

MUSIC PRODUCTION SYNTHESIZER

MOTIF6 / MOTIF7 / MOTIF8

SERVICE MANUAL



MOTIF8



MOTIF7



MOTIF6

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SY 011580

MOTIF6 20010630-230000
MOTIF7 20010630-255000
MOTIF8 20010801-325000



HAMAMATSU, JAPAN

1.498K-0053 K ① Printed in Japan 2001.07

IMPORTANT NOTICE

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

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

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

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

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

IMPORTANT: Turn the unit OFF during disassembly and 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.

LITHIUM BATTERY HANDLING

This product uses a lithium battery for memory back-up.

WARNING : Lithium batteries are dangerous because they can be exploded by improper handling. Observe the following pre-cautions when handling or replacing lithium batteries.

- Leave lithium battery replacement to qualified service personnel.
- Always replace with batteries of the same type.
- When installing on the PC board by soldering, solder using the connection terminals provided on the battery cells.
- Never solder directly to the cells. Perform the soldering as quickly as possible.
- Never reverse the battery polarities when installing.
- Do not short the batteries.
- Do not attempt to recharge these batteries.
- Do not disassemble the batteries.
- Never heat batteries or throw them into fire.

ADVARSEL!

Lithiumbatteri-Eksplosionsfare ved fejlagtig handling. Udskiftning ma kun ske med batteri af samme fabrikat og type. lever det brugte batteri tilbage til leverandren.

VARNING

Explosionsfara vid felaktigt batteribyte. Anvand samma batterityp eller en ekvivalent typ som rekommenderas av apparatillverkaren. Kassera anvant batteri enligt fabrikantens instruktion.

VAROITUS

Paristo voi rajahtaa, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittellemaan tyyppiin. Havita kaytetty paristo valmistajan ohjeiden mukaisesti.

The following information complies with Dutch official Gazette 1995. 45; ESSENTIALS OF ORDER ON THE COLLECTION OF BATTERIES.

- Please refer to the disassembly procedure for the removal of Back-up Battery.

Leest u voor het verwijderen van de backup batterij deze beschrijving.

WARNING

[https://www.arepairmanual.com/downloads/yamaha-motif6motif7motif8-music-production-synthesizer-service-repair-workshop-](https://www.arepairmanual.com/downloads/yamaha-motif6motif7motif8-music-production-synthesizer-service-repair-workshop-manual/)

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

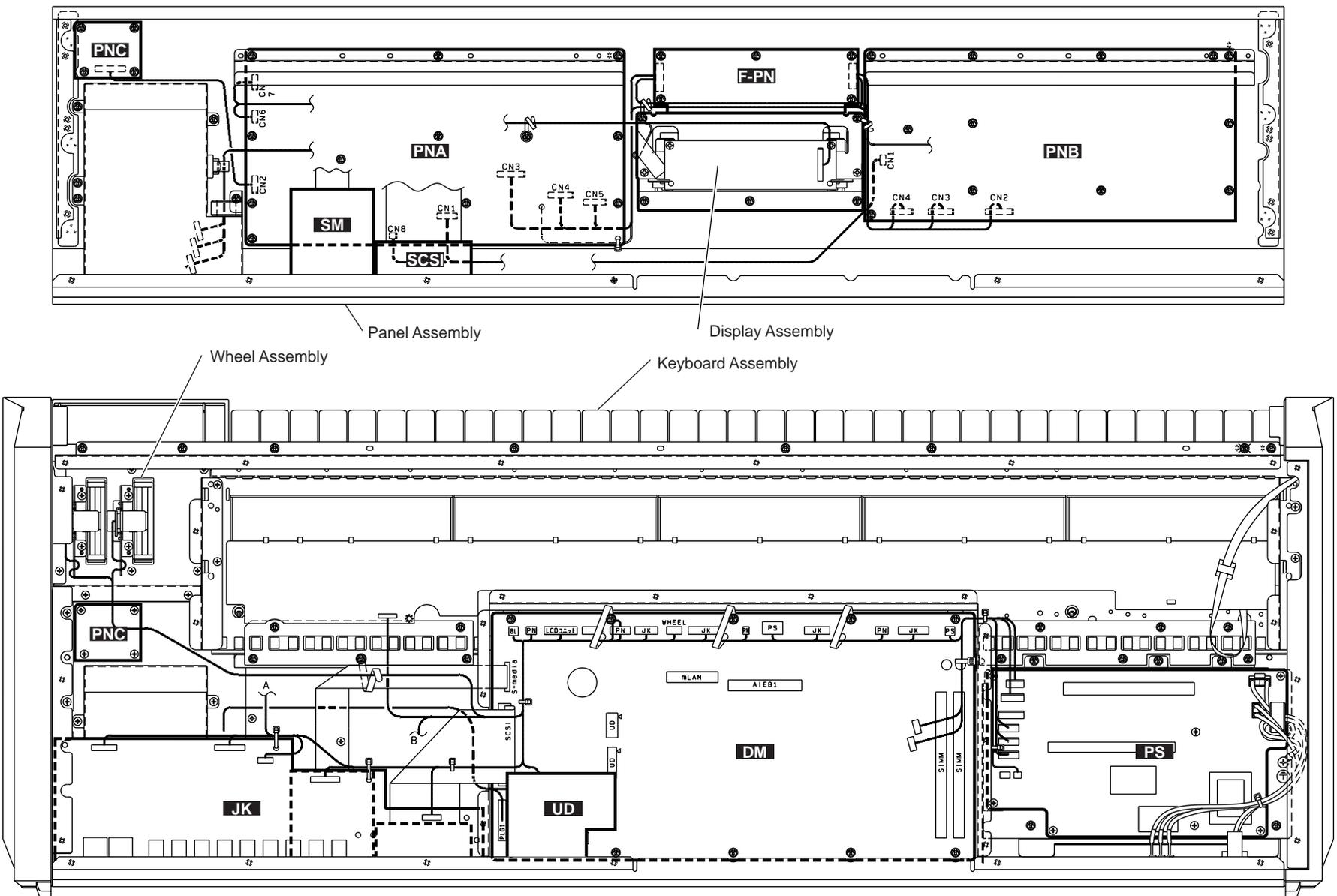
SPECIFICATIONS

FUNCTIONS

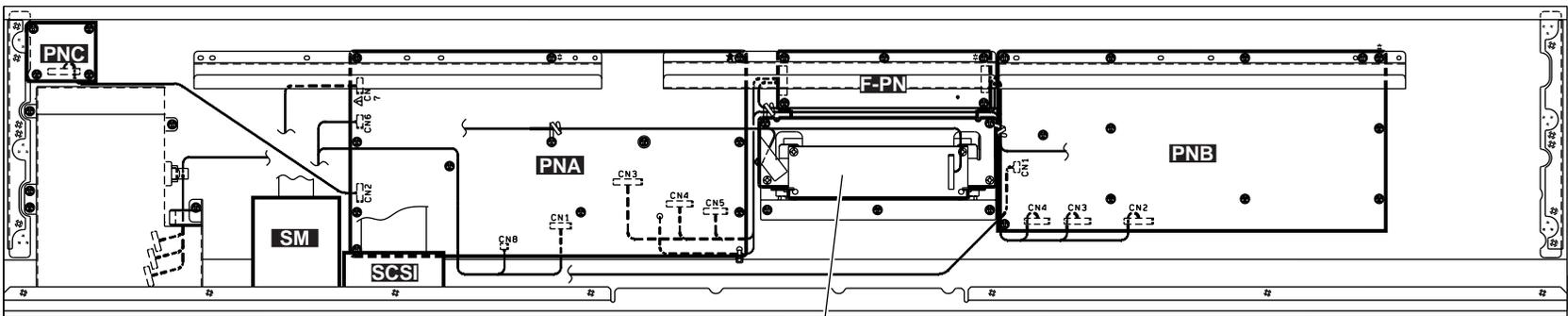
MOTIF 6	61 Keys, Initial Touch/After Touch
MOTIF 7	76 Keys, Initial Touch/After Touch
MOTIF 8	88 Keys, Initial Touch/After Touch (Balanced Hammer Effect Keyboard)
Tone Generator	AWM2
Multitimbres	16 + 1(A/D) + 18 (Max. with Plug-in boards installed)
Polyphony	62 Notes (Expandable with Modular Synthesis Plug-in Boards)
Effects	Reverb: 12 Chorus: 25 Insertion 1:25 Insertion 2:104 Variation: 25 (in Performance mode/Song mode) Plug-in Insertion Master Equalizer: 5 Band Preset Bank Normal: 384, Drum kits: 48 GM Bank Normal: 128, Drum kit: 1 User Bank Normal: 128, Drum kits: 16 Plug-in Preset Bank 64 (for AN, PF, DX), 192 (for VL) Plug-in User Bank 64 (for each Plug-in Slot)
Voices	User Bank: 128 (4 Part) User Bank: 128 4 Zones, Assignable Slider/Knob Settings, PC Table
Performances	Preset 1: 128 Preset 2: 128 User: 128
Master	(MIDI Sync, MIDI TX/RX, Velocity Limit, Note Limit)
Arpeggiator	Analog Sampling Freq.: 44.1 kHz (max.), 16 bit Linear, Stereo Digital Sampling Freq.: 44.1 kHz (max.) (Only when AIEB I/O board is installed), 16 bit Linear, Stereo Memory: 4 MB expandable to 64 MB (SIMM slot x 2) Max.Waveforms (Multi Samples): 256 Max.Keybanks per waveform: 128 Max.Keybanks: 8,192 Multi Sample Import 200,000 notes Resolution: 480 Clocks per Quarter Note Song: 64 songs, 16 tracks (each track can be used as a loop track), 5 Scenes Song Chain Play: 100 steps 1 Multi per Song 16 Multi Template Pattern: 16 tracks, 64 styles, 16 sections, 256 phrases / 1 Styles, 128 Preset Phrases Pattern Chain with real-time record Input quantize record, Grid Groove
Sampler	Seq. Cubase VST, Logic Audio, Pro Tools, Cakewalk 3 Slots for Modular Synthesis Plug-in Boards 1 Slot for mLAN8E or AIEB 2 Slots for 72-pin SIMM
Sequencer	
Remote External Expandability	
EXTERNAL MEMORY	
Card	SmartMedia
SCSI	ZIP R (Option), SCSI HD (Option), CD-ROM (Option)
CONTROLLERS	
Pitch Bend Wheel	1
Modulation Wheel	1
Master Volume Slider	1
Assignable Control Slider	4
Assignable Knob	4
A/D Input Gain	1
Rotary Encoder	1
CONNECTORS	
OUTPUT	L/MONO, R (1 /4" Jack)
ASSIGNABLE OUTPUT	L, R (1 /4" Jack)
FOOT CONTROLLER	2
SUSTAIN SWITCH	1
FOOT SWITCH	1
MIDI	IN/OUT/THRU
A/D INPUT	L, R (MIC / LINE, Stereo 1 /4" Jack)
BREATH CONTROLLER	2
PHONES	1 (Stereo 1 /4" Jack)
SCSI	1
USB	1 (MIDI 3 port)
DIGITAL OUT	Optical (TOS-Link)
OUTPUT IMPEDANCE	OUTPUT 1kΩ, INbV:1kΩ, HP: 50Ω
POWER CONSUMPTION	24W (100V J) 28W (110V U,UT,C) 28W (230V E,ET,GBR)
DIMENSIONS, WEIGHT	
MOTIF 6	1,048(W) x 397(D) x 135(H), 15.8 kg 41 1 /4 x 15 5 /8 x 5 1 /4", 34 3 /4 lbs.
MOTIF 7	1,255(W) x 397(D) x 135(H), 18.1 kg 49 3 /8 x 15 5 /8 x 5 1 /4", 39 7 /8 lbs.
MOTIF 8	1,458(W) x 465(D) x 166(H), 28.0 kg 57 3 /8 x 18 1 /4 x 6 1 /2", 62 lbs.

■ CIRCUIT BOARD LAYOUT (MOTIF6)

MOTIF6 / MOTIF7 / MOTIF8

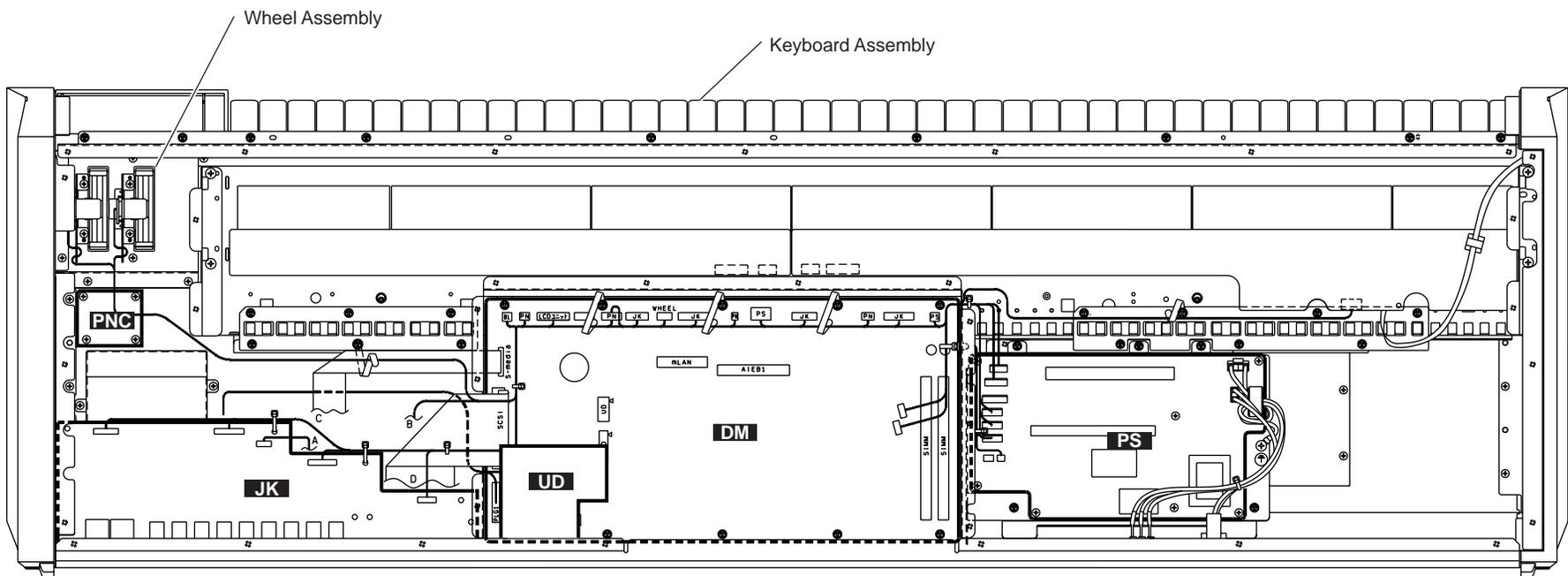


CIRCUIT BOARD LAYOUT (MOTIF7)



Panel Assembly

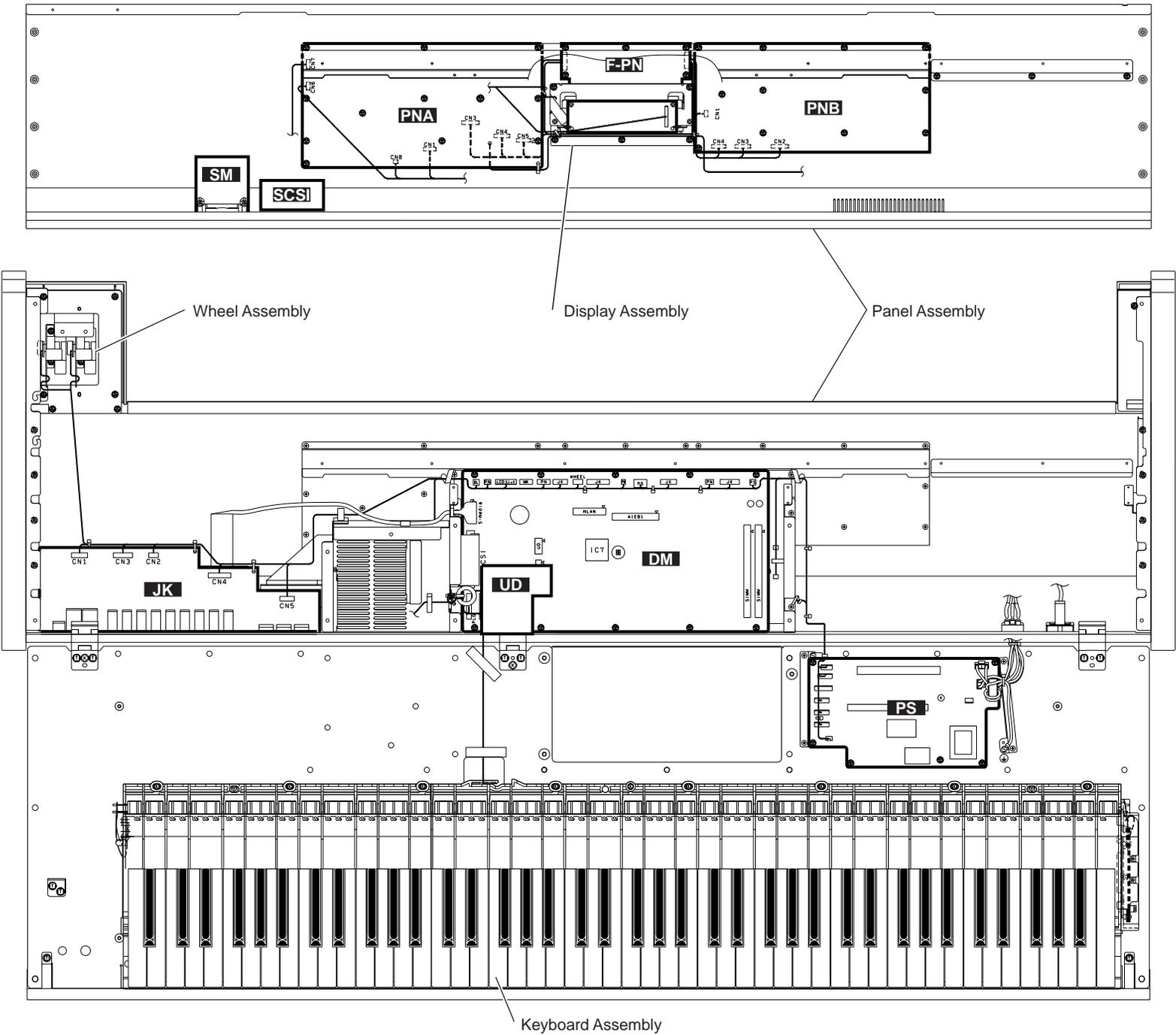
Display Assembly



Wheel Assembly

Keyboard Assembly

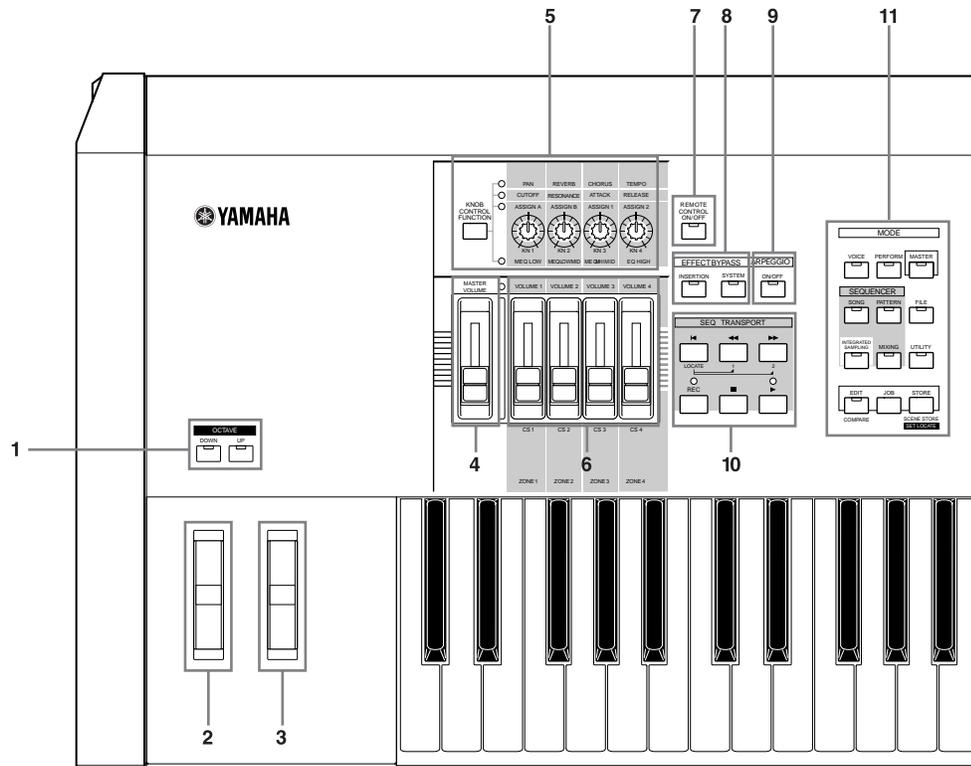
■ **CIRCUIT BOARD LAYOUT (MOTIF8)**



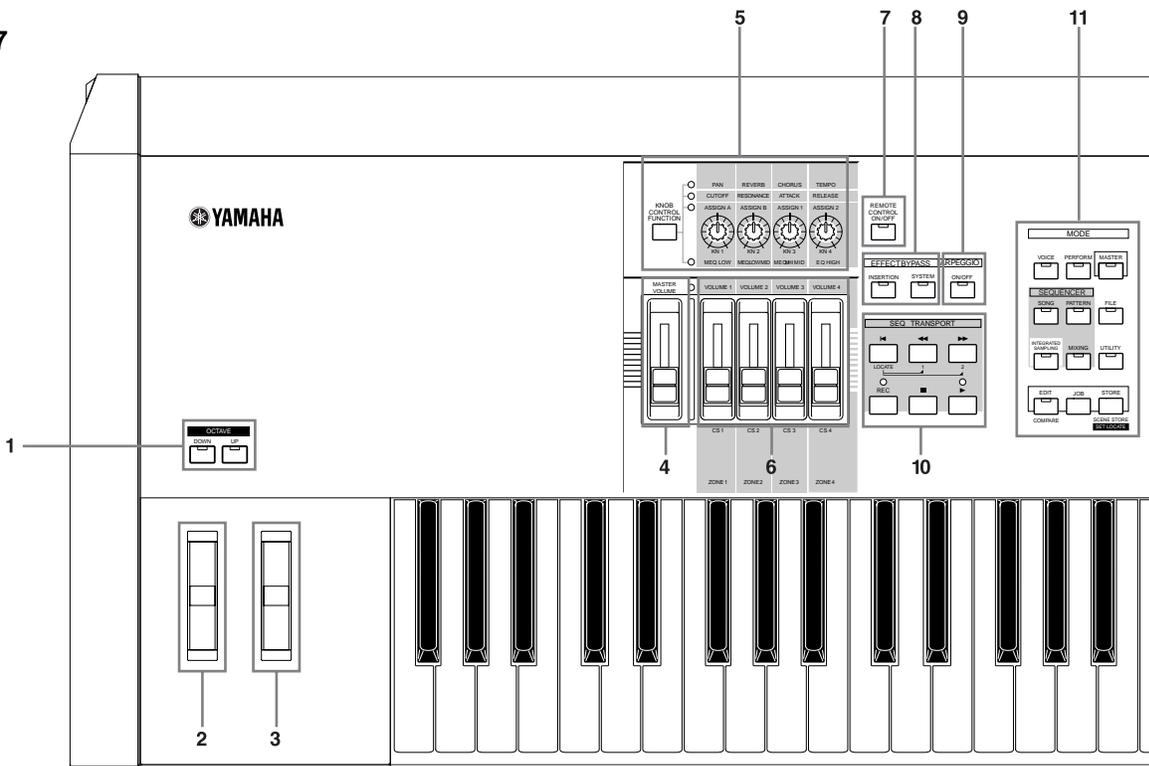
■ PANEL LAYOUT (MOTIF6, MOTIF7)

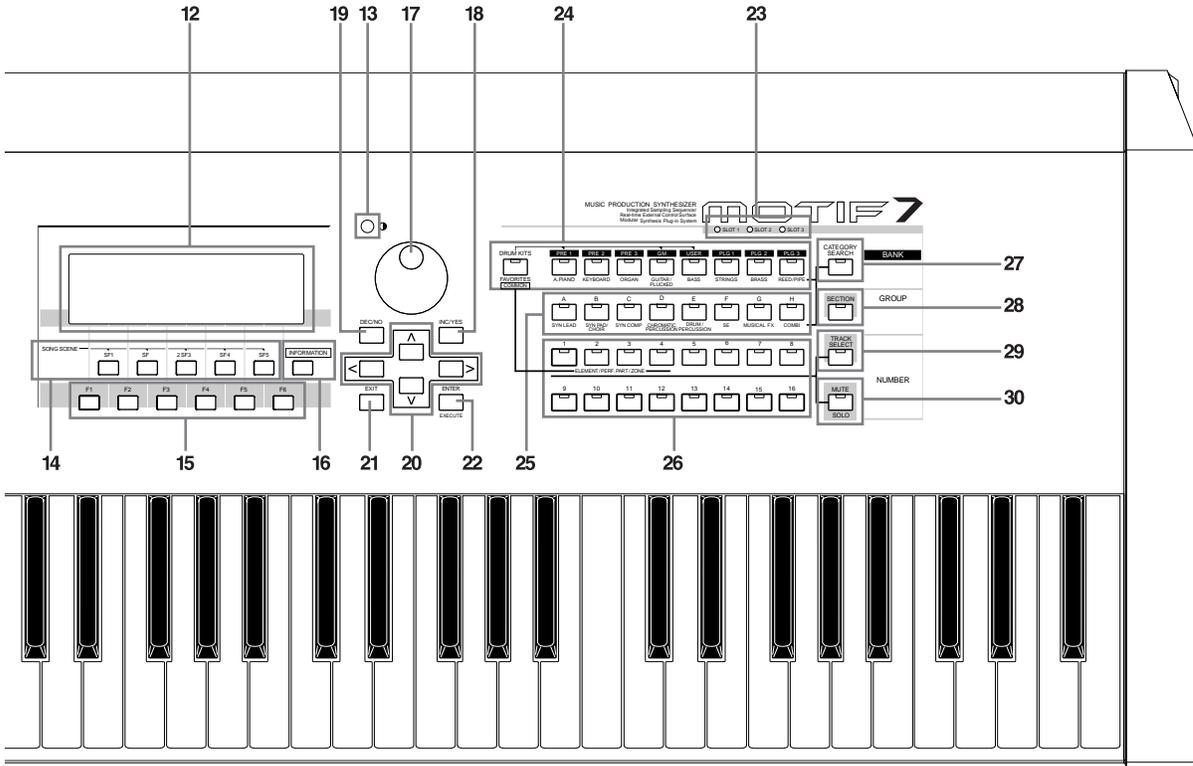
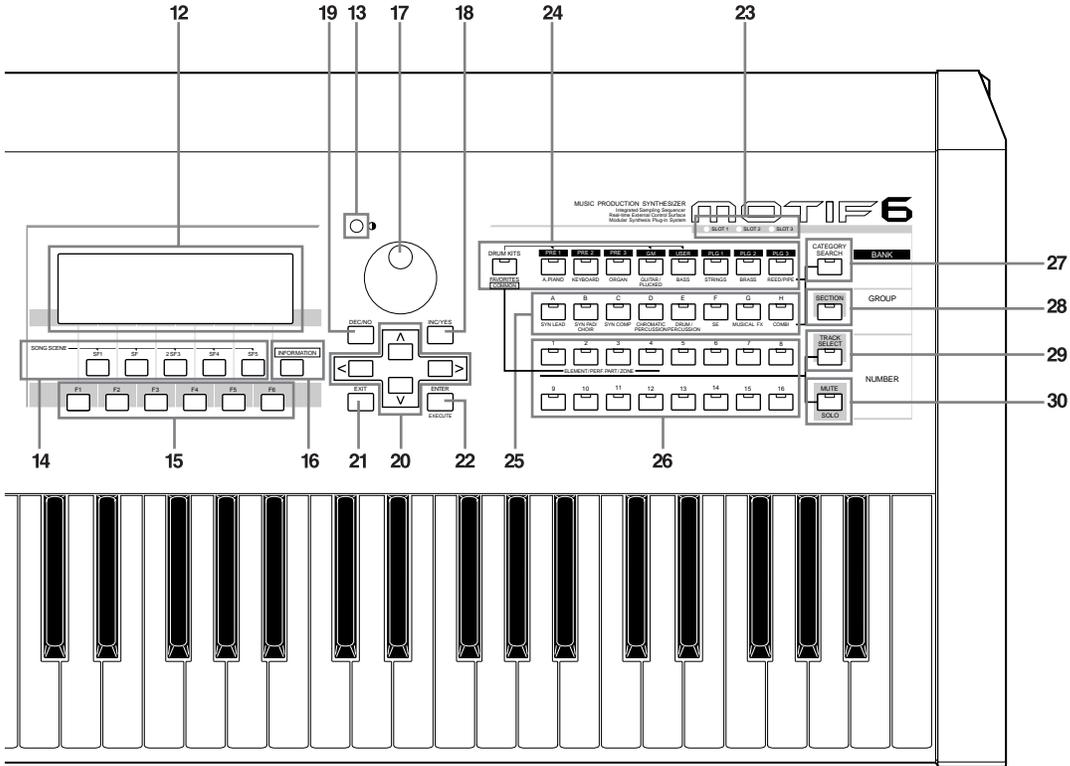
• Front Panel

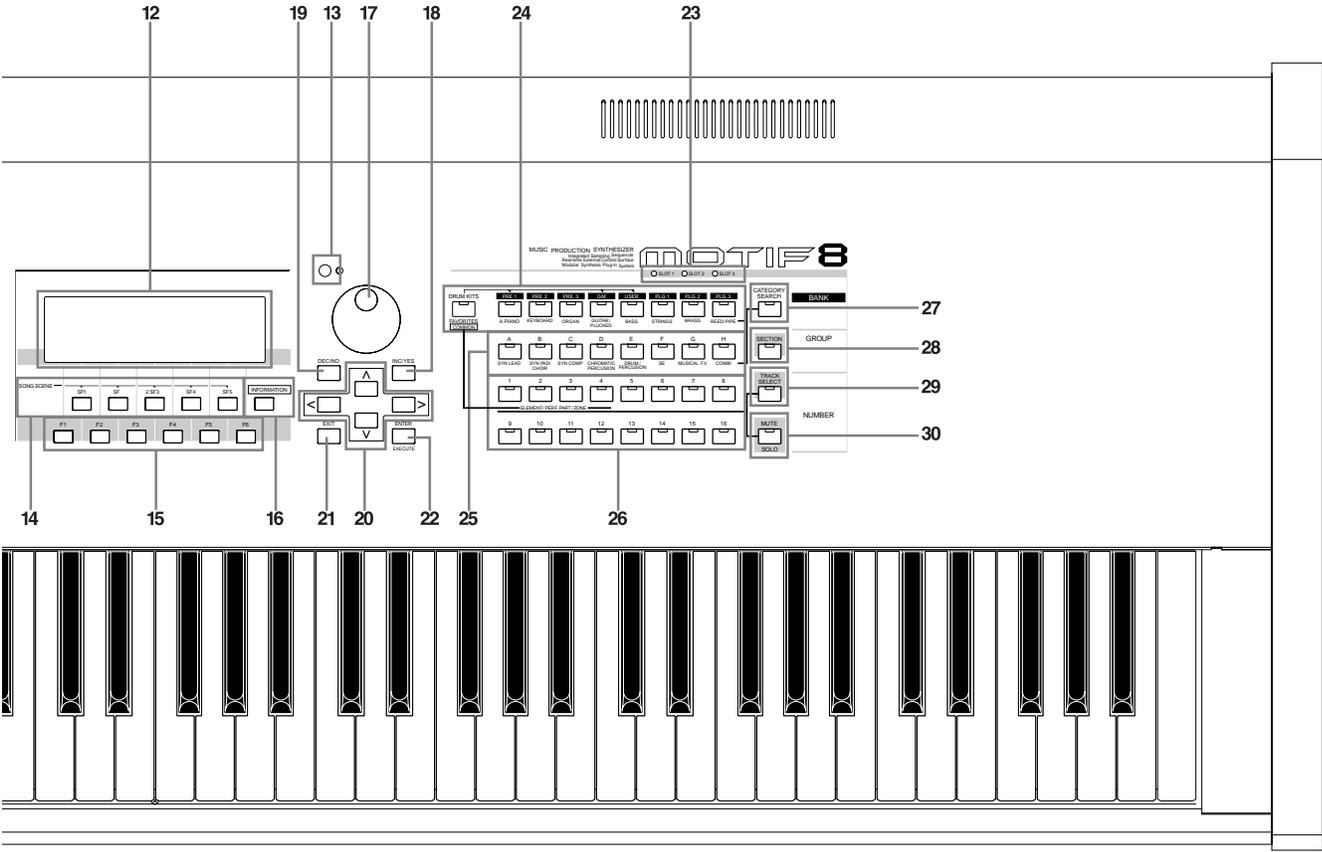
MOTIF6



MOTIF7



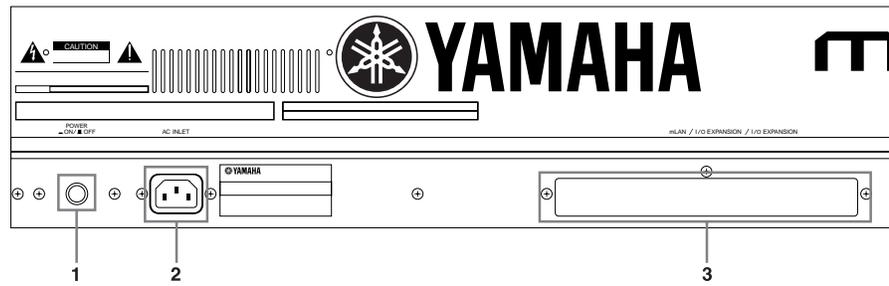




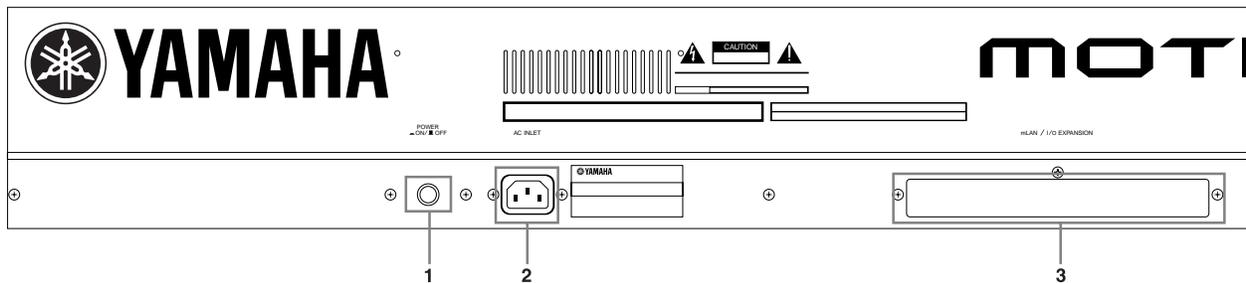
- 22 ENTER
- 23 SLOT1 ~ 3
- 24 BANK
- 25 GROUP A ~ H
- 26 NUMBER1 ~ 16
- 27 CATEGORY SEARCH
- 28 SECTION
- 29 TRACK SELECT
- 30 MUTE

• Rear Panel

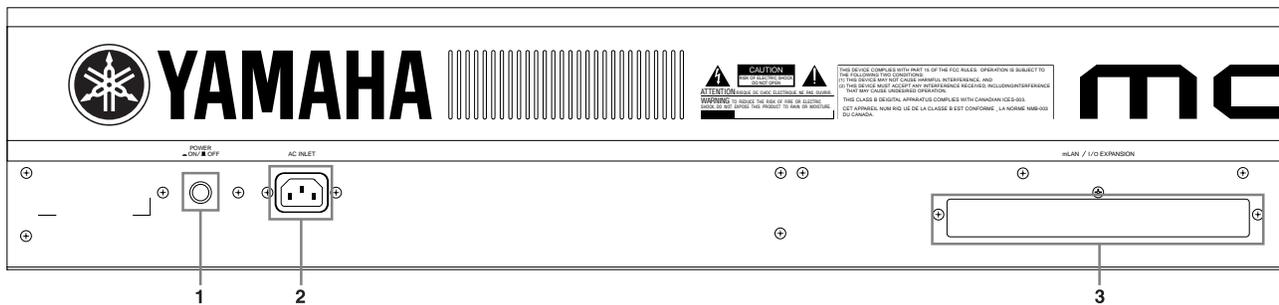
MOTIF6



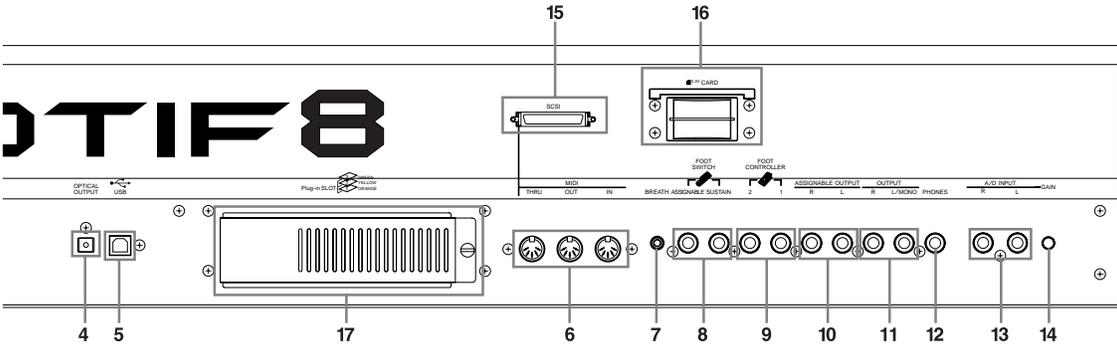
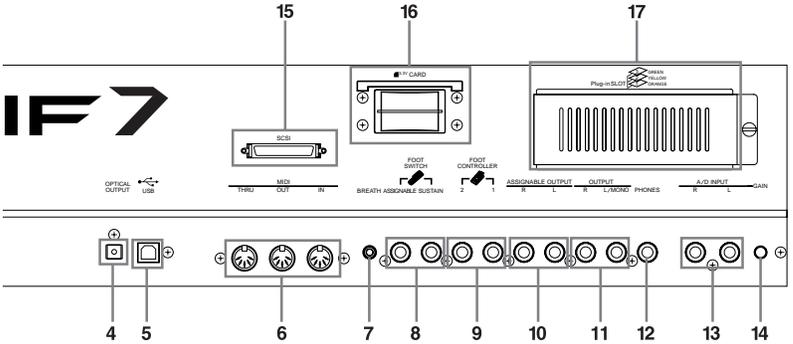
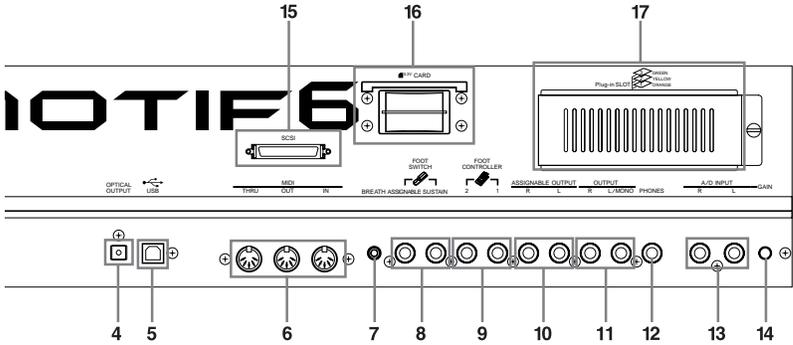
MOTIF7



MOTIF8

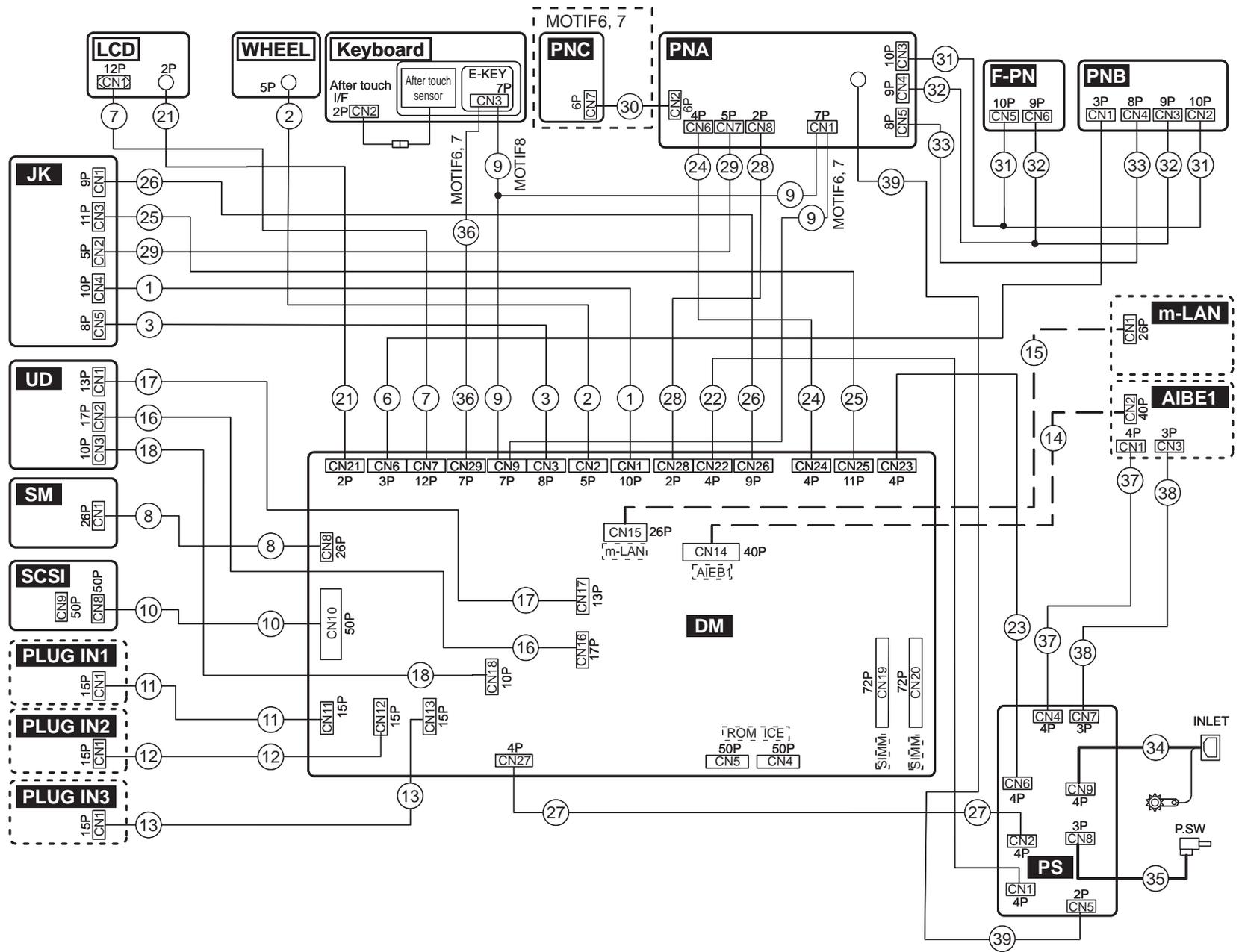


- 1 POWER
- 2 AC INLET
- 3 mLAN (mLAN8E) (AIEB2)
- 4 OPTICAL OUT
- 5 USB
- 6 MIDI IN/OUT/THRU
- 7 BREATH
- 8 FOOT SWITCH
- 9 FOOT CONTROLLER1, 2
- 10 ASSIGNABLE OUT L, R



- 11 OUTPUT L/MONO, R
- 12 PHONES
- 13 A/D INPUT (A/D)
- 14 GAIN
- 15 SCSI
- 16 CARD
- 17 plug-in SLOT 1, 2, 3

■ WIRING



REF NO.	PART NO.	CONNECTOR ASSEMBLY	DESTINATION		REMARKS	MODEL
1	(VJ98170)	10P-450	DM-CN1	JK-CN4	10P-450	MOTIF6, MOTIF7
1	(VK11550)	10P-600	DM-CN1	JK-CN4	10P-600	MOTIF8
2	(V644340)	7F-PH5P 550L+X	DM-CN2	WHEEL	5P 550L+X	MOTIF6, MOTIF7
2	(V644360)	7F-PH5P 800L+X	DM-CN2	WHEEL	5P 800L+X	MOTIF8
3	(VK10800)	8P-350	DM-CN3	JK-CN5	8P-350	MOTIF6, MOTIF7
3	(VK11240)	8P-500	DM-CN3	JK-CN5	8P-500	MOTIF8
6	(VK11480)	3P-600	DM-CN6	PNB-CN1	3P-600	MOTIF6
6	(VK11620)	3P-650	DM-CN6	PNB-CN1	3P-650	MOTIF7
6	(VK11200)	3P-500	DM-CN6	PNB-CN1	3P-500	MOTIF8
7	(V679310)	12P-600L	DM-CN7	LCD-CN1	12P-600L	MOTIF6
7	(V679320)	12P-750L	DM-CN7	LCD-CN1	12P-750L	MOTIF7
7	(V679330)	12P-500L	DM-CN7	LCD-CN1	12P-500L	MOTIF8
8	--	26P 300MM P=1.0	DM-CN8	SM-CN1	26P 300MM	MOTIF6, MOTIF7
8	--	26P 500MM P=1.0	DM-CN8	SM-CN1	26P 500MM	MOTIF8
9	(V644620)	KRD-KRD-KRD 7P 650	DM-CN9	"E_KEY-CN3, PNA-CN1"	7P 650	MOTIF6
9	(V644630)	KRD-KRD-KRD 7P1100	DM-CN9	"E_KEY-CN3, PNA-CN1"	7P 1100	MOTIF7
9	(VK10580)	7P-300	DM-CN9	PNA-CN1	7P-300	MOTIF8
10	(V645390)	HIF-HIF 50P 150L	DM-CN10	SCSI-CN8	50P 150L	MOTIF6, MOTIF7
10	(V645400)	HIF-HIF 50P 300L	DM-CN10	SCSI-CN8	50P 300L	MOTIF8
11	(V644750)	PH-51004 15P 450L	DM-CN11	PLUG_IN1-CN1	15P 450L	MOTIF6, MOTIF7
11	(V678910)	PH-51004 15P 200L	DM-CN11	PLUG_IN1-CN1	15P 200L	MOTIF8
12	(V678920)	PH-51004 15P 450L	DM-CN12	PLUG_IN2-CN1	15P 450L	MOTIF6, MOTIF7
12	(V678930)	PH-51004 15P 200L	DM-CN12	PLUG_IN2-CN1	15P 200L	MOTIF8
13	(V678940)	PH-51004 15P 450L	DM-CN13	PLUG_IN3-CN1	15P 450L	MOTIF6, MOTIF7
13	(V678950)	PH-51004 15P 200L	DM-CN13	PLUG_IN3-CN1	15P 200L	MOTIF8
16	(V646650)	JWV-P=1.5-C-17-7	DM-CN16	USB-CN2	17P	MOTIF6, MOTIF7, MOTIF8
17	(V646660)	JWV-P=1.5-C-13-8	DM-CN17	USB-CN1	13P	MOTIF6, MOTIF7, MOTIF8
18	(V646670)	JWV-P=1.5-C-10-10	DM-CN18	USB-CN3	10P	MOTIF6, MOTIF7, MOTIF8
21	(V644840)	DM-LCD 2P 300L	DM-CN21	LCD	2P 300L	MOTIF6, MOTIF8
21	(V644850)	DM-LCD 2P 550L	DM-CN21	LCD	2P 550L	MOTIF7
22	(V644890)	VH-VH 4P 350L	DM-CN22	PS-CN1	4P 350L	MOTIF6, MOTIF7
22	(V644900)	VH-VH 4P 500L	DM-CN22	PS-CN1	4P 500L	MOTIF8
23	(V644930)	XH-XH 4P 150L	DM-CN23	PS-CN6	4P 150L	MOTIF6, MOTIF7
23	(V644940)	XH-XH 4P 350L	DM-CN23	PS-CN6	4P 350L	MOTIF8
24	(V644950)	PH-PH 4P 600L(S)	DM-CN24	PNA-CN6	4P 600L(S)	MOTIF6
24	(V644960)	PH-PH 4P 650L(S)	DM-CN24	PNA-CN6	4P 650L(S)	MOTIF7, MOTIF8
25	(V644980)	PH-PH 11P 700L(S)	DM-CN25	JK-CN3	11P 700L(S)	MOTIF6, MOTIF7
25	(V644990)	PH-PH 11P 800L(S)	DM-CN25	JK-CN3	11P 800L(S)	MOTIF8
26	(V645020)	PH-PH 9P 700L(S)	DM-CN26	JK-CN1	9P 700L(S)	MOTIF6, MOTIF7
26	(V645030)	PH-PH 9P 800L(S)	DM-CN26	JK-CN1	9P 800L(S)	MOTIF8
27	(V645180)	VH-VH 4P 700L	DM-CN27	PS-CN2	4P 700L	MOTIF6, MOTIF7
27	(V645190)	VH-VH 4P 750L	DM-CN27	PS-CN2	4P 750L	MOTIF8
28	(VK11060)	2P-450	DM-CN28	PNA-CN8	2P-450	MOTIF6, MOTIF7
28	(VK10930)	2P-400	DM-CN28	PNA-CN8	2P-400	MOTIF8
29	(V645040)	PH-PH 5P 200L(S)	JK-CN2	PNA-CN7	5P 200L(S)	MOTIF6, MOTIF7
29	(V645050)	PH-PH 5P 300L(S)	JK-CN2	PNA-CN7	5P 300L(S)	MOTIF8
30	(VJ98090)		PNA-CN2	PNC-CN7	6P	MOTIF6
30	VJ981200		PNA-CN2	PNC-CN7	6P	MOTIF7
31	(V645090)	KRD-KRD-KRD 10P650	PNA-CN3	"PNB-CN2, F_PN-CN5"	10P 650	MOTIF6, MOTIF7
31	(V645100)	KRD-KRD-KRD 10P750	PNA-CN3	"PNB-CN2, F_PN-CN5"	10P 750	MOTIF8
32	(V645110)	KRD-KRD-KRD 9P 550	PNA-CN4	"PNB-CN3, F_PN-CN6"	9P 550	MOTIF6, MOTIF7
32	(V645120)	KRD-KRD-KRD 9P 650	PNA-CN4	"PNB-CN3, F_PN-CN6"	9P 650	MOTIF8
33	(VK11110)	8P-450	PNA-CN5	PNB-CN4	8P-450	MOTIF6, MOTIF7
33	(VK10590)	8P-300	PNA-CN5	PNB-CN4	8P-300	MOTIF8
34	(V645130)	ACIN3P-2F+1	PS-CN9	AC-IN	4P	MOTIF6, MOTIF7
34	(V645140)	ACIN3P-2F+1	PS-CN9	AC-IN	4P	MOTIF8
35	(V645150)	3P 200L	PS-CN8	P_SW	3P	MOTIF6, MOTIF7
35	(V718930)	3P 250L	PS-CN8	P_SW	3P 250L	MOTIF8
36	(VK11670)	7P-650	DM-CN29	E_KEY-CN3	7P-650	MOTIF8
37	(V698030)	VH-VH 4P 400L	PS-CN4	AIEB1-CN1	4P 400L	MOTIF6, MOTIF7
37	(V698040)	VH-VH 4P 550L	PS-CN4	AIEB1-CN1	4P 550L	MOTIF8
38	(V698050)	VH-VH 3P 400L	PS-CN7	AIEB1-CN3	3P 400L	MOTIF6, MOTIF7
38	(V698060)	VH-VH 3P 550L	PS-CN7	AIEB1-CN3	3P 550L	MOTIF8
39	(V791040)	PNA-PS5	PS-CN5	PNA	2P	MOTIF6, MOTIF7, MOTIF8

Parts in parentheses are not supplied as the replacement parts.

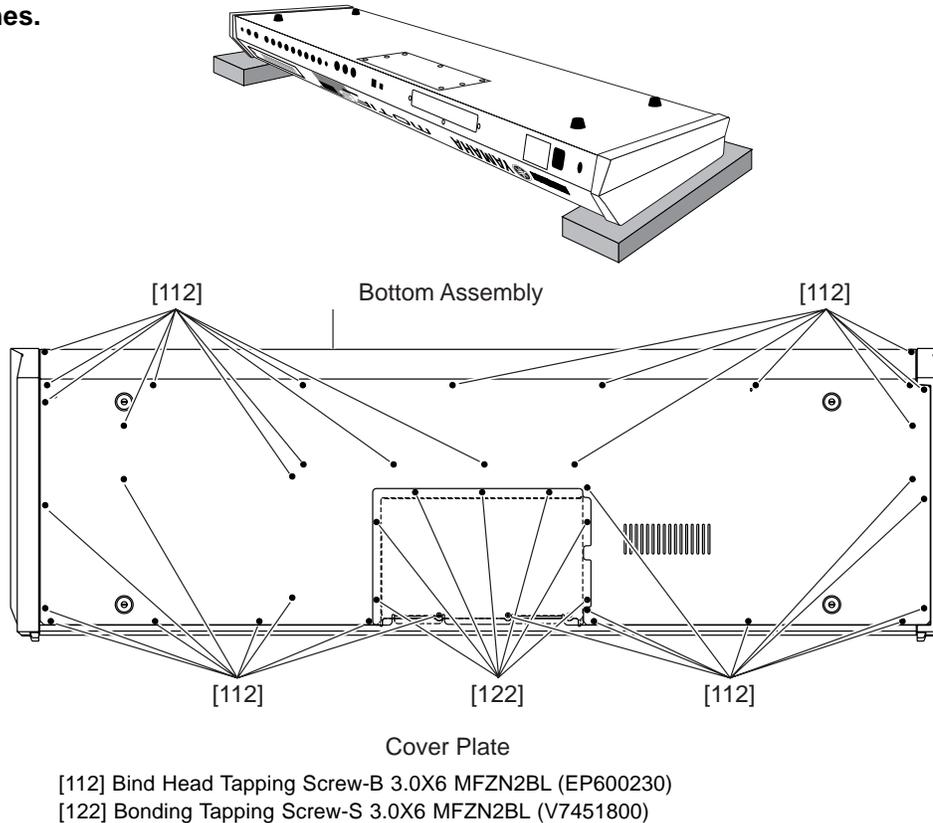
■ DISASSEMBLY PROCEDURE (MOTIF6, MOTIF7)

Note: As the unit is very heavy, take great care when lifting it up.

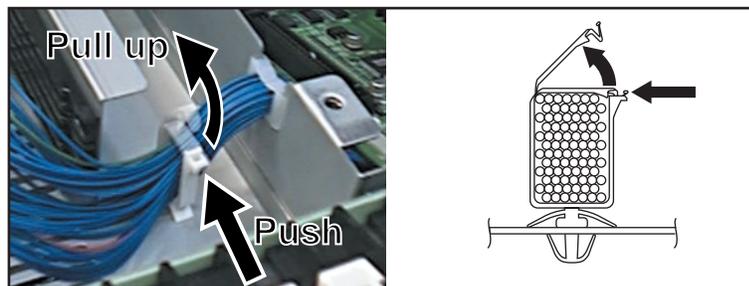
When disassembling, turn the unit upside down and put two wooden bolsters under the unit at its both side ends.

Put gloves on to avoid to injure your hands with edges of the circuit boards or the frames.

When reassembling, take care not to pinch the cables between the circuit boards and the frames.



(Fig.1)



(Fig.1-1)

1. Bottom Assembly

(Time required: about 4 minutes)

- 1-1. Remove the seven (7) screws marked [122]. The cover plate can then be removed. (Fig. 1)
- 1-2. Unlatch the code holder and remove the wires from it. (Fig. 1-1)
- 1-3. Remove the thirty-two (32) screws (the thirty-four screws as for MOTIF 7) marked [112]. (Fig. 1)



(Fig.2)



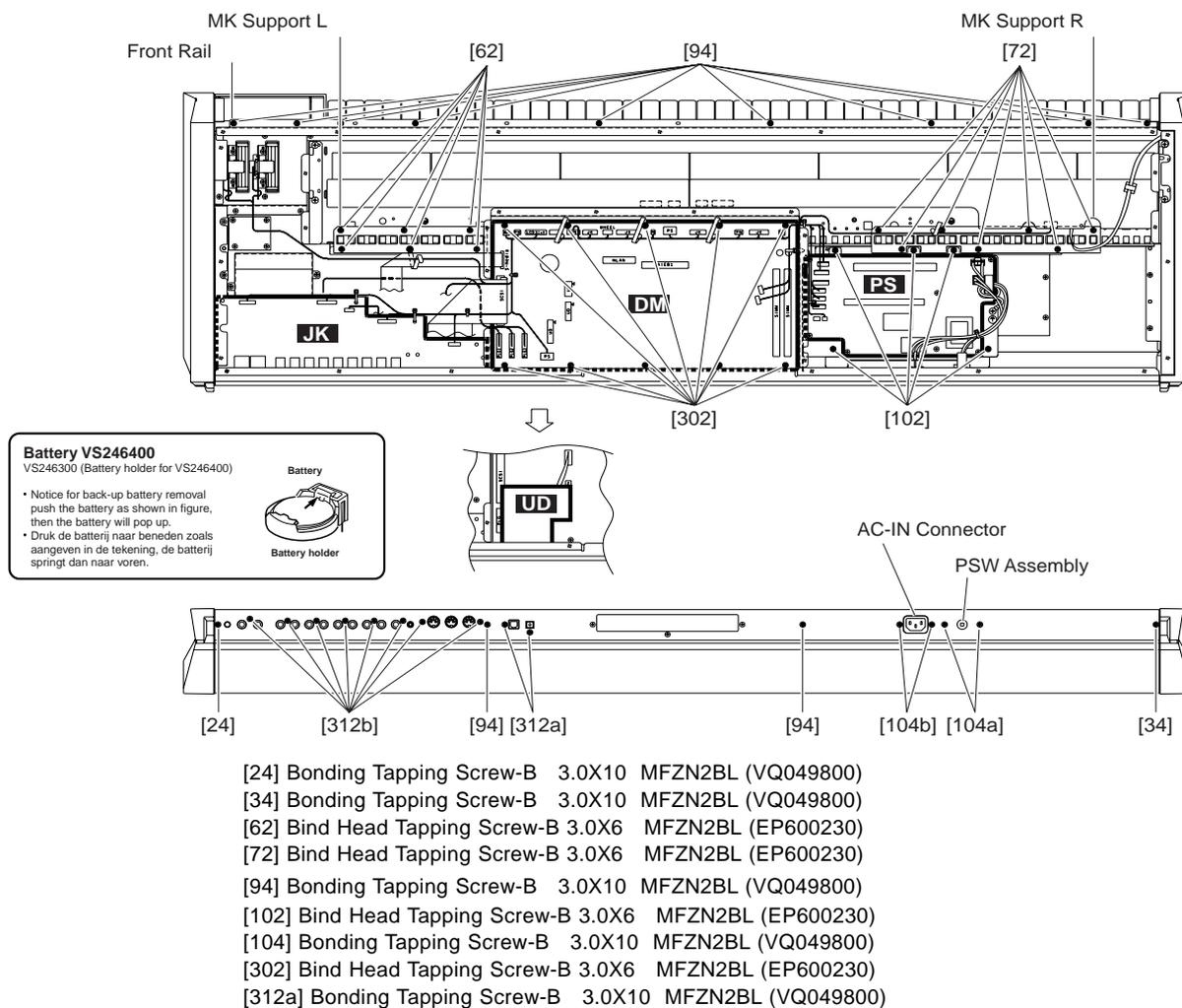
(Fig.3)

1-4. Turn the bottom cover forward to turn up, and pull it down to remove. (Fig. 2)

Note: When reinstalling the bottom assembly, insert the bottom cover with a slope and turn it backward to get down, following the procedure 1-4 in reverse. (Fig. 3)

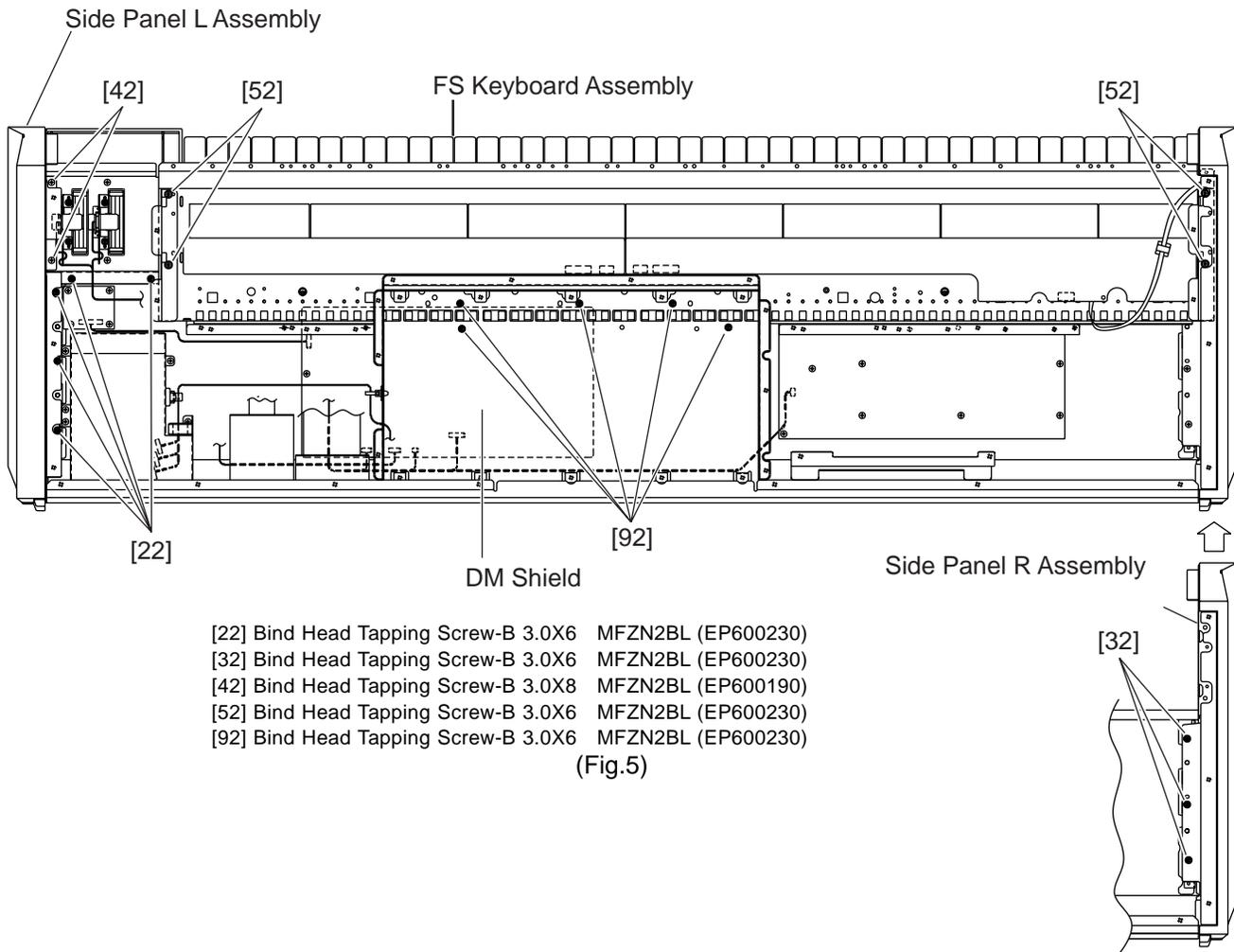
2. UD Circuit Board (Time required: about 5 minutes)

- 2-1. Remove the bottom assembly. (See Procedure 1)
- 2-2. Remove the two (2) screws marked [312a]. The UD circuit board can then be removed. (Fig. 4)



- [24] Bonding Tapping Screw-B 3.0X10 MFZN2BL (VQ049800)
- [34] Bonding Tapping Screw-B 3.0X10 MFZN2BL (VQ049800)
- [62] Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)
- [72] Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)
- [94] Bonding Tapping Screw-B 3.0X10 MFZN2BL (VQ049800)
- [102] Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)
- [104] Bonding Tapping Screw-B 3.0X10 MFZN2BL (VQ049800)
- [302] Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)
- [312a] Bonding Tapping Screw-B 3.0X10 MFZN2BL (VQ049800)

(Fig.4)



3 DM Circuit board (Time required: about 7 minutes)

- 3-1. Remove the bottom assembly. (See Procedure 1)
- 3-2. Remove the UD circuit board. (See Procedure 2)
- 3-3. Remove the ten (10) screws marked [302]. The DM circuit board can then be removed. (Fig. 4)

4. JK Circuit Board (Time required: about 5 minutes)

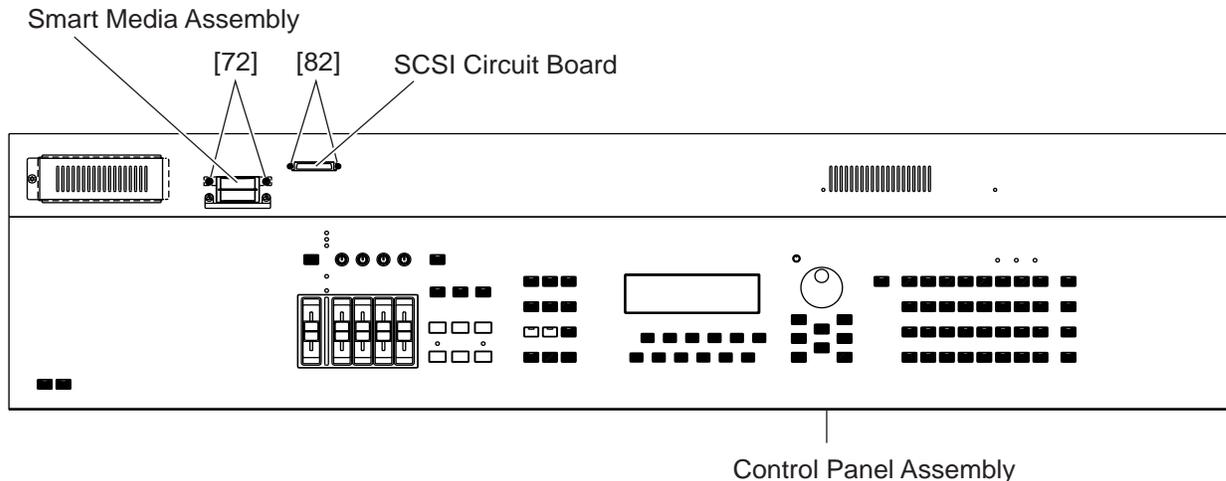
- 4-1. Remove the bottom assembly. (See Procedure 1)
- 4-2. Remove the eight (8) screws marked [312b]. The JK circuit board can then be removed. (Fig. 4)

5. SCSI Circuit Board (Time required: about 6 minutes)

- 5-1. Remove the bottom assembly. (See Procedure 1)
- 5-2. Remove the JK circuit board. (See procedure 4)
- 5-3. Remove the two (2) screws marked [82]. The SCSI circuit board can then be removed. (Fig. 5, Fig. 6)

6. Smart Media Assembly (Time required: about 6 minutes)

- 6-1. Remove the bottom assembly. (See Procedure 1)
- 6-2. Remove the JK circuit board. (See procedure 4).
- 6-3. Remove the two (2) screws marked [72]. The smart media assembly can then be removed. (Fig. 5, Fig. 6)



[72] Bind Head Tapping Screw-B 3.0X8 MFZN2BL (EP600190)
 [82] Bind Head Screw 2.6X6 MFZN2BL (EG32022)

(Fig.6)

7. Power Supply Assembly

(Time required: about 5 minutes)

- 7-1. Remove the bottom assembly. (See Procedure 1)
- 7-2. Remove the five (5) screws marked [102]. The power supply assembly can then be removed. (Fig. 4)

8. Power Switch Assembly (Time required: about 5 minutes)

- 8-1. Remove the bottom assembly. (See Procedure 1)
- 8-2. Remove the two (2) screws marked [104a]. The power switch assembly can then be removed. (Fig. 4)

9. AC-IN Connector

- 9-1. Remove the bottom assembly. (See Procedure 1)
- 9-2. Remove the two (2) screws marked [104b]. The AC-IN connector can then be removed. (Fig. 4)

10. Keyboard Assembly

(Time required: about 12 minutes)

- 10-1. Remove the bottom assembly. (See Procedure 1)
- 10-2. Remove the UD circuit board. (See Procedure 2)
- 10-3. Remove the DM circuit board. (See Procedure 3)
- 10-4. Remove the five (5) screws (the seven screws as for MOTIF 7) marked [92] and the two (2) screws marked [94]. The DM shield assembly can then be removed. (Fig. 4, Fig. 5)
- 10-5. Remove the seven (7) screws (the nine screws as for MOTIF 7) marked [94]. The front rail can then be removed. (Fig. 4)
- 10-6. Remove the six (6) screws (the seven screws as for MOTIF 7) marked [72]. The MK support R can then be removed. (Fig. 4)
- 10-7. Remove the five (5) screws (the six screws as for MOTIF 7) marked [62]. The MK support L can then be removed. (Fig. 4)

- 10-8. Remove the four (4) screws marked [52]. The MK side angle and the keyboard assembly can then be removed. (Fig. 5)
Slide the keyboard assembly forward to remove.

11. PNA Circuit Board (Time required: about 16 minutes)

- 11-1. Remove the bottom assembly. (See Procedure 1)
- 11-2. Remove the UD circuit board. (See Procedure 2)
- 11-3. Remove the DM circuit board. (See Procedure 3)
- 11-4. Remove the DM shield assembly. (See procedure 10-4)
- 11-5. Remove the JK circuit board. (See procedure 4)
- 11-6. Remove the SCSI circuit board. (See procedure 5)
- 11-7. Remove the keyboard assembly. (See procedure 10)
- 11-8. Remove the four (4) VR knobs marked [100], the VR knob marked [102] and the the four (4) knobs marked [110] from the outside of the control panel. (Fig. 8)
- 11-9. Remove the twelve (12) screws marked [34]. The PNA circuit board can then be removed. (Fig. 8)

12. PNB Circuit Board (Time required: about 14 minutes)

- 12-1. Remove the bottom assembly. (See Procedure 1)
- 12-2. Remove the UD circuit board. (See Procedure 2)
- 12-3. Remove the DM circuit board. (See Procedure 3)
- 12-4. Remove the DM shield assembly. (See procedure 10-4)
- 12-5. Remove the power supply assembly. (See procedure 7)
- 12-6. Remove the keyboard assembly. (See procedure 10)
- 12-7. Remove the encoder knob marked [120] from the outside of the control panel. (Fig. 8)
- 12-8. Remove the twelve (12) screws marked [44]. The PNB circuit board can then be removed. (Fig. 8)

13. PNC Circuit Board (Time required: about 5 minutes)

- 13-1. Remove the bottom assembly. (See Procedure 1)
- 13-2. Remove the four (4) screws marked [62]. The PNC circuit board can then be removed. (Fig. 8)

14. Display Assembly (Time required: about 10 minutes)

- 14-1. Remove the bottom assembly. (See Procedure 1)
- 14-2. Remove the UD circuit board. (See Procedure 2)
- 14-3. Remove the DM circuit board. (See Procedure 3)
- 14-4. Remove the DM shield assembly. (See procedure 10-4)
- 14-5. As for MOTIF 7, remove the power supply assembly. (See procedure 7)
- 14-6. Remove the five (5) screws marked [22]. The display assembly can then be removed. (Fig. 8)

Note: If you remove the adhesive tape to remove the display assembly, make sure to apply a tape on the same condition when reinstalling.

15. FPN Circuit Board (Time required: about 14 minutes)

- 15-1. Remove the bottom assembly. (See Procedure 1)
- 15-2. Remove the UD circuit board. (See Procedure 2)
- 15-3. Remove the DM circuit board. (See Procedure 3)
- 15-4. Remove the DM shield assembly. (See procedure 10-4)
- 15-5. As for MOTIF 7, remove the power supply assembly. (See procedure 7)
- 15-6. Remove the keyboard assembly. (See procedure 10)
- 15-7. Remove the five (5) screws (six screws as for MOTIF 7) marked [54]. The FPN circuit board can then be removed. (Fig. 8)

As for MOTIF 7, it can be removed with the center angle (B).

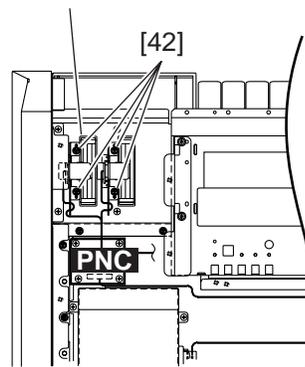
16. Wheel Assembly (Time required: about 5 minutes)

- 16-1. Remove the bottom assembly. (See Procedure 1)
- 16-2. Remove the four (4) screws marked [42]. The wheel assembly can then be removed. (Fig. 7)

17. Side Panel-L Assembly (Time required: about 15 minutes)

- 17-1. Remove the bottom assembly. (See Procedure 1)
- 17-2. Remove the UD circuit board. (See Procedure 2)
- 17-3. Remove the DM circuit board. (See Procedure 3)
- 17-4. Remove the DM shield assembly. (See procedure 10-4)
- 17-5. Remove the JK circuit board. (See procedure 4)
- 17-6. Remove the keyboard assembly. (See procedure 10)
- 17-7. Remove the wheel assembly. (See procedure 16)
- 17-8. Remove the five (5) screws marked [22] and the screw marked [24]. The side panel-L assembly can then be removed. (Fig. 4, Fig. 5)

Wheel Assembly



[42] Bind Head Tapping Screw-B 3.0X8 MFZN2BL (EP600190)

(Fig.7)

18. Side Panel-R Assembly (Time required: about 13 minutes)

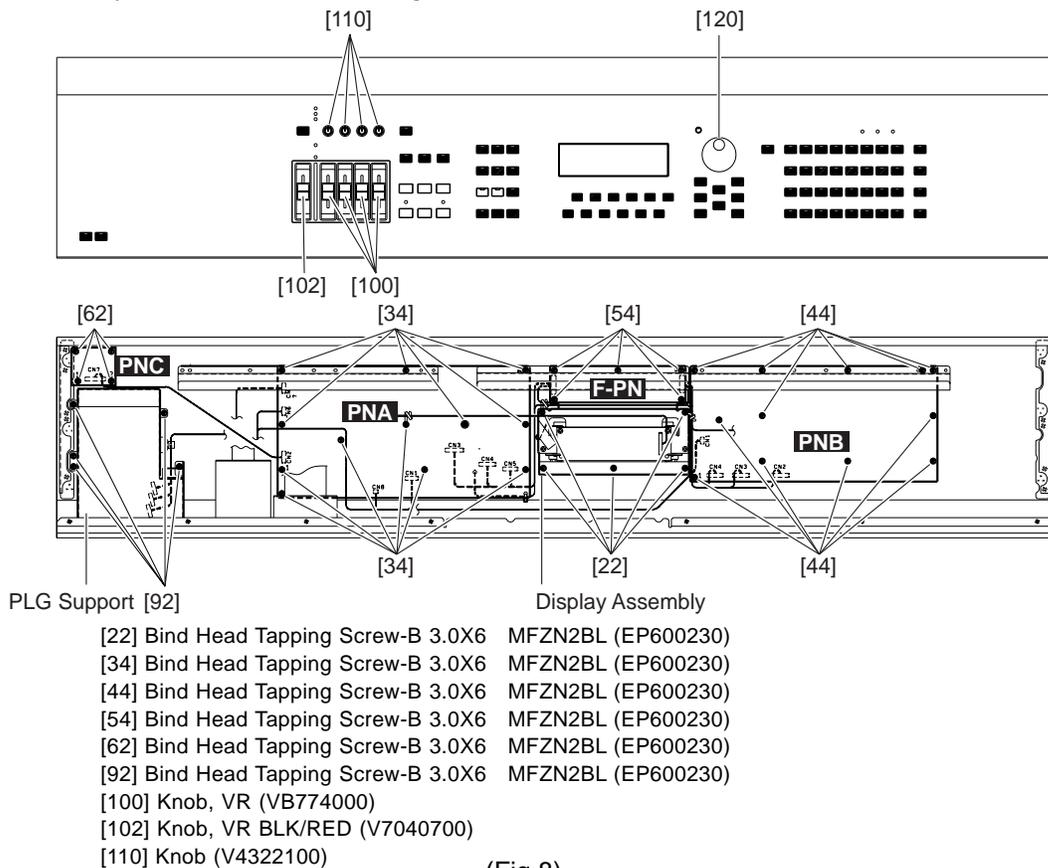
- 18-1. Remove the bottom assembly. (See Procedure 1)
- 18-2. Remove the UD circuit board. (See Procedure 2)
- 18-3. Remove the DM circuit board. (See Procedure 3)
- 18-4. Remove the DM shield assembly. (See procedure 10-4)
- 18-5. Remove the keyboard assembly. (See procedure 10)
- 18-6. Remove the three (3) screws marked [32] and the screw marked [34]. The side panel-R assembly can then be removed. (Fig. 4, Fig. 5)

19. End Block L (Time required: about 16 minutes)

- 19-1. Remove the bottom assembly. (See Procedure 1)
- 19-2. Remove the UD circuit board. (See Procedure 2)
- 19-3. Remove the DM circuit board. (See Procedure 3)
- 19-4. Remove the DM shield assembly. (See procedure 10-4)
- 19-5. Remove the JK circuit board. (See procedure 4)
- 19-6. Remove the keyboard assembly. (See procedure 10)
- 19-7. Remove the wheel assembly. (See procedure 16)
- 19-8. Remove the side panel-L assembly. (See procedure 17)
- 19-9. Remove the two (2) screws marked [42]. The end block L can then be removed. (Fig. 5)

20. PLG Support Assembly (Time required: about 6 minutes)

- 20-1. Remove the bottom assembly. (See Procedure 1)
- 20-2. Remove the JK circuit board. (See procedure 4)
- 20-3. Remove the five (5) screws marked [92]. The PLG support assembly can then be removed. (Fig. 8)

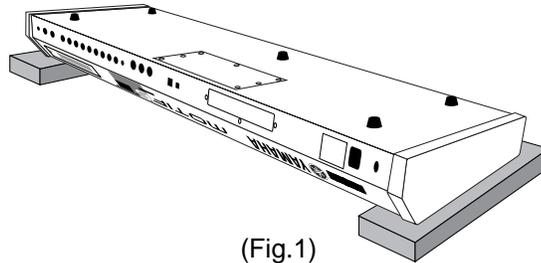


(Fig.8)

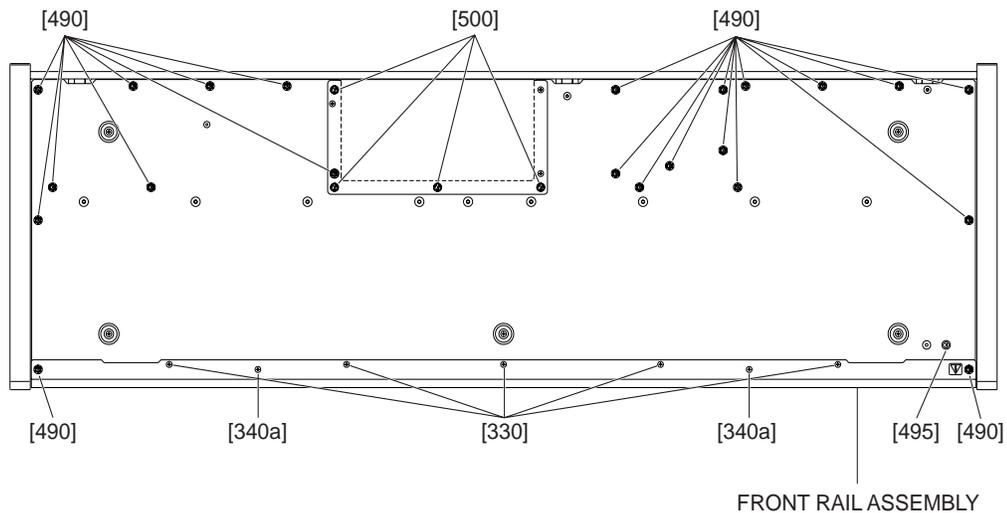
■ DISASSEMBLY PROCEDURE (MOTIF8)

Note: Put gloves on to avoid to injure your hands with edges of the circuit boards or the frames.

When reassembling, take care not to pinch the cables between the circuit boards and the frames.



(Fig.1)

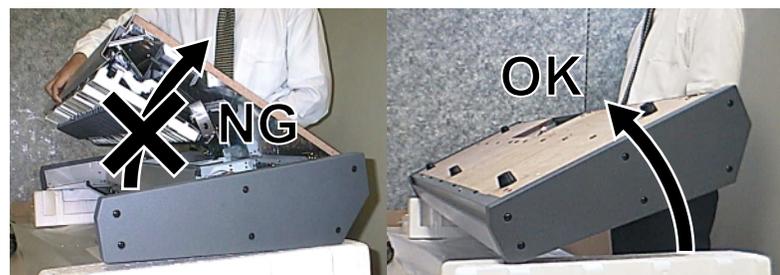


[330] Bind Head Screw 4.0X16 ZMC2BL (ED340166)
 [490] Bind Head Screw-5.0X16 MFZN2BL (VM631300)
 [495] Pan Washer Head Screw-5.0X20-14 MFZN2BL (VU148200)
 [500] Bind Head Screw-M5X16 MFZN2Y (VP569100)

(Fig.2)

1. Opening of the Control Panel (Time required: about 5 minutes)

- 1-1. Turn the unit upside down. When turning, put two wooden bolsters under the unit at its both side ends. (Fig. 1)
- 1-2. Remove the twenty-two (22) screws marked [490], the screw marked [495] and the four (4) screws marked [500]. (Fig. 2)
- 1-3. Turn the unit forward and turn it up. It is dangerous to turn it backward, as the panel may open in the middle of turning. (Fig. 3)



(Fig.3)

- 1-4. Open the control panel, supporting the panel with the jig stay (V6295700). The angle of the panel can be adjusted by switching the position to fix the stay. (Fig. 4)

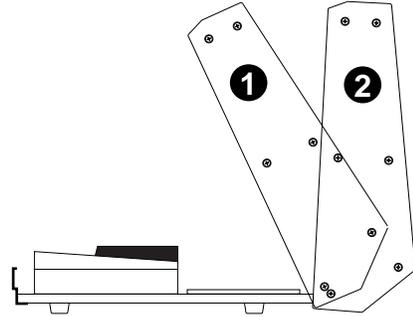
When you remove the stay due to following some procedures, put a wooden bolster under the panel at its rear to avoid to let it fall backward. (Fig. 5)

Note: As the unit is very heavy, make sure to lift it up by two persons.

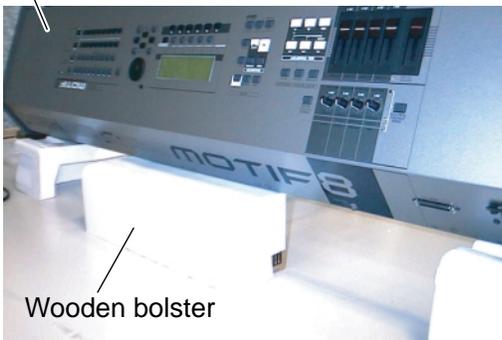


Stay (V6295700)

(Fig.4)

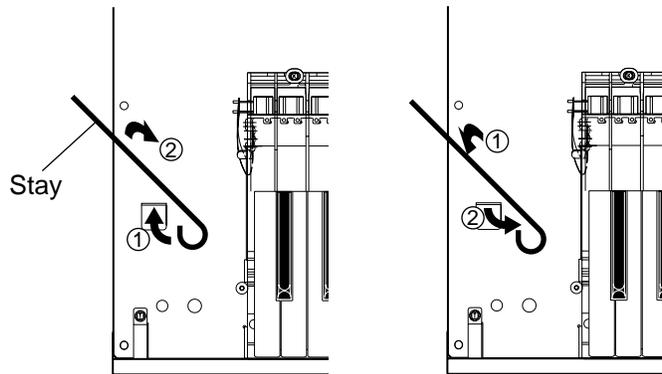


Panel Assembly



Wooden bolster

(Fig.5)

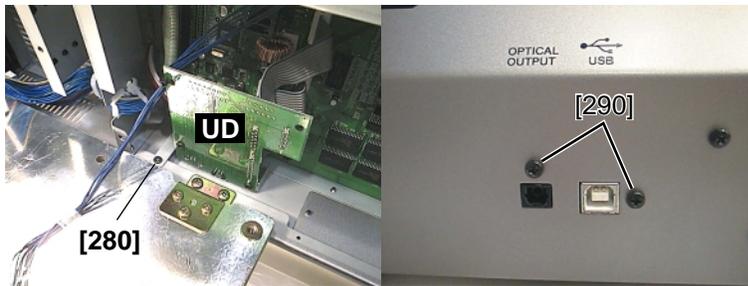


Stay

Stay (V6295700)

(Fig.4-1)

Opening the panel partly, insert hook of the stay into the slit of frame outside and raise the panel to open.



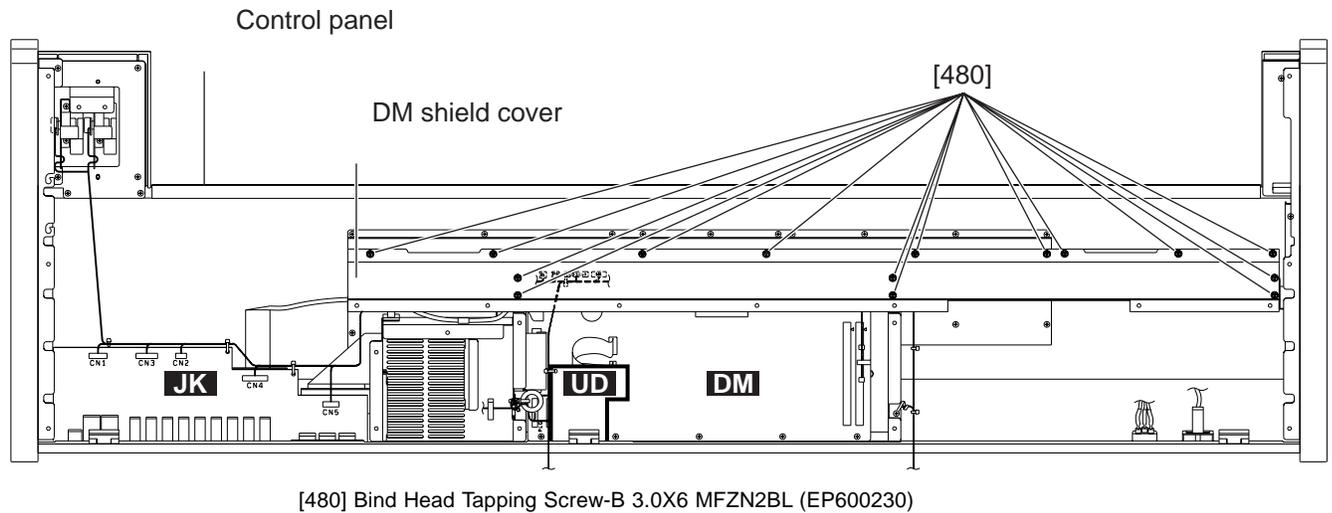
[280] Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)

[290] Bonding Tapping Screw-B 3.0X10 MFZN2BL (VQ049800)

(Fig.6)

**2. UD Circuit Board
(Time required: about 6 minutes)**

- 2-1. Open the control panel. (See procedure 1)
- 2-2. Remove the screw marked [280] and the two (2) screws marked [290]. The UD circuit board can then be removed. (Fig. 6)



(Fig.7)

3. DM Shield Cover (Time required: about 8 minutes)

- 3-1. Open the control panel. (See procedure 1)
- 3-2. Remove the fifteen (15) screws marked [480]. The DM shield cover can then be removed. (Fig. 7)

4. DM Circuit Board (Time required: about 9 minutes)

- 4-1. Open the control panel. (See procedure 1)
- 4-2. Remove the UD circuit board. (See procedure 2)
- 4-3. Remove the DM shield cover. (See procedure 3)
- 4-4. Remove the ten (10) screws marked [240]. DM circuit board can then be removed. (Fig. 8)

5. Power Switch Assembly (Time required: about 6 minutes)

- 5-1. Open the control panel. (See procedure 1)
- 5-2. Remove the two (2) screws marked [40]. The power switch assembly can then be removed. (Fig. 8)

6. AC-IN Connector (Time required: about 6 minutes)

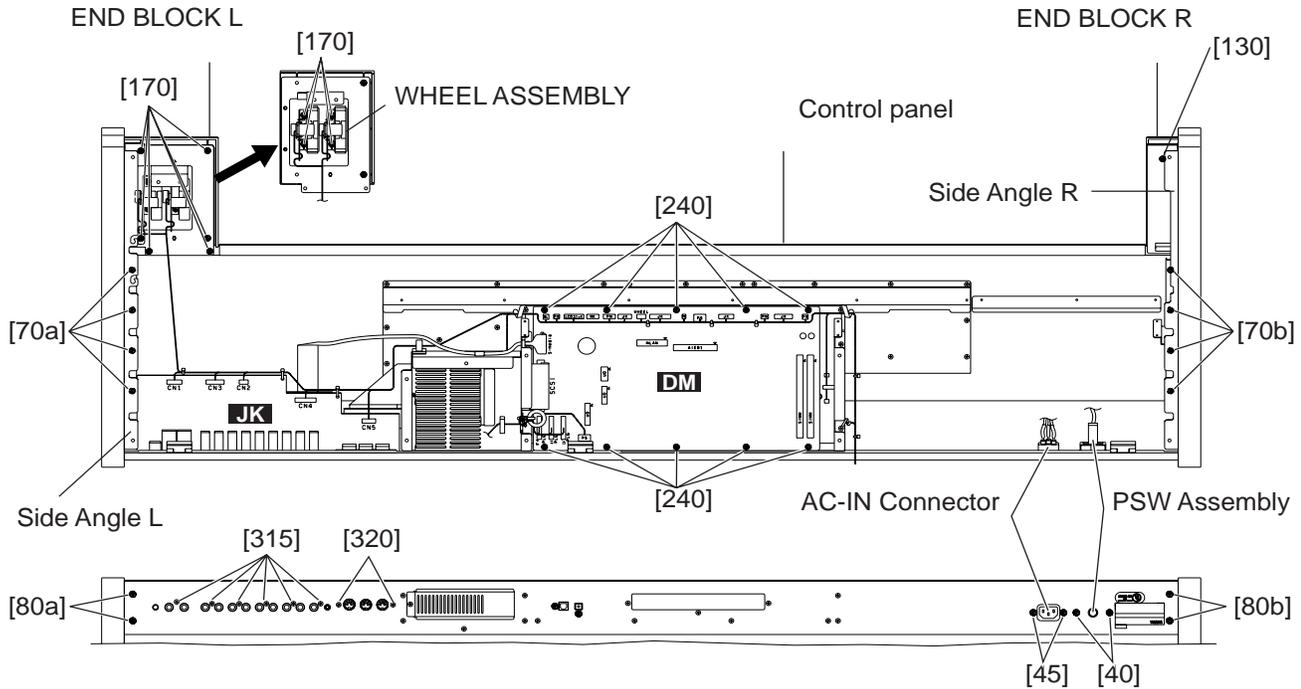
- 6-1. Open the control panel. (See procedure 1)
- 6-2. Remove the two (2) screws marked [45]. The AC-IN connector can then be removed. (Fig. 8)

7. Power Supply Unit (Time required: about 7 minutes)

- 7-1. Open the control panel. (See procedure 1)
- 7-2. Remove the six (6) screws marked [410] and the screw marked [420]. The power supply unit can then be removed. (Fig. 9)

8. SM Circuit Board (Time required: about 6 minutes)

- 8-1. Open the control panel. (See procedure 1)
- 8-2. Remove the two (2) screws marked [250]. The SM circuit board can then be removed.



- [40] Bonding Tapping Screw-B 3.0X10 MFZN2BL (VQ049800)
- [45] Bonding Tapping Screw-B 3.0X10 MFZN2BL (VQ049800)
- [70] Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)
- [80] Bonding Tapping Screw-B 3.0X10 MFZN2BL (VQ049800)
- [130] Bind Head Tapping Screw-B 3.0X8 MFZN2BL (EP600190)
- [170] Bind Head Tapping Screw-B 3.0X8 MFZN2BL (EP600190)
- [240] Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)
- [315] Bonding Tapping Screw-B 3.0X6 MFZN2BL (EX602940)
- [320] Bonding Tapping Screw-B 3.0X10 MFZN2BL (VQ049800)

(Fig.8)

9. JK Circuit Board (Time required: about 7 minutes)

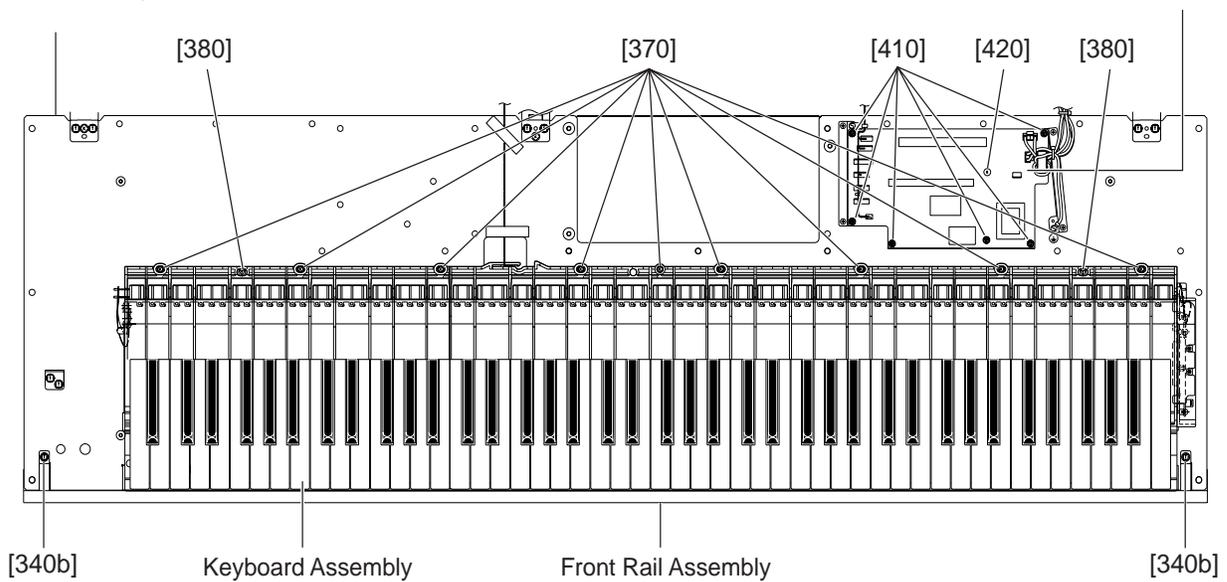
- 9-1. Open the control panel. (See procedure 1)
- 9-2. Remove the six (6) screws marked [315] and the two screws marked [320]. The JK circuit board can then be removed. (Fig. 8)

10. PLG Angle Assembly, DM Side Angle L, DM Side Angle R, DM Shield (Time required: about 12 minutes)

- 10-1. Open the control panel. (See procedure 1)
- 10-2. Remove the UD circuit board. (See procedure 2)
- 10-3. Remove the DM shield cover. (See procedure 3)
- 10-4. Remove the DM circuit board. (See procedure 4)
- 10-5. Remove the eleven (11) screws marked [290] and the two (2) screws marked [300].
The PLG angle assembly, the DM side angle L, the DM side angle R and the DM shield can then be removed. (Fig. 11)

Keybed Assembly

Power Supply Unit



- [340] Bind Head Tapping Screw-1 3.5X8 MFZN2Y (VD278600)
- [370] Pan Head Screw 5.0X25 MFZN2Y PW (VV040700)
- [380] Bind Head Tapping Screw-1 4.0X14 MFZN2Y (EP040236)
- [410] Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)
- [420] Bind Head Screw-3.0X6 ZMC2Y (ED030066)

(Fig.9)

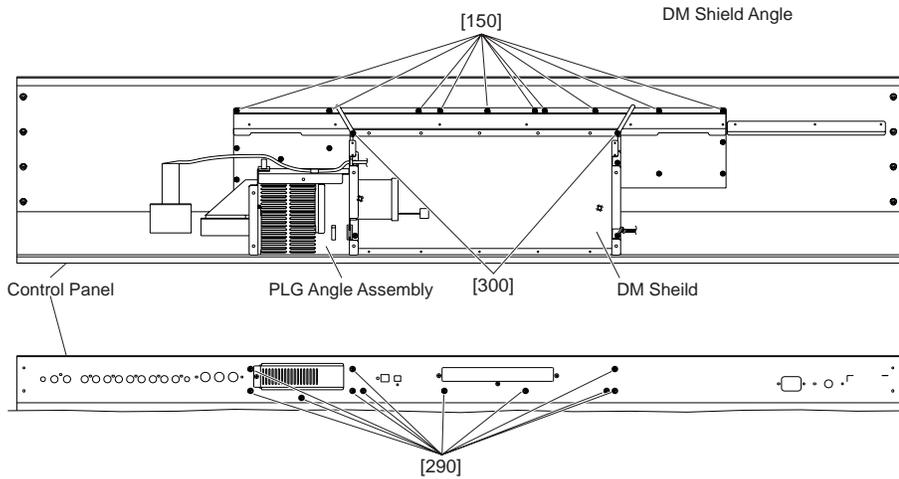
11. DM Shield Angle (Time required: about 14 minutes)

- 11-1. Open the control panel. (See procedure 1)
- 11-2. Remove the UD circuit board. (See procedure 2)
- 11-3. Remove the DM shield cover. (See procedure 3)
- 11-4. Remove the DM circuit board. (See procedure 4)
- 11-5. Remove the PLG angle assembly, the DM side angle L, the DM side angle R and the DM shield. (See procedure 10)
- 11-6. Remove the ten screws marked [150]. The DM shield angle can then be removed. (Fig. 11)

12. Display Assembly (Time required: about 13 minutes)

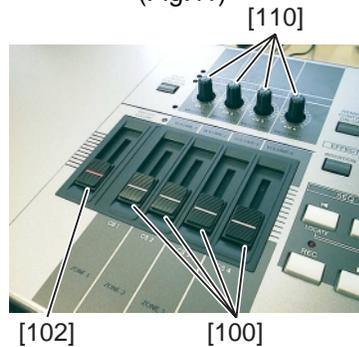
- 12-1. Open the control panel. (See procedure 1)
- 12-2. Remove the UD circuit board. (See procedure 2)
- 12-3. Remove the DM shield cover. (See procedure 3)
- 12-4. Remove the DM circuit board. (See procedure 4)
- 12-5. Remove the PLG angle assembly, the DM side angle L, the DM side angle R and the DM shield. (See procedure 10)
- 12-6. Remove the five (5) screws marked [130]. The display assembly can then be removed. (Fig. 12)

Note: If you remove the adhesive tape to remove the display assembly, make sure to apply a tape on the same condition when reinstalling.



- [150] Bind Head Tapping Screw-B 3.0X8 MFZN2BL (EP600190)
- [290] Bonding Tapping Screw-B 3.0X6 MFZN2BL (EX602940)
- [300] Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)

(Fig.11)



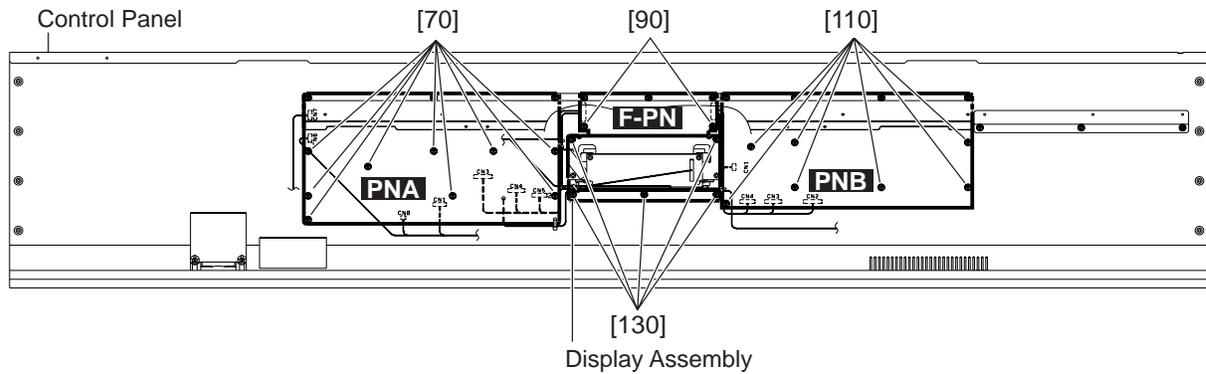
(Fig.13)

13. FPN Circuit Board (Time required: about 15 minutes)

- 13-1. Open the control panel. (See procedure 1)
- 13-2. Remove the UD circuit board. (See procedure 2)
- 13-3. Remove the DM shield cover. (See procedure 3)
- 13-4. Remove the DM circuit board. (See procedure 4)
- 13-5. Remove the PLG angle assembly, the DM side angle L, the DM side angle R and the DM shield. (See procedure 10)
- 13-6. Remove the DM shield angle. (See procedure 11)
- 13-7. Remove the two (2) screws marked [90]. The FPN circuit board can then be removed. (Fig. 12)

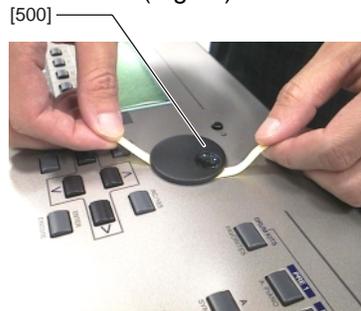
14. PNA Circuit Board (Time required: about 16 minutes)

- 14-1. Open the control panel. (See procedure 1)
- 14-2. Remove the UD circuit board. (See procedure 2)
- 14-3. Remove the DM shield cover. (See procedure 3)
- 14-4. Remove the DM circuit board. (See procedure 4)
- 14-5. Remove the PLG angle assembly, the DM side angle L, the DM side angle R and the DM shield. (See procedure 10)
- 14-6. Remove the DM shield angle. (See procedure 11)
- 14-7. Remove the nine (9) screws marked [70]. (Fig. 12)
- 14-8. Remove the four (4) knobs marked [110], the VR knob marked [102] and the four (4) VR knobs marked [100] from the outside of the control panel. The PNA circuit board can then be removed. (Fig. 13)



- [70] Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)
- [90] Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)
- [110] Bind Head Tapping Screw-B 3.0X6 MFZN2BL (EP600230)
- [130] Bind Head Tapping Screw-B 3.0X8 MFZN2BL (EP600190)

(Fig.12)



(Fig.14)

15. PNB Circuit Board (Time required: about 16 minutes)

- 15-1. Open the control panel. (See procedure 1)
- 15-2. Remove the UD circuit board. (See procedure 2)
- 15-3. Remove the DM shield cover. (See procedure 3)
- 15-4. Remove the DM circuit board. (See procedure 4)
- 15-5. Remove the PLG angle assembly, the DM side angle L, the DM side angle R and the DM shield. (See procedure 10)
- 15-6. Remove the DM shield angle. (See procedure 11)
- 15-7. Remove the seven (7) screws marked [110]. (Fig. 12)
- 15-8. Remove the encoder knob marked [500] from the outside of the control panel. The PNB circuit board can then be removed. (Fig. 14)

16. Wheel Assembly (Time required: about 6 minutes)

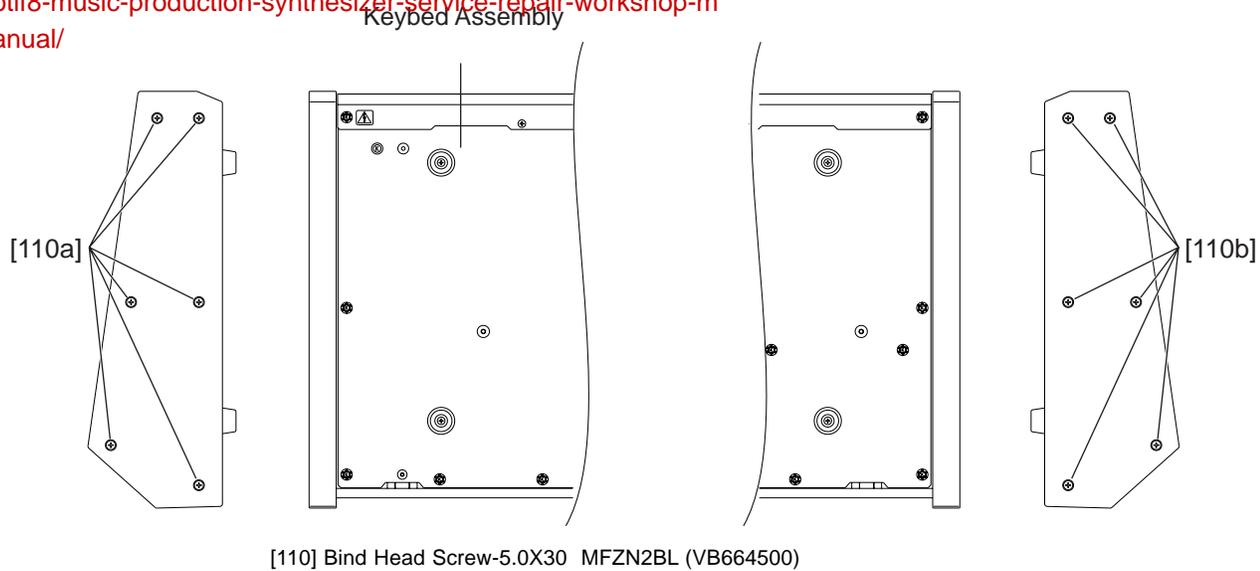
- 16-1. Open the control panel. (See procedure 1)
- 16-2. Remove the four (4) screws marked [170]. The wheel assembly can then be removed. (Fig. 8)

17. Side Arm L (Time required: about 1 minute)

- 17-1. Remove the six (6) screws marked [110a]. The side arm L can then be removed. (Fig. 15)

MOTIF8

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(Fig.15)

18. Side Arm R

(Time required: about 1 minute)

- 18-1. Remove the six (6) screws marked [110b]. The side arm R can then be removed. (Fig. 15)

19. Side Angle L (Time required: about 6 minutes)

- 19-1. Open the control panel. (See procedure 1)
- 19-2. Remove the four (4) screws marked [70a] and the two (2) screws marked [80a]. The side angle L can then be removed. (Fig. 8)

20. Side Angle R (Time required: about 6 minutes)

- 20-1. Open the control panel. (See procedure 1)
- 20-2. Remove the four (4) screws marked [70b] and the two (2) screws marked [80b]. The side angle R can then be removed. (Fig. 8)

21. End Block L (Time required: about 8 minutes)

- 21-1. Open the control panel. (See procedure 1)
- 21-2. Remove the wheel assembly. (See procedure 16)
- 21-3. Remove the side angle L. (See procedure 19)
- 21-4. Remove the six (6) screws marked [170]. The end block L can then be removed. (Fig. 8)

22. End Block R (Time required: about 6 minutes)

- 22-1. Open the control panel. (See procedure 1)
- 22-2. Remove the screw marked [130]. The end block R can then be removed. (Fig. 8)

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