

# Service Manual

Notebook Computer

Model No. **CF-52AJYZDZM**

**TOUGHBOOK**

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

 **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**<sup>®</sup>

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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.

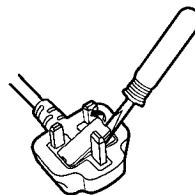
The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured RED.

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 manufacturer'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 manufacturer.  
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 misapplication 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-52AJCBDBM / CF-52BJCBZBM / CF-52AJCHDBM / CF-52CCABXBM / CF-52DCABZBM. 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-52AJCBDBM / CF-52BJCBZBM / CF-52AJCHDBM   | CF-52CCABXBM / CF-52DCABZBM  |
| CPU                            | Intel® Core™ 2 Duo Processor T7300<br>(2.0 GHz, 4 MB <sup>*1</sup> L2 cache, 800 MHz FSB)  | Intel® Core™ 2 Duo Processor T7100<br>(1.8 GHz, 2 MB <sup>*1</sup> L2 cache, 800 MHz FSB)    |
| Chipset                        | Mobile Intel® PM965 Express Chipsets   | Mobile Intel® GM965 Express Chipsets   |
| Memory <sup>*1*2</sup>         | 1024 MB (4096 MB Max.)   |  |
| Video Memory <sup>*1</sup>     | 512 MB   | UMA (384 MB Max.) <sup>*3</sup>  |
| Hard Disk Drive <sup>*4</sup>  | 120 GB   | 80 GB  |
| Display Method                 | 15.4 WUXGA type (TFT)  | 15.4 WXGA type (TFT)   |
| Internal LCD <sup>*5</sup>     | 65,536/16,777,216 colors<br>(800 × 600 dots/1024 × 768 dots/1280 × 768 dots/1600 × 1200 dots/1920 × 1080 dots/1920 × 1200 dots)  | 65,536/16,777,216 colors<br>(800 × 600 dots/1024 × 768 dots/1280 × 768 dots/1280 × 800 dots) |
| External Display <sup>*6</sup> | 65,536/16,777,216 colors (800 × 600 dots/1024 × 768 dots/1280 × 768 dots/1280 × 1024 dots/1600 × 1200 dots/1920 × 1080 dots/1920 × 1200 dots/2048 × 1536 dots)   |  |
| 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, Intel® High Definition Audio subsystem support   |  |
| Security Chip                  | TPM (TCG V1.2 compliant) <sup>*9</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>*10</sup>  | x 1, Data transfer rate = 8 MB per second <sup>*11</sup>                                     |
|                                | Smart Card <sup>*12</sup>  | x 1  |
| RAM Module Slot                | 200-pin, 1.8 V, SO-DIMM, DDR2 SDRAM, PC2-5300 Compliant  |  |
| Interface                      | USB port (4-pin, USB 2.0) x 4, Serial Port (Dsub 9-pin male), Modem port (RJ-11), LAN port (RJ-45), External display port (Mini Dsub 15-pin female), IEEE1394a Interface Connector (4-pin × 1), Microphone Jack (Miniature jack, 3.5 DIA, Stereo), Headphone Jack (Miniature jack, 3.5 DIA, Impedance 32 Ω, Output Power 4 mW × 2, Stereo) |  |
| Keyboard / Pointing Device     | 87 keys / Touch Pad  |  |
| Power Supply                   | AC adaptor or Battery pack   |  |
| AC Adaptor <sup>*13</sup>      | Input: 100 V to 240 V AC, 50 Hz/60 Hz, Output: 15.6 V DC, 8.0 A  |  |

## Main Specifications

|  |  |  |
|--|--|--|
| Model No.  | CF-52AJCDBM / CF-52BJCBZBM / CF-52AJCHDBM  | CF-52CCABXBM / CF-52DCABZBM  |
| Battery Pack   | Li-ion 11.1 V, 7.65 Ah   |  |
| Operating Time <sup>*14</sup>                                      | Approx. 3.5 hours to 4.5 hours <sup>*15</sup><br>(Approx. 4.5 hours <sup>*16</sup> )   | Approx. 6.0 hours to 9.5 hours <sup>*15</sup><br>(Approx. 7.5 hours <sup>*16</sup> )     |
| Charging Time <sup>*14</sup>                                       | Approx. 4 hours  |  |
| Clock Battery  | Coin type lithium battery 3.0 V  |  |
| Power Consumption <sup>*17</sup>                                   | Approx. 60 W <sup>*18</sup> / Approx. 100 W<br>(Maximum when recharging in the ON state)   | Approx. 45 W <sup>*18</sup> / Approx. 100 W<br>(Maximum when recharging in the ON state) |
| Physical Dimensions (W × H × D)<br>(including the carrying handle) | 355.7 mm × 50.7 - 51.9 mm × 286.8 mm {14.0" × 2.0" × 11.3"}  |  |
| Weight<br>(including the carrying handle)                          | Approx. 3.35 kg {Approx. 7.4 lb.}  | Approx. 3.3 kg {Approx. 7.3 lb.}   |
| Operation Environment  | Temperature: 5 °C to 35 °C {41 °F to 95 °F}<br>Humidity: 30% to 80% RH (No condensation)   |  |
| Storage Environment  | Temperature: -20 °C to 60 °C {-4 °F to 140 °F}<br>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, 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® PROSet/Wireless Software <sup>*7</sup> , Bluetooth™ Stack for Windows® by TOSHIBA <sup>*8</sup> , Wireless Switch Utility, Hotkey Settings, Battery Recalibration Utility, Infineon TPM Professional Package <sup>*19</sup> , Recover Pro™ 6 <sup>*19</sup> |  |
|  | Setup Utility, Hard Disk Data Erase Utility <sup>*20</sup>   |  |

## CD/DVD Drive

|  |                        |  |
|--|------------------------|--|
| CD/DVD Drive                             |                        | DVD MULTI Drive  |
| Data Transfer Rate <sup>*21</sup>        | Reading <sup>*22</sup> | DVD-ROM: 8X (Max.), CD-ROM: 24X (Max.)   |
|  | Writing <sup>*23</sup> | CD-R: 4X/10X/10-16X/10-20X/10-24X<br>CD-RW: 4X<br>High-Speed CD-RW: 4X/10X<br>Ultra-Speed CD-RW: 10X/10-16X/10-20X/10-24X<br>DVD-R: 1X/2X/2-4X/2-6X/2-8X<br>DVD-RW: 1X/2X/2-4X/2-6X<br>DVD-RAM: 2X/3X/3-5X<br>+R: 2.4X/2.4-4X/2.4-6X/2.4-8X<br>+R DL: 2.4X/2.4-4X<br>+RW: 2.4X/2.4-4X<br>High-Speed +RW: 3.3X/3.3-6X/3.3-8X              |
| Supported Discs/<br>Format <sup>*4</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>*24</sup> (1.4 GB, 2.8 GB, 4.7 GB, 9.4 GB), DVD-RAM <sup>*25</sup> (1.4 GB, 2.8 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                | DVD-R (1.4 GB, 4.7 GB for General), DVD-R DL (8.5 GB), DVD-RW <sup>*24</sup> (1.4 GB, 2.8 GB, 4.7 GB, 9.4 GB), DVD-RAM <sup>*25</sup> (1.4 GB, 2.8 GB, 4.7 GB, 9.4 GB), +R (4.7 GB), +R DL (8.5 GB), +RW (4.7 GB), CD-R, CD-RW   |



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

|  |   |
|--|---|
| Intel® Wireless WiFi link 4965 AGN (802.11 a + b + g) <sup>*26</sup> |   |
| Data Transfer Rates <sup>*27</sup>                                   | IEEE802.11a: 54/48/36/24/18/12/9/6 Mbps (automatically switched)<br>IEEE802.11b: 11/5.5/2/1 Mbps (automatically switched)<br>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<br>IEEE802.11b/IEEE802.11g: Channels 1 to 11  |
| RF Frequency Band  | IEEE802.11a: 5.18-5.32 GHz, 5.745-5.825 GHz<br>IEEE802.11b/IEEE802.11g: 2.412-2.462 GHz   |

### Bluetooth™ <Only for model with Bluetooth>

|                        |                  |
|------------------------|------------------|
| Bluetooth Version      | 2.0 + EDR        |
| Transmission method    | FHSS system      |
| Wireless Channels Used | Channels 1 to 79 |
| RF Frequency Band      | 2.402-2.48 GHz   |

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

\*2 You can physically expand the memory up to 4096 MB, but the total amount of usable memory available will be less depending on the actual system configuration.

\*3 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.

\*4 1GB = 1,000,000,000 bytes. Your operating system or some application software will report as fewer GB.

\*5 A 16,777,216 color display is achieved by using the dithering function.

\*6 Maximum resolution depends on the specifications of the external display.

\*9 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)".

\*10 Operation has been tested and confirmed using Panasonic SD Memory Cards with a capacity of up to 2 GB. Operation on other SD equipment is not guaranteed. This computer is not compatible with MultiMediaCards or SDHC Memory Cards. Do not insert these kinds of cards.

\*11 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.

\*12 Only for model with Smart Card slot

\*13 <Only for North America>

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. 20-M-2-1

\*14 Varies depending on the usage conditions.

\*15 Measured using BatteryMark™ Version 4.0.1 (LCD brightness: Maximum - Minimum)

\*16 Measured using MobileMark™ 2005 (LCD brightness: 60 cd/m<sup>2</sup>)

\*17 Approx. 0.9 W when the battery pack is fully charged (or not being charged) and the computer is OFF.

Approx. 1.5 W when the Wake up from LAN has been enabled.

\*18 Rated power consumption 23-E-1

\*19 You need to install to use the feature.

\*20 The Product Recovery DVD-ROM is required.

\*21 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.

\*22 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.

\*23 Depending on the disc, the writing speed may become slower.

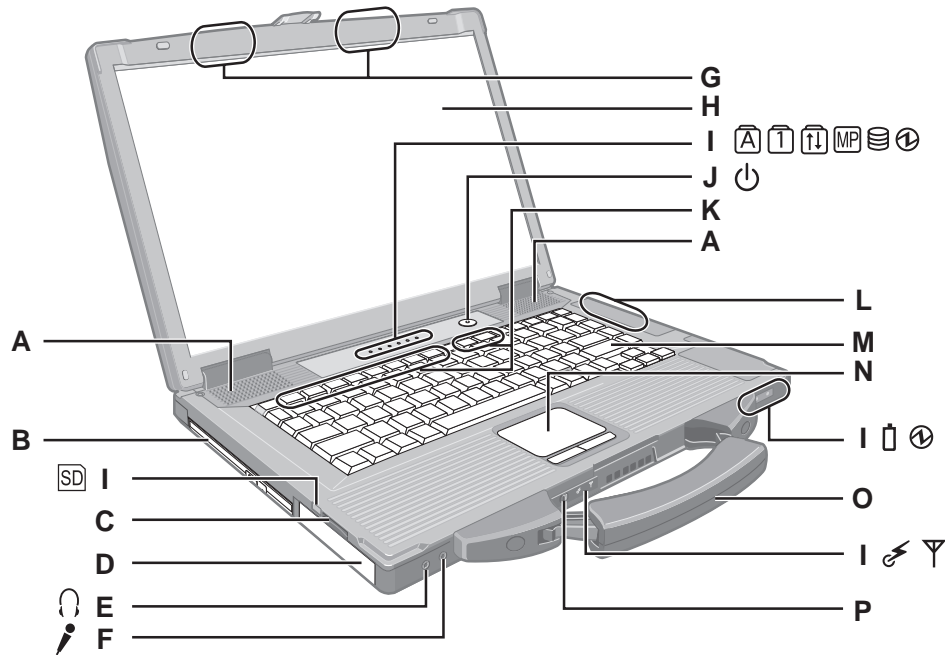
\*24 Does not support DVD-RW Ver.1.0.

\*25 DVD-RAM: Only non-cartridge type or removable cartridge type can be used.

\*26 It does not correspond to IEEE802.11n.

\*27 These are speeds specified in IEEE802.11a+b+g standards. Actual speeds may differ.

## 2. Names and Functions of Parts



**A : Speaker**

**B : Multimedia pocket**

**C : SD Memory Card slot**

**D : Battery pack**

**E : Headphone jack**

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

**F : Microphone jack**

A condenser microphone can be used. If other types of microphones are used, audio input may not be possible, or malfunctions may occur as a result.

- When recording in stereo using a stereo microphone: Click [start] - [All Programs] - [SoundMAX] - [Control Panel] and select [Microphone], and then add a check mark for [No Filtering] in [Microphone Enhancements].
- When using a monaural microphone with a 2-terminal plug: Click [start] - [All Programs] - [SoundMAX] - [Control Panel] and select [Microphone], and then add a check mark for [Voice Recording] in [Microphone Enhancements]. Otherwise, only audio on the left track will be recorded.

**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

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

SD Memory Card status

(Blinking: During access or a password is requested)

Wireless ready

This indicator lights when Wireless LAN, Bluetooth, and/or Wireless WAN are connected and ready. It does not necessarily indicate the On/Off condition of the wireless connection.

Wireless WAN status

<Only for model with wireless WAN>

Refer to the instruction manual of the wireless device

**J : Power switch**

**K : Function key**

**L : Bluetooth antenna**

<Only for model with Bluetooth>

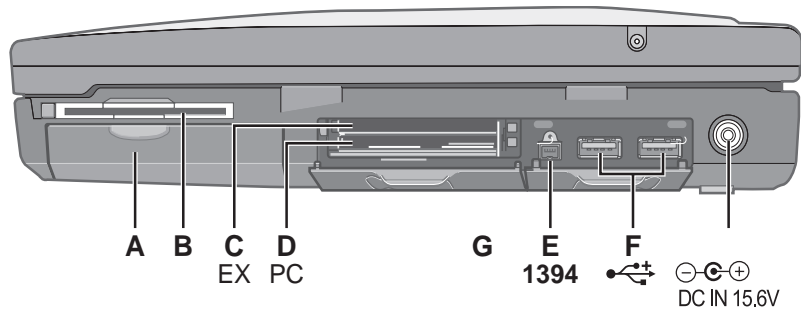
**M : Keyboard**

**N : Touch pad**

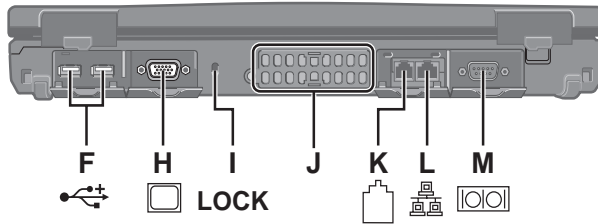
**O : Carrying handle**

**P : Wireless switch**

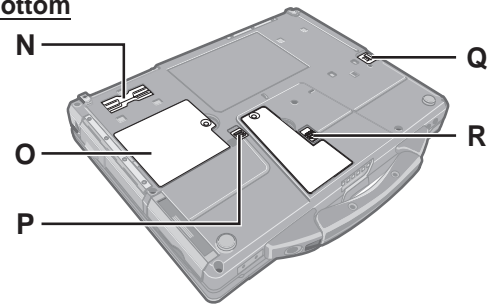
**Right side**



**Rear side**



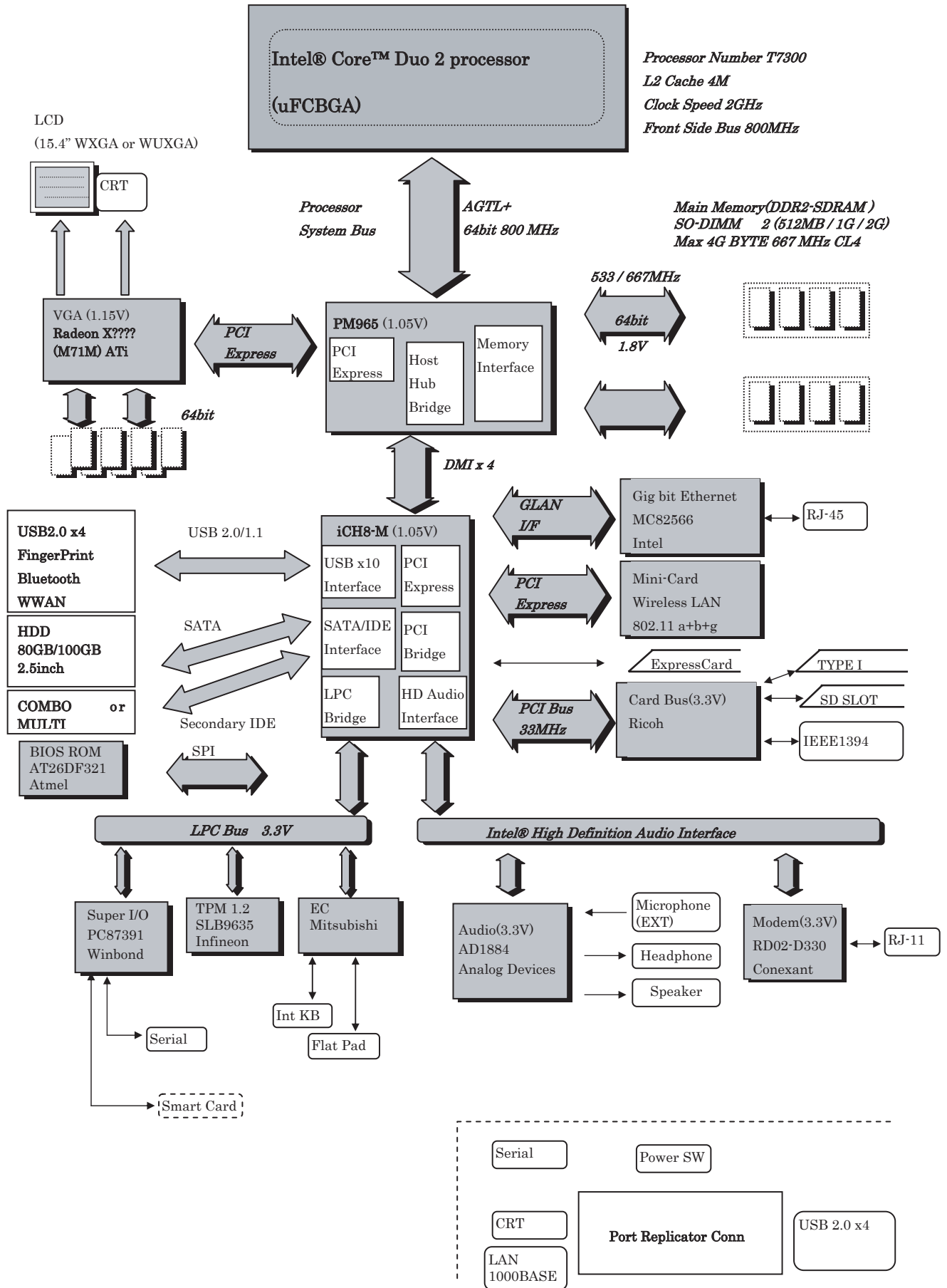
**Bottom**



- A : Hard disk drive**
- B : Smart Card slot**  
<Only for model with Smart Card slot>
- C : ExpressCard slot**
- D : PC Card slot**
- E : IEEE 1394 interface connector**
- F : USB port**
- G : DC-IN jack**
- H : External display port**

- I : Security lock**  
A Kensington cable can be connected.  
For further information, read the manual that comes with the cable.
- J : Ventilation hole**
- K : Modem port**
- L : LAN port**
- M : Serial port**
- N : Expansion bus connector**
- O : RAM module slot**
- P : Hard disk drive latch**
- Q : Multimedia pocket release button**
- R : Battery latch**

# 3 Block Diagram

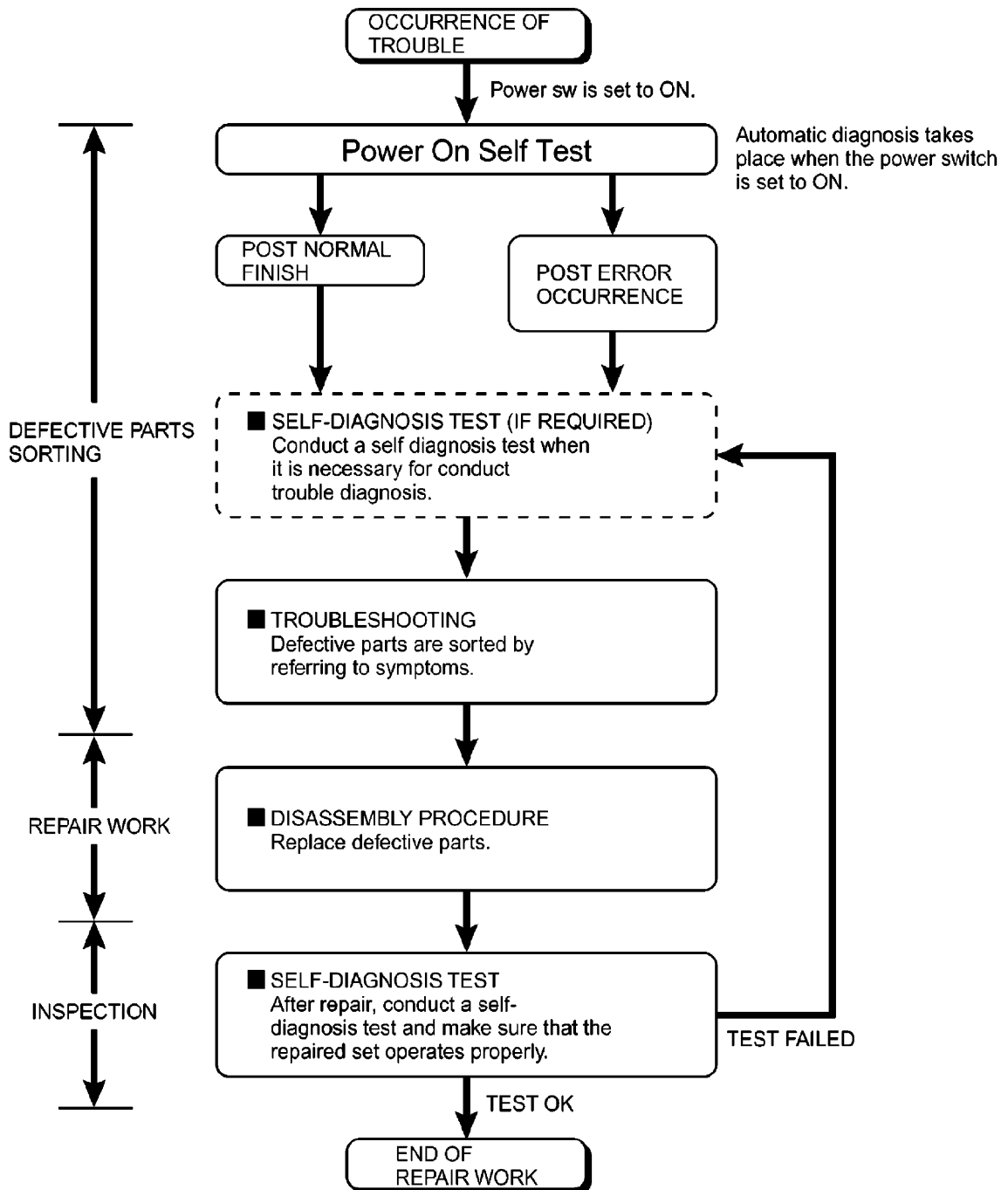


# 4 Diagnosis Procedure

## 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.

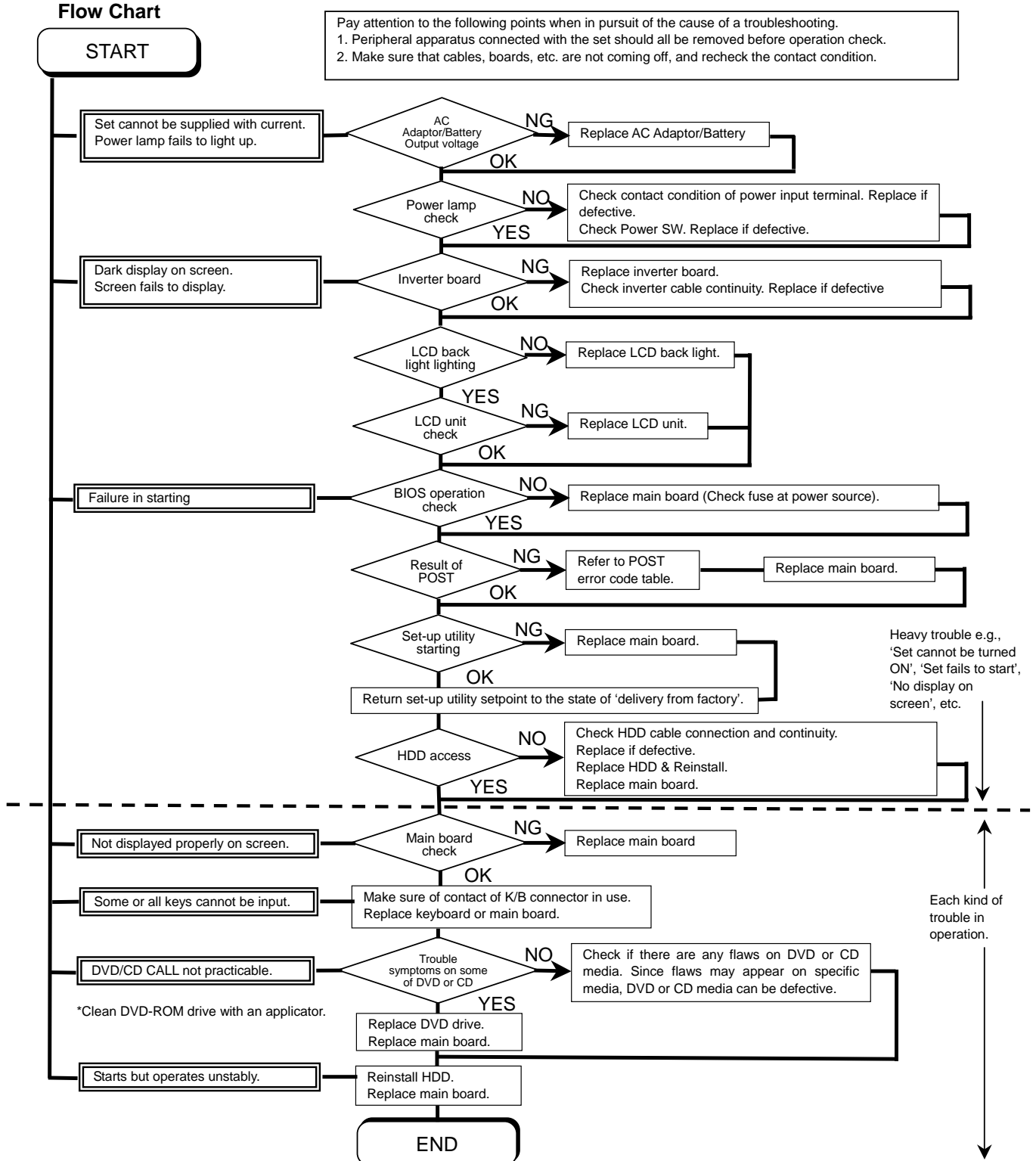
● Flow Chart



## 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 Self Diagnosis Test

As for the self-diagnosis test(PC-Diagnostic utility) to use this model, a standard test and the enhancing test by the module of the main body building in are possible.

Notes To skip BIOS password

Use <Ctrl>+<F10> key to skip BIOS password or authentication of fingerprint.

This key is only for entering DIAG mode. Not available to boot the computer.

If customer set "HDD Lock", the DIAG program cannot perform HDD test.

\*This key is for service purpose only. Do not disclose this information to unrelated others.

## 1. Beginning of self-diagnosis test

### 1-1. Setting of content of setup

1. The power supply of the computer is turned on.
2. " F2 " is pushed on the screen of "Panasonic" while " press <F2 to enter Setup> " is displayed.
3. The setup utility starts and then takes notes of the content of the BIOS setup of present set.
4. " F9 " is pushed, " Yes" is selected on the screen of " Is the default value loaded? ", and " Enter" is pushed.
5. " F10 " is pushed.
6. " Yes" is selected on the screen of the setup confirmation, and " Enter" is pushed.
7. The computer starts automatically.

Attention

- If the device which can be set is set to "Invalidity" by "Advanced" or "Security" menu, becomes an error by "PC-Diagnostic utility".  
(It is judged that the device which can be set to "Invalidity" by "Main" menu such as "Flat pad" is normal if the controller operates normally though sets to "Invalidity" by the setup. )
- In the model with built-in DVD of the USB connection, even if DVD is normal, becomes an error if legacy USB is set to "Invalidity"


### 1-2. When you execute an automatic test

1. "Ctrl" + "F7" is pushed while the "Panasonic" start screen is displayed after the computer is started.
2. The test of all devices begins automatically by "PC-Diagnostic utility" 's starting.


Attention

- It is a test which the customer who bought PC can execute. (As for HDD, the enhancing test is also possible.)
- A flat pad does not work for a while after starting "PC-Diagnostic utility".
- The movement of a flat pad might become abnormal If after RAM begins from the CPU/System test, a flat pad will be operated in about 30 seconds. In that case, restarts pushing "Alt" + "Ctrl" + "Del" key. Or, please start "PC-Diagnostic utility" again after doing the power supply switch in the slide, and turning off the power supply.

### 1-3. When you execute the enhancing test

1. Please let me discontinue diagnosing clicking  to end an automatic test.
2. Please click on the character of "D" "PC-Diagnostic utility" on the screen while pushing both of right "Shift" and left "Shift" keys.



3. All devices which can select the enhancing test make the setting of the enhancing test possible.
4. The district device is made "FULL" display (enhancing test).
5. The test begins clicking .

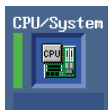
\*Please refer to item 4 for the error result of each test and the division of the breakdown part.

## 2. Operation of PC-Diagnostic Utility

- Only the device which can be inspected on the entire screen is displayed.
- The item does not appear when the device of wireless LAN etc. is not physically connected.
- The movement of the item must use an arrow key or a flat pad.





- As for the device under the diagnosis, blue and yellow are alternately displayed at the left of the icon.
- The diagnosis result of the device greens at the left of the icon when it is normal, and becomes red when abnormal.



- When the test of all devices ends, the test result is displayed under the right of the screen.



- Please click  while diagnosing when being stop on the way by the time the test of all devices ends.
- Please click  when you restart "PC-Diagnostic utility".
- \*Each device is tested from the beginning, and it is not possible to restart on the way.
- When the test of all devices ends, the test result is displayed under the right of the screen.

## 2-1. Selection of tested device

- To test only a specific device, "Test" and "Do not test" of each device can be selected.
- The device which can select the enhancing test changes in order of "The standard is tested" and "Do not test" whenever the device icon is clicked.



Start the standard test



Do not test

Please begin testing clicking  if the selection of the tested device ends.

## 2-2. "PC-Diagnostic utility" End method

When  of "Close" on the right of the screen is clicked, the computer reactivates automatically. Or, the power supply switch is done in the slide and the power supply is turned off.

## 2-3. The content of the setup is returned to the setting of the user

1. Turned on the computer.
2. "F2" is pushed on the screen while "Press<F2>to enter Setup" is displayed of "Panasonic".
3. Push "F10", and on the screen of "Is the change in the setting preserved and do end?"and then "Yes" is selected, and "Enter" is pushed.
4. The computer reactivates automatically.
5. The end option is chosen by the start menu, and the power supply of the computer is turned off.

Standard at test time

All devices other than RAM and HDD ----- about 1 minute  
RAM standard test ----- 1 - 2 minutes  
HDD standard test ----- 2 - 3 minutes  
HDD enhancing test (60GB) ----- about 40 minutes

Ex.The standard when the standard <all device> is tested becomes  $1+2+3=6$  minutes.

There is greatly a difference from RAM test when the memory is increased according to the performance of the memory occasionally.

Moreover, when the main body of PC under the test is a high temperature, it occasionally takes time.

There is greatly a difference from HDD according to the performance of the drive occasionally.

### 3. Test Item and Division of trouble

| Test item    | Standard | Enhancing       | Content of standard test   | Content of enhancing test  | Place with possibility of breakdown               |
|--------------|----------|-----------------|--|--|---|
| CPU / SYSTEM | ○        | —               | CPU is shifted to protected mode, and "Violation of the paging", "Operation of the violation of a privileged instruction", and DMA, INT, TIMER, and the RTC operation are confirmed. | —  | CPU / Main board                                  |
| RAM          | ○        | —               | All memory space is tested in a special memory access pattern based on "R.S.T . technology".   | —  | Memory / Mainboard                                |
| HDD          | ○        | ○               | The record area frequently accessed with Microsoft Windows XP to test in about two minutes regardless of points of HDD is emphatically tested.                                       | All record area is tested.   | HDD / Mainboard / Cable / Connector               |
| MODEM        | ○        | —               | It is confirmed not to find abnormality in the AC97 modem controller.  | —  | MODEM/ Mainboard                                  |
| Wireless LAN | ○        | —               | It is confirmed not to find abnormality in the Wireless LAN modem controller.  | —  | Wireless LAN board / Connector / Mainboard        |
| Sound *5     | ○        | —               |  |  |   |
| USB          | ○        | ○ <sup>*1</sup> | It is confirmed not to find abnormality in the USB controller.   | It is confirmed not to find abnormality in the wiring between the USB controller and the connector by confirming the connection of the USB equipment connected with the USB connector. | Mainboard / Connector                             |
| LAN          | ○        | ○ <sup>*2</sup> | It is confirmed not to find abnormality in the LAN controller.   | It is confirmed not to find abnormality in the wiring between the controller and the connector by connecting to HUB with LAN cable.  | Mainboard / Connector                             |
| PC Card      | ○        | —               | It is confirmed not to find abnormality in the CardBus controller.   | —  | Mainboard   |
| SD           | ○        | —               | It is confirmed not to find abnormality in the SD controller.  | —  | Mainboard   |
| Keyboard     | ○        | ○ <sup>*3</sup> | It is confirmed not to find abnormality in keyboard controller's keyboard interface.   | The key is actually input, and the operation is displayed on the screen.   | Mainboard / Keyboard                              |
| Touch Pad    | ○        | ○ <sup>*4</sup> | Whether keyboard controller's mouse interface operates normally is confirmed.  | The operation is actually displayed on the screen by operating the touch pad.  | Mainboard / Touch Pad                             |
| DVD-ROM      | ○        | ○ <sup>*6</sup> | The drive is normally reset, and it is accessible is confirmed.  | It is confirmed to be able to read media normally.   | Mainboard / DVD Drive / DVD Cable / DVD Connector |

| Test Item     | Standard | Enhanced | Content of Standard Test   | Content of Extend Test   | The place with possibility of breakdown                            |
|---------------|----------|----------|--|--|--|
| Touch Screen  | ○        | ○        | It is confirmed not to find abnormality in the USB connection of Touch Screen. This test cannot find abnormality of Touch Screen.                      | Perform Touch Screen functionality practically. Operator has to judge PASS/FAIL with test result.  | Main board/<br>Touch Screen  |
| Bluetooth     | ○        |          | It is confirmed not to find abnormality in the connection of Main board and Bluetooth module.  | —  | Bluetooth cable  |
| Wireless WAN  | ○        | —        | It is confirmed not to find abnormality in the connection of Main board and Wireless WAN module.   | —  | WWAN cable   |
| Floppy        | ○        | —        | It is confirmed not to find abnormality in the legacy FD drive. This test cannot find abnormality of mechanical breakdown. (e.g., Head, Motor)         | —  | FD Drive/<br>Main board (Super I/O)/<br>FDD cable<br>FDD connector |
| Video         | ○        | —        | It is confirmed not to find abnormality in access to VRAM with VESA. The PC which uses main memory as VRAM may fail with main memory failure.          | —  | Main board<br>(Chipset, Graphic<br>Controller)/<br>Memory          |
| GPS           | ○        | —        | It is confirmed not to find abnormality in the connection of Main board and GPS  | —  | GPS cable  |
| IEEE1394      | ○        | —        | It is confirmed not to find abnormality in the IEEE1394 controller.  | —  | Main board<br>(IEEE1394 Controller)                                |
| Express Card  | —        | ○        | —  | It is confirmed not to find abnormality in the wiring between Chipset and Express Card.  | Main board (Chipset)/<br>Express Card Connector                    |
| Smart Card    | ○        | —        | It is confirmed not to find abnormality in the Smart Card controller.  | —  | Main board<br>(Smart Card Controller)                              |
| Serial Port   | ○        | ○ *7     | It is confirmed not to find abnormality of Super I/O UART function. This test cannot find lack of wiring between Super I/O and Serial Connector.       | It is confirmed not to find abnormality in the wiring between Super I/O and Serial Connector. This test cannot find failure of cable characteristic and device problems.   | Main board (Super I/O)/<br>Serial Connector                        |
| Parallel Port | ○        | ○ *8     | It is confirmed not to find abnormality of Super I/O parallel function. This test cannot find lack of wiring between Super I/O and Parallel Connector. | It is confirmed not to find abnormality in the wiring between Super I/O and Parallel Connector. This test cannot find failure of cable characteristic and device problems. | Main board (Super I/O)/<br>Parallel Connector                      |

\*1 Please connect the USB device with the port (USB connector) which wants to test before the tests.

\*2 Please connect LAN port with LAN HUB with LAN cable before the tests.

\*3 The operator actually inputs the key, and the operator judges PASS/FAIL of the test.

\*4 The operator actually operates the mouse, and the operator judges PASS/FAIL of the test.

\*5 It is not abnormal though the sound is emitted from the speaker while testing.

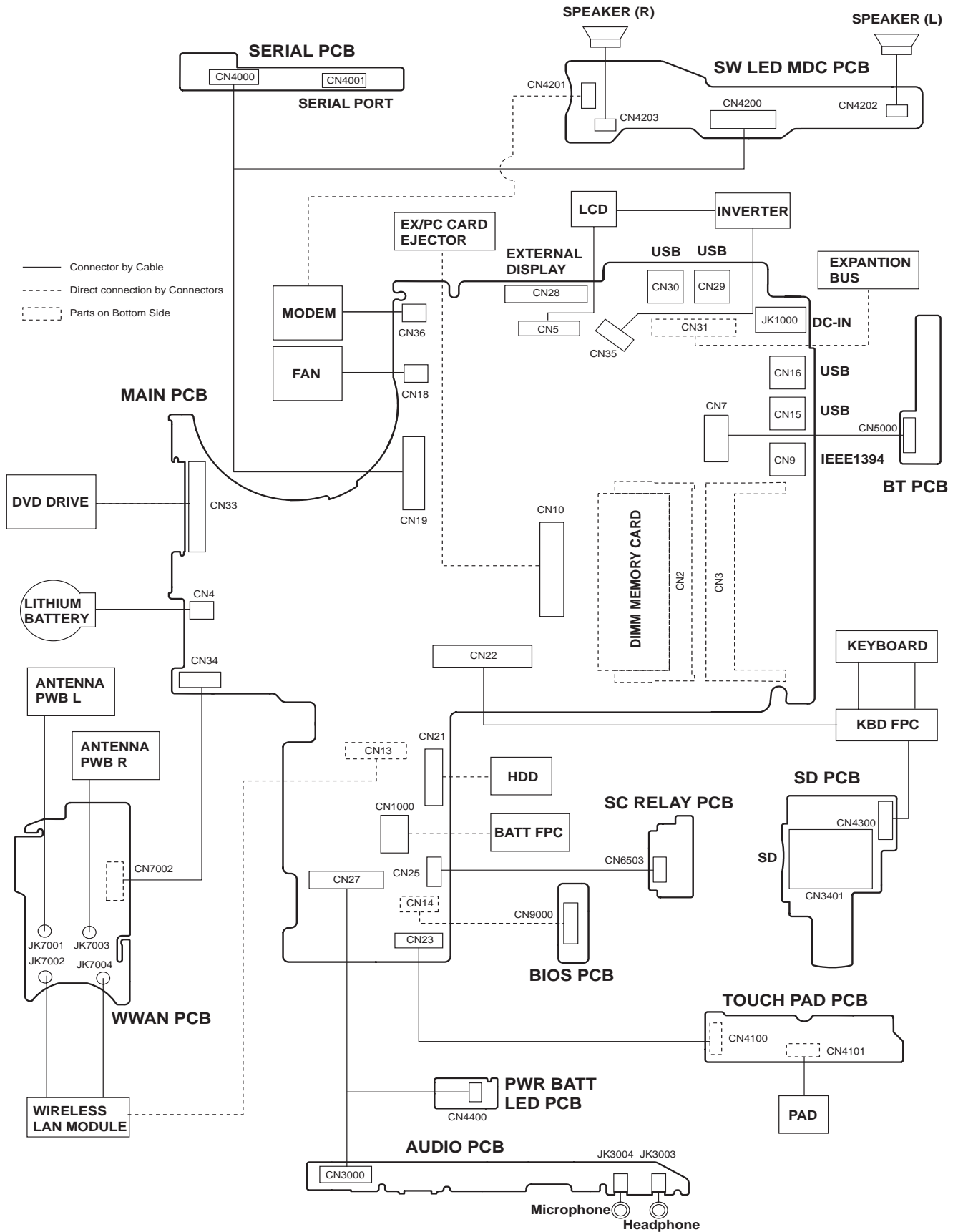
※ When the test result is PASS, trouble is thought by not hearing of the sound under the test from the speaker and the headphone by the wiring of the audio output system.

\*6 Please set DVD/CD media in the drive before the tests.

\*7 Please set a Special Loop Back Connector Tool at serial connector for Enhanced Test. (This Connector Tool is same as the one used before.)

\*8 Please set a Special Loop Back Connector Tool at parallel connector for Enhanced Test. (This Connector Tools is same as the one used before.)

# 8 Wiring Connection Diagram



# 9 Disassembly/Reassembly

## Note:

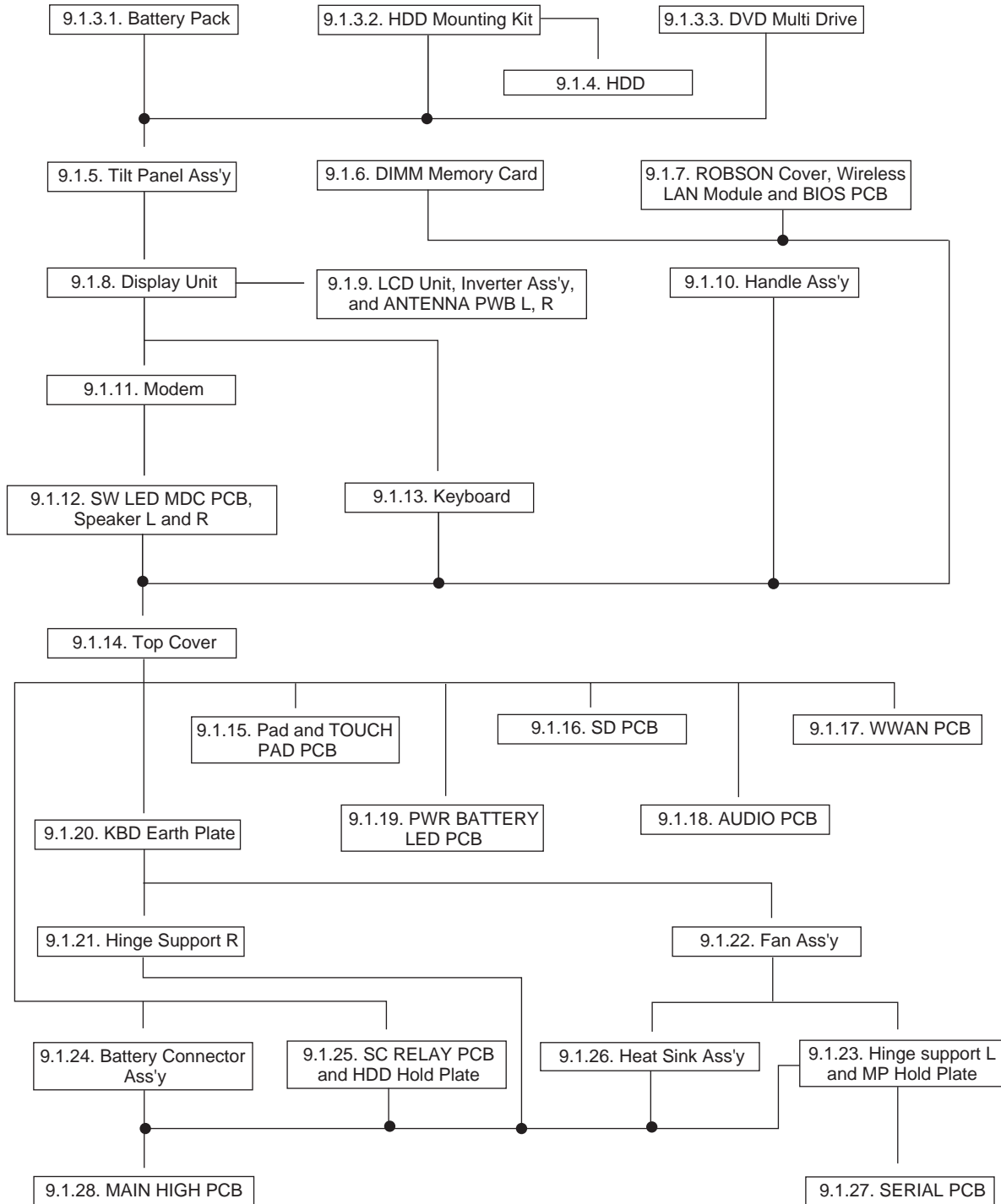
Power off the computer. Do not shut down to the Suspend or hibernation mode.

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

## 9.1. Disassembly Instructions

### 9.1.1. Disassembly Flowchart

The chart below shows the various parts which should be removed in order to remove the parts that are to be replaced. Parts can be replaced efficiently by following the disassembly steps in the chart.





### 9.1.2. 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.

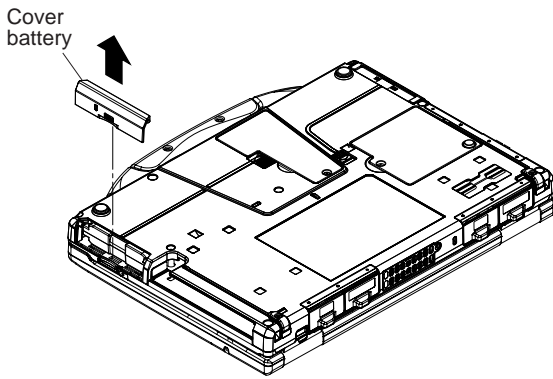
#### Attention:

- 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.

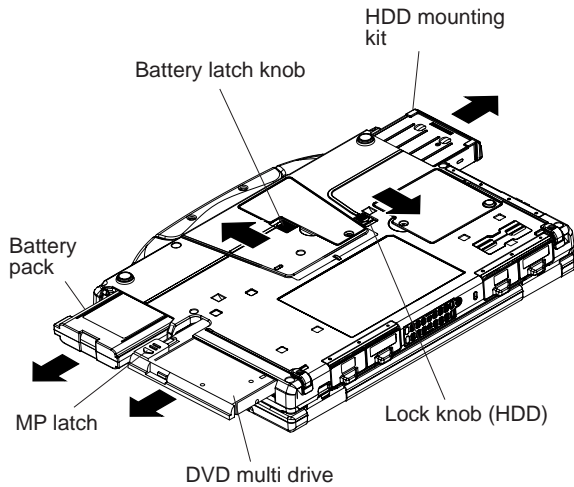
### 9.1.3. Removing the Battery Pack, HDD Mounting Kit and DVD Multi Drive

#### 9.1.3.1. Battery Pack

1. Remove the Cover Battery.



2. Pull out the Battery Pack with sliding the Battery Latch Knob.



#### 9.1.3.2. HDD Mounting Kit

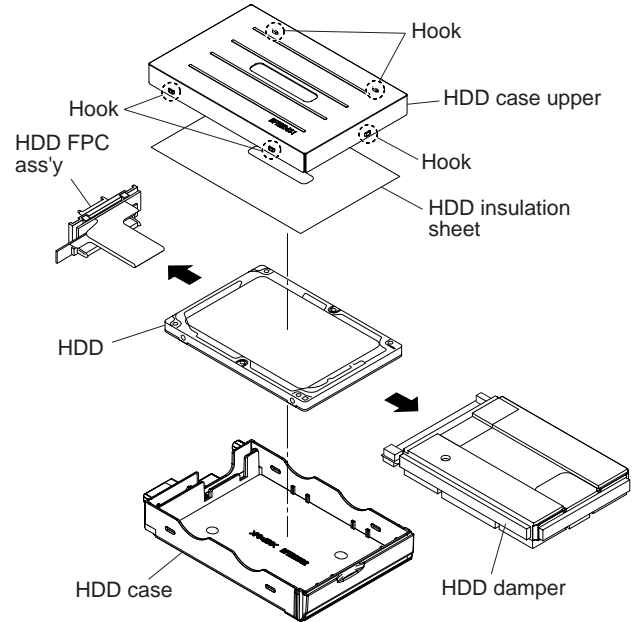
1. Pull out the HDD Mounting Kit with sliding the Lock Knob (HDD).

#### 9.1.3.3. DVD Multi Drive

1. Pull out the DVD Multi Drive with pushing the MP Latch.

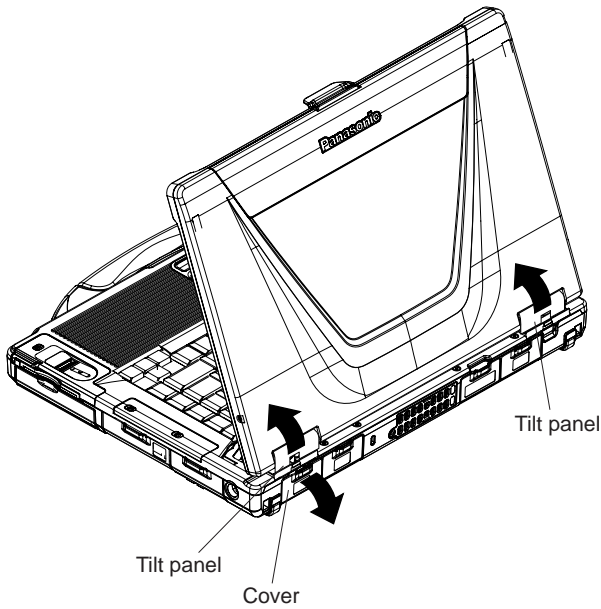
#### 9.1.4. Removing the HDD

1. Remove the six Hooks, and remove the HDD Case Upper, HDD case and HDD Insulation Sheet.
2. Remove the HDD from the HDD Dumper.
3. Disconnect the HDD FPC Ass'y from the HDD.

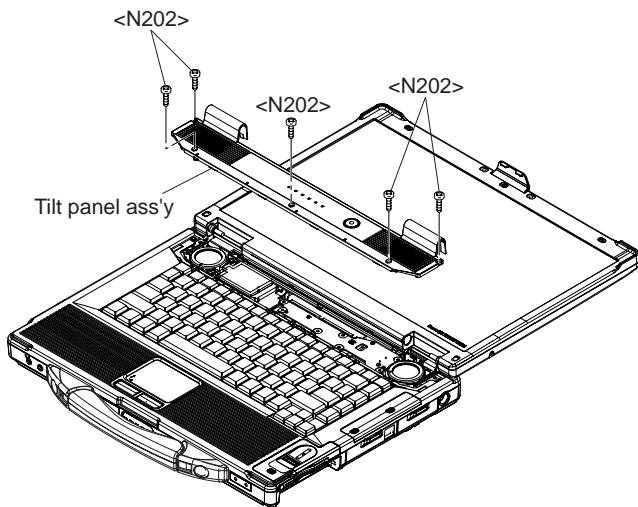


### 9.1.5. Removing the Tilt Panel Ass'y

1. Turn the Cover down and pull the Tilt Panel in the direction of arrows.



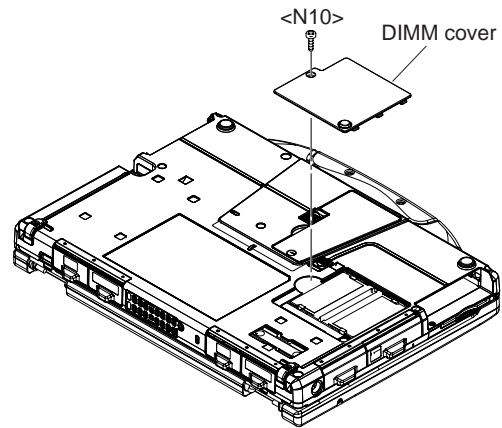
2. Remove the five Screws <N202>, and remove the Tilt Panel Ass'y.



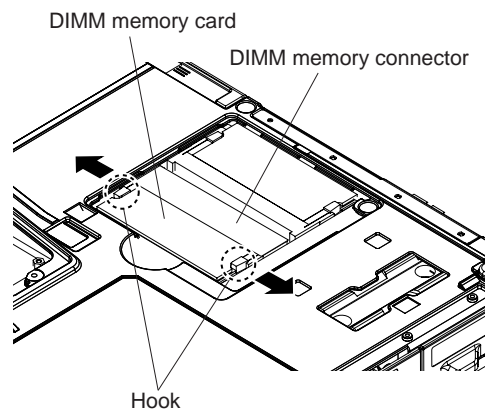
Screws <N202> : DRSB2+4FKLT

### 9.1.6. Removing the DIMM Memory Card

1. Remove the Screw <N10>, and remove the DIMM Cover.



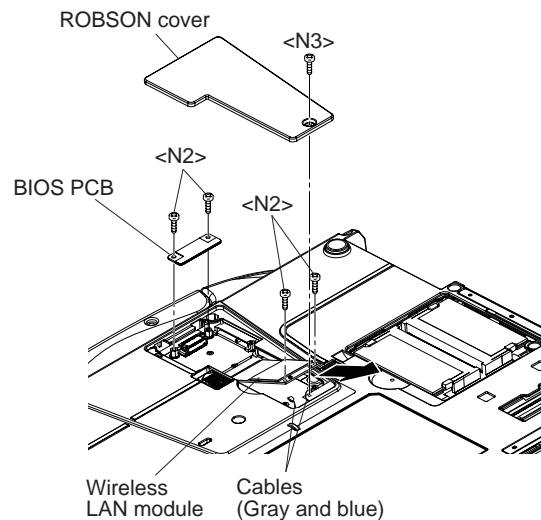
2. Open the right and left Hooks of the DIMM Memory Card outward, and remove the DIMM Memory Card.



Screws <N10>: DRSB2+3FKLT

### 9.1.7. Removing the ROBSON Cover, Wireless LAN Module and BIOS PCB

1. Remove the Screw <N3>, and remove the ROBSON Cover.



### 9.1.7.1. Wireless LAN Module

1. Remove the two Screws <N2> and two Cables (Gray and Blue).
2. Pull out the Wireless LAN Module in the direction of arrows.

### 9.1.7.2. BIOS PCB

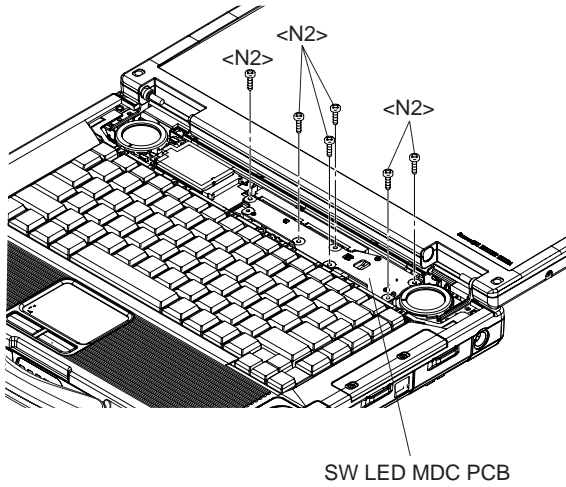
1. Remove the two Screws <N2>, and remove the BIOS PCB.

Screws <N2> : DFHE5122YA

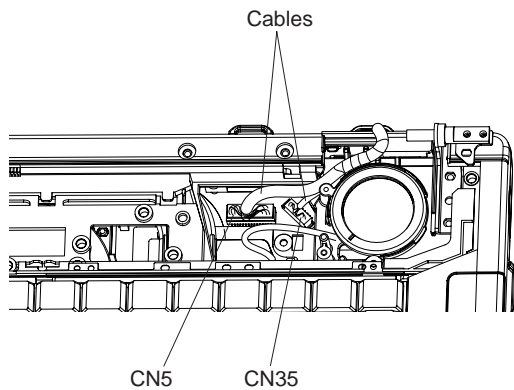
Screws <N3> : DRHM0065ZA

### 9.1.8. Removing the Display unit

1. Remove the six Screws <N2>, and turn over the SW LED MDC PCB.



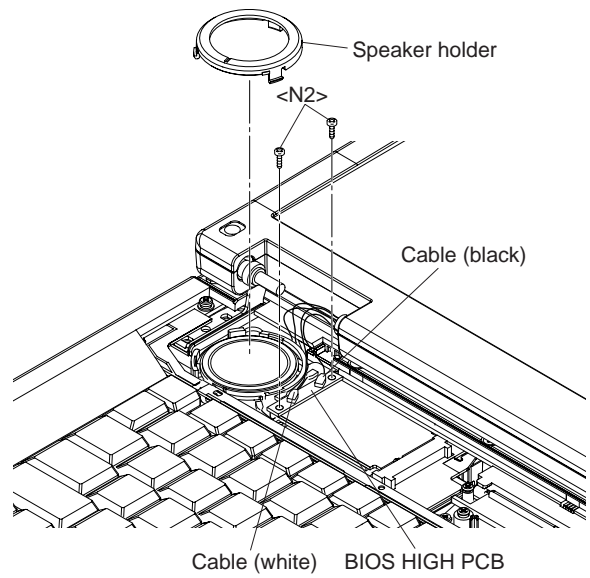
2. Disconnect the two Cables from the Connectors (CN5 and CN35).



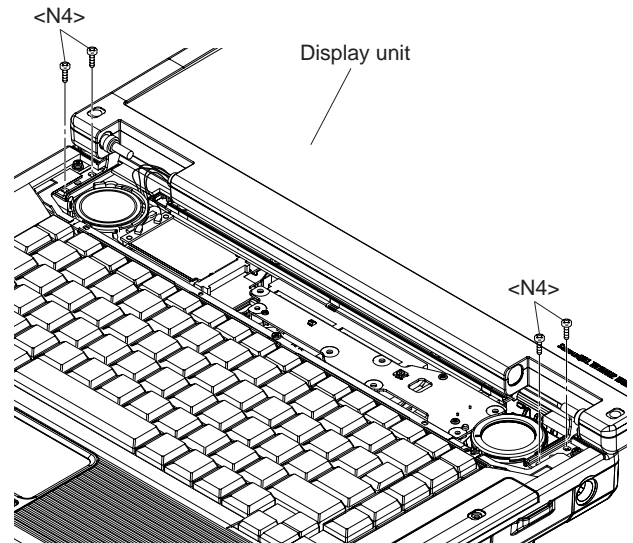
3. Remove the Speaker Holder L and four Cables (black,

white, blue and grey).

Remove the two Screws <N2>, and BIOS HIGH PCB.



4. Remove the four Screws <N4>, and remove the Display unit.

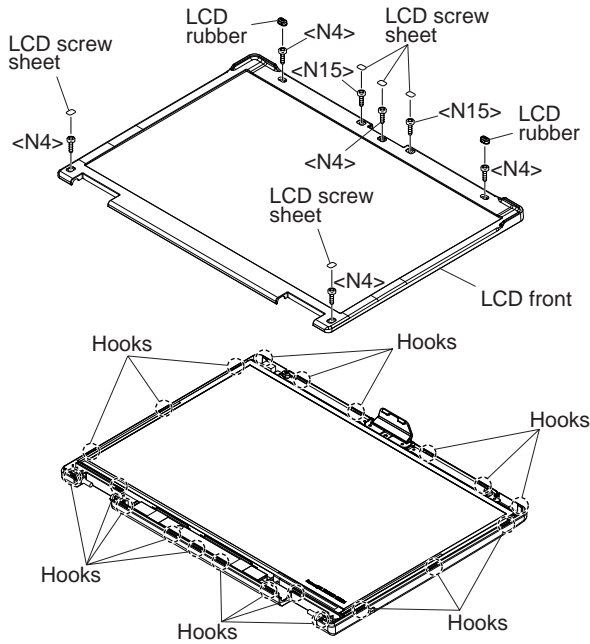


Screws <N2> : DFHE5122YA

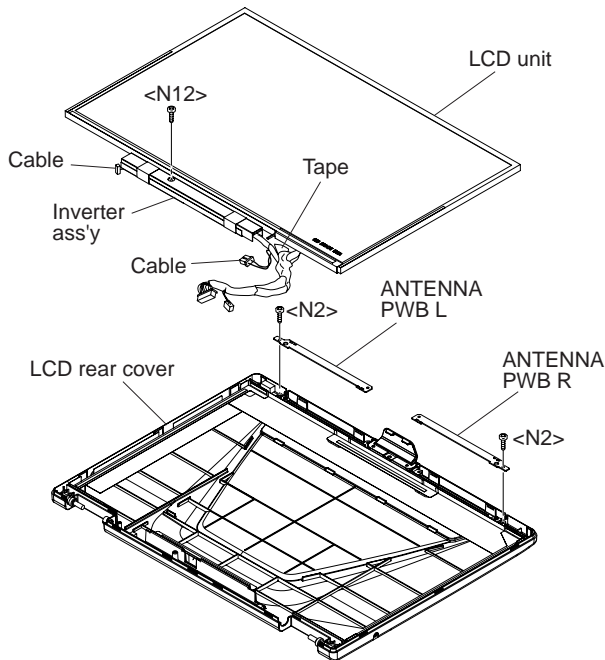
Screws <N4> : DRHM0093ZA

### 9.1.9. Removing the LCD unit, Inverter Ass'y and ANTENNA PWB L,R

1. Remove the two LCD Rubbers and five LCD Sheets.
2. Remove the five Screws <N4> and two Screws <N15>.
3. Release the twenty-one Hooks fixing the LCD Front to the LCD unit, remove the LCD Front.



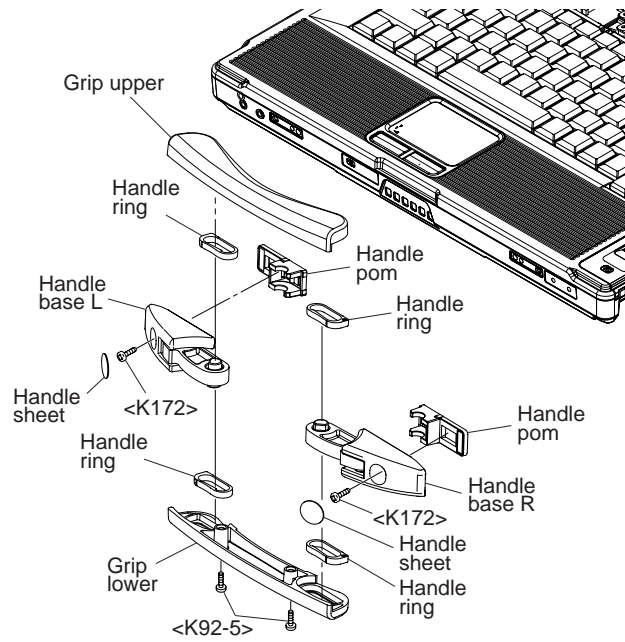
4. Remove the Screw <N12> and Tape, and remove the LCD unit.
5. Disconnect the two Cables, and remove the Inverter Ass'y.
6. Remove the eleven Tapes and two Screws <N2>, and remove the ANTENNA PWB L, R.



Screws <N2> : DFHE5122YA  
 Screws <N4> : DRHM0093ZA  
 Screws <N12> : DXSB2+4FNLT  
 Screws <N15> : XQN17+BJ6FJ

### 9.1.10. Removing the Handle Ass'y

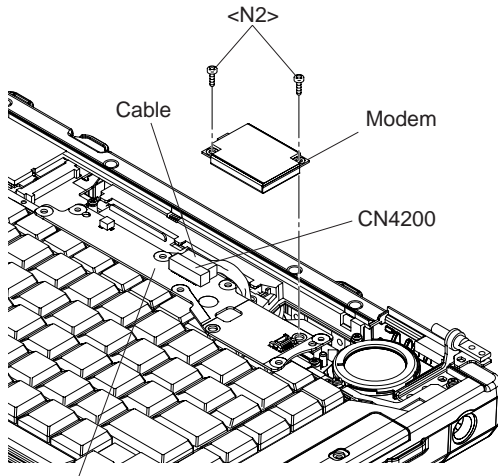
1. Remove the two Handle Sheets and two Screws <K172>, remove the Handle Ass'y.
2. Remove the two Screws <K92-5>, and disassemble the Handle Ass'y (Grip Upper, Grip Lower, Handle Base L, Handle Base R, Handle Ring and Handle Pom) .



Screws <K92-5>: DRSB3+8FKLT  
 Screws <K172>: DRYN4+J12KLT

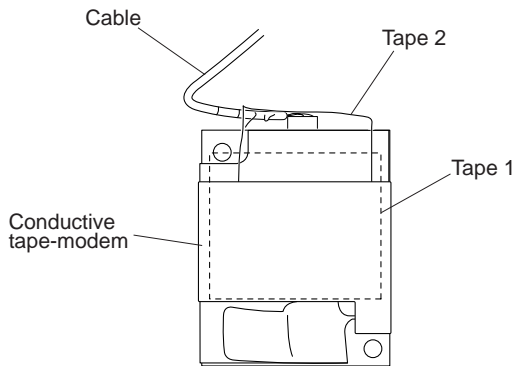
### 9.1.11. Removing the Modem

1. Disconnect the Cable from the Connector(CN4200).
2. Remove the two Screws <N2>, and remove the Modem.



SW LED MDC PCB

3. Remove the Tape1, Conductive tape-modem and Tape2, disconnect the Cable from Modem

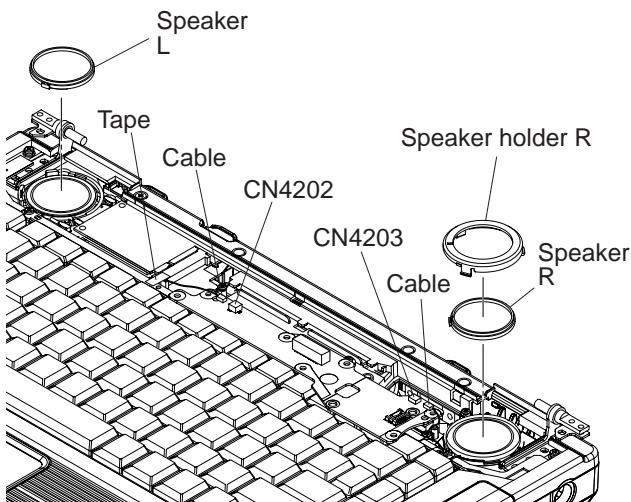


Screws <N2> : DFHE5122YA

### 9.1.12. Removing the SW LED MDC PCB and Speakers

#### 9.1.12.1. SW LED MDC PCB

1. Disconnect the Cables from the Connectors(CN4202 and CN4203), and remove SW LED MDC PCB.



### 9.1.12.2. Speaker R

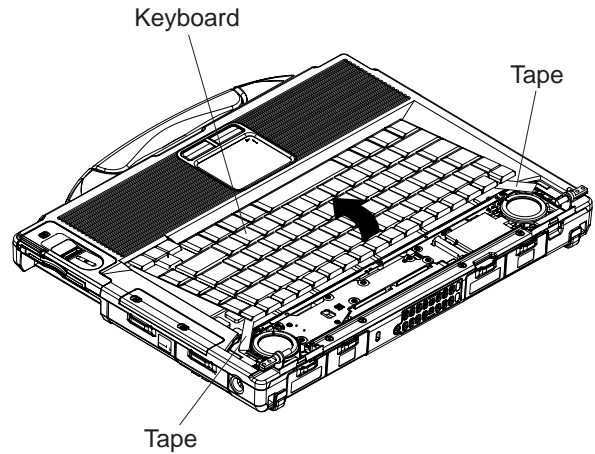
1. Remove the Speaker Holder R, and remove the Speaker R

### 9.1.12.3. Speaker L

1. Remove the Tape, and remove the Speaker L.

### 9.1.13. Removing the Keyboard

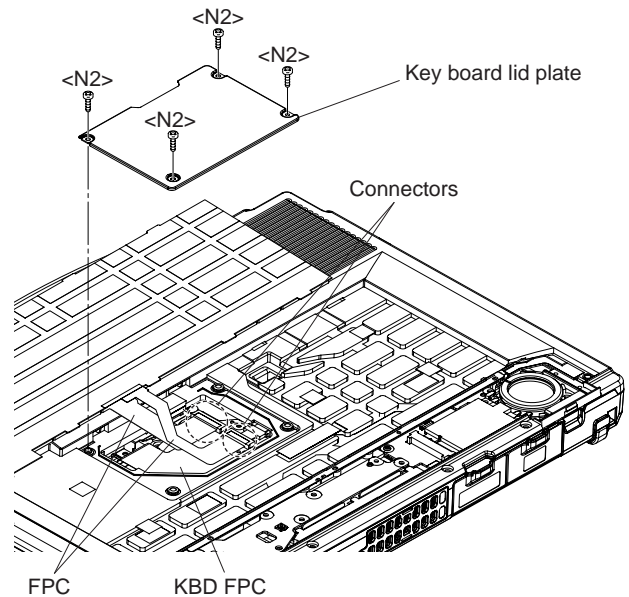
1. Remove the two Tapes.
2. Lift the upper part of the Keyboard and draw it backward, and then turn the Keyboard over forward.



**Note:**

Take extreme care when peeling off the tape as it is strongly stuck.

3. Remove the four Screws <N2>, and remove the Keyboard Lid Plate.
4. Disconnect the two FPC from the two Connectors (KBD FPC).

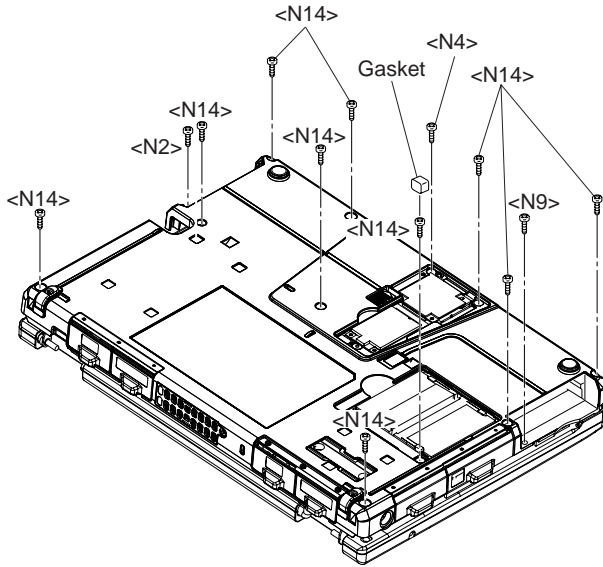


5. Remove the Keyboard.

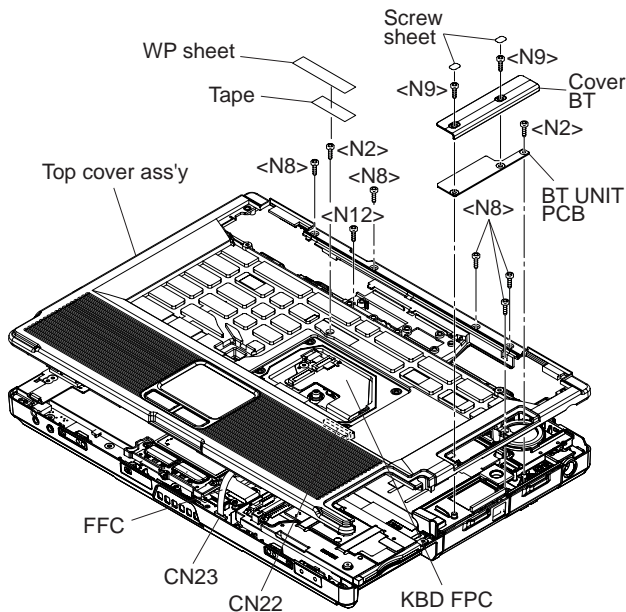
Screws <N2> : DFHE5122YA

### 9.1.14. Removing the Top Cover

1. Remove the Gasket.
2. Remove the Screws <N2>, <N4>, <N9> and ten Screws <N14>



3. Turn the unit to the face, remove the Screw <N12> and five Screws <N8>.
4. Remove the WP Sheet and Tape, and remove the Screw <N12>.
5. Remove the two Screw Sheets.  
Remove the two Screws <N9>, and remove the Cover BT.  
Remove the Screw <N2> and disconnect the Cable from the BT UNIT PCB, and remove it.
6. Disconnect the FFC and KBD FPC from the Connectors(CN23 and CN22), and lift up the Top Cover Ass'y and remove it.

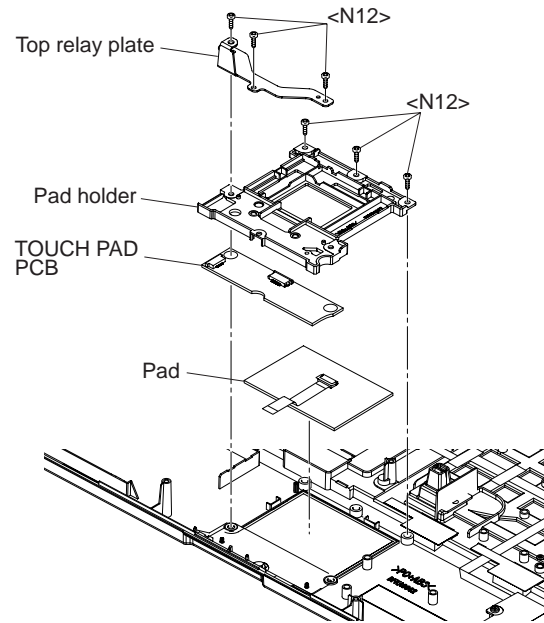


Screws <N2> : DFHE5122YA  
Screw <N4> : DRHM0093ZA  
Screws <N8> : DRHM5054XAT  
Screws <N9> : DRHM5104ZAT

Screws <N12> : DXSB2+4FNLT  
Screws <N14> : XTB26+10GJKT

### 9.1.15. Removing the Pad and TOUCH PAD PCB

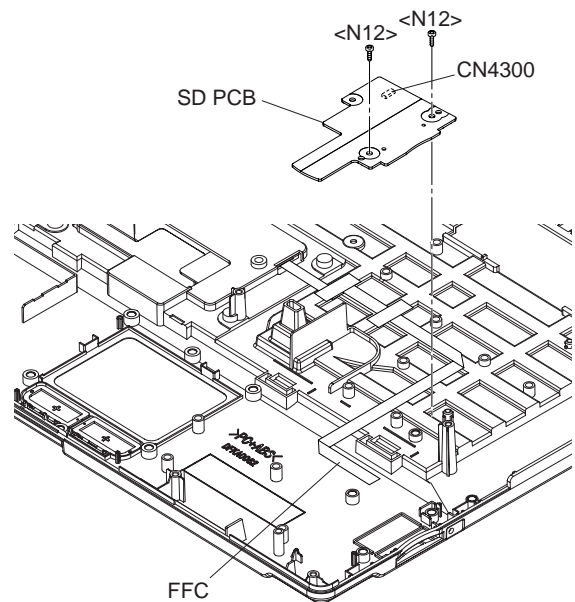
1. Remove the six Screws <N12>.
2. Remove the Top Relay Plate and Pad Holder.
3. Remove the Pad and TOUCH PAD PCB.



Screws <N12> : DXSB2+4FNLT

### 9.1.16. Removing the SD PCB

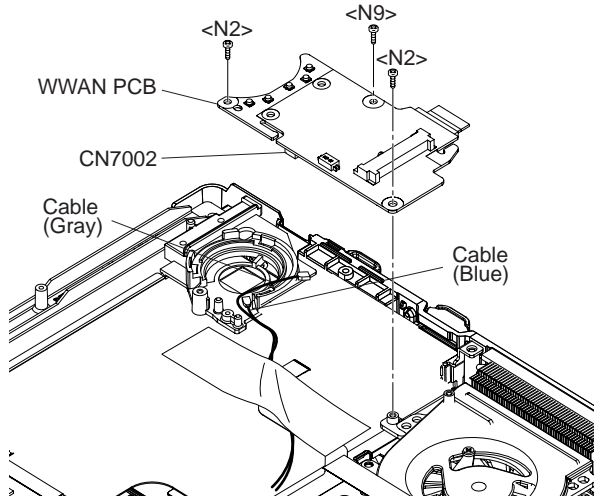
1. Remove the two Screws <N12>.
2. Disconnect the FFC from the Connector(CN4300), and remove the SD PCB.



Screws <N12> : DXSB2+4FNLT

### 9.1.17. Removing the WWAN PCB

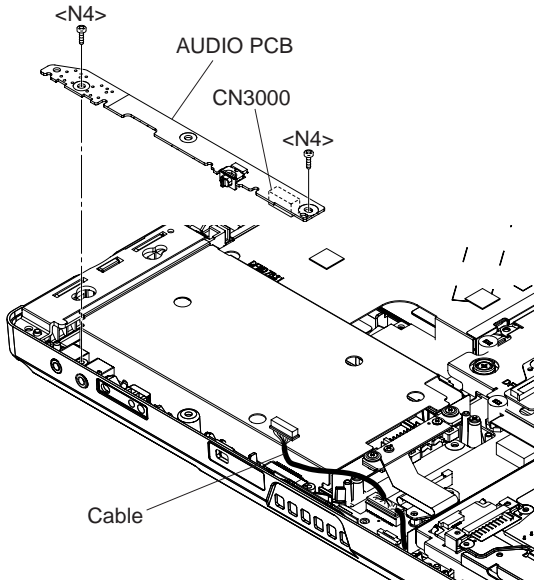
1. Disconnect the Cables(Gray and Blue) from the WWAN PCB.
2. Remove the two Screws <N2> and the Screw <N9>.
3. Disconnect the FPC from the Connector(CN7002), and remove the SD PCB.



Screws <N2> : DFHE5122YA  
Screw <N9> : DRHM5104ZAT

### 9.1.18. Removing the AUDIO PCB

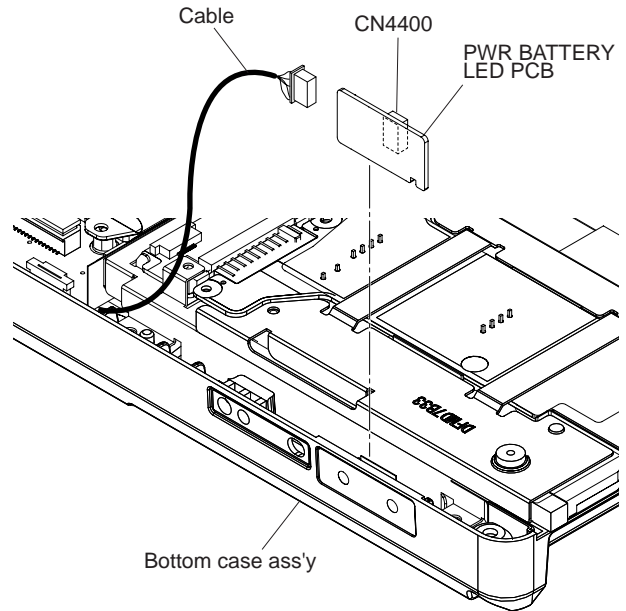
1. Remove the two Screws <N4>.
2. Disconnect the Cable from the Connector(CN3000), and remove the AUDIO PCB.



Screw <N4> : DRHM0093ZA

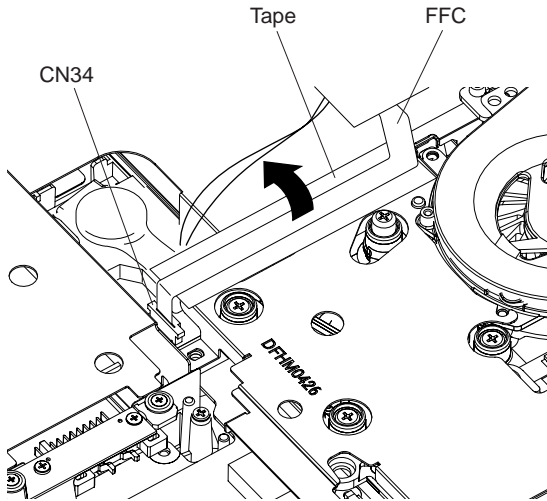
### 9.1.19. Removing the PWR BATTERY LED PCB

1. Remove the PWR BATTERY LED PCB, and disconnect the Cable from the Connector(CN4400).

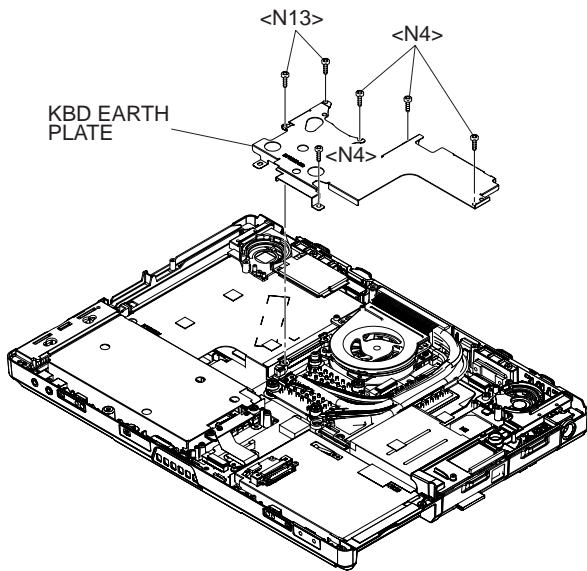


### 9.1.20. Removing the KBD Earth Plate

1. Remove the Tape in the direction of arrow.



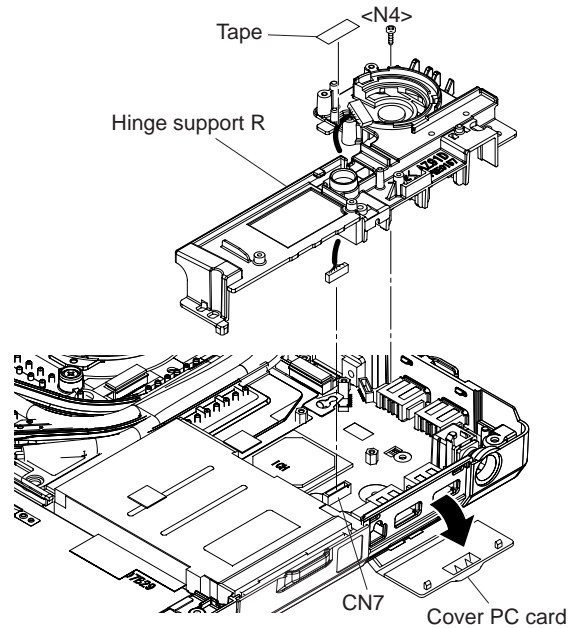
2. Remove the four Screws <N4> and two Screws <N13>, and remove the KBD Earth Plate.



Screw <N4> : DRHM0093ZA  
Screw <N13> : DXYN2+F12FNL

### 9.1.21. Removing the Hinge Support R

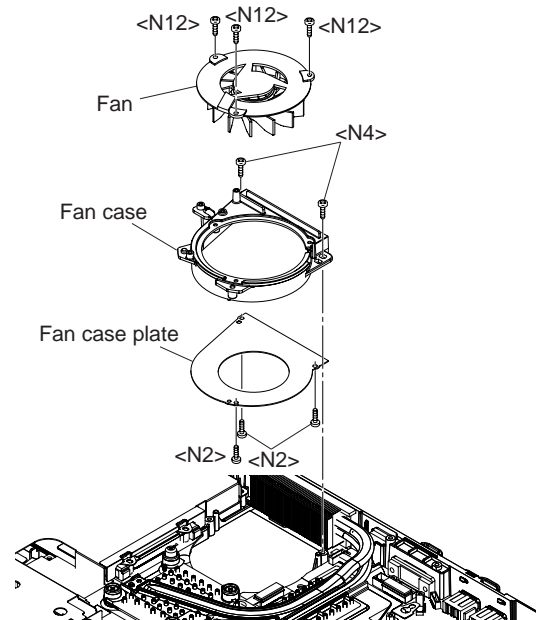
1. Peel off the Tape and remove the Screw <N4>.
2. Disconnect the Cable from the Connector (CN7).
3. Turn the Cover PC Card down in the direction of arrow, and remove the Hinge Support R.



Screw <N4> : DRHM0093ZA

### 9.1.22. Removing the Fan Ass'y

1. Disconnect the Cable from the Connector(CN18).
2. Remove the two Screws <N4>, and remove the Fan Ass'y.
3. Remove the three Screws <N12>, and remove the Fan.
4. Remove the three Screws <N2>, and remove the Fan Case Plate.

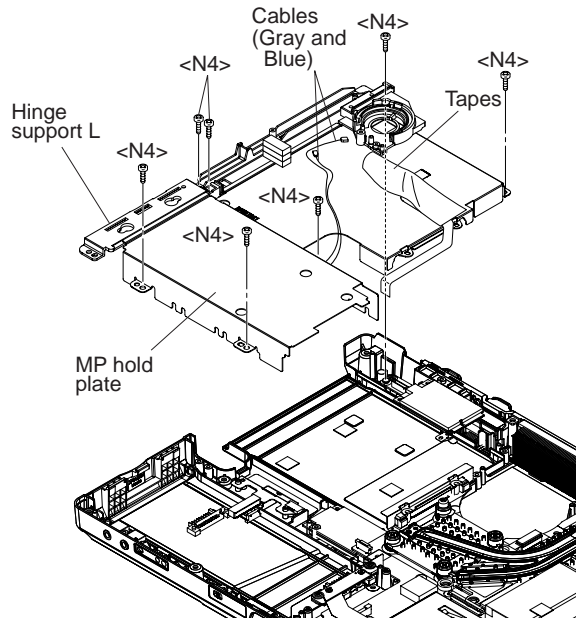


Screw <N2> : DFHE5122YA  
Screw <N4> : DRHM0093ZA  
Screw <N12> : DXSB2+4FNLT



### 9.1.23. Removing the Hinge Support L and MP Hold Plate

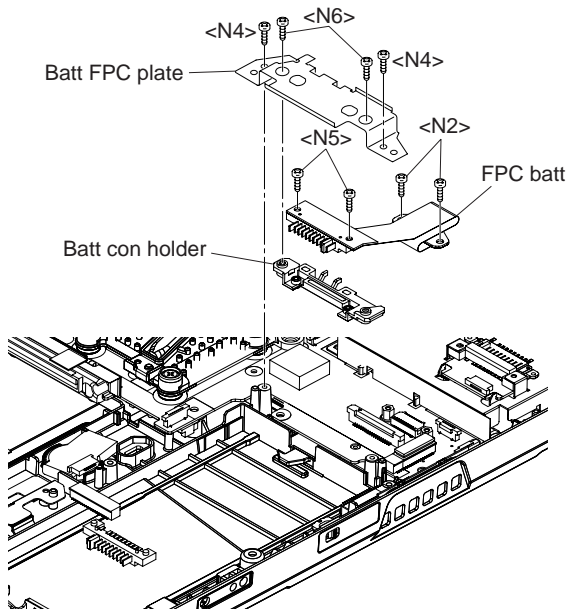
1. Peel off the three Tapes and remove the two Cables(Gray and Blue).
2. Remove the six Screws <N4>, remove the Hinge Support L and MP Hold Plate.



Screw <N4> : DRHM0093ZA

### 9.1.24. Removing the Battery Connector Ass'y

1. Remove the two Screws <N2> and <N4>, and remove the Battery Connector Ass'y.
2. Remove the two Screws <N6>, and remove the Batt FPC Plate.
3. Remove the two Screws <N5>, and remove the Batt Con Holder from the FPC Batt.

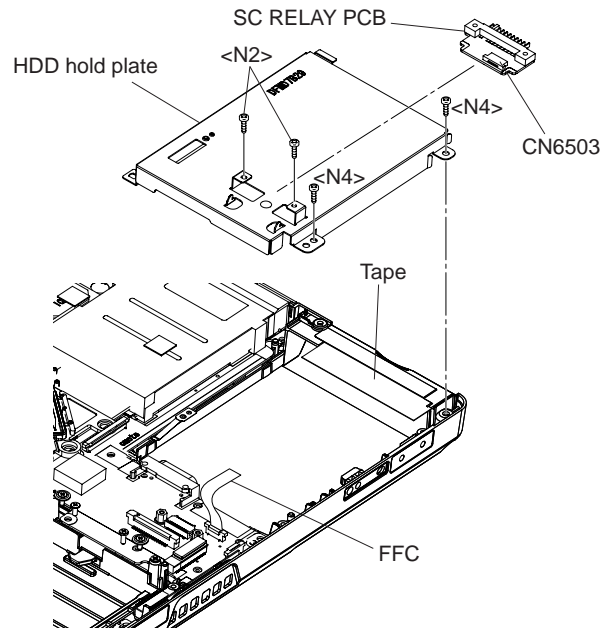


Screw <N2> : DFHE5122YA  
Screw <N4> : DRHM0093ZA

Screw <N5> : DRHM0112ZA  
Screw <N6> : DRHM0115ZA

### 9.1.25. Removing the SC RELAY PCB and HDD Hold Plate

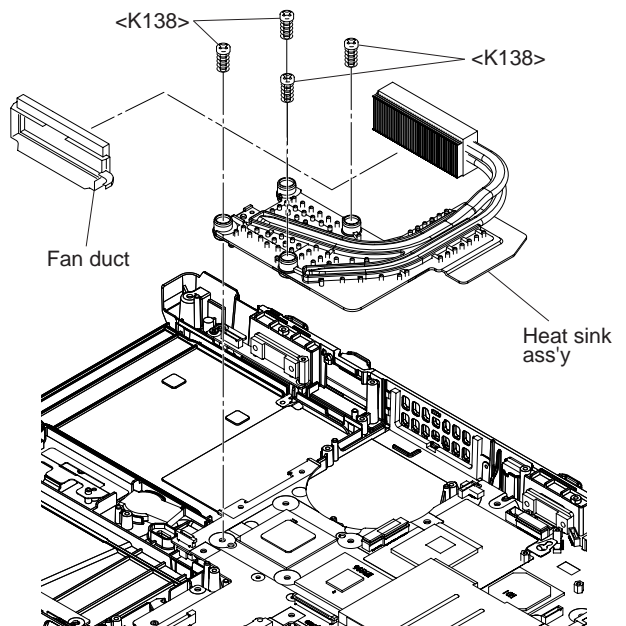
1. Disconnect the FFC from the Connector(CN6503).
2. Remove the two Screws <N2>, and remove the SC RELAY PCB.
3. Remove the two Screws <N4>, and remove the HDD Hold Plate.



Screw <N2> : DFHE5122YA  
Screw <N4> : DRHM0093ZA

### 9.1.26. Removing the Heat Sink Ass'y

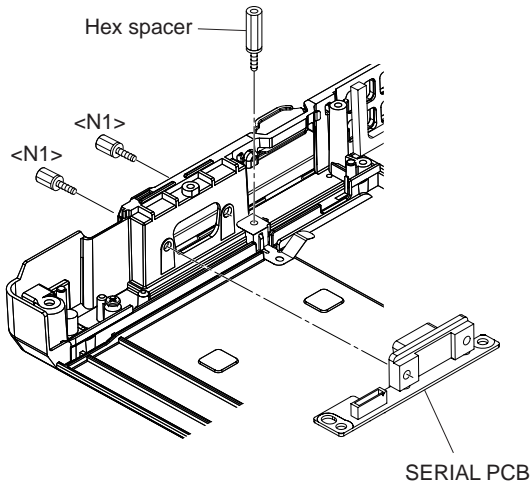
1. Remove the Fan Duct.
2. Remove the four Screws <K138>, and remove the Heat Sink Ass'y.



Screw <K138> : DRHM0119ZAT

### 9.1.27. Removing the SERIAL PCB

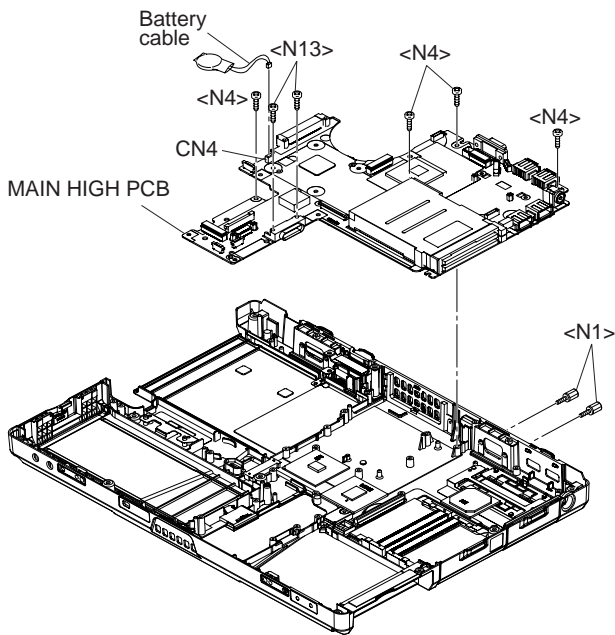
1. Remove the two Screws <N1> and Hex Spacer.
2. Remove the SERIAL PCB.



Screw <N1> : DFHE5035ZB

### 9.1.28. Removing the MAIN HIGH PCB

1. Remove the two Screws <N1>, four Screws <N4> and two Screws <N13>.
2. Disconnect the Battery Cable from the Connector(CN4).
3. Remove the MAIN HIGH PCB.



Screw <N1> : DFHE5035ZB

Screw <N4> : DRHM0093ZA

Screw <N13> : DXYN2+F12FNL

## 9.2. Reassembly Instructions

### 9.2.1. Attention when CF-52 series is repaired

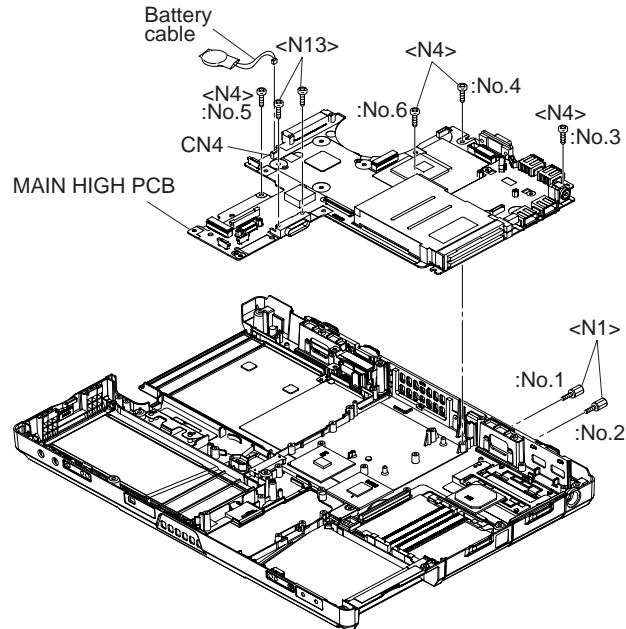
- Please execute writing BIOS ID when you exchange the Main Board.
- You cannot reuse the Conductive Clothes and the heat dissipating parts such as Sheet and Rubber. Use new parts.

### 9.2.2. Setting the MAIN HIGH PCB

**Note:**

After replacing the Main Board, rewrite the BIOS ID.

1. Set the MAIN HIGH PCB to the computer.
2. Fix the MAIN HIGH PCB using the two Screws <N1>. No.1, No.2
3. Fix the MAIN HIGH PCB using the two Screws <N4>. No.3 to No.6
4. Fix the MAIN HIGH PCB using the two Screws <N13>.
5. Connect the Battery Cable to the Connector (CN4).



Screw <N1> : DFHE5035ZB

Screw <N4> : DRHM0093ZA

Screw <N13> : DXYN2+F12FNL

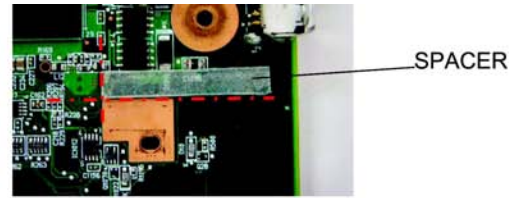
Screws <N9>: DFHE5025XA

■ Setting of Main PCB before assembling.

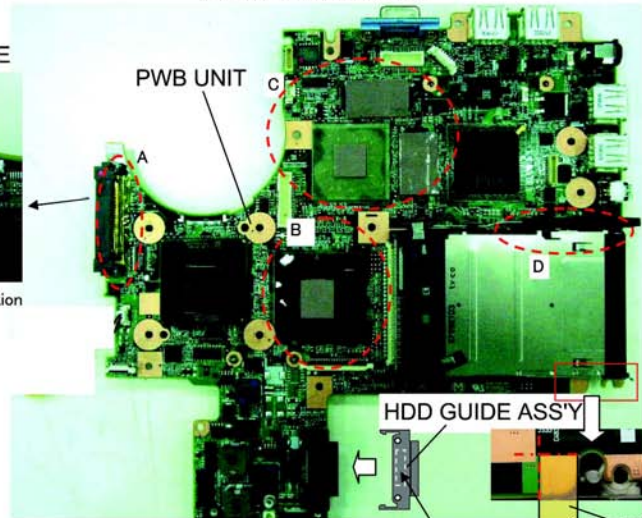
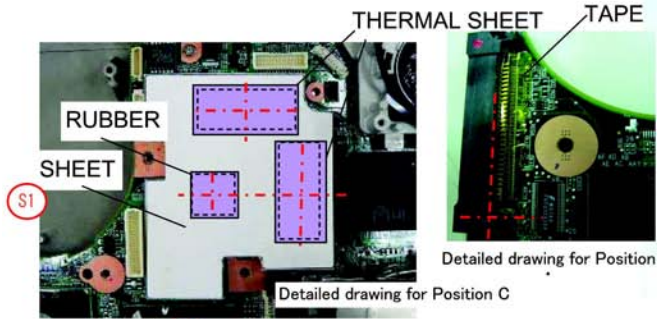
Safety Working

CAUTION

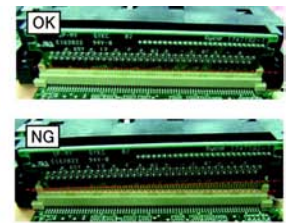
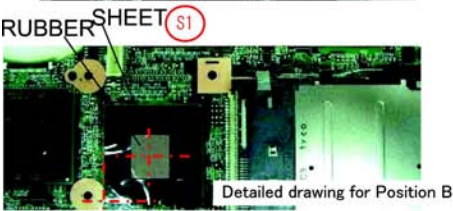
S1:Insulation S2:Pinching Cables S3:Sharp Edge  
S4:Part No. Check S5:Others



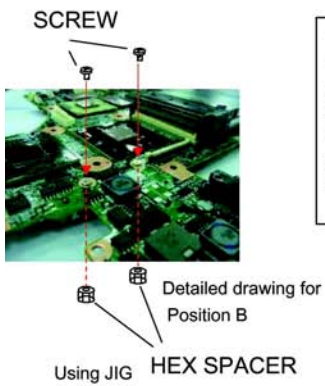
Detailed drawing for Position D



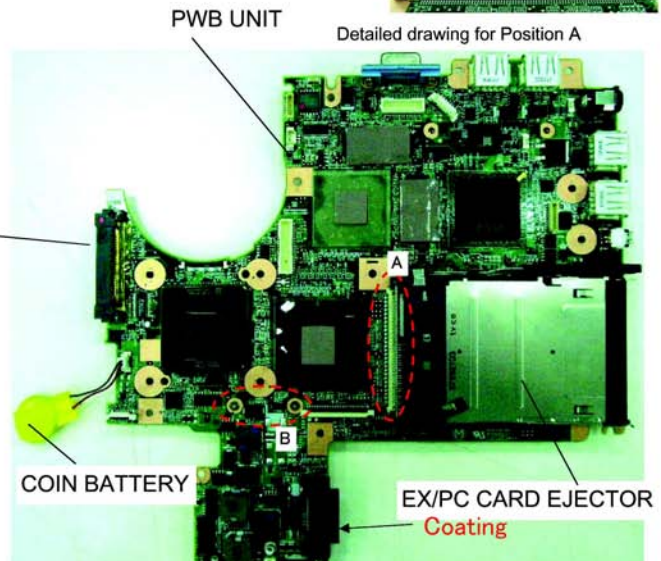
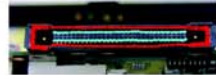
Remove the release coated paper TAPE

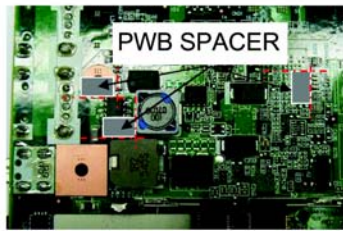


Detailed drawing for Position A

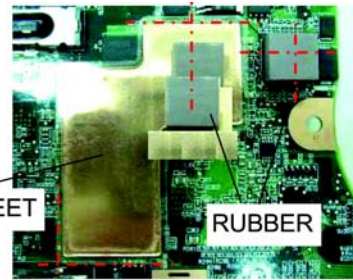


The coating range is limited within the internal side of the red cable part, external side of the blue cable part. No coating is allowed at other parts. The amount of coating is 0.1ml (about 0.5 second)

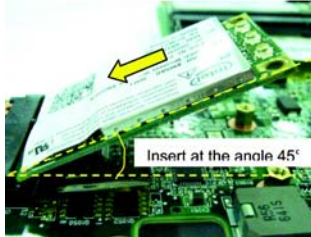




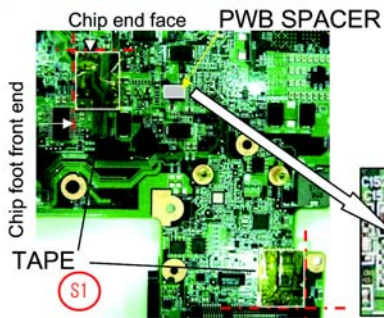
Detailed drawing for Position



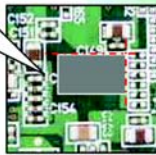
Detailed drawing for Position



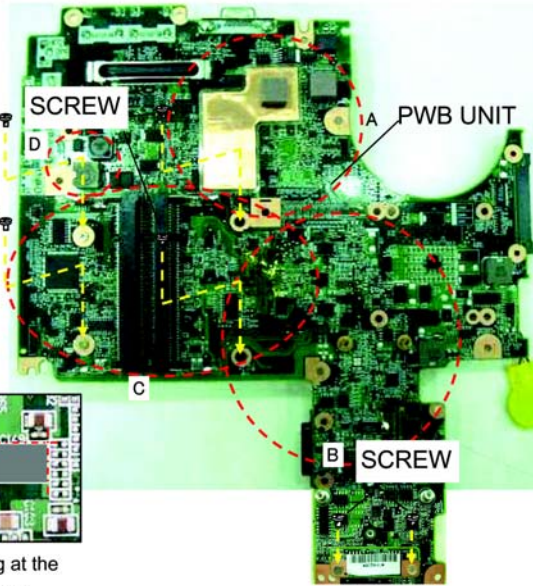
Insert at the angle 45°



Detailed drawing for Position



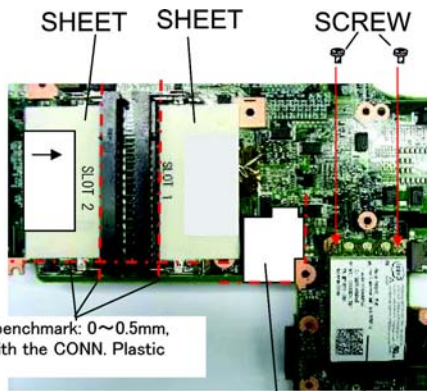
Sticking at the plane area



Safety Working

CAUTION

S1:Insulation S2:Pinching Cables S3:Sharp Edge  
S4:Part No. Check S5:Others



Sticking benchmark: 0~0.5mm, aligned with the CONN. Plastic part.

Detailed drawing for Position C

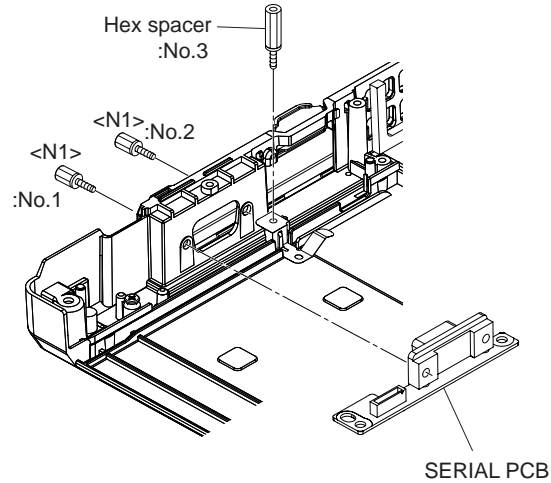
Safety critical Components

(S1) SHEET HDD HOLDER

WIRELESS MODULE (S4)

### 9.2.3. Setting the SERIAL PCB

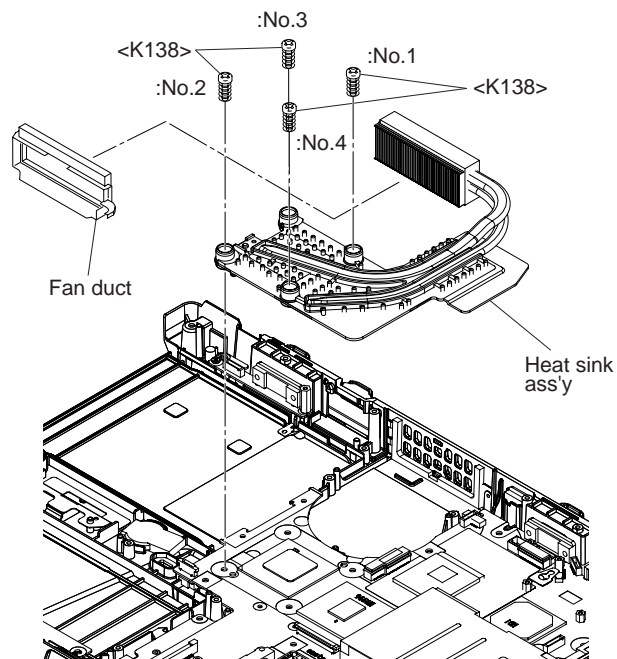
1. Set the SERIAL PCB to the computer.
2. Fix the SERIAL PCB using the two Screws <N1>. No.1, No.2
3. Tighten the Hex Spacer to the SERIAL PCB. No.3



Screw <N1> : DFHE5035ZB

### 9.2.4. Setting the Heat Sink Ass'y

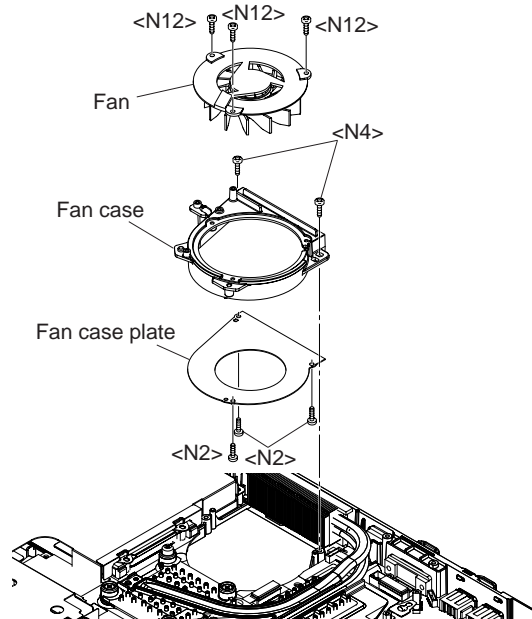
1. Set the Fan Duct to the Heat Sink Ass'y.
2. Fix the Heat Sink Ass'y to the MAIN PCB using the four Screws <K138>. No.1 to No.4



Screw <K138> : DRHM0119ZAT

### 9.2.5. Setting the Fan Ass'y

1. Fix the Fan Case Plate to the Fan Case using the three Screws <N2>.
2. Fix the Fan to the Fan Case using the three Screws <N12>.
3. Set the Fan Ass'y to the computer, and fix it using two Screws <N4>. No.1, No.2



Screw <N2> : DFHE5122YA  
 Screw <N4> : DRHM0093ZA  
 Screw <N12> : DXSB2+4FNLT

#### How to assemble the Heat Sink Ass'y and Fan Ass'y.

**Note:** After inserting, please check the assembly and mark it

Detailed drawing for Position X

Wind a circle  
S2

Actual assembly status

Detailed drawing for Position Y

**Safety Working**

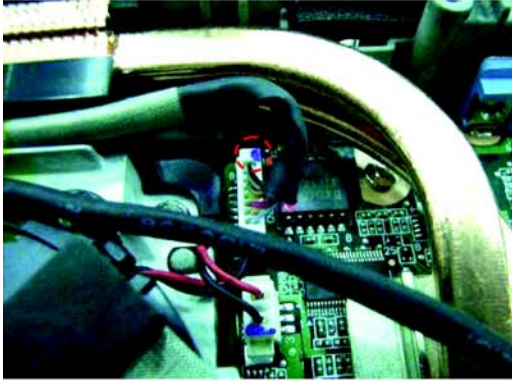
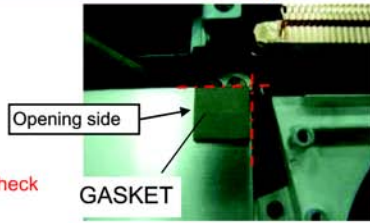
**CAUTION** S1:Insulation S2:Pinching Cables S3:Sharp Edge S4:Part No. Check S5:Others

**CAUTION**

S1:Insulation S2:Pinching Cables S3:Sharp Edge  
S4:Part No. Check S5:Others

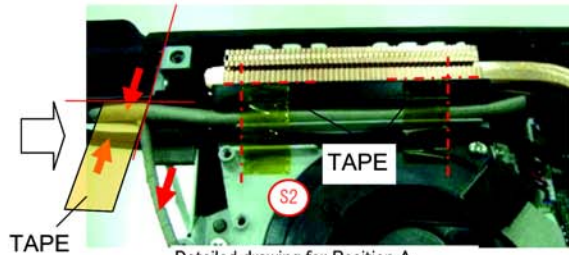
**Safety Working**

Note: After inserting, please check the assembly and mark it

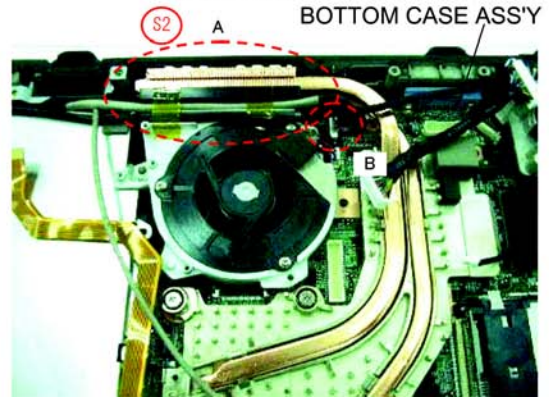


Detailed drawing for Position B

Note: The cable setting method for the electric cable indicated by the red arrows shall be in accordance with the following figure



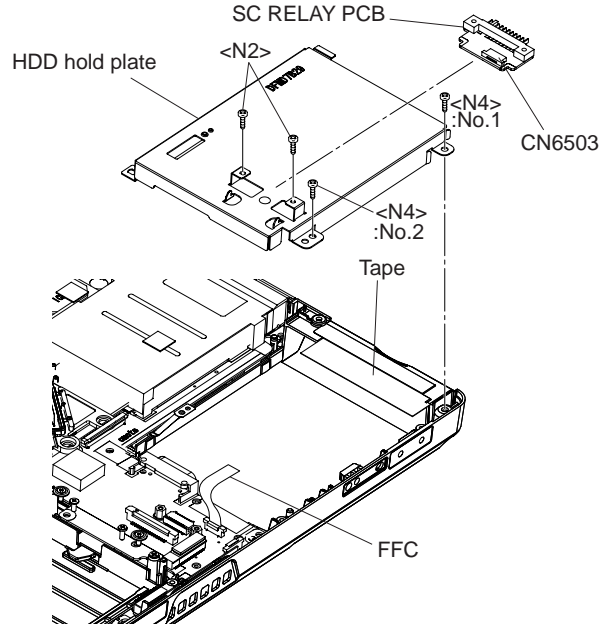
Detailed drawing for Position A





### 9.2.6. Setting the SC RELAY PCB and HDD Hold Plate

1. Set the SC RELAY PCB to the HDD Hold Plate, and fix it using two Screws <N2>. No.1, No.2
2. Fix the HDD Hold Plate to the MAIN HIGH PCB using the two Screws <N4>. No.3, No.4
3. Connect the FFC to the Connector(CN6503) and paste the Tape.

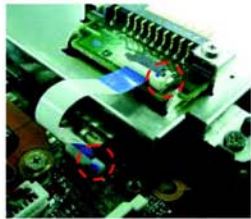


Screws <N2> : DFHE5122YA  
 Screws <N4> : DRHM0093ZA

**CAUTION** S1:Insulation S2:Pinching Cables S3:Sharp Edge  
 S4:Part No. Check S5:Others

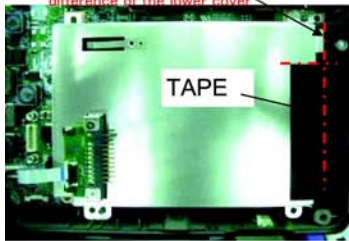
**Safety Working**

Note: After inserting, please check the assembly and mark it

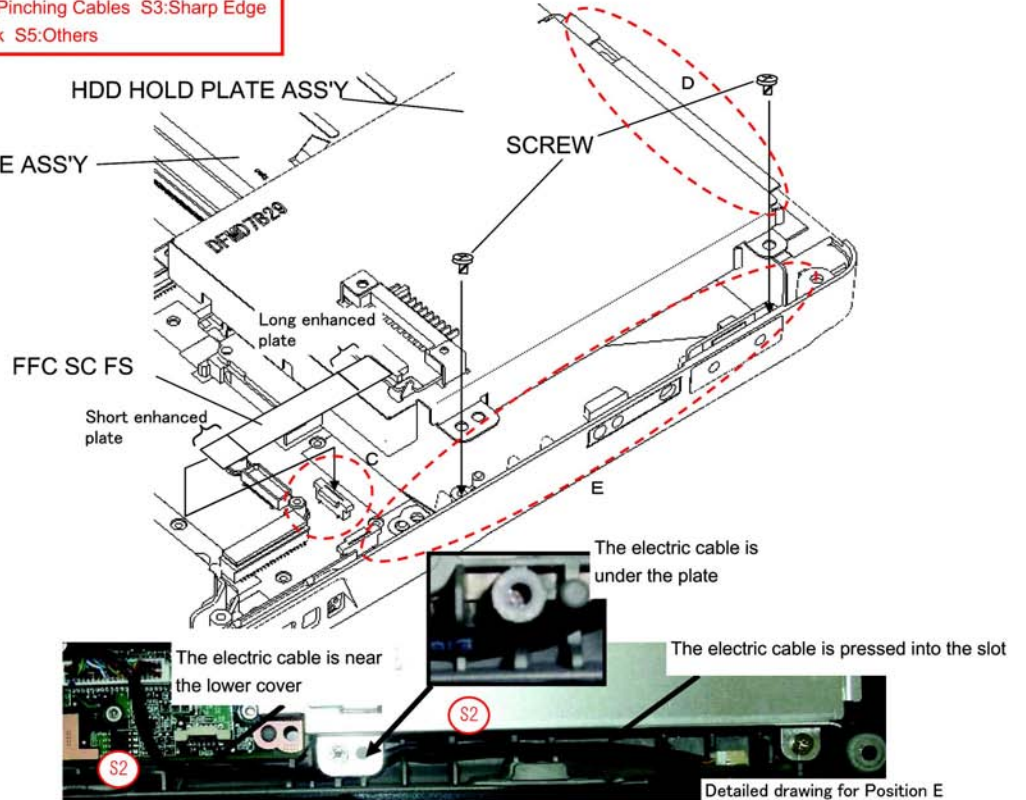


Detailed drawing for Position C

Note: The benchmark is the section difference of the lower cover

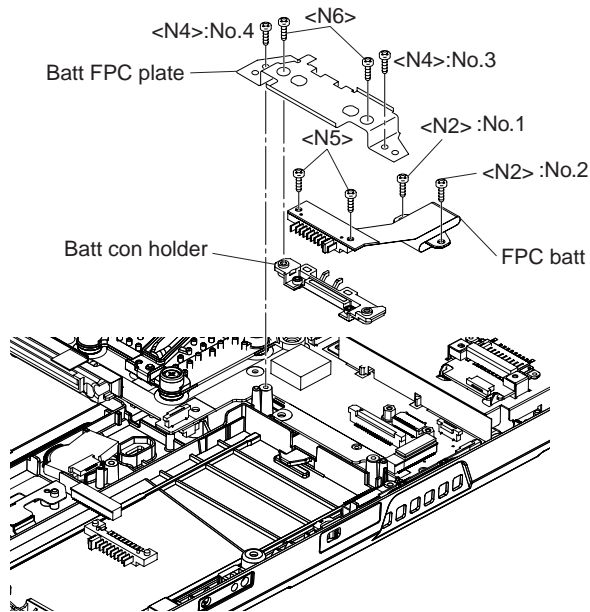


Detailed drawing for Position D



## 9.2.7. Setting the Battery Connector Ass'y

1. Fix the Batt Con Holder to the FPC Batt using the two Screws <N5>.
2. Fix the Batt Con Holder to the Batt FPC Plate using the two Screws <N6>.
3. Fix the Batt FPC Plate to the computer using the two Screws <N4>. No.1, No.2
4. Connect the FPC Batt's connector to the connector(CN1000), and fix the FPC Batt to the MAIN HIGH PCB using the two Screws <N2>. No.1, No.2



Screw <N2> : DFHE5122YA

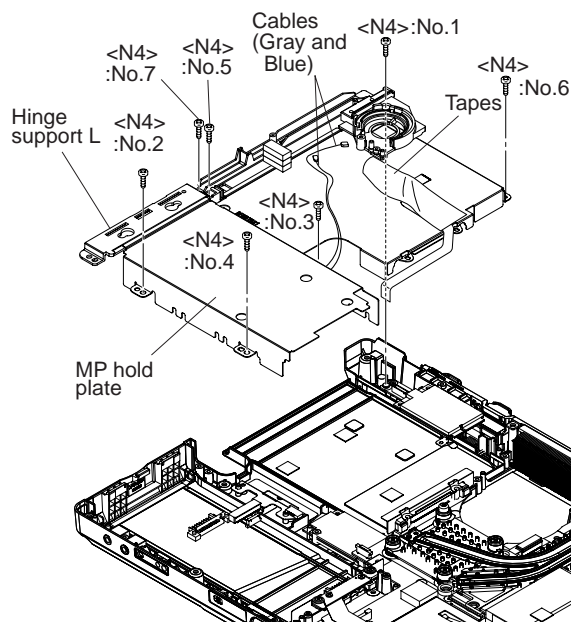
Screw <N4> : DRHM0093ZA

Screw <N5> : DRHM0112ZA

Screw <N6> : DRHM0115ZA

## 9.2.8. Setting the Hinge Support L and MP Hold Plate

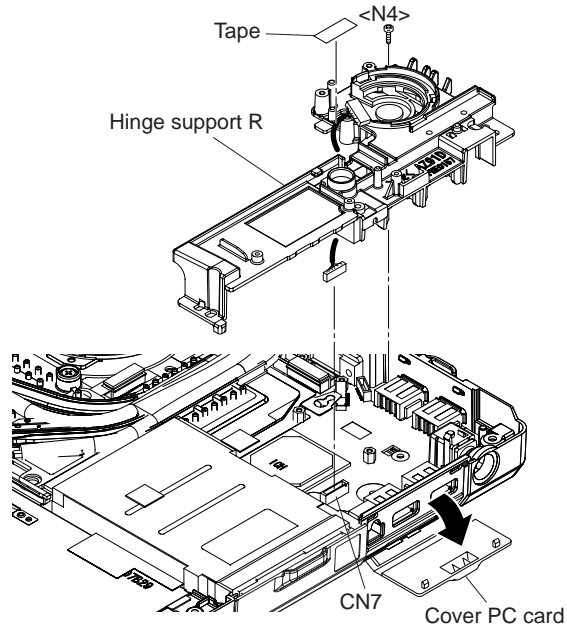
1. Set the Hinge Support L and MP Hold Plate to the computer.
2. Fix the Hinge Support L and MP Hold Plate using the six Screws <N4>. No.1 to No.6
3. Paste the Tapes.



Screw <N4> : DRHM0093ZA

### 9.2.9. Setting the Hinge Cover R

1. Place the Cable through the rectangled hole of Hinge Support R and connect the Cable to the Connector (CN7).
2. Fix the Hinge Support R to the computer using the Screw <N4>.



Screw <N4> : DRHM0093ZA

#### ■How to place the Cable

Hook surely connect HINGE SUPPORT R

Note: After inserting, please check the assembly and mark it

SCREW

CABLE BT

TAPE

CABLE BT

HINGE SUPPORT R

BOTTOM CASE ASS'Y

The cable passes below the hook

S2 Make alignment

12mm

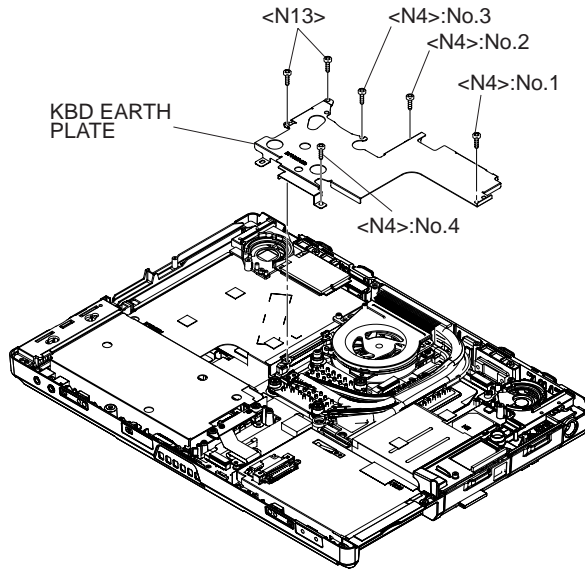
Detailed drawing for Position A

Safety Working

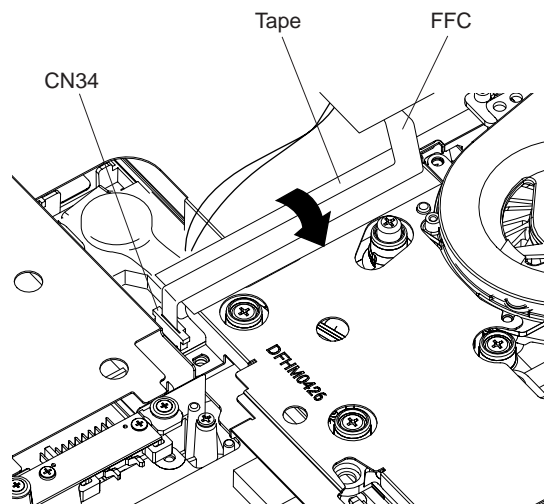
CAUTION S1:Insulation S2:Pinching Cables S3:Sharp Edge S4:Part No. Check S5:Others

## 9.2.10. Setting the KBD Earth Plate

1. Set the KBD Earth Plate to the computer.
2. Fix the KBD Earth Plate using the four Screws <N4>. No.1 to No.4
3. Fix the KBD Earth Plate using the two Screws<N13>.



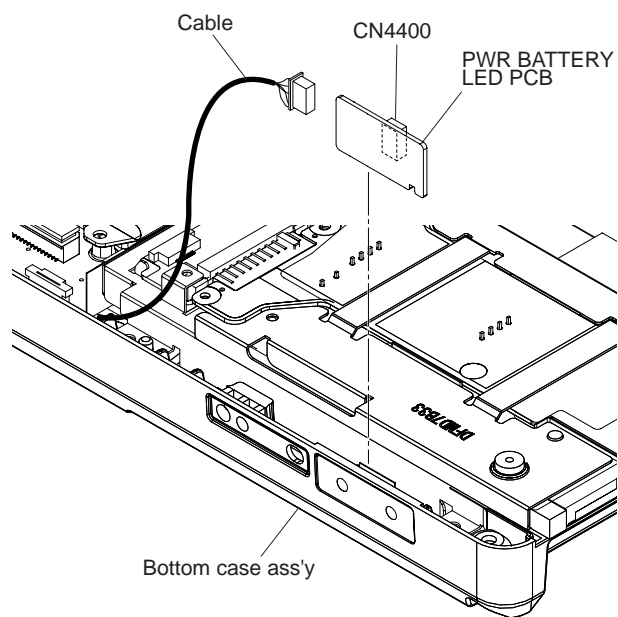
4. Paste the tape, and connect the FPC to the Connector(CN34).



Screw <N4> : DRHM0093ZA  
Screw <N13> : DXYN2+F12FNL

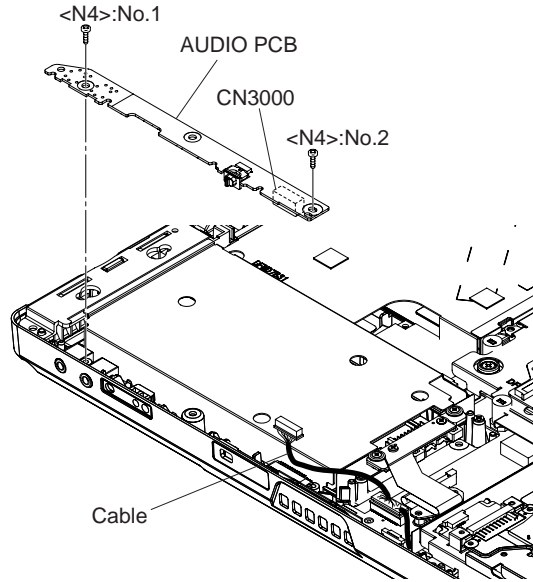
### 9.2.11. Setting the PWR BATTERY LED PCB

1. Connect the Cabel to the Connector(CN4400), and insert it to the computer.



## 9.2.12. Setting the AUDIO PCB

1. Connect the Cable to the Connector(CN3000).
2. Set the AUDIO PCB to the computer, and fix it using the two Screws <N4>. No.1, No.2

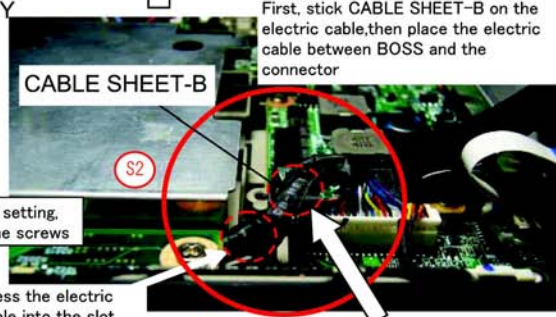
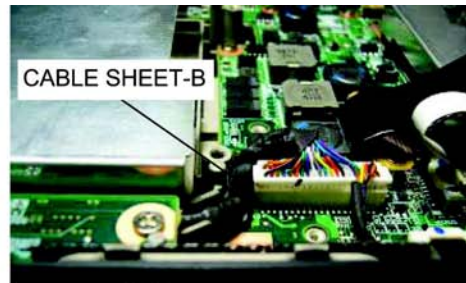


Screw <N4> : DRHM0093ZA

### ■Arranging the Cable and setting the WL button.

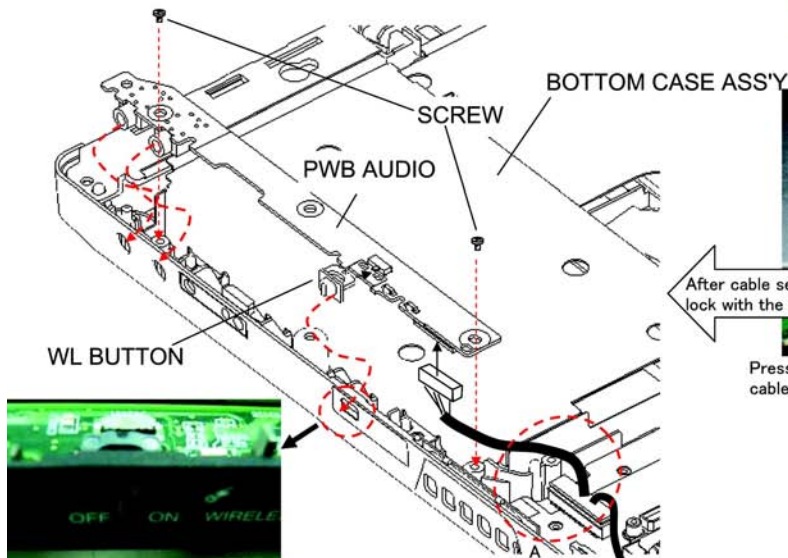
**Safety Working**

**CAUTION** S1:Insulation S2:Pinching Cables S3:Sharp Edge  
S4:Part No. Check S5:Others



Press the electric cable into the slot

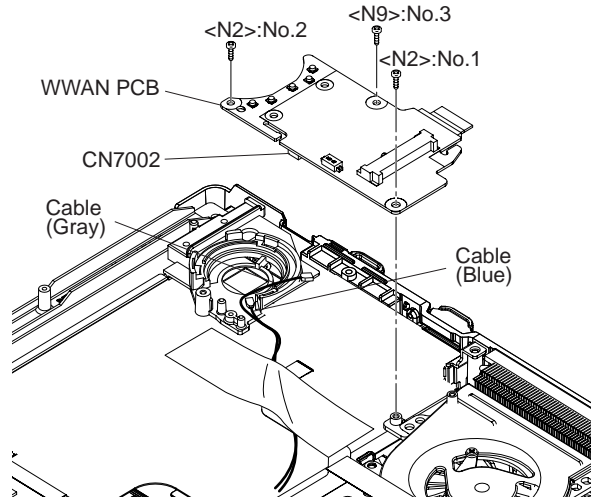
Cable setting diagram for Position A



Place the SW at the OFF position

### 9.2.13. Setting the WWAN PCB

1. Connect the FPC to the Connector(CN7002).
2. Set the WWAN PCB, and fix it using two Screws <N2> and the Screw <N9>. No.1 to No.3
3. Connect the Cable(Gray) to JK7002 and Cable(Blue) to JK7004.



Screw <N2> : DFHE5122YA  
 Screw <N9> : DRHM5104ZAT

#### ■Arranging the Cables and Tapes

**Safety Working**

**CAUTION** S1:Insulation S2:Pinching Cables S3:Sharp Edge S4:Part No. Check S5:Others

Detailed drawing for position A

Detailed drawing for position B

Detailed drawing for position C

Detailed drawing for Position D

Detailed drawing for position E

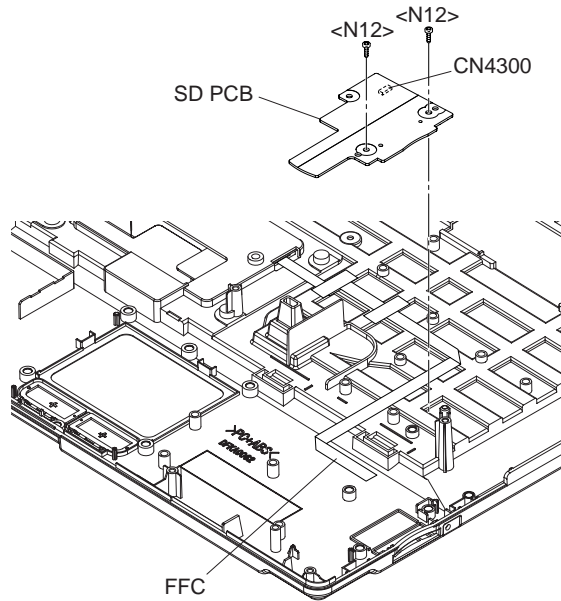
Note: After inserting, please check the assembly and mark

Tape shall not cover the terminal

0~2mm

## 9.2.14. Setting the SD PCB

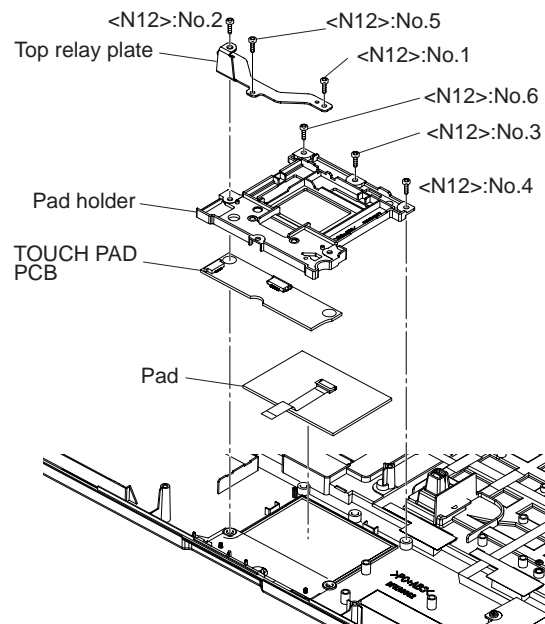
1. Connect the FFC to the Connector(CN4300).
2. Set the SD PCB to the Top Cover, and fix it to using the two Screws <N12>. No.1, No.2



Screw <N12> : DXSB2+4FNLT

## 9.2.15. Setting the Pad and TOUCH PAD PCB

1. Paste the Pad and set the TOUCH PAD PCB to the Top Cover.
2. Set the Pad Holder and Top Relay Plate, and fix them using the six Screws <N12>. No.1 to No.6

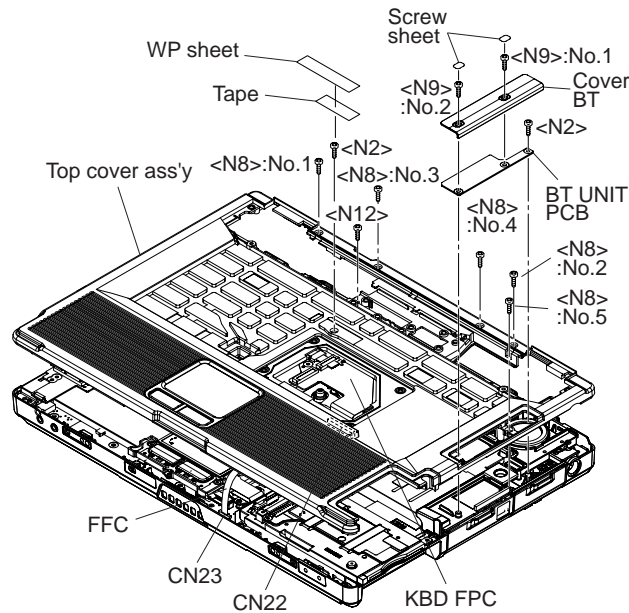


Screw <N12> : DXSB2+4FNLT

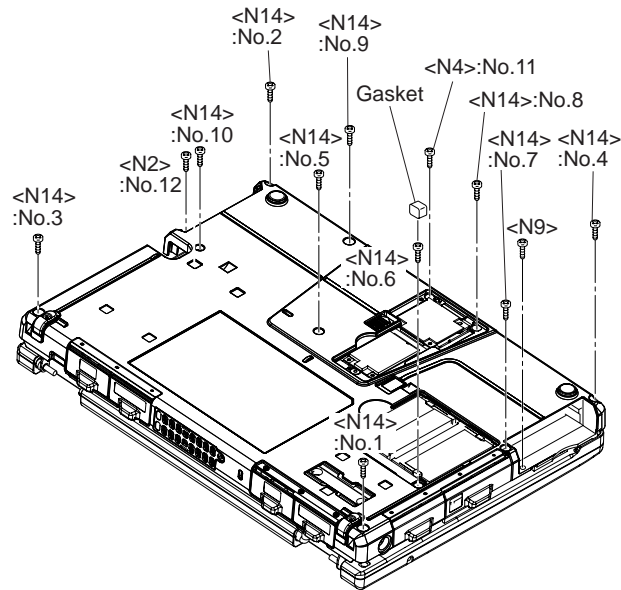


## 9.2.16. Setting the Top Cover

1. Connect the KBD FPC and FFC to the Connectors(CN22 and CN23), and place the Top Cover on the computer.
2. Fix the Top Cover using the five Screws <N8>. No.1 to No.5
3. Fix the Top Cover using the Screw <N12>.
4. Fix the BT UNIT PCB to the Top Cover using the Screw <N2> and connect the Cable to the connector.



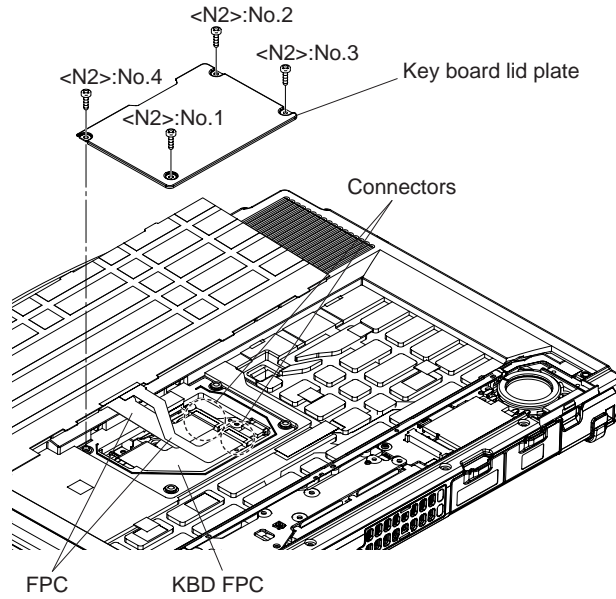
5. Fix the Top Cover using the Screw <N2>, and paste the Tape and WP Sheet on it.
6. Fix the Cover BT to the Top Cover using the two Screws <N9> No.1, No.2, and paste the Screw Sheet on the Screws.
7. Fix the Bottom Case to the Top Cover using the Screw <N2>, <N4> and ten Screws <N14>. No.1 to No.12
8. Fix the Bottom Case using the Screw <N9>.
9. Paste the Gasket on the Screw <N14>.



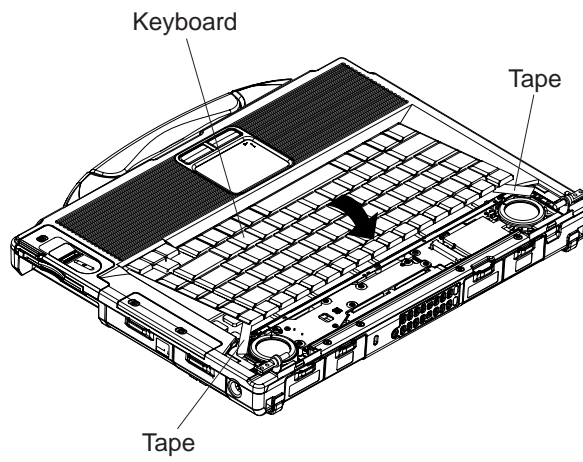
- Screws <N2> : DFHE5122YA  
 Screw <N4> : DRHM0093ZA  
 Screws <N8> : DRHM5054XAT  
 Screws <N9> : DRHM5104ZAT  
 Screws <N12> : DXSB2+4FNLT  
 Screws <N14> : XTB26+10GJKT

## 9.2.17. Setting the Keyboard

1. Connect the FPCs to the Connector on the KBD FPC.
2. Place the Keyboard Lid Plate on the Top Cover, and fix it using the four Screws <N2>. No.1 to No.4

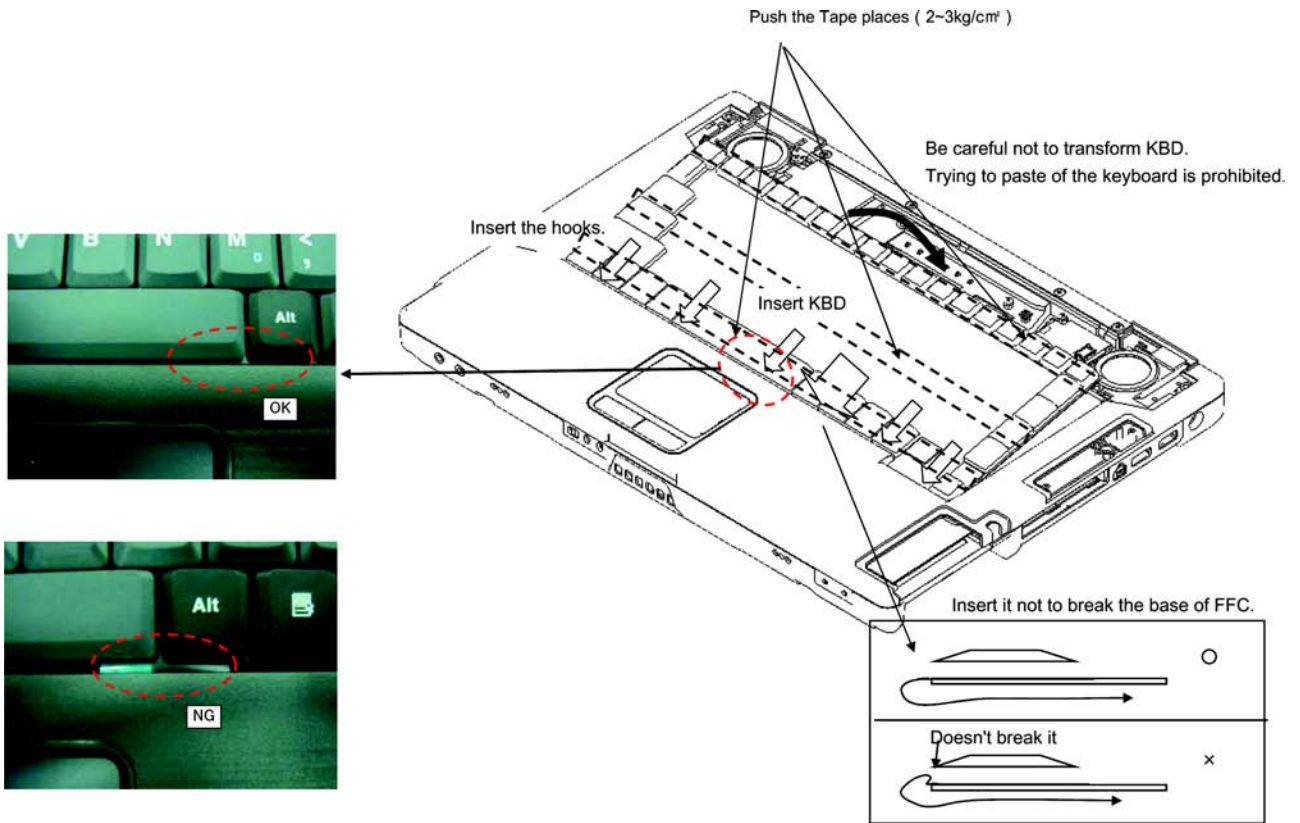


3. Place the Keyboard on the Top Cover and paste the Tapes.



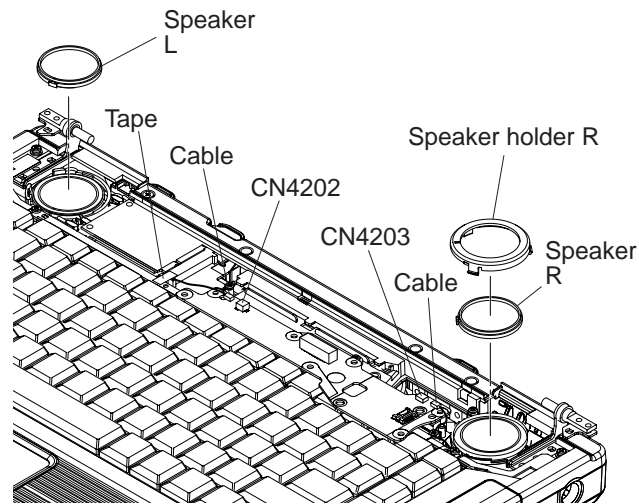
Screws <N2> : DFHE5122YA

■Caution for when assembling the Keyboard.



## 9.2.18. Setting the Speakers

1. Place the Speakers on the computer.
2. Connect the Cables to the Connector(CN4202 and CN4203).
3. Paste the Tape on the Cable.
4. Attach the Speaker Holder R to the computer.

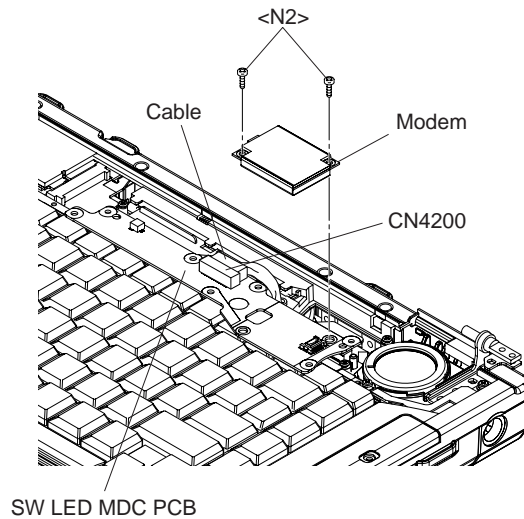


### Note:

Do not attach the Speaker Holder L to the computer yet.

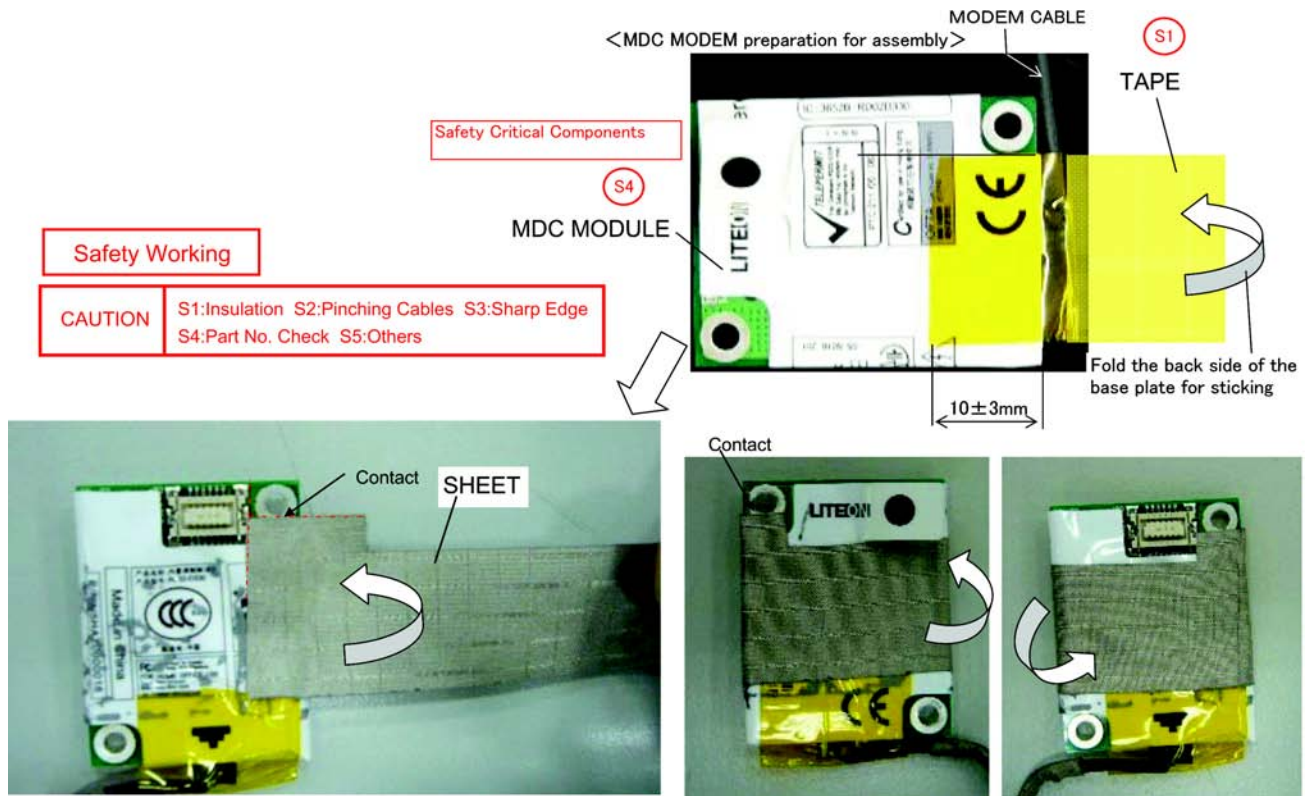
## 9.2.19. Setting the Modem

1. Connect the Cable to the Connector.
2. Paste the Tape2, Conductive Tape-Modem and Tape1.
3. Fix the Modem to the SW LED MDC PCB using the two Screws <N2>.



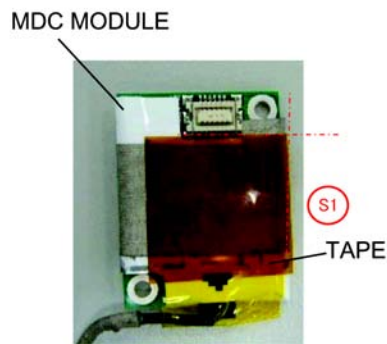
Screws <N2> : DFHE5122YA

■How to paste the Tape



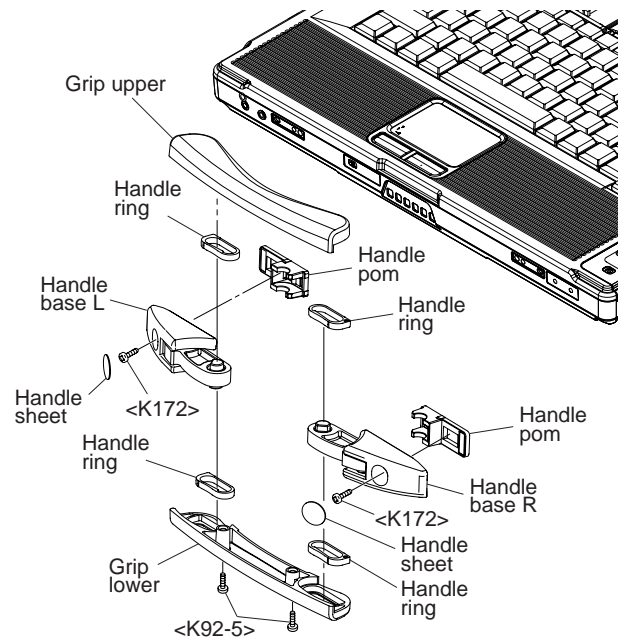
Safety Working

CAUTION S1:Insulation S2:Pinching Cables S3:Sharp Edge S4:Part No. Check S5:Others



## 9.2.20. Setting the Handle Ass'y

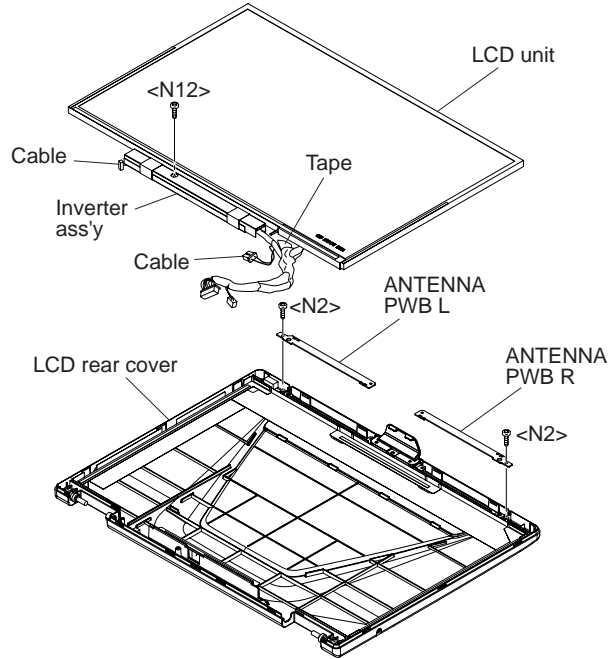
1. Assemble the Handle Ass'y (Grip Upper, Grip Lower, Handle Base L, Handle Base R, Handle Ring and Handle Pom), and fix them using the two Screws <K92-5>.
  2. Fix the Handle Base Ass'y to the computer using the two Screws <K172>.
- Paste the Handle Sheet on the Screws <K172>.



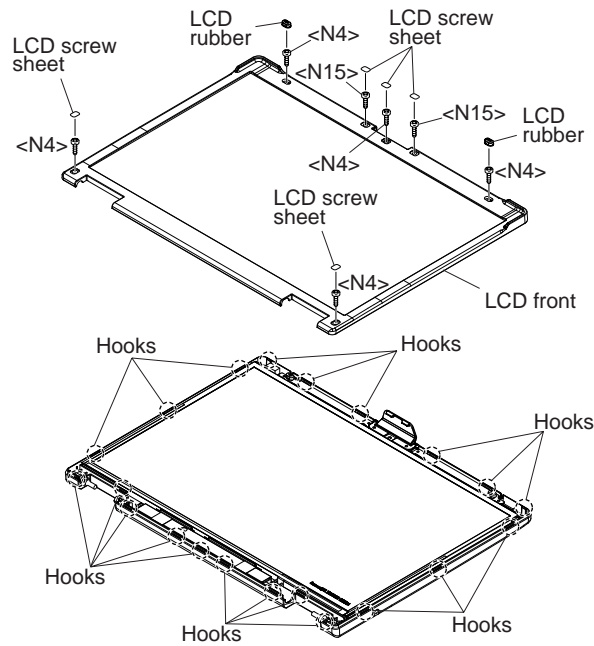
Screws <K92-5>: DRSB3+8FKLT  
Screws <K172>: DRYN4+J12KLT

### 9.2.21. Setting the LCD Unit, Inverter Ass'y and Antenna PWB L, R

1. Set the LCD Unit to the LCD Rear Cover
2. Fix the Inverter Ass'y using the Screw <N12>.
3. Fix the Antenna PWB L and R using the Screws <N2>.

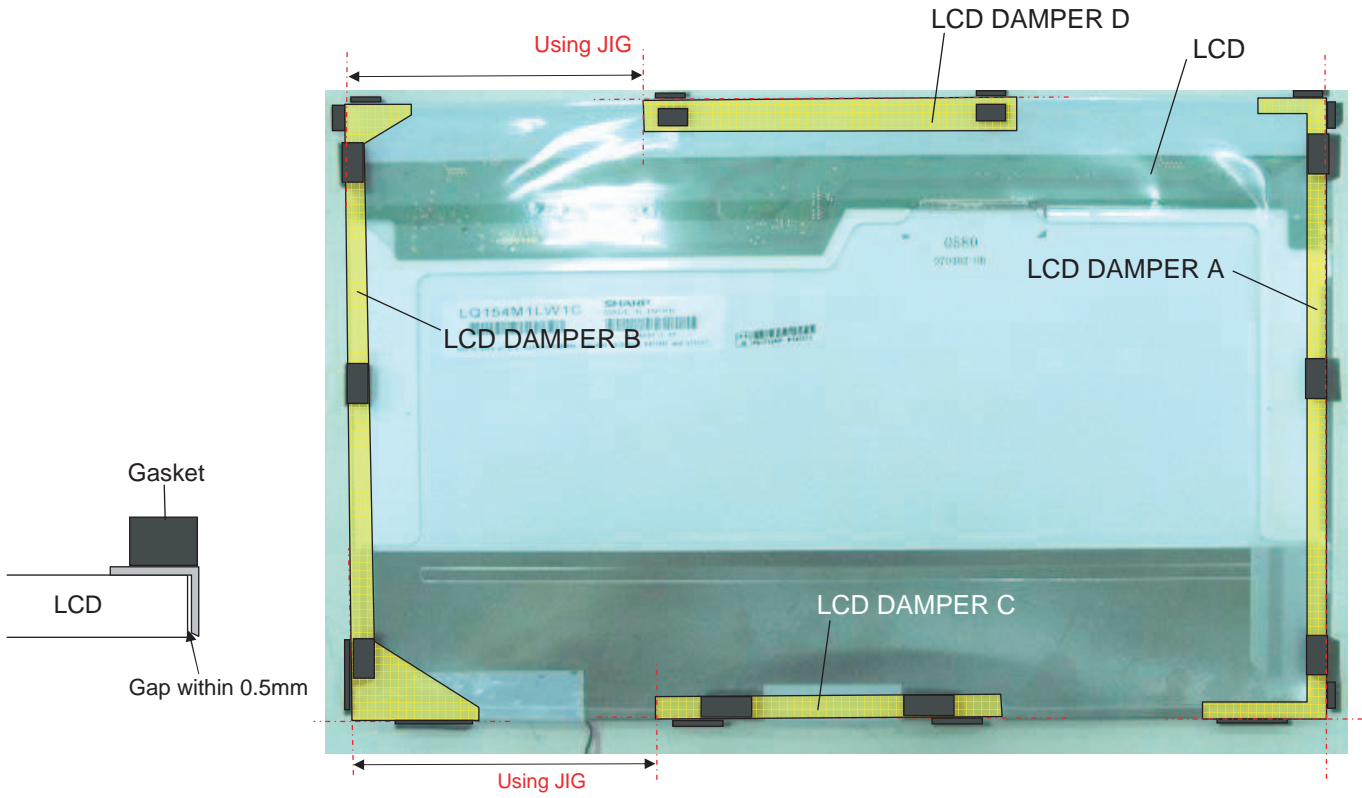


4. Place the LCD Front on the LCD Rear Case.  
Confirm that the twenty-one Hooks are fixed perfectly.
5. Fix the LCD Front using the five Screws <N4> and two Screws <N15>.
6. Paste the LCD Screw Sheet and LCD Rubber.

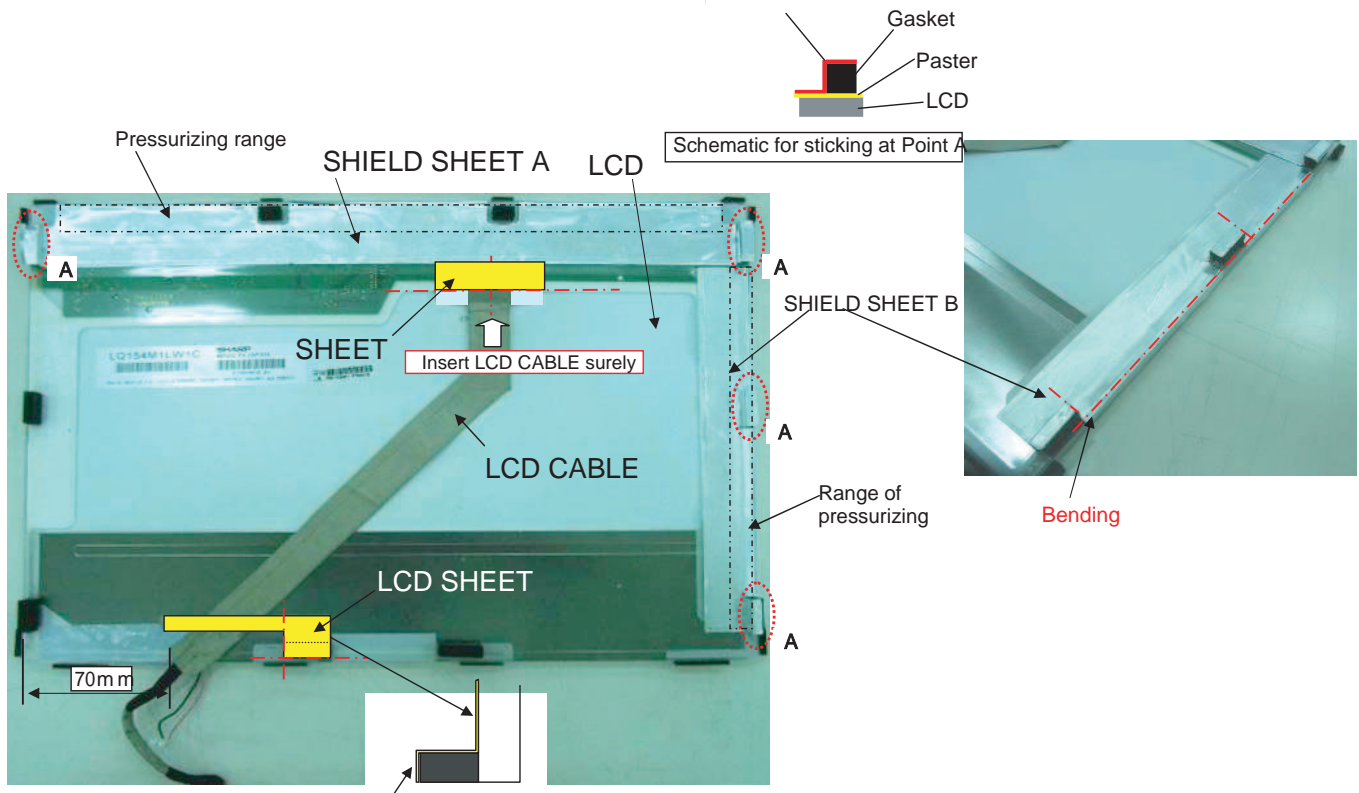


Screws <N2> : DFHE5122YA  
Screw <N4> : DRHM0093ZA  
Screws <N12> : DXSB2+4FNLT  
Screws <N15> : XQN17+BJ6FJ

■Setting of LCD unit ass'y

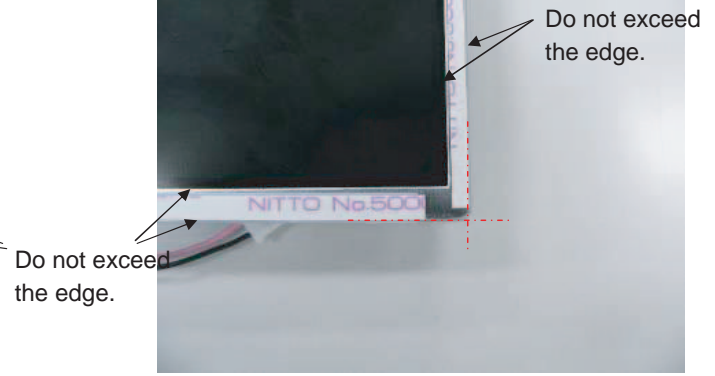
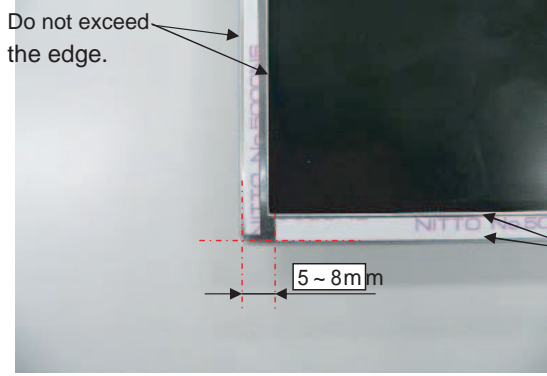
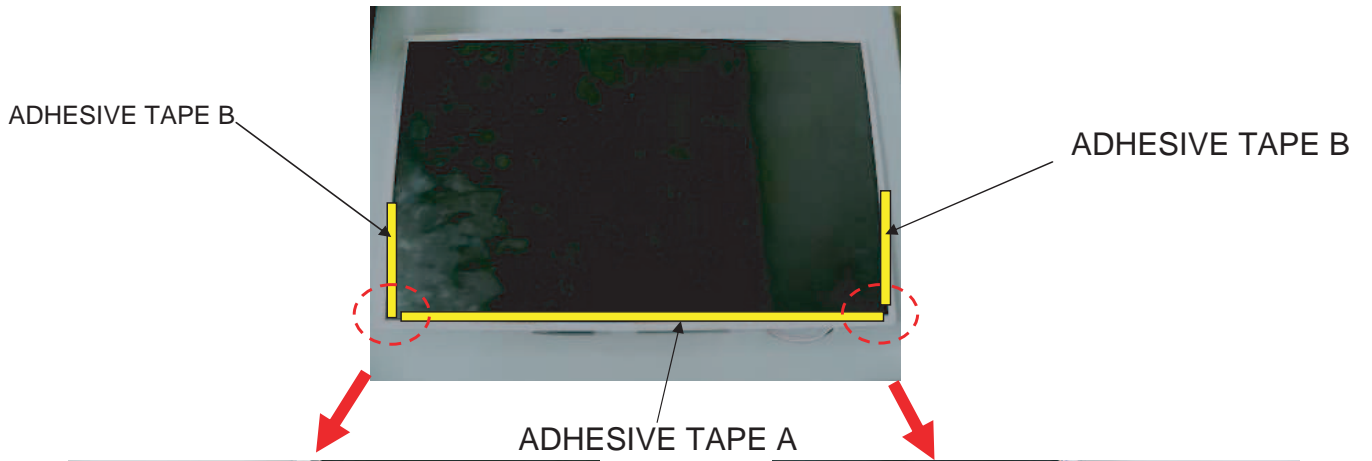


Aluminium (silvery) paster is stuck on the gasket.



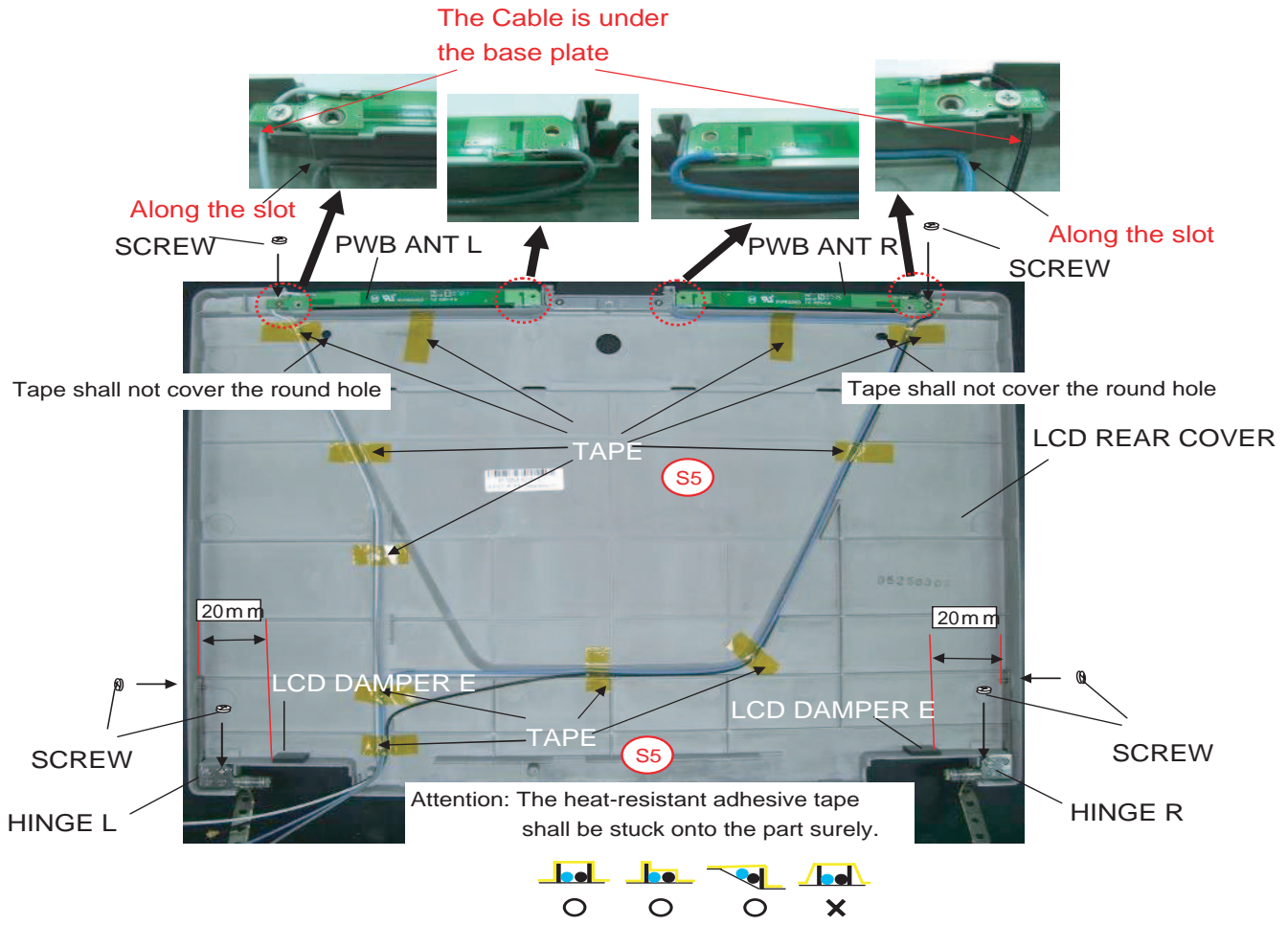
The cloth conductor shall be stuck along the gasket.



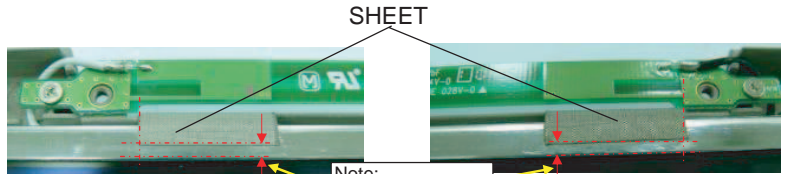
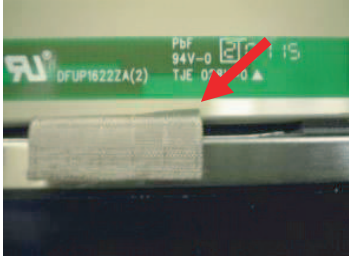


Safety Working

CAUTION S1:Insulation S2:Pinching Cables S3:Sharp Edge  
S4:Part No. Check S5:Others

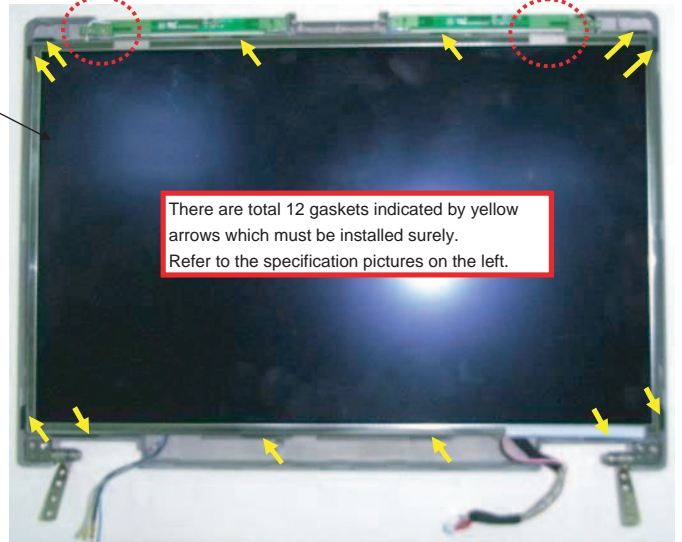


Note: Paster shall be firmly stuck and does not float.

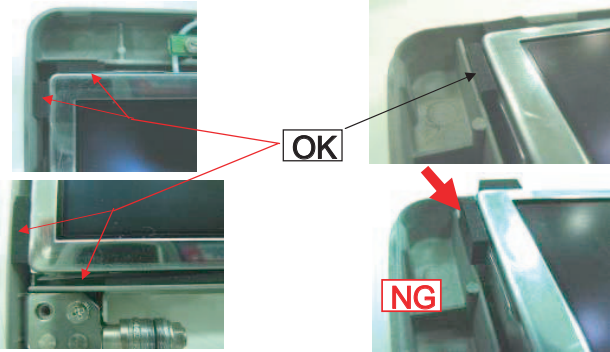


Note: Do not exceed the edge of the metal frame

LCD ASS'Y



There are total 12 gaskets indicated by yellow arrows which must be installed surely. Refer to the specification pictures on the left.

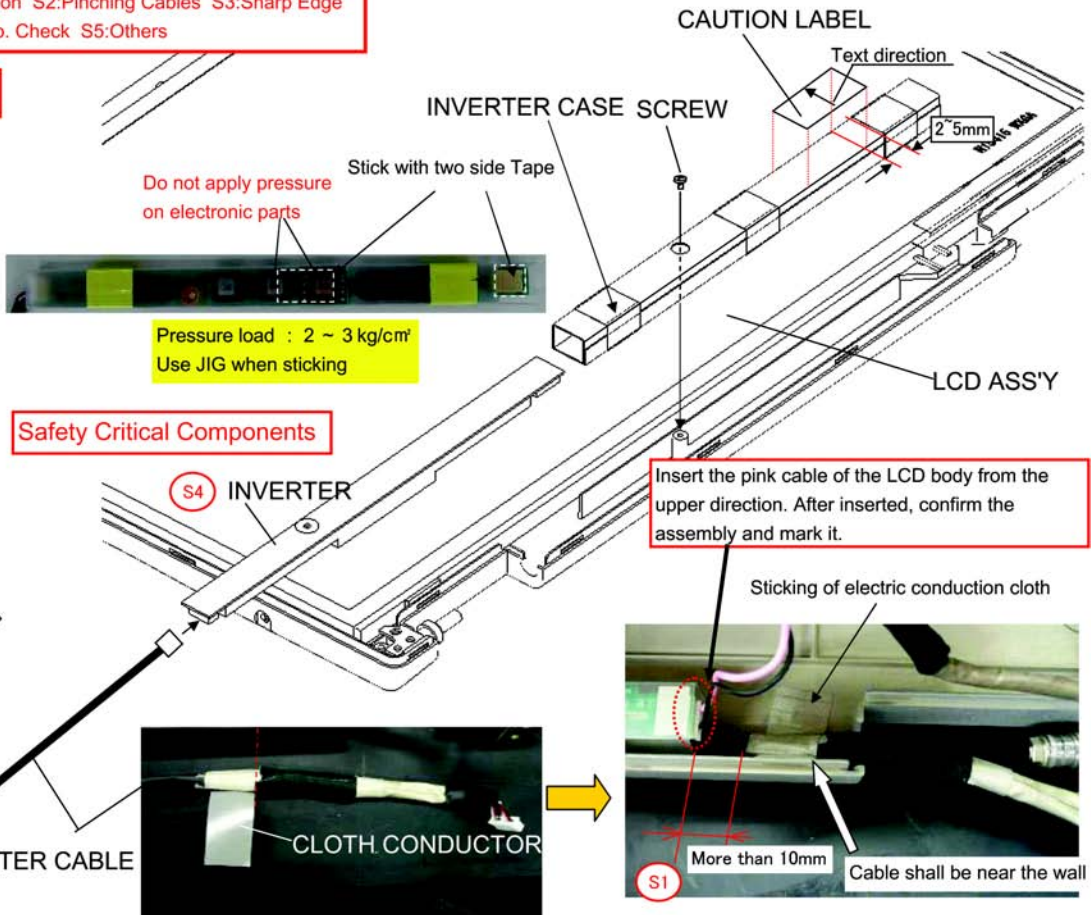


OK

NG

**CAUTION** S1:Insulation S2:Pinching Cables S3:Sharp Edge S4:Part No. Check S5:Others

Safety Working



CAUTION LABEL

Text direction

2.5mm

INVERTER CASE SCREW

LCD ASS'Y

Do not apply pressure on electronic parts

Stick with two side Tape

Pressure load : 2 ~ 3 kg/cm<sup>2</sup>  
Use JIG when sticking

Safety Critical Components

S4 INVERTER

Insert the pink cable of the LCD body from the upper direction. After inserted, confirm the assembly and mark it.

Sticking of electric conduction cloth

INVERTER CABLE

CLOTH CONDUCTOR

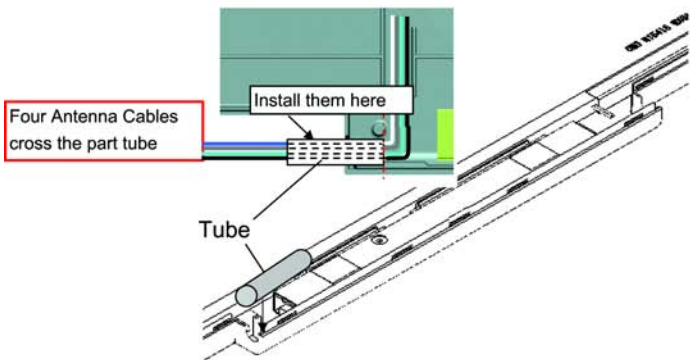
S1

More than 10mm

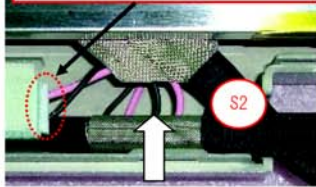
Cable shall be near the wall

Safety Working

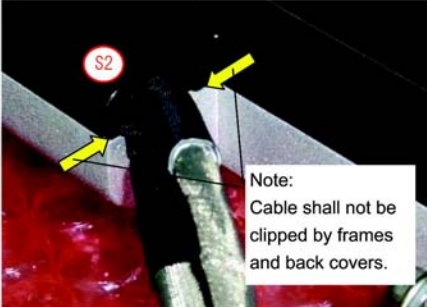
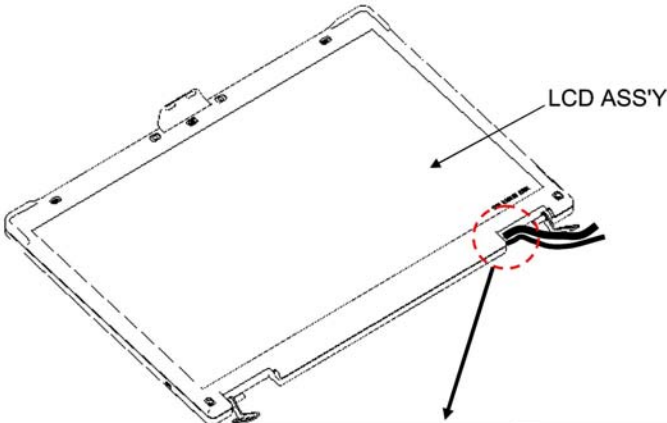
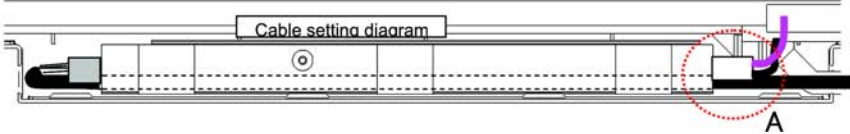
CAUTION S1:Insulation S2:Pinching Cables S3:Sharp Edge S4:Part No. Check S5:Others



Insert the pink cable of the LCD body from the upper direction. After it is inserted, confirm the assembly and mark it.



Cable setting diagram or Position INV CABLE is under LCD CABLE

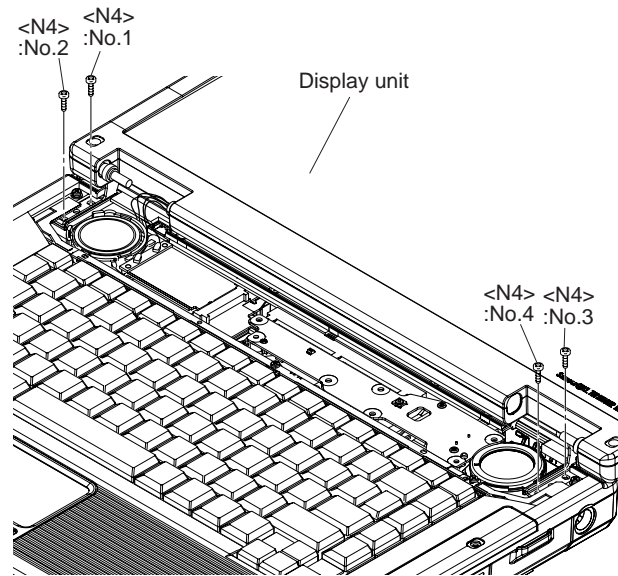


Safety Working

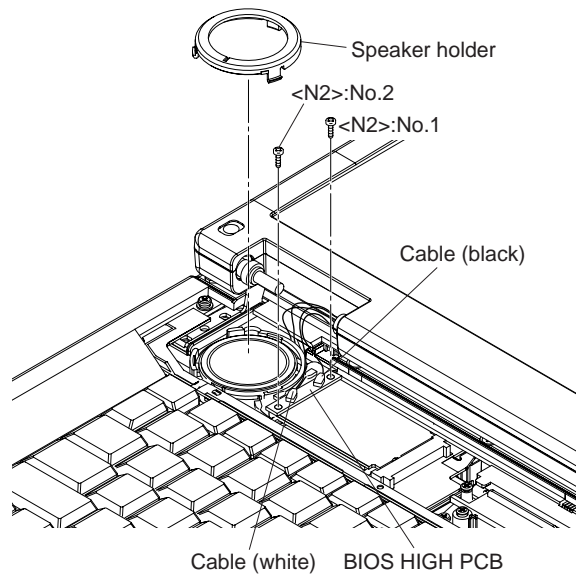
CAUTION S1:Insulation S2:Pinching Cables S3:Sharp Edge S4:Part No. Check S5:Others

## 9.2.22. Setting the Display Unit, BIOS HIGH PCB and SW LED MDC PCB

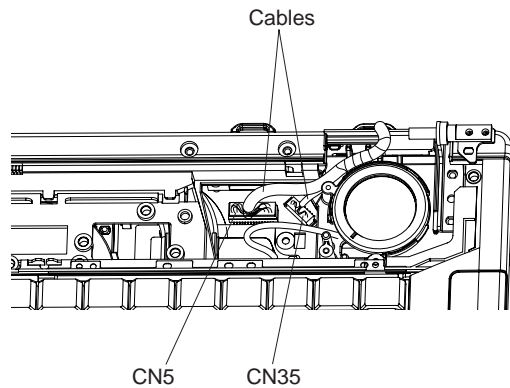
1. Set the Display Unit to the computer, and fix it using the four Screws <N4>. No.1 to No.4



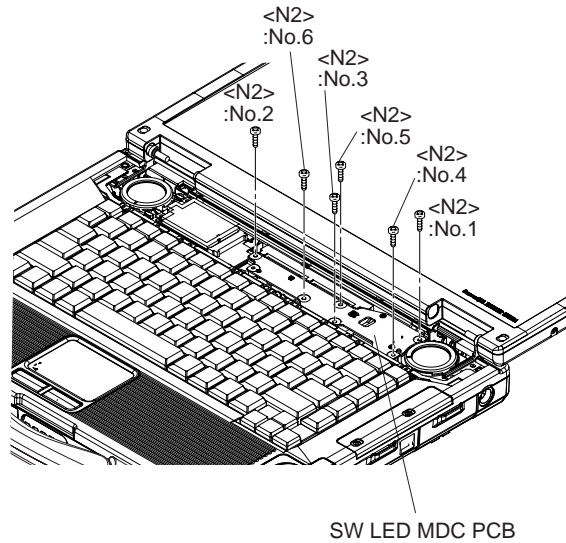
2. Connect the Cable(gray) to JK7001 and the Cable(blue) to JK7003 on WWAN PCB.
3. Set the BIOS HIGH PCB, and fix it using the two Screws<N2>. No.1, No.2
4. Connect the Cable(black) to JK6103 and the Cable(white) to JK6102 on BIOS HIGH PCB.



5. Connect the two Cables to the Connector(CN5 and CN35).

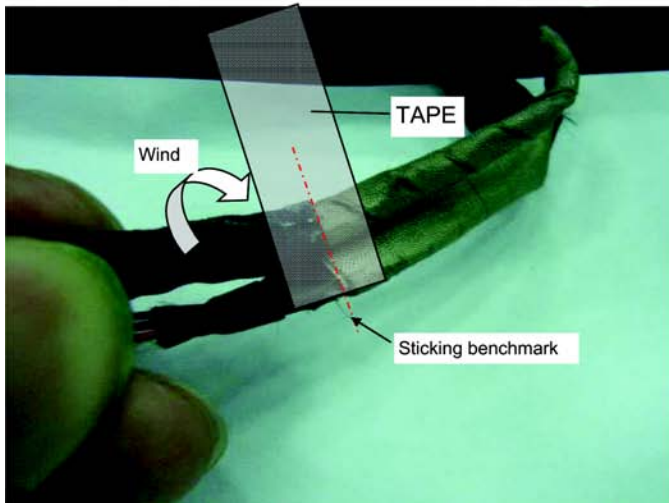


6. Fix the SW LED MDC PCB using the six Screws <N2>. No.1 to No.6



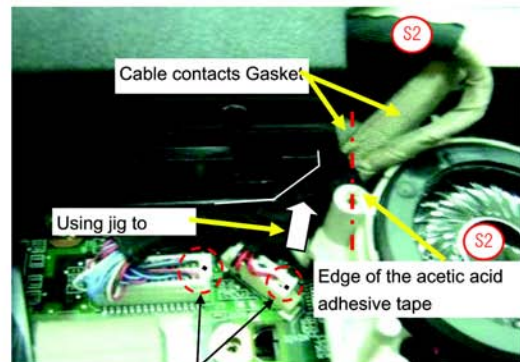
Screw<N2> : DFHE5122YA  
Screw <N4> : DRHM0093ZA

■Arranging the Cables when assembling the LCD Unit.



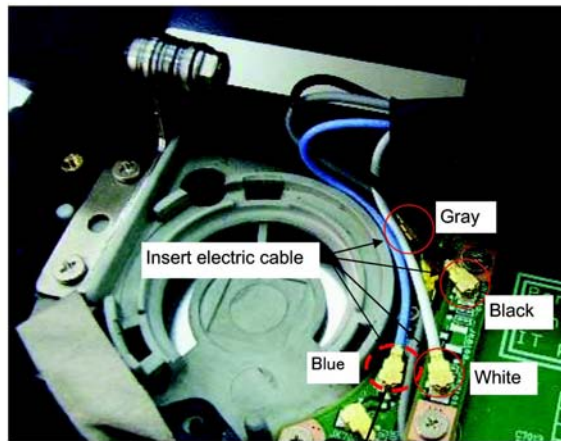
Safety Working

**CAUTION** S1:Insulation S2:Pinching Cables S3:Sharp Edge  
S4:Part No. Check S5:Others



Note: After inserting, please check the assembly

Note: Use jig to insert and take out the cable



**Safety Working**

**CAUTION** S1:Insulation S2:Pinching Cables S3:Sharp Edge  
S4:Part No. Check S5:Others

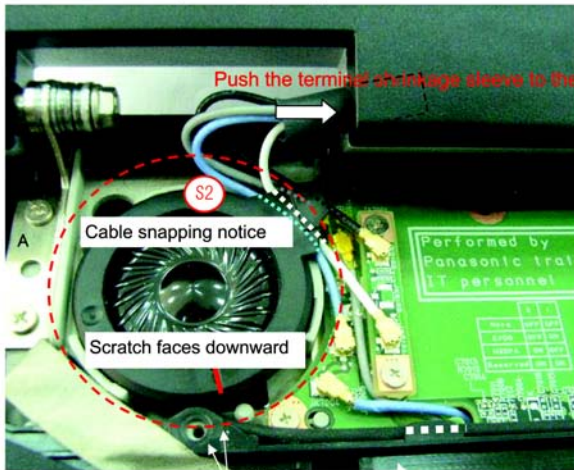
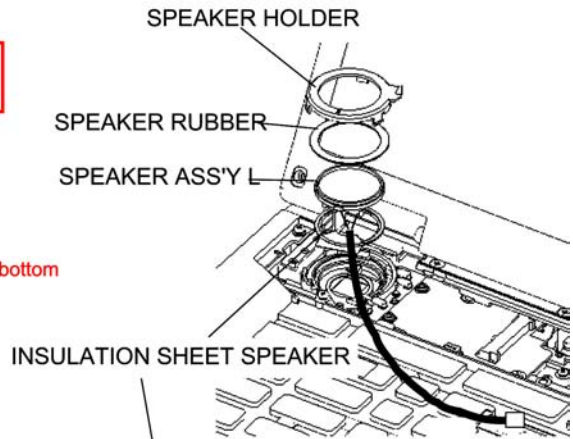


**S3**  
Cables shall not be damaged by the terminal

**Safety Working**

**CAUTION** S1:Insulation S2:Pinching Cables S3:Sharp Edge  
S4:Part No. Check S5:Others

Note: When assembling SPEAKER HOLDER check whether the three points of the hook surely hook Hinge Support or not.



SP CABLE is at the left side of the post

SP CABLE is under the plastics

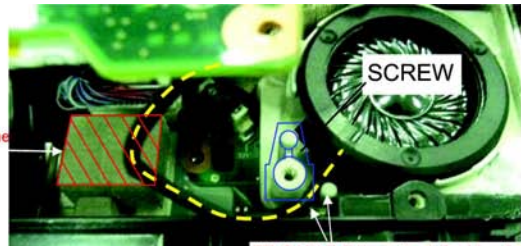


Detailed Drawing for Position A

■Arranging the Speaker Cables when assembling the SW LED MDC PCB.

**CAUTION** S1:Insulation S2:Pinching Cables S3:Sharp Edge  
S4:Part No. Check S5:Others

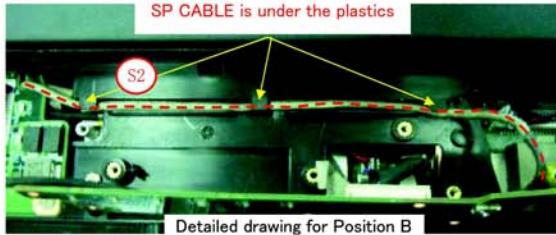
**Safety Working**



SPEAKER CABLE can not enter the range of the red oblique line

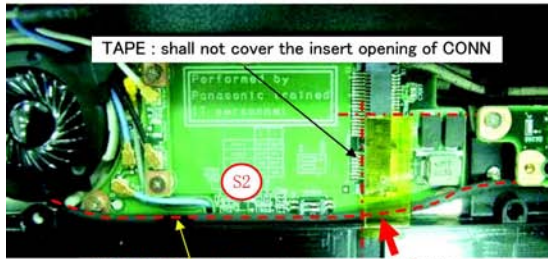
Detailed drawing for Position A

SP CABLE R is at the left side of the post  
SP CABLE R is under CABLE SHEET-A



SP CABLE is under the plastics

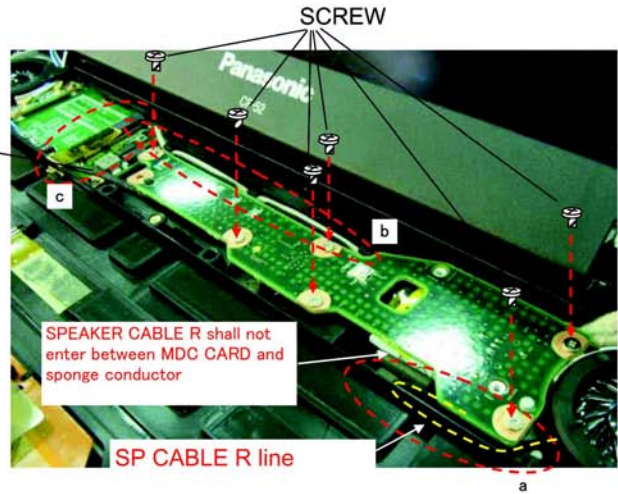
Detailed drawing for Position B



TAPE : shall not cover the insert opening of CONN

SP CABLE is under the plastics Fix CABLE

PWB SW

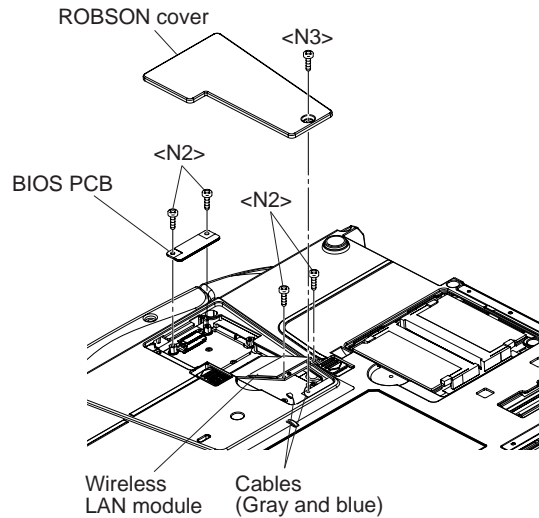


SPEAKER CABLE R shall not enter between MDC CARD and sponge conductor

SP CABLE R line

9.2.23. Setting the Wireless LAN Module, BIOS PCB and ROBSON Cover

1. Put the Wireless LAN Module into the connector at an angle of forty-five degrees.
2. Attach the BIOS PCB to the MAIN HIGH PCB, fix it using the two Screws <N2>.
3. Set the ROBSON Cover, and fix it using the Screw <N3>.

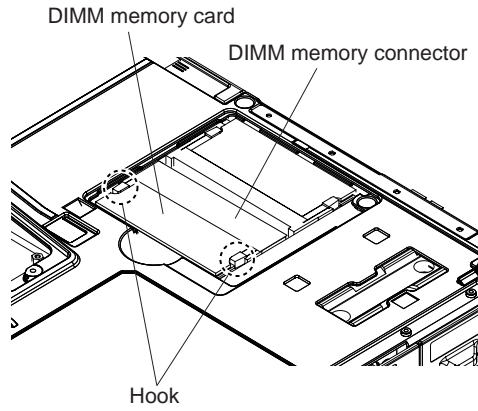


Screw <N2> : DFHE5122YA  
Screw <N3> : DRHM0065ZA

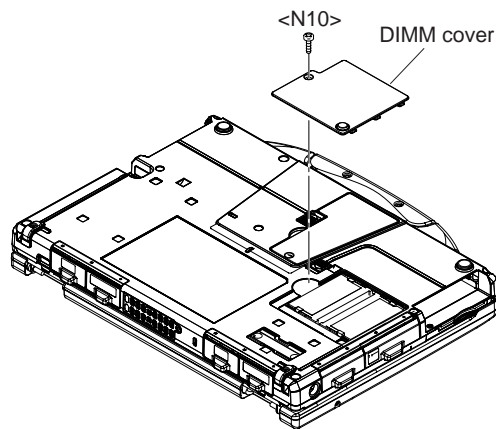


### 9.2.24. Setting the DIMM Memory Card and DIMM Cover

1. Put the DIMM Memory Card into the connector.
2. Close the right and left Hooks, and paste the Tape.



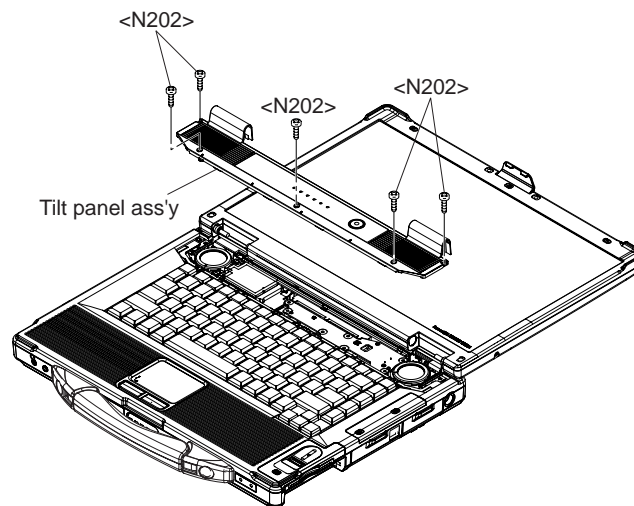
3. Set the DIMM Memory Card, and fix it using the Screw <N10>.



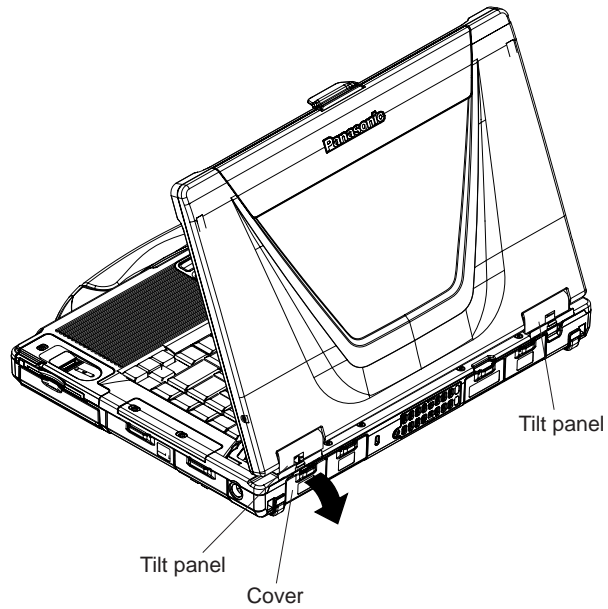
Screw <N10> : DRSB2+3FKLT

### 9.2.25. Setting the Tilt Panel Ass'y

1. Set the Tilt Panel Ass'y to the computer, and fix it using the five Screws <N202>.



2. Open the Cover, push the Tilt Panel Ass'y into the computer until it clicks.



Screw <N202> : DRSB2+4FKLT

**Caution for when assembling the Tilt Panel Ass'y**

|                |         |   |
|----------------|---------|---|
| Safety Working | CAUTION | S1:Insulation S2:Pinching Cables S3:Sharp Edge<br>S4:Part No. Check S5:Others |
|----------------|---------|---|

(S2) Caution pinching cables. Be free of overhang.

OK Be free of overhang.

NG Overhang

NG Overhang

TILT PANEL ASS'Y

SCREW

POWER BUTTON

(S2) Caution pinching cables. Be free of overhang. OK

Be free of overhang.

NG Overhang

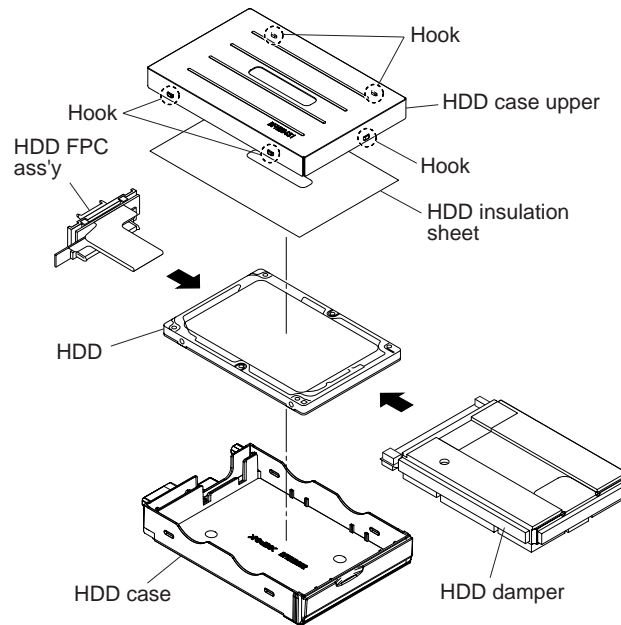
NG Overhang

NG Overhang

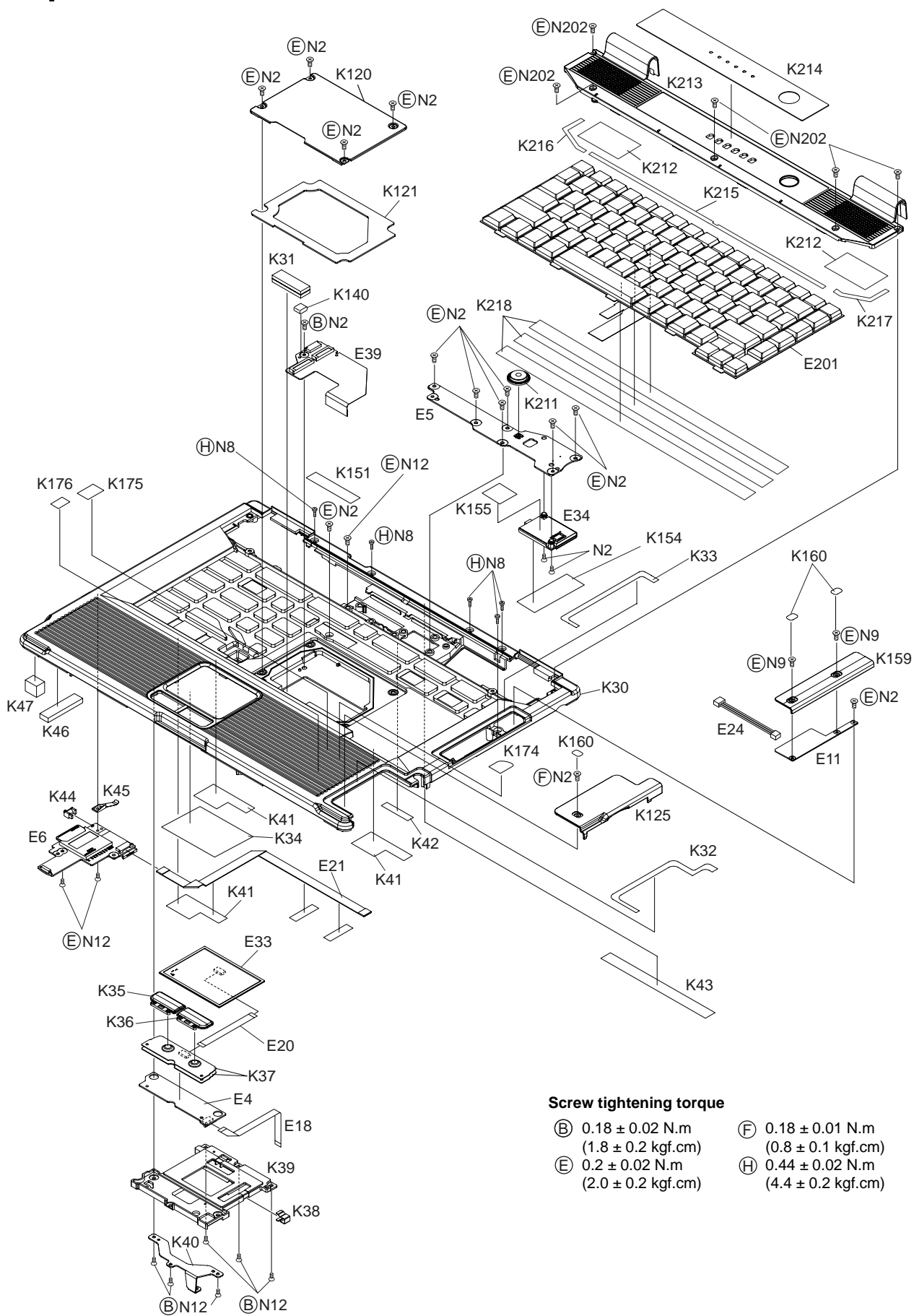
The main diagram shows the laptop chassis with the 'TILT PANEL ASS'Y' being installed. Red arrows point to the cable management area. A callout box labeled '(S2) Caution pinching cables. Be free of overhang.' is shown. Below this, two sets of images illustrate correct ('OK') and incorrect ('NG') cable placement. The 'OK' images show cables tucked under the panel with no overhang. The 'NG' images show cables protruding ('Overhang') from under the panel. Labels 'TILT PANEL ASS'Y', 'SCREW', and 'POWER BUTTON' are also present.

## 9.2.26. Setting the HDD

1. Connect the HDD FPC Ass'y to the HDD.
2. Insert the HDD Ass'y into the HDD Damper.
3. Set the HDD Ass'y into the HDD Case Upper.
4. Attach the HDD Case into the HDD Case Upper Ass'y

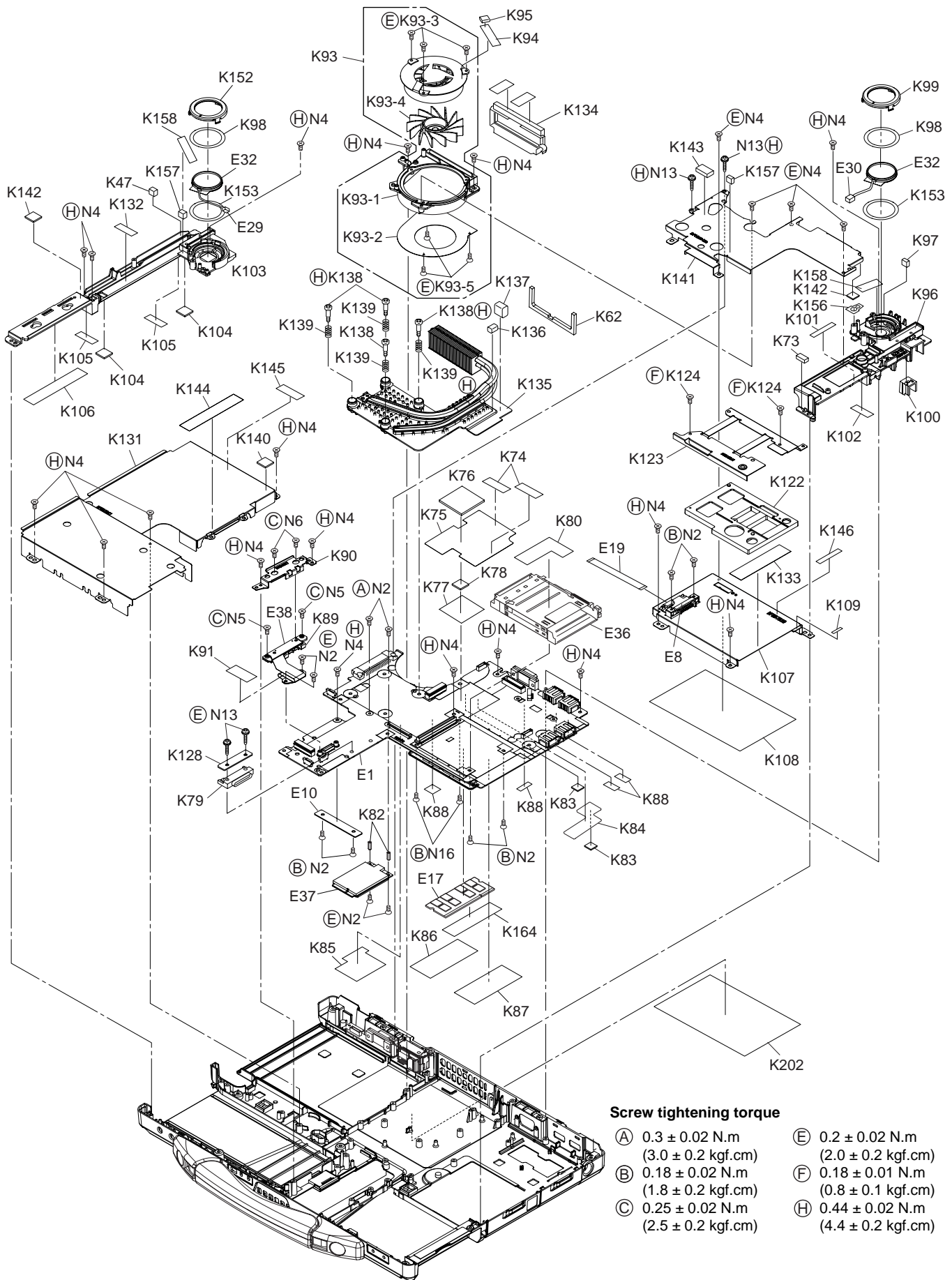


# 10 Exploded View



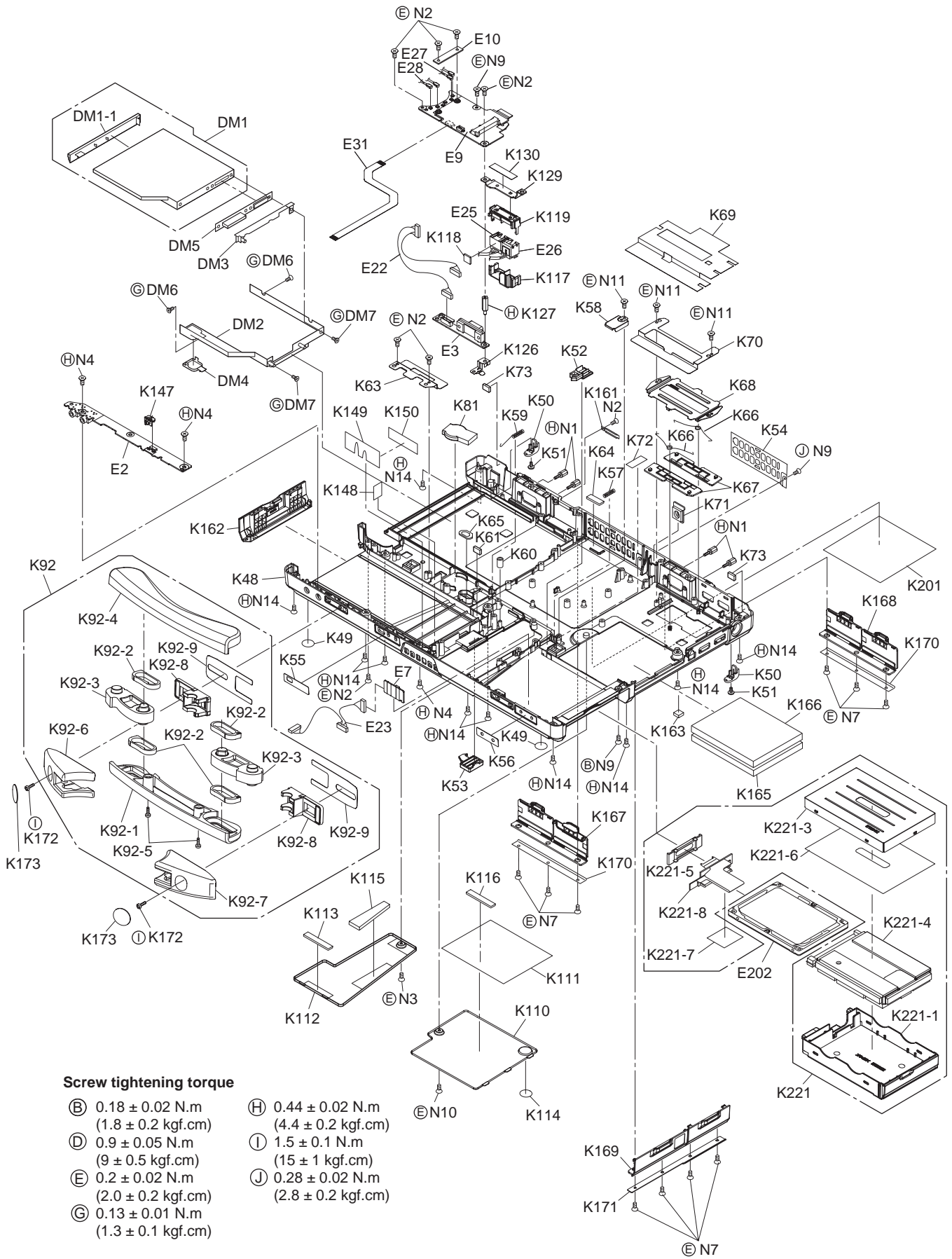
**Screw tightening torque**

- ⓑ 0.18 ± 0.02 N.m (1.8 ± 0.2 kgf.cm)
- ⓔ 0.2 ± 0.02 N.m (2.0 ± 0.2 kgf.cm)
- ⓕ 0.18 ± 0.01 N.m (0.8 ± 0.1 kgf.cm)
- ⓓ 0.44 ± 0.02 N.m (4.4 ± 0.2 kgf.cm)



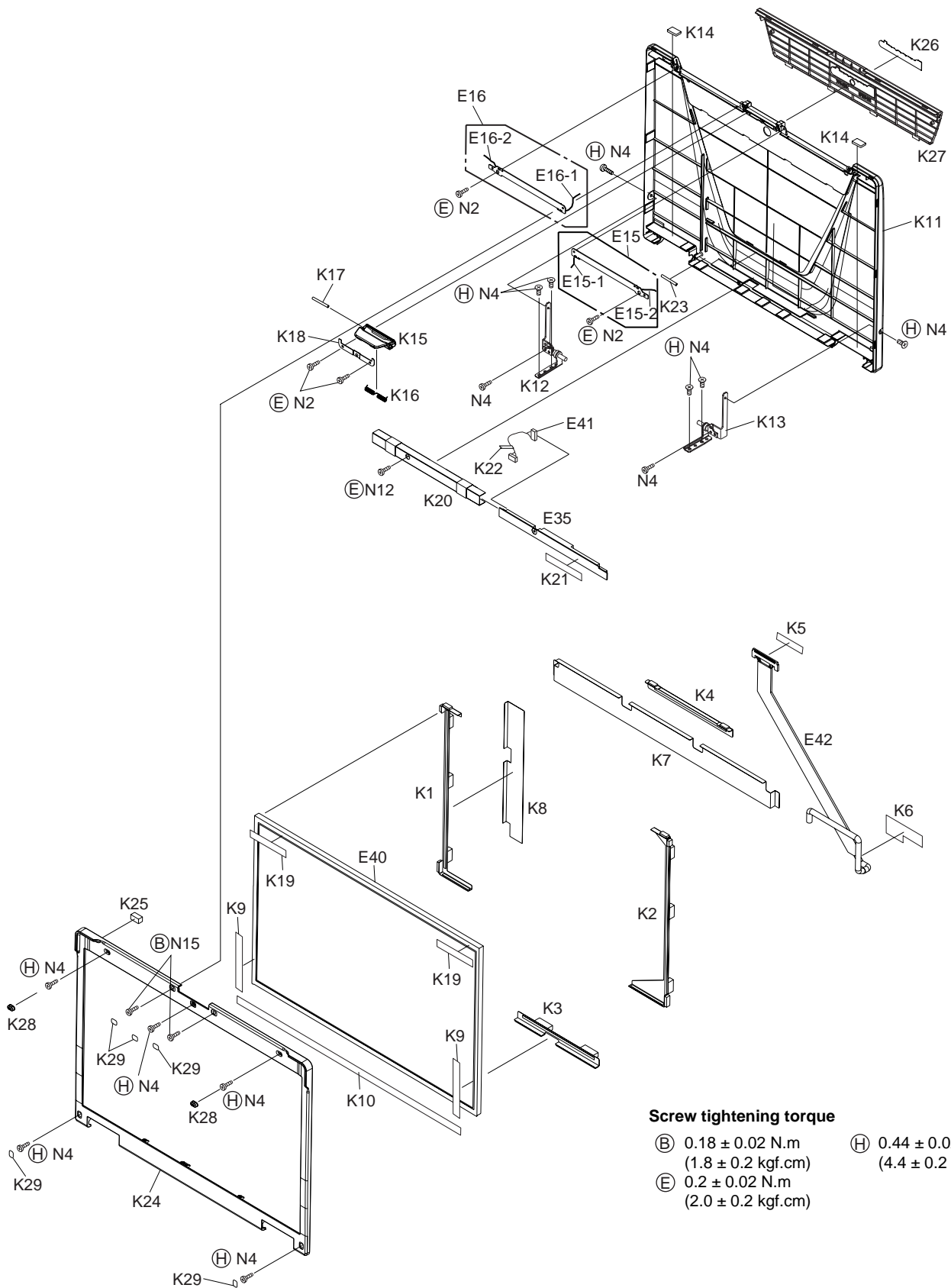
**Screw tightening torque**

- |     |                                       |     |                                       |
|-----|---------------------------------------|-----|---------------------------------------|
| (A) | 0.3 ± 0.02 N.m<br>(3.0 ± 0.2 kgf.cm)  | (E) | 0.2 ± 0.02 N.m<br>(2.0 ± 0.2 kgf.cm)  |
| (B) | 0.18 ± 0.02 N.m<br>(1.8 ± 0.2 kgf.cm) | (F) | 0.18 ± 0.01 N.m<br>(0.8 ± 0.1 kgf.cm) |
| (C) | 0.25 ± 0.02 N.m<br>(2.5 ± 0.2 kgf.cm) | (H) | 0.44 ± 0.02 N.m<br>(4.4 ± 0.2 kgf.cm) |



**Screw tightening torque**

- Ⓑ 0.18 ± 0.02 N.m (1.8 ± 0.2 kgf.cm)
- Ⓓ 0.9 ± 0.05 N.m (9 ± 0.5 kgf.cm)
- Ⓔ 0.2 ± 0.02 N.m (2.0 ± 0.2 kgf.cm)
- Ⓒ 0.13 ± 0.01 N.m (1.3 ± 0.1 kgf.cm)
- Ⓗ 0.44 ± 0.02 N.m (4.4 ± 0.2 kgf.cm)
- Ⓛ 1.5 ± 0.1 N.m (15 ± 1 kgf.cm)
- Ⓜ 0.28 ± 0.02 N.m (2.8 ± 0.2 kgf.cm)




**Screw tightening torque**

- |  |  |
|--|--|
| (B) $0.18 \pm 0.02$ N.m<br>( $1.8 \pm 0.2$ kgf.cm) | (H) $0.44 \pm 0.02$ N.m<br>( $4.4 \pm 0.2$ kgf.cm) |
| (E) $0.2 \pm 0.02$ N.m<br>( $2.0 \pm 0.2$ kgf.cm)  |  |









# 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-52AJYZDM**

NRP: Non Reusable Parts




| REF. NO and AREA        | PART NO.   | DESCRIPTION                | Q'TY  |
|-------------------------|--|----------------------------|-------|
| <b>Main Block Unit</b>  |  |                            |       |
| E1                      | DL3U11616AAA   | PCB, MAIN HIGH             | RTL 1 |
| E2                      | DL3U21616AAA   | PCB, AUDIO                 | RTL 1 |
| E3                      | DL3U31616AAA   | PCB, SERIAL                | RTL 1 |
| E4                      | DL3U41616AAA   | PCB, TOUCH PAD             | RTL 1 |
| E5                      | DL3U51616AAA   | PCB, SW LED MDC            | RTL 1 |
| E6                      | DL3U61616AAA   | PCB, SD                    | RTL 1 |
| E7                      | DL3U71616AAA   | PCB, PWR BATTERY LED       | RTL 1 |
| E8                      | DL3U81616AAA   | PCB, SC RELAY              | RTL 1 |
| E9                      | DL3U91616AAA   | PCB, WWAN                  | RTL 1 |
| E10                     | DL3UA1616AAA   | PCB, BIOS HIGH             | RTL 1 |
| E11                     | DL3UP1621AAA   | PCB, BT UNIT               | RTL 1 |
| E15                     | DL3U11622AAA   | ANTENNA PWB R              | RTL 1 |
| E15-1                   | DFJS1098ZB   | WLAN ANTENNA CABLE R       | 1     |
| E15-2                   | DFJS1100ZA   | WWAN ANTENNA CABLE R       | 1     |
| E16                     | DL3U21622AAA   | ANTENNA PWB L              | RTL 1 |
| E16-1                   | DFJS1097ZB   | WLAN ANTENNA CABLE L       | 1     |
| E16-2                   | DFJS1099ZB   | WWAN ANTENNA CABLE L       | 1     |
| E17                     | N5ZZ00000128   | 1GB DDR2-667 SO-DIMM       | 1     |
| E18                     | DFJK9012YA   | FFC, PAD                   | 1     |
| E19                     | DFJK9014YA   | FFC, SC FS                 | 1     |
| E20                     | DFJK9024ZB   | FFC, CLICK                 | 1     |
| E21                     | DFJK9025ZA   | FFC SD                     | 1     |
| E22                     | DFJS1078ZA   | SW LED I/O CABLE           | 1     |
| E23                     | DFJS1079ZA   | AUDIO LED SW CABLE         | 1     |
| E24                     | DFJS1080ZA   | BLUETOOTH CABLE            | 1     |
| E25                     | DFJS1081ZB   | LAN CABLE                  | 1     |
| E26                     | DFJS1082ZB   | MODEM CABLE                | 1     |
| E27                     | DFJS1095ZB   | CABLE ANT RELAY WLAN L     | 1     |
| E28                     | DFJS1096ZC   | RELAY WLAN ANTENNA CABLE R | 1     |
| E29                     | DFJS1111ZB   | SPEAKER CABLE-L            | 1     |
| E30                     | DFJS1112ZB   | SPEAKER CABLE-R            | 1     |
| E31                     | DFUP1641ZA   | FPC                        | 1     |
| E32                     | L0AA02A00080   | SPEAKER                    | 2     |
| E33                     | N2EAYYY00003   | PAD                        | 1     |
| E34                     |  N5HAZ0000016 | MODEM                      | 1     |
| E35                     |  N0GF1J000011 | INVERTER                   | NRP 1 |
| E36                     | K1NB94B00002   | EX/PC CARD EJECTOR         | 1     |
| E37                     |  N5HZC0000031 | WIRELESS LAN MODULE        | 1     |
| E38                     | DFWP0146ZA   | BATTERY FPC ASS'Y          | 1     |
| E39                     | DFWP0147ZB   | KBD SD RELAY FPC ASS'Y     | 1     |
| E40                     | L5EDDYY00060   | LCD HIGH                   | 1     |
| E41                     | DFJS1077YA   | INVERTER CABLE             | 1     |
| E42                     | DFJS1128ZA   | LCD CABLE                  | 1     |
| E201                    | N2ABZY000035   | KEYBOARD VISTA US          | 1     |
| E202                    |  N3CAYYY00021 | HDD                        | 1     |
| <b>Accessories</b>      |  |                            |       |
| A1                      |  DFQW5048ZBT  | MANUAL(CF-52MK1 USA)       | 1     |
| A2                      |  K2CG3DR00004 | AC CORD                    | 1     |
| A3                      |  CF-AA1683AMA | AC ADAPTOR                 | 1     |
| A4                      |  CGR-B/982AE  | LITHIUM ION BATTERY PACK   | 1     |
| A5                      | DFJS1070ZA   | MODEM CABLE                | 1     |
| <b>Packing Material</b> |  |                            |       |
| P1                      | DFPN0851ZAT  | CUSHION T                  | 2     |
| P2                      | DFPN0852ZAT  | CUSHION B                  | 2     |
| P3                      | DFPE0873ZAT  | BATTERY HOLDER             | 1     |
| P4                      | DFPE0874ZBT  | MANUAL HOLDER              | 1     |




|                         |                |                                       |     |   |
|-------------------------|----------------|---------------------------------------|-----|---|
| P5                      | DFPE0875ZCT    | ACCESSORY HOLDER                      |     | 1 |
| P6                      | DFPK1234ZAT    | PACKING CASE                          |     | 1 |
| P7                      | DFPH0077ZAT    | PROTECTION SHEET                      |     | 1 |
| P8                      | DFPP0136ZAT    | PROTECTION BAG                        |     | 1 |
| <b>Mechanical Parts</b> |                |                                       |     |   |
| K1                      | DFHR3G84ZB     | LCD DAMPER A                          | NRP | 1 |
| K2                      | DFHR3G85ZC     | LCD DAMPER B                          | NRP | 1 |
| K3                      | DFHR3G86ZC     | LCD DAMPER C                          | NRP | 1 |
| K4                      | DFHR3G87ZA     | LCD DAMPER D                          | NRP | 1 |
| K5                      | DFMC0770ZA     | CONDUCTIVE TAPE                       | NRP | 1 |
| K6                      | DFHE1071ZB     | CONDUCTIVE TAPE                       | NRP | 1 |
| K7                      | DFMC0889ZA     | SHIELD SHEET A                        | NRP | 1 |
| K8                      | DFMC0890ZA     | SHIELD SHEET B                        | NRP | 1 |
| K9                      | DFHR3J68ZA     | ADHESIVE TAPE-B                       | NRP | 2 |
| K10                     | DFHR3J67ZA     | ADHESIVE TAPE-A                       | NRP | 1 |
| K11                     | △ DFKF0281YA-0 | LCD REAR COVER                        |     | 1 |
| K12                     | DFBH1184ZB     | HINGE L                               |     | 1 |
| K13                     | DFBH1185ZB     | HINGE R                               |     | 1 |
| K14                     | DFHR3J72ZA     | LCD DAMPER E                          | NRP | 2 |
| K15                     | △ DFKE0900ZA-0 | LCD LATCH                             |     | 1 |
| K16                     | DFUN0086ZA     | LCD_LATCH_SPRING                      |     | 1 |
| K17                     | DFDF5026ZA     | LCD LATCH SHAFT                       |     | 1 |
| K18                     | DFMD7B37ZA     | LATCH HOLD PLATE                      |     | 1 |
| K19                     | DFHE1068ZB     | CONDUCTIVE TAPE-20X20                 | NRP | 2 |
| K20                     | DFMX1282ZC     | INVERTER CASE                         | NRP | 1 |
| K21                     | DFQT6077YAT    | CAUTION LABEL(INVERTER)               | NRP | 1 |
| K22                     | DFHE1067ZA     | CONDUCTIVE TAPE-10X30                 | NRP | 1 |
| K23                     | DFHR6358ZA     | TUBE                                  |     | 1 |
| K24                     | △ DFKM0535ZE-0 | LCD FRONT                             |     | 1 |
| K25                     | DFHE0893ZA     | LID MAGNET                            | NRP | 1 |
| K26                     | DFGB0131YA-0   | PANASONIC BADGE                       | NRP | 1 |
| K27                     | DFGX0482ZC-0   | ANTENNA COVER                         |     | 1 |
| K28                     | DFHG2009ZA-0   | LCD RUBBER                            | NRP | 2 |
| K29                     | DFGX0283ZA-1   | LCD SCREW SHEET                       | NRP | 5 |
| K30                     | △ DFKA0062ZC-0 | TOP CASE                              |     | 1 |
| K31                     | DFHR3G01ZA     | KB WATER PROOF B                      | NRP | 1 |
| K32                     | DFHR3G79ZB     | WATER PROOF SC                        | NRP | 1 |
| K33                     | DFHR3G80ZB     | WATER PROOF BT                        | NRP | 1 |
| K34                     | DFHR3H76ZA     | PAD WP SHEET                          | NRP | 1 |
| K35                     | DFBC0324ZA-0   | CLICK BUTTON L                        |     | 1 |
| K36                     | DFBC0325ZA-0   | CLICK BUTTON R                        |     | 1 |
| K37                     | DFHR3H74ZA     | PAD BUTTON WP SHEET                   |     | 2 |
| K38                     | DFMC0797ZA     | EARTH PLATE                           |     | 1 |
| K39                     | DFHR6327ZA     | PAD HLDER                             |     | 1 |
| K40                     | DFMD7B36ZA     | TOP RELAY PLATE                       |     | 1 |
| K41                     | DFHR3H38ZA     | KBD WATER PROOF SHEET A               | NRP | 3 |
| K42                     | DFMC0613ZAT    | CONDUCTIVE TAPE-10X39                 | NRP | 1 |
| K43                     | DFHR3H50ZA     | FIN DUCT B                            | NRP | 1 |
| K44                     | DFHR6324ZA     | SD LED LENZ                           |     | 1 |
| K45                     | DFMC0852ZA     | SD EARTH PLATE                        |     | 1 |
| K46                     | DFHR3J91ZA     | CUSHION-E                             | NRP | 1 |
| K47                     | DFHR3J90ZA     | CUSHION-D                             | NRP | 2 |
| K48                     | △ DFKM0534ZC-0 | BOTOTM CASE                           |     | 1 |
| K49                     | DFHG2035ZA-0   | FOOT RUBBER                           | NRP | 2 |
| K50                     | DFHG1976ZB-0   | LEG                                   |     | 2 |
| K51                     | DRHM0130ZAT    | SCREW (CANCELLED 2007/7/12 BY KAWADA) |     | 2 |
| K52                     | DFBD0178ZA-0   | LOCK KNOB(HDD)                        |     | 1 |
| K53                     | DFBD0196ZA-0   | BATTERY LATCH KNOB                    |     | 1 |
| K54                     | DFHR6331ZC     | FIN COVER                             |     | 1 |
| K55                     | DFHR3H19ZB     | WL SHEET                              | NRP | 1 |
| K56                     | DFHR3H20ZC     | LED SHEET                             | NRP | 1 |
| K57                     | DFUQ0105ZA     | LOCK SPRING HDD                       |     | 1 |
| K58                     | DFMD7B45ZA     | HDD LOCK COVER PLATE                  |     | 1 |
| K59                     | DFUD0043ZB     | BATTERY LATCH SPRING                  |     | 1 |
| K60                     | DFHG2033ZA     | SPACER CUSHION                        |     | 1 |
| K61                     | DFHE1064ZA     | GASKET-3X3X10                         | NRP | 1 |

|       |                |                             |     |   |
|-------|----------------|-----------------------------|-----|---|
| K62   | DFHR3G78ZA     | FIN DUCT                    | NRP | 1 |
| K63   | DFMC0895ZA     | EARTH PLATE PORTRE          |     | 1 |
| K64   | DFHE1061ZA     | GASKET-6-6-20               | NRP | 1 |
| K65   | DFHR3G83ZA     | BOTTOM WP CUSHION           | NRP | 1 |
| K66   | DFUN0056ZA     | PORT RE COVER SPRING        |     | 2 |
| K67   | △ DFKE0555YA-0 | PORTRE COVER                |     | 2 |
| K68   | DFME0138ZA     | SHUTTER HOLD PLATE          |     | 1 |
| K69   | DFMX1294ZB     | INSULATION SHEET POTORE     | NRP | 1 |
| K70   | DFMC0804ZB     | EARTH PLATE PORTRE L        |     | 1 |
| K71   | DFMD9098ZC     | KENGSTONG PLATE ASS'Y       |     | 1 |
| K72   | DFHR3J14ZA     | PORTRE SHEET                | NRP | 1 |
| K73   | DFHR3J88ZA     | CUSHION-B                   | NRP | 3 |
| K74   | DFMY0258YA     | CPU THERMAL SHEET 2         |     | 2 |
| K75   | DFMX1317ZA     | INSULATION SHEET VGA        | NRP | 1 |
| K76   | DFMY0467ZA     | VGA THERMAL RUBBER          |     | 1 |
| K77   | DFHR3F89ZA     | MCH SHEET                   | NRP | 1 |
| K78   | DFMY0466ZA     | MCH THERMAL RUBBER          |     | 1 |
| K79   | DFHR9122ZA     | HDD GUIDE ASS'Y             |     | 1 |
| K80   | DFHR3K04ZA     | SPACER                      | NRP | 1 |
| K81   | △ CR2032/S5Z   | BATTERY                     |     | 1 |
| K82   | DFHD04H006ZA   | HEX SPACER 46               |     | 2 |
| K83   | DFMY0468ZA     | LAN THERMAL RUBBER          |     | 2 |
| K84   | DFMY3248ZA     | VRAM THERMAL SHEET          | NRP | 1 |
| K85   | DFMX1316ZA     | INSULATION SHEET HDD HOLDER | NRP | 1 |
| K86   | DFHR3E46ZA     | PROTECTION SHEET            | NRP | 1 |
| K87   | DFHR3E47ZB     | PROTECTION SHEET            | NRP | 1 |
| K88   | DFHR3H85ZA     | PWB SPACER                  | NRP | 4 |
| K89   | DFHR6289ZA     | BAT CON HOLDER              |     | 1 |
| K90   | DFMD7B27ZA     | BATT FPC PLATE              |     | 1 |
| K91   | DFMX1308ZC     | INSULATION SHEET FPC        | NRP | 1 |
| K92   | △ DFKE9094ZA-0 | HANDLE ASS'Y                |     | 1 |
| K92-1 | △ DFKE0829ZA-0 | GRIP LOWER                  |     | 1 |
| K92-2 | DFHR6223ZA     | HANDLE RING                 |     | 4 |
| K92-3 | △ DFKE0899ZA-0 | HANDLE JOINT                |     | 2 |
| K92-4 | △ DFKE0828ZA-0 | GRIP UPPER                  |     | 1 |
| K92-5 | DRSB3+8FKLT    | SCREW                       |     | 2 |
| K92-6 | △ DFKE0904ZA-0 | HANDLE BASE L               |     | 1 |
| K92-7 | △ DFKE0905ZA-0 | HANDLE BASE R               |     | 1 |
| K92-8 | DFHR6330ZA     | HANDLE POM                  |     | 2 |
| K92-9 | DFHR3J00ZA     | HANDLE SPACER               | NRP | 2 |
| K93   | DFMY9035ZA     | FAN CASE ASS'Y              |     | 1 |
| K93-1 | DFMY3244ZA     | FAN CASE                    |     | 1 |
| K93-2 | DFMY3245ZA     | FAN CASE PLATE              |     | 1 |
| K93-3 | DXSB2+4FNLT    | SCREW                       |     | 3 |
| K93-4 | UDQF2ZH37      | FAN                         |     | 1 |
| K93-5 | DFHE5122YA     | SCREW                       |     | 3 |
| K94   | DFHE1067ZA     | CONDUCTIVE TAPE-10X30       | NRP | 1 |
| K95   | DFHE0128YAT    | GASKET-65TSV10-5-10         | NRP | 1 |
| K96   | DFME0157ZC     | HINGE SUPPORT R             |     | 1 |
| K97   | DFHE1054ZB     | GASKET-65TSV6-6-12          | NRP | 1 |
| K98   | DFHG1978ZA     | SPEAKER RUBBER              |     | 2 |
| K99   | DFHR6319ZB     | SPEAKER HOLDER              |     | 1 |
| K100  | DFKW0001ZB     | DC JACK COVER               |     | 1 |
| K101  | DFHR3J79ZA     | BT SHEET                    | NRP | 1 |
| K102  | DFHR3K05ZA     | SPACER                      | NRP | 1 |
| K103  | DFME0156ZD     | HINGE SUPPROT L             |     | 1 |
| K104  | DFHR3J83ZA     | MP HOLD SHEET-2             | NRP | 2 |
| K105  | DFHR3J66ZB     | MP SPACER                   | NRP | 2 |
| K106  | DFHR3J92ZA     | SHEET-2                     | NRP | 1 |
| K107  | DFMD7B29ZC     | HDD HOLD PLATE              |     | 1 |
| K108  | DFHR3H88ZA     | HDD SHEET B                 | NRP | 1 |
| K109  | DFHR3J69ZA     | HDD PROTECT SHEET           | NRP | 1 |
| K110  | DFMD7B28ZB-0   | DIMM COVER                  |     | 1 |
| K111  | DFMX1288ZB     | INSULATION SHEET DIMM       | NRP | 1 |
| K112  | DFMD7B32ZB-0   | ROBSON COVER                |     | 1 |
| K113  | DFHE1053ZA     | GASKET-65TSV3-3-20          | NRP | 1 |

|      |              |                                       |     |   |
|------|--------------|---------------------------------------|-----|---|
| K114 | DFHG2034ZB-0 | FOOT RUBBER                           | NRP | 1 |
| K115 | DFHE1089ZA   | GASKET-3-3-65                         | NRP | 1 |
| K116 | DFHE1088ZA   | GASKET-65TSV2.5-1.5-20                | NRP | 1 |
| K117 | DFHR6342ZB   | MODELAN HOLDER-1                      |     | 1 |
| K118 | DFMX1311ZA   | INSULATION SHEET LAN                  | NRP | 1 |
| K119 | DFHR6343ZB   | MODELAN HOLDER-2                      |     | 1 |
| K120 | DFHM0430ZA   | KBD LID PLATE                         |     | 1 |
| K121 | DFHR3G76ZB   | KBD LID SHEET                         | NRP | 1 |
| K122 | DFHR6344ZB   | SC EJECTER DUMMY                      |     | 1 |
| K123 | DFMD7B33ZC   | SMART CARD HOLDER                     |     | 1 |
| K124 | DXHM0040ZA   | SCREW                                 |     | 2 |
| K125 | DFGX0487ZD-0 | COVER DUMMY                           |     | 1 |
| K126 | DFMC0884ZA   | EARTH PLATE MP                        |     | 1 |
| K127 | DFHD14H001ZA | HEX SPACER (13.6)                     |     | 1 |
| K128 | DFHG6034ZB   | MP GUIDE                              |     | 1 |
| K129 | DFMD7B57ZA   | MODEM PLATE                           |     | 1 |
| K130 | DFMX1297ZA   | INSULATION SHEET SIM                  | NRP | 1 |
| K131 | DFMD7B31ZB   | MP HOLD PLATE                         |     | 1 |
| K132 | DFHR3J84ZA   | MP CUSHION                            | NRP | 1 |
| K133 | DFHR3H87ZA   | HDD SHEET A                           | NRP | 1 |
| K134 | DFHR6318ZA   | FAN DUCT                              |     | 1 |
| K135 | DFMY5043ZA   | HEAT SINK ASS'Y                       |     | 1 |
| K136 | DFHE0854ZAT  | GASKET-65TSV6-6-10                    | NRP | 1 |
| K137 | DFHE1097ZA   | GASKET-65TSV10-13-15                  | NRP | 1 |
| K138 | DRHM0119ZAT  | SCREW (CANCELLED 2007/7/12 BY KAWADA) |     | 4 |
| K139 | DFUQ0117ZA   | HEAT SINK SPRING                      |     | 4 |
| K140 | DFHE0284YAT  | GASKET-10-4-10                        | NRP | 2 |
| K141 | DFHM0426ZA   | KBD EARTH PLATE                       |     | 1 |
| K142 | DFHE1062ZA   | GASKET-10X1X10                        | NRP | 2 |
| K143 | DFHE1063ZA   | GASKET-10X5X15                        | NRP | 1 |
| K144 | DFMX1309ZB   | INSULATION SHEET FPC2                 | NRP | 1 |
| K145 | DFHE1076ZA   | CONDUCTIVE TAPE-30X80                 | NRP | 1 |
| K146 | DFHE1078ZA   | CONDUCTIVE TAPE HDD                   | NRP | 1 |
| K147 | DFHR6328ZA-0 | WL BUTTON                             |     | 1 |
| K148 | DFMX1139ZA   | PROTECTION SHEET                      | NRP | 1 |
| K149 | DFGM0011ZA   | BOTTOM MESH PLATE                     |     | 1 |
| K150 | DFHE1057ZB   | CONDUCTIVE TAPE-7X35                  | NRP | 1 |
| K151 | DFHR3H62ZA   | TOP WATERPROOF SHEET                  | NRP | 1 |
| K152 | DFHR6357ZB   | SPEAKER HOLDER L                      |     | 1 |
| K153 | DFMX1298ZA   | INSULATION SHEET SPEAKER              | NRP | 2 |
| K154 | DFHE1096ZA   | CONDUCTIVE TAPE-MODEM                 | NRP | 1 |
| K155 | DFMX1333ZA   | INSULATION SHEET                      | NRP | 1 |
| K156 | DFHR3J70ZB   | CABLE SHEET-A                         |     | 1 |
| K157 | DFMC0766YBT  | GASKET-6-8-8                          | NRP | 2 |
| K158 | DFHE1072ZA   | CONDUCTIVE TAPE-9X60                  | NRP | 2 |
| K159 | DFGX0484ZD-0 | COVER BT                              |     | 1 |
| K160 | DFGX0283ZA-1 | LCD SCREW SHEET                       | NRP | 3 |
| K161 | DFMD7B60ZA   | SIM COVER PLATE                       |     | 1 |
| K162 | DFGX0483ZC-0 | COVER BATTERY                         |     | 1 |
| K163 | DFHE1077ZA   | GASKET 6-6-6                          | NRP | 1 |
| K164 | DFMX1334ZA   | DIMM SHEET                            | NRP | 1 |
| K165 | DFHR6340ZA-0 | DUMMY PC CARD                         |     | 1 |
| K166 | DFHR6339ZA-0 | DUMMY EXPRESS CARD                    |     | 1 |
| K167 | DFGX0486ZC-0 | COVER IO-L                            |     | 1 |
| K168 | DFGX0497ZC-0 | COVER IO-R                            |     | 1 |
| K169 | DFGX0488ZC-0 | COVER PC CARD                         |     | 1 |
| K170 | DFHM0424ZB-0 | IO COVER PLATE                        |     | 2 |
| K171 | DFHM0427ZC-0 | PC COVER PLATE                        |     | 1 |
| K172 | DRYN4+J12KLT | SCREW (CANCELLED 2007/7/12 BY KAWADA) |     | 2 |
| K173 | DFHR3H45ZA   | HANDLE SHEET                          |     | 2 |
| K174 | DFQT0048ZA   | CENTRINO CORE2DUO LABEL               | NRP | 1 |
| K175 | DFQT9974ZA   | WINDOWS XP LABEL(NOTE)                | NRP | 1 |
| K176 | DFQT0045ZA   | ENERGY STAR LABEL                     | NRP | 1 |
| K201 | △ DFGT1228ZA | INFORMATION LABEL(US)                 |     | 1 |
| K202 | DFQT0055ZA   | COA SERIAL LAMINATE                   |     | 1 |
| K211 | DFBC0323ZA-0 | POWER SW BUTTON                       |     | 1 |

|                  |  |                       |    |
|------------------|--|-----------------------|----|
| K212             | DFGE0132ZB-0   | CENTER COVER NET      | 2  |
| K213             | DFGX0493ZA-0   | TILT PANEL            | 1  |
| K214             | DFHR3H21ZA   | TILT PANEL SHEET      | 1  |
| K215             | DFHR3H77ZC   | TILT PANEL WP SHEET   | 1  |
| K216             | DFHR3H78ZB   | TILT PANEL WP SHEET B | 1  |
| K217             | DFHR3H79ZB   | TILT PANEL WP SHEET C | 1  |
| K218             | DFHR3H99ZC   | KBD TAPE              | 3  |
| K221             | DFWV99A0120  | HDD MOUNTING KIT      | 1  |
| K221-1           | DFGX0492ZC-0   | HDD CASE              | 1  |
| K221-3           | DFHM0431ZA   | HDD CASE UPPER        | 1  |
| K221-4           | DFHR3F99YA   | HDD DAMPER            | 1  |
| K221-5           | DFHR6203ZA   | HOLDER HDD CN         | 1  |
| K221-6           | DFMX1305ZA   | INSULATION SHEET HDD  | 1  |
| K221-7           | DFMX1330ZA   | INSULATION SHEET      | 1  |
| K221-8           | DFWP0148ZA   | HDD FPC ASSY          | 1  |
| N1               | DFHE5035ZB   | SCREW                 | 4  |
| N2               | DFHE5122YA   | SCREW                 | 40 |
| N3               | DRHM0065ZA   | SCREW                 | 1  |
| N4               | DRHM0093ZA   | SCREW                 | 38 |
| N5               | DRHM0112ZA   | SCREW                 | 2  |
| N6               | DRHM0115ZA   | SCREW                 | 2  |
| N7               | DRHM5025YAT  | SCREW                 | 10 |
| N8               | DRHM5054XAT  | SCREW                 | 5  |
| N9               | DRHM5104ZAT  | SCREW                 | 5  |
| N10              | DRSB2+3FKLT  | SCREW                 | 1  |
| N11              | DXQT2+F3FNLT   | SCREW                 | 3  |
| N12              | DXSB2+4FNLT  | SCREW                 | 10 |
| N13              | DXYN2+F12FNLT  | SCREW                 | 4  |
| N14              | XTB26+10GJKT   | SCREW                 | 10 |
| N15              | XQN17+BJ6FJ  | SCREW                 | 2  |
| N16              | DRQT2+E8FKLT   | SCREW                 | 2  |
| N202             | DRSB2+4FKLT  | SCREW                 | 5  |
| <b>DVD Drive</b> |  |                       |    |
| DM1              |  DFWV78A0267  | DVD MULTI DRIVE       | 1  |
| DM1-1            | DFHR9131ZA   | BEZEL ASSY            | 1  |
| DM2              |  DFKE0709YA-0 | MP BOTTOM             | 1  |
| DM3              |  DFKE0710ZA-0 | MP CABINET TOP        | 1  |
| DM4              | DFHR6085ZA-0   | MP LATCH              | 1  |
| DM5              | DFWP0142YA   | MP FPC                | 1  |
| DM6              | DRHM5067YA   | SCREW                 | 2  |
| DM7              | DRQT2+E8FKLT   | SCREW                 | 2  |

# 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-52AJYZDZM

| REF. NO and AREA   | PART NO.     | DESCRIPTION           | Q'TY |
|--|--------------|-----------------------|------|
| <b>MAIN PCB</b>  |              |                       |      |
| IC 1   | C2GBD0000033 | CPU                   | 1    |
| IC 2   | C1CB00002803 | CHIPSET PM            | 1    |
| IC 4   | C1CB00002746 | CHIPSET               | 1    |
| C 1, 2, 3, 5, 6, 7, 10, 11,<br>12, 14, 15, 16, 18, 19,<br>20, 22, 23, 24, 27, 28,<br>29, 30, 31, 32, 33, 34,<br>35, 36, 37, 38, 39, 40,<br>44, 89, 106, 108, 112,<br>115, 121, 136, 138, 141,<br>143, 170, 172, 174, 176,<br>185, 187, 189, 191, 222,<br>226, 232, 234, 247, 251,<br>300, 302, 306, 308, 314,<br>315, 320, 329, 332, 340,<br>341, 342, 345, 347, 366,<br>370, 414, 425, 433, 449,<br>450, 451, 452, 453, 483,<br>492, 497, 515, 528, 531,<br>613, 614, 650, 652, 654,<br>656, 658, 660, 662, 664,<br>729, 730, 731, 1027,<br>1028, 1046, 1087, 1096,<br>1139   | F1J0J106A016 | CAPACITOR, 6.3V, 10µF | 106  |
| C 4, 91, 123, 134, 153,<br>233, 242  | EEFCX0D221R  | CAPACITOR, 2V, 220µF  | 7    |
| C 8, 9, 13, 17, 21, 25, 46,<br>47, 48, 49, 50, 88, 90, 95,<br>98, 102, 109, 122, 124,<br>131, 147, 151, 154, 155,<br>156, 164, 165, 166, 167,<br>171, 173, 175, 177, 180,<br>181, 182, 183, 186, 188,<br>190, 192, 218, 219, 221,<br>223, 225, 229, 235, 237,<br>238, 239, 240, 241, 243,<br>244, 245, 248, 249, 259,<br>295, 296, 297, 298, 299,<br>313, 337, 343, 348, 361,<br>362, 364, 369, 372, 374,<br>375, 376, 377, 378, 395,<br>398, 402, 403, 404, 405,<br>406, 407, 408, 409, 410,<br>411, 412, 413, 424, 426,<br>438, 440, 441, 442, 460,<br>461, 462, 463, 464, 474,<br>480, 481, 489, 490, 491,<br>495, 500, 509, 516, 517,<br>518, 519, 520, 521, 522,<br>553, 554, 555, 557, 559,<br>567, 568, 569, 580, 581,<br>582, 584, 601, 602, 603,<br>606, 607, 608, 609, 615,<br>624, 625, 626, 627, 628,<br>629, 630, 631, 642, 643,<br>644, 645, 646, 647, 648,<br>649, 651, 653, 655, 657,<br>659, 661, 663, 665, 725,<br>726, 727, 1098, 1156,<br>1157, 1158, 1172, 1220 | F1G1C104A042 | CAPACITOR, 16V, 0.1µF | 172  |

|   |  |              |                               |    |
|---|--|--------------|-------------------------------|----|
| C 41, 107, 110, 194, 195, 236, 312, 328, 334, 336, 339, 400, 416, 471, 473, 486, 487, 499, 546, 547, 560, 583   |  | F1J0J4750019 | CAPACITOR, 6.3V, 4.7 $\mu$ F  | 22 |
| C 45, 421, 422, 423, 439, 488, 558, 588, 598, 600, 612, 732, 1041, 1043, 1048, 1082, 1085, 1089, 1134, 1141, 1216, 1219   |  | F1G1H102A496 | CAPACITOR, 50V, 1000pF        | 22 |
| C 51, 52, 105, 132, 133, 162, 169, 178, 193, 200, 201, 202, 203, 224, 228, 246, 322, 323, 351, 355, 371, 373, 527, 618, 619, 620, 621, 636, 637, 638, 639, 672, 674, 675, 677   |  | F1H0J1050022 | CAPACITOR, 6.3V, 1 $\mu$ F    | 35 |
| C 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 210, 211, 212, 213, 214, 215, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 458, 459, 470, 472, 475, 545, 564, 565, 566 |  | F1G1A104A014 | CAPACITOR, 10V, 0.1 $\mu$ F   | 79 |
| C 85, 86, 87, 94, 126, 135  |  | F1G0J474A001 | CAPACITOR, 6.3V, 0.47 $\mu$ F | 6  |
| C 92, 93, 142, 146, 149, 152, 157, 158  |  | F1G0J224A001 | CAPACITOR, 6.3V, 0.22 $\mu$ F | 8  |
| C 96, 97, 111, 117, 118, 129, 137, 139, 217, 220, 227, 230, 231, 257, 261, 294, 301, 303, 304, 305, 307, 309, 310, 311, 316, 317, 318, 319, 321, 324, 325, 326, 327, 330, 331, 333, 335, 344, 352, 353, 354, 358, 359, 360, 363, 365, 367, 368, 454, 455, 456, 469, 498, 678, 679, 1007, 1015, 1016, 1093, 1161   |  | F1G0J105A001 | CAPACITOR, 6.3V, 1 $\mu$ F    | 60 |
| C 113   |  | DOGAR00J0005 | RESISTOR, 1/16W, 0 $\Omega$   | 1  |
| C 119, 120, 127, 128, 130, 150, 159, 250, 357, 533  |  | F1J0J226A051 | CAPACITOR, 6.3V, 22 $\mu$ F   | 10 |
| C 196, 197, 198, 199, 216, 252, 253, 254, 255, 260, 417, 418, 419, 431, 432, 457, 466, 467, 476, 549, 550, 594, 610, 733, 734, 1025, 1026, 1090, 1150, 1151, 1154, 1155, 1165, 1167, 1206, 1207, 1209, 1215, 1218   |  | F1G1E103A062 | CAPACITOR, 25V, 0.01 $\mu$ F  | 39 |
| C 204, 205, 393, 401, 1138  |  | F1G1H220A542 | CAPACITOR, 50V, 22pF          | 5  |
| C 256, 258  |  | F1G1H150A542 | CAPACITOR, 50V, 15pF          | 2  |
| C 338, 551, 552, 1086   |  | F1G1H470A542 | CAPACITOR, 50V, 47pF          | 4  |
| C 356, 505, 506, 507, 510, 511, 512, 525, 526, 1014   |  | F1G1H222A496 | CAPACITOR, 50V, 2200pF        | 10 |
| C 397, 445, 446, 447, 448, 622, 623, 640, 641, 1008, 1044, 1084   |  | F1G1H471A496 | CAPACITOR, 50V, 470pF         | 12 |
| C 399, 427, 428, 429, 430, 482, 504, 575, 576, 1136   |  | F1G1H221A496 | CAPACITOR, 50V, 220pF         | 10 |
| C 415   |  | F1J1E334A081 | CAPACITOR, 25V, 0.33 $\mu$ F  | 1  |

|  |              |                          |    |
|--|--------------|--------------------------|----|
| C 420, 1005  | F1G1H271A495 | CAPACITOR, 50V, 270pF    | 2  |
| C 434, 435, 436, 437, 496, 503, 523, 524, 529, 530, 592, 616, 617, 632, 633, 634, 635, 1102, 1177                                    | F1H1A1050015 | CAPACITOR, 10V, 1µF      | 19 |
| C 443, 444, 1132   | F1G1H330A542 | CAPACITOR, 50V, 33pF     | 3  |
| C 465  | F1L3D102A003 | CAPACITOR, 2000V, 1000pF | 1  |
| C 468, 1045, 1083  | F1G1H100A544 | CAPACITOR, 50V, 10pF     | 3  |
| C 477, 478, 479, 494   | F1J2A103A018 | CAPACITOR, 100V, 0.01µF  | 4  |
| C 501, 502, 570, 571   | EEFUD0J151ER | CAPACITOR, 6.3V, 150µF   | 4  |
| C 508, 532, 1103, 1125, 1126, 1127   | EEFCX0J101R  | CAPACITOR, 6.3V, 100µF   | 6  |
| C 596  | F1G0J683A001 | CAPACITOR, 6.3V, 0.068µF | 1  |
| C 1000, 1006, 1009, 1011, 1012   | F1H1H1830001 | CAPACITOR, 50V, 0.018µF  | 5  |
| C 1002, 1042, 1143   | F1G1H1010005 | CAPACITOR, 50V, 100pF    | 3  |
| C 1003   | F1H1H562A748 | CAPACITOR, 50V, 5600pF   | 1  |
| C 1004   | F1G1H121A495 | CAPACITOR, 50V, 120pF    | 1  |
| C 1010   | F1G1H181A495 | CAPACITOR, 50V, 180pF    | 1  |
| C 1013   | F1G1H390A542 | CAPACITOR, 50V, 39pF     | 1  |
| C 1017, 1018, 1038, 1079, 1130, 1140   | F1H1C224A074 | CAPACITOR, 16V, 0.22µF   | 6  |
| C 1019, 1020, 1022, 1023, 1036, 1051, 1076, 1077, 1094, 1095, 1129, 1144, 1180, 1184, 1185, 1188, 1189, 1190, 1191, 1192, 1193, 1194 | F1K1E1060001 | CAPACITOR, 25V, 10µF     | 22 |
| C 1029, 1031, 1032, 1034, 1035, 1099, 1100, 1196, 1204   | EEFSX0D331ER | CAPACITOR, 2V, 330µF     | 9  |
| C 1039, 1049, 1091   | F1H1H182A748 | CAPACITOR, 50V, 1800pF   | 3  |
| C 1040, 1047, 1080, 1081, 1088, 1131, 1133, 1142, 1159, 1162, 1163, 1174, 1176, 1178, 1179, 1198                                     | F1H1H104A748 | CAPACITOR, 50V, 0.1µF    | 16 |
| C 1052, 1075   | EEFUD0D271ER | CAPACITOR, 2V, 270µF     | 2  |
| C 1097   | EEFCD0D101ER | CAPACITOR, 2V, 100µF     | 1  |
| C 1137   | F1G1H331A496 | CAPACITOR, 50V, 330pF    | 1  |
| C 1145   | EEFCX0G151R  | CAPACITOR, 2V, 150µF     | 1  |
| C 1147, 1149   | F1G1C473A004 | CAPACITOR, 16V, 0.047µF  | 2  |
| C 1166   | F1L1E106A017 | CAPACITOR, 25V, 10µF     | 1  |
| C 1168   | F1J1E105A009 | CAPACITOR, 25V, 1µF      | 1  |
| C 1175   | F1G1H152A496 | CAPACITOR, 50V, 1500pF   | 1  |
| C 1181, 1182, 1183   | DCUI1C106HDB | CAPACITOR, 16V, 10µF     | 3  |
| CF 1, 2, 3   | D4CC1103A038 | THERMISTOR               | 3  |
| CN 2   | K1MML0B00005 | CONNECTOR                | 1  |
| CN 3   | K1MML0B00006 | CONNECTOR                | 1  |
| CN 4   | K1KA02AA0329 | CONNECTOR                | 1  |
| CN 5, 3000   | K1KA30AA0184 | CONNECTOR                | 2  |
| CN 7   | K1KA10AA0033 | CONNECTOR                | 1  |
| CN 9   | K2HZ104B0014 | CONNECTOR                | 1  |
| CN 10  | K1NAF0D00003 | CONNECTOR                | 1  |
| CN 13  | K1MY52B00003 | CONNECTOR                | 1  |
| CN 14  | K1KB30B00021 | CONNECTOR                | 1  |
| CN 15, 16, 29, 30  | K1FY104BA024 | CONNECTOR, USB           | 4  |
| CN 18  | K1KA03AA0329 | CONNECTOR                | 1  |
| CN 19, 27  | K1KA40AA0330 | CONNECTOR                | 2  |
| CN 21  | K1KY42B00001 | CONNECTOR                | 1  |
| CN 22  | K1MY45AA0040 | CONNECTOR                | 1  |
| CN 23, 25  | K1MY10AA0040 | CONNECTOR                | 2  |
| CN 28  | K1FB115BA014 | CONNECTOR                | 1  |
| CN 31  | K1KAA0AA0244 | CONNECTOR                | 1  |
| CN 33  | K1KA62B00003 | CONNECTOR                | 1  |
| CN 34  | K1MY14AA0040 | CONNECTOR                | 1  |
| CN 35  | K1KA07AA0329 | CONNECTOR                | 1  |
| CN 36  | K1KA08AA0266 | CONNECTOR                | 1  |

|   |   |              |                          |    |
|---|---|--------------|--------------------------|----|
| CN 1000   |   | K1KB40AA0217 | CONNECTOR                | 1  |
| D 2, 3, 10, 17, 18                                    |   | MA2J72900L   | DIODE                    | 5  |
| D 4, 7, 29, 1033, 1039,                               |   | MA3J741E0L   | DIODE                    | 6  |
| D 8, 9, 22, 23, 30, 31, 33,                           |   | B0KB00000044 | DIODE                    | 8  |
| D 19, 20, 21, 25, 26, 27,<br>28, 1030, 1031, 1032     |   | B0ADDH000004 | DIODE                    | 10 |
| D 24, 1027, 1029, 1042                                |   | MA2S111-TX   | DIODE                    | 4  |
| D 1002, 1003, 1004, 1010                              |   | B0JCPD000023 | DIODE                    | 4  |
| D 1005, 1009, 1015                                    |   | B0JDAE000004 | DIODE                    | 3  |
| D 1006, 1008, 1014, 1016,<br>1038                     |   | B0JCMD000014 | DIODE                    | 5  |
| D 1019, 1020, 1021, 1022,<br>1023, 1024, 1026         |   | MAZ80620ML   | DIODE                    | 7  |
| D 1028  |   | B2ABAM000002 | DIODE                    | 1  |
| D 1034, 1037  |   | B0JDSD000020 | DIODE                    | 2  |
| D 1035  |   | MAZ81200ML   | DIODE                    | 1  |
| D 1036  |   | MAZ81800ML   | DIODE                    | 1  |
| F 2, 7, 8, 9, 10, 11                                  | △ | K5H202Z00005 | FUSE, 2A, 32V            | 6  |
| F 5   | △ | K5H402Z00003 | FUSE, 4A, 32V            | 1  |
| F 1000  | △ | K5H153A00001 | FUSE, 15A, 65V           | 1  |
| F 1001, 1002  | △ | K5H123Y00001 | FUSE, 12A, 65V           | 2  |
| FL 4, 5, 6, 7, 8, 9, 10, 11,<br>12, 13                |   | J0HAAC000061 | EMI FILTER               | 10 |
| IC 3  |   | C0JBBZ000319 | PLL                      | 1  |
| IC 5  |   | C0DBZYY00271 | IC                       | 1  |
| IC 7  |   | C0CBCBC00137 | IC, REGULATOR            | 1  |
| IC 12   |   | C1CB00002734 | TEMPERATURE SENSOR       | 1  |
| IC 15   |   | C0JBZZ000327 | IC, THERMAL SENSOR       | 1  |
| IC 17   |   | C3EBDC000073 | IC, EEPROM               | 1  |
| IC 18   |   | DA2205IDBLET | IC, LOGIC                | 1  |
| IC 19, 66   |   | C0JBAZ002422 | IC, FET SWITCH           | 2  |
| IC 23   |   | C2CBA000003  | IC, MICON                | 1  |
| IC 25, 32   |   | C0DBZYY00026 | IC, USB POWER SW         | 2  |
| IC 26   |   | C1DB00001379 | IC, SUPER I/O            | 1  |
| IC 27   |   | C1CB00002790 | IC, SECURITY CHIP        | 1  |
| IC 28   |   | C0ZBZ0000679 | IC, RS232C TRANSCEIVER   | 1  |
| IC 31, 33, 65   |   | C0JBAR000500 | IC, SWITCH               | 3  |
| IC 34, 36, 1019, 1020                                 |   | C0EBE0000459 | IC                       | 4  |
| IC 38, 39   |   | C0JBAZ002346 | IC, LOGIC                | 2  |
| IC 41   |   | C0JBAZ002192 | IC                       | 1  |
| IC 42, 49, 51, 53, 83, 84,<br>89, 90, 92, 1011, 1021, |   | C0JBAA000362 | IC, LOGIC                | 12 |
| IC 44   |   | C1CB00002748 | IC, VGA                  | 1  |
| IC 45   |   | C1CB00002328 | IC, CARD BUS CONTROLLER  | 1  |
| IC 47   |   | C0JBAB000624 | IC                       | 1  |
| IC 52   |   | C0JBAA000254 | GATE LOGIC               | 1  |
| IC 74   |   | C0DBZYY00265 | POWER MANAGEMENT SWTICH  | 1  |
| IC 75, 76, 77, 78, 79, 80,<br>81, 82                  |   | C3ABSG000046 | MEMORY                   | 8  |
| IC 85   |   | C0JBAE000321 | IC, LOGIC                | 1  |
| IC 86   |   | C1CB00002752 | LAN CONTROLLER           | 1  |
| IC 87   |   | C0JBAZ002420 | IC, LAN SW               | 1  |
| IC 88   |   | C0BBAA000034 | CMOS COMPARATOR          | 1  |
| IC 91   |   | C0DBZYY00017 | IC                       | 1  |
| IC 1000, 1001, 1003                                   |   | C0DBALH00003 | IC                       | 3  |
| IC 1004   |   | C0DBAYY00281 | DC/DC CONTROLLER FOR CPU | 1  |
| IC 1006   |   | C0DBEFH00002 | IC, REGULATOR            | 1  |
| IC 1007   |   | C0DBEZG00024 | IC                       | 1  |
| IC 1008   |   | C0EBE0000333 | IC                       | 1  |
| IC 1009   |   | C0ABZA000047 | IC, AMP                  | 1  |
| IC 1010   |   | C0DBDJH00009 | IC, LINER                | 1  |
| IC 1012, 1018   |   | C0JBAD000195 | IC                       | 2  |
| IC 1013   |   | C0JBAZ002195 | IC                       | 1  |
| IC 1014   |   | C0ABBA000093 | IC, OP AMP               | 1  |
| IC 1022   |   | C0EBA0000034 | IC                       | 1  |



|  |   |              |                              |    |
|--|---|--------------|------------------------------|----|
| JK 1000  | △ | K2EYB000001  | JACK                         | 1  |
| JK 8101, 8102  |   | K1QZA1AE0001 | CONNECTOR                    | 2  |
| L 1  |   | G1C91NM00001 | INDUCTOR                     | 1  |
| L 4  |   | G1C1R0Z00002 | INDUCTOR                     | 1  |
| L 5, 7, 8, 12, 17, 67, 68  |   | J0JJC0000021 | INDUCTOR                     | 7  |
| L 10, 13   |   | G1C1R0MA0076 | INDUCTOR                     | 2  |
| L 11   |   | DDAZR100KTD  | INDUCTOR                     | 1  |
| L 16, 64   |   | J0JGC0000038 | CHIP BEADS                   | 2  |
| L 20, 25, 26, 43, 44   |   | J0JDC0000105 | CHIP BEADS                   | 5  |
| L 22, 33, 34, 47, 48   |   | J0JHC0000074 | INDUCTOR                     | 5  |
| L 24   |   | D0GAR00J0005 | RESISTOR, 1/16W, 0Ω          | 1  |
| L 28   |   | G1BYYYY00009 | INDUCTOR                     | 1  |
| L 31, 32, 41, 42, 76   |   | J0MAB0000200 | INDUCTOR                     | 5  |
| L 58   |   | J0MAB0000116 | INDUCTOR                     | 1  |
| L 61   |   | J0JCC0000317 | INDUCTOR                     | 1  |
| L 66   |   | G1C4R7MA0077 | INDUCTOR                     | 1  |
| L 71, 73, 74, 75   |   | J0ZZB0000080 | INDUCTOR, COMMON MODE FILTER | 4  |
| L 1000, 1001   |   | G1AR56PA0001 | INDUCTOR                     | 2  |
| L 1002, 1006   |   | G1A1R2PA0001 | CHOKE COIL                   | 2  |
| L 1003, 1005   |   | G1C100M00030 | COIL                         | 2  |
| L 1009   |   | G1A4R7PA0001 | CHOKE COIL                   | 1  |
| L 1010   |   | G1C2R8MA0240 | COIL                         | 1  |
| L 1011, 1012   |   | J0JKC0000007 | INDUCTOR                     | 2  |
| L 1013   |   | G1A160HA0032 | COIL                         | 1  |
| PA 4   | △ | D4FB1R100009 | SWITCH                       | 1  |
| Q 1, 2, 42, 77, 79, 1010,<br>1014, 1019, 1022, 1037,<br>1040, 1045, 1092, 1111,<br>1112, 1119  |   | B1CFGD000023 | TRANSISTOR                   | 16 |
| Q 3, 28, 46, 74, 1009,<br>1016, 1025, 1046, 1047,<br>1076, 1077, 1078, 1079,<br>1082, 1087, 1091, 1099,<br>1100, 1101, 1102, 1114,<br>1118   |   | B1GBCFJN0037 | TRANSISTOR                   | 22 |
| Q 4, 16, 17, 18, 19, 20, 21,<br>23, 24, 25, 45, 52, 54,<br>65, 70, 72, 1043, 1044,<br>1075, 1088, 1113, 1117   |   | B1GDCFNN0031 | TRANSISTOR                   | 22 |
| Q 5, 29, 48, 59, 61  |   | B1MBDCA00004 | TRANSISTOR                   | 5  |
| Q 14, 38, 43, 47, 51   |   | B1GFCFNN0019 | TRANSISTOR                   | 5  |
| Q 26   |   | B1DHDC000028 | TRANSISTOR                   | 1  |
| Q 34, 35, 41, 60, 62, 66,<br>1036, 1055, 1060, 1062,<br>1064, 1065, 1066, 1067,<br>1068, 1069, 1070, 1072,<br>1080, 1081, 1083, 1086,<br>1090, 1122, 1123, 1124,<br>1125, 1126, 1127 |   | B1GBCFNN0042 | TRANSISTOR                   | 29 |
| Q 67   |   | 2SB0766ARL   | TRANSISTOR                   | 1  |
| Q 73, 75, 1015, 1021,<br>1051, 1116, 1121  |   | B1MBFDG00001 | FET                          | 7  |
| Q 1001, 1003   |   | B1CFRD000009 | TRANSISTOR                   | 2  |
| Q 1004, 1005, 1006, 1007,<br>1012, 1024, 1038, 1096,<br>1097, 1110   |   | B1CFRD000020 | FET                          | 10 |
| Q 1008, 1054   |   | B1DHDD000031 | TRANSISTOR, FET              | 2  |
| Q 1013, 1023, 1039, 1041,<br>1057, 1058, 1115  |   | B1CFRD000014 | FET                          | 7  |
| Q 1050, 1052, 1084, 1085,<br>1089, 1093  |   | B1CHR0000001 | TRANSISTOR                   | 6  |
| Q 1094   |   | B1MBEDA00008 | TRANSISTOR                   | 1  |
| R 1, 2, 27, 40, 42, 44, 193,<br>266, 267, 534, 579, 591,<br>592, 621   |   | D0GA102JA023 | RESISTOR, 1/16W, 1KΩ         | 14 |
| R 3  |   | D1H85104A024 | RESISTOR ARRAY               | 1  |
| R 7, 32, 74, 80, 82, 1026  |   | D1BA1001A023 | RESISTOR, 1/16W, 1KΩ         | 6  |
| R 8, 33, 303   |   | D1BA2001A023 | RESISTOR, 1/16W, 2KΩ         | 3  |

|  |  |              |                        |    |
|--|--|--------------|------------------------|----|
| R 10, 11, 31, 333, 334, 335, 336, 341, 342, 343, 344   |  | D1BA1000A023 | RESISTOR, 1/16W, 100Ω  | 11 |
| R 14, 16   |  | D1BA27R4A023 | RESISTOR, 1/16W, 27.4Ω | 2  |
| R 15, 17, 36, 37   |  | D1BA54R9A023 | RESISTOR, 1/16W, 54.9Ω | 4  |
| R 19   |  | D0GA680JA023 | RESISTOR, 1/16W, 68Ω   | 1  |
| R 20, 24, 25, 257, 305, 605, 606, 607, 608, 617, 618, 619, 620   |  | D0GA560JA023 | RESISTOR, 1/16W, 56Ω   | 13 |
| R 21, 1027, 1029, 1053, 1101, 1161   |  | D0GB100JA065 | RESISTOR, 1/16W, 10Ω   | 6  |
| R 22, 23, 175, 221, 256, 379, 419, 516, 526, 533, 574, 575, 576, 1192, 1193, 1194, 1195, 1196, 1197, 1200, 1206, 1207  |  | D0GA101JA023 | RESISTOR, 1/16W, 100Ω  | 22 |
| R 26, 35, 99, 156, 212, 252  |  | D1BA24R9A023 | RESISTOR, 1/16W, 24.9Ω | 6  |
| R 29, 350, 1213, 1216, 1219, 1234  |  | D0GA562JA023 | RESISTOR, 1/16W, 5.6KΩ | 6  |
| R 30   |  | D1BA2210A023 | RESISTOR, 1/16W, 221Ω  | 1  |
| R 34, 46, 60, 61, 62, 68, 69, 72, 73, 84, 85, 88, 90, 91, 94, 95, 96, 135, 137, 139, 142, 144, 145, 146, 148, 149, 150, 151, 167, 178, 224, 251, 258, 312, 317, 355, 358, 370, 390, 391, 420, 431, 432, 436, 504, 505, 508, 547, 555, 557, 558, 645, 1001, 1003, 1018, 1054, 1113, 1204, 1225              |  | DOGAR00J0005 | RESISTOR, 1/16W, 0Ω    | 59 |
| R 49, 50, 359, 364, 449, 694, 1038, 1039, 1056, 1121, 1122, 1169, 1208   |  | D1BA1002A022 | RESISTOR, 1/16W, 10KΩ  | 13 |
| R 58, 244, 1080, 1106, 1166  |  | D0GA203JA023 | RESISTOR, 1/16W, 20KΩ  | 5  |
| R 70, 71   |  | D1BA20R0A023 | RESISTOR, 1/16W, 20Ω   | 2  |
| R 75   |  | D1BA3920A023 | RESISTOR, 1/16W, 392Ω  | 1  |
| R 81, 1024, 1246, 1247   |  | D1BA3001A022 | RESISTOR, 1/16W, 3KΩ   | 4  |
| R 97, 98   |  | D0GA222JA023 | RESISTOR, 1/16W, 2.2KΩ | 2  |
| R 138, 143, 147, 233, 234, 239   |  | D0GB1R0JA065 | RESISTOR, 1/16W, 1Ω    | 6  |
| R 140, 165, 246, 459, 520, 695, 696, 697, 1176, 1181, 1183, 1188, 1189, 1285, 1286, 1287, 1288, 1289, 1290   |  | D0GA105JA023 | RESISTOR, 1/16W, 1MΩ   | 19 |
| R 153, 247, 311, 325, 337, 346, 360, 362, 363, 388, 413, 416, 417, 461, 463, 511, 517, 525, 548, 552, 578, 646, 1005, 1047, 1064, 1114, 1175, 1223, 1226, 1229, 1263, 1264, 1293, 1294   |  | D0GA104JA023 | RESISTOR, 1/16W, 100KΩ | 34 |
| R 154, 171, 176, 211, 219, 236, 237, 238, 259, 309, 319, 322, 323, 332, 347, 361, 414, 415, 427, 428, 440, 441, 462, 486, 487, 490, 492, 496, 500, 510, 518, 523, 524, 529, 538, 539, 572, 573, 581, 583, 584, 590, 593, 644, 1008, 1044, 1048, 1052, 1100, 1108, 1160, 1203, 1222, 1230, 1279, 1291, 1292 |  | D0GA103JA023 | RESISTOR, 1/16W, 10KΩ  | 57 |
| R 157, 158, 160, 161, 162, 164   |  | D1HA5608A010 | RESISTOR, 1/16W, 56Ω   | 6  |

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| R 159, 163, 366  | D1H85604A024 | RESISTOR ARRAY          | 3  |
| R 168, 169, 206, 207   | D0GA150JA023 | RESISTOR, 1/16W, 15Ω    | 4  |
| R 173, 187, 188, 203, 205,<br>222, 264, 375, 423, 439,<br>473, 587, 589  | D1H81034A024 | RESISTOR ARRAY          | 13 |
| R 174, 457   | D1H83304A024 | RESISTOR ARRAY          | 2  |
| R 180, 183, 184, 202, 265,<br>351, 352, 353, 354, 376,<br>385, 411, 429, 430, 437,<br>452, 453, 478, 488, 521,<br>522, 535, 567, 568 | D0GA330JA023 | RESISTOR, 1/16W, 33Ω    | 24 |
| R 201, 225   | D1H84724A024 | RESISTOR ARRAY          | 2  |
| R 204, 261, 262, 263, 425,<br>438, 477   | D1HA1038A010 | RESISTOR, 1/16W, 10KΩ   | 7  |
| R 213  | D1BA22R6A023 | RESISTOR, 1/16W, 22.6Ω  | 1  |
| R 226, 450, 464  | D0GA471JA023 | RESISTOR, 1/16W, 470Ω   | 3  |
| R 228, 230   | D1BA3241A023 | RESISTOR, 1/16W, 3.24KΩ | 2  |
| R 229, 231   | D1BA4530A023 | RESISTOR, 1/16W, 453Ω   | 2  |
| R 232  | D0GA121JA023 | RESISTOR, 1/16W, 120Ω   | 1  |
| R 235, 559, 586, 596, 681,<br>682, 683, 687  | D1H8R0040009 | JUMPER                  | 8  |
| R 240, 242   | D1BA3323A023 | RESISTOR, 1/16W, 332KΩ  | 2  |
| R 245  | D0GA106JA023 | RESISTOR, 1/16W, 10MΩ   | 1  |
| R 254  | D0GA334JA023 | RESISTOR, 1/16W, 330KΩ  | 1  |
| R 260, 313, 314, 338, 339,<br>551, 553, 561, 562,<br>1179, 1184, 1245  | D0GA472JA023 | RESISTOR, 1/16W, 4.7KΩ  | 12 |
| R 268  | D1BA1210A023 | RESISTOR, 1/16W, 121Ω   | 1  |
| R 269  | D1BA71R5A023 | RESISTOR, 1/16W, 71.5Ω  | 1  |
| R 302  | D1BA5620A023 | RESISTOR, 1/16W, 562Ω   | 1  |
| R 304  | D1BA1471A023 | RESISTOR, 1/16W, 1.47KΩ | 1  |
| R 306  | D1BA7150A023 | RESISTOR, 1/16W, 715Ω   | 1  |
| R 315, 699, 1014, 1032,<br>1033, 1034, 1035  | D0GBR00J0004 | RESISTOR, 1/16W, 0Ω     | 7  |
| R 340  | D1BA2430A023 | RESISTOR, 1/16W, 243Ω   | 1  |
| R 367  | D1BA5101A023 | RESISTOR, 1/16W, 5.1KΩ  | 1  |
| R 373, 374, 1049, 1050,<br>1061, 1062, 1097, 1098,<br>1111, 1112, 1157, 1158,<br>1170, 1171  | D0GA100JA023 | RESISTOR, 1/16W, 10Ω    | 14 |
| R 400, 401, 402, 403, 404,<br>405, 406, 407  | D1BA49R9A023 | RESISTOR, 1/16W, 49.9Ω  | 8  |
| R 409  | D1BA1401A023 | RESISTOR, 1/16W, 1.4KΩ  | 1  |
| R 410, 1036, 1037  | D1BA1501A023 | RESISTOR, 1/16W, 1.5KΩ  | 3  |
| R 412, 512, 1156, 1180,<br>1182, 1228, 1232  | D0GA474JA023 | RESISTOR, 1/16W, 470KΩ  | 7  |
| R 421, 422, 541, 569   | D1BA75R0A023 | RESISTOR, 1/16W, 75.0Ω  | 4  |
| R 424, 426   | D1BA3901A023 | RESISTOR, 1/16W, 3.9KΩ  | 2  |
| R 458  | D0GA181JA023 | RESISTOR, 1/16W, 180Ω   | 1  |
| R 465, 466, 467, 469, 536,<br>537, 542, 543, 1115  | D0GA221JA023 | RESISTOR, 1/16W, 220Ω   | 9  |
| R 475  | D1HA1028A010 | RESISTOR, 1/16W, 1KΩ    | 1  |
| R 480, 482, 519, 1010,<br>1155, 1221, 1227, 1256   | D0GA473JA023 | RESISTOR, 1/16W, 47KΩ   | 8  |
| R 506, 507   | D1HA4728A010 | RESISTOR, 1/16W, 4.7KΩ  | 2  |
| R 544, 594   | D1H84734A024 | RESISTOR ARRAY          | 2  |
| R 546, 550   | D0GA682JA023 | RESISTOR, 1/16W, 6.8KΩ  | 2  |
| R 564, 565, 566, 628, 629,<br>630  | D1BA1500A023 | RESISTOR, 1/16W, 150Ω   | 6  |
| R 570  | D1BA1871A023 | RESISTOR, 1/16W, 1.87Ω  | 1  |
| R 571, 1162, 1214, 1218  | D1BA1003A022 | RESISTOR, 1/16W, 100KΩ  | 4  |
| R 597, 598, 599, 600, 601,<br>602, 603, 604, 609, 610,<br>611, 612, 613, 614, 615,<br>616  | D1BA4991A023 | RESISTOR, 1/16W, 4.99KΩ | 16 |
| R 623, 624, 625  | D1BA4990A023 | RESISTOR, 1/16W, 499Ω   | 3  |
| R 648  | D0GA152JA023 | RESISTOR, 1/16W, 1.5KΩ  | 1  |
| R 1006   | D1BA6801A023 | RESISTOR, 1/16W, 6.8KΩ  | 1  |
| R 1007, 1082, 1233   | D1BA3652A022 | RESISTOR, 1/16W, 36.5KΩ | 3  |

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|---|--|--------------|-------------------------|----|
| R 1011  |  | D1BA3093A023 | RESISTOR, 1/16W, 309KΩ  | 1  |
| R 1012  |  | D1BA1052A023 | RESISTOR, 1/16W, 10.5KΩ | 1  |
| R 1013  |  | D1BA2151A023 | RESISTOR, 1/16W, 2.15KΩ | 1  |
| R 1015  |  | D1BA2000A023 | RESISTOR, 1/16W, 200Ω   | 1  |
| R 1016  |  | D1BA2550A023 | RESISTOR, 1/16W, 255Ω   | 1  |
| R 1021  |  | D1BA1821A023 | RESISTOR, 1/16W, 1.82KΩ | 1  |
| R 1028  |  | DOGB101JA065 | RESISTOR, 1/16W, 100Ω   | 1  |
| R 1030, 1031, 1220  |  | DOGB3R3JA065 | RESISTOR, 1/16W, 3.3Ω   | 3  |
| R 1040, 1041  |  | D1JB1M00A001 | RESISTOR, 1W, 1mΩ       | 2  |
| R 1042, 1043  |  | D1BA10R0A023 | RESISTOR, 1/16W, 10Ω    | 2  |
| R 1045, 1116, 1117, 1118,<br>1119, 1120, 1149, 1153,<br>1154, 1172, 1173, 1250,<br>1251, 1282, 1283, 1284 |  | D1BDR0220001 | RESISTOR, 1/8W, 0.022Ω  | 16 |
| R 1051, 1057, 1099, 1159  |  | DOGA153JA023 | RESISTOR, 1/16W, 15KΩ   | 4  |
| R 1055  |  | D1BA3161A023 | RESISTOR, 1/16W, 3.16KΩ | 1  |
| R 1058, 1105, 1165  |  | DOGA333JA023 | RESISTOR, 1/16W, 33KΩ   | 3  |
| R 1059  |  | D1BA8201A023 | RESISTOR, 1/16W, 8.2KΩ  | 1  |
| R 1060, 1109, 1209  |  | D1BA1502A022 | RESISTOR, 1/16W, 15KΩ   | 3  |
| R 1063  |  | D1BA2400A023 | RESISTOR, 1/16W, 240Ω   | 1  |
| R 1065, 1066, 1067  |  | D1BDR0470002 | RESISTOR, 1/8W, 0.047Ω  | 3  |
| R 1094, 1095, 1174, 1252,<br>1253   |  | D1BDR0330001 | RESISTOR, 1/8W, 0.033Ω  | 5  |
| R 1103  |  | D1BA1602A022 | RESISTOR, 1/16W, 16KΩ   | 1  |
| R 1104  |  | D1BA1802A023 | RESISTOR, 1/16W, 18KΩ   | 1  |
| R 1110  |  | D1BA1202A023 | RESISTOR, 1/16W, 12KΩ   | 1  |
| R 1150, 1151  |  | D1BA5601A023 | RESISTOR, 1/16W, 5.6KΩ  | 2  |
| R 1152  |  | D1BA1302A023 | RESISTOR, 1/16W, 13KΩ   | 1  |
| R 1163  |  | D1BA6201A022 | RESISTOR, 1/16W, 6.2KΩ  | 1  |
| R 1164  |  | D1BA2002A022 | RESISTOR, 1/16W, 20KΩ   | 1  |
| R 1167  |  | D1BA1301A022 | RESISTOR, 1/16W, 1.3KΩ  | 1  |
| R 1168  |  | D1BA3002A022 | RESISTOR, 1/16W, 30KΩ   | 1  |
| R 1177, 1185, 1224  |  | DOGA564JA023 | RESISTOR, 1/16W, 560KΩ  | 3  |
| R 1199  |  | DOGA223JA023 | RESISTOR, 1/16W, 22KΩ   | 1  |
| R 1201, 1202  |  | DOGD222JA052 | RESISTOR, 1/8W, 2.2KΩ   | 2  |
| R 1205  |  | D1ZZ00000046 | RESISTOR, 1W, 5mΩ       | 1  |
| R 1212  |  | D1BDR4700001 | RESISTOR, 1/8W, 0.47Ω   | 1  |
| R 1215, 1217  |  | D1BB1503A074 | RESISTOR, 1/16W, 150KΩ  | 2  |
| R 1231  |  | D1BA1103A022 | RESISTOR, 1/16W, 110KΩ  | 1  |
| R 1235  |  | D1BA1503A023 | RESISTOR, 1/16W, 150KΩ  | 1  |
| R 1236, 1237, 1238, 1239,<br>1240, 1241   |  | D1BDR1000002 | RESISTOR, 1/8W, 0.1Ω    | 6  |
| R 1243  |  | D1BB1623A075 | RESISTOR, 1/16W, 162KΩ  | 1  |
| R 1244  |  | D1BB1692A075 | RESISTOR, 1/16W, 16.9KΩ | 1  |
| R 1248, 1249  |  | D1BDR0680001 | RESISTOR, 1/8W, 0.068Ω  | 2  |
| R 1265, 1266  |  | DOGD122JA052 | RESISTOR, 1/16W, 1.2KΩ  | 2  |
| T 1, 2  |  | G5BYC0000015 | TRANCE                  | 2  |
| X 1   |  | HOJ143500042 | OSCILLATOR, 14.375MHz   | 1  |
| X 2   |  | HOJ327200150 | OSCILLATOR, 32.768KHz   | 1  |
| X 5   |  | H2D800400015 | OSCILLATOR, 8MHz        | 1  |
| X 7   |  | HOJ245500046 | OSCILLATOR, 24.576MHz   | 1  |
| X 8   |  | HOJ250500027 | OSCILLATOR, 25MHz       | 1  |
| ZA 3, 4, 5, 6, 1001, 1002   |  | K1YGZZ000068 | STUD                    | 6  |
| 0   |  | DOGAR00J0005 | RESISTOR, 1/16W, 0Ω     | 2  |
| <b>AUDIO PCB</b>  |  |              |                         |    |
| C 3003, 3014, 3015, 3028,<br>3035, 3050, 3051   |  | F1G1A104A014 | CAPACITOR, 10V, 0.1μF   | 7  |
| C 3004, 3042, 3044  |  | F1G0J105A001 | CAPACITOR, 6.3V, 1μF    | 3  |
| C 3005, 3006, 3043  |  | F1G1H102A496 | CAPACITOR, 50V, 1000pF  | 3  |
| C 3007, 3008, 3019, 3020  |  | F1L0J107A016 | CAPACITOR, 6.3V, 100μF  | 4  |
| C 3009, 3017, 3041  |  | F1H1A1050015 | CAPACITOR, 10V, 1μF     | 3  |
| C 3010, 3033, 3052  |  | F1J0J106A016 | CAPACITOR, 6.3V, 10μF   | 3  |
| C 3016, 3027  |  | F1G0J224A001 | CAPACITOR, 6.3V, 0.22μF | 2  |
| C 3023, 3024, 3025  |  | F1J0J4750019 | CAPACITOR, 6.3V, 4.7μF  | 3  |
| C 3031, 3032  |  | F1G0J334A001 | CAPACITOR, 6.3V, 0.33μF | 2  |

|  |  |              |                           |   |
|--|--|--------------|---------------------------|---|
| C 3036                                     |  | F1G1C104A042 | CAPACITOR, 16V, 0.1µF     | 1 |
| C 3037, 3038                               |  | F1G1H1010005 | CAPACITOR, 50V, 100pF     | 2 |
| C 3039, 3040                               |  | F1H1A225A039 | CAPACITOR, 10V, 2.2µF     | 2 |
| C 3047                                     |  | ECUV1H103ZFG | INDUCTOR                  | 1 |
| D 3001, 3002                               |  | B3ACB0000020 | DIODE                     | 2 |
| D 3046                                     |  | BOJCMD000014 | DIODE                     | 1 |
| IC 3052                                    |  | C1CB00002733 | AUDIO CODEC               | 1 |
| IC 3053                                    |  | C1AB00002507 | IC, AUDIO POWER AMPLIFIER | 1 |
| IC 3054                                    |  | C0CBCBC00181 | IC                        | 1 |
| JK 3003, 3004                              |  | K2HC1YYB0040 | AUDIO JACK                | 2 |
| L 3043, 3044, 3045, 3046, 3047, 3048, 3049 |  | DDB5Z021D-Y  | CHIP BEADS                | 7 |
| Q 3014                                     |  | B1GFCFNN0019 | TRANSISTOR                | 1 |
| R 3001, 3003                               |  | DOGA203JA023 | RESISTOR, 1/16W, 20KΩ     | 2 |
| R 3002, 3036, 3039, 3041, 3049             |  | DOGAR00J0005 | RESISTOR, 1/16W, 0Ω       | 5 |
| R 3006                                     |  | DOGDR00J0004 | RESISTOR, 1/8W, 0Ω        | 1 |
| R 3009, 3011                               |  | DOGA562JA023 | RESISTOR, 1/16W, 5.6KΩ    | 2 |
| R 3010, 3012                               |  | DOGA103JA023 | RESISTOR, 1/16W, 10KΩ     | 2 |
| R 3014                                     |  | DOGA333JA023 | RESISTOR, 1/16W, 33KΩ     | 1 |
| R 3015, 3017                               |  | DOGA153JA023 | RESISTOR, 1/16W, 15KΩ     | 2 |
| R 3016, 3018                               |  | DOGA243JA023 | RESISTOR, 1/16W, 24KΩ     | 2 |
| R 3019                                     |  | DOGA473JA023 | RESISTOR, 1/16W, 47KΩ     | 1 |
| R 3021, 3022                               |  | D1BA30R1A023 | RESISTOR, 1/16W, 30.1Ω    | 2 |
| R 3023                                     |  | DOGA1R0JA023 | RESISTOR, 1/16W, 1.0Ω     | 1 |
| R 3024, 3043                               |  | D1BA2671A023 | RESISTOR, 1/16W, 2.67KΩ   | 2 |
| R 3025                                     |  | DOGA330JA023 | RESISTOR, 1/16W, 33Ω      | 1 |
| R 3027, 3061, 3062                         |  | DOGA101JA023 | RESISTOR, 1/16W, 100Ω     | 3 |
| R 3028                                     |  | D1BA2002A023 | RESISTOR, 1/16W, 20KΩ     | 1 |
| R 3030, 3031                               |  | DOGA392JA023 | RESISTOR, 1/16W, 3.9KΩ    | 2 |
| R 3032, 3033                               |  | DOGA4R7JA023 | RESISTOR, 1/16W, 453Ω     | 2 |
| R 3035                                     |  | DOGA273JA023 | RESISTOR, 1/16W, 273Ω     | 1 |
| R 3042                                     |  | DOGA100JA023 | RESISTOR, 1/16W, 10Ω      | 1 |
| R 3045                                     |  | D1BA3922A023 | RESISTOR, 1/16W, 39.2KΩ   | 1 |
| R 3052, 3055                               |  | DOGBR00J0004 | RESISTOR, 1/16W, 0Ω       | 2 |
| SW 3001                                    |  | K0D112B00071 | SW                        | 1 |
| <b>SERIAL PCB</b>                          |  |              |                           |   |
| CN 4000                                    |  | K1KA10AA0033 | CONNECTOR                 | 1 |
| CN 4001                                    |  | K1FA209BA004 | CONNECTOR                 | 1 |
| <b>TOUCH PAD PCB</b>                       |  |              |                           |   |
| C 4101                                     |  | F1H0J1050022 | CAPACITOR, 6.3V, 1µF      | 1 |
| CN 4100                                    |  | K1MY10BA0101 | CONNECTOR                 | 1 |
| CN 4101                                    |  | K1MY12BA0101 | CONNECTOR                 | 1 |
| SW 4102, 4103                              |  | EVQPLDA15    | SWITCH                    | 2 |
| <b>SW LEDPCB</b>                           |  |              |                           |   |
| C 4200                                     |  | F1J0J4750019 | CAPACITOR, 6.3V, 4.7µF    | 1 |
| C 4201                                     |  | F1G1C104A042 | CAPACITOR, 16V, 0.1µF     | 1 |
| C 4202, 4203, 4204, 4205                   |  | F1G1H222A496 | CAPACITOR, 50V, 2200pF    | 4 |
| CN 4200                                    |  | K1KA30BA0060 | CONNECTOR                 | 1 |
| CN 4201                                    |  | K1KY12A00005 | CONNECTOR                 | 1 |
| CN 4202, 4203                              |  | K1KA02BA0014 | CONNECTOR                 | 2 |
| D 4200, 4201, 4202, 4204, 4205             |  | B3ABB0000210 | DIODE                     | 5 |
| D 4203                                     |  | B3AGB0000040 | DIODE                     | 1 |
| R 4200                                     |  | DOGA330JA023 | RESISTOR, 1/16W, 33Ω      | 1 |
| SW 4200                                    |  | EVQPLDA15    | SWITCH                    | 1 |
| ZA 4201, 4202                              |  | K1YGZZ000068 | STUD                      | 2 |
| <b>SD PCB</b>                              |  |              |                           |   |
| C 4302                                     |  | F1H1A1050015 | CAPACITOR, 10V, 1µF       | 1 |
| C 4303                                     |  | F1G1H330A542 | CAPACITOR, 50V, 33pF      | 1 |
| C 4304                                     |  | F1G1E103A062 | CAPACITOR, 25V, 0.01µF    | 1 |
| CN 4300                                    |  | K1MY15BA0101 | CONNECTOR                 | 1 |
| CN 4301                                    |  | K1NA09E00073 | CONNECTOR                 | 1 |
| D 4301                                     |  | B3ACB0000020 | DIODE                     | 1 |

|  |  |              |                        |   |
|--|--|--------------|------------------------|---|
| Q 4300                                   |  | UNR9113J0L   | TRANSISTOR             | 1 |
| R 4300                                   |  | D0GD101JA052 | RESISTOR, 1/8W, 100Ω   | 1 |
| R 4301                                   |  | D0GA101JA023 | RESISTOR, 1/16W, 100Ω  | 1 |
| SW 4301                                  |  | K0ZZ00000619 | SW                     | 1 |
| <b>PWR BATTERY LED PCB</b>               |  |              |                        |   |
| CN 4400                                  |  | K1KA05BA0014 | CONNECTOR              | 1 |
| D 4401                                   |  | B3ABB0000210 | DIODE                  | 1 |
| D 4402                                   |  | B3AGB0000040 | DIODE                  | 1 |
| <b>SC RELAY PCB</b>                      |  |              |                        |   |
| CN 6502                                  |  | K1KA10BA0162 | CONNECTOR              | 1 |
| CN 6503                                  |  | K1MY10BA0101 | CONNECTOR              | 1 |
| C 7000, 7004, 7008, 7012,                |  | F1G1C104A042 | CAPACITOR, 16V, 0.1μF  | 5 |
| C 7002                                   |  | F1G1H221A495 | CAPACITOR, 50V, 220pF  | 1 |
| C 7006, 7007, 7009                       |  | F1J0J106A016 | CAPACITOR, 6.3V, 10μF  | 3 |
| C 7010, 7011                             |  | EEFCX0G151R  | CAPACITOR, 2V, 150μF   | 2 |
| C 7014                                   |  | F1G1H1010005 | CAPACITOR, 50V, 100pF  | 1 |
| CN 7000                                  |  | K1MY52BA0190 | CONNECTOR              | 1 |
| CN 7001                                  |  | K1NA08E00007 | CONNECTOR              | 1 |
| CN 7002                                  |  | K1MY14BA0101 | CONNECTOR              | 1 |
| D 7003                                   |  | DEDRB081L20  | DIODE                  | 1 |
| IC 7000                                  |  | C0DBAYY00204 | IC, DC/DC CONVERTER    | 1 |
| JK 7001, 7002, 7003, 7004,<br>7005, 7006 |  | K1QZA1AE0001 | CONNECTOR              | 6 |
| L 7000                                   |  | G1C2R7MA0273 | INDUCTOR, COIL         | 1 |
| Q 7000                                   |  | B1GBCFNN0042 | TRANSISTOR             | 1 |
| Q 7001                                   |  | B1CFGD000023 | TRANSISTOR             | 1 |
| Q 7002                                   |  | B1GDCFNN0031 | TRANSISTOR             | 1 |
| Q 7003                                   |  | B1CHRD000001 | TRANSISTOR             | 1 |
| R 7000, 7002                             |  | D0GA103JA023 | RESISTOR, 1/16W, 10KΩ  | 2 |
| R 7001                                   |  | D1BA1002A023 | RESISTOR, 1/16W, 10KΩ  | 1 |
| R 7003                                   |  | D1BB3002A074 | RESISTOR, 1/10W, 30KΩ  | 1 |
| R 7004                                   |  | D1BA1001A023 | RESISTOR, 1/16W, 1KΩ   | 1 |
| R 7005                                   |  | D1BDR0470002 | RESISTOR, 1/8W, 0.047Ω | 1 |
| R 7006                                   |  | D1BDR0330001 | RESISTOR, 1/8W, 0.033Ω | 1 |
| R 7008, 7013                             |  | D0GAR00J0005 | RESISTOR, 1/16W, 0Ω    | 2 |
| R 7011, 7012                             |  | D0GA101JA023 | RESISTOR, 1/16W, 100Ω  | 2 |
| SW 7000                                  |  | K0D211A00015 | DIP SWITCH             | 1 |
| ZA 7001, 7002                            |  | K1YGZZ000060 | SPACER                 | 2 |
| <b>WWAN PCB</b>                          |  |              |                        |   |
|  |  |              |                        |   |
| <b>WLAN DUMMY PCB</b>                    |  |              |                        |   |
| JK 8001, 8002                            |  | K1QZA1AE0001 | CONNECTOR              | 2 |
| <b>WWAN DUMMY PCB</b>                    |  |              |                        |   |
|  |  |              |                        |   |
| <b>BIOS PCB</b>                          |  |              |                        |   |
| C 9003                                   |  | F1G1C104A042 | CAPACITOR, 16V, 0.1μF  | 1 |
| C 9025                                   |  | F1J0J106A016 | CAPACITOR, 6.3V, 10μF  | 1 |
| CN 9000                                  |  | K1KA30A00119 | CONNECTOR              | 1 |
| IC 9001                                  |  | C3FBLY000041 | FLASH MEMORY           | 1 |
| R 9004, 9020                             |  | D0GA103JA023 | RESISTOR, 1/16W, 10KΩ  | 2 |
| R 9022                                   |  | D1H83304A024 | RESISTOR ARRAY         | 1 |
| <b>BT PCB</b>                            |  |              |                        |   |
| C 5000                                   |  | F1J0J1060004 | CAPACITOR, 6.3V, 10μF  | 1 |
| C 5001, 5006, 5009                       |  | F1G1C104A042 | CAPACITOR, 16V, 0.1μF  | 3 |
| C 5002, 5004                             |  | F1G1H102A496 | CAPACITOR, 50V, 1000pF | 2 |
| C 5005, 5008                             |  | F1G1E103A062 | CAPACITOR, 25V, 0.01μF | 2 |
| C 5007                                   |  | F1G1H220A542 | CAPACITOR, 50V, 22pF   | 1 |
| C 5010                                   |  | F1G1HR50A543 | CAPACITOR, 50V, 0.5pF  | 1 |
| CN 5000                                  |  | K1KA10BA0014 | CONNECTOR              | 1 |
| IC 5000, 5003                            |  | C0JBAZ002422 | IC, FET SWITCH         | 2 |
| IC 5001                                  |  | N5HZZ0000056 | BLUETOOTH MODULE       | 1 |
| IC 5002                                  |  | C0EBE0000460 | IC                     | 1 |
| L 5000                                   |  | J0JHC0000074 | INDUCTOR               | 1 |

|              |  |              |                                |   |
|--------------|--|--------------|--------------------------------|---|
| L 5001       |  | J0JJC0000021 | INDUCTOR                       | 1 |
| L 5003       |  | G1C6N8JA0024 | CHIP INDUCTOR                  | 1 |
| Q 5000       |  | B1GBCFNN0042 | TRANSISTOR                     | 1 |
| Q 5001       |  | B1DHDC000028 | TRANSISTOR                     | 1 |
| R 5000, 5001 |  | D0GA104JA023 | RESISTOR, 1/16W, 100K $\Omega$ | 2 |
| R 5002       |  | D0GAR00J0005 | RESISTOR, 1/16W, 0 $\Omega$    | 1 |