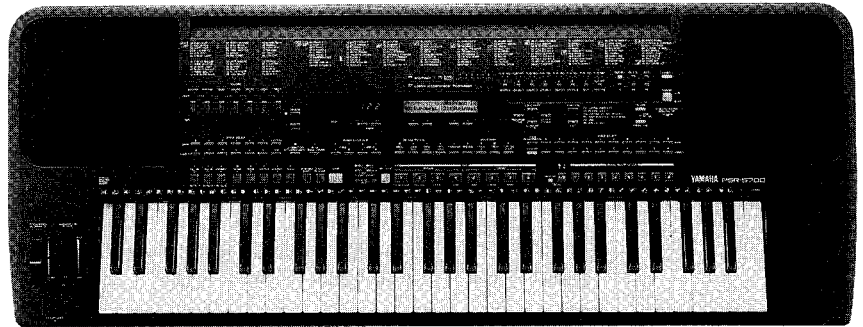


# PORTATONE

# PSR-5700

## SERVICE MANUAL



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## IMPORTANT NOTICE

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

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

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

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

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

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

## WARNING: CHEMICAL CONTENT NOTICE!

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

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

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

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

## ■ SPECIFICATIONS

### KEYBOARD:

61 Keys (C1~C6) with Touch Response

### POLYPHONY:

38 notes max.

### VOICES:

Preset 100 voices

Custom 100 voices (Programmable)

### ACCOMPANIMENT:

#### INTERACTIVE ACCOMPANIMENT:

Preset 36 styles

Disk 1 style

\* 5 variations for each style

#### CUSTOM ACCOMPANIMENT:

6 styles + INTRO/FILL/ENDING (Programmable)

### SUPER STYLE PLAY:

Preset 36 styles

Disk 1 style

\* 4 variations for each style

### EFFECT:

Reverb based effect 23 types, Chorus based effect 9 types,

Harmony 16 types

### PERCUSSION:

Keyboard; 92 (Percussion + Sound Effect)

### PAD:

8 (MULTI/PERC./TEMPO)

### AUTO BASS CHORD:

Single Finger, Fingered Chord, Manual Bass

### SEQUENCER:

8 Tracks, 6 Songs

### REGISTRATION:

VOICE REGISTRATION: 10

PANEL REGISTRATION: 16

### DISPLAY:

LED, LCD

### DISK DRIVE:

3.5" FDD, Compatibility with DOC (Yamaha Disk Orchestra Collection) and General MIDI software

### DEMONSTRATION:

4 Songs

### CONNECTORS:

MIDI (IN/OUT/THRU), FOOT SW., SUSTAIN, EXP. PEDAL,  
HEADPHONES, AUX. IN (R, L/L+R), AUX. OUT (R, L/L+R)

### AMPLIFIER:

10W x 2

### SPEAKERS:

16cm (6-5/16") x 2, 5cm (1-5/16") x 2

### DIMENSIONS (W x D x H):

1067mm (42") x 409mm (16-1/8") x 160mm (6-5/16")

### WEIGHT:

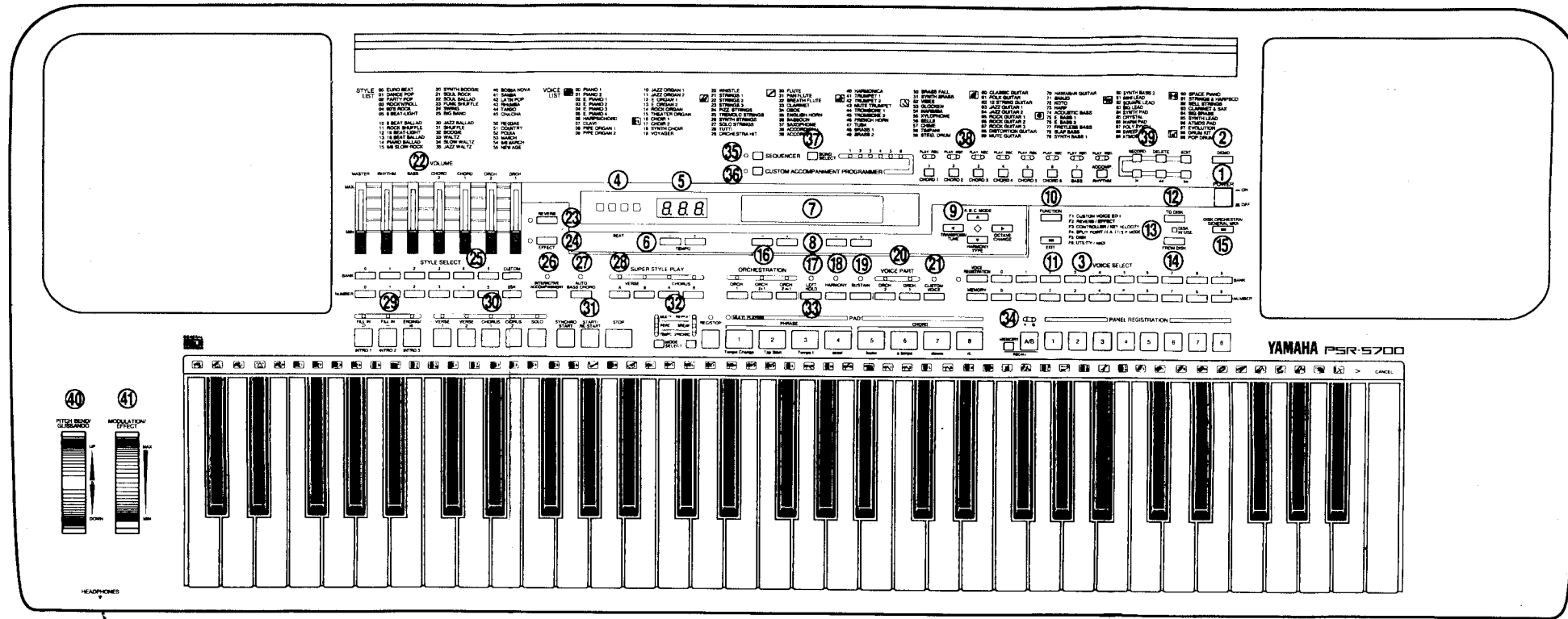
15.0 kg (33.1lbs.)

### SUPPLIED ACCESSORIES:

- Music Stand
- FC5 Foot Switch
- Sample Data Disk
- "Getting Started" Manual
- "Advanced Features" Manual

**■ PANEL LAYOUT**

● Front Panel



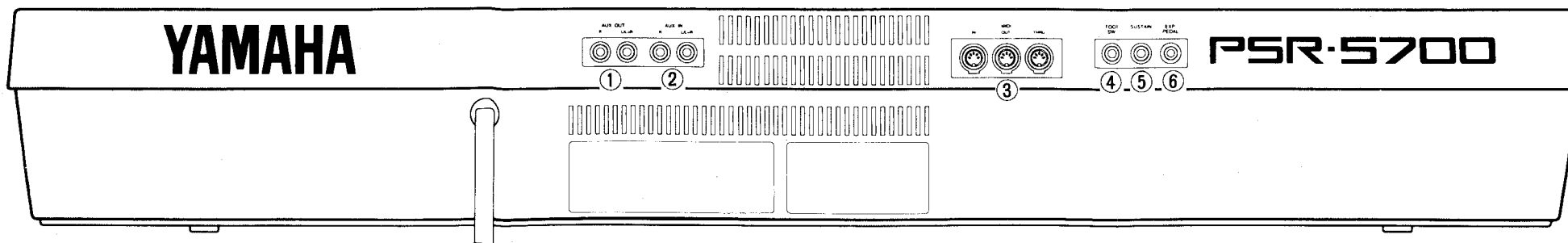
● Front Panel

- ① POWER Button
- ② DEMO Button
- ③ VOICE SELECT Buttons  
(BANK, NUMBER, VOICE REGISTRATION, MEMORY)
- ④ BEAT Display
- ⑤ LED Display
- ⑥ TEMPO [-] and [+] Buttons
- ⑦ Liquid Crystal Display (LCD)
- ⑧ Left and Right [-] and [+] Buttons
- ⑨ Display Scroll/Function Buttons  
(ABC MODE (▲), HARMONY TYPE (▼), TRANSPOSE/TUNE (◀), OCTAVE CHANGE (▶))
- ⑩ FUNCTION Button
- ⑪ EXIT Button
- ⑫ TO DISK Button

- ⑬ DISK IN USE Lamp
- ⑭ FROM DISK Button
- ⑮ DISK ORCHESTRA/GENERAL MIDI Button
- ⑯ ORCHESTRATION Buttons and Indicators  
(ORCH. 1, ORCH. 2 + 1, ORCH. 2 ◀▶ 1)
- ⑰ LEFT HOLD Button
- ⑱ HARMONY Button
- ⑲ SUSTAIN Button
- ⑳ VOICE PART Buttons and Indicators  
(ORCH. 2, ORCH. 1)
- ㉑ CUSTOM VOICE Button and Indicator
- ㉒ VOLUME Controls  
(MASTER, RHYTHM, BASS, CHORD 2, CHORD 1, ORCH. 2, ORCH. 1)

- ㉓ REVERB Button
- ㉔ EFFECT Button
- ㉕ STYLE SELECT Buttons  
(BANK, NUMBER, CUSTOM, DISK)
- ㉖ INTERACTIVE ACCOMPANIMENT Button and Indicator
- ㉗ AUTO BASS CHORD Button and Indicator
- ㉘ SUPER STYLE PLAY Buttons and Indicators  
(VERSE A, VERSE B, CHORUS A, CHORUS B)
- ㉙ Fill-in, Intro, and Ending Buttons  
(FILL IN⇒/INTRO 1, FILL IN⇐/INTRO 2, ENDING/rit./INTRO 3)
- ㉚ Verse, Chorus, and Solo Buttons  
(VERSE 1, VERSE 2, CHORUS 1, CHORUS 2, SOLO)
- ㉛ Accompaniment Control Buttons  
(SYNCHRO START, START/RE-START, STOP)
- ㉜ PAD MODE SELECT Buttons and Indicators
- ㉝ PAD Buttons
- ㉞ PANEL REGISTRATION Buttons
- ㉟ SEQUENCER Button
- ㊱ CUSTOM ACCOMPANIMENT PROGRAMMER Button
- ㊲ SONG SELECT Button
- ㊳ Sequencer Track/Custom Accompaniment Programmer Track Buttons  
(1 through 6/CHORD 1 through 6, 7/BASS, ACCOMP./RHYTHM)
- ㊴ Sequencer/Custom Accompaniment Programmer Control Buttons  
(RECORD, DELETE, EDIT, ⏪(Top), ⏩ (Rewind), ⏭ (Forward))
- ㊵ PITCH BEND/GLISSANDO Wheel
- ㊶ MODULATION/EFFECT Wheel
- ㊷ Disk Drive
- ㊸ Disk Eject Button
- ㊹ HEADPHONES Jack

● Rear Panel

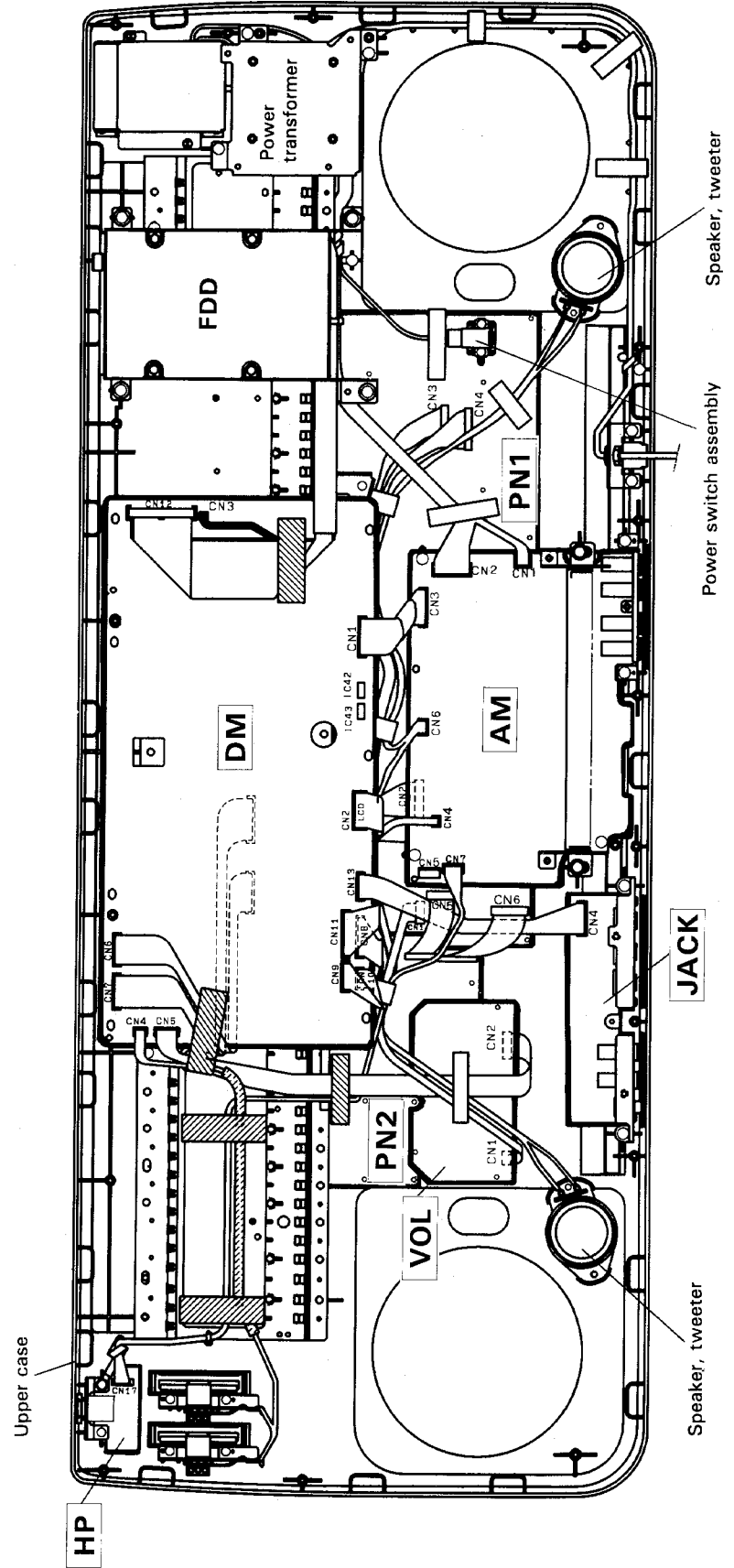


● Rear Panel

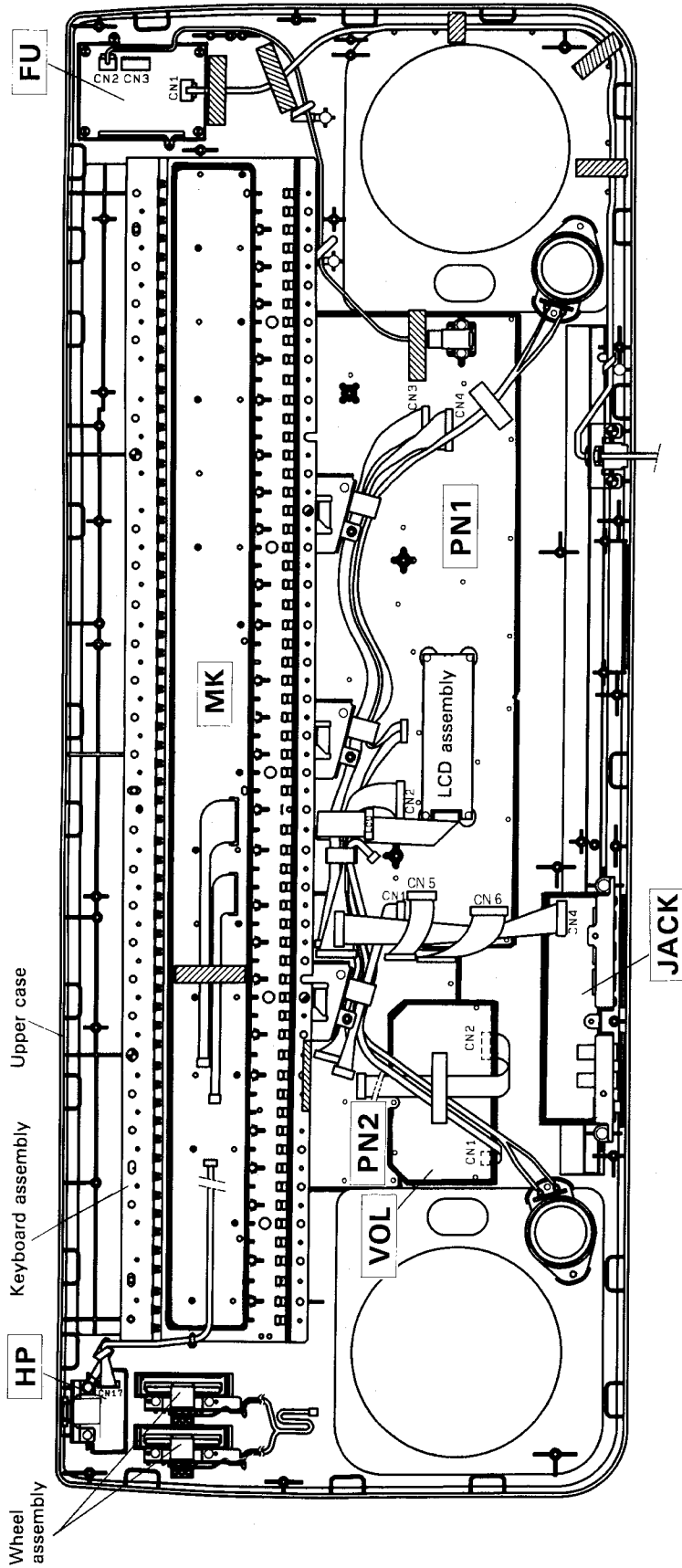
- ① AUX. OUT L/L+R and R Jacks
- ② AUX. IN L/L+R and R Jacks
- ③ FOOT SW. Jack
- ④ SUSTAIN Jack
- ⑤ EXP. PEDAL Jack
- ⑥ MIDI IN, THRU and OUT Connectors

**■CIRCUIT BOARD LAYOUT**

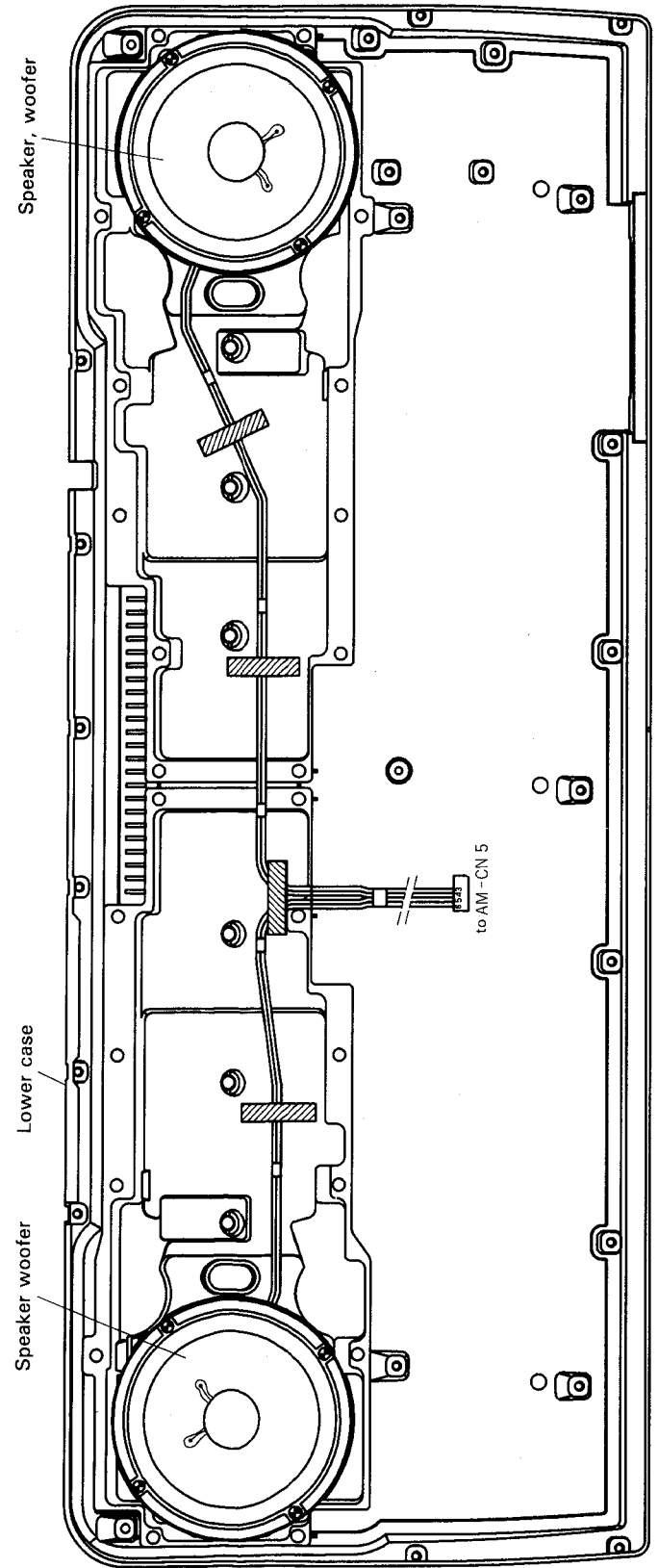
● Upper case assembly



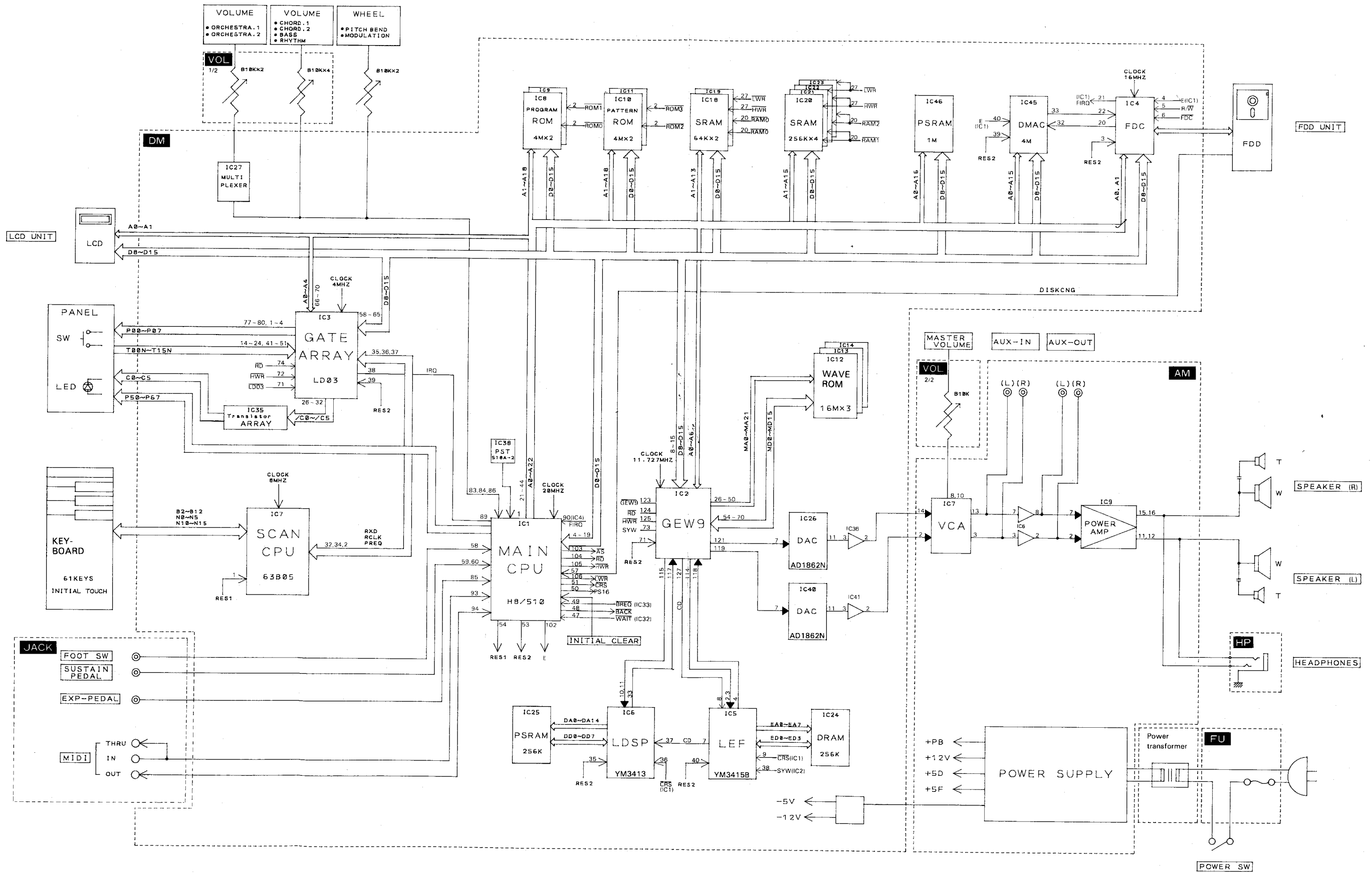
\* DM and AM circuit boards and FDD and Power Transformer has been removed.



● Lower case assembly



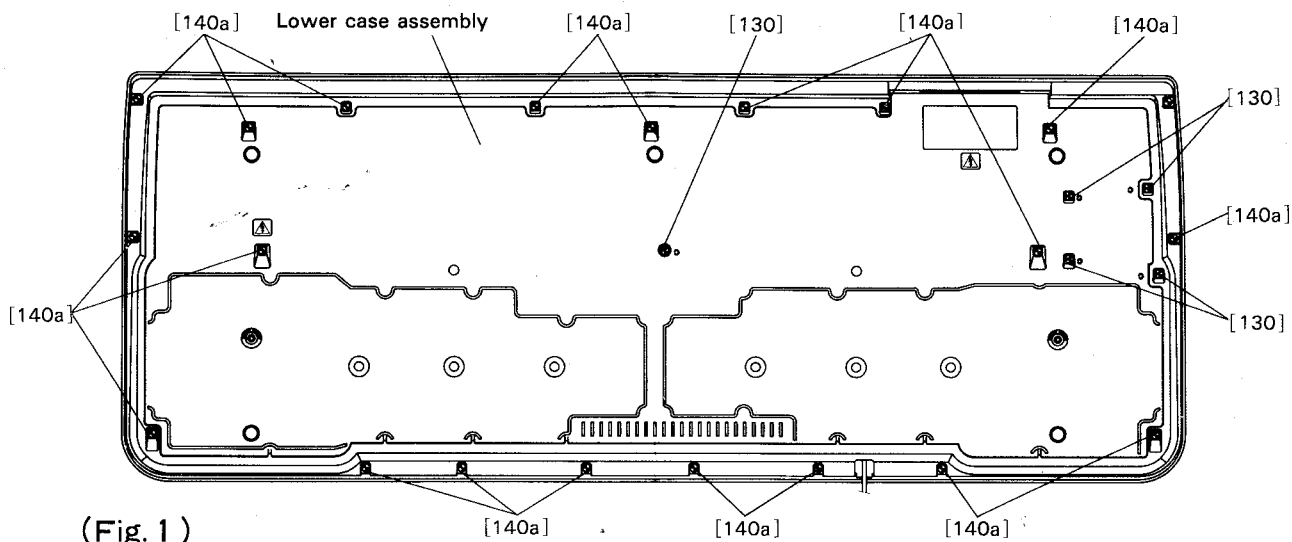
BLOCK DIAGRAM



## DISASSEMBLY PROCEDURE

### 1 Lower Case Assembly Removal

- 1-1 Remove the twenty one (21) screws marked [140a]. (Fig. 1)
- 1-2 Remove the five (5) screws marked [130] from five holes marked "C", then the lower case assembly can be removed. (Fig. 1)

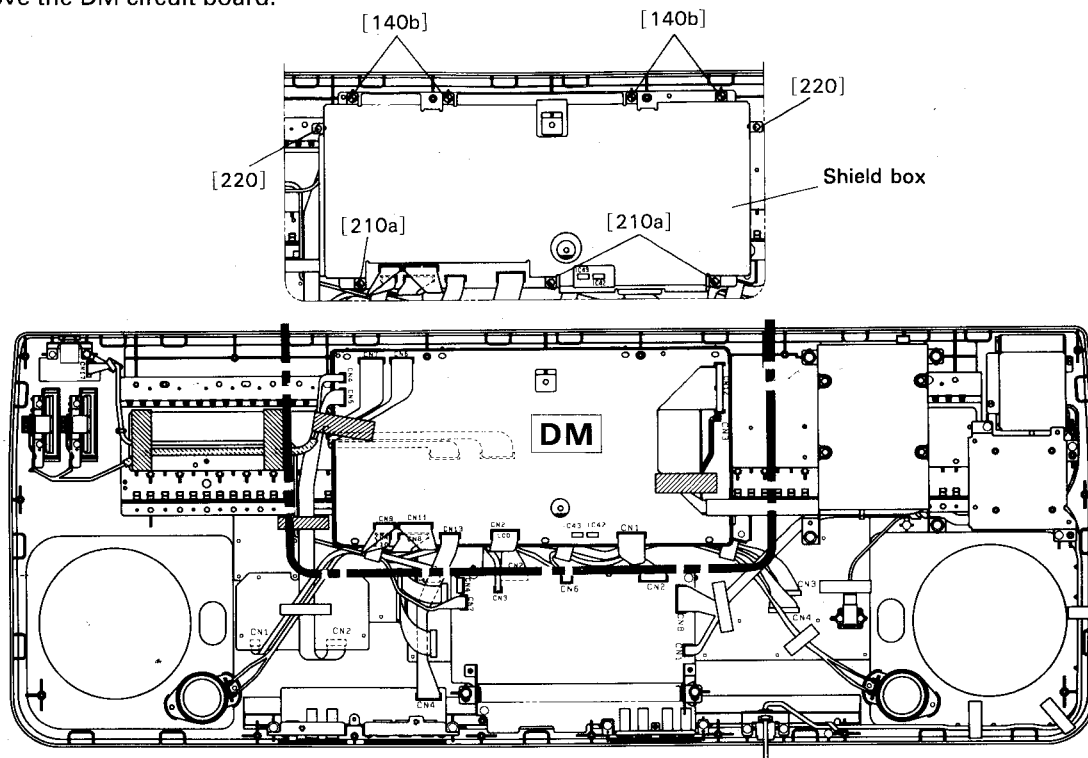


(Fig. 1)

[130] : Bind Head Tapping Screw-C 4.0X8 ZMC2Y (VF918100)  
 [140a] : Bind Head Tapping Screw-P 4.0X12 ZMC2Y (EP640110)

### 2 DM Circuit Board Removal

- 2-1 Remove the lower case assembly. (see procedure 1)
- 2-2 Remove the four (4) screws marked [140b]. (Fig. 2)
- 2-3 Remove the three (3) screws marked [210a] and the two (2) screws marked [220], then remove the shield box. (Fig. 2)
- 2-4 Remove the DM circuit board.



(Fig. 2)

[140b] : Bind Head Tapping Screw-P 4.0X12 ZMC2Y (EP640110)  
 [210a] : Bonding Tapping Screw-C 4.0X8 FCM3BL (VK649900)  
 [220] : Bonding Tapping Screw-c 3.0X6 FCM3BL (VJ268400)

**3 AM Circuit Board Removal**

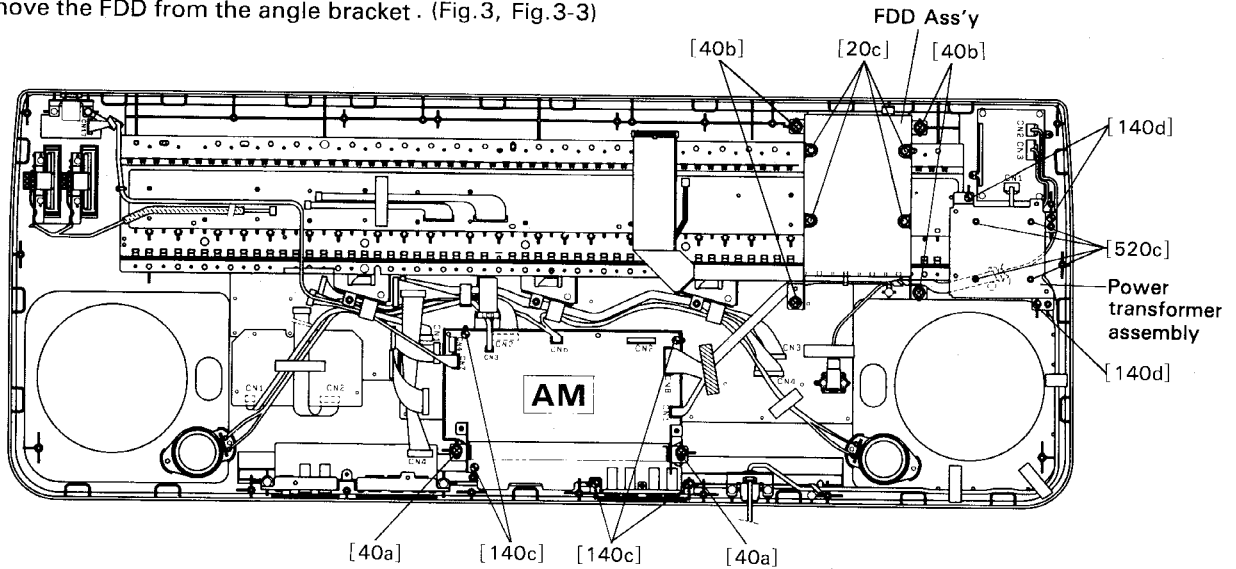
- 3-1 Remove the lower case assembly. (see procedure 1)
- 3-2 Remove the five (5) screws marked [140c]. (Fig. 3)
- 3-3 Remove the two (2) screws marked [40a], then remove the AM circuit board with bushings and collars. (Fig. 3)
- 3-4 Remove the two bushings and the two collars from the AM circuit board. (Fig. 3-1)

**4 Floppy Disk Drive (FDD) Removal**

- 4-1 Remove the lower case assembly. (see procedure 1)
- 4-2 Remove the four (4) screws marked [40b], then the FDD assembly can be removed. (Fig. 3)
- 4-3 Remove the four (4) screws marked [20c], then remove the FDD from the angle bracket. (Fig.3, Fig.3-3)

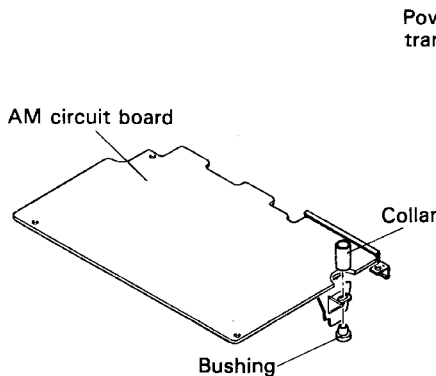
**5 Power Transformer Removal**

- 5-1 Remove the lower case assembly. (see procedure 1)
- 5-2 Remove the three (3) screws marked [140d], then the power transformer assembly can be removed. (Fig. 3)
- 5-3 Remove the four (4) screws marked [520c], then remove the power transformer from the power transformer holder. (Fig. 3, Fig. 3-2)

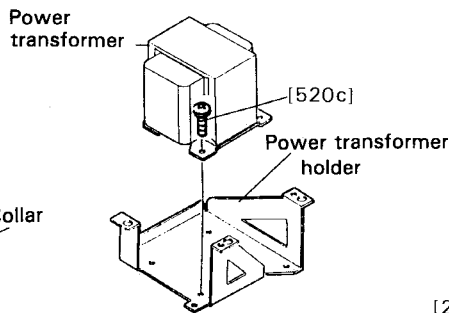


(Fig. 3)

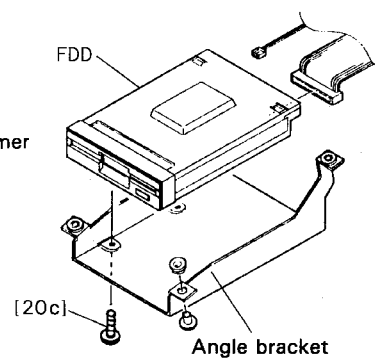
- [20c] : Bonding Head Screw 3.0X6 FNM33GL(VK712400)
- [40] : Bind Head Tapping Screw-P 4.0X20 ZMC2Y(VF601600)
- [140] : Bind Head Tapping Screw-P 4.0X12 ZMC2Y(EP640110)
- [520c] : Bonding Tapping Screw-C 4.0X8 FCM3BL(VK649900)



(Fig. 3-1)



(Fig. 3-2)



(Fig. 3-3)

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**6A FU Circuit Board Removal (J, H, B, W, A model)**

- 6A-1 Remove the lower case assembly. (see procedure 1)
- 6A-2 Remove the four (4) screws marked [590b], then the FU circuit board can be removed. (Fig. 4)

**6B FU Circuit Board Removal (U, C, V model)**

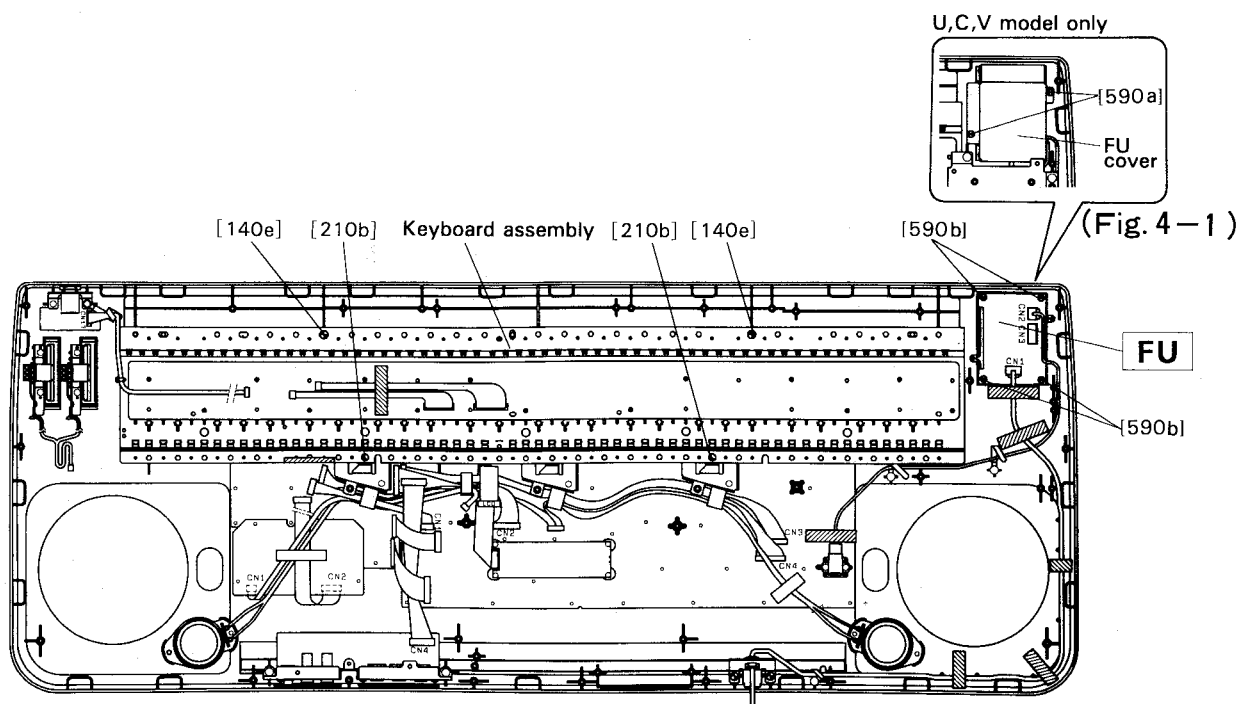
- 6B-1 Remove the lower case assembly. (see procedure 1)
- 6B-2 Remove the two (2) screws marked [590a], then the FU cover can be removed. (Fig. 4-1)
- 6B-3 Remove the four (4) screws marked [590b], then the FU circuit board can be removed. (Fig. 4)

**7 Keyboard Assembly Removal**

- 7-1 Remove the lower case assembly. (see procedure 1)
- 7-2 Remove the DM circuit board assembly. (see procedure 2)
- 7-3 Remove the FDD assembly. (see procedure 4)
- 7-4 Remove the power transformer assembly. (see procedure 5)
- 7-5 Remove the two (2) screws marked [140e] and the two (2) screws marked [210b], then the keyboard assembly can be removed. (Fig. 4)

Notes DESTINATION ABBREVIATIONS

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



(Fig. 4)

- [140e] : Bind Head Tapping Screw-P 4.0X12 ZMC2Y (EP640110)
- [210b] : Bonding Tapping Screw-C 4.0X8 FCM3BL (VK649900)
- [590] : Bind Head Tapping Screw-P 3.0X10 ZMC2Y (EP600270)

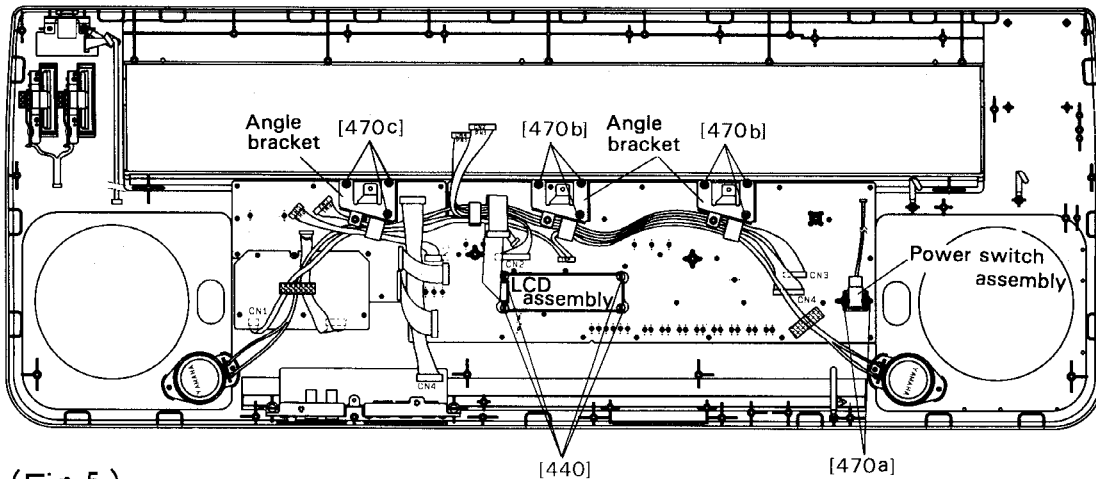
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**8 Power Switch Assembly Removal**

- 8-1 Remove the lower case assembly. (see procedure 1)
- 8-2 Remove the two (2) screws marked [470a], then remove the power switch Assembly with the knob. (Fig. 5)
- 8-3 Pull the knob off the power switch assembly.

**9 LCD Assembly Removal**

- 9-1 Remove the lower case assembly. (see procedure 1)
- 9-2 Remove the AM circuit board. (see procedure 3)
- 9-3 Remove the four (4) screws marked [440], then the LCD assembly can be removed. (Fig. 5)



(Fig. 5)

[440] : Pan Head Tapping Screw-P 2.3X8 ZMC2Y (VC990200)  
 [470] : Bind Head Tapping Screw-P 3.0X8 ZMC2Y (EP600280)

**10 PN1 Circuit Board Removal**

- 10-1 Remove the lower case assembly. (see procedure 1)
- 10-2 Remove the DM circuit board. (see procedure 2)
- 10-3 Remove the AM circuit board. (see procedure 3)
- 10-4 Remove the FDD assembly. (see procedure 4)
- 10-5 Remove the power transformer assembly. (see procedure 5)
- 10-6 Remove the keyboard assembly. (see procedure 7)
- 10-7 Remove the power switch assembly. (see procedure 8)
- 10-8 Remove the LCD assembly. (see procedure 9)
- 10-9 Remove the six (6) screws marked [470b], then remove the two (2) Angle Brackets. (Fig. 5)
- 10-10 Remove the thirty one (31) screws marked [310a], then the PN1 circuit board can be removed. (Fig. 6)

**11 VOL Circuit Board (JACK1/3) Removal**

- 11-1 Remove the lower case assembly. (see procedure 1)
- 11-2 Remove the six (6) screws marked [310b], then the VOL circuit board can be removed. (Fig. 6)

**12 PN2 Circuit Board Removal**

- 12-1 Remove the lower case assembly. (see procedure 1)
- 12-2 Remove the DM circuit board. (see procedure 2)
- 12-3 Remove the FDD assembly. (see procedure 4)
- 12-4 Remove the power transformer assembly. (see procedure 5)
- 12-5 Remove the keyboard assembly. (see procedure 7)
- 12-6 Remove the three (3) screws marked [470c], then remove the one (1) Angle Bracket. (Fig. 5)
- 12-7 Remove the VOL circuit board. (see procedure 11)
- 12-8 Remove the fourteen (14) screws marked [310c], then the PN2 circuit board can be removed. (Fig. 6)

**13 JACK Circuit Board (JACK2/3) Removal**

- 13-1 Remove the lower case assembly. (see procedure 1)
- 13-2 Remove the two (2) screws marked [580a], then the JACK circuit board can be removed. (Fig. 6)

**14 HP Circuit Board (JACK3/3) Removal**

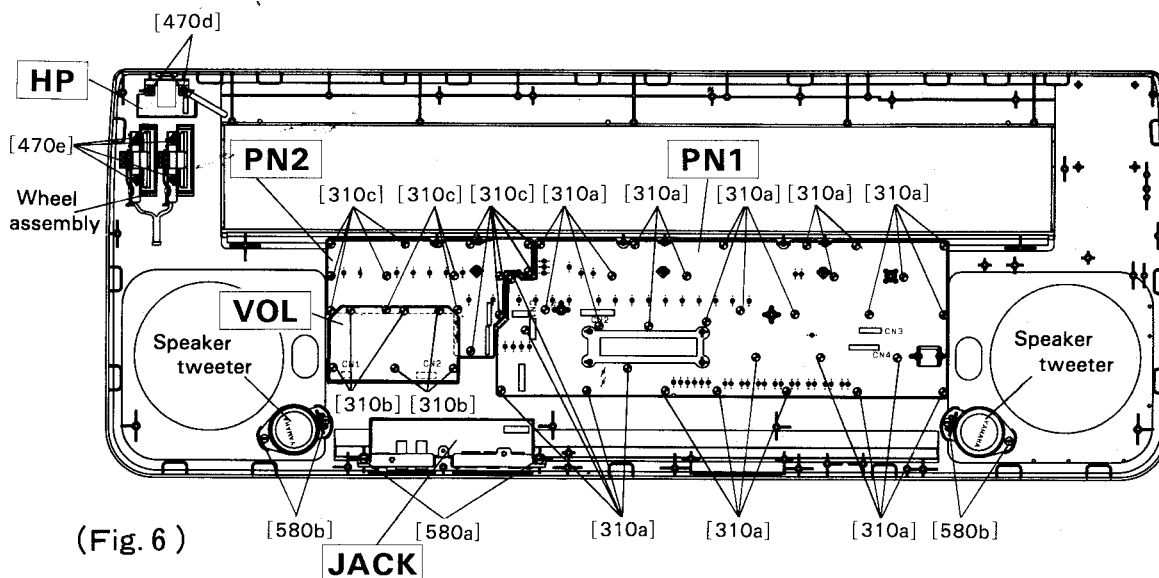
- 14-1 Remove the lower case assembly. (see procedure 1)
- 14-2 Remove the two (2) screws marked [470d], then the HP circuit board can be removed. (Fig. 6)

**15 Wheel Assembly Removal**

- 15-1 Remove the lower case assembly. (see procedure 1)
- 15-2 Remove the four (4) screws marked [470e], then the wheel assembly can be removed. (Fig. 6)

**16 Speaker (Tweeter) Removal**

- 16-1 Remove the lower case assembly. (see procedure 1)
- 16-2 Remove the four (4) screws marked [580b], then the right and left tweeters can be removed. (Fig. 6)

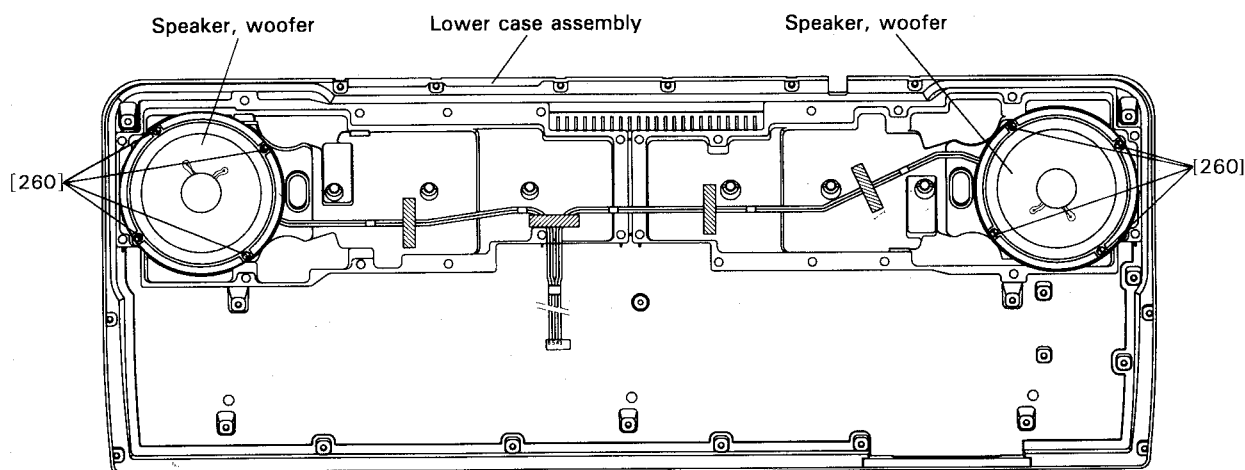


(Fig. 6)

- [310] : Bind Head Tapping Screw-P 3.0X6 ZMC2Y (EP600290)
- [470] : Bind Head Tapping Screw-P 3.0X8 ZMC2Y (EP600280)
- [580] : Bind Head Tapping Screw-P 4.0X10 ZMC2B (VC383800)

**17 Speaker (Woofers) Removal**

- 17-1 Remove the lower case assembly. (see procedure 1)
- 17-2 Remove the eight (8) screws marked [260], then the right and left woofers can be removed. (Fig. 7)



(Fig. 7)

- [260] : Bind Head Tapping Screw-P 4.0X12 ZMC2BL (VA847600)

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## LSI PIN DESCRIPTION

### ● HD6415108F10 (XJ797A00) CPU

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION		
1	RES	I	Reset	57	P41	I/O	Port 4		
2	NMI	I	Non-maskable interrupt	58	P42	I/O			
3	VSS		Ground	59	P43	I/O			
4	D0	I/O	Data bus	60	P44	I/O			
5	D1	I/O			61	P45	I/O		
6	D2	I/O			62	P46	I/O		
7	D3	I/O			63	P47	I/O		
8	D4	I/O			64	VSS		Ground	
9	D5	I/O			65	P50	I/O		
10	D6	I/O			66	P51	I/O	Power supply	
11	D7	I/O			67	P52	I/O		
12	D8	I/O			68	P53	I/O		
13	D9	I/O			69	P54	I/O		
14	D10	I/O		Address bus	70	P55	I/O	Port 6	
15	D11	I/O				71	P56		I/O
16	D12	I/O				72	P57		I/O
17	D13	I/O				73	P60		I/O
18	D14	I/O				74	P61	I/O	
19	D15	I/O			75	P62	I/O		
20	VSS		Ground		76	P63	I/O		
21	A0	O	Address bus		77	P64	I/O	Ground	
22	A1	O				78	P65		I/O
23	A2	O				79	P66		I/O
24	A3	O				80	P67		I/O
25	A4	O				81	VSS		Analog ground
26	A5	O				82	AVSS		
27	A6	O				83	ANO	I	Analog signal input
28	A7	O				84	AN1	I	
29	A8	O			85	AN2	I		
30	A9	O			86	AN3	I	Analog power supply	
31	A10	O			87	AVCC			
32	A11	O			88	VCC		Power supply	
33	A12	O			89	P80/IRQ0	I/O		Port 8
34	A13	O			90	P81/IRQ1	I/O		
35	A14	O			91	P82/SCK1	I/O		
36	A15	O		92	P83/SCK2	I/O			
37	VSS	O	(Ground)	93	P84/RXD1	I/O			
38	A16	O		94	P85/TXD1	I/O			
39	A17	O		95	P86/RXD2	I/O			
40	A18	O		96	P87/TXD2	I/O			
41	A19	O		97	VSS		Ground		
42	A20	O		98	EXTAL			Clock	
43	A21	O		99	XTAL		Ground		
44	A22	O		100	VSS			Sync-signal	
45	A23	O		101	φ	O	Enable		
46	VSS		Ground	102	E	O		Address strobe	
47	P30/WAIT	I/O	Port 3	103	AS	O	Read control		
48	P31/BACK	I/O			104	RD		O	
49	P32/BREQ	I/O			105	HWR	O	H/Write control	
50	P33	I/O			106	LWR	O		
51	P34	I/O			107	RFSH	I	Power supply	
52	P35	I/O			108	VCC			
53	P36	I/O			109	MD0	I	Mode select	
54	P37	I/O			110	MD1	I		
55	VCC		Power supply	111	MD2	I			
56	P40	I/O	Port 4	112	STBY	I	Stand-by mode signal		

### ● AD1862N(XL199A00) DAC (Digital to Analog Converter)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	-VS		Bias capacitor	9	DGND		Digital ground
2	-VS		(-) power supply (analog)	10	RF		Feedback resistor
3	TRIM		Connected to trimer potentiometer	11	IOUT	O	Output current
4	+VL		(+) power supply (digital)	12	AGND		Analog ground
5	CLK	I	External clock	13	NR1		Reference capacitor
6	LE	I	Latch enable	14	ADJ		Mid. scale adjust.
7	D	I	Serial data input	15	NR2		Bias capacitor
8	-VL		(-) power supply (digital)	16	+VS		(+) power supply (analog)

● HD63B05V0E43P (XL168B00) CPU

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

● HD63266F (X1939A00) 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	Reset	35	RDATA	I	Read data input from FDD
4	E/RD	I	Enable /Read	36	XTAL2		Clock
5	R/W/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		
9	RS1	I					
10	VSS1		Ground	41	VSS4		
11	VSS2						
12	D0	I/O		Power supply	42	VSS5	
13	D1	I/O					
14	D2	I/O					
15	D3	I/O					
16	D4	I/O					
17	D5	I/O					
18	D6	I/O					
19	D7	I/O	Data bus	43	NC		
20	DREQ	O		DMA request	44	VCC2	
21	IRQ	O	Interrupt request	45	VCC3		
22	DEND	I	Data end	46	VCC4		
23	VSS3		Ground	47	WGATE	O	Write control
24	1/2EX		Power supply	48	WDATA	O	Write data to FDD
25	VCC1						
26	NUM1	I					
27	NUM2	I		49	VSS		Ground
28	IFS	I	Host interface select	50	STEP	O	Step signal to control head of FDD
29	SFORM	I	Format data	51	HDIR	O	Head direction
30	INP	I	Index pulse	52	HLOAD	O	Head load
31	READY	I	Ready from FDD	53	HSEL	O	Head select
32	WPRT	I	Write protected signal	54	VSS7		Ground
				55	DS0	O	
				56	DS1	O	Drive select
				57	DS2	O	
				58	DS3	O	
				59	VSS8		Ground
				60	MON0	O	Motor on
				61	MON1	O	
				62	MON2	O	
				63	MON3	O	Ground
				64	VSS9		

PSR-5700

● HD68B44RP (X1940A00) DMAC (Direct Memory Access Controller)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	VSS	I	Ground	21	D7	I/O	Data bus
2	CS	I	Chip select	22	D6	I/O	
3	R/W	I	Read/Write	23	D5	I/O	
4	A0	I/O	Address bus	24	D4	I/O	
5	A1	I/O					
6	A2	I/O					
7	A3	I/O					
8	A4	I/O					
9	A5	I/O					
10	A6	I/O					
11	A7	I/O					
12	A8	I/O					
13	A9	I/O					
14	A10	I/O	Transmission request	25	D3	I/O	
15	A11	I/O					
16	A12	I/O					
17	A13	I/O	Interrupt request	26	D2	I/O	
18	A14	I/O					
19	A15	I/O	Transmission stanby	27	D1	I/O	
20	VCC	I		Power supply	28	D0	I/O
				29	TXRQ3	I	Transmission request
				30	TXRQ2	I	
				31	TXRQ1	I	
				32	TXRQ0	I	
				33	IRO	O	Interrupt request
				34	TXSTB	O	Transmission stanby
				35	TXAKA	O	Transmission acknowledge
				36	DRQH	O	Halt request
				37	DRQT	O	Halt request in TSC mode
				38	DGRNT	I	Bus grant
				39	RES	I	Reset
				40	Ø2DMA	I	System clock

● YM3413 (XE449A00) LDSP (Digital Signal Processor)

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	VDD	I	DC supply (+5V)	21	A5	O	Address bus
2	D7	I/O					
3	D6	I/O	Data bus	22	A6	O	
4	D5	I/O					
5	D4	I/O					
6	D3	I/O					
7	D2	I/O					
8	D1	I/O					
9	D0	I/O					
10	S10	I		Serial data input	26	A10	
11	S11	I					
12	SYW	I	Sync pulse	27	A11	O	
13	WE	O	Write enable	28	A12	O	
14	OE	O	Output enable	29	A13	O	
15	A0	O	Address bus	30	A14	O	
16	A1	O					
17	A2	O					
18	A3	O					
19	A4	O					
20	Vss	I	Ground	31	A15	O	
				32	A16	O	Serial data output
				33	S00	O	
				34	XCLK	I	Clock
				35	IC	I	Initial Clear
				36	CRS	I	CD counter reset
				37	CDI	I	CD input
				38	CDo	O	CD output
				39	S01	O	Serial data output
				40	CLK	I	Clock

● YM3415B (XE450B00) LEF (Effector)

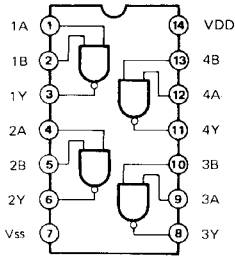
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	+5	I	Power supply	21	A7	O	Address bus
2	S10	I	Serial data input	22	A6	O	
3	S11	I					
4	S00	O	Serial data input	23	A5	O	
5	S01	O					
6	XCLK	I	Clock	24	A4	O	
7	CDO	O	CD data output	25	A3	O	
8	CDI	I	CD data input	26	A2	O	
9	CRS	I	CD counter reset	27	A1	O	
10	WR	I	Write control	28	A0	O	
11	A/D	I	Address/data parameter select	29	RAS	O	DRAM control
12	PD0	I/O	Data bus	30	CAS	O	DRAM control
13	PD1	I/O					
14	PD2	I/O					
15	PD3	I/O					
16	PD4	I/O					
17	PD5	I/O					
18	PD6	I/O					
19	PD7	I/O					
20	Vss	I	Ground	31	WE	O	WE signal
				32	OE	O	OE signal
				33	D3	I/O	Data bus
				34	D2	I/O	
				35	D1	I/O	
				36	D0	I/O	
				37	TST2	I	Internal test
				38	SYW	I	Synchro pulse
				39	CLK	I	Clock
				40	IC	I	Initial clear

● YMW259-F (XJ752C00) GEW9 (AWM Tone Generator & Digital Filter)

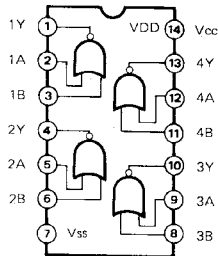
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	Vss		Ground	65	Vss		Ground
2	A0	I	Address bus	66	MD11	I/O	External memory data bus
3	A1	I		67	MD12	I/O	
4	A2	I		68	MD13	I/O	
5	A3	I		69	MD14	I/O	
6	A4	I		70	MD15	I/O	
7	A5	I		71	IC	I	
8	D0	I/O	Data bus	72	SYI	I	Synch. pulse input
9	D1	I/O		73	SYO	O	Synch. pulse output
10	D2	I/O		74	CKMI	I	Clock 12.8 MHz input
11	D3	I/O		75	CKMO	O	Clock 12.8 MHz output
12	D4	I/O		76	V <sub>DD</sub>		Power supply
13	D5	I/O		77	XOUT	O	Clock
14	D6	I/O		78	XIN	I	
15	D7	I/O	Ground	79	Vss		Ground
16	D8	I/O		80	RA0	O	not used
17	Vss		81	RA1	O		
18	D9	I/O	82	RA2	O		
19	D10	I/O	83	RA3	O		
20	D11	I/O	84	RA4	O		
21	D12	I/O	85	RA5	O		
22	D13	I/O	86	RA6	O		
23	D14	I/O	87	RA7	O		
24	D15	I/O	88	RA8	O		
25	IRQ	I	Interrupt request	89	RA9	O	
26	MA0	O	External memory address bus	90	RA10	O	
27	MA1	O		91	RA11	O	
28	MA2	O		92	RA12	O	
29	MA3	O		93	RA13	O	
30	MA4	O		94	RA14	O	
31	MA5	O		95	RD0	O	not used
32	MA6	O	Ground	96	RD1	O	Ground
33	Vss			97	Vss		Ground
34	MA7	O	External memory address bus	98	RD2	O	not used
35	MA8	O		99	RD3	O	
36	MA9	O		100	RD4	O	
37	MA10	O		101	RD5	O	
38	MA11	O		102	RD6	O	
39	MA12	O		103	RD7	O	
40	MA13	O		104	CE	O	Chip enable
41	MA14	O		105	OE	O	Output enable
42	MA15	O		106	WE	O	Write enable
43	MA16	O		107	TP1		Test pin
44	MA17	O	108	TP0			
45	MAE	I	Memory address enable	109	DCK	O	DAC clock
46	V <sub>DD</sub>		Power supply	110	LE	O	Latch enable
47	MA18	O	External memory address bus	111	MCK64	O	Clock 6.4 MHz output
48	MA19	O		112	MCK32	O	Clock 3.2 MHz output
49	MA20	O		113	MOA	O	MEL format data output
50	MA21	O		114	MOB	O	
51	MA22	O		115	MOC	O	
52	MWR	O		Memory write control	116	V <sub>DD</sub>	
53	BDIR	O	Data bus direction	117	MI1	I	MEL format data input
54	MD0	I/O	External memory data bus	118	MI2	I	
55	MD1	I/O		119	DRA	O	R-channel serial data output
56	MD2	I/O		120	DRB	O	L-channel serial data output
57	MD3	I/O		121	DLA	O	
58	MD4	I/O		122	DLB	O	
59	MD5	I/O		123	CS	I	Chip select
60	MD6	I/O		124	RD	I	Read control
61	MD7	I/O		125	WR	I	Write control
62	MD8	I/O		126	8/16	I	Bus width 8 bit/16 bit
63	MD9	I/O		127	CDO	O	Control data output
64	MD10	I/O	128	A-1	I	Address bus	

## IC BLOCK DIAGRAM

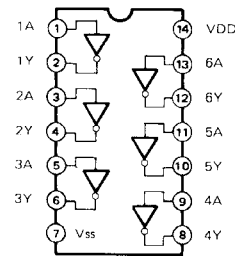
- **TC74HC00AP** (IR000000)  
NAND



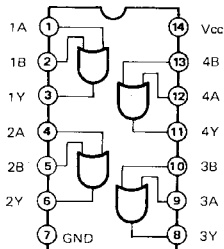
- **TC74HC02AP** (IR000200)  
Quad 2 Input NOR



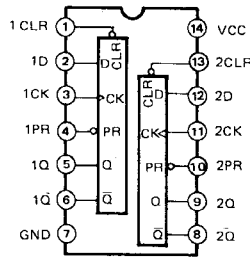
- **TC40H004P** (IG051000)
- **TC74HC04AP** (IR000400)  
Hex Inverter



- **TC74HC32AP** (IR003200)  
Quad 2 Input OR

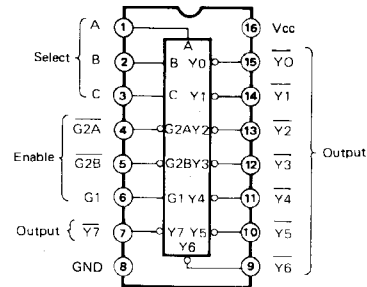


- **TC74HC74AP** (IR007400)  
Dual D-Type Flip-Flop

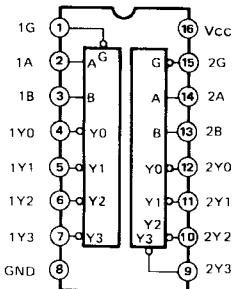


INPUTS				OUTPUTS	
PR	CLR	CLK	D	Q	Q-bar
L	H	X	X	H	L
H	L	X	X	L	H
L	L	X	X	H	H
H	H	↑	H	H	L
H	H	↑	L	L	H
H	H	L	X	Q <sub>o</sub>	Q <sub>o</sub> -bar

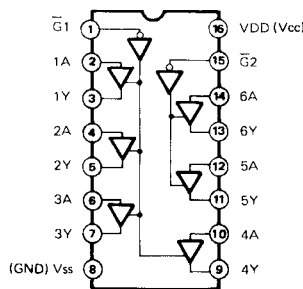
- **TC74HC138AP** (IR013800)
- **TC74AC138P** (XG659A00)  
3 to 8 Demultiplexer



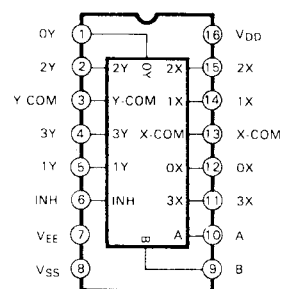
- **TC74AC139P** (XL123A00)  
Dual 2 to 4 Demultiplexer



- **TC74HC367AP** (IR036700)  
Hex 3-State Bus Buffer



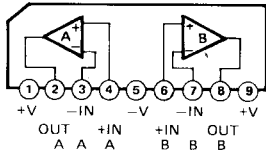
- **TC4052BP** (XA053A00)  
Differential 4-Channel Multiplexer/Demultiplexer



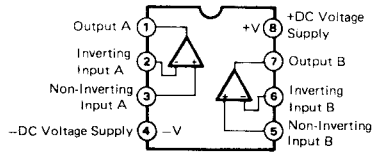
PSR-5700



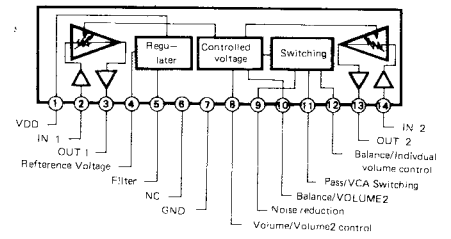
- **NJM4560S (IG121800)**  
Dual Operational Amplifier



- **μ PC4570HA (XB247A00)**  
Dual Operational Amplifier



- **M51132L (XE470A00)**  
VCA



## TEST PROGRAM

### A. PREPARATION

#### 1. MEASURING INSTRUMENT

Measure with the level meter. (The characteristics of the level meter should be based on the IHF·C curve.)  
Use the oscilloscope to measure the waveform.  
Measuring input impedance should be 1MΩ or more.

#### 2. MEASURING PLACE

Measure at the HEADPHONES terminal (Lch) unless specified otherwise. (Use the stereo plug.)

#### 3. CONTROL SECTION CONDITIONS

The conditions should be as follows.

- Volume should be set to Max.
- All switches should be initialized when the power is turned on.
- Nothing should be connected to the external terminals.

### B. TEST ENTRY

To enter the test program, hold down [INTRO.1], [INTRO.3] and [DEMO], and turn on the unit's power supply. The next display will then appear on the LCD.

```
MENU 00->22 TestPrg.
99: Exit 88: FactorySet
```

Use [BANK: 0]~ [BANK: 9] and [NUMBER :0]~ [NUMBER: 9] to select a test.

Enter a test number, and that number's test will begin, followed sequentially by the other tests.

To stop a test before it's completed, press [EXIT], and you will return to the initial screen. Next, press [BANK: 9] and [NUMBER: 9] or [BANK: 8] and [NUMBER: 8].

<Note>

Pressing [BANK: 8] and [NUMBER: 8] initializes all backup data.

#### TEST 00 ROM VERSION DISPLAY

Select Test 00, and the ROM version will be displayed on the LCD.

#### DISPLAY OF THE TEST RESULT

```
00 ROM Prg1: ***Prg2: ***
Version St1: ***St2: ***
```

(\*\*\*: Version number)

#### TEST END

Press either [+] underneath the LCD to proceed automatically to the next test.

#### TEST 01 PROGRAM ROM, STYLE ROM ADDRESS BUS, AND DATA BUS CHECK

```
01 ROM St1: **St2: **
CK.SUM Prg1: **Prg2: **
```

#### DISPLAY OF THE TEST RESULT

OK No display (proceeds automatically to the next test.)

```
NG 01 ROM St1: **St2: **
CK.SUM Prg1: **Prg2: **
```

(\*\*: OK or NG)

#### TEST END

Once a test is completed, the next test follows automatically.

#### TEST 02 WAVE ROM CHECK SUM DISPLAY

WAVE ROM check sum is displayed on the LCD when Test 02 is selected.

```
02 WAVE ROM WAV1: ****
SUM WAV2: **** WAV3: ****
```

(\*\*\*\*: Check sum)

When the WAVE ROM inside the DM circuit board consists of the following part Nos., the following display will appear.

```
IC12: XL134B00
IC13: XL135B00
IC14: XL136B00
```

```
02 WAVE ROM WAV1: A9D5
SUM WAV 2: ABD4 WAV3: F4DB
```

#### TEST END

Press either [+] underneath the LCD to proceed automatically to the next test.

#### TEST 03 LCD DOT BLACK

Checks that all LCD dots are changed to black.

#### TEST END

Press either [+] underneath the LCD to proceed automatically to the next test.

#### TEST 04 LCD DOT WHITE

Checks that all LCD dots are changed to white.

#### TEST END

Press either [+] underneath the LCD to proceed automatically to the next test.

#### TEST 05 PANEL SWITCH AND LED

Turn all switches, from [SEQUENCER] to [PANEL REGISTRATION:8], ON and OFF, by following the LCD display shown below.

```
05 SWITCH,LED
START SWITCH SELECT?
```

```
05 SWITCH,LED
Next Switch=001: Cus.Acp
```

(When [SEQUENCER] is checked first)

When normal, a piano sound will be generated, and the relevant LED will light. It then proceeds to the switch for the next test. LEDs which display single functions with multiple LEDs, such as the [TEMPO] LED and the [SONG SELECT] LED, are tested automatically. The LCD display will not change and sound will not be generated if a switch which is not displayed on the LCD is pressed. When the correct switch is pressed, the next switch test will follow.

#### TEST END

When the checking reaches [PANEL REGISTRATION: 8], the switch and LED test will be completed, and the next test will follow automatically.

#### TEST 06 PITCH BEND

```
06 PITCH BEND
Set to max 064
```

Smoothly move the pitch bend as follows: max → min → center (up → down → middle).

```
06 PITCH BEND
Set to ttt ***
```

(ttt: The next targeted value)

(\*\*\*: The present pitch bend value)

Confirm that the pitch bend value changes as follows: 127 → 000 → 064.

#### TEST END

The pitch bend test, once completed, automatically proceeds to the next test.

#### TEST 07 MODULATION WHEEL

Move the modulation wheel smoothly as follows: min → max → min (down → up → down)

```
07 MODULATION
Set to ttt ***
```

(ttt: The next targeted value)

(\*\*\*: The present modulation wheel value)

Confirm that the modulation wheel value changes as follows: 000 → 127 → 000.

#### TEST END

The modulation wheel test, once completed, automatically proceeds to the next test.

#### TEST 08 RHYTHM VOLUME

Move the rhythm volume smoothly as follows: min → max → min (down → up → down).

```
08 RHYTHM VOLUME
Set to ttt ***
```

(ttt: The next targeted value)

(\*\*\*: The present rhythm volume value)

Confirm that the rhythm volume value changes as follows: 000 → 127 → 000.

#### TEST END

The rhythm volume test, once completed, automatically proceeds to the next test.

#### TEST 09 BASS VOLUME

Move the bass volume smoothly as follows: min → max → min (down → up → down).

```
09 BASS VOLUME
Set to ttt ***
```

(ttt: The next targeted value)

(\*\*\*: The present bass volume value)

Confirm that the bass volume value changes as follows: 000 → 127 → 000.

#### TEST END

The bass volume test, once completed, automatically proceeds to the next test.

#### TEST 10 CHORD 2 VOLUME

Move the chord 2 volume smoothly as follows: min → max → min (down → up → down).

```
10 CHORD2 VOLUME
Set to ttt ***
```

(ttt: The next targeted value)

(\*\*\*: The present chord 2 volume value)

Confirm that the chord 2 volume value changes as follows: 000 → 127 → 000.

#### TEST END

The chord 2 volume test, once completed, automatically proceeds to the next test.

**TEST 11 CHORD 1 VOLUME**

Move the chord 1 volume smoothly as follows: min → max → min (down → up → down).

11 CHORD1 VOLUME Set to ttt      ***
---

(ttt: The next targeted value)

(\*\*\*: The present chord 1 volume value)

Confirm that the chord 1 volume value changes as follows: 000 → 127 → 000.

**TEST END**

The chord 1 volume test, once completed, automatically proceeds to the next test.

**TEST 12 ORCHESTRA 2 VOLUME**

Move the orchestra 2 volume smoothly as follows: min → max → min (down → up → down).

12 ORCH.2 VOLUME Set to ttt      ***
---

(ttt: The next targeted value)

(\*\*\*: The present orchestra 2 volume value)

Confirm that the orchestra 2 volume value changes as follows: 000 → 127 → 000.

**TEST END**

The orchestra 2 volume test, once completed, automatically proceeds to the next test.

**TEST 13 ORCHESTRA 1 VOLUME**

Move the orchestra 1 volume smoothly as follows: min → max → min (down → up → down).

13 ORCH.1 VOLUME Set to ttt      ***
---

(ttt: The next targeted value)

(\*\*\*: The present orchestra 1 volume value)

Confirm that the orchestra 1 volume value changes as follows: 000 → 127 → 000.

**TEST END**

The orchestra 1 volume test, once completed, automatically proceeds to the next test.

**TEST 14 EXPRESSION PEDAL**

Connect the expression pedal and move it smoothly as follows: min → max → min (release → depress → release).

14 EXPRESSION PEDAL Set to ttt      ***
--

(ttt: The next targeted value)

(\*\*\*: The present expression pedal volume value)

Confirm that the expression pedal value changes as follows: 000 → 127 → 000.

**TEST END**

The expression pedal test, once completed, automatically proceeds to the next test.

**TEST 15 SUSTAIN PEDAL**

15 SUSTAIN PEDAL Switch =      OFF
---------------------------------------

Connect the sustain pedal and turn it On and Off as follows:

15 SUSTAIN PEDAL Switch =      ON
--------------------------------------

↓

15 SUSTAIN PEDAL Switch =      OFF
---------------------------------------

**TEST END**

The sustain pedal test, once completed, automatically proceeds to the next test.

**TEST 16 FOOT SWITCH**

16 FOOT SWITCH Switch =      OFF
-------------------------------------

Connect the foot switch and turn it On and Off as follows:

16 FOOT SWITCH Switch=ON
-----------------------------

↓

16 FOOT SWITCH Switch=OFF
------------------------------

**TEST END**

The foot switch test, once completed, automatically proceeds to the next test.

**TEST 17 FLOPPY DISK**

Before the test, insert a formatted blank disk with the write protect set to off.

When the test is executed, the LCD display will be as follows:

17 FLOPPY DISK  
\*now Testing FloppyDisk\*

**DISPLAY OF THE TEST RESULT**

OK No display (It will proceed to the next test automatically.)

NG 17 FLOPPY DISK  
Error number = \*\*\*

(\*\*\*: Error No.)

**Error message**

- Error No. 001: The disk is not inserted properly.
- Error No. 002: Disk drive error
- Error No. 003: Address mark in data section cannot be detected.
- Error No. 004: Address mark in ID section cannot be detected.
- Error No. 005: ID mismatch / Cylinder address is wrong
- Error No. 006: ID mismatch / Cylinder address mismatch
- Error No. 007: CRC error in ID section
- Error No. 008: CRC error in Data section
- Error No. 009: Write protect is ON.
- Error No. 010: The disk has been removed before the operation was completed
- Error No. 011: Save/load data mismatch
- Error No. 012: File search error

**TEST END**

The test, once completed, will automatically proceed to the next test.

**TEST 18 OUTPUT L SOUND GENERATION**

18 OUT PUT LEVEL Lch

Confirm that a normal signal is output from AUX. OUT and PHONES (L).

Both jacks, AUX.OUT R, L and L+R, should be inserted, and the master volume should be set to Max.

**CHECK ITEMS**

- AUX. OUT L: Sine wave,  $-9 \pm 3\text{dBm}$  (Load open)
- PHONES (L): Sine wave,  $+5 \pm 3\text{dBm}$  (Load open)

**TEST END**

Press either [+] underneath the LCD to proceed automatically to the next test.

**TEST 19 OUTPUT R SOUND GENERATION**

19 OUT PUT LEVEL Rch

Confirm that normal signal is output from AUX. OUT R and PHONES(R).

Both jacks, AUX.OUT R, L and L+R, should be inserted, and the master volume should be set to Max.

**CHECK ITEMS**

- AUX. OUT R: Sine wave,  $-9 \pm 3\text{dBm}$  (Load open)
- PHONES (R): Sine wave,  $+5 \pm 3\text{dBm}$  (Load open)

**TEST END**

Press either [+] underneath the LCD to proceed automatically to the next test.

**TEST 20 REVERB(HALL) SOUND**

20 REVERB

Check the reverb(hall) sound by listening. Adjust the master volume to the easy-to-listen level.

**TEST END**

Press either [+] underneath the LCD to proceed automatically to the next test.

**TEST 21 EFFECT SOUND**

21 EFFECT

Check the effect sound by listening. Adjust the master volume to the easy-to-listen level.

**TEST END**

Press either [+] underneath the LCD to proceed automatically to the next test.

**TEST 22 AUTO SCALING**

22 AUTO SCALING  
Select Voice=

The above LCD is displays when the test is entered. Select a voice by using the [BANK] and [NUMBER] buttons. Once a voice number is entered, key numbers 000~127 are auto scaled. Adjust the master volume to the easy-to-listen level.

```

22 AUTO SCALING
Select Voice=   ***
    
```

(\*\*\*: Key number being checked.)

Once the test has completed up to key number 127 , the LED displays as follows, so that the same kind of test can be performed with another voice.

```

22 AUTO SCALING
Select Voice =       127
    
```

**TEST END**

Press either [+] underneath the LCD to end the test. The PSR-5700 will display the menu and wait for the entry of a test number.

```

MENU 00->22 TestPrg.
99: Exit 88: FactorySet
    
```

**TEST 88 FACTORY SETTING**

Executing this test initializes all backup data, and play mode is entered, the test mode being skipped.

**TEST 99 EXIT**

Executing this test enters the play mode, the test mode being skipped.

**C. PROGRAM VERSION NUMBER DISPLAY**

1. Hold down the [INTRO.1], [INTRO.3] and [PANEL REGISTRATION: 8], and turn on the power supply, and a detailed number version of the program and style data display.

The test 00 display controls each ROM. Program ROM 2 also has style data other than the program. The ROM managing number is substituted by the program version number, which is used to see the style version set in the latter half.

```

Prog.1 ROM Version: *.&&
MMM DD YYYY HH MM SS
    
```

```

Prog.2 ROM Version: *.&&
MMM DD YYYY HH MM SS
    
```

```

St1 ROM Ver.Style1: *.&&
Style2: *.&& Style3: *.&&
    
```

\* : Version No.  
 &&: Revision No.  
 MMM: Month  
 DD: Date  
 YYYY: Year  
 HH: Hour  
 MM: Minute  
 SS: Second

2. Switch the display with the [◀], [▶] buttons on the right of the LCD.
3. Press [EXIT] to reset the program and enter the normal operation status.

## ■ ERROR MESSAGES

If an error is encountered when a disk operation is executed, one of the following error messages may appear:

**"Type Error or Unformat!"**

The disk in the drive has not been formatted or the disk is the wrong type or has the wrong format.

**"Not Found File!"**

The disk does not contain any files saved by the user.

**"Write Protect on!"**

The disk write protect tab is in the write disable position.

**"Disk Error!"**

A data error has occurred during a save, delete, or format operation.

**"Disk Full!"**

The floppy disk does not have enough remaining capacity to carry out the specified operation.

**"Sample Data Disk!"**

You have attempted to perform a save, rename, delete, format, or disk free area operation while the supplied data disk is in the drive.

**"Style Disk!"**

You have attempted to perform a save, rename, delete, format, or disk free area operation while a style disk or other optional pre-recorded disk is in the drive.

**"Not Found Disk!"**

No disk in drive.

**"Bad File Name!"**

The file name is all spaces and cannot be recognized by the PSR-5700.

**"Not Enough Memory!"**

Not enough memory to load the specified sequencer file from disk.

Some of the error displays automatically revert to the previous display after a few seconds, while others require that the [EXIT] button be pressed to exit from the error display.

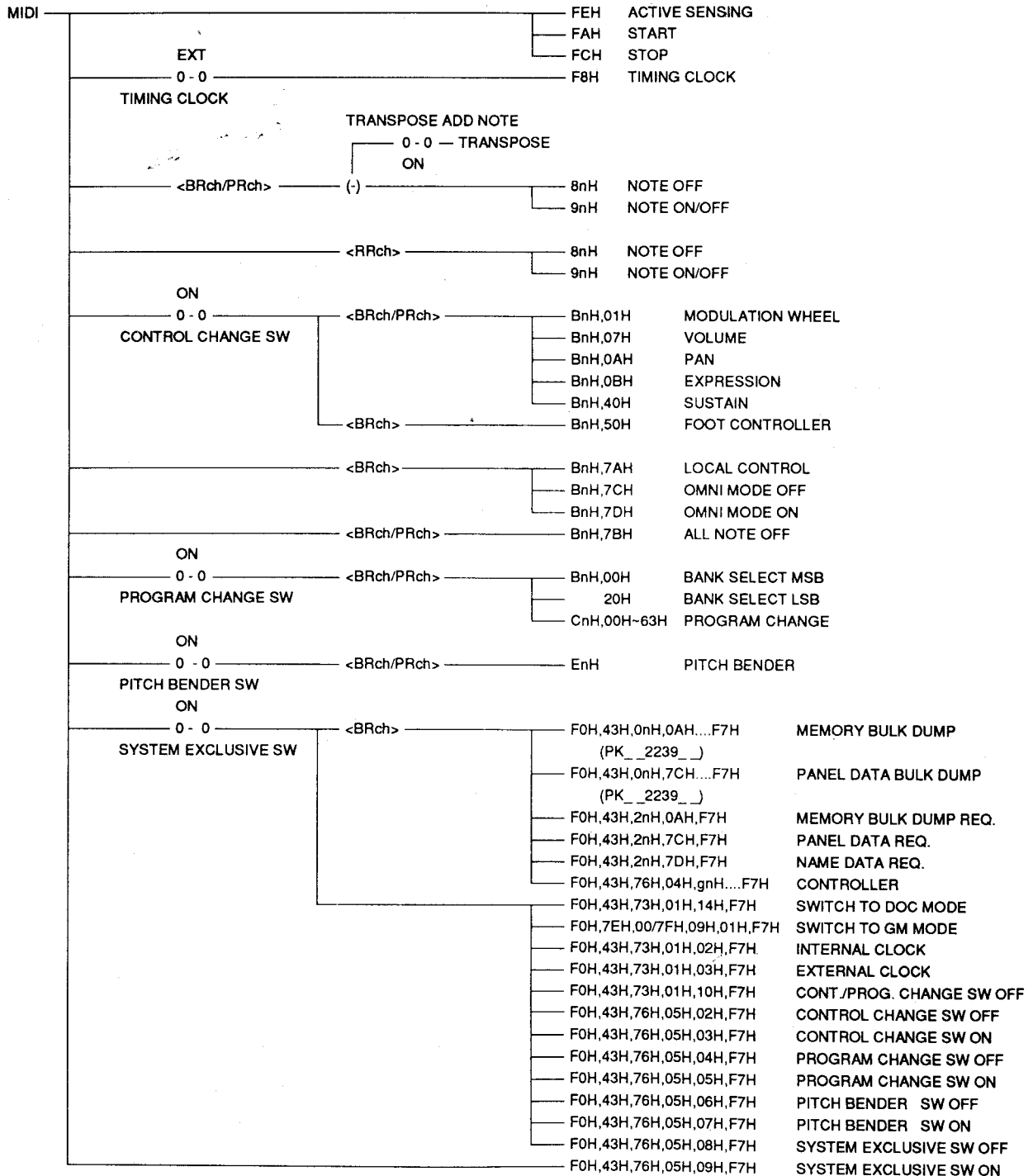
If a damaged disk is used the data countdown during FROM DISK or TO DISK operations may stop and the load or save operation may get "hung up." In this case, eject the disk from the drive even though the DISK IN USE lamp may be on. Discard the damaged disk.

# MIDI DATA FORMAT

## I. Remote Control Mode

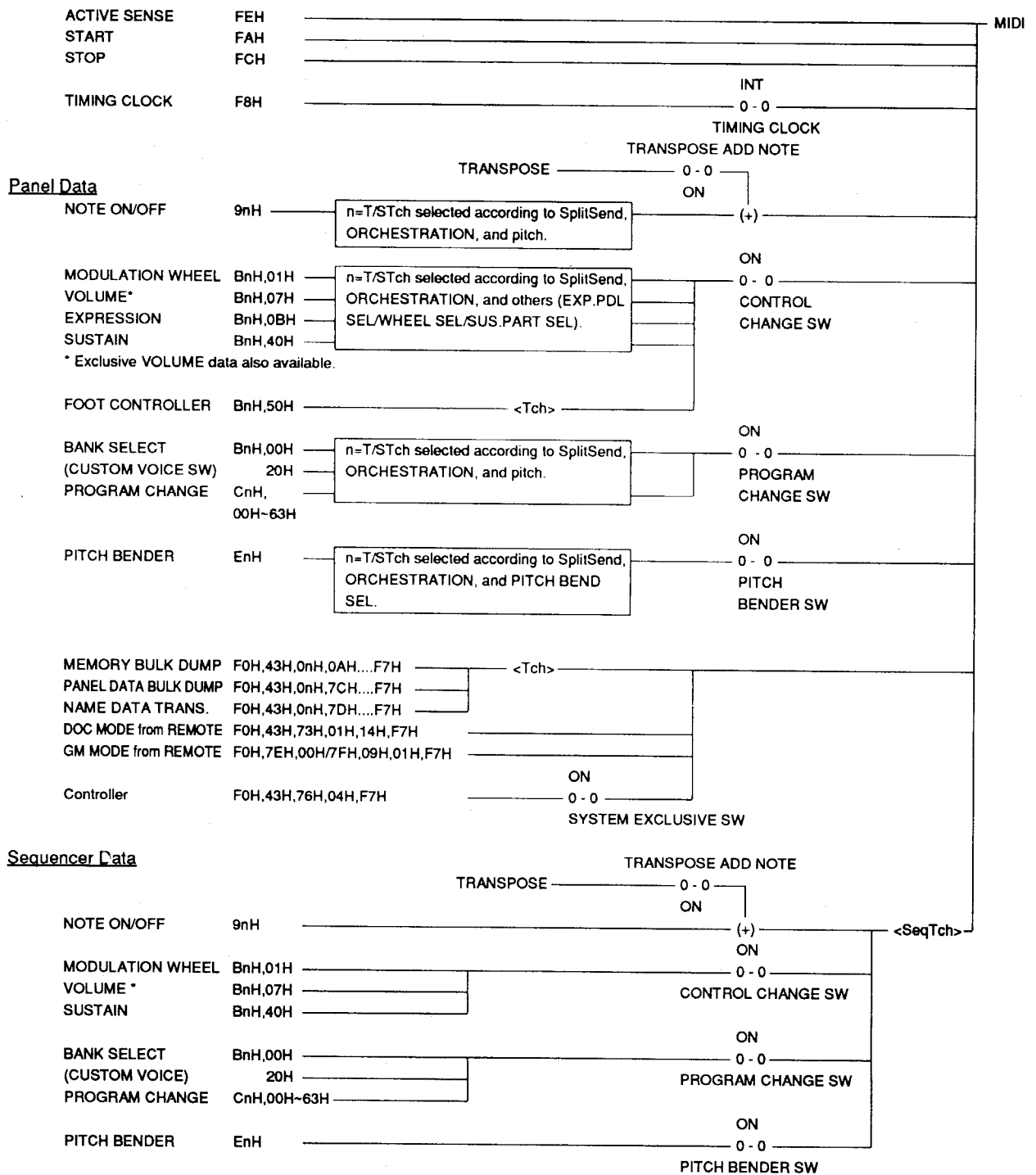
- \* Values with an "H" suffix are hexadecimal.
- \* Bei Werten mit dem Suffix "H" handelt es sich um Hexadezimalwerte.
- \* Les valeurs précédées du suffixe "H" sont des valeurs hexadécimales.
- \* Los valores con un sufijo "H" son hexadecimales.

<Reception Conditions> BRch:Basic Receive Channel  
 PRch:Multi Part Receive Channel  
 RRch:Rhythm Receive Channel



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<Transmission Conditions> Tch :Transmit Channel  
 STch :Split Transmit Channel  
 SeqTch:Sequencer Transmit Channel



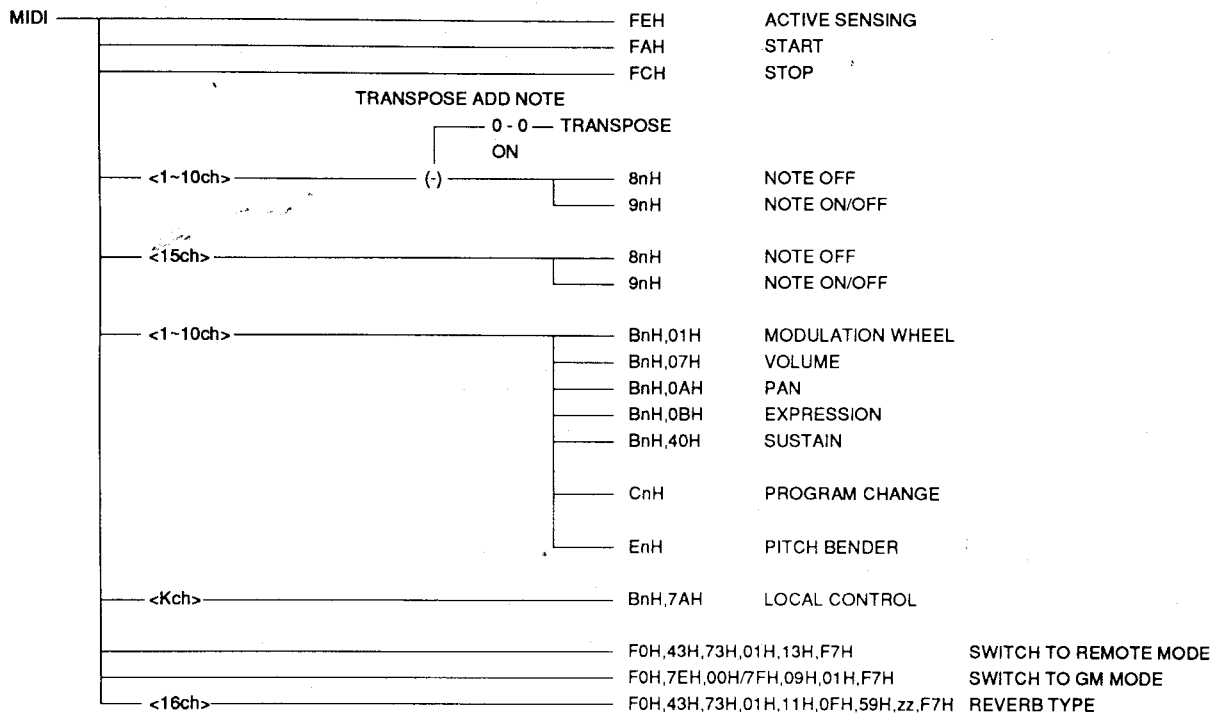
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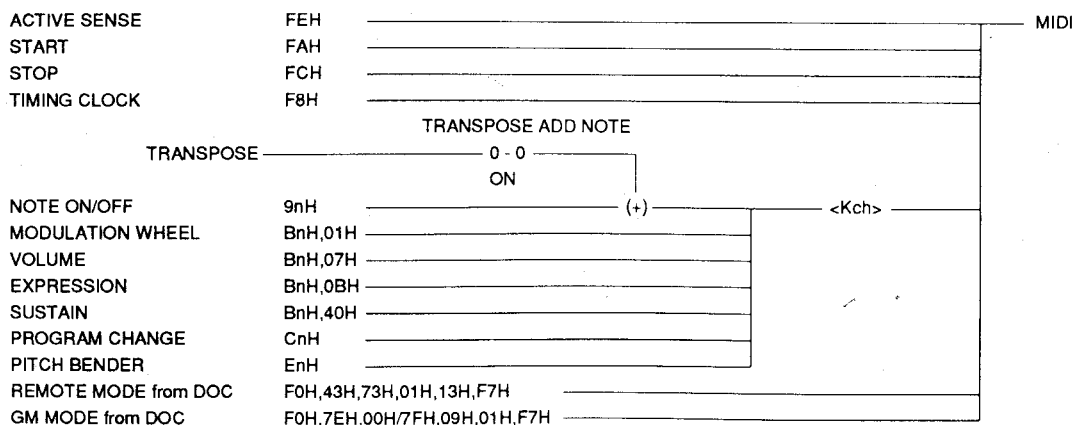
## II. DOC Mode

<Reception Conditions>

Kch:Key Channel



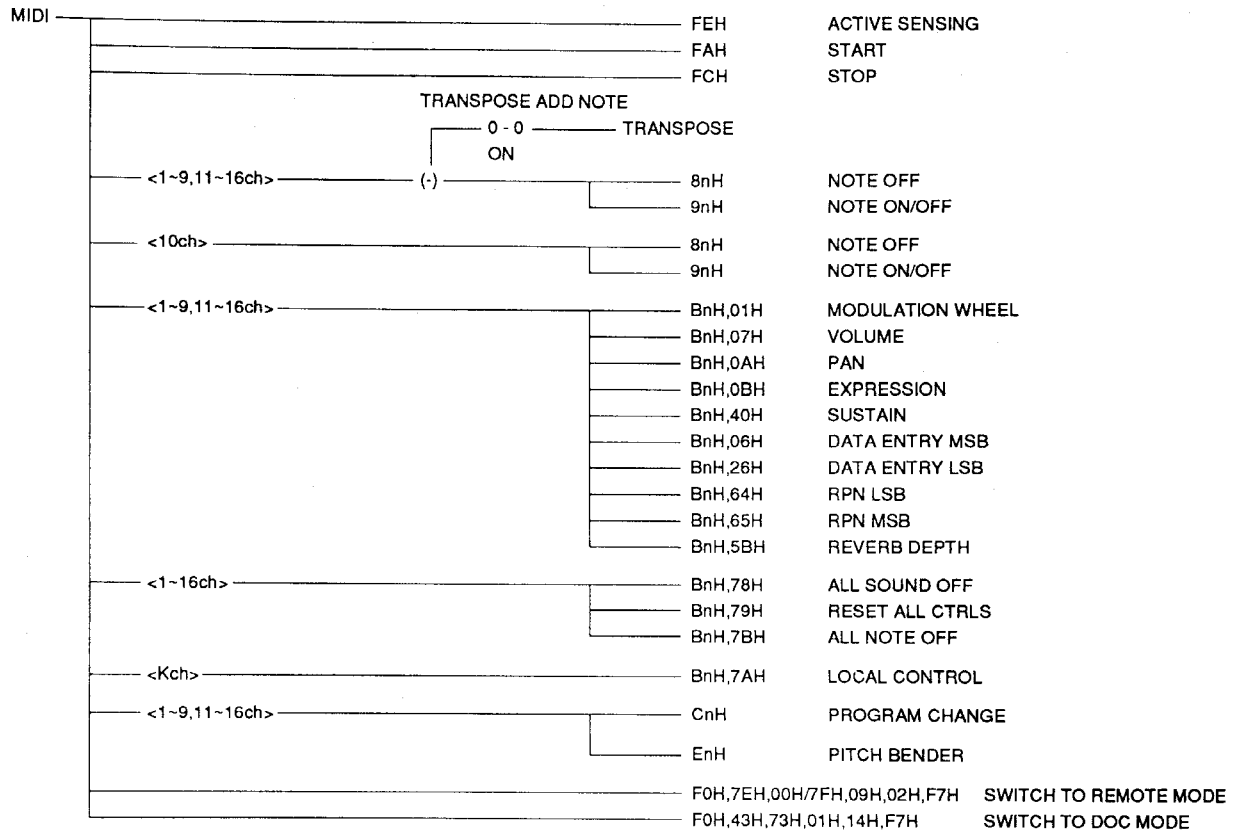
<Transmission Conditions> Kch:Key Channel



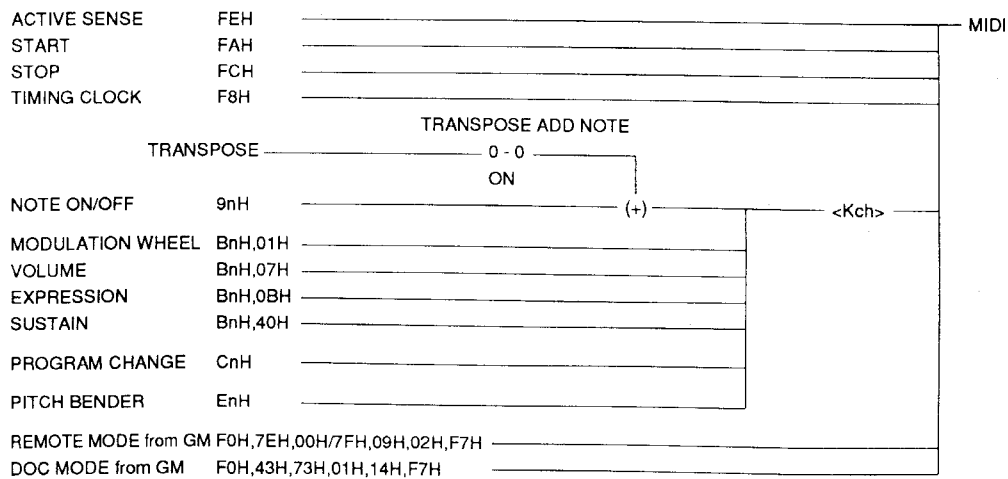
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### III. GM Mode

<Reception Conditions> Kch:Key Channel



<Transmission Conditions> Kch:Key Channel



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# I. Channel Message

## 1. VOICE MESSAGE

1-1) 8n : NOTE OFF (Reception only)

(Compatible with Remote: O DOC: O GM1: O)

8	n
0	k
0	v

n: MIDI Channel  
k: Key Note Number  
v: Velocity  
Velocity value ignored.

1-2) 9n : NOTE ON/OFF (Compatible with Remote: O DOC: O GM1: O)

9	n
0	k
0	v

n: MIDI Channel  
k: Key Note Number  
v: Velocity 00H-7FH  
Key off when velocity = 0.

1-3) Cn : PROGRAM CHANGE

(Compatible with Remote: O DOC: O GM1: O)

C	n
0	p

n: MIDI Channel  
p: Program Number

[IN/OUT]

Program Number Remote : 0-99  
DOC : 0-87 (Some numbers omitted)  
GM1 : 0-127

1-4) En : PITCH BEND CHANGE

(Compatible with Remote: O DOC: O GM1: O)

E	n
0	LSB
0	MSB

n: MIDI Channel  
MSB LSB  
01111111 01111111 : max  
:  
:  
01000000 00000000 : center  
:  
:  
00000000 00000000 : min

[IN]

Pitch range. Remote : Depends on voice.  
DOC : ±300¢  
GM1 : ±200 cents default. Maximum range  
±1 octave with RPN.

[OUT]

Pitch bend wheel value output.

1-5) Bn : CONTROL CHANGE

B	n
0	c
0	v

n: MIDI Channel  
c: Control Number  
v: Control Value

c=0 (Bank Select MSB) (Compatible with Remote: O DOC: X GM1: X)

[IN/OUT]

v = 00H, fixed.

c=1 (Modulation Depth) (Compatible with Remote: O DOC: O GM1: O)

[IN]

v= Remote : Depends on voice.  
DOC : vibrato depth  
GM1 : Depends on voice.

[OUT]

v = modulation wheel value: 00H(min) ~ 7FH(max).

c=7 (Volume) (Compatible with Remote: O DOC: O GM1: O)

[IN]

v= Remote : Corresponds to fader position.  
DOC : 7FH=0dB, 00H=-∞, 0.1875dB/step  
GM1 : 7FH=0dB, 60H=-4.8dB, 40H=-11.9dB,  
20H=-23.9dB, 10H=-36dB, 00H=-∞

[OUT]

v= Remote : Corresponds to fader position.  
DOC : Actual dB value applied to tone generator in  
0.1875 dB steps, according to fader position.  
GM1 : Inverse change applied to tone generator in dB,  
according to fader position.  
0dB=7FH, -4.8dB=60H, -11.9dB=40H,  
-23.9dB=20H,.....

c=10 (Pan) (Reception only)

(Compatible with Remote: O DOC: O GM1: O)

[IN]

	Remote GM1	DOC
V= 00H-07H	LEFT 7	LEFT 6
08H-0FH	6	6
10H-17H	5	6
18H-1FH	4	5
20H-27H	3	4
28H-2FH	2	3
30H-37H	1	2
38H-3FH	CENTER	1
40H	VOICE PAN	CENTER
41H-47H	CENTER	CENTER
48H-4FH	RIGHT 1	VOICE PAN
50H-57H	2	RIGHT 1
58H-5FH	3	2
60H-67H	4	3
68H-6FH	5	4
70H-77H	6	5
78H-7FH	7	6

c=11 (Expression) (Compatible with Remote: O DOC: O GM1: O)

[IN]

v= Remote : Corresponds to expression position.  
DOC : 7FH=0dB, 00H=-∞, 0.1875dB/step  
GM1 : 7FH=0dB, 60H=-4.8dB, 40H=-11.9dB,  
20H=-23.9dB, 10H=-36dB, 00H=-∞

[OUT]

v= Remote : Corresponds to expression position.  
DOC : Actual dB value applied to tone generator in  
0.1875 dB steps, according to expression  
position.  
GM1 : Inverse change applied to tone generator in dB,  
according to expression position.  
0dB=7FH, -4.8dB=60H, -11.9dB=40H,  
-23.9dB=20H,.....

c=32 (Bank Select LSB)  
(Compatible with Remote: O DOC: X GM1: X)

[IN/OUT]  
v= 00H: CustomVoice SW OFF  
01H: CustomVoice SW ON

c=64 (Sustain) (Compatible with Remote: O DOC: O GM1: O)

[IN]  
v= : 00H-3FH=OFF, 40H-7FH=ON  
(In DOC mode 00H-2FH=OFF, 30H-7FH=ON)  
[OUT]  
v= : 00H=OFF, 7FH=ON

c=80 (Foot Controller) (Compatible with Remote: O DOC: X GM1: X)

[IN]  
v= : 00H-3FH=OFF, 40H-7FH=ON  
[OUT]  
v= : 00H=OFF, 7FH=ON

c=100(RPN LSB) (Reception only)  
(Compatible with Remote: X DOC: X GM1: O)

=101(RPN MSB)  
[IN]  
MSB LSB Function  
v= 00H 00H Pitch Bend Sense  
00H 01H Fine Tuning  
00H 02H Coarse Tuning

c=6 (Data Entry MSB) (Reception only)  
(Compatible with Remote: X DOC: X GM1: O)

=38 (Data Entry LSB)  
[IN]  
v= Data input according to RPN, above.  
Pitch Bend Sense: 1 step = 100/128 cents,  
range = 0 ~ 1200 cents.  
Fine Tuning: 1 step = 100/8196 cents, range = ±100 cents.  
Coarse Tuning: 1 step = 100 cents, range = ±1200 cents.

c=91 (Reverb Depth) (Reception only)  
(Compatible with Remote: X DOC: X GM1: O)  
v = reverb depth 00H(min) ~ 7FH(max)

2. MODE MESSAGE (Reception only)

B	n	n: MIDI Channel
0	c	c: Mode Message
0	v	v: Value

Refer to the chart below.

Mode Message	Function	Value	Remote	DOC	GM1
120	All Sound off	00H~7FH	X	X	O
121	Reset AllCtrls	00H~7FH	X	X	O
122	Local Control	00H (off), All others (on)	O	O	O
123	All Notes Off	00H	O	X	O
124	OMNI Mode Off	00H	O	X	X
125	OMNI Mode On	00H	O	X	X

II. System Message

1. REAL TIME MESSAGE

FB : TIMING CLOCK (Compatible with Remote: O DOC: O GM1: O)  
Transmission only in DOC & GM1 modes.  
FA : START (Compatible with Remote: O DOC: O GM1: O)  
FC : STOP (Compatible with Remote: O DOC: O GM1: O)  
FE : ACTIVE SENSING (Compatible with Remote: O DOC: O GM1: O)

2. SYSTEM EXCLUSIVE MESSAGE

(1) MEMORY BULK DUMP REQUEST (Reception only)  
(Compatible with Remote: O DOC: X GM1: X)

```
11110000 F0H Status
01000011 43H YAMAHA ID
0010nnnn 2nH Substatus/n: Device Number
00001010 0AH Format Number
11110111 F7H EOX
```

(2) MEMORY BULK DUMP DATA  
(Compatible with Remote: O DOC: X GM1: X)

```
11110000 F0H Status
01000011 43H YAMAHA ID
0000nnnn 0nH Substatus/n: Device Number
00001010 0AH Format Number
0nnnnnnn nn Byte Count MSB
0nnnnnnn nn Byte Count LSB
01010000 50H Header 'P
01001011 4BH 'K
00100000 20H space
00100000 20H space
00110010 32H '2
00110010 32H '2
00110011 33H '3
00111001 39H '9
00100000 20H space
0nnnnnnn nn Data Number*
0ddddd dd
: : Data
0ddddd dd
0sssssss ss Check-sum
11110111 F7H EOX
```

\* DATA NUMBER

```
00H SYSTEM SET UP DATA
01H VOICE REGISTRATION DATA
02H PANEL REGISTRATION DATA
03H, 04H SUPER STYLE PLAY DATA
05H-07H PAD DATA
08H CUSTOM VOICE DATA
09H-1AH CUSTOM ACCOMPANIMENT DATA
1BH-2BH SEQUENCER DATA
```

(3) PANEL DATA REQUEST (Reception only)

(Compatible with Remote: O DOC: X GM1: X)

11110000 F0H Status  
 01000011 43H YAMAHA ID  
 0010nnnn 2nH Substatus/n: Device Number  
 01111100 7CH Format Number  
 11110111 F7H EOX

(4) PANEL DATA BULK DUMP

(Compatible with Remote: O DOC: X GM1: X)

11110000 F0H Status  
 01000011 43H YAMAHA ID  
 0000nnnn 0nH Substatus/n: Device Number  
 01111100 7CH Format Number  
 0nnnnnnn nn Byte Count MSB  
 0nnnnnnn nn Byte Count LSB  
 01010000 50H Header 'P  
 01001011 4BH 'K  
 00100000 20H space  
 00100000 20H space  
 00110010 32H '2  
 00110010 32H '2  
 00110011 33H '3  
 00111001 39H '9  
 00100000 20H space  
 00100000 20H space  
 0vvvvvvv vv Software Version Number  
 0rrrrrrr rr Software Revision Number  
 0ddddd dd  
 : : Data  
 0ddddd dd  
 0sssssss ss Check-sum  
 11110111 F7H EOX

(5) NAME DATA REQUEST (Reception only)

(Compatible with Remote: O DOC: X GM1: X)

11110000 F0H Status  
 01000011 43H YAMAHA ID  
 0010nnnn 2nH Substatus/n: Device Number  
 01111101 7DH Format Number  
 11110111 F7H EOX

(6) NAME DATA TRANSMISSION (Transmission Only)

(Compatible with Remote: O DOC: X GM1: X)

11110000 F0H Status  
 01000011 43H YAMAHA ID  
 0000nnnn 0nH Substatus/n: Device Number  
 01111101 7DH Format Number  
 0nnnnnnn nn Byte Count MSB  
 0nnnnnnn nn Byte Count LSB  
 01010000 50H Header 'P  
 01001011 4BH 'K  
 00100000 20H space  
 00100000 20H space

00110010 32H '2  
 00110010 32H '2  
 00110011 33H '3  
 00111001 39H '9  
 00100000 20H space  
 00100000 20H space  
 0vvvvvvv vv Software Version Number  
 0rrrrrrr rr Software Revision Number  
 0ccccc cc  
 0ccccc cc  
 0ccccc cc  
 0ccccc cc  
 0ccccc cc  
 0sssssss ss Check-sum  
 11110111 F7H EOX

Condition Data

(7) DOC/Remote Control Mode Switching

(7.1) REMOTE CONTROL MODE

(Compatible with Remote: X DOC: O GM1: X)

11110000 F0H Status  
 01000011 43H  
 01110011 73H  
 00000001 01H  
 00010011 13H  
 11110111 F7H EOX

(7.2) DOC MODE (Compatible with Remote: O DOC: X GM1: O)

11110000 F0H Status  
 01000011 43H  
 01110011 73H  
 00000001 01H  
 00010100 14H  
 11110111 F7H EOX

(8) GM Level 1/Remote Control Mode Switching

(8.1) REMOTE CONTROL MODE

(Compatible with Remote: X DOC: X GM1: O)

11110000 F0H Status  
 01111110 7EH  
 01111111 <Device ID> 00H or 7FH  
 00001001 09H  
 00000010 02H GM Mode Off  
 11110111 F7H EOX

(8.2) GM Level 1 MODE

(Compatible with Remote: O DOC: O GM1: X)

11110000 F0H Status  
 01111110 7EH  
 01111111 <Device ID> 00H or 7FH  
 00001001 09H  
 00000001 01H GM Mode On  
 11110111 F7H EOX

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(9) CLOCK MODE CHANGE

(9.1) INTERNAL MODE (Reception only)

(Compatible with Remote: O DOC: X GM1: X)

11110000	F0H	Status
01000011	43H	YAMAHA ID
01110011	73H	Substatus Section No.= 3 (Single Keyboard)
00000001	01H	Product ID
00000010	02H	Internal Clock Mode
11110111	F7H	EOX

(9.2) EXTERNAL MODE (Reception only)

(Compatible with Remote: O DOC: X GM1: X)

11110000	F0H	Status
01000011	43H	YAMAHA ID
01110011	73H	Substatus Section No.= 3 (Single Keyboard)
00000001	01H	Product ID
00000011	03H	External Clock Mode
11110111	F7H	EOX

(10) CONTROL/PROGRAM CHANGE OFF (Reception only)

(Compatible with Remote: O DOC: X GM1: X)

11110000	F0H	Status
01000011	43H	YAMAHA ID
01110011	73H	Substatus Section No.= 3 (Single Keyboard)
00000001	01H	Product ID
00010000	10H	MIDI non-sync mode on.
11110111	F7H	EOX

(11) CONTROL CHANGE OFF (Reception only)

(Compatible with Remote: O DOC: X GM1: X)

11110000	F0H	Status
01000011	43H	YAMAHA ID
01110110	76H	Substatus Section No.= 6 (Portable Keyboard)
00000101	05H	
00000010	02H	Control Change Off
11110111	F7H	EOX

(12) CONTROL CHANGE ON (Reception only)

(Compatible with Remote: O DOC: X GM1: X)

11110000	F0H	Status
01000011	43H	YAMAHA ID
01110110	76H	Substatus Section No.= 6 (Portable Keyboard)
00000101	05H	
00000011	03H	Control Change On
11110111	F7H	EOX

(13) PROGRAM CHANGE OFF (Reception only)

(Compatible with Remote: O DOC: X GM1: X)

11110000	F0H	Status
01000011	43H	YAMAHA ID
01110110	76H	Substatus Section No.= 6 (Portable Keyboard)
00000101	05H	
00000100	04H	Program Change Off
11110111	F7H	EOX

(14) PROGRAM CHANGE ON (Reception only)

(Compatible with Remote: O DOC: X GM1: X)

11110000	F0H	Status
01000011	43H	YAMAHA ID
01110110	76H	Substatus Section No.= 6 (Portable Keyboard)
00000101	05H	
00000101	05H	Program Change On
11110111	F7H	EOX

(15) PITCH BEND OFF (Reception only)

(Compatible with Remote: O DOC: X GM1: X)

11110000	F0H	Status
01000011	43H	YAMAHA ID
01110110	76H	Substatus Section No.= 6 (Portable Keyboard)
00000101	05H	
00000110	06H	Pitch Bender Off
11110111	F7H	EOX

(16) PITCH BEND ON (Reception only)

(Compatible with Remote: O DOC: X GM1: X)

11110000	F0H	Status
01000011	43H	YAMAHA ID
01110110	76H	Substatus Section No.= 6 (Portable Keyboard)
00000101	05H	
00000111	07H	Pitch Bender On
11110111	F7H	EOX

(17) SYSTEM EXCLUSIVE OFF (Reception only)

(Compatible with Remote: O DOC: X GM1: X)

11110000	F0H	Status
01000011	43H	YAMAHA ID
01110110	76H	Substatus Section No.= 6 (Portable Keyboard)
00000101	05H	
00001000	08H	System Exclusive Off
11110111	F7H	EOX

(18) SYSTEM EXCLUSIVE ON (Reception only)

(Compatible with Remote: O DOC: X GM1: X)

11110000	F0H	Status
01000011	43H	YAMAHA ID
01110110	76H	Substatus Section No.= 6 (Portable Keyboard)
00000101	05H	
00001001	09H	System Exclusive On
11110111	F7H	EOX

This command can be received even when system exclusive is OFF.

(19) REVERB TYPE (Compatible with Remote: X DOC: O GM1: X)

11110000	F0H	Status
01000011	43H	YAMAHA ID
01110011	73H	Substatus Section No.= 3 (Single Keyboard)
00000001	01H	Product ID
00010001	11H	
0000nnnn	0FH	
01011001	59H	
0zzzzzzz	zz	Reverb Type
11110111	F7H	EOX

zz =00 : OFF  
01 : ROOM  
02 : HALL  
03 : HALL  
04 : OFF

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### 3. MIDI EXTENDED CONTROL CHANGE

#### Reception & Transmission Rules

- ① Only controls that are active in each mode are available for reception and transmission.
- ② As for functions, when a data entry button below the display is pressed a corresponding data entry event is transmitted rather than the edited value.
  - Reverb and effect type/depth ON events are transmitted simultaneously.
  - Harmony type also transmitted simultaneously with an ON event.
  - ABC mode transmitted when ABC turned ON, and ABC is turned ON when an ABC mode message is received.
- ③ For controls such as the DEMO button which is held while some other operation is performed, an ON event is transmitted when the button is pressed and an OFF event is transmitted when the button is released.
- ④ OFF→ON events are transmitted in succession when an auto-repeat controller is used.

(1) 1BYTE DATA FORMAT

(O: Transmit & receive. X: No transmit or receive. R: Receive only)

11110000 F0H Status  
 01000011 43H YAMAHA ID  
 01110110 76H Substatus Section No.= 6 (Portable Keyboard)  
 00000100 04H  
 0gggnnnn gn g=0, n:Local Device Number  
 0ccccc cc cc: Controller number  
 0ddddd dd Data  
 11110111 F7H EOX

1BYTE DATA

g	cc	dd	Parameter	Function	Remote	DOC/GM
0	00H	00H	PRESET 0:0	RHYTHM STYLE	O	X
		23H	PRESET 5:5			
		24H	CUSTOM 0			
		29H	CUSTOM 5			
	01H	00H	OFF	ABC Includes ABC ON.	O	X
		01H	SF			
		02H	FC			
		03H	MB			
	03H	00H	OFF (Release button)	INTRO./FILL IN	O	X
		01H	INTRO./FILL1 ON (Press)			
		02H	INTRO./FILL2 ON (Press)			
	04H	00H	INTRO./ENDING ON (Press)	INTRO./ENDING	O	X
	05H	00H	SYNCHRO START ON (Press)	SYNCHRO START	O	X
	08H	7AH	-6	TRANSCOPE	R	X
			2's complement			
		7FH	-1 of 7 bits.			
		00H	0			
		06H	+6			
	0BH	01H	ORCH. 1	ORCHESTRATION	O	X
		07H	ORCH. 2+1			
		08H	ORCH. 2+1			
	0CH	00H	SSP OFF	SUPER STYLE PLAY	O	X
		01H	SSP 1			
		04H	SSP 4			
	0DH	04H	KEY VELOCITY OFF	KEY VELOCITY	R	X
		05H	KEY VELOCITY ON			

g	cc	dd	Parameter	Function	Remote	DOC/GM			
	0EH	00H	REVERB OFF	REVERB/EFFECT (Refer to "3 BYTE DATA" for each part)  Transmitted when ON.	O	X			
		01H	REVERB ON						
		02H	REVERB TYPE 1						
		1AH	REVERB TYPE 25						
		40H	EFFECT OFF						
		41H	EFFECT ON						
		42H	EFFECT TYPE 1						
		4AH	EFFECT TYPE 9						
	11H	00H	PANEL REGISTRATION A1	PANEL REGISTRATION	O	X			
		0FH	PANEL REGISTRATION B8						
	12H	01H	PAD MULTI	MULTI PAD	O	X			
		02H	PAD TEMPO						
		03H	PAD PERCUSSION						
		06H	REPEAT/SYNC/BREAK OFF						
		07H	REPEAT/SYNC/BREAK ON						
		08H	PAD REC/STOP OFF (When released)						
		09H	PAD REC/STOP ON (When pressed)						
	15H	09H	SONG SELECT 1				SEQUENCER SONG SELECT	O	X
		0EH	SONG SELECT 6						
	17H	00H-7FH	CHORD 1 VOL.	CHORD 1 VOL.	O	X			
	18H	00H-7FH	BASS VOL.	BASS VOL.	O	X			
	19H	00H-7FH	RHYTHM VOL.	RHYTHM VOL.	O	X			
	1CH	00H-7FH	ORCH. 2 VOL.	ORCH. 2 VOL.	O	X			
	1DH	00H-7FH	CHORD 2 VOL.	CHORD 2 VOL.	O	X			
	1FH	00H	VOICE PART SELECT ORCH. 1	VOICE PART SELECT	O	X			
		01H	VOICE PART SELECT ORCH. 2						
	20H	00H	HARMONY OFF	HARMONY	O	X			
		01H	HARMONY ON						
		02H	HARMONY TYPE 1						
		11H	HARMONY TYPE 16						
	22H	00H	DEMO OFF	DEMONSTRATION	O	X			
		01H	DEMO ON						
	23H	00H	VOICE REGISTRATION 1	VOICE REGISTRATION MEMORY	O	X			
		09H	VOICE REGISTRATION 10						

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g	cc	dd	Parameter	Function	Remote	DOC/GM
	24H	00H	IA OFF	INTERACTIVE ACCOMPANIMENT	O	X
		01H	IA ON			
		02H	VERSE1			
		03H	VERSE2			
		04H	CHORUS1			
		05H	CHORUS2			
		06H	SOLO OFF			
	07H	SOLO ON				
	25H	00H	EXIT	FUNCTION/ SEQUENCER MODE/ CUSTOM ACCOMP. MODE	O	X
		01H	FUNCTION 1			
		06H	FUNCTION 6			
		07H	SEQUENCER OFF			
		08H	SEQUENCER ON			
		09H	CUS.ACCOMP. OFF			
	0AH	CUS.ACCOMP. ON				
	26H	02H	EDIT OFF	SEQUENCER/ CUSTOM ACCOMP.	O	X
		03H	EDIT ON			
		04H	DELETE OFF (When released)			
		05H	DELETE ON (When pressed)			
		06H	▶▶ OFF (When released)			
		07H	▶▶ ON (When pressed)			
		08H	◀◀ OFF (When released)			
		09H	◀◀ ON (When pressed)			
		0AH	⌘ ON (When pressed)			
		0Bh	RECORD OFF(When released)			
	0Ch	RECORD ON (When pressed)				
	27H	00H	TRACK1/CHORD1	SEQUENCER/ CUSTOM ACCOMP.	O	X
		05H	TRACK6/CHORD6			
		06H	TRACK7/BASS			
		07H	ACCOMP/RHYTHM			
	28H	00H	LEFT HOLD OFF	LEFT HOLD	O	X
		01H	LEFT HOLD ON			
	29H	00H	▲	PAGE/SHIFT SW	O	X
		01H	▼			
		02H	◀			
		03H	▶			
	2AH	00H	LCD SW 1 OFF (When released)	DATA ENTRY SW  (Not transmitted when voice or style changed)	O	X
		01H	LCD SW 1 ON (When pressed)			
		02H	LCD SW 2 OFF (When released)			
		03H	LCD SW 2 ON (When pressed)			
		04H	LCD SW 3 OFF (When released)			
		05H	LCD SW 3 ON (When pressed)			
		06H	LCD SW 4 OFF (When released)			
	07H	LCD SW 4 ON (When pressed)				
	2BH	67H	427.5Hz	PITCH TUNE	R	X
		:	: 2's complement of 7 bits.			
		7FH	439.5Hz			
		00H	440.0Hz (0.5Hz/Step)			
		19H	452.5Hz			
	2CH	00H	RE-START	RE-START	O	X

(2) 2BYTE DATA FORMAT

(O: Transmit & receive. X: No transmit or receive. R: Receive only)

11110000 F0H Status  
 01000011 43H YAMAHA ID  
 01110110 76H Substatus Section No.= 6 (Portable Keyboard)  
 00000100 04H  
 0gggnnnn gn g=1, n: Local Device Number  
 0ccccc cc cc: Controller number  
 0ddddd dd1 Data1  
 0ddddd dd2 Data2  
 11110111 F7H EOX

2BYTE DATA

g	cc	dd1	dd2	Parameter	Function	Remote	DOC/GM
1	00H	40-280		TEMPO VALUE	TEMPO	O	X
		(Expressed in 14 bits)					
	01H	00H	00H-7FH	PAD 1	PAD ON/OFF  dd2=0:ON (Press) dd2=0:OFF (Release)	O	X
		01H	00H-7FH	PAD 2			
		02H	00H-7FH	PAD 3			
		03H	00H-7FH	PAD 4			
		04H	00H-7FH	PAD 5			
		05H	00H-7FH	PAD 6			
		06H	00H-7FH	PAD 7			
		07H	00H-7FH	PAD 8			
	02H	00H	00H-63H	PRESET VOICE	ORCH.2 VOICE	O	X
		01H	00H-63H	CUSTOM VOICE			
	03H	00H	00H-59H	PRESET VOICE	MB VOICE	O	X
		01H	00H-59H	CUSTOM VOICE			
	04H	00H	00H(Normal)	ORCH. 1	OCTAVE CHANGE	R	X
			01H (1up)				
7FH (1down)							
	01H	00H (Normal)	ORCH. 2		R	X	
		01H (1up)					
		7FH (1down)					

(3) 3BYTE DATA FORMAT

(O: Transmit & receive. X: No transmit or receive. R: Receive only)

11110000 F0H Status  
 01000011 43H YAMAHA ID  
 01110110 76H Substatus Section No.= 6 (Portable Keyboard)  
 00000100 04H  
 0gggnnnn gn g=2, n: Local Device Number  
 0ccccc cc cc: Controller number  
 0ddddd dd1 Data1  
 0ddddd dd2 Data2  
 0ddddd dd3 Data3  
 11110111 F7H EOX

3BYTE DATA

g	cc	dd1	dd2	dd3	Parameter	Function	Remote	DOC/GM
2	00H	00H	00H-07H	01H	RHYTHM	Reverb depth.  Values for all parts transmitted when reverb is turned ON.	O	X
		01H	00H-07H	01H	BASS			
		02H	00H-07H	01H	CHORD2			
		03H	00H-07H	01H	CHORD1			
		04H	00H-07H	01H	ORCH. 2			
		05H	00H-07H	01H	ORCH. 1			
	01H	01H	00H-07H	01H	BASS	Effect depth.  Values for all parts transmitted when effect is turned ON.	O	X
		02H	00H-07H	01H	CHORD2			
		03H	00H-07H	01H	CHORD1			
		04H	00H-07H	01H	ORCH. 2			
05H		00H-07H	01H	ORCH. 1				

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YAMAHA [ Portatone ]

Date : 07/23 1992

Model PSR-5700 MIDI Implementation Chart

Version : 1.0

Function	Transmitted	Recognized	Remarks
Basic Default	1-16	1-16	memorized
Channel Changed	1-16	1-16	
Mode Default	3	1,3 *2	memorized
Mode Messages	X	OMNIon,OMNIoff	
Mode Altered	*****	X	
Note Number : True voice	36-96 *****	0-127	
Velocity Note on	0 9nH, v=1-127	0 v=1-127	
Velocity Note off	X 9nH, v=0	X	
After Key's	X	X	
Touch Ch's	X	X	
Pitch Bender	0	0 0-12 semi	*1:7bit resolution
Control Change	0,32 : 0 1 : 0 6,38 : X 7 : 0 10 : X 11 : 0 64 : 0 80 : 0 91 : X 100,101 : X 120 : X 121 : X	*2 : 0 : 0 : 0 : 0 : 0 : 0 *2 : 0 : 0 : 0 *3 : 0 : 0 *3 : 0 *3 : 0 *3 : 0	*2 : Bank Select : Modulation *3 : Data Entry : Volume : Pan : Expression : Sustain *2 : Foot Controller *3 : Reverb Depth *3 : RPN LSB,MSB *3 : All Sound Off *3 : Reset All Ctrls
Program Change : True #	0 0-99 *****	0 0-99	*4 : *4
System Exclusive	0	0	
System : Song Pos	X	X	
System : Song.Sel	X	X	
Common : Tune	X	X	
System :Clock	0	0	*2
Real Time:Commands	0	0	
Aux :Local ON/OFF	X	0	
Aux :All Notes OFF	X	0 (122-125)	*5
Mes- :Active Sense	0	0	
sages:Reset	X	X	
Notes	*1 = 0-3 if DOC mode is on *2 = only remote control mode *3 = only GM mode *4 = 0-127 if GM mode is on 0-87 if DOC mode is on *5 = 122-123 if GM mode is on 122 if DOC mode is on		

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