PCG-FX120/FX140/FX150/FX170/FX190

SERVICE MANUAL

US Model
Canadian Model

S400

VAIO

Illust : PCG-FX170

NOTEBOOK COMPUTER

SONY®

9-872-179-11

Information in this document is subject to change without notice.

Sony and VAIO are trademarks of Sony. Intel logo and Intel Inside logo are registered trademarks of Intel Corporation. Pentium MMX is a trademark of Intel Corporation. Microsoft, MS-DOS, Windows, the Windows 95 and Windows 98 logo are trademarks of Microsoft Corporation.

All other trademarks are trademarks or registered trademarks of their respective owners. Other trademarks and trade names may be used in this document to refer to the entitles claiming the marks and names or their produces. Sony Corporation disclaims any proprietary interest in trademarks and trade names other than its own.

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 be 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.

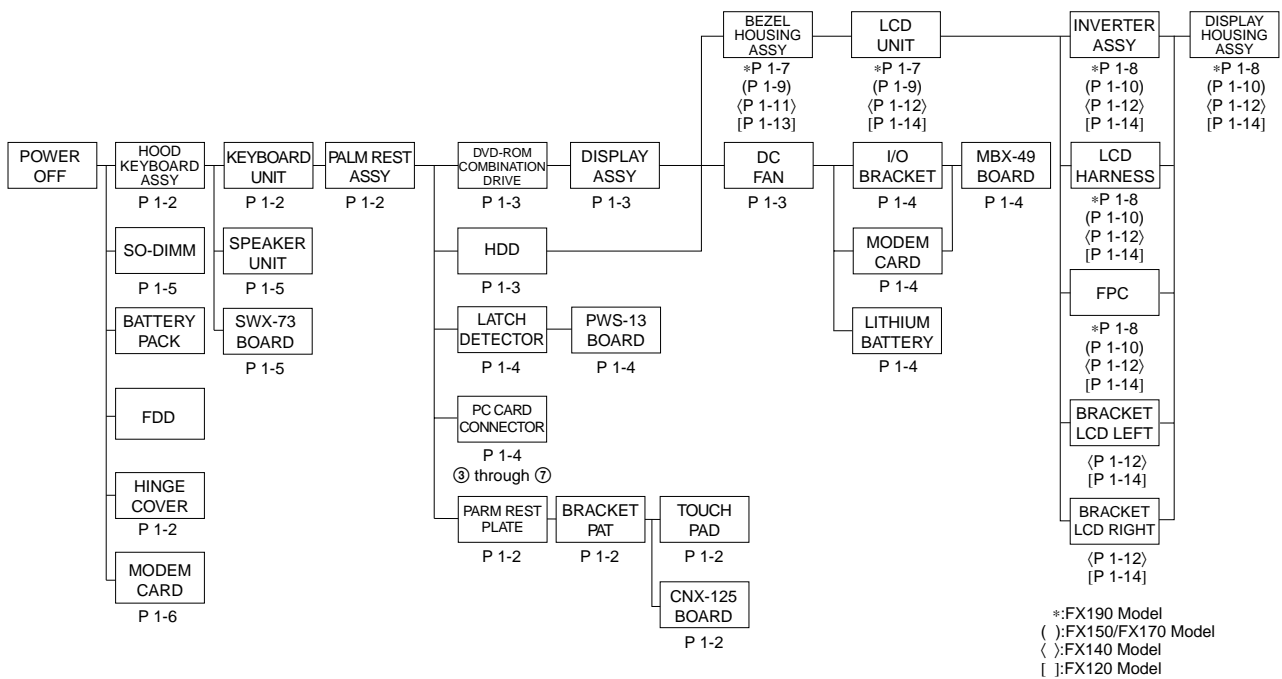**ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!**
LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

TABLE OF CONTENTS

• Abbreviations
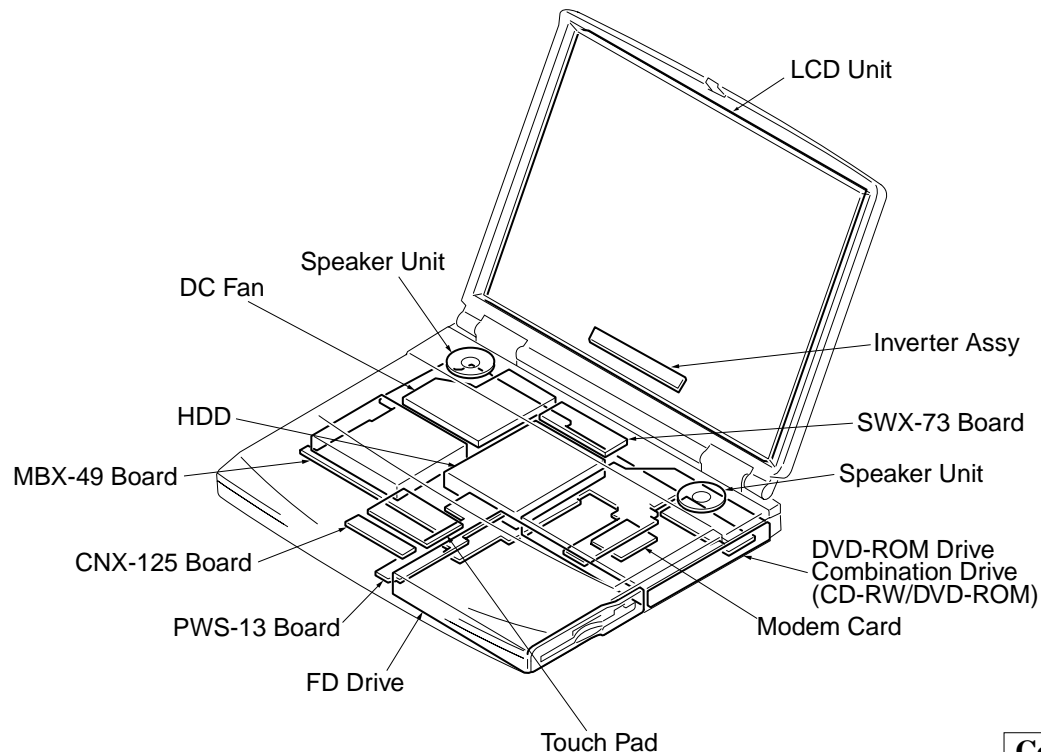 UC : US model / Canadian model

Confidential

PCG-FX120/FX140/FX150/FX170/FX190 (UC)

1-1. Flowchart

* P XX means pages that appears in this manual.
* Remember that hard disk drives are easily damaged by vibration. Always handle with care.

1-2. Main Electrical Parts Location Diagram

Confidential

1-1   PCG-FX120/FX140/FX150/FX170/FX190 (UC)

1-3.Removal

1. Hinge Cover

②Hinge Cover — ①Door I/O

②Hinge Cover

④

③
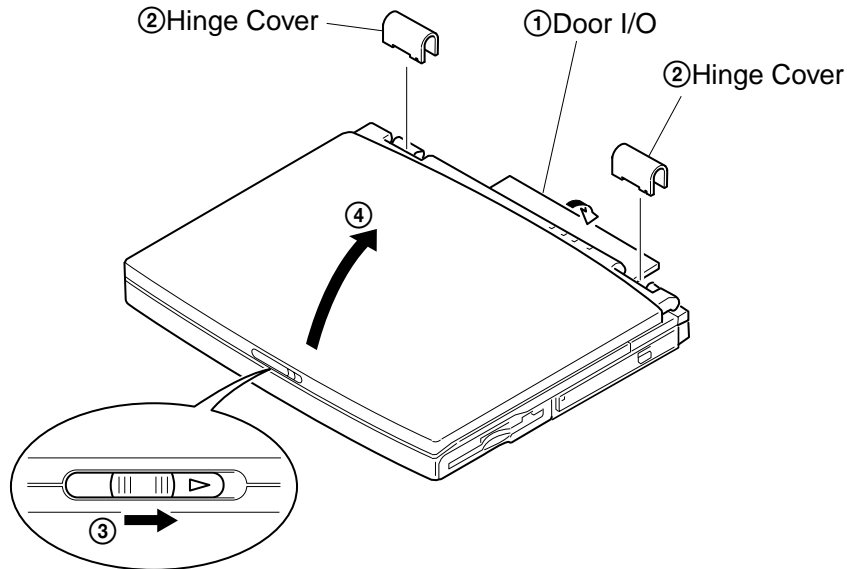
2. Keyboard Unit, Palm Rest Assy, Hood Keyboard Assy, Touch Pad, CNX-125 Board

①M2X4 Special Head (Black)

②Pull it up sliding it to the right.

④M2X4 Special Head (Black)

⑥Keyboard Unit

⑤

③Hood Keyboard Assy

⑨Pull it to the front slightly and raise to remove it.

⑧M2X4 Special Head (Black)

⑩Palm Rest Assy

⑰Touch pad

⑱CNX-125 Board

⑯Bracket Pat

⑪

⑮Remove by pressing to the rear

MBX-49 Board CN1902

⑭Palm Rest Plate

MBX-49 Board CN2004

PWS-13 Board CN4004

⑬Remove by pulling slightly to the front

⑦Screw (M2), 0 Number P3 Kind (X4) (Black)

⑫M2X4 Special Head (x4) (Black)

Confidential

3. Display Assy, DVD-ROM Drive, Combination Drive (CD-RW/DVD-ROM)

⑤Plate Ground

④+B M2 (X2) (Gold)

⑨

⑦M2X6
Special Head (Gold)

Display Assy

④+B 2X12 (Black)

⑧M2X6 Special Head (Black)

⑥M2.6 Cross (Hole) Bind (Black)

⑥M2.6 Cross
(Hole) Bind
(Black)

①Screw (M2),
0 Number P3 Kind
(Black)

③

⑥M2.6 Cross (Hole) Bind (X2) (Black)

DVD-ROM Drive
Combination Drive
(CD-RW/DVD-ROM)

②M2X6 Special Head
(Gold)

4. HDD Assy, DC Fan

①M2X6 Special Head (X6) (Gold)

③HDD Assy

④Screw (M2) 0 Number
P3 Kind (X4) (Black)

②FPC 50 Pin (for HDD)

⑥DC Fan

⑤
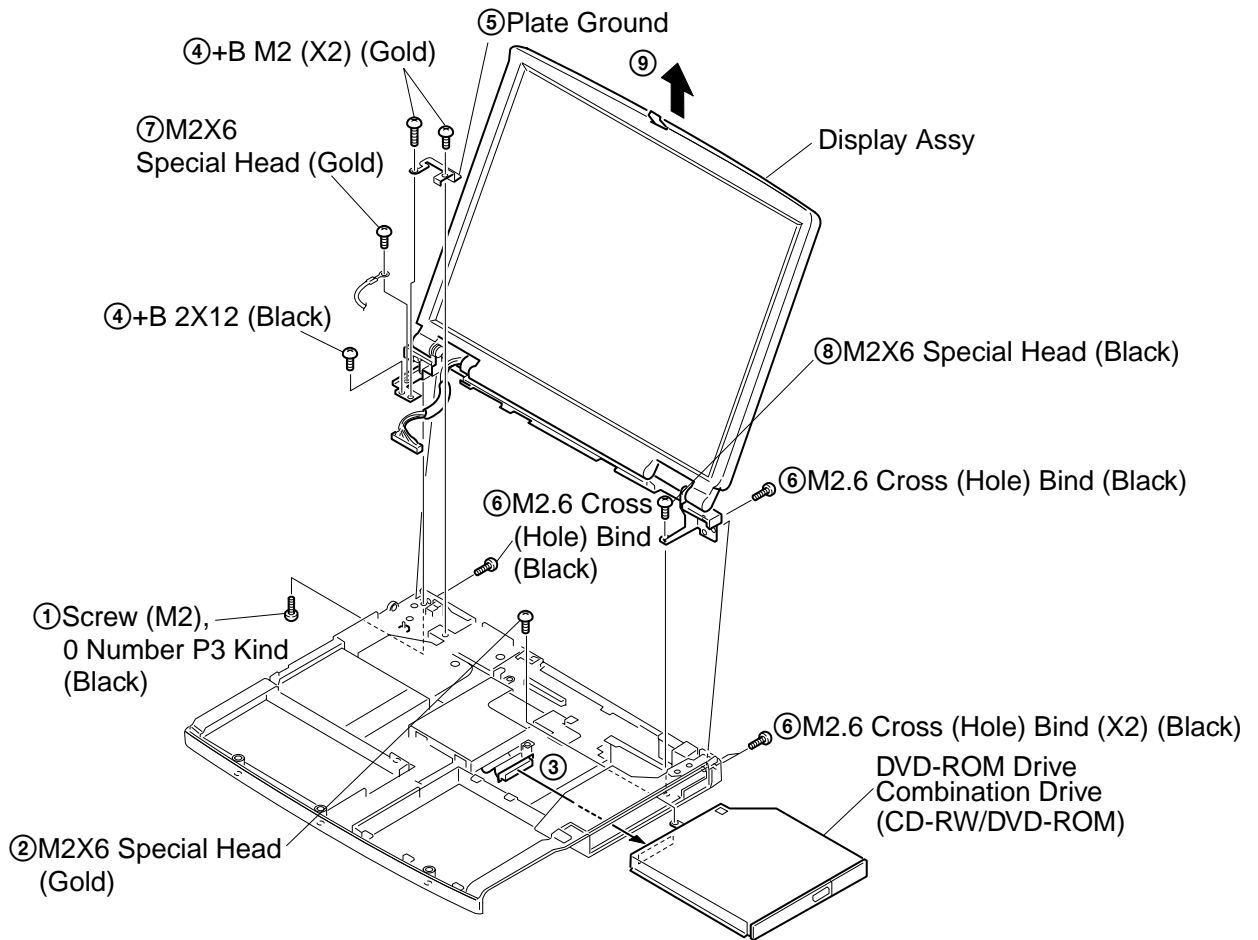
MBX-49 Board
CN2201
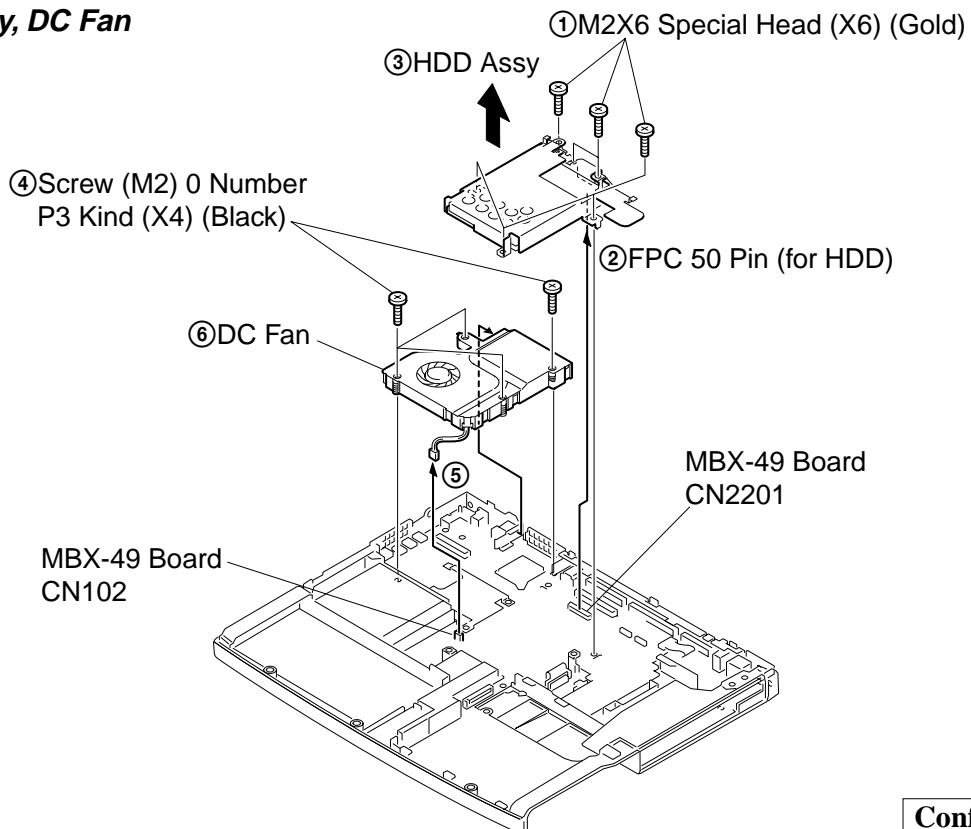
MBX-49 Board
CN102

5. Latch Detector, PWS-13 Board

① M2X4 Special Head (X2) (Black)

② Latch Detector

④ PWS-13 Board

③
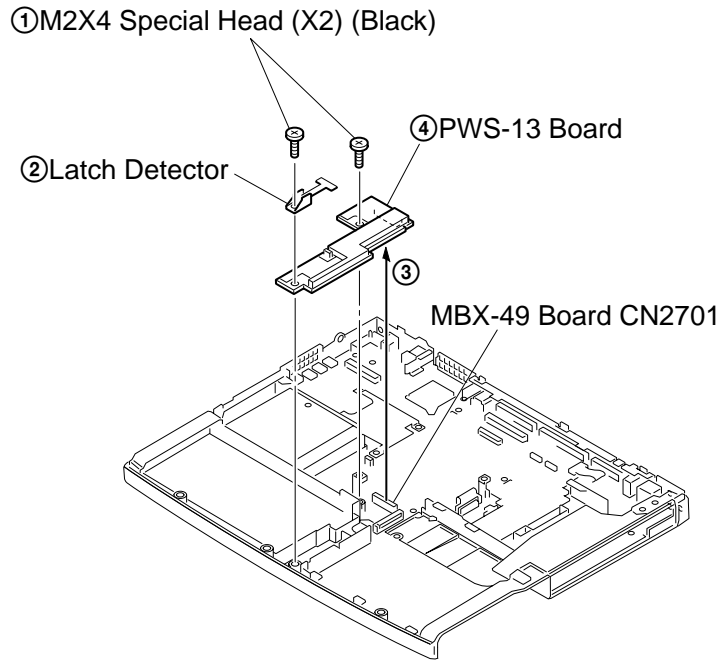
MBX-49 Board CN2701

6. PC Card Connector, Modem Card, MBX-49 Board, Lithium Battery

① M2X4 Special Head (X2) (Black)

⑰ I/O Bracket

⑯ Screw (HEX) (X6) (Silevr)

② M2X4 Special Head (X5) (Black)

CPU∗1

⑨ PC Card Connector

⑱ MBX-49 Board

⑫ NUT M2 TYPE2 (X2)

③ Screw (MBX) (Silver)

CN151

⑧ +B 2X14 (X2) (Silver)

⑦

⑫

⑮ Spacer (MBX) (X2)

④ M2X4 Special Head (X2) (Black)

Modem Card∗2

⑤ Bracket Bay Connector

⑩ Lithium Battery

⑬ M2 Grip (X2) (Black)

⑥ Screw (M2) 0 Number P3 Kind (X2) (Black)
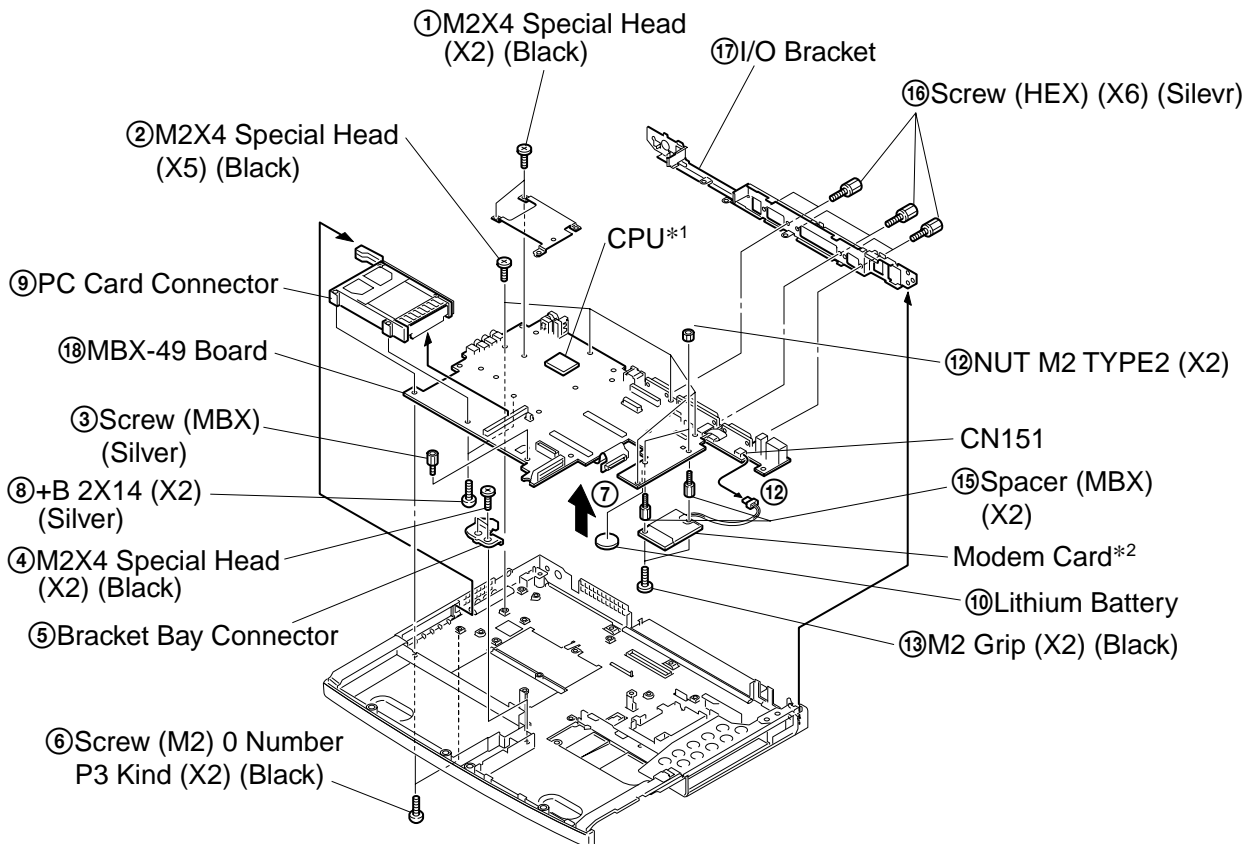
∗1 When removing the CPU, refer to " 1-4. Replacing the CPU ".

∗2 Modem card can be removed from the bottom.

　　Refer to the subsequent paragraph " 9. Modem card " for more details.

7. Speaker Unit, SWX-73 Board

③M2X4 (X2) (Black)

②M2X4 (X7) (Black)

SWX-73 Board
CN301

SWX-73 Board
CN302

④Speaker Unit

⑤SWX-73 Board

③M2X4 (X2) (Black)

SWX-73 Board
CN303

④Speaker Unit

⑥Hood Keyboard

8. SO-DIMM

②DIMM Door

①M2X4 Special Head (Black)

Removal of SO-DIMM
ⓐ → ⓑ

ⓐ

ⓑ

ⓐ

Confidential

1-5   PCG-FX120/FX140/FX150/FX170/FX190 (UC)

9. Modem Card

①M2X4 Special Head (Black)

②Modem Door

③M2 Grip (X2) (Black)

④Modem Card

⑤

10. LCD Section (FX190 Model) – Made by SA –
1. Bezel Housing Assy, LCD Unit (15 inch)

①Side (15) Screw Cover (X3) (Gold)

③Cover Screw Shaft

②+P M2X3 (X3)

Bezel Housing Assy

④+P 2.6X6 Lock Precision Type3 (Black)

Ⓑ

Ⓐ

⑦

⊘ : claw part

③Cover Screw Shaft

②+P M2X3 (X3) (Gold)

①Side (15) Screw Cover (X3)

Ⓒ

Ⓑ

④+P 2.6X6 Lock Precision Type3 (Black)

⑩

LCD unit

⑧

⑨

⑥M2X4 Special Head (Black)

⑤Lower Screw Cover

Display Housing Assy

How to release the claw Ⓐ.

Bezel Housing Assy

Ⓐ

Display Housing Assy

Pull the Bezel Housing Assy as shown to release the claw Ⓐ.

Order of releasing the claws　Ⓒ → Ⓑ → Ⓐ
Order of locking the claws　　Ⓐ → Ⓑ → Ⓒ

2. Inverter Assy, LCD Harness, FPC, Display Housing Assy

⑥Shield Tape (SK)

⑤

⑧LCD Harness

⑦M2X4 Special Head
(Black)

Inverter Assy
CN2

②Inverter Assy

③

①

④FPC

⑨Display Housing Assy

11. LCD Section (FX150/FX170 Model) – Made by SA –
1. Bezel Housing Assy, LCD Unit (15 inch)

①Side (15) Screw Cover (X3) (Gold)

③Cover Screw Shaft

②+P M2X3 (X3)

Bezel Housing Assy

④+P 2.6X6 Lock Precision Type3 (Black)

Ⓑ

Ⓐ

⑦

⊘ : claw part

③Cover Screw Shaft

②+P M2X3 (X3) (Gold)

①Side (15) Screw Cover (X3)

Ⓒ

Ⓑ

④+P 2.6X6 Lock Precision Type3 (Black)

⑩

LCD unit

⑧

⑨

⑥M2X4 Special Head (Black)

⑤Lower Screw Cover

Display Housing Assy

How to release the claw Ⓐ.

Bezel Housing Assy

Ⓐ

Display Housing Assy

Pull the Bezel Housing Assy as shown to release the claw Ⓐ.

Order of releasing the claws   Ⓒ → Ⓑ → Ⓐ
Order of locking the claws   Ⓐ → Ⓑ → Ⓒ

1-9   PCG-FX120/FX140/FX150/FX170/FX190 (UC)

2. Inverter Assy, FPC, Display Housing Assy

⑥Shield Tape (SK)

⑤

⑦M2X4 Special Head
(Black)

⑧LCD Harness

Inverter Assy
CN2

②Inverter Assy

①

③

④FPC

⑨Display Housing Assy

12. LCD Section (FX140 Model) – Made by SA–

1. Bezel Housing Assy

①Cover Screw Lower

②M2X4 Special
Head (X2) (Black)

ⓑ

⧄ : claw part

ⓐ

①Cover Screw Upper

②M2X4 Special Head (X2)
(Black)

Bezel Housing Assy

③

SONY

ⓒ

ⓑ

④M2X4 Special
Head (X5) (Black)

④M2X4 Special Head (X5) (Black)

⑦

LCD Unit

⑤ ⑥

Display Housing Assy

How to release the claw ⓐ

Bezel Housing Assy

ⓐ

Display Housing Assy

Pull the Bezel Housing
Assy as shown to release
the claw ⓐ.

Inverter Assy

Inverter Assy
CN2

Order of releasing the claws ⓒ → ⓑ → ⓐ
Order of locking the claws   ⓐ → ⓑ → ⓒ

1-11   PCG-FX120/FX140/FX150/FX170/FX190 (UC)

2. Bracket LCD Left, Bracket LCD Right, LCD Unit (14 inch)

③+P M2x3 Lock (X4)
(Black)

⑤LCD Unit

①+P M2x3 Lock (X4)
(Black)

④Bracket LCD Left

②Bracket LCD Right

3. FPC, Inverter Assy, Display Housing Assy, LCD Harness

⑧Shield Tape (SK)

⑦

⑥M2X4 Special Head
(Black)

⑩LCD Harness

⑤M2X4 Special Head (Black)

④FPC

③

①

②Inverter Assy

⑨Display Housing Assy

〇 : claw part
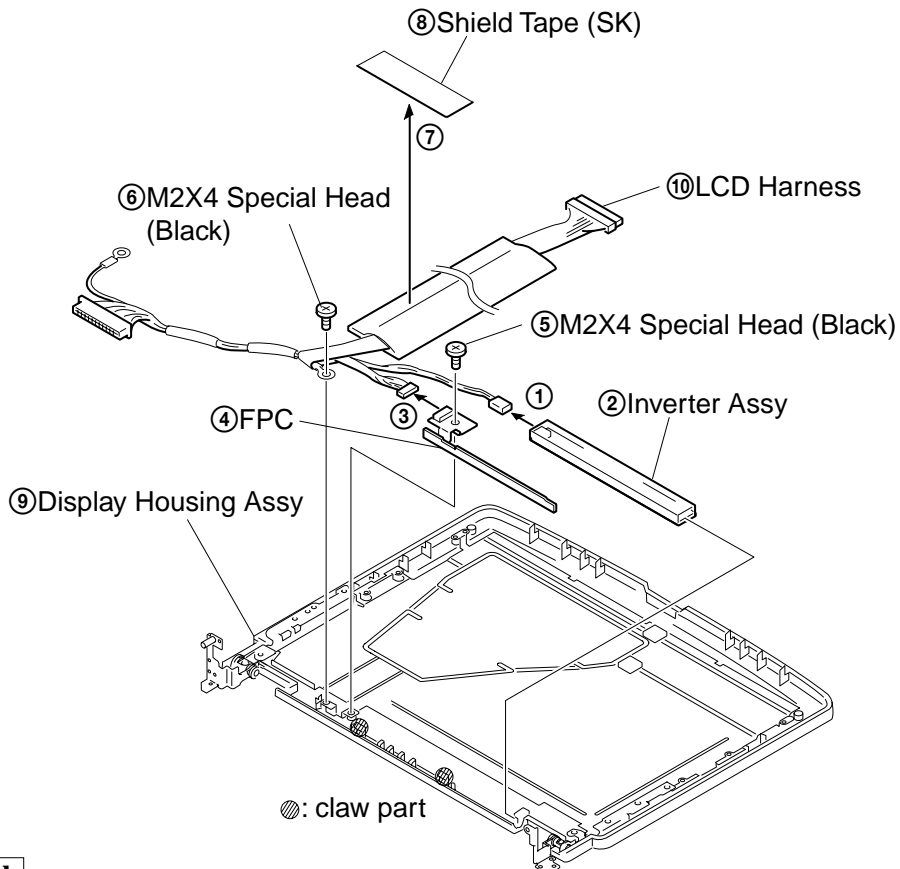
13. LCD Section (FX120 Model) – Made by AC–

1. Bezel Housing Assy

①Lower Screw Cover (x2)

②M2X4 Special Head (X2) (Black)

Bezel Housing Assy

⚪ : claw part

Ⓑ

Ⓐ

①Upper Screw Cover (x2)

②M2X4 Special Head (X2) (Black)

③

SONY

Ⓒ

Ⓑ

④M2X4 Special Head (X5) (Black)

LCD Unit

⑦

⑤

How to release the claw Ⓐ.

Bezel Housing Assy

Ⓐ

Display Housing Assy

Pull the Bezel Housing Assy as shown to release the claw Ⓐ.

⑥

④M2X4 Special Head (X4) (Black)

Order of releasing the claws Ⓒ → Ⓑ → Ⓐ
Order of locking the claws   Ⓐ → Ⓑ → Ⓒ

Inverter Assy

Inverter Assy CN2

Display Housing Assy

Confidential

1-13   PCG-FX120/FX140/FX150/FX170/FX190 (UC)

2. Bracket LCD Left, Bracket LCD Right, LCD Unit (13 inch)

①+PS M2x3 (X3) (Black)

⑤LCD Unit

①+PS M2X3 (X3) (Black)

④Bracket LCD Left

②Bracket LCD Right

3. FPC, Inverter Assy, Display Housing Assy, LCD Harness,

⑧Shield Tape (SK)

⑦

⑨M2X4
Special Head (Black)

⑩LCD Harness

Inverter Assy
CN1

③

①

②Inverter Assy

④M2X4
Special Head
(Black)

⑪Display Housing Assy

⑤FPC

⊘ : claw part
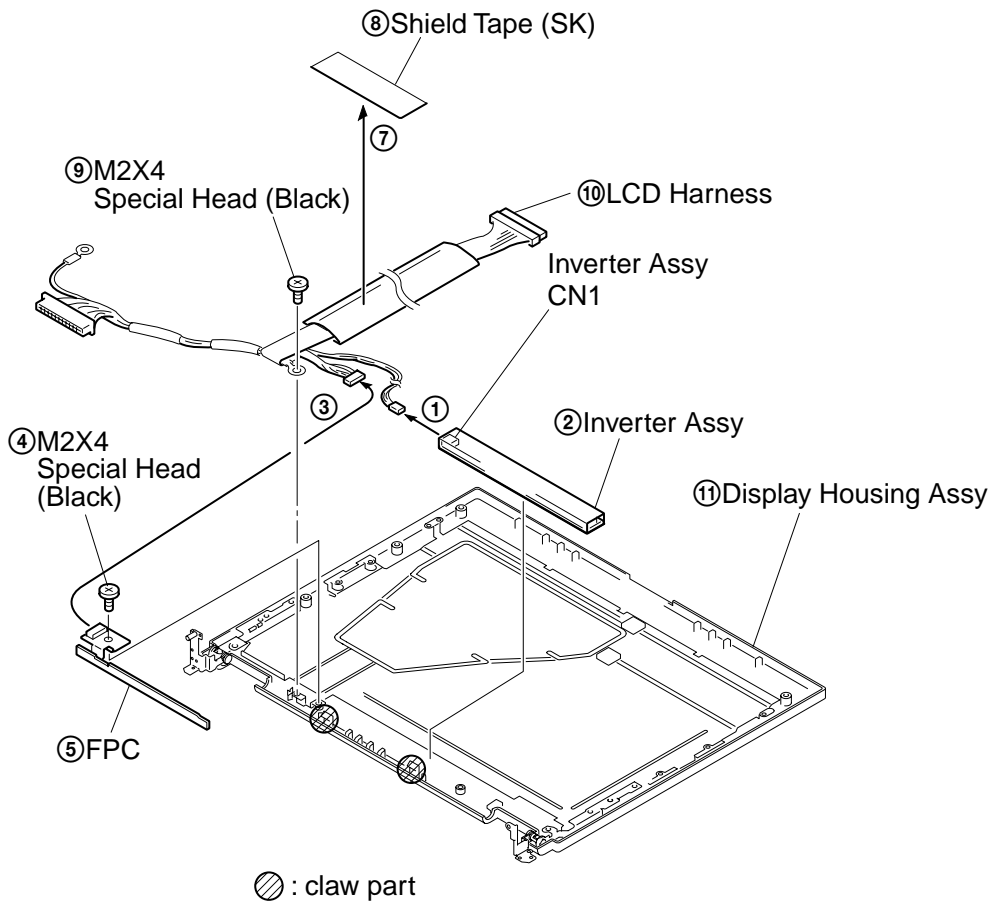
1-4.Replacing the CPU

NOTE:

This computer uses either one of the two types of CPU socket.

The CPU locking position and the lock-release position are different depending on the types of the CPU socket.

1. Removing the CPU

① Insert a flat-blade screwdriver into the notch as shown in the illustration and rotate it so that the protrusion comes to the lock release position.

② Pull the CPU gently upward to lift it out of the CPU socket.

CPU

CPU socket

FX120/FX140 Model

Lock release position (made by HIROSE)

FX150/FX170/ FX190 Model

Lock release position
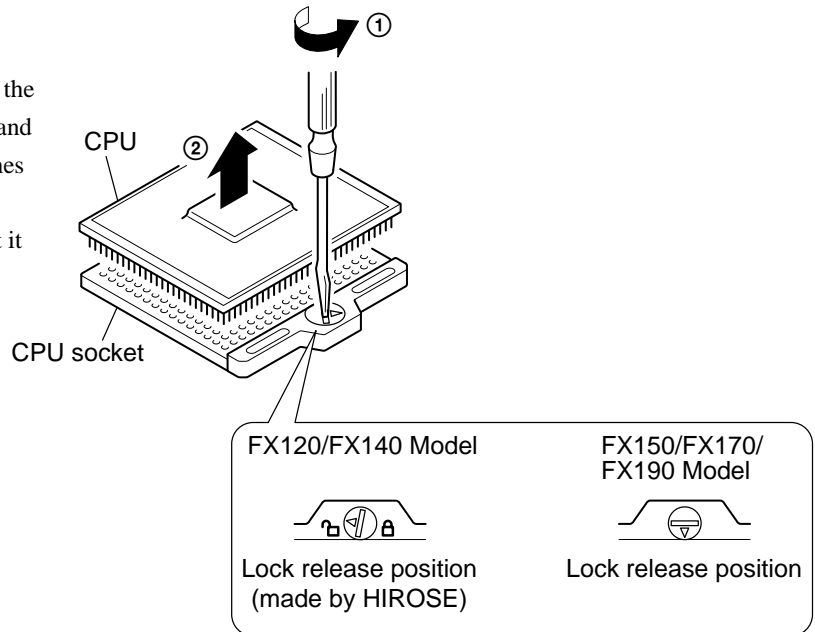
2. Installing the CPU

① Align the triangle reference mark of the CPU with that of the CPU socket and insert all the pins of the CPU to the corresponding holes of the CPU socket.

② Insert a flat-blade screwdriver into the notch as shown in the illustration and rotate it so that the protrusion comes to the lock position.

CPU

CPU socket

Reference marks

FX120/FX140 Model

Lock position (made by HIROSE)

FX150/FX170/ FX190 Model
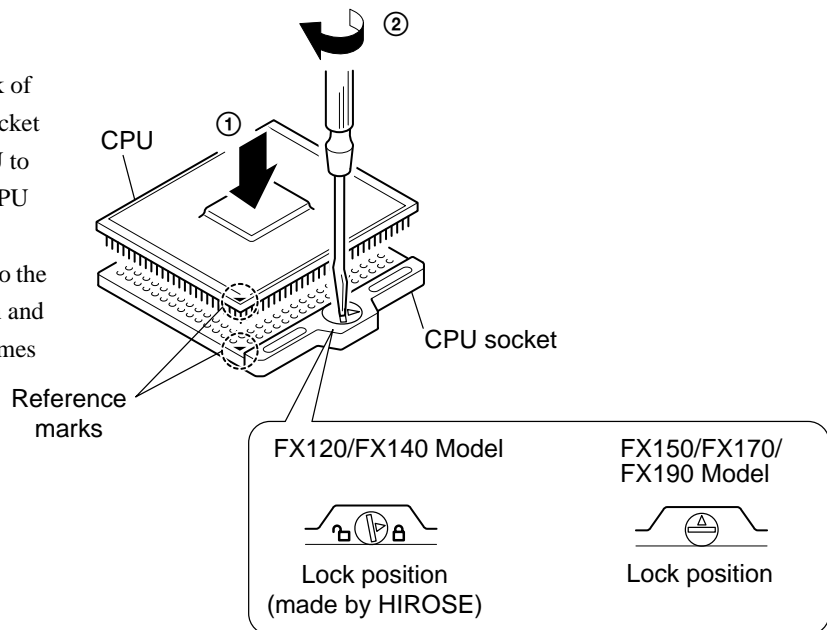
Lock position

NOTE:

Rotate a flat-blade screwdriver to the lock position securely. If not, the operation of the CPU may become unstable.

Confidential

1-15   PCG-FX120/FX140/FX150/FX170/FX190 (UC)
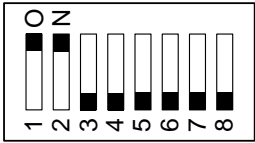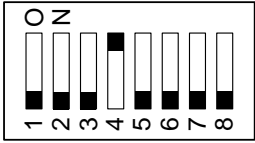
1-5. DIP Switch Setting of the MBX-49 Board

The DIP switch on the MBX-49 board (main board) is set to match with the LCD that is used in this computer, because several types of LCD are used as shown in the following table and the DIP switch setting differs depending on the LCD type.

NOTE:
   The main LCD is used in most cases but there are also cases that the sub LCD is used.

MODEL	Name of LCD	Part No.	DIP switch setting	Note
FX190	SA	1-476-576-11	The upper position where ON indication is shown is the ON position . The lower position is the OFF position. No. 1 2 3 4 5 6 7 8 ON/OFF 1 0 0 1 1 1 1 1 0 : ON 1: OFF	Main
	HI	A-8048-250-A	The upper position where ON indication is shown is the ON position . The lower position is the OFF position. No. 1 2 3 4 5 6 7 8 ON/OFF 0 1 0 1 0 1 1 1 0 : ON 1: OFF	Sub
FX150/FX170	SA	1-418-574-41	The upper position where ON indication is shown is the ON position . The lower position is the OFF position. No. 1 2 3 4 5 6 7 8 ON/OFF 0 1 1 1 1 1 1 1 0 : ON 1: OFF	Main
	HI	A-8066-124-A	The upper position where ON indication is shown is the ON position . The lower position is the OFF position. No. 1 2 3 4 5 6 7 8 ON/OFF 0 0 1 1 0 1 1 1 0 : ON 1: OFF	Sub

Confidential

MODEL	Name of LCD	Part No.	DIP switch setting	Note
FX140	SA	1-418-716-21	The upper position where ON indication is shown is the ON position . The lower position is the OFF position. | No.	1	2	3	4	5	6	7	8 | | ON/OFF | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 : ON 1: OFF	Main
FX120	AC	1-418-882-11	The upper position where ON indication is shown is the ON position . The lower position is the OFF position. | No.	1	2	3	4	5	6	7	8 | | ON/OFF | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 : ON 1: OFF	Main

2-1. Required Tools and Peripheral Devices

	Tools and Peripheral Devices	Test Items
1	Serial Loopback Tool Specified Loopback Tool (Refer to next page.)	Serial Port (COM) test
2	Parallel Loopback Tool Specified Loopback Tool (Refer to next page)	Parallel Port (printer) test
3	Stereo microphone	Audio related tests
4	Headphone	
5	56K Modem and Line Simulator	Modem test
6	PC Card Tester PCCtest 450 Made by Sycard Corp.	PC Card test
7	VAIO for IEEE1394 Test	IEEE1394 test
8	Port Replicator PCGA-PRFX1 for Serial/Parallel tests	Test of Serial/Parallel
9	DVD-ROM and Combination Drive (CD-RW/DVD-ROM) supplied	DVD-ROM Drive and Combination Drive (CD-RW/DVD-ROM) tests
10	External FDD	FDD test
11	Diagnostics FD Media	(Diagnostics starting software)
12	Diagnostics CD-ROM Media	(Diagnostics software)
13	Battery supplied	Battery related tests
14	AC Adaptor supplied	(Power supply for diagnostics)
15	HDD	HDD related tests

[Reference] On Serial/Parallel Loopback Tool

• The serial loopback tool and the parallel loopback tool are necessary for diagnostics of the serial communication line and the parallel communication line. Fabricate the serial loopback tool and the parallel loopback tool locally referring to the connection diagrams shown below.

Serial Loopback Tool : For diagnostics of serial port

SERIAL LOOPBACK CONNECTOR CONNECTION DIAGRAM

• Connector Types DB9S (Female)
• Interface Standard RS-232C
• Loopback Data & Handshake

NOTE: The black round mark "●" indicates soldering.

DB9S

DCD	**1**	
RX	**2**	
TX	**3**	
DTR	**4**	
GND	**5**	
DSR	**6**	
RTS	**7**	
CTS	**8**	
RI	**9**	
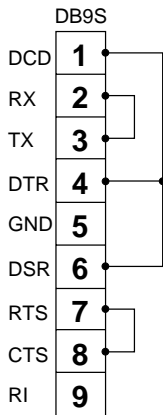
Parallel Loopback Tool : For diagnostics of parallel port

PARALLEL LOOPBACK CONNECTOR CONNECTION DIAGRAM

• Connector Types DB25P(Male)
• Interface Standard Centronics
• Loopback Status to Commands

NOTE: The black round mark "●" indicates soldering.

DB25P

-STROBE	**1**		**14**	-AUTO FD
D0	**2**		**15**	-ERROR
D1	**3**		**16**	-INT
D2	**4**		**17**	-SLCT IN
D3	**5**		**18**	GND
D4	**6**		**19**	GND
D5	**7**		**20**	GND
D6	**8**		**21**	GND
D7	**9**		**22**	GND
-ACK	**10**		**23**	GND
BUSY	**11**		**24**	GND
PE	**12**		**25**	GND
SLCT	**13**			

PCG-FX120/FX140/FX150/FX170/FX190 (UC)   2-2
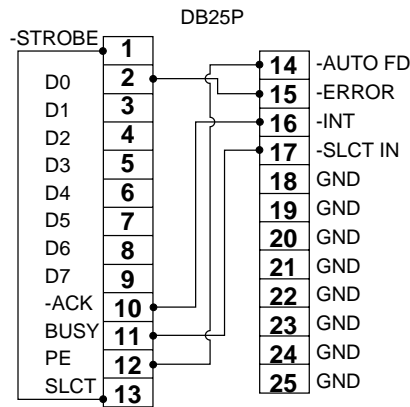
2-2. Tools and Peripheral Device Connection

System Connection Diagram

⑦VAIO for IEEE1394 test

Serial I/F

Modem

Headphones connector

⑨Combination Drive (CD-RW/DVD-ROM) DVD-ROM

⑤Transmission line simulator

④Headphones

Power SW

Phone jack

③Stereo microphone

MIC IN

⑮HDD

⑫Diagnostics CD-ROM media

⑥PC card tester

⑪Diagnostics FD media

⑬Battery

⑩FDD

Port Replicator

②Parallel loopback tool

①Serial loopback tool

Parallel output

Serial output

⑭AC adaptor

⑧Port Replicator PCGA-PRFX1

2-3. Starting up the Service Diagnostics

1. The service diagnostics floppy disk and CD disc are prepared for the respective models separately. Insert the service diagnostics floppy disk and CD disc of the desired model, then turn on the main power of the personal computer. Reads automatically the model information stored in the CD-ROM and displays the test menu. If the CD does not supported the model, an error message is displayed.

2. The driver software is installed from the CD disc, the necessary ROM information is automatically read and the initial settings are made, then the following self-diagnostics menu appears.

```
*************** Main Menu ***************
1:Check ROM Information...              d:Parallel Loopback test...
2:Battery test...                       e:PC Card Slot test...
3:CD/DVD Drive test...                  f:Video test...
4:FDD test...                           g:PPK test...
5:HDD test...                           h:GUID (IEEE1394) test...
6:Keyboard test...                      i:IEEE1394 Interface test...
7:LED test...                           j:IrDA test...
8:Main memory test...                   k:Jog dial test...
9:Main system test...                   l:Short aging test...
a:FAN test...                           m:Long aging test...
b:Touch pad test...                     n:Aging test including the HDD test...
c:Serial Loopback test...               o:Exit from Diagnostics MENU
```

3. When the service diagnostics ends with success, the message "Pass" appears. When it ends with failure detecting an error, the message "Fail" appears. Press the "Esc" key to abort the self diagnostics.

2-4. Outline of Service Diagnostics Functions

- Check ROM Information...
   Displays the model information, serial number, BIOS and other information saved in the BIOS ROM.
   Does not test whether or not the personal computer is normal.

- Battery test...
   Tests the battery as to whether the battery is attached or removed, the main power is supplied from an AC power adapter or not, and the battery is charged or discharged. The test procedure appears on display. Perform the battery test following the messages on display.
      Remove and attach the battery → Check (Removal and attachment of battery)
      Disconnect and connect the AC power → Check (Disconnection and connection of AC power)
      Remove and attach the battery → Check (Discharge and charge of battery)

- CD/DVD Drive test...
   Tests the CD, CD-R, Combination drive (CD-RW/ DVD-ROM) , CD-RW and DVD drives.

- FDD test...
   Tests the floppy disk drive.

PCG-FX120/FX140/FX150/FX170/FX190 (UC)   2-4

- HDD test...

    Tests whether the HDD returns a response when communication is established with the hard disk drive. The HDD can be tested without damaging the HDD data (without formatting the HDD) in this test since the HDD data is tentatively stored in memory during the test.

    If the main power is turned off by mistake while the test is under way, the HDD data can be damaged. Tests the following test automatically.

    1. HDD interface test (Tests whether or not the HDD is recognized)

    2. HDD seek test

    3. HDD read test

    4. HDD write test

    5. HDD random read test and random write test (It takes about 2 hours for the 18 GB HDD. This time is a guideline and changes depending on the model.)

    6. Returns to the main menu.

- Keyboard test...

    Tests the keyboard. When the "Auto select" menu is selected, the keyboard type in use is recognized from the model information that is written in ROM when shipped from the factory and the test is executed accordingly. When a specific keyboard type is selected such as US, UK, or JP, then the keyboard of the selected type is tested. If the model of your computer is JP and the keyboard type is replaced by either the US type or UK type keyboard, select the keyboard type after it is replaced.

    NOTE: The "Fn" key can be checked by pressing the "Fn" and "$\rightarrow$" keys at the same time. Other keys can be checked by pressing the respective keys.

- LED test...

    Tests the LED. This test turns on one LED after another. The person conducting the test must visually check whether each LED is normal or not.

- Main Memory test...

    Tests the main memory. The Main Memory test contains the following three test menus. Select the desired menu that suits your need. The test is exited automatically when the respective test items end normally.

    · Fast: Tests once. (Taking one and half minutes to two minutes)

    · Medium: Test ten times.

    · Heavy: Test twenty times.

    Press the "Esc" key to abort the test.

- Main System test...

    Tests the fundamental functions of the CPU, etc. The test is exited automatically when all test items end normally.

- FAN test...

    Tests the fan. Tests whether the fan rotates and stops. Listen to the rotating sound or feel the wind of the fan to judge whether the fan rotates and stops. The test procedure appears on display. Perform the FAN test following the messages on display. Press "Y" to resume rotation when the fan comes to stop. Press "Y" when the fan starts rotating indicating that the test ends in success.

- Touch pad test...

  Tests the touch pad. Tests whether the cursor moves, and whether right-clicking and left-clicking function properly.

  The dialog box appears three times. Move the cursor to the box that appears. The tests are performed in the following order.

    (1) Touch pad

    (2) Left-click button

    (3) Right-click button (Two times)

- Serial loopback test...

  Performs the loopback test of the serial port. Connect the port replicator and the loopback tool to the serial port.

- Parallel loopback test...

  Performs the loopback test of the parallel port. Connect the port replicator and loopback tool to the parallel port.

- PC card Slot test...

  Tests the PC card slot. Implements the 16-bit/card-bus test for the two slots of the main unit.

- Video test...

  The video test cannot be performed on the MS-DOS prompt.

  Go to Video inspection of Chapter "2-5. Inspecting Windows" for the video test.

- PPK test...

  Tests the PPK. If the test is not completed within the specified time, an error is triggered due to the time-out set for this test. When two or more PPKs are set, follow the instructions that appear on the screen.

- GUID test...

  This test is not required normally. Displays the GUID (i.Link ID value), and judges whether the value on the display is appropriate.

- IEEE 1394 Interface test...

  Performs the 1394 communication test. Another personal computer to communicate with is necessary for this test. The models released from the year 2000 have already been confirmed that they do not cause any problems regarding the IEEE1394 interface. Even models released before 2000 will cause no problem if the same type of IEEE1394 interface IC chip (the IC chip used in the iLink block connected to the PCI bus) is used in both personal computers that are connected. In other combinations, the IEEE1394 interface test is not confirmed. (Use of the models released from the year 2000 is recommended.)

    1. Connect the iLink cable.

    2. Start up the personal computer at the other end of the IEEE1394 interface test connection using the tool floppy disk that must be created beforehand by copying programs from the service diagnostics CD disc. (Prepare a floppy disk that is formatted to contain the DOS system. Create a tool floppy disk by copying the entire TOOL folder of the CD disc to a floppy disk.)

    3. Select the 1394 test from the menu at the connected computer to enter the reception state.

    4. After the connected personal computer has entered the reception state, select the 1394 test at the personal computer to be tested. The IEEE1394 interface test then starts. Send and receive of the random data are repeated five times (i.e., this test is repeated five times.)

- IrDA test...

  The computer cannot perform this test.

- Jog dial test...

  The computer cannot perform this test.

- Short aging test.../Long aging test...

  Performs the aging test. The short aging test ends when all test items have been performed once. The long aging test checks the machine for about 10 hours by repeating the test items.

- Aging test including the HDD...

  NOTE: Note that this test destroys the entire contents of the user's hard disk drive.

  Perform this test only when destructive testing of HDD is desired.
  The aging test is performed first, then read and write tests of the hard disk are implemented following the aging test.
  There are two tests; SHORT and LONG. However, the contents of the SHORT aging test are the same as those of the LONG aging test. The test starts immediately when the menu item is selected.

- Exit from Diagnostics MENU...

  Quits the service diagnostics program and the DOS prompt appears. If you exit the service diagnostics program by mistake, start up the program again.

2-5. Inspecting Windows

The Windows inspection contains the following three types of inspection.

Audio
Modem
Video

Before starting inspections, create a floppy disk from the service diag CD to be serviced.
The files to be used for inspection are stored in the following sub directory inside the CD. Copy all the files in the folder to the floppy disk.

Audio   \windiag\wave
Modem   \windiag\modem
Video   \windiag\video

- Audio

  A microphone and headphones are required for this inspection.
  Double-click "t_auw01" icon (MS-DOS icon) in the floppy disk that is created in advance. The display of the DOS prompt opens and the inspection starts. Once inspection starts, follow the instructions on the display to inspect the audio.

- Modem

  A modem and a line simulator are required for this inspection.
  Double-click "modem" icon (MS-DOS icon) in the floppy disk that is created in advance.
  The display of the DOS prompt opens and the inspection starts.

- Video

    NOTE: Because this test is performed by visual inspection, confirm first the normal video patterns using a com puter known to be good, before starting the test.

    In this test, several video patterns are output from the PC and shown on the monitor display. When all the video patterns are displayed correctly, the PC under testing is judged to be normal.
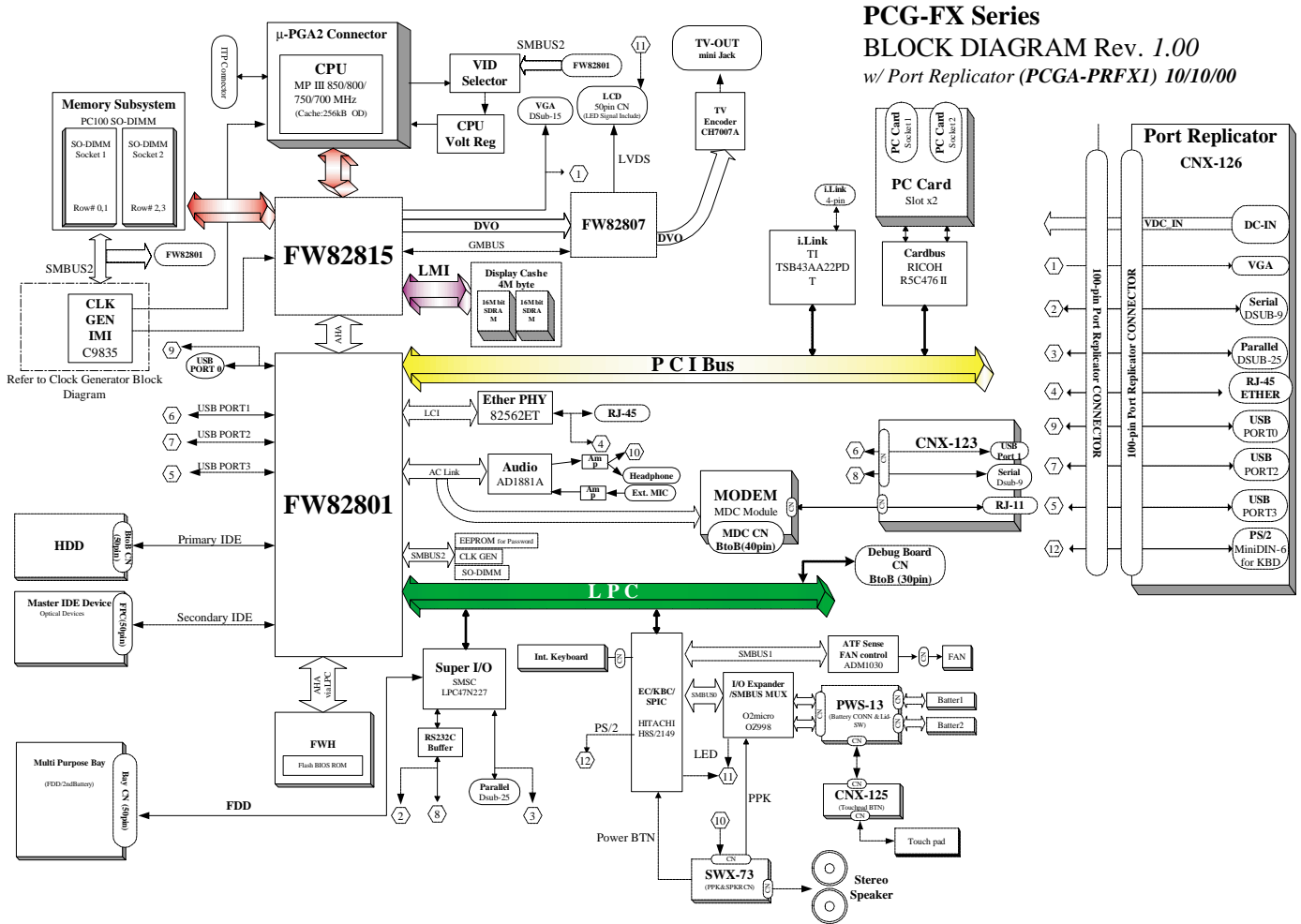
    Double-click "winlcd" icon in the floppy disk that is created in advance. The video inspection menu appears. Press the [→] key as prompted by the message on the display and the inspection starts. Several video patterns appear every time the [→] key is pressed. The person conducting the test must visually judge whether the video system has abnormality or not, from the video patterns on the display.

    Press the [Ctrl] + [Q] keys to stop the video inspection in the middle of the test. Press the [←] key to return to the previous step.
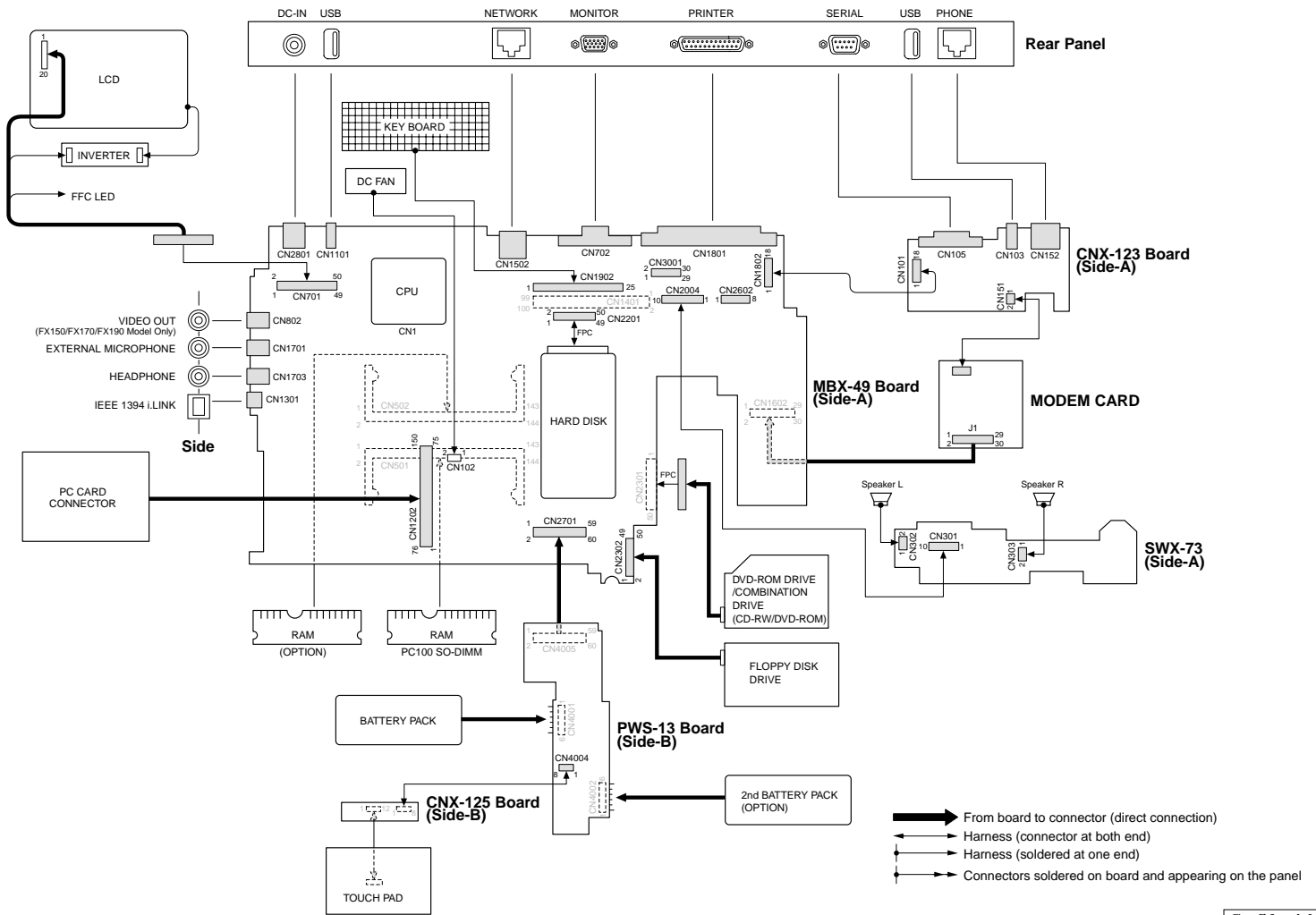
2-6. Self diagnostics Change History

Date of issuance	Model	Item	Contents
2001/1	PCG-FX120/FX140 PCG-FX150/FX170 PCG-FX190		Announcement of change history starts.
		2-1	" 3.Stereo microphone " is added.
			" 4. Headphone " is added.
			" 5. 56K Modem and Line Simulator " Name is changed.
			" 7.VAIO for IEEE1394 Test " , " IEEE1394 test " :Name and contents are changed.
			" 8. Port Replicator PCGA-PRFX1 for Serial/Parallel tests " , " Serial/Parallel Tests" : Name and contents are changed.
			" 9.DVD-ROM and Combination Drive (CD-RW/DVD-ROM) supplied " , " DVD-ROM Drive and Combination Drive(CD-RW/DVD-ROM) Tests " : Name and contents are changed.
			" 15.HDD " is added.
		2-2	" ③ Stereo microphone " is added.
			" ④ Headphones " is added.
			" ⑦ VAIO for IEEE1394 test " : Its contents and title of illustration are changed.
			" ⑧ Port Replicator PCGA-PRFX1 " : Its contents and title of illustration are changed.
			" ⑨ Combination Drive (CD-RW/DVD-ROM)/DVD-ROM " : Its contents and title of illustration are changed.
			" ⑮ HDD " is added.
		2-4	" • Keyboard test… " procedure is changed.
			" • Video test… " procedure is changed.
			" • IrDA test... " procedure is changed.
		2-5	" • Video " is added.

Confidential

CHAPTER 3.
BLOCK DIAGRAM

PCG-FX Series
BLOCK DIAGRAM Rev. *1.00*
w/ Port Replicator (PCGA-PRFX1) 10/10/00

PCG-FX120/FX140/FX150/FX170/FX190 (UC)

CHAPTER 4.
FRAME HARNESS DIAGRAM

Rear Panel

DC-IN USB NETWORK MONITOR PRINTER SERIAL USB PHONE

LCD

INVERTER

FFC LED

KEY BOARD

DC FAN

CN2801 CN1101

CN1502

CN702 CN1801

CNX-123 Board (Side-A)

CN105 CN103 CN152

CN101

CN701

CPU

CN1

CN1902

CN3001

CN2004

CN2602

CN1802

CN151

VIDEO OUT
(FX150/FX170/FX190 Model Only)

EXTERNAL MICROPHONE

HEADPHONE

IEEE 1394 i.LINK

CN802

CN1701

CN1703

CN1301

CN1401

CN2201

FPC

Side

CN502

CN501

CN102

HARD DISK

CN1602

MBX-49 Board (Side-A)

MODEM CARD

J1

PC CARD CONNECTOR

CN1202

CN2701

CN2301

FPC

Speaker L   Speaker R

CN302 CN301 CN303

SWX-73 (Side-A)

CN2302

DVD-ROM DRIVE /COMBINATION DRIVE (CD-RW/DVD-ROM)

RAM
(OPTION)

RAM
PC100 SO-DIMM

CN4005

FLOPPY DISK DRIVE

BATTERY PACK

CN4001

PWS-13 Board (Side-B)

CN4004

CN4002

2nd BATTERY PACK (OPTION)

CNX-125 Board (Side-B)

From board to connector (direct connection)

Harness (connector at both end)

Harness (soldered at one end)

Connectors soldered on board and appearing on the panel

TOUCH PAD

Confidential

4-1

4-2
(END)

PCG-FX120/FX140/FX150/FX170/FX190 (UC)

Downloaded from www.Manualslib.com manuals search engine

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 two or more parts are shown in parallel, use the part described first as the main part.
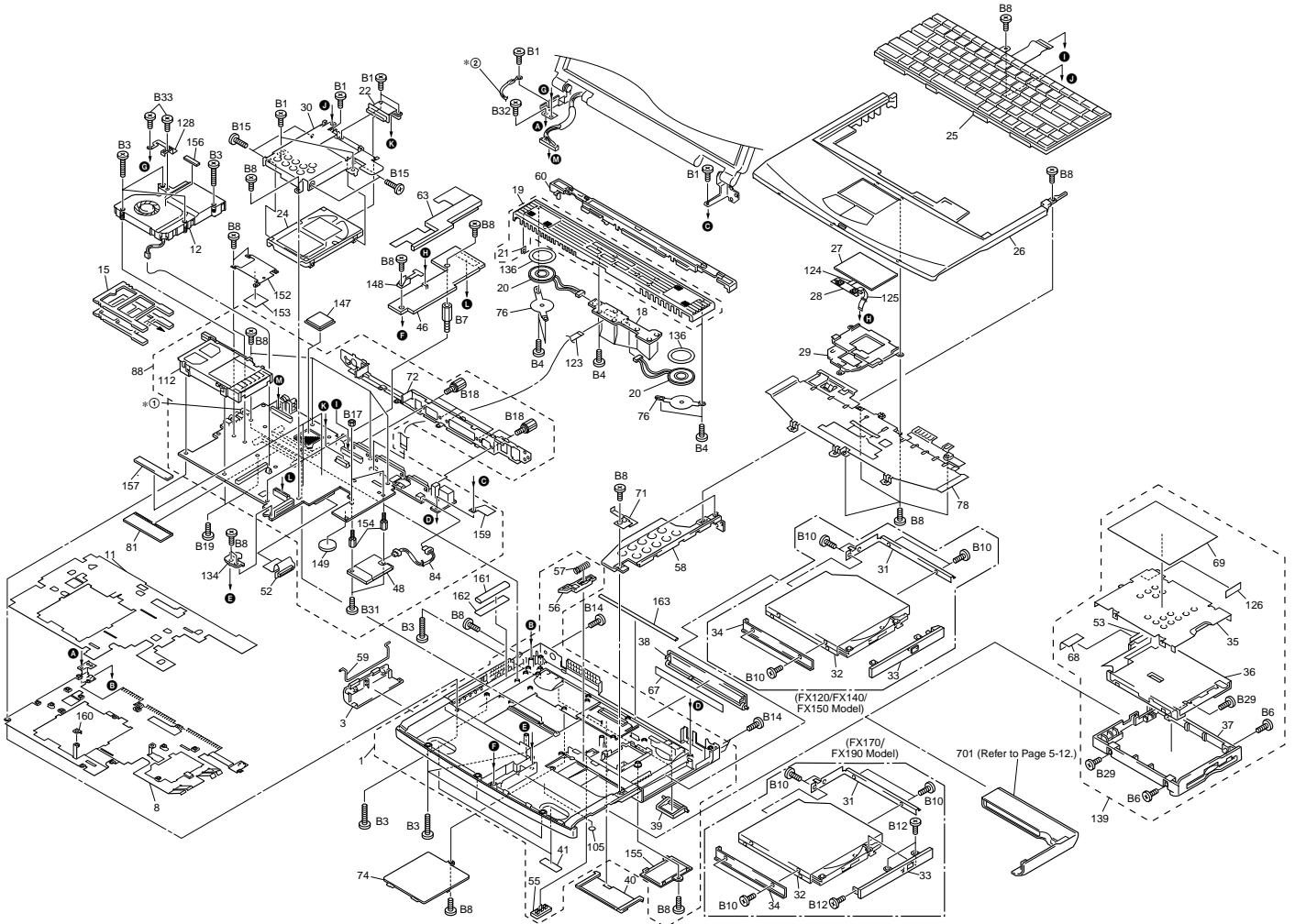
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

5-1. Main Section

Ref.No.	Part No.	Description
1	X-4623-411-1	(FX150/FX170/FX190)... ASSY BOTTOM (AM)
1	X-4623-412-1	(FX120/FX140)...ASSY BOTTOM (BM)
3	4-640-837-22	DOOR BATTERY
* 8	4-651-706-01	HEATSINK BOTTOM
* 11	4-651-707-01	INSULATOR HEATSINK BOTTOM
12	1-763-658-11	FAN, DC (WITH HEAT SYNC)
15	4-643-832-21	DUMMY CARD
18	A-8066-543-A	COMPLETE PWB SWX-73 (PPK)
19	X-4623-388-1	ASSY HOOD KEYBOARD Z
20	1-529-287-11	SPEAKER UNIT
21	3-718-233-01	NUT, PLATE
22	1-790-639-22	FPC 50PIN (FOR HDD)
24	1-772-936-11	(FX190)...HDD (30.0GB)-DJSA230
24	1-772-996-11	(FX150/FX170)... HDD (20.0GB-DK23BA-20)
24	1-796-060-11	(FX120/FX140)...HDD (10.0GB-DK23BA)
25	1-476-647-11	KEY BOARD UNIT (US)
26	X-4623-390-1	ASSY PALMREST
27	1-772-529-71	PAD, TOUCH
28	A-8066-540-A	COMPLETE PWB CNX-125
* 29	4-651-699-01	BRACKET PAD
* 30	4-651-708-21	BRACKET (HDD)
* 31	4-640-861-11	BRACKET CD-ROM R
32	1-796-072-11	(FX170/FX190)...COMBO DRIVE (UJDA710)
32	1-796-018-11	(FX120/FX140/FX150)... DVD-ROM (X8 SD-C2502)
33	X-4623-442-1	(FX170/FX190)... ASSY DOOR DVD-RW PA (EXP)
33	X-4623-438-1	(FX120/FX140/FX150)... ASSY DOOR DVD-ROM TO (EXP)
* 34	4-640-860-12	BRACKET (CD-ROM L)
35	4-640-828-01	PLATE FDD
36	1-772-978-21	FDD
37	X-4623-528-1	ASSY BOTTOM FDD Z (TCY2)
38	4-651-713-01	DOOR I/O
39	4-651-844-01	FOOT REAR
40	4-651-714-01	DOOR DOCKING CONNECTOR
41	4-640-851-11	FOOT FRONT
46	A-8066-576-A	COMPLETE PWB PWS-13 (2ND)
48	1-761-380-22	CARD, MODEM
52	1-790-640-11	FPC 50PIN (FOR CD-ROM)
53	1-790-641-11	FPC 50PIN (FOR FDD)
55	4-640-845-11	BUTTON BAY
56	4-644-349-01	LATCH BAY
* 57	4-640-854-01	SPRING BAY
* 58	4-651-850-01	BRACKET BOTTOM
* 59	4-640-857-01	DOOR BATTERY SPRING
60	4-651-698-01	DISPLAY BASE
63	4-651-928-01	COVER BATTERY CONNECTOR
67	4-652-099-01	LABEL I/O
68	4-641-629-01	INSULATOR FDD
69	4-641-763-21	LABEL FD
* 71	4-641-851-02	SPRING (FDD), PLATE
* 72	4-651-709-01	BRACKET IO
74	4-651-702-01	DOOR DIMM
* 76	4-644-361-01	BRACKET SPK
* 78	4-644-362-11	PLATE PALMREST
81	8-749-018-97	(FX120)... IC HYM71V8M655AT6-P (PC-100 SO-DIMM (64MB CL2))
81	8-759-695-59	(FX120)... IC MT4LSDT864HG-10EB1 (PC-100 SO-DIMM (64MB CL2))

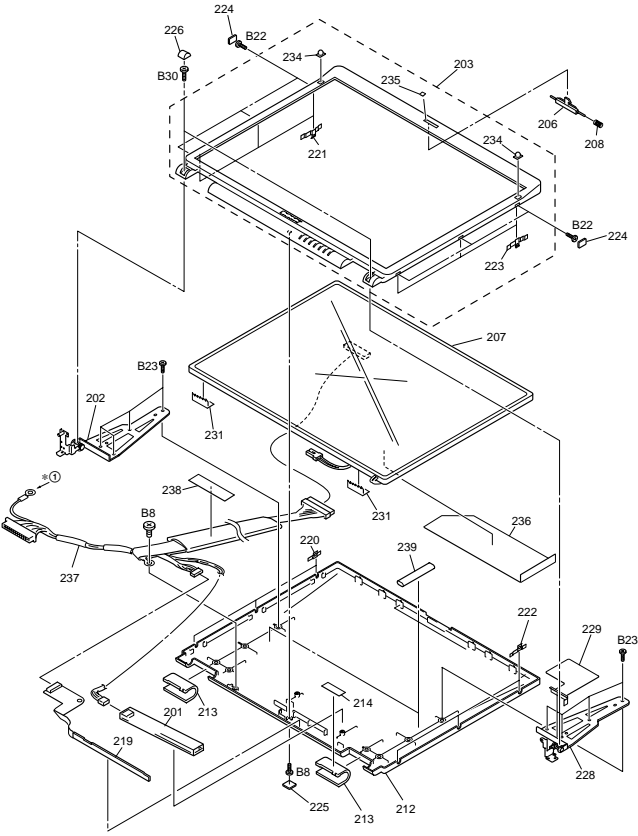| Ref.No.	Part No.	Description
81	8-749-019-29	(FX140/FX150/FX170/FX190)... IC MC-4516CD641PS-A80 (PC-100 SO-DIMM (128MB CL2))
81	8-749-019-00	(FX140/FX150/FX170/FX190)... IC HYM71V16M655AT6-P (PC-100 SO-DIMM (128MB CL2))
84	1-960-827-21	HARNESS (2 PIN)
88	A-8066-675-A	(FX150/FX170/FX190)... MBX49 (V-OUT) ASSY (S)
88	A-8066-676-A	(FX120/FX140)... MBX49 (V-OUT) ASSY (S)
105	4-641-630-11	COVER BAY HOLE
112	1-815-505-12	CONNECTOR,2 SLOT CARD BUS
123	1-790-711-21	FFC (PPK)
124	1-757-767-11	FFC(TP-CNX)
125	1-790-710-11	FFC (SWX-PWS)
126	4-644-053-01	SPACER FDD
* 128	4-653-452-01	PLATE, GROUND
* 134	4-645-433-01	BRACKET BAY CONNECTOR
136	4-644-357-01	CUSHION SPK
139	A-8048-964-A	ASSY BAY FD (CZ)
147	8-759-835-91	(FX190)... IC KP80526GY850256(PIII 850MHz)
147	8-759-835-92	(FX170)... IC KP80526GY800256(PIII 800MHz)
147	8-759-835-94	(FX120/FX140)... IC KP80526GY700256(PIII 700MHz)
147	8-759-836-02	(FX150)...IC KP80526GY750256 (PIII 750MHz)
148	X-4623-561-1	ASSY LATCH DETECTOR
149	1-528-113-41	BATTERY, LITHIUM
* 152	4-651-871-01	HEAT SINK
153	4-652-012-01	SHEET, ELECTRIC HEAT
154	4-651-989-01	SPACER (MBX)
155	4-651-701-01	DOOR MODEM
156	4-653-151-01	SPACER (KBF)
157	4-653-466-01	CUSHION (HD-M)
159	4-653-963-01	SHIELD (CNX)
160	4-653-964-01	SPACER (B/P)
161	4-654-019-01	GASKET (AV)
162	4-654-047-01	SHIELD (AV)
163	4-653-936-01	GASKET (HB/M)
B1	4-641-726-41	SCREW (M2), SPECIAL HEAD
B3	4-644-899-01	SCREW (M2), 0 NUMBER P3 KIND
B4	4-639-112-01	SCREW M2X4
B6	4-646-807-01	0 PLATE M2.5 (FDD)
B7	4-644-402-12	SCREW (MBX)
B8	4-641-726-11	SCREW (M2), SPECIAL HEAD
B10	4-652-498-01	+B M2 (NOJI)
B12	4-645-177-01	(FX170/FX190)...SCREW (M1.7X3.5)
B14	4-645-497-01	SCREW (M2.6), CROSS (HOLE) BIND
B15	4-635-301-01	SCREW M3X4
B17	7-622-205-05	NUT M2 TYPE2
* B18	4-635-966-01	SCREW (HEX)
B19	7-621-772-70	SCREW +B 2X14
B29	4-646-807-11	0 PLATE M2.5 (FDD)
B31	4-645-214-11	GRIP, M2
B32	7-621-772-68	SCREW +B 2X12
B33	4-642-852-21	+B M2

Confidential

PCG-FX120/FX140/FX150/FX170/FX190 (UC)   5-2

∗① The VIDEO OUT connector is mounted only in FX150/FX170/FX190 Model.

∗② For the destination of the cable, refer to pages 5-5, 5-7 and 5-9.

Confidential

5-2. LCD Section (FX190 Model) – Made by SA –

Ref.No.	Part No.	Description
201	1-476-316-11	INVERTER UNIT
202	X-4623-380-1	HINGE LEFT 15
203	X-4623-446-2	ASSY HOU, BEZEL 15SA-Z (EXP)
206	4-637-902-41	LATCH
207	1-476-576-11	LCD UNIT (15.0 TFT-SXGA+)
208	4-637-903-01	SPRING LATCH
212	X-4623-415-1	ASSY HOU, DISPLAY 15SA-Z
213	4-642-762-41	COVER HINGE (15)
214	4-653-029-11	LABEL ID (U)
219	1-757-604-11	PWB, FLEXIBLE PRINT (SINGLE)
220	4-642-755-01	BRACKET LCD (DL) 15
221	4-642-756-01	BRACKET LCD (BL) 15
222	4-642-757-01	BRACKET LCD (DR) 15
223	4-642-758-01	BRACKET LCD (BR) 15
224	4-646-217-11	COVER SCREW SIDE (15)
225	4-635-277-22	COVER SCREW LOWER
226	4-643-549-12	COVER SCREW SHAFT
228	X-4623-381-1	HINGE RIGHT 15
229	4-643-366-11	EDGE GUARD HINGE (15)
231	4-643-837-01	SHIELD (LCD)
234	4-635-276-22	COVER SCREW UPPER
235	4-642-760-12	CUSHION CENTER
236	4-646-216-01	SHIELD TAPE (LCD) L
237	1-961-017-21	HARNESS,LCD (SXGA+)
238	4-650-831-01	SHIELD TAPE (SK)
239	4-653-980-01	GASKET HINGE (15)

Ref.No.	Part No.	Description
B8	4-641-726-11	SCREW (M2), SPECIAL HEAD
B22	4-642-761-01	+P M2X3 LOCK
B23	4-644-165-01	SCREW (M2.6X4), 0 PLATE P1 MAIN
B30	4-643-550-01	+P 2.6X6 LOCK PRECISION TYPE3

NOTE :

The dip switch on the MBX-49 board (Main board) is set to match with the LCD (1-476-576-11) that is used in this computer.
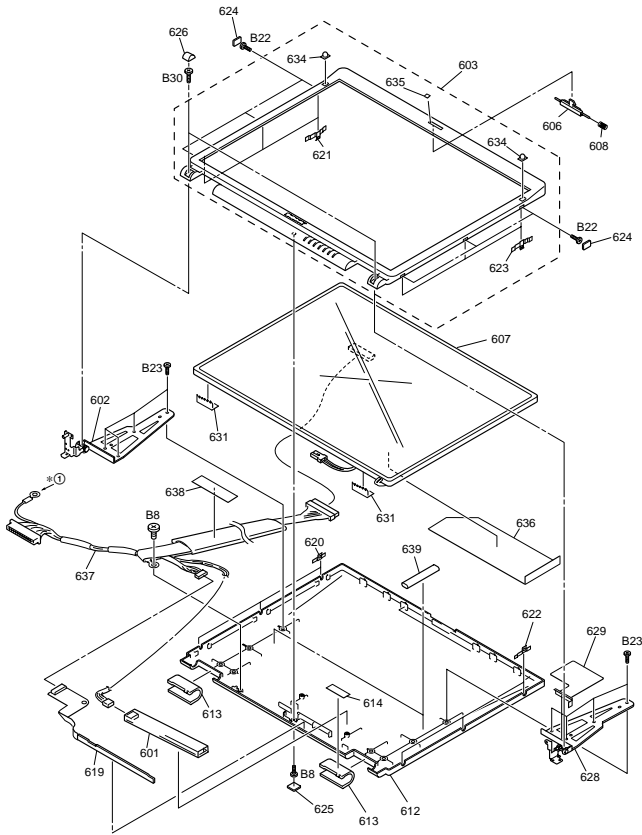

The upper position where ON indication is shown is the ON position . The lower position is the OFF position.

No.	1	2	3	4	5	6	7	8
ON/OFF	1	0	0	1	1	1	1	1

0 : ON   1: OFF

∗① For the installation position, refer to page 5-3.
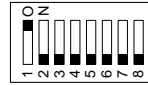
5-3. LCD Section (FX150/FX170 Model) – Made by SA –

*① For the installation position, refer to page 5-3.

Ref.No.	Part No.	Description
601	1-476-316-11	INVERTER UNIT
602	X-4623-380-1	HINGE LEFT 15
603	X-4623-446-2	ASSY HOU, BEZEL 15SA-Z (EXP)
606	4-637-902-41	LATCH
607	1-418-574-41	LCD UNIT (15.0 TFT-XGA)
608	4-637-903-01	SPRING LATCH
612	X-4623-415-1	ASSY HOU, DISPLAY 15SA-Z
613	4-642-762-41	COVER HINGE (15)
614	4-653-029-21	(FX170)...LABEL ID (U)
614	4-653-029-31	(FX150)...LABEL ID (U)
619	1-757-604-11	PWB, FLEXIBLE PRINT (SINGLE)
620	4-642-755-01	BRACKET LCD (DL) 15
621	4-642-756-01	BRACKET LCD (BL) 15
622	4-642-757-01	BRACKET LCD (DR) 15
623	4-642-758-01	BRACKET LCD (BR) 15
624	4-646-217-01	COVER SCREW SIDE (15)
625	4-635-277-22	COVER SCREW LOWER
626	4-643-549-12	COVER SCREW SHAFT
628	X-4623-381-1	HINGE RIGHT 15
629	4-643-366-11	EDGE GUARD HINGE (15)
631	4-643-837-01	SHIELD (LCD)
634	4-635-276-22	COVER SCREW UPPER
635	4-642-760-12	CUSHION CENTER
636	4-646-216-01	SHIELD TAPE (LCD) L
637	1-961-018-31	HARNESS,LCD (XGA-F-N)
638	4-650-831-01	SHIELD TAPE (SK)
639	4-653-980-01	GASKET HINGE (15)

Ref.No.	Part No.	Description
B8	4-641-726-11	SCREW (M2), SPECIAL HEAD
B22	4-642-761-01	+P M2X3 LOCK
B23	4-644-165-01	SCREW (M2.6X4), 0 PLATE P1 MAIN
B30	4-643-550-01	+P 2.6X6 LOCK PRECISION TYPE3

NOTE :

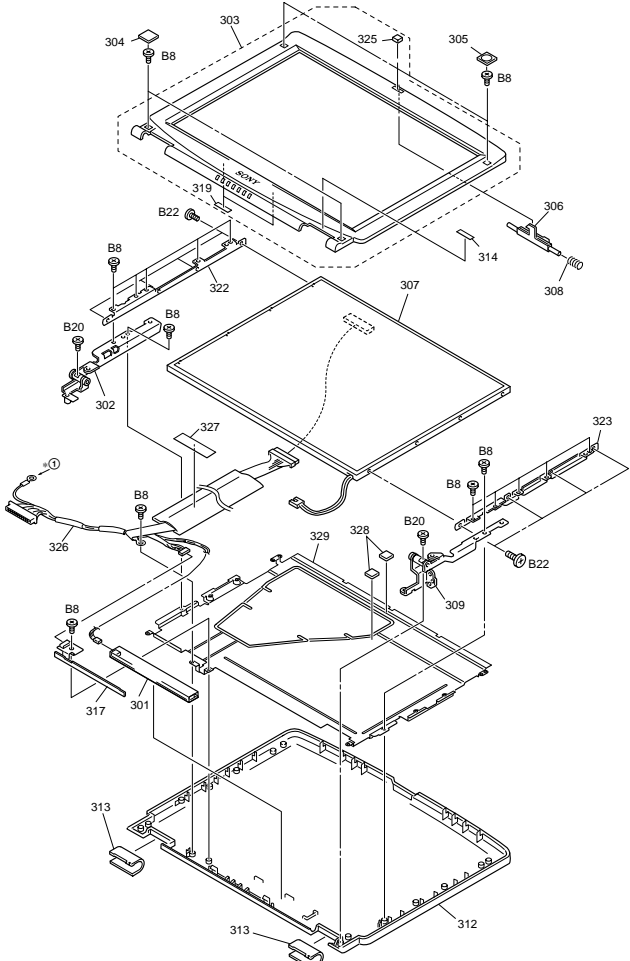The dip switch on the MBX-49 board (Main board) is set to match with the LCD (1-418-574-41) that is used in this computer.

The upper position where ON indication is shown is the ON position . The lower position is the OFF position.

No.	1	2	3	4	5	6	7	8
ON/OFF	0	1	1	1	1	1	1	1

0 : ON   1: OFF

5-4. LCD Section (FX140 Model) – Made by SA –

Ref.No.	Part No.	Description
301	1-476-316-11	INVERTER UNIT
302	X-4623-378-1	HINGE LEFT MV
303	X-4623-445-2	ASSY HOU, BEZEL 14SA-Z (EXP)
304	4-635-277-22	COVER SCREW LOWER
305	4-635-276-22	COVER SCREW UPPER
306	4-637-902-41	LATCH
307	1-418-716-21	LCD UNIT (14.1" TFT-XGA)
308	4-637-903-01	SPRING LATCH
309	X-4623-379-1	HINGE RIGHT MV
312	X-4623-397-1	ASSY HOU, DISPLAY MV
313	4-642-762-41	COVER HINGE (15)
314	4-653-029-41	LABEL ID (U)
317	1-757-605-11	PWB, FLEXIBLE PRINT (SINGLE)
* 319	3-909-058-01	SHEET (D), ADHESIVE
* 322	4-644-163-01	BRACKET LCD LEFT 14 (SA)
* 323	4-644-164-01	BRACKET LCD RIGHT 14 (SA)
325	4-642-760-12	CUSHION CENTER
326	1-961-018-21	HARNESS LCD (XGA-F-N)
327	4-650-831-01	SHIELD TAPE (SK)
328	4-636-094-02	CUSHION FLASH
* 329	4-651-747-01	DISPLAY SHIELD PLATE MV

| Ref.No.	Part No.	Description
B8	4-641-726-11	SCREW (M2), SPECIAL HEAD
B20	7-628-254-00	SCREW +PS 2.6X5
B22	4-642-761-01	+P M2X3 LOCK

NOTE :

The dip switch on the MBX-49 board (Main board) is set to match with the LCD (1-418-716-21) that is used in this computer.

The upper position where ON indication is shown is the ON position . The lower position is the OFF position.

No.	1	2	3	4	5	6	7	8
ON/OFF	0	0	1	1	1	1	1	1

0 : ON   1: OFF

∗① For the installation position, refer to page 5-3.

5-5. LCD Section (FX120 Model) – Made by AC –

*① For the installation position, refer to page 5-3.

5-11
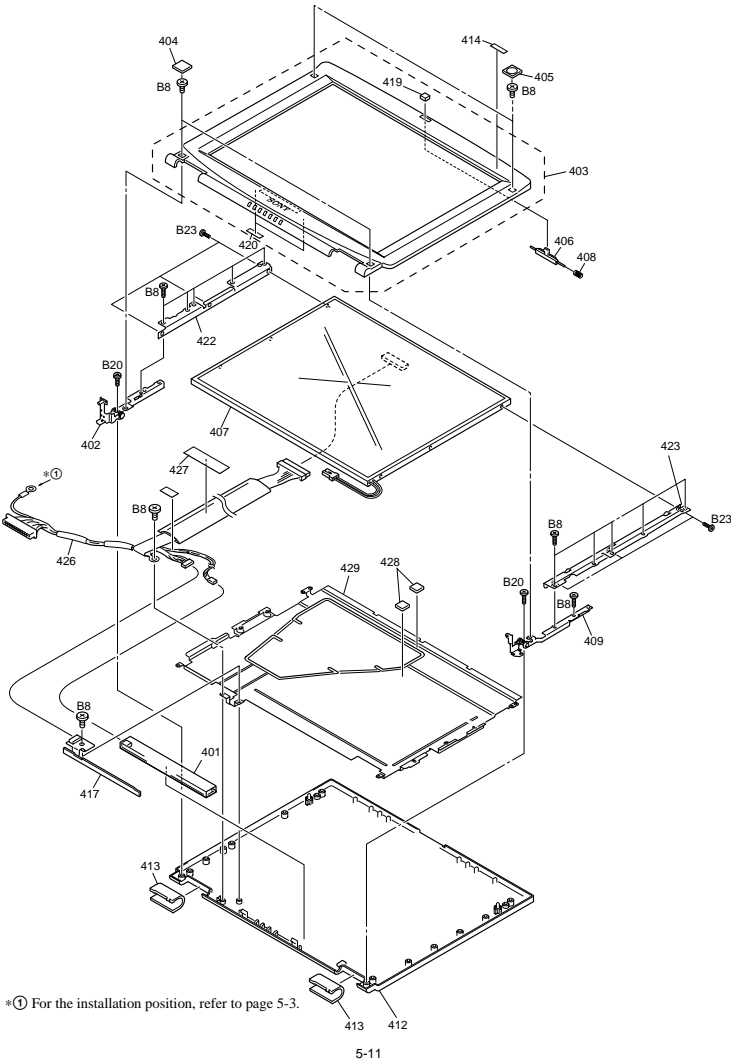
Ref.No.	Part No.	Description
401	1-476-316-11	INVERTER UNIT
402	X-4623-378-1	HINGE LEFT MV
403	X-4623-444-2	ASSY HOU, BEZEL 13.3M (EXP)
404	4-635-277-22	COVER SCREW LOWER
405	4-635-276-22	COVER SCREW UPPER
406	4-637-902-41	LATCH
407	1-418-882-11	LCD UNIT (13.3* TFT XGA)
408	4-637-903-01	SPRING LATCH
409	X-4623-379-1	HINGE RIGHT MV
412	X-4623-397-1	ASSY HOU, DISPLAY MV
413	4-642-762-41	COVER HINGE (15)
414	4-653-029-51	LABEL ID (U)
417	1-757-605-11	PWB, FLEXIBLE PRINT (SINGLE)
419	4-642-760-12	CUSHION CENTER
* 420	3-909-058-01	SHEET (D), ADHESIVE
* 422	4-651-749-11	BRACKET LCD LEFT 13.3 (AC)
* 423	4-651-751-11	BRACKET LCD RIGHT 13.3 (AC)
426	1-961-018-41	HARNESS, LCD (XGA-F-N)
427	4-650-831-01	SHIELD TAPE (SK)
428	4-636-094-02	CUSHION FLASH
* 429	4-651-747-01	DISPLAY SHIELD PLATE MV
B8	4-641-726-11	SCREW (M2), SPECIAL HEAD
B20	7-628-254-00	SCREW +PS 2.6X5
B23	3-739-116-01	SCREW (2X3), +PS

NOTE :

The dip switch on the MBX-49 board (Main board) is set to match with the LCD (1-476-576-11) that is used in this computer.

The upper position where ON indication is shown is the ON position . The lower position is the OFF position.

No.	1	2	3	4	5	6	7	8
ON/OFF	1	1	1	0	1	1	1	1

0 : ON   1: OFF

Ref.No.	Part No.	Description
		ACCESSORIES
		************
701	A-8048-965-A	ASSY WEIGHT SAVER (Z)
		(Refer to Page 5-4.)
⚠ 702	1-476-342-12	ADAPTOR, AC
703	1-756-147-11	(FX120/FX140)...
		BATTERY PACK, LITHIUM ION SON
703	1-528-935-12	(FX150/FX170/FX190)...
		PACK, LITHIUM ION BATTERY
704	1-575-875-51	CORD, CONNECTION
⚠	1-757-562-21	CORD, POWER
	4-653-234-11	USER GUIDE,FX100
	4-653-314-11	QUICK START, FX100
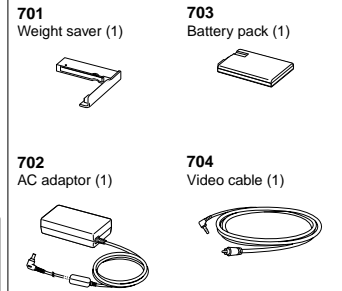
701 Weight saver (1)

703 Battery pack (1)

702 AC adaptor (1)

704 Video cable (1)

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.

5-12
(END)

PCG-FX120/FX140/FX150/FX170/FX190 (UC)

SONY®

VAIO® Notebook Quick Start

**PCG-FX120/FX120K, PCG-FX140/FX140K
PCG-FX150/FX150K, PCG-FX170/FX170K
PCG-FX190/FX190K**

Contents

Notice to Users

Sony Electronics Inc. provides no warranty with regard to this manual, the software, or other information contained herein and information contained herein and hereby expressly disclaims an implied warranties of merchantability or fitness for any particular purpose with regard to this manual, the software, or such other information. In no event shall Sony Electronics inc. be liable for an incidental, consequential, or special damages, whether based on tort, contract, or otherwise, arising out of or in connection with this manual, the software, or other information contained herein or the use thereof.

Sony Electronics Inc. reserves the right to make any modification to this manual or the information contained herein at any time without notice. The software described herein is governed by the terms of a separate user license agreement.

This product contains software owned by Sony and licensed by third parties. Use of such software is subject to the terms and conditions of license agreements enclosed with this product. Some of the software may not be transported or used outside the United States. Software specifications are subject to change without notice and may not necessarily be identical to current retail versions.

Updates and additions to software may require an additional charge. Subscriptions to online service providers may require a fee and credit card information. Financial services may require prior arrangements with participating financial institutions.

As an ENERGY STAR Partner, Sony Corporation has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

The International ENERGY STAR Office Equipment Program is an international program that promotes energy saving through the use of computers and other office equipment. The program backs the development and dissemination of products with functions that effectively reduce energy consumption. It is an open system in which business proprietors can participate voluntarily. The targeted products are office equipment such as computers, displays, printers, facsimiles and copiers. Their standards and logos are uniform among participating nations. ENERGY STAR is a U.S. registered mark.

Sony, Handycam, i.LINK, Mavica, Media Bar, MovieShaker, PictureGear, VAIO and the VAIO logo are trademarks of Sony Corporation. Microsoft, Windows Me, Windows Media, Windows, Windows NT, and the Windows logo are registered trademarks of Microsoft Corporation. Intel, SpeedStep, and Pentium are trademarks of Intel Corporation. PS/2 is a registered trademark of IBM.

3

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

i.LINK is a trademark of Sony used only to designate that a product contains an IEEE 1394 connection. The i.LINK connection may vary, depending on the software applications, operating system, and i.LINK-compatible devices. All products with an i.LINK connection may not communicate with each other.

Please refer to the documentation that came with your i.LINK-compatible device for information on operating conditions and proper connection. Before connecting i.LINK-compatible PC peripherals to your system, such as a CD-RW or hard disk drive, confirm their operating system compatibility and required operating conditions.

All other trademarks are trademarks of their respective owners.

Owner's Record

The model number and serial number are located on the bottom of your Sony VAIO® Notebook. Refer to the model and serial number when you call your Sony Service Center.

Model Numbers: PCG-9512, PCG-9522, PCG-9532, PCG 9542, PCG-9552, PCG-951A, PCG-952A, PCG-953A, PCG-954A, PCG-955A

Serial Number:_____

Safety Information

WARNING

❑ **To prevent fire or shock hazard, do not expose your notebook computer to rain or moisture.**

❑ **To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.**

❑ **Never install modem or telephone wiring during a lightning storm.**

❑ **Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.**

❑ **Never touch telephone wire or terminals that are not insulated unless the telephone line has been disconnected at the network interface.**

❑ **Use caution when installing or modifying telephone lines.**

❑ **Avoid using the modem during an electrical storm.**

❑ **Do not use the modem or a telephone to report a gas leak in the vicinity of the leak.**

❑ **A socket outlet should be as close as possible to the unit and easily accessible.**

⚠ **Caution- Using optical instruments with this product will increase eye hazard. Do not attempt to disassemble the cabinet because the laser beam used in this product is harmful to the eyes. Refer servicing to qualified personnel only.**

⚠️ **To change the backup battery, please contact your nearest Sony Service Center.**

For CD-RW/DVD-ROM drive, DVD-ROM drive: Danger- Drive emits visible and invisible laser radiation when open. Avoid direct exposure to beam.

Caution: Use only No. 26 AWG or larger telecommunication line cord to reduce the risk of fire.

AVERTISSEMENT

❑ **Pour prévenir tout risque d'incendie ou d'électrocution, garder cet appareil à l'abri de la pluie et de l'humidité.**

❑ **Pour prévenir tout risque d'électrocution, ne pas ouvrir le châssis de cet appareil et ne confier son entretien qu'à une personne qualifiée.**

❑ **Ne jamais effectuer l'installation de fil modem ou téléphone durant un orage électrique.**

❑ **Ne jamais effectuer l'installation d'une prise téléphonique dans un endroit mouillé à moins que la prise soit conçue à cet effet.**

❑ **Ne jamais toucher un fil téléphonique à découvert ou un terminal à moins que la ligne téléphonique n'ait été débranché de l'interface réseau.**

❑ **Soyez très prudent lorsque vous installez ou modifiez les lignes téléphoniques.**

❑ **Évitez d'utiliser le modem durant un orage électrique.**

❑ **N'utilisez pas le modem ni le téléphone pour prévenir d'une fuite de gaz vous êtes près de la fuite.**

❑ **L'appareil doit être le plus près possible d'une prise murale pour en faciliter l'accès.**

⚠️ **Avertissement - L'utilisation d'instruments optiques avec ce produit augmente les risques pour les yeux. Puisque le faisceau laser utilisé dans ce produit est dommageable pour les yeux, ne tentez pas de désassembler le boîtier. Adressez-vous à un agent de service qualifié.**

Pour changer la pile de rechange, veuillez contacter votre centre de service Sony le plus près.

Pour les lecteur CD-RW/DVD-ROM, lecteur DVD-ROM: Danger : Radiation laser visible et invisible si ouvert. Évitez l'exposition directe au faisceau.

Attention : Afin de réduire les risques d'incendie, n'utilisez qu'un cordon de communication N0. 26 AWG ou plus gros.

If you have questions about this product, you can reach the Sony Customer Information Service Center at 1-888-4SONYPC; or write to the Sony Customer Information Service Center at 12451 Gateway Blvd., Ft. Myers, FL 33913 or find Sony Customer Service on the web at: http://www.sony.com/pcsupport.

5

Regulatory Information

Declaration of Conformity

Trade Name:	SONY
Model No.:	PCG-9512
	PCG-9522
	PCG-9532
	PCG-9542
	PCG-9552
	PCG-951A
	PCG-952A
	PCG-953A
	PCG-954A
	PCG-955A
Responsible Party:	Sony Electronics Inc.
Address:	1 Sony Drive
	Park Ridge, NJ 07656
Telephone: (For FCC-related matters only.)	201-930-6972

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

❑ Reorient or relocate the receiving antenna.

❑ Increase the separation between the equipment and the receiver.

❑ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

❑ Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Only peripherals (computer input/output devices, terminals, printers, etc.) that comply with FCC Class B limits may be attached to this computer product. Operation with non-compliant peripherals is likely to result in interference to radio and television reception.

All cables used to connect peripherals must be shielded and grounded. Operation with cables, connected to peripherals, that are not shielded and grounded, may result in interference to radio and television reception.

FCC Part 68

This equipment complies with Part 68 of the FCC rules. On the bottom of this equipment is a label that contains, among other information, the FCC equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This modem uses the USOC RJ-11 telephone jack.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

If the terminal equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operations of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, you can reach the Sony Customer Information Service Center at 1-888-4SONYPC; or write to the Sony Customer Information Service Center at 12451 Gateway Blvd., Ft. Myers, FL 33913 or find Sony Customer Service on the web at: http://www.sony.com/pcsupport

Repair of this equipment should be made only by a Sony Service Center or Sony authorized agent. For the Sony Service Center nearest you, call 1-888-4SONYPC (1-888-476-6972).

This equipment cannot be used on public coin service provided by the telephone company. Connection to Party Line Service is subject to state and possible provincial tariffs. (Contact the state or provincial utility service commission, public service commission, or corporation commission, for information.)

Telephone Consumer Protection Act of 1991 (United States)

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone facsimile machine unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business, other entity, or individual sending the message, and the telephone number of the sending machine or such business, other entity, or individual.

In order to program this information into your facsimile machine, see your fax software documentation.

Telephone Consumer Guidelines (Canada)

Please refer to your telephone directory under 'Privacy Issues' and/or 'Terms of Service.' For more detailed information, please contact:

CRTC
Terrasses de la Chaudiére, Tour centrale
1 promenade du Portage, 5 étage Hull
PQ K1A 0N2.

This Class B digital apparatus complies with Canadian ICES-003.

Cet àppareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Disposal of Lithium Ion Battery

You can return your unwanted lithium ion batteries to your nearest Sony Service Center or Factory Service Center.

✎ In some areas the disposal of lithium ion batteries in household or business trash may be prohibited.

For the Sony Service Center nearest you, call 1-888-476-6972 in the United States or

1-800-961-7669 in Canada.

⚠ **Do not handle damaged or leaking lithium ion batteries.**

Ne pas manipuler les batteries au lithium-ion qui fuient ou sont endommagées.

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.

Une batterie non conforme présente un danger d'explosion. La remplacer seulement par une batterie identique ou de type équivalent recommandé par le fabricant. Évacuer les batteries usées selon les directives du fabricant.

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

La manutention incorrecte du module de batterie de cet appareil présente un risque d'incendie ou de brûlures chimiques. Ne pas démonter, incinérer ou exposer à une température de plus de 100°C. Évacuer promptement la batterie usée. Garder hors de portée des enfants.

Industry Canada Notice

NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection.

The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

8

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Equipment malfunctions or any repairs or alterations made by the user to this equipment may give the telecommunications company cause to request that the user disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

NOTICE: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5. The Ringer Equivalence Number for this equipment is 0.2.

Avis de L'Industrie Canada

AVIS: L'étiquette d'Industrie Canada identifie le matériel homologué.

Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

Avertissement: L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

AVIS: L'indice d'équivalence de la sonnerie (IES) assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface.

La terminaison d'une interface téléphonique peut consister en une combinaison de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5. L'indice d'équivalence de la sonnerie de ce matériel est de 0.2.

9

Welcome

Congratulations on your purchase of the Sony VAIO® Notebook. Sony has combined leading-edge technology in audio, video, computing, and communications to provide you with state-of-the-art personal computing.

Features

✍ For a complete description of the specifications of your VAIO® Notebook, see "Specifications" in the online manual *VAIO® Notebook User Guide*.

❑ **Exceptional performance** — Your notebook includes a mobile Intel® Pentium® III processor featuring Intel® SpeedStep™ technology[*] and a V.90 compatible K56flex modem.[†]

❑ **Portability** — Rechargeable battery pack provides hours of use without AC power.

❑ **Sony audio and video quality** — High-quality MPEG1/MPEG2 video supports full-screen display and enables you to take advantage of today's advanced multimedia applications, games, and entertainment software.

❑ **Multimedia features** — Enjoy the stereo speakers or use a headphone (not supplied) to listen to audio and video CDs.

❑ **Microsoft® Windows® Operating System** — Your system includes Microsoft® Windows® Millennium Edition (Windows Me™) or Microsoft® Windows® 2000 Professional.

❑ **Communications** — Access popular online services, send e-mail, browse the Internet, and use fax features.

❑ **Optical drive (DVD-ROM or CD-RW/DVD-ROM)** — The CD-RW/ DVD-ROM drive utilizes a new optical storage technology that combines the features of both a CD-RW drive and DVD-ROM drive, providing increased storage capacity and a rich multimedia computing experience. The CD-RW/

---

[*] Processor may be reduced to a lower operating speed when operating on battery power.

[†] Actual upload and download speeds may vary due to line conditions, ISP support, and government regulations.

DVD-ROM drive plays DVD-ROM, CD-ROM, CD-RW, and CD-R discs. This drive is available on select models only.

✍ Your optical drive differs depending on the model you purchase.

Unpacking Your Notebook

To unpack your VAIO notebook, remove the following components from the box.
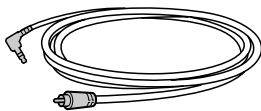
Hardware

Main unit[*]
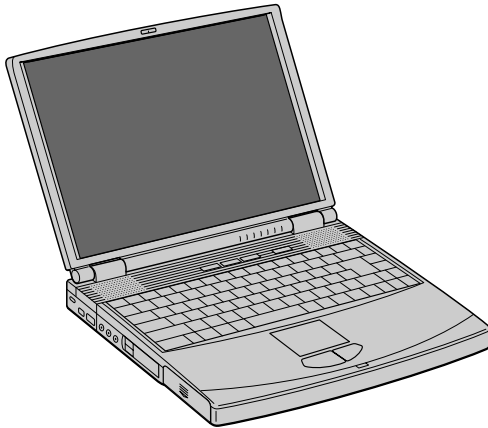
Power cord
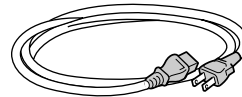
AC adapter
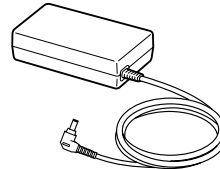
Video cable (PCG-FX150/PCG-FX150K PCG-FX170/PCG-FX170K PCG-FX190/PCG-FX190K only)

Rechargeable battery pack

Weight saver
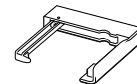
* Removable floppy disk drive is in the multipurpose bay.

12

Manuals

❑ *VAIO® Quick Start* — Contains information on unpacking and setting up your notebook, supplementary updates, and software information.

❑ *Microsoft® Windows® Millennium Edition Getting Started* **manual or the** *Microsoft® Windows® 2000 Professional Getting Started* **manual** — Explains how to use the basic features of this latest Windows operating system.

Software CDs

❑ **Microsoft® Word 2000** — Allows you to reinstall Microsoft Word on the VAIO notebook you purchase.

Recovery CDs

❑ **System Recovery CD(s)** — Allows you to restore the software titles shipped with your notebook if they become corrupted or are erased. Use it to restore the hard disk of the VAIO® Notebook you purchase.

❑ **Application Recovery CD(s)** — Allows you to reinstall individual applications if they become corrupted or are erased.

❑ **Driver Recovery CD(s)** — Allows you to reinstall individual device drivers if they become corrupted or are erased.

Other

❑ Packet containing special product offers

Setting Up Your VAIO® Notebook

This section describes the controls and connectors on your VAIO® Notebook, how to connect your notebook to a power source, and how to start and shut down your notebook.

Locating Controls and Connectors

Front
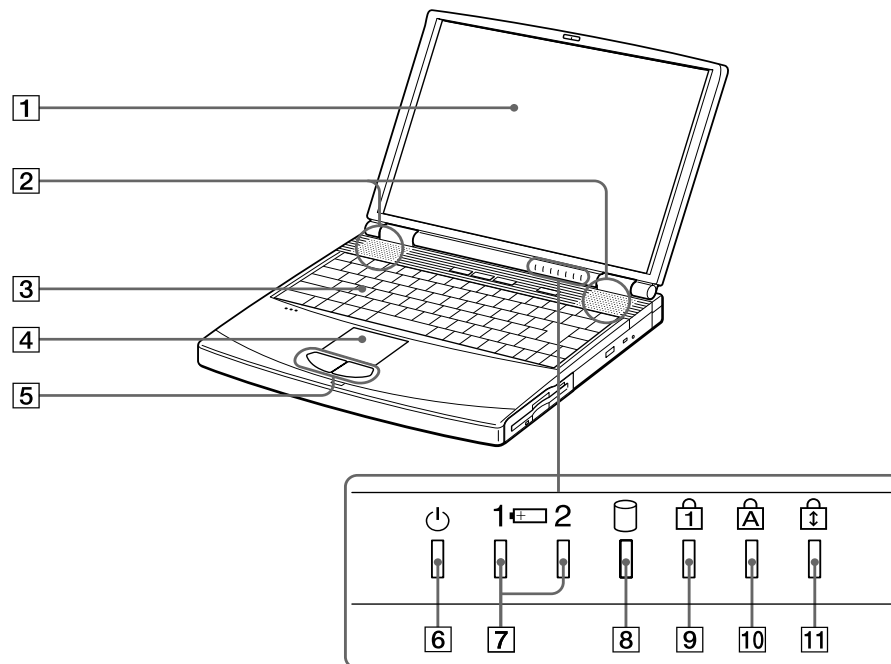
1	LCD (Liquid Crystal Display) screen	7	Battery 1 and 2 indicators
2	Speakers	8	Hard disk drive indicator
3	Keyboard	9	Num lock indicator
4	Touchpad	10	Caps lock indicator
5	Left and right buttons	11	Scroll lock indicator
6	Power indicator		

15

Left
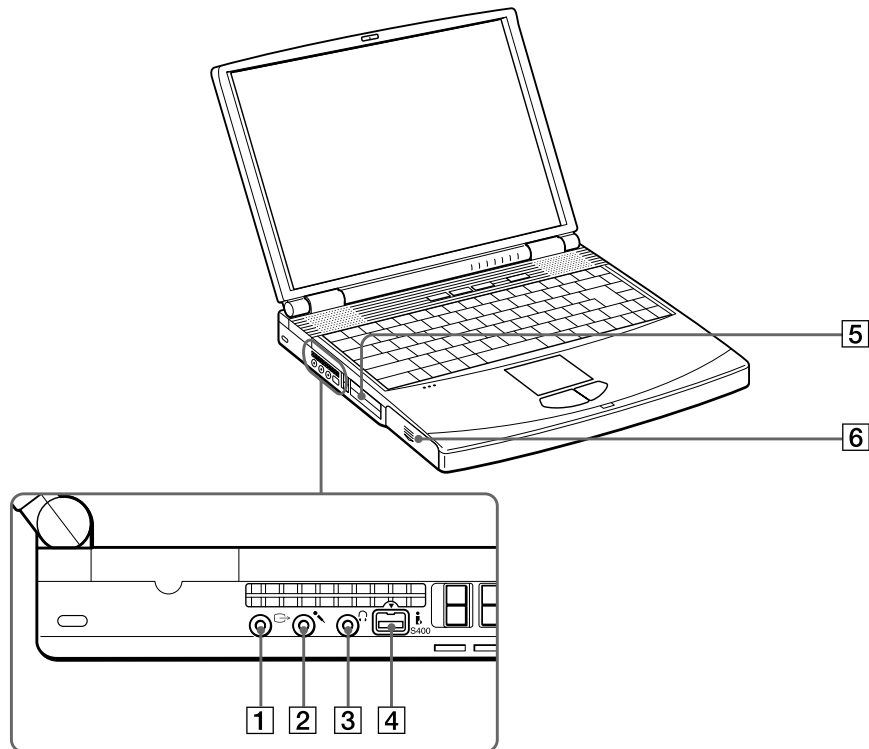
1	**Video out (select models only)**	4	**i.LINK® (IEEE1394) S400 connector*****
2	**Microphone connector**	5	**PC card slots**
3	**Headphone connector**	6	**Battery bay**

*   i.LINK is a trademark of Sony used only to designate that a prodcut contains an IEEE 1394 connection. The i.LINK connection may vary, depending on the software applications, operating system, and i.LINK-compatible devices. All products with an i.LINK connection may not communicate with each other.

Please refer to the documenation that came with your i.LINK-compatible device for information on operating conditions and proper connection. Before connecting i.LINK-compatible PC peripherals to your system, such as a CD-RW or hard disk drive, confirm their operating system compatiblity and required operating conditions.

16

Right
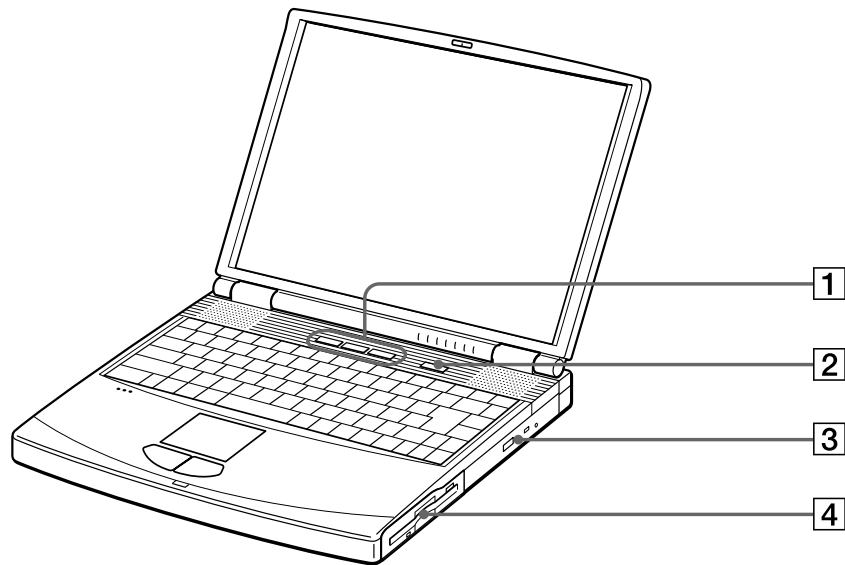
1	PPK buttons
2	Power button
3	Optical drive (CD-RW/DVD-ROM drive for PCG-FX170/PCG-FX170K PCG-FX190/PCG-FX190K) (DVD-ROM drive for PCG-FX120/PCG-FX120K/PCG-FX140 PCG-FX140K/PCG-FX150/PCG-FX150K)
4	Multipurpose bay

17

Back
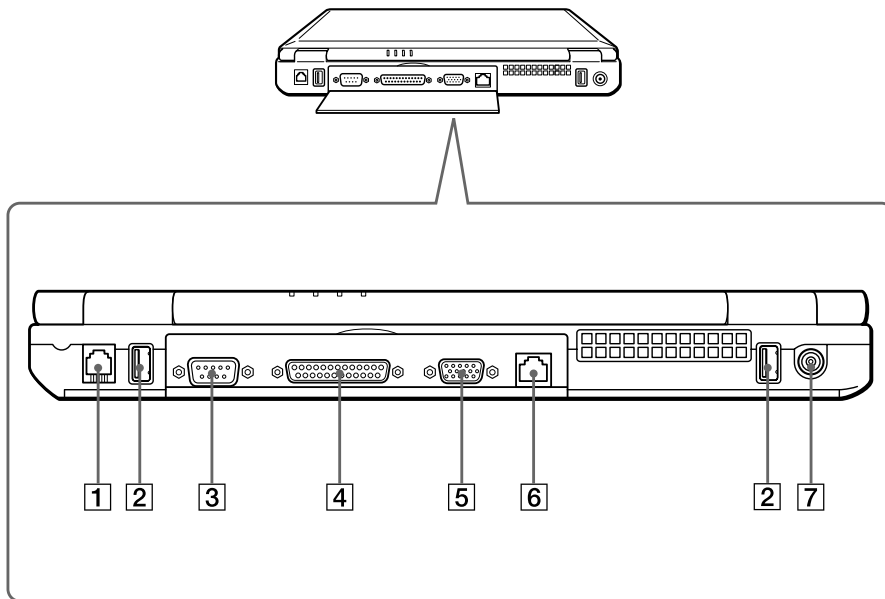
1	*Modem jack*	*5*		*Monitor connector*
2	*USB connectors*	*6*		*Ethernet connector*
3	*Serial connector*	*7*		*DC In connector*
4	*Printer connector*			

⚠ **Warning:**
Only connect 10BASE-T and 100BASE-TX cables to the Ethernet network port. Do not connect any other type of network cable or any telephone line. Connecting cables other than those listed above may result in an electric current overload and could cause a malfunction, excessive heat, or fire in the connector. To connect the unit to the network, contact you network administrator.

✍ There is a ventilation slot located between the Ethernet connector and the USB connector. Do not cover the ventilation slot when your notebook is on.

18

Bottom
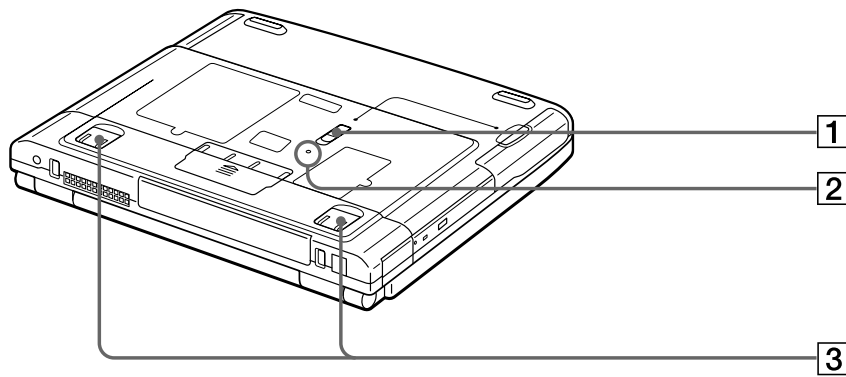
1	**Multipurpose bay RELEASE lever**
2	**Reset switch**
3	**Tilt stands**

19

Connecting a Power Source

You can use either AC power or a rechargeable battery pack as a power source.

Using the AC Adapter

1   Plug the cable attached to the AC adapter into the DC In connector on the notebook.

2   Plug one end of the power cord into the AC adapter.

3   Plug the other end of the power cord into an AC outlet.

Connecting the AC adapter

Notebook

DC In

AC adapter (supplied)

Power cord (supplied)
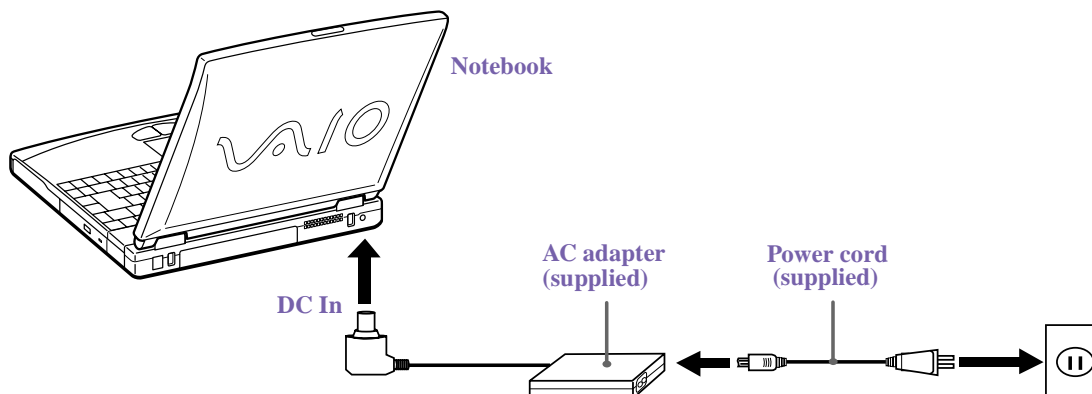
Notes on the AC Adapter

❑   Your notebook operates on 100V-240V AC 50/60 Hz.

❑   Do not share the AC outlet with other power-consuming equipment, such as a copy machine or shredder.

❑   You can purchase a power strip with a surge protector. This device prevents damage to your notebook caused by sudden power surges such as those that may occur during an electrical storm.

❑   Do not place heavy objects on the power cord.

❑   To disconnect the cord, pull it out by the plug. Never pull the cord itself.

❑   Unplug your notebook from the wall outlet if you will not be using the computer for a long time.

❑   The LED indicator on the AC adapter may remain on until the AC adapter is unplugged from your notebook.

20

❑ When the AC adapter is not in use, unplug it from the AC outlet.

❑ Use only the AC adapter supplied with your VAIO® Notebook.

Using Battery Power

You can use one or two battery packs as a source of power. When using two battery packs, insert the second battery pack into the multipurpose bay on the right side of the notebook. (See "Using a Second Battery Pack" in the online manual *VAIO® Notebook User Guide* for details.) Additional battery packs are available as a separate option.
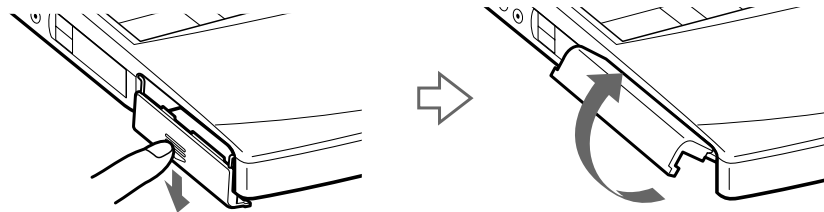
The battery pack that comes with your notebook is not fully charged at the time of purchase. Follow the steps below to insert and charge the battery pack.

To insert the battery pack

1 To open the battery bay, press cover down.

✍ Cover swings out but does not detach.

Battery bay

2 Insert the battery pack into the battery bay on the left side of the notebook.

Inserting battery pack

Battery pack
(supplied)

Label side facing down
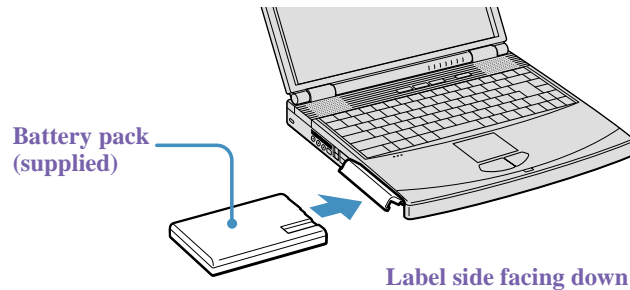
3 Close the cover of the battery bay until it clicks.

✍ If the port replicator is attached to your notebook, do not attempt to insert or remove the battery pack. Lifting and turning the notebook with a port replicator attached could cause a temporary loss of power.

To charge the battery pack

1 Connect the AC adapter to the computer.

2 Insert the battery pack. The battery indicator light flashes in a double-blink pattern as the battery charges.

When the battery is 85% full, the battery indicator light turns off. For PCG-FX120/FX120K, PCG-FX140/FX140K models, this process takes approximately 1.5 hours. For PCG-FX150/FX150K, PCG-FX170/FX170K, PCG-FX190/FX190K models, this process takes approximately 3.0 hours.

✍ To charge the battery completely, continue charging for an additional hour. See "Displaying Battery Information" in the online manual *VAIO® Notebook User Guide* for details.

22

There are two battery indicator lights on your notebook
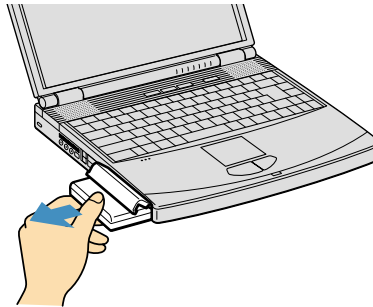
Battery indicator lights

Battery indicator lights
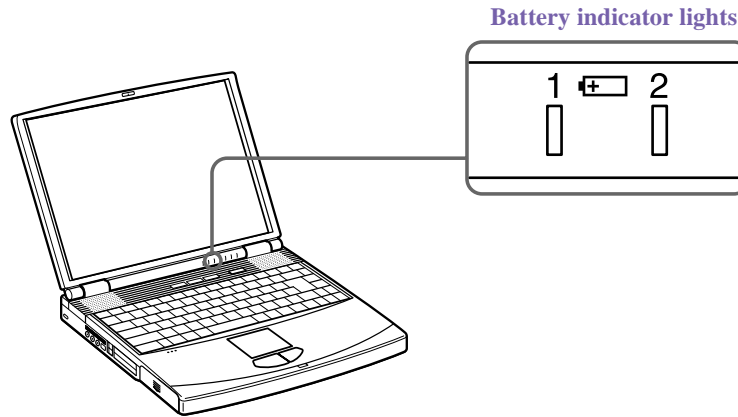
Battery Indicator	Description
1 🔋	*Indicates the status of the battery pack in the battery bay on the left side of the notebook.*
2 🔋	*Indicates the status of the battery pack in the multipurpose bay on the right side of the notebook.*

Battery Indicator Light Status	Description
On	*The notebook is using battery power.*
Single blink	*The battery is running out of power.*
Double blink	*The battery is charging.*
Off	*The notebook is using AC power.*

23

To remove the battery pack

1   Open the battery bay cover.

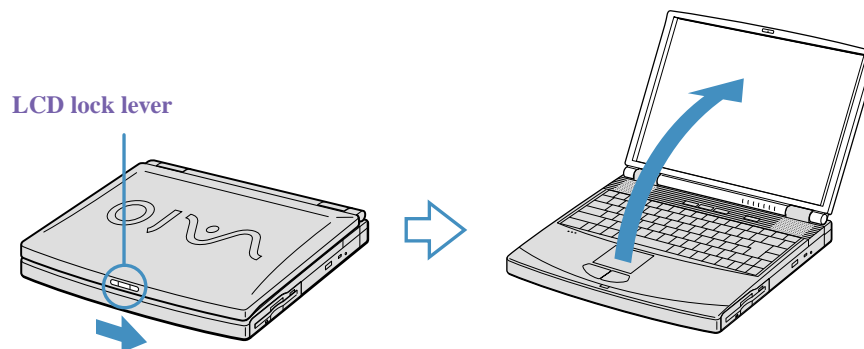2   Pull out the battery pack.

Removing the battery pack

3   Close the cover of the battery bay.

Starting Your Notebook

1   Slide the LCD lock lever in the direction of the arrow, and lift the cover.

Opening the notebook

LCD lock lever

2 Press the power button on top of the notebook until the green power indicator light turns on.

✏ (Windows Me™ only) When starting your notebook for the first time, the VAIO InitManager dialog box will appear. Please select "OK" to begin initial setup. If you do not execute the initial setup, you cannot use VAIO original hardware functions such as PPK, Power Management tools, the scroll function of the touchpad, and keyboard shortcut key combined with Fn key.

Power button

1 **Power indicator**   **1** **Power button**
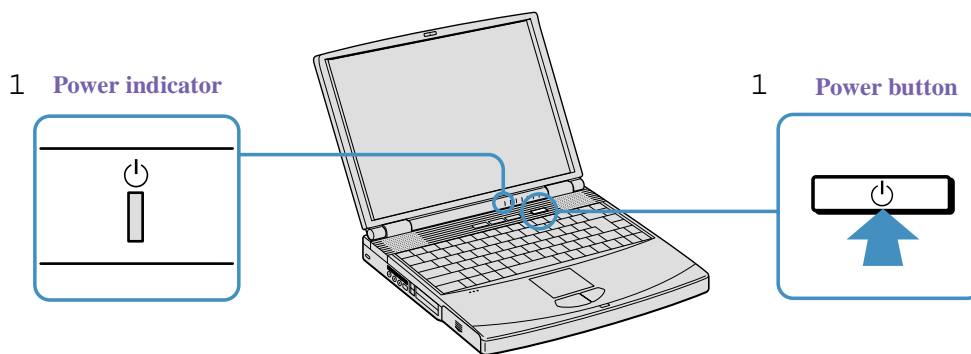
✏ If you hold the power button in the On position for more than four seconds, the notebook turns off.

3 If necessary, adjust the brightness controls for the LCD display as follows:

❑ To decrease brightness, press Fn+F5 then the down or left arrow key.

❑ To increase brightness, press Fn+F5 then the up or right arrow key.

Registering Your Notebook

Take advantage of Sony's commitment to quality customer support and receive these benefits by registering your notebook:

❑ **Sony Customer Support** — Talk to a Support Representative to troubleshoot problems you may be having with your notebook.

❑ **Limited Warranty** — Protect your investment. See the Warranty Card for more details.

25

If you did not register your notebook when you first turned it on, follow these steps to use the online computer registration service.

1   Make sure your notebook is connected to a phone line.

2   Click the registration icon on the VAIO desktop.

3   Enter the information requested on the first online registration form.

✍ Press the tab key to move from box to box.

4   Click the Next button to advance to the next form.

5   Complete the remaining forms by clicking the Next button each time you complete a form.

6   The notebook automatically transfers your registration information using your built-in modem and a toll-free telephone number or a local number.

✍ You may sign up for Internet access with a Sony preferred Internet Service Provider.

Shutting Down Your Notebook

To avoid potential loss of data, follow these steps to shut down your notebook.

1   Click the Start button on the Windows® taskbar.

2   Click Shut Down at the bottom of the Start menu to display the Shut Down Windows dialog box.

3   Select Shut Down.

4   Click OK.

✍ Respond to any prompts warning you to save documents.

5   Wait for your notebook to automatically turn off. The notebook is off when the power indicator light goes out.

6   Turn off any peripheral devices connected to your notebook.

✎ During a period of inactivity, you can conserve battery life by using Standby mode. See "Controlling Power Management" in the online manual *VAIO® Notebook User Guide* for details.

If you are unable to shut down your notebook.

1   Close or end all operations as follows:

- ❑   Close all applications.
- ❑   Remove the PC cards.
- ❑   Disconnect USB devices.

2   Restart your notebook by pressing the Ctrl+Alt+Delete keys at the same time.

✎ If you are still unable to shut down your notebook, press the power button and hold it for 5 seconds. This operation may result in data loss.

About the Software on Your Notebook

Your VAIO® Notebook is ready to help you work, play, learn, and communicate as soon as you turn it on. This section provides an overview of the software titles included with your notebook and software support information.

Overview

Adaptec Easy CD Creator™ and DirectCD™ (on select models only)
Adaptec, Inc.
Adaptec Easy CD Creator makes it easier than ever to create music, photo, video, and data CDs. It enables you to access music on the Internet, fine-tune your music tracks, edit and enhance photos and videos with a pro's touch. Save and share data with confidence. With DirectCD, CD recording has become as easy as using a disk drive or floppy disk. You can save files directly from your application software directly to your CD-R disc; you can drag and drop files, rename files, delete files, and create new directories right on the CD-R.

Adobe Acrobat Reader®
Adobe Systems, Inc.
Acrobat Reader software allows you to view, navigate, and print electronic documents in Adobe Portable Document Format (PDF), an open file format that is intended to preserve the fidelity of documents created on all major computer platforms.

Adobe PhotoDeluxe® Home Edition (Windows Me™ only)
Adobe Systems, Inc.
Create amazing photo effects with Adobe PhotoDeluxe. Without learning complex software, you can enhance, restore, and be creative with your photos. Includes built-in guided activities, stock photos, clip art and templates to assist you.

Adobe Premiere® LE (Windows Me only)
Adobe Systems, Inc.
Adobe Premiere LE offers an interface and editing tool for producing movies for video, multimedia, or the Web. View source clips and edited footage simultaneously on the monitor window. Create video clips up to three hours long with complete audio-video synchronization.

America Online® (Windows Me™ only)
America Online, Inc.

America Online is a popular Internet online service. Stay in touch with family and friends with easy-to-use e-mail, manage your personal finances, get the latest news and sports scores, and chat with thousands of others who share your interests.

ArcSoft® PhotoPrinter™ 2000 Pro (Windows Me only)
ArcSoft, Inc.

ArcSoft PhotoPrinter 2000 is an easy-to-use, advanced printing program that lets you quickly lay out multiple images in multiple sizes on a single sheet of paper. PhotoPrinter Pro offers a wide selection of templates including landscape, portrait, free style, mixed sizes, custom templates and more. The application includes enhancement tools and special effects for improving photos while giving you the ability to add text to any image.

CompuServe® 2000 (Windows Me only)
CompuServe

CompuServe is the most comprehensive source of organized business and educational information online today. CompuServe allows you to access the vastness of the Internet, without wasting time wading through it. Maximize your time online with CompuServe.

DVgate™
Sony Electronics Inc.

Connect a digital video camera recorder to the i.LINK[*][®] connector and capture your own video clips and still images. You can edit clips from your video, add others, and combine clips into new movie segments. You can also save your images in a variety of popular file formats.

EarthLink Network TotalAccess® (Windows Me only)
EarthLink, Inc.

An Internet Service Provider that supplies access, information, and assistance to its customers, introducing them to the Internet. Member benefits include e-mail, newsgroups, a personal start page, a free 6 MB web site, a member newsletter, and 24-hour technical support.

---

* i.LINK is a trademark of Sony used to designate that a product contains an IEEE 1394 connection. The i.LINK connection may vary, depending on the software applications, operating system, and i.LINK-compatible devices. All products with an i.LINK connector may not communicate with each other.

Please refer to the documentation that came with your i.LINK-compatible device for information on operating conditions and proper connection. Before connecting i.LINK-compatible peripherals to your system, such as a CD-RW or hard disk drive, confirm their operating system compatibly and required operating conditions.

30

McAfee® VirusScan®

Network Associates, Inc.

Protect your notebook from viruses. VirusScan can detect viruses from floppy disks, Internet downloads, e-mail attachments, intranets, shared files, CD-ROMs, and online services.

Media Bar™

Sony Electronics Inc.

Media Bar software is your all-in-one solution for audio/video playback. Media Bar software handles all common computer multimedia formats and controls selected Sony devices. In addition to audio/video library cataloging and playlist management, Media Bar software includes digital video quality control and effects features. Media Bar software seamlessly integrates a variety of new media formats with an easy-to-use software interface.

Microsoft® Internet Explorer

Microsoft Corporation

Internet Explorer delivers the web the way you want it. It is safe, easy to use, and you can personalize how you access the web. Outlook Express and other tools in Internet Explorer also help you have a great experience when you are on the web.

Microsoft® Word 2000

Microsoft Corporation

Microsoft Word 2000 makes it easy to create shared Web, e-mail, and print documents for use around the world. It embraces HTML as a first-class file format and extends Word's ease-of-use to the Web and e-mail. Word 2000 also extends that ease-of-use to international users, making it simple to create multilingual documents.

MovieShaker™

Sony Electronics Inc.

Sony's original MovieShaker software creates personal movies that have transitions, background music and text. Just import your video clips and "shake" with a click of the mouse. Your personal movies are easy to create and fun to share with family and friends.

Netscape Communicator®

Netscape Communications Corporation

Netscape Communicator is an all-in-one Internet tool that makes it easy to browse the web, send Internet e-mail, chat, read newsgroups, and compose great web documents.

31

PictureGear™

Sony Electronics Inc.

This image management software displays images from your hard disk drive, a Sony digital still camera, or a Sony Mavica® camera. The images appear in a convenient light-table format, so that you can easily view the contents of an entire folder.

Prodigy Internet® (Windows Me™ only)

Prodigy Communications Corporation

An online service that helps you find what you need online faster and smarter. Prodigy delivers powerful online content such as sports scores, stock quotes, news, and easy access to Excite, plus quality customer service, all at a competitive price.

Quicken® 2001

Intuit, Inc.

Quicken is a fast, easy way to organize your finances. Quicken works just like your checkbook, so it is easy to learn and use. Quicken manages all your finances, bank accounts, credit cards, investments, and loans. You can even pay your bills online.

Smart Capture

Sony Electronics Inc.

Smart Capture is a fun new way to send multimedia messages via e-mail. Smart Capture manages the i.LINK$^{*®}$ connection between your notebook and a Sony Digital Handycam® Camcorder that supports the i.LINK interface. It allows you to capture compressed video or still images that you can save or share via e-mail. A smart solution to computer, digital audio/video and network convergence.

Smart Connect (Windows 2000 only)

Sony Electronics Inc.

Smart Connect allows you to use an i.LINK cable to connect your VAIO notebook to another VAIO computer that supports Smart Connect. You can then use one computer to copy, delete, and edit files on the other computer. You can also print from a printer attached to either computer.

Sound Forge® XP (Windows Me only)

Sonic Foundry, Inc.

Sound Forge XP allows you to put powerful audio processing tools and effects to work on your notebook. Simply cut, copy, and paste your way to striking multimedia files for use in everything from Web pages to desktop presentations.

WinDVD™

InterVideo, Inc.

WinDVD is a simple-to-use DVD player combining all the features you would expect to find in a standard consumer DVD player, in addition to some very advanced functionality, such as full VCD 2.0 support, full precision video decode, a choice of user interfaces, and video display options. You can play DVD titles or Video CDs. WinDVD automatically determines the type of disc in the DVD drive and uses the correct playback method.

Software Support Information

Adaptec, Inc.

Web site	http://www.adaptec.com/
phone	408-945-8600
fax	408-262-2533

Acrobat® Reader, Adobe PhotoDeluxe® Business Edition, Adobe Premiere® LE (Adobe Systems, Inc.)

Web site	http://www.adobe.com/
phone	206-675-6126 (fee-based support)
e-mail	techdocs@adobe.com
hours	M-F, 6 AM-5 PM PT

America Online® (America Online)

Web site	http://www.aol.com
phone	800-827-3338
hours	7 days a week, 24 hours a day

CompuServe® 2000 (CompuServe)

Web site	http://www.compuserve.com
phone	800-848-8990

EarthLink Network TotalAccess® (EarthLink, Inc.)

Web site	http://help.earthlink.net/techsupport/
phone	800-395-8410
e-mail	support@earthlink.net
hours	7 days a week, 24 hours a day

McAfee® VirusScan® (Network Associates, Inc.)

Web site	http://support.mcafee.com
phone	408-988-3832
e-mail	cybr@nai.com
hours	M-F 9AM-5PM Central Time

Netscape Communicator® (Netscape Communications Corporation)

Web site	http://www.netscape.com/
phone	888-4SONYPC (888-476-6972)[*]
hours	7 days a week, 24 hours a day

PhotoPrinter™ 2000 Pro (ArcSoft, Inc.)

Web site(s)	http://www.arcsoft.com http://www.photoisland.com
phone	510-440-9901
fax	510-440-1270
e-mail	techsupport@arcsoft.com
hours	M-F, 8:30 AM-5:30 PM PT

Prodigy Internet® (Prodigy Communications Corporation)

Web site	http://www.prodigy.com
phone	800-213-0992
hours	7 AM - 3 AM ET

Quicken® 2001 (Intuit, Inc.)

Web site	http://www.intuit.com/support
phone	900-555-4688
hours	7 days a week, 24 hours a day

Windows® Operating System, Internet Explorer (Microsoft Corporation)

Web site	http://www.microsoft.com/support/
phone	888-4SONYPC (888-476-6972)[*]
hours	7 days a week, 24 hours a day

34

WinDVD™ (InterVideo, Inc.)

Web site	http://www.intervideo.com
phone	510-651-0888

* Support from 1-888-4SONYPC is free of charge for 90 days after the original date of purchase.

Sony Service Center

For the Sony Service Center nearest you, call 1-888-4SONYPC (1-888-476-6972) or find Sony Customer Service on the Web at http://www.sony.com/pcsupport.

Troubleshooting

This section describes how to solve common problems you may encounter when using your notebook. Many problems have simple solutions, so try these suggestions before you contact Sony PC Support (http://www.sony.com/pcsupport).

Troubleshooting your notebook

(Windows Me only) When starting your notebook for the first time, the VAIO InitManager dialog box will appear. Please select "OK" to begin initial setup. If you do not execute the initial setup, you cannot use part of VAIO original hardware functions such as Power Management tool, scroll function of touchpad, and keyboard shortcut key function combined with the Fn key.

My notebook does not start.

❑ Check that the notebook is plugged into a power source and that it is turned on. Check that the power indicator on the front panel of the notebook indicates that the power is on.

❑ Check that the battery packs are inserted properly and that they are charged.

❑ Make sure there is no diskette in the floppy disk drive.

❑ Confirm that the power cord and all cables are connected firmly, as described in "Connecting a Power Source" on page 20.

❑ If you plugged the notebook into a power strip or UPS, make sure the power strip or UPS is turned on and working.

❑ If you are using an external display, check that it is plugged into a power source and turned on. Check that the brightness and contrast controls are adjusted correctly. See the manual that came with your display for details.

❑ Moisture condensation may have occurred. Do not use the notebook for at least one hour and then turn on the notebook.

❑ Take the battery pack off the notebook, unplug the power cord and plug it again, then turn on the power.

37

My notebook starts, but my system doesn't start properly.

❑ When the internal backup battery is low on power, it may not start your system properly. The message "Press <F1> to resume, <F2> to setup" appears at the bottom of the screen. Follow these steps:

1 Press F2. The BIOS Setup menu appears.

2 Set the date (month/day/year). Press Enter.

3 Press ↓ to select System Time, then set the time (hour: minute: second). Press Enter.

4 Press → to select Exit, then press ↓ to select Get Default Values. The message "Load default configuration now?" appears.

5 Select Yes and press Enter.

6 Select Exit (Save Changes), and then press Enter. The message "Save Configuration changes and exit now?" appears.

7 Select Yes, and then press Enter. The notebook restarts.

My notebook starts, but the message "Operating system not found" appears and Windows does not start.

❑ Make sure there is no diskette in the floppy disk drive (non-bootable).

❑ If a non-bootable diskette is in the drive, follow these steps:

1 Turn off the notebook, and then remove the diskette.

2 Restart the notebook and confirm that Windows starts properly.

❑ If Windows still does not start, follow the steps below to initialize the BIOS:

1 Remove any diskette from the floppy disk drive.

2 Turn off the notebook.

3 Remove any peripheral devices connected to the notebook.

4 Turn the notebook back on.

5 Press the F2 key when the Sony logo appears. The BIOS setup menu screen appears.

6 Press the directional arrow keys to select the Exit menu.

7   Press the arrow keys to select "Get Default Values" and then press Enter. The message "Load default configuration now?" appears.

8   Select Yes, then press Enter.

9   Use the directional arrow keys to select "Exit" (Save Changes), and then press Enter. The message "Save configuration changes and exit now?" appears.

10   Select Yes, then press Enter. The notebook restarts.

If your notebook continues to display the message "Operating system not found", and Windows does not start, contact Sony Customer Support.

My notebook stops responding or does not shut down.

It is best to shut down your notebook using the Shut Down command on the Windows Start menu. Using other methods, including those listed here, may result in loss of unsaved data.

❑   Try restarting the notebook. On the Windows taskbar, click the Start button, click Shut Down, and then click Restart.

❑   (Windows Me) If you cannot restart as described in the preceding step, you can restart the notebook by pressing Ctrl+Alt+Delete (at the same time) twice.
     (Windows 2000) If you cannot restart as described in the preceding step, you can restart the notebook by pressing Ctrl+Alt+Delete (at the same time) and clicking Shut Down on the Windows Security screen.

❑   If the previous step does not work, press and hold the power button for at least four seconds. This turns off the power.

❑   (Windows Me) If your notebook stops responding while playing a CD or DVD, stop the CD/DVD, and restart the notebook by pressing Ctrl+Alt+Delete (at the same time) twice.
     (Windows 2000) If your notebook stops responding while playing a CD or DVD, stop the CD/DVD, and restart the notebook by pressing Ctrl+Alt+Delete (at the same time) and clicking Shut Down on the Windows Security screen.

❑   Unplug the notebook from the AC adapter and remove the battery pack from your notebook.

39

✍ Pressing Ctrl+Alt+Delete (at the same time) or turning off the notebook with the power switch may result in data loss in files that are currently open.

My notebook does not enter the power saving mode I selected. (Windows Me only)

❑ Click Start, point to Program, point to Accessories, point to System Tools, and then click System Information.

The Help and Support window appears.

❑ Click System Configuration Utility under the Tools menu.

❑ Click the Advanced button on the General tab, and Confirm the following information:

1 Enable Deep Sleep is selected with a check mark.

2 The message "Standby function is enabled" is displayed. If the message reads "Standby function is disabled", click the Enable button.

3 The message "Hibernate feature is enabled" is displayed. If the message reads "Hibernate feature is disabled", click the Enable button.

4 Click OK and restart your notebook.

My system enters System Idle mode when System Suspend mode has been selected.

If you are connecting an optical disc drive with a PC card, disconnect it by stopping the PC card. See "To remove a PC card" in the online manual *VAIO® Notebook User Guide* for details. Make sure the PC card is compatible with your notebook's Windows® operating system.

✍ (Windows 2000 only) When the notebook returns from a power saving mode after removing the optical drive, the message "Unsafe Removal of Device" may appear and the device name may be displayed as "Secondary IDE Channel". Click OK.

The Power Management setting is not responding.

Your notebook's operating system may become unstable if a lower power state, such as system hibernate is initiated and then changed before the notebook completely enters the lower power state. To restore the notebook to its normal operating stability:

40

❑ Close all open applications.

❑ Push and hold the power button for four seconds or longer to shut down the notebook.

The sound of my notebook's fan is too loud.

Use the PowerPanel utility to change the Thermal Control Strategy setting to Quiet. This setting slows down the CPU speed. See PowerPanel Help for more information.

Troubleshooting the LCD screen

My LCD screen is blank.

❑ Check that the notebook is plugged into a power source and that it is turned on.

❑ Check that the power indicator on the notebook is on.

❑ Check that the battery pack(s) is inserted properly and that they are charged.

❑ The notebook may be in LCD (Video) Standby mode. Press any key to activate the screen.

❑ The display mode may be set to external display mode. Press and hold the Fn key while pressing F7 several times.

My LCD screen continues to show the previous screen.

Press the Windows key and D key twice to refresh the screen.

The image on my connected external display is not centered or sized properly.

Use the controls on your external display to adjust the image. See the manual that came with your display for more information.

I want to change the video resolution of my display.

You can use independent controls to change the video resolution of your display.

❑ Click Start, point to Settings, point to Control Panel, and then click the Display icon.

The Display Properties dialog box appears.

❑ Click on the Settings tab.

41

❑ Move the Screen Area slider to change your video resolution.

I cannot switch the LCD display to TV and vice versa. (For models with TV Out only)

Remove the DVD video disc if it is inserted in the DVD-ROM drive.

Troubleshooting the mouse and touchpad

My mouse does not work.

❑ If you are using an external mouse, check that the mouse is plugged into the mouse connector. See "Connecting an External Display" in the online manual *VAIO® Notebook User Guide* for details.

❑ If you are using an optional Sony USB mouse PCGA-UMS1 series, check that the mouse is plugged into the USB connector.

My touchpad does not work properly.

❑ You may have disabled the touchpad without a mouse being connected to the notebook. To enable the touchpad:

1 Click Start, point to Programs, and click Sony Notebook Setup.

2 Click Touchpad tab.

3 Click Use touchpad, and then click OK.

❑ You must restart the notebook to make the touchpad work again.

❑ If your touchpad is interpreting a single tap as a double-click, you must adjust the button assignments. Follow these steps:

1 Click Start, point to Control Panel, and then click on the Mouse icon.

2 Change the button assignments in the Mouse Properties dialog box. (One of the buttons is assigned to the double-click action.)

The pointer does not move (while using the Touchpad or Mouse).

❑ Click the Start button on the Windows taskbar, and select Shut Down to display the Shut Down Windows dialog box, then press Enter.

❑ (Windows Me) If you cannot turn off your notebook as described in the step above, press Ctrl+Alt+Delete (at the same time) to restart the notebook.

(Windows 2000) If you cannot turn off your notebook as described in the step above, press Ctrl+Alt+Delete (at the same time) and click Shut Down on the Windows® Security screen to restart the notebook.

❑ If you cannot restart your notebook as described in the step above, press and hold the power button for more than four seconds to turn off the notebook.

❑ If the pointer does not move while playing a disc, press Ctrl+Alt+Delete to stop playback and restart the notebook.

Troubleshooting drives, PC cards and peripheral devices

My floppy disk drive can not write to a diskette.

❑ If the diskette is write-protected, disable the write-protect feature or use a diskette that is not write-protected.

❑ Check that the diskette is properly inserted into the floppy disk drive.

My optical drive is not playing my CD or DVD properly.

❑ Make sure the label of the disc is facing up.

❑ If the disc requires software, make sure the software is installed according to the manufacturer's instructions.

❑ A dirty or damaged disc may cause the notebook to stop responding while it tries to read the disc. If necessary, restart the notebook, remove the disc, and then check it for dirt or damage.

❑ If you see video but can not hear audio, check all of the following:

  ❑ Check that your optical drive does not have the mute setting enabled.

  ❑ Check the volume setting in the audio mixer.

  ❑ If you are using external speakers, check the volume settings, and then check the connections between your external speakers and the notebook.

  ❑ Click Start >Control Panel > System > Device Manager. Check that the correct drivers are installed properly.

❑ Do not use adhesive labels to identify the CD. The label may come off while the disc is in use in the optical drive and cause the drive to malfunction.

❑ If a region code warning appears when you try to use your optical drive, it may be that the DVD you are trying to play is incompatible with the optical drive. Check the region code listing on the DVD packaging.

43

❑ Moisture condensation may have occurred. Leave the notebook idle for at least 1 hour with the notebook turned on.

My optical drive tray does not open.

❑ Make sure the notebook is turned on.

❑ Press the Eject button on the optical drive.

❑ If the Eject button does not work, open the tray by inserting a sharp, pointed object in the hole to the right of the Eject button.

I cannot use digital video (DV) devices. The message "DV equipment seems to be disconnected or turned off" appears.

❑ Check that the DV device is turned on and that the cables are properly connected.

❑ If you are using multiple i.LINK* devices, the combination of the connected devices may cause unstable operation. In this case, turn off your notebook and all connected devices. Disconnect the devices that are not in use. Check the connections for each device, then restart your notebook.

My PC card is not working.

❑ Make sure the PC card is compatible with Microsoft® Windows®.

❑ Use the Sony Notebook Setup utility to disable devices you are not currently using.

❑ If you are using two PC cards, use the Sony Notebook Setup utility to disable the devices you are not currently using.

---

* i.LINK is a trademark of Sony used only to designate that a product contains an IEEE 1394 connection. The i.LINK connection may vary, depending on the software applications, operating system, and i.LINK-compatible devices. All products with an i.LINK connection may not communicate with each other.

Please refer to the documentation that came with your i.LINK-compatible device for information on operating conditions and proper connection. Before connecting i.LINK-compatible PC peripherals to your system, such as a CD-RW or hard disk drive, confirm their operating system compatibility and required operating conditions.

44

Troubleshooting software

My software program stops responding or crashes.

Contact the software publisher or designated provider for technical support. See the "Software Support Information" on page 33.

When I click an application icon, the message "You must insert the application CD into your optical drive" appears and the software does not start.

❑ Some titles require specific files that are located on the application CD. Insert the disc and try starting the program again.

❑ Make sure you place the CD in the tray with the label side facing up.

I hear background "noise" while using Windows Media Player to play my music CDs.

Sony suggests using the preinstalled Media Bar software to play audio CDs.

I can not use the DVgate software.

If your notebook is using the Ultimate Battery Life profile for its power saving mode, you cannot use DVgate or Smart Connect software. Please select another profile.

Troubleshooting the modem

My modem does not work.

❑ Check that the phone line is plugged into the line jack. See "Connecting a Phone Line" in the online manual *VAIO® Notebook User Guide* for details.

❑ Check that the phone line is working. You can check the line by plugging in an ordinary phone and listening for a dial tone.

❑ Check that the phone number the program is dialing is correct.

❑ Check that the software you are using is compatible with the notebook's modem. (All preinstalled Sony programs are compatible.)

45

My modem connection is slow.

Your notebook is equipped with a 56K/V.90 compatible modem. Many factors may influence modem connection speed, including telephone line noise or compatibility with telephone equipment (such as fax machines or other modems). If you think your modem is not connecting properly to other PC-based modems, fax machines, or your Internet Service Provider, check the following:

❑ Have your phone company check that your phone line is free from any line noise.

❑ If your problem is fax-related, check that there are no problems with the fax machine you are calling and that it is compatible with fax modems.

❑ If you are having a problem connecting with your Internet Service Provider, check that the ISP is not experiencing technical problems.

❑ If you have a second phone line available, try connecting the modem to that line.

Troubleshooting audio

My speakers have no sound.

❑ If the built-in speakers are turned off, press Fn+F3 to turn on the speakers. You can also turn on the speakers using the Jog Dial™ control.

❑ If the speaker volume is turned to the minimum, press Fn+F4, and then press ↑ or ➜ to increase the volume or you can use the Jog Dial control to control the volume.

❑ If nothing is displayed when you press Fn+F3 or Fn+F4.

　1　Double click System in Control Panel.

　2　Set the sound device to enable in Device Manager.

❑ If your notebook is powered by batteries, check that the battery packs are inserted properly and that they are charged.

❑ If you are using an application that has its own volume control, check that the volume is turned up.

❑ Check the volume controls in Windows®.

❑ If you connect external speakers, check that the speakers are properly connected and the volume is turned up. If the speakers have a mute button,

46

make sure it is off. If the speakers are powered by batteries, check that the batteries are inserted properly and that they are charged.

❑ If you have connected an audio cable to the Headphone connector, disconnect the cable.

My microphone does not work.

If you are using an external microphone, check that the microphone is plugged into the Microphone connector. See "Connecting an External Microphone" in the online manual *VAIO® Notebook User Guide* for details.

Troubleshooting the printer

I cannot print.

❑ The default setting for the printer port mode is correct for most printers. If you cannot print, try changing the printer port mode. In Sony Notebook Setup, select the Printer tab. If the printer port mode is set to ECP, change it to bi-directional. If the printer port mode is set to bidirectional, change it to ECP. See "Displaying the Sony Notebook Setup Screen" in the online manual *VAIO® Notebook User Guide* for details on using Sony Notebook Setup.

❑ Your connected printer may not function after the notebook resumes from a power saving mode. If this occurs, follow these steps to reset the printer connection:

Windows Me Only

❑ Right-click My Computer icon on the desktop, then select Properties.

❑ Click the Device Manager tab.

❑ Select Refresh, then click OK. The printer should function properly.

Windows 2000 Only

❑ Double-click My Computer icon on the desktop, then double-click on the Control Panel folder.

❑ Double-click on the Printers folder.

❑ Right-click on the icon of the printer that is not functioning, and select Properties to access the Properties window.

❑ Click OK to close the Properties window. The printer should function properly.

47

4-653-314-11   © 2001 Sony Electronics Inc.   Printed in USA

PCG-FX120K/FX140K/
PCG-FX150K/FX170K/FX190K

SERVICE MANUAL

US Model
Canadian Model

Basic performances of PCG-FX120K/FX140K/FX150K/FX170K/FX190K are the same as those of PCG-FX120/FX140/FX150/FX170/FX190.[1]

Therefore, this manual describes the differences from PCG-FX120/FX140/FX150/FX170/FX190.

Refer to the following manual that is already issued for repair and inspection.

> PCG-FX120/FX140/FX150/FX170/FX190 SERVICE MANUAL (9-872-179-11)

[1] These models correspond to the following models.

PCG-FX120K	PCG-FX120
PCG-FX140K	PCG-FX140
PCG-FX150K	PCG-FX150
PCG-FX170K	PCG-FX170
PCG-FX190K	PCG-FX190

DIFFERENCES OF SPECIFICATIONS

Items	PCG-FX120/FX140/FX150/FX170/FX190	PCG-FX120K/FX140K/FX150K/FX170K/FX190K
OS	Windows Millennium Edition	Windows 2000 Professional Service Pack 1

DIFFERENCES OF PARTS LIST

Page[2]	PCG-FX120/FX140/FX150/FX170/FX190			PCG-FX120K/FX140K/FX150K/FX170K/FX190K	
	Ref.No.	Part No.	Description	Part No.	Description
5-6	214	4-653-029-11	LABEL ID (U)	4-653-029-61	LABEL ID (U)
5-8	614	4-653-029-21	(FX170)...LABEL ID (U)	4-653-029-71	(FX170K)...LABEL ID (U)
	614	4-653-029-31	(FX150)...LABEL ID (U)	4-653-029-81	(FX150K)...LABEL ID (U)
5-10	314	4-653-029-41	LABEL ID (U)	4-653-704-11	LABEL ID (U)
5-12	414	4-653-029-51	LABEL ID (U)	4-653-704-21	LABEL ID (U)

[2] The page shown above is on "PCG-FX120/FX140/FX150/FX170/FX190 SERVICE MANUAL".

NOTEBOOK COMPUTER

SONY®

VAIO

PCG-FX120/FX140/FX150/FX170/FX190 (UC)