

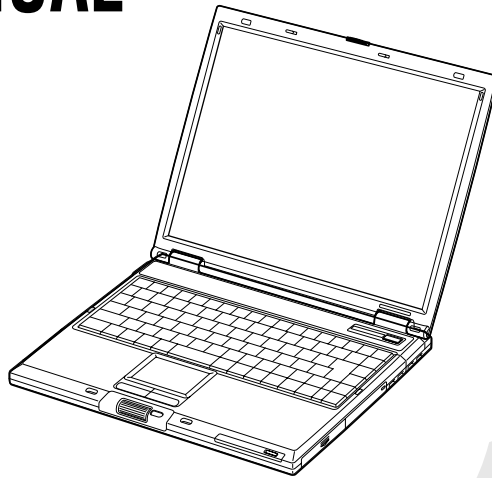
PCG-GRS175

SERVICE MANUAL

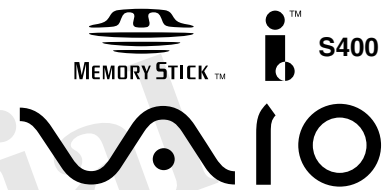
*For American Area
Canadian Model*

Ver 1-2002K

Revision History



Lineup : PCG-GRS175



Confidential

- Design and specifications are subject to change without notice.

NOTEBOOK COMPUTER

SONY®

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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.

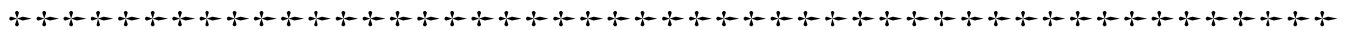
CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer’s instructions.

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 Δ 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!

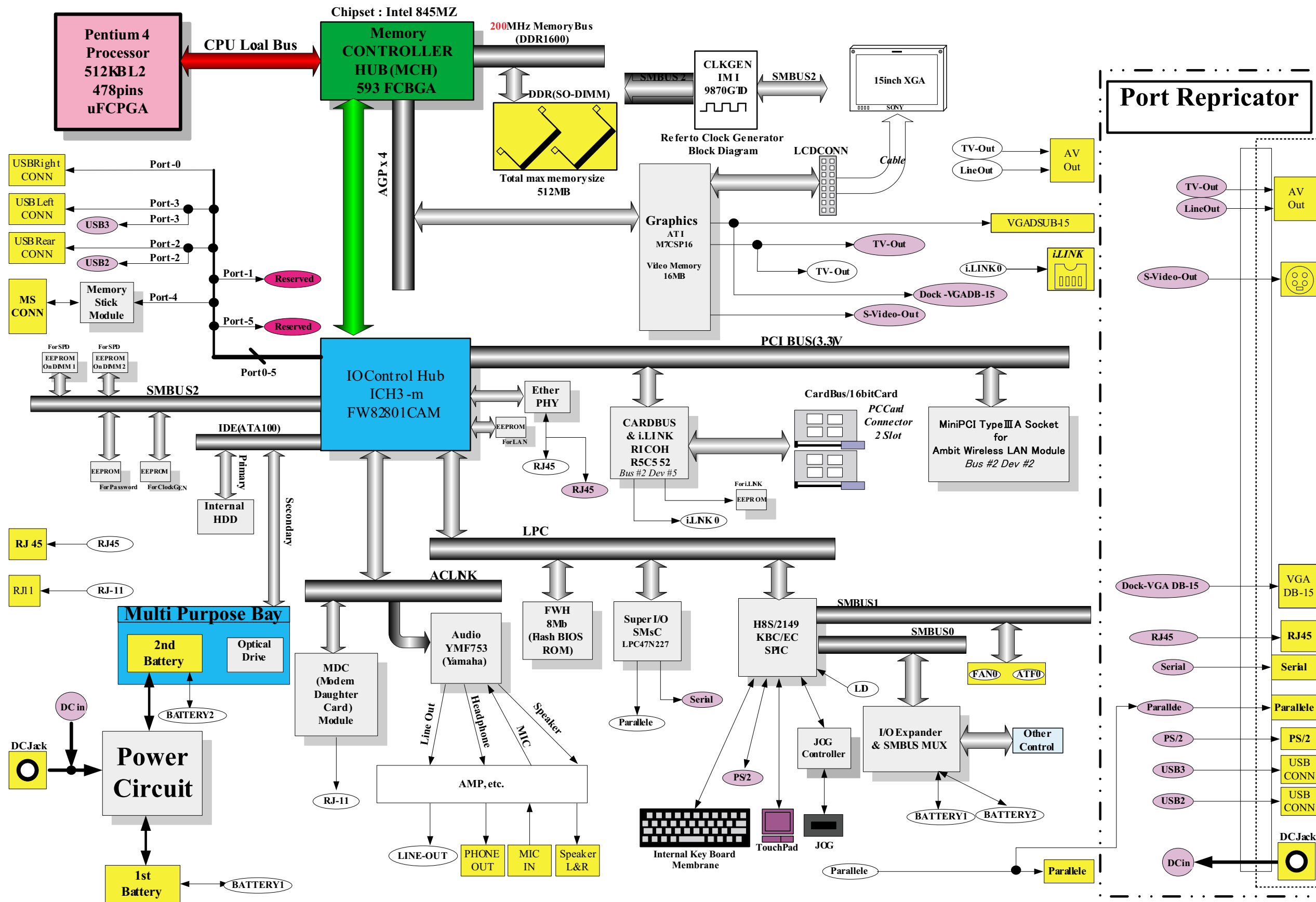
LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE Δ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

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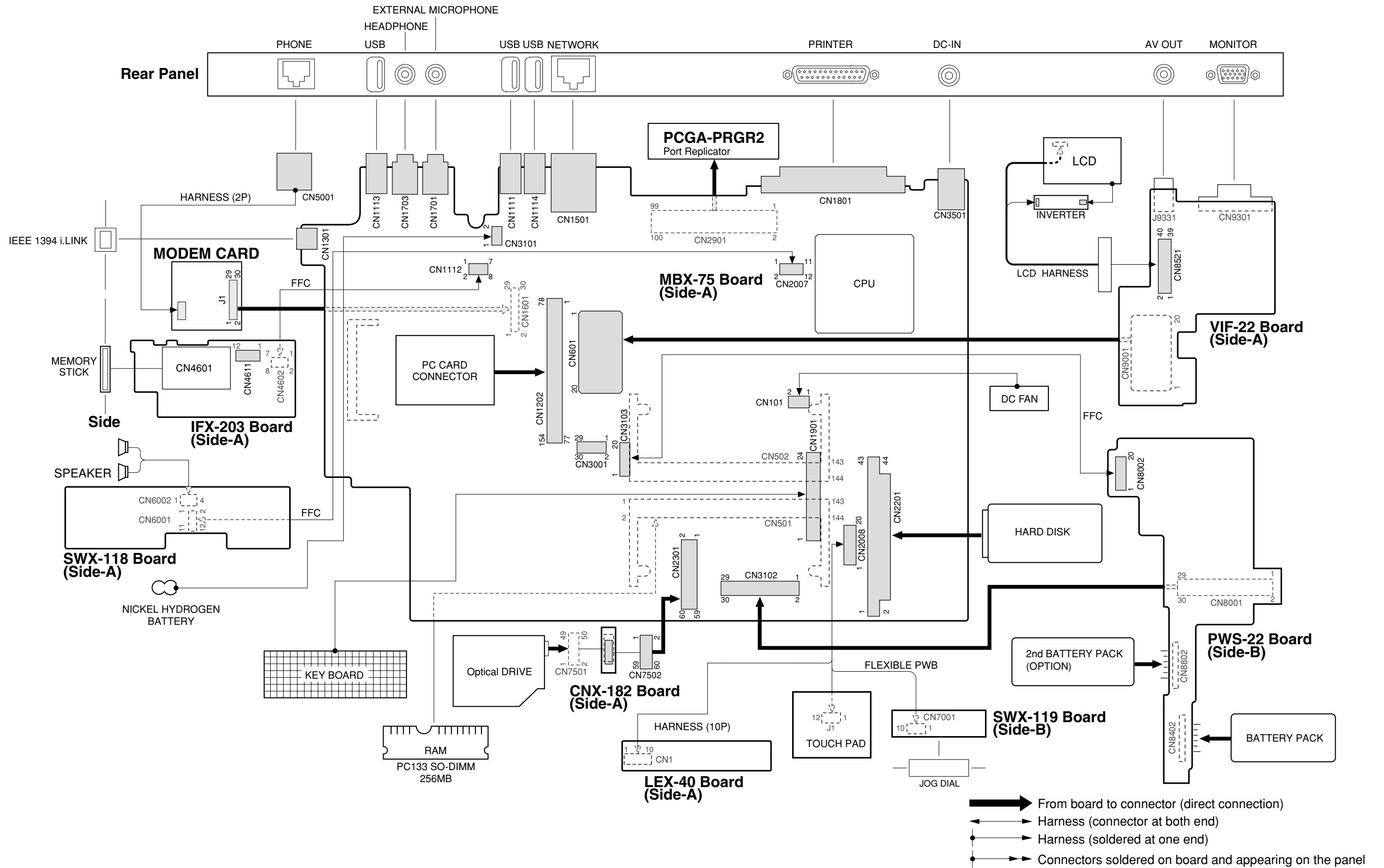
History of the changes is shown as the
“Revision History” at the end of this data.

CHAPTER 1. BLOCK DIAGRAM



1/1

CHAPTER 2. FRAME HARNESS DIAGRAM



CHAPTER 3.

EXPLODED VIEWS AND PARTS LIST

NOTE:

- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- When two or more parts are shown in parallel, use the part described first as the main part.
- The parts marked “ \$ ” are the High Value Modules.
- The parts marked “ # ” are the parts on which barcode label is attached.
- The indication [CH] is used for identification of part type.
- Regarding the boards of this model, the discrete parts on the boards cannot be replaced. However, Some connectors can be replaced.

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

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

【使用上の注意】

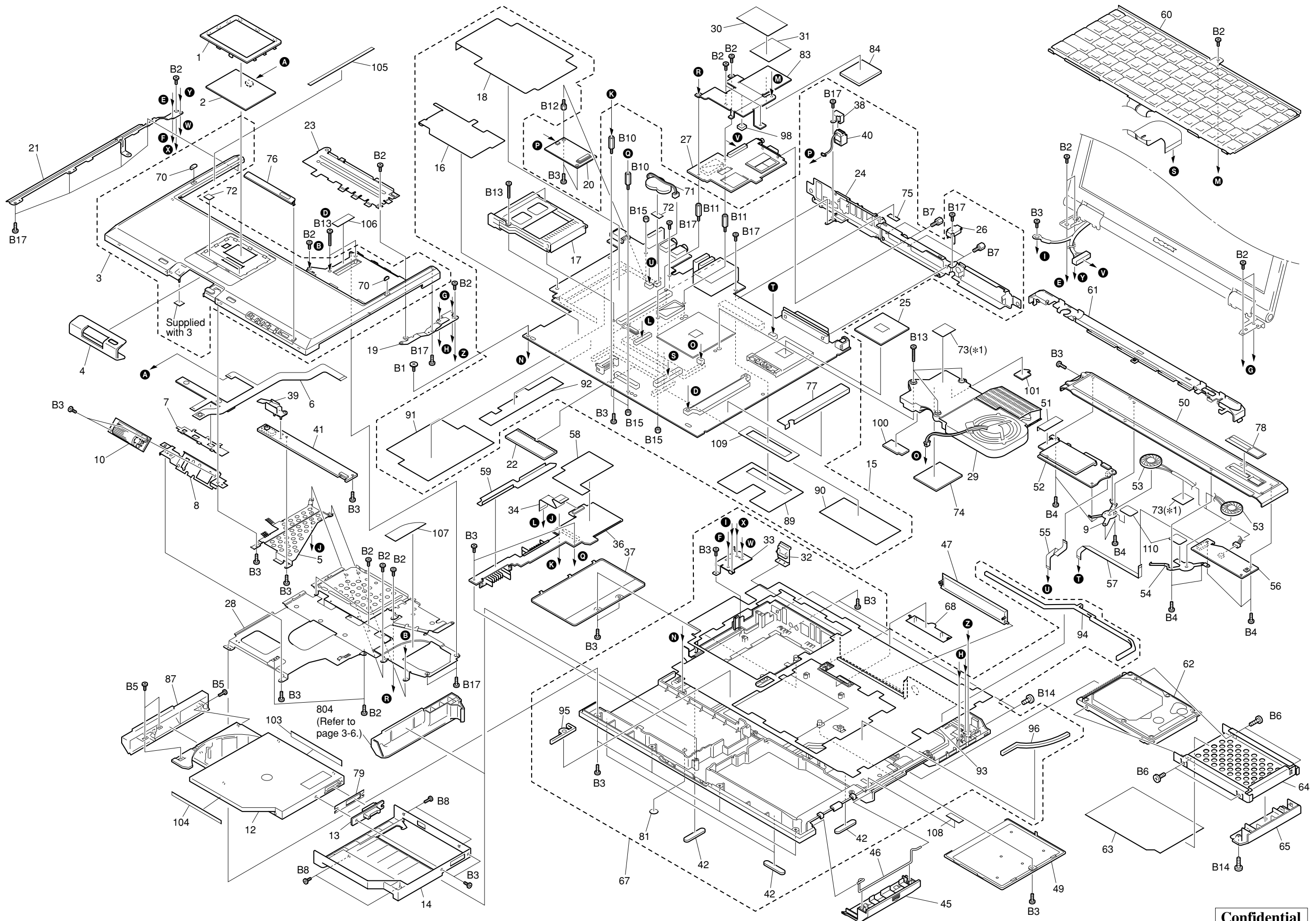
- * 印の部品は常備在庫しておりません。
- 図面番号のない部品は供給しません。
- 併記部品の場合、上部記載部品をメイン部品として使用してください。
- 部品名称の前に \$ 印のついた部品は、High Value Module です。
- 商品名称の前に # 印のついた部品は、バーコードラベル貼付部品です。
- [CH]の表記は部品管理上の識別です。
- 本モデルの基板については、基板上の各部品の修理は行うことができません。ただし、一部のコネクタについては、修理可能です。

\triangle 印の部品、または \triangle 印付きの点線で囲まれた部品は、安全性を維持するために重要な部品です。従って交換時は、必ず指定の部品を使用してください。

3-1. Main Section

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
1	4-667-050-01	ESCUSHION TP	67	X-4625-236-1	HOUSING BOTTOM ASSY
2	1-796-166-21	PAD, TOUCH	68	4-654-379-12	[CH]...COVER (PORT)
3	X-4625-237-1	HOUSING (PALM REST) ASSY	70	4-668-288-01	CUSHION PALM
4	4-667-053-01	ESCUSHION JOG	71	1-756-038-11	BATTERY, NICKEL HYDROGEN
* 5	4-667-062-01	PLATE GND	72	4-642-711-11	[CH]...SHEET (BATTERY), ADHESIVE
6	9-885-028-59	GT T/P FPC	73	_____	FILAMENT TAPE (W19X20) (*1)
7	4-653-795-01	[CH]...BUTTON HOLDER	74	4-669-395-01	SHEET (THERMAL)
* 8	4-667-061-01	BRACKET JOG	75	4-668-310-01	GASKET (LAN)
9	4-667-037-01	SPEAKER HOLDER L	76	4-666-521-01	LENS COVER (B)
10	A-8067-680-A \$	GT1 SWX-119 BD ASSY(S)	77	4-668-305-01	SHEET HDD
12	1-796-455-11 \$ #	COMBO DRIVE (UJDA730)	78	4-668-313-01	ICON SHEET
13	A-8067-678-A \$	GT1 CNX-182 BD ASSY(S)	79	4-654-837-01	SHEET BAY BOARD
14	4-667-033-01	CASE BAY	81	4-654-380-31	[CH]...CAP BAY
15	A-8067-683-A \$	GT1 MBX-75 BD ASSY(S)	83	X-4625-306-1	PLATE HEATSINK ASSY
16	4-668-304-01	SHEET DRIVE	84	4-668-300-01	SHEET ATI
17	1-815-594-41	CONNECTOR, PC CARD (EJECT RIGHT)	87	X-4625-162-1	BEZEL CMB (PA) ASSY
18	4-655-960-11	[CH]...SHEET PC CARD	89	4-668-306-01	SHEET PORT
* 19	4-667-068-01	BRACKET PALMREST R	90	4-668-307-01	SHEET DIMM
20	1-761-606-11 #	CARD, MODEM	91	4-668-308-01	SHEET MINI PCI
* 21	4-667-067-01	BRACKET PALMREST L	92	4-668-312-01	SHEET DIMM SIDE
22	6-600-116-01	IC M470L3224DT0-CB0 (DDR200 SO-DIMM 256MB)	93	4-668-297-01	INSULATOR MB SHIELDING
23	X-4625-305-1	BRACKET KEYBOARD ASSY	94	4-668-295-01	FAN INLET SPONGE1
24	X-4625-501-1	BRACKET IO ASSY	95	4-668-296-01	FAN INLET SPONGE2
25	6-703-331-01	IC RH80532GC033512-2 (P4 1.8GHZ)	96	4-669-868-01	FAN INLET SPONGE 3
26	4-654-119-01	[CH]...PLATE DC	98	4-670-462-01	THERMAL SHEET (PLATE HEAT SINK)
27	A-8067-682-A \$	GT1 VIF-22 BD ASSY(S)	100	4-670-463-01	THERMAL SHEET (HEATSINK1)
28	X-4625-238-1	ASSY SHIELDING PALMREST	101	4-670-464-01	THERMAL SHEET (HEATSINK2)
* 29	A-8023-934-A	HEAT SINK ASSY	103	4-670-047-01	TAPE COPPER (PA1)
30	4-670-461-01	SHEET BLIND (PLATE HEATSINK)	104	4-670-048-01	TAPE COPPER (PA2)
31	4-670-396-01	SHEET COPPER (PLATE HEATSINK)	105	4-671-203-01	SHEET SHIELDING PALMREST
32	4-653-761-01	[CH]...CAP ETHERNET	106	4-671-204-01	SHEET KB1
33	4-667-060-01	BRACKET ILINK	107	4-671-205-01	SHEET KB2
34	1-824-997-11	FFC (20P)	108	4-671-206-01	SHEET HOUSING BOTTOM
36	A-8067-681-A \$	GT1 PWS-22 BD ASSY(S)	109	4-671-207-01	BOARD DOCKING
37	X-4625-234-1	ASSY (DOOR MDC)	110	4-671-208-01	SHEET SPEAKER R
38	4-667-066-01	BRACKET PHONE	B1	4-654-387-01	SCREW (MBX)
39	X-4625-239-1	ASSY LATCH DETECTOR	B2	4-641-726-41	SCREW (M2), SPECIAL HEAD
40	9-885-028-60	HARNES, 2PIN	B3	4-669-867-01	SCREW (M2X4), SPECIAL HEAD
41	A-8067-679-A \$	GT1 LEX-40 BD ASSY(S)	B4	4-639-112-01	SCREW M2X4
42	4-668-294-01	FOOT FRONT	B5	4-645-177-01	SCREW (M1.7X3.5)
45	4-667-052-01	DOOR BATTERY	B6	4-635-301-01	SCREW M3X4
46	4-668-299-01	DOOR BATTERY SPRING	B7	4-635-966-01	SCREW (HEX)
47	X-4625-307-1	DOOR IO ASSY	B8	4-656-703-01	SCREW M2
49	X-4625-235-1	ASSY DOOR DIMM	B10	4-654-386-01	SPACER (PWS)
50	X-4625-232-1	ASSY HOOD KEYBOARD	B11	4-654-385-01	SPACER (VIF)
51	4-654-606-01	SHEET (MS)	B12	4-661-107-01	STAND OFF M2X5
52	A-8067-442-A \$	COMPLETE PWB IFX-203 (2240)	B13	4-644-899-01	SCREW (M2), 0 NUMBER P3 KIND
53	1-529-878-31	SPEAKER (2.8CM)	B14	4-654-811-01	SCREW M3
54	4-667-038-01	SPEAKER HOLDER R	B15	7-622-205-05	NUT (M2 TYPE2), HEXAGON
55	1-823-099-11	CABLE, FLEXIBLE FLAT	B17	4-641-726-81	SCREW (M2), SPECIAL HEAD
56	A-8067-684-A \$	GT1 SWX-118 BD ASSY(S)			
57	1-827-082-11	FFC 12PIN (120)			
58	4-668-301-01	SHEET PWS1			
59	4-668-302-01	SHEET PWS2			
60	1-477-580-91 \$ #	KEY BOARD UNIT (CA)			
61	4-667-074-01	BASE DISPLAY			
62	A-8059-344-A \$ #	ASSY HDD 30GB (T,20,F) (S)			
63	4-653-801-11	[CH]...SHEET HDD			
64	4-653-799-11	[CH]...BRACKET HDD			
65	X-4625-233-1	ASSY DOOR HDD			

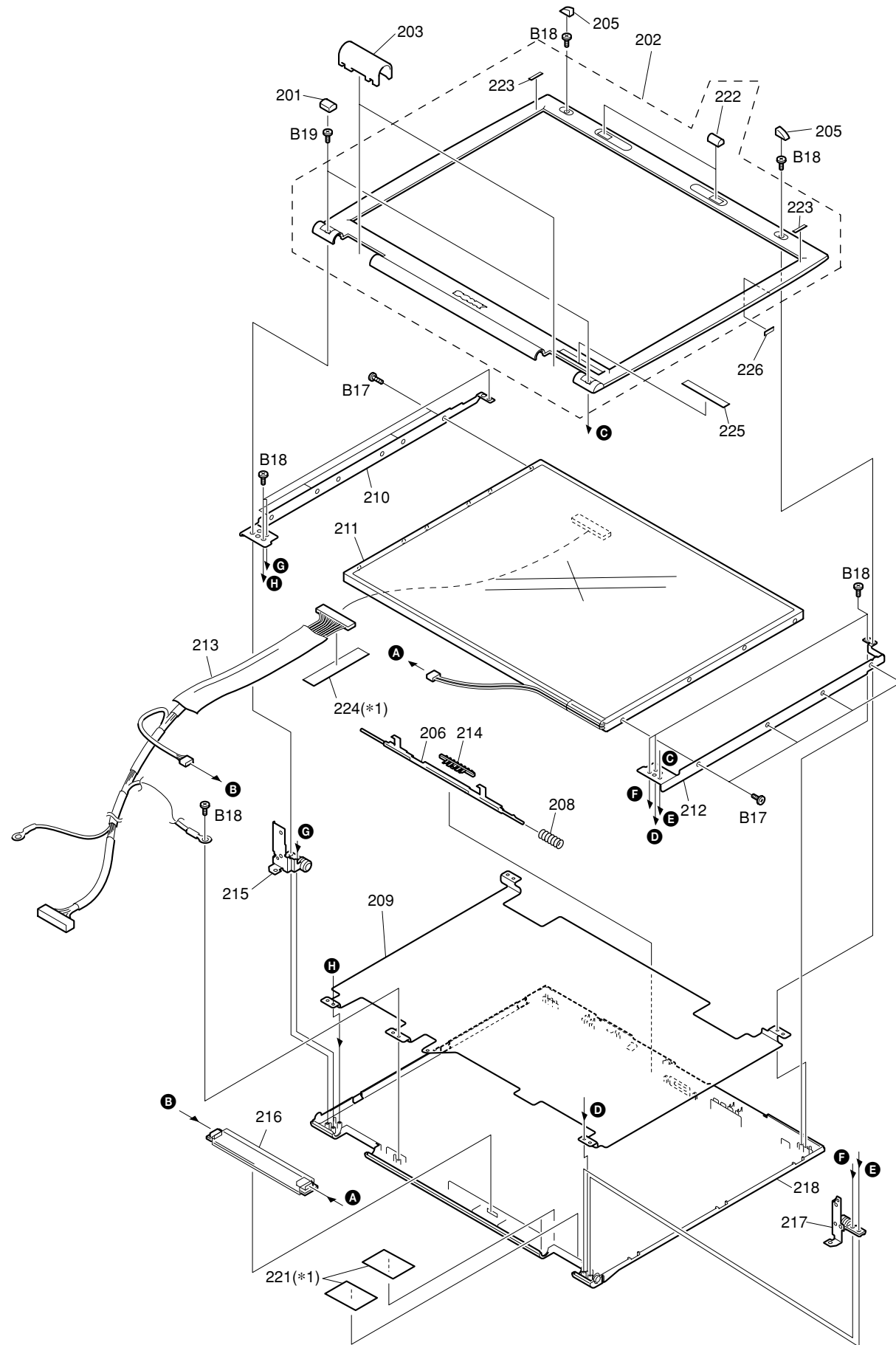
*1 Use the CAPTON TAPE.



Supplied with 3

804
(Refer to page 3-6.)

3-2. LCD Section – Made by HI –

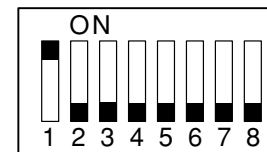


Ref.No.	Part No.	Description
201	4-666-090-01	COVER SCREW LOWER
202	X-4625-183-3	HOUSING (BZEL15) ASSY
203	4-667-073-01	COVER HINGE
205	4-666-091-01	COVER SCREW UPPER
206	4-666-340-01	LATCH HONTAI
208	4-639-623-11	SPRING (LATCH), COIL
209	4-666-253-02	SHIELD DISPLAY
* 210	4-666-430-03	BRACKET LCD 15 (L)
211	A-8067-507-A \$ #	ASSY LCD 15HI AP2(S)
* 212	4-666-429-03	BRACKET LCD 15 (R)
213	1-961-757-13	LCD HARNESS
214	4-666-339-02	LATCH BUTTON
* 215	X-4625-151-1	HINGE LEFT
216	1-476-316-31	INVERTER UNIT
* 217	X-4625-152-1	HINGE RIGHT
218	X-4625-182-2	HOUSING (DISPLAY15) ASSY
221		FILAMENT TAPE (W19X20) (*1)
222	4-666-088-01	CUSHION LATCH
223	4-666-955-01	CUSHION BEZEL
224		FILAMENT TAPE (W19X50) (*1)
225	4-668-044-41	LABEL ID (U)
226	4-670-672-01	SPACER BEZEL
B17	4-641-726-81	SCREW (M2), SPECIAL HEAD
B18	4-641-726-61	SCREW (M2), SPECIAL HEAD
B19	4-664-453-21	SCREW(M2X4), SPECIAL HEAD

*1 Use the FILAMENT TAPE.

NOTE :

Set the DIP switch on the MBX-75 board (Main board) to match with the LCD that is used in this computer.



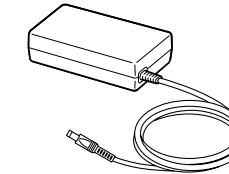
The upper position where ON indication is shown is the ON position. The lower position is the OFF position.

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

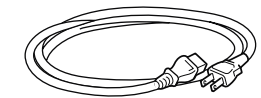
0 : ON 1: OFF

Ref.No.	Part No.	Description
		ACCESSORIES *****
△ 801	1-477-205-42 \$	ADAPTOR, AC
802	1-756-269-11 \$ #	BATTERY PACK, LITHIUM ION
△ 803	1-757-562-21	CORD, POWER
804	4-653-768-02	WEIGHT SAVER (Refer to page 3-3.)
	4-669-576-01	SPECIFICATIONS SHEET
	4-669-577-01	QUICK START

801
AC Adaptor (1)



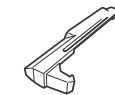
803
Power Cord (1)



802
Battery Pack (1)



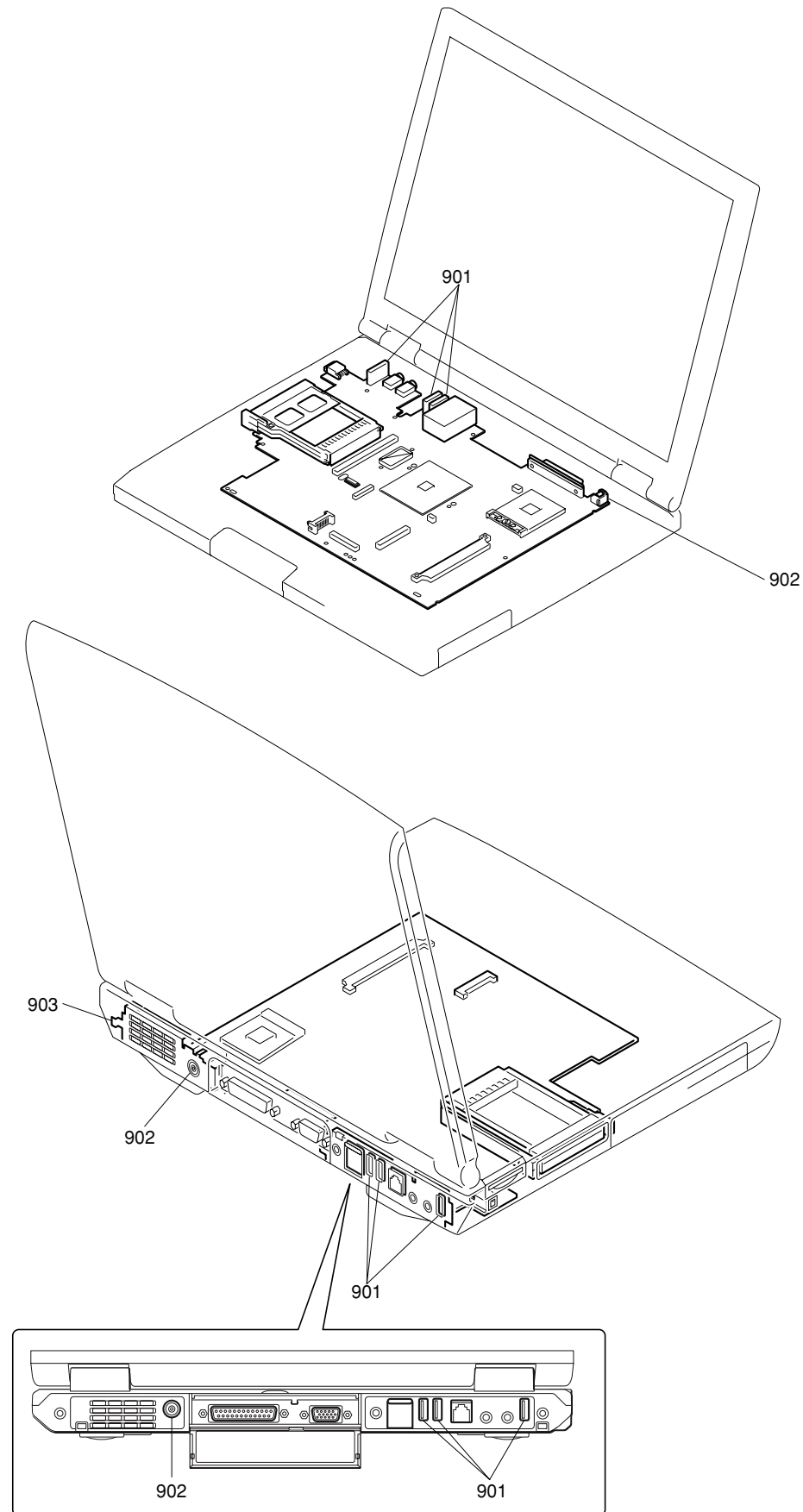
804
Weight Saver (1)

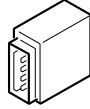
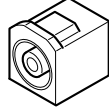
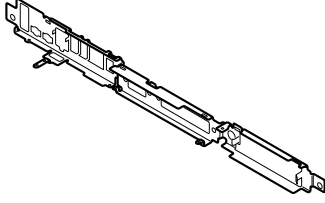


The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

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

3-3. Connector Section (CH Type only)



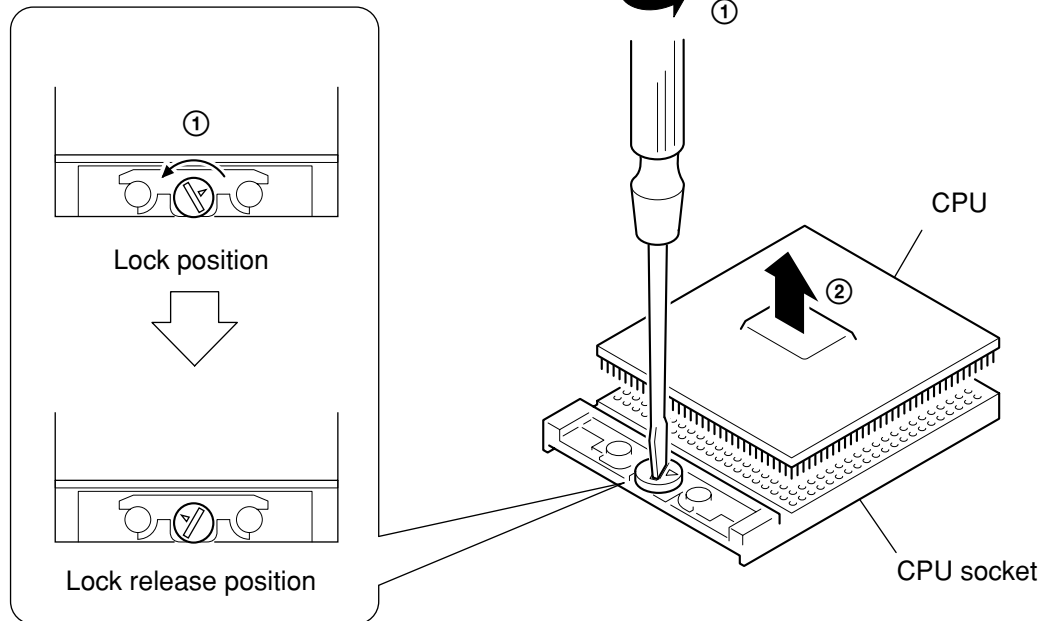
Ref.No.	Fig.	Part No.	Description
901		1-817-023-11	[CH]...CONNECTOR, USB USB connector
902		1-779-745-21	[CH]...JACK, DC DC IN connector
903		X-4625-501-1	[CH]...BRACKET IO ASSY I/O Bracket

* Among the parts that are used on the boards of this model, only the connectors that are show in the list can be replaced.
(The parts other that the specified connectors cannot be replaced.)

4-1. Replacing the CPU

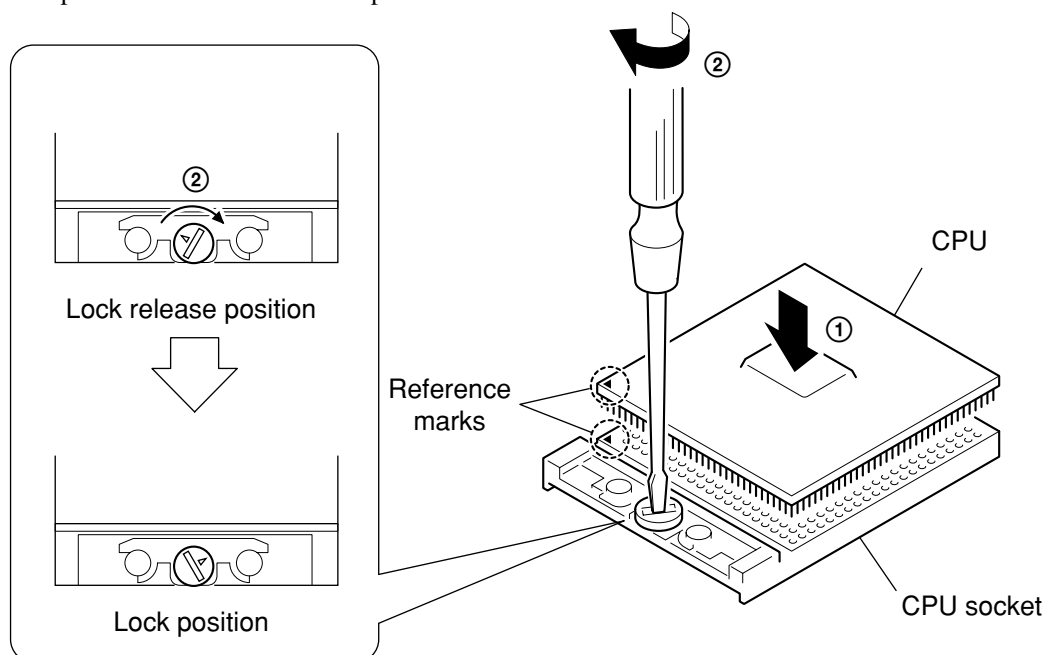
1. Removing the CPU

- 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.



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.




NOTE:

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

List of PCG-GRS Series (As of November, 2002)

Model Name	Service Manual Part No.
PCG-GRS150	9-876-018-01
PCG-GRS170	
PCG-GRS175	9-876-020-01

 : Additional Models

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Revision History

Suffix	Ver.	Date	Contents	QM No.
-01	Ver. 1	2002.11.18	First Edition	
< Remarks >				