PCGA-DSD5/DSM5

SERVICE MANUAL

S400

VAIO
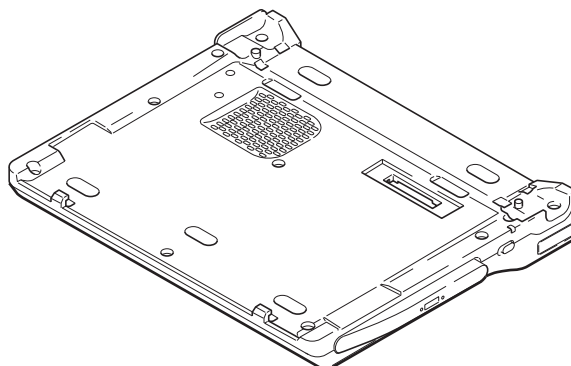
Specifications

Drive performance

    CD-RW/DVD Docking Station (PCGA-DSM5)

      Reading speed: 24X max. CD-ROM/CD-R reading,

               12X max. CD-RW reading,

               8X max. DVD-ROM reading,

      Writing speed: 8X max. CD-R writing,

               4X max. CD-RW writing,

      Disk diameter $4\,^3/_4$ inch (12cm), 3inch (8cm)

      Multi-session correspondence

    DVD Docking Station (PCGA-DSD5)

      Reading speed: 24X max. CD-ROM reading,

           : 8X max. DVD-ROM reading,

      Disk diameter $4\,^3/_4$ inch (12cm), 3inch (8cm)

      Multi-session correspondence

Floppy disk drive

    3.5" 1.44MB/720KB

Connectors   SERIAL Connector: RS-232C, D-SUB 9 pin (1)

          PRINTER Connector: ECP, D-SUB 25 pin (1)

          MONITOR Connector: analog RGB, mini D-SUB 15 pin (1)

          USB Connector: USB 4 pin (2)

          i.LINK (IEEE 1394) Connector S400 4pin(1) S400=400Mbps

          NETWORK Connector: RJ-45 (1)*

          Docking Connector: Dedicated connector 100pin(1)

Power source AC adapter or battery pack (only when it is attached to the notebook computer)

Operating temperature

    41 °F to 95 °F (5 °C to 35 °C)

    (temperature gradient less than 18 °F (10 °C)/hour)

Operating humidity

    20 % to 80 % (not condensed), provided that humidity is less than 65 % at 95 °F (35 °C)

    (hygrometer reading of less than 84 °F (29 °C))

Storage temperature

    –4 °F to 140 °F (–20 °C to 60 °C)

    (temperature gradient less than 18 °F (10 °C)/hour)

Storage humidity

    10 % to 90 % (not condensed), provided that humidity is less than 20 % at 140 °F (60 °C)

    (hygrometer reading of less than 95 °F (35 °C))

Dimensions   Approx. $11.0 \times 0.8(0.9$ backside) $\times 9.3$ inches (w/h/d)

    (Approx. $279.5 \times 18.5(21.5$ backside) $\times 235.0$ mm)

    (the projecting parts are not included)

Mass   PCGA-DSM5 2.38 lbs. (1,080 g)

    PCGA-DSD5 2.27 lbs. (1,030 g)

Supplied accessories

    Operating instructions (1)

    Warranty card (1)

* There is a NETWORK Connector for the correspondence to 10BASE-T, 100BASE-TX.

Design and specifications are subject to change without notice.

CD-RW/DVD Docking Station
DVD Docking Station

SONY®

Caution Markings for Lithium/Ion Battery - The following or similar texts shall be provided on battery pack of equipment or in both the operating and the service instructions.

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

CAUTION: The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 100°C (212°F) or incinerate.
Dispose of used battery promptly.
Keep away from children.

CAUTION: Changing the back up battery.
• Overcharging, short circuiting, reverse charging, multilation or incineration of the cells must bi avoided to prevent one or more of the following occurrences; release of toxic materials, release of hydrogen and/or oxygen gas, rise in surface temperature.
• If a cell has leaked or vented, it should be replaced immediately while avoiding to touch it without any protection.

✤✤

Service and Inspection Precautions

1. Obey precautionary markings and instructions

Labels and stamps on the cabinet, chassis, and components identify areas requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents.

2. Use designated parts only

The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages. Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the ⚠ mark, which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions; be extra sure to use only the designated components.

3. Always follow the original design when mounting parts and routing wires

The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it away from hot or high-voltage parts. When mounting parts or routing wires, therefore, be sure to duplicate the original layout.

4. Inspect after completing service

After servicing, inspect to make sure that all screws, components, and wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

5. When replacing chip components...

Never reuse components. Also remember that the negative side of tantalum capacitors is easily damaged by heat.

6. When handling flexible print boards...

• The temperature of the soldering-iron tip should be about 270C.
• Do not apply the tip more than three times to the same pattern.
• Handle patterns with care; never apply force.

Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.
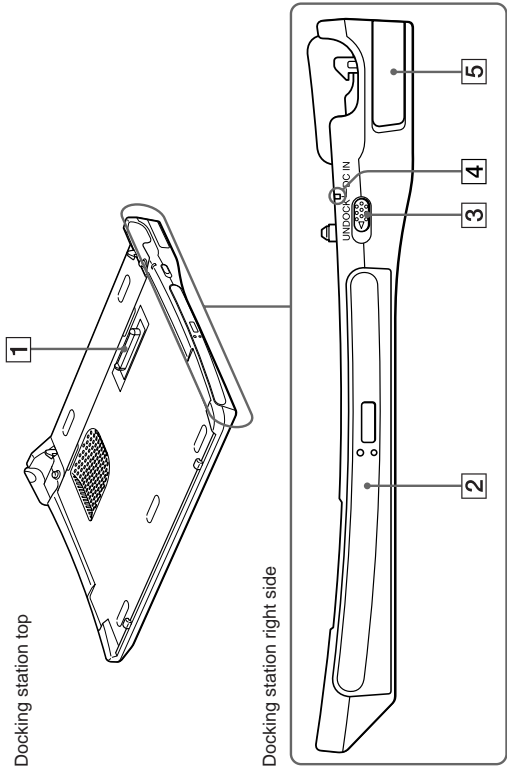
TABLE OF CONTENTS

• Abbreviations
  UC : US model / Canadian model

PCGA-DSD5/DSM5 (UC)

1-1. Locating Controls and Connectors

Docking Station Left Side/Rear

Docking station left side

Docking station rear

6 🖧 (network) connector
  (page 6)
7 ⟂ USB connector
8 S400 ⦙ i.LINK connector
9 ▢ MONITOR connector
10 🖨 PRINTER connector
11 IOIOI SERIAL connector

1 Release lever (page 67)
2 Ventilator
3 Floppy disk drive
4 i.LINK network switch
  (page 91)
5 ◇⊂⊕ (DC IN) connector
  (page 65)

62

61

Locating Controls and Connectors

Docking Station Top/Right Side

Docking station top

Docking station right side

1 Docking connector
2 PCGA-DSM5
  CD-RW/DVD-ROM combo drive
  PCGA-DSD5
  DVD-ROM drive
3 UNDOCK switch (page 66)
4 DC IN lamp (page 65)
5 Release lever (page 67)

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1-2. Attention of i.LINK

The i.LINK compatible unit connected to this set is not recognized. Or, the message such as "Operation is disabled, as DV unit is not connected or the power is not turned on" is displayed.

→ Disconnect the i.LINK cable once, and reconnect it. For further information, see "Connecting i.LINK unit" of "Data transfer to i.LINK unit" in the "Extend" of the Online Manual for this set.

The unit connected to the i.LINK connector on the docking station does not operate normally.

→ Use the i.LINK connector on this set.

The operation of i.LINK compatible unit connected to this set stopped.

→ Finish the operation of the i.LINK compatible unit first, when removing the docking station during the connection of i.LINK compatible unit.

The message "Recording to DV unit failed. Retry after checking the DV unit for power supply and connection state" is displayed during the recording on the tape using the "DVgate" software.

→ Check if the power and connection cables are connected correctly to the DV unit. Continuous recording may cause a recording failure even if the unit is connected correctly. In such a case, restart this set after exiting all of the software.
To use the set in more comfortable environment, it is recommended to extend the memory. For further information, see "Extending the memory" (page 109).

The frames drop during the use of "DVgate" software.

→ The frames may drop depending on the operating condition. In such a case, extend the memory. For further information, see "Extending the memory" (page 109).

2-1. Flowchart

```
┌──────────┐   ┌──────────┐   ┌──────────────┐
│ POWER    │───│ HOUSING  │───│ COMBO DRIVE, │
│ OFF      │   │(TOP) ASSY│   │ DVD-ROM      │
└──────────┘   └──────────┘   └──────────────┘
                    P 2-2          P 2-2
                                 │
                                 │   ┌──────────┐
                                 ├───│ FDD      │
                                 │   └──────────┘
                                 │      P 2-3
                                 │
                                 │   ┌──────────┐
                                 ├───│ IFX-146  │
                                 │   │ BOARD    │
                                 │   └──────────┘
                                 │      P 2-3
                                 │
                                 │   ┌──────────┐
                                 ├───│ CNX-130  │
                                 │   │ BOARD    │
                                 │   └──────────┘
                                 │      P 2-4
                                 │
                                 │   ┌──────────┐
                                 ├───│ SWX-75   │
                                 │   │ BOARD    │
                                 │   └──────────┘
                                 │      P 2-4
                                 │
                                 │   ┌──────────┐
                                 └───│ CNX-132  │
                                     │ BOARD    │
                                     └──────────┘
                                        P 2-5
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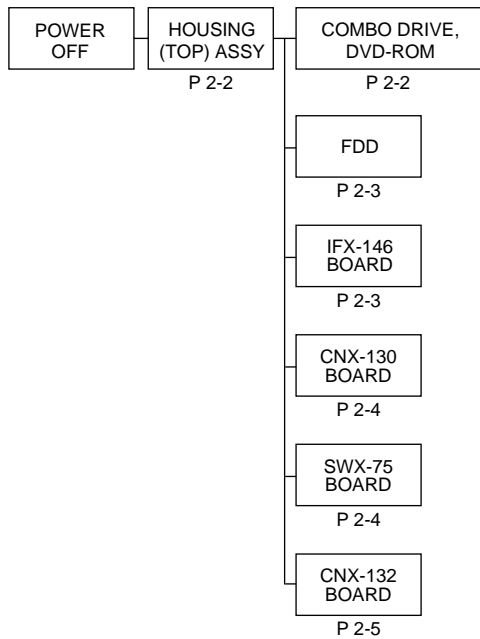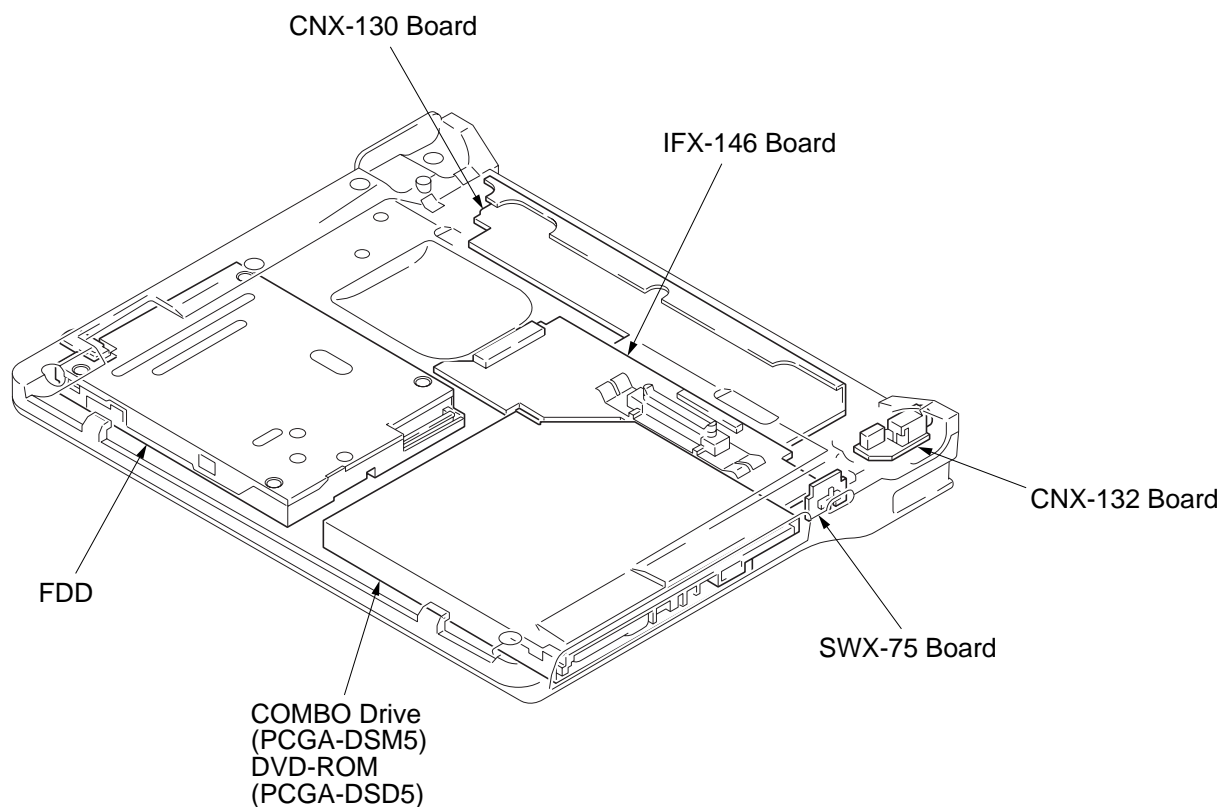
• P XX means pages that appears in this manual.
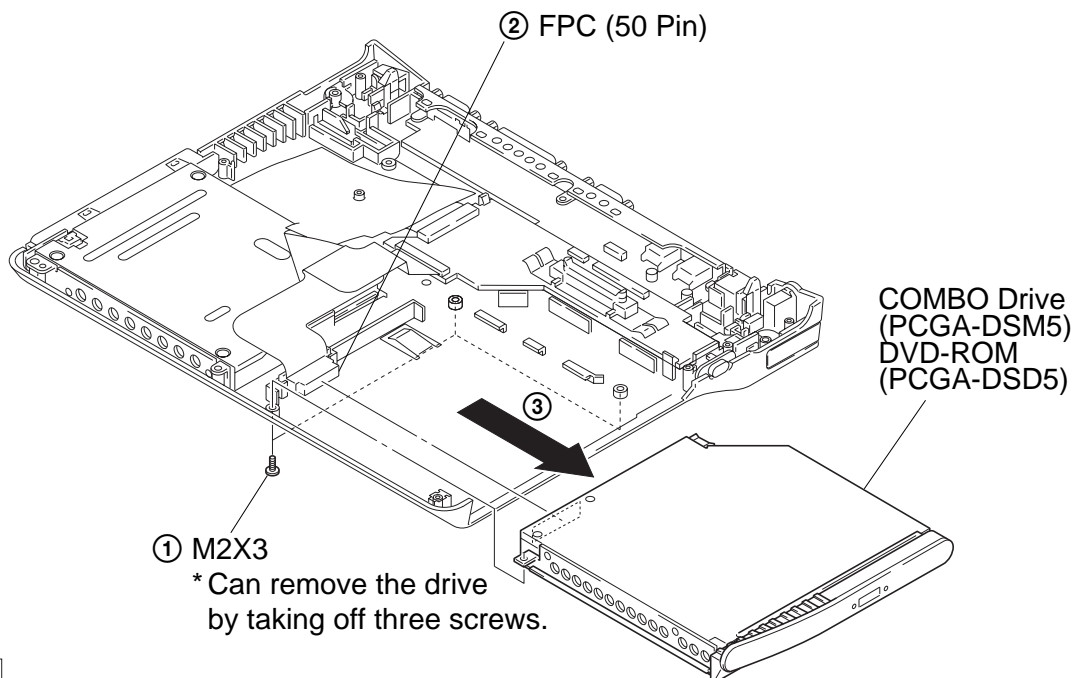
2-2. Main Electrical Parts Location Diagram

CNX-130 Board

IFX-146 Board

CNX-132 Board

FDD

SWX-75 Board

COMBO Drive
(PCGA-DSM5)
DVD-ROM
(PCGA-DSD5)

2-3. Removal

1. Housing (Top) Assy
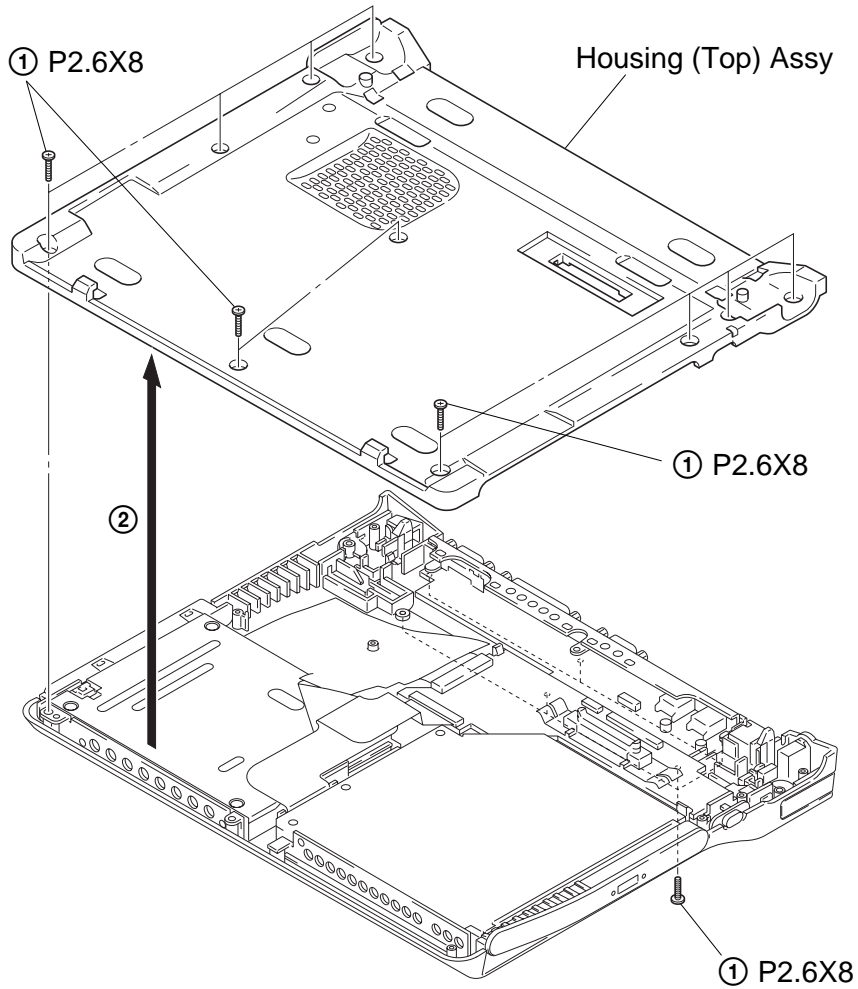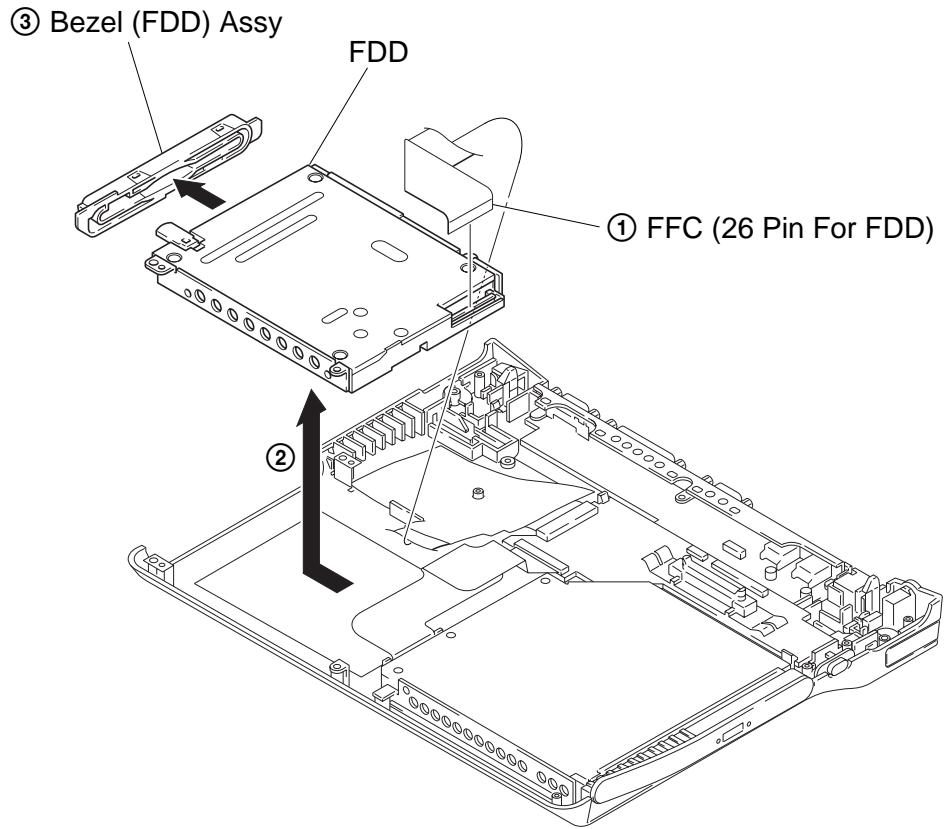
① P2.6X8

Housing (Top) Assy

②

① P2.6X8

① P2.6X8

2. COMBO Drive, DVD-ROM

② FPC (50 Pin)

COMBO Drive
(PCGA-DSM5)
DVD-ROM
(PCGA-DSD5)

③

① M2X3
 * Can remove the drive
 by taking off three screws.

3. FDD

③ Bezel (FDD) Assy

FDD

① FFC (26 Pin For FDD)

②

4. IRX-146 Board

② FFC (26 Pin For FDD)

③ FPC (i LINK Connector)

IFX-146 Board

④ FFC (54 Pin With Shield)

⑧ Harness (Power 3P)

⑦

⑨ RJ-45 Harness (For Internal)

⑤ FFC (6 Pin)

⑥ Claw

① FPC (50 Pin)

PCGA-DSD5/DSM5 (UC)

5. CNX-130 Board

CNX-130 Board

① FPC (i LINK Connector)

③

② FFC (54 Pin With Shield)

6. SWX-75 Board

① FFC (6 Pin)

SWX-75 Board

② ③ Knob (UD)

7. CNX-132 Board

① Harness (Power 3P)

CNX-132 Board

②

PCGA-DSD5/DSM5 (UC)
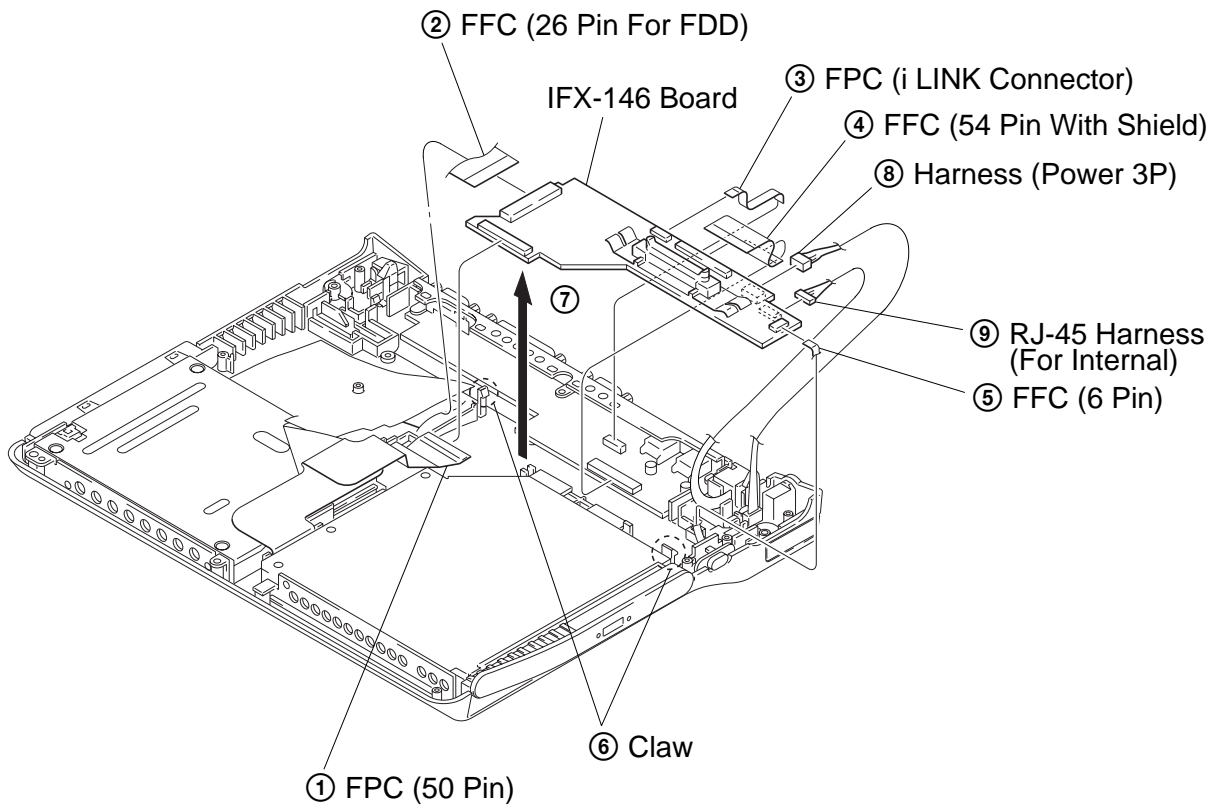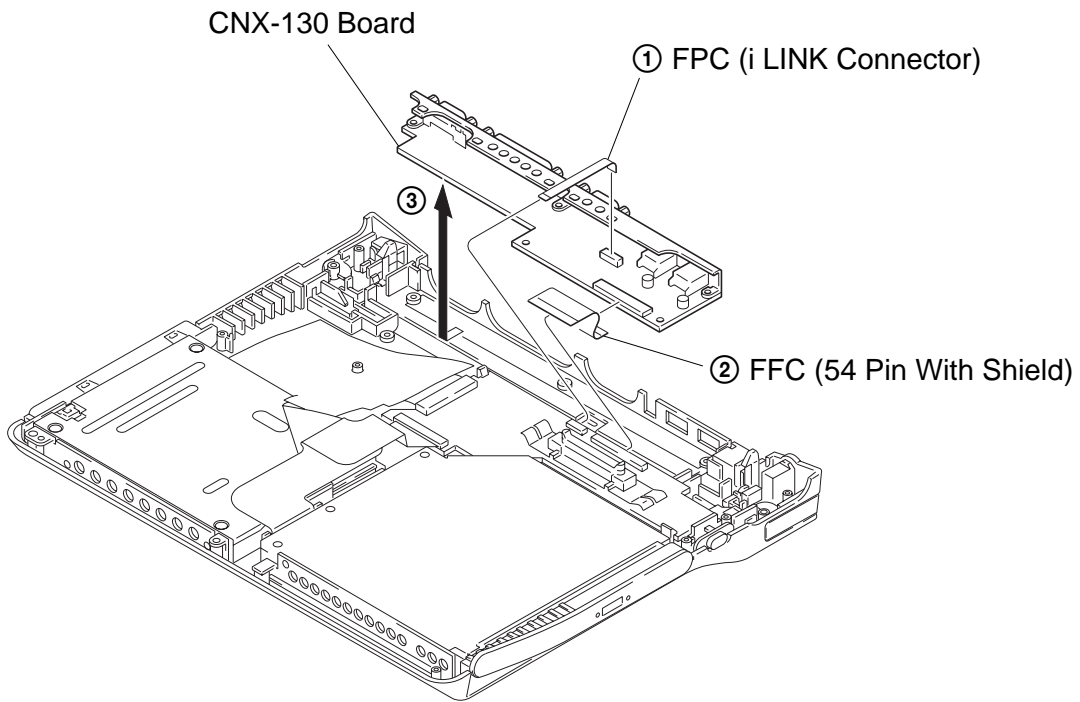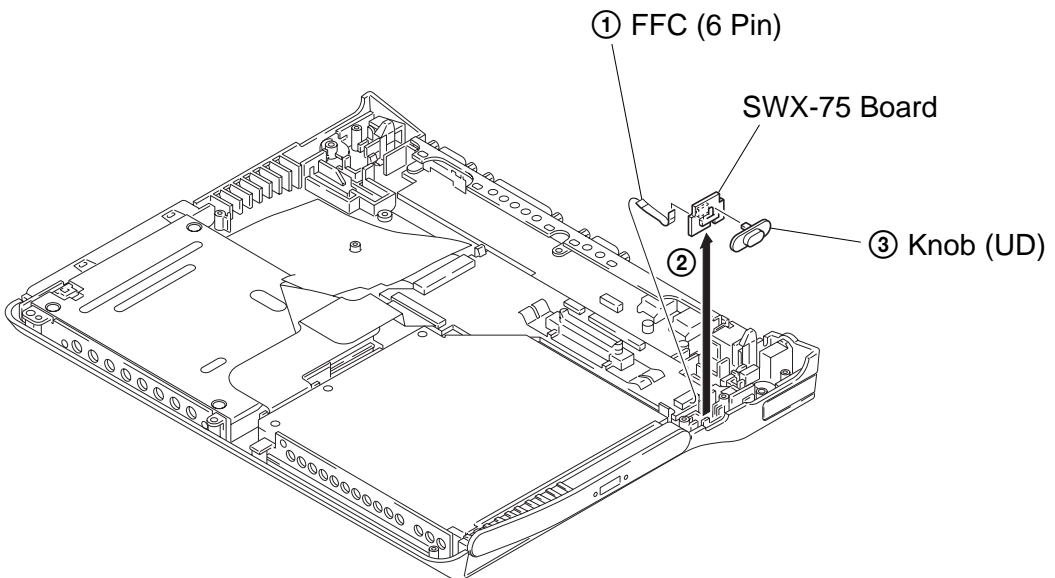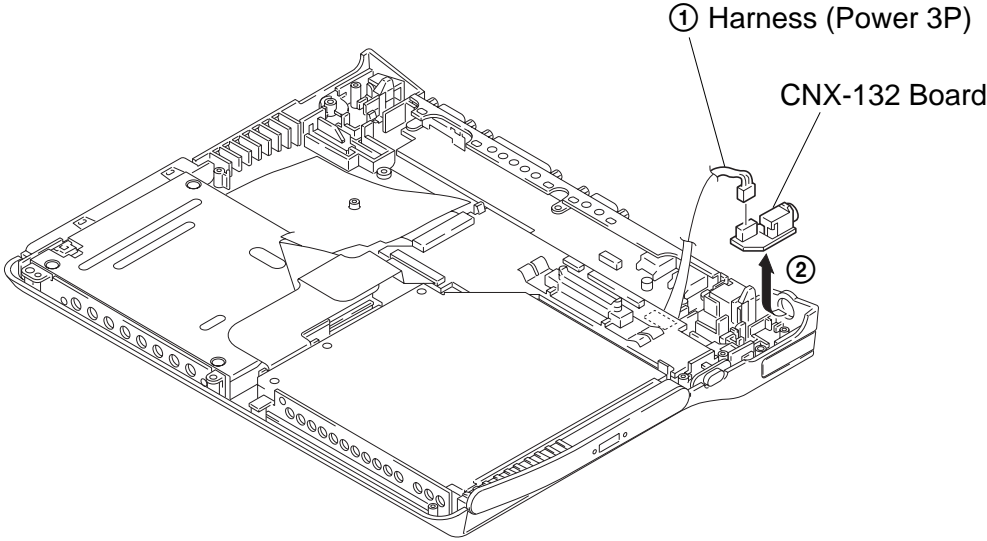
< ATTENTION >

**Please confirm "Self Diagnostics" method which will be informed
you with distribution of "Self Diagnostics" software.**

CHAPTER 4.
BLOCK DIAGRAM

– OVERALL BLOCK DIAGRAM –

BATT+

Docking
Connector

+VDC_IN

D_+VDC_IN

PC_SENSE*

DC IN

+VPWRSRC

DOCK_+VPWRSRC

DC/DC
Conv.

+VCC5

Reg.

+VCC3

DOCKED*

D_PWRSRC_ON*

D_INUSE

D_INUSE

D_PWRGD

RESET
IC

i.LINK
Bridge Chip

PHY-LINK

ATAPI
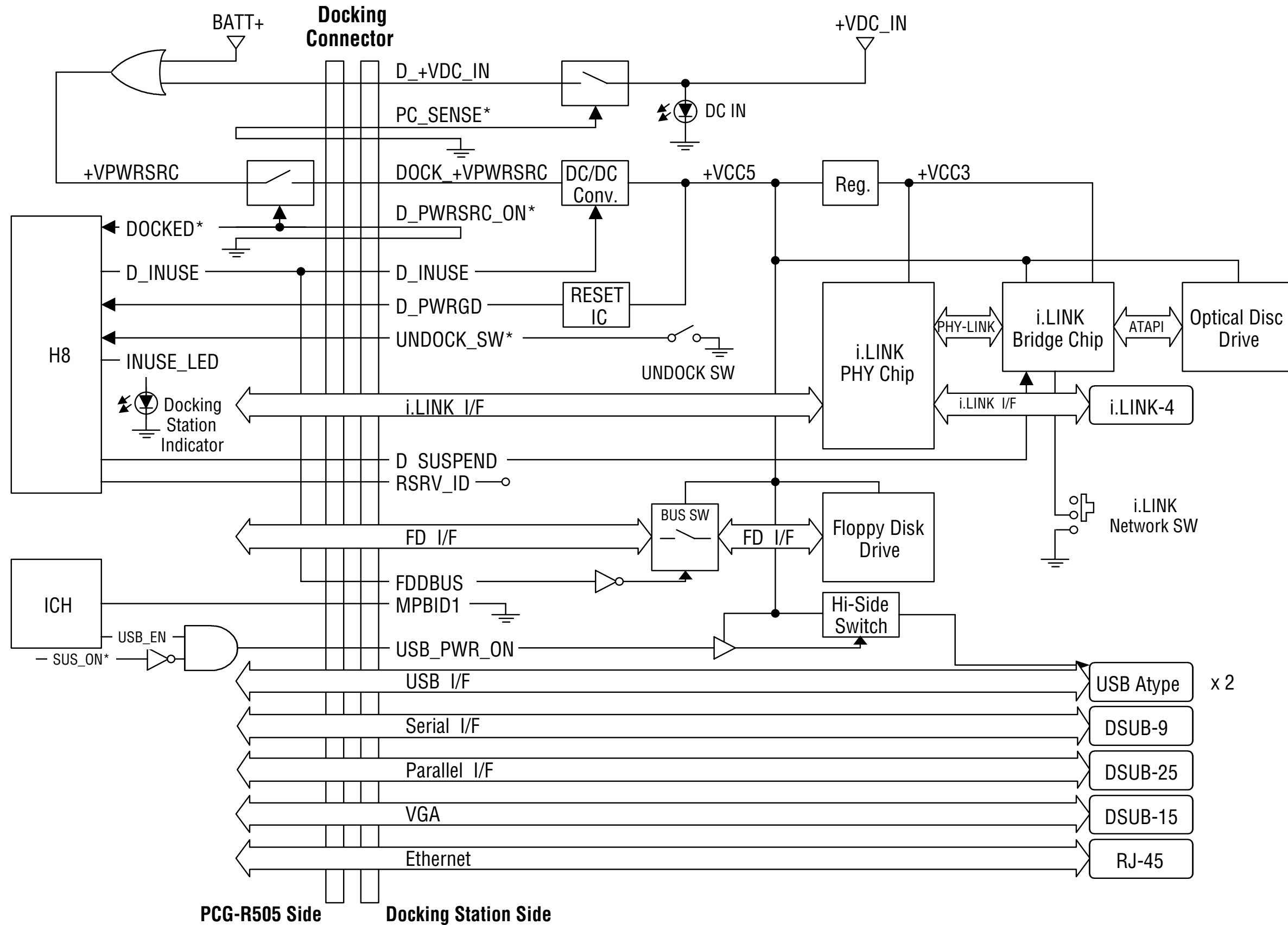
Optical Disc
Drive

UNDOCK_SW*

UNDOCK SW

H8

INUSE_LED

i.LINK
PHY Chip

Docking
Station
Indicator

i.LINK_I/F

i.LINK_I/F

i.LINK-4

D_SUSPEND

RSRV_ID

i.LINK
Network SW

FD_I/F

BUS SW

FD_I/F

Floppy Disk
Drive

FDDBUS

MPBID1

ICH

Hi-Side
Switch

USB_EN

USB_PWR_ON

SUS_ON*

USB_I/F

USB Atype

x 2

Serial_I/F

DSUB-9

Parallel_I/F

DSUB-25

VGA

DSUB-15

Ethernet

RJ-45

PCG-R505 Side

Docking Station Side

PCGA-DSD5/DSM5 (UC)

CHAPTER 5.
FRAME HARNESS DIAGRAM

FROM board connector (direct connection)

Harness (connector at both end)

Harness (soldered at one end)

PCGA-DSD5/DSM5 (UC)
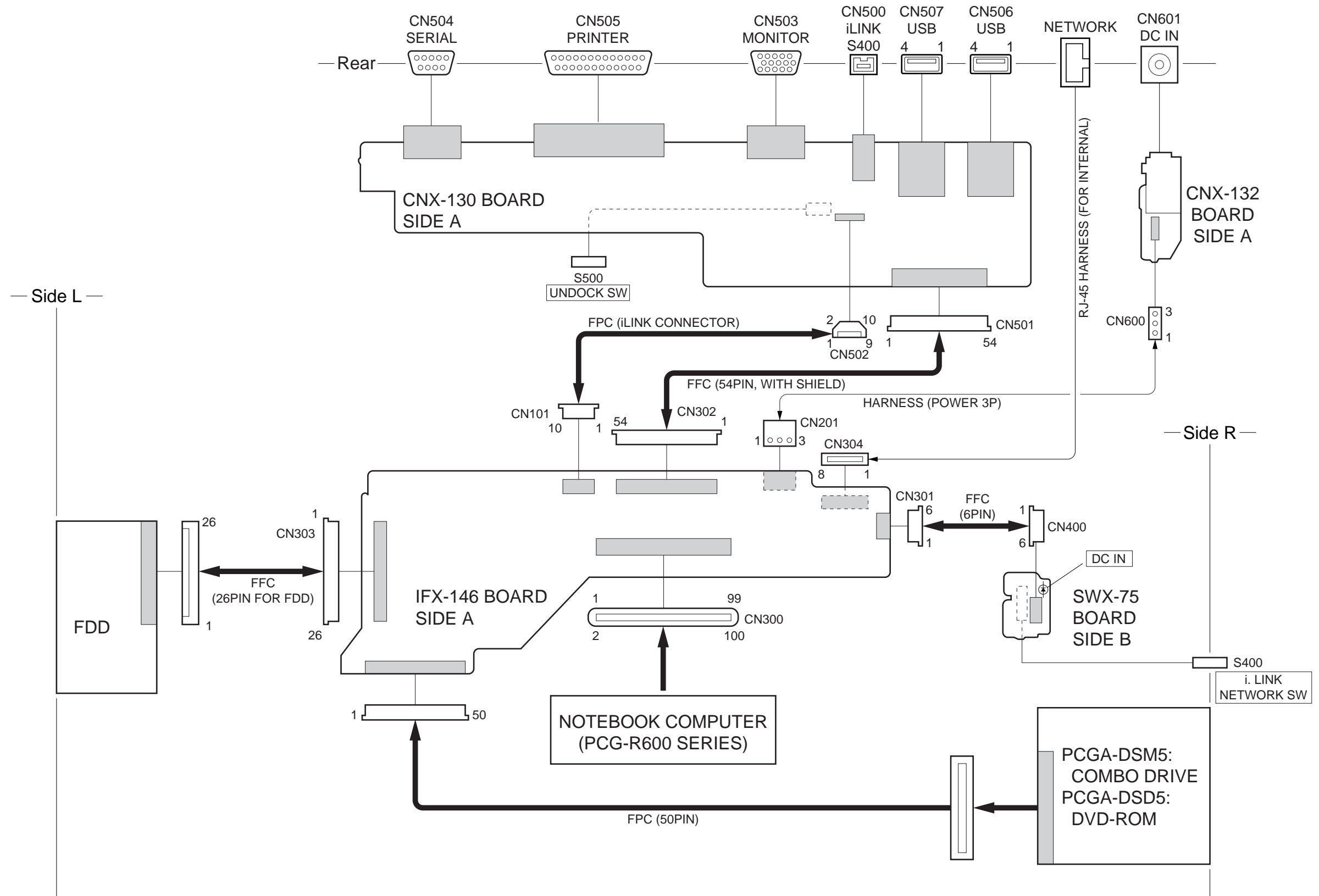
CHAPTER 6.
EXPLODED VIEWS AND PARTS LIST

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- When the same reference numbers are written down in the list, please use the one listed in the first place as the main part.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. Main Section

PCGA-DSD5

PCGA-DSM5
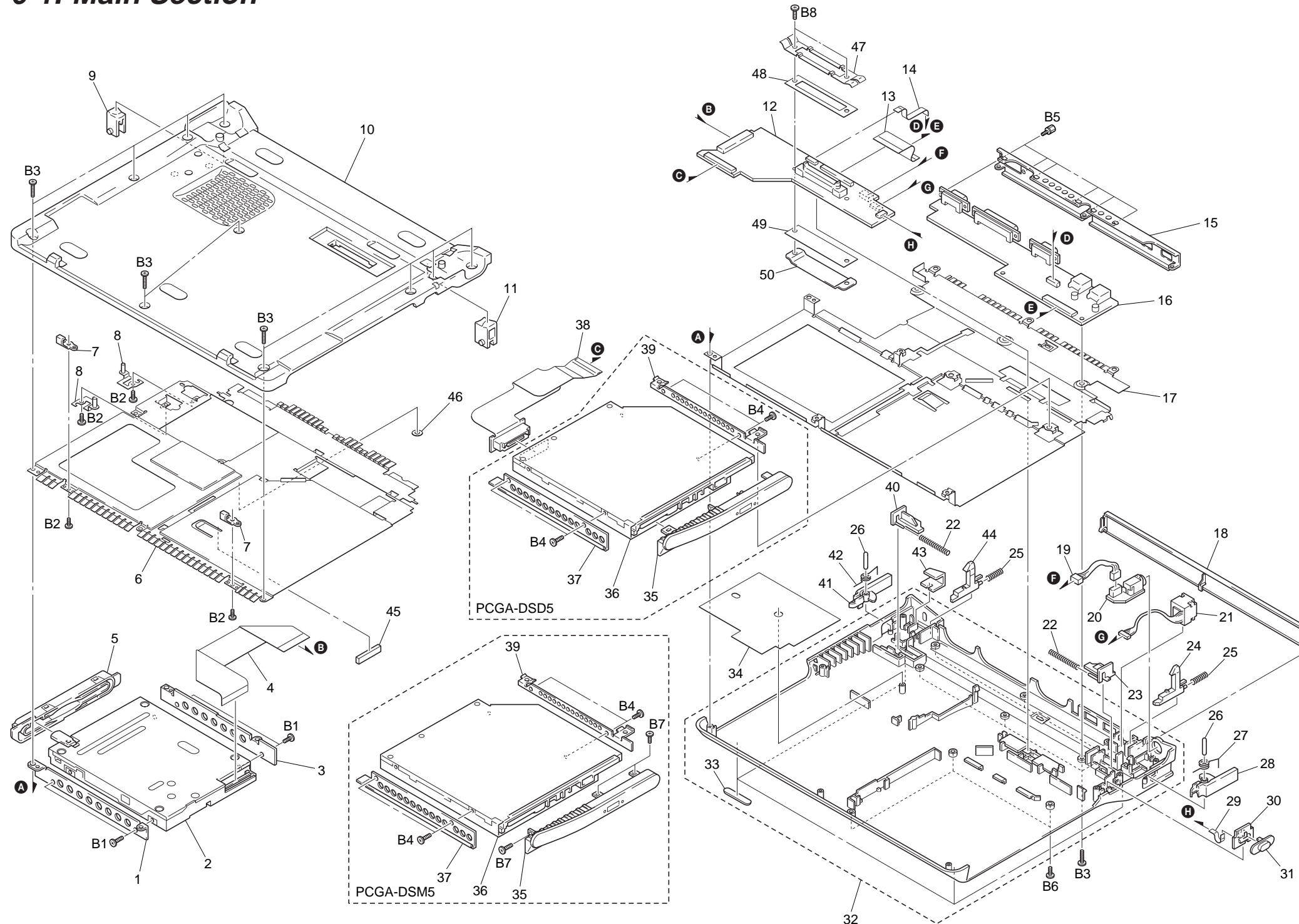
Ref.No.	Part No.	Description
* 1	4-652-975-01	BRACKET (FDD (R))
2	1-772-978-31	FDD
* 3	4-652-974-01	BRACKET (FDD (L))
4	1-815-683-11	FFC (26 PIN FOR FDD)
5	X-4623-581-1	BEZEL (FDD) ASSY
* 6	4-652-969-01	PLATE (TOP), SHIELD
7	X-4623-594-1	BRACKET (HOOK) ASSY
8	X-4623-582-1	GROUND ASSY, MAIN
9	4-652-966-01	SHAFT (PUSH) (L)
10	X-4623-579-1	HOUSING (TOP) ASSY
11	4-654-139-01	SHAFT (PUSH) (R)
12	A-8066-662-A	MOUNTED PWB IFX-146
13	1-815-682-11	FFC (54 PIN, WITH SHIELD)
14	1-823-006-11	FPC (iLINK CONNECTOR)
* 15	4-652-971-01	BRACKET (IO)
16	A-8066-658-A	MOUNTED PWB CNX-130
* 17	4-652-970-01	PLATE (BOTTOM), SHIELD
18	X-4623-679-1	DOOR (JACK) ASSY
19	1-961-147-21	HARNESS (POWER 3P)
20	A-8066-660-A	MOUNTED PWB CNX-132
21	1-961-140-21	HARNESS, RJ-45 (FOR INTERNAL)
22	4-652-982-01	SPRING (SLIDER), COIL
23	4-652-968-01	SLIDER (R)
24	4-652-965-01	HOOK (R)
25	4-652-981-01	SPRING (HOOK), COMPRESSION COIL
26	4-652-993-01	SHAFT
27	4-652-980-01	SPRING (R), TORSION
28	4-652-963-01	LEVER (R)
29	1-815-681-11	FFC (6 PIN)
30	A-8066-659-A	MOUNTED PWB SWX-75
31	4-652-961-01	KNOB (UD)
32	X-4623-680-1	HOUSING (BOTTOM) ASSY
33	4-641-449-11	FOOT (F)
34	4-653-453-01	COVER, FFC
35	X-4623-580-1	(DSD5)...BEZEL (T (DVD)) ASSY
35	X-4623-617-1	(DSM5)...BEZEL (P (DVD)) ASSY
36	1-796-018-11	(DSD5)...DVD-ROM (X8 SD-C2502)
36	1-796-072-12	(DSM5)...COMBO DRIVE (UJDA710)
* 37	4-652-972-01	BRACKET (CD-R (L))
38	1-823-007-11	FPC (50 PIN)
* 39	4-652-973-01	BRACKET (CD-R (R))
40	4-652-967-01	SLIDER (L)
41	4-652-962-01	LEVER (L)
42	4-652-979-01	SPRING (L), TORSION
* 43	4-653-152-01	BRACKET
44	4-652-964-01	HOOK (L)
45	4-655-037-01	SPACER, RIB
46	4-655-034-01	SPACER, BOSS
47	4-652-978-01	PLATE (CONNECTOR), GROUND
48	4-652-995-01	SHEET (GROUND PLATE I/O)
49	4-652-994-01	INSULATING SHEET (BRACKET I/O)
* 50	4-652-976-01	BRACKET (CONNECTOR)
B1	4-646-807-11	0 PLATE M2.5 (FDD) (2.5X2.7)
B2	4-648-320-01	TAPPING (M2) (3X4)
B3	7-685-134-19	SCREW +P2.6X8 TYPE2 NON-SLIT
B4	4-644-492-91	ACE (M2), LOCK (2X3)
* B5	4-635-966-01	SCREW (HEX)
B6	4-644-492-41	ACE (M2), LOCK (2X3)
B7	4-645-177-01	SCREW (M1.7X3.5)
B8	4-644-492-81	ACE (M2), LOCK

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MEMO

6-2. Accessories

Ref.No.	Part No.	Description
		ACCESSORIES
		***********
	4-653-715-11	MANUAL, INSTRUCTION

PCGA-DSD5/DSM5 (UC)

9-872-201-11   2001D0500-1

Sony Corporation