

# Service Manual

Notebook Computer

CF-74

**TOUGHBOOK**

This is the Service Manual for  
the following areas.  
M ...for U.S.A. and Canada

**Model No. CF-74CCBAXBM**

**⚠ WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

**Panasonic®**

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# WARNINGS

For U.K.

## **This apparatus must be earthed for your safety.**

To ensure safe operation the three-pin plug must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring.

Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe.

For your safety, if you have any doubt about the effective earthing of the power point, consult a qualified electrician.

## **FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY**

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 3 amp fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 3 amps and that it is approved by ASTA or BSI to BS 1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

**IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.**

**THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.**

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.


**Warning: THIS APPLIANCE MUST BE EARTHED.**

### **Important**

The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured GREEN-and-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol  coloured GREEN or GREEN-and-YELLOW.

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured BLACK.

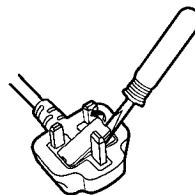
The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured RED.

The mains plug on this equipment must be used to disconnect the mains power.

Please ensure that a socket outlet is available near the equipment and shall be easily accessible.

## **How to replace the fuse**

Open the fuse compartment with a screw-driver and replace the fuse.



### **Warnings**

- This equipment is not designed for connection to an IT power system.  
(An IT system is a system having no direct connections between live parts and Earth; the exposed-conductive-parts of the electrical installation are earthed.  
An IT system is not permitted where the computer is directly connected to public supply systems in the U.K.)
- Disconnect the mains plug from the supply socket when the computer is not in use.

This equipment is produced to BS800/1983.

# LASER SAFETY INFORMATION

For U.S.A.

Class 1 LASER-Product

This product is certified to comply with DHHS Rules 21 CFR Subchapter J.

This product complies with European Standard EN60825 (or IEC Publication 825)

For all areas

This equipment is classified as a class 1 level LASER product and there is no hazardous LASER radiation.

**Caution:**

- (1) Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- (2) The drive is designed to be incorporated into a computer-based system or unit which has an enclosing cover. It should never be used as a stand alone drive.

**Danger:**

The serviceman should not remove the cover of drive unit and should not service because the drive unit is a non-serviceable part.

Please check DANGER label on PD-drive unit.

- Unplug the AC power cord to the equipment before opening the top cover of the drive.
- When the power switch it on, do not place your eyes close to the front panel door to look into the interior of the unit.

LASER Specification

Class 1 level LASER Product

Wave Length: DVD 658±8 nm

CD 775~815 nm

Laser safety information is appropriate only when drive with laser is installed.

## Safety precautions

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacture's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.

### Important Safety Instructions

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

1. Do not use this product near water, for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.

SAVE THESE INSTRUCTIONS

#### LITHIUM BATTERY ⚠

##### • CAUTION

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

#### LITHIUMBATTERIES ⚠

##### Vorsicht!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie. Ersatz nur durch denselben oder einen vom Hersteller empfohlenen ähnlichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

#### PILE AU LITHIUM ⚠

ATTENTION: IL Y A DANGER D'EXPLOSION S' IL Y A REMPLACEMENT INCORRECT DE LA PILE. REMPLACER UNIQUEMENT AVEC UNE PILE DU MÊME TYPE OU D'UN TYPE RECOMMANDÉ PAR LE CONSTRUCTEUR. METTRE AU RÉBUT LES PILES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS DU FABRICANT.

## For U.S.A. / CANADA



A lithium ion battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.

L'appareil que vous vous êtes procuré est alimenté par une batterie au lithium-ion. Pour des renseignements sur le recyclage de la batterie, veuillez composer le 1-800-8-BATTERY.

### Lithium Battery

#### Lithium Battery!

This computer contains a lithium battery to enable the date, time, and other data to be stored. The battery should only be exchanged by authorized service personnel.

Warning! A risk of explosion from incorrect installation or mis-application may possibly occur.

## Precautions (Battery Pack)

- Care should be exercised with regard to the following in order to avoid the possibility of overheating, fire or damage.



### **Avoid Heat**

Do not throw the battery pack into a fire or expose it to excessive heat.



### **Keep Articles Away**

Do not place the battery pack together with articles such as necklaces or hairpins when carrying or storing.



### **Do Not Disassemble**

Do not insert sharp objects into the battery pack, expose it to bumps or shocks, deform, disassemble, or modify it.



### **Do Not Short**

Do not short the positive (+) and negative (-) contacts.



### **Avoid Extreme Heat, Cold and Direct Sunlight**

Do not charge, use or leave the battery pack for extended periods where it will be exposed to direct sunlight, in a hot place (in an automobile on a sunny day, for example), or in a cold place.



### **Do Not Use With Any Other Computer**

The battery pack is rechargeable and was intended for the specified computer or charger. Do not use it with a computer other than the one for which it was designed.



### **Do Not Put into a Microwave**

Do not put the battery pack into a microwave oven or a pressurized chamber.



### **Discontinue Use**

Should the battery emit an abnormal odor, become hot to the touch, become discolored, change shape, or become in any way different from normal, remove it from the computer or charger and discontinue use.

- Do not touch the terminals on the battery pack. The battery pack may no longer function properly if the contacts are dirty or damaged.
- Do not expose the battery pack to water, or allow it to become wet.

- If the battery pack will not be used for a long period of time (a month or more), charge or discharge (use) the battery pack until the remaining battery level becomes 30% to 40% and store it in a cool, dry place.
- This computer prevents overcharging of the battery by recharging only when the remaining power is less than approx. 95% of capacity.
- The battery pack is not charged when the computer is first purchased. Be sure to charge it before using it for the first time. When the AC adaptor is connected to the computer, charging begins automatically.
- Should the battery leak and the fluid get into your eyes, do not rub your eyes. Immediately flush your eyes with clear water and see a doctor for medical treatment as soon as possible.

### **NOTE**

- The battery pack may become warm during recharging or normal use. This is completely normal.
- Recharging will not commence outside of the allowable temperature range (0 °C to 50 °C {32°F to 122 °F}). (Reference [Manual](#) “Battery Power”) Once the allowable range requirement is satisfied, charging begins automatically. Note that the recharging time varies based on the usage conditions. (Recharging takes longer than usual when the temperature is 10 °C {50 °F} or less.)
- If the temperature is low, the operating time is shortened. Only use the computer within the allowable temperature range.
- The battery pack is a consumable item. If the amount of time the computer can be run off a particular battery pack becomes dramatically shorter and repeated rechargings do not restore its performance, the battery pack should be replaced with a new one.
- When transporting spare batteries inside a package, briefcase, etc., it is recommended that it be placed in a plastic bag so that its contacts are protected.
- Always power off the computer when it is not in use. Leaving the computer on when the AC adaptor is not connected will exhaust the remaining battery capacity.

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# 1. Specifications

This page provides the specifications for the basic model CF-74CCBAXBM/CF-74CCBADBM. The model number is different according to the unit configuration.

- To check the model number:  
Check the bottom of the computer or the box the computer came in at the time of purchase.
- To check CPU speed, memory size and the hard disk drive (HDD) size:

Run the Setup Utility and select [Information] menu.

[CPU Speed]: CPU speed, [System Memory]: Memory size, [Hard Disk]: Hard disk drive size

## ■ Main Specifications

Model No.		CF-74CCBAXBM / CF-74CCBADBM
CPU		Intel® Core™ Duo Processor T2400 (1.83 GHz, 2 MB <sup>*1</sup> L2 cache, 667 MHz FSB)
Chipset		Intel® 945GM
Memory <sup>*1</sup>		512 MB (1536 MB Max.)
Video Memory <sup>*1*2</sup>		UMA (128 MB Max.)
Hard Disk Drive <sup>*3</sup>		Approx. 80 GB
CD/DVD Drive		DVD-ROM & CD-R/RW Drive
Data Transfer Rate <sup>*4</sup>	Reading <sup>*5</sup>	DVD-ROM: 8X (Max.), CD-ROM: 24X (Max.)
	Writing <sup>*6</sup>	CD-R: 4X/10X/7-16X/10-24X CD-RW: 4X High-Speed CD-RW: 4X/10X Ultra-Speed CD-RW: 10X/10-24X
Supported Discs/Format <sup>*3</sup>	Reading	DVD-ROM (4.7 GB, 8.5 GB, 9.4 GB, 17 GB), DVD-Video, DVD-R (1.4 GB, 3.95 GB, 4.7 GB), DVD-R DL (8.5 GB), DVD-RW <sup>*7</sup> (1.4 GB, 2.8 GB, 4.7 GB, 9.4 GB), DVD-RAM <sup>*8</sup> (1.4 GB, 2.8 GB, 2.6 GB, 5.2 GB, 4.7 GB, 9.4 GB), +R (4.7 GB), +R DL (8.5 GB), +RW (4.7 GB), CD-Audio, CD-ROM, CD-R, Photo CD, Video CD, CD-RW, CD TEXT, CD-EXTRA
	Writing	CD-R, CD-RW, High-Speed CD-RW, Ultra-Speed CD-RW
Display Method		13.3 type (TFT) with Touchscreen
Internal LCD <sup>*9</sup>		65,536/16,777,216 colors (800 × 600 dots/1024 × 768 dots)
External Display <sup>*10</sup>		65,536/16,777,216 colors (800 × 600 dots/1024 × 768 dots/1280 × 1024 dots/1600 × 1200 dots/2048 × 1536 dots)
Wireless LAN <sup>*11</sup>		
Bluetooth <sup>*12</sup>		Version 2.0+EDR
LAN		IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T
Modem		Data: 56 kbps (V.92) FAX: 14.4 kbps
Sound		WAVE and MIDI playback, Stereo speaker
Security Chip		TPM (TCG V1.2 compliant) <sup>*13</sup>
Card Slot	PC Card	Type I or Type II x 1 (3.3 V: 400 mA, 5 V: 400 mA)
	ExpressCard	ExpressCard/34 or ExpressCard/54 x 1
	SD Memory Card <sup>*14</sup>	x 1, Data transfer rate = 8 MB per second <sup>*15</sup>
	Smart Card <sup>*16</sup>	x 1
RAM Module Slot		200-pin, 1.8 V, SO-DIMM, DDR2 SDRAM, PC2-4200 Compliant
Interface		USB port (4-pin, USB 2.0) x 2, Serial Port (Dsub 9-pin male), Modem port (RJ-11), LAN port (RJ-45), External display port (Mini Dsub 15-pin female), Expansion Bus Connector (Dedicated 65-pin female), Microphone Jack (Miniature jack, 3.5 DIA, Stereo), Headphone Jack (Miniature jack, 3.5 DIA, Impedance 32 Ω, Output Power 4 mW × 2)
Keyboard / Pointing Device		87 keys / Touch Pad / Touchscreen (Anti-Reflection, Stylus (included) touch capable)
Power Supply		AC adaptor or Battery pack
AC Adaptor <sup>*17</sup>		Input: 100 V to 240 V AC, 50 Hz/60 Hz, Output: 15.6 V DC, 8.0 A

## ■ Main Specifications

Battery Pack	Li-ion 11.1 V, 7.8 Ah
Operating Time <sup>*18*19</sup>	Approx. 6 hours to 9 hours <sup>*20</sup> (Approx. 8 hours <sup>*21</sup> )
Charging Time <sup>*18</sup>	Power on Approx. 4.5 hours
Clock Battery	Coin type lithium battery 3.0 V
Power Consumption <sup>*22</sup>	Approx. 40 W <sup>*23</sup> / Approx. 80 W (Maximum when recharging in the ON state)
Physical Dimensions (W × H × D) (including the carrying handle)	303.5 mm × 43.6 - 60.1 mm × 293.3 mm {12.0" × 1.7 - 2.4" × 11.6"}
Weight (including the carrying handle)	Approx. 2.7 kg {Approx. 6.0 lb.}
Operation Environment	Temperature: 5 °C to 35 °C {41 °F to 95 °F} Humidity: 30% to 80% RH (No condensation)
Storage Environment	Temperature: -20 °C to 60 °C {-4 °F to 140 °F} Humidity: 30% to 90% RH (No condensation)
Operating System	Microsoft® Windows® XP Professional Service Pack 2 with Advanced Security Technologies (NTFS File System)
Utility Programs	DMI Viewer, Microsoft® Windows® Media Player 10, Adobe Reader, PC Information Viewer, SD Utility, Icon Enlarger, Loupe Utility, WinDVD™ 5 (OEM Version), B's Recorder GOLD8 BASIC, B's CLiP 6, Intel® Matrix Storage Manager, Intel® PROSet/Wireless Software <sup>*11</sup> , Bluetooth™ Stack for Windows® by TOSHIBA <sup>*12</sup> , Wireless Switch Utility, Hotkey Settings, Battery Recalibration, LAN Power-Saving Utility, Infineon TPM Professional Package <sup>*24</sup> Setup Utility, Hard Disk Backup Utility <sup>*25</sup> , Hard Disk Data Erase Utility <sup>*25</sup>

## ■ Wireless LAN <Only for model with wireless LAN>

Intel PRO / Wireless 3945 ABG (802.11 a + b + g) PCI Ex. 1/4	
Data Transfer Rates <sup>*26</sup>	IEEE802.11a: 54/48/36/24/18/12/9/6 Mbps (automatically switched) IEEE802.11b: 11/5.5/2/1 Mbps (automatically switched) IEEE802.11g: 54/48/36/24/18/12/9/6 Mbps (automatically switched)
Standards Supported	IEEE802.11a/IEEE802.11b/IEEE802.11g
Transmission method	OFDM system, DSSS system
Wireless Channels Used	IEEE802.11a: Channels 36/40/44/48/52/56/60/64/149/153/157/161/165 IEEE802.11b/IEEE802.11g: Channels 1 to 11
RF Frequency Band	IEEE802.11a: 5.18-5.32 GHz, 5.745-5.825 GHz IEEE802.11b/IEEE802.11g: 2.412-2.462 GHz

\*1 1MB = 1,048,576 bytes

\*2 A segment of the main memory is allotted automatically depending on the computer's operating status. The size of the Video Memory cannot be set by the user.

\*3 1GB = 1,000,000,000 bytes. Your operating system or some application software will report as fewer GB.

\*4 The data transfer rate of DVD per 1X speed is 1,350 KB/s. The data transfer rate of CD per 1X speed is 150 KB/s.

\*5 If an unbalanced disc (e.g., the balance has been displaced from the center) is inserted, the speed may become slower if there are large vibrations while the disc is rotating.

\*6 Depending on the disc, the writing speed may become slower.

\*7 Does not support DVD-RW Ver.1.0.

\*8 DVD-RAM: Only non-cartridge type or removable cartridge type can be used.

\*9 A 16,777,216 color display is achieved by using the dithering function.

\*10 Maximum resolution depends on the specifications of the external display.

\*11 Only for model with wireless LAN

\*12 Only for model with Bluetooth

\*13 For information on TPM, click [start] - [Run] and input "c:\util\drivers\tpm\README.pdf", and refer to the Installation Manual of "Trusted Platform Module (TPM)".

\*14 This slot does not support the MultiMedia card.

Operation has been confirmed for Panasonic SD Memory Cards with up to 2 GB capacity.

\*15 Theoretical value and not the actual speed. The transfer rate does not become higher even if you use a card that supports the higher transfer rate.

\*16 Only for model with Smart Card slot

\*17 The AC adaptor is compatible with power sources up to 240 V AC adaptor. The computer is supplied with a 125 V AC compatible AC cord.

\*18 Varies depending on the usage conditions.

\*19 Measured with the LAN Power-saving function's Auto-off setting set to 1 minute.

\*20 Measured using BatteryMark™ Version 4.0.1 (LCD brightness: Maximum - Minimum)

\*21 Measured using MobileMark™ 2002 (LCD brightness: 60 cd/m<sup>2</sup>)

\*22 Approx. 1.0 W when the battery pack is fully charged (or not being charged) and the computer is OFF.  
Approx. 2.0 W when the Wake up from LAN has been enabled.

\*23 Rated power consumption

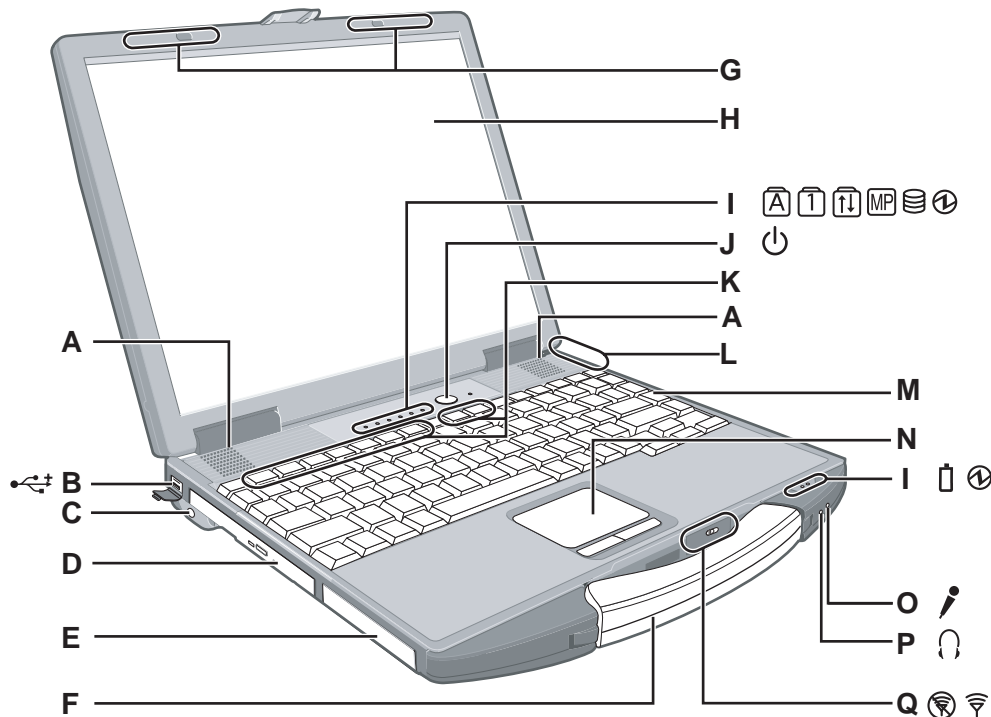
\*24 You need to install to use the feature.

\*25 The Product Recovery DVD-ROM is required.

\*26 These are speeds specified in IEEE802.11a+b+g standards. Actual speeds may differ.



## 2. Names and Functions of Parts



**A : Speaker**

**B : USB port**

**C : Stylus holder**

**D : Multimedia pocket**

**E : Hard disk drive**

**F : Carrying handle**

**G : Wireless LAN antenna**


<Only for model with wireless LAN>


**H : LCD**

**I : LED indicator**

 : Caps lock

 : Numeric key (NumLk)

 : Scroll lock (ScrLk)

 : Multimedia pocket device status or the second battery status

 : Hard disk drive status

 : Power status

(Off: Power off/Hibernation, Green: Power on, Blinking green: Standby, Blinking green rapidly: Cannot power on or resume due to low temperature.)

 : Battery status

**J : Power button**

**K : Function key**

<Only for model with Bluetooth>

**M : Keyboard**

**N : Touch pad**

**O : Microphone jack**

You can use a stereo condenser microphone. Connecting other type of microphone may interrupt audio input or may cause a malfunction.

**P : Headphone jack**

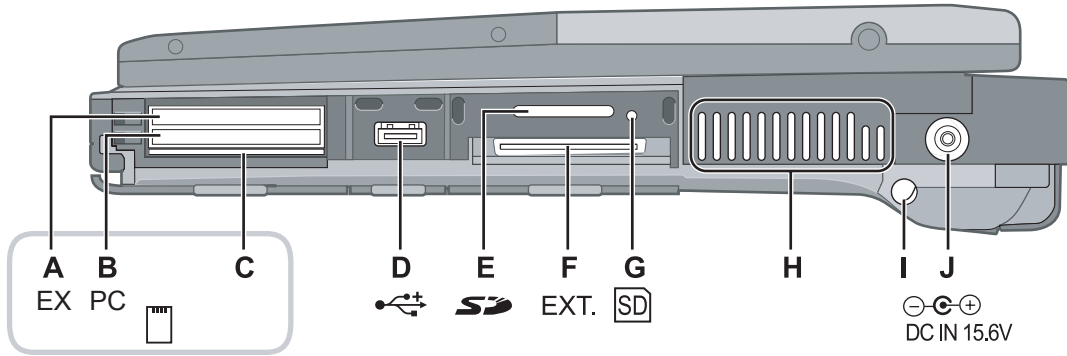
You can connect headphones or amplified speakers. When they are connected, audio from the internal speakers is not heard.

**Q : Wireless switch**

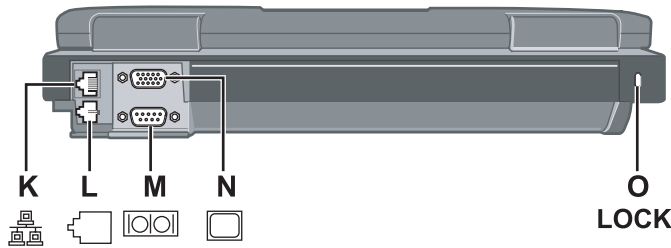
### CAUTION

Do not put a metallic object or magnetic media close to the speakers.

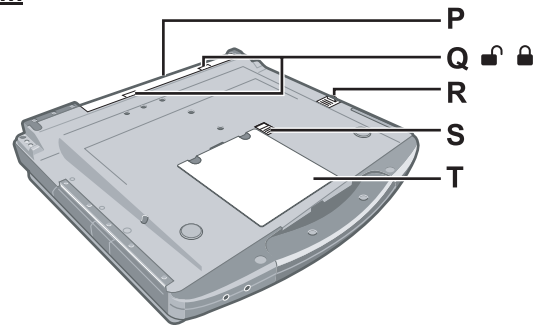
**Right side**



**Rear side**



**Bottom**



**A : ExpressCard slot**

**B : PC Card slot**

**C : Smart Card slot**  
 <Only for model with Smart Card slot>

**D : USB port**

**E : SD Memory Card slot**

**F : Expansion bus connector**

**G : SD Memory Card indicator**  
 (Blinking: During access or a password is requested)

**H : Ventilation hole**

**I : Stylus holder**

**J : DC-IN jack**

**K : LAN port**

**L : Modem port**

**M : Serial port**

**N : External display port**

**O : Security lock**

You can connect a Kensington cable. Refer to the instruction manual of the cable.

**P : Battery pack**

**Q : Battery latch**

**R : Multimedia pocket release button**

**S : Hard disk drive latch**

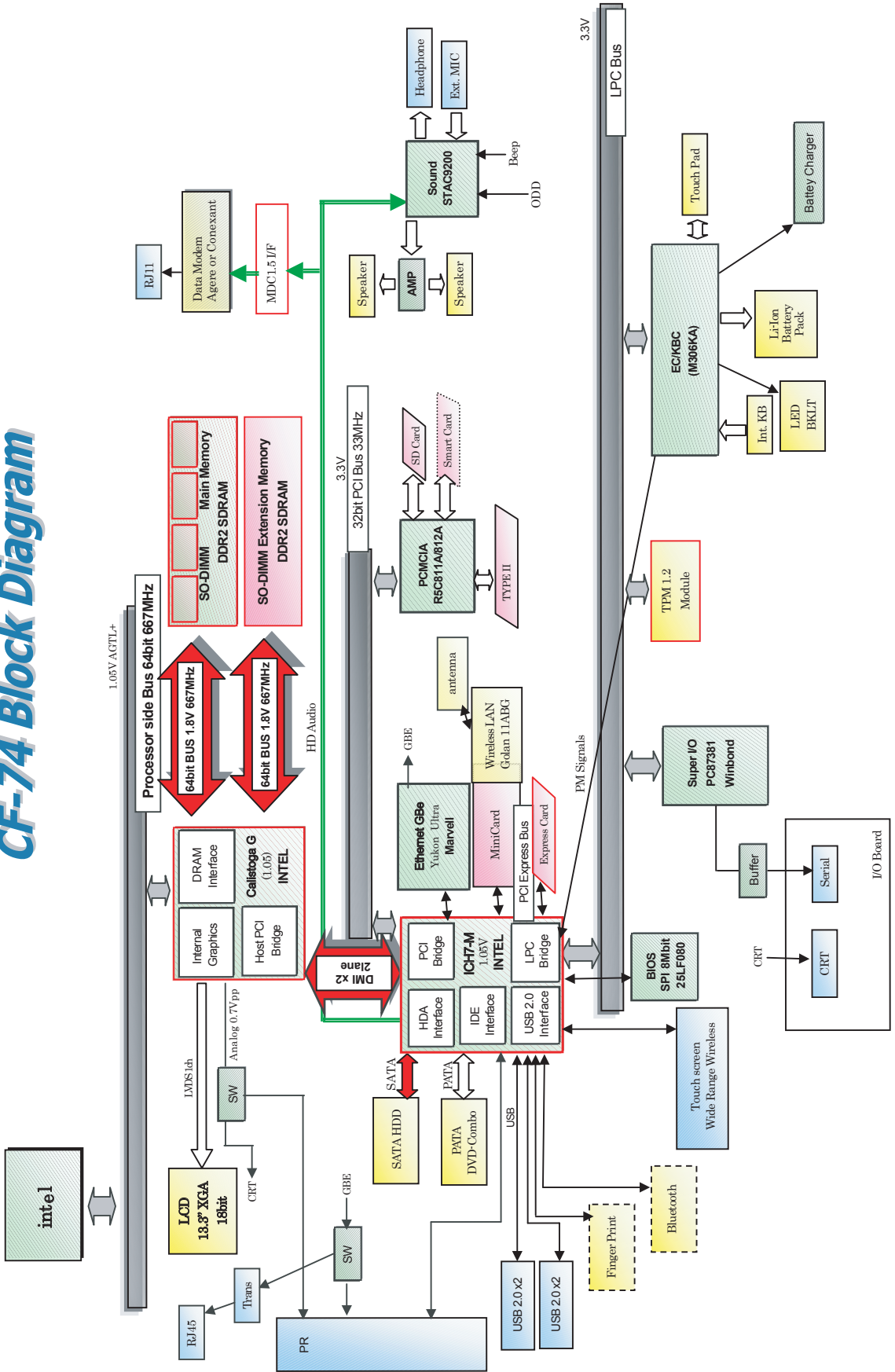
**T : RAM module slot**

**CAUTION**

Do not block the ventilation hole with a thick cloth etc. Select a position with good ventilation.

# 3 Block Diagram

## CF-74 Block Diagram

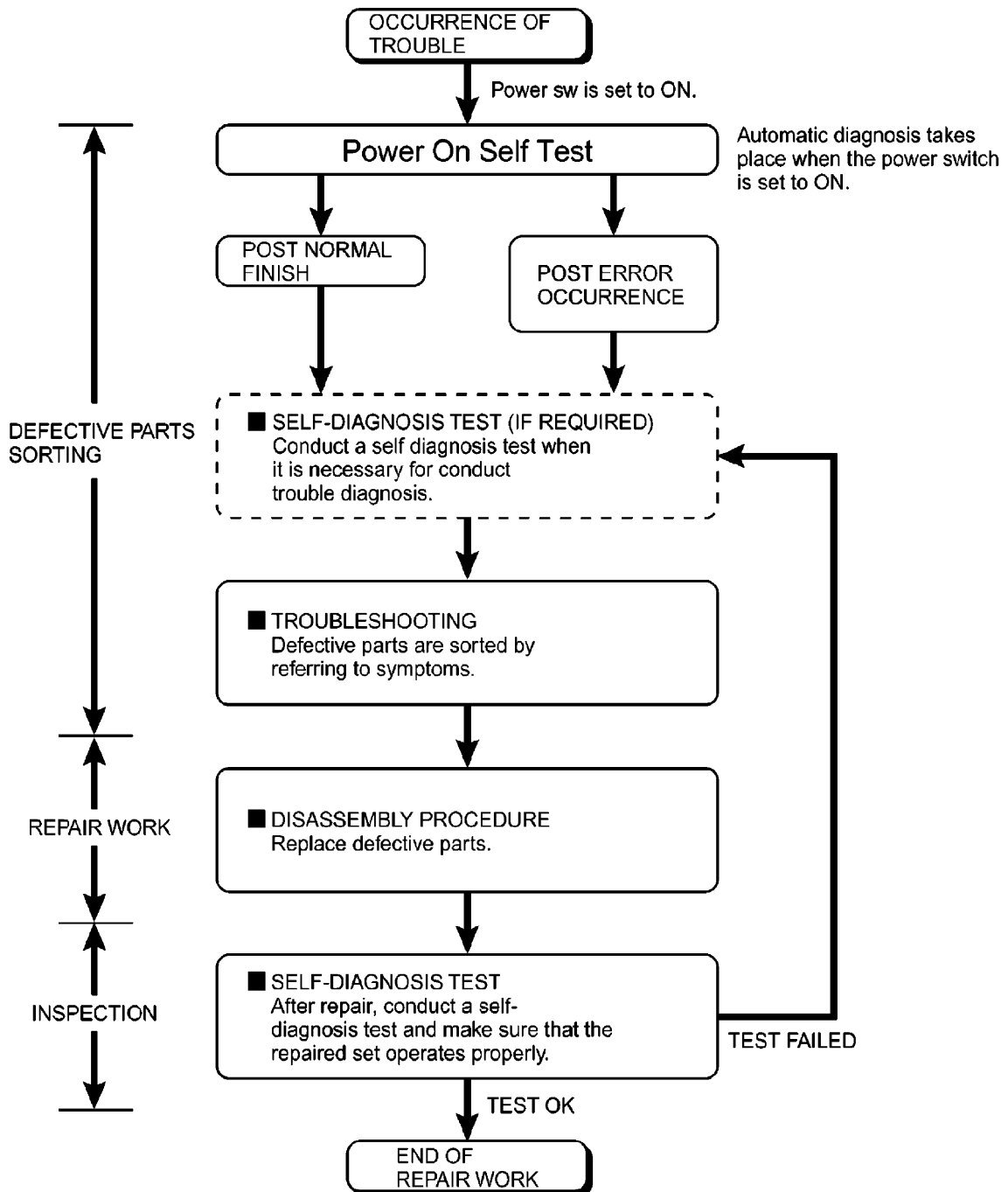


# 4 Diagnosis Procedure

## 4.1. Basic Procedures

The basic procedures for diagnosis, disassembly, and test of defective parts of a set to be repaired are summarized below. For details, refer to relevant pages in the Service Manual.

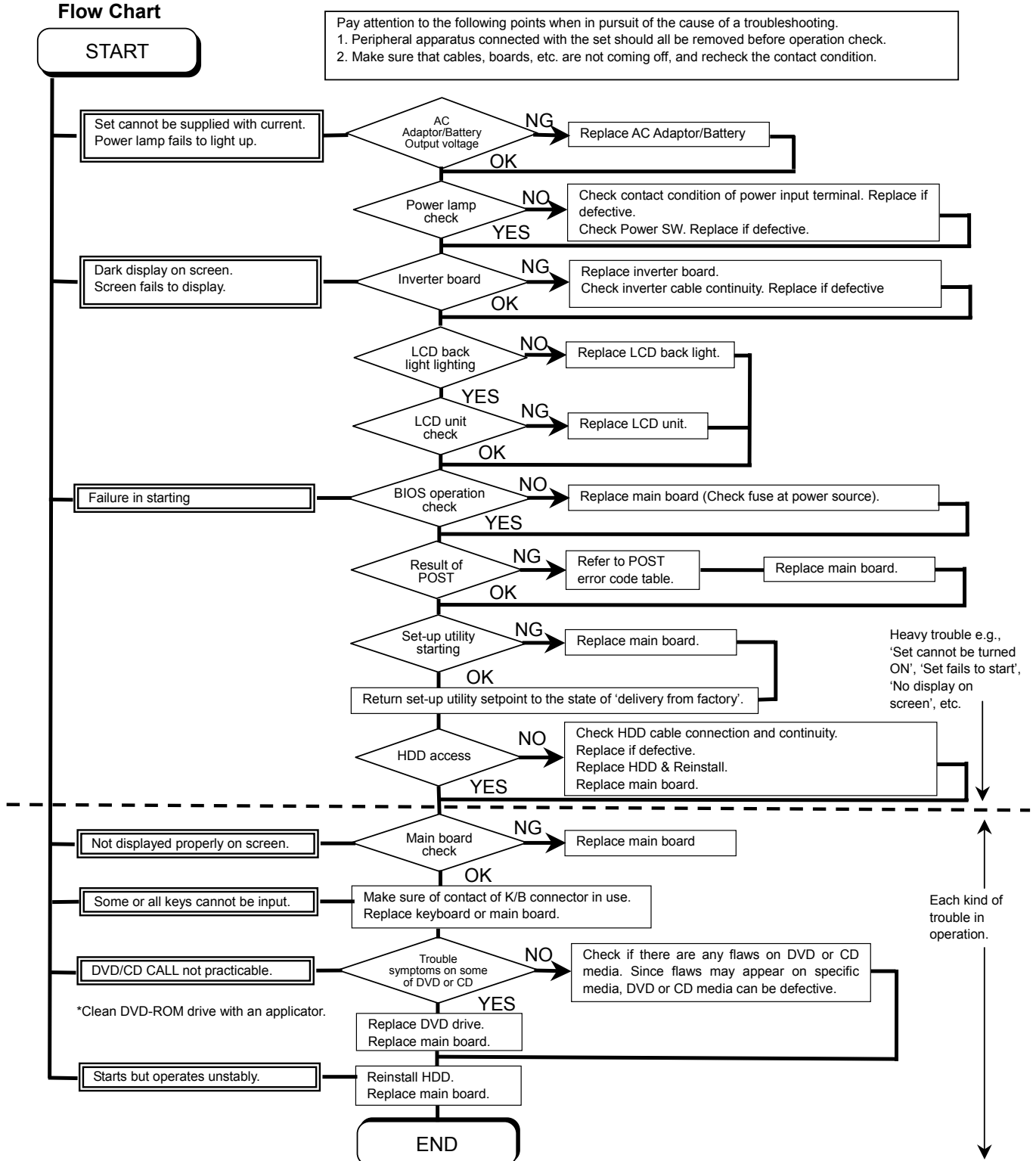
● Flow Chart



## 4.2. Troubleshooting

Please take note of the following two points with regard to troubleshooting:

1. Know-how of diagnosis upon occurrence of heavy troubles, e.g. 'Set cannot be turned ON', 'Set fails to start', 'No display on screen', etc.
2. Explanation of each trouble, mainly symptom of trouble in operation.



# 5 Power-On Self Test (Boot Check)

## Outline of POST

The set has a boot check function called POST (Power-On Self Test) in it. The condition of the main body is diagnosed by checking beep sound or error code.

- Start .....Test begins automatically when power switch is set to ON.
- Normal finish .....After memory checking, a beep sound is issued once and the set is placed into automatic stop.

Note: If no error occurs, nothing is displayed. (No display of OK, etc.)

## Error Diagnosis by Checking Beep Signal Sound

The beep sound is as follows:



(Length of bar shows length of sound.)

■ = long sound (about 0.4 sec.), ■ = short sound (about 0.2 sec.), Length between sounds is about 0.1 sec.

### ● Table of errors classified by beep sounds

Diagnosis	Beep signal sound	Error message
Main board	1(long sound)-2	BIOS ROM error
	1-2-2-3	BIOS ROM error
	1-3-1-1	RAM error
	1-3-1-3	Keyboard controller error
	1-3-4-1	RAM error
	1-3-4-3	RAM error
	1-4-1-1	RAM error
	2-1-2-3	BIOS ROM error
	2-2-3-1	Occurrence of unexpected offering

(Note) A beep sound is also issued in case of other I/O trouble.

## 6 List of Error Codes <Only when the port replicator is connected>

The following is a list of the messages that BIOS can display. Most of them occur during POST. Some of them display information about a hardware device, e.g., the amount of memory installed. Others may indicate a problem with a device, such as the way it has been configured. Following the list are explanations of the messages and remedies for reported problems. If your system displays one of except the messages marked below with an asterisk (\*), write down the message and contact Panasonic Technical Support. If your system fails after you make changes in the Setup menus, reset the computer, enter Setup and install Setup defaults or correct the error.

### **0200 Failure Fixed Disk**

Fixed disk in not working or not configured properly. Check to see if fixed disk is attached properly. Run Setup. Find out if the fixed-disk type is correctly identified.

### **0210 Stuck key**

Stuck key on keyboard.

### **0211 Keyboard error**

Keyboard not working.

### **0212 Keyboard Controller Failed**

Keyboard controller failed test. May require replacing keyboard controller.

### **0213 Keyboard locked - Unlock key switch**

Unlock the system to proceed.

### **0230 System RAM Failed at offset : *nnnn***

System RAM failed at offset *nnnn* of in the 64k block at which the error was detected.

### **0231 Shadow RAM Failed at offset : *nnnn***

Shadow RAM failed at offset *nnnn* of the 64k block at which the error was detected.

### **0232 Extended RAM Failed at offset : *nnnn***

Extended memory not working or not configured properly at offset *nnnn*.

### **0250 System battery is dead - Replace and run SETUP**

The CMOS clock battery indicator shows the battery is dead. Replace the battery and run Setup to reconfigure the system.

### **\*0251 System CMOS checksum bad - Default configuration used**

System CMOS has been corrupted or modified incorrectly, perhaps by an application program that changes data stored in CMOS. The BIOS installed Default SETUP Values. If you do not want these values, enter Setup and enter your own values. If the error persists, check the system battery or contact Panasonic Technical Support.

### **0260 System timer error**

The timer test failed. Requires repair of system board.

### **0270 Real time clock error**

Real-time clock fails BIOS test. May require board repair.

### **\*0280 Previous boot incomplete - Default configuration used**

Previous POST did not complete successfully. POST loads default values and offers to run Setup. If the failure was caused by incorrect values and they are not corrected, the next boot will likely fail. On systems with control of **wait states**, improper Setup settings can also terminate POST and cause this error on the next boot. Run Setup and verify that the wait-state configuration is correct. This error is cleared the next time the system is booted.

### **0281 Memory Size found by POST differed from EISA CMOS**

Memory size found by POST differed from EISA CMOS.

**02D0 System cache error - Cache disabled**

Contact Panasonic Technical Support.

**02F0: CPU ID:**

CPU socket number for Multi-Processor error.

**02F4: EISA CMOS not writable**

ServerBIOS2 test error: Cannot write to EISA CMOS.

**02F5: DMA Test Failed**

ServerBIOS2 test error: Cannot write to extended DMA (Direct Memory Access) registers.

**02F6: Software NMI Failed**

ServerBIOS2 test error: Cannot generate software NMI (Non-Maskable Interrupt).

**02F7: Fail - Safe Timer NMI Failed**

ServerBIOS2 test error: Fail-Safe Timer takes too long.

***device address Conflict***

Address conflict for specified *device*.

**Allocation Error for: *device***

Run ISA or EISA Configuration Utility to resolve resource conflict for the specified *device*.

**Failing Bits : *nnnn***

The hex number *nnnn* is a map of the bits at the RAM address which failed the memory test.

Each 1 (one) in the map indicates a failed bit. See error 230,231 or 232 for offset address of the failure in System, Extended or Shadow memory.

**Invalid System Configuration Data**

Problem with NVRAM (CMOS) data.

**I/O device IRQ conflict**

I/O device IRQ conflict error.

**Operating System not found**

Operating system cannot be located on either drive A: or drive C:. Enter Setup and see if fixed disk and drive A: are properly identified.

**Parity Check 1 *nnnn***

Parity error found in the system bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????. Parity is a method for checking errors in binary data. A parity error indicates that some data has been corrupted.

**Parity Check 2 *nnnn***

Parity error found in the I/O bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????.

**Press <F1> to resume, <F2> to Setup**

Displayed after any recoverable error message. Press <F1> to start the boot process or <F2> to enter a Setup and change the settings. Write down and follow the information shown on the screen.



# 7 Diagnostic Test

## Diagnostic Test Procedure

### 7.1. Equipment

- (1) Test Computer ----- 1 unit
- (2) External Floppy Disk Drive (USB Port) ----- 1 unit
- (3) AC Adapter ----- 1 pc.
- (4) Loopback Plug (Serial Port Test for RS232C) [P/N: DFWV95C0067] ---- 1 pc.
- (5) Floppy Disk containing file DIAG ----- 1 pc.

### 7.2. Preparation

- (1) Connect the AC Adapter and External Equipments.
- (2) The System Setup should be set to the factory setting values by executing the "SETUP UTILITY" which can be invoked by F2 key at the POST.  
If not, the messages and items of the diagnostic test may not be displayed properly on the LCD.
- (3) The serial port must be enabled in the "SETUP UTILITY" in order to execute the "1st SERIAL PORT" test.
- (4) Connect the serial loopback plug.

# 8 Self Diagnosis Test

Floppy disk is Included for the self-diagnostic tests that should be performed before using this product.  
Important notice

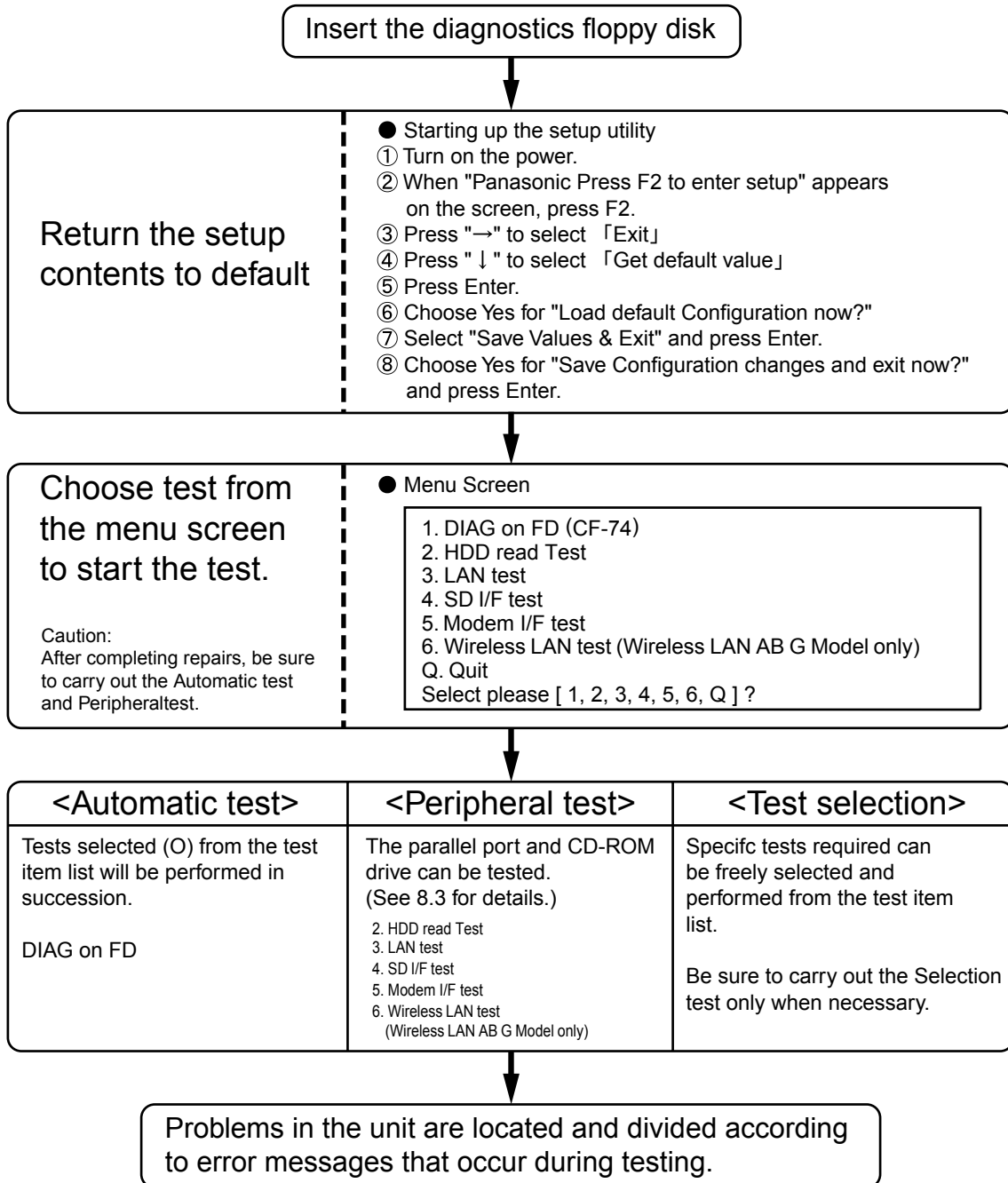
1. System password

If the password function has been turned on, you will need to ask the user for the password before performing the self-diagnostics.

2. FDD test

Performing the FDD test will erase the contents of the floppy disk you insert into the drive. Use a formatted disk that has no contents or whose contents are not required. This product has a password function. However, if this function is turned on, the self-diagnostics tests will not work.

## 8.1. Outline of Self Diagnostic Tests



### 8.1.1 List of main test items

The Selection item displays the items selected under Automatic test. If you select Automatic test, these test items will be performed automatically. You can use Selection test to choose items from the menu screen that you want to have tested.

These items are shown below.

1		SPEAKER TEST	Speaker test	<input type="radio"/>
2		VESA MODE TEST	VESA mode test	<input type="radio"/>
3	CPU (CPU related)	A20 GATE TEST	Address A20 line	<input type="radio"/>
4		CACHE ON/OFF TEST	Cache memory on/off test	<input type="radio"/>
5		NPU OPERAND TEST	Floating point processor function test	<input type="radio"/>
6	RAM (Memory related)	RAM STANDARD TEST	Memory standard test	<input type="radio"/>
7	CONTROL (Control ICs on the main board, etc.)	DMA PAGE REG TEST	DMA page register test	<input type="radio"/>
8		DMA REGISTER TEST	DAM register test	<input type="radio"/>
9		DMAC TRANSFER TEST	DAM transfer test	<input type="radio"/>
10		PIC HALT INSTRUCTION TEST	Interrupt controller halt instruction test	<input type="radio"/>
11		PIC REGISTER TEST	Interrupt controller register test	<input type="radio"/>
12		RTC CMOS RAM TEST	Real time clock CMOS test	<input type="radio"/>
13		RTC TEST	Real time clock test	<input type="radio"/>
14		PIT CH0 TEST	interrupt timer CH0	<input type="radio"/>
15		PIT CH1 TEST	interrupt timer CH1	<input type="radio"/>
16		PIT CH2 TEST	interrupt timer CH2	<input type="radio"/>
17	IO (Input-output)	KEYBOARD REG TEST	Keyboard test	<input type="radio"/>
18		PS/2 MOUSE REG	Mouse registration test	<input type="radio"/>
19	COMMUNICATION	SERIAL WRAP TEST	Serial loop back (jig required)	—
20		SERIAL ALL INTERNAL TEST	Serial port interior test	<input type="radio"/>
21		PARALLEL REGISTER R/W	Parallel register R/W test	<input type="radio"/>
22	AUX (Auxiliary functions)	PCIC ALL TEST	PCIC test	<input type="radio"/>
23		Card Bus Reg	Card Bus register test	<input type="radio"/>
24		USB Reg	USB register test	<input type="radio"/>
25	VIDEO (Display related)	VGA ALL TEST	VGA test	<input type="radio"/>
26		SVGA RAM TEST	SVGA RAM test	<input type="radio"/>
27	DISK (FDD, HDD)	FD WT/RD/WP TEST	FD WT, RD WP test	—
28		HDD ALL TEST	Only HDD lead test selected	<input type="radio"/>
29	UNIQUE (Individual functions)	ECP REGISTER R/W	ECP register R/W test	<input type="radio"/>
30		EPP REGISTER R/W	EPP register R/W test	<input type="radio"/>
31		EXT. CMOS R/W TEST	Extension CMOS R/W test	<input type="radio"/>

	Test function settings	Test condition save/play	Following file command
		Test automatic execute	Test executed on run settings by selecting command
		Error display (Paging style)	Select displayed items Error, Log, Option

## 8.2. Automatic Test

Test execution

From the menu screen shown below For Celeron models Select and press Enter for DIAG on FD

```

1. DIAG on FD (CF-74)
2. HDD read Test
3. LAN test
4. SD I/F test
5. Modem I/F test
6. Wireless LAN test (Wireless LAN AB G Model only)
Q. Quit
Select please [ 1, 2, 3, 4, 5, 6, Q ] ?

```

menu screen

### Speaker test, VESA test

The speaker test involves listening to music and choosing OK or Not okay. The VESA test involves looking at the display to see if it is satisfactory then choosing OK or Not okay.

### Serial loop back test

The Automatic test's initial settings are set so that the serial loop back test will be executed. Connect the serial loop back jig and then perform the test.

(This test is not executed on default mode)

### Diagnostics result

If no errors occur. The screen shows the word "Pass" in large letters.

If errors occur. The test is stopped when an error occurs and the error message is displayed.

For explanations of error messages, see Error Messages and Problem Categories (section 8.5).

### Quitting the test

At the screen shown below, simultaneously press the ALT and X keys.

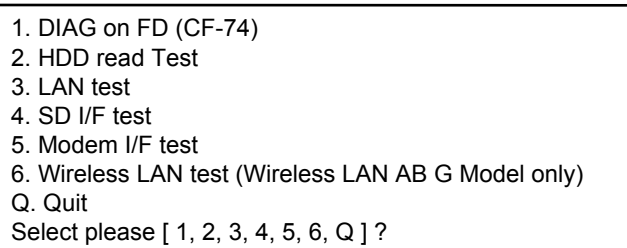


Input screen

## 8.3. Peripheral Test

### Test execution

From the menu screen shown below, be sure to choose the following items and press Enter.



menu screen

### 2. HDD read Test

### 3. LAN test

### 4. SD I/F test

### 5. Modem I/F test

### 6. Wireless LAN test

(Wireless LAN AB G Model only)

This test checks for internal LAN device.

Choose LAN test and press Enter.

## 8.4. Test Selection

Starting up the input menu

1. From the menu screen shown below, choose Quit and press Enter.

```
1. DIAG on FD (CF-74)
2. HDD read Test
3. LAN test
4. SD I/F test
5. Modem I/F test
6. Wireless LAN test (Wireless LAN AB G Model only)
Q. Quit
Select please [ 1, 2, 3, 4, 5, 6, Q ] ?
```

menu screen

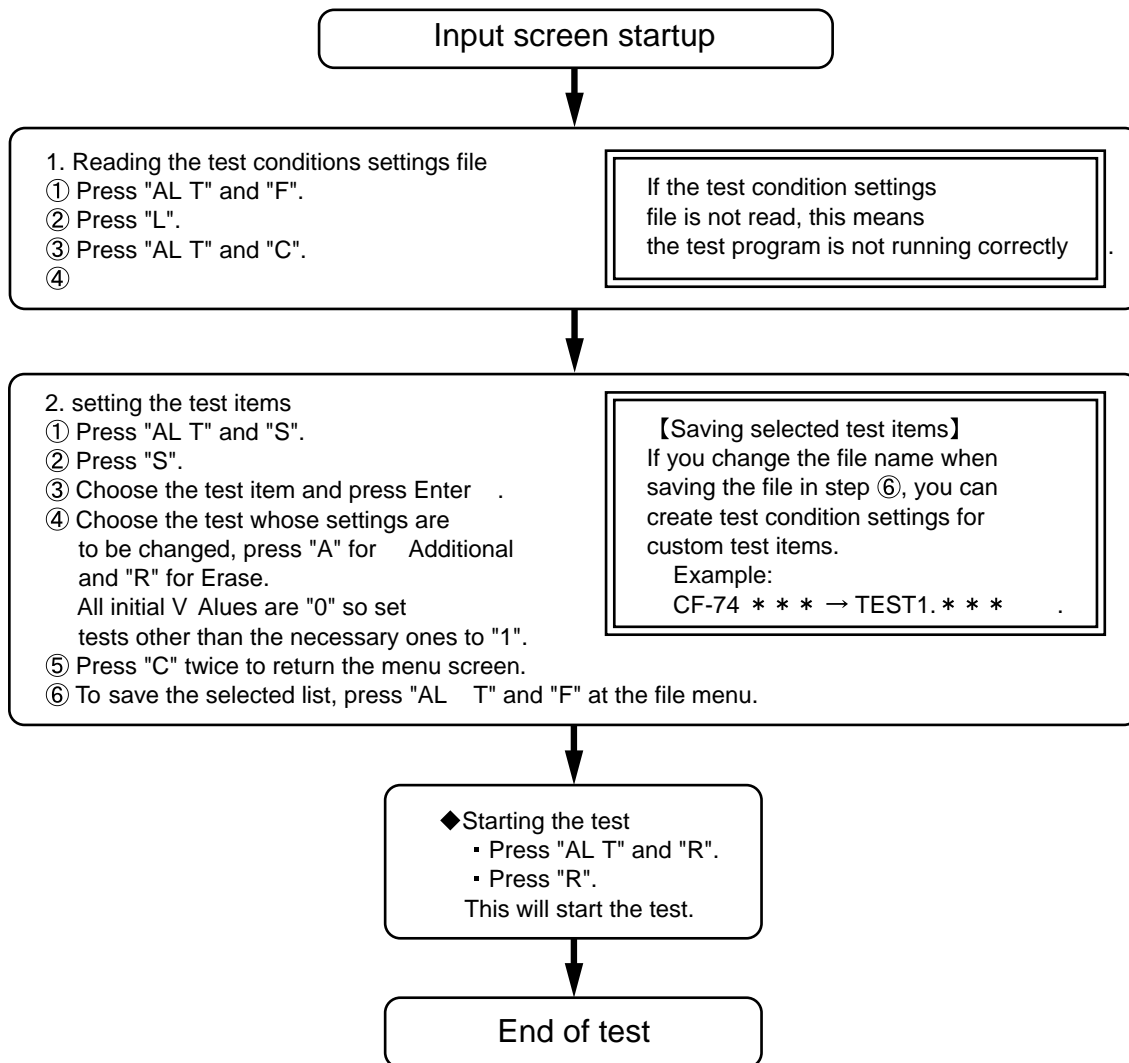
2. When A: \DIAG appears, input "JDG\_74" and press Enter.
3. The input screen shown below will appear.  
To choose menu items, hold down "ALT" and press the selection key.

Example:  
 "ALT" + "F" brings up the File menu.



Input screen

Order of test flow selection

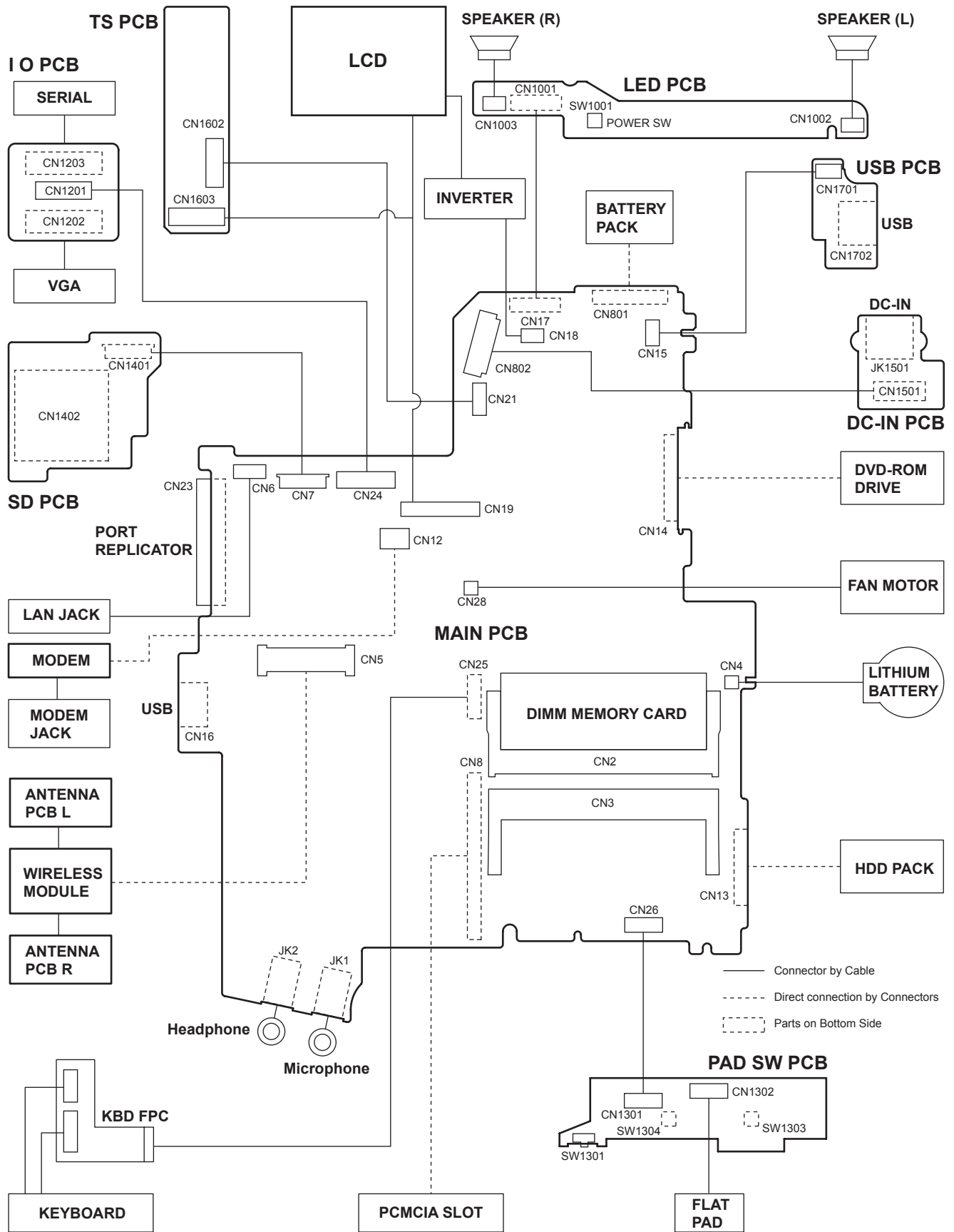


## 8.5. Error Messages and Troubleshooting

The table below explains the parts that may be faulty or damaged should an error message occur while performing the various test items of the self diagnostics program.

	Test classification	Screen display test items	Contents
1	CPU (CPU related)	A20 GATE TEST	Address 20 line
2		CACHE ON/OFF	Cache memory on/off
3		NPU OPERAND TEST	Floating point processor function
4	RAM (Memory related)	RAM STANDARD	Memory standard
5	CONTROL (Control ICs on the main board, etc.)	DMA PAGE REG TEST	DMA page register
6		DMA REGISTER TEST	DAM register
7		DMAC Transfer TEST	DAM transfer test
8		PIC HALT INSTRUCTION TEST	Interrupt controller
9		PIC REGISTER TEST	Interrupt controller
10		RTC CMOS RAM TEST	Real time clock CMOS
11			
12		SPEAKER TEST	Speaker
13	PIT CH0 TEST		Interrupt timer CH0
14			Interrupt timer CH1
15			Interrupt timer CH2
16	IO (Input-output)	KEYBOARD REG TEST	Keyboard
17		PS/2 MOUSE REG	Mouse
18	COMMUNICATION	SERIAL WRAP TEST	Serial loop back (jig required)
19		SERIAL ALL INTERNAL TEST	Serial port
20		PARALLEL REGISTER R/W	Parallel register
21	AUX (Auxiliary functions)	PCIC ALL TEST	PCIC
		Card Bus REG	Card Bus port
		USB REG	USB port
22	VIDEO (Display related)	VGA ALL TEST	VGA
23		SVGA RAM TEST	SVGA RAM
24		VESA MODE TEST	VESA mode
25	DISK (FDD, HDD)	FD WT/RD/WP TEST	FD write/read/write protection
26		HDD ALL TEST	Only HDD lead selected
27	UNIQUE (Individual functions)	ECP REGISTER R/W	Parallel port
28		EPP REGISTER R/W	Parallel port
29		EXT. CMOS R/W TEST	Extension CMOS R/W test

# 9 Wiring Connection Diagram





# 10 Disassembly/Reassembly

## Note:

Power off the computer. Do not shut down to the Suspend or hibernation mode.

Do not add peripherals while the computer is in the Suspend or hibernation mode; abnormal operation may result.

## 10.1. Disassembly Instructions

### 10.1.1. Preparation

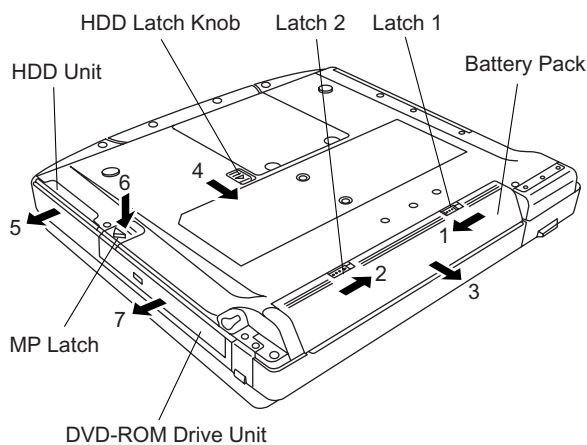
Before disassembling, be sure to make the following preparations.

- Shut down Windows and turn off the power.
- Disconnect the AC adaptor.
- Remove the optional DIMM memory card and PCMCIA card if they are connected.
- Remove other devices if they are connected.

#### Attention:

- Please execute writing BIOS ID when you exchange the Main Board.
- You cannot reuse the Conductive Clothes and the heat dissipating parts such as Sheet and Rubber. Use new parts.

### 10.1.2. Removing the Battery Pack, the HDD Unit and the DVD-ROM Drive Unit



#### Battery Pack

1. Slide the Latch 1 to unlock. (1)
2. Slide the Latch 2 (2), and then without releasing it, slide and remove the Battery Pack. (3)

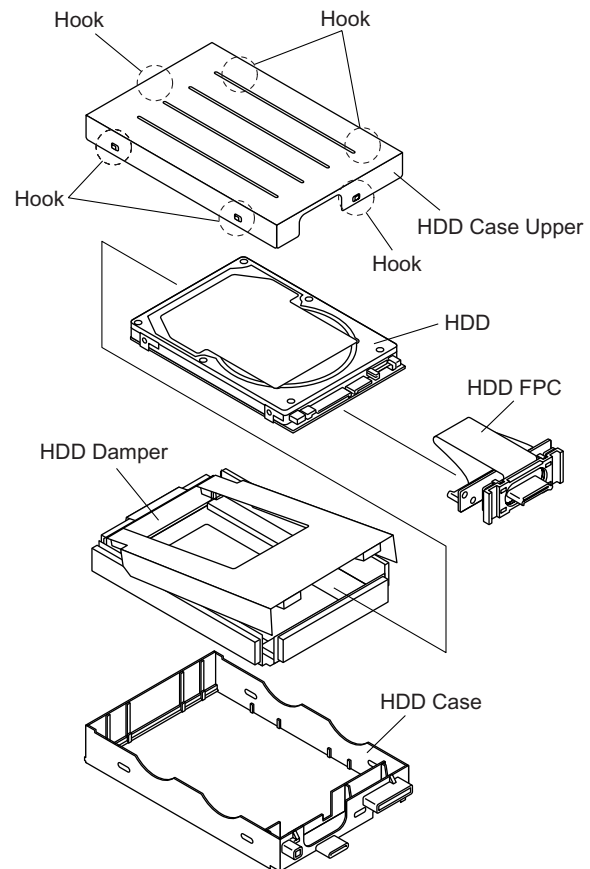
#### HDD Unit

1. Slide the HDD Latch Knob (4), and then without releasing it, slide and remove the HDD Unit. (5)

#### DVD-ROM Drive Unit

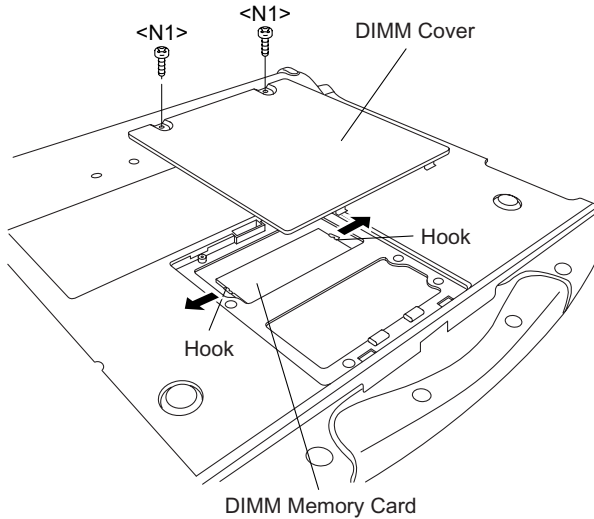
1. Push the MP Latch (6), and then without releasing it, slide the DVD-ROM Drive Unit. (7)

### 10.1.3. Removing the HDD



1. Remove the six Hooks, and remove the HDD Case Upper.
2. Remove the HDD Damper.
3. Disconnect the HDD from the HDD FPC.

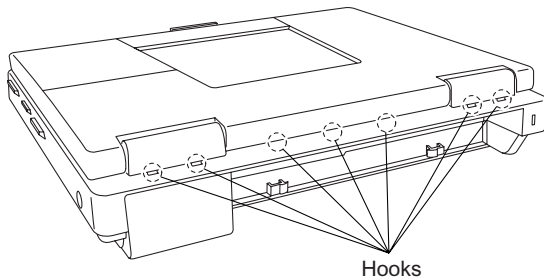
### 10.1.4. Removing the DIMM Memory Card



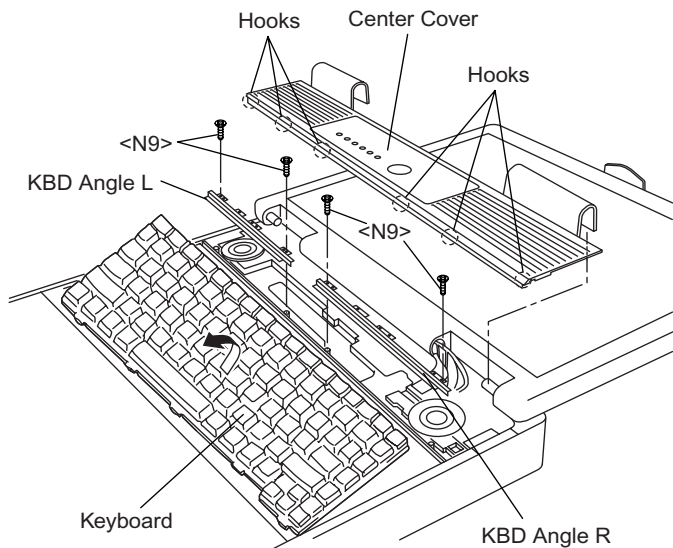
1. Remove the two Screws <N1>, and remove the DIMM Cover.
2. Open the right and left Hooks of the DIMM Memory Card outward, and remove the DIMM Memory Card.

Screws <N1>: XSB2+3FNL

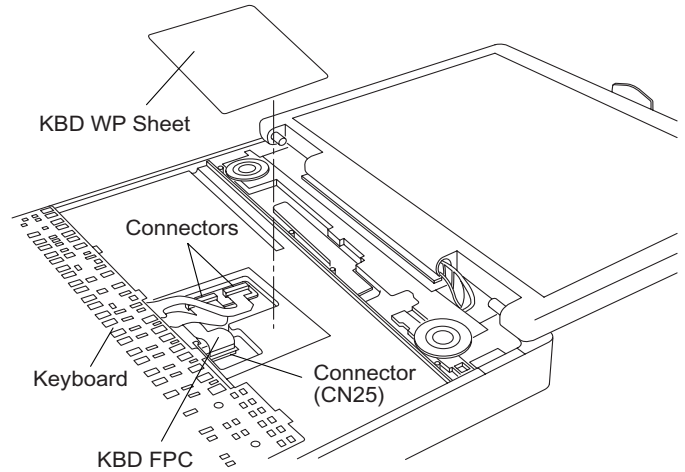
### 10.1.5. Removing the Keyboard



1. Release the seven Hooks fixing the rear side of the Center Cover.



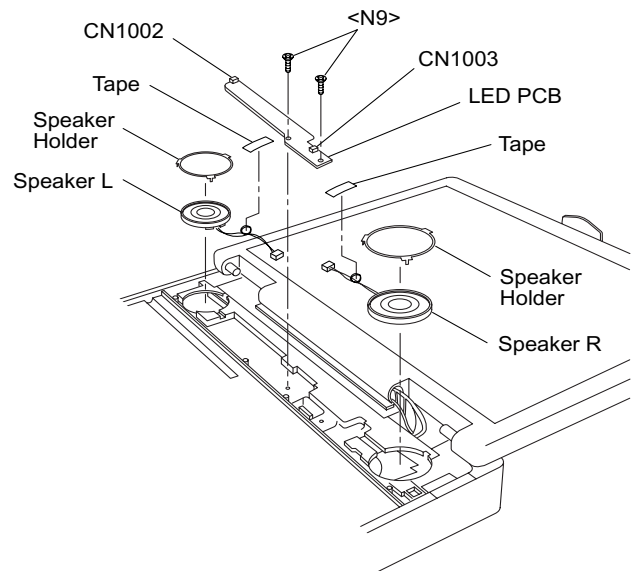
2. Lift the upper part of the Center Cover and draw it backward, release the six Hooks fixing the front side of the Center Cover, and then remove the Center Cover.
3. Remove the four Screws <N9> and the KBD Angle L and R.
4. Lift the upper part of the Keyboard and draw it backward, and then turn the Keyboard over forward.



5. Remove the KBD WP Sheet.
6. Disconnect the two KBD Cables from the two Connectors (KBD FPC).
7. Remove the Keyboard.
8. Disconnect the Cable from the Connector (CN25).
9. Remove the KBD FPC,

Screws <N9>: DFHE5025XA

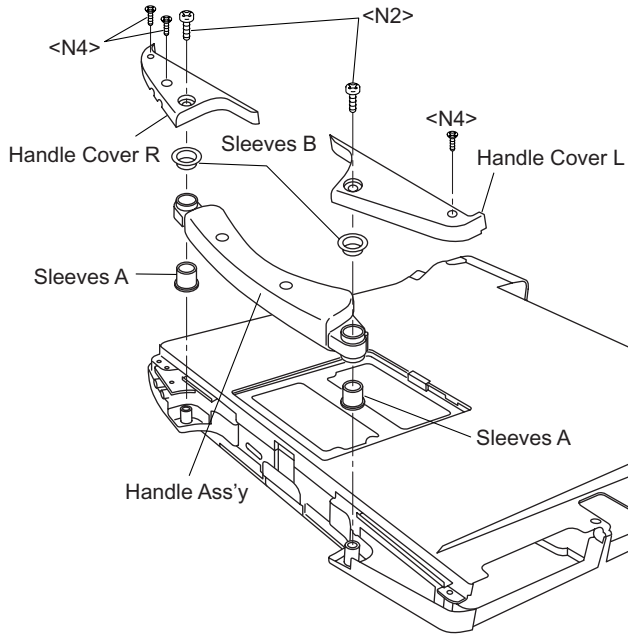
### 10.1.6. Removing the Speaker and the LED PCB



1. Remove the two Speaker Holders.
2. Remove the two tapes, and disconnect the two Speaker Cables from the two Connectors (CN1002, CN1003)
3. Remove the Speaker L and R.
4. Remove the two Screws <N9>, and Remove the LED PCB.

Screws <N9>: DFHE5025XA

### 10.1.7. Removing the Handle Ass'y

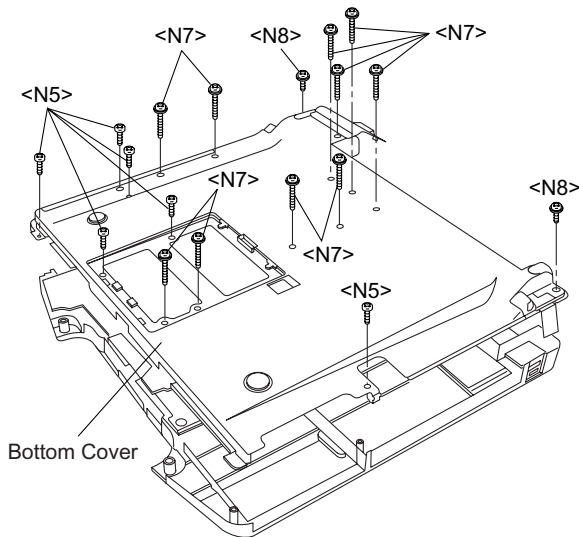


1. Remove the two Screws <N2>.
2. Remove the three Screws <N4>, and remove the Handle Cover L and R.
3. Remove the two Sleeves A, Handle Ass'y and two Sleeves B.

Screws <N2>: DRHM4+10FKS

Screws <N4>: DRSB2+6FKL

### 10.1.8. Removing the Bottom Case



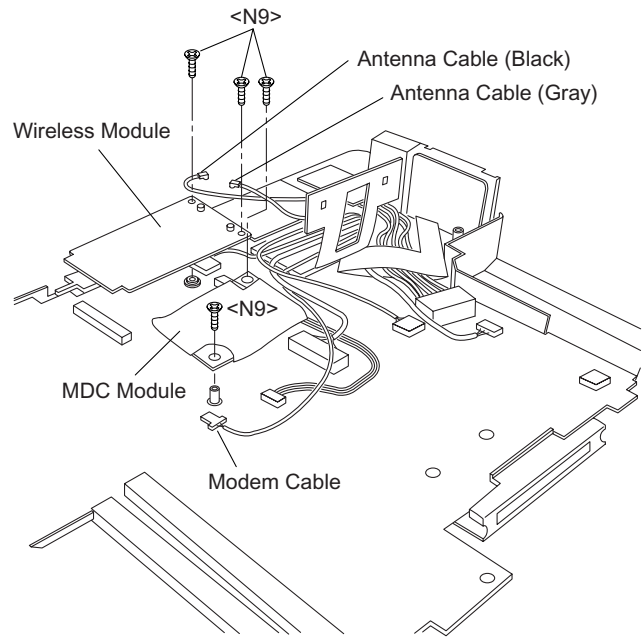
1. Remove the six Screws <N5>.
2. Remove the ten Screws <N7>.
3. Remove the two Screws <N8>.
4. Open the Lid Rubbers and remove the Bottom Cover.

Screws <N5>: DXSB2+6FNL

Screws <N7>: DXYN2+J16FNL

Screws <N8>: DXYN2+J8FNL

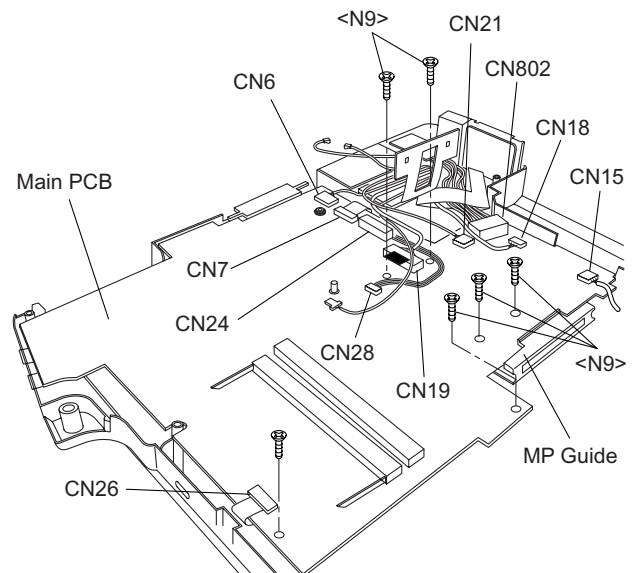
### 10.1.9. Removing the Wireless Module and MDC Module



1. Remove the two Antenna Cables from the two Connectors.
  - Antenna Cable (Black): MAIN Connector
  - Antenna Cable (Gray): AUX Connector
2. Remove the two Screws <N9>.
3. Remove the Wireless Module.
4. Remove the two Screws <N9>.
5. Disconnect the Modem Cable from the Connector.
6. Remove the MDC Module.

Screws <N9>: DFHE5025XA

### 10.1.10. Removing the Main PCB



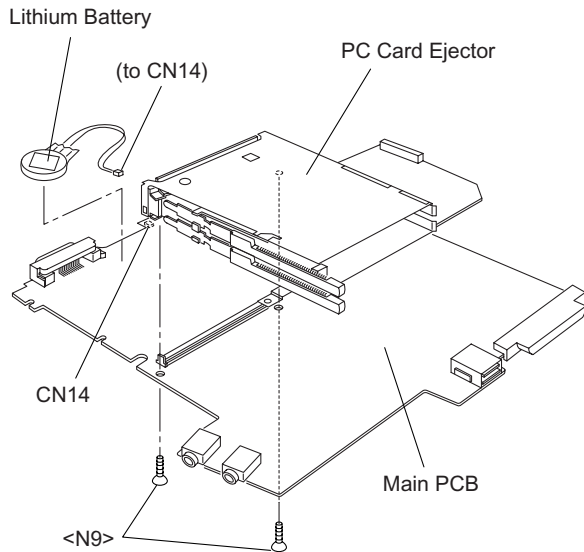
**Note:**

After replacing the Main Board, rewrite the BIOS ID.

1. Disconnect the ten Cables from the ten Connectors (CN6, CN7, CN24, CN19, CN28, CN21, CN802, CN18, CN15, CN25).
2. Remove the six Screws <N9>.
3. Remove the Main PCB.
4. Remove the MP Guide.

Screws <N9>: DFHE5025XA

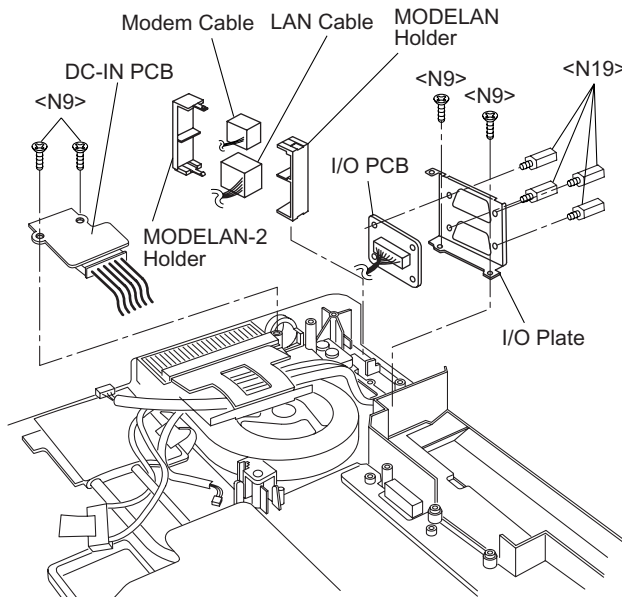
### 10.1.11. Removing the PC Card Ejector and Lithium Battery



1. Remove the two Screws <N9>.
2. Remove the PC Card Ejector.
3. Disconnect the Cable from the Connector (CN14).
4. Remove the Lithium Battery.

Screws <N9>: DFHE5025XA

### 10.1.12. Removing the DC-IN PCB and I/O PCB

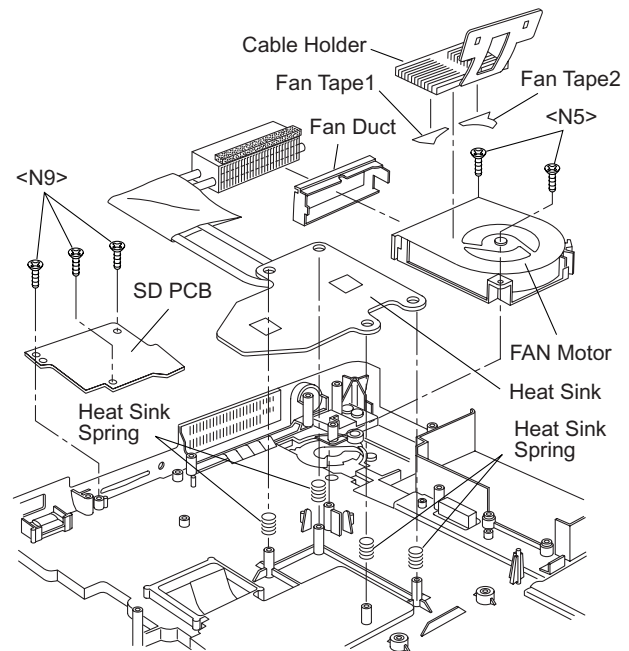


1. Remove the two Screws <N9>.
2. Remove the DC-IN PCB.
3. Remove the two Screws <N9>.
4. Remove the four Screws <N19>, and then the I/O PCB from the I/O Plate.
5. Remove the Modem Cable and LAN Cable from the MODELAN Holders.

Screws <N9>: DFHE5025XA

Screws <N19>: DFHE5035ZB

### 10.1.13. Removing the FAN Motor and SD PCB

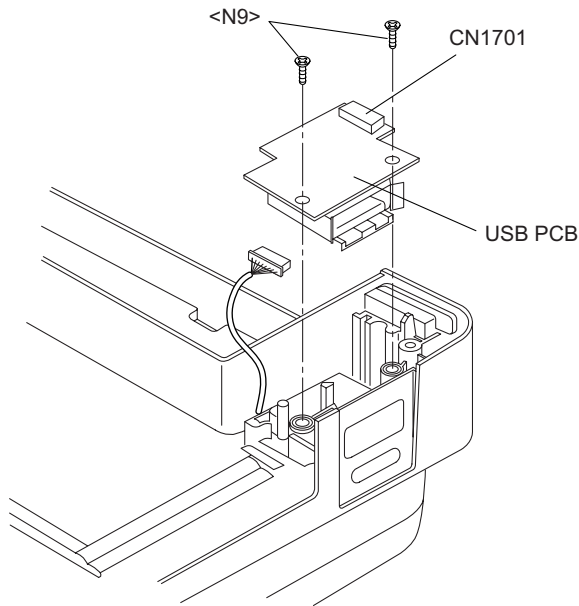


1. Remove the Cable Holder.
2. Remove the two Screws <N5>.
3. Remove the FAN Motor.
4. Remove the Heat Sink, Fan Duct, and the four Heat Sink Springs.
5. Remove the three Screws <N9>.
6. Remove the SD PCB.

Screws <N5>: DXSB2+6FNL

Screws <N9>: DFHE5025XA

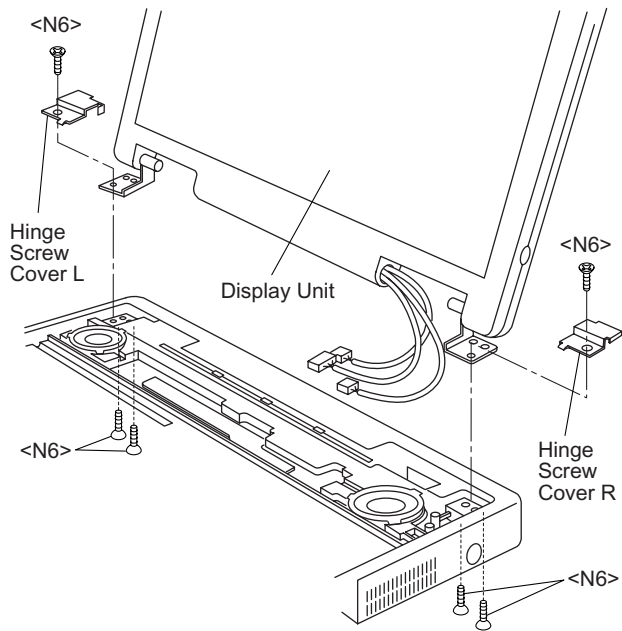
### 10.1.14. Removing the USB PCB



1. Disconnect the Cable from the Connector (CN1701).
2. Remove the two Screws <N9>.
3. Remove the USB PCB.

Screws <N9>: DFHE5025XA

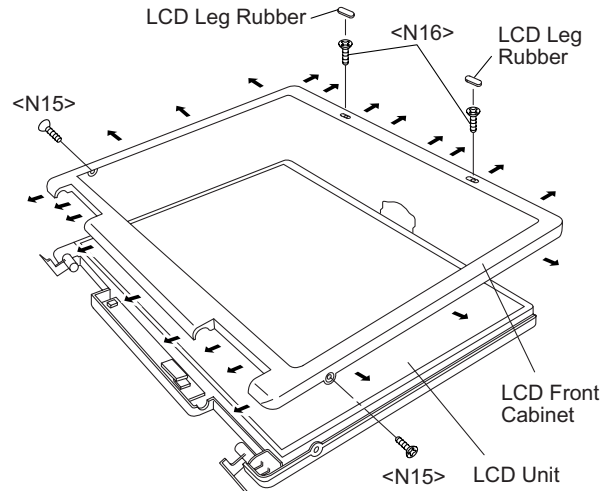
### 10.1.15. Removing the Display unit



1. Remove the four Screws <N6> from the computer bottom side.
2. Remove the two Screws <N6> from the computer upper side.
3. Remove the Display Unit.
4. Remove the Hinge Screw Cover L and R.

Screws. <N6>: DXSB3+6FNL

### 10.1.16. Removing the LCD Front Cabinet

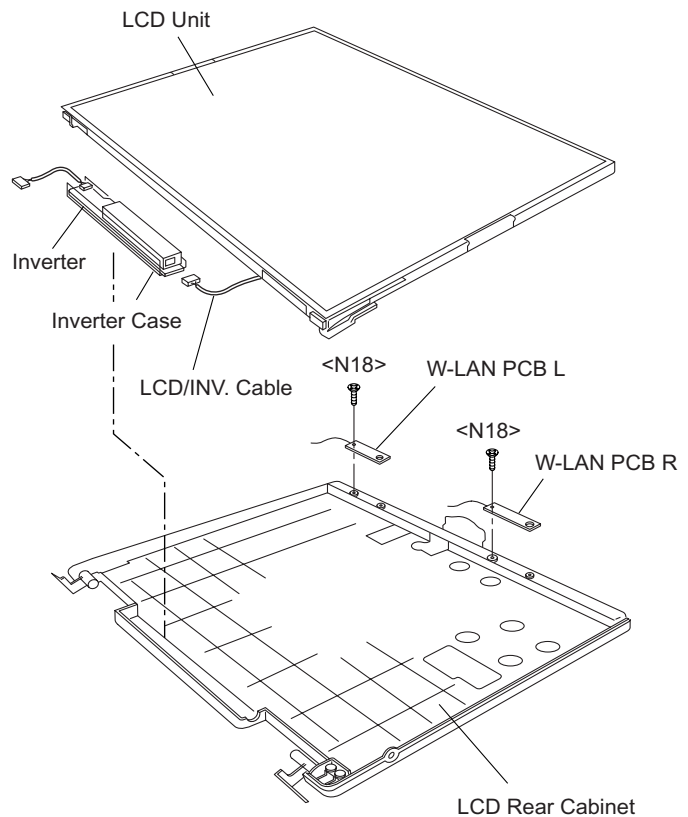


1. Remove the two LCD Leg Rubbers, and then the two Screws <N16>.
2. Remove the two Screws <N15>.
3. Release the 23 Hooks joining the LCD Front and Rear Cabinet on the LCD Front Cabinet outward. (See the Figure),
4. Remove the LCD Front Cabinet.

Screws <N15>: DRHM0075ZA

Screws <N16>: DXQT2+G4FCL

### 10.1.17. Removing the LCD and the Inverter



1. Disconnect the LCD/INV. Cable from the Connector on the Inverter.
2. Remove the LCD Unit.
3. Remove the Inverter with the Inverter Case.
4. Remove the two Screws <N18>, and then the W-LAN PCB L and R.

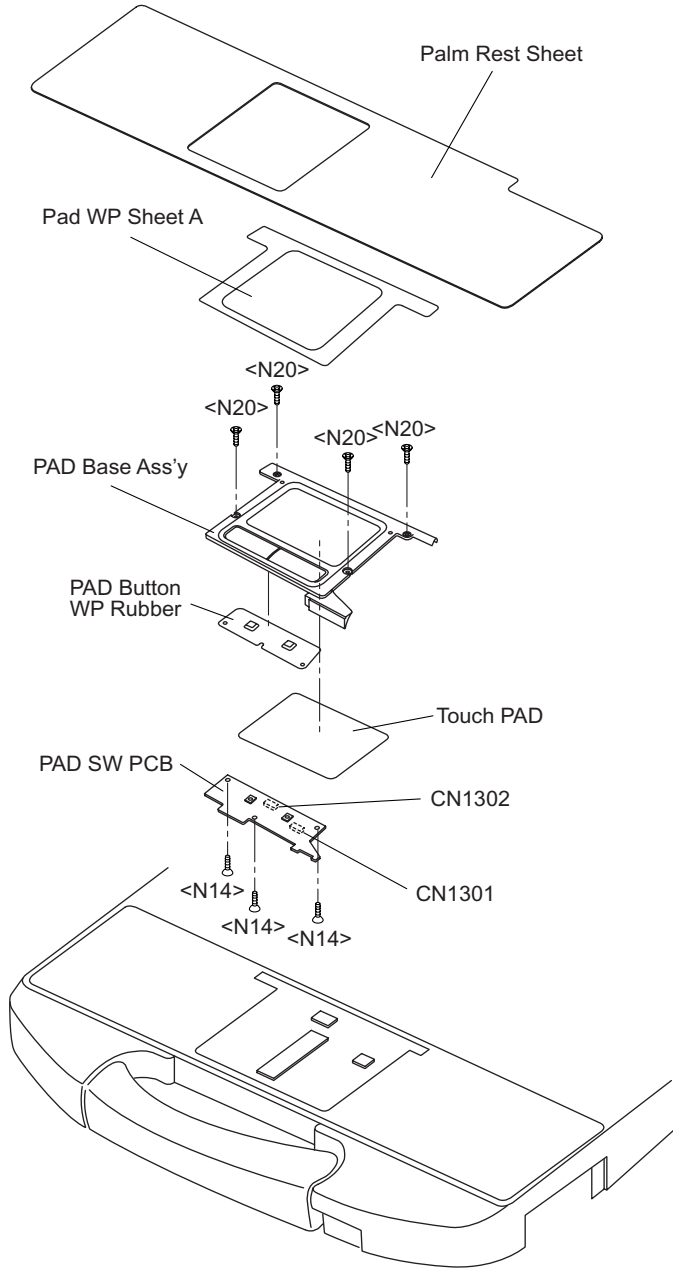
Screws <N18>: XQN17+BJ6FJ

### 10.1.18. Removing the Touch PAD and PAD PCB

1. Remove the Palm Rest Sheet.
2. Remove the four Screws <N20>, and then PAD Base Ass'y.
3. Disconnect the two Cables from the two Connectors (CN1301, CN1302).
4. Remove the three Screws <N14>.
5. Remove the PAD Button WP Rubber and PAD SW PCB.
6. Remove the Touch PAD.

Screws <N14>: DRHM0106ZA

Screws <N20>: DXQT2+G4FCL





## 10.2. Reassembly Instructions

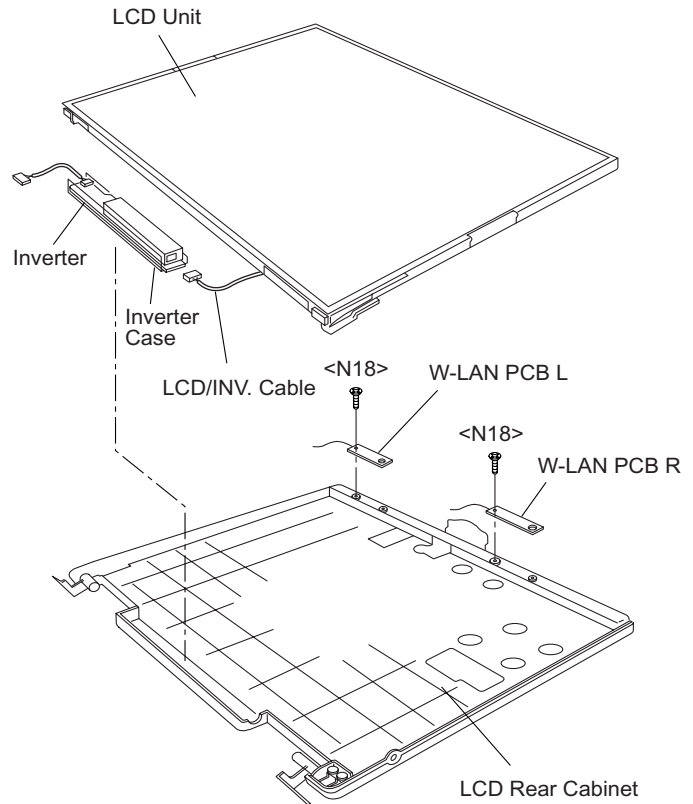
### 10.2.1. Attention when CF-74 series is repaired

- Please execute writing BIOS ID when you exchange the Main Board.
- You cannot reuse the Conductive Clothes and the heat dissipating parts such as Sheet and Rubber. Use new parts.

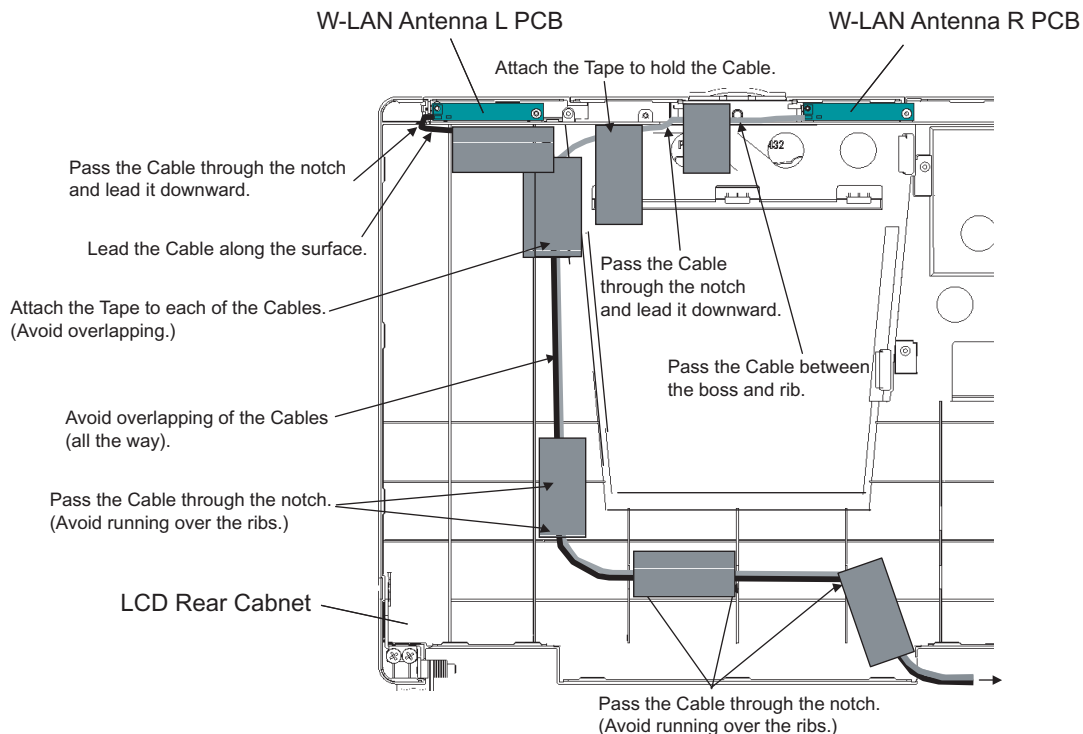
### 10.2.2. Setting the LCD Unit and the Inverter

1. Fix the W-LAN PCB L and R to the LCD Rear Cabinet using the two Screws <N18>.
2. Attach the Inverter with the Inverter Case to the LCD Rear Cabinet.
3. Set the LCD Unit to the LCD Rear Cabinet.
4. Connect the LCD/INV. Cable to the Connector on the Inverter.

Screws <N18>: XQN17+BJ6FJ

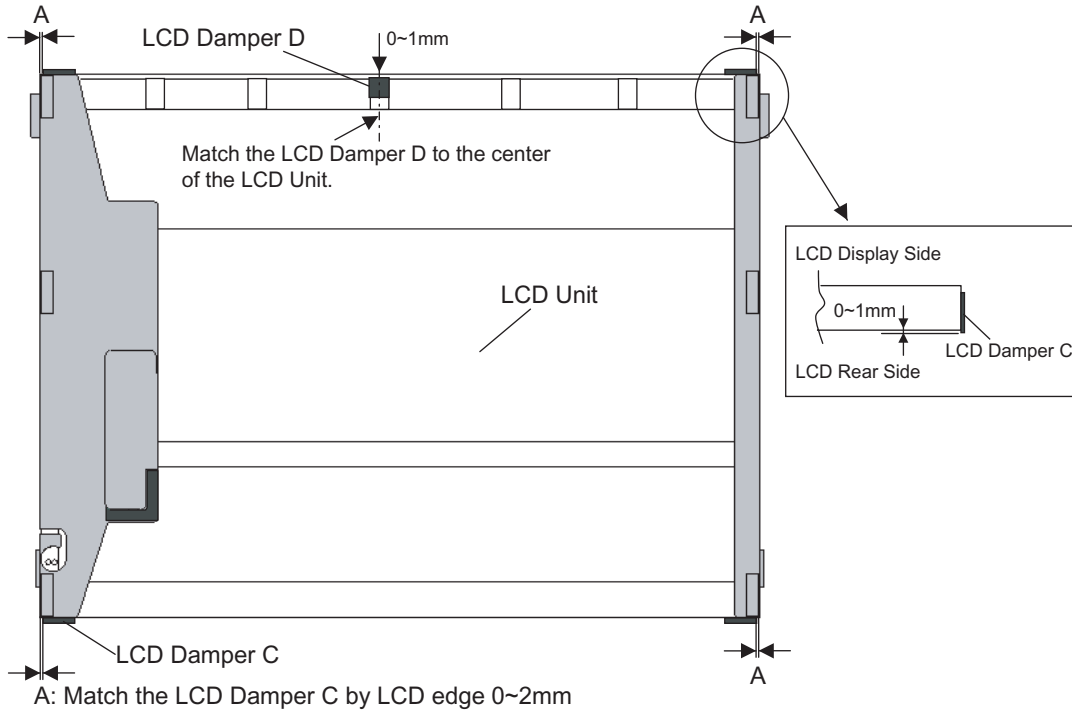


### ■ Arranging the W-LAN L and R Cable



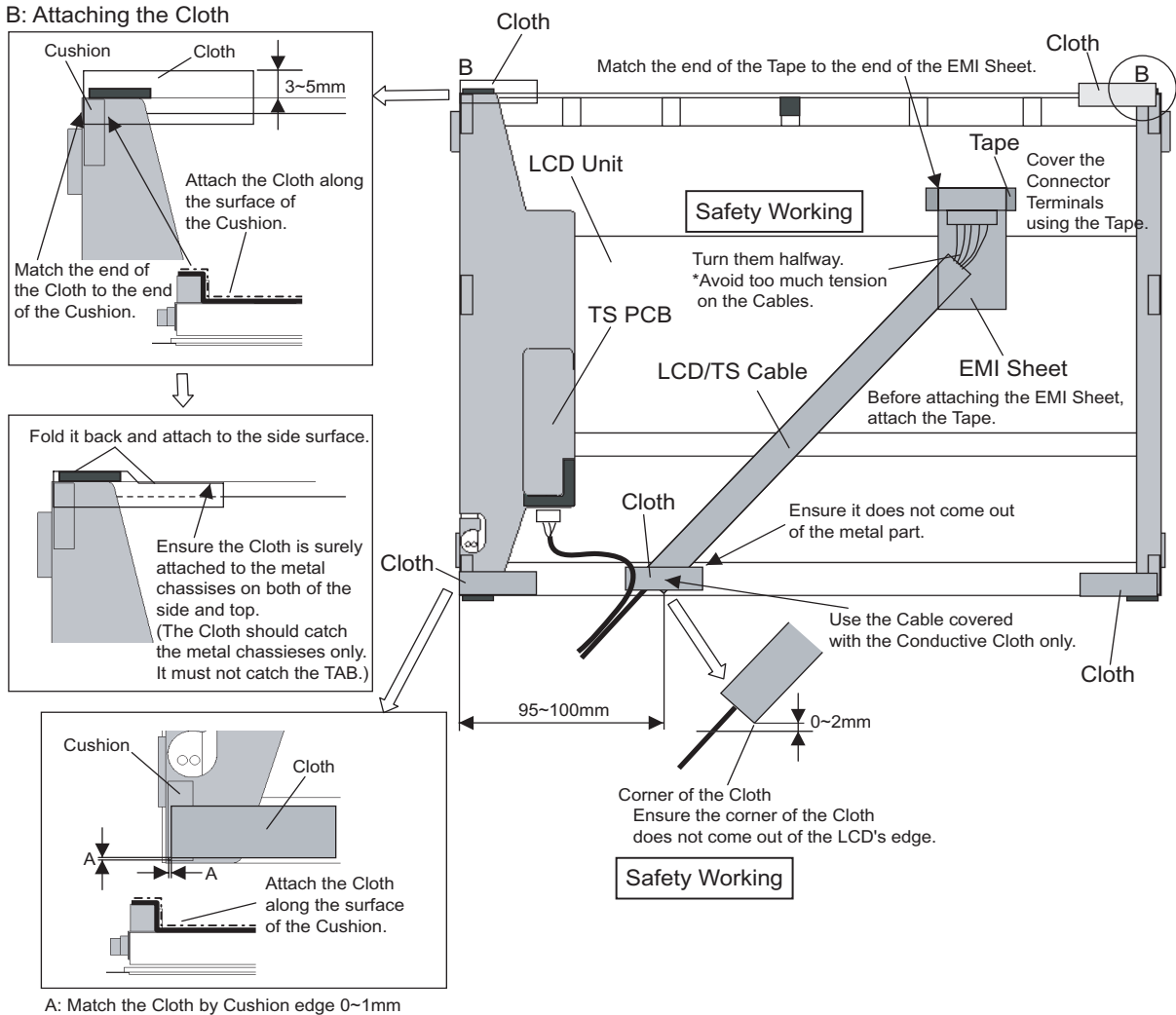
■ Attaching the LCD Damper C and LCD Damper D

1. Attach the four LCD Damper C to the upper part and lower part of the LCD Unit.
2. Attach the LCD Damper D to the upper center of the LCD Unit.



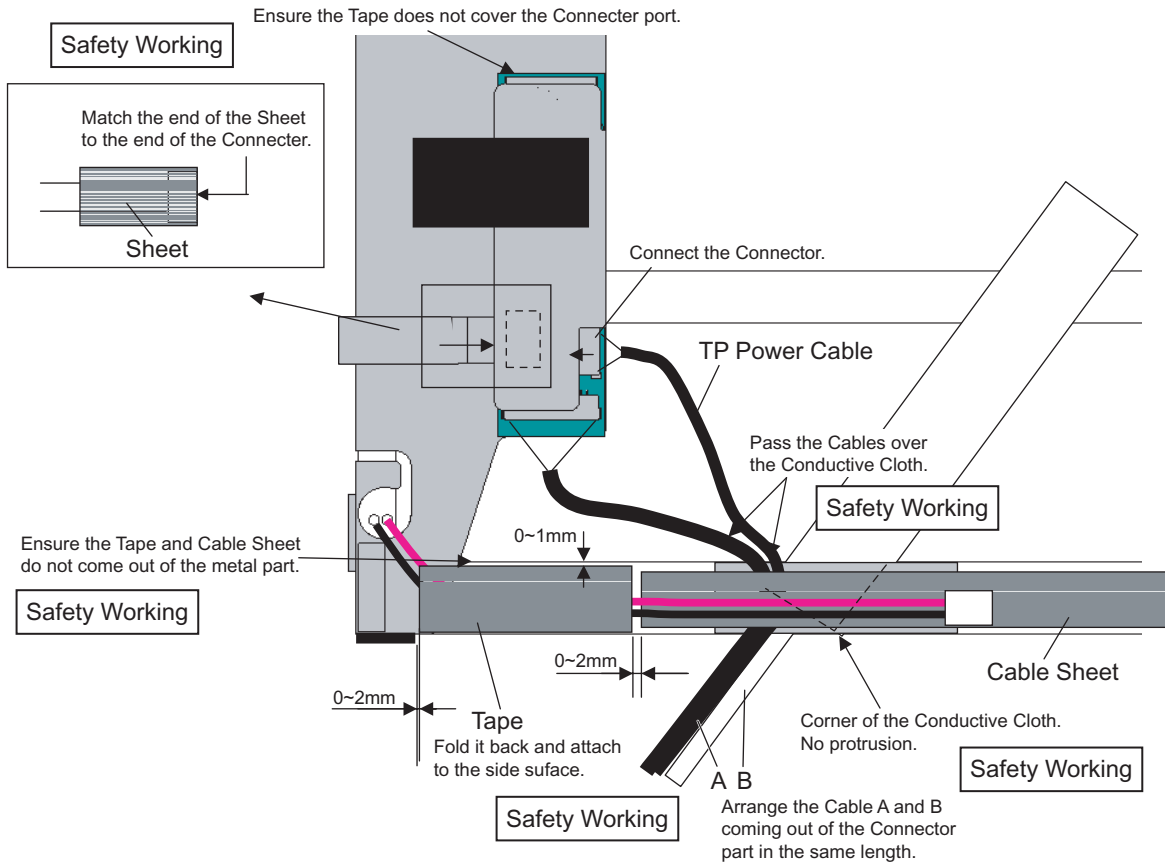
■ Arranging the LCD/TS Cable

1. Connect the LCD/TS Cable (LCD) to the Connector on the LCD Unit.
2. Connect the LCD/TS Cable (TS) to the Connector (CN603) on the TS PCB.



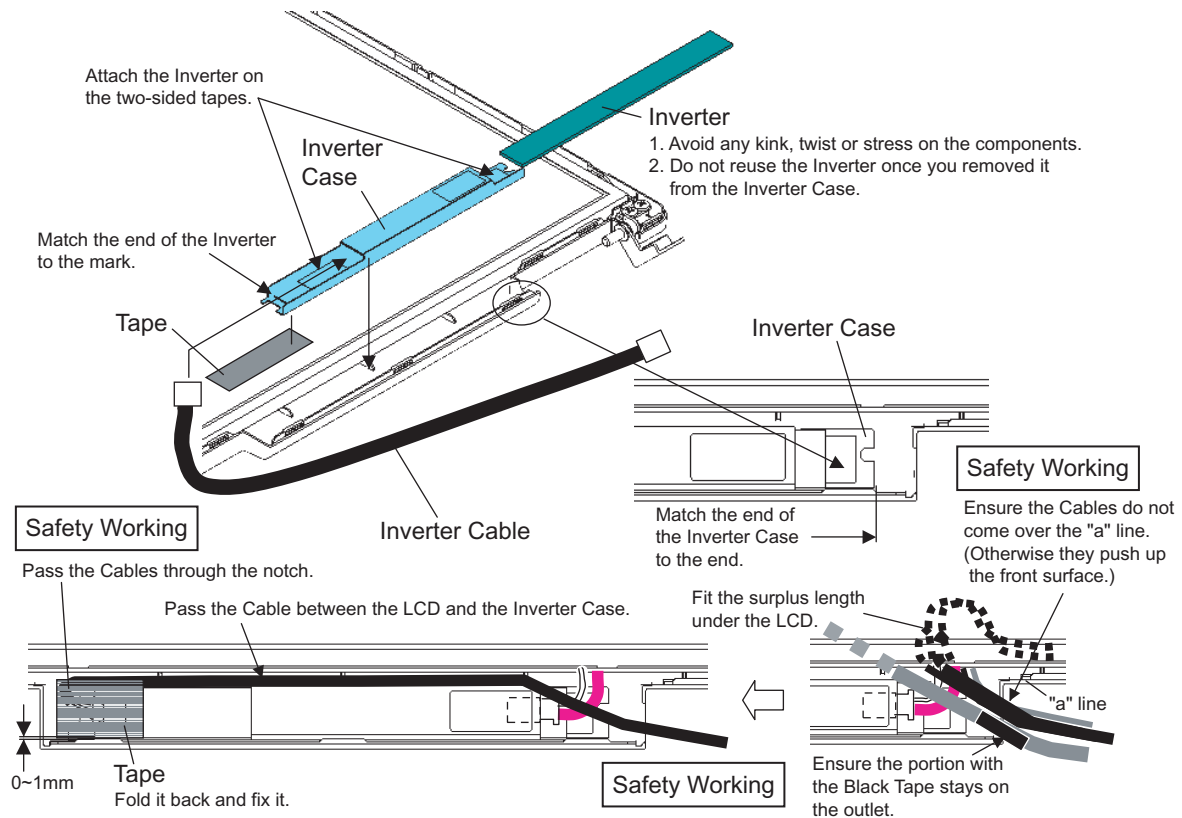


## ■ Arranging the TP Power Cable and Attaching the TP/LCD Sheet

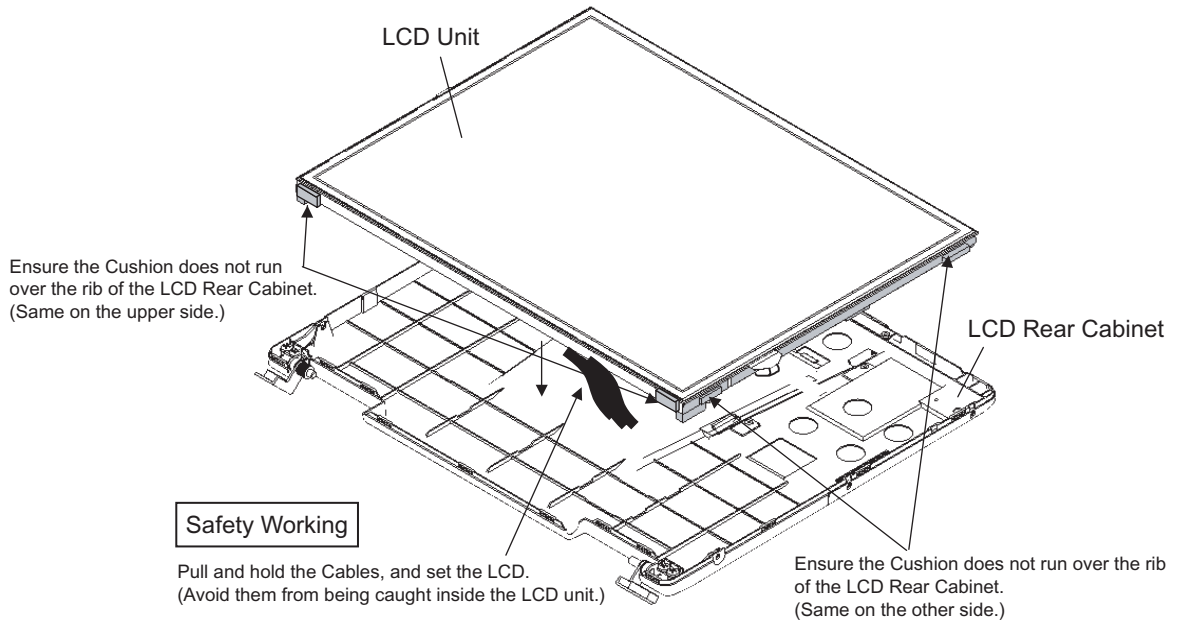


## ■ Setting the Inverter and Arranging the Inverter Cable

1. Insert the Inverter to the Inverter Case, and connect the Inverter Cable to the Connector on the Inverter.
2. Fix the Connector of the Inverter Cable using the Tape.



■ Cautions for Setting the LCD Unit



### 10.2.3. Setting the LCD Front Cabinet

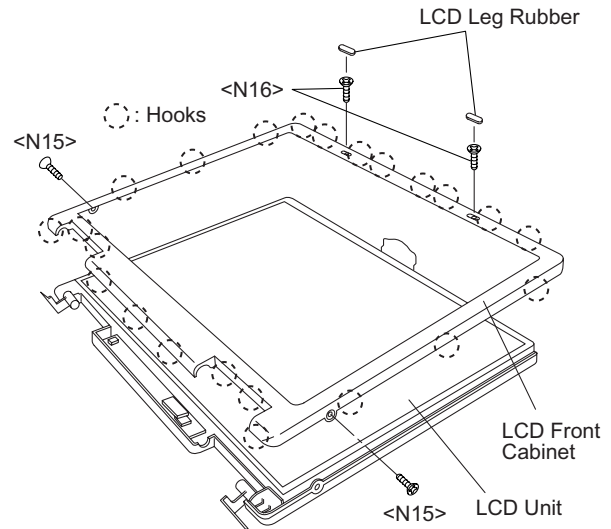
1. Set the LCD Front Cabinet to the LCD Rear Cabinet.
2. Fix the LCD Front Cabinet using the two Screws<N15>.
3. Fix the LCD Front Cabinet using the two Screws<N16>, and attach the two LCD Leg Rubbers.

Screws <N15>: DRHM0075ZA

Screws <N16>: DXQT2+G4FCL

#### ■ Fixing of the LCD Front Cabinet

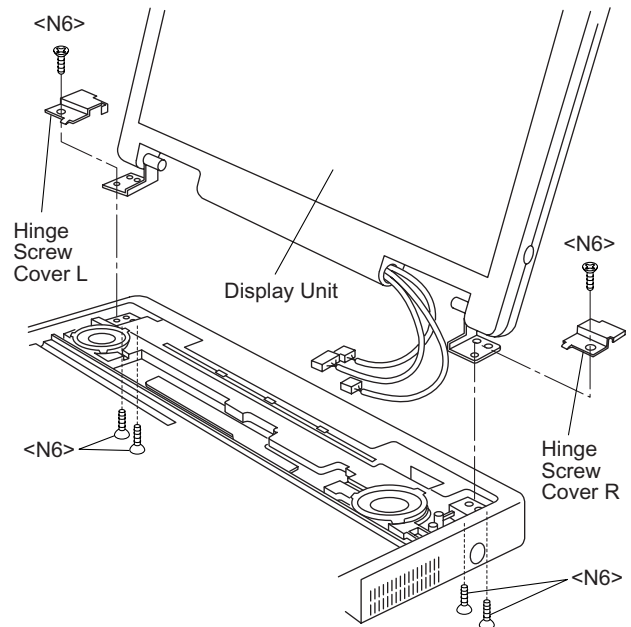
Ensure all the 23 Hooks are securely set in.



### 10.2.4. Setting the Display unit

1. Set the Hinge Screw Cover L and R to the Hinge L and R.
2. Pass the Cables coming out of the LCD Unit into the computer.
3. Fix the Display Unit using the two Screws<N6> from the computer upper side.
4. Fix the Display Unit using the four Screws<N6> from the computer bottom side.

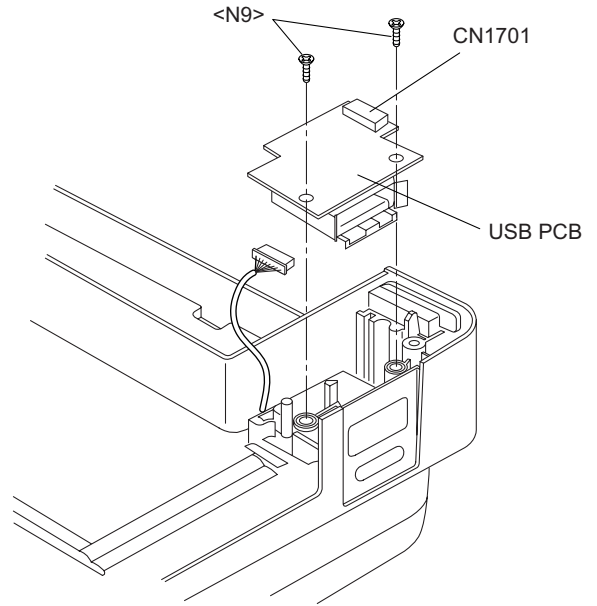
Screws. <N6>: DXSB3+6FNL



## 10.2.5. Setting the USB PCB

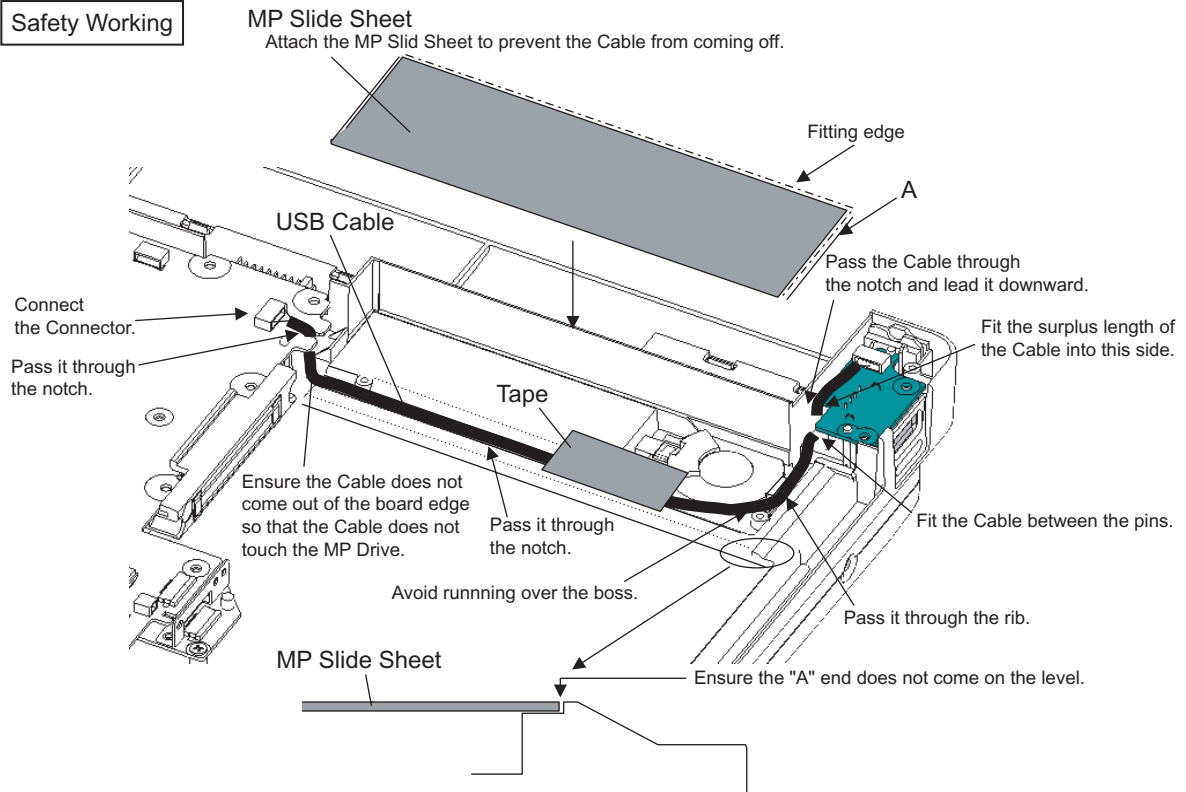
1. Fix the USB PCB to the computer using the two Screws <N9>.
2. Connect the USB Cable to the Connector (CN1701).

Screws <N9>: DFHE5025XA



### ■ Arranging the USB Cable

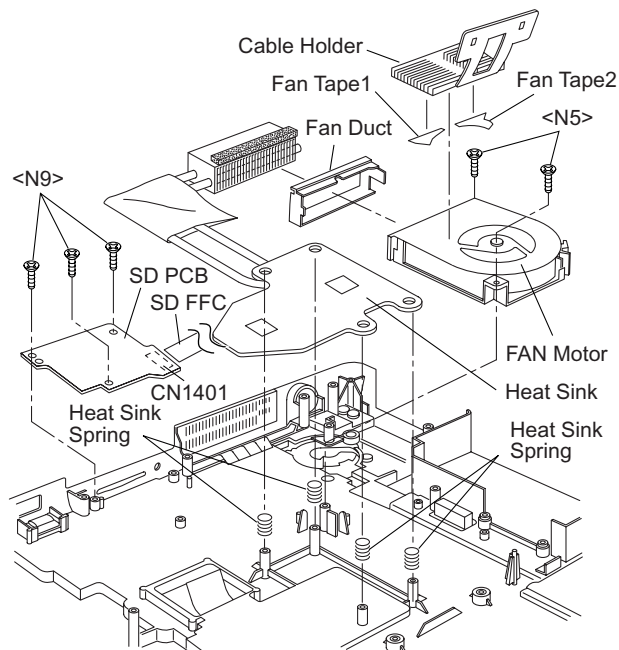
Safety Working



## 10.2.6. Setting the SD PCB, Heat Sink and FAN Motor

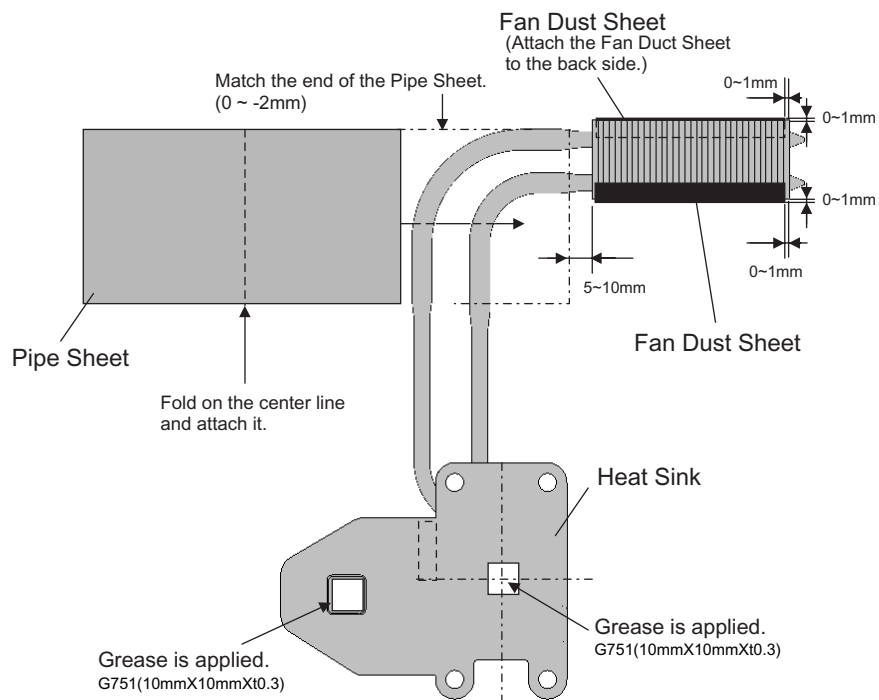
1. Connect the SD FFC to the Connector (CN1401).
2. Fix the SD PCB to the computer using the three Screws<N9>.
3. Set the Heat Sink, Fan Duct and the four Heat Sink Springs.
4. Fix the FAN Motor to the computer using the two Screws<N5>.
5. Attach the Fan Tape 1 and 2 on the FAN Motor, and fix the Cable Holder on them.

Screws <N5>: DXSB2+6FNL  
Screws <N9>: DFHE5025XA



### ■ Applying Grease on the Heat Sink

1. Apply grease on two points of the Heat Sink.
2. Attach the Pipe Sheet on the Heat Pipe.

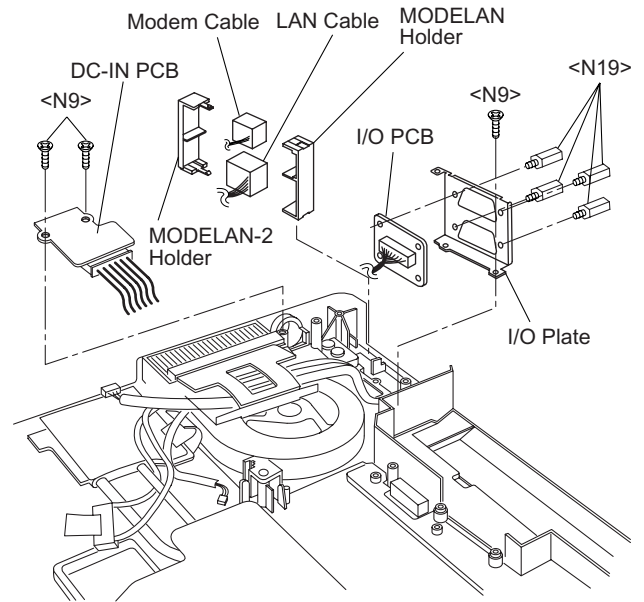


## 10.2.7. Setting the DC-IN PCB and I/O PCB

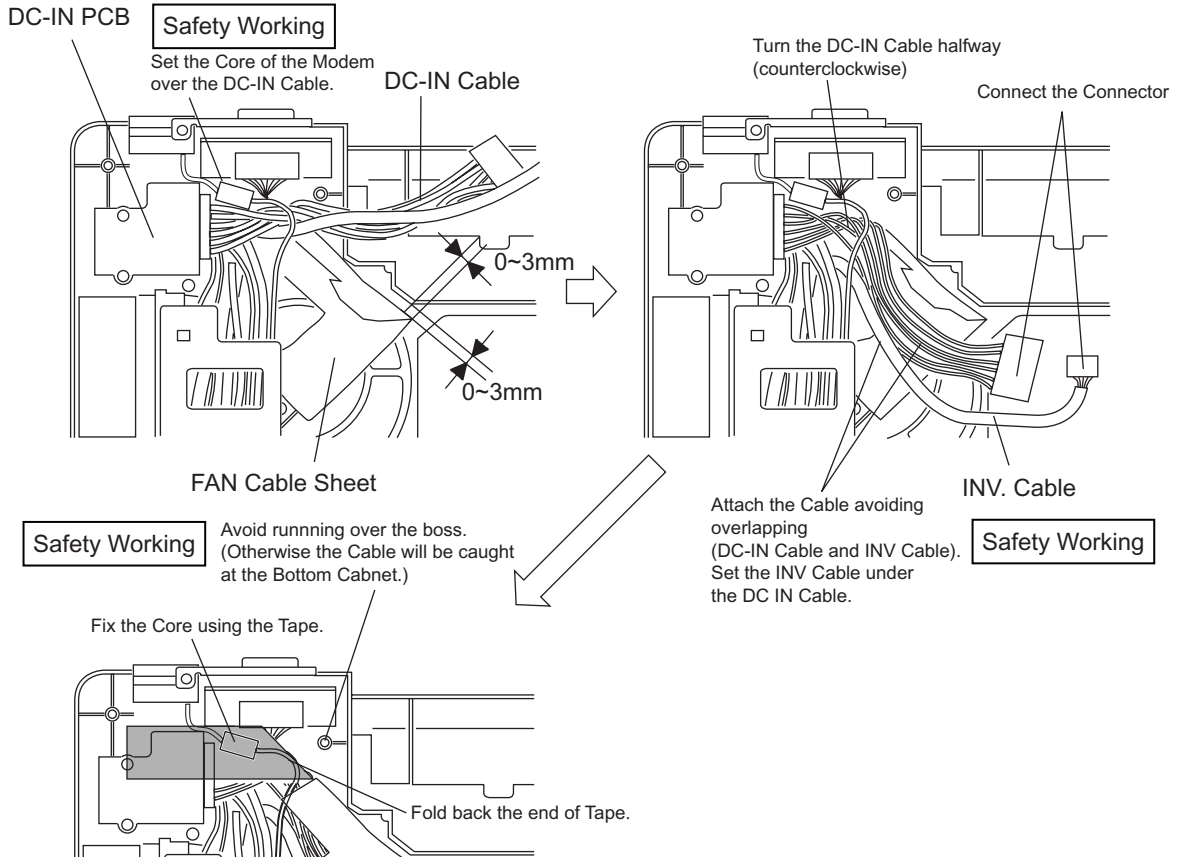
1. Fit the Modem Cable and LAN Cable between the MODELAN Holders, and set them on to the computer.
2. Fix the I/O PCB to the I/O Plate using the four Screws<N19>.
3. Fix the I/O PCB with I/O Plate to the computer using the two Screws<N9>.
4. Fix the DC-IN PCB to the computer using the two Screws<N9>.

Screws <N9>: DFHE5025XA

Screws <N19>: DFHE5035ZB



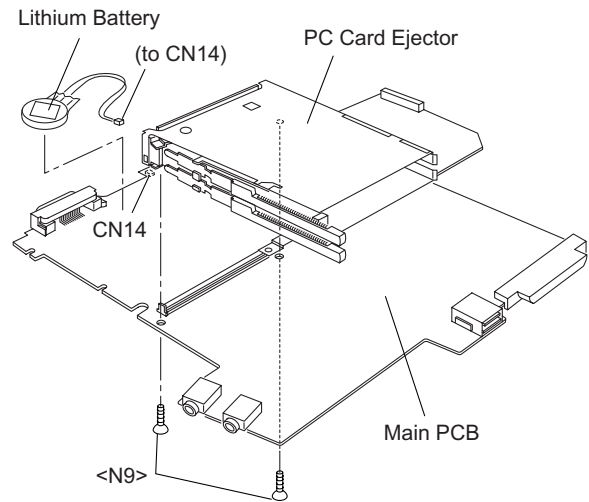
### ■ Arranging the DC-IN Cable



## 10.2.8. Setting the PC Card Ejector and Lithium Battery

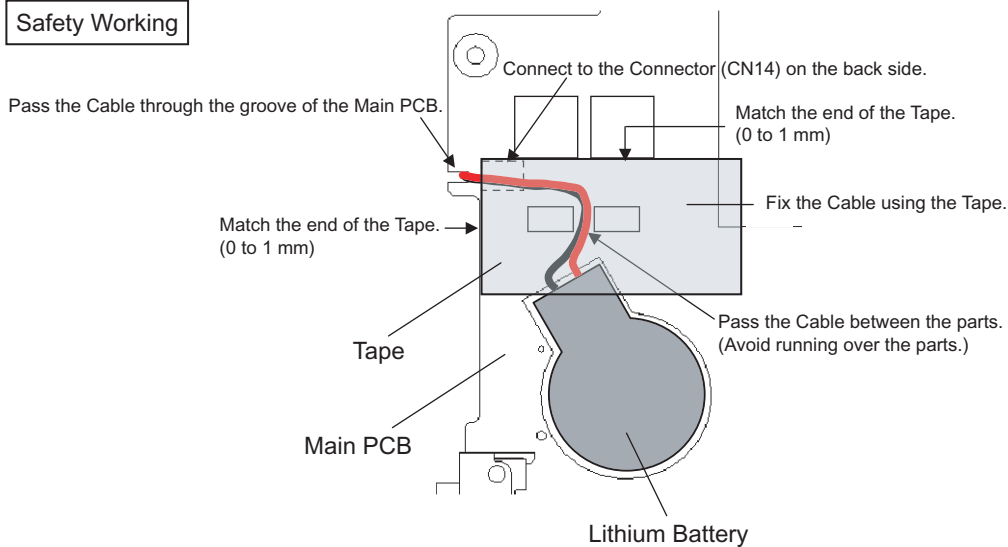
1. Attach the Lithium Battery to the Main PCB.
2. Pass the Lead Wire of the Lithium Battery through the groove of the Main PCB, and connect it to the Connector (CN14) on the back side.
3. Fix the PC Card Ejector to the Main PCB using the two Screws<N9>.

Screws <N9>: DFHE5025XA



### ■ Arranging the Lithium Battery

Safety Working

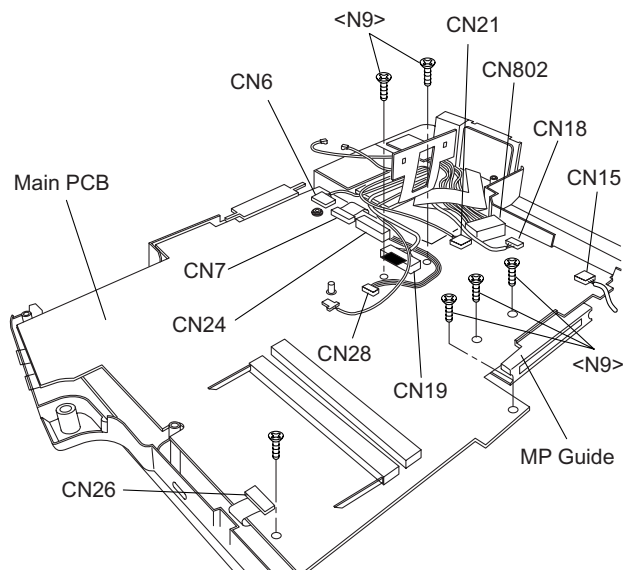


## 10.2.9. Setting the Main PCB

### Note:

- After replacing the Main Board, rewrite the BIOS ID.
1. Set the MP Guide to the Main PCB.
  2. Set the Main PCB to the computer.
  3. Fix the Main PCB using the six Screws<N9>.
  4. Connect the ten Cables to the corresponding Connectors (CN6, CN7, CN24, CN19, CN28, CN21, CN802, CN18, CN15, CN25).

Screws <N9>: DFHE5025XA

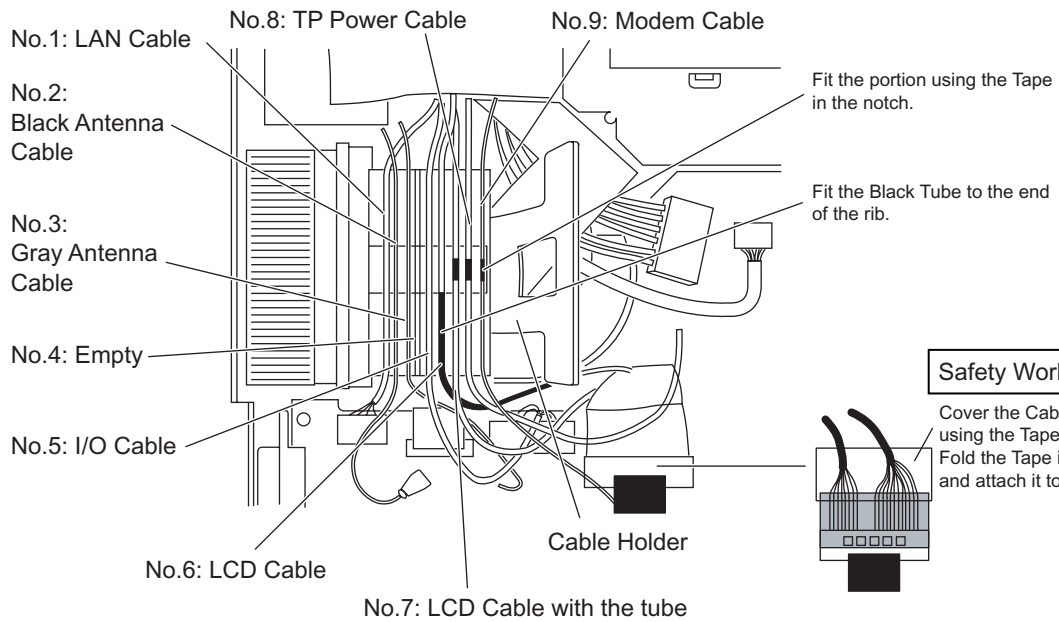


## ■ Arranging the Cables to the Cable Holder and their Wiring Order

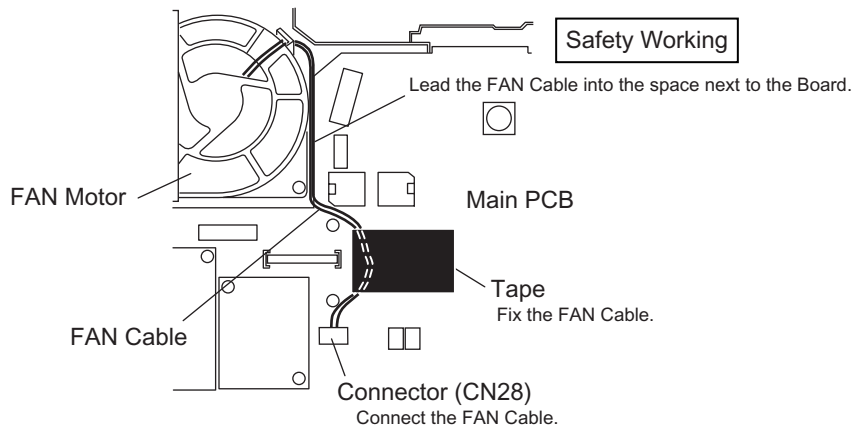
- Pull the surplus length of the Cable coming from the LCD side to inside of the unit.  
(If the surplus length comes outside, it will be caught by the center cover during setting.)
- Fit the Cables to the corresponding grooves of the Cable Holder.
- Ensure the Cables in the Cable Holder are wired in the correct order.

### Safety Working

Be sure to wire the Cables in the correct order.



## ■ Arranging the FAN Cable

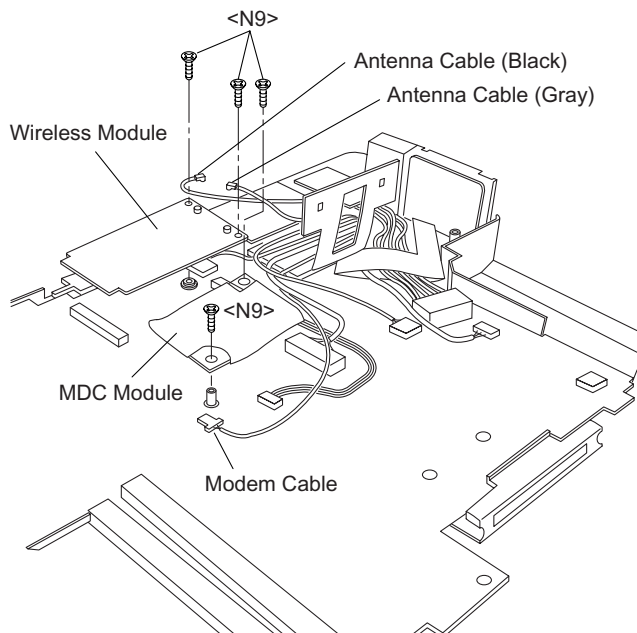




## 10.2.10. Setting the Wireless Module and MDC Module

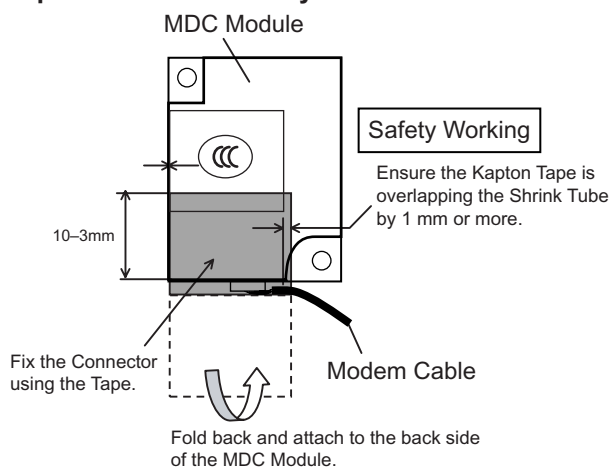
1. Connect the Modem Cable to the Connector, and fix the MDC Module to the Main PCB using the two Screws<N9>.
2. Connect the Wireless Module to the Connector of the Main PCB, and fix it using the two Screws<N9>.
3. Connect the two Antenna Cables to the two Connectors on the Wireless Module.
  - Antenna Cable (Black): MAIN Connector
  - Antenna Cable (Gray): AUX Connector

Screws <N9>: DFHE5025XA



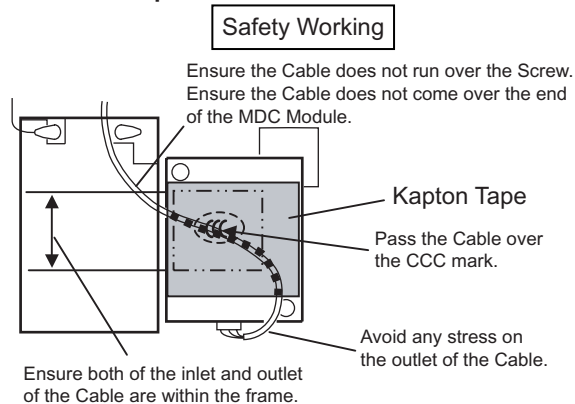
### ■ Arranging the Modem Cable

#### <Preparation for assembly of the MDC Module>

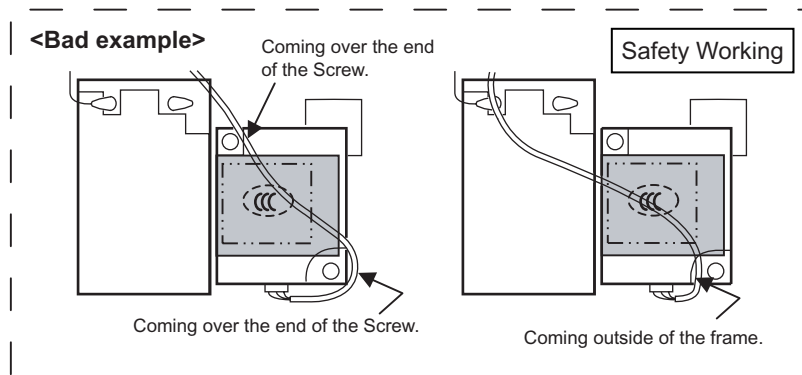


#### Arranging the Modem Cable

##### <Good example>



##### <Bad example>



### 10.2.11. Setting the Bottom Case

1. Set the Bottom Case.
2. Fix the Bottom Case using the ten Screws<N7>. No1 to No10
3. Fix the Bottom Case using the six Screws<N5>. No11 to No16
4. Fix the Bottom Case using the two Screws<N8>. No17, No18
5. Close the Lid Covers.

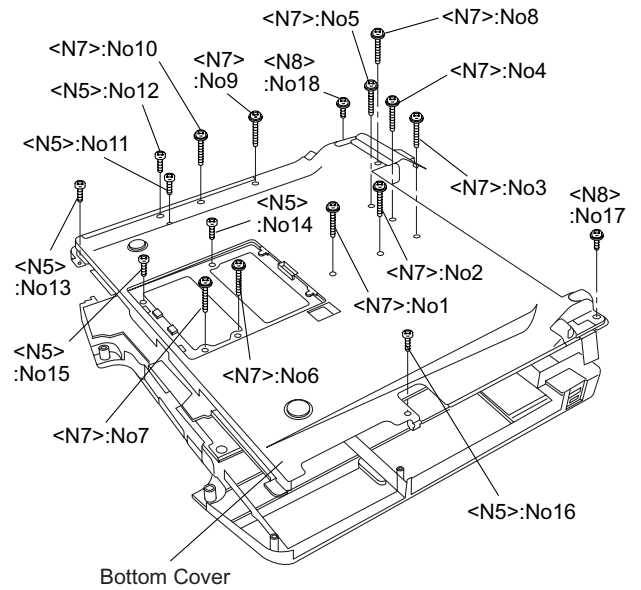
**Note:**

Tighten the Screws in the numbered order (No1 to No18).

Screws <N5>: DXSB2+6FNL

Screws <N7>: DXYN2+J16FNL

Screws <N8>: DXYN2+J8FNL



### 10.2.12. Setting the Handle Ass'y

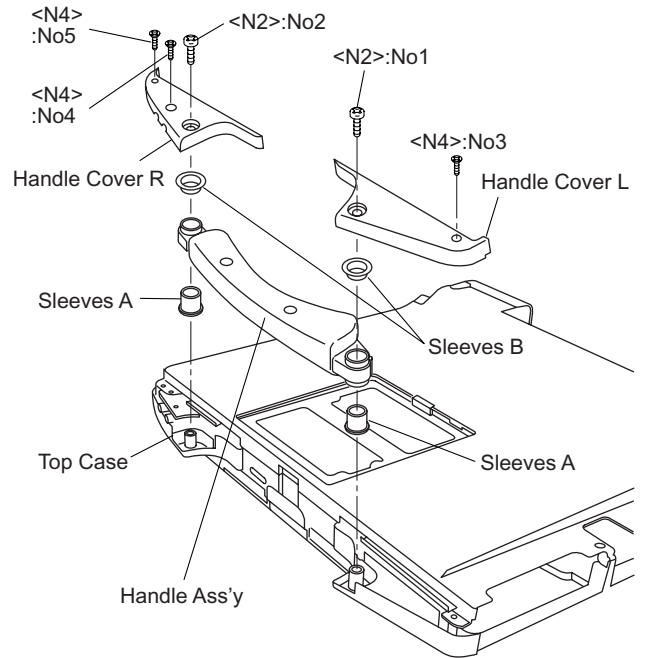
1. Set the two Sleeves A, the Handle Ass'y and the two Sleeves B.
2. Fix the Handle Cover L and R using the two Screws<N2>. No1, No2
3. Fix the Handle Cover L and R using the three Screws<N4>. No3 to No5

**Note:**

Tighten the Screws in the numbered order (No1 to No5).

Screws <N2>: DRHM4+10FKS

Screws <N4>: DRSB2+6FKL



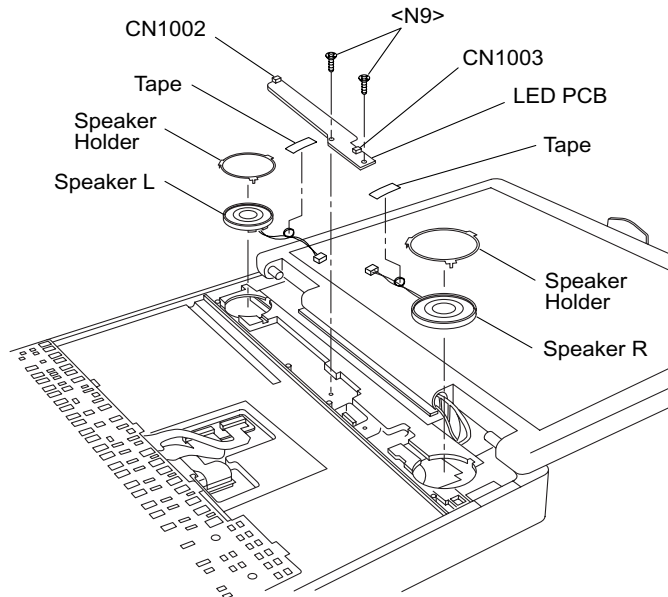
### 10.2.13. Setting the Speaker and the LED PCB

1. Fix the LED PCB using the two Screws<N9>.
2. Set the Speaker L and R to the computer.
3. Connect the Speaker Cable L and R to the two Connectors (CN1002, CN1003) on the LED PCB.
4. Fix the Speaker Cable L and R using the Tape.
5. Fix the Speaker L and R using the Speaker Holder.

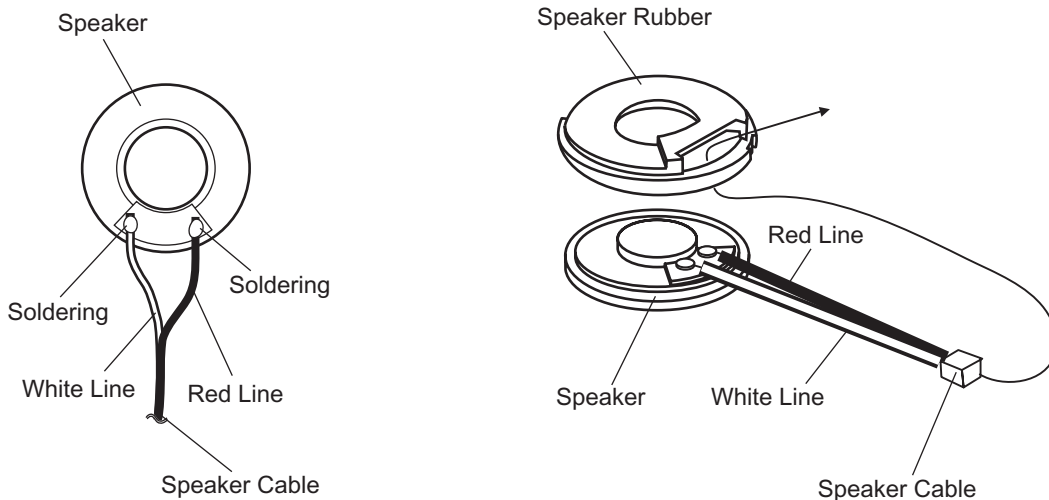
**Note:**

Ensure the three Hooks of the Speaker Holder are securely set in the computer.

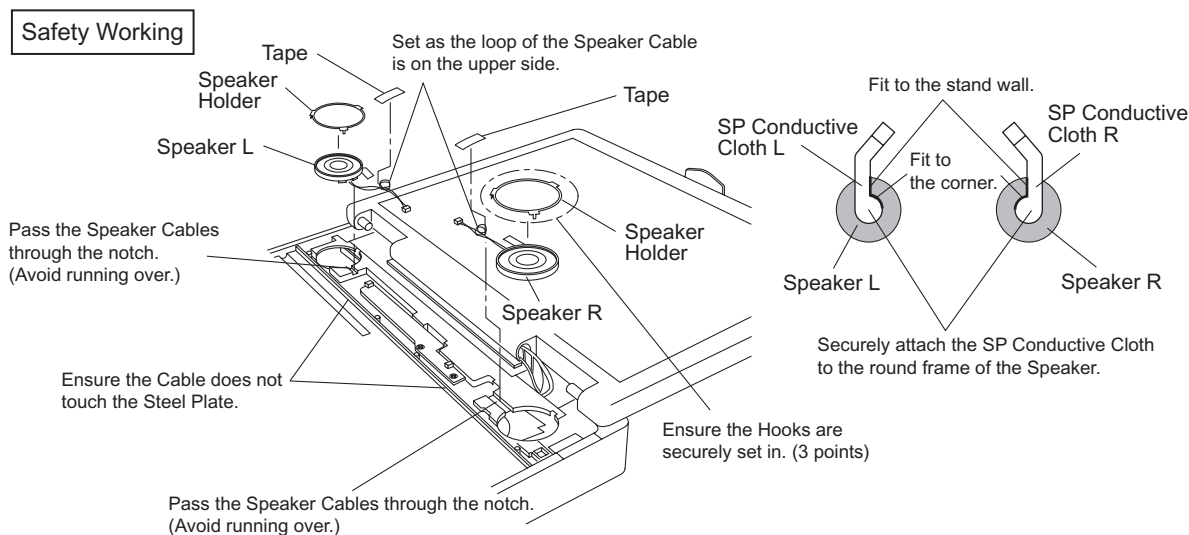
Screws <N9>: DFHE5025XA



#### ■ Soldering the Speaker Cable and Setting the Speaker Rubber



#### ■ Cautions for Setting the Speaker

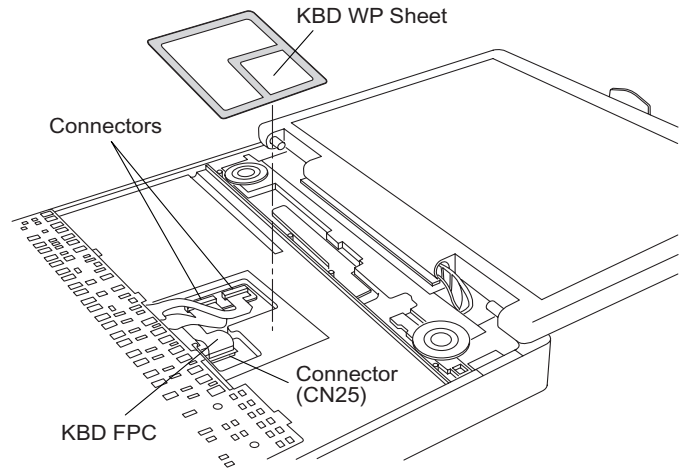


## 10.2.14. Setting the Keyboard

1. Connect the KBD FPC Cable to the Connector (CN25) of the Main PCB.
2. Connect the two Cables of the Keyboard to the two Connectors on the KBD FPC.
3. Remove the Release Paper of the KBD WP Sheet, and attach the KBD WP Sheet to the computer as it covers the Cable of the Keyboard.

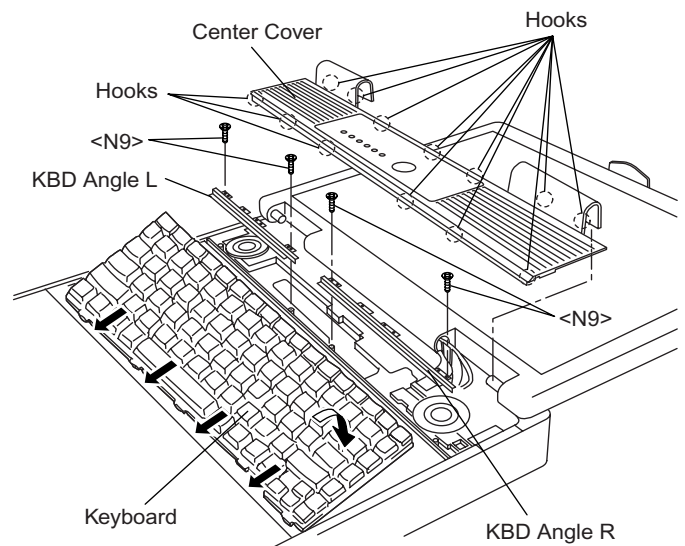
**Note:**

Press strongly enough until the color of the contact of two-sided tape is changed.

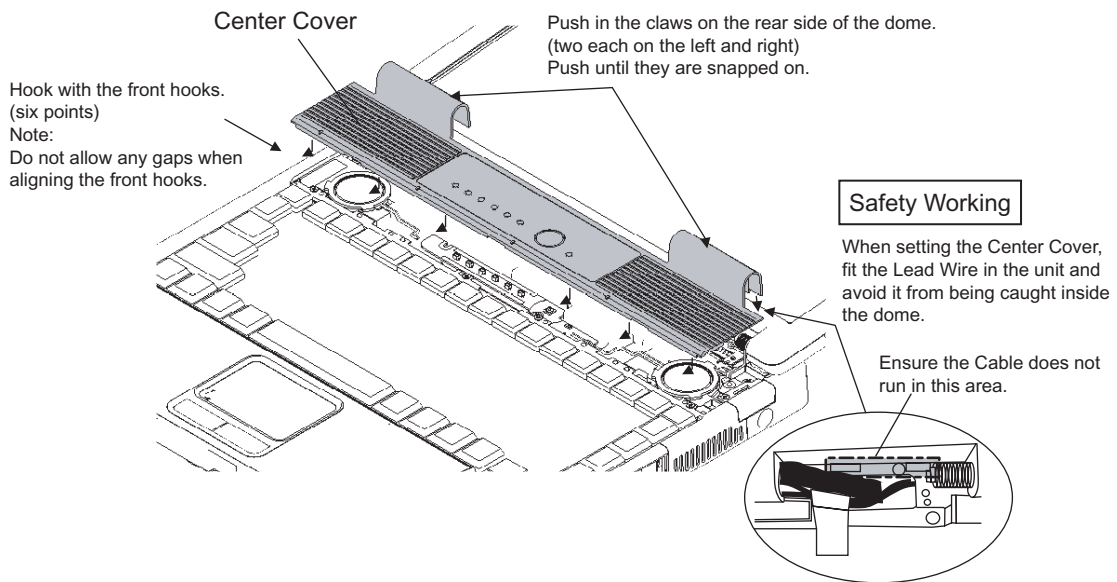


4. Insert the front Hooks of the Keyboard and the FPC to the computer, and set the Keyboard to the computer.
5. Fix the KBD Angle L and R using the four Screws <N9>.
6. Hook the six front Hooks of the Center Cover to the KBD Angle L and R.
7. Hook the seven rear Hooks of the Center Cover to the computer, and press the Center Cover to be securely set in.

Screws <N9>: DFHE5025XA



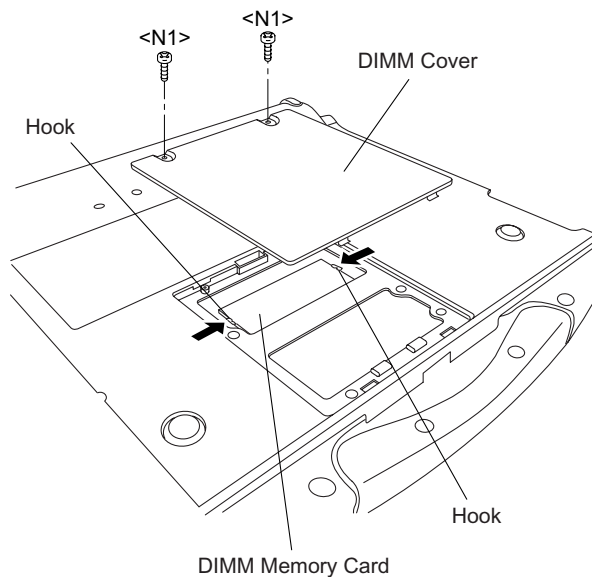
### ■ Cautions for Setting the Center Cover



### 10.2.15. Setting the DIMM Memory Card and DIMM Cover

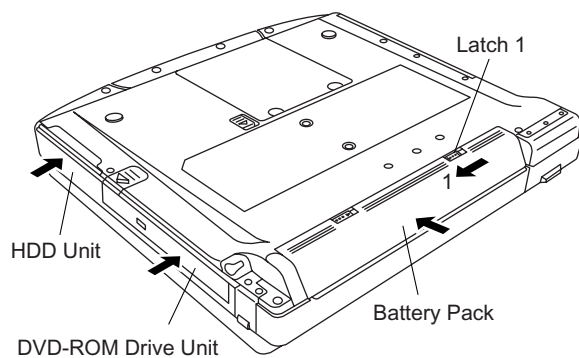
1. Set the DIMM Memory Card to the Main PCB.
2. Fix the DIMM Cover using the two Screws<N1>.

Screws <N1>: XSB2+3FNL

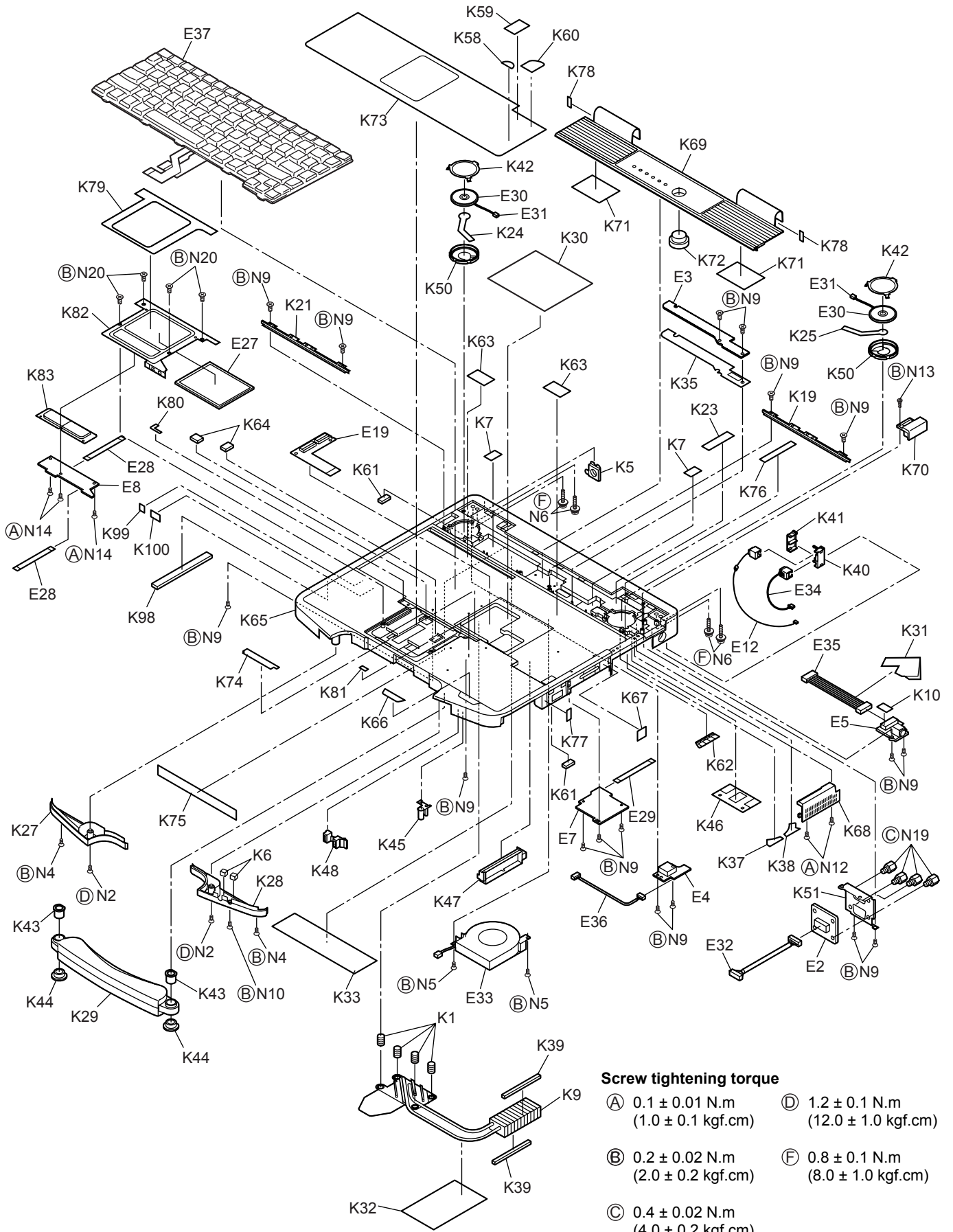


### 10.2.16. Setting the Battery Pack, the HDD Unit and the DVD-ROM Drive Unit

1. Set the DVD-ROM Driver Unit.
2. Set the HDD Pack.
3. Set the Battery Pack.
4. Slide the Latch 1 to the locked position.

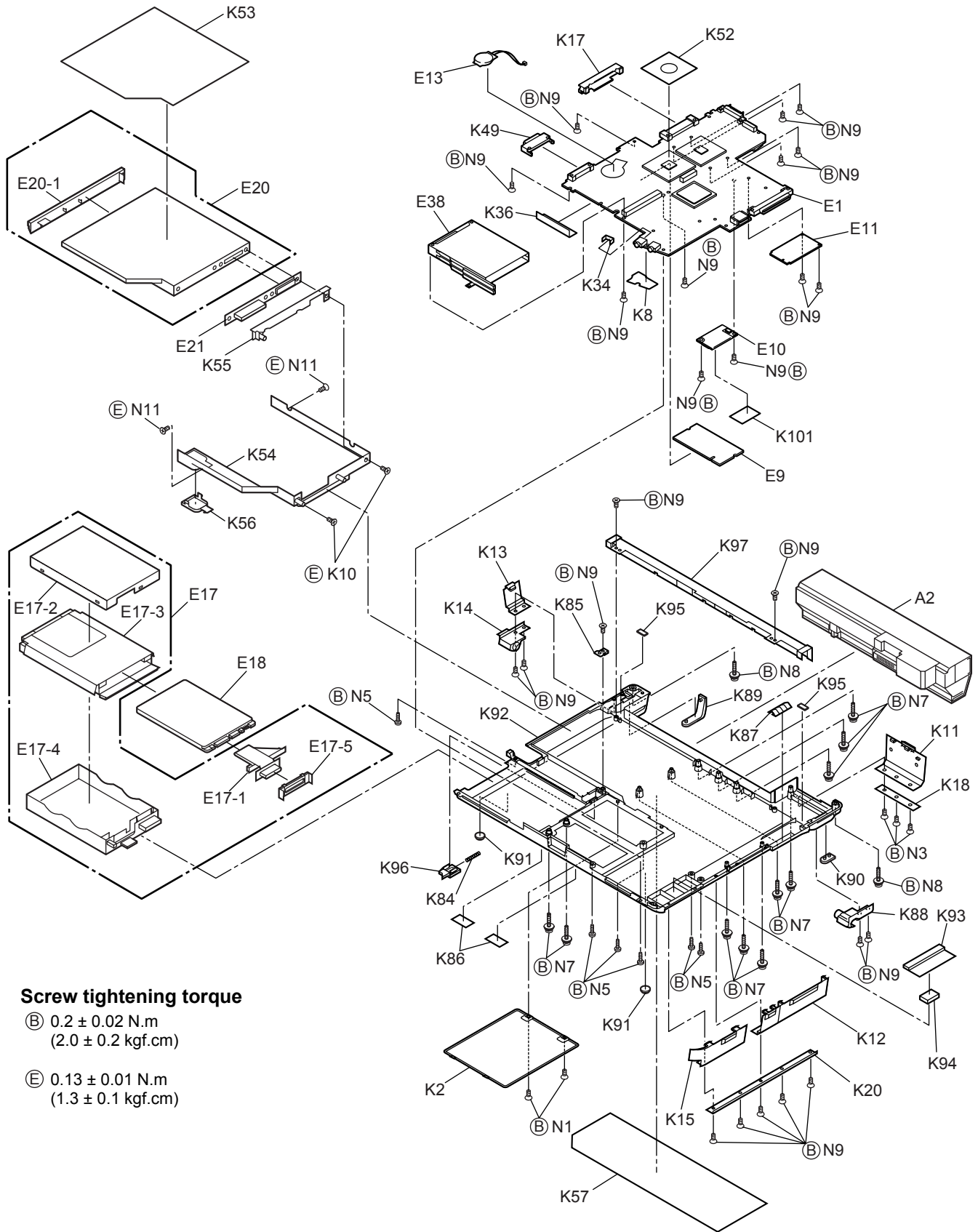


# 11 Exploded View

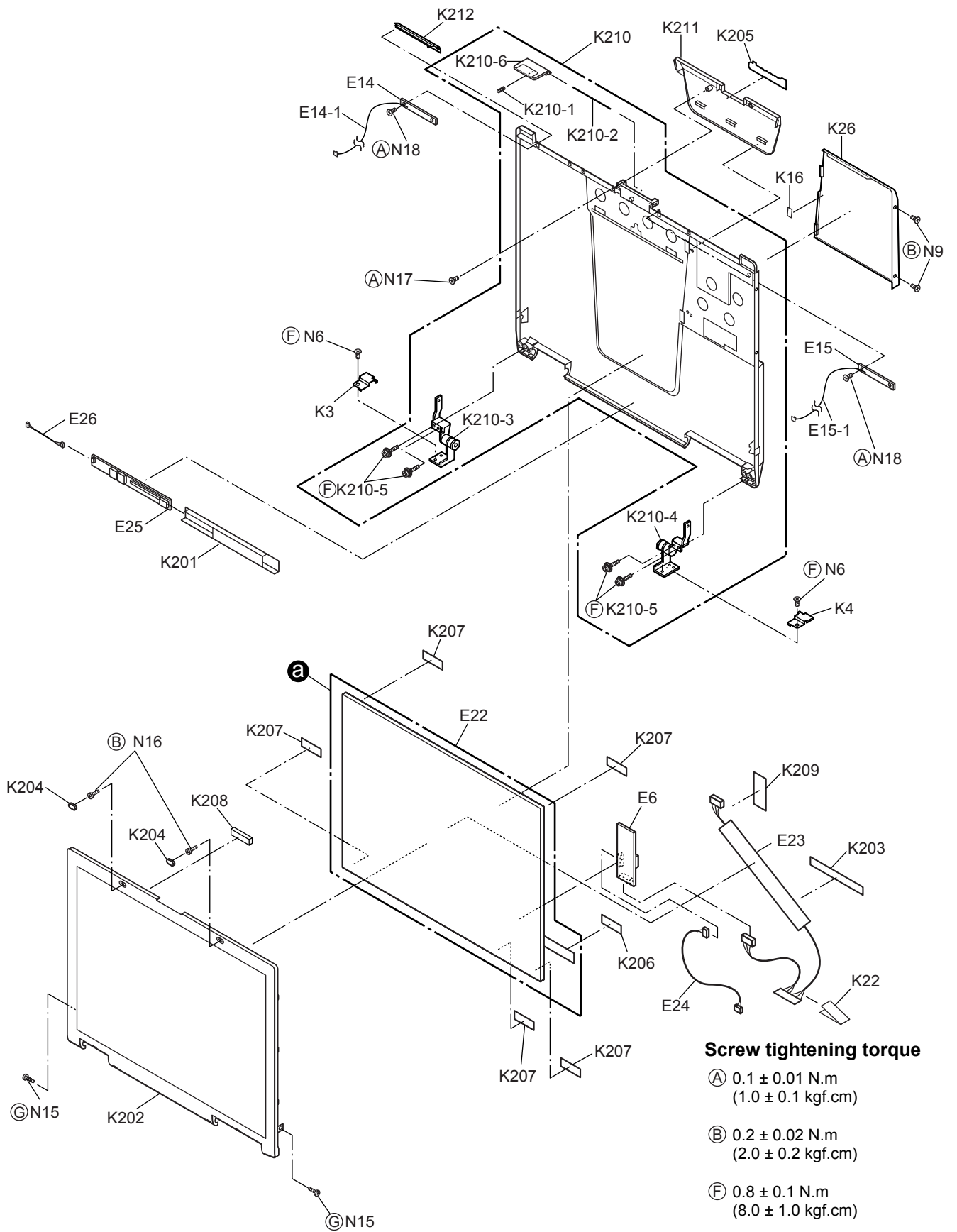


**Screw tightening torque**

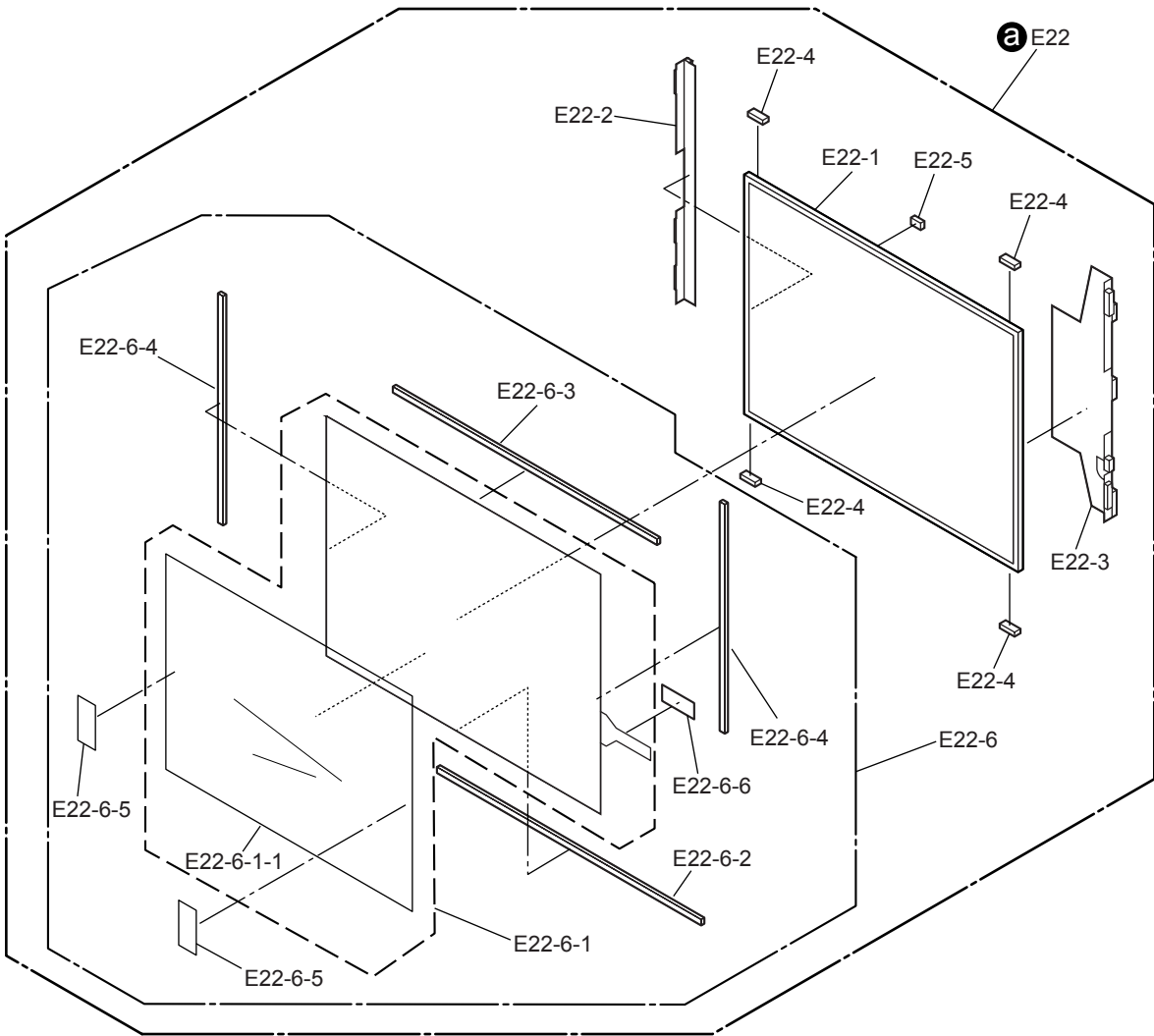
- Ⓐ 0.1 ± 0.01 N.m (1.0 ± 0.1 kgf.cm)
- Ⓑ 0.2 ± 0.02 N.m (2.0 ± 0.2 kgf.cm)
- Ⓒ 0.4 ± 0.02 N.m (4.0 ± 0.2 kgf.cm)
- Ⓓ 1.2 ± 0.1 N.m (12.0 ± 1.0 kgf.cm)
- Ⓕ 0.8 ± 0.1 N.m (8.0 ± 1.0 kgf.cm)













# 12 Replacement Parts List

**Note: Important Safety Notice**

Components identified by  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

**CF-74CCBAXBM**

REF.NO. and AREA	PART NO.	DESCRIPTION	Q'TY
<b>Main Block Unit</b>			
E1	DL3U11518AAA	PCB, MAIN	RTL 1
E2	DL3U21518AAA	PCB, IO	RTL 1
E3	DL3U31518AAA	PCB, LED	RTL 1
E4	DL3U41518AAA	PCB, USB	RTL 1
E5	DL3U51518AAA	PCB, DC-IN	RTL 1
E6	DL3U61518AAA	PCB, TS	RTL 1
E7	DL3U11501AAA	PCB, SD	RTL 1
E8	DL3U21501AAA	PCB, PAD SWITCH	RTL 1
E9	N5ZZ00000090	DIMM	1
E10	N5HAZ0000014	MODEM	1
E11	N5HZC0000019	WIRELESS LAN MODULE	1
E12	DFJS996XA	CABLE MODEM ASSY	1
E13	CR2032/S5Y	LITHIUM BATTERY	1
E14	DL3UB1514AAA	PCB, W-LAN ANTENNA L	RTL 1
E14-1	DFJS985ZA	CABLE, ANTENNA L (Black)	1
E15	DL3UG1514AAA	PCB, W-LAN ANTENNA R	RTL 1
E15-1	DFJS817YA	CABLE, ANTENNA R (Gray)	1
E17	DFWV99A0107	HDD MOUNTING KIT	1
E17-1	DL3UP1500AAA	FPC, HDD	1
E17-2	DFHM0383ZA	HDD CASE UPPER	1
E17-3	DFHR3B92ZA	HDD DAMPER	1
E17-4	DFHR6200ZA-0	HDD CASE	1
E17-5	DFHR6203ZA	HOLDER HDD CN	1
E18	N3CAYYY00002	HDD	1
E19	DL3UP1499AAA	FPC, KBD	1
E20	DFWV78A0243	DRAIVE, DVD-ROM & CD-R/RW	1
E20-1	DFHR9119ZA	BEZEL ASSY	1
E21	DL3UP1260BAA	FPC, MP DRIVE	1
E22	DFWV08A0081	LCD UNIT ASS'Y	1
E22-1	DL3DE0179AAA	LCD UNIT	1
E22-2	DFHR3C55ZA	LCD DAMPER A	1
E22-3	DFHR3C56ZA	LCD DAMPER B	1
E22-4	DFHR3C57ZA	LCD DAMPER C	4
E22-5	DFHR3D14ZA	LCD DAMPER D	1
E22-6	DFWV84A0269	TOUCH SCREEN PANEL KIT	1
E22-6-1	DL3DV0179AAA	TS PREPARATION UNIT	1
E22-6-1-1	DFHR9068ZA	PROTECTIVE FILM	1
E22-6-2	DFHR3243ZA	LCD SHEET A	1
E22-6-3	DFHR3244ZA	LCD SHEET HDN	1
E22-6-4	DFHR3245ZA	LCD SHEET SIDE	2
E22-6-5	DFHR3408ZA	TP SHEET	2
E22-6-6	DFMX0778ZA	SHEET	1
E23	DFJS998YA	CABLE, LCD+TP	1
E24	DFJS993YA	CABLE TP POWER	1
E25	 N0GF1J000006	INVERTOR	1
E26	DFJS988ZA	CABLE INVERTER	1
E27	N2EAYYY00005	TOUCHPAD	1
E28	DFJK12T050DB	FFC. PAD	2
E29	DFJK20T040DB	FFC, SD	1
E30	L0AA02A00043	SPEAKER	2

E31		DFJS991ZA	CABLE SPEAKER R	2
E32		DFJS997ZA	CABLE_SERIAL	1
E33		UDQFRPH32	FAN	1
E34		DFJS995ZA	CABLE LAN ASSY	1
E35		DFJS987ZA	CABLE DC IN	1
E36		DFJS992YA	CABLE USB	1
E37		N2ABZJ000033	KEYBOARD US	1
E38		K1FY115A0001	PC CARD EJECTOR	1
<b>Accessories</b>				
A1	⚠	CF-AA1683AM1	AC ADAPTOR	1
A2	⚠	N4HUNTA00001	LITHIUM ION BATTERY PACK	1
A3	⚠	DFQX5582ZA	MANUAL	1
A4	⚠	K2CG3DR00003	AC CABLE	1
A5		DFJS954ZA	MODEM CABLE	1
A6		DFHS9017ZA	TOUCHPANEL FUKINUNO	1
A7		DFHR6207ZA	PEN	1
<b>Packing Material</b>				
P1		DFPK1182YA	PACKING CASE	1
P2		DFPK1185ZA	ACCESSORY BOX	1
P3		DFPE0827ZA	HOLDER	1
P4		DFPN0834ZA	CUSHION T	2
P5		DFPN0835ZA	CUSHION B	2
<b>Mechanical Parts</b>				
K1		DFUQ0110ZA	HEAT SINK SPRING	4
K2		DFMD7A65ZA-0	DIMM COVER	1
K3		DFMD7A83ZA	HINGE SCREW COVER L	1
K4		DFMD7A84ZA	HINGE SCREW COVER R	1
K5		DFMD9098ZC	KENSINGTON PLATE ASSY	1
K6		DFMC0670YA	GASKET	2
K7		DFMX0778ZA	INSULATION SHEET	2
K8		DFMX1223ZA	INSULATION SHEET JACK	1
K9		DFMY5036ZA	ASM HEAT SINK	1
K10		DFHG1446ZA	HDD CN CUSHION 1	1
K11		DFHG1815YC-0	IO COVER	1
K12		DFHG1817XB-0	PC CARD COVER	1
K13		DFHG1819ZB-0	USB COVER	1
K14		DFHG1831ZA-0	PEN HOLDER L OUTER	1
K15		DFHG1850ZB-0	COVER 1	1
K16		DFHG1857ZA	ANTENNA COVER CUSHION	1
K17		DFHG6034ZB	MP GUIDE	1
K18		DFHM0386ZA-0	IO COVER PLATE	1
K19		DFHM0388ZA	KBD ANGLE	1
K20		DFHM0390ZA-0	PC COVER PLATE	1
K21		DFHM0395ZB	KBD ANGLE L	1
K22		DFHE0494ZA	SHEET, LCD FPC	1
K23		DFHE0890ZA	DOUDENFU	1
K24		DFHE0991ZA	CONDUCTIVE CLOTH SP L	1
K25		DFHE0992ZA	CONDUCTIVE CLOTH SP R	1
K26		DFKE0822XA-0	ANT COVER NO ANT	1
K27		DFKE0824ZA-0	HANDLE COVER L	1
K28		DFKE0825ZA-0	HANDLE COVER R	1
K29		DFKE9082ZA-0	HANDLE ASSY	1
K30		DFHR3C29ZA	KB WATER PROOF A	1
K31		DFHR3C60ZA	FAN CABLE SHEET	1
K32		DFHR3C65ZA	SD SHEET	1
K33		DFHR3C70ZA	MP SLIDE SHEET TOP	1
K34		DFHR3C91ZA	SHEET LED POWER	1
K35		DFHR3D05ZA	PWB 5LED SHEET	1

K36		DFHR3D06ZA	2FFC INSULATION	1
K37		DFHR3D08ZA	ADHESIVE TAPE FAN1	1
K38		DFHR3D10ZA	ADHESIVE TAPE FAN2	1
K39		DFHR3D13ZA	FAN DUCT SHEET	2
K40		DFHR6204ZA	MODELAN-2	1
K41		DFHR6205ZA	MODELAN	1
K42		DFHR6211ZA	SPEKAER HODLER	2
K43		DFHR6213ZB	SLEEVE A	2
K44		DFHR6214ZA	SLEEVE B	2
K45		DFHR6221ZA	LED LENZ POWER	1
K46		DFHR6234ZB	CABLE HOLDER	1
K47		DFHR6235ZA	FAN DUCT	1
K48		DFHR6242ZA	JACK SPACER	1
K49		DFHR9122ZA	HDD GUIDE ASSY	1
K50		DFHG1818ZA-0	SPEAKER RUBBER	2
K51		DFHM0387ZB	IO PLATE	1
K52		DFHR3591ZB	INSU SHEET CHIP SET	1
K53	⚠	DFGT0944YA	MP SET LABEL	1
K54		DFKE0709YA-0	MP BOTTOM	1
K55		DFKE0710ZA-0	MP CABINET TOP	1
K56		DFHR6222ZA-0	MP LATCH	1
K57	⚠	DFGT1074YA	INFORMATION LABEL	1
K58		DFQT9675ZA	ENERGY STAR LABEL	1
K59		DFQT9974ZA	WINDOWS XP LABEL(NOTE)	1
K60		DFQT9981ZA	CENTRINO DUO LABEL	1
K61		DFMC0855ZA	USB GASKET	2
K62		DFMC0859ZA	FINGER STICK	1
K63		DFHE0513ZA	EMI SHEET B	2
K64		DFHE0790ZA	USB GASKET	2
K65		DFKM0497ZA-0	TOP CASE	1
K66		DFGL0145YA-0	INDICATOR SHEET B	1
K67		DFGL0146ZA-0	INDICATOR SHEET SD	1
K68		DFGX0438ZA-0	FIN COVER	1
K69		DFGX9023ZB-0	CENTER COVER ASSY	1
K70		DFGX9025YA-0	BT ANT COVER ASSY	1
K71		DFGE0132ZB-0	CENTER COVER NET	2
K72		DFBC0316ZA-0	POWER SW BUTTON	1
K73		DFHR3B96YB-0	PALMREST SHEET	1
K74		DFHR3C30ZA	KB WATER PROOF B	1
K75		DFHR3C63ZA	MP SLIDE SHEET	1
K76		DFHR3C98ZA	KBD WP FIN	1
K77		DFHR3D11ZA	PC CARD SHEET	1
K78		DFHR3D43ZA	CENTER COVER SPACER	2
K79		DFHR3D48ZA	PAD WP SHEET A	1
K80		DFHR3D49ZA	PAD WP SHEET B	1
K81		DFHR3D50ZA	PAD WP SHEET C	1
K82		DFGX9024YC-0	PAD BASE ASSY	1
K83		DFHR3B95ZA	PADBUTTON WP SHEET	1
K84		DFUQ0105ZA	LOCK SPRING HDD	1
K85		DFMD7A72ZA	SPRING COVER	1
K86		DFMC0855ZA	USB GASKET	2
K87		DFMC0859ZA	FINGER STICK	1
K88		DFHG1832ZA-0	PEN HOLDER R OUTER	1
K89		DFHG1839ZA-0	LEG LEFT	1
K90		DFHG1840ZA-0	LEG RIGHT	1
K91		DFHG370ZA-1	FOOT RUBBER	2
K92		DFKF0264ZB-0	BOTTOM CASE	1
K93		DFHR3C64ZB	NO SMART CARD SHEET	1

K94	DFHR3C99ZA	NO SC CUSHION	1
K95	DFHR3D15YA	PEN FRICTION SHEET	2
K96	DFHR6202ZA-0	HDD LATCH KNOB	1
K97	DFHR6209ZA	PEN HOLDER	1
K98	DFHE0997ZA	GASKET	1
K99	DFHG1599ZA	LCD DUMPER A	1
K100	DFHR3D53ZB	SLIDE SHEET	1
K101	DFHR7875ZA	PROTECT SHEET, FFC	1
K201	DFMX1209ZA	INVERTER CASE	1
K202	DFKF0266ZA-0	LCD FRONT	1
K203	DFHR3599ZA	TP/LCD SHEET	1
K204	DFHG1399XA-0	LCD LEG RUBBER	2
K205	DFHR3C84ZA-0	PANASONIC BADGE	1
K206	DFMX0778ZA	SHEET	1
K207	DFHE0277ZA	GASKET	5
K208	DFHE0418ZA	LID MAGNET	1
K209	DFHE0465ZA	EMI SHEET 5	1
K210	DFKM9035ZA-0	LCD REAR ASSY	1
K210-1	DFUQ0095ZA	LCD LATCH SPRING	1
K210-2	DFDF3147ZA	LCD LATCH SHAFT	1
K210-3	DFBH3045ZA	HINGE L	1
K210-4	DFBH3046ZA	HINGE R	1
K210-5	DXSB3+6FNL	SCREW	4
K210-6	DFKE0830ZA-0	LCD LATCH	1
K210-7	DFHR3C49ZA	HINGE SCREW COVER	2
K211	DFGX0432ZA-0	ANTENNA COVER C	1
K212	DFGX0433ZA-0	ANTENNA COVER L	1
N1	XSB2+3FNL	SCREW	2
N2	DRHM4+10FKS	SCREW	2
N3	DRHM5025YA	SCREW	3
N4	DRSB2+6FKL	SCREW	3
N5	DXSB2+6FNL	SCREW	8
N6	DXSB3+6FNL	SCREW	6
N7	DXYN2+J16FNL	SCREW	10
N8	DXYN2+J8FNL	SCREW	2
N9	DFHE5025XA	SCREW	43
N10	DRQT2+E8FKL	SCREW	2
N11	DFHE5067YA	SCREW	2
N12	DXHM0056ZA	SCREW	2
N13	DXQT2+E6FNL	SCREW	1
N14	DRHM0106ZA	SCREW	3
N15	DRHM0075ZA	SCREW	2
N16	DXQT2+G4FCL	SCREW	2
N17	XQN17+BJ5FJK	SCREW	1
N18	XQN17+BJ6FJ	SCREW	2
N19	DFHE5035ZB	SCREW	4
N20	DXQT2+G4FCL	SCREW	4

# Replacement Parts List

Note: Important Safety Notice

Components identified by  $\Delta$  mark have special characteristics important for safety.  
When replacing any of these components use only manufacturer's specified parts.

## CF-74CCBAXBM

REF. NO and AREA	PART NO.	DESCRIPTION	Q'TY
<b>MAIN PCB</b>			
C 1	F1G1C104A042	CAPACITOR, 16V, 0.1 $\mu$ F	172
C 2			
C 3			
C 4			
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C 817			
C 824			
C 861			
C 892			
C 893			
C 921			
C 922			
C 6 C 171	EEFUD0D271ER	CAPACITOR, 2V, 270μF	2
C 10 C 67 C 68 C 70 C 130 C 135 C 331 C 332 C 333 C 341 C 342 C 343 C 354 C 355 C 376 C 378	F1J0J4750019	CAPACITOR, 6.3V, 4.7μF	16
C 11	F1J0J226A048	CAPACITOR, 6.3V, 22μF	32

C 12			
C 13			
C 14			
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C 42			
C 43			
C 44			
C 45	F1J0J106A016	CAPACITOR, 6.3V, 10 $\mu$ F	44
C 56			
C 57			
C 64			
C 75			
C 82			
C 85			
C 86			
C 93			
C 94			
C 102			
C 109			
C 115			
C 118			
C 121			
C 122			
C 162			
C 176			
C 199			

C 200			
C 201			
C 211			
C 213			
C 243			
C 245			
C 265			
C 269			
C 271			
C 283			
C 307			
C 318			
C 421			
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C 804			
C 811			
C 815			
C 818			
C 819			
C 831			
C 845			
C 863			
C 879			
C 46	F1G1H222A496	CAPACITOR, 50V, 2200pF	1
C 61	F1H0J1050022	CAPACITOR, 6.3V, 1μF	24
C 63			
C 65			
C 66			
C 69			
C 91			
C 92			
C 98			
C 107			
C 111			
C 112			
C 129			
C 131			
C 136			
C 137			
C 233			
C 315			
C 350			
C 377			
C 396			
C 411			
C 448			
C 449			
C 821			

C 62 C 88 C 89	EEFCX0D221R	CAPACITOR, 2V, 220 $\mu$ F	3
C 155	EEFCX0E221R	CAPACITOR,	1
C 108 C 143 C 144 C 145 C 146 C 147 C 148 C 238 C 239 C 319 C 320 C 321 C 322 C 323 C 336 C 348 C 438 C 439	F1G1A104A014	CAPACITOR, 10V, 0.1 $\mu$ F	18
C 110 C 830	D4CC1103A038	THERMISTOR	2
C 127 C 128	F1G1H150A542	CAPACITOR, 50V, 15pF	2
C 132 C 133 C 134 C 138 C 160 C 167 C 191 C 192 C 195 C 196 C 198 C 252 C 274 C 367 C 371 C 374 C 375 C 392 C 407 C 408 C 409 C 419 C 434 C 445	F1G1E103A062	CAPACITOR, 25V, 0.01 $\mu$ F	33

C 452			
C 808			
C 823			
C 864			
C 888			
C 889			
C 891			
C 920			
C 924			
C 150	F1H1A1050015	CAPACITOR, 10V, 1 $\mu$ F	24
C 151			
C 153			
C 159			
C 168			
C 197			
C 214			
C 222			
C 227			
C 242			
C 256			
C 267			
C 268			
C 272			
C 276			
C 277			
C 317			
C 325			
C 326			
C 390			
C 842			
C 865			
C 923			
C 926			
C 193	F1G1H4R0A543	CAPACITOR, 50V, 4pF	3
C 210			
C 232			
C 194	F1G1H3R00010	CAPACITOR, 50V, 3pF	1
C 244	F1G1C473A004	CAPACITOR, 16V, 0.047 $\mu$ F	1
C 249	F1L3D102A003	CAPACITOR, 2000V, 1000pF	1
C 261	EEFUD0J151ER	CAPACITOR, 6.3V, 150 $\mu$ F	1
C 262	F1G1H102A496	CAPACITOR, 50V, 1000pF	20
C 264			
C 302			
C 303			
C 305			
C 398			
C 399			
C 410			
C 416			
C 418			



C 424			
C 832			
C 834			
C 844			
C 847			
C 849			
C 851			
C 869			
C 882			
C 917			
C 273	F1G1H221A496	CAPACITOR, 50V, 220pF	7
C 275			
C 360			
C 393			
C 394			
C 395			
C 875			
C 285	F1G1H330A542	CAPACITOR, 50V, 33pF	1
C 289	F1J1E105A080	CAPACITOR, 25V, 1μF	4
C 290			
C 292			
C 293			
C 312	F1H1A105A030	CAPACITOR, 10V, 1μF	2
C 440			
C 313	F1G1H101A451	CAPACITOR, 50V, 100pF	4
C 430			
C 435			
C 833			
C 324	F1G0J224A001	CAPACITOR, 6.3V, 0.22μF	7
C 328			
C 329			
C 330			
C 335			
C 338			
C 441			
C 361	F1G1H100A544	CAPACITOR, 50V, 10pF	12
C 362			
C 363			
C 364			
C 366			
C 368			
C 369			
C 370			
C 846			
C 850			
C 872			
C 878			
C 379	F1L1H220A066	CAPACITOR, 50V, 22pF	4
C 380			
C 466			

C 468			
C 382	ERJ2RKF1500X	RESISTOR, 1/16W, 150Ω	3
C 386			
C 388			
C 415	F1G1A683A014	CAPACITOR, 10V, 0.068μF	1
C 425	F1G1E472A062	CAPACITOR, 25V, 4700pF	1
C 436	F1G1H471A496	CAPACITOR, 50V, 470pF	2
C 437			
C 442	ECJ2FF1A106Z	CAPACITOR, 10V, 10μF	2
C 455			
C 801	EEFSX0D331ER	CAPACITOR, 2V, 330μF	6
C 825			
C 826			
C 827			
C 828			
C 829			
C 802	F1L1E106A017	CAPACITOR, 25V, 10μF	11
C 803			
C 809			
C 813			
C 814			
C 816			
C 836			
C 867			
C 876			
C 900			
C 932			
C 806	F1H1H103A748	CAPACITOR, 50V, 0.01μF	4
C 820			
C 868			
C 881			
C 807	F1H1H104A748	CAPACITOR, 50V, 0.1μF	16
C 838			
C 839			
C 855			
C 856			
C 857			
C 873			
C 874			
C 877			
C 903			
C 906			
C 918			
C 925			
C 928			
C 930			
C 933			
C 810	F1J1E334A081	CAPACITOR, 25V, 0.33μF	2
C 812			
C 822	F1H1H562A748	CAPACITOR, 50V, 5600pF	1

C 837 C 858	F1H1H182A748	CAPACITOR, 50V, 1800pF	2
C 840 C 854 C 859	EEFUD0D271ER	CAPACITOR, 2V, 270µF	3
C 841 C 883 C 884	EEFCX0J101R	CAPACITOR, 6.3V, 100µF	3
C 843 C 853 C 937 C 938	F1K1E1060001	CAPACITOR, 25V, 10µF	4
C 860	F1H1H472A748	CAPACITOR, 25V, 4700pF	1
C 862	EEFCD0D101ER	CAPACITOR, 2V, 100µF	1
C 866 C 871	F1G1H821A496	CAPACITOR, 50V, 820pF	2
C 870	EEFCX0G151R	CAPACITOR, 2V, 150µF	1
C 898	F1G1E223A062	CAPACITOR, 25V, 0.022µF	1
C 904 C 910	F1J1E105A009	CAPACITOR, 25V, 1µF	2
C 927 C 931 C 934	DCUI1C106HDB	CAPACITOR, 16V, 10µF	3
C 929	F1G1H152A496	CAPACITOR, 50V, 1500pF	1
CF 1	D4CC1103A038	THERMISTOR	1
CN 2	K1MML0B00003	CONNECTOR	1
CN 3	K1MYL0B00001	CONNECTOR	1
CN 4	K1KA02BA0014	CONNECTOR	1
CN 5	K1MY52B00001	CONNECTOR	1
CN 6 CN 21	K1KA08BA0014	CONNECTOR	2
CN 7	K1MN20BA0134	CONNECTOR	1
CN 8	K1NAF0D00003	CONNECTOR	1
CN 12	K1KB12A00099	CONNECTOR	1
CN 13	K1KY42B00001	CONNECTOR	1
CN 14	K1KA62B00003	CONNECTOR	1
CN 15	K1KA06BA0014	CONNECTOR	1
CN 16	K1FY104BA005	CONNECTOR	1
CN 17	K1KY50AA0103	CONNECTOR	1
CN 18	K1KA05BA0014	CONNECTOR	1
CN 19	K1KB40AA0049	CONNECTOR	1
CN 22 CN 27	K1MN10BA0070	CONNECTOR	2
CN 23	K1FY165EA001	CONNECTOR	1
CN 24	K1KA30BA0060	CONNECTOR	1
CN 25	K1MN30AA0018	CONNECTOR	1
CN 26	K1MY12BA0105	CONNECTOR	1
CN 28	K1KA02BA0085	CONNECTOR	1
CN 801	K1KA10B00213	CONNECTOR	1
CN 802	K1KA06BA0128	CONNECTOR	1



D 1 D 2 D 3 D 9 D 23 D 42	MA2J72900L	DIODE	6
D 4	MA3J741E0L	DIODE	1
D 10 D 801 D 804 D 827 D 828 D 829 D 830 D 835 D 836	B0JCPD000023	DIODE	9
D 12 D 13 D 14 D 15 D 16 D 17 D 18 D 21 D 22 D 24 D 837 D 838 D 839	B0ADDH000004	DIODE	13
D 19 D 20 D 34	B0KB00000044	DIODE	3
D 33 D 821 D 823 D 824	MA2S111-TX	DIODE	4
D 38	B3ABB0000210	DIODE	1
D 39	B3AGB0000040	DIODE	1
D 40	B3ADB0000065	DIODE	1
D 802 D 803	B0JCCE000008	DIODE	2
D 805 D 808 D 811	B0ADCJ000025	DIODE	3
D 806 D 807 D 809 D 810 D 812 D 840	B0JCMD000014	DIODE	6

D 813 D 815 D 816 D 817 D 818 D 819	MAZ80620ML	DIODE	6
D 820	B2ABAM000002	DIODE	1
D 825	MAZ81800ML	DIODE	1
D 826	MAZ81200ML	DIODE	1
D 831 D 833 D 834	B0JDBE000002	DIODE	3
D 832	B0JDRE000007	DIODE	1
F 1 F 2 F 4 F 5 F 9	 K5H202Z00005	FUSE, 2A	5
F 3	 K5H402Z00003	FUSE, 4A	1
IC 1	C2GBC0000283	IC, CPU	1
IC 2	C0JBZZ000387	IC, TEMPERATURE SENSOR	1
IC 3	C1CB00002360	IC, CHIPSET	1
IC 4	C0DBZYY00017	IC	1
IC 6	C0JBZZ000388	IC, CLOCK GENERATOR	1
IC 7	C0JBAB000619	IC, GATE LOGIC	1
IC 8	C1DB00001541	IC, CHIPSET	1
IC 9 IC 32 IC 42 IC 63 IC 71 IC 801	C0JBAA000344	IC, GATE LOGIC	6
IC 10	C1DB00001362	IC, LSI	1
IC 11	C3EBFY000003	IC, EPROM	1
IC 12	C0DBEFE00003	IC	1
IC 13	C0JBAZ002420	IC, LAN SW	1
IC 15	C1CB00002279	IC	1
IC 16	C0DBZYY00016	IC	1
IC 17	C1CB00002278	IC, SUPER I/O	1
IC 18	C0ZBZ0000978	IC	1
IC 20	C3FBLY000009	IC, FLASH ROM	1
IC 21	C1CB00002268	IC, SECURITY CHIP	1
IC 22	C0CBCBC00137	IC, REGULATORY	1
IC 23	C2CBJA000003	IC, MICON	1
IC 25	C1CB00002449	IC, AUDIO CODEC	1
IC 26	C1AB00002507	IC, AUDIO POWER AMPLIFIER	1
IC 27 IC 28	C0JBZZ000383	IC	2
IC 29 IC 46	C0DBZYY00026	IC, USB POWER SW	3

IC 74			
IC 30 IC 58	C0JBAB000624	IC	2
IC 33	C0JBAE000302	IC, LOGIC IC	1
IC 35 IC 812	C0JBAB000616	IC, LOGIC IC	2
IC 36	C0JBAR000500	IC, SWITCH	1
IC 37	C0JBAA000431	IC	1
IC 39 IC 40 IC 44	C0EBE0000459	IC	3
IC 47	C0JBAA000340	IC, GATE LOGIC	1
IC 51	C0CBCBC00181	IC	1
IC 56	C1CB00002295	IC	1
IC 57	C0DBZYY00019	IC, POWER MANAGEMENT SWITCH	1
IC 60 IC 817	C0ABBA000093	IC, OP AMP	2
IC 72 IC 73	C0JBAZ002422	IC, FET SWITCH	2
IC 802 IC 803	C0DBZYY00013	IC, FET	2
IC 804	C0DBAYY00051	IC	1
IC 805 IC 807 IC 809	C0DBALH00003	IC	3
IC 806	C0DBEZG00024	IC	1
IC 808	C0DBEFH00002	IC, REGULATOR	1
IC 810	C0EBE0000333	IC	1
IC 811	C0JBAD000182	IC, LOGIC IC	1
IC 813 IC 814	C0EBH0000336	IC	2
IC 815	C0ABZA000047	IC, AMP	1
IC 818	C0DBDJH00009	IC, LINEAR	1
JK 1 JK 2	K2HC103B0197	JK	2
L 1 L 4	G1C1R0MA0076	INDUCTOR	2
L 2	G1C91NM00001	INDUCTOR	1
L 3 L 5 L 7 L 11 L 22 L 23 L 35 L 36	J0JJC0000021	INDUCTOR	8
L 8 L 9	J0MAB0000169	INDUCTOR	2
L 10 L 13	J0JDC0000045	INDUCTOR	15

L 14			
L 15			
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L 24			
L 25			
L 30			
L 31			
L 32			
L 33			
L 43			
L 12	J0MAB0000200	INDUCTOR	6
L 20			
L 21			
L 34			
L 44			
L 45			
L 37	DDB5Z021C-Y	INDUCTOR	6
L 38			
L 39			
L 40			
L 41			
L 42			
L 801	G1AR56PA0001	INDUCTOR	2
L 802			
L 803	G1C2R8MA0022	INDUCTOR	1
L 804	G1C4R7MA0022	INDUCTOR	3
L 805			
L 807			
L 806	DDAZS100MT3T	INDUCTOR	1
L 808	J0JKC0000007	INDUCTOR	2
L 809			
L 810	G1A160H00001	INDUCTOR	1
PA 1	K5J1BB000001	POLY SW	3
PA 2			
PA 3			
Q 4	2SB0766ARL	TRANSISTOR	1
Q 9	B1GBCFNN0042	TRANSISTOR	27
Q 22			
Q 23			
Q 24			
Q 45			
Q 58			
Q 82			
Q 810			
Q 817			
Q 824			
Q 827			

Q 830 Q 832 Q 833 Q 834 Q 836 Q 837 Q 838 Q 852 Q 858 Q 859 Q 870 Q 871 Q 872 Q 873 Q 879 Q 880			
Q 12 Q 844 Q 846 Q 851 Q 854 Q 855 Q 856 Q 857 Q 862 Q 868	B1GBCFJN0037	TRANSISTOR	10
Q 13 Q 69 Q 70 Q 72 Q 869 Q 874	B1GFCFNN0019	TRANSISTOR	6
Q 19 Q 21 Q 78	XP0421300L	TRANSISTOR	3
Q 20 Q 43 Q 46 Q 56 Q 71 Q 73 Q 75 Q 77	B1MBDCA00004	TRANSISTOR	8
Q 25 Q 47 Q 48 Q 67 Q 76 Q 80 Q 81	B1CFGD000023	TRANSISTOR	18

Q 803			
Q 809			
Q 815			
Q 816			
Q 819			
Q 825			
Q 826			
Q 865			
Q 866			
Q 867			
Q 881			
Q 27	B1DHDC000028	TRANSISTOR	2
Q 57			
Q 28	XP0411500L	TRANSISTOR	7
Q 29			
Q 30			
Q 31			
Q 32			
Q 33			
Q 34			
Q 79	B1GDCFNN0031	TRANSISTOR	8
Q 804			
Q 829			
Q 845			
Q 847			
Q 853			
Q 860			
Q 861			
Q 801	B1CFRD000009	TRANSISTOR	2
Q 807			
Q 802	B1DFGD000032	TRANSISTOR	4
Q 805			
Q 806			
Q 808			
Q 811	B1DBGD000006	TRANSISTOR	9
Q 812			
Q 814			
Q 818			
Q 822			
Q 823			
Q 841			
Q 842			
Q 884			
Q 813	B1MBEDA00017	TRANSISTOR	3
Q 821			
Q 828			
Q 849	B1CHRD000001	TRANSISTOR	6
Q 875			
Q 876			
Q 877			

Q 878			
Q 882			
Q 850 Q 885	B1GFCFJN0016	TRANSISTOR	2
Q 863 Q 864	B1DDDC000003	TRANSISTOR	2
Q 883	B1DHFD000015	TRANSISTOR	1
R 2 R 63 R 66 R 67 R 111 R 156 R 159 R 227 R 228 R 330 R 337 R 406 R 434	ERJ2GEJ102X	RESISTOR, 1/16W, 1K $\Omega$	13
R 3 R 51 R 52 R 53	ERJ2RKF1500X	RESISTOR, 1/16W, 150 $\Omega$	4
R 6 R 7 R 26 R 28 R 32	ERJ2RKF1000X	RESISTOR, 1/16W, 100 $\Omega$	5
R 8 R 9	ERJ2RKF27R4X	RESISTOR, 1/16W, 27.4 $\Omega$	2
R 10 R 11 R 34 R 35	ERJ2RKF54R9X	RESISTOR, 1/16W, 54.9 $\Omega$	4
R 12	ERJ2RKF2001X	RESISTOR, 1/16W, 2K $\Omega$	1
R 13 R 806	ERJ2RKF1001X	RESISTOR, 1/16W, 1K $\Omega$	2
R 15	ERJ2RKF51R0X	RESISTOR, 1/16W, 51 $\Omega$	1
R 17	D1H85104A024	RESISTOR ARRAY	1
R 18 R 93 R 429 R 829 R 830 R 843 R 844 R 849 R 850 R 865	ERJ2GEJ100X	RESISTOR, 1/16W, 10 $\Omega$	13

R 870 R 872 R 877			
R 19 R 916 R 925 R 927 R 968	ERJ2GEJ562X	RESISTOR, 1/16W, 5.6KΩ	5
R 20 R 24	ERJ2GEJ560X	RESISTOR, 1/16W, 56Ω	2
R 21	ERJ2GEJ240X	RESISTOR, 1/16W, 24Ω	1
R 22	ERJ2RKF75R0X	RESISTOR, 1/16W, 75Ω	1
R 25 R 218	ERJ2RKF68R0X	RESISTOR, 1/16W, 68Ω	2
R 27 R 29	ERJ2RKF2210X	RESISTOR, 1/16W, 221Ω	2
R 30 R 31 R 55 R 145 R 162	ERJ2RKF24R9X	RESISTOR, 1/16W, 24.9Ω	5
R 33	ERJ2RKF2000X	RESISTOR, 1/16W, 200Ω	1
R 38 R 39	ERJ2RKF80R6X	RESISTOR, 1/16W, 80.6Ω	2
R 47 R 106 R 121 R 130 R 182 R 198 R 215 R 274 R 314 R 368 R 374 R 382 R 430 R 439 R 894 R 895 R 896 R 897 R 898 R 899 R 957 R 961	ERJ2GEJ101X	RESISTOR, 1/16W, 100Ω	22
R 48 R 49 R 107 R 211	ERJ2GEJ330X	RESISTOR, 1/16W, 33Ω	14



R 248 R 310 R 317 R 364 R 365 R 404 R 411 R 412 R 413 R 414			
R 50	ERJ2RKF2550X	RESISTOR, 1/16W, 255Ω	1
R 54	ERJ2RKF1501X	RESISTOR, 1/16W, 1.5KΩ	1
R 57 R 285 R 835 R 840 R 841 R 876	ERJ2RKF1002X	RESISTOR, 1/16W, 10KΩ	6
R 61 R 94 R 101 R 135 R 144 R 157 R 239 R 245 R 327 R 415 R 428 R 441	D1H81034A024	RESISTOR ARRAY	12
R 72 R 238	ERJ2GEJ220X	RESISTOR, 1/16W, 22Ω	2
R 73 R 88 R 103 R 108 R 137 R 140 R 161 R 240 R 242 R 243 R 247 R 251 R 259 R 263 R 266 R 271 R 273 R 277	ERJ2GEJ103X	RESISTOR, 1/16W, 10KΩ	52

R 291			
R 295			
R 297			
R 312			
R 324			
R 326			
R 328			
R 329			
R 332			
R 333			
R 339			
R 354			
R 369			
R 375			
R 386			
R 400			
R 407			
R 409			
R 436			
R 437			
R 438			
R 440			
R 804			
R 805			
R 809			
R 826			
R 827			
R 831			
R 847			
R 863			
R 920			
R 947			
R 948			
R 972			
R 80	D1H85604A024	RESISTOR ARRAY	2
R 84			
R 81	D1HA56080001	RESISTOR ARRAY	6
R 82			
R 83			
R 85			
R 86			
R 87			
R 91	ERJ2GE0R00X	RESISTOR, 1/16W, 0Ω	36
R 134			
R 136			
R 147			
R 163			
R 172			
R 176			
R 202			

R 205			
R 210			
R 220			
R 222			
R 223			
R 225			
R 226			
R 234			
R 256			
R 260			
R 268			
R 269			
R 276			
R 281			
R 345			
R 419			
R 422			
R 424			
R 435			
R 445			
R 446			
R 801			
R 818			
R 838			
R 929			
R 934			
R 960			
R 983			
R 95	ERJ2GEJ1R0X	RESISTOR, 1/16W, 1Ω	6
R 96			
R 158			
R 308			
R 384			
R 385			
R 97	DEARA8CJ330M	RESISTOR ARRAY	1
R 104	ERJ2GEJ104X	RESISTOR, 1/16W, 100KΩ	36
R 105			
R 110			
R 138			
R 139			
R 155			
R 170			
R 171			
R 174			
R 214			
R 221			
R 224			
R 230			
R 231			
R 232			

R 237			
R 278			
R 338			
R 340			
R 341			
R 353			
R 355			
R 358			
R 359			
R 360			
R 366			
R 367			
R 431			
R 432			
R 433			
R 449			
R 836			
R 859			
R 917			
R 918			
R 950			
R 109	D1H84724A024	RESISTOR ARRAY	2
R 141			
R 298	D1H84734A024	RESISTOR ARRAY	2
R 334			
R 131	ERJ2RKF22R6X	RESISTOR, 1/16W, 22.6Ω	1
R 133	ERJ2GEJ471X	RESISTOR, 1/16W, 470Ω	4
R 342			
R 343			
R 401			
R 148	ERJ2GEJ470X	RESISTOR, 1/16W, 47Ω	2
R 421			
R 149	DEARA8AJ103M	RESISTOR ARRAY	2
R 179			
R 154	ERJ2GEJ121X	RESISTOR, 1/16W, 120Ω	1
R 160	ERJ2GEJ106X	RESISTOR, 1/16W, 10MΩ	1
R 164	ERJ2GEJ472X	RESISTOR, 1/16W, 4.7KΩ	15
R 199			
R 200			
R 201			
R 292			
R 313			
R 371			
R 372			
R 443			
R 444			
R 447			
R 448			
R 944			
R 945			

R 976			
R 167	ERJ2GEJ203X	RESISTOR, 1/16W, 20K $\Omega$	1
R 168	ERJ2GEJ105X	RESISTOR, 1/16W, 1M $\Omega$	10
R 196			
R 377			
R 378			
R 888			
R 889			
R 890			
R 891			
R 893			
R 906			
R 173	D1HG2208A001	RESISTOR ARRAY	1
R 178	D1H81004A024	RESISTOR ARRAY	1
R 180	DEARA8AJ103M	RESISTOR ARRAY	6
R 181			
R 279			
R 284			
R 287			
R 403			
R 188	ERJ2RKF49R9X	RESISTOR, 1/16W, 49.9 $\Omega$	8
R 189			
R 190			
R 191			
R 192			
R 193			
R 194			
R 195			
R 203	ERJ2RKF4871X	RESISTOR, 1/16W, 4.87K $\Omega$	1
R 206	ERJ2RHD103X	RESISTOR, 1/16W, 10K $\Omega$	4
R 209			
R 282			
R 955			
R 208	ERJ2RHD303X	RESISTOR, 1/16W, 30K $\Omega$	1
R 212	ERJ2GEJ473X	RESISTOR, 1/16W, 47K $\Omega$	13
R 229			
R 304			
R 325			
R 361			
R 376			
R 883			
R 903			
R 922			
R 928			
R 930			
R 935			
R 942			
R 213	D1H87504A024	RESISTOR ARRAY	1
R 236	ERJ2GEJ273X	RESISTOR, 1/16W, 27K $\Omega$	1
R 272	ERJ2RKF3901X	RESISTOR, 1/16W, 3.9K $\Omega$	2

R 275			
R 289	ERJ6GEY0R00V	RESISTOR, 1/10W, 0Ω	1
R 294	ERJ2GEJ223X	RESISTOR, 1/16W, 22KΩ	6
R 296			
R 301			
R 303			
R 864			
R 904			
R 299	ERJ2GEJ333X	RESISTOR, 1/16W, 33KΩ	4
R 845			
R 846			
R 874			
R 300	ERJ2GEJ153X	RESISTOR, 1/16W, 15KΩ	5
R 302			
R 828			
R 848			
R 866			
R 306	ERJ2GEJ390X	RESISTOR, 1/16W, 39Ω	2
R 307			
R 309	ERJ2RKF5101X	RESISTOR, 1/16W, 5.1KΩ	2
R 807			
R 331	ERJ2GEJ474X	RESISTOR, 1/16W, 470KΩ	5
R 882			
R 926			
R 932			
R 975			
R 336	D1H81014A024	RESISTOR ARRAY	1
R 344	ERJ2GEJ181X	RESISTOR, 1/16W, 180Ω	4
R 346			
R 352			
R 442			
R 347	D1HG2218A001	RESISTOR ARRAY	1
R 348	ERJ2GEJ221X	RESISTOR, 1/16W, 220Ω	3
R 349			
R 861			
R 370	ERJ2GEJ222X	RESISTOR, 1/16W, 2.2KΩ	5
R 373			
R 379			
R 380			
R 408			
R 417	ERJ2GEJ334X	RESISTOR, 1/16W, 330KΩ	1
R 802	ERJ2RKF1821X	RESISTOR, 1/16W, 1.82KΩ	1
R 803	D1JB1M00A001	RESISTOR, 1W, 1mΩ	2
R 811			
R 808	ERJ2RKF1020X	RESISTOR, 1/16W, 102Ω	3
R 810			
R 816			
R 812	ERJ2RKF2050X	RESISTOR, 1/16W, 205Ω	1
R 813	ERJ2RKF6980X	RESISTOR, 1/16W, 698Ω	1
R 814	ERJ2RKF3400X	RESISTOR, 1/16W, 340Ω	1

R 815	ERJ2RKF2490X	RESISTOR, 1/16W, 249Ω	1
R 817	ERJ2RHD561X	RESISTOR, 1/16W, 560Ω	1
R 819 R 842 R 862 R 887	ERJ3GEYJ100V	RESISTOR, 1/16W, 10Ω	4
R 820 R 821 R 822 R 823	ERJ3GEYJ3R3V	RESISTOR, 1/16W, 3.3Ω	4
R 824 R 825 R 967	ERJ3GEY0R00V	RESISTOR, 1/16W, 0Ω	3
R 832 R 833 R 839 R 852 R 857 R 858 R 869 R 873 R 875 R 879	D1BDR0220001	RESISTOR, 1/8W, 0.022Ω	10
R 834	ERJ2RKF3161X	RESISTOR, 1/16W, 3.16KΩ	1
R 851 R 860 R 867 R 977	D1BDR0330001	RESISTOR, 1/8W, 0.033Ω	4
R 853	ERJ2RKF1802X	RESISTOR, 1/16W, 18KΩ	1
R 854	ERJ2RKF1602X	RESISTOR, 1/16W, 16KΩ	1
R 855	ERJ2RHD2552X	RESISTOR, 1/16W, 25.5KΩ	1
R 856	ERJ2RHD203X	RESISTOR, 1/16W, 20KΩ	1
R 868	ERJ2RKF6201X	RESISTOR, 1/16W, 6.2KΩ	1
R 871	ERJ2RKF3002X	RESISTOR, 1/16W, 30KΩ	1
R 878	ERJ2RKF2002X	RESISTOR, 1/16W, 20KΩ	1
R 880 R 937 R 941	ERJ2RKF1003X	RESISTOR, 1/16W, 100KΩ	3
R 881	ERJ2RKF1301X	RESISTOR, 1/16W, 1.3KΩ	1
R 884	ERJ2RKF1302X	RESISTOR, 1/16W, 13KΩ	1
R 885 R 886	ERJ2RKF5601X	RESISTOR, 1/16W, 5.6KΩ	2
R 901 R 902	ERJ6GEYJ222V	RESISTOR, 1/16W, 2.2KΩ	2
R 919	D1BDR4700001	RESISTOR, 1/8W, 0.47Ω	1
R 921 R 933	ERJ2GEJ3R3X	RESISTOR, 1/16W, 3.3Ω	2
R 923 R 931 R 943	ERJ2GEJ564X	RESISTOR, 1/16W, 560KΩ	4

R 946			
R 936 R 940	ERJ2RKF4702X	RESISTOR, 1/16W, 47KΩ	2
R 938 R 939	ERJ2RKF3302X	RESISTOR, 1/16W, 33KΩ	2
R 952	ERJ2RHD153X	RESISTOR, 1/16W, 15KΩ	1
R 954 R 956	ERJ2RHD104X	RESISTOR, 1/16W, 100KΩ	2
R 953	D1JB4M00A001	RESISTOR, 1W, 4mΩ	1
R 958 R 959	ERJ2RKD154X	RESISTOR, 1/16W, 150KΩ	2
R 962 R 963 R 964 R 978 R 981 R 985	D1BDR1000002	RESISTOR, 1/8W, 0.1Ω	6
R 965	ERJ2RKF1503X	RESISTOR, 1/16W, 150KΩ	1
R 966	ERJ2RKF3652X	RESISTOR, 1/16W, 36.5KΩ	1
R 969	ERA3EEB1692V	RESISTOR, 1/16W, 16.9KΩ	1
R 970 R 973	ERJ2RKF3001X	RESISTOR, 1/16W, 3KΩ	2
R 971	ERJ2RKF1103X	RESISTOR, 1/16W, 110KΩ	1
R 984	ERA3EKB1623V	RESISTOR, 1/16W, 162KΩ	1
T 1 T 2	G5BYC0000015	TRANSE	2
X 1	H0J143500058	OSCILLATOR, 14.3MHz	1
X 2	H0J327200115	OSCILLATOR, 32.768KHz	1
X 3	H0J250500067	OSCILLATOR, 25MHz	1
X 4	H2D800400015	OSCILLATOR, 8MHz	1
ZA 1 ZA 2	DRHM0100ZA	SCREW	2
ZA 3 ZA 4	K1YGZZ000055	NUT	2
<b>IO PCB</b>			
C 1204 C 1205 C 1206 C 1216	F1G1C104A042	CAPACITOR, 16V, 0.1μF	4
C 1207 C 1208 C 1209 C 1210 C 1211 C 1212 C 1214	F1G1H330A542	CAPACITOR, 50V, 30pF	7
C 1213 C 1215	F1L1H220A066	CAPACITOR, 50V, 22pF	2
CN 1201	K1KA30AA0184	CONNECTOR	1
CN 1202	K1FY115A0001	CONNECTOR	1



CN 1203	K1FY109AA004	CONNECTOR	1
L 1201 L 1202 L 1203 L 1204 L 1205 L 1206 L 1207	J0JCC0000186	INDUCTOR	7
R 1201 R 1202 R 1203	ERJ2RKF1500X	RESISTOR, 1/16W, 150Ω	3
R 1204 R 1205	D1H83304A024	RESISTOR ARRAY	2
<b>LED PCB</b>			
CN 1001	K1KY50AA0102	CONNECTOR	1
CN 1002 CN 1003	K1KA02BA0014	CONNECTOR	2
D 1001 D 1002 D 1003 D 1006 D 1007	B3ABB0000210	DIODE	5
D 1004	B3AGB0000040	DIODE	1
D 1005	B3ADB0000065	DIODE	1
SW 1001	EVQPLDA15	SW	1
<b>USB PCB</b>			
C 1701	EEFUD0J151ER	CAPACITOR, 6.3V, 150μF	1
CN 1701	K1KA06BA0014	CONNECTOR	1
CN 1702	K1FY104BA005	CONNECTOR	1
D 1701	B0KB00000044	DIODE	1
L 1701	J0MAB0000200	INDUCTOR	1
L 1702 L 1703	J0JHC0000074	INDUCTOR	2
<b>DC-IN PCB</b>			
C 1501	F1H1H104A748	CAPACITOR, 50V, 0.1μF	1
CN 1501	K1KA06BA0128	CONNECTOR	1
JK 1501	K2EYB000001	JK	1
<b>TS PCB</b>			
C 1600 C 1618	F1J0J4750019	CAPACITOR, 6.3V, 4.7μF	2
C 1601 C 1611 C 1614 C 1615 C 1616	F1G1C104A042	CAPACITOR, 16V, 0.1μF	5
C 1602	F1H1A1050015	CAPACITOR, 10V, 1μF	1
C 1603 C 1604 C 1605 C 1606	F1G1E472A062	CAPACITOR, 25V, 4700pF	4

C 1607 C 1608 C 1609 C 1610	F1G1H681A496	CAPACITOR, 50V, 680pF	4
C 1612	F1G1E223A062	CAPACITOR, 25V, 0.022μF	1
C 1613	F1G1H102A496	CAPACITOR, 50V, 1000pF	1
C 1617	F1G0J224A001	CAPACITOR, 6.3V, 0.22μF	1
C 1619	F1L1H220A066	CAPACITOR, 50V, 22pF	1
C 1620	F1H0J1050022	CAPACITOR, 6.3V, 1μF	1
CN 1600	K1KA15BA0014	CONNECTOR	1
CN 1601	K1MN04B00073	CONNECTOR	1
CN 1602	K1KA08BA0014	CONNECTOR	1
CN 1603	K1KA14BA0109	CONNECTOR	1
IC 1600	C0JBAR000500	IC, SWITCH	1
IC 1601	C0EBE0000460	IC	1
IC 1602	C0JBAZ002422	IC, FET SWITCH	1
IC 1603	C1DB00001350	IC	1
L 1600	J0MAB0000200	INDUCTOR	1
Q 1600 Q 1601	B1MBADA00003	TRANSISTOR	2
Q 1602	B1GDCFN0031	TRANSISTOR	1
Q 1603	B1GBCFJN0037	TRANSISTOR	1
R 1601	ERJ2GEJ273X	RESISTOR, 1/16W, 27KΩ	1
R 1602 R 1603 R 1604 R 1605 R 1614 R 1616 R 1618 R 1619 R 1621 R 1622 R 1623 R 1624	ERJ2GEJ102X	RESISTOR, 1/16W, 1KΩ	12
R 1606 R 1607 R 1608 R 1609	ERJ2GEJ822X	RESISTOR, 1/16W, 8.2KΩ	4
R 1610	ERJ2GEJ103X	RESISTOR, 1/16W, 1KΩ	1
R 1611	ERJ2GEJ473X	RESISTOR, 1/16W, 47KΩ	1
R 1620 R 1629	ERJ2GE0R00X	RESISTOR, 1/16W, 0Ω	2
R 1625	DEARA8AJ473M	RESISTOR ARRAY	1
R 1626 R 1627	ERJ2GEJ270X	RESISTOR, 1/16W, 27Ω	2
R 1628	ERJ2GEJ152X	RESISTOR, 1/16W, 1.5KΩ	1
X 1600	H2D600400005	OSCILLATOR, 6MHz	1
<b>SD PCB</b>			
C 1401	F1H1A1050015	CAPACITOR, 10V, 1μF	1

C 1402	F1G1C104A042	CAPACITOR, 16V, 0.1μF	1
CN 1401	K1MN20BA0134	CONNECTOR	1
CN 1402	K1NA09E00073	CONNECTOR	1
D 1401	B3ACB0000020	DIODE	1
Q 1401	B1GDCFJA0025	TRANSISTOR	1
Q 1402	B1GBCFJN0037	TRANSISTOR	1
R 1401	ERJ3GEYJ101V	RESISTOR, 1/16W, 100Ω	1
R 1402	ERJ2GEJ103X	RESISTOR, 1/16W, 10KΩ	1
<b>PAD SW PCB</b>			
C 1301	F1G1E103A062	CAPACITOR, 25V, 0.01μF	1
C 1302	F1H0J1050022	CAPACITOR, 6.3V, 1μF	1
CN 1301	K1MN12BA0070	CONNECTOR	1
CN 1302	K1MY12BA0105	CONNECTOR	1
R 1301	ERJ2GEJ101X	RESISTOR, 1/16W, 100Ω	1
SW 1301	K0D112B00071	SW	1
SW 1302	K0ZZ00000618	SW	1
SW 1303	EVQPLDA15	SW	2
SW 1304			