

# PCG-R505JE/R505JEK/R505JEP/R505JL/ R505JLK/R505JLP/R505JS/R505JSK/R505JSP

## SERVICE MANUAL

*For American Area*

*US Model*

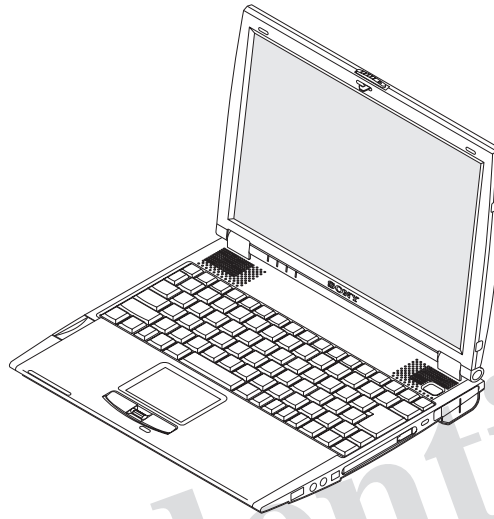
*Canadian Model*

**Ver. 1-2001J**

"Revision History" is appended to the end of this manual.

**Update**

Lineup: PCG-R505JE  
PCG-R505JEK  
PCG-R505JEP  
PCG-R505JL  
PCG-R505JL/C  
PCG-R505JLK  
PCG-R505JLP  
PCG-R505JS  
PCG-R505JSK  
PCG-R505JSP



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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, mutilation 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.

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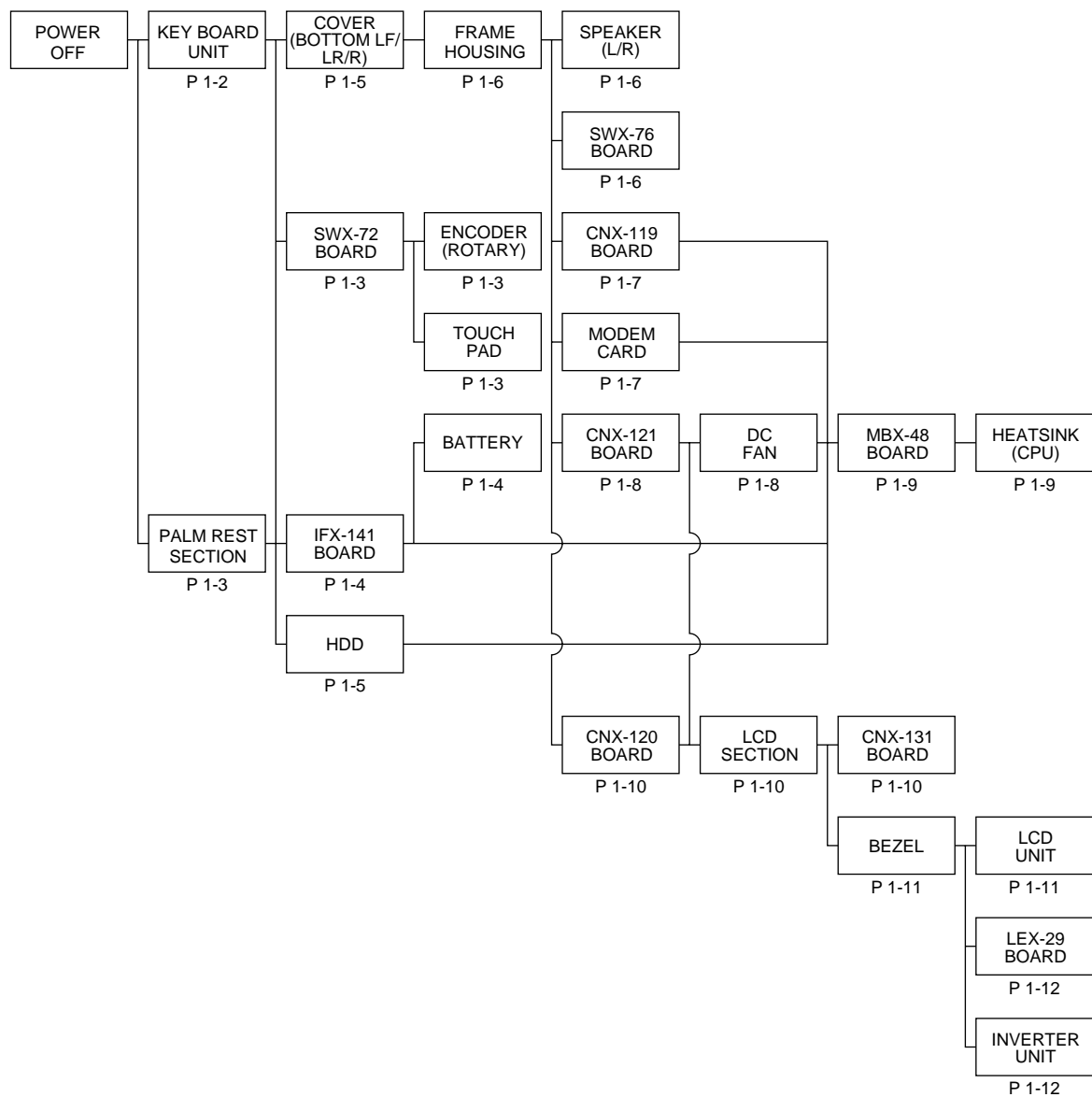
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- Abbreviations  
UC : US model / Canadian model

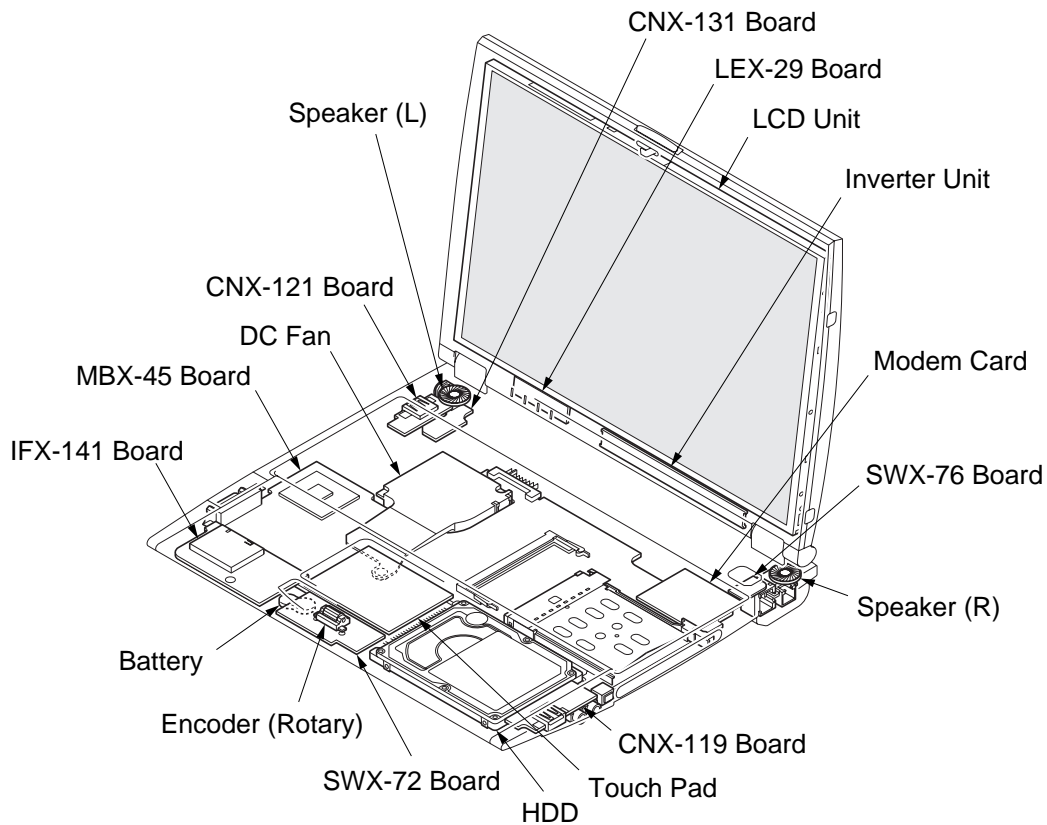
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### 1-1. Flowchart



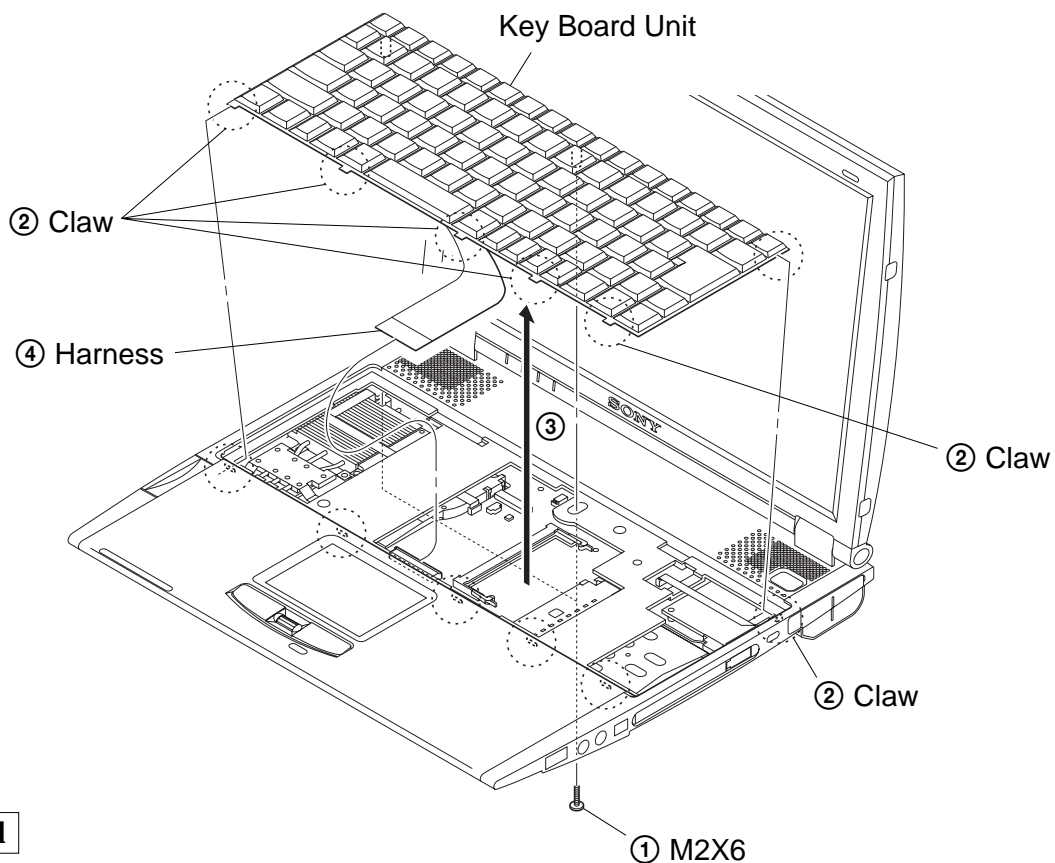
- P XX means pages that appears in this manual.
- Remember that hard disk drives are easily damaged by vibration. Always handle with care.

## 1-2. Main Electrical Parts Location Diagram



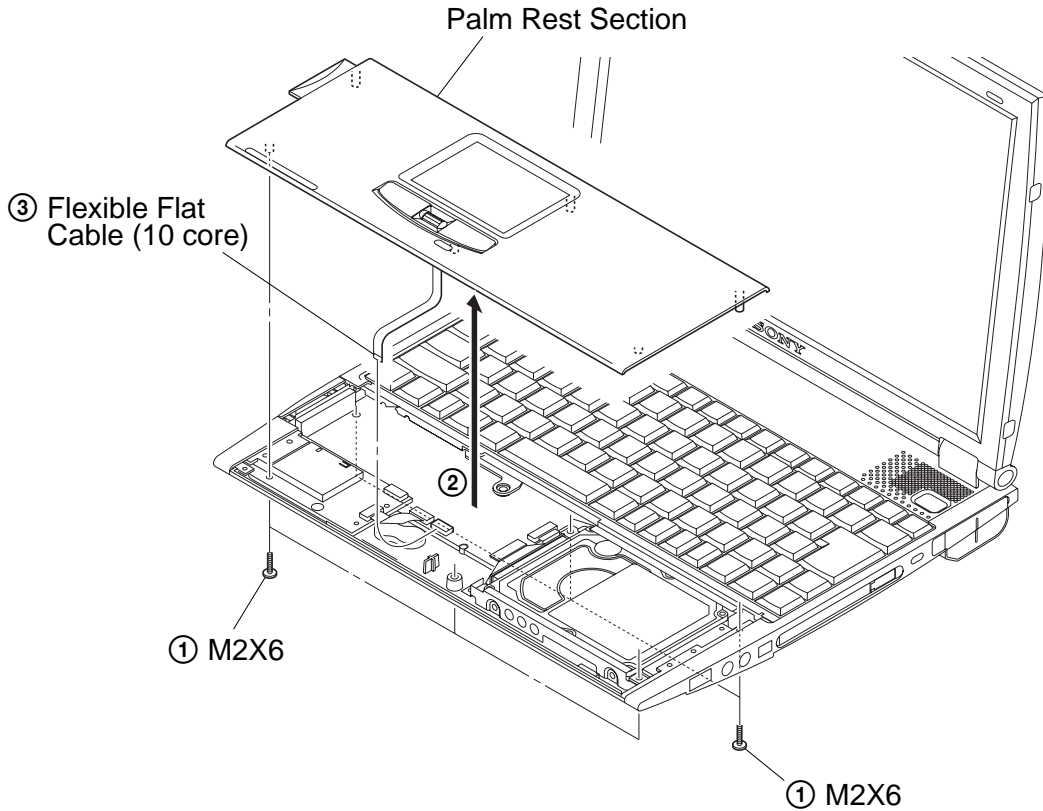
## 1-3. Removal

### 1. Key Board Unit

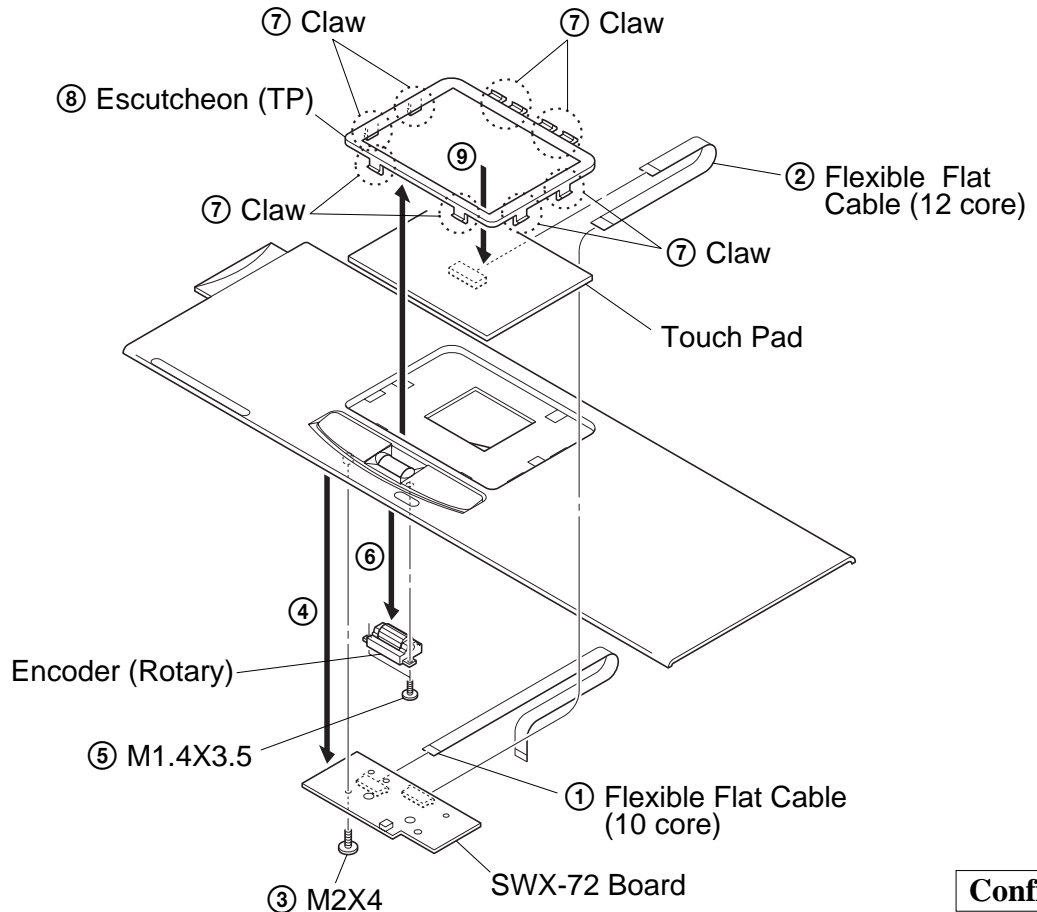


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## 2. Palm Rest Section

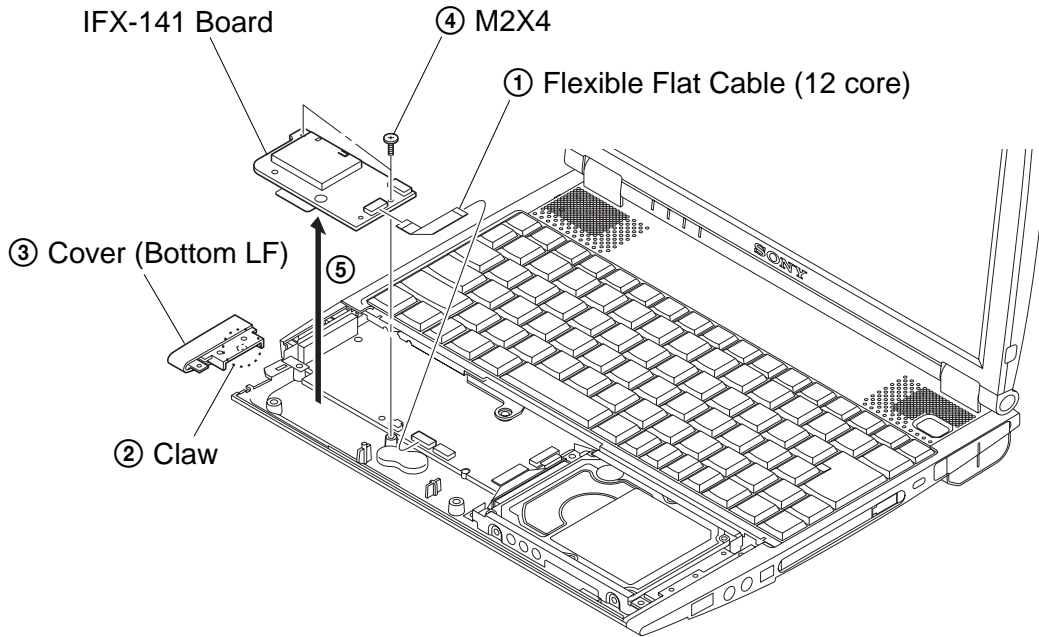


## 3. SWX-72 Board, Encoder (Rotary), Touch Pad

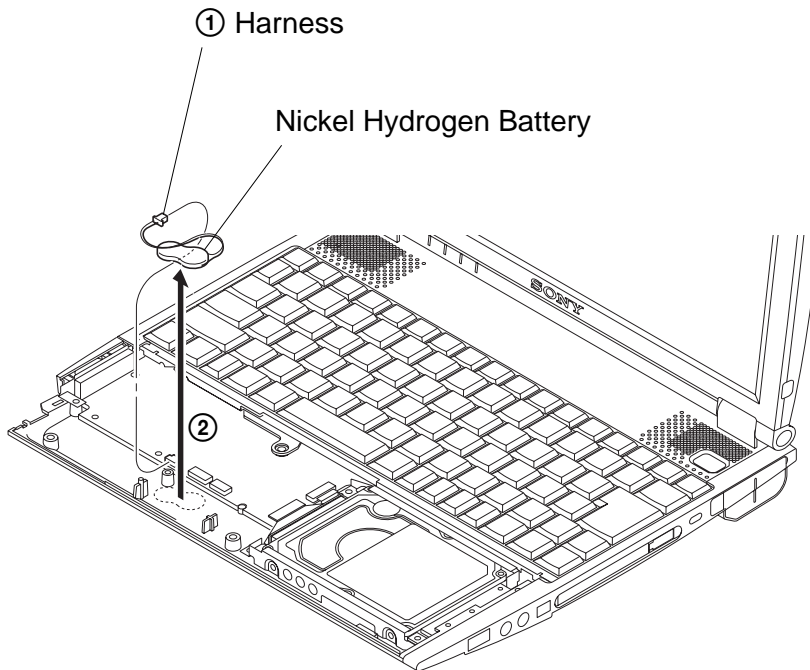


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#### 4. IFX-141 Board

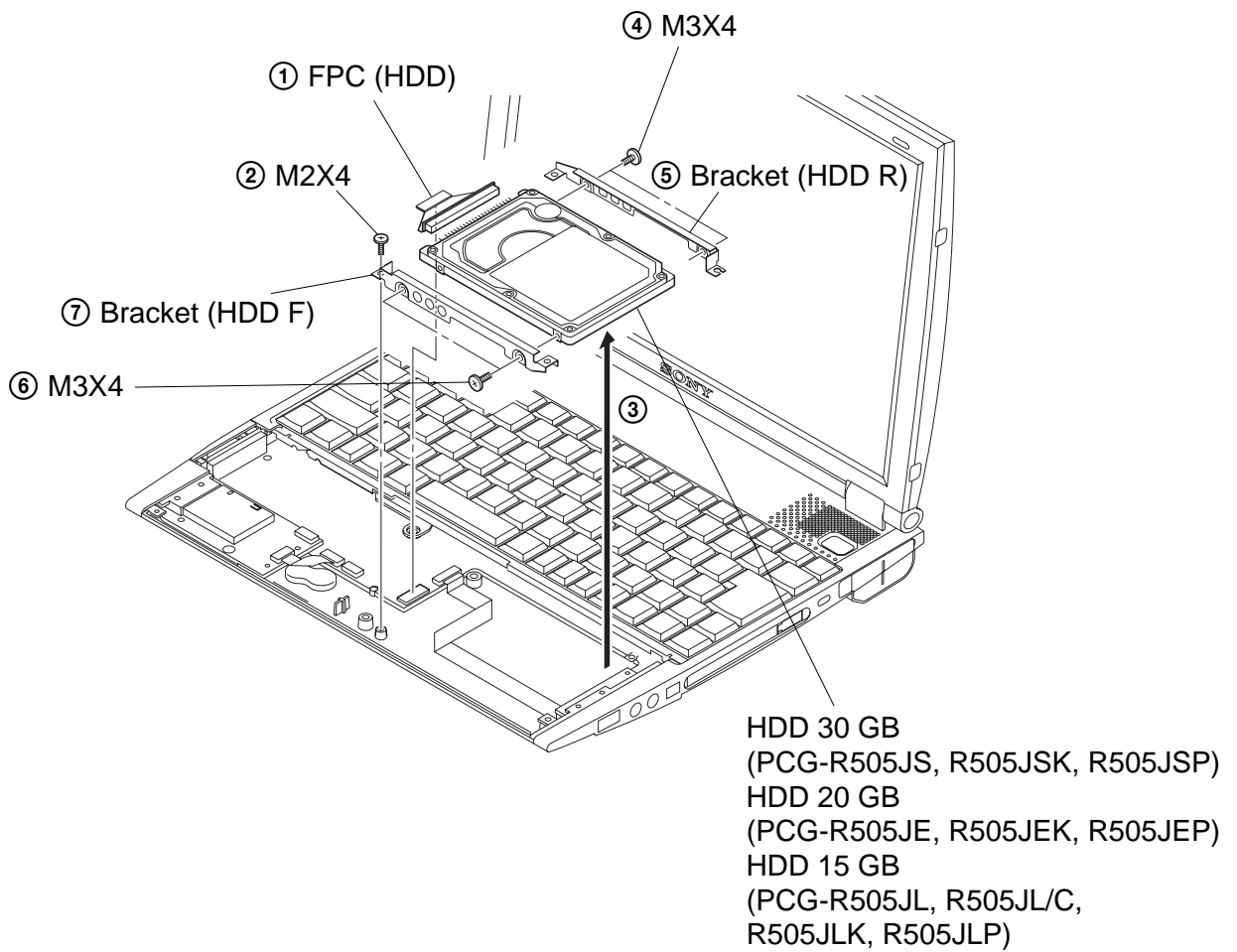


#### 5. Battery

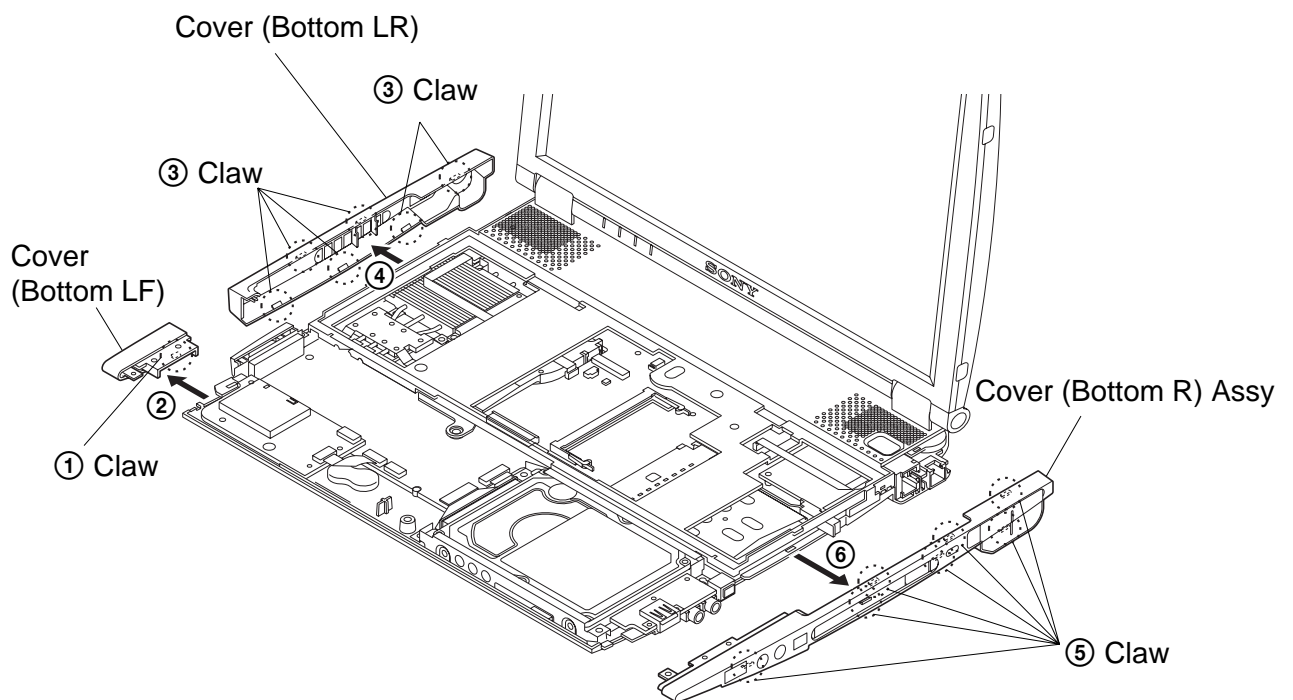


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## 6. HDD



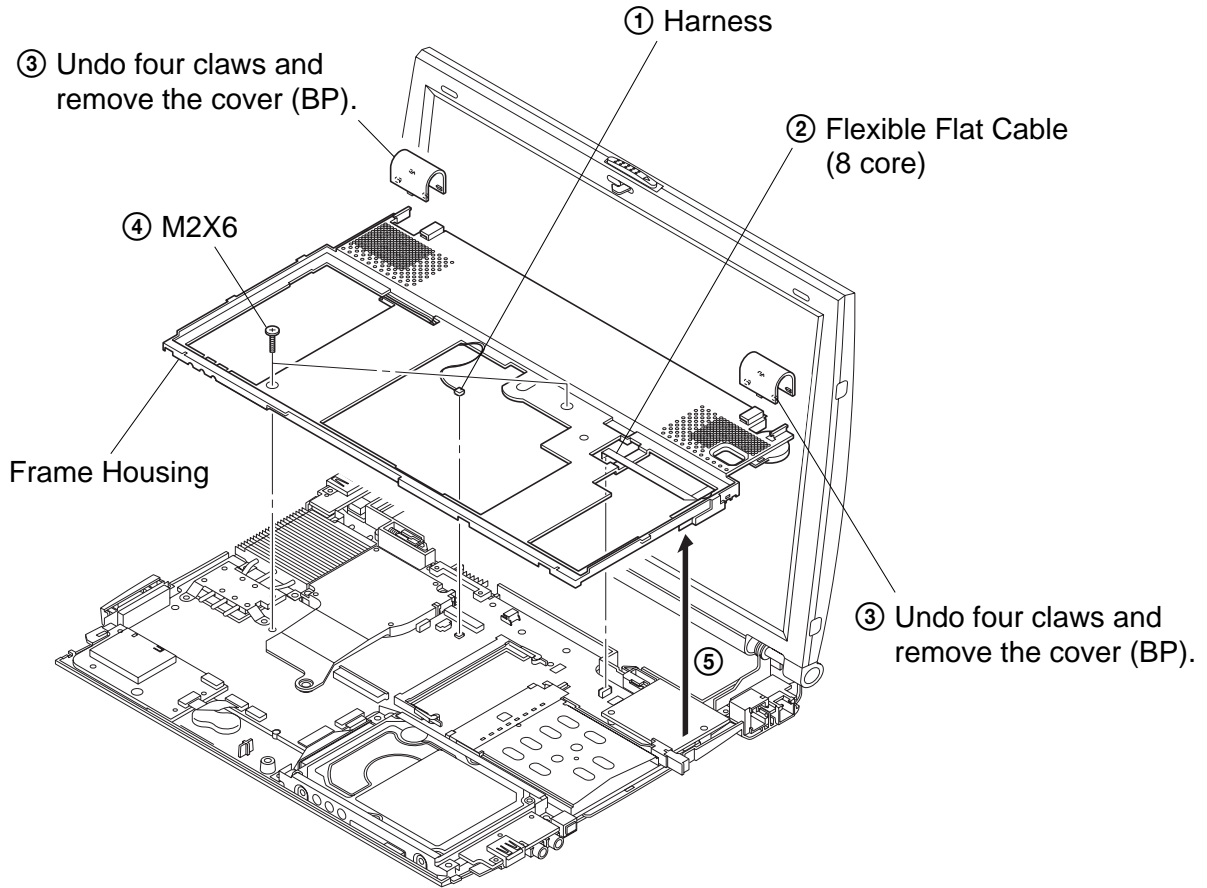
## 7. Cover (Bottom LF/LR/R)



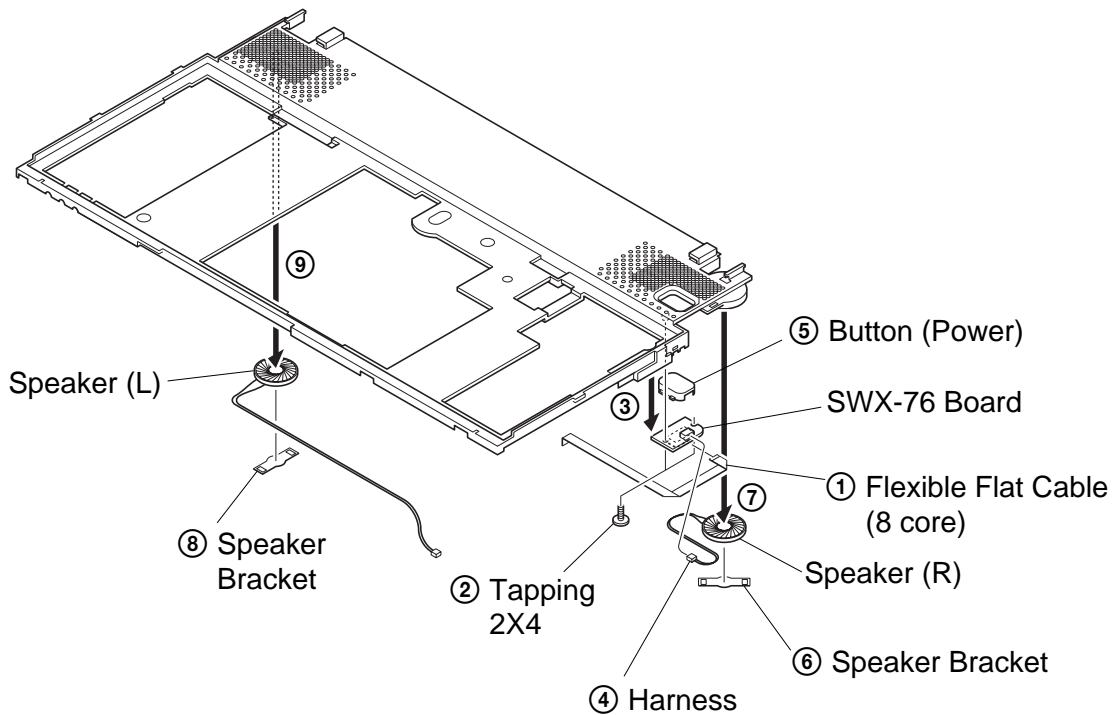
**Confidential**



## 8. Frame Housing

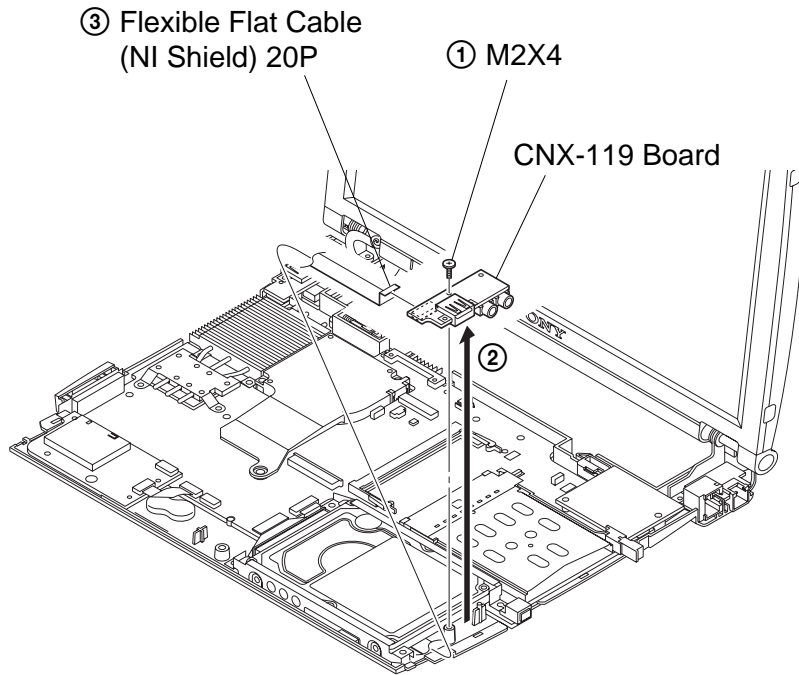


## 9. SWX-76 Board, Speaker (L/R)

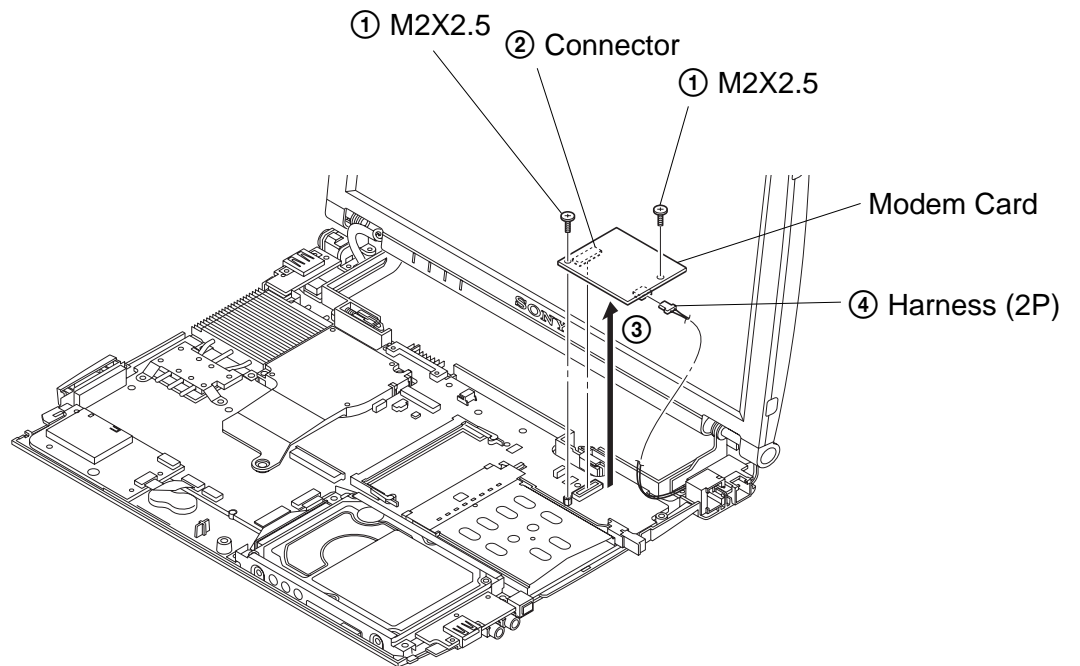


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## 10. CNX-119 Board

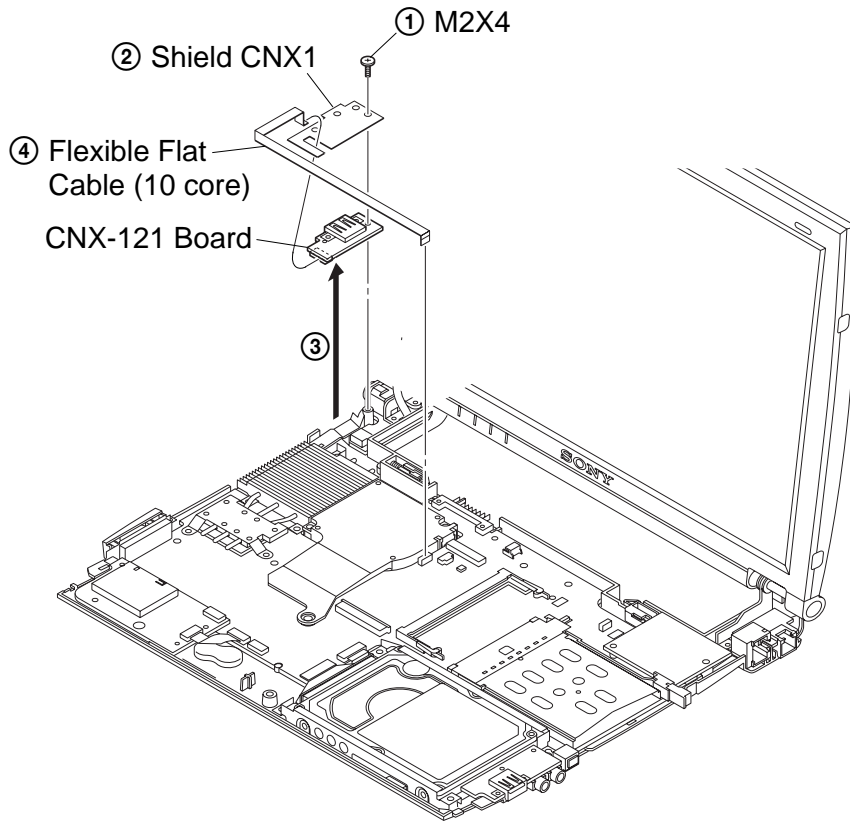


## 11. Modem Card

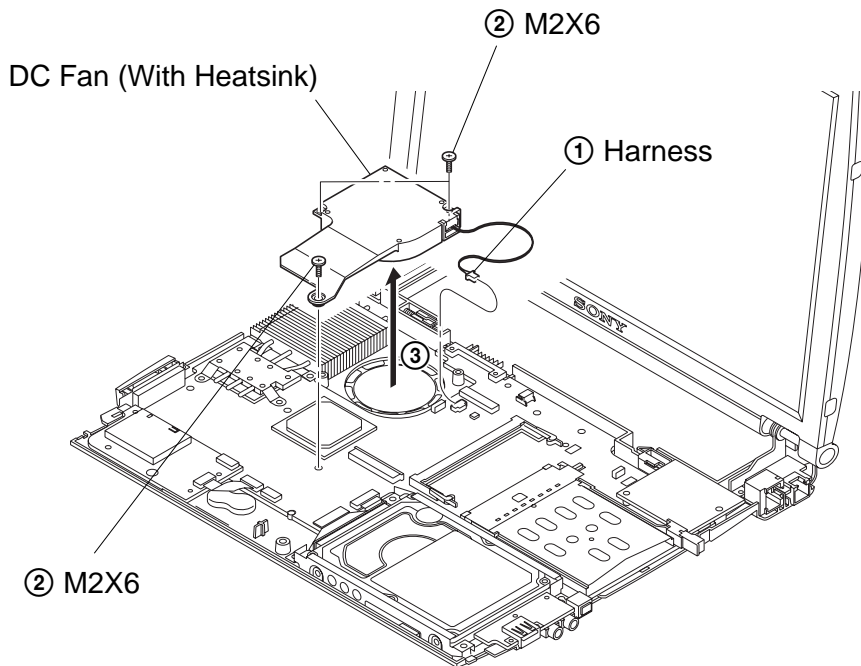


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## 12. CNX-121 Board

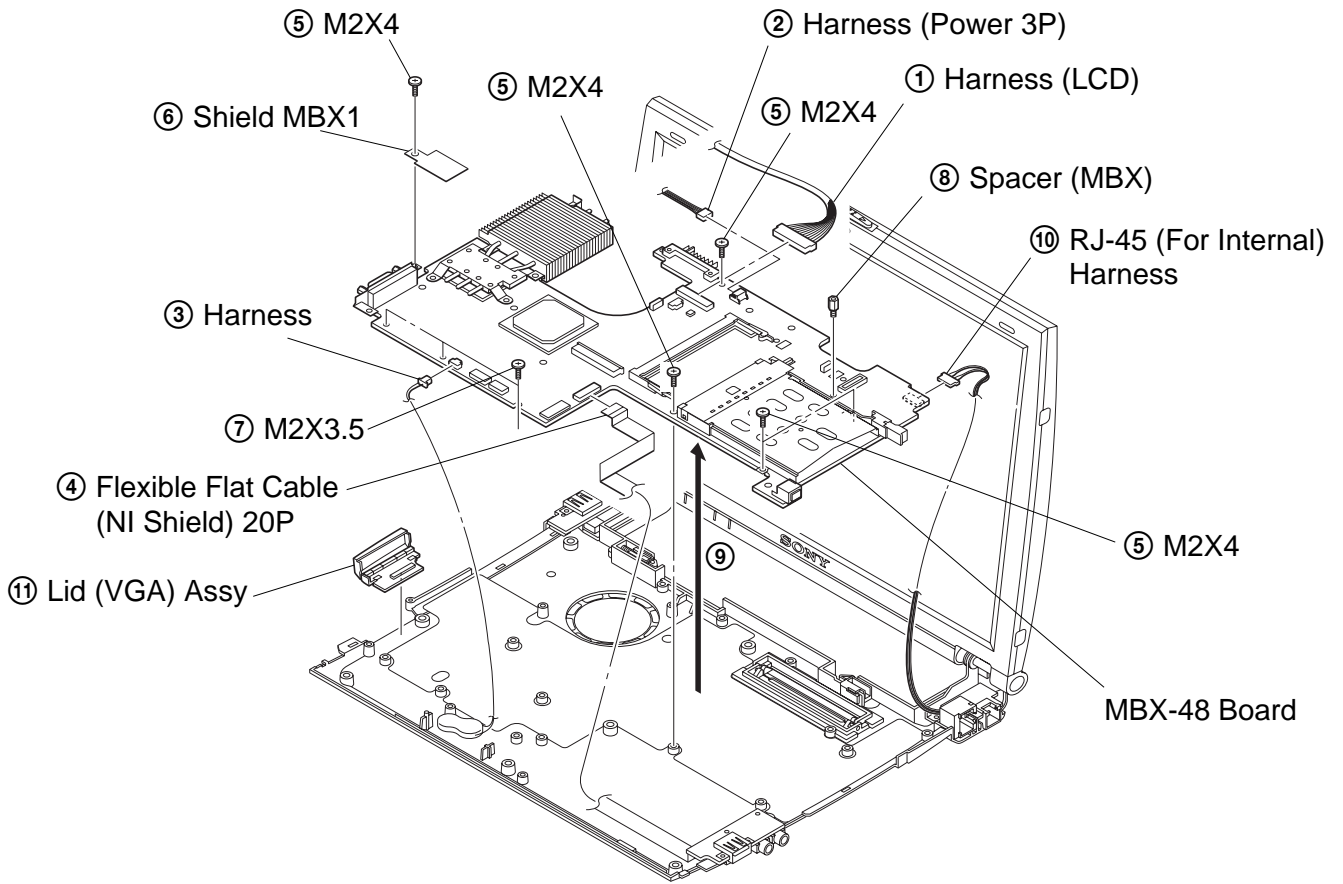


## 13. DC Fan

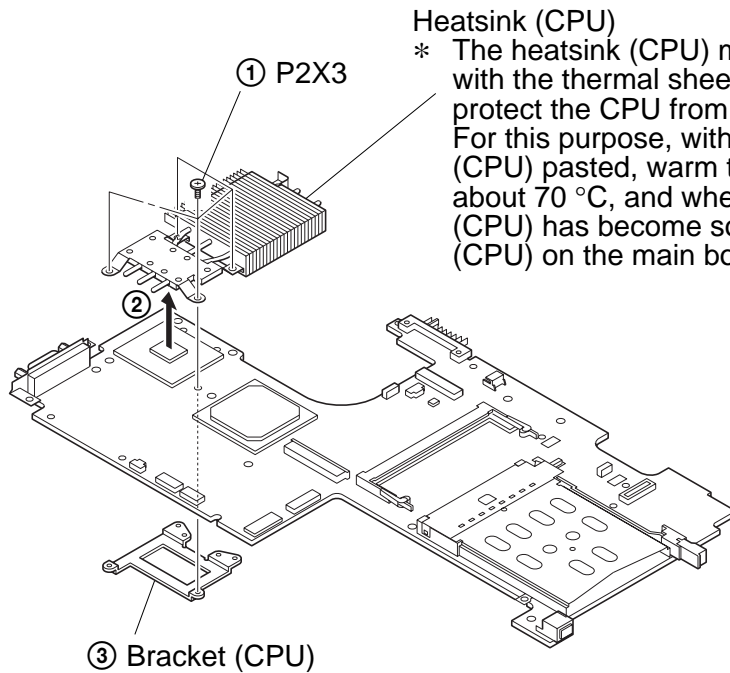


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## 14. MBX-48 Board



## 15. Heatsink (CPU)

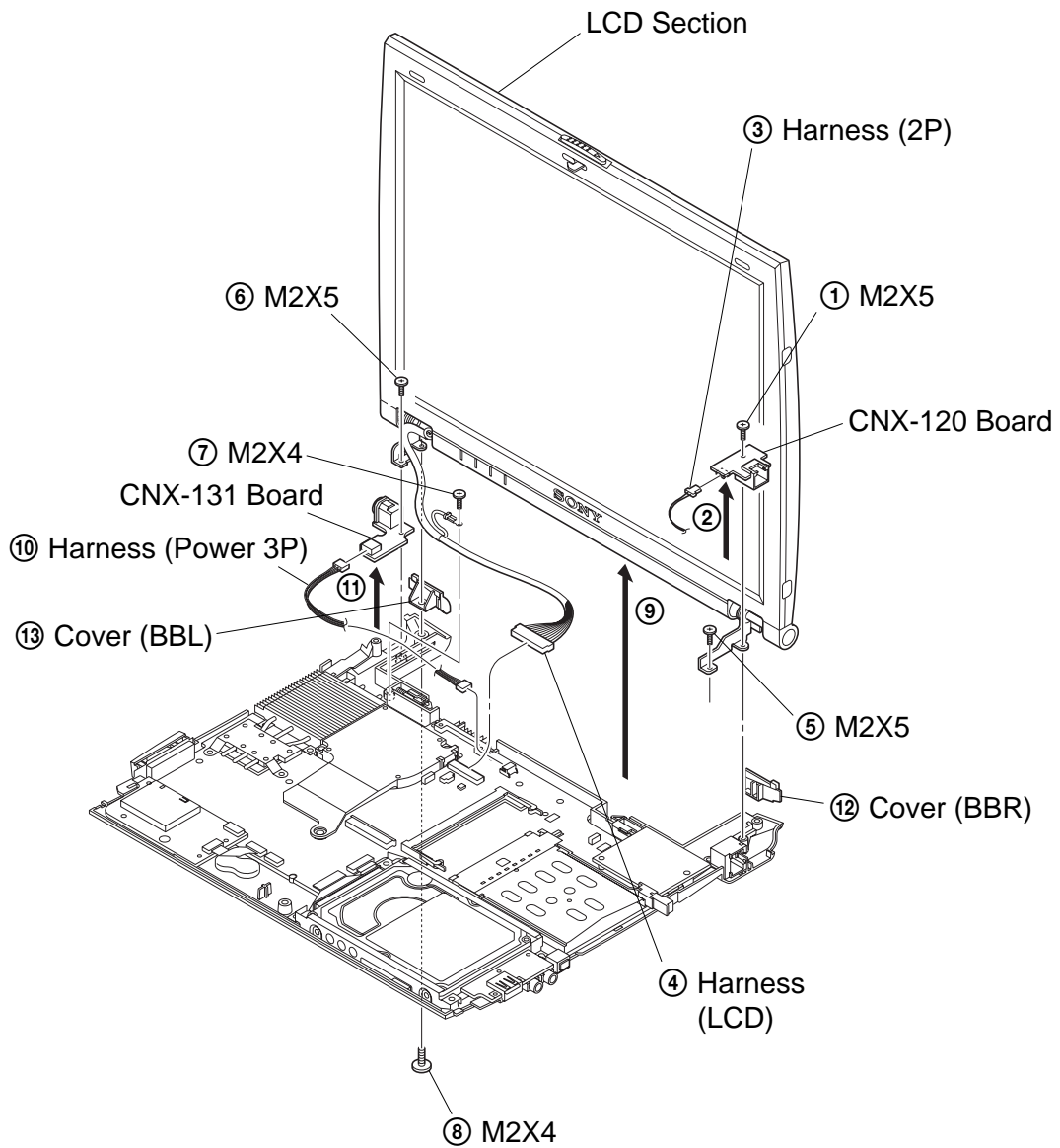


### Heatsink (CPU)

\* The heatsink (CPU) must be installed with the thermal sheet (CPU) in soft state to protect the CPU from the stress. For this purpose, with the thermal sheet (CPU) pasted, warm the heatsink (CPU) to about 70 °C, and when the thermal sheet (CPU) has become soft, install the heatsink (CPU) on the main board.

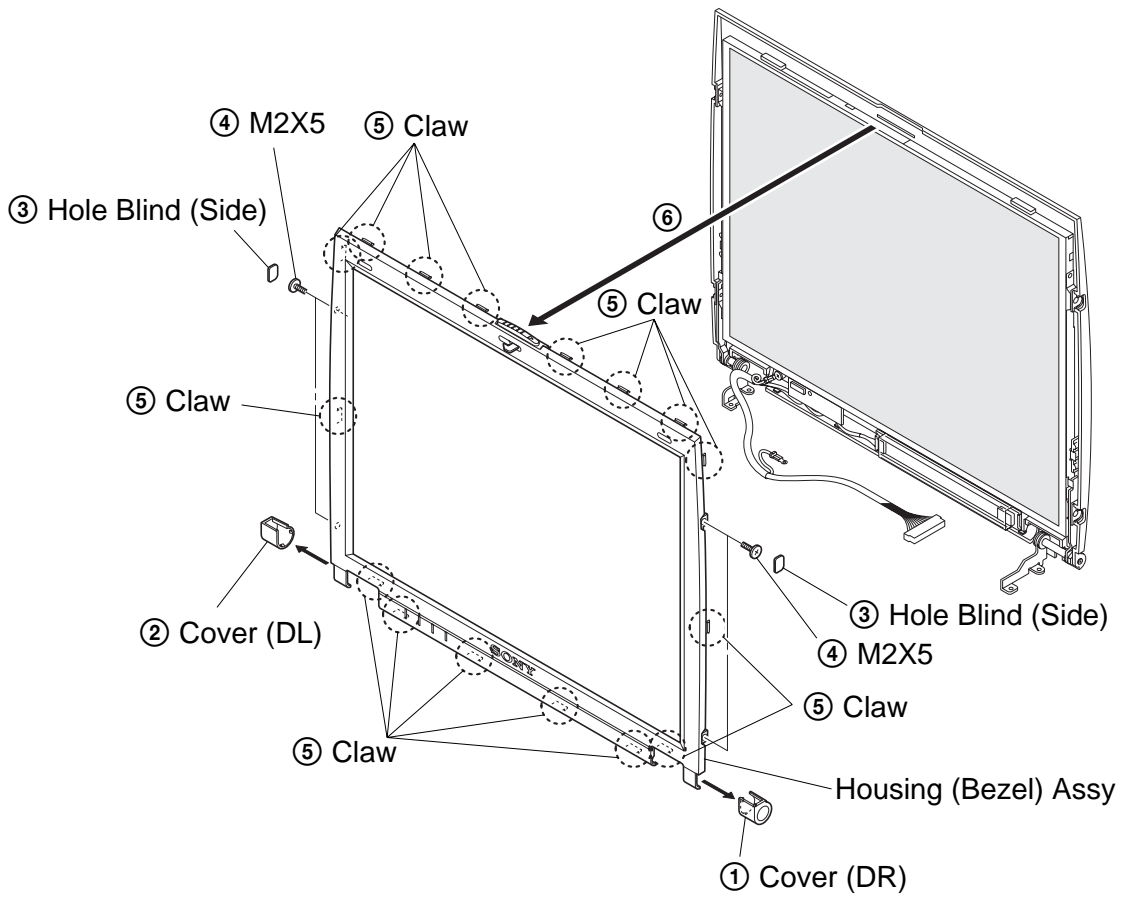
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## 16. CNX-120 Board, LCD Section, CNX-131 Board

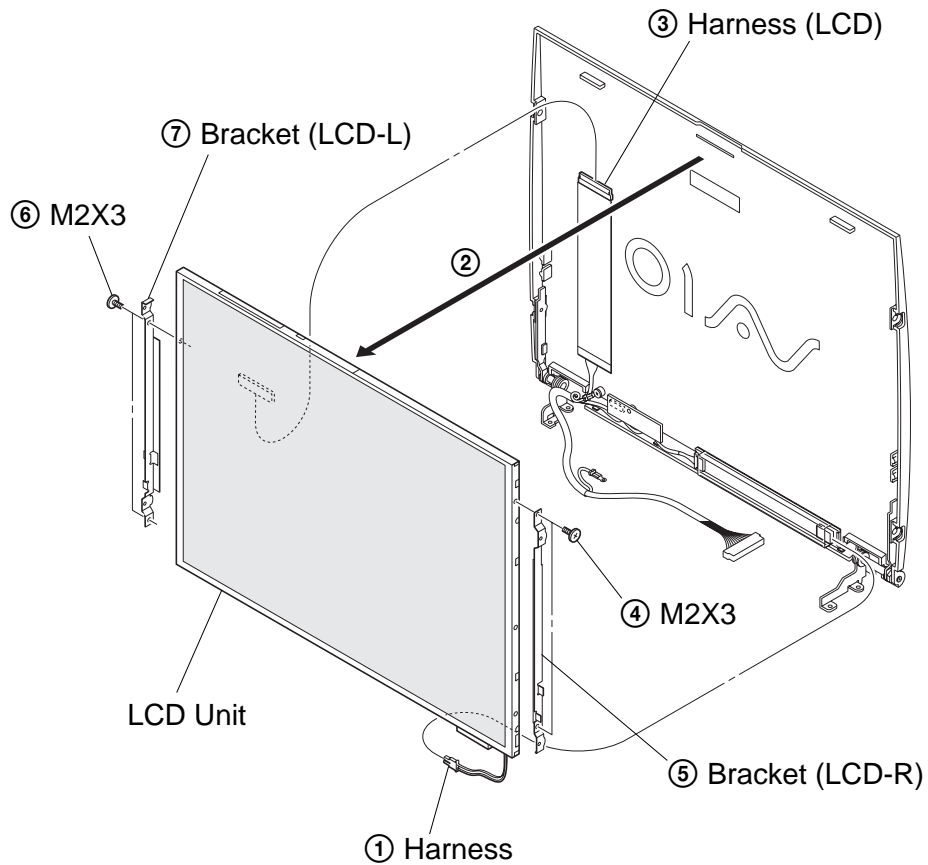


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## 17. Bezel

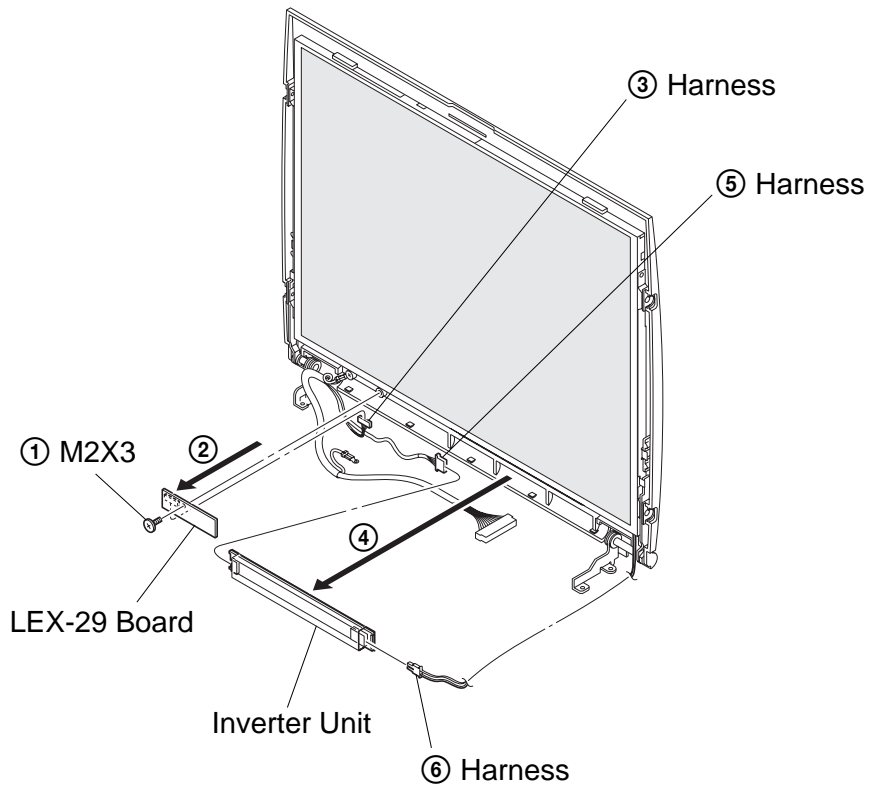


## 18. LCD Unit



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## 19. LEX-29 Board, Inverter Unit



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## **CHAPTER 2.**

# **SELF DIAGNOSTICS**

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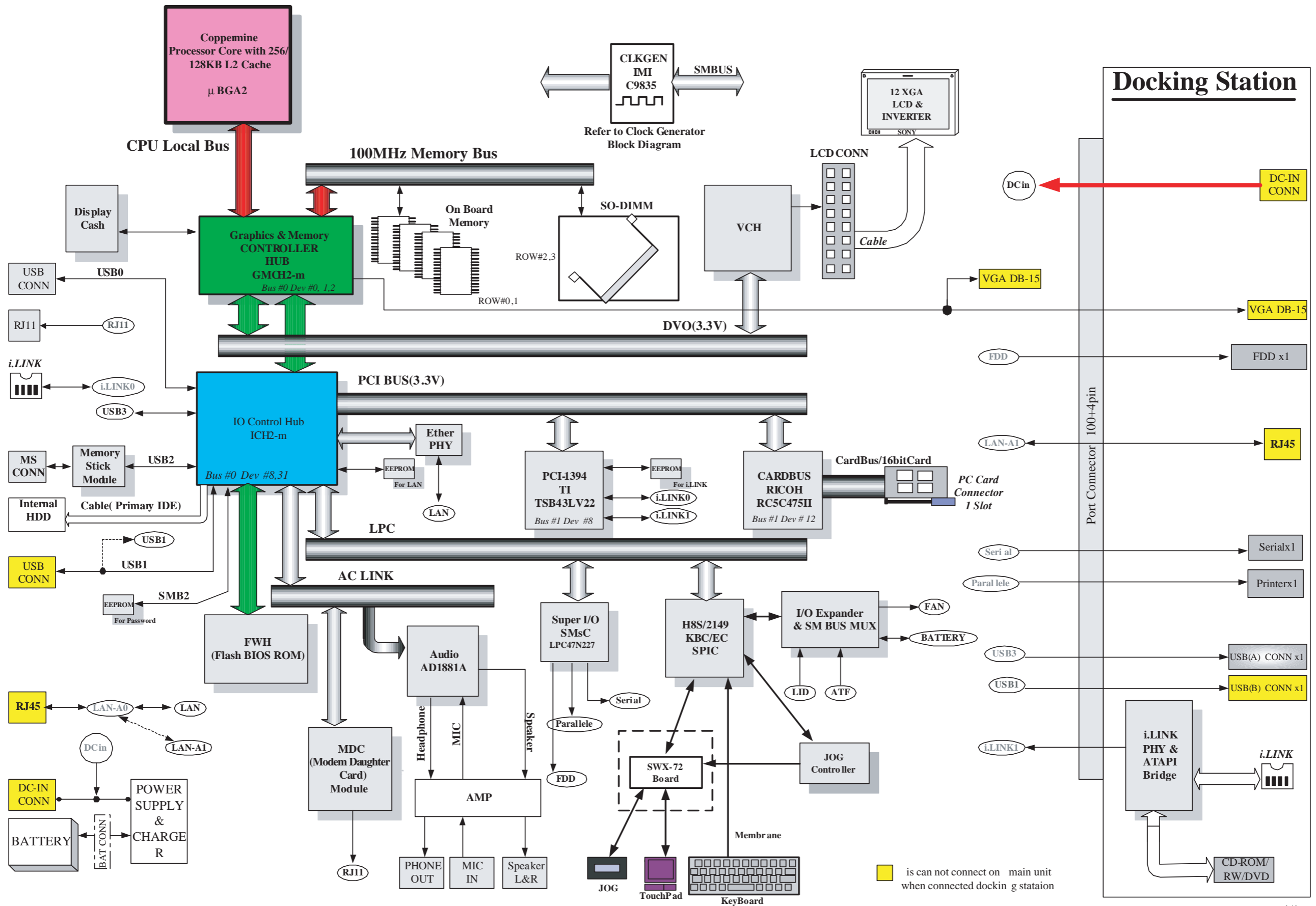
**< ATTENTION >**

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

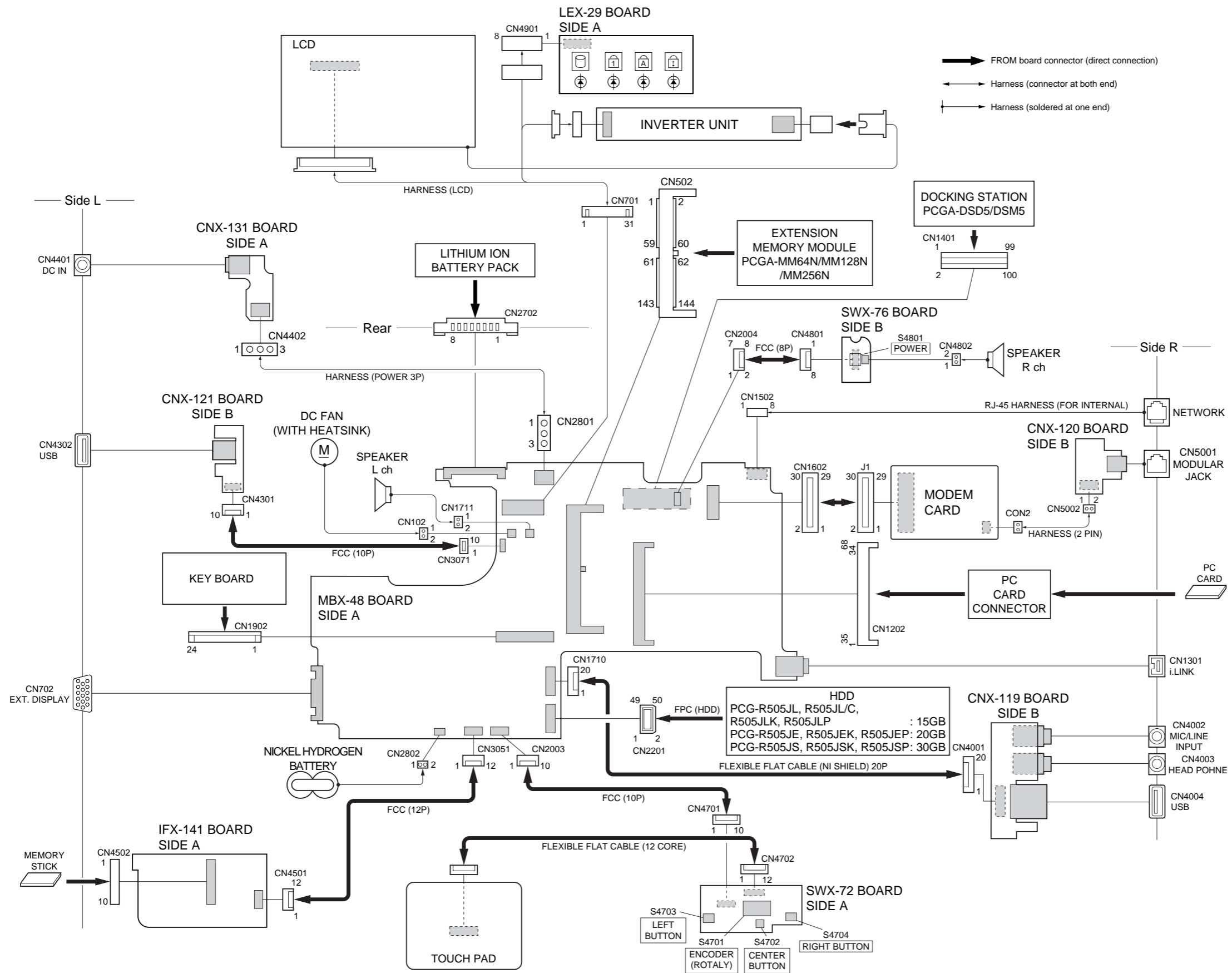
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# CHAPTER 3. BLOCK DIAGRAM



# CHAPTER 4. FRAME HARNESS DIAGRAM



## EXPLODED VIEWS AND PARTS LIST

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### NOTE:

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

The components identified by mark  $\triangle$  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.

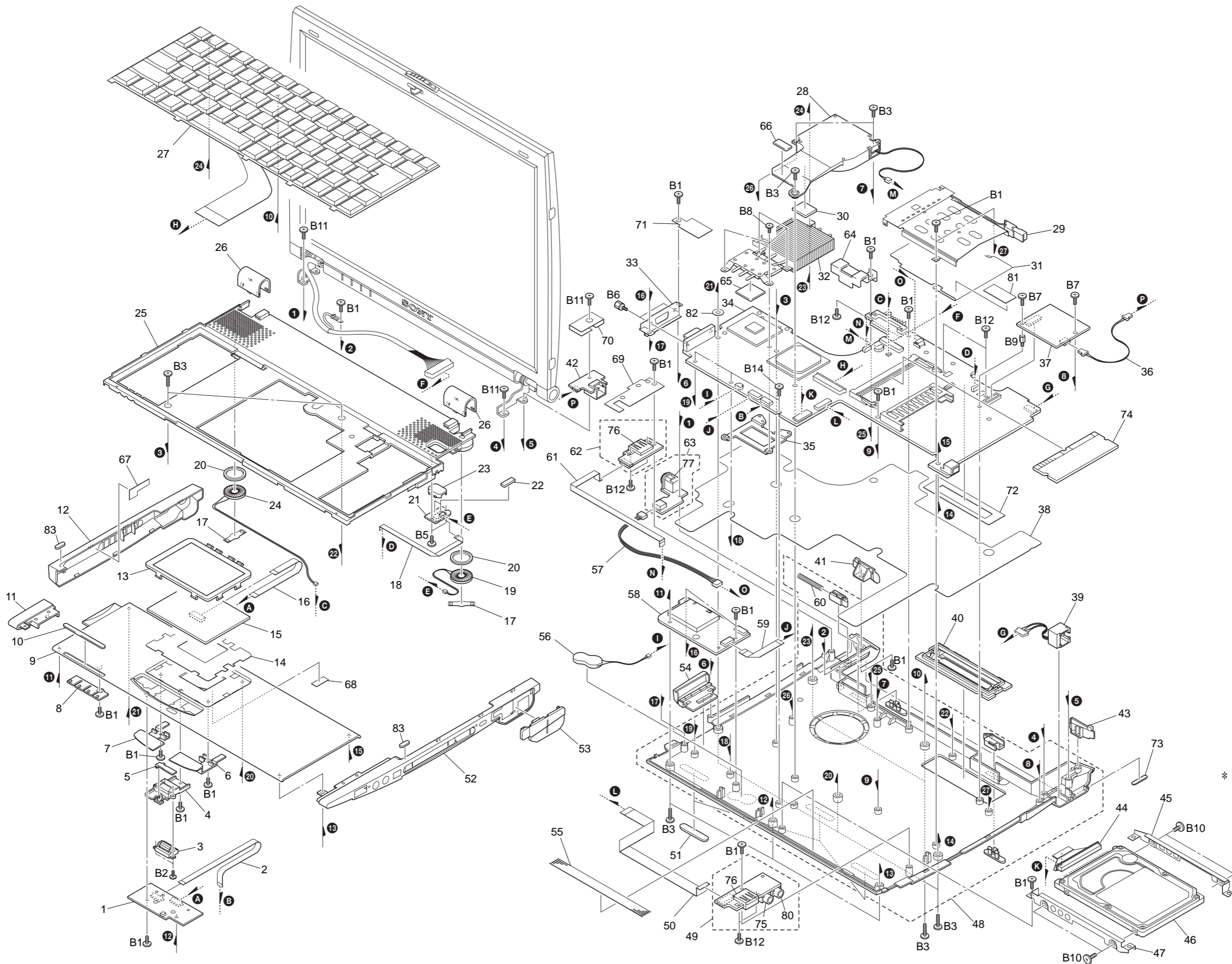
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# 5-1. Main Section

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
1	A-8066-926-A	COMPLETE PWB SWX-72	48	X-4623-610-1	HOUSING (BOTTOM) ASSY
2	1-757-785-11	FLEXIBLE FLAT CABLE (10 CORE)	49	A-8066-941-A	COMPLETE PWB CNX-119
3	1-476-060-32	ENCODER (ROTARY)	50	1-757-786-11	FLEXIBLE FLAT CABLE (NI SHIELD) 20P
4	4-652-922-03	BRACKET (JOG)	51	4-641-449-01	FOOT (F)
5	4-652-940-02	DETECTOR, LATCH	52	X-4624-332-1	COVER (BOTTOM R) ASSY
6	4-652-921-04	BUTTON (PAD) R	53	4-652-918-01	LID (ETHER)
7	4-652-920-04	BUTTON (PAD) L	54	X-4624-331-1	LID (VGA) ASSY
8	4-652-935-02	LENS (PALM REST)	55	4-654-610-03	COVER AIR DUCT
9	4-652-907-03	HOUSING (PALM REST)	56	1-756-038-21	BATTERY, NICKEL HYDROGEN
10	4-652-944-01	COVER, LENS	57	1-961-147-11	HARNESS (POWER 3PIN)
11	4-659-257-01	COVER (BOTTOM LF)	58	A-8066-938-A	COMPLETE PWB IFX-141
12	X-4624-418-1	COVER (BOTTOM LR) ASSY	59	1-757-784-11	FLEXIBLE FLAT CABLE (12 CORE)
13	4-652-923-03	ESCUTCHEON (PAD)	60	4-653-716-01	SPRING (BT), COMPRESSION COIL
14	4-653-410-01	INSULATOR (PAD)	61	1-757-792-11	FLEXIBLE FLAT CABLE (10 CORE)
15	1-772-529-61	PAD, TOUCH	62	A-8066-942-A	COMPLETE PWB CNX-121
16	1-790-729-11	CABLE, FLEXIBLE FLAT (12 CORE)	63	A-8066-933-A	COMPLETE PWB CNX-131
17	4-653-370-01	BRACKET, SPEAKER	64	4-653-432-01	CLAMP
18	1-757-787-12	FLEXIBLE FLAT CABLE (8 CORE)	65	4-654-326-01	SHEET (CPU), THERMAL
19	1-544-847-11	SPEAKER (16MM, WITH HARNESS) R	66	4-654-384-01	GND GASKET 5X15X1
20	4-653-371-01	CUSHION, SPEAKER	67	4-654-450-02	SHEET (COVER LR)
21	A-8066-928-A	COMPLETE PWB SWX-76	68	4-654-382-01	CUSHION HDD CONNECTOR
22	4-653-372-01	CUSHION BUTTON PW	69	4-654-518-02	SHIELD CNX 1
23	4-652-919-01	BUTTON (PW)	70	4-653-506-02	SHEET (MODEM)
24	1-544-846-11	SPEAKER (16MM, WITH HARNESS) L	71	4-654-517-02	SHIELD MBX 1
25	X-4623-665-6	HOUSING (FRAME) ASSY	72	4-654-239-01	INSULATING SHEET
26	4-652-913-02	COVER (BP)	73	4-657-622-01	FOOT (R2)
27	1-476-671-22	KEY BOARD UNIT (US)	74	8-749-019-00	(R505JL/C, R505JS, R505JSK, R505JSP)...IC HYM71V16M655AT6-P
28	1-763-688-11	FAN, DC (WITH HEATSINK)	75	1-695-514-21	JACK (SMALL TYPE) 1P (HEAD PHONE)
29	1-815-304-11	CONNECTOR, PC CARD 1 SLOT	76	1-793-100-11	CONNECTOR, USB
30	4-654-327-01	SHEET (GMCH), THERMAL	77	1-779-745-31	JACK, DC
31	4-653-411-02	SHEET (PC CARD), INSULATING	80	1-793-430-11	JACK, SMALL TYPE (MIC)
* 32	4-652-932-01	HEATSINK	81	4-656-224-01	SPACER PC CARD FRAME
* 33	4-652-924-01	BRACKET (VGA)	82	4-657-779-01	SPACER (PALM REST)
34	A-8058-454-A	(R505JL, R505JL/C, R505JLK, R505JLP)...MBX-48 (P750) (S)	83	4-657-623-01	CUSHION (COVER LR)
34	A-8058-453-A	(R505JE, R505JEK, R505JEP, R505JS, R505JSK, R505JSP)...MBX-48 (P850-A) (S)	B1	4-644-492-31	ACE (M2), LOCK (2X4)
* 35	4-652-925-01	BRACKET (CPU)	B2	3-930-461-01	SCREW (DIA. 1.4X3.5), PRECISION
36	1-960-827-31	HARNESS (2 PIN)	B3	4-644-492-01	ACE (M2), LOCK (2X6)
37	1-761-380-23	CARD, MODEM	B5	4-648-320-01	TAPPING (M2) (2X4)
38	4-653-412-01	SHEET (BOTTOM), INSULATING	B6	4-635-966-01	SCREW (HEX)
39	1-961-140-11	HARNESS, RJ-45 (FOR INTERNAL)	B7	4-645-016-31	ACE (M2) (DIA. 4.6), LOCK (2X2.5)
40	X-4623-577-4	LID (DOG) ASSY	B8	3-713-786-51	SCREW +P 2X3
41	4-652-941-03	COVER (BBL)	B9	4-651-989-11	SPACER (MBX)
42	A-8058-459-A	CNX-120 (COM) (S)	B10	4-635-301-01	SCREW M3X4
43	4-652-942-03	COVER (BBR)	B11	4-654-273-01	ACE (M2), LOCK (2X5)
44	1-790-750-13	FPC (HDD)	B12	4-644-492-51	ACE (M2) (DIA. 4.6), LOCK (2X3.5)
* 45	4-652-927-01	BRACKET (HDD R)	B14	4-645-016-11	ACE (M2) (DIA. 4.6), LOCK (2X3.5)
46	1-796-206-11	(R505JS, R505JSK, R505JSP)... ASSY HDD 30GB (TO, 15, F) (S)			
46	1-796-272-11	(R505JE, R505JEK, R505JEP)... ASSY HDD 20GB (TO) (S)			
46	1-796-162-21	(R505JL, R505JL/C, R505JLK, R505JLP)...ASSY HDD 15GB (T, 15B) (S)			
* 47	4-652-926-01	BRACKET (HDD F)			

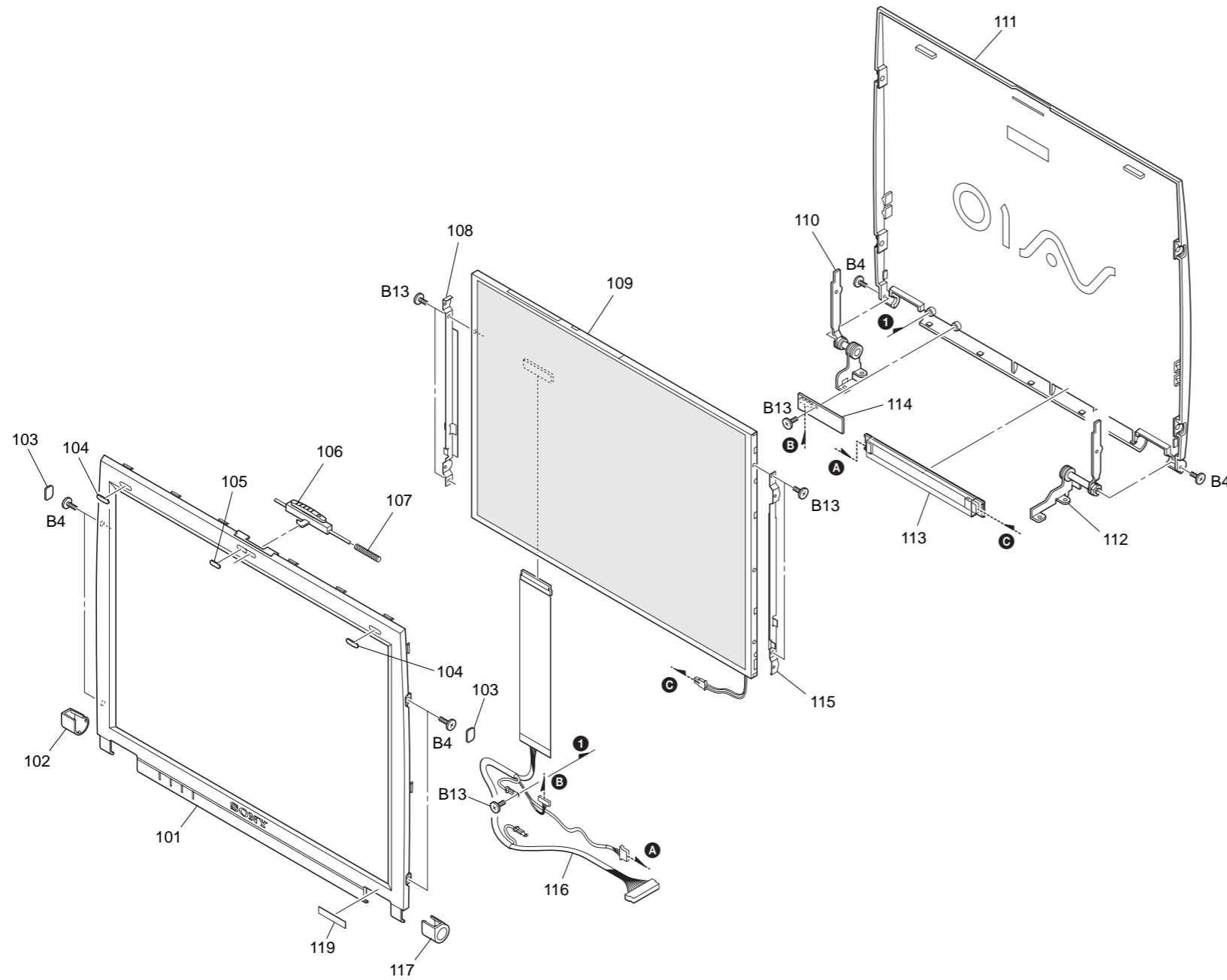
\* To paste the thermal sheet (CPU) (65) to the heatsink (CPU), warm the thermal sheet (CPU) adequately until it becomes soft.  
For further information, refer to the removal (page 1-9).

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\* To paste the thermal sheet (CPU) (65) to the heatsink (CPU), warm the thermal sheet (CPU) adequately until it becomes soft. For further information, refer to the removal (page 1-9).

## 5-2. LCD Section



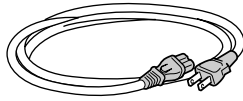
Ref.No.	Part No.	Description
101	X-4623-574-4	HOUSING (BEZEL) ASSY
102	4-652-902-01	COVER (DL)
103	4-652-933-01	BLIND (SIDE), HOLE
104	4-652-934-01	BLIND (LCD), HOLE
105	4-652-938-01	CUSHION (LATCH)
106	4-652-904-03	LATCH
107	4-639-623-11	SPRING (LATCH), COIL
* 108	4-652-898-01	BRACKET (LCDL)
109	A-8058-456-A	LCD (12.1) (H) (S)
110	4-652-900-02	TILT UNIT (L)
111	X-4623-573-1	HOUSING (DISPLAY) ASSY
112	4-652-901-03	TILT UNIT (R)
113	1-476-317-12	INVERTER UNIT
114	A-8066-930-A	COMPLETE PWB LEX-29
* 115	4-652-899-01	BRACKET (LCDR)
116	1-961-063-11	HARNES, LCD
117	4-652-903-01	COVER (DR)
119	4-657-053-01	(R505JSP)...LABEL (ID) (U)
119	4-657-053-11	(R505JSK)...LABEL (ID) (U)
119	4-657-053-21	(R505JS)...LABEL (ID) (U)
119	4-657-053-31	(R505JEP)...LABEL (ID) (U)
119	4-657-053-41	(R505JEK)...LABEL (ID) (U)
119	4-657-053-51	(R505JE)...LABEL (ID) (U)
119	4-657-053-61	(R505JLP)...LABEL (ID) (U)
119	4-657-053-71	(R505JLK)...LABEL (ID) (U)
119	4-657-053-81	(R505JL)...LABEL (ID) (U)
119	4-659-345-01	(R505JL/C)...LABEL (ID) (U)
B4	4-643-356-01	SCREW (M2X5)
B13	4-645-016-01	ACE (M2) (DIA. 4.6), LOCK (2X3)

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## 5-3. Accessories

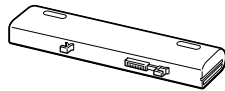
201

**Power Cord**



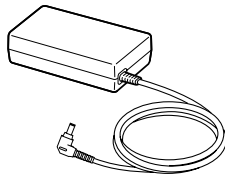
203

**Battery Pack**



204

**AC Adaptor**



208

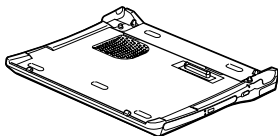
**Docking Station**

**(PCGA-DSD5:**

**R505JL, R505JLK, R505JLP)**

**(PCGA-DSM5:**

**R505JL/C, R505JS, R505JSK, R505JSP)**



\* The main unit is not assigned with a part number.  
Refer to the PCGA-DSD5/DSM5 Service Manual  
(9-872-201-11).

Ref.No.	Part No.	Description
		ACCESSORIES *****
△ 201	1-757-562-21	CORD, POWER
203	1-756-152-31	BATTERY PACK, LITHIUM ION (L)
△ 204	1-476-342-22	ADAPTOR, AC
	4-658-992-01	QUICK START, R505 SERIES

LOOK AT EXPLODED VIEWS OF THE PART  
\*\*\*\*\*

208	(R505JL, R505JLK, R505JLP)...	PCGA-DSD5
208	(R505JL/C, R505JS, R505JSK, R505JSP)...	PCGA-DSM5

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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PCG-R505JE/R505JEK/R505JEP/R505JL/R505JLK/  
R505JLP/R505JS/R505JSK/R505JSP (AM)



PCG-R505JE/R505JEK/R505JEP/R505JL/R505JLK/  
R505JLP/R505JS/R505JSK/R505JSP (AM)

**List of PCG-R505 Series for American Area  
(As of October, 2001)**

Model	Service Manual Parts No.
PCG-R505TE PCG-R505TEK PCG-R505TS PCG-R505TSK	9-872-185-11
PCG-R505DE	9-872-220-11
PCG-R505TL PCG-R505TLK	9-872-242-11
PCG-R505JE PCG-R505JEK PCG-R505JEP PCG-R505JL PCG-R505JLK PCG-R505JLP PCG-R505JS PCG-R505JSK PCG-R505JSP	9-872-269-01

 : Additional Model

American Area : North, Central and South Americas

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# Revision History

Suffix	Ver.	Date	Contents	QM No.
-01	Ver. 1	2001.10.12	First Edition	
<Remarks>				

[Confidential]

PCG-R505JE/R505JEK/R505JEP/R505JL/R505JLK/R505JLP/R505JS/R505JSK/R505JSP (AM)