

# PCG-GRV550

## SERVICE MANUAL

Ver 1-2002J

Revision History

*For American Area*  
*US Model*  
*Canadian Model*



Lineup : PCG-GRV550



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.

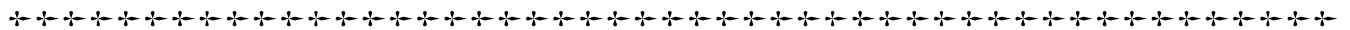
CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer’s instructions.

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  $\Delta$  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!

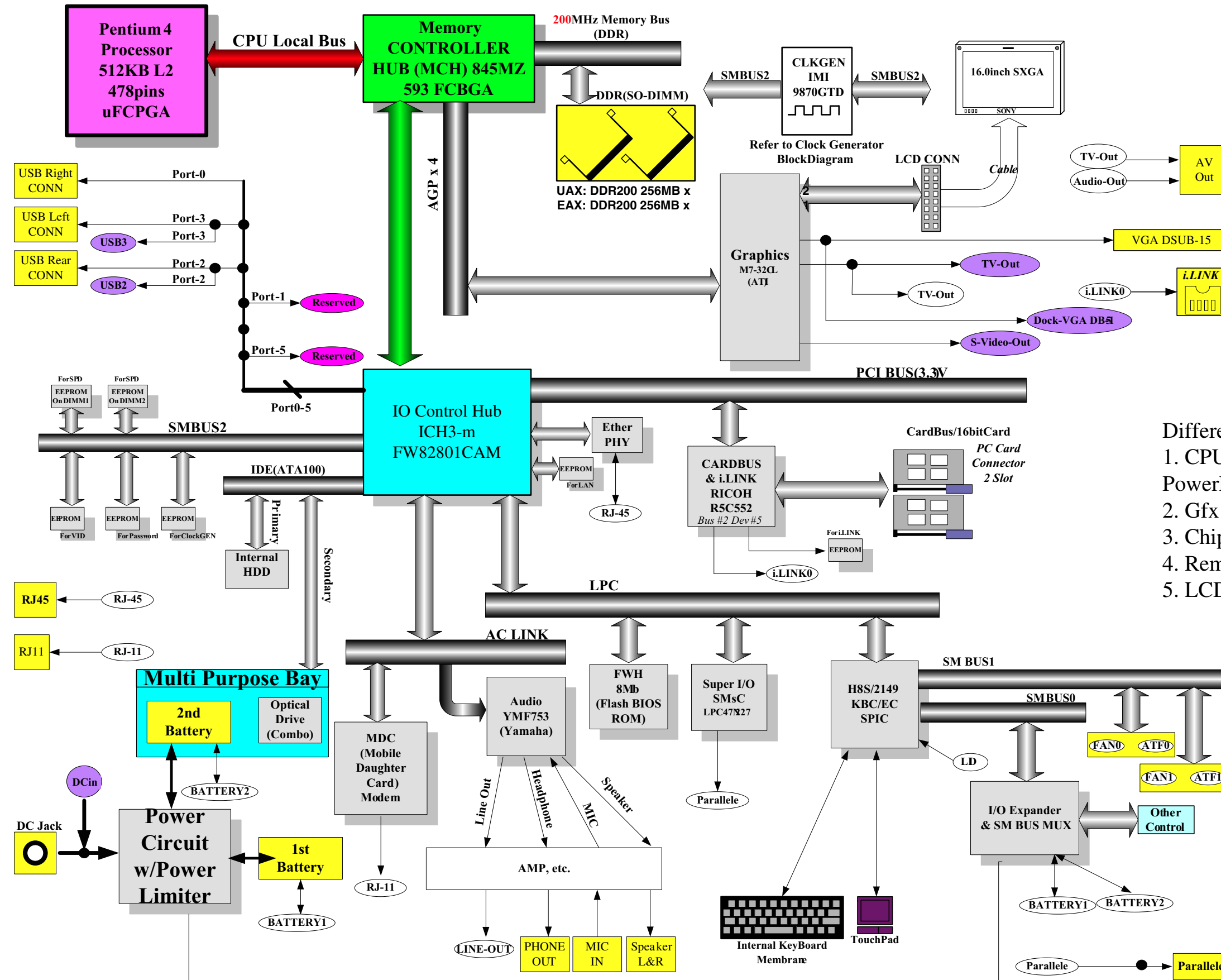
LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE  $\Delta$  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

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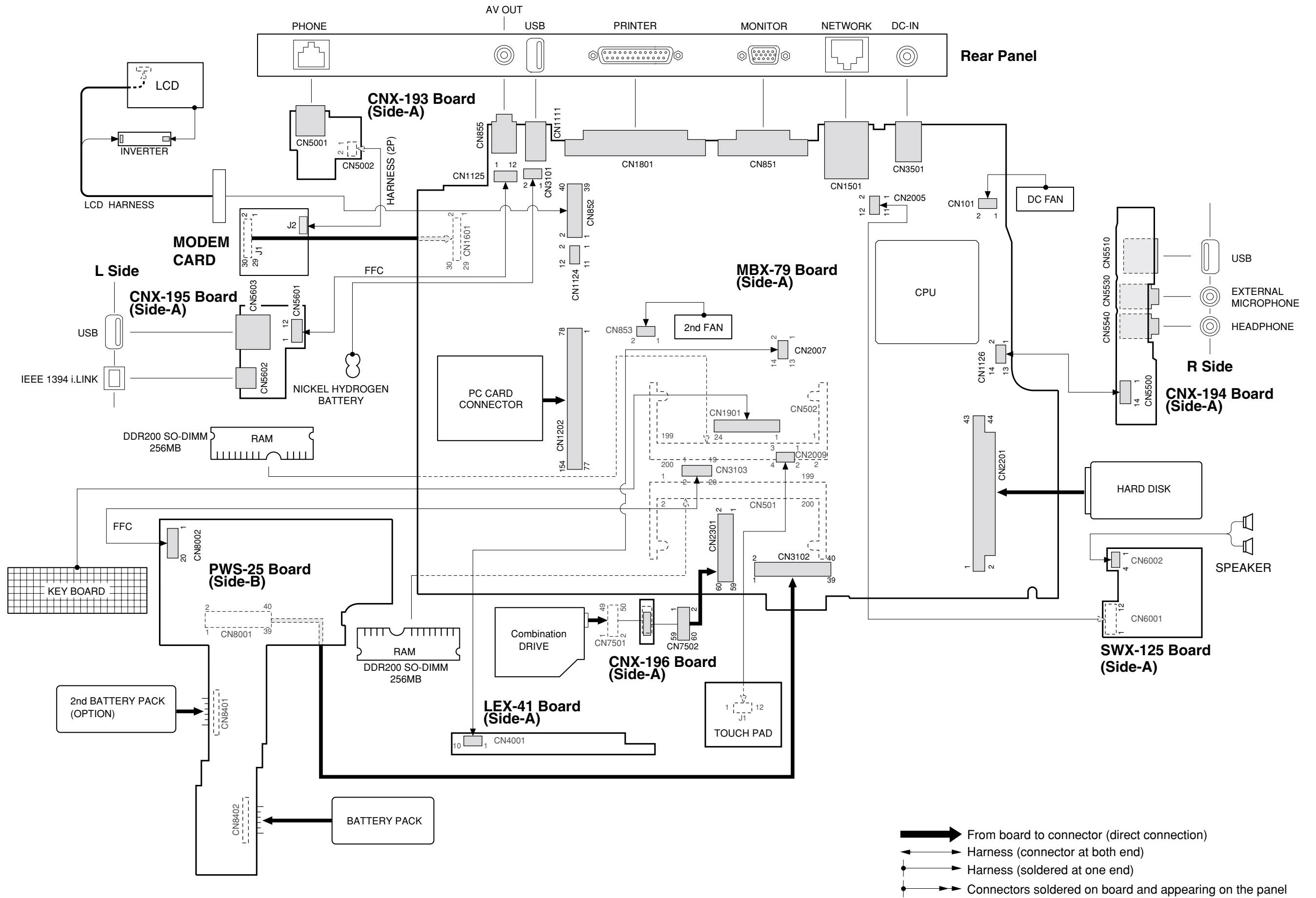
History of the changes is shown as the  
“Revision History” at the end of this data.

# CHAPTER 1. BLOCK DIAGRAM



- Difference from GRX:
1. CPU PowerCircuit (with PowerLimiter)
  2. Gfx M7CL32
  3. Chipset 845MZ
  4. Remove MS/JOG/PortRi
  5. LCD 16.0 SXG

# CHAPTER 2. FRAME HARNESS DIAGRAM



- ➔ 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

# 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 components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

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

### 【使用上の注意】

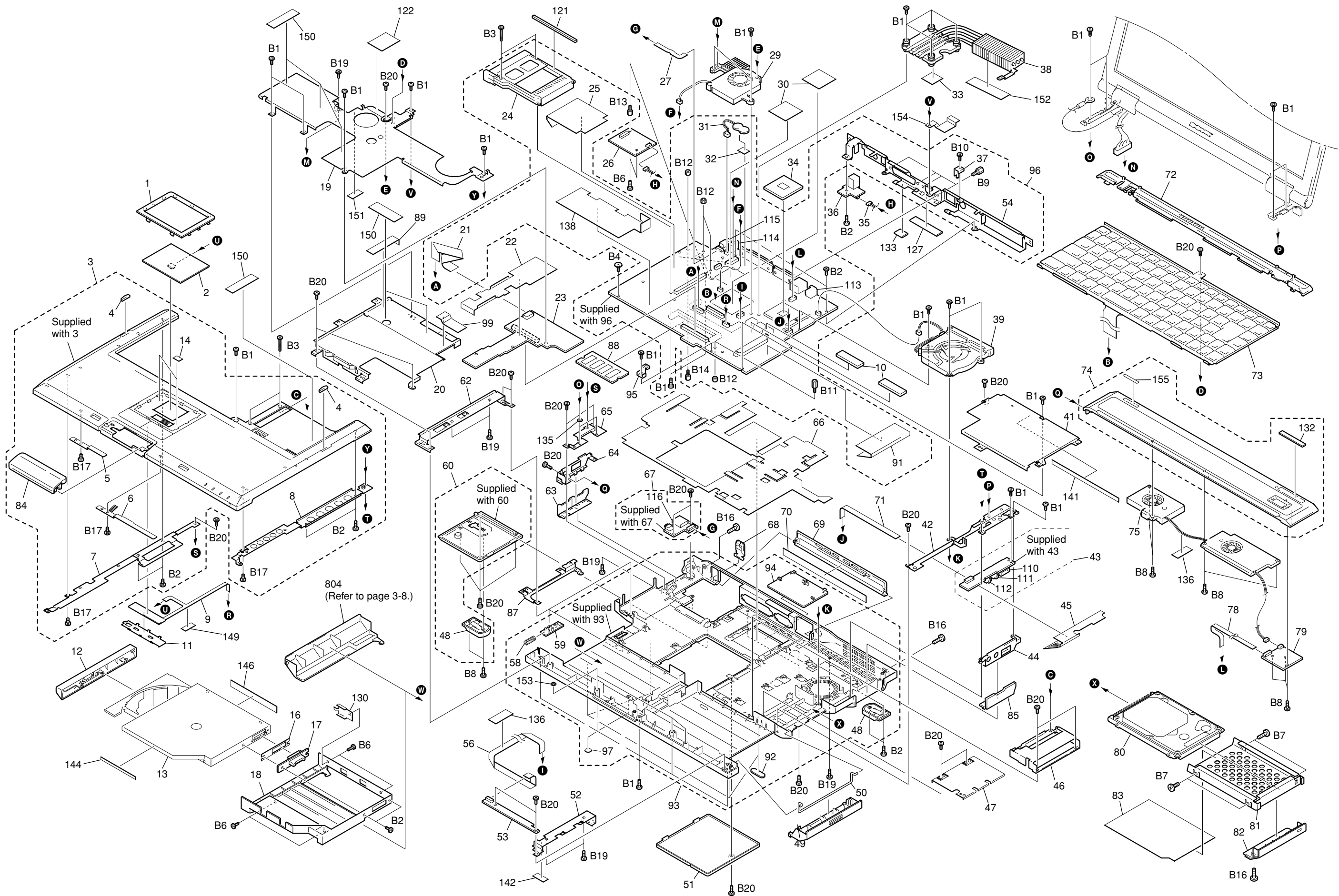
- \* 印の部品は常備在庫しておりません。
- 図面番号のない部品は供給しません。
- 併記部品の場合、上部記載部品をメイン部品として使用してください。
- 部品名称の前に \$ 印のついた部品は、High Value Module です。
- 商品名称の前に # 印のついた部品は、バーコードラベル貼付部品です。

$\Delta$  印の部品、または  $\Delta$  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

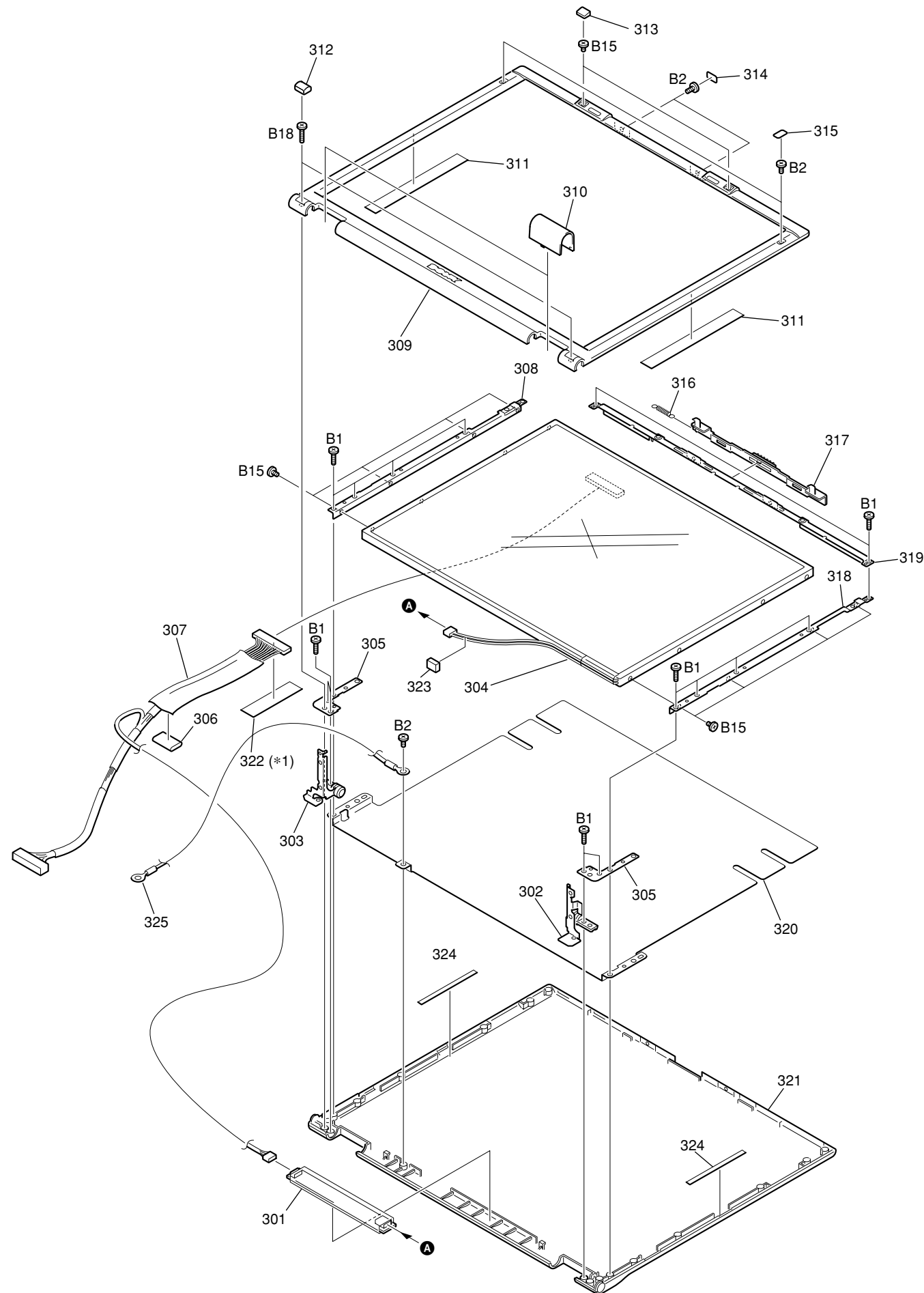
Ref.No.	Part No.	Description	Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
1	4-660-888-01	ESCUSHON TACHPAD	67	A-8067-663-A \$	COMPLETE PWB CNX-195	B1	4-641-726-41	SCREW (M2), SPECIAL HEAD
2	1-796-166-21	PAD, TOUCH	68	4-660-544-21	CAP MODEM	B2	4-641-726-12	SCREW (M2), SPECIAL HEAD
3	X-4625-380-1	ASSY HOUSING PALMREST H	69	4-660-864-21	DOOR IO	B3	7-621-772-70	SCREW +B 2X14
4	4-660-904-01	CUSHION PALMREST	70	4-660-874-01	LABEL IO	B4	4-654-387-01	SCREW (MBX)
5	4-660-906-13	SPRING BLIND	71	1-824-825-12	CABLE, FLEXIBLE FLAT	B6	4-656-703-01	SCREW M2
6	4-668-482-01	SPRING (BLIND) (R)	72	4-660-887-05	DISPLAY BASE	B7	4-635-301-01	SCREW M3X4
7	4-660-900-02	PLATE ARM LEFT	73	1-477-285-21 \$ #	KEYBOARD UNIT (U)	B8	4-639-112-01	SCREW M2X4
* 8	4-660-901-01	PLATE ARM RIGHT	74	X-4625-341-2	ASSY (MOLD) (HOOD KEYBOARD)	B9	4-635-966-01	SCREW (HEX)
9	1-761-518-11	PWB, FLEXIBLE PRINT	75	1-825-252-11	SPEAKER (WITH 2.8CM BOX)	B10	4-642-852-01	+B M2
10	4-668-317-01	THERMAL SHEET FET (H)	78	1-824-826-11	CABLE, FLEXIBLE FLAT	B11	4-654-386-01	SPACER (PWS)
* 11	4-660-903-01	BRACKET TOUCHPAD	79	A-8067-667-A \$	COMPLETE PWB SWX-125	B12	7-622-205-05	NUT M2 TYPE2
12	X-4624-620-3	ASSY BEZEL COMBO (CNC)	80	A-8112-293-A \$ #	ASSY HDD 30GB (F,20) (S)	B13	4-651-989-01	SPACER (MBX)
13	8-458-828-72 \$ #	RW DRIVE CRX810E-VN	* 81	4-653-799-02	BRACKET HDD	B14	4-661-248-01	SPACER 4MM
14	4-661-451-01	ADHESIVE TAPE TOUCHPAD	82	X-4624-536-2	ASSY DOOR HDD	B16	4-654-811-01	SCREW M3
16	4-654-837-01	SHEET BAY BOARD	83	4-653-801-02	SHEET HDD	B17	4-657-192-01	SCREW, TAPPING, SPECIAL
17	A-8067-664-A \$	COMPLETE PWB CNX-196	84	4-667-893-01	COVER (JOG)	B19	4-641-726-21	SCREW (M2), SPECIAL HEAD
18	4-660-860-03	CASE BAY	85	X-4624-539-2	ASSY DOOR R	B20	4-669-867-01	SCREW (M2), SPECIAL HEAD
19	X-4625-374-2	ASSY PLATE KEYBOARD (H)	* 87	4-660-449-02	SUB-FRAME BOTTOM LEFT			
20	X-4624-528-2	ASSY BRACKET BAY	88	6-600-116-01	IC M470L3224DT0-CB0 (DDR266 SO-DIMM 256MB)			
21	1-823-721-12	CABLE, FLEXIBLE FLAT	89	4-662-961-01	SHEET BLIND L			
22	4-661-289-01	INSULATOR PWS	91	4-662-926-02	INSULATOR HDD PWB			
23	A-8067-665-A \$	COMPLETE PWB PWS-25	92	4-660-868-01	FOOT FRONT			
24	1-815-594-21	CONNECTOR, PC CARD(EJECT,RIGHT)	93	X-4625-370-1	ASSY HOUSING BOTTOM H			
25	4-660-831-01	INSULATOR PCMCIA	94	4-667-894-01	COVER (PORT)			
26	1-761-606-11	CARD, MODEM	95	4-662-798-01	PLATE GND PWS			
27	1-761-519-11	PWB, FLEXIBLE PRINT	96	A-8112-386-A \$ #	MBX-79 ASSY (S)			
29	1-763-928-12	2ND FAN (H)	97	4-654-380-21	CAP BAY			
30	4-666-751-01	THERMAL SHEET ATI	99	4-664-547-01	SHEET FPC			
31	1-756-281-11	BATTERY, NICKEL HYDROGEN	110	1-793-365-21	CONNECTOR, USB (A)			
32	4-642-711-01	SHEET (BATTERY), ADHESIVE	111	1-793-162-11	JACK, SMALL TYPE			
33	4-668-785-01	THERMAL SHEET CPU	112	1-695-514-21	JACK			
34	6-703-633-01	IC RK80532PC056512SL6GS	113	1-779-745-21	JACK, DC			
35	1-960-827-61	HARNNESS (2 PIN)	114	1-815-221-22	CONNECTOR, USB (A)			
36	A-8067-661-A \$	COMPLETE PWB CNX-193	115	1-694-761-11	JACK, SMALL TYPE			
37	4-660-876-01	PLATE DC JACK	116	1-794-548-21	CONNECTOR, USB (A)			
38	4-668-067-01	FIN (H), THERMAL	121	4-663-828-02	SPACER PC CARD			
39	1-763-929-11	CPU FAN (H)	122	4-669-683-02	SHEET (PLATE) (KEYBOARD)			
41	4-660-445-03	BRACKET BATTERY	127	4-663-227-01	CUSHION IO			
42	X-4625-369-1	ASSY SUBFRAME BOTTOM R2	130	4-655-927-03	SPRING (DVD-ROM)			
43	A-8067-662-A \$	COMPLETE PWB CNX-194	132	4-667-896-01	ICON SHEET HOOD			
44	4-660-823-02	BRACKET DOOR R	133	4-664-362-01	CUSHION IO LEFT			
45	4-661-272-02	INSULATOR BOARD AUDIO	135	4-664-482-01	SPACER HINGE L			
* 46	4-660-905-01	HOLDER HDD	136		FILAMENT TAPE (W10X25) (*1)			
* 47	4-660-451-01	PLATE GND HDD	138	4-665-909-01	INSULATOR BAY2			
48	4-663-115-02	FOOT REAR FIXED	141	4-665-467-01	SPACER BATTERY (K)			
49	4-660-861-02	DOOR BATTERY	142	4-669-734-02	SHEET BRACKET BATTERY			
50	4-660-443-01	SPRING DOOR BATTERY	144	4-669-899-01	SHEET OPT RIGHT			
51	4-660-862-21	DOOR DIMM	146	4-669-898-01	SHEET OPT LEFT			
* 52	4-660-447-01	SUB-FRAME BATTERY	149		FILAMENT TAPE (W12X30) (*1)			
53	A-8067-666-A \$	COMPLETE PWB LEX-41	150	4-669-895-01	CUSHION KEYBOARD H			
* 54	X-4624-529-2	ASSY BRACKET IO	151	4-669-790-01	GASKET 2ND FAN			
56	1-824-824-11	CABLE, FLEXIBLE FLAT	152	4-670-415-01	SHEET THARMAL FIN (H)			
58	4-653-745-01	SPRING BAY	153	4-669-784-01	SPACER BOTTOM			
59	4-659-630-02	LATCH BAY	154	4-667-524-01	COPPER TAPE ETHERNET			
60	X-4624-530-4	ASSY DOOR MODEM	155	4-668-262-01	LABEL ID			
* 62	4-660-448-01	SUB-FRAME BAY						
63	X-4624-538-2	ASSY DOOR L						
64	4-660-822-03	BRACKET DOOR L						
65	4-660-452-02	HINGE BASE LEFT						
66	4-660-872-01	INSULATOR HEATSINK BOTTOM						

\*1 Use the FILAMENT TAPE.





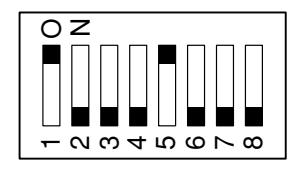
### 3-2. LCD Section – Made by SH –



Ref.No.	Part No.	Description
301	1-476-316-31	INVERTER UNIT
302	X-4625-379-1	ASSY HINGE R (16SH)
303	X-4625-378-1	ASSY HINGE L (16SH)
304	A-8112-385-A \$ #	ASSY LCD SXGA 16 (S)
* 305	4-667-463-01	BRACKET (LCD) (HINGE)
306	4-668-890-01	GASKET LCD (SH16)
307	1-961-573-31	LCD, HARNESS
* 308	4-667-461-01	BRACKET (LCD) (L)
309	X-4625-287-2	ASSY HOUSING BEZEL (16SH)
310	4-660-897-02	COVER HINGE
311	4-669-735-01	ADHESIVE TAPE (16SH)
312	4-667-753-01	SCREW (COVER) (U)
313	4-667-756-01	SCREW (COVER) (LATCH)
314	4-668-240-01	SCREW (COVER) (TOP)
315	4-667-752-01	SCREW (COVER) (T)
316	4-669-806-01	LATCH SPRING (SH)
317	4-667-466-01	LATCH (LEVER) (DISPLAY)
* 318	4-667-462-01	BRACKET (LCD) (R)
319	4-667-464-01	BRACKET (LATCH) (DISPLAY)
320	4-668-165-02	SHIELD LCD SH16
321	X-4625-286-2	ASSY HOUSING DISPLAY (16SH)
322		FILAMENT TAPE (W19X50) (*1)
323	4-670-288-01	CUSHION LCD CABLE
324	4-654-966-01	SHEET (BEZEL), ADHESIVE
325	1-827-016-11	GND CABLE
B1	4-641-726-41	SCREW (M2), SPECIAL HEAD
B2	4-641-726-12	SCREW (M2), SPECIAL HEAD
B15	4-641-726-81	SCREW (M2), SPECIAL HEAD
B18	4-645-214-31	GRIP, M2

\*1 Use the FILAMENT TAPE.

**NOTE :**  
Set the DIP switch on the MBX-79 board (Main board) to match with the LCD that is used in this computer.



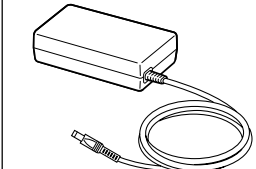
The upper position where ON indication is shown is the ON position. The lower position is the OFF position.

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

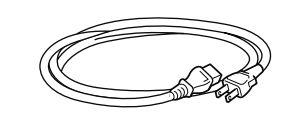
0 : ON 1 : OFF

Ref.No.	Part No.	Description
		ACCESSORIES *****
△ 801	1-477-206-31 \$	ADAPTOR, AC
802	A-8112-428-A \$ #	BP2NX SKD (U) ASSY (S)
△ 803	1-757-562-21	CORD, POWER
804	4-660-884-02	WEIGHT SAVER
		(Refer to page 3-5.)
	4-668-265-01	QUICK START

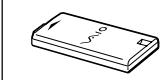
**801**  
AC Adaptor (1)



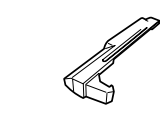
**803**  
Power Cord (1)



**802**  
Battery Pack (1)



**804**  
Weight Saver (1)

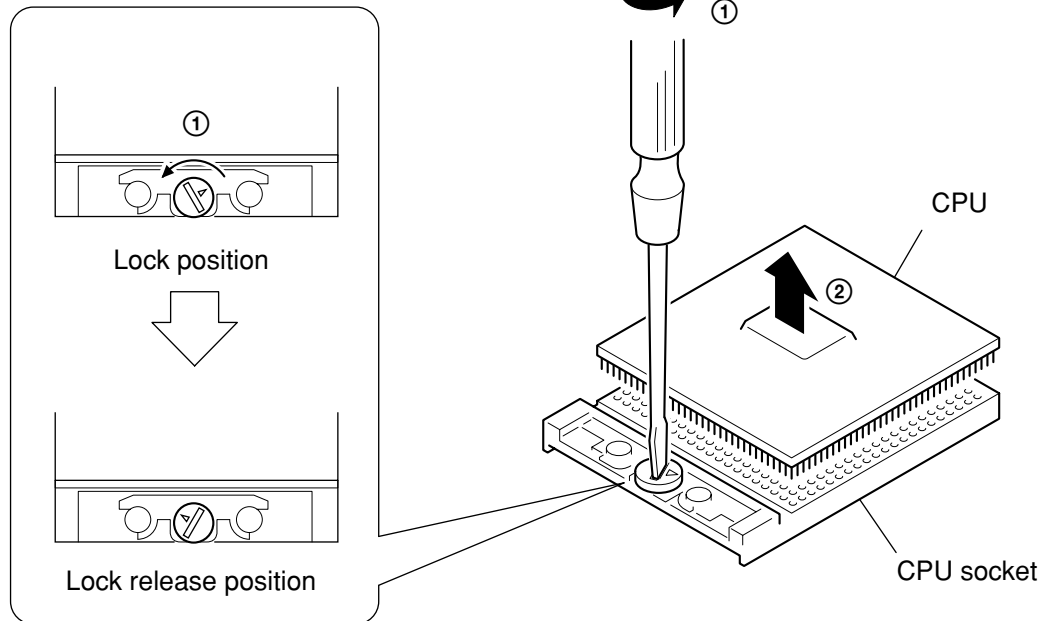


The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
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### 4-1. Replacing the CPU

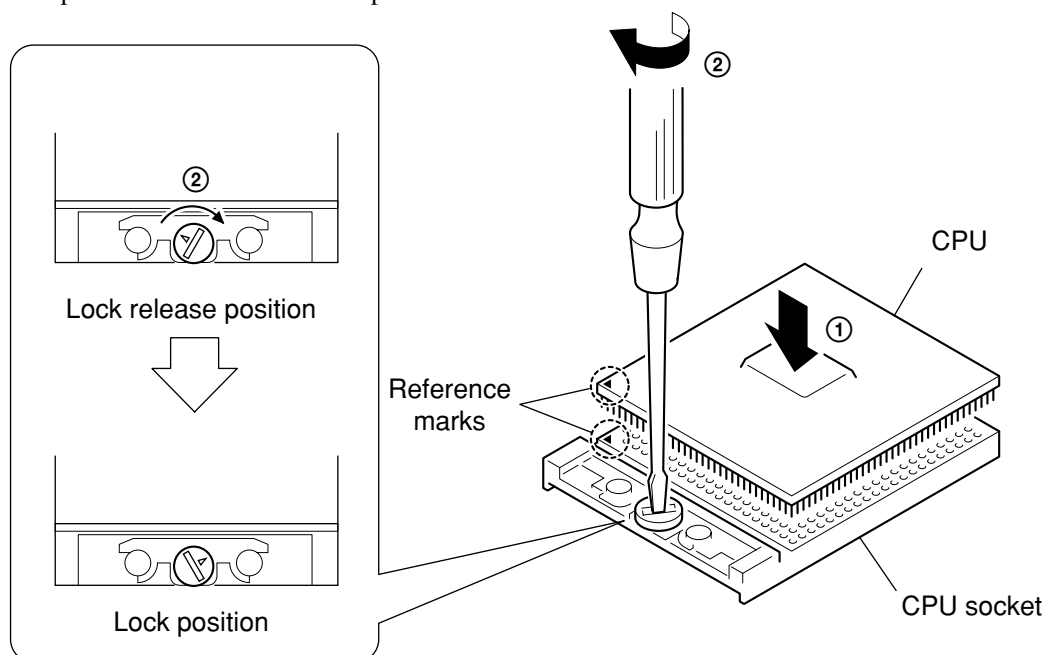
#### 1. Removing the CPU

- 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-GRV Series (As of October, 2002)

Model Name	Service Manual Part No.
PCG-GRV550	9-876-031-01

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**Revision History**

Suffix	Ver.	Date	Contents	QM No.
-01	Ver. 1	2002.10.25	First Edition	
< Remarks >				