-CN7A

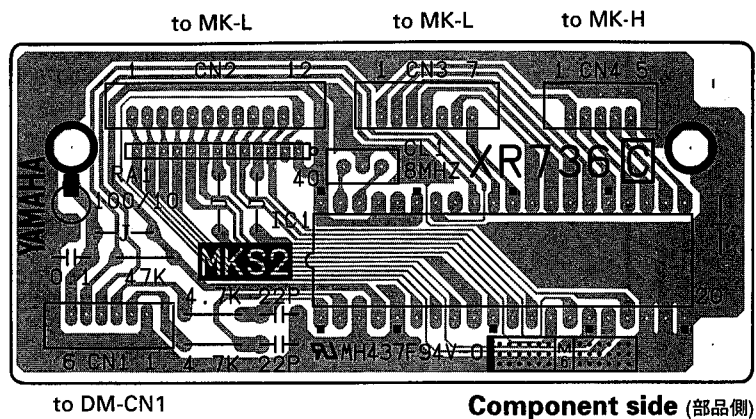
7. Connector Assembly

W1: 14P PN-DM 1 (--)
 to DM-CN3
 W2: 13P PN-DM 2 (--)
 to DM-CN4
 W3: 11P PN1-PN2 (--)
 W4: 6P PN2-PN3 (--)
 W5: 3P PN1-PB (--)
 W6: 4P PN1-MOD (--)
 W7: 3P PN1-ENC (--)

8. Jumper Wire

0.55 (--)

● MKS2 Circuit Board (MKSシート)



Notes)

Circuit Board: MKS2 16M (VU494600) XR736C0 or XS892A0

1. IC
IC1: HD63B05V0F07P (XR951A00) CPU
2. Ceramic Capacitor-SL
C 1,2: 22P 50V J (FG651220)
3. Semiconductive Cera. Cap.
C 4: 0.1000 25V M (VD930900)
4. Electrolytic Cap.
C 3: 100.00 10.0V (UJ828100)
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
CN 1: 52147 6P (VF728300) to DM-CN1
9. Wire Trap
CN 2: 52147 12P (VK025600) to MK-L
CN 3: 52147 7P (VK025100) to MK-L
CN 4: 52147 5P (VK024900) to MK-H
10. Jumper Wire
0.55 (--)

■ TEST PROGRAM

1. PREPARATION

To check the unit using the test program, the following measuring instruments and jigs will be required:

- Measuring instruments and jigs:

Level meter (with a JIS-C filter)

Frequency counter

※Notes: Impedance must be $1M \Omega$ or above.

Use stereo plugs, and connect 30Ω load at [PHONES] jack.

Floppy disks (unformatted 2HD & 2DD, formatted 2HD & 2DD), Foot switch (FC4 or FC5), MIDI cable

2. HOW TO ENTER THE TEST PROGRAM

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

3. PROCEEDING THROUGH THE TEST PROGRAM

- The LCD will display "TEST" when entering the test program.
- To select the program number, use [TEMPO▲/▼] button.
- To execute the test, press the [START/STOP] button.
- The LCD will display "OK" when the test result is OK.

To proceed to the next test, press the [START/STOP] button again.

- The LCD will display "NG" when the test result is NG.

Press the [DEMO] button to proceed the next test.

While the test NO. 37 "MIDI check" result is NG, turn the [STAND BY/ON] switch off and re-enter the test program.

4. TEST ITEMS

TEST NO.	LCD display (Initial)	Test Functions and Judgment criteria
1	001: Version	Displays version for ROM (MAIN, STYLE, and WAVE).
2	002: Rom Chk1	Checks the PROGRAM ROM.
3	003: Ram Chk1	Checks all RAMs which are connected to CPU.
4	004: WRom Chk1	Checks WAVE ROM.
7	007: FDD Chk 1	Insert the floppy disk into the floppy disk drive. Check the floppy disk drive by using the write protect "ON" disks, the unformatted disks and the formatted disks of both type disks 2HD and 2DD.
9	009: Eff1 Chk	Checks Reverb effect Ram. Check that C3 note is output during this test.
11	011: TG1 Chk	Outputs the sine wave by changing the channels in sequence from A0 to C6. When a voice switch is depressed, the tone of the voice will sound. After autoscaling is finished, individual keys can be played. (If playing two or more keys simultaneously, the first depressed key has priority to make sound.)
13	013: Pit Chk	Connect the frequency counter to the [PHONES] jack. Check that the 440.0 ± 0.22 Hz signal is output. Check output level (1 kHz) at this time. Connect the level meter (with a JIS-C filter) to the [PHONES] jack. (30Ω load) PHONES L/R : $-22 \text{ dBm} \pm 2 \text{ dB}$ Connect the level meter (with a JIS-C filter) to the [AUX OUT] jacks. AUX OUT L/R : $-14 \text{ dBm} \pm 2 \text{ dB}$

14	014: Output R	Connect the level meter (with a JIS-C filter) to the [PHONES] jack. (30Ω load) Set the [MASTER VOLUME] at maximum. Check output level (1 kHz). PHONES L: Less than -60 dBm PHONES R: -24 dBm ± 2 dB
15	015: Output L	Connect the level meter (with a JIS-C filter) to the [PHONES] jack. (30Ω load) Set the [MASTER VOLUME] control at maximum. Check output level (1 kHz). PHONES L: -24 dBm ± 2 dB PHONES R: Less than -60 dBm
19	019: Noise	Connect the level meter (with a JIS-C filter) to the [PHONES] jack. (30Ω load) Set the [MASTER VOLUME] control at maximum. Check D/A converter noise. PHONES L/R: Less than -80 dBm
20	020: SW Chk	Check switches and LEDs on the panel. Press the switch which is displayed on the LCD. A pre-assigned note is output when depressing the switch. (With some switches, the corresponding LED will light up). Also check the dial by turning it; the LCD displays OK.
21	021: P LED	Check that all panel LEDs are lit up.
28	028: LCD On	Check that all LCD dots are on. The LCD becomes black.
29	029: LCD Off	Check that all LCD dots are off. The LCD becomes white.
31	031: PD1 Chk	Check that C3 note is output when pushing the pedal and C4 is output when releasing the pedal, and the LCD displays OK.
33	033: PB Chk	Check that C3 note is output when rotating the [PITCH BEND] wheel to minimum and C4 is output when rotating it to maximum, and the LCD displays OK.
34	034: MOD Chk	Check that C3 note is output when rotating the [MODULATION] wheel to minimum and C4 is output when rotating it to maximum, and the LCD displays OK.
37	037: MIDI Chk	After connecting the [MIDI IN] jack and [MIDI OUT] jack with the MIDI cable, execute the test. Check that C4 note is output and the test result appears on the LCD.
38	038: Host Chk	For factory test use only.
40	040: Battery Chk	Remove the AC adapter and put the batteries into the battery box. Check the LCD displays OK.
※41	041: Rom Chk2	Checks the PROGRAM ROM.
※42	042: Ram Chk2	Checks all RAMs which are connected to CPU.
※43	043: WRom Chk2	Checks WAVE ROM.
※46	046: Back Up2	Performs the RAM back up check..
47	047: Factory	All RAMs are initialized and set to the factory preset data when executing this test.
48	048: Exit	Exit from the test program when executing this test.

Note: 0 dBm = 0.775 V

※ NOTE: The above 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.

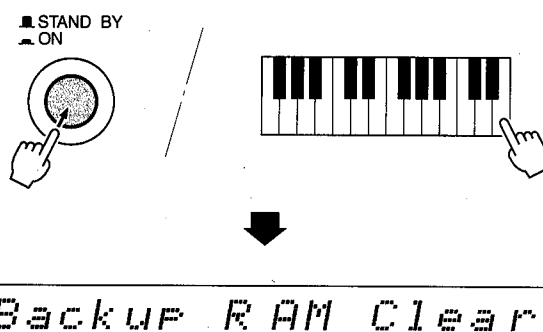
■ INITIALISE

Except for the data listed below, all PSR-730 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 Style Data
- User Pad 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. “Backup RAM Clear” will appear briefly on the display.



- All registration and User Style/Pad 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-730 freezes or begins to act erratically for any reason.

PSR-730

SPECIFICATIONS

Keyboards

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

Display

- Large multi-function LCD display

Setup

- Stand by/ON
- Master Volume : MIN — MAX

Control & Number Buttons

- MENU ▲▼, VOICE, STYLE, SONG, SUB MENU ▲▼, [1] — [0], [+] (YES), [-] (NO)

Disk Drive

Demo

- 15 Songs

Voice

- 200 Panel Voices + 12 Drum Kits + 480 XG Voices
- Polyphony : 64
- Voice Set
- R1/R2/L Voices
- Revoice : Voice, Volume, Octave, Pan, Reverb Depth, Chorus Depth, DSP Depth
- 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 : Voice, Volume, Pan, Reverb Depth, Chorus Depth
- Virtual Arranger

Groove & Dynamics

- Beat Groove Template : 49 types
- Measure Groove Template : 25 types
- Dynamics Template : 17 types
- Dynamics Rate : 0 — 100%
- Expand Rate : 0 — 400%
- Boost Rate : 0 — 400%

One Touch Setting

Overall Controls

- Tempo : 32 — 280
- Transpose
- Pitch Bend Range
- Modulation
- Touch Sensitivity
- Master Tuning
- Scale Tuning
- Song Transpose
- Metronome
- Split Voice Split Point
- Accompaniment Split Point
- Fingering Mode : SINGLE FINGER/FINGERED 1/FINGERED 2/FULL KEYBOARD/MULTI-FINGER
- Voice Set
- Pedal 1/2

Digital Effect

- Reverb : 13 types
- Chorus : 10 types
- DSP (system/insertion) : 46 types
- Multi Effect : 42 types x 2
- Digital Equalizer : 5 types + 1 User Setting
- Harmony : 16 types

Registration Memory

- 32 Regist Bank : 1 — 4
- Naming
- Accompaniment Freeze

Multi Pads

- 36 Multi Pad Sets
- 4 Pads + STOP
- Chord Match
- Naming

Disk

- Song Recording/Playback
- Format
- Save
- Load
- Disk Copy
- Song Copy
- Delete File

Song

- Song Volume
- Minus One Practice
- Repeat Play
- Song Repeat
- Next Song

Song Recording

- Quick Record, Multi Record
- Recording Tracks :
 - Quick Record : ACCOMPANIMENT, MELODY 1 — 4
 - Multi Record : 1 — 16
- Punch In/Punch Out
- Quantize
- Naming
- Song Clear, Track Clear
- Song Edit : Voice, Volume, Octave, Pan, Reverb Depth, Chorus Depth, DSP Depth

Style Recording

- User Style : 4 (101 — 104)
- Recording Tracks : 5 Sections x 8 tracks
- Drum Cancel
- Quantize
- Naming
- Track Clear, All Clear

Multi Pad Recording

- User Pad Set : 4 (101 — 104)
- Naming
- Pad Clear, Bank Clear

MIDI

- Transmit Settings
- Receive Settings
- Local Control
- Clock
- Initial Data Send
- MIDI Template

Auxiliary Jacks

- DC IN 10-12V, PHONES, SUSTAIN, FOOT VOL, AUX OUT R, L+R/L, MIDI IN/OUT, TO HOST

Amplifiers

- 6 W + 6 W (when using PA-6 power adaptor)
- 4 W + 4 W (when using batteries)

Speakers

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

Power Consumption

- 24 W (when using PA-6 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)

- 973 x 397 x 155 mm
(38-1/4 " x 15-5/8 " x 6-1/8 ")

Weight

- 9.5 kg (20.9 lbs.) excluding batteries

Supplied Accessories

- Sample Disk
- Music Stand
- Owner's Manual

Optional Accessories

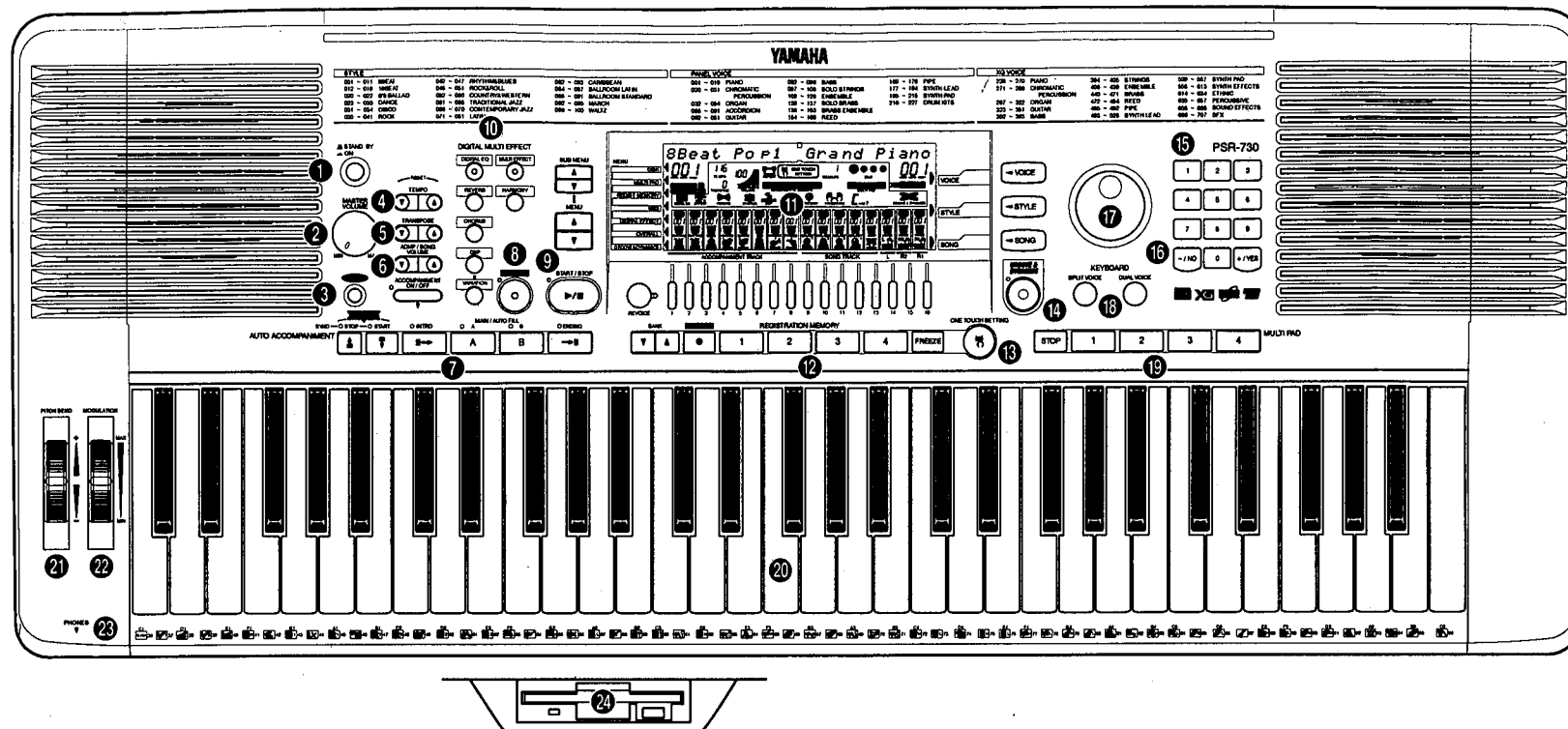
- Headphones : HPE-150
- AC Power Adaptor : PA-6
- Foot Switch : FC4, FC5
- Foot Volume : FC7
- Keyboard Stand : L-6, L-7

Output Level

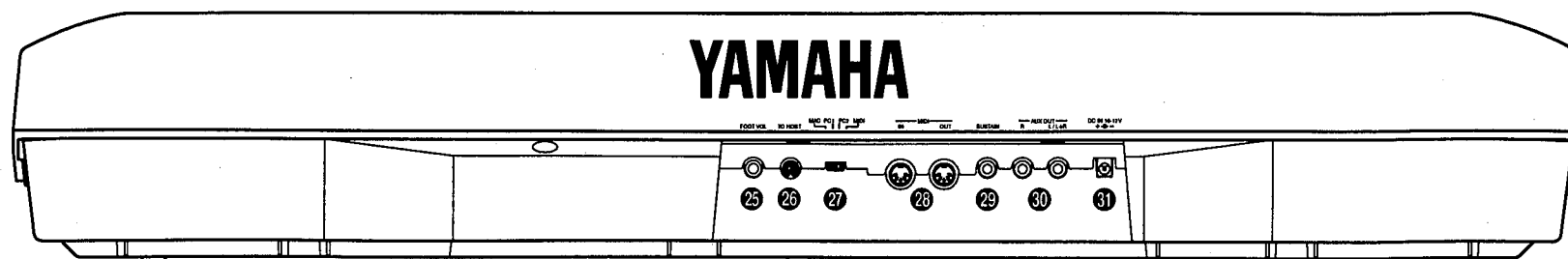
*Refer to TEST PROGRAM section of this manual.

■ PANEL LAYOUT

● Top Panel



● Rear Panel



■ Top Panel Controls

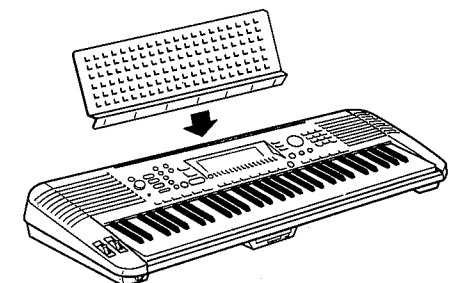
- 1 STAND BY/ON Switch
- 2 MASTER VOLUME Control
- 3 DEMO Button
- 4 TEMPO Buttons
- 5 TRANSPOSE Buttons
- 6 ACCOMPANIMENT/SONG VOLUME Buttons
- 7 AUTO ACCOMPANIMENT SECTION
 - AUTO ACCOMPANIMENT ON/OFF Button
 - SYNC STOP Button
 - SYNC START Button
 - INTRO Button
 - MAIN/AUTO FILL A & B Buttons
 - ENDING Button
- 8 RECORD Button
- 9 START/STOP Button
- 10 DIGITAL MULTI EFFECT SECTION
 - DIGITAL EQ Button
 - REVERB Button
 - CHORUS Button
 - DSP Button
 - VARIATION Button
 - MULTI EFFECT Button
 - HARMONY Button
- 11 DISPLAY & RELATED CONTROLS
 - DISPLAY
 - MENU Buttons
 - SUB MENU Buttons
 - VOICE Button
 - STYLE Button
 - SONG Button
 - REVOICE Button
 - TRACK Buttons
- 12 REGISTRATION MEMORY SECTION
 - BANK [+], [-] Buttons
 - MEMORY Button
 - 1, 2, 3, 4 Buttons
 - FREEZE Button
- 13 ONE TOUCH SETTING Button

- 14 GROOVE & DYNAMICS Button
- 15 NUMBER Buttons
- 16 + and - Buttons
- 17 Data Dial
- 18 KEYBOARD SECTION
 - DUAL VOICE Button
 - SPLIT VOICE Button
- 19 MULTI PAD SECTION
 - STOP Button
 - 1, 2, 3, 4 Buttons
- 20 Keyboard
- 21 PITCH BEND Wheel
- 22 MODULATION Wheel (PSR-730)
- 23 PHONES Jack
- 24 Disk Drive

■ Rear Panel Controls

- 25 FOOT VOL Jack
- 26 TO HOST Connector
- 27 HOST SELECT Switch
- 28 MIDI IN and OUT Connectors
- 29 SUSTAIN Jack
- 30 AUX OUT R, L/L+R Jacks
- 31 DC IN 10-12V Jack

◆ The Music Stand



The PSR-730 is supplied with a music stand that can be attached to the instrument by inserting it into the slot at the rear of the control panel.

PSR-730

MIDI DATA FORMAT

Many MIDI messages listed in the MIDI Data Format are expressed in decimal numbers, binary numbers and hexadecimal numbers. Hexadecimal numbers may include the letter "H" as a suffix. Also, "n" can freely be defined as any whole number.

To enter data/values, refer to the table below.

Decimal	Hexadecimal	- Binary	Decimal	Hexadecimal	Binary
0	00	0000 0000	64	40	0100 0000
1	01	0000 0001	65	41	0100 0001
2	02	0000 0010	66	42	0100 0010
3	03	0000 0011	67	43	0100 0011
4	04	0000 0100	68	44	0100 0100
5	05	0000 0101	69	45	0100 0101
6	06	0000 0110	70	46	0100 0110
7	07	0000 0111	71	47	0100 0111
8	08	0000 1000	72	48	0100 1000
9	09	0000 1001	73	49	0100 1001
10	0A	0000 1010	74	4A	0100 1010
11	0B	0000 1011	75	4B	0100 1011
12	0C	0000 1100	76	4C	0100 1100
13	0D	0000 1101	77	4D	0100 1101
14	0E	0000 1110	78	4E	0100 1110
15	0F	0000 1111	79	4F	0100 1111
16	10	0001 0000	80	50	0101 0000
17	11	0001 0001	81	51	0101 0001
18	12	0001 0010	82	52	0101 0010
19	13	0001 0011	83	53	0101 0011
20	14	0001 0100	84	54	0101 0100
21	15	0001 0101	85	55	0101 0101
22	16	0001 0110	86	56	0101 0110
23	17	0001 0111	87	57	0101 0111
24	18	0001 1000	88	58	0101 1000
25	19	0001 1001	89	59	0101 1001
26	1A	0001 1010	90	5A	0101 1010
27	1B	0001 1011	91	5B	0101 1011
28	1C	0001 1100	92	5C	0101 1100
29	1D	0001 1101	93	5D	0101 1101
30	1E	0001 1110	94	5E	0101 1110
31	1F	0001 1111	95	5F	0101 1111
32	20	0010 0000	96	60	0110 0000
33	21	0010 0001	97	61	0110 0001
34	22	0010 0010	98	62	0110 0010
35	23	0010 0011	99	63	0110 0011
36	24	0010 0100	100	64	0110 0100
37	25	0010 0101	101	65	0110 0101
38	26	0010 0110	102	66	0110 0110
39	27	0010 0111	103	67	0110 0111
40	28	0010 1000	104	68	0110 1000
41	29	0010 1001	105	69	0110 1001
42	2A	0010 1010	106	6A	0110 1010
43	2B	0010 1011	107	6B	0110 1011
44	2C	0010 1100	108	6C	0110 1100
45	2D	0010 1101	109	6D	0110 1101
46	2E	0010 1110	110	6E	0110 1110
47	2F	0010 1111	111	6F	0110 1111
48	30	0011 0000	112	70	0111 0000
49	31	0011 0001	113	71	0111 0001
50	32	0011 0010	114	72	0111 0010
51	33	0011 0011	115	73	0111 0011
52	34	0011 0100	116	74	0111 0100
53	35	0011 0101	117	75	0111 0101
54	36	0011 0110	118	76	0111 0110
55	37	0011 0111	119	77	0111 0111
56	38	0011 1000	120	78	0111 1000
57	39	0011 1001	121	79	0111 1001
58	3A	0011 1010	122	7A	0111 1010
59	3B	0011 1011	123	7B	0111 1011
60	3C	0011 1100	124	7C	0111 1100
61	3D	0011 1101	125	7D	0111 1101
62	3E	0011 1110	126	7E	0111 1110
63	3F	0011 1111	127	7F	0111 1111

- Except the table above, for example 144-159(decimal)/9nH/1001 0000-1001 1111(binary) displays the Note On Message for each channel (1-16). 176-191/ BnH/1011 0000-1011 1111 displays the Control Change Message for each channel (1-16). 192-207/CnH/1100 0000-1100 1111 displays the Program Change Message for each channel (1-16). 240/FOH/1111 0000 denotes the start of a System Exclusive Message. 247/F7H/1111 0111 denotes the end of a System Exclusive Message.

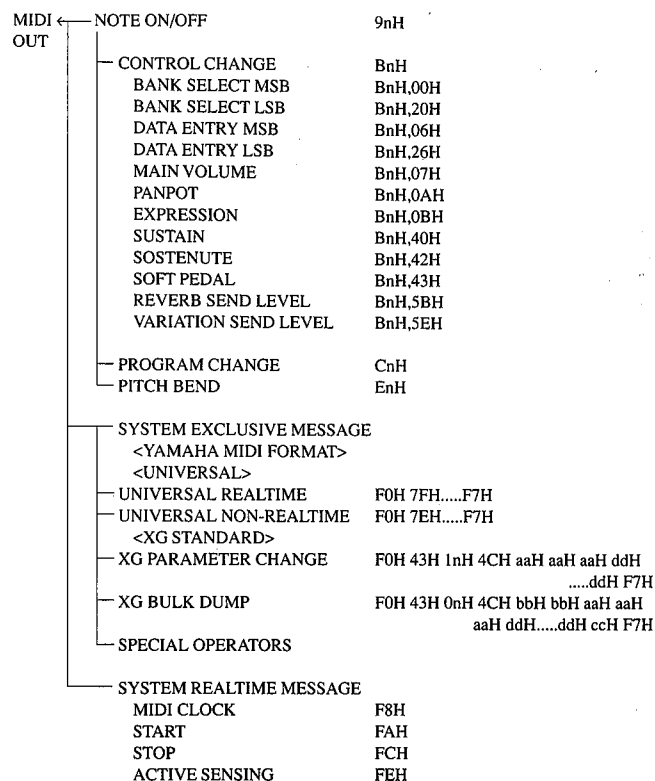
- aaH (hexidecimal)/0aaaaaaa (binary) denotes the data address. The address contains High, Mid, and Low.

- bbH/0bbbbbbb denotes the byte count.

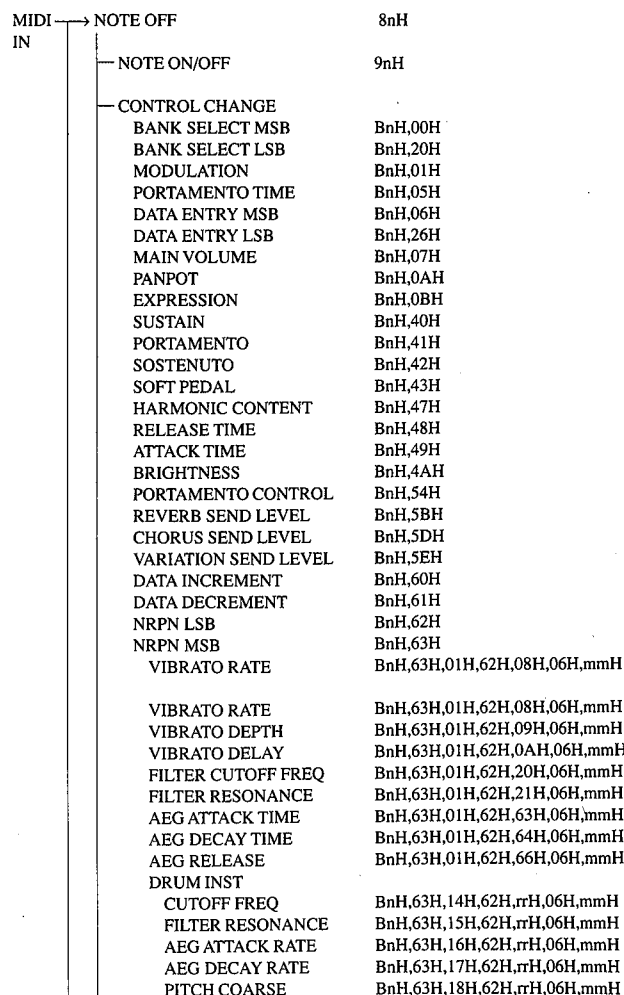
- ccH/0ccccccc denotes the check sum.

- ddH/0ddddddd denotes the data/value.

(1) TRANSMIT FLOW



(2) RECEIVE FLOW



PITCH FINE LEVEL	BnH,63H,19H,62H,rrH,06H,mmH
PANPOT	BnH,63H,1AH,62H,rrH,06H,mmH
REVERB SEND	BnH,63H,1CH,62H,rrH,06H,mmH
CHORUS SEND	BnH,63H,1DH,62H,rrH,06H,mmH
VARIATION SEND	BnH,63H,1EH,62H,rrH,06H,mmH
RPN LSB	BnH,63H,1FH,62H,rrH,06H,mmH
RPN MSB	BnH,64H
PITCH BEND SENS.	BnH,65H
FINE TUNING	BnH,65H,00H,64H,00H,06H,mmH 26H,11H
COARSE TUNING	BnH,65H,00H,64H,02H,06H,mmH
NULL	BnH,65H,7FH,64H,7FH
ALL SOUND OFF	BnH,78H,00H
RESET ALL CONTROLLERS	BnH,79H,00H
ALL NOTES OFF	BnH,7BH,00H
OMNI OFF	BnH,7CH,00H
OMNI ON	BnH,7DH,00H
MONO	BnH,7EH
POLY	BnH,7FH
PROGRAM CHANGE	CnH
CHANNEL AFTER TOUCH	DnH
PITCH BEND CHANGE	EnH
SYSTEM EXCLUSIVE MESSAGE	
<YAMAHA MIDI FORMAT>	
<UNIVERSAL>	
UNIVERSAL REALTIME	F0H 7FH.....F7H
UNIVERSAL NON-REALTIME	F0H 7EH.....F7H
<XG STANDARD>	
XG PARAMETER CHANGE	F0H 43H 1nH 4CH aaH aaH aaH ddHddH F7H
XG BULK DUMP	F0H 43H 0nH 4CH bbH bbH aaH aaH aaH ddH.....ddH ccH F7H
PARAMETER REQUEST	F0H 43H 3nH 4CH aaH aaH aaH F7H
DUMP REQUEST	F0H 43H 2nH 4CH aaH aaH aaH F7H
<CLAVINOVA MIDI COMPLIANCE>	
<SPETIAL OPERATORS>	
<Others>	
SYSTEM REALTIME MESSAGE	
MIDI CLOCK	F8H
START	FAH
STOP	FCH
ACTIVE SENSING	FEH

(3) TRANSMIT/RECEIVE DATA

(3-1) CHANNEL VOICE MESSAGES

(3-1-1) NOTE OFF (Recive only)

STATUS	1000nnnn (8nH)	n = 0 - 15 VOICE CHANNEL NUMBER
NOTE NUMBER	0kkkkkkk	k = 0 (C-2) - 127 (G8)
VELOCITY	0vvvvvvv	v: ignored

(3-1-2) NOTE ON/OFF

STATUS	1001nnnn (9nH)	n = 0 - 15 VOICE CHANNEL NUMBER
NOTE NUMBER	0kkkkkkk	k = 0 (C-2) - 127 (G8)
VELOCITY	0vvvvvvv	(v π 0) NOTE ON (v = 0) NOTE OFF

(3-1-3) PROGRAM CHANGE

STATUS	1100nnnn (CnH)	n = 0 - 15 VOICE CHANNEL NUMBER
PROGRAM NUMBER	0ppppppp	p = 0 - 127

* PROGRAM NUMBER: XG DRUM VOICE number correspondence

P = 1	Standard Kit
P = 2	Standard2 Kit
P = 9	Room Kit
P = 17	Rock Kit
P = 25	Elctmic Kit
P = 26	Analog Kit
P = 28	Dance Kit
P = 33	Jazz Kit
P = 41	Brush Kit
P = 49	Classic Kit

* PROGRAM NUMBER: XG SFX KIT number correspondence

P = 1	SFX1 Kit
P = 2	SFX2 Kit

When DRUM VOICE is selected and program change data for a different DRUM VOICE is received, the currently selected DRUM VOICE will be replaced with the new DRUM VOICE.

(3-1-4) CHANNEL AFTER TOUCH (Recive only)

STATUS	1101nnnn (DnH)	n = 0 - 15 VOICE CHANNEL NUMBER
VALUE	0vvvvvvv	v = 0 - 127 AFTER TOUCH VALUE

(3-1-5) PITCH BEND CHANGE

STATUS	1110nnnn (EnH)	n = 0 - 15 VOICE CHANNEL NUMBER
LSB	0vvvvvvv	PITCH BEND CHANGE LSB
MSB	0vvvvvvv	PITCH BEND CHANGE MSB

(3-1-6) CONTROL CHANGE

STATUS	1011nnnn (BnH)	n = 0 - 15 VOICE CHANNEL NUMBER
CONTROL NUMBER	0ccccccc	
CONTROL VALUE	0vvvvvvv	

* Transmit CONTROL NUMBER.

c = 0	BANK SELECT MSB	v = 0:XG NORMAL, 64:SFX NORMAL, 126:XG SFX KIT, 127:XG DRUM	
c = 32	BANK SELECT LSB	v = 0 - 127	*3
c = 6	DATA ENTRY MSB	v = 0 - 127	*1
c = 38	DATA ENTRY LSB	v = 0 - 127	*1
c = 7	MAIN VOLUME	v = 0 - 127	
c = 10	PANPOT	v = 0 - 127	
c = 11	EXPRESSION	v = 0 - 127	
c = 64	SUSTAIN	v = 0-63:OFF, 64-127:ON	*2
c = 66	SOSTENUTO	v = 0-63:OFF, 64-127:ON	*2
c = 67	SOFT PEDAL	v = 0-63:OFF, 64-127:ON	*2
c = 91	REVERB SEND LEVEL	v = 0 - 127	
c = 94	VARIATION SEND LEVEL	v = 0 - 127	

(When only Connection = 1[System])

* Receive CONTROL NUMBER.

c = 0	BANK SELECT MSB	v = 0:XG NORMAL, 64:SFX NORMAL, 126:XG SFX KIT, 127:XG DRUM	
c = 32	BANK SELECT LSB	v = 0 - 127	*3
c = 1	MODULATION	v = 0 - 127	*2
c = 5	PORTAMENTO TIME	v = 0 - 127	*2
c = 6	DATA ENTRY MSB	v = 0 - 127	*1
c = 38	DATA ENTRY LSB	v = 0 - 127	*1
c = 7	MAIN VOLUME	v = 0 - 127	
c = 10	PANPOT	v = 0 - 127	
c = 11	EXPRESSION	v = 0 - 127	
c = 64	SUSTAIN	v = 0-63:OFF, 64-127:ON	*2
c = 65	PORTAMENTO	v = 0-63:OFF, 64-127:ON	*2
c = 66	SOSTENUTO	v = 0-63:OFF, 64-127:ON	*2
c = 67	SOFT PEDAL	v = 0-63:OFF, 64-127:ON	*2
c = 71	HARMONIC CONTENT	v = 0-64 - 64:0 - 127:+63	*2
c = 72	RELEASE TIME	v = 0-64 - 64:0 - 127:+63	*2
c = 73	ATTACK TIME	v = 0-64 - 64:0 - 127:+63	*2
c = 74	BRIGHTNESS	v = 0-64 - 64:0 - 127:+63	*2
c = 84	PORTAMENT CONTROL	v = 0 - 127	*2
c = 91	REVERB SEND LEVEL	v = 0 - 127	
c = 93	CHORUS SEND LEVEL	v = 0 - 127	
c = 94	VARIATION SEND LEVEL	v = 0 - 127	

(When only Connection = 1[System])

c = 96	DATA INCREMENT	v = 127	*1
c = 97	DATA DECREMENT	v = 127	*1

*1 Only when setting the appointed parameter with RPN, NRPN.

*2 Does not effect Rhythm Voice.

*3 MSB=0, anything other than 63 is 0.

• Until a PROGRAM CHANGE message is received, the BANK SELECT operation will be suspended. When a Voice, including VOICE BANK, is changed, set the BANK SELECT and Program Change Message, and transmit in the following order, BANK SELECT MSB, LSB, PROGRAM CHANGE.

• MODULATION controls the Vibrato Depth.

• PORTAMENTO TIME controls the Pitch Change Speed when the Portamento Switch = ON. 0 being the shortest time, and 127 being the longest.

• PANPOT changes the value for the melody voice and rhythm voice in relation to the preset value.

• Portamento time is fixed to 0 when the PORTAMENTO CONTROL is used.

• HARMONIC CONTENT applies adjustment to the resonance value that is set by the voice. This parameter specifies relative change with the value of 64 producing 0 adjustment. As values get higher the sound becomes increasingly eccentric. Note that for some voices the effective parameter range is narrower than the legal parameter range.

• RELEASE TIME applies adjustment to the envelope release time set by the voice. This parameter specifies relative change with the value of 64 producing 0 adjustment.

PSR-730

- **ATTACK TIME** applies adjustment to the envelope attack time set by the voice. This parameter specifies relative change with the value of 64 producing 0 adjustment.
- **BRIGHTNESS** applies adjustment to the cut-off frequency set by the voice. This parameter specifies relative change with the value of 64 producing 0 adjustment. Lower voices produce a softer sound. For some voices the effective parameter range is narrower than the legal parameter range.

(3-2) CHANNEL MODE MESSAGES

STATUS 1011nnnn (BnH) n = 0 - 15 VOICE CHANNEL NUMBER
CONTROL NUMBER 0ccccccc c = CONTROL NUMBER
CONTROL VALUE 0vvvvvvv v = DATA VALUE

(3-2-1) ALL SOUND OFF (Recive only)

(CONTROL NUMBER = 78H, DATA VALUE = 0)

Switches off all sound from the channel. Does not reset Note On and Hold On conditions established by Channel Messages.

(3-2-2) RESET ALL CONTROLLERS (Recive only)

(CONTROL NUMBER = 79H, DATA VALUE = 0)

Resets controllers as follows.

PITCH BEND CHANGE 0 (Center)
AFTER TOUCH 0 (min.)
MODULATION 0 (min.)
EXPRESSION 127 (max.)
SUSTAIN 0 (off)
SOSTENUTO 0 (off)
SOFT PEDAL 0 (off)
NRPN Sets number to null. (Internal data remains unchanged)
RPN Sets number to null. (Internal data remains unchanged)
PORTAMENT CONTROL Resets portamento source note number
PORTAMENTO 0 (off)

(3-2-3) ALL NOTES OFF (Recive only)

(CONTROL NUMBER = 7BH, DATA VALUE = 0)

Switches off all of the channel's "on" notes. However, any notes being held by SUSTAIN or SOSTENUTO continue to sound until SUSTAIN/SOSTENUTO goes off.

(3-2-4) OMNI OFF (Recive only) (CONTROL NUMBER = 7CH, DATA VALUE = 0)

Same processing as for All Notes Off.

(3-2-5) OMNI ON (Recive only) (CONTROL NUMBER = 7DH, DATA VALUE = 0)

Same processing as for All Notes Off. Omni On is not executed.

(3-2-6) MONO (Recive only) (CONTROL NUMBER = 7EH, DATA VALUE = 0)

Same processing as for All Notes Off. If the 3rd byte is in a range of 0-16 the corresponding channel will be changed to Mode 4 (m=1).

(3-2-7) POLY (Recive only) (CONTROL NUMBER = 7FH, DATA VALUE = 0)

Same processing as for All Sounds Off and the corresponding channel will be changed to Mode 3.

(3-3) REGISTERED PARAMETER NUMBER (RPN)

STATUS 1011nnnn (BnH) n = 0 - 15 VOICE CHANNEL NUMBER
RPN LSB 01100100 (64H)
RPN LSB NUMBER 0ppppppp p = RPN LSB(refer to the list below)
RPN MSB 01100101 (65H)
RPN MSB NUMBER 0qqqqqqq q = RPN MSB(refer to the list below)
DATA ENTRY MSB 00000110 (06H)
DATA VALUE 0mmmmmmm m = Data Value
DATA ENTRY LSB 00100110 (26H)
DATA VALUE 0lllllll l = Data Value

First appoints the parameter for RPN MSB/LSB, then sets the parameter value for data entry MSB/LSB.

RPN	D.ENTRY	LSB MSB	MSB LSB	PARAMETER NAME	DATA RANGE
00H 00H	mmH —			PITCH BEND SENSITIVITY	00H - 18H (0 - 24 semitones)
01H 00H	mmH llH			FINE TUNE	{mmH, llH} = {00H, 00H} - {40H, 00H} - {7FH, 7FH} (-8192*100/8192) - 0 - (+8192*100/8192)
02H 00H	mmH —			COARSE TUNE	28H - 40H - 58H (-24 - 0 - +24 semitones)
7FH 7FH	— —			NULL	

Clears the current RPN number setting. Does not change the internal parameter settings.

(3-4) NON-REGISTERED PARAMETER NUMBER (NRPN) (Recive only)

STATUS 1011nnnn (BnH) n = 0 - 15 VOICE CHANNEL NUMBER
NRPN LSB 01100010 (62H)
NRPN LSB NUMBER 0ppppppp p = NRPN LSB(refer to the list below)
NRPN MSB 01100011 (63H)
NRPN MSB NUMBER 0qqqqqqq q = NRPN MSB(refer to the list below)
DATA ENTRY MSB 00000110 (06H)
DATA VALUE 0mmmmmmm m = Data Value

First appoints the parameter for NRPN MSB/LSB, then sets the parameter value for data entry MSB/LSB.

NRPN	D.ENTRY	MSB LSB	MSB LSB	PARAMETER NAME	DATA RANGE
01H 08H	mmH —			VIBRATO RATE	00H - 40H - 7FH (-64 - 0 - +63)
01H 09H	mmH —			VIBRATO DEPTH	00H - 40H - 7FH (-64 - 0 - +63)
01H 0AH	mmH —			VIBRATO DELAY	00H - 40H - 7FH (-64 - 0 - +63)
01H 20H	mmH —			FILTER CUTOFF FREQUENCY	00H - 40H - 7FH (-64 - 0 - +63)
01H 21H	mmH —			FILTER RESONANCE	00H - 40H - 7FH (-64 - 0 - +63)
01H 63H	mmH —			EG ATTACK TIME	00H - 40H - 7FH (-64 - 0 - +63)
01H 64H	mmH —			EG DECAY TIME	00H - 40H - 7FH (-64 - 0 - +63)
01H 66H	mmH —			EG RELEASE	00H - 40H - 7FH (-64 - 0 - +63)
14H rrH	mmH —			DRUM FILTER CUTOFF FREQ.	00H - 40H - 7FH (-64 - 0 - +63)
15H rrH	mmH —			DRUM FILTER RESONANCE	00H - 40H - 7FH (-64 - 0 - +63)
16H rrH	mmH —			DRUM AEG ATTACK RATE	00H - 40H - 7FH (-64 - 0 - +63)
17H rrH	mmH —			DRUM AEG DECAY RATE	00H - 40H - 7FH (-64 - 0 - +63)
18H rrH	mmH —			DRUM PITCH COARSE	00H - 40H - 7FH (-64 - 0 - +63)
19H rrH	mmH —			DRUM PITCH FINE	00H - 40H - 7FH (-64 - 0 - +63)
1AH rrH	mmH —			DRUM LEVEL	00H - 7FH (0 - max.)
1CH rrH	mmH —			DRUM PANPOT	00H .01H - 40H - 7FH (random, left - center - right)
1DH rrH	mmH —			DRUM REVERB SEND LEVEL	00H - 7FH (0 - max.)
1EH rrH	mmH —			DRUM CHORUS SEND LEVEL	00H - 7FH (0 - max.)
1FH rrH	mmH —			DRUM VARIATION SEND LEVEL	00H - 7FH (0 - max.)

The MSG14H-1FH (for drums) message is accepted as long as the channel is set with a drum voice.

rrH : drum instrument note number

(3-5) SYSTEM REALTIME MESSAGES

(3-5-1) MIDI CLOCK

STATUS 11111000 (F8H)

Transmission: 96 clocks per measure are transmitted.

Reception: If the instrument's clock is set to external, after FAH is received from the external device the instrument's clock will sync with the 96 beats per measure received from the external device.

Decides whether the internal clock, or Timing Clocks received via the MIDI IN will be used.

(3-5-2) START

STATUS 11111010 (FAH)

Transmission: Transmitted when instrument's Rhythm or Song playback is started.

Reception: Depending upon the condition, Rhythm, Song Playback, or Song Rec will start.

(3-5-3) STOP

STATUS 11111100 (FCH)

Transmission: Transmitted when instrument's Rhythm or Song playback is stopped.

Reception: Depending upon the condition, Rhythm, Song Playback, or Song Rec will stop.

(3-5-4) ACTIVE SENSING

STATUS 11111110 (FEH)

Transmission: Transmitted approximately once every 200msec.

Reception: Sensing is started once this Code is received. If Status or Data is not received within 400ms, the MIDI Receive Buffer will be cleared, and all notes, including those being sustained, will be cut OFF. Also, all control values will be reset to their factory defaults.

(3-6) SYSTEM EXCLUSIVE MESSAGE

(3-6-1) YAMAHA MIDI FORMAT

(3-6-1-1) SECTION CONTROL

binary	hexadecimal	Exclusive status
11110000	F0	YAMAHA ID
01000011	43	Style
01111110	7E	Switch No.
00000000	00	00H : INTRO A
0sssssss	SS	01H~07H : INTRO B
		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 : ENDING A
		21H~27H : ENDING B
0ddddd	DD	Switch On/Off : 00H (Off), 7FH (On)
11110111	F7	End of Exclusive

When an ON code is received, the appointed section will be changed.

(3-6-1-2) TEMPO CONTROL

binary	hexadecimal	
11110000	F0	Exclusive status
01000011	43	YAMAHA ID
01111110	7E	Style
00000000	01	
0ttttttt	TT	Tempo4
0ttttttt	TT	Tempo3
0ttttttt	TT	Tempo2
0ttttttt	TT	Tempo1
11110111	F7	End of Exclusive

The internal clock will be set to the received Tempo value.

Tempo Meta Event is a large data block (24-bit), it is divided into 4 groups with 7-bits going into each of the Tempos 1-4 (4 receives the remaining 3 bits).

(3-6-2) UNIVERSAL SYSTEM EXCLUSIVE

(3-6-2-1) UNIVERSAL REALTIME MESSAGE

(3-6-2-1-1) MIDI MASTER VOLUME (Recive only)

binary	hexadecimal	
11110000	F0	Exclusive status
01111110	7F	Universal Realtime
01111111	7F	ID of target Device
00001001	04	Sub-ID #1=Device Control Message
00000001	01	Sub-ID #2=Master Volume
0sssssss	SS	Volume LSB
0ttttttt	TT	Volume MSB
11110111	F7	End of Exclusive
or		
11110000	F0	Exclusive status
01111110	7F	Universal Realtime
0xxxxnnn	XN	When N is received N=0-F, whichever is received. When N is transmitted N always=0. X = don't care
00001001	04	Sub-ID #1=Device Control Message
00000001	01	Sub-ID #2=Master Volume
0sssssss	SS	Volume LSB
0ttttttt	TT	Volume MSB
11110111	F7	End of Exclusive

The volume for all channels will be changed simultaneously.

The TT value is used as the MIDI Master Volume value. (the ss value is ignored.)

(3-6-2-2) UNIVERSAL NON REALTIME MESSAGE

(3-6-2-2-1) GENERAL MIDI SYSTEM ON

binary	hexadecimal	
11110000	F0	Exclusive status
01111110	7E	Universal Non-Realtime
01111111	7F	ID of target Device
00001001	09	Sub-ID #1=General MIDI Message
00000001	01	Sub-ID #2=General MIDI On
11110111	F7	End of Exclusive
or		
11110000	F0	Exclusive status
01111110	7E	Universal Non-Realtime
0xxxxnnn	XN	When N is received N=0-F, whichever is received. When N is transmitted N always=0. X = don't care
00001001	09	Sub-ID #1=General MIDI Message
00000001	01	Sub-ID #2=General MIDI On
11110111	F7	End of Exclusive

Depending upon the received ON message, the System Mode will be changed to XG.
Except MIDI Master Tuning, all control data be reset to default values.

This message requires approximately 50ms to execute, so sufficient time should be allowed before the next message is sent.

(3-6-3) XG STANDARD

(3-6-3-1) XG PARAMETER CHANGE

(3-6-3-1-1) XG SYSTEM ON

binary	hexadecimal	
11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0001nnnn	1N	Device Number
01001100	4C	Model ID
00000000	00	Address High
00000000	00	Address Mid
01111110	7E	Address Low
00000000	00	Data
11110111	F7	End of Exclusive

Depending upon the received ON message, the SYSTEM MODE will be changed to XG. Controllers will be reset, all values of Multi Part and Effect, and All System values denoted by "XG" data within All System will be reset to default values in the table. This message requires approximately 50ms to execute, so sufficient time should be allowed before the next message is sent.

(3-6-3-1-2) XG PARAMETER CHANGE

binary	hexadecimal	
11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0001nnnn	1N	Device Number
01001100	4C	Model ID
0aaaaaaa	AA	Address High
0aaaaaaa	AA	Address Mid
0aaaaaaa	AA	Address Low
0ddddd	DD	Data
11110111	F7	End of Exclusive

For parameters with data size of 2 or 4, transmit the appropriate number of data bytes.

For more information on Address and Parameters, refer to < Table 1-2 > ~ < Table 1-8 > (pages 47-52).

The 4 data types listed below are transmitted and received.

(These are transmitted only after a Parameter change request is received.)

XG System Data
Multi Effect Data
Multi EQ Data
Multi Part Data
Drums Setup Data

(3-6-3-2) XG BULK DUMP

binary	hexadecimal	
11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0000nnnn	0N	Device Number
01001100	4C	Model ID
0bbbbbbb	BB	ByteCount
0bbbbbbb	BB	ByteCount
0aaaaaaa	AA	Address High
0aaaaaaa	AA	Address Mid
0aaaaaaa	AA	Address Low
0ddddd	DD	Data
0ccccccc	CC	Check sum
11110111	F7	End of Exclusive

For more information on Address and Byte Count, refer to < Table 1-2 > ~ < Table 1-8 > (pages 47-52).

The Check Sum value is set such that the sum of Byte Count, Address, Data, and Check Sum has value zero in its seven least significant bits.

If the top of the block is appointed to the Address the XG Bulk Dump, Bulk Request will be received.

The Block is a unit that consists of the data, arranged in the list, as the Total Size.

The 5 data types listed below are transmitted and received.

(These are transmitted only after a Bulk Dump request is received.)

System Data
Multi Effect Data (Individual effect unit)
Multi EQ Data
Multi Part Data (Individual part unit)
Drums Setup Data (Individual note unit)
System Information (Individual only)

(3-6-3-3) XG PARAMETER REQUEST (Recive only)

binary	hexadecimal	
11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0011nnnn	3n	Device Number
01001100	4C	Model ID
0aaaaaaa	AA	Address High
0aaaaaaa	AA	Address Mid
0aaaaaaa	AA	Address Low
11110111	F7	End of Exclusive

For more information on Address and Byte Count refer to < Table 1-2 > ~ < Table 1-8 > (pages 47-52).

The 4 data types listed below are received.

System Data
Multi Effect Data
Multi EQ Data
Multi Part Data
Drums Setup Data

(3-6-3-4) XG DUMP REQUEST (Recive only)

binary	hexadecimal	
11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0010nnnn	2n	Device Number
01001100	4C	Model ID
0aaaaaaa	AA	Address High
0aaaaaaa	AA	Address Mid
0aaaaaaa	AA	Address Low
11110111	F7	End of Exclusive

For more information on Address and Byte Count refer to < Table 1-2 > ~ < Table 1-8 > (pages 47-52).

PSR-730

The 5 data types listed below are received.

System Data
Multi Effect Data(Individual module unit)
Multi EQ Data
Multi Part Data(Individual part unit)
Drums Setup Data(Individual note unit)
System Information

(3-6-4) SPECIAL OPERATORS

(3-6-4-1) VOLUME ,EXPRESSION AND PAN REALTIME CONTROL OFF

binary	hexadecimal	
11110000	F0	Exclusive status
01000011	43	YAMAHA ID
01110011	73	Clavinova ID
01000101	45	CVP-98/96/94/92 ID
00010001	11	Sub ID
0000nnnn	0N	N = MIDI Channel
01001001	45	Volume and Expression Realtime Control Off
0vvvvvvv	VV	Value VV: off=7FH, on=00H
11110111	F7	End of Exclusive

When "On" is received, subsequent volume, expression, and PAN changes are only valid after the reception of the next key on. Normal operation resumes when "Off" is received.

(3-6-5) Others

(3-6-5-1) MIDI MASTER TUNING (Recive only)

binary	hexadecimal	
11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0001nnnn	1N	When N is received N=0-F, whichever is received.
00100111	27	Model ID
00110000	30	Sub ID
00000000	00	
00000000	00	
0mmmmmmm	MM	Master Tune MSB
0lllllll	LL	Master Tune LSB
0ccccccc	CC	don't care
11110111	F7	End of Exclusive

Changes tuning of all channels.

MM, LL values are used to define the MIDI Master Tuning value.

T = M-128

T : Tuning value (-99cent - +99cent)

M : A single byte value (28-228) consists of bytes 0-3 of MM = MSB, bytes 0-3 of LL = LSB.

In this setting, GM System ON, XG System ON will not be reset.

< Table 1-1> Parmeter Basic Address

	Parameter Change		
	Address		
	(H) (M) (L)	Description	
SYSTEM	00 00 00	System	
	00 00 7D	Drum Setup Reset	
	00 00 7E	XG System On	
	00 00 7F	All Parameter Reset	
INFORMATION	01 00 00	System Information	
EFFECT 1	02 01 00	Effect1(Reverb,Chorus,Variation)	
MULTI EQ	02 40 00	Multi EQ(PSR-730 ONLY)	
EFFECT 2	03 00 00	Effect2(PSR-730 ONLY)	
MULTI PART	08 00 00	Multi Part 1	
	08 0F 00	Multi Part 16	
DRUM	30 0B 00	Drum Setup 1	Address
	31 0B 00	Drum Setup 2	Parameter
			3n 0B 00 note number 13
			3n 0C 00 note number 14
			: : : :
			3n 5B 00 note number 91

< Table 1-2 > MIDI Parameter Change table (SYSTEM)

Address	Size	Data	Parameter Name	Description	Default
(H)	(H)	(H)			Value(H)
00 00 00	4	0000	Master Tune	-102.4..+102.3[cent]	00 04 00 00
01		..07FF		1st bit3-0 -> bit15-12	(0400)
02				2nd bit3-0 -> bit11-8	(With XG, GM On, it will not reset.)
03				3rd bit3-0 -> bit7-4	
				4th bit3-0 -> bit3-0	
04	1	00..7F	Master Volume	0..127	7F
05	1		Not Used		
06	1	28..58	Transpose	-24..+24[semitones]	40
7D	n		Drum Setup Reset	n=Drum Setup Number	
7E	00		XG System On	00=XG Sytem on	
7F	00		All Parameter Reset	00=on (receive only)	
TOTAL SIZE 6					

< Table 1-3 > MIDI Parameter table (System information)

Address (H)	Size (H)	Data (H)	Parameter Name	Description
01 00 00	D	20..7F	Model Name	32..127(ASCII)
	:			
	0E	1 00		
	0F	1 00		

TOTAL SIZE 10

(Transmitted by Dump Request. Not received. Bulk Dump Only)

< Table 1-4 > MIDI Parameter Change table (EFFECT 1)

Address (H)	Size (H)	Data (H)	Parameter Name	Description	Default Value(H)
02 01 00	2	00..7F	Reverb Type MSB	Refer to the Ef. Type List	01(=HALL1)
		00..7F	Reverb Type LSB	00 : basic type	00
02 1 00..7F			Reverb Parameter 1	Refer to the Ef. Parameter List	Depend on Reverb type
03 1 00..7F			Reverb Parameter 2	Refer to the Ef. Parameter List	Depend on Reverb type
04 1 00..7F			Reverb Parameter 3	Refer to the Ef. Parameter List	Depend on Reverb type
05 1 00..7F			Reverb Parameter 4	Refer to the Ef. Parameter List	Depend on Reverb type
06 1 00..7F			Reverb Parameter 5	Refer to the Ef. Parameter List	Depend on Reverb type
07 1 00..7F			Reverb Parameter 6	Refer to the Ef. Parameter List	Depend on Reverb type
08 1 00..7F			Reverb Parameter 7	Refer to the Ef. Parameter List	Depend on Reverb type
09 1 00..7F			Reverb Parameter 8	Refer to the Ef. Parameter List	Depend on Reverb type
0A 1 00..7F			Reverb Parameter 9	Refer to the Ef. Parameter List	Depend on Reverb type
0B 1 00..7F			Reverb Parameter 10	Refer to the Ef. Parameter List	Depend on Reverb type
0C 1 00..7F			Reverb Return	-∞..0..+6dB(0..96..127)	60
0D 1 01..7F			Reverb Pan	L63..C..R63(1..64..127)	40

TOTAL SIZE 0E

02 01 10	1	00..7F	Reverb Parameter 11	Refer to the Ef. Parameter List	Depend on Reverb type
11 1 00..7F			Reverb Parameter 12	Refer to the Ef. Parameter List	Depend on Reverb type
12 1 00..7F			Reverb Parameter 13	Refer to the Ef. Parameter List	Depend on Reverb type
13 1 00..7F			Reverb Parameter 14	Refer to the Ef. Parameter List	Depend on Reverb type
14 1 00..7F			Reverb Parameter 15	Refer to the Ef. Parameter List	Depend on Reverb type
15 1 00..7F			Reverb Parameter 16	Refer to the Ef. Parameter List	Depend on Reverb type

TOTAL SIZE 6

02 01 20	2	00..7F	Chorus Type MSB	Refer to the Ef. Type List	41(=Chorus1)
		00..7F	Chorus Type LSB	00 : basic type	00
22 1 00..7F			Chorus Parameter 1	Refer to the Ef. Parameter List	Depend on Chorus Type
23 1 00..7F			Chorus Parameter 2	Refer to the Ef. Parameter List	Depend on Chorus Type
24 1 00..7F			Chorus Parameter 3	Refer to the Ef. Parameter List	Depend on Chorus Type
25 1 00..7F			Chorus Parameter 4	Refer to the Ef. Parameter List	Depend on Chorus Type
26 1 00..7F			Chorus Parameter 5	Refer to the Ef. Parameter List	Depend on Chorus Type
27 1 00..7F			Chorus Parameter 6	Refer to the Ef. Parameter List	Depend on Chorus Type
28 1 00..7F			Chorus Parameter 7	Refer to the Ef. Parameter List	Depend on Chorus Type
29 1 00..7F			Chorus Parameter 8	Refer to the Ef. Parameter List	Depend on Chorus Type
2A 1 00..7F			Chorus Parameter 9	Refer to the Ef. Parameter List	Depend on Chorus Type
2B 1 00..7F			Chorus Parameter 10	Refer to the Ef. Parameter List	Depend on Chorus Type
2C 1 00..7F			Chorus Return	-∞..0..+6dB(0..96..127)	60
2D 1 01..7F			Chorus Pan	L63..C..R63(1..64..127)	40
2E 1 00..7F			Send Chorus To Reverb	-∞..0..+6dB(0..96..127)	00

TOTAL SIZE 0F

02 01 30	1	00..7F	Chorus Parameter 11	Refer to the Ef. Parameter List	Depend on Chorus Type
31 1 00..7F			Chorus Parameter 12	Refer to the Ef. Parameter List	Depend on Chorus Type
32 1 00..7F			Chorus Parameter 13	Refer to the Ef. Parameter List	Depend on Chorus Type
33 1 00..7F			Chorus Parameter 14	Refer to the Ef. Parameter List	Depend on Chorus Type
34 1 00..7F			Chorus Parameter 15	Refer to the Ef. Parameter List	Depend on Chorus Type
35 1 00..7F			Chorus Parameter 16	Refer to the Ef. Parameter List	Depend on Chorus Type

TOTAL SIZE 6

02 01 40	2	00..7F	Variation Type MSB	Refer to the Ef. Type List	"05(=DELAY L,C,R)"
		00..7F	Variation Type LSB	00 : basic type	00
42 2 00..7F			Vari. Param. 1 MSB	Refer to the Ef. Parameter List	Depend on Vari. Type
		00..7F	Vari. Param. 1 LSB	Refer to the Ef. Parameter List	Depend on Vari. Type
44 2 00..7F			Vari. Param. 2 MSB	Refer to the Ef. Parameter List	Depend on Vari. Type
		00..7F	Vari. Param. 2 LSB	Refer to the Ef. Parameter List	Depend on Vari. Type
46 2 00..7F			Vari. Param. 3 MSB	Refer to the Ef. Parameter List	Depend on Vari. Type
		00..7F	Vari. Param. 3 LSB	Refer to the Ef. Parameter List	Depend on Vari. Type
48 2 00..7F			Vari. Param. 4 MSB	Refer to the Ef. Parameter List	Depend on Vari. Type
		00..7F	Vari. Param. 4 LSB	Refer to the Ef. Parameter List	Depend on Vari. Type
4A 2 00..7F			Vari. Param. 5 MSB	Refer to the Ef. Parameter List	Depend on Vari. Type
		00..7F	Vari. Param. 5 LSB	Refer to the Ef. Parameter List	Depend on Vari. Type

PSR-730

Address (H)	Size (H)	Data (H)	Parameter Name	Description	Default Value(H)		
4C	2	00..7F	Vari. Param. 6 MSB	Refer to the Ef. Parameter List	Depend on Vari. Type		
		00..7F	Vari. Param. 6 LSB	Refer to the Ef. Parameter List	Depend on Vari. Type		
4E	2	00..7F	Vari. Param. 7 MSB	Refer to the Ef. Parameter List	Depend on Vari. Type		
		00..7F	Vari. Param. 7 LSB	Refer to the Ef. Parameter List	Depend on Vari. Type		
50	2	00..7F	Vari. Param. 8 MSB	Refer to the Ef. Parameter List	Depend on Vari. Type		
		00..7F	Vari. Param. 8 LSB	Refer to the Ef. Parameter List	Depend on Vari. Type		
52	2	00..7F	Vari. Param. 9 MSB	Refer to the Ef. Parameter List	Depend on Vari. Type		
		00..7F	Vari. Param. 9 LSB	Refer to the Ef. Parameter List	Depend on Vari. Type		
54	2	00..7F	Vari. Param. 10 MSB@	Refer to the Ef. Parameter List	Depend on Vari. Type		
		00..7F	Vari. Param. 10 LSB	Refer to the Ef. Parameter List	Depend on Vari. Type		
56	1	00..7F	Variation Return -∞..0..+6dB(0..96..127)	60			
57	1	01..7F	Variation Pan L63..C..R63(1..64..127)	40			
58	1	00..7F	Send Vari. To Reverb	-∞..0..+6dB(0..96..127)	00		
59	1	00..7F	Send Vari. To Chorus	-∞..0..+6dB(0..96..127)	00		
5A	1	00..01	Variation Connection	0:insertion,1:system	00		
5B	1	00..1F	Variation Part part1..32(0..31),off(127)	7F			
5C	1	01..7F	MW Vari. Ctrl Depth	-63..+63	40		
5D	1	01..7F	PB Vari. Ctrl Depth	-63..+63	40		
5E	1	01..7F	CAT Vari. Ctrl Depth	-63..+63	40		
5F	1	01..7F	Not Used				
60	1	01..7F	Not Used				
TOTAL SIZE 21							
02	01	70	1	00..7F	Variation Parameter 11	option Parameter	Depend on Variation Type
	71	1	00..7F	Variation Parameter 12	option Parameter	Depend on Variation Type	
	72	1	00..7F	Variation Parameter 13	option Parameter	Depend on Variation Type	
	73	1	00..7F	Variation Parameter 14	option Parameter	Depend on Variation Type	
	74	1	00..7F	Variation Parameter 15	option Parameter	Depend on Variation Type	
	75	1	00..7F	Variation Parameter 16	option Parameter	Depend on Variation Type	
TOTAL SIZE 6							

< Table 1-5 > MIDI Parameter Change table (MULTI EQ)(PSR-730 ONLY)

Address		Size	Data	Prameter Name	Description	Default Value(H)
(H)		(H)	(H)			
02	40	00	1	34..4C	EQ Type	0
					0:FLAT	
					1:JAZZ	
					2:POPS	
					3:ROCK	
					4:CLASSIC	
		01	1	34..4C	EQ Gain1	40
		02	1	04..28	EQ Frequency1	0C
		03	1	01..78	EQ Q1	07
		04	1	00..01	EQ Shape1	00
		05	1	34..4C	EQ Gain2	40
		06	1	0E..36	EQ Frequency2	1C
		07	1	01..78	EQ Q2	07
		08	1		Not Used	
		09	1	34..4C	EQ Gain3	40
		0A	1	0E..36	EQ Frequency3	22
		0B	1	01..78	EQ Q3	07
		0C	1		Not Used	
		0D	1	34..4C	EQ Gain4	40
		0E	1	0E..36	EQ Frequency4	2E
		0F	1	01..78	EQ Q4	07
		10	1		Not Used	
		11	1	34..4C	EQ Gain5	40
		12	1	1C..3A	EQ Frequency5	3C
		13	1	01..78	EQ Q5	07
		14	1	00..01	EQ Shape5	00
TOTAL SIZE 15						

< Table 1-6 > MIDI Parameter change table (Effect2))(PSR-730 ONLY)

Address					Size	Data	Parameter Name	Description	Default Value(H)
(H)					(H)				
03	On	00	2	00..7F	Insertion Type MSB	Refer to the Ef. Type List "49(=DISTORTION)"			
				00..7F	Insertion Type LSB	00 : basic type		00	
		02	1	00..7F	Insertion Parameter1	Refer to the Ef. Parameter List			
		03	1	00..7F	Insertion Parameter2	Refer to the Ef. Parameter List			
		04	1	00..7F	Insertion Parameter3	Refer to the Ef. Parameter List			
		05	1	00..7F	Insertion Parameter4	Refer to the Ef. Parameter List			
		06	1	00..7F	Insertion Parameter5	Refer to the Ef. Parameter List			
		07	1	00..7F	Insertion Parameter6	Refer to the Ef. Parameter List			

Address (H)		Size (H)	Data (H)	Parameter Name	Description	Default Value(H)
	08	1	00..7F	Insertion Parameter7	Refer to the Ef. Parameter List	
	09	1	00..7F	Insertion Parameter8	Refer to the Ef. Parameter List	
	0A	1	00..7F	Insertion Parameter9	Refer to the Ef. Parameter List	
	0B	1	00..7F	Insertion Parameter10	Refer to the Ef. Parameter List	
	0C	1	00..7F	Insertion Part	Part1..16,OFF	7F
	0D	1	00..7F	MW INS CTRL DPT		
	0E	1	00..7F	BEND INS CTRL DPT		
	0F	1	00..7F	CAT INS CTRL DPT		
	10	1	00..7F	Not Used		
	11	1	00..7F	Not Used		
TOTAL SIZE 12						
03	0n	20	1	00..7F	Insertion Parameter11	Refer to the Ef. Parameter List
		21	1	00..7F	Insertion Parameter12	Refer to the Ef. Parameter List
		22	1	00..7F	Insertion Parameter13	Refer to the Ef. Parameter List
		23	1	00..7F	Insertion Parameter14	Refer to the Ef. Parameter List
		24	1	00..7F	Insertion Parameter15	Refer to the Ef. Parameter List
		25	1	00..7F	Insertion Parameter16	Refer to the Ef. Parameter List
TOTAL SIZE 06						
03	0n	30	2	00..7F	Ins. Param.1 MSB	Refer to the Ef. Parameter List
				00..7F	Ins. Param.1 LSB	Refer to the Ef. Parameter List
03	0n	32	2	00..7F	Ins. Param.2 MSB	Refer to the Ef. Parameter List
				00..7F	Ins. Param.2 LSB	Refer to the Ef. Parameter List
03	0n	34	2	00..7F	Ins. Param.3 MSB	Refer to the Ef. Parameter List
				00..7F	Ins. Param.3 LSB	Refer to the Ef. Parameter List
03	0n	36	2	00..7F	Ins. Param.4 MSB	Refer to the Ef. Parameter List
				00..7F	Ins. Param.4 LSB	Refer to the Ef. Parameter List
03	0n	38	2	00..7F	Ins. Param.5 MSB	Refer to the Ef. Parameter List
				00..7F	Ins. Param.5 LSB	Refer to the Ef. Parameter List
03	0n	3A	2	00..7F	Ins. Param.6 MSB	Refer to the Ef. Parameter List
				00..7F	Ins. Param.6 LSB	Refer to the Ef. Parameter List
03	0n	3C	2	00..7F	Ins. Param.7 MSB	Refer to the Ef. Parameter List
				00..7F	Ins. Param.7 LSB	Refer to the Ef. Parameter List
03	0n	3E	2	00..7F	Ins. Param.8 MSB	Refer to the Ef. Parameter List
				00..7F	Ins. Param.8 LSB	Refer to the Ef. Parameter List
03	0n	40	2	00..7F	Ins. Param.9 MSB	Refer to the Ef. Parameter List
				00..7F	Ins. Param.9 LSB	Refer to the Ef. Parameter List
03	0n	42	2	00..7F	Ins. Param.10 MSB	Refer to the Ef. Parameter List
				00..7F	Ins. Param.10 LSB	Refer to the Ef. Parameter List
TOTAL SIZE 14						

For effect types that do not require MSB, the Parameters for Address 02-0B will be received. Address 30-42 will not be received.

For effect types that require MSB, the Parameters for Address 30-42 will be received. Address 02-0B will not be received.

When Bulk Dumps that include Effect Type data are transmitted, the Parameters for Address 02 - 0B will always be transmitted. But, effects that require MSB, when the bulk dump is received the Parameters for Address 02 - 0B will not be received.

n=Insertion Effect No.(0-1)

< Table 1-7 > MIDI Parameter Change table (MULTI PART)

Address (H)		Size (H)	Data (H)	Prameter Name	Description	Default Value(H)
08	nn	00	1	00..20	Element Reserve	0..32
	nn	01	1	00..7F	Bank Select MSB	0(Part10),2(Others)
	nn	02	1	00..7F	Bank Select LSB	7F(Part10),00(Others)
	nn	03	1	00..7F	Program Number	00
	nn	04	1	00..0F, 7F	Rcv Channel	00
					0..16;1..16,127;off	Part No.
	nn	05	1	00..01	Mono/Poly Mode	0:mono,1:poly
	nn	06	1	00..02	Same Note Number	0:single
				Key On Assign	1:multi	00
					2:inst (for DRUM)	
	nn	07	1	00..02	Part Mode	0:normal
					1..3:drum thru,drum1..2	00 (Except Part10)
	nn	08	1	28..58	Note Shift	01 (Part10)
	nn	09	2	00..FF	Detune	-24..+24[semitones]
	nn	0A			-12.8..+12.7[Hz]	40
					1st bit3..0 -> bit7..4	08 00
					2nd bit3..0 -> bit3..0	(80)
	nn	0B	1	00..7F	Volume	0..127
	nn	0C	1	00..7F	Velocity Sense Depth	64
	nn	0D	1	00..7F	Velocity Sense Offset	0..127
	nn	0E	1	00..7F	Pan	0..127
					0:random	40
					L63..C..R63(1..64..127)	
	nn	0F	1	00..7F	Note Limit Low	C-2..G8
	nn	10	1	00..7F	Note Limit High	00
	nn	11	1	00..7F	Dry Level	7F
	nn	12	1	00..7F	Chorus Send	7F
					0..127	00

PSR-730

Address (H)	Size (H)	Data (H)	Parameter Name	Description	Default Value(H)
nn 13	1	00..7F	Reverb Send	0..127	28
nn 14	1	00..7F	Variation Send	0..127	00
nn 15	1	00..7F	Vibrato Rate	-64..+63	40
nn 16	1	00..7F	Vibrato Depth	-64..+63	40
nn 17	1	00..7F	Vibrato Delay	-64..+63	40
nn 18	1	00..7F	Filter Cutoff Freq.	-64..+63	40
nn 19	1	00..7F	Filter Resonance	-64..+63	40
nn 1A	1	00..7F	EG Attack Time	-64..+63	40
nn 1B	1	00..7F	EG Decay Time	-64..+63	40
nn 1C	1	00..7F	EG Release Time	-64..+63	40
nn 1D	1	28..58	MW Pitch Control	-24..+24[semitones]	40
nn 1E	1	00..7F	MW Filter Control	-9600..+9450[cent]	40
nn 1F	1	00..7F	MW Amp. Control	-100..+100[%]	40
nn 20	1	00..7F	MW LFO PMod Depth	0..127	0A
nn 21	1	00..7F	MW LFO FMod Depth	0..127	00
nn 22	1	00..7F	MW LFO AMod Depth	0..127	00
nn 23	1	28..58	Bend Pitch Control	-24..+24[semitones]	42
nn 24	1	00..7F	Bend Filter Control	-9600..+9450[cent]	40
nn 25	1	00..7F	Bend Amp. Control	-100..+100[%]	40
nn 26	1	00..7F	Bend LFO PMod Depth	0..127	00
nn 27	1	00..7F	Bend LFO FMod Depth	0..127	00
nn 28	1	00..7F	Bend LFO AMod Depth	0..127	00
TOTAL SIZE 29					
nn 30			Not Used		
:			:		
nn 40			Not Used		
nn 41	1	00..7F	Scale Tuning C	-64..+63[cent]	40
nn 42	1	00..7F	Scale Tuning C#	-64..+63[cent]	40
nn 43	1	00..7F	Scale Tuning D	-64..+63[cent]	40
nn 44	1	00..7F	Scale Tuning D#	-64..+63[cent]	40
nn 45	1	00..7F	Scale Tuning E	-64..+63[cent]	40
nn 46	1	00..7F	Scale Tuning F	-64..+63[cent]	40
nn 47	1	00..7F	Scale Tuning F#	-64..+63[cent]	40
nn 48	1	00..7F	Scale Tuning G	-64..+63[cent]	40
nn 49	1	00..7F	Scale Tuning G#	-64..+63[cent]	40
nn 4A	1	00..7F	Scale Tuning A	-64..+63[cent]	40
nn 4B	1	00..7F	Scale Tuning A#	-64..+63[cent]	40
nn 4C	1	00..7F	Scale Tuning B	-64..+63[cent]	40
nn 4D	1	28..58	CAT Pitch Control	-24..+24[semitones]	40
nn 4E	1	00..7F	CAT Filter Control	-9600..+9450[cent]	40
nn 4F	1	00..7F	CAT Amplitude Control	-100..+100[%]	40
nn 50	1	00..7F	CAT LFO PMod Depth	0..127	00
nn 51	1	00..7F	CAT LFO FMod Depth	0..127	00
nn 52	1	00..7F	CAT LFO AMod Depth	0..127	00
nn 53			Not Used		
:			:		
66			Not Used		
nn 67	1	00..01	Portamento Switch	off/on	00
nn 68	1	00..7F	Portamento Time	0..127	00
nn 69			Not Used		
:			:		
6E			Not Used		
TOTAL SIZE 3F					

nn = PartNumber

If there is a Drum Voice assigned to the Part, the following parameters are ineffective.

- Bank Select LSB
- Pitch EG
- Portamento
- Soft Pedal
- Mono/Poly
- Scale Tuning

< Table 1-8 > MIDI Parameter Change table (DRUM SETUP)

Address (H)	Size (H)	Data (H)	Parameter Name	Description	Default Value(H)
3n rr 00	1	00..7F	Pitch Coarse	-64..+63	40
3n rr 01	1	00..7F	Pitch Fine	-64..+63[cent]	40
3n rr 02	1	00..7F	Level	0..127	Depend on the Note
3n rr 03	1	00..7F	Alternate Group	0:off,1..127	Depend on the Note
3n rr 04	1	00..7F	Pan	0:random L63..C..R63(1..64..127)	Depend on the Note
3n rr 05	1	00..7F	Reverb Send Level	0..127	Depend on the Note
3n rr 06	1	00..7F	Chorus Send Level	0..127	Depend on the Note
3n rr 07	1	00..7F	Variation Send Level	0..127	7F
3n rr 08	1	00..01	Key Assign	0:single,1:multi	00
3n rr 09	1	00..01	Rcv Note Off	off/on	Depend on the Note
3n rr 0A	1	00..01	Rcv Note On	off/on	01
3n rr 0B	1	00..7F	Filter Cutoff Freq.	-64..63	40
3n rr 0C	1	00..7F	Filter Resonance	-64..63	40
3n rr 0D	1	00..7F	EG Attack Rate	-64..63	40
3n rr 0E	1	00..7F	EG Decay1 Rate	-64..63	40
3n rr 0F	1	00..7F	EG Decay2 Rate	-64..63	40
TOTAL SIZE 10					

n:Drum Setup Number(0 - 1)

rr:note number(0DH - 5BH)

If XG SYSTEM ON and/or GM On message is received, all Drum Setup Parameter will be reset to default values.

According to the Drum Setup Reset message, individual Drum Setup Parameters can be reset to default values.

< Table 1-9 > Effect Type List

	XG ESSENTIAL EFFECT
	Same as LSB=0
	XG OPTION EFFECT

* If the received value does not contain an effect type in the TYPE LSB, the LSB will be directed to TYPE 0.

* Panel Effects are based on the "[Number] Effect Name".

* Using an external sequencer, capable of editing and transmitting the system exclusive messages and parameter changes, allows you to select the reverb, chorus and DSP effect types which are not accessible from the PSR-730/630 panel operation. When one of the effects is selected by the external sequencer, "XG Rev.," "XG Cho.," or "XG Eff." will be shown on the display.

REVERB TYPE

TYPE MSB	TYPE LSB	01	02	03..07	08	09..15	16	17	18	19	20	21...
000	NO EFFECT											
001	[1]HALL1	[2]HALL2					[3]HALL3	[4]HALL4	[5]HALL5			
002	[6]ROOM1	ROOM2	[8]ROOM2				[7]ROOM3	ROOM	ROOM	[9]ROOM4		
003	[10]STAGE1	[11]STAGE2					STAGE	[12]STAGE3				
004	[13]PLATE						PLATE	PLATE				
005..015	NO EFFECT											
016												
017												
018												
019												
020..127	NO EFFECT											

CHORUS TYPE

TYPE MSB	TYPE LSB	01	02	03..07	08	09..15	16	17	18	19	20	21...
000	NO EFFECT											
001..064	NO EFFECT											
065	CHORUS1	CHORUS2	CHORUS3			CHORUS4						
066	CELESTE1	CELESTE2	CELESTE3			CELESTE4		CELESTE	CELESTE			
067	FLANGER 1	FLANGER2				FLANGER3		FLANGER	FLANGER			
068	SYMPHONIC											
069..071	NO EFFECT											
072	PHASER											
073..086	NO EFFECT											
087	ENSEMBLE DETUNE											
088..127	NO EFFECT											

PSR-730

DSP(VARIATION) EFFECT TYPE

TYPE MSB	TYPE LSB	00	01	02	03...07	08	09...15	16	17	18	19	20	21...
000	NO EFFECT												
001	[1]HALL1	[2]HALL2						[3]HALL3	HALL	HALL			
002	[4]ROOM1	ROOM2	[5]ROOM2					[6]ROOM3	ROOM	ROOM	ROOM		
003	[7]STAGE1	[8]STAGE2						STAGE	[9]STAGE3				
004	PLATE							PLATE	PLATE				
005	DELAY L,C,R							[17]DELAY LCR					
006	[18]DELAY L,R												
007	[19]ECHO												
008	[20]CROSS DELAY												
009	ER1	ER2											
010	GATE REVERB												
011	REVERS GATE												
012...015	NO EFFECT												
016	WHITE ROOM												
017	TUNNEL												
018	CANYON												
019	BASEMENT												
020	KARAOKE 1	KARAOKE 2	KARAOKE 3										
021...063	NO EFFECT												
064	THRU												
065	CHORUS1	CHORUS2	CHORUS			CHORUS							
066	[13]CELESTE	[12]CHORUS3	CELESTE3			[11]CHORUS2		CHORUS	[10]CHORUS1	[22]ROTARY FAST	[23]ROTARY SLOW		
067	FLANGER 1	FLANGER				FLANGER		[14]FLANGER	FLANGER				
068	SYMPHONIC							[15]SYMPHONIC					
069	ROTARY SP							Rotary Sp					
070	TREMOLO							[21]TREMOLO	Rotary Sp				
071	AUTO PAN							[16]AUTO PAN	Rotary Sp	Rotary Sp	Tremolo	Gtr Tremolo	
072	[24]PHASER					PHASER							
073	DISTORTION	COMP+ DISTORTION											
074	OVER DRIVE												
075	AMP SIM.							DIST.HARD	DIST.SOFT				
076	3BAND EQ							EQ DISCO	EQ TEL				
077	2BAND EQ												
078	AUTO WAH	AUTO WAH+ DIST	AUTO WAH+ OVERDRIVE					[25]WAH					
079	THRU												
080	PITCH CHANGE	PITCH CHANGE2											
081	THRU												
082	TOUCH WAH 1	TOUCH WAH+ DIST	TOUCH WAH+ OVERDRIVE			TOUCH WAH 2							
083	COMPRESSOR												
084	NOISE GATE												
085	VOICE CANCEL												
086	2WAY ROTARY SP												
087	ENSEMBLE DETUNE												
088	AMBIENCE												
089...127	THRU												

MULTI EFFECT (INSERTION) TYPE

TYPE MSB	TYPE LSB	00	01	02	03...07	08	09...15	16	17	18	19	20	21...
000	THRU												
001	HALL 1	HALL 2						HALL	HALL	HALL			
002	ROOM 1	ROOM 2	ROOM 3					ROOM	ROOM	ROOM	ROOM		
003	STAGE 1	STAGE 2						STAGE	STAGE				
004	PLATE							PLATE	PLATE				
005	DELAY L,C,R							Delay LCR					
006	DELAY L,R												
007	ECHO												
008	CROSS DELAY												
009...019	THRU												
020	KARAOKE 1	KARAOKE 2	KARAOKE 3										
021...064	THRU												
065	CHORUS 1	CHORUS 2	CHORUS 3			CHORUS 4							
066	CELESTE 1	CELESTE 2	CELESTE 3			CELESTE 4		CHORUS	CHORUS	Rotary Sp			
067	FLANGER 1	FLANGER 2				FLANGER 3		FLANGER	FLANGER				
068	SYMPHONIC							Symphonic					
069	ROTARY SPEAKER 1							Rotary Sp					
070	TREMOLO							Tremolo	Rotary Sp				
071	AUTO PAN							AutoPan	Rotary Sp	Rotary Sp	Tremolo	Gtr Tremolo	
072	PHASER 1												
073	DISTORTION												
074	OVER DRIVE												
075	AMP SIMULATOR							DIST.HARD	DIST.SOFT				
076	3BAND EQ							EQ DISCO	EQ TEL				
077	2-BAND EQ												
078	AUTO WAH(LFO)							Auto Wah					
079...081	THRU												
082	TOUCH WAH 1					TOUCH WAH 2							
083	COMPRESSOR												
084	NOISE GATE												
085...086	THRU												
087	ENSEMBLE DETUNE												
088...127	THRU												

< Table 1-10 > Effect Parameter List

HALL1,HALL2, ROOM1,ROOM2,ROOM3, STAGE1,STAGE2
PLATE (reverb, variation, insertion block)

No.	Parameter	Value	See Table	Control
1	Reverb Time	0.3-30.0s	0-63	table#4
2	Diffusion	0-10	0-10	
3	Initial Delay	0-63	table#5	
4	HPF Cutoff	Thru-8.0kHz	table#3	
5	LPF Cutoff	1.0k-Thru	table#3	
6				
7				
8				
9				
10	Dry/Wet	D63>W - D=W - D<W63	1-127	●
11	Rev Delay	0-63	0-63	table#5
12	Density	0-4 (reverb, variation block) 0-2 (insertion block)	0-4 0-2	
13	Er/Rev Balance	E63>R - E=R - E<R63	1-127	
14	High Damp	0.1-1.0	1-10	
15	Feedback Level	-63+63	1-127	
16				

WHITE ROOM, TUNNEL, CANYON, BASEMENT (reverb, variation block)

No.	Parameter	Value	See Table	Control
1	Reverb Time	0.3-30.0s	0-63	table#4
2	Diffusion	0-10	0-10	
3	Initial Delay	0-63	table#5	
4	HPF Cutoff	Thru-8.0kHz	table#3	
5	LPF Cutoff	1.0k-Thru	table#3	
6	Width	0.5-10.2m	0-37	table#11
7	Height	0.5-20.2m	0-73	table#11
8	Depth	0.5-30.2m	0-104	table#11
9	Wall Vary	0-30	0-30	
10	Dry/Wet	D63>W - D=W - D<W63	1-127	●
11	Rev Delay	0-63	0-63	table#5
12	Density	0-4	0-4	
13	Er/Rev Balance	E63>R - E=R - E<R63	1-127	
14	High Damp	0.1-1.0	1-10	
15	Feedback Level	-63+63	1-127	
16				

DELAY L,C,R (variation, insertion block)

No.	Parameter	Value	See Table	Control
1	Lch Delay	0.1-1486.0ms (variation block) 0.1-742.9ms (insertion block)	1-14860 1-7429	
2	Rch Delay	0.1-1486.0ms (variation block) 0.1-742.9ms (insertion block)	1-14860 1-7429	
3	Cch Delay	0.1-1486.0ms (variation block) 0.1-742.9ms (insertion block)	1-14860 1-7429	
4	Feedback Delay	0.1-1486.0ms (variation block) 0.1-742.9ms (insertion block)	1-14860 1-7429	
5	Feedback Level	-63+63	1-127	
6	Cch Level	0-127	0-127	
7	High Damp	0.1-1.0	1-10	
8				
9				
10	Dry/Wet	D63>W - D=W - D<W63	1-127	●
11				
12				
13	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
14	EQ Low Gain	-12+12dB	52-76	
15	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
16	EQ High Gain	-12+12dB	52-76	

DELAY L,R (variation, insertion block)

No.	Parameter	Value	See Table	Control
1	Lch Delay	0.1-1486.0ms (variation block) 0.1-742.9ms (insertion block)	1-14860 1-7429	
2	Rch Delay	0.1-1486.0ms (variation block) 0.1-742.9ms (insertion block)	1-14860 1-7429	
3	Feedback Delay 1	0.1-1486.0ms (variation block) 0.1-742.9ms (insertion block)	1-14860 1-7429	
4	Feedback Delay 2	0.1-1486.0ms (variation block) 0.1-742.9ms (insertion block)	1-14860 1-7429	
5	Feedback Level	-63+63	1-127	
6	High Damp	0.1-1.0	1-10	
7				
8				
9				
10	Dry/Wet	D63>W - D=W - D<W63	1-127	●
11				
12				
13	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
14	EQ Low Gain	-12+12dB	52-76	
15	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
16	EQ High Gain	-12+12dB	52-76	

ECHO (variation, insertion block)

No.	Parameter	Value	See Table	Control
1	Lch Delay1	0.1-743.0ms (variation block) 0.1-371.4ms (insertion block)	1-7430 1-3714	
2	Lch Feedback Level	-63+63	1-127	
3	Rch Delay1	0.1-743.0ms (variation block) 0.1-371.4ms (insertion block)	1-7430 1-3714	
4	Rch Feedback Level	-63+63	1-127	
5	High Damp	0.1-1.0	1-10	
6	Lch Delay2	0.1-743.0ms (variation block) 0.1-371.4ms (insertion block)	1-7430 1-3714	
7	Rch Delay2	0.1-743.0ms (variation block) 0.1-371.4ms (insertion block)	1-7430 1-3714	
8	Delay2 Level	0-127	0-127	
9				
10	Dry/Wet	D63>W - D=W - D<W63	1-127	●
11				
12				
13	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
14	EQ Low Gain	-12+12dB	52-76	
15	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
16	EQ High Gain	-12+12dB	52-76	

CROSS DELAY (variation, insertion block)

No.	Parameter	Value	See Table	Control
1	L->R Delay	0.1-743.0ms (variation block) 0.1-371.4ms (insertion block)	1-7430 1-3714	
2	R->L Delay	0.1-743.0ms (variation block) 0.1-371.4ms (insertion block)	1-7430 1-3714	
3	Feedback Level	-63+63	1-127	
4	Input Select	L,R,L&R	0-2	
5	High Damp	0.1-1.0	1-10	
6				
7				
8				
9				
10	Dry/Wet	D63>W - D=W - D<W63	1-127	●
11				
12				
13	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
14	EQ Low Gain	-12+12dB	52-76	
15	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
16	EQ High Gain	-12+12dB	52-76	

EARLY REF1,EARLY REF2(variation block)

No.	Parameter	Value	See Table	Control
1	Type	S-H, L-H, Rdm, Rvs, Ptl, Spr	0-5	
2	Room Size	0.1-7.0	0-44	table#6
3	Diffusion	0-10	0-10	
4	Initial Delay	0-63	0-63	table#5
5	Feedback Level	-63+63	1-127	
6	HPF Cutoff	Thru-8.0kHz	0-52	table#3
7	LPF Cutoff	1.0k-Thru	34-60	table#3
8				
9				
10	Dry/Wet	D63>W - D=W - D<W63	1-127	●
11	Liveness	0-10	0-10	
12	Density	0-3	0-3	
13	High Damp	0.1-1.0	1-10	
14				
15				
16				

GATE REVERB, REVERSE GATE (variation block)

No.	Parameter	Value	See Table	Control
1	Type	TypeA, TypeB	0-1	
2	Room Size	0.1-20.0	0-127	table#6
3	Diffusion	0-10	0-10	
4	Initial Delay	0-127	0-127	table#5
5	Feedback Level	-63+63	1-127	
6	HPF Cutoff	Thru-8.0kHz	0-52	table#3
7	LPF Cutoff	1.0k-Thru	34-60	table#3
8				
9				
10	Dry/Wet	D63>W - D=W - D<W63	1-127	●
11	Liveness	0-10	0-10	
12	Density	0-3	0-3	
13	High Damp	0.1-1.0	1-10	
14				
15				
16				

KARAOKE1,2,3 (variation, insertion block)

No.	Parameter	Value	See Table	Control
1	Delay Time	0-127	0-127	table#7
2	Feedback Level	-63+63	1-127	
3	HPF Cutoff	Thru-8.0kHz	0-52	table#3
4	LPF Cutoff	1.0k-Thru	34-60	table#3
5				
6				
7				
8				
9				
10	Dry/Wet	D63>W - D=W - D<W63	1-127	●
11				
12				
13				
14				
15				
16				

CHORUS1,2,3,4, CELESTE1,2,3,4 (chorus, variation, insertion block)

No.	Parameter	Value	See Table	Control
1	LFO Frequency	0.00Hz-39.7Hz	0-127	table#1
2	LFO Depth	0-127	0-127	
3	Feedback Level	-63+63	1-127	
4	Delay Offset	0-127	0-127	table#2
5				
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
7	EQ Low Gain	-12+12dB	52-76	
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
9	EQ High Gain	-12+12dB	52-76	
10	Dry/Wet	D63>W - D=W - D<W63	1-127	●
11				
12	EQ Mid Frequency	100Hz-10.0kHz (variation block) -12+12dB (variation block)	14-54 52-76	table#3
13	EQ Mid Gain	1.0-12.0 (variation block)	10-120	
14	EQ Mid Width			
15	Input Mode	mono/stereo	0-1	
16				

FLANGER1,2,3 (chorus, variation, insertion block)

No.	Parameter	Value	See Table	Control
1	LFO Frequency	0.00Hz-39.7Hz	0-127	table#1
2	LFO Depth	0-127	0-127	
3	Feedback Level	-63+63	1-127	
4	Delay Offset	0-127	0-127	table#2
5				
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
7	EQ Low Gain	-12+12dB	52-76	
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
9	EQ High Gain	-12+12dB	52-76	
10	Dry/Wet	D63>W - D=W - D<W63	1-127	●
11				
12	EQ Mid Frequency	100Hz-10.0kHz (variation block) -12+12dB (variation block)	14-54 52-76	table#3
13	EQ Mid Gain	1.0-12.0 (variation block)	10-120	
14	LFO Phase Difference	-180+180deg(resolution=3deg.)	4-124	
15				
16				

PSR-730

SYMPHONIC (chorus, variation, insertion block)

No.	Parameter	Value	See Table	Control
1	LFO Frequency	0.00Hz-39.7Hz	0-127	table#1
2	LFO Depth	0-127	0-127	table#2
3	Delay Offset	0-127	0-127	table#2
4				
5				
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
7	EQ Low Gain	-12→+12dB	52-76	table#3
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
9	EQ High Gain	-12→+12dB	52-76	table#3
10	Dry/Wet	D63>W - D=W - D<W63	1-127	•
11	EQ Mid Frequency	100Hz-10.0kHz (variation block)	14-54	table#3
12	EQ Mid Gain	-12→+12dB (variation block)	52-76	table#3
13	EQ Mid Width	1.0-12.0 (variation block)	10-120	table#3
14				
15				
16				

ENSEMBLE DETUNE (chorus, variation, insertion block)

No.	Parameter	Value	See Table	Control
1	Detune	-50→+50cent	14-114	
2	Lch Init Delay	0-127	0-127	table#2
3	Rch Init Delay	0-127	0-127	table#2
4				
5				
6				
7				
8				
9	Dry/Wet	D63>W - D=W - D<W63	1-127	•
10				
11	EQ Low Frequency	32Hz-2.0kHz (variation, insertion block)	4-40	table#3
12	EQ Low Gain	-12→+12dB 52-76 (variation, insertion block)	52-76	table#3
13	EQ High Frequency	500Hz-16.0kHz (variation, insertion block)	28-58	table#3
14	EQ High Gain	-12→+12dB (variation, insertion block)	52-76	table#3
15				
16				

AMBIENCE (variation block)

No.	Parameter	Value	See Table	Control
1	Delay Time	0-127	0-127	table#2
2	Output Phase	normal/invers	0-1	table#2
3				
4				
5				
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
7	EQ Low Gain	-12→+12dB	52-76	table#3
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
9	EQ High Gain	-12→+12dB	52-76	table#3
10	Dry/Wet	D63>W - D=W - D<W63	1-127	•
11				
12				
13				
14				
15				
16				

ROTARY SPEAKER (variation, insertion block)

No.	Parameter	Value	See Table	Control
1	LFO Frequency	0.00Hz-39.7Hz	0-127	table#1
2	LFO Depth	0-127	0-127	table#1
3				
4				
5				
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
7	EQ Low Gain	-12→+12dB	52-76	table#3
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
9	EQ High Gain	-12→+12dB	52-76	table#3
10	Dry/Wet	D63>W - D=W - D<W63	1-127	•
11	EQ Mid Frequency	100Hz-10.0kHz (variation block)	14-54	table#3
12	EQ Mid Gain	-12→+12dB (variation block)	52-76	table#3
13	EQ Mid Width	1.0-12.0 (variation block)	10-120	table#3
14				
15				
16				

2WAY ROTARY SPEAKER (variation block)

No.	Parameter	Value	See Table	Control
1	Rotor Speed	0.0Hz-39.7Hz	0-127	table#1
2	Drive Low	0-127	0-127	table#1
3	Drive High	0-127	0-127	table#1
4	Low/High	L63>H - L=H - L<H63	1-127	•
5				
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
7	EQ Low Gain	-12→+12dB	52-76	table#3
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
9	EQ High Gain	-12→+12dB	52-76	table#3
10				
11	Crossover Frequency	100Hz-10.0kHz	14-54	table#3
12	Mic L-R Angle	0deg-180deg(resolution=3deg.)	0-60	table#3
13				
14				
15				
16				

TREMOLO (variation, insertion block)

No.	Parameter	Value	See Table	Control
1	LFO Frequency	0.00Hz-39.7Hz	0-127	table#1
2	AM Depth	0-127	0-127	table#1
3	PM Depth	0-127	0-127	table#1
4				
5				
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
7	EQ Low Gain	-12→+12dB	52-76	table#3
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
9	EQ High Gain	-12→+12dB	52-76	table#3
10				
11	EQ Mid Frequency	100Hz-10.0kHz (variation block)	14-54	table#3
12	EQ Mid Gain	-12→+12dB (variation block)	52-76	table#3
13	EQ Mid Width	1.0-12.0 (variation block)	10-120	table#3
14	LFO Phase Difference	-180→+180deg(resolution=3deg.)	4-124	table#3
15	Input Mode	mono/stereo	0-1	table#3
16				

AUTO PAN (variation, insertion block)

No.	Parameter	Value	See Table	Control
1	LFO Frequency	0.00Hz-39.7Hz	0-127	table#1
2	L/R Depth	0-127	0-127	table#1
3	F/R Depth	0-127	0-127	table#1
4	PAN Direction	L<->R,L->R,L<->R,L<->R,L<->R,L<->R	0-5	table#1
5				
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
7	EQ Low Gain	-12→+12dB	52-76	table#3
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
9	EQ High Gain	-12→+12dB	52-76	table#3
10				
11	EQ Mid Frequency	100Hz-10.0kHz (variation block)	14-54	table#3
12	EQ Mid Gain	-12→+12dB (variation block)	52-76	table#3
13	EQ Mid Width	1.0-12.0 (variation block)	10-120	table#3
14				
15				
16				

PHASER 1 (chorus, variation, insertion block)

No.	Parameter	Value	See Table	Control
1	LFO Frequency	0.00Hz-39.7Hz	0-127	table#1
2	LFO Depth	0-127	0-127	table#1
3	Phase Shift Offset	0-127	0-127	table#1
4	Feedback Level	-63→+63	1-127	table#1
5				
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
7	EQ Low Gain	-12→+12dB	52-76	table#3
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
9	EQ High Gain	-12→+12dB	52-76	table#3
10	Dry/Wet	D63>W - D=W - D<W63	1-127	•
11	Stage	4,5,6 (chorus, insertion block)	4-6	table#3
12	Diffusion	4-12 (variation block)	4-12	table#3
13		mono/stereo	0-1	table#3
14				
15				
16				

PHASER 2 (variation block)

No.	Parameter	Value	See Table	Control
1	LFO Frequency	0.00Hz-39.7Hz	0-127	table#1
2	LFO Depth	0-127	0-127	table#1
3	Phase Shift Offset	0-127	0-127	table#1
4	Feedback Level	-63→+63	1-127	table#1
5				
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
7	EQ Low Gain	-12→+12dB	52-76	table#3
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
9	EQ High Gain	-12→+12dB	52-76	table#3
10	Dry/Wet	D63>W - D=W - D<W63	1-127	•
11	Stage	3,4,5,6	3-6	table#3
12	LFO Phase Difference	-180deg→+180deg(resolution=3deg.)	4-124	table#3
13				
14				
15				
16				

DISTORTION, OVERDRIVE (variation, insertion block)

No.	Parameter	Value	See Table	Control
1	Drive	0-127	0-127	table#1
2	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
3	EQ Low Gain	-12→+12dB	52-76	table#3
4	LPF Cutoff	1.0k-Thru	34-60	table#3
5	Output Level	0-127	0-127	table#3
6				
7	EQ Mid Frequency	100Hz-10.0kHz	14-54	table#3
8	EQ Mid Gain	-12→+12dB	52-76	table#3
9	EQ Mid Width	1.0-12.0	10-120	table#3
10	Dry/Wet	D63>W - D=W - D<W63	1-127	•
11	Edge(Clip Curve)	0-127	0-127	mild-sharp
12				
13				
14				
15				
16				

COMP+DIST (variation block)

No.	Parameter	Value	See Table	Control
1	Drive	0-127	0-127	table#1
2	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
3	EQ Low Gain	-12→+12dB	52-76	table#3
4	LPF Cutoff	1.0k-Thru	34-60	table#3
5	Output Level	0-127	0-127	table#3
6				
7	EQ Mid Frequency	100Hz-10.0kHz	14-54	table#3
8	EQ Mid Gain	-12→+12dB	52-76	table#3
9	EQ Mid Width	1.0-12.0	10-120	table#3
10	Dry/Wet	D63>W - D=W - D<W63	1-127	•
11	Edge(Clip Curve)	0-127	0-127	mild-sharp
12	Attack	1ms-40ms	0-19	table#8
13	Release	10ms-680ms	0-15	table#9
14	Threshold	-48dB-6dB	79-121	table#10
15	Ratio	1.0-20.0	0-7	table#10
16				

AMP SIMULATOR (variation, insertion block)

No.	Parameter	Value	See Table	Control
1	Drive	0-127		●
2	AMP Type	Off, Stack, Combo, Tube		
3	LPF Cutoff	1.0k-Thru	table#3	
4	Output Level	0-127		
5				
6				
7				
8				
9				
10	Dry/Wet	D63>W - D=W - D<W63	1-127	
11	Edge(Clip Curve)	0-127	mild-sharp	
12				
13				
14				
15				
16				

3BAND EQ(MONO) (variation, insertion block)

No.	Parameter	Value	See Table	Control
1	EQ Low Gain	-12→+12dB	52-76	
2	EQ Mid Frequency	100Hz-10.0kHz	14-54	table#3
3	EQ Mid Gain	-12→+12dB	52-76	
4	EQ Mid Width	1.0-12.0	10-120	
5	EQ High Gain	-12→+12dB	52-76	
6	EQ Low Frequency	50Hz-2.0kHz	8-40	table#3
7	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
8				
9				
10				
11				
12				
13				
14				
15	Input Mode	mono/stereo	0-1	
16				

2BAND EQ(STEREO) (variation, insertion block)

No.	Parameter	Value	See Table	Control
1	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
2	EQ Low Gain	-12→+12dB	52-76	
3	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
4	EQ High Gain	-12→+12dB	52-76	
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

AUTO WAH (variation, insertion block)

No.	Parameter	Value	See Table	Control
1	LFO Frequency	0.00Hz-39.7Hz	0-127	
2	LFO Depth	0-127	0-127	●
3	Cutoff Frequency Offset	0-127	0-127	
4	Resonance	1.0-12.0	10-120	
5				
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
7	EQ Low Gain	-12→+12dB	52-76	
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
9	EQ High Gain	-12→+12dB	52-76	
10	Dry/Wet	D63>W - D=W - D<W63	1-127	
11	Drive	0-127	0-127	
12				
13				
14				
15				
16				

AUTO WAH+DIST, AUTO WHA+ODRV (variation block)

No.	Parameter	Value	See Table	Control
1	LFO Frequency	0.00Hz-39.7Hz	0-127	
2	LFO Depth	0-127	0-127	●
3	Cutoff Frequency Offset	0-127	0-127	
4	Resonance	1.0-12.0	10-120	
5				
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
7	EQ Low Gain	-12→+12dB	52-76	
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
9	EQ High Gain	-12→+12dB	52-76	
10	Dry/Wet	D63>W - D=W - D<W63	1-127	
11	Drive	0-127	0-127	
12	EQ Low Gain(distortion)	-12→+12dB	52-76	
13	EQ Mid Gain(distortion)	-12→+12dB	52-76	
14	LPF Cutoff	1.0kHz-thru	34-60	table#3
15	Output Level	0-127	0-127	
16				

TOUCH WAH 1 (variation, insertion block), TOUCH WAH+DIST (variation block)

No.	Parameter	Value	See Table	Control
1	Sensitive	0-127		●
2	Cutoff Frequency Offset	0-127		
3	Resonance	1.0-12.0	10-120	
4				
5				
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
7	EQ Low Gain	-12→+12dB	52-76	
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
9	EQ High Gain	-12→+12dB	52-76	
10	Dry/Wet	D63>W - D=W - D<W63	1-127	
11	Drive	0-127	0-127	
12				
13				
14				
15				
16				

TOUCH WAH 2 (variation, insertion block), TOUCH WAH+ODRV (variation block)

No.	Parameter	Value	See Table	Control
1	Sensitive	0-127		●
2	Cutoff Frequency Offset	0-127		
3	Resonance	1.0-12.0	10-120	
4				
5				
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3
7	EQ Low Gain	-12→+12dB	52-76	
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3
9	EQ High Gain	-12→+12dB	52-76	
10	Dry/Wet	D63>W - D=W - D<W63	1-127	
11	Drive	0-127	0-127	
12	EQ Low Gain(distortion)	-12→+12dB	52-76	
13	EQ Mid Gain(distortion)	-12→+12dB	52-76	
14	LPF Cutoff	1.0kHz-thru	34-60	table#3
15	Output Level	0-127	0-127	
16				

PITCH CHANGE 1 (variation block)

No.	Parameter	Value	See Table	Control
1	Pitch	-24→+24	40-88	
2	Initial Delay	0-127	0-127	table#7
3	Fine 1	-50Hz→+50Hz	14-114	
4	Fine 2	-50Hz→+50Hz	14-114	
5	Feedback Level	-99→+99%	1-127	
6				
7				
8				
9				
10	Dry/Wet	D63>W - D=W - D<W63	1-127	●
11	Pan 1	L63-R63	1-127	
12	Output Level 1	0-127	0-127	
13	Pan 2	L63-R63	1-127	
14	Output Level 2	0-127	0-127	
15				
16				

PITCH CHANGE 2 (variation block)

No.	Parameter	Value	See Table	Control
1	Pitch	-24→+24	40-88	
2	Initial Delay	0-127	0-127	table#7
3	Fine 1	-50→+50cent	14-114	
4	Fine 2	-50→+50cent	14-114	
5	Feedback Level	-99→+99%	1-127	
6				
7				
8				
9				
10	Dry/Wet	D63>W - D=W - D<W63	1-127	●
11	Pan 1	L63-R63	1-127	
12	Output Level 1	0-127	0-127	
13	Pan 2	L63-R63	1-127	
14	Output Level 2	0-127	0-127	
15				
16				

COMPRESSOR (variation, insertion block)

No.	Parameter	Value	See Table	Control
1	Attack	1-40ms	0-19	table#8
2	Release	10-680ms	0-15	table#9
3	Threshold	-48→-6dB	79-121	
4	Ratio	1.0-20.0	0-7	table#10
5	Output Level	0-127	0-127	
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

NOISE GATE (variation, insertion block)

No.	Parameter	Value	See Table	Control
1	Attack	1-40ms	0-19	table#8
2	Release	10-680ms	0-15	table#9
3	Threshold	-72→-30dB	55-97	
4	Output Level	0-127	0-127	
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

PSR-730

< Table 1-11 > Effect Data Value Assign Table

Table#1

LFO Frequency

Data	Value	Data	Value	Data	Value	Data	Value
0	0.04	32	1.35	64	2.69	96	8.41
1	0.04	33	1.39	65	2.78	97	8.75
2	0.08	34	1.43	66	2.86	98	9.09
3	0.13	35	1.47	67	2.94	99	9.42
4	0.17	36	1.51	68	3.03	100	9.76
5	0.21	37	1.56	69	3.11	101	10.1
6	0.25	38	1.60	70	3.20	102	10.4
7	0.29	39	1.64	71	3.28	103	11.8
8	0.34	40	1.68	72	3.37	104	12.1
9	0.38	41	1.72	73	3.45	105	12.8
10	0.42	42	1.77	74	3.53	106	13.5
11	0.46	43	1.81	75	3.62	107	14.1
12	0.51	44	1.85	76	3.70	108	14.8
13	0.55	45	1.89	77	3.87	109	15.5
14	0.59	46	1.94	78	4.04	110	16.2
15	0.63	47	1.98	79	4.21	111	16.8
16	0.67	48	2.02	80	4.37	112	17.5
17	0.72	49	2.06	81	4.54	113	18.2
18	0.76	50	2.10	82	4.71	114	19.5
19	0.80	51	2.15	83	4.88	115	20.9
20	0.84	52	2.19	84	5.05	116	22.2
21	0.88	53	2.23	85	5.22	117	23.6
22	0.93	54	2.27	86	5.38	118	24.9
23	0.97	55	2.31	87	5.55	119	26.2
24	1.01	56	2.36	88	5.72	120	27.6
25	1.05	57	2.40	89	5.89	121	28.9
26	1.09	58	2.44	90	6.06	122	30.3
27	1.14	59	2.48	91	6.23	123	31.6
28	1.18	60	2.52	92	6.40	124	33.0
29	1.22	61	2.57	93	6.57	125	34.3
30	1.26	62	2.61	94	6.74	126	37.0
31	1.30	63	2.65	95	6.88	127	39.7

Table#2
Modulation Delay Offset

Data	Value	Data	Value	Data	Value	Data	Value
0	0.0	32	3.2	64	6.4	96	9.6
1	0.1	33	3.3	65	6.5	97	9.7
2	0.2	34	3.4	66	6.6	98	9.8
3	0.3	35	3.5	67	6.7	99	9.9
4	0.4	36	3.6	68	6.8	100	10.0
5	0.5	37	3.7	69	6.9	101	11.1
6	0.6	38	3.8	70	7.0	102	12.2
7	0.7	39	3.9	71	7.1	103	13.3
8	0.8	40	4.0	72	7.2	104	14.4
9	0.9	41	4.1	73	7.3	105	15.5
10	1.0	42	4.2	74	7.4	106	17.1
11	1.1	43	4.3	75	7.5	107	18.6
12	1.2	44	4.4	76	7.6	108	20.2
13	1.3	45	4.5	77	7.7	109	21.8
14	1.4	46	4.6	78	7.8	110	23.3
15	1.5	47	4.7	79	7.9	111	24.9
16	1.6	48	4.8	80	8.0	112	26.5
17	1.7	49	4.9	81	8.1	113	28.0
18	1.8	50	5.0	82	8.2	114	29.6
19	1.9	51	5.1	83	8.3	115	31.2
20	2.0	52	5.2	84	8.4	116	32.8
21	2.1	53	5.3	85	8.5	117	34.3
22	2.2	54	5.4	86	8.6	118	35.9
23	2.3	55	5.5	87	8.7	119	37.5
24	2.4	56	5.6	88	8.8	120	39.0
25	2.5	57	5.7	89	8.9	121	40.6
26	2.6	58	5.8	90	9.0	122	42.2
27	2.7	59	5.9	91	9.1	123	43.7
28	2.8	60	6.0	92	9.2	124	45.3
29	2.9	61	6.1	93	9.3	125	46.9
30	3.0	62	6.2	94	9.4	126	48.4
31	3.1	63	6.3	95	9.5	127	50.0

Table#3
EQ Frequency

Data	Value	Data	Value
8	50	40	2.0k
9	56	41	2.2k
10	63	42	2.5k
11	70	43	2.8k
12	80	44	3.2k
13	90	45	3.6k
14	100	46	4.0k
15	110	47	4.5k
16	125	48	5.0k
17	140	49	5.6k
18	160	50	6.3k
19	180	51	7.0k
20	200	52	8.0k
21	225	53	9.0k
22	250	54	10.0k
23	280	55	11.0k
24	315	56	12.0k
25	355	57	14.0k
26	400	58	16.0k
27	450	59	18.0k
28	500	60	THRU(20.0k)
29	560		
30	630		
31	700		
32	800		
33	900		
34	1.0k		
35	1.1k		
36	1.2k		
37	1.4k		
38	1.6k		
39	1.8k		

Table#4

Reverb time

Data	Value	Data	Value	Data	Value	Data	Value
0	0.3	32	3.5	64	18.0		
1	0.4	33	3.6	65	17.0		
2	0.5	34	3.7	66	19.0		
3	0.6	35	3.8	67	20.0		
4	0.7	36	3.9	68	25.0		
5	0.8	37	4.0	69	30.0		
6	0.9	38	4.1				
7	1.0	39	4.2				
8	1.1	40	4.3				
9	1.2	41	4.4				
10	1.3	42	4.5				
11	1.4	43	4.6				
12	1.5	44	4.7				
13	1.6	45	4.8				
14	1.7	46	4.9				
15	1.8	47	5.0				
16	1.9	48	5.5				
17	2.0	49	6.0				
18	2.1	50	6.5				
19	2.2	51	7.0				
20	2.3	52	7.5				
21	2.4	53	8.0				
22	2.5	54	8.5				
23	2.6	55	9.0				
24	2.7	56	9.5				
25	2.8	57	10.0				
26	2.9	58	11.0				
27	3.0	59	12.0				
28	3.1	60	13.0				
29	3.2	61	14.0				
30	3.3	62	15.0				
31	3.4	63	16.0				

Table#5
Delay Time(200.0ms)

Data	Value	Data	Value	Data	Value	Data	Value
0	0.1	32	50.5	64	100.8	96	151.2
1	1.7	33	52.0	65	102.4	97	152.8
2	3.2	34	53.6	66	104.0	98	154.4
3	4.8	35	55.2	67	105.6	99	155.9
4	6.4	36	56.8	68	107.1	100	157.5
5	8.0	37	58.3	69	108.7	101	159.1
6	9.5	38	59.9	70	110.3	102	160.6
7	11.1	39	61.5	71	111.9	103	162.2
8	12.7	40	63.1	72	113.4	104	163.8
9	14.3	41	64.6	73	115.0	105	165.4
10	15.8	42	66.2	74	116.6	106	166.9
11	17.4	43	67.8	75	118.2	107	168.5
12	19.0	44	69.4	76	119.7	108	170.1
13	20.6	45	70.9	77	121.3	109	171.7
14	22.1	46	72.5	78	122.9	110	173.2
15	23.7	47	74.1	79	124.4	111	174.8
16	25.3	48	75.7	80	126.0	112	176.4
17	26.9	49	77.2	81	127.6	113	178.0
18	28.4	50	78.8	82	129.2	114	179.5
19	30.0	51	80.4	83	130.7	115	181.1
20	31.6	52	81.9	84	132.3	116	182.7
21	33.2	53	83.5	85	133.9	117	184.3
22	34.7	54	85.1	86	135.5	118	185.9
23	36.3	55	86.7	87	137.0	119	187.4
24	37.9	56	88.2	88	138.6	120	189.0
25	39.5	57	89.8	89	140.2	121	190.6
26	41.0	58	91.4	90	141.8	122	192.1
27	42.6	59	93.0	91	143.3	123	193.7
28	44.2	60	94.5	92	144.9	124	195.3
29	45.7	61	96.1	93	146.5	125	196.9
30	47.3	62	97.7	94	148.1	126	198.4
31	48.9	63	99.3	95	149.6	127	200.0

Table#6
Room Size

Data	Value	Data	Value
0	0.1	32	5.1
1	0.3	33	5.3
2	0.4	34	5.4
3	0.6	35	5.6
4	0.7	36	5.7
5	0.9	37	5.9
6	1.0	38	6.1
7	1.2	39	6.2
8	1.4	40	6.4
9	1.5	41	6.5
10	1.7	42	6.7
11	1.8	43	6.8
12	2.0	44	7.0
13	2.1		
14	2.3		
15	2.5		
16	2.6		
17	2.8		
18	2.9		
19	3.1		
20	3.2		
21	3.4		
22	3.5		
23	3.7		
24	3.8		
25	4.0		
26	4.2		
27	4.3		
28	4.5		
29	4.6		
30	4.8		
31	5.0		

Table#7

Delay Time(400.0ms)

Data	Value	Data	Value	Data	Value	Data	Value
0	0.1	32	100.9	64	201.6	96	302.4
1	3.2	33	104.0	65	204.8	97	305.5
2	6.4	34	107.2	66	207.9	98	308.7
3	9.5	35	110.3	67	211.1	99	311.8
4	12.7	36	113.5	68	214.2	100	315.0
5	15.8	37	116.6	69	217.4	101	318.1
6	19.0	38	119.8	70	220.5	102	321.3
7	22.1	39	122.9	71	223.7	103	324.4
8	25.3	40	126.1	72	226.8	104	327.6
9	28.4	41	129.2	73	230.0	105	330.7
10	31.6	42	132.4	74	233.1	106	333.9
11	34.7	43	135.5	75	236.3	107	337.0
12	37.9	44	138.6	76	239.4	108	340.2
13	41.0	45	141.8	77	242.6	109	343.4
14	44.2	46	144.9	78	245.8	110	346.5
15	47.3	47	148.1	79	248.9	111	349.7
16	50.6	48	151.2	80	252.0	112	352.9
17	53.6	49	154.4	81	255.2	113	355.9
18	56.9	50	157.5	82	258.3	114	359.0
19	59.9	51	160.7	83	261.5	115	362.1
20	63.1	52	163.8	84	264.6	116	365.2
21	66.2	53	167.0	85	267.7	117	368.3
22	69.4	54	170.1	86	270.9	118	371.4
23	72.5	55	173.3	87	274.0	119	374.5
24	75.7	56	176.4	88	277.2	120	378.0
25	78.8	57	179.6	89	280.3	121	381.1
26	82.0	58	182.7	90	283.5	122	384.4
27	85.1	59	185.9	91	286.6	123	387.7
28	88.3	60	189.0	92	289.8	124	390.9
29	91.4	61	192.2	93	292.9	125	393.9
30	94.6	62	195.3	94	296.1	126	396.9
31	97.7	63	198.5	95	299.2	127	400.0

MIDI IMPLEMENTATION CHART

[Portable Keyboard]

Model: PSR-730

MIDI Implementation Chart

Date: 14-APR-1997

Version: 1.0

Function	Transmitted	Recognized	Remarks
Basic Default Channel Changed	1~16 *1 1~16 *1	1~16 *2 1~16 *2	
Mode Default Messages Altered	3 X *****	3 X X	
Note Number : True voice	0~127 *****	0~127 0~127	
Velocity Note ON Note OFF	O 9nH, v=1~127 X 9nH, v=0	O 9nH, v=1~127 X	
After key's Touch Ch's	X X	X O	
Pitch Bender	O	O	
Control Change 0, 32 1 5 7, 10, 11 6, 38 64~67 71, 74 72, 73 84 91, 93, 94 96~97 98~99 100~101 120 121	O O X O O O O X *3 X *3 O X X *3 O X X	O O O O O O O O O O O O O O O	Bank Select Modulation Portamento Time Data Entry Sound Controller Sound Controller Portamento Controllers Effect Depth RPN Inc, Dec NRPN LSB, MSB RPN LSB, MSB All Sound Off Reset All Controllers
Program Change : True #	O 0~127 *****	O 0~127	
System Exclusive	O	O	
System : Song Position : Song Select Common : Tune	X X X	X X X	
System : Clock Real Time : Commands	O O	O O	
Aux : Local ON/OFF : All Notes OFF Messages : Active Sense : Reset	X X O X	X O (123~127) O X	

Mode 1 : OMNI ON, POLY
Mode 3 : OMNI OFF, POLY

Mode 2 : OMNI ON, MONO
Mode 4 : OMNI OFF, MONO

O : Yes
X : No

PSR-730

*1 The tracks for each channel can be selected on the panel.

*2 Incoming MIDI messages control the PSR-730 as 16 channel multi timbral tone generator when initially shipped (factory set). The MIDI messages don't affect the panel controls including the Panel Voice selection since they are directly sent to the tone generator of the PSR-730. However, the following MIDI messages affects the panel controls such as Panel Voice, Style, Multi Pad and Song settings:

- MIDI MASTER TUNE, MASTER TUNE (XG System Parameter).
- TRANSPOSE (XG System Parameter).
- System Exclusive Messages related to the REVERB, CHORUS, DSP EFFECT and MULTI EFFECT settings.
- XG MULTI EQ PARAMETER

Also, the MIDI messages affect the panel settings when one of the following MIDI reception modes is selected. These modes can be selected on the panel.

Remote : The Note On/Off messages received at the designated Remote (receive) channel are processed the same as the notes normally played on the keyboard.

In this mode, only the following channel messages will be recognized:

- Note On/Off
- Control Changes
 - Bank Select (R1 voice only)
 - Modulation
 - Volume
 - Expression
 - Sustain
 - Sostenute
 - Soft Pedal
 - All Notes Off
- Program Change (R1 voice only)
- Pitch Bend

Off : The MIDI channel messages will not be received at the designated channel.

Bass : The note on/off messages received at the channel(s) set to "Bass" are recognized as the bass notes in the accompaniment section. The bass notes will be detected regardless of the accompaniment on/off and split point settings on the PSR-730 panel.

Chord : The note on/off messages received at the channel(s) set to "Chord" are recognized as the fingerings in the accompaniment section. The chords to be detected depend on the fingering mode on the PSR-730. The chords will be detected regardless of the accompaniment on/off and split point settings on the PSR-730 panel.

*3 Though these messages will not output by playing the keyboard and changing the panel settings, they may be included in the Song or Style data and output.

*1 R1, R2, L, ハーモニー、スタイル、ソングの各トラックはパネル設定により送信できます。

*2 初期設定(工場出荷時)でMIDI入力は16チャンネルのマルチティンバー音源として機能し、パネル音色、あるいは他のパネル設定に影響しません。

ただし、以下のMIDIメッセージはパネル音色、スタイル、マルチパッドおよびソングセッティングに影響します。

- MIDI マスターチューン、XG システムマスターチューン
- XG システムトランスポーズ
- リバーブ、コーラス、DSPエフェクトおよびMULTI EFFECT設定を変更するシステムエクスクルージブメッセージ
- XG MULTI EQ PARAMETER

また、以下のMIDI受信モード設定においても鍵盤演奏、パネル設定に影響します。これらのモードはパネル操作によって選択することができます。

Remote(リモート) : Remoteに設定されたチャンネルで受信したノートオン/オフメッセージは、鍵盤演奏と同じ方法で扱われます。

以下のチャンネルメッセージだけがこのモードにおいて認識されます：

- ノートオン/オフ
- コントロールチェンジ
 - バンクセレクト(R1のみ)
 - モジュレーション
 - ボリューム
 - エクスプレッション
 - サステイン
 - ソステヌート
 - ソフトペダル
 - オールノートオフ
- プログラムチェンジ(R1のみ)
- ピッチベンド

Bass(ベース) : Bassに設定されたチャンネルで受信したノートオン/オフメッセージは、アカンパニメント鍵域のベース音として認識されます。ベース音はPSR-730パネル上のアカンパニメントオン/オフ、フィンガリングモード、アカンパニメントのスプリットポイントに関係なく検出されます。

Chord(コード) : Chordに設定されたチャンネルで受信したノートオン/オフメッセージは、アカンパニメント鍵域での押鍵として認識されます。検出されるコードはPSR-730のフィンガリングモードに依存します。コードはPSR-730パネル上のアカンパニメントオン/オフ、アカンパニメントのスプリットポイントに関係なく検出されます。

Off(オフ) : Offに設定されたチャンネルにおいてチャンネルメッセージは一切受信しません。

*3 これらのメッセージは鍵盤、パネル操作では出力されませんが、ソング、スタイルデータとして出力される場合があります。

PORTATONE

PSR-730

PARTS LIST

■ CONTENTS (目次)

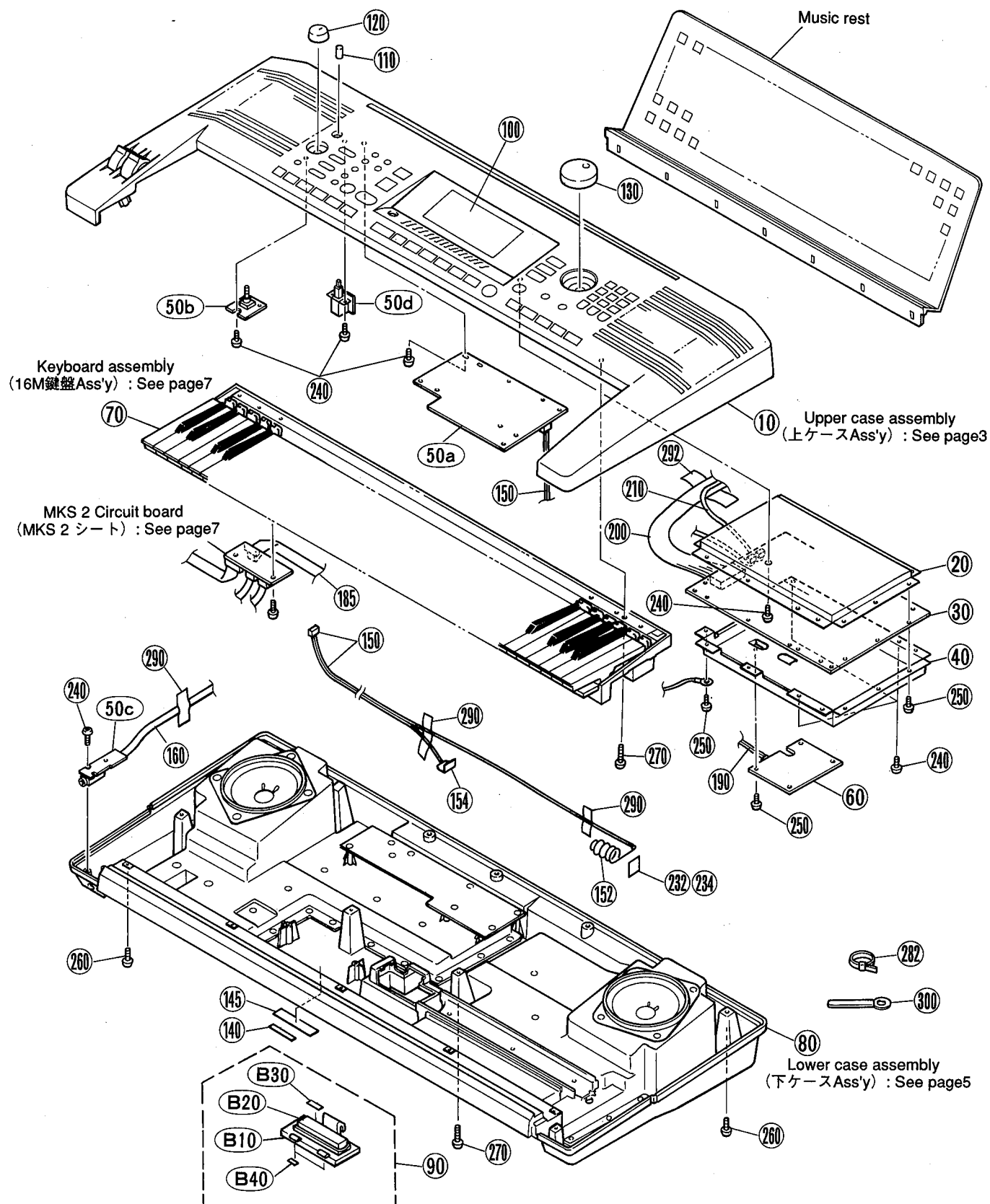
OVERALL ASSEMBLY (総組立)	1
UPPER CASE ASSEMBLY (上ケースAss'y)	3
LOWER CASE ASSEMBLY (下ケースAss'y)	5
KEYBOARD ASSEMBLY (鍵盤Ass'y)	7
ELECTRICAL PARTS (電気部品)	8~12

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.
- 部品価格ランクは、変更になることがあります。
- QTY 欄に記されている数字は、各ユニットあたりの使用個数です。
- PART NO.が "--" の部品は、サービス用部品として準備されていません。

OVERALL ASSEMBLY (総組立)

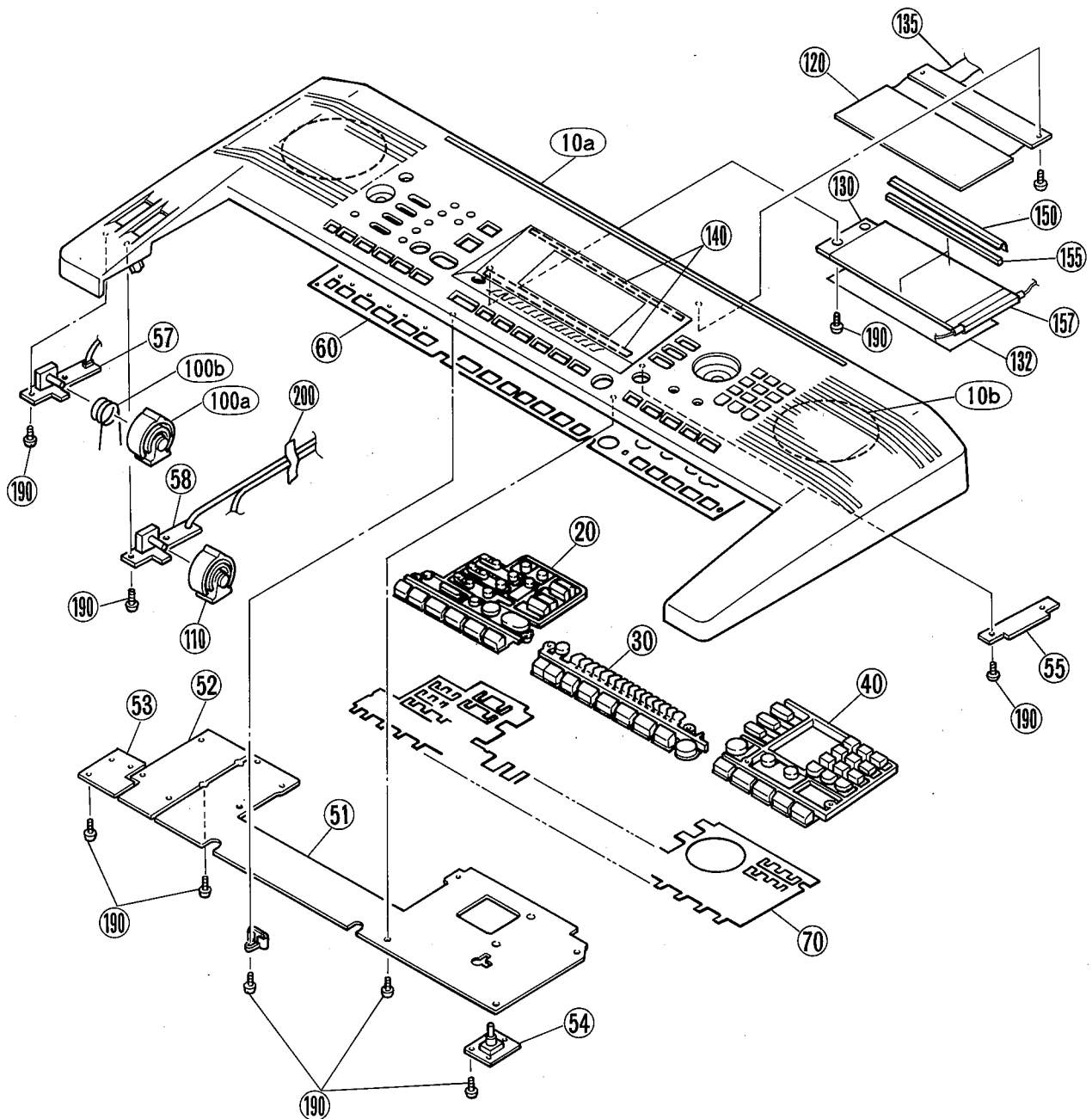


REF NO.	PART NO.	DESCRIPTION	部 品 名	REMARKS	QTY	ランク
		OVERALL ASSEMBLY	総 組 立	PSR730		
10	--	Upper Case Assembly	上 ケース A s s ' y	(VY79020)		
* 20	VY790400	Shield Cover U	シールドカバーU			
* 30	VV888000	Circuit Board	D M シー			
* 40	VZ679900	Shield Cover L	シールドカバーL			
* 50	VZ402000	Circuit Board	A M シー			
* 50a	--	Circuit Board	A M シー	(NX00794)		
* 50b	--	Circuit Board	V R シー	(NX00788)		
* 50c	--	Circuit Board	H P シー	(NX00789)		
* 50d	--	Circuit Board	S W シー	(NX00790)		
* 60	VY843000	Circuit Board	I N V シー			
70	VU621100	Keyboard Assembly	1 6 M 鍵盤 A s s ' y	(VY79080)	24	
80	--	Lower Case Assembly	下 ケース A s s ' y			
90	VJ601000	Battery Cover Assembly	バッテリーカバー A s s ' y		06	
* 100	VY790900	LCD Seal	L C D シール			
110	VQ218800	Push Knob	プッシュツマミ	STAND BY/ON	03	
120	VU432400	Knob	V ツマミ	MASTER VOLUME	01	
130	VL921100	Knob	エンコーダーツマミ	Dial	03	
140	--	Label	規格, 製番ラベル	(VZ53460)		
145	--	Label	承認ラベル A	(VZ14640)		
150	--	Connector Assembly	電池 束 線	(VY83590)		
152	VN218200	Spring Terminal	接 点 バ		03	
154	BB005490	Terminal	端 子 板		01	
160	--	Connector Assembly	H P 束 線	(VY83260)		
185	--	Connector Assembly	M K 束 線 A s s ' y	(VZ55770)		
190	--	Connector Assembly	I N V 束 線	(VY83310)		
* 200	VY835700	Connector Assembly	F D D 束 線			
* 210	VY835800	Connector Assembly	F D D 電 源 束 線			
232	--	Vibration-proof Tape	防 振 テー	(VJ86150)	03	
* 234	--	Vibration-proof Tape	25X17X0.5 防 振 テー	(VR12940)		
240	EP600280	Bind Head Tapping Screw-P	3.0X8 MFZN2Y	+ バインド P タイ	17	01
250	EP600130	Bind Head Tapping Screw-B	3.0X6 MFZN2Y	+ バインド B タイ	18	01
260	EP600300	Bind Head Tapping Screw-P	3.0X12 MFZN2Y	+ バインド P タイ	16	01
270	VK228100	Bind Head Tapping Screw-P	3.0X25 MFZN2Y	+ バインド P タイ	4	01
282	--	Cord Holder	BK-1	インシュロックタイ		01
290	--	Adhesive Tape	12X50	粘 着 テー	7	03
292	--	Adhesive Tape	19X70	粘 着 テー	2	01
300	--	Cord Binder	S-14B	束 線 止 め		03
		ACCESSORIES	付 属 品			
	VQ284000	Music Rest	BL	譜 面 立 て		08
* 2	VZ089200	AC Adapter	PA-6 J	A C ア ダ プ ター		
* 3	VZ089300	AC Adapter	PA-6 CE	A C ア ダ プ ター	J	
* 4	VY789500	Japanese Guide Sheet		和 文 シー	J	
* 5	VY789600	Chinese Guide Sheet		中 文 シー	O	
* 6	VZ336000	Floppy Disk		同 梱 F D		
	VJ601000	Battery Cover Assembly	BL	バッテリーカバー A s s ' y		06
B10	CB047850	Battery Cover	BL	バ ッ テ リー カ バ ー		
B20	CB047750	Battery Cushion	GY	バ ッ テ リー ク シ ョ ン		
B30	--	Vibration-proof Pad	BL #7100 BL	防 振 バ ッ	(CA01485)	
B40	--	Vibration-proof Tape		防 振 テー	(VJ56490)	

* New Parts (新規部品)

ランク : Japan only

■ UPPER CASE ASSEMBLY (上ケースAss'y)

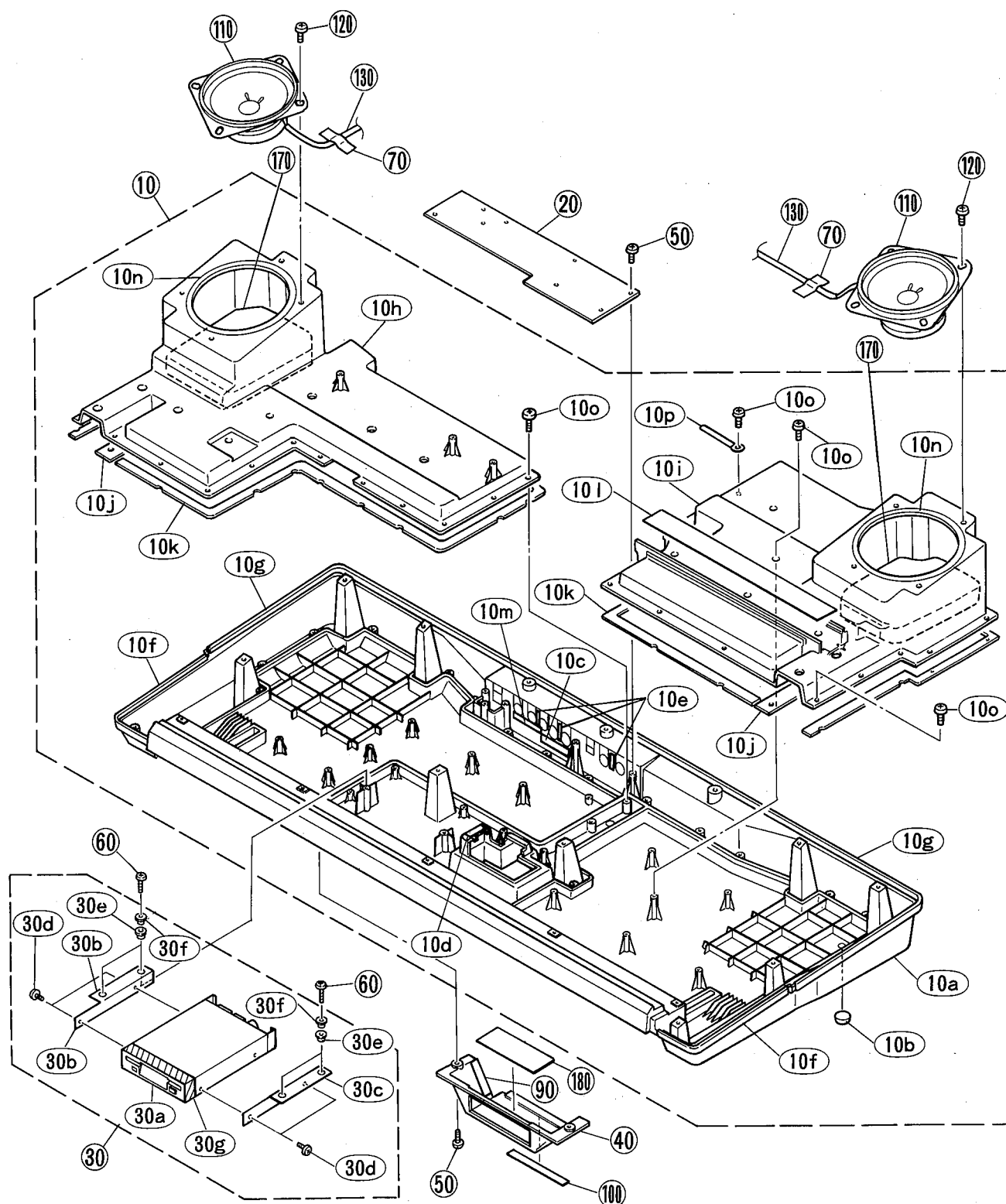


REF NO.	PART NO.	DESCRIPTION		部 品 名	REMARKS	QTY	ランク
* 10	VY791900	UPPER CASE ASSEMBLY		上 ケ ー ス A s s ' y	PSR730 (VY79020)		
10a	--	Upper Case Sub Assembly		上 ケ ー ス サ ブ A s s ' y			
10b	--	Upper Case		上 ケ ー ス	(VY79360)		
* 20	VY792100	Speaker Cloth		ス ピ ー カ ク ロ ス	(VY76740)	2	
* 30	VY792300	Panel Switch L		パ ネ ル ス イ ッ チ L			
* 40	VY792500	Panel Switch C		パ ネ ル ス イ ッ チ C			
* 51	NX007800	Panel Switch R		パ ネ ル ス イ ッ チ R			
* 52	NX007810	Circuit Board	PN1 (PN1/8)	P N 1 シ ー ト			
* 53	NX007820	Circuit Board	PN2 (PN2/8)	P N 2 シ ー ト			
* 54	NX007830	Circuit Board	PN3 (PN3/8)	P N 3 シ ー ト			
* 55	NX007840	Circuit Board	ENC (PN4/8)	E N C シ ー ト			
* 57	NX007850	Circuit Board	BL (PN5/8)	B L シ ー ト			
* 58	NX007860	Circuit Board	PB (PN7/8)	P B シ ー ト			
60	--	Circuit Board	MOD (PN8/8)	M O D シ ー ト			
70	--	Vibration-proof Sheet U		防 振 シ ー ト U	(VY79270)		
* 100	VY793100	Vibration-proof Sheet L		防 振 シ ー ト L	(VZ30020)		
* 100a	VY750800	Wheel Assembly		ホ イ ー ル A s s ' y	PITCH BEND		
100b	VT440100	Wheel		ホ イ ー ル			
* 110	VY750800	Spring		ホ イ ー ル バ ネ	MODULATION		
* 120	VY761800	Wheel		ホ イ ー ル			
* 130	VY845400	LCD	DM153A-**	液 晶 デ ィ ス プ レ イ			
* 132	VZ420500	Back-lit Assembly		バ ッ ク ラ イ ト A s s ' y			
135	--	Diffusion Sheet		拡 散 シ ー ト			
140	--	Connector Assembly	LCD	L C D 束 線	(VY83270)		
150	--	Vibration-proof Tape		防 振 テ ー プ	(VY84550)	2	
* 155	VZ300400	Vibration-proof Tape		防 振 テ ー プ	(VY84560)	2	
* 157	VZ300300	LCD Support		L C D サ ポ ー タ		2	
190	EP600280	Holder, CFL		C F L ホ ル ダ		2	
200	--	Bind Head Tapping Screw-P	3.0X8 MFZN2Y	+ バ イ ン ド P タ イ ト		35	01
	--	Adhesive Tape	12X50	粘 着 テ ー プ	(VA12610)	2	03

* New Parts (新規部品)

ランク : Japan only

■ LOWER CASE ASSEMBLY (下ケースAss'y)

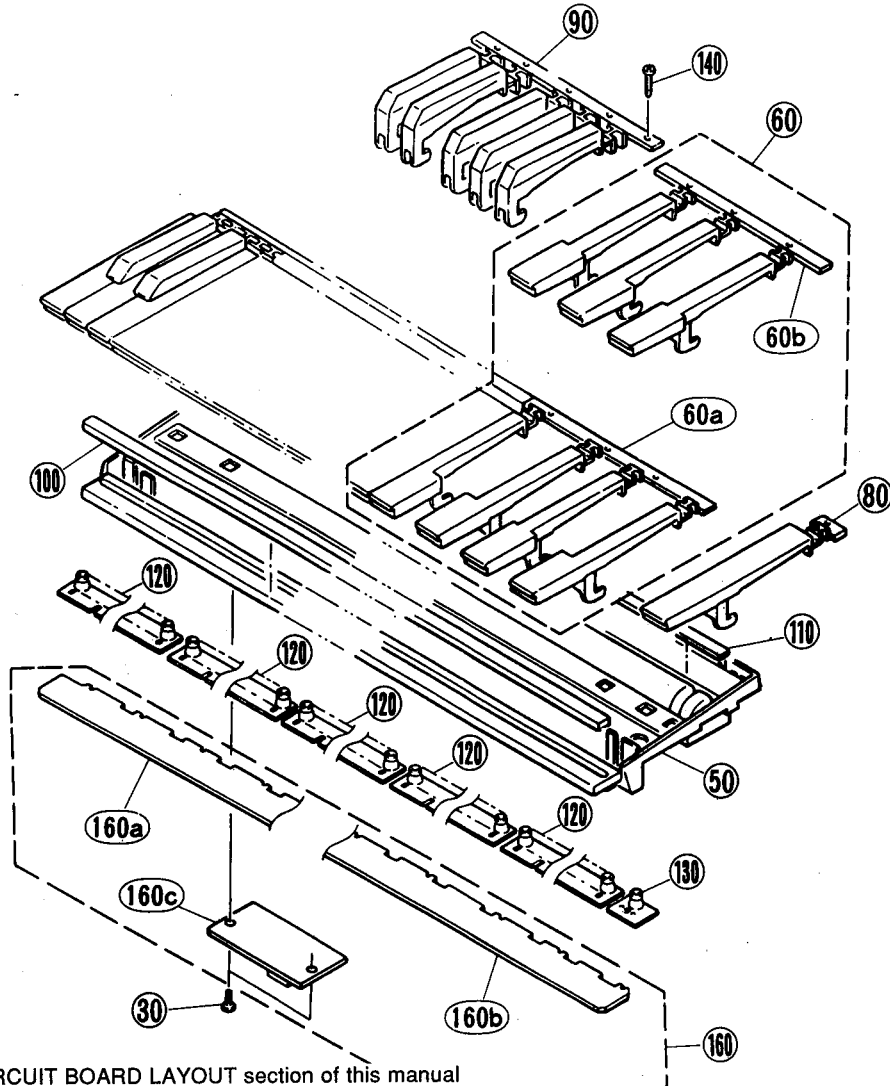


REF NO.	PART NO.	DESCRIPTION	部 品 名	REMARKS	QTY	ランク
* 10	VY793300	LOWER CASE ASSEMBLY	下 ケ ー ス A s s ' y	PSR730 (VY79080)		
10a	---	Lower Case Sub Assembly	下 ケ ー ス サ ブ A s s ' y			
10b	CB043750	Foot	下 ケ ー ス 脚	(VY79380)	5	01
10c	---	Vibration-proof Tape	防 振 テ ー プ	(VT91560)		
10d	---	Seal Tape E	シ ー ル テ ー プ E	(VU03320)		
10e	---	Felt	フ ェ ル ト	(VU06090)	3	
10f	---	Vibration-proof Tape	防 振 テ ー プ	(VZ27430)	2	
10g	---	Vibration-proof Tape	防 振 テ ー プ	(VZ27440)	2	
10h	---	Speaker Box L	S P ボ ッ ク ス L 成 形 品	(VZ07230)		
10i	---	Speaker Box R	S P ボ ッ ク ス R 成 形 品	(VZ07240)		
10j	---	Seal Tape 1	シ ー ル テ ー プ 1	(VZ08600)	2	
10k	---	Seal Tape 2	シ ー ル テ ー プ 2	(VZ08610)	2	
10l	---	Vibration-proof Tape	防 振 テ ー プ	(VZ27460)		
10m	---	Vibration-proof Tape	防 振 テ ー プ	(VZ49040)		
10n	---	Seal Tape SP	シ ー ル テ ー プ S P	(VZ08650)	2	
10o	EP640500	Bind Head Tapping Screw-P	+ バ イ ン ド P タ イ ト		53	01
10p	CB817510	Cord Binder	S-14B 束 止 め			03
20	VY842800	Circuit Board	J A C K シ ー ト			
30	---	Floppy Disk Drive Assembly	F D D A s s ' y	(VY79340)		
* 30a	VY859300	Floppy Disk Drive	3 . 5 " F D D			03
30b	VT431000	Holder, FDD	F D D 金 具 L			03
30c	VT431100	Holder, FDD	F D D 金 具 R			
30d	EG330360	Bind Head Screw	+ バ イ ン ド 小 ネ ジ		4	01
30e	VA121600	Bushing	ゴ ム ブ ッ シ ュ		4	01
30f	VK431100	Spacer, FDD	F D D ス ペ ー サ ー		4	01
30g	---	Adhesive Tape	綿 粘 着 テ ー プ	(ZL35000)		
40	VT366600	Cover, FDD	F D D カ バ ー			05
50	EP600280	Bind Head Tapping Screw-P	+ バ イ ン ド P タ イ ト		10	01
60	VM839600	Bind Head Tapping Screw-P	+ バ イ ン ド P タ イ ト		4	01
70	---	Adhesive Tape	粘 着 テ ー プ	(VA12610)	5	03
90	---	Vibration-proof Tape	防 振 テ ー プ	(VT85830)	2	
100	---	Vibration-proof Tape	防 振 テ ー プ	(VT85820)		
* 110	XT523A00	Speaker	ス ピ ー カ ー		2	
120	EP640500	Bind Head Tapping Screw-P	+ バ イ ン ド P タ イ ト		8	01
130	---	Connector Assembly	S P 束 線	(VY83290)		
* 170	VZ401000	Cushion	吸 音 材		2	
* 180	VZ530500	Vibration-proof Tape	防 振 材			

* New Parts (新規部品)

ランク : Japan only

■ KEYBOARD ASSEMBLY (16M 鍵盤Ass'y)



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

※ 160d, 160e, 160f, 160gのケーブルについては、このマニュアルのユニットレイアウトの項を参照して下さい。

REF NO.	PART NO.	DESCRIPTION	部 品 名	REMARKS	QTY	ランク
	VU621100	KEYBOARD ASSEMBLY	鍵盤 A s s ' y	PSR730		
30	EP630220	Keyboard Assembly	1 6 M 鍵盤 A s s ' y		24	01
50	—	Bind Head Tapping Screw-P	+ バインド P タイ	(VU32860)	2	03
60	VH1809C0	Frame	フ レ ー ム		5	03
60a	—	White Keys	白 鍵 C E G B D F A	(VH18090)	5	03
60b	—	White Key	白 鍵 C E G B	(VH18100)	5	03
80	VH181100	White Key	白 鍵 D F A		5	01
90	VH181200	White Key	白 鍵 C		5	03
100	VH181300	Black Key	白 黒		5	03
110	VH181400	Felt	フ ェ ル ト		5	01
120	VU328400	Rubber Sheet	ゴ ム シ ー ト		5	06
130	VU328500	Rubber Contact	接 点 ゴ ム		21	05
140	VB205200	Rubber Contact	接 点 ゴ ム		21	01
140	VS756700	Bind Head Tapping Screw-P	+ バインド P タイ		21	01
140	VS756700	Bind Head Tapping Screw-P	+ バインド P タイ		21	01
160	—	Circuit Board	鍵盤 S W シ ー ト	(VU62120)		
160a	VU648100	Circuit Board	M K - L シ ー ト		09	09
160b	VU648200	Circuit Board	M K - H シ ー ト		09	09
160c	VU494600	Circuit Board	M K S 2 シ ー ト		10	03
160d	VU958900	Cable	ケ ー ブ ル		02	02
160e	VU659500	Cable	ケ ー ブ ル		02	02
160f	VU659400	Cable	ケ ー ブ ル		02	02
160g	VU659600	Cable	ケ ー ブ ル		02	02

* New Parts (新規部品)

ランク : Japan only

ELECTRICAL PARTS (電気部品)

REF NO.	PART NO.	DESCRIPTION	部 品 名	REMARKS	QTY	ランク
		ELECTRICAL PARTS	電 気 部 品	PSR730		
*	VV854500	Circuit Board	AM	(XS972B0)		
*	VV888000	Circuit Board	DM	(XS991B0)		
*	VY843000	Circuit Board	INV	(XT122A0)		
*	VY842800	Circuit Board	JACK	(XS969B0)		
	VU648100	Circuit Board	MK-L	(XR564B0)	09	
	VU648200	Circuit Board	MK-H	(XR565B0)	09	
	VU494600	Circuit Board	MKS2 16M	(XR736C0) (XS829A0)	10	
*	NX007800	Circuit Board	PN1 (PN1/8)	(XT155C0)		
*	NX007810	Circuit Board	PN2 (PN2/8)	(XT155C0)		
*	NX007820	Circuit Board	PN3 (PN3/8)	(XT155C0)		
*	NX007830	Circuit Board	ENC (PN4/8)	(XT155C0)		
*	NX007840	Circuit Board	BL (PN5/8)	(XT155C0)		
*	NX007850	Circuit Board	PB (PN7/8)	(XT155C0)		
*	NX007860	Circuit Board	MOD (PN8/8)	(XT155C0)		
*	VV854500	Circuit Board	AM	(XS972B0)		
*	---	Circuit Board	AM (AM1/4)	(XS972B0)		
*	---	Circuit Board	VR (AM2/4)	(XS972B0)		
*	---	Circuit Board	HP (AM3/4)	(XS972B0)		
*	---	Circuit Board	SW (AM4/4)	(XS972B0)		
	EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL	+ バインド B タイ	01	
	UA654100	Mylar Capacitor	0.0100 50V J	マ イ ラ - コ ン	01	
	UA654180	Mylar Capacitor	0.0180 50V J	マ イ ラ - コ ン	01	
	UA654470	Mylar Capacitor	0.0470 50V J	マ イ ラ - コ ン	01	
	UA654560	Mylar Capacitor	0.0560 50V J	マ イ ラ - コ ン		
	UA654680	Mylar Capacitor	0.0680 50V J	マ イ ラ - コ ン	01	
	VR168300	Monolithic Mylar Capacitor	ECQ-V1H104JL3	積 層 マ イ ラ - コ ン	01	
	VR168400	Monolithic Mylar Capacitor	ECQ-V1H124JL3	積 層 マ イ ラ - コ ン	01	
	VR168900	Monolithic Mylar Capacitor	ECQ-V1H274JL3	積 層 マ イ ラ - コ ン	01	
	VR169300	Monolithic Mylar Capacitor	ECQ-V1H564JL3	積 層 マ イ ラ - コ ン	01	
	VR169400	Monolithic Mylar Capacitor	ECQ-V1H684JL3	積 層 マ イ ラ - コ ン		
	VU838100	Monolithic Mylar Capacitor	ECQ-V1H105JL3	積 層 マ イ ラ - コ ン		
	FG612470	Ceramic Capacitor-B	470P 50V K	セ ラ コ ン B	01	
	FG613150	Ceramic Capacitor-B	1500P 50V K	セ ラ コ ン B	01	
	FG613560	Ceramic Capacitor-B	5600P 50V K	セ ラ コ ン (B)	01	
	FG651220	Ceramic Capacitor-SL	22P 50V J	セ ラ コ ン (S L)	01	
	FG652100	Ceramic Capacitor-SL	100P 50V J	セ ラ コ ン (S L)	01	
	VT757800	Monolithic Ceramic Cap.	1.000 25V Z	積 層 セ ラ コ ン	01	
	UJ827330	Electrolytic Cap.	33.00 10.0V	ケ ミ コ ン	01	
	UJ828100	Electrolytic Cap.	100.00 10.0V	ケ ミ コ ン	01	
	UJ837100	Electrolytic Cap.	10.00 16.0V	ケ ミ コ ン	01	
	UJ837470	Electrolytic Cap.	47.00 16.0V	ケ ミ コ ン	01	
	UJ838100	Electrolytic Cap.	100.00 16.0V	ケ ミ コ ン	01	
	UJ848100	Electrolytic Cap.	100.00 25.0V	ケ ミ コ ン	01	
	UJ865470	Electrolytic Cap.	0.47 50.0V	ケ ミ コ ン	01	
	UJ866100	Electrolytic Cap.	1.00 50.0V	ケ ミ コ ン	01	
	VT848900	Electrolytic Cap.	6800 25.0V	ケ ミ コ ン	03	
	UN837100	Electrolytic Cap.-BP	10.00 16.0V	B P ケ ミ コ ン	01	
	UN866330	Electrolytic Cap.-BP	3.30 50.0V	B P ケ ミ コ ン	01	
	VC694800	Semiconductive Cera. Cap.	0.1000 25V Z	半 導 体 セ ラ コ ン	01	
	VB835000	Coil	FL5R200QNT	コ イ ル 2 0 U	01	
	HF753220	Carbon Resistor	2.2 1/4 J	カ - ボ ン 抵 抗	01	
	HF755100	Carbon Resistor	100.0 1/4 J	カ - ボ ン 抵 抗	01	
	HF755150	Carbon Resistor	150.0 1/4 J	カ - ボ ン 抵 抗	01	
	HF755330	Carbon Resistor	330.0 1/4 J	カ - ボ ン 抵 抗	01	
	HF755560	Carbon Resistor	560.0 1/4 J	カ - ボ ン 抵 抗	01	
	HF755680	Carbon Resistor	680.0 1/4 J	カ - ボ ン 抵 抗	01	
	HF756100	Carbon Resistor	1.0K 1/4 J	カ - ボ ン 抵 抗	01	
	HF756220	Carbon Resistor	2.2K 1/4 J	カ - ボ ン 抵 抗	01	
	HF756270	Carbon Resistor	2.7K 1/4 J	カ - ボ ン 抵 抗	01	
	HF756330	Carbon Resistor	3.3K 1/4 J	カ - ボ ン 抵 抗	01	
	HF756470	Carbon Resistor	4.7K 1/4 J	カ - ボ ン 抵 抗	01	
	HF757100	Carbon Resistor	10.0K 1/4 J	カ - ボ ン 抵 抗	01	
	HF757120	Carbon Resistor	12.0K 1/4 J	カ - ボ ン 抵 抗	01	
	HF757180	Carbon Resistor	18.0K 1/4 J	カ - ボ ン 抵 抗	01	
	HF757220	Carbon Resistor	22.0K 1/4 J	カ - ボ ン 抵 抗	01	
	HF757270	Carbon Resistor	27.0K 1/4 J	カ - ボ ン 抵 抗	01	
	HF757470	Carbon Resistor	47.0K 1/4 J	カ - ボ ン 抵 抗	01	
	HF758100	Carbon Resistor	100.0K 1/4 J	カ - ボ ン 抵 抗	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
*	HF758470	Carbon Resistor	470.0K 1/4 J	カーボン抵抗		01
	XB247A00	IC	UPC4570HA	IC		01
	XQ619A00	IC	LA4705NA	C	OP AMP	05
	XT676A00	IC	AN77L09-TA	C	POWER AMP 17W	
	XF751A00	IC	M5227P	C	REGULATOR +9V	04
	LB918020	Base Post Connector	XH 2P TE	ベースツキポスト		01
	LB918040	Base Post Connector	XH 4P TE	ベースツキポスト		01
	VF728200	Connector	52147 10P TE	コネクタ		01
	VI87820C	able Holder	51048 4P TE	ケーブルホルダー		01
	VI87830C	able Holder	51048 5P TE	ケーブルホルダー		01
D701	VI87880C	able Holder	51048 10P TE	ケーブルホルダー		01
	VK024900	Wire Trap	52147 5P TE	ワイヤートラップ		01
	VK025300	Wire Trap	52147 9P TE	ワイヤートラップ		01
	VL723600	Diode	20E1-FC4	ダイオード		01
	VY717100	Diode	LT2A02-E	ダイオード		01
*	VV856400	Heat Sink		放熱板		
	--	Jumper Wire	0.55	ジャンパー線	(VA07890)	
	--	Connector Assembly	AM-PSW	A M - P S W 束線	(VY83190)	
	--	Connector Assembly	DM-PSW	D M - P S W 束線	(VY83200)	
	--	Connector Assembly	AM-VOL	A M - V O L 束線	(VY83210)	
JK701	LB101870	Connector Assembly	DM-VOL	D M - V O L 束線	(VY83220)	
	VV943300	Phone Jack	YKB21-5006	ホンコネクタ	PHONES	03
	VY980400	Phone Jack	HTJ064-04A	ホンコネクタ	PHONES	
	SW301	Push Switch	SDDL B1 J,UC,CEE	ブッシュ S W	STAND BY/ON	03
	VR301	Rotary Variable Resistor	A10.0K XV0141GPNV2	ニ連ロータリー V R	MASTER VOLUME	
*	VV888000	Circuit Board	DM	D M シート	(XS991B0)	
	EP600190	Bind Head Tapping Screw-B	3.0X8 MFZN2BL	+ バインド B タイト		01
	UB012470	Monolithic Ceramic Cap.	B 470P 50V K	チップ積層セラコン		01
	UB051100	Monolithic Ceramic Cap.	SL 10P 50V D	チップ積層セラコン		01
	UB051270	Monolithic Ceramic Cap.	SL 27P 50V J	チップ積層セラコン		01
	UB052100	Monolithic Ceramic Cap.	SL 100P 50V J	チップ積層セラコン		01
	UB044100	Monolithic Ceramic Cap.	F 0.010 50V Z	チップ積層セラコン		01
	UB044470	Monolithic Ceramic Cap.	F 0.047 50V Z	チップ積層セラコン		01
	UJ818100	Electrolytic Cap.	100.00 6.3V	ケミコン		01
	UJ827470	Electrolytic Cap.	47.00 10.0V	ケミコン		01
UJ866100	UJ866100	Electrolytic Cap.	1.00 50.0V	ケミコン		01
	UJ867100	Electrolytic Cap.	10.00 50.0V	ケミコン		01
	VR641000	Electrolytic Cap.	1000.0 25.0	ケミコン		02
	UJ819100	Electrolytic Cap.	1000 6.3V	ケミコン		01
	VN381200	Coil	SNT-D20TF	コイル S N	10 uH	03
*	VQ724900	Chip Inductance	BK2125HM601-T	チップインダクタ		01
	VZ060700	Choke Coil	220U ELC15E221 15E	チョークコイル		01
	RD250000	Carbon Resistor (chip)	0.0 0.0 J	チップ抵抗		01
	RD254220	Carbon Resistor (chip)	22.0 0.1 J	チップ抵抗		01
	RD255100	Carbon Resistor (chip)	100.0 0.1 J	チップ抵抗		01
	RD255180	Carbon Resistor (chip)	180.0 0.1 J	チップ抵抗		01
	RD255220	Carbon Resistor (chip)	220.0 0.1 J	チップ抵抗		01
	RD255330	Carbon Resistor (chip)	330.0 0.1 J	チップ抵抗		01
	RD255680	Carbon Resistor (chip)	680.0 0.1 J	チップ抵抗		01
	RD256100	Carbon Resistor (chip)	1.0K 0.1 J	チップ抵抗		01
	RD256330	Carbon Resistor (chip)	3.3K 0.1 J	チップ抵抗		01
	RD257100	Carbon Resistor (chip)	10.0K 0.1 J	チップ抵抗		01
	RD257220	Carbon Resistor (chip)	22.0K 0.1 J	チップ抵抗		01
	RD257390	Carbon Resistor (chip)	39.0K 0.1 J	チップ抵抗		01
	RD257470	Carbon Resistor (chip)	47.0K 0.1 J	チップ抵抗		01
*	RD258100	Carbon Resistor (chip)	100.0K 0.1 J	チップ抵抗		01
	RD258470	Carbon Resistor (chip)	470.0K 0.1 J	チップ抵抗		01
	RD259100	Carbon Resistor (chip)	1.0M 0.1 J	チップ抵抗		01
	RE044000	Resistor Array	0X4	チップ抵抗アレイ		01
	XS516A00	IC	UPC2933T	IC	REGULATOR +3.3V	03
*	XT170A00	IC	S-81250SGUP-DQD-T1	IC	REGULATOR +5V	
	XP226A00	IC	IC-PST591DMT	IC	RESET	03
	XT514A00	IC	SI-8050S(LF1103)	IC	CONVERTER DC-DC	
	XD833A00	IC	SN74HC32NSR	IC	OR	01
	XD835A00	IC	SN74HC138NSR	IC	DECODER	02
	XQ042A00	IC	SN74HC374ANSR	IC	D-FF	03
	XI939A00	IC	HD63266F	IC	FDC	09
	XRT738A00	IC	TC203C760HF-001	IC	SWP30	20
	XS936A00	IC	HD6437043E00F	IC	CPU	11

* New Parts (新規部品)

ランク : Japan only

REF NO.	PART NO.	DESCRIPTION	部 品 名	REMARKS	QTY	ランク
	XS438A00	IC	M5M44260CTP-7	C DRAM 4M		16
	XS681A00	IC	M5M51008BFP-70LLT	C SRAM		11
*	XS984100	IC	WAVEL1	C ROM 16M		
*	XS985100	IC	WAVEL2	C ROM 8M		
*	XS986100	IC	WAVEH1	C ROM 16M		
*	XS987100	IC	WAVEH2	C ROM 8M		
*	XS988100	IC	MAIN-L	C ROM 4M		
*	XS989100	IC	MAIN-H	C ROM 4M		
*	XT776A00	IC	UPD424260G5-70	C DRAM 4M		
	XP867A00	IC	UPD63200GS-E1	C DA CONVERTER		07
	LB918020	Base Post Connector	XH 2P TE	ベースツキポスト		01
	LB918030	Base Post Connector	XH 3P TE	ベースツキポスト		01
	VF667600	Connector	52147 15P TE	コネクタ		01
	VF728300	Connector	52147 6P TE	コネクタ		01
	VK024800	Wire Trap	52147 4P 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
	VK025200	Wire Trap	52147 8P TE	ワイヤートラップ		01
	VK025700	Wire Trap	52147 13P TE	ワイヤートラップ		01
	VK025800	Wire Trap	52147 14P TE	ワイヤートラップ		01
	VQ391300	Connector	34P TE	コネクタ		03
	VT685200	Quartz Crystal Unit	33.8688M SMD-49	水晶振動子		04
	VV762900	Quartz Crystal Unit	7M SMD-49	水晶振動子		03
	VQ274900	Ceramic Resonator	16M CSACS16.00MX24	セラミック振動子		03
	VB493900	Diode	MA221	ダイオード		01
	VZ060500	Diode	SFPB-62V	ダイオード		
*	VY677600	Digital Transistor	DTC123JKA TP	デジタルトランジスタ		
*	VY677700	Digital Transistor	DTB123YK TP	デジタルトランジスタ		
	VY843000	Circuit Board	INV	INVERTER	(XT122A0)	
	VS147400	Ceramic Capacitor-SL	18P 3KV J	セラコン S L		01
	VP318400	Electrolytic Cap. (chip)	0.068 250 ECQE26	コンデンサ		01
*	VY843100	Inverter Transformer	YMH-16A(5V IN)	インバートランス		
	VS587900	Coil	LH L 08TB221K	コイル 220UH		01
	HF756560	Carbon Resistor	5.6K 1/4 J	カーボン抵抗		01
	LB919020	Base Post Connector	XH 2P SE	ベースツキポスト		01
	VT389600	Base Post Connector	53259 4P SE	ベースポスト		01
	VS185700	Transistor	2SC3669-O/Y(TPF2)	トランジスタ		01
	VS185600	Transistor	2SD1863 TV2 82-390	トランジスタ		01
*	VY842800	Circuit Board	JACK	J A C K シート	(XS969B0)	
	FG644100	Ceramic Capacitor-F	0.0100 50V Z	セラコン F		01
	UJ817470	Electrolytic Cap.	47.00 6.3V	ケミコン		01
	UJ837100	Electrolytic Cap.	10.00 16.0V	ケミコン		01
	VI486800	Line Filter	SU10VD-20020	ラインフィルタ		03
	VB835000	Coil	FL5R200QNT	コイル 20UH		01
	VF968800	Coil	SBT-0260TF	コイル S B 60UH		01
	GE300670	Ferrite Bead	BL02RN2-R62T4	フェライトビーズ		02
	HF755100	Carbon Resistor	100.0 1/4 J	カーボン抵抗		01
	HF755220	Carbon Resistor	220.0 1/4 J	カーボン抵抗		01
	HF756100	Carbon Resistor	1.0K 1/4 J	カーボン抵抗		01
	HF756150	Carbon Resistor	1.5K 1/4 J	カーボン抵抗		01
	HF756470	Carbon Resistor	4.7K 1/4 J	カーボン抵抗		01
	HF757100	Carbon Resistor	10.0K 1/4 J	カーボン抵抗		01
	HF757220	Carbon Resistor	22.0K 1/4 J	カーボン抵抗		01
	HF757470	Carbon Resistor	47.0K 1/4 J	カーボン抵抗		01
	IG142250	IC	SN74HCU04N	C INVERTER		01
	XP094A00	IC	MC34051P	C LINE TRANSCEIVER		05
	KB003240	Fuse	5.00A S	ヒューズ		01
	VI878600	Cable Holder	51048 8P TE	ケーブルホルダー		04
	VI878700	Cable Holder	51048 9P TE	ケーブルホルダー		01
	VP206500	Fuse Holder	EYF-52BC	ヒューズホルダー		01
	IC174070	Transistor	2SC1740S R,S	トランジスタ		01
	VB941200	Diode	1SS133,1SS176	ダイオード		01
	VG181900	Photo Coupler	PC-900V	フォトカプラ		03
	--	Connector Assembly	AM-JACK	A M - J A C K 束線	(VY83240)	
	--	Jumper Wire	0.55	ジャンパー線	(VD04170)	
	--	Connector Assembly	JACK	J A C K 束線 A s s ' y	(VZ53110)	
JK01	VB312600	Phone Jack	YKB21-5012	ホーンコネクタ (黒)	SUSTAIN	02
JK01	VV943400	Phone Jack	JY6314-01-130	ホーンコネクタ (黒)	SUSTAIN	
JK02	VJ107200	DIN Connector	5P YKF51-5050	D I N コネクタ	MIDI IN	01

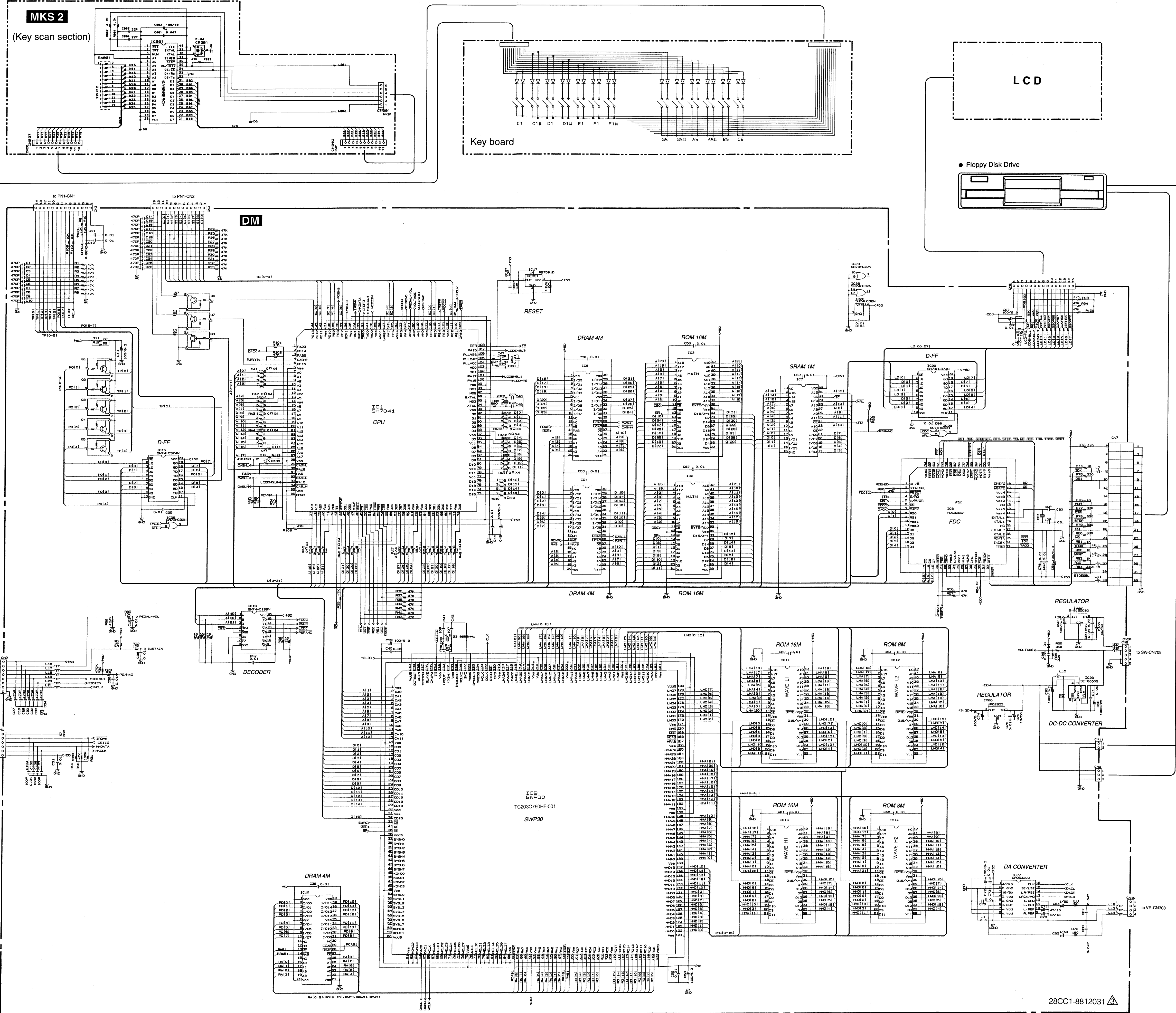
* New Parts (新規部品)

ランク : Japan only

REF NO.	PART NO.	DESCRIPTION	部 品 名	REMARKS	QTY	ラック
JK03	VJ107200	DIN Connector	5P YKF51-5050	D I N コ ネ ク タ	MIDI OUT	01
JK04	VM761000	DIN Connector	DIN 8P MD-S810	複 合 コ ネ ク タ	TO HOST	03
JK06	VB312600	Phone Jack	YKB21-5012	ホ ー ン コ ネ ク タ (黒)	AUX OUT R	02
* JK06	VV943400	Phone Jack	JY6314-01-130	ホ ー ン コ ネ ク タ (黒)	AUX OUT R	
JK07	VC687500	Phone Jack	YKB21-5014	ホ ー ン コ ネ ク タ (黒)	AUX OUT L/L+R	01
SW01	VQ665200	Slide Switch	SSSF144-S06N-0	ス ラ イ ド S W	Host Select(MAC,PC1,PC2,MIDI)	03
JK008	VC664500	Connector	HEC2305	電 源 コ ネ ク タ	DC IN 10-12V	01
JK010	LB101870	Phone Jack	YKB21-5006	ホ ー ン コ ネ ク タ	FOOT VOL	03
* JK010	VV943300	Phone Jack	HTJ064-04A	ホ ー ン コ ネ ク タ	FOOT VOL	
	VU648100	Circuit Board	MK-L	M K - L シ ー ト	(XR564B0)	09
	VK025100	Wire Trap	52147 7P TE	ワ イ ヤ ー ト ラ ッ プ		01
	VK025600	Wire Trap	52147 12P TE	ワ イ ヤ ー ト ラ ッ プ		01
	VB941200	Diode	1SS133,1SS176	ダ イ オ ー ド		01
	VU648200	Circuit Board	MK-H	M K - H シ ー ト	(XR565B0)	09
	VK024900	Wire Trap	52147 5P TE	ワ イ ヤ ー ト ラ ッ プ		01
	VK025600	Wire Trap	52147 12P TE	ワ イ ヤ ー ト ラ ッ プ		01
	VB941200	Diode	1SS133,1SS176	ダ イ オ ー ド		01
	VU494600	Circuit Board	MKS2 16M	M K S 2 シ ー ト	(XR736C0)(XS829A0)	10
	FG651220	Ceramic Capacitor-SL	22P 50V J	セラコン (S L)		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
	VH373200	Resistor Array	RGLE12X473J	抵 抗 ア レ イ		01
	XR951A00	IC	HD63B05V0F07P	I C	CPU	06
	VF728300	Connector	52147 6P TE	コ ネ ク タ		01
	VK024900	Wire Trap	52147 5P 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
	VK025600	Wire Trap	52147 12P TE	ワ イ ヤ ー ト ラ ッ プ		01
	VN002100	Ceramic Resonator	CST8.00MTW140	セラミック 振 動 子		02
	VQ305500	Ceramic Resonator	8.00M EFOEC8004T3	セラミック 振 動 子		02
	--	Vibration-proof Tape	10X64X0.5	防 振 テ ー プ	(VK34680)	
	--	Jumper Wire	0.55	ジャンパー線	(VA07890)	
* NX007800	Circuit Board	PN1 (PN1/8)	P N 1 シ ー ト		(XT155C0)	
* NX007810	Circuit Board	PN2 (PN2/8)	P N 2 シ ー ト		(XT155C0)	
* NX007820	Circuit Board	PN3 (PN3/8)	P N 3 シ ー ト		(XT155C0)	
* NX007830	Circuit Board	ENC (PN4/8)	E N C シ ー ト		(XT155C0)	
* NX007840	Circuit Board	BL (PN5/8)	B L シ ー ト		(XT155C0)	
* NX007850	Circuit Board	PB (PN7/8)	P B シ ー ト		(XT155C0)	
* NX007860	Circuit Board	MOD (PN8/8)	M O D シ ー ト		(XT155C0)	
	VT513600	Light Touch Switch	EVQ 22C 05B	ライトタッチ SW 2端子		01
	V1878100	Cable Holder	51048 3P TE	ケ ー ブ ル ホ ル ダ ー		01
	V1878200	Cable Holder	51048 4P TE	ケ ー ブ ル ホ ル ダ ー		01
	V1878400	Cable Holder	51048 6P TE	ケ ー ブ ル ホ ル ダ ー		01
	V1878900	Cable Holder	51048 11P TE	ケ ー ブ ル ホ ル ダ ー		01
	V1879100	Cable Holder	51048 13P TE	ケ ー ブ ル ホ ル ダ ー		01
	V1879200	Cable Holder	51048 14P TE	ケ ー ブ ル ホ ル ダ ー		01
	VB941200	Diode	1SS133,1SS176	ダ イ オ ー ド		01
	--	Connector Assembly	RE	R E 束 線	(VY83170)	
	--	Connector Assembly	MOD	M O D 束 線	(VY83160)	
	--	Connector Assembly	PB	P B 束 線	(VY83150)	
	--	Connector Assembly	PN2-PN3	P N 2 - P N 3 束 線	(VY83140)	
	--	Connector Assembly	PN1-PN2	P N 1 - P N 2 束 線	(VY83130)	
	--	Connector Assembly	PN-DM 2	P N - D M 束 線 2	(VY83120)	
	--	Connector Assembly	PN-DM 1	P N - D M 束 線 1	(VY83110)	
	--	Jumper Wire	0.55	ジャンパー線	(VA07890)	
20	VU481300	Encoder	REB161 PVB 15F	1 6 形 エ ン コ ー ダ	Dial	03
* 110	VZ486300	Rotary Variable Resistor	B10K EVJ05DF20B14	ロ ー タ リ ー V R	PITCH BEND,MODULATION	
112	VC341300	LED	SLZ-190B-01 RE	L E D	REVOICE	01
113	V1100100	LED	SLZ-190B-11-T1 RE	L E D	ACCOMPLIMENT ON/OFF	01
114	VT940900	LED	SLZ-190B-02-T1 RE	L E D	SYNC(STOP,START),INTRO	01
					MAIN/AUTO FILL(A,B), RECORD,START/STOP, ENDING,GROOVE & DYNAMICS	
	XT523A00	Speaker	12.0cm 4ohm 10W	ス ピ ー カ ー		07

* New Parts (新規部品)

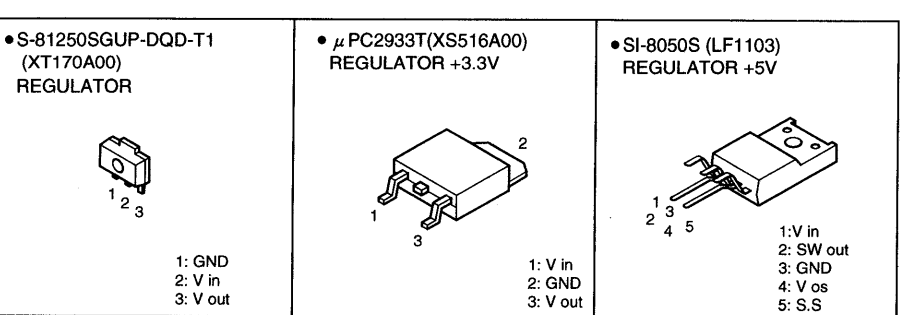
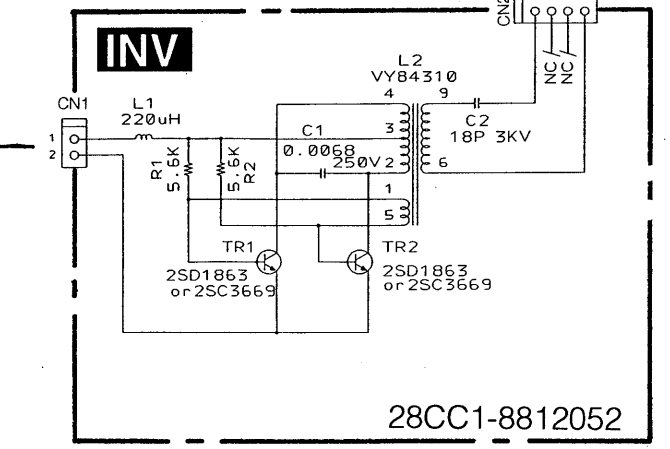
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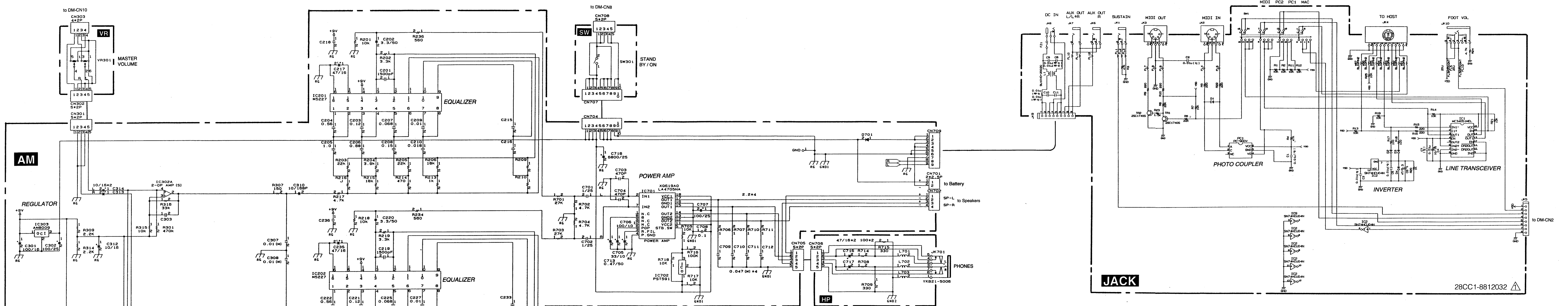


- Notes
- Circuit Board: MKS2 16M (VU494600) XR736C0 or XS892A0
- IC: HD63B05V0F07P (XR951A00) CPU
 - Ceramic Capacitor-SL: C 1,2: 22P 50V J (FG651220)
 - Semiconductive Cera. Cap.: C 4: 0.1000 25V M (VD930900)
 - Electrolytic Cap.: C 3: 100.00 10.0V (UJ821800)
 - Carbon Resistor: R 1,2: 4.7K 1/4 J (HF456470)
R 3: 47.0K 1/4 J (HF457470)
 - Resistor Array: RA 1: RGL12X473J (VH373200)
 - Ceramic Resonator: CL 1: CST8.00MTW140 (VN602100) or 8.00M EPOEC8004 (VQ305500)
 - Connector: CN 1: 52147 6P (VF728300) to DM-CN1
 - Wire Trap: CN 2: 52147 12P (VK025600) to MK-L
CN 3: 52147 7P (VK025100) to MK-L
CN 4: 52147 5P (VK024900) to MK-H
 - Jumper Wire: 0.55 (-)

- Notes
- Circuit Board: DM (VY888000) XS991B0
- IC: HD6437043E00F (XS936A00) CPU
 - MAIN-L (XS988100) ROM 4M
 - MAIN-H (XS988100) ROM 4M
 - IC4,5,10: MS44260CTP-7 (XS438A00) or UPD42460GS-70 (XT776A00)
 - IC7: MS51008BFP-70LL (XS681A00) SRAM
 - IC8: HD63269F (XK93A00) FDC
 - IC9: TC203C760HF-001 (XR738A00) SWP30
 - IC11: WAVE1L1 (XS984100) ROM 16M
 - IC12: WAVE1H (XS985100) ROM 8M
 - IC13: WAVEH1 (XS987100) ROM 16M
 - IC14: WAVEH2 (XS987100) ROM 8M
 - IC15,20: SN74HC374ANSR (XQ042A00) D-FF
 - IC16: SN74HC138NSR (XD835A00) DECODER
 - IC17: IC-PST591DMT (XP226A00) RESET
 - IC22: S-81250SGUP-DQD- (XT170A00) REGULATOR +5V
 - IC23: SI-8050S(LF1103) (XT514A00) CONVERTER DC-DC
 - IC26: UPD6320GS-E1 (XP867A00) REGULATOR +3.3V
 - IC27: DA CONVERTER
 - IC28: SN74HC32NSR (XD833A00) OR
 - Digital Transistor: Q 1-5: DTB123YK TP (VY877700)
Q 6-8: DTC123JKA TP (VY877600)
 - Diode: D 1: MA221 (V493900)
D 2: SFPB-62V (V2060500)
 - Monolithic Ceramic Cap.: C 1-10,14-28,30, 32-34,47,101: B 470P 50V K (UB012470)
C 11,12,29,31,35, 38,40,44,50,52, 53,55-57,60-62, 64-66,69-71,73, 75,76,82,86,89, 96,102,103, 105: F 0.010 50V Z (UB044100)
C 41,42,80,81: SL 10P 50V D (UB051100)
C 45,104,106, 107: SL 100P 50V J (UB052100)
C 48,49: SL 27P 50V J (UB051270)
C 87,88: F 0.047 50V Z (UB044470)
 - Electrolytic Cap.: C 13,39,46,58,67, 72,74,85,92: 100.00 6.3V (UJ818100)
C 77,78: 47.00 10.0V (UJ827470)
C 79,100: 10.00 50.0V (UJ867100)
C 84,85: 1.00 50.0V (UJ866100)
C 90: 1000 6.3V (UJ819100)
C 98: 1000.0 25.0 (VY641000)
 - Coil: SN 1,2: SNT-D20TF (VN381200)
 - Chip Inductance: L 7-14,16-21: BK2125HM601 (VQ724900)
 - Choke Coil: L 15: 220U ELC15E221 1 (V2060700)

- Notes
- Circuit Board: INV (VY843000) XT122A0
- Transistor: TR 1,2: 2SC3669-O/Y(TPF2 (VS185700) or 2SD1863 TV2 82-3 (VS185600)
 - Ceramic Capacitor-SL: C 2: 18P 3KV J (VS147400)
 - Electrolytic Cap. (chip): C 1: 0.068 250 ECQE (VP318400)
 - Inverter Transformer: L 2: YMH-16A(5V IN) (VY843100)
 - Coil: L 1: LH L08TB221K (VS587900)
 - Carbon Resistor: R 1,2: 5.6K 1/4 J (HF756560)
 - Base Post Connector: CN 1: XH 2P (LB919020) to DM-CN1
CN 2: 53259 4P (VT389600) to Back-light Assembly





- Notes**
- Circuit Board: AM (AM1/4) (NX007870) XS972B0
VR (AM2/4) (NX007880) XS972B0
HP (AM3/4) (NX007890) XS972B0
SW (AM4/4) (NX007900) XS972B0
- IC
IC201,202: M5227P (XF751A00) EQUALIZER
IC302,304,501: AN77L09-TA (XT676A00) OP AMP
IC303: REGULATOR +5V
LA4705NA (XG819A00) 17W BTL
 - Diode
D 701: 20E1-FC4 (VL723600) or LT2A02-E (VY717100)
 - Mylar Capacitor
C 207,225: 0.0880 50V J (UA654680)
C 209,227,307: 308 0.0100 50V J (UA654100)
C 210,228: 0.0960 50V J (UA654560)
C 216,234: 0.0180 50V J (UA654180)
C 705-712: 0.0470 50V J (UA654470)
 - Monolithic Mylar Capacitor
C 203,221: ECQ-V1H124JL3 (VR168400)
C 204,222: ECQ-V1H564JL3 (VR169300)
C 206,223: ECQ-V1H105JL3 (VR168100)
C 206,224: ECQ-V1H684JL3 (VR169400)
C 208,226: ECQ-V1H274JL3 (VR168900)
C 502,504: ECQ-V1H104JL3 (VR168300)
 - Ceramic Capacitor-B
C 201,219: 1500P 50V K (FG613150)
C 508,509: 5600P 50V K (FG613550)
C 703,704: 470P 50V K (FG612470)
 - Ceramic Capacitor-SL
C 215,233: 100P 50V J (FG662100)
C 503,505: 22P 50V J (FG651220)
 - Monolithic Ceramic Cap.
C 701,702: 1.000 25V Z (VT757800)
 - Electrolytic Cap.
C 217,235,515, 716,717: 47.00 16.0V (UJ837470)
C 301: 100.00 16.0V (UJ838100)
C 302,707: 100.00 25.0V (UJ848100)
C 312,314: 10.00 16.0V (UJ837100)
C 506,507: 1.00 50.0V (UJ866100)
C 705: 33.00 10.0V (UJ827330)
C 706: 100.00 10.0V (UJ828100)
C 718: 0.47 50.0V (UJ865470)
C 718: 6800 25.0V (VT848900)
 - Electrolytic Cap.-BP
C 212,220: 3.30 50.0V (UN866330)
C 310,311: 10.00 16.0V (UN837100)
 - Semiconductive Cera. Cap.
C 218,236,308, 309,501,708: 0.1000 25V Z (VC894800)
 - Coil
L 701-703: FLR200CNT (VB835000)
 - Carbon Resistor
R 201,218,313, 315,705: 10.0K 1/4 J (HF757100)
R 202,218: 3.3K 1/4 J (HF758330)
R 203,205,210, 220,222,227: 22.0K 1/4 J (HF757220)
R 204,221: 2.7K 1/4 J (HF756270)
R 206,215,223, 232: 18.0K 1/4 J (HF757180)
R 209,213,226, 230: 1.0K 1/4 J (HF756100)
R 214,231,509, 510: 680.0 1/4 J (HF755680)
R 217,235,702, 704: 4.7K 1/4 J (HF756470)
R 234,236: 560.0 1/4 J (HF755560)
R 301,304,503, 506,508: 100.0K 1/4 J (HF758100)
R 307,308: 150.0 1/4 J (HF755150)
R 309,314: 2.2K 1/4 J (HF756220)
R 312,316,511, 513: 47.0K 1/4 J (HF757470)
R 501,504: 12.0K 1/4 J (HF757120)
R 502,505,701, 703: 27.0K 1/4 J (HF757270)
R 512,514: 47.0K 1/4 J (HF758470)
R 706,707,710, 711: 2.2 1/4 J (HF753220)
R 708,714: 100.0 1/4 J (HF755100)
R 709,715: 330.0 1/4 J (HF755330)
 - Rotary Variable Resistor
VR 301: A10.0K XV0141GPV (VZ048400)
MASTER VOLUME
 - Push Switch
SW301: SDDL81 J.U.C.EE (VY980400)
STAND BY/ON (Power Switch)
 - Phone Jack
JK 701: YKB21-50 (LB101870) or HTJ064-0 (VV943300) PHONES
 - Base Post Connector
CN 701: XH1 2P (LB918020)
to BATTERIES
CN 702: XH 4P (LB918040)
to SPEAKERS
 - Connector
CN 704: 52147 10P (VF728200)
to SW(AM4/4)-CN707
 - Cable Holder
CN 302,708: 51048 5P (V187830C)
CN302: to AM(AM1/4)-CN301
CN708: to DM-CN8
51048 4P (V187820C)
to DM-CN10
51048 10P (V187880C)
51048 4P (V187800C)
to AM(AM1/4)-CN704
 - Wire Trap
CN 301,705,706: 52147 5P (VK024900)
CN301: to VR(AM2/4)-CN302
CN705: to HP(AM3/4)-CN706
CN706: to AM(AM1/4)-CN705
52147 9P (VK025300)
 - Heat Sink
HS 1: (VV856400)
 - Jumper Wire
W1: 0.55 (- -)
 - Bind Head Tapping Screw-B
3.0X8 MFXN2BL (EP600190)

