Service Manual

(TX)

LG Electronics

Contents

Chapter 1. Service information

1-1. Important service information

■ Strategy for replacing parts (FRU-Field Replaceable Units)

Before replacing parts

Make sure that latest BIOS and drivers are installed before replacing any parts (FRUs) listed in this

Use the following strategy to prevent unnecessary expense for replacing and servicing parts

1. If you are instructed to replacing a part but the replacement does not correct the problem, reinstall the original part before you continue.
2. Some computers have both a processor board and system board. If you are instructed to replace either the processor board or the system board, and replacing one of them does not correct the problem, reinstall that board, and then replace the other one.
3. If an adapter or device consists of more than one part, any of the parts (FRUs) may be the cause of the error. Before replacing the adapter or device, remove the parts (FRUs), one by one, to see if the symptoms change. Replace only the part that changed the symptoms.

Caution

The BIOS configuration on the computer you are servicing may have been customized. Running Automatic Configuration my alter the settings. Note the current configuration settings; then, when service has been completed, verify that those settings remain in effect.

■ Strategy for replacing a hard-disk drive

You have to get a User's approval before formatting or replacing a hard-disk drive. You must let the User know that the user is responsible for the loss data

Caution

The drive startup sequence in the computer you are servicing may have been changed. Be extremely careful during write operations such as copying, saving, or formatting. If you select an incorrect drive, data or programs can be overwritten.

1-2. Safety notices

Warning

Before the computer is powered-on after part (FRU) replacement, make sure all screws, springs, and other small parts are in place and are not left loose inside the computer. Verify this by shaking the computer and listening for rattling sounds. Metallic parts or metal flakes can cause electrical shorts.

Warning

some standby batteries contain a small amount of nickel and cadmium. Do not disassemble a standby battery, recharge it, throw it into fire or water, or short-circuit it. Dispose of the battery as required by local ordinances or regulations. Use only the battery in the appropriate parts listing. Use of an incorrect battery can result in ignition or explosion of the battery

Warning

The battery pack contains small amounts of nickel. Do not disassemble it, throw it into fire or water, or short-circuit it. Dispose of the battery pack as required by local ordinances or regulations. Use only the battery in the appropriate parts listing when replacing the battery pack. Use of an incorrect battery can result in ignition or explosion of the battery.

Warning

If the LCD breaks and the fluid from inside the LCD gets into your eyes or on your hands, immediately was the affected areas with water for at least 15 minutes. Seek medical care if any symptoms from the fluid are present after washing.

Warning

To avoid shock, do not remove the plastic cover that protects the lower part of the inverter card.

Warning

Though the main batteries have low voltage, a shorted or grounded battery can produce enough current to burn personnel or combustible materials.

Warning

Before removing any part (FRU), turn off the computer, unplug all power cords from electrical outlets, remove the battery pack, and then disconnect any interconnecting cables.

1-3. Safety information

■ General safety

Follow these rules to ensure general safety

· Observe good housekeeping in the area of the machines during and after maintenance.

· When lifting any heavy object

1. Ensure you can stand safely without slipping.
2. Distribute the weight of the object equally between your feet.
3. Use a slow lifting force. Never move suddenly or twist when you attempt to lift.
4. Lift by standing or by pushing up with your leg muscles
   (This action removes the strain from the muscles in your back.)

· Do not attempt to lift any object weights more then 16kg(35lb) or object that you think are too heavy for you.

· Do not perform any action that causes hazards to the customer, or that makes the equipment unsafe.

· Before you start the machine, ensure that other service representatives and the customer's personnel are not in a hazardous position.

· Place removed covers and other parts in a safe place, away from all personnel, while you are servicing the machine.

· Keep your tool box away from walk areas so that other people will not trip over it.

· Do not wear loose clothing that can be trapped in the moving parts of a machine. Make sure that your sleeves are fastened or rolled up above your elbows. If your hair is long, fasten it.

· Insert the ends of your necktie or scarf inside clothing or fasten it with a nonconductive clip, approximately 8 centimeters(3 inches) from the end.

· Do not wear jewelry, chains, metal-frame eyeglasses, or metal fasteners for you clothing.

· Wear safety glasses when you are hammering, drilling, soldering, cutting wire, attaching springs, using solvents, or working in any other conditions that might be hazardous to your eyes.

· After service, reinstall all safety shields, guards, labels, and ground wires. Replace any safety device that is worn or defective.

· Reinstall all covers correctly before returning the machine to the customer.

Caution

Metal objects are good electrical conductors.

■ Electrical safety

Observe the following rules when working on electrical equipment.

Important

Use only approved tools and test equipment. Some hand tools have handles covered with a soft material that does not insulate you when working with live electrical currents.
Many customers have, near their equipment, rubber floor mats that contain small conductive fibers to decrease electrostatic discharges. Do not use this type of mat to protect yourself from electrical shock.

· Find the room emergency power-off switch, disconnecting switch, or electrical outlet. If an electrical outlet. If an electrical accident occurs, you can then operate the switch or unplug the power cord quickly.
· Do not work alone under hazardous conditions or near equipment that has hazardous voltages.
· Disconnect all power before
  1. Performing a mechanical inspection
  2. Working near power supplies
  3. Removing or installing main units
· Before you start to work on the machine, unplug the power cord. If you cannot unplug it, ask the customer to power-off the wall box that supplies power to the machine and to lock the wall box in the off position.
· If you need to work on a machine that has exposed electrical circuits, observe the following precautions : Ensure that another person, familiar with the power-off controls, is near you.

Caution

Another person must be there to switch off the power, if necessary.

· Use only one hand when working with powered-on electrical equipment. Keep the other hand in your pocket or behind your back

Caution

An electrical shock can occur only when there is a complete circuit. By observing the above rule, you may prevent a current from through your body.

· When using testers, set the controls correctly and use the approved probe leads and accessories for that tester

· Stand on suitable rubber mats (obtained locally, if necessary) to insulate you from grounds such as metal floor strips and machine frames.

· Observe the special safety precautions when you work with very high voltages. These instructions are in the safety sections of maintenance information. Use extreme care when measuring high voltages.

· Regularly inspect and maintain your electrical hand tools for safe operational condition.

· Do not use worn or broken tools and testers.

· Never assume that power has been disconnected from a circuit. First check that it has been powered off.

· Always look carefully for possible hazards in your work area. Examples of these hazards are moist floors, non-grounded power extension cables, power surges, and missing safety grounds.

· Do not touch live electrical circuits with the reflective surface of a plastic dental mirror. The surface is conductive such touching can cause personal injury and machine damage.

· Do not service the following parts with the power on when they are removed from their normal operating places in a machine.

1. Power supply units
2. Pumps
3. Blowers and fans
4. Motorgenerators

and similar units. (This practice ensure correct grounding of the units.)

· If an electrical accident occurs

1. Use caution ; do not become a victim of yourself.
2. Switch off power.
3. Send another person to get medical aid.

■ Safety inspection guide

The purpose of this inspection guide is to assist you in identifying potentially unsafe conditions.
As each machine was designed and built, required safety items were installed to protect users and service personnel from injury. This guide addresses only those items. You should use good judgment to identify potential safety hazards due to attachment of non-LG features or options not covered by this inspection guide.
If any unsafe conditions are present, you must determine how serious the apparent hazard could be and whether you can continue without first correcting the problem.

· Consider these conditions and the safety hazards they present

1. Electrical hazards, especially primary power (primary voltage on the frame can cause serious or fatal electrical shock)
2. Mechanical hazards, such as loose or missing hardware

Refer to the following checklist and begin the checks with the power off, and the power cord disconnected.

· Checklist

1. Check exterior covers for damage (loose, broken, or sharp edges)
2. Power off the computer. Disconnect the power cord.
3. Check the power cord for :
   a. A third-wire ground connector in good condition. Use a meter to measure third-wire ground continuity for 0.1 Ω or less between the external ground pin and frame ground.
   b. The power cord should be the type specified in the parts list.
   c. Insulation must not be frayed or worn.
4. Remove the cover.
5. Check for any obvious non-LG alterations. Use good judgment as to the safety of any non-LG alterations.
6. Check inside the unit for any obvious unsafe conditions, such as metal filings, contamination, water or other liquids, or signs of fire or smoke damage.
7. Check for worn, frayed, or pinched cables.
8. Check that the power-supply cover fasteners (screw or rivets) have not been removed or tampered with.

■ Handling devices that are sensitive to electrostatic discharge

Any computer part containing transistors or integrated circuits (ICs) should be considered sensitive to electrostatic discharge (ESD). ESD damage can occur when there is a difference in charge between objects. Protect against ESD damage by equalizing the charge so that the machine, the part, the work mat, and the person handling the part are all at the same charge.

Note

Use product-specific ESD procedures when they exceed the requirements noted here.

Make sure that the ESD protective devices you use have been certified (ISO9000) as fully effective.

· When handling ESD-sensitive parts :

1. Keep the parts in protective packages until they are inserted into the product.
2. Wear a grounded wrist strap against your skin to eliminate static on your body.
3. Prevent the part from touching your clothing. Most clothing retains a charge even when you are wearing a wrist strap.
4. Use the black side of a grounded work mat to provide a static-free work surface. The mat is especially useful when handling ESD-sensitive devices.
5. Select a grounding system, such as those listed below, to provide protection that meets the specific service requirement.

Note

The use of a grounding system is desirable but not required to protect against ESD damage.

a. Attach the ESD ground clip too any frame ground, ground braid, or green-wire ground.

b. Use an ESD ground or reference point when working on a double-insulated or battery-operated system. You can use coax or connector-outside shells on these systems.

c. Use the round ground-prong of the AC plug on AC-operated computers.

■ Grounding requirements

Electrical grounding of the computers is required for operator safety and correct system function.

Proper grounding of the electrical outlet can be verified by a certified electrician.

1-4. Laser compliance statement

When a CD-ROM drive, DVD drive or the other laser product is installed, note the following :

Caution

Use of controls or adjustments or performance of procedures other than those specified here in might result in hazardous radiation exposure.

Opening the CD-ROM drive, DVD-ROM drive or the other optical storage device could result in exposure to hazardous laser radiation.

There are no serviceable parts inside those drives. Do not open

Danger

Emits visible and invisible laser radiation when open. Do not stare into the beam , do not view directly with optical instruments, and avoid direct exposure to the bean.

1-5. Backup (Standby) RTC battery safety information

When replacing or disposing of the backup (standby) RTC battery, note the following :

Caution

There is the risk of explosion if the backup (standby) RTC battery is replaced by an incorrect type.

Dispose of used backup (standby) RTC battery according to your local ordinances or regulation.

Для замены, используйте соответствующий тип батареек.

Существует опасность воспламенения.

Удаляйте отработанные батарейки согласно местным правилам или нормам.

Неправильное удаление батареек может привести к их взрыву или пожару.

باطری ذخیره (یدکی)را با نوع درست آن عوض کنید.

خطر انفجار وجود دارد.

باطری های ذخیره های (یدکی) استفاده شده را براساس دستورالعمل داخلی مصرف کنید.

مصرف باطریهای نادرست منجر به انفجار یا آتش سوزی میشود.

غير البطارية البديلة على الطراز المناسب.

وهناك احتمال الانفجار.

تخلص من البطاريات البديلة المستعملة حسب القوانين والانظمة المحلية.

البطاريات المتخلص منها بصورة غير مناسبة قد تؤدي الى انفجار او احتراق.

1-6. Read this first

Before you go to the checkout guide, be sure to read this section.

Important Notes

· Only trained personnel certified by LG should service the computer.
· Read the entire FRU removal and replacement page before replacing any FRU.
· Use new nylon-coated screws when you replace FRUs.
· Be extremely careful during such write operations as copying, saving, formatting.
Drives in the computer that you are servicing sequence might have been altered. If you selected an incorrect drive, data or programs might be overwritten.
· Replace FRUs only for the correct mode.
· When you replace a FRU, make sure the model of the machine and the FRU part number are correct by referring to the FRU parts list.
· A FRU should not be replaced because of a single, irreproducible failure. Single failures can occur for a variety of reasons that have nothing to do with a hard ware defect, such as cosmic radiation, electrostatic discharge, or software errors.
· Consider replacing a FRU only when a problem recurs. If you suspect that a FRU is defective, clear the error log and run the test again. If the error does not recur, do not replace the FRU.
· Be careful not to replace a non-defective FRU.

■ What to do first

You must fill out the record form first.
During the warranty period, the customer may be responsible for repair costs if the computer damage was caused by misuse, accident, modification, unsuitable physical or operating environment, or improper maintenance by the customer. The following list provides some common items that are not covered under warranty and some symptoms that might indicate that the system was subjected to stress beyond normal use. Before checking problems with computer, determine whether the damage is covered under the warranty by referring to the following :

The followings are not covered under warranty :

· CD panel cracked from the application of excessive force or from being dropped

· Scratched (cosmetic) parts

· Distortion, deformation, or discoloration of the cosmetic parts

· Cracked or broken plastic parts, broken latches, broken pins, or broken connectors caused by excessive force

· Damage caused by liquid spilled into system

· Damage caused by improper insertion of a PC Card or the installation of an incompatible card

· Damage caused foreign material in the diskette drive

· Diskette drive damage caused by pressure on the diskette drive cover or by the insertion of a diskette with multiple labels

· Damaged or bent diskette eject button

· Fusses blown by attachment of a non-supported device

· Forgotten computer password (making the computer unusable)

· Sticky keys caused by spilling a liquid onto the keyboard

The following symptoms might indicate damage caused by non-warranted activities :

· Missing parts might be a symptom of unauthorized service or modification.

· If the spindle of a hard-disk drive becomes noisy, it may have been subjected to excessive force, or dropped.

Chapter 2. Locations

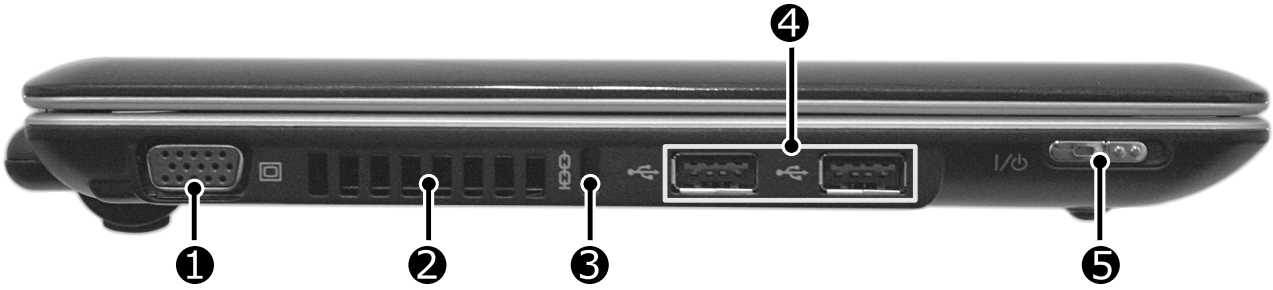
■ Front view (15")

1. LCD Monitor
2. Keyboard
3. Touch pad
4. Using 5-in-1 (XD / SD / MMC / Memory Stick / Memory Stick Pro) Card
5. Touch pad button
6. Wireless LAN/Bluetooth antenna

※ The Mini-PCI Wireless Lan Card is optional.

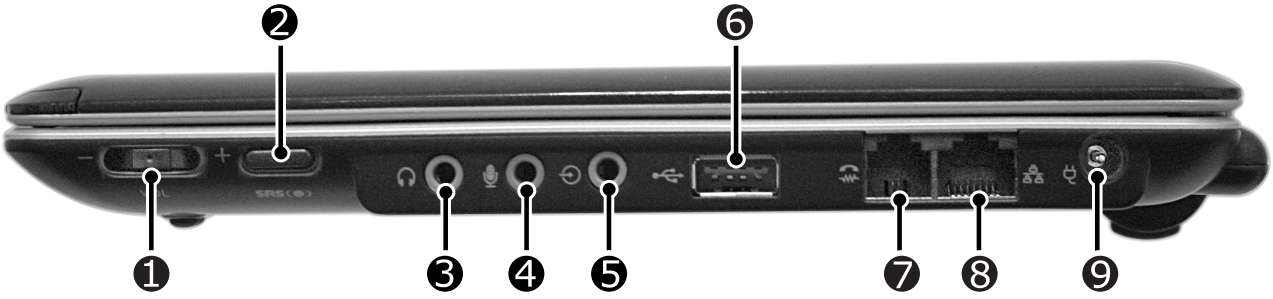
※ Bluetooth is optional.

■ Left view



1. VGA Connector
2. Fan louvers
3. Security keyhole
4. USB Connector
5. Power button

■ Right view



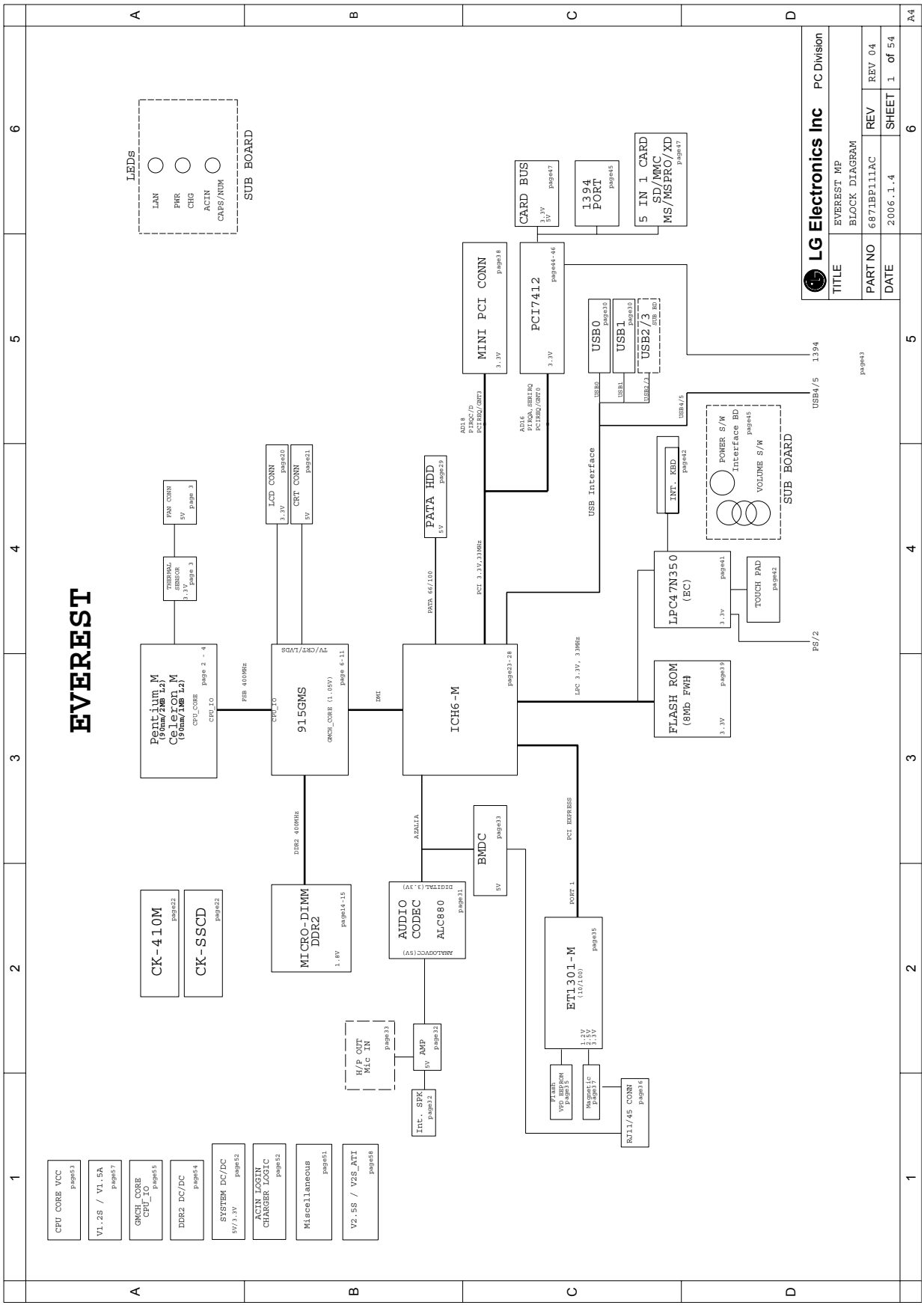
1. Volume up/down/mute button
2. SRS button
3. Headphone Connector / S/PDIF
4. Microphone connector
5. Line-In connector
6. USB Connector
7. Modem connector
8. LAN Connector
9. Power connector

Chapter 3. System information

■ Specification

- CPU
  · Intel P-M ULV Processor 733/753 (1.1/1.2GHz) Dothan 90nm, 400MHz FSB, 2MB L2
  · Intel Cel-M ULV Processor 383 (1.0GHz) Dothan 90nm, 400MHz, 1MB L2
- Main Chipset & Graphic
  · Intel 915GM/PM + ICH6-M
  · Intel GMA (Graphics Media Accelerators 900)
  · nVIDIA G72M (VRAM: 64MB)
- Memory
  · 256/512MB (DDR2 400/533MHz, Dual Ch., Up to 2GB)
- LCD
  · 12.1” WXGA (1280 X 800, 16:10, FBL)
- HDD
  · 40GB~80GB (1.8”, PATA, 4200rpm)
- Communication
  · Qcom MA560-3 (Azalia)
  · 10/100MB Ethernet
  · Intel PRO/Wireless 2200BG or 2915ABG
  · BMDC (Option)
- ODD
  · External ODD (DVD Super-Multi)
- I/O
  · 3 USB 2.0, IEEE 1394(4p), VGA, MIC-In, RJ45, RJ11(Domestic: TBD)
- Input Device
  · KBD: 84keys(TBD), Touchpad w/2 buttons & scrolling Function
- Indicator
  · Power/Suspend, HDD Activity, Caps Lock, Num Lock, WLAN, Battery Charge
- Button
  · Power On/Off(w/LED), Volume(Jog-dial Type), SRSWOW(TBD)
- Power
  · Primary: 3 Cell(3S1P, 2600mAh Cylindrical, GM: 3.38hr, PM: 2.97)
  · Extended: 6 Cell(3S2P, 3800mAh Cylindrical)
  · Primary + Extended: 8.26hr (GM, PM: 7.26hr)
  · AC Adapter: 65W
- Weight
  · 1.08kg (GM), 1.12kg (PM)
- Dimension (W X L X H)
  · GM: 292 X 199 X 23.1mm
  · PM: 295 X 203.5 X 23.1mm
-Others
  · T-DMB Module(Built-in, Option) / WiBro Module(Built-in, Option)

■ System Block Diagram



■ Fn key combinations

The following table shows the function of each combination of Fn with a function key.

Function of Fn keys has nothing to do with Operating System.

[Fn]+[F1]	User defined Hot key. (Setting is available at OSD)
[Fn]+[F2]	User setting available in OSD. (By default, this combination is for Zoom In/Out. ※ Zoom In/Out entails automatic adjustment of resolution.)
[Fn]+[F3]	User setting available in OSD. (By default, this combination is for XTS Pro On/Off. ※ XTS Pro On/Off is a new technology that realizes the optimal sound quality in playing the original sound as it is by adjusting frequency attributes in the signal processing part that governs speaker operation without physical alteration of speakers.)
[Fn]+[F4]	Force the computer to enter power-saving mode. (ex: system standby or hibernation)
[Fn]+[F5]	Press the combination [Fn]+[F5] keys to select or deselect Touchpad Disabled. In Touchpad Auto-disable mode, Touchpad becomes disabled automatically if USB or PS2 mouse is connected. Press again to change touchpad modes.
[Fn]+[F6]	Hotkeys to turn on/off wireless devices including wireless LAN and Bluetooth. (Bluetooth is a sales option.) User setting available in OSD. By default, this combination is for turning Wireless LAN and Bluetooth on and off.
[Fn]+[F7]	Monitor change. When the computer is attached to an external monitor, you can change the display output location with [Fn]+[F7] combination.
[Fn]+[F8]	Power scheme change (Refer to the Battery Miser help menu).
[Fn]+[F10]	Shows System information.
[Fn]+[F11]	Fan control function. CPU Cooling Fan control mode (Normal / Silent (for quiet operation) / Cool (for fast spinning)).
[Fn]+[F12]	Maximum power-saving mode (When OSD is installed).
[Fn]+[Esc]	Scroll Lock
[Fn]+[PgUp]	Prt Sc(Sys Rq)
[Fn]+[PgUp]	Pause(Break)
[Fn]+[Delete]	Insert
[Fn]+[▲]	Brighten the LCD 8-level brightness adjustment available.
[Fn]+[▼]	Darken the LCD 8-level brightness adjustment available.
[Fn]+[◀]	Home
[Fn]+[▶]	End

■ Status indicators

The system status indicators show the status of the computer

1. Num Lock Indicator

- By pressing [Fn]+[Num Lk] keys, you can enable the embedded numeric keypad. By pressing [Fn]+[Num Lk] keys again, you can disable the embedded numeric keypad.

2. Caps Lock Indicator

- Caps Lock indicator lights up when Caps Lock key is pressed. When this indicator lights up, you can type capital letters without pressing the Shift key.

3. Hard disk drive indicator

- Indicator lights up when the Notebook PC access to the hard disk drive.

※ Do not turn off the computer when the drive indicator lights up. It may cause data loss to the computer.

4. Wireless LAN/Bluetooth indicator

※ Wireless LAN/Bluetooth indicator operation may differ depending on the model.

※ Mini-PCI Wireless LAN Card/Bluetooth is optional.

- Indicator Off Wireless LAN/Bluetooth function not in use.
- Blinking: Wireless LAN/Bluetooth in connection with data transfer.
- Blinking(2 to 3 seconds): Wireless LAN/Bluetooth not in connection with Wireless Radio on.
- Blinking(3 to 4 seconds): Searching for access points to establish Wireless LAN/Bluetooth connection.
- ON : Searching for access points to establish Wireless LAN/Bluetooth connection, or already in connection.

5. Power indicator

- Power indicator lights up when the power cord is connected to the computer.
- OFF : Power is off, or it is entered system hibernation mode
- Green Notebook PC is turned on
- Blinking: Stand by mode

6. Battery status indicator: Recharging the battery (The indicator is on when recharging the battery.

- Recharging the battery : Orange
- Battery is charged over 90% : Orange, Green Indicator blinking
- Discharge : OFF
- AC Adaptor is connected with full battery or no battery : Green
- Discharging the battery or the battery is charged under 10% : Green indicator blinking
- Battery Malfunction : Red blinking

※ The Battery indicator blinks as you have set the alarm action from the Battery miser 2005.

■ BIOS Flash

You can update BIOS using a floppy disk drive.

Because this system is not equipped with any floppy disk drive, you have to use an external USB drive for a BIOS update. In order to boot up with an USB drive, please set Removable Device as the first boot up drive in the boot menu of BIOS setup.

· How to update flash ROM in DOS

1. Create 'boot up' flash update diskette.
2. Copy a ROM image file (*.wph) into the root of the flash update diskette.
3. Copy phlash16.exe to the flash update diskette.
4. Insert the diskette into the FDD of your computer.
5. Boot your computer with the diskette, and type 'phlash16*.wph /mode=n'.
6. Cold boot and follow the instruction displayed on the screen.

· Flash options /mode=n

0 – Default mode. Keep the current DMI information and update BIOS image only.

1 – Update DMI information only.
If new DMI information is not specified, the current DMI information is left unchanged.

2 – Update BIOS and DMI information.
If new DMI information is not specified, the current DMI information is left unchanged.

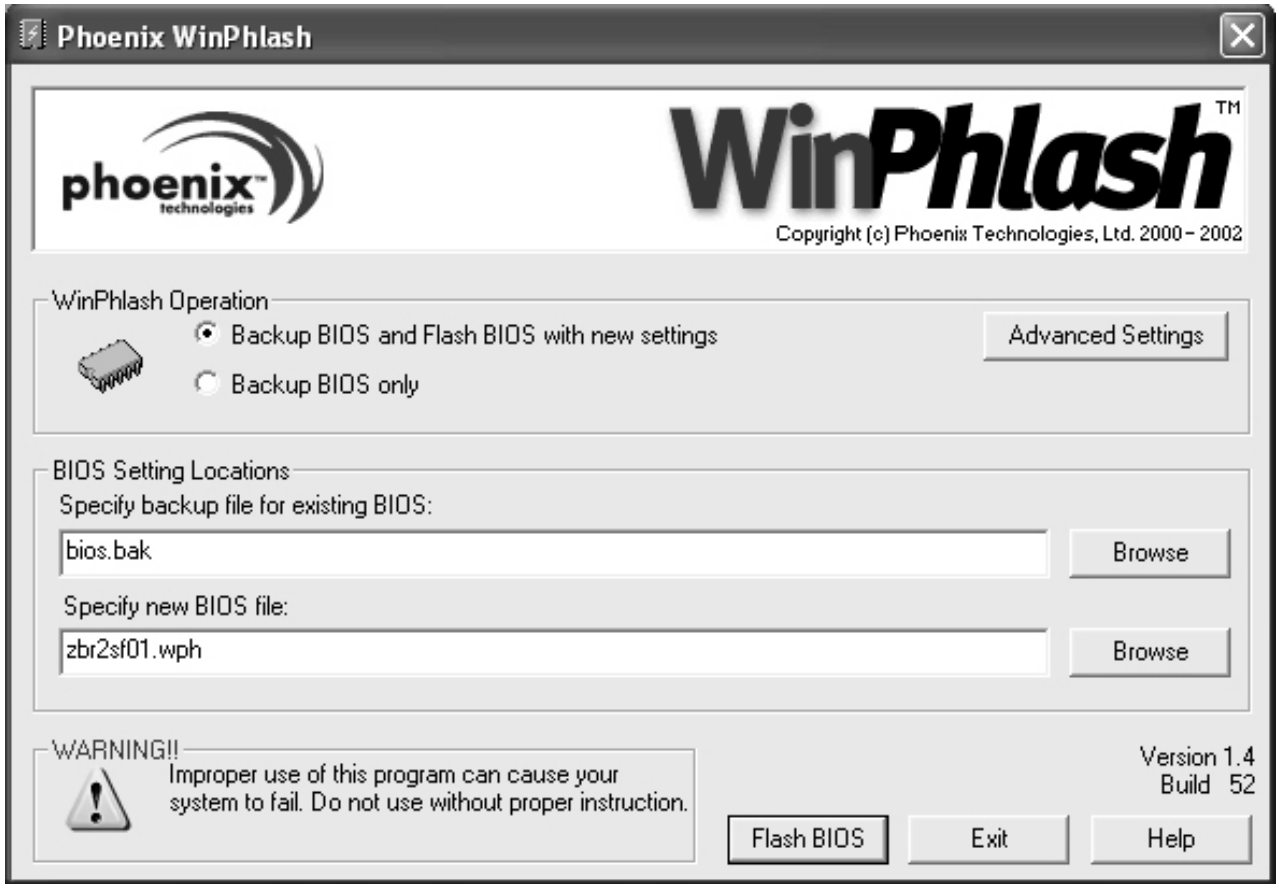
3 – Update BIOS and DMI information.
DMI information is updated to the DMI string and options specified in the new BIOS image.

Note

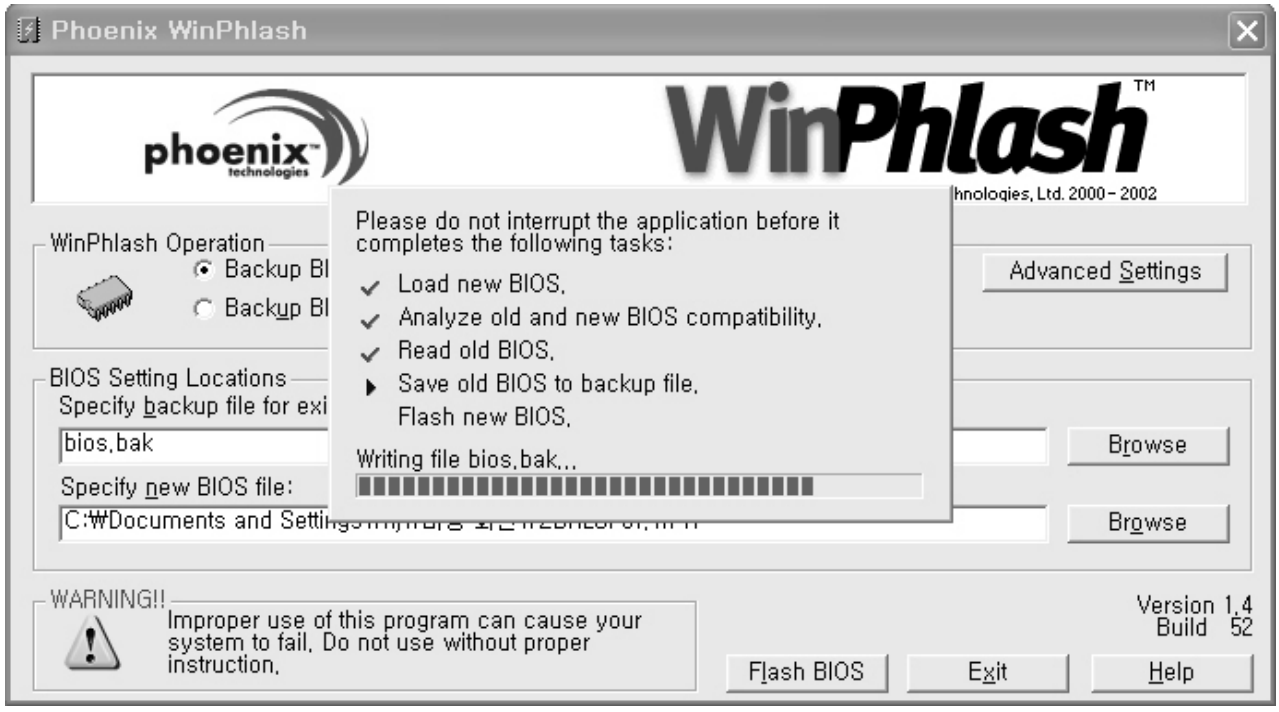
DMI is Desktop Management Interface

■ How to update flash ROM in Windows

1. Quit all running programs.
2. Start WINPHLASH.EXE.



3. Select the procedure you want :
   a. Backup BIOS and Flash BIOS with new settings
   b. Backup BIOS Only
4. Specify the locations for backup and new BIOS files in BIOS Setting Locations.
   a. Enter the name of the backup file for existing BIOS or click Browse to locate the file.
   b. Enter the name of the new BIOS file or click Browse to locate the file.
5. Click Advanced Settings button to access the advanced settings
6. Click Flash BIOS button to start flash BIOS.
7. Wait for the operation to complete. WinPhlash may take one or two minutes to complete flash BIOS operation.

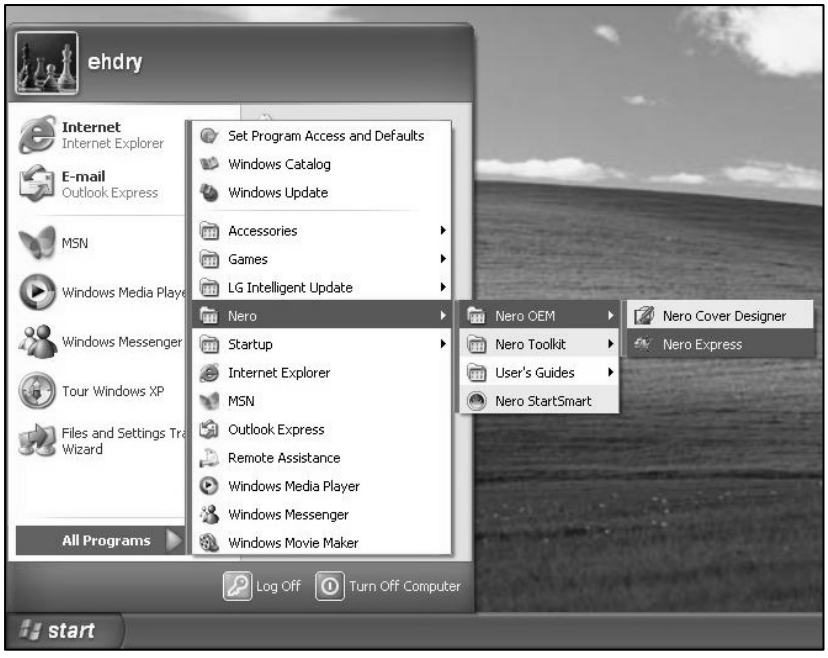


8. After the completion, ‘System BIOS was successfully updated’ appears on the screen, then the computer restarts.
9. After the restart, make sure the system BIOS is updated.
10. If your computer does not restart automatically, turn off your computer and then turn it back on by pressing power button.

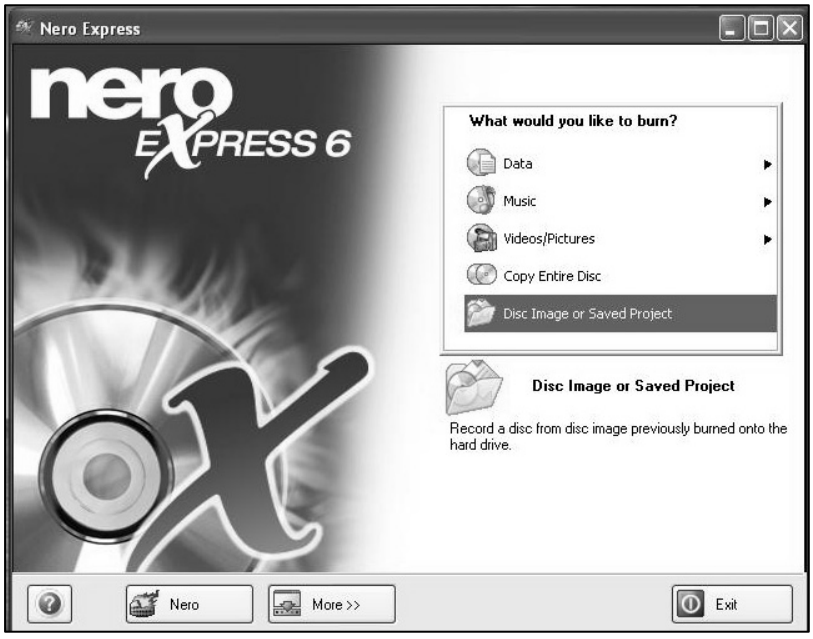
■ BIOS Release Process and Making Bootable CD

1. LGE(Korea) will send BIOS Image (*.iso) to each Service Centers when we have a new revision.
   (Please refer to the BIOS Table (Document No. SBE-HA-01) for latest BIOS)
2. Service center will make Bootable Image CD with Image file(*.iso) as below

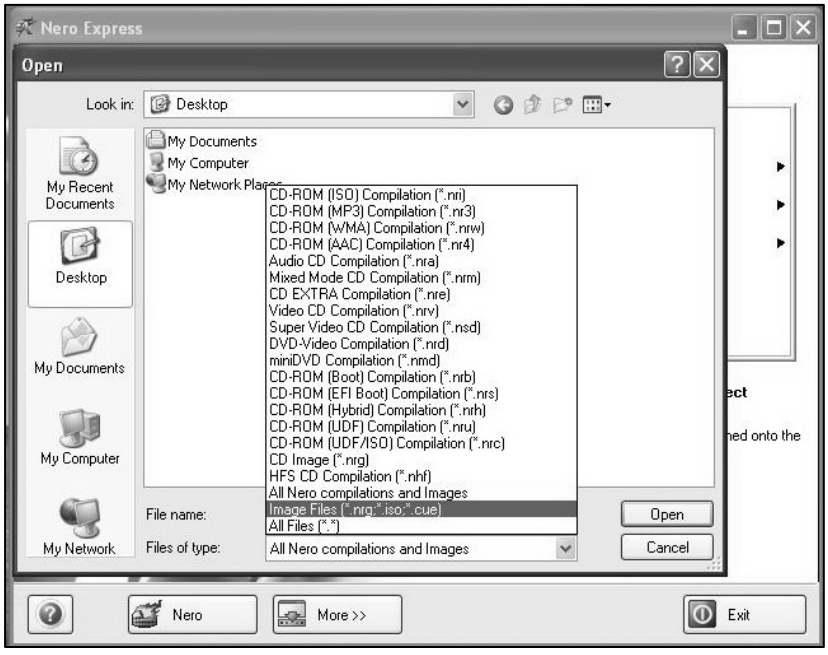
a. Insert empty disc to CD-RW Drive and start Nero Burning ROM.



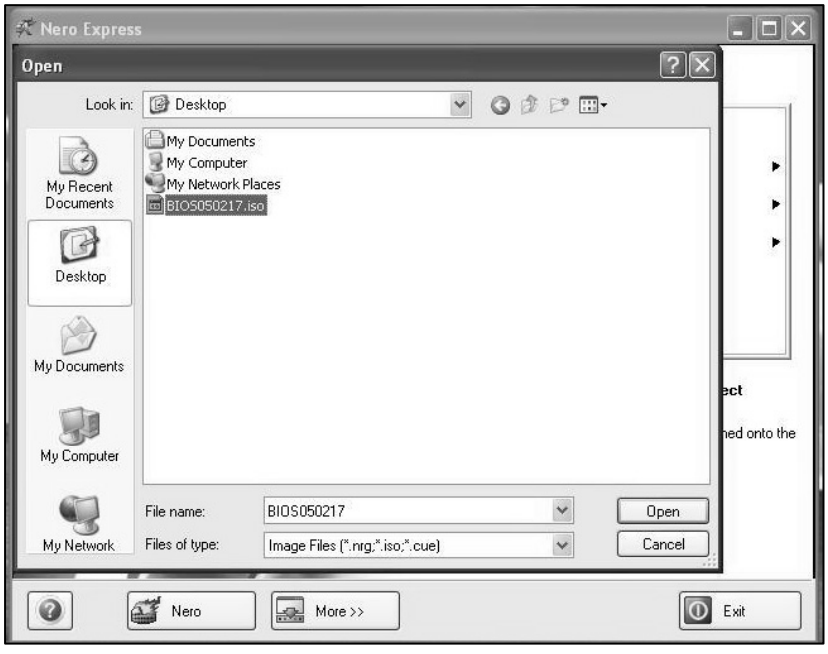
b. Select Disc Image or Saved Project.



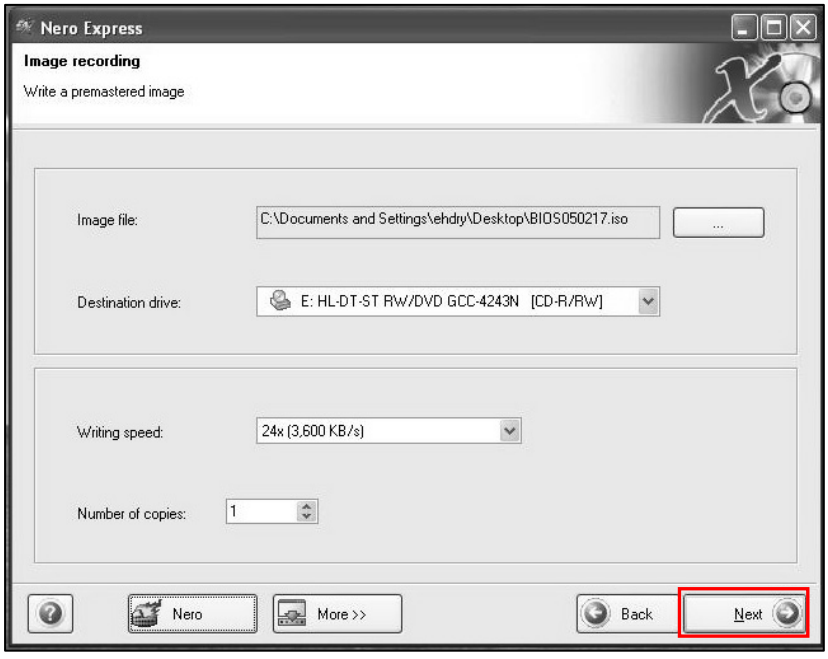
c. Select File Format as "Image Files(*.iso)".



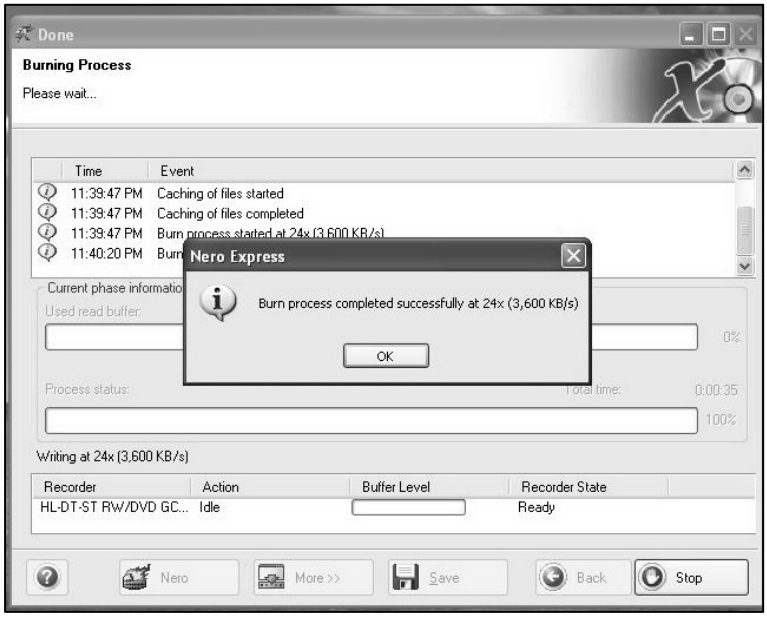
d. Open Image File(*.iso) which is sent from LGE



e. Tab Next then burning will be started

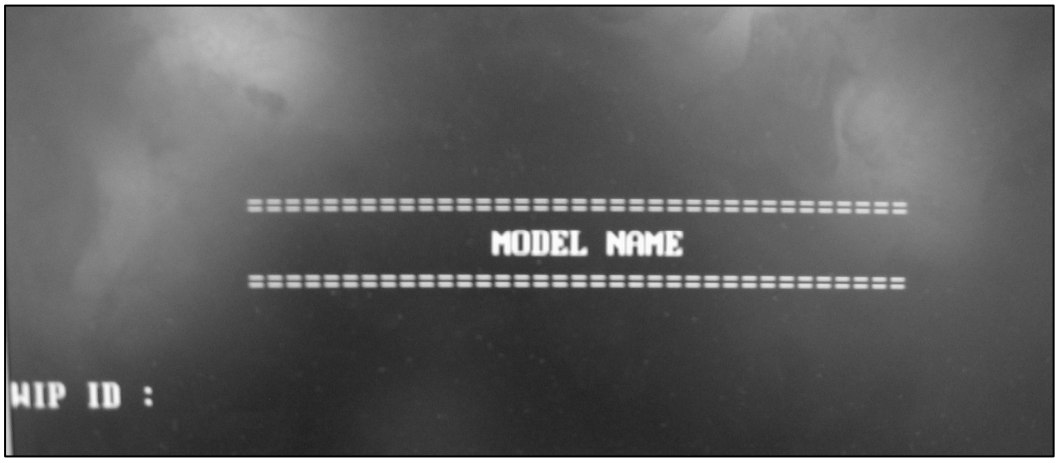


f. Burn process completed as below, and tab “OK”

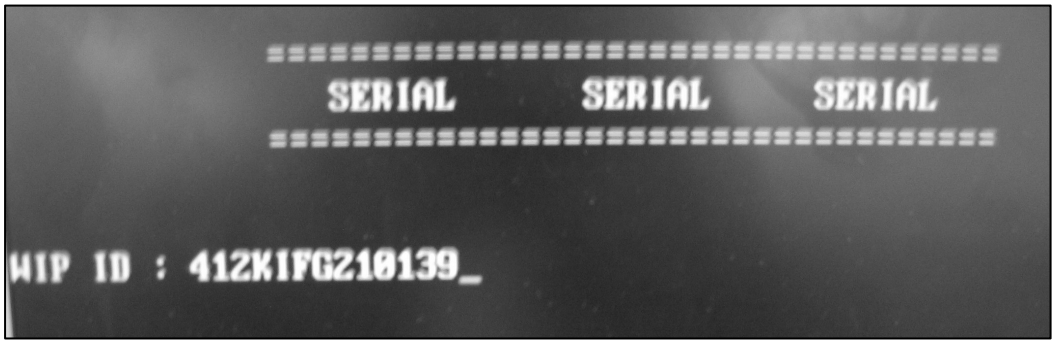


■ BIOS/EC Flash Process

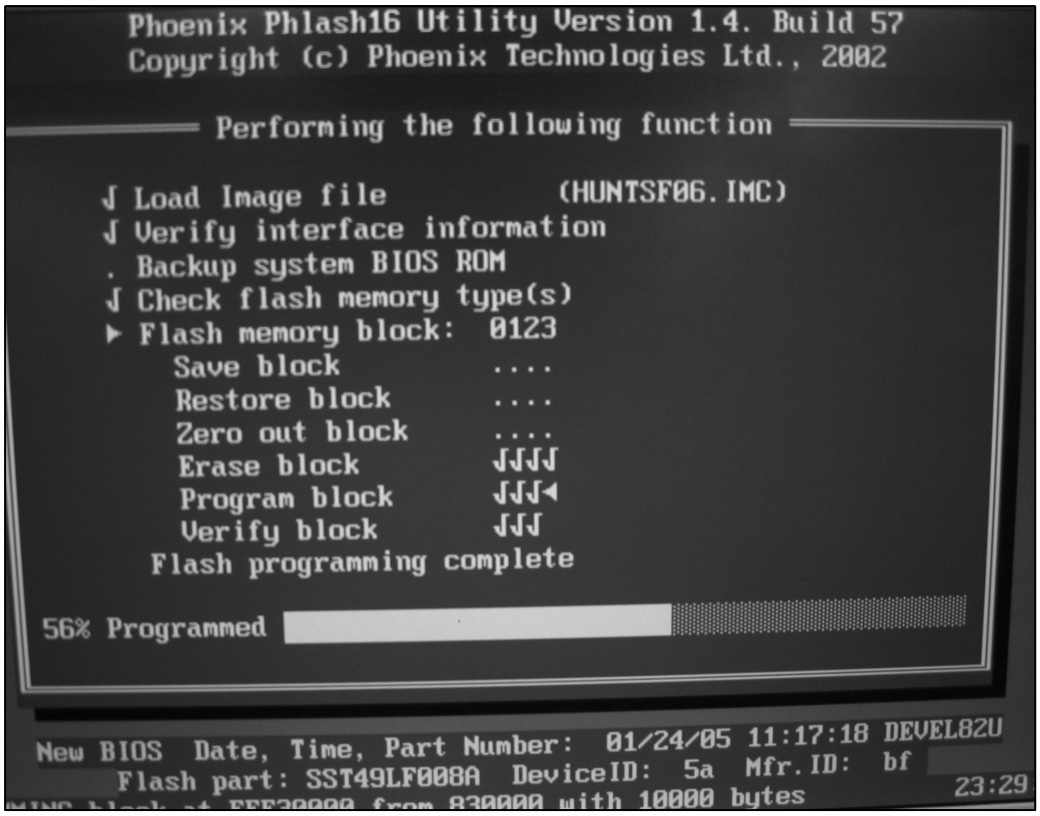
1. Insert Bootable CD in PC, and Turn it on, then PC will boot by DOS mode as below
   (If the EC is not correct or old version, then automatically update EC first and reboot again)
2. Type in Mode Name at the “WIP ID :” then press Enter key (You must use Capital Letter)
   (You can see the Model Name in ID Label at the bottom Case of PC: “M/N: LMXX-XXXX”)



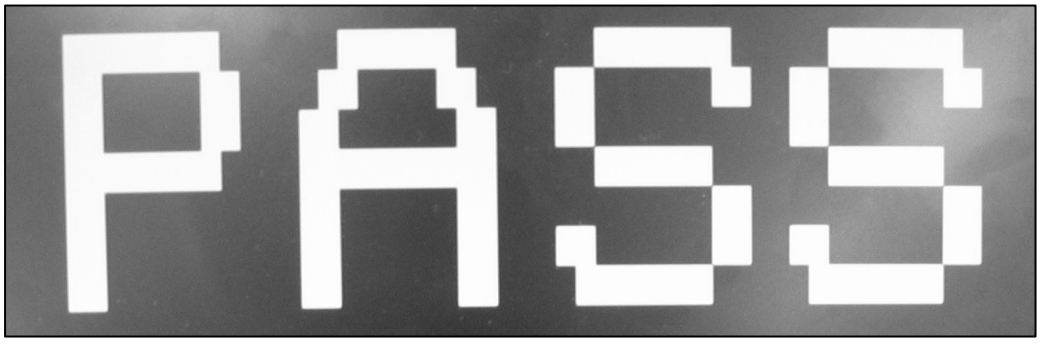
3. Type in Serial No at the “WIP ID :” then press Enter key (You must use Capital Letter)
   (You can see the Serial No in ID Label at the bottom Case of PC: “S/N: 412KIXXXXXXXX”(13digits))



4. You can see the BIOS flash process as below



5. After flashing is completed, you can see the “PASS” on your screen, and reboot your PC



■ BIOS Setup

BIOS (Basic Input and Output System) Setup saves the system configuration in **CMOS RAM**, and check the configurations during startup. Use the **BIOS Setup Utility** to change and save the system environment, hardware configurations, power saving mode, etc.

· Open the BIOS Setup Utility in the following situations :

1. to change the BIOS setup
2. to replace the backup battery
3. system configuration error occurs
4. to change the boot order
5. to set/change a password

Press the power button.
When the **LG** logo appears on the screen, press F2 and enter the **BIOS Setup Utility**.

■ Using the keys

The keys used in the BIOS Setup Utility and their functions are described at the bottom.

· F1, Alt + H : General Help

Display the descriptions of the keys used in the setup utility.

· ↓, ↑ : Select Item

Navigate and select items in the setup utility. The selected item becomes highlighted.

· ←, → : Select Menu

Move to another menu.

· − / +, Space Bar : Change Values

Change the value of a selected item.

· F9 : Load Default Configuration

Display Setup Confirmation window. Press Enter to load default configuration.

· Enter↵ : Select Sub-Menu

Some items have sub-menus. Display the sub-menu for a selected item.

· F10 : Save and Exit

Display Setup Confirmation window. Press **Enter** to save and exit.

· Esc : Exit

In a sub-menu, press **Esc** to move to the previous window. In Main menu, click **Esc** to move to Exit menu.

■ Main menu

System Time
Current time. Use <**Tab**>, <**Shift-Tab**>, or <**Enter**> keys to move around these fields. To change the value, press <+> or <–> key.

System Date
Today date. Use <**Tab**>, <**Shift-Tab**>, or <**Enter**> keys to move around these fields. To change the value, press <+> or <–> key. Set any date from year 1981 to 2079. It will automatically keep track of leap years. The system date can also be set from the operating system.

Product Name
This shows the name of PC.

Processor Type
This shows the type of CPU.

Processor Spd
This shows the speed CPU.

BIOS Version
This shows the Version of BIOS.

KBC Version
This shows the Version of KBD firm ware.

UUID
This is for display only. This shows the UUID.

Hard Disk
Enter its submenu by pressing <**Enter**>. In this submenu, it would show the device of Primary IDE Master is HDD and its parameters.

Total Memory
This is for display only. This shows size of system memory.

■ Advanced menu

Legacy USB Support
There are two options to this field: **Enabled**, and **Disabled**. This field allows you to **enable** or **disable** the legacy USB support.

Boot-time Diagnostic Screen
Enables the Boot-time Diagnostic Screen.

Battery Charge Stop Percentage
Set Battery Charge Stop Percentage.

Fan Mode Control
Set Fan Mode Control.

Fn Key Setup
Set Sticky fn key function.

Wake On Lan
Enables Wake On Lan.

PXE/Remote Boot OPROM
Enables PXE/Remote Boot.

Execute-Disable Bit Capability
Enables Execute-Disable Bit Capability.

■ Security menu

Supervisor Password Is
This shows the system's supervisor password has been set, or not.

Set Supervisor Password
Set Supervisor Password.

User Password Is
This shows the system's User Password has been set, or not.

Set User Password
Set User Password.

Password on boot
Enables Password on boot.

HDD Password Is
This shows the system's HDD Password has been set, or not.

Set HDD Password
Set HDD Password.

■ Boot menu

Boot menu enables you to set the boot order for the CD-ROM drive, Removable devices Hard drive, and Network boot as shown below.

Boot Priority order / Excluded from boot order

Up and Down arrows select a device. <+> and <-> moves the device up or down. <f> and <r> specifies the device fixed or removable.

<x> exclude or include the device to boot.

<Shift + 1> enables or disables a device.

<1 – 4> Loads default boot sequence.

■ Exit menu

Exit Saving Changes
Select Exit Saving Changes to save new setup information in CMOS RAM. CMOS RAM stores the information using the backup battery; therefore, the information will not be lost when the computer is turned off.

Exit Discarding Changes
Select Exit Discarding Changes to discard new setup information. If you made changes to items other than date, time, and passwords, the Setup Warning asks you to save the new configurations. Select Yes and press Enter to save the new configuration.

Load Setup Defaults
Select Load Setup Defaults to change the setup information to the factory default settings. If you select Load Setup Defaults or press F9, Setup Confirmation asks you to confirm your selection. Press Yes to load setup defaults.

Discard Changes
Discard change value.

Save Changes
Save change value.

Chapter 4. Symptom-to-part index

The symptom-to-part index in this section lists symptoms and errors and their possible causes.

The most likely cause is listed first.

Note

If replacing a part (FRU) does not solve the problem, put the original part back in the computer.

Do not replace a non-defective FRU.

■ Power system checkout

· To verify a symptom, do the following :

1. Power off the computer.
2. Remove the battery pack.
3. Connect the AC adapter.
4. Check that power is supplied when you power on the computer.
5. Power off the computer.
6. Disconnect the AC adapter and install the charged battery pack.
7. Check that the battery pack supplies power when you power on the computer.

· If you suspect a power problem, see the appropriate one of the following power supply checkouts :

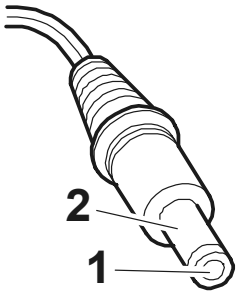
1. Checking the AC adapter
2. Checking the operational charging
3. Checking the battery pack
4. Checking the backup battery

· Checking the AC adapter

If the power-on indicator does not turn on, check the power cord of the AC adapter for correct continuity and installation.

If the computer does not charge during operation, go to “Checking operational charging.”

To check the AC adapter, do the following :



Pin	Voltage (V dc)
1	+18.0 ~ +19.2
2	Ground

1. Unplug the AC adapter cable from the computer.
2. Measure the output voltage at the plug of the AC adapter cable. See the following figure :
3. If the voltage is not correct, remove the power code form AC adapter.
4. 10 seconds later, connect the power code, then measure the output voltage.
5. If the voltage is not correct, change the AC adapter.

· If the voltage is not correct, replace the AC adapter.

· If the voltage is acceptable, do the following :

1. Replace the system board.
2. If the problem persists, check the AC adapter whether it is correct product or not.

Note

Noise from the AC adapter does not always indicate a defect.

· Checking operational charging

1. To check whether the battery charges properly during operation, use a discharged battery pack or a battery pack that has less than 50% of the total power remaining when installed in the computer. Perform operational charging. If the battery status indicator or icon does not turn on, remove the battery does not turn on, replace the battery pack.
2. If the charge indicator still does not turn on, replace the system board.
   Then reinstall the battery pack.

Note

Do not charge battery pack, when its temperature is below 0℃ or above 75℃.

· Checking the battery pack

1. Open the Power Meter window by clicking **Start** →**Control Panel** →**Power Options** and then; check the total power remains. Battery charging does not start until the power Meter shows that less than 95% of the total power remains; under this condition the battery pack can charge to 100% of its capacity. This protects the battery pack from being overcharged or from having a shortened life.
2. To check the status of your batter, move your cursor to the Power Meter icon in the icon tray of the Windows taskbar and wait for a moment (but do not click), and the percentage of battery power remaining is displayed. To get detailed information about the battery, double-click the Power Meter icon.

Note

If the battery pack becomes hot, it may not be able to charge. Remove it from the computer and Leave it at room temperature for a while. After it cools down, reinstall and recharge it.

· The Characteristics of the battery pack

1. Self-discharge

   The battery gradually loses its power over time without ever being used.

2. Periodic full discharge / charge

   Frequent recharge of the battery pack can reduce the capacity of the battery pack. When this happens, you can perform the full discharge / charge to improve the capacity. You should perform periodic full discharge /charge once every 30~60 days.

   You should always use the battery until its power is low; then fully charge the battery.

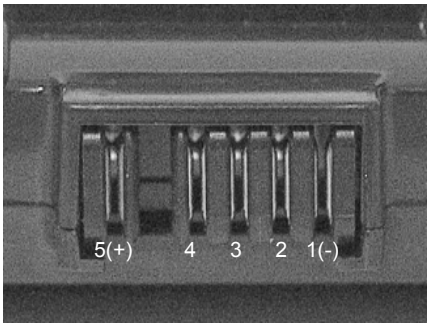
3. Trickle charge

   If the temperature of the battery pack drops below 10℃ , the trickle charging begins.

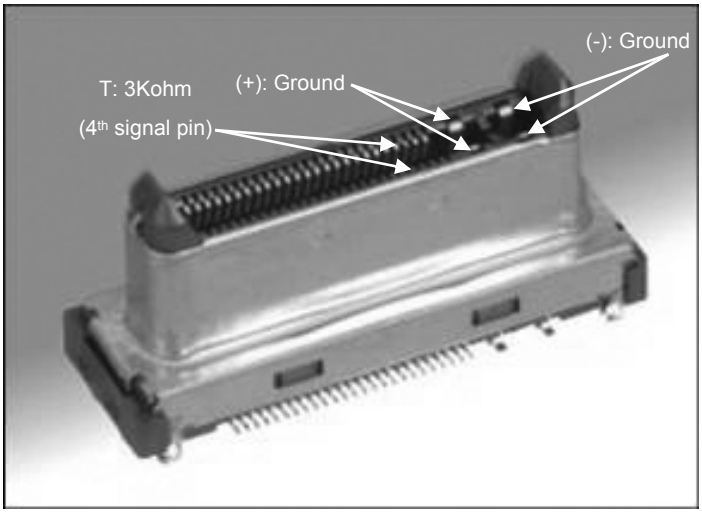
   The trickle charging may take 32 hours for the battery pack to be fully charged.

· To check the battery pack, do the following :

1. Power off the computer.
2. Remove the battery pack and measure the voltage between battery terminals 1(-) and 5(+).
   See the following figure :



Terminal	Voltage (V dc)
1	Ground(-)
5	+0V ~ +12.6V (6 cell)



3. If the voltage is still less than +11.1 V DC after recharging, replace the battery.
4. If the voltage is more than +11.1 V DC, measure the resistance between battery terminals 1 and 2.
   The resistance must be 2 to 4㏀ (typically 3㏀).
5. If the resistance is not correct, replace the battery pack. If the resistance is correct, replace the system board.

Note

Charging will take at least 3 hours.

Note

Battery is an expendable supplier, so its capacity and used time can be reduced by using the computer.

■ Numeric error codes

Symptom / Error	FRU or action, in sequence
0200 Fixed disk failure (The hard disk is not working)	1.Reset the hard-disk drive. 2.Load Setup Defaults in BIOS Setup Utility. 3.Hard-disk drive. 4.System board.
0210 Stuck Key error	1.Check the keyboard if it is pressed. 2.Replace the keyboard.
0211 Keyboard error	Run interactive tests of the keyboard and the auxiliary input device.
0212 Keyboard Controller Failed	System board.
0220 Monitor type error - Monitor type does not match the one specified in CMOS.	Load Setup Defaults in BIOS Setup Utility.
0230 System RAM error - System RAM Failed at offset.	1.DIMM 2.System board
0231 Shadow RAM error - Shadow RAM failed at offset	System board
0232 Extended RAM error - Extended RAM Failed at address line	1. DIMM 2. System board
0250 System battery error – System battery is dead	Replace the backup battery and run BIOS Setup Utility to reset the time and date.

Symptom / Error	FRU or action, in sequence
0251 System CMOS checksum bad – System CMOS checksum is not correct. – Default configuration used.	Replace the backup battery and run BIOS Setup Utility to reset the time and date.
0252 Password checksum bad – The password is cleared.	Reset the password by running BIOS Setup Utility.
0260 System timer error	1. Replace the backup battery and run BIOS Setup Utility to reset the time and date. 2. System board.
0271 Check date and time settings – Date and time error.	Run BIOS Setup Utility to reset the time and date.
0280 Previous boot incomplete - Default configuration used	1. Load “Setup Default” in BIOS Setup Utility. 2. DIMM. 3. System board.
0281: Memory Size found by POST differed from EISA CMOS	Load Setup Defaults in BIOS Setup Utility.
02B0 Diskette drive A error	Set up the diskette type in BIOS Setup Utility.
02B1 Diskette drive B error	Set up the diskette type in BIOS Setup Utility.
02B2 Incorrect drive A type – Floppy diskette drive error	1. Floppy diskette drive. 2. External FDD cable. 3. I/O card.
02B3 Incorrect Drive B type	1. Floppy diskette drive. 2. External FDD cable. 3. I/O card.
02D0 System cache error – Cache disabled (RAM cache failed and BIOS disabled)	1. Load “Setup Default” in BIOS Setup Utility. 2. System board.
02F4 EISA CMOS not writable	1. Load “Setup Default” in BIOS Setup Utility. 2. Replace the backup battery. 3. System board.
02F5 DMA test failed	1. DIMM 2. System board
02F6 Software NMI failed	1. DIMM 2. System board

Symptom / Error	FRU or action, in sequence
02F7 Fail – Safe timer NMI failed	1. DIMM 2. System board
0611 IDE configuration changed	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0612 IDE configuration error	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0613 Com A configuration changed	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0614 Com A configuration error	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0615 Com B configuration changed	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0616 Com B configuration error	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0617 Floppy configuration changed	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0618 Floppy configuration error	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
0619 Parallel port configuration changed	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.
061A Parallel port configuration error	1. Load Setup Defaults in BIOS Setup Utility. 2. System board.

■ Error message

Symptom / Error	FRU or action, in sequence
Device address conflict.	1. Load Setup Defaults in BIOS Setup Utility. 2. Backup battery. 3. System board.
Allocation error for device.	1. Load Setup Defaults in BIOS Setup Utility. 2. Backup battery. 3. System board.
Failing bits: nnnn.	1. DIMM. 2. System board.
Invalid System Configuration Data.	1. DIMM. 2. System board.
I/O Device IRQ Conflict.	1. Load Setup Defaults in BIOS Setup Utility. 2. Backup battery. 3. System board.
Operating System not found.	1. Check that the operating system has no failure and is installed correctly. 2. Enter BIOS Setup Utility and see whether the hard -disk drive and the diskette drive are properly identified. 3. Reset the hard-disk drive. 4. Reinstall the operating system. 5. Diskette drive. 6. Hard-disk drive. 7. System board.
Hibernation error.	1. Restore the system configuration to what it was before the computer entered hibernation mode. 2. If memory size has been changed, re-create the hibernation file.
FAN error.	Fan.
Thermal sensing error.	System board.

■ LCD-related symptoms

Note

Before removing or disassembling LCD, power off the computer, unplug all power cords from electrical outlets, remove the battery pack also.

Symptom / Error	FRU or action, in sequence
LCD screen becomes dark suddenly.	Check out Battery Miser.
Nothing displayed on LCD screen.	1. Check out Battery Miser. 2. Choose Never in the Turn off Monitor item on Power Options Properties. 3. Check the power save mode switch if it is pressed by something. 4. Check the System is in standby or hibernation mode.
LCD backlight not working. LCD too dark. LCD brightness cannot be adjusted.	1. Reconnect inverter to the board connector. 2. Replace inverter. 3. LCD assembly. 4. System board.
LCD color cannot be adjusted. LCD screen abnormal. Characters missing pixels. LCD screen unreadable. Wrong color displayed.	1. Reset all LCD connectors. 2. Replace LCD cable. 3. LCD assembly. 4. System board.
Horizontal or vertical lines displayed on LCD	LCD assembly.
Power-on indicator on, and a blank\LCD during POST.	LCD assembly. System board.

■ Indeterminate problems

· You are here because the diagnostic tests did not identify which adapter or device failed, wrong devices are installed, a short circuit is suspected, or the system is inoperative.
Follow these procedures to isolate the failing FRU (do not isolate FRUs that have no defects).

· Verify that all attached devices are supported by the computer.

· Verify that the power supply being used at the time of the failure is operating correctly.

1. Power off the computer
2. Visually check each FRU for damage. Replace any damaged FRU.
3. Remove or disconnected all of the following devices :
   a. Non-LG devices.
   b. Printer, mouse, and other external devices.
   c. Battery pack.
   d. PC cards.
   e. ODD (CD-ROM, Combo) drive or FDD drive in the Bay.
   f. Hard-disk drive.

Note
Use the other memory card because it needs when operating computer.

4. Power on the computer.
5. Determine whether the problem has changed.
6. If the problem does not recur, reconnect the removed devices one at a time until you find the failing FRU.
7. If the problem remains, replace the following FRUs one at a time.
   (do not replace a non-defective FRU)
   a. LCD assembly (Check external monitor whether the same problem recurs or not).
   b. Keyboard.
   c. Keydeck (TouchPad and Scroll Button assembly).
   d. System board.

Chapter 5. Removing and replacing a part (FRU)

Danger

Before removing any FRU, power off the computer, unplug all power cords from electrical outlets, remove the battery pack, and then disconnect any interconnecting cables.

Caution

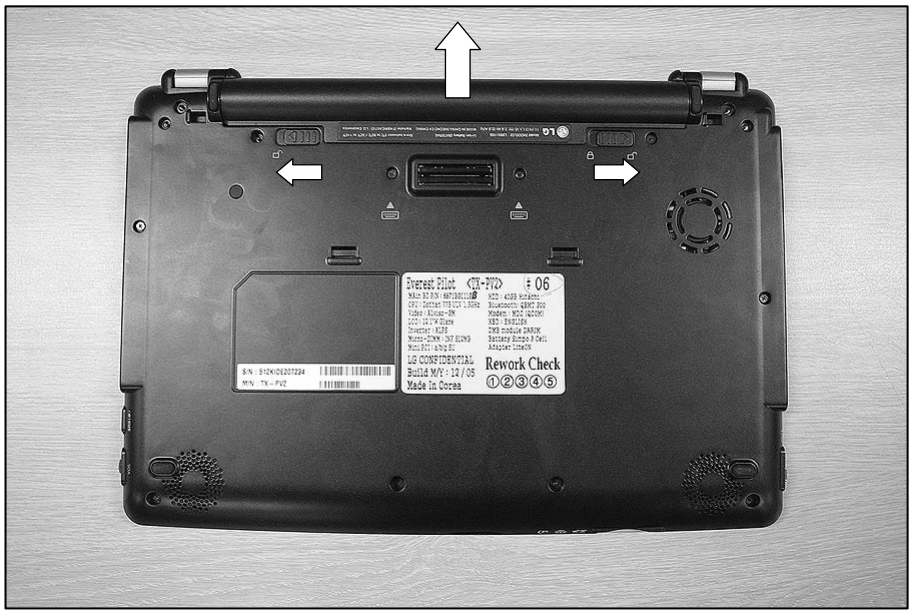
Before the computer is powered on after FRU replacement, make sure that all screws, springs, and other small parts are in place and are not loose inside the computer. Verify metal flakes can cause electrical short circuits.

Note

As for the screw, every Torque 3±0.2Kgfcm(0.196Nm)

■ 1010 Battery Pack

1. Push the Battery latch in the direction shown below; then slide the battery pack out of the slot.



■ 1020 Keyboard

※ Remove the following parts in order before replacing this part

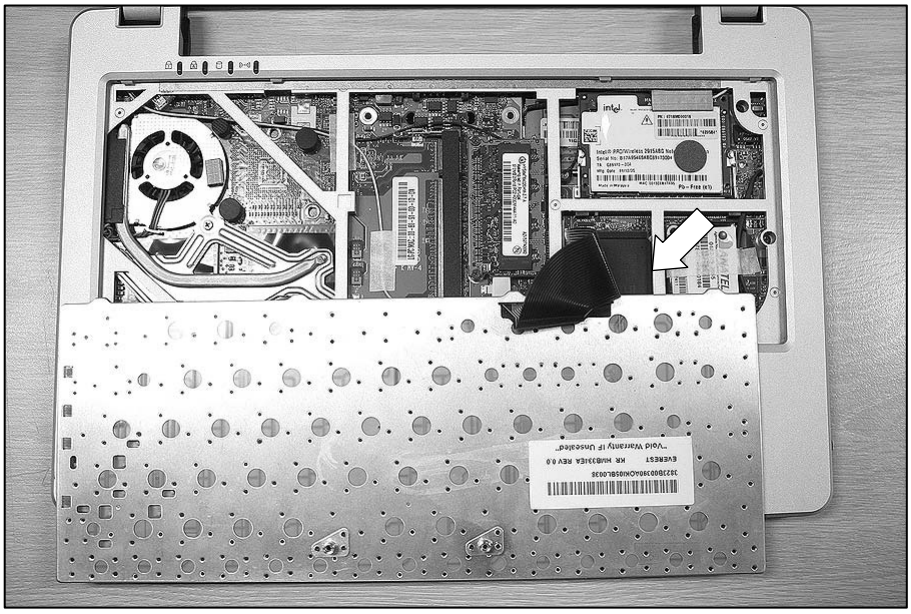
a. Battery Pack(1010)

1. Remove 2 screws.

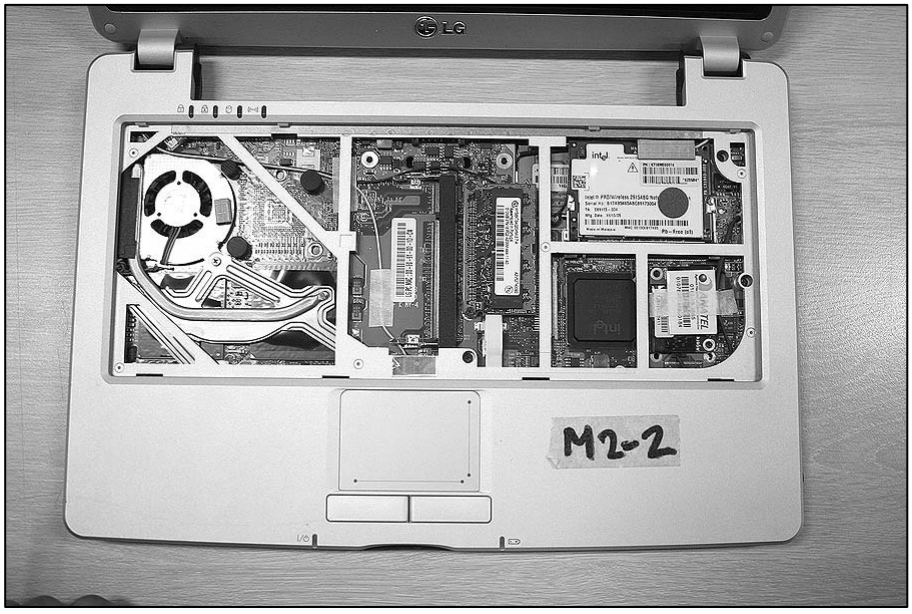
No.	FRU No.	Specification	Qty
1	1SZZBA4122A	M2.0 x L5.0	2

2. To remove 4 hooks, insert a (-) type screwdriver into a hook located at the upper end of keyboard, and pull it up.

3. Disconnect the Keyboard Connector.



4. Remove the Keyboard.

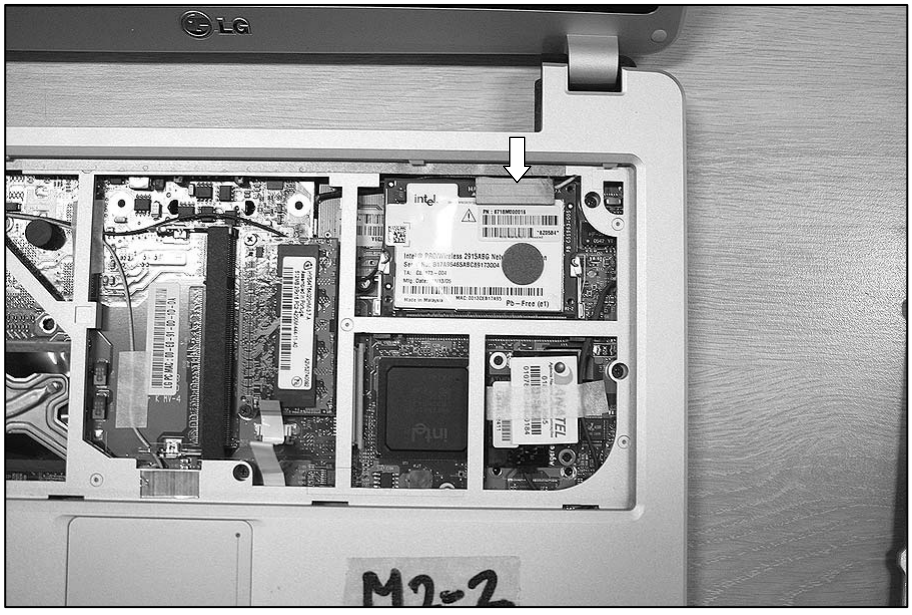


■ 1030 WLAN Card

※ Remove the following parts in order before replacing this part

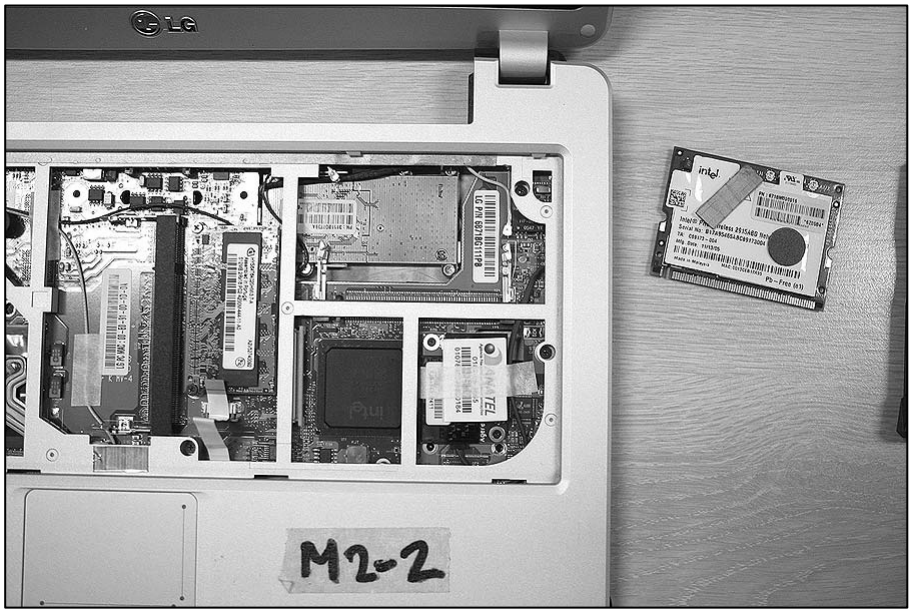
a. Battery Pack(1010) b. Keyboard(1020)

1. Remove the Gasket.



2. Disconnect the Antenna Cable.

3. Remove the WLAN Card.

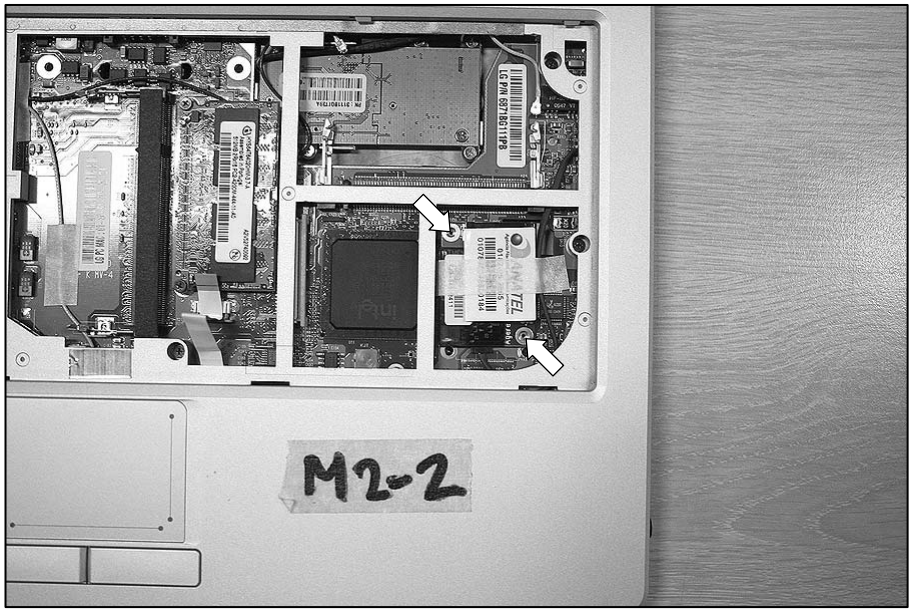


■ 1040 MDC Card

※ Remove the following parts in order before replacing this part

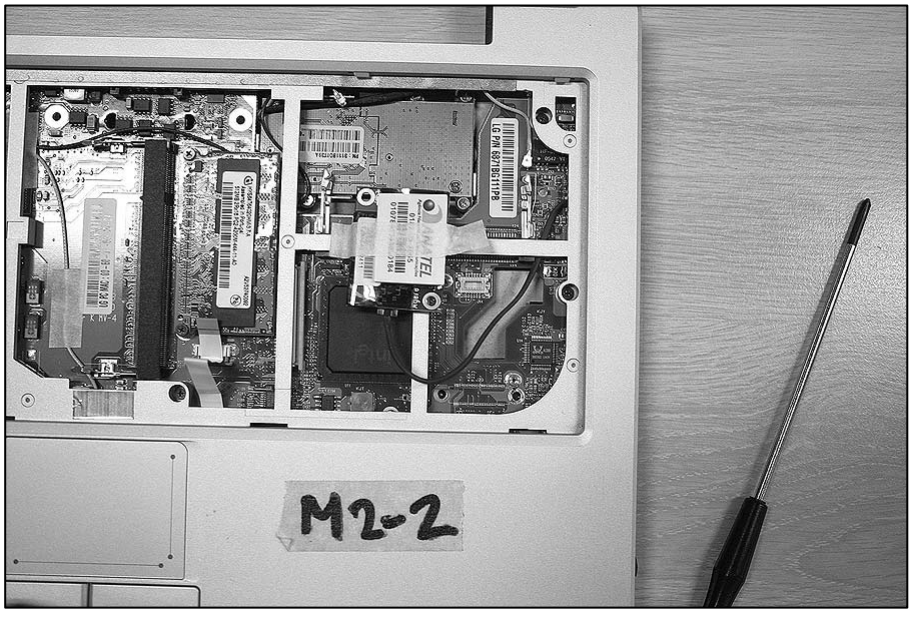
a. Battery Pack(1010) b. Keyboard(1020) c. WLAN Card(1030)

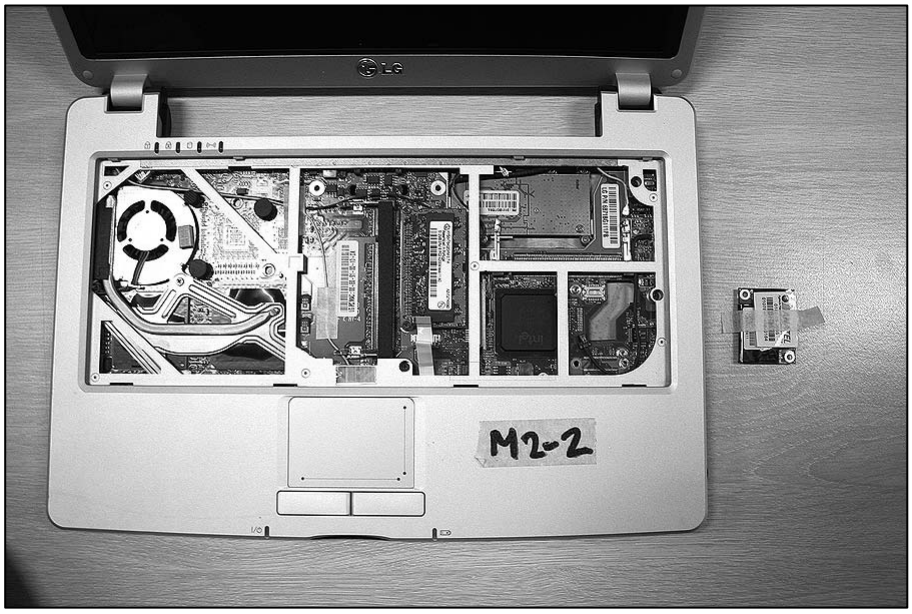
1. Remove 2 screws.



No.	FRU No.	Specification	Qty
1	1SZZBA4017E	M2.0 x L3.0	2

2. Remove the MDC Card.



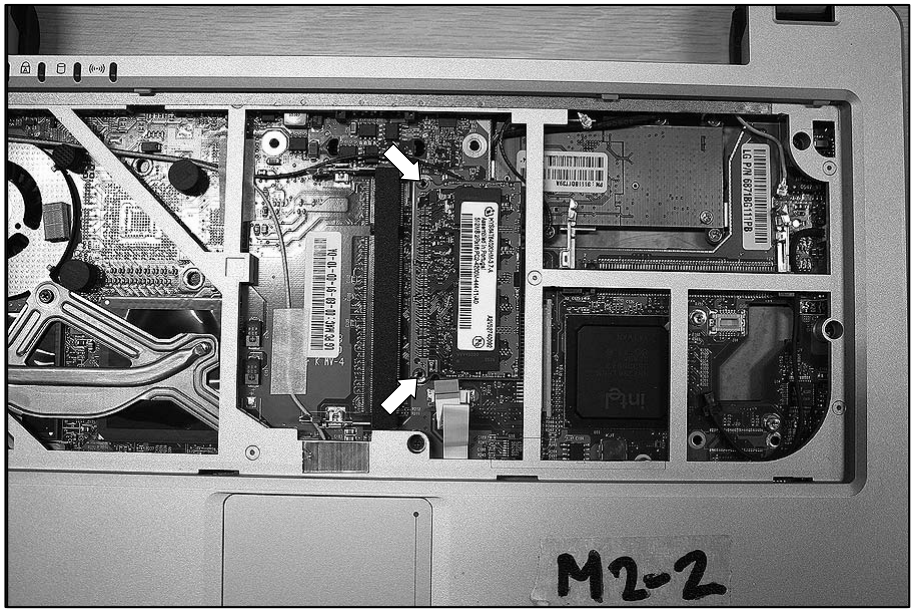

M2-2

■ 1050 Micro DIMM

※ Remove the following parts in order before replacing this part

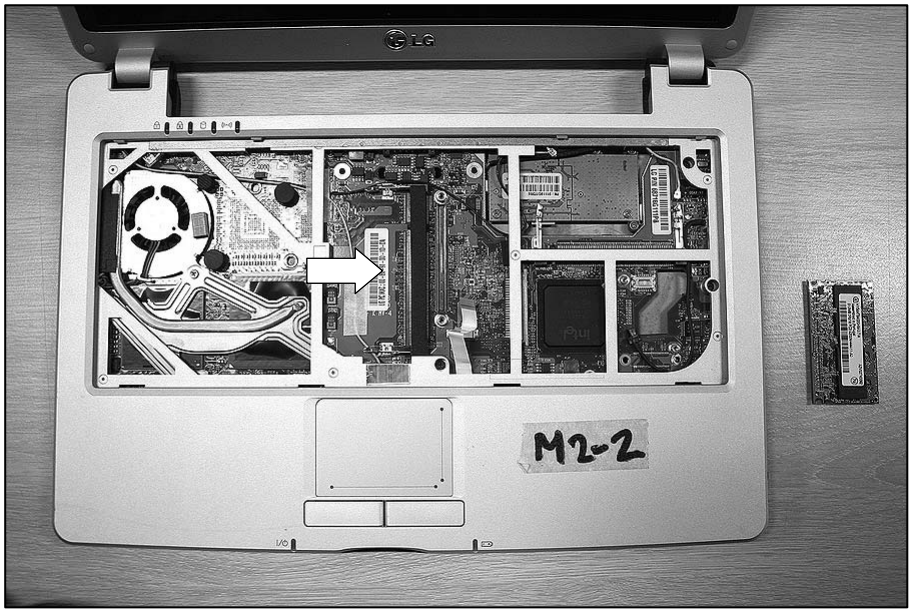
a. Battery Pack(1010) b. Keyboard(1020) c. WLAN Card(1030) d. MDC Card(1040)

1. Remove 2 screws.



No.	FRU No.	Specification	Qty
1	1SZZBA4017E	M2.0 x L3.0	2

2. Remove the Micro DIMM.



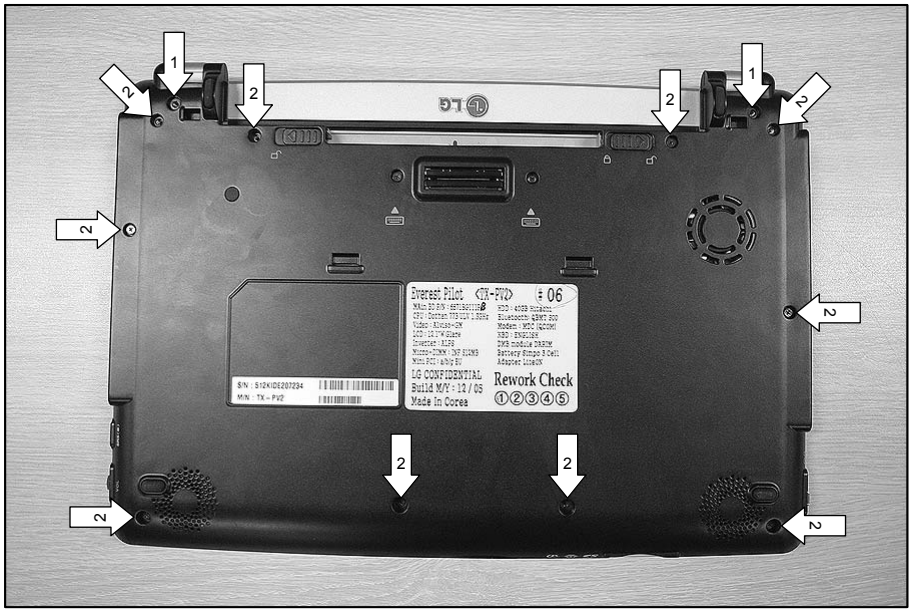
■ 1060 Keydeck

※ Remove the following parts in order before replacing this part

a. Battery Pack(1010) b. Keyboard(1020) c. WLAN Card(1030) d. MDC Card(1040)

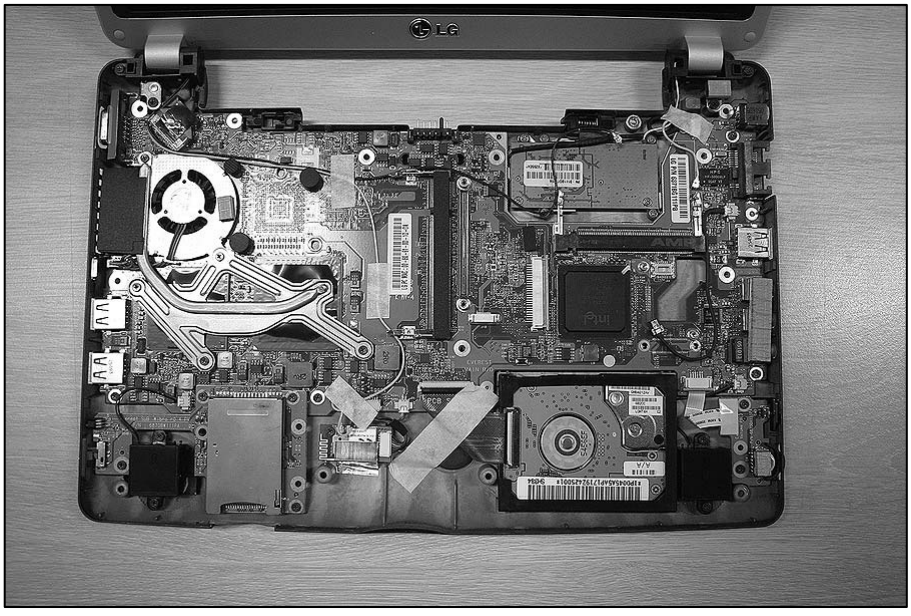
e. Micro DIMM(1050)

1. Remove 12 screws.



No.	FRU No.	Specification	Qty
1	1SZZBA4121B	M2.5 x L4.0	2
2	1SZZBA4122A	M2.0 x L5.0	10

2. Remove the Keydeck.



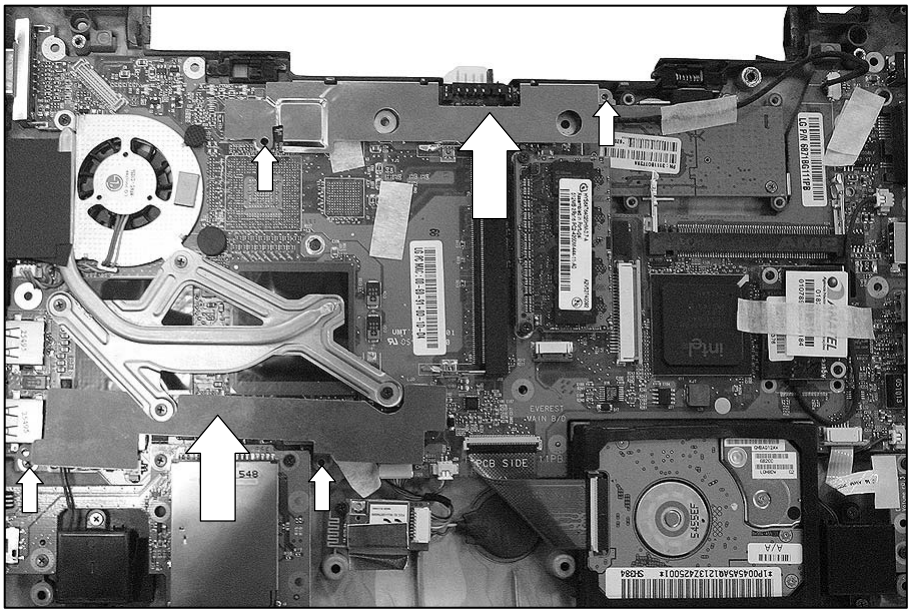
■ 1070 DMB Module

※ Remove the following parts in order before replacing this part

a. Battery Pack(1010) b. Keyboard(1020) c. WLAN Card(1030) d. MDC Card(1040)

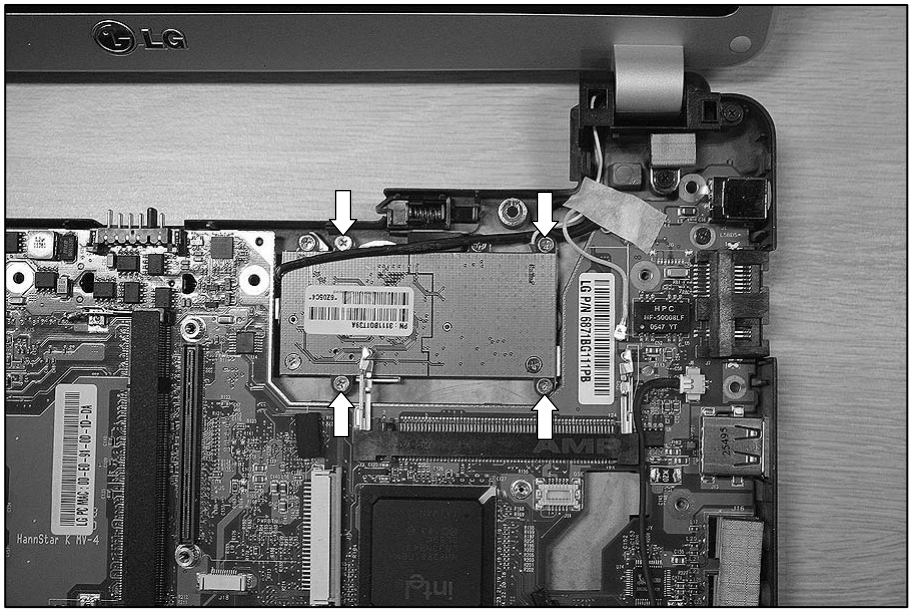
e. Micro DIMM(1050) f. Keydeck(1060)

1. Remove 4 screws, then remove 2 plates.



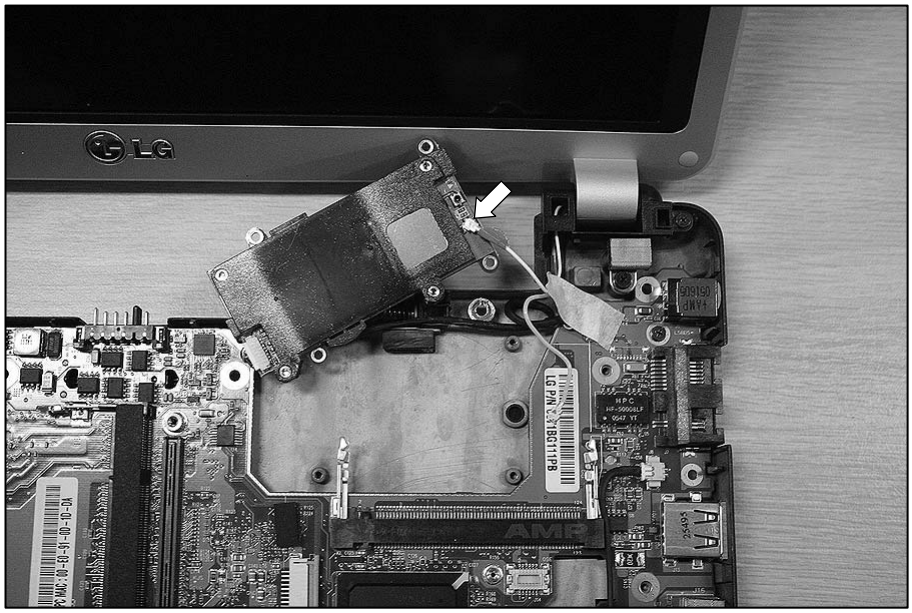
No.	FRU No.	Specification	Qty
1	1SZZBA4017E	M2.0 x L3.0	4

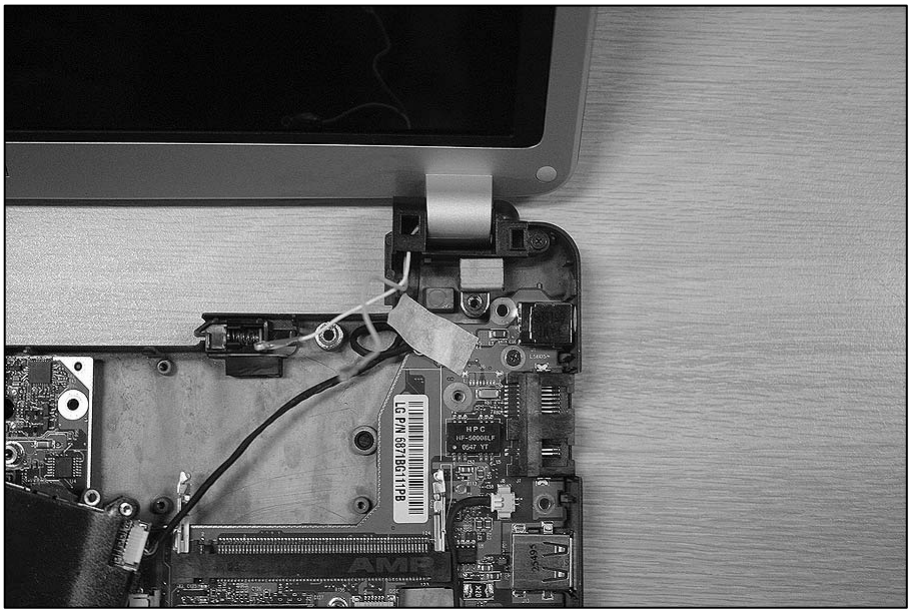
2. Remove 4 screws.



No.	FRU No.	Specification	Qty
1	1SZZBA4041A	M2.0 x L3.0	4

3. Disconnect the Antenna Cable.




LG P/N 6871BG111PB
HPC
AMP

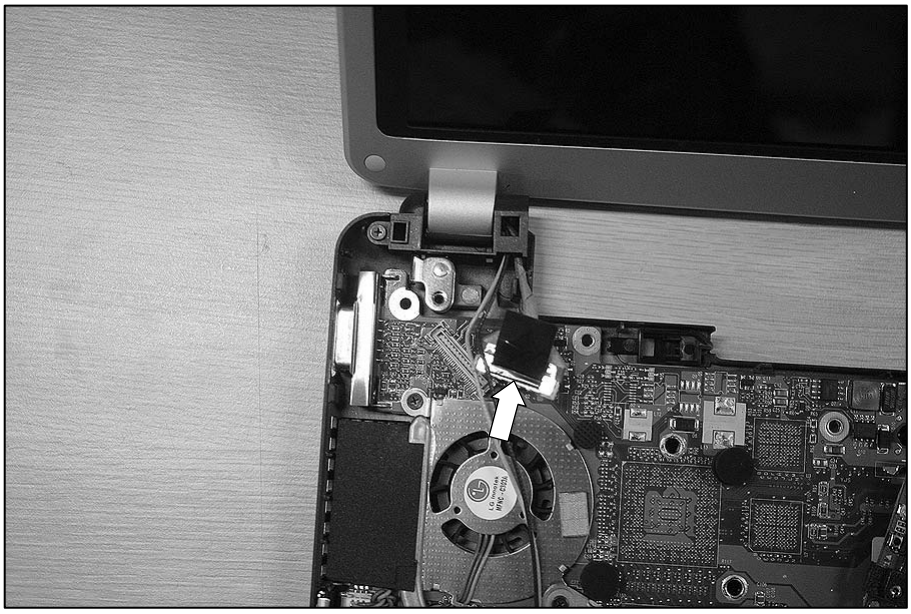
■ 1080 Display Module

※ Remove the following parts in order before replacing this part

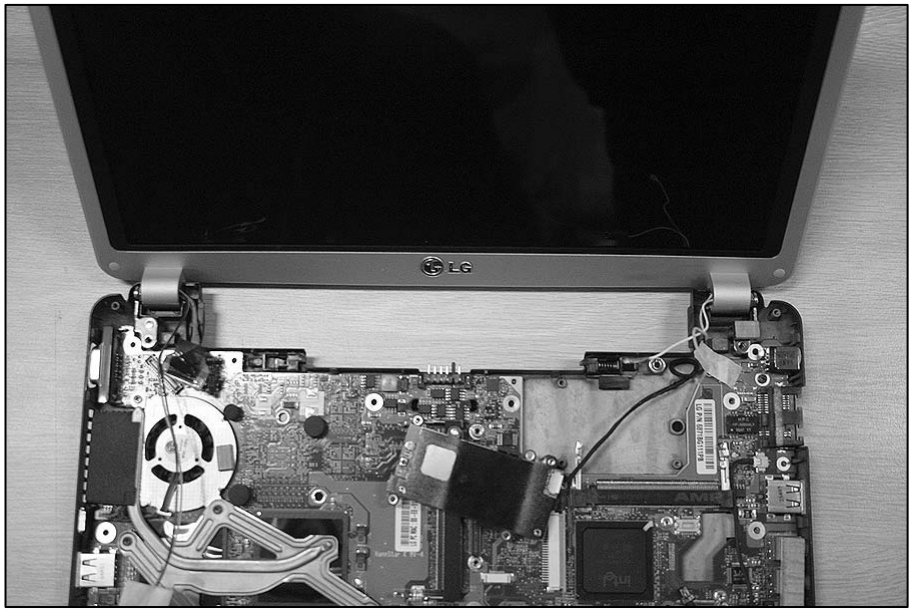
a. Battery Pack(1010) b. Keyboard(1020) c. WLAN Card(1030) d. MDC Card(1040)

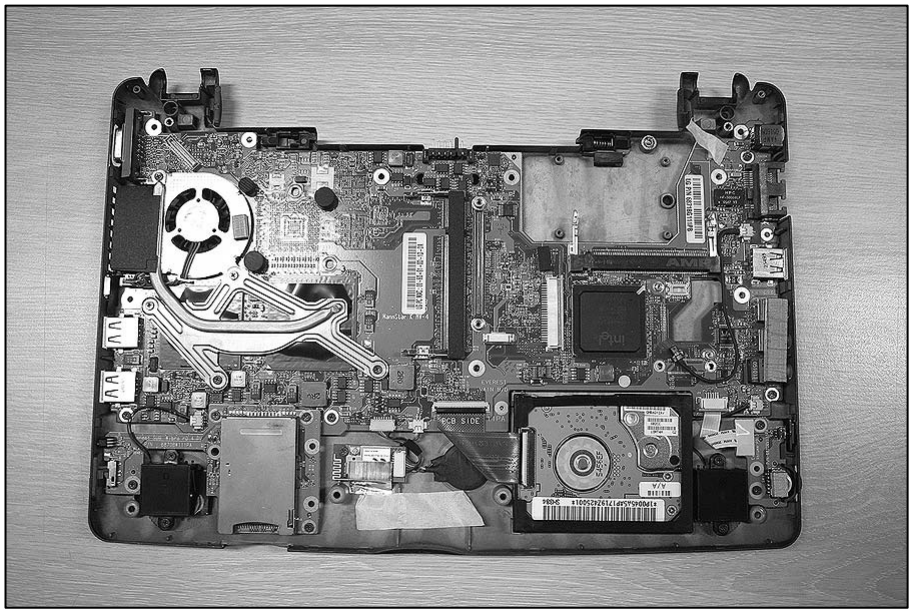
e. Micro DIMM(1050) f. Keydeck(1060) g. DMB Module(1070)

1. Disconnect the LCD Cable.



2. Remove the LCD Module.





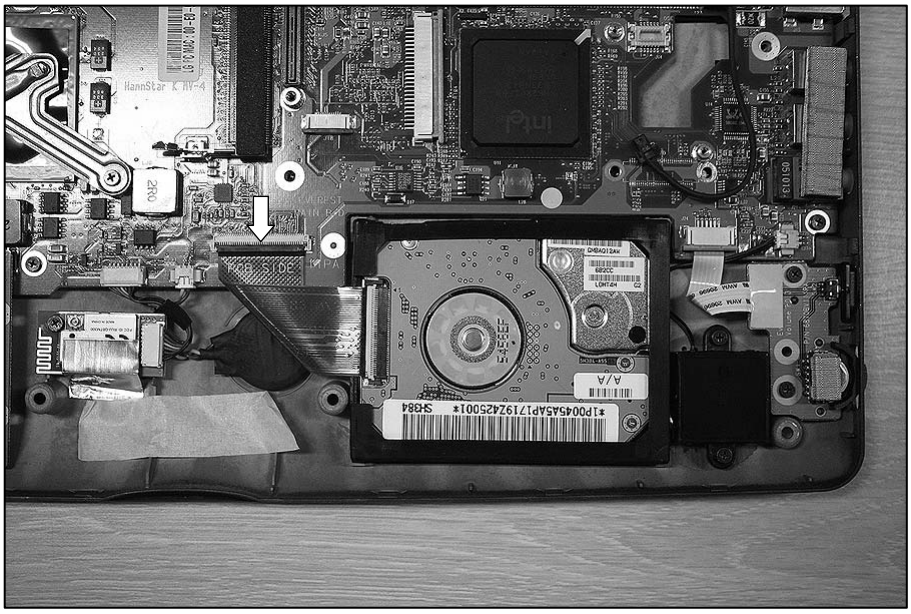
■ 1090 HDD

※ Remove the following parts in order before replacing this part

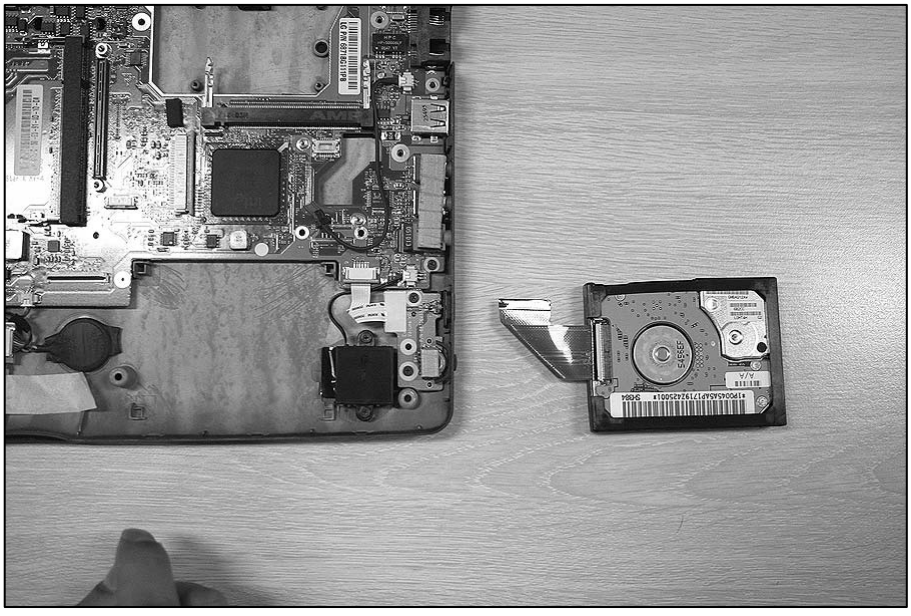
a. Battery Pack(1010) b. Keyboard(1020) c. WLAN Card(1030) d. MDC Card(1040)

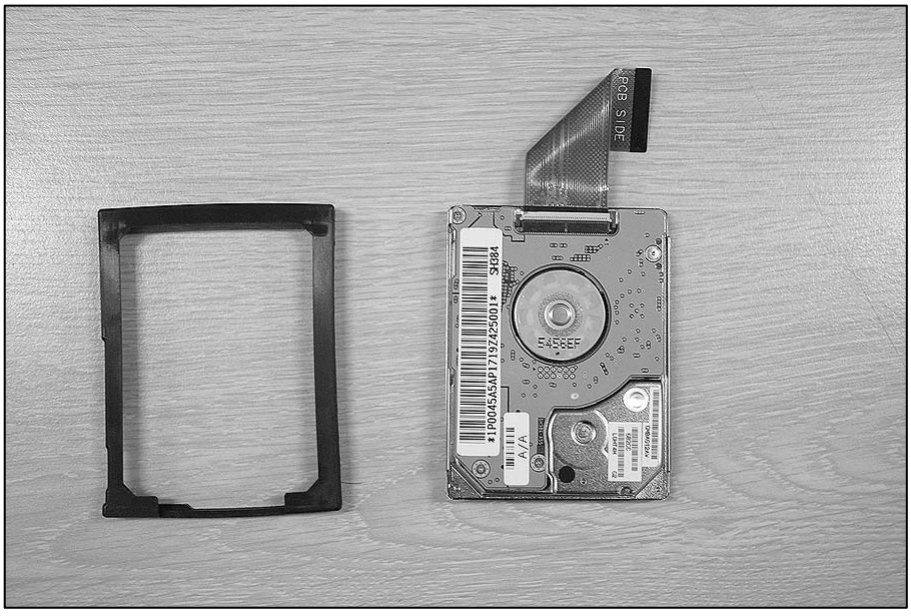
e. Micro DIMM(1050) f. Keydeck(1060) g. DMB Module(1070) h. Display Module(1080)

1. Disconnect the HDD Cable from the Main Board.



2. Remove the HDD.




PCB SIDE
5458EF

■ 1100 Fan Assembly

※ Remove the following parts in order before replacing this part

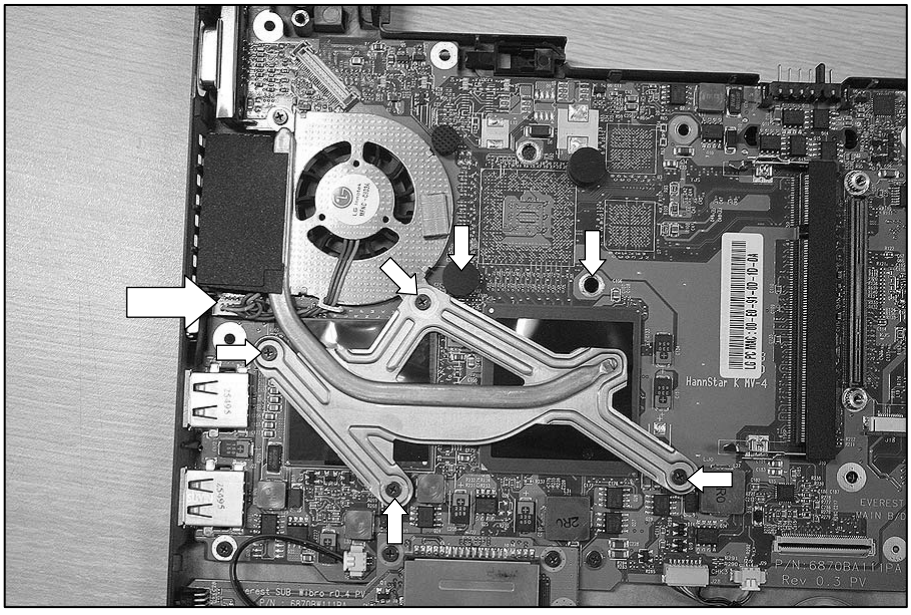
a. Battery Pack(1010) b. Keyboard(1020) c. WLAN Card(1030) d. MDC Card(1040)

e. Micro DIMM(1050) f. Keydeck(1060) g. DMB Module(1070) h. Display Module(1080)

i. HDD(1090)

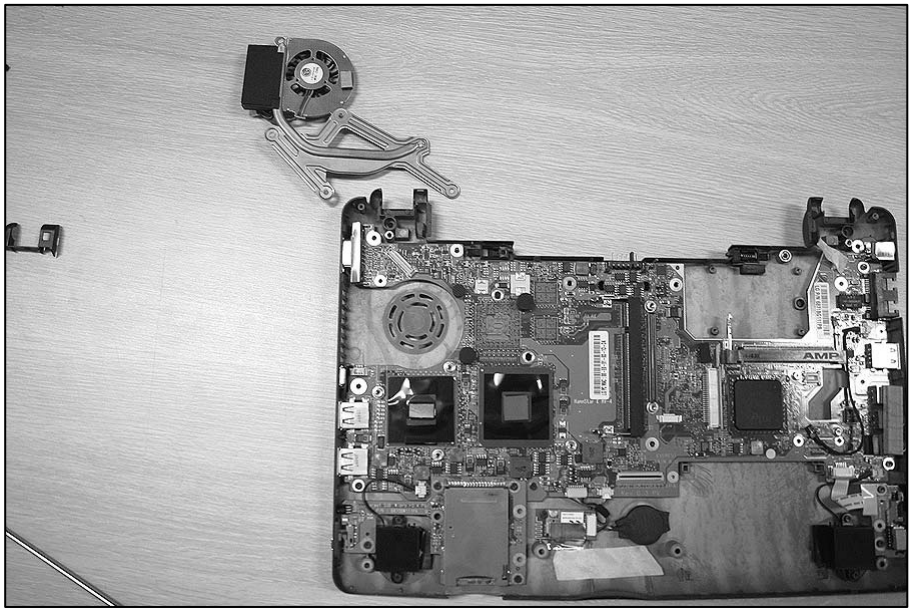
1. Remove 4 or 6 screws, then disconnect the Fan Assembly Connector.

   (GM: 4 screws, PM: 6 screws)



No.	FRU No.	Specification	Qty
1	1SZZBA4017E	M2.0 x L3.0	6

2. Remove the Fan Assembly.



■ 1110 5-in-1 Card Reader

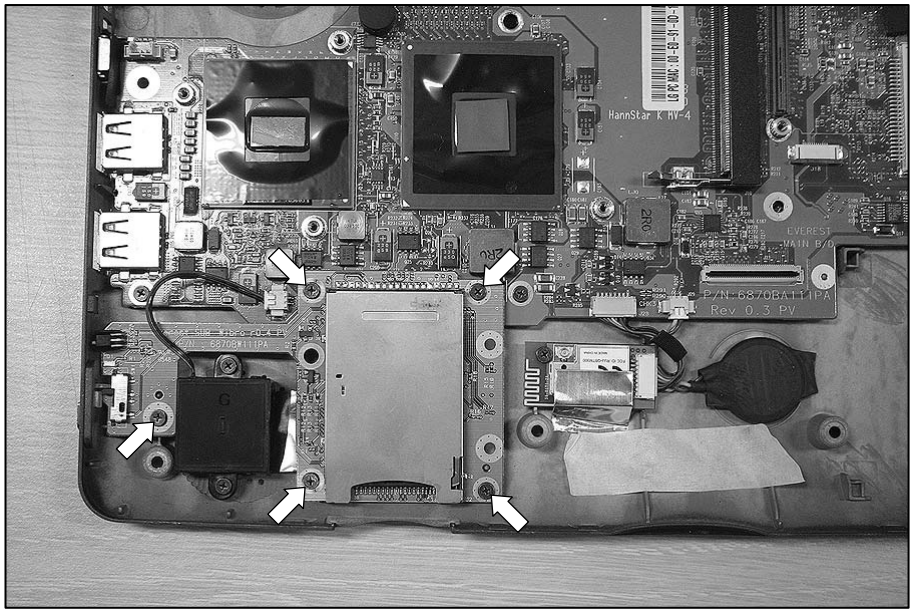
※ Remove the following parts in order before replacing this part

a. Battery Pack(1010) b. Keyboard(1020) c. WLAN Card(1030) d. MDC Card(1040)

e. Micro DIMM(1050) f. Keydeck(1060) g. DMB Module(1070) h. Display Module(1080)

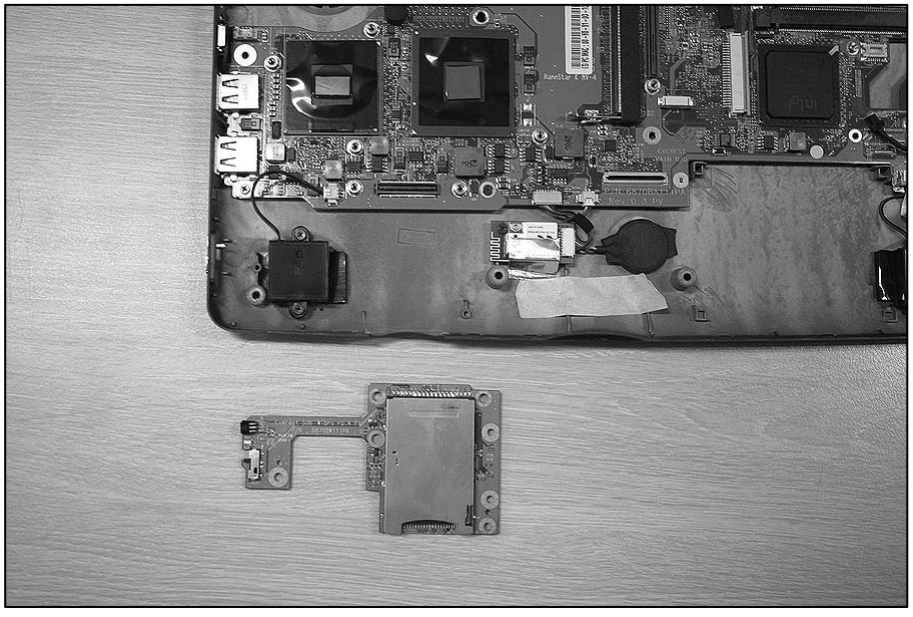
i. HDD(1090) j. Fan Assembly(1100)

1. Remove 5 screws.



No.	FRU No.	Specification	Qty
1	1SZZBA4017E	M2.0 x L3.0	5

2. Remove the 5-in-1 Card Reader.



■ 1120 Button Sub Board

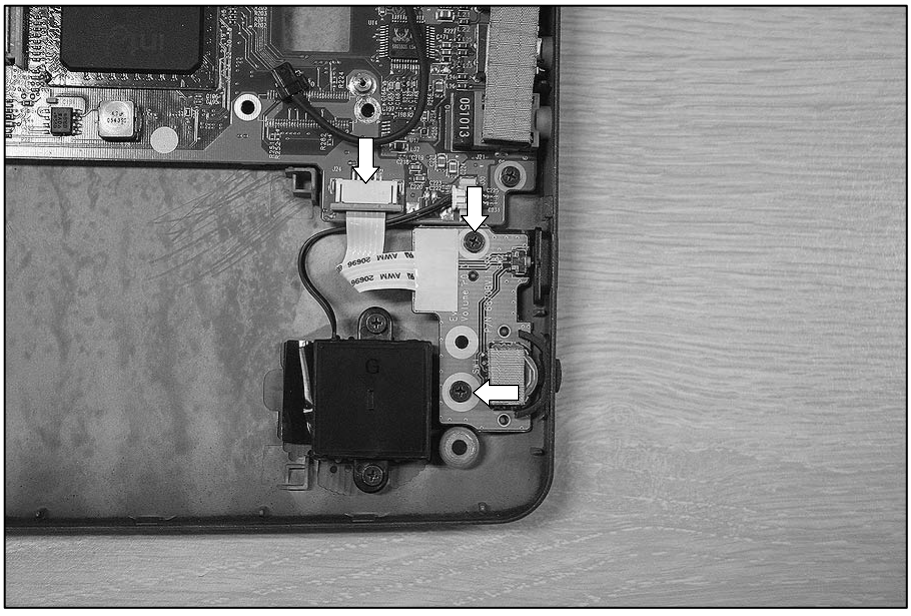
※ Remove the following parts in order before replacing this part

a. Battery Pack(1010) b. Keyboard(1020) c. WLAN Card(1030) d. MDC Card(1040)

e. Micro DIMM(1050) f. Keydeck(1060) g. DMB Module(1070) h. Display Module(1080)

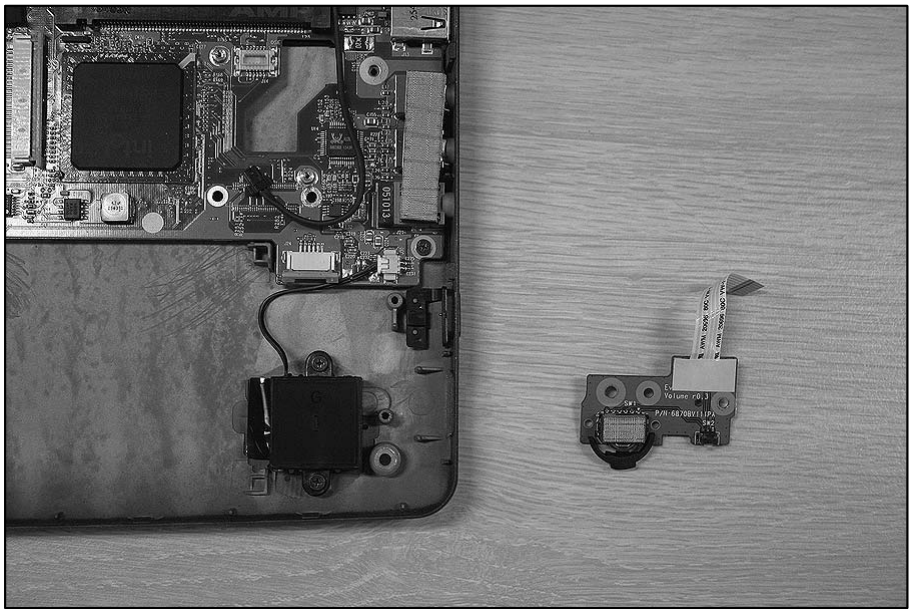
i. HDD(1090) j. Fan Assembly(1100) k. 5-in-1 Card Reader(1110)

1. Remove 2 screws, then disconnect the Button Sub Board Connector.



No.	FRU No.	Specification	Qty
1	1SZZBA4017E	M2.0 x L3.0	2

2. Remove the Button Sub Board.



■ 1130 Bluetooth Module

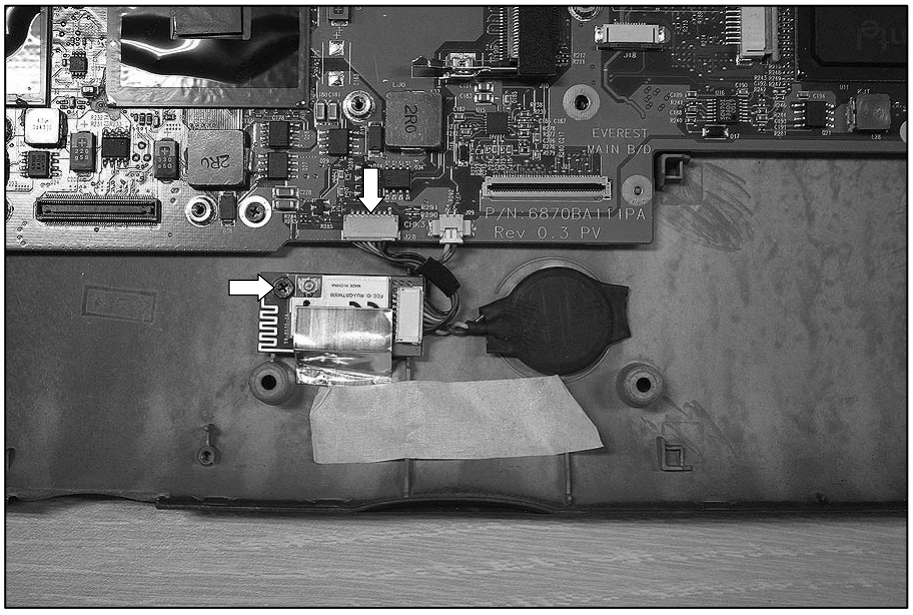
※ Remove the following parts in order before replacing this part

a. Battery Pack(1010) b. Keyboard(1020) c. WLAN Card(1030) d. MDC Card(1040)

e. Micro DIMM(1050) f. Keydeck(1060) g. DMB Module(1070) h. Display Module(1080)

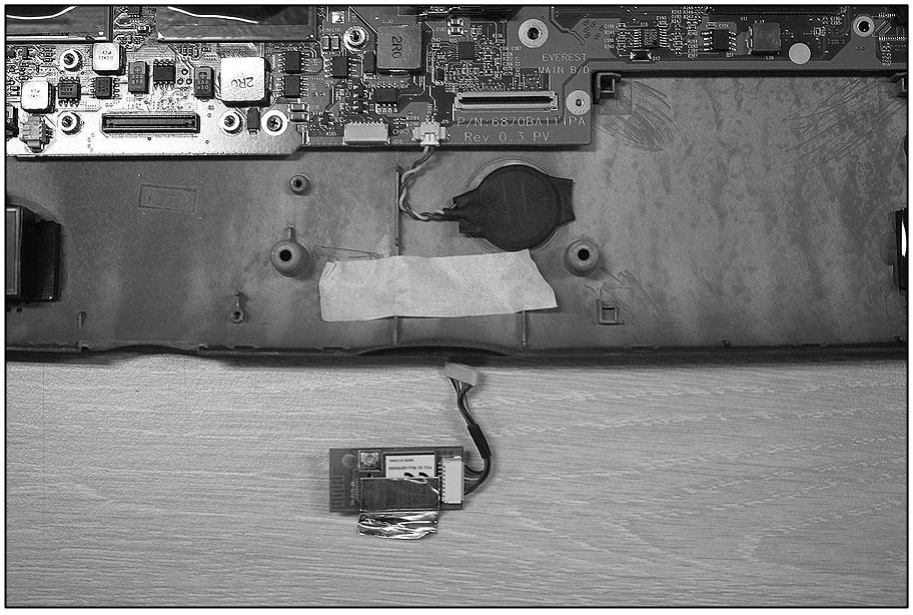
i. HDD(1090) j. Fan Assembly(1100) k. 5-in-1 Card Reader(1110) l. Button Sub Board(1120)

1. Remove a screw, then disconnect the Bluetooth Connector.



No.	FRU No.	Specification	Qty
1	1SZZBA4017E	M2.0 x L3.0	1

2. Remove the Bluetooth Module.



■ 1140 RTC Battery

※ Remove the following parts in order before replacing this part

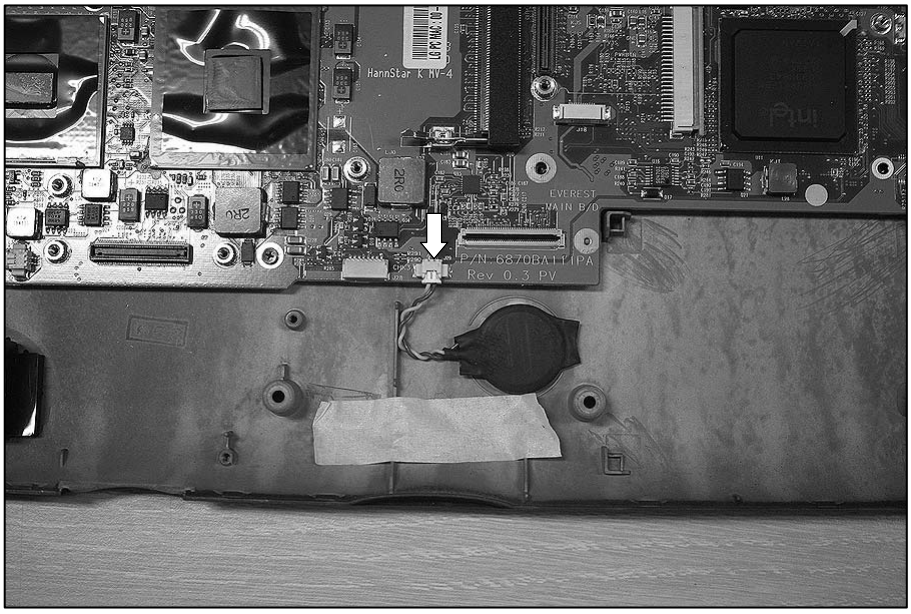
a. Battery Pack(1010) b. Keyboard(1020) c. WLAN Card(1030) d. MDC Card(1040)

e. Micro DIMM(1050) f. Keydeck(1060) g. DMB Module(1070) h. Display Module(1080)

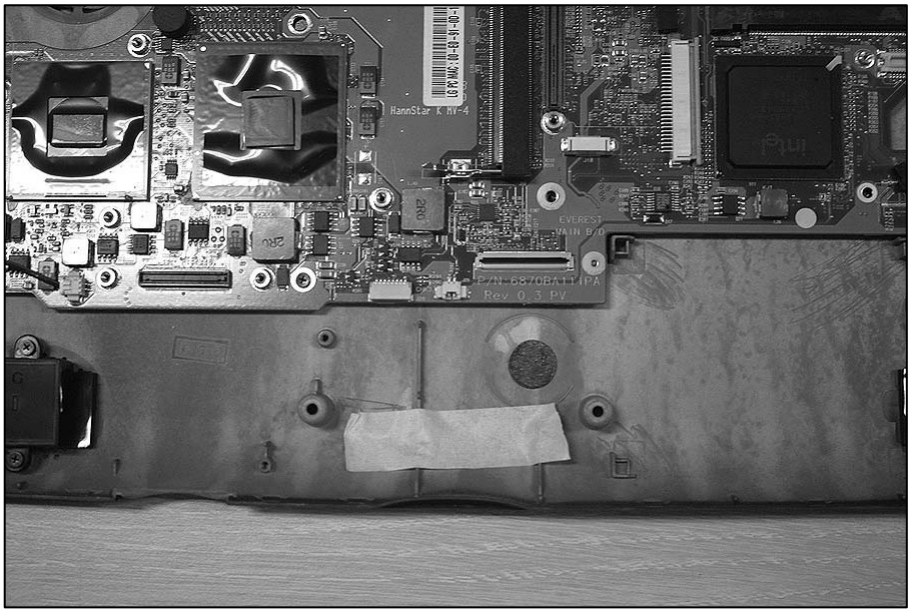
i. HDD(1090) j. Fan Assembly(1100) k. 5-in-1 Card Reader(1110) l. Button Sub Board(1120)

m. Bluetooth Module(1130)

1. Disconnect the RTC Connector.



2. Remove the RTC Battery.



■ 1150 Speaker

※ Remove the following parts in order before replacing this part

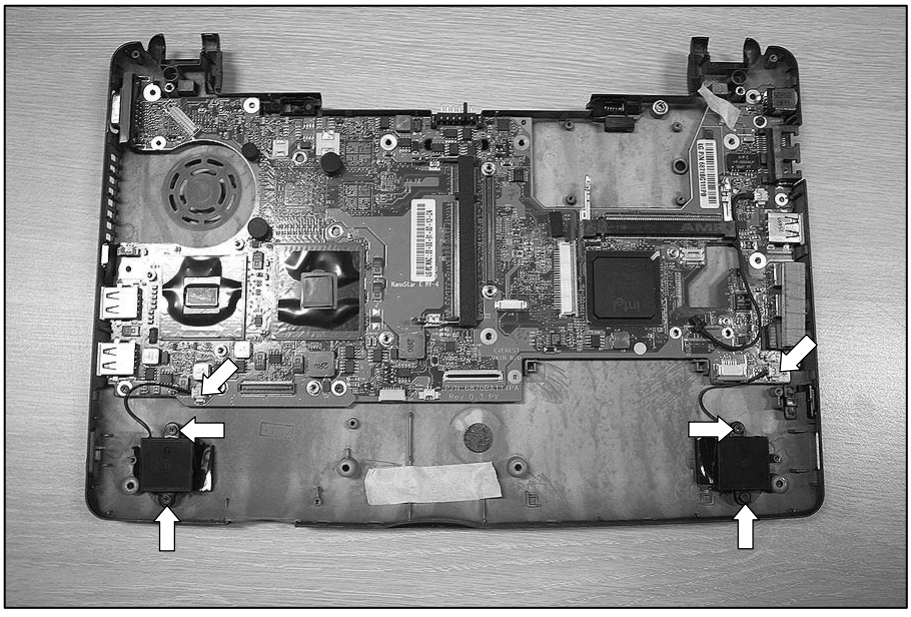
a. Battery Pack(1010) b. Keyboard(1020) c. WLAN Card(1030) d. MDC Card(1040)

e. Micro DIMM(1050) f. Keydeck(1060) g. DMB Module(1070) h. Display Module(1080)

i. HDD(1090) j. Fan Assembly(1100) k. 5-in-1 Card Reader(1110) l. Button Sub Board(1120)

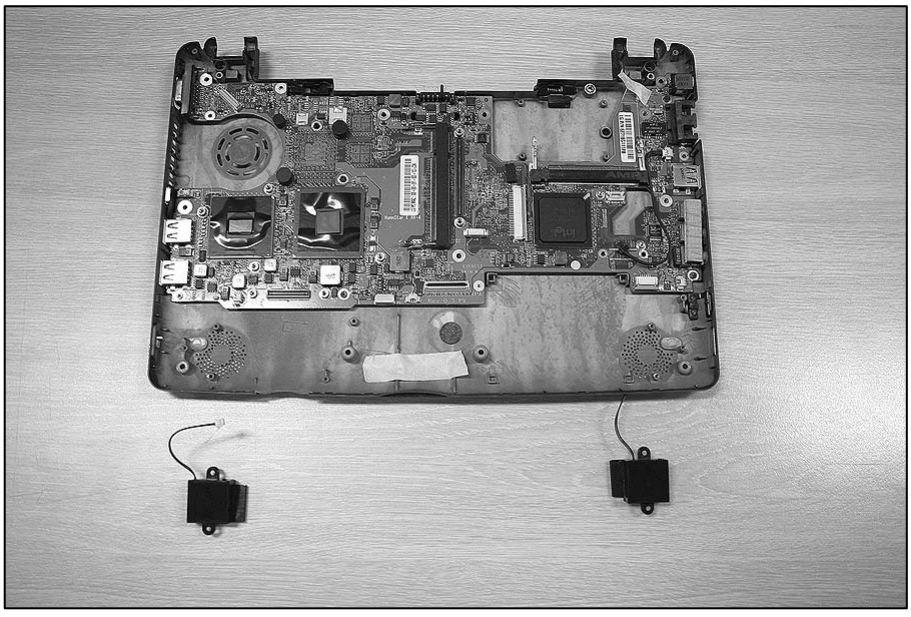
m. Bluetooth Module(1130) n. RTC Battery(1140)

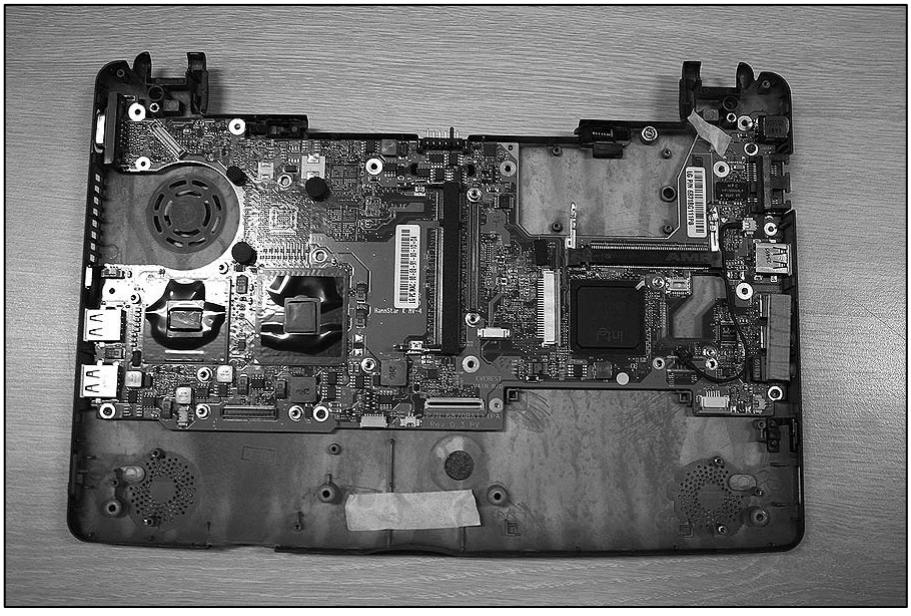
1. Remove 4 screws, then disconnect the Speaker Connectors.



No.	FRU No.	Specification	Qty
1	1SZZBA4017E	M2.0 x L3.0	4

2. Remove the Speakers.





■ 1160 Main Board

※ Remove the following parts in order before replacing this part

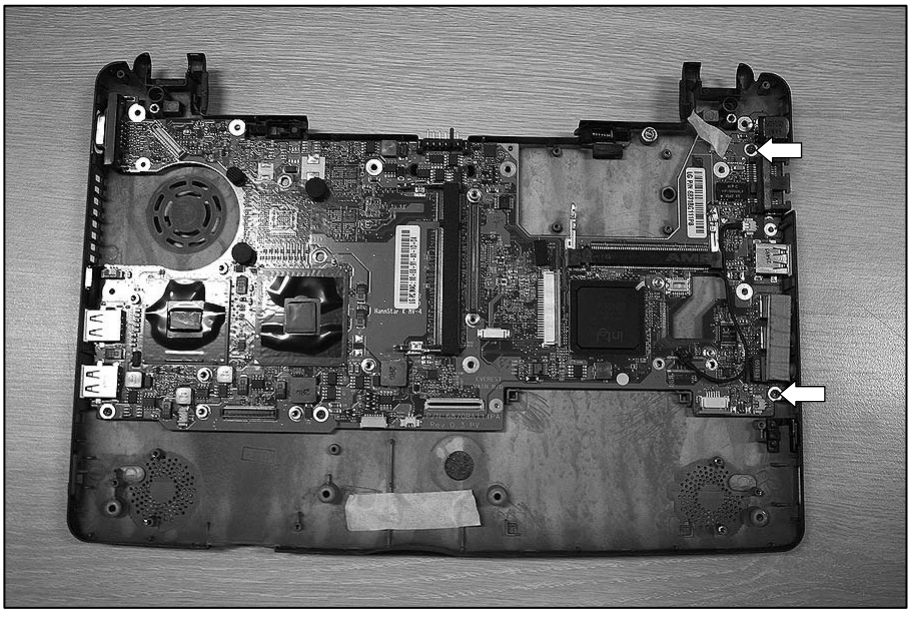
a. Battery Pack(1010) b. Keyboard(1020) c. WLAN Card(1030) d. MDC Card(1040)

e. Micro DIMM(1050) f. Keydeck(1060) g. DMB Module(1070) h. Display Module(1080)

i. HDD(1090) j. Fan Assembly(1100) k. 5-in-1 Card Reader(1110) l. Button Sub Board(1120)

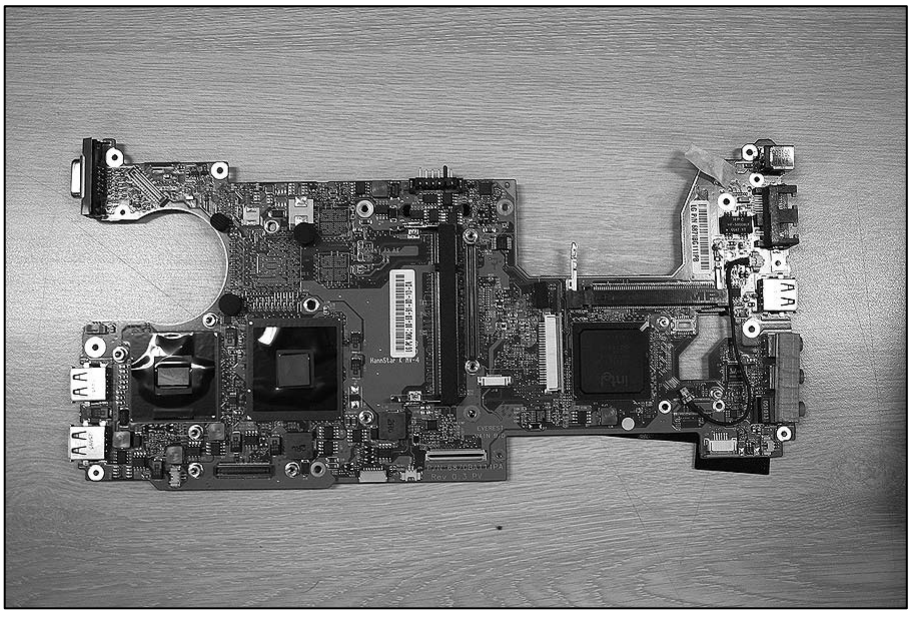
m. Bluetooth Module(1130) n. RTC Battery(1140) o. Speaker(1150)

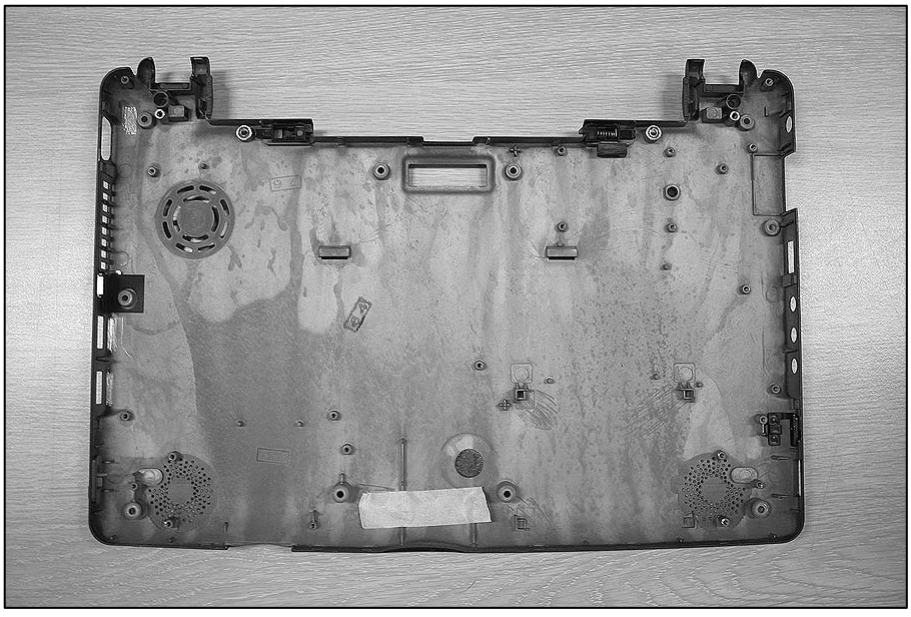
1. Remove 2 screws.

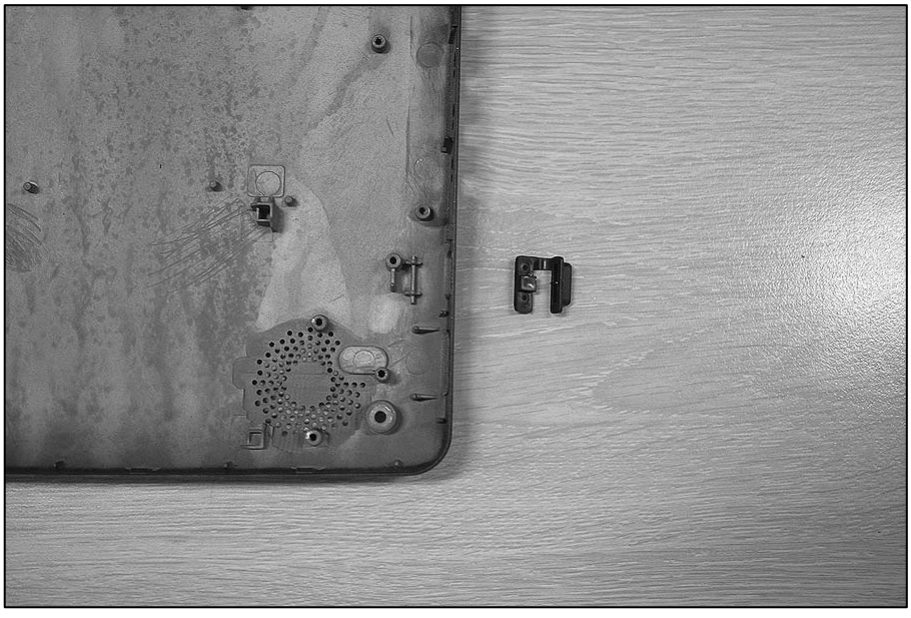


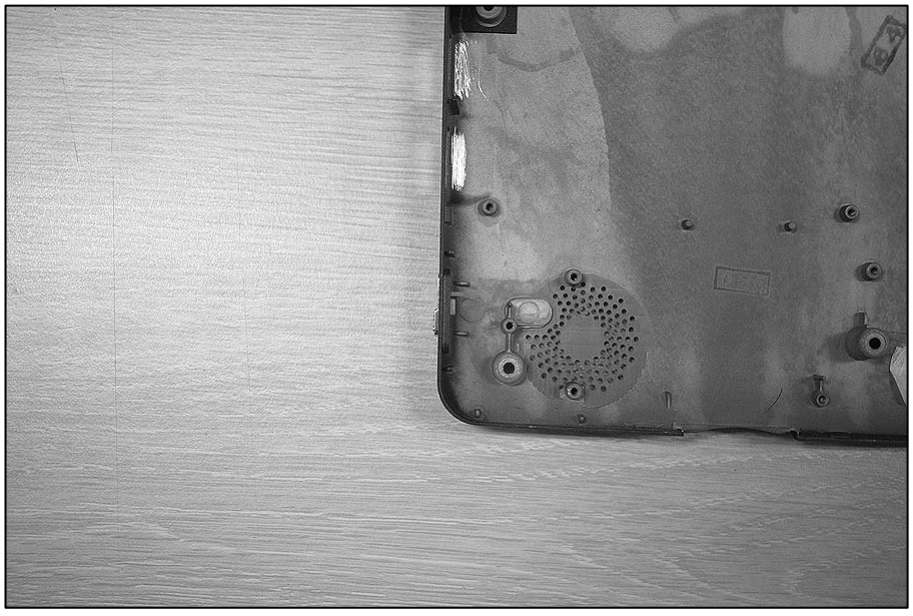
No.	FRU No.	Specification	Qty
1	1SZZBA4017E	M2.0 x L3.0	2

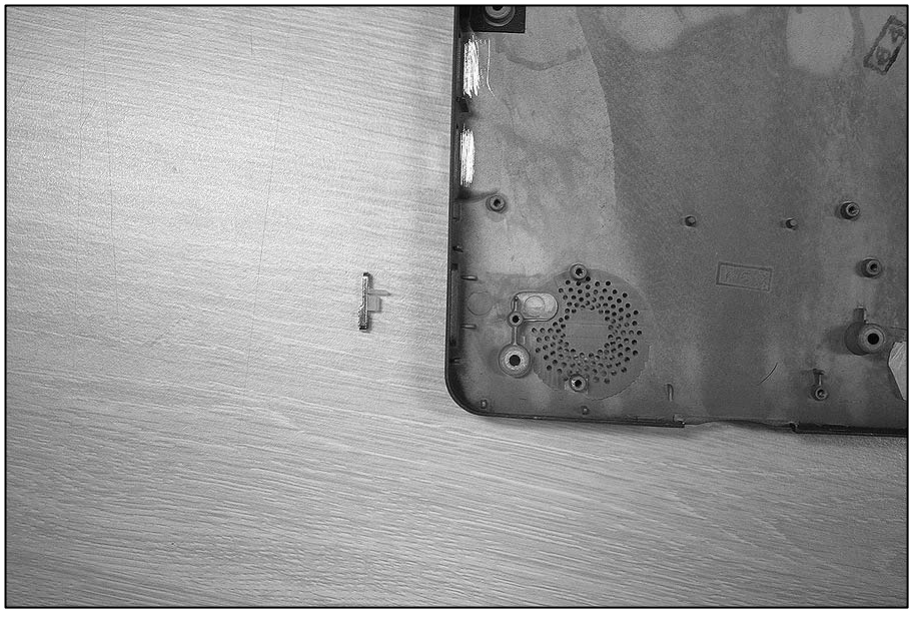
2. Remove the Main Board.

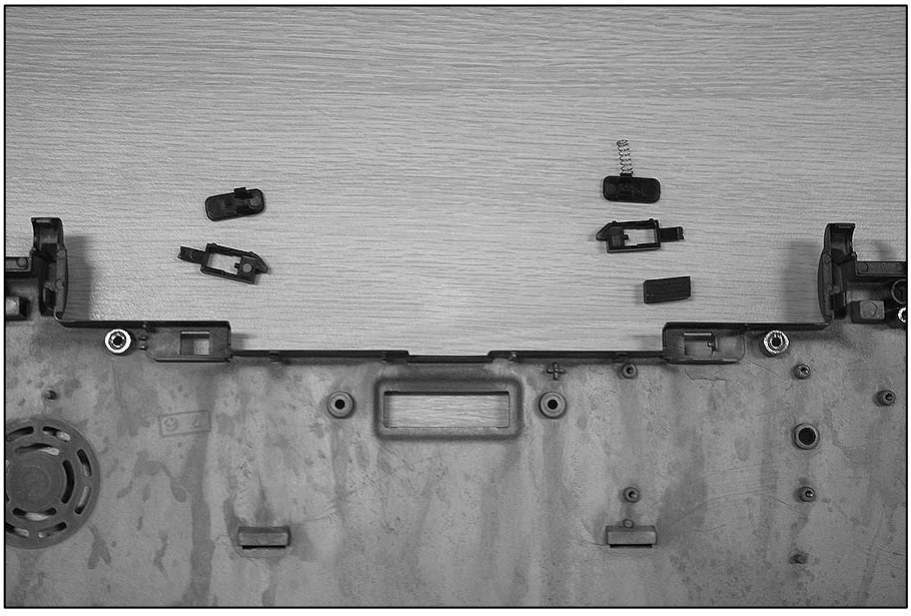












■ 1170 Display Exploded View

※ Remove the following parts in order before replacing this part

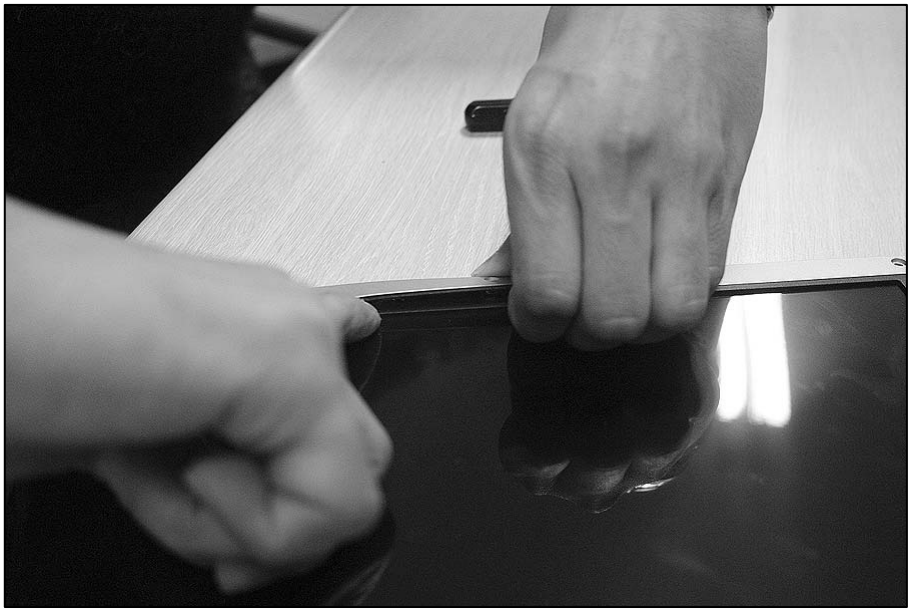
a. Battery Pack(1010) b. Keyboard(1020) c. WLAN Card(1030) d. MDC Card(1040)

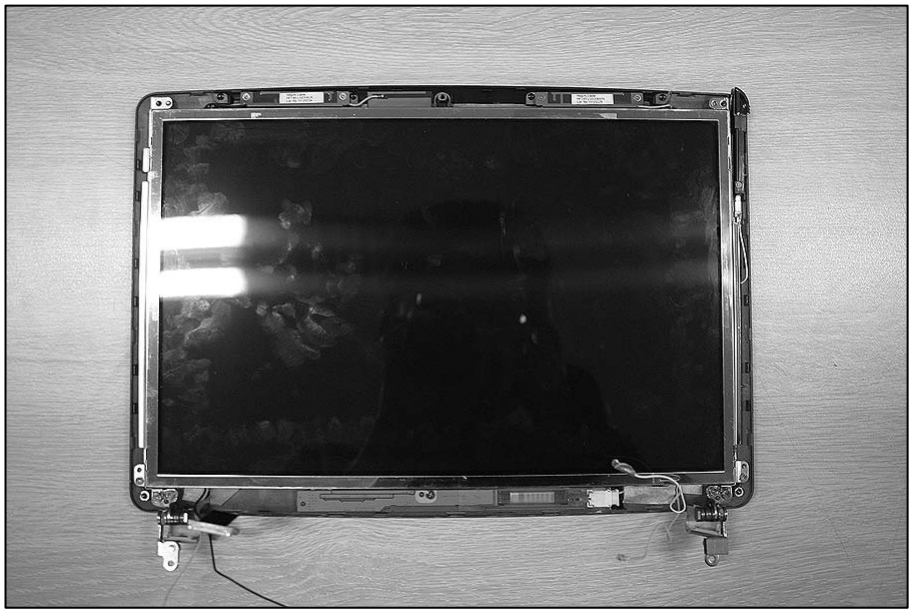
e. Micro DIMM(1050) f. Keydeck(1060) g. DMB Module(1070) h. Display Module(1080)

1. Using a knife, remove the rubbers that are covering screws, then remove 5 screws.

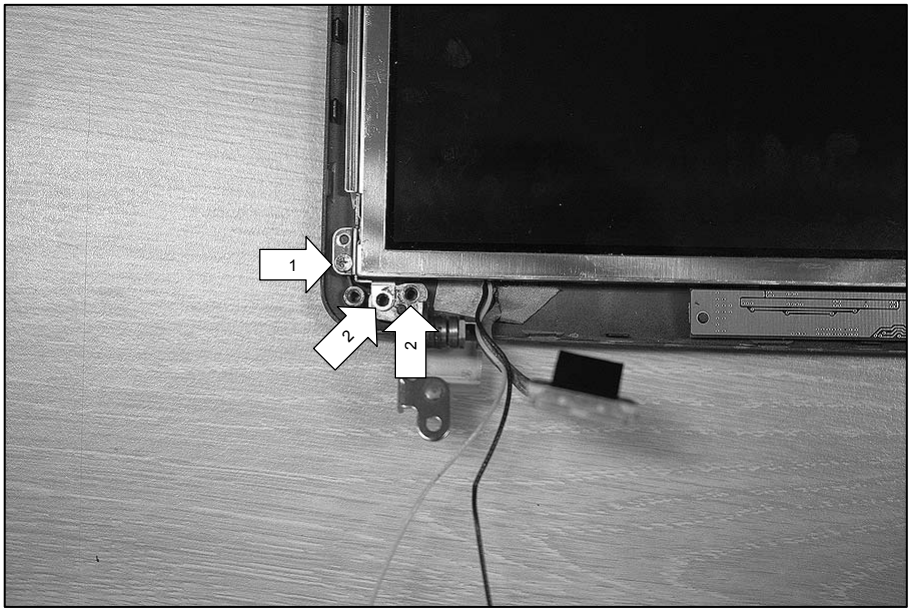
No.	FRU No.	Specification	Qty
1	1SZZBA4118A	M2.5xL3.5	5

2. Disassemble the LCD Front.



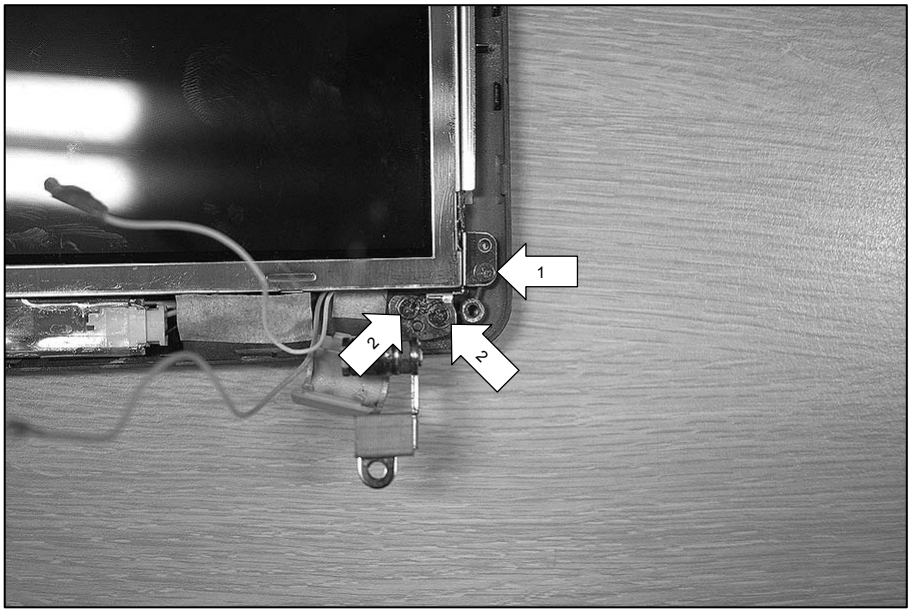


3. Remove 2 screws.

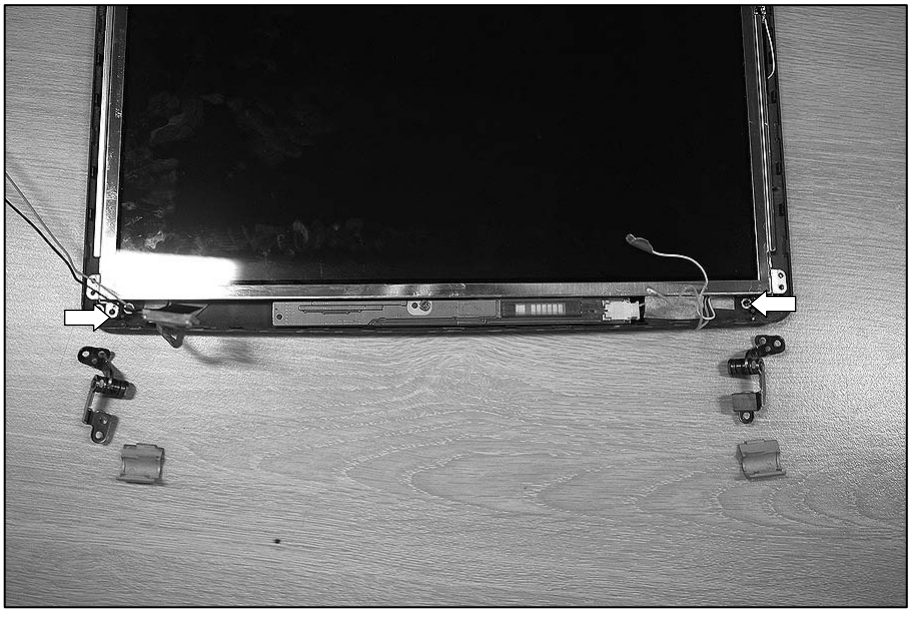


No.	FRU No.	Specification	Qty
1	1SZZBA4118A	M2.5xL3.5	1
2	1SZZBA4117A	M2.0xL3.5	2

4. Remove 3 screws.

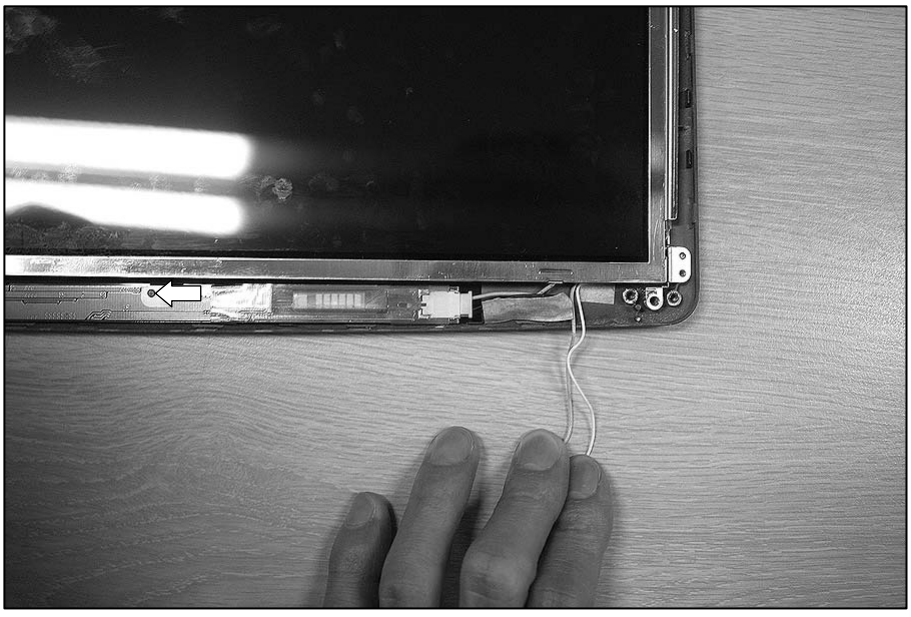


No.	FRU No.	Specification	Qty
1	1SZZBA4118A	M2.5xL3.5	1
2	1SZZBA4117A	M2.0xL3.5	2

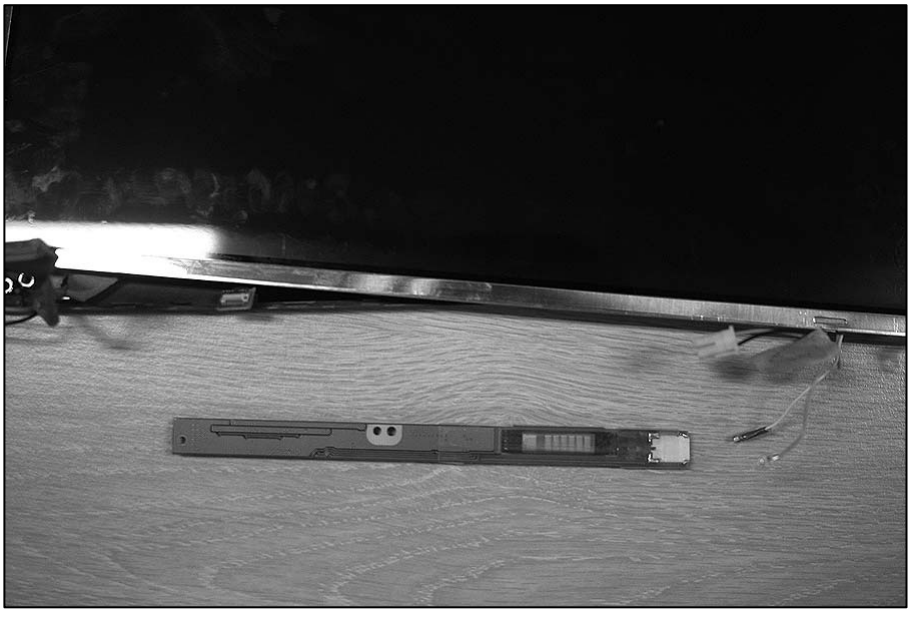


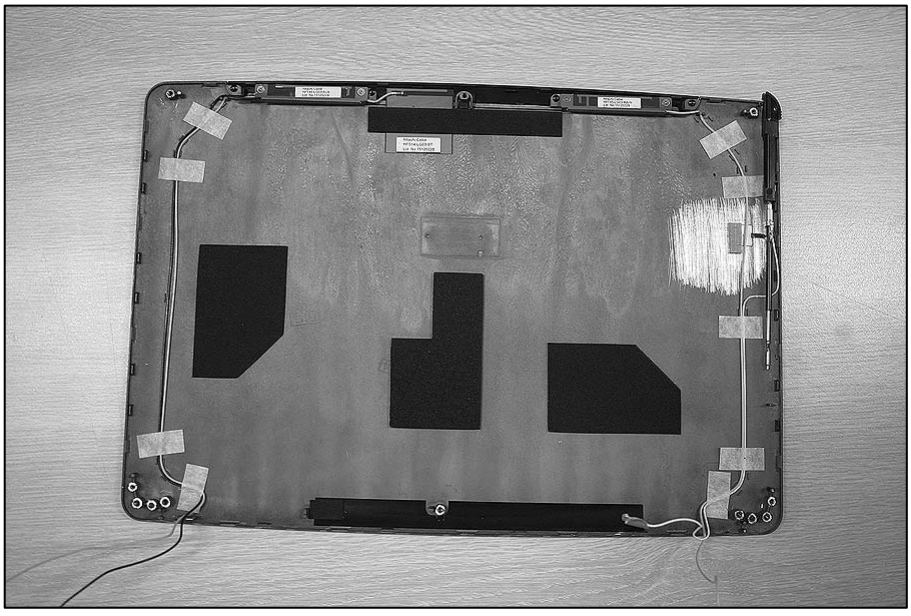
No.	FRU No.	Specification	Qty
1	1SZZBA4118A	M2.5xL3.5	2

5. Remove a screw.



No.	FRU No.	Specification	Qty
1	1SZZBA4118A	M2.5xL3.5	1

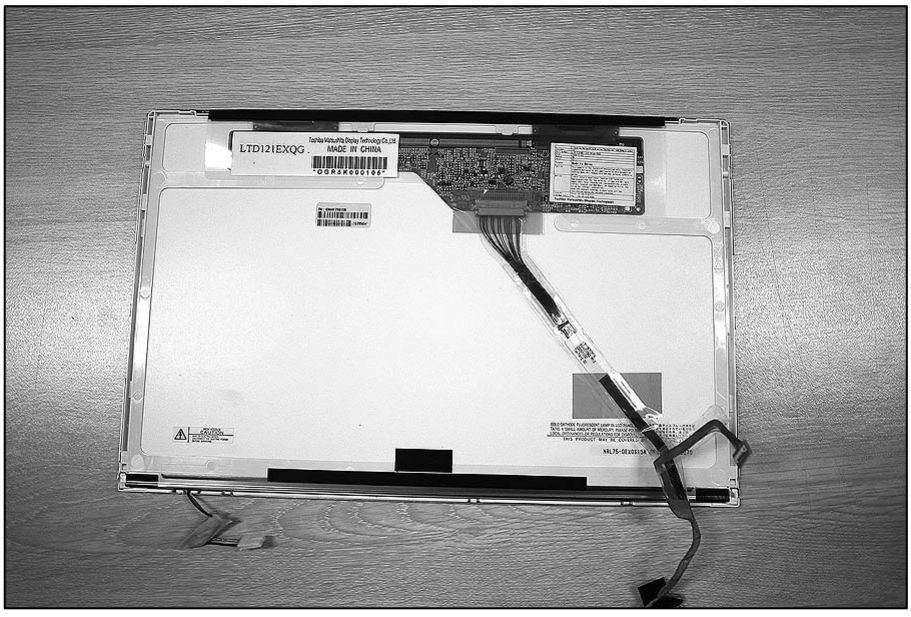


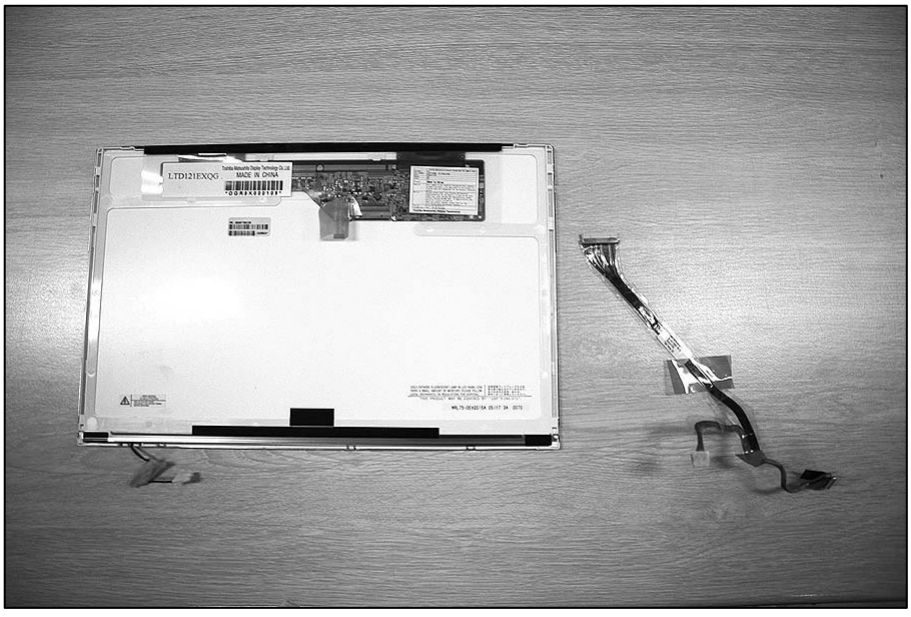


6. Remove 8 screws, then remove the LCD Brackets.

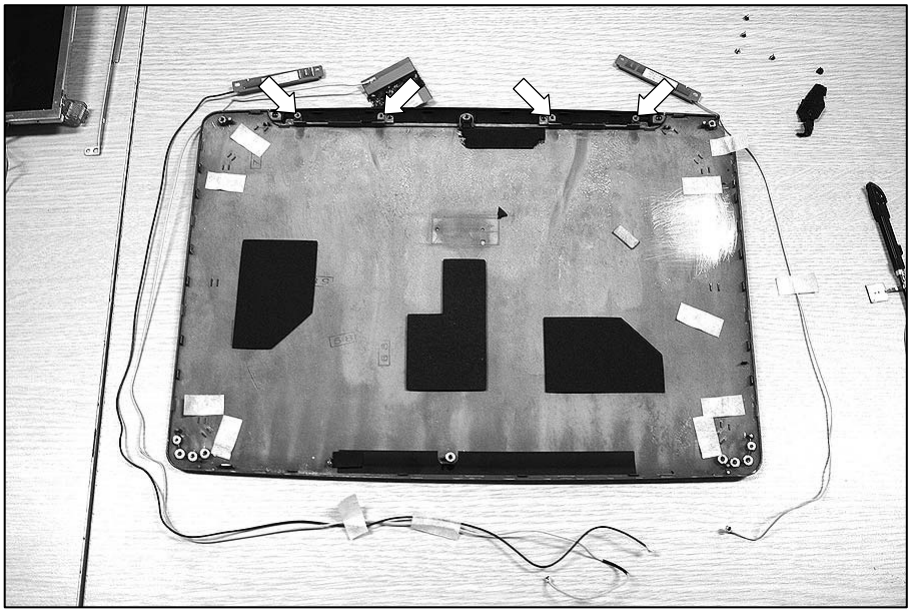
No.	FRU No.	Specification	Qty
1	1SZZBA4116A	M2.0xL2.2	4

6. Remove the LCD Cable.





7. Remove 4 screws, then remove the WLAN Antenna and Bluetooth Antenna.



No.	FRU No.	Specification	Qty
1	1SZZBA4116A	M2.0xL2.2	4

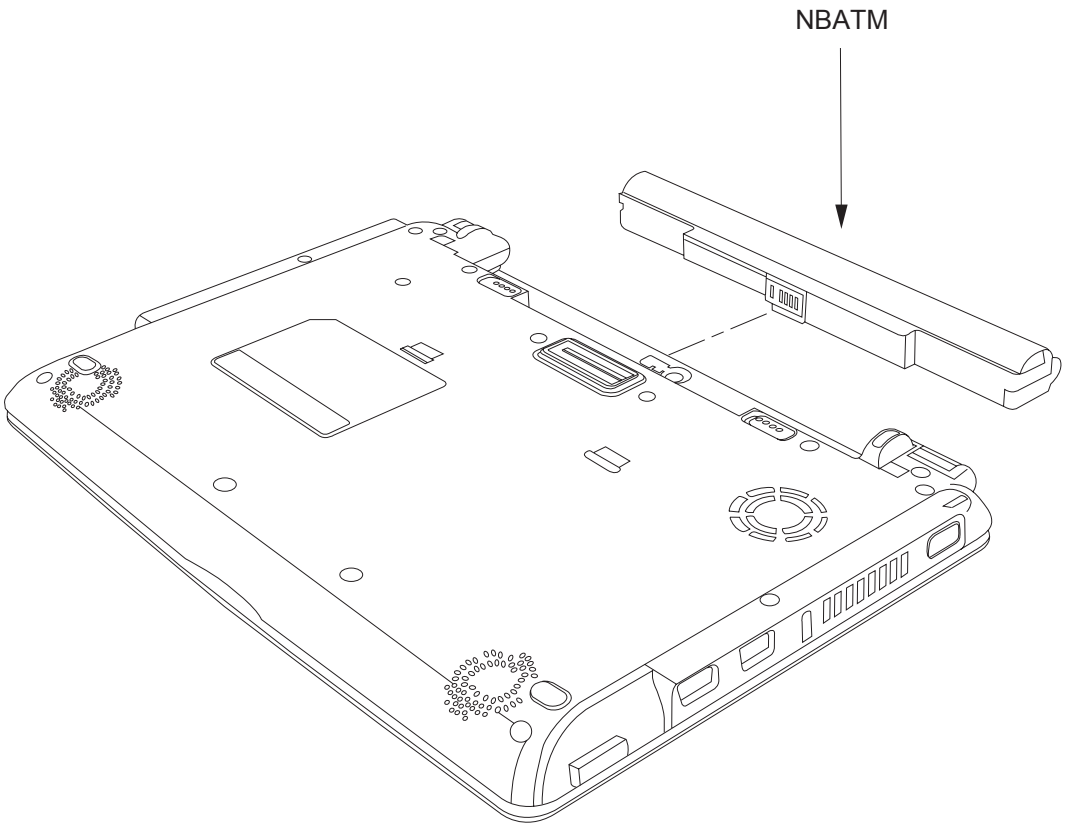
Chapter 6. Part lists

Location	P/N	Specifications	Remarks
NMEM1	0IMMR00184A	HYS64T64020HM-3.7-A INFINEON 214P MICRO-DIMM BULK 512MB 64	
NSCR1	1SZZBA4017E	+ D2.0 L3.0MM SWRH4 / [BK] DISPLAY BK [S-PJT] #0 TIP	
ESCR1	1SZZBA4019L	+ D3.8 L4.5MM SWRH4 PCB ETC.. FIX YL HUNTER WIDE M2 ROHS	External ODD
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MAGELLAN DISPLA	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MAGELLAN DISPLA	
NSCR2	1SZZBA4041A	+ D3.5 L3.0MM SWRH4 DUMMY COVER FIX SILVER MAGELLAN DISPLAY	External ODD
NSCRM	1SZZBA4122A	+ D4.0 L4.0MM SWRH4 M2.0 H1.0 BK EVEREST DISPLAY BOTTOM RO	
NSCRK	1SZZBA4121B	+ D4.0 L4.0MM SWRH4 M2.5 H1.0 BK EVEREST DISPLAY BOTTOM RO	
NSCRQ	1SZZBA4117A	+ D2.0 L3.5MM SWRH4 DISPLAY LCD SILVER EVEREST HEAD0.6T	
NSCRR	1SZZBA4118A	+ D2.5 L3.5MM SWRH4 DISPLAY HINGE SILVER EVEREST HEAD0.6T	
NSCRS	1SZZBA4116A	+ D2.0 L2.2MM SWRH4 DISPLAY LCD-BKT SILVER EVEREST HEAD 0.25T	
EODD1	2020B00040B	GCC-4244N HLDS 8X 24X 24X 24X 12.7MM WITHOUT BEZEL FOR BRAND NT-PC ROHS	External ODD
EODD1	2026B00014A	GSA-4082N HLDS 8X 24X 24X 24X 8X 24X 10X 2X 2X 2.4X 2.4X 2X 24X NOTE BOOK	External ODD
NCSER	3110BD0028A	EVEREST MG DISPLAY REAR X-NOTE BLUE	
NCSEB	3110BD0029A	EVEREST MG BOTTOM BLUE	
ECSET	3110BD1004A	EVEREST MG TOP EXT ODD	External ODD
ECSET	3110BD1004B	EVEREST MG TOP EXT ODD COMBO	External ODD
ECSEB	3110BD1005A	EVEREST MG BOTTOM EXT ODD	External ODD
NCSEK	3111B0TT11A	EVEREST KBD DECK SILVER DOMESTIC	
EETCB	3111B0TT35A	EVEREST FRONT ODD BEZEL	External ODD
NCSEF	3111B0TT38A	EVEREST DISPLAY FRONT WITH MAGNET	
NDMB1	3111B0TT39A	EVEREST . DMB ASSY	
EPLT1	3300BP4459A	PLATE, ODD SUPPORT HUNTER 15.4 WIDE .	External ODD
NFOTR	3610BM4040A	EVEREST CR REAR FOOT	
NFOTF	3610BM4041A	EVEREST CR FRONT FOOT	
EFOT1	3610BZ4021A	EVEREST CR DRIVE RUBBER FOOT	External ODD
NKBD1	3823B00390A	KOREA EVEREST OKI	
NKBD1	3823B00391A	ENGLISH EVEREST OKI	
NKBD1	3823B00392A	US INTER EVEREST OKI	
NKBD1	3823B00393A	RUSSIAN EVEREST OKI	
NKBD1	3823B00394A	TAIWAN EVEREST OKI	
NKBD1	3823B00395A	ARABIC EVEREST OKI	
NKBD1	3823B00396A	SPANISH EVEREST OKI	

Location	P/N	Specifications	Remarks
NKBD1	3823B00397A	HEBREW EVEREST OKI	
NKBD1	3823B00398A	FRENCH EVEREST OKI	
NKBD1	3823B00399A	PORTUGESE EVEREST OKI	
NKBD1	3823B00400A	NORWAY EVEREST OKI	
NKBD1	3823B00401A	SWEDEN/FINLAND EVEREST OKI	
NKBD1	3823B00402A	DENMARK EVEREST OKI	
NKBD1	3823B00403A	CANADIAN FRENCH EVEREST OKI	
NKBD1	3823B00404A	TURKEY EVEREST OKI	
NKBD1	3823B00405A	ITALY EVEREST OKI	
NKBD1	3823B00406A	HUNGARY EVEREST OKI	
NKBD1	3823B00407A	GERMAN EVEREST OKI	
NKBD1	3823B00408A	BRAZIL EVEREST OKI	
ELBL1	3850BZ4278A	ODD LABEL EVEREST SUPERMULTI	External ODD
ELBL1	3850BZ4278B	ODD LABEL EVEREST COMBO	External ODD
ELBL1	3850BZ4278C	ODD LABEL EVEREST SUPERMULTI ENGLISH	External ODD
ELBL1	3850BZ4278D	ODD LABEL EVEREST COMBO ENGLISH	External ODD
NSETF	3858BP4544A	. EVEREST BADGE X-NOTE LOGO	
NSETS	3858BZ4543A	. EVEREST SHEET, INSULATION INVERTOR	
NSETB	3858BZ4561A	EVEREST KENSHINGTON SHEET	
NHNGR	4774BD3006A	EVEREST ZN 7.0KGF-CM DISPLAY HINGE RIGHT	
NHNGL	4774BD3007A	EVEREST ZN 7.0KGF-CM DISPLAY HINGE LEFT	
NBRKR	4810BP3366A	EVEREST SUS LCD BKT HINGE RIGHT	
NBRKL	4810BP3367A	EVEREST SUS LCD BKT LEFT	
NBRKB	4810BP4312A	EVEREST SUS HOLD KENSHINGTON	
EETCS	4826BM4005A	DECO EVEREST SIDE EXT ODD	External ODD
NCSNF	4850BP4087A	EVEREST CR DISPLAY FRONT RUBBER SCREW	
NCSNH	4850BP4088A	EVEREST CR HDD RUBBER-DOSHIBA	
NCSN1	4850BZ4077A	EVEREST EVA DISPLAY REAR CUSHION LEFT	
NCSN2	4850BZ4078A	EVEREST EVA DISPLAY REAR CUSHION RIGHT	
NCSN3	4850BZ4086A	EVEREST RUBBER DISPLAY REAR INVERTOR	
EETCH	4930BM4055A	EVEREST POM STOPPER USB CABLE EXT ODD	External ODD
NNOBA	4940BM4203A	EVEREST ABS POWER KNOB (PC+ABS) DUAL INJECTING MOLDING	
NNOBV	4940BM4204A	EVEREST PC VOL. KNOB	

Location	P/N	Specifications	Remarks
NNOBS	4940BM4205A	EVEREST PC SWITCH SRS KNOB	
NNOBB	4940BM4206A	EVEREST PC BATTERY KNOB	
NNOBH	4940BM4207A	EVEREST PC HOLD BATTERY KNOB	
NSPRB	4970BW4570A	WD0.25MM ID3.0MM N9 L11.0MM 0.6KGF WINDRIVER BATEERY SPRIN	
NGSK1	4986BZ4187C	EMI FABRIC 6 X 10 X 3.0T OLYMPUS AUDIO	
NGSK2	4986BZ4187D	EMI FABRIC 6 X 10 X 1.5T OLYMPUS AUDIO	
NGSK3	4986BZ4224A	EMI FABRIC 14*6 EVEREST DMB ANT.	
NCAPL	5006BM3040A	CAP HINGE LEFT EVEREST PC	
NCAPR	5006BM3041A	CAP HINGE RIGHT EVEREST PC	
NCAPA	5006BM3042A	CAP ANTENNA EVEREST PC	
NCAPL	5006BM3043A	COVER EVEREST HINGE LEFT	
NCAPR	5006BM3044A	COVER EVEREST HINGE RIGHT	
NANTL	5011B00041A	WIRELESS ANT MAIN HITACHI EVEREST	
NANTR	5011B00042A	WIRELESS ANT AUX HITACHI EVEREST	
NANTB	5011B00043A	BLUETOOTH ANT HITACHI EVEREST	
NANTD	5011B00047A	. EVEREST DMB ANTENNA	
NPAD1	5022BZ4025A	THERMAL PCS-TC-11-T-13 19X19MM T130UM ZEBRA-2(MOBILE) GRAY	
NFAN1	5901B09293A	LGINNOTEC EVEREST THERMAL MODULE GM ASSY WITH PAD	
NFAN1	5901B09294A	LGINNOTEC EVEREST THERMAL MODULE PM ASSY WITH PAD	
NLCD1	6304FTS013A	LTD121EXUG-V01 TOSHIBA TFT COLOR 12.1 INCH WXGA(1280X800)	Non-Glare LCD
NLCD1	6304FTS013B	LTD121EXQG-V01 TOSHIBA TFT COLOR 12.1 INCH WXGA(1280X800)	Glare LCD
NSPKE	6401B02557A	. ESTEC 1W . 18 . EVEREST SPEAKER	
NPCD1	6410BM21002	PT8XXK9KB0A-033 LONGWELL KS 1000MM 3P CONN W/VELCRO TIE BL	
NPCD1	6410BM21601	SP-022+IS-034 H05VV-F I-SHENG KS 1000MM 3P CONN W/VELCRO T	
NACA1	6708BA0036P	PA-1650-02GR LITEON 65W 18.5V/3.5A 3PIN WITHOUT PFC WINDRI	
NNVE1	6708BI0100A	KUBNKM119A ALPS 12.1" GENERAL GENERAL EVEREST ROHS	
NNVE1	6708BI0101A	NIK07002.50 LOGAH 12.1" GENERAL GENERAL EVEREST ROHS	
NLAN1	6718M000013	WM3B2200BGMWF INTEL INTERFACE STANDARD IEEE802.11G 54M 4 LAYERS REV 3.0 PRO/WIRELESS 2200BG LAN MINI	MOW(802.11b/g)
NLAN1	6718M000014	WM3B2200BGRWF INTEL INTERFACE STANDARD IEEE802.11G 54M 4 L	ROW(802.11b/g)

Location	P/N	Specifications	Remarks
NLAN1	6718M000016	WM3B2915AGEUF INTEL IEEE 802.11ABG STANDARD PROTOCOL 54M 4 LAYERS REV 3.0 MINIPCI TYPE IIIB FORM FAC	EU(802.11 a/b/g)
NLAN1	6718M000018	WM3B2915AGRWF INTEL IEEE 802.11ABG STANDARD PROTOCOL 54M 4 LAYERS REV 3.0 MINIPCI TYPE IIIB FORM FAC	ROW(802. 11a/b/g)
NLAN1	6718M000028	WM3B2915AGKR2F INTEL IEEE 802.11ABG STANDARD PROTOCOL 54M MINIPCI TYPE IIIB FORM FACTOR	KOR(802. 11a/b/g)
NHDD1	6744A00007A	MK4008GAH TOSHIBA 40GB EIDE INNER NT	
NHDD1	6744A00008A	MK6008GAH TOSHIBA 60GB EIDE INNER NT	
NHDD1	6744A00011A	HTS426040G8CE00 HGST 40GB EIDE INNER NT	
NHDD1	6744A00012A	HTS426060G8CE00 HGST 60GB EIDE INNER NT	
NCABB	6851B09280A	BLUETOOTH CABLE AY 40L 8WIRE ROCKY 14T	
NCABL	6851B09281A	12W XGA LCD CABLE AY 142*136 30 EVEREST 12W	
ECABU	6851B09297A	ODD USB CABLE . 5 EVEREST	External ODD
NCABM	6851B34040A	MODEM CABLE 70 2 WINDRIVER, MDC CABLE	
NCABH	6870BH111PA	EVEREST 50MM * 30MM 0.8MM 2LAYERS REV 0.3 WIMTEC HDD FPC B	
ESUBM	6871BE111AA	EVEREST WIMTEC 6 LAYERS REV0.4 EXTERNAL ODD MAIN ASSY MP	External ODD
NMLB1	6871BG111AA	EVEREST LGE 10 LAYERS REV0.4 DOTHAN 1.3G GM MAIN B/D MAIN ASSY MP	MP MLB(GM)
NMDM1	6871BG869AB	MA560-3 LF(LEAD FREE) QCOM 2 LAYERS 1A CHIP REV.G MDC1.5	
NMLB1	6871BP111AC	EVEREST LGE 10 LAYERS REV0.4 DOTHAN 1.3G PM MAIN B/D ASSY MP	MP MLB(PM)
NSUBV	6871BV111AC	EVEREST WIMTEC 2 LAYERS REV0.4 VOLUME B/D MAIN ASSY MP	
NSUBW	6871BW111AA	EVEREST WIMTEC 6 LAYERS REV0.6 WIBRO SUB B/D MAIN ASSY MP	
NBATM	6911B00145A	2600MAH 3S-1P SIMPLO LI-ION CYLINDERICAL EVEREST SANYO PRI	
NBATM	6911B00145B	2600MAH 3S-1P SIMPLO LI-ION CYLINDERICAL EVEREST SANYO PRIMARY ENGLISH	
NBATO	6911B00146A	1900MAH 3S-2P SIMPLO LI-ION PRISMATIC EVEREST SANYO SECOND	
NBATC	6911BZ0054B	210MAH CR2032 WIM TECH NI-MH COIN OLYMPUS 50MM	
NBLU1	6871B0T62AC	QBTM300 QCOM 4 LAYERS VER.2A2 BLUETOOTH2.0 EDR USB MODULE+IVT S/W	MP적용 단품P/N
NPLT1	3300BP4500A	PLATE EVEREST SHIELD REAR	
NPLT2	3300BP4501A	PLATE EVEREST SHIELD FRONT NEW	
NGSK4	4986BZ4176A	EMI FABRIC 6*20, 1T MCKINLEY ENTRY & ALVISO UPPER PCMCIA SUB BD (SD SOCKET)	
NCVRL	5006BM3043A	COVER EVEREST HINGE LEFT	
NCVRR	5006BM3044A	COVER EVEREST HINGE RIGHT	
NCSN4	4850BZ4086A	EVEREST SPONGE DISPLAY ANTENNA CUSHION	
NSETR	3858BP4544A	. EVEREST BADGE LG LOGO.	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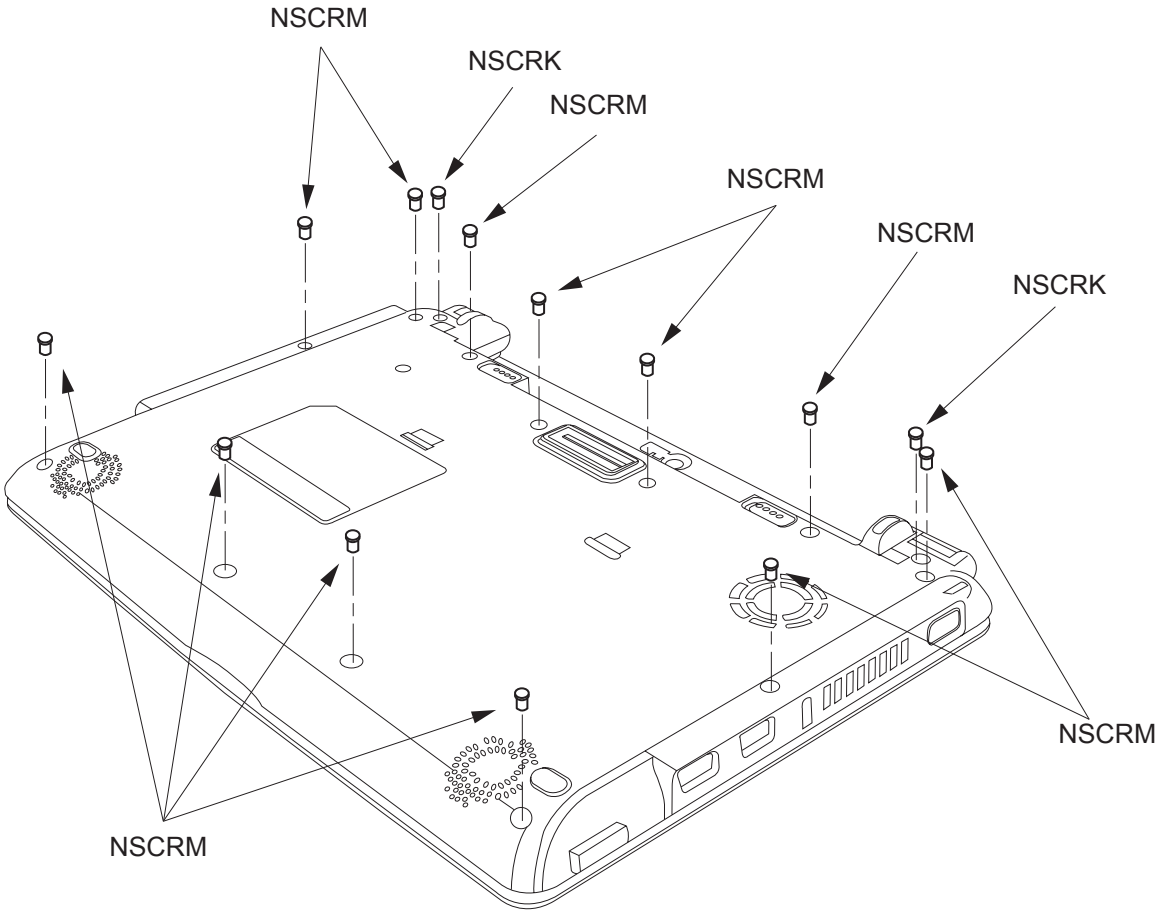
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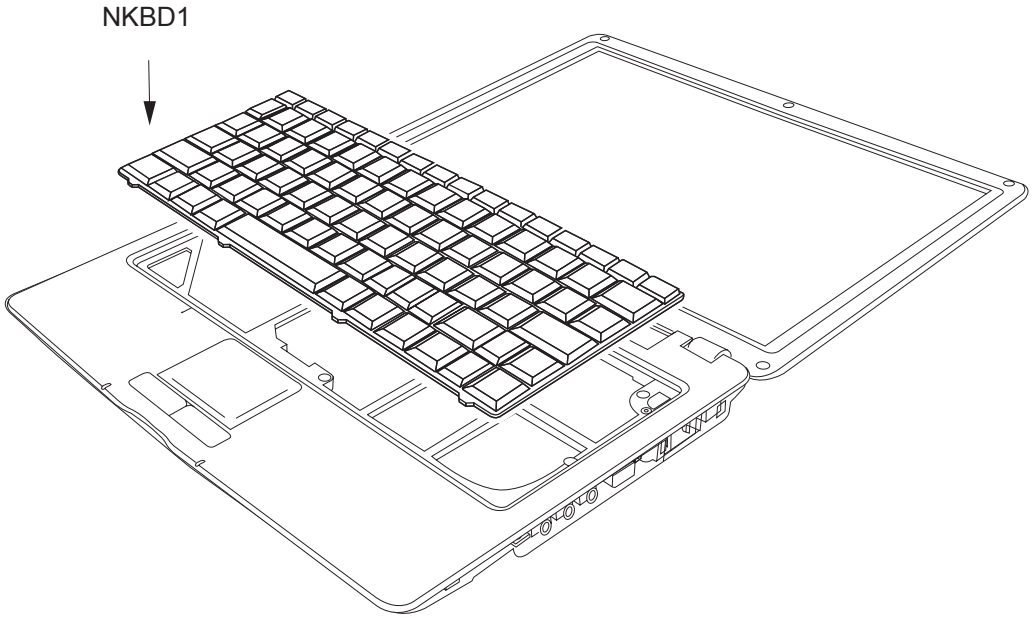
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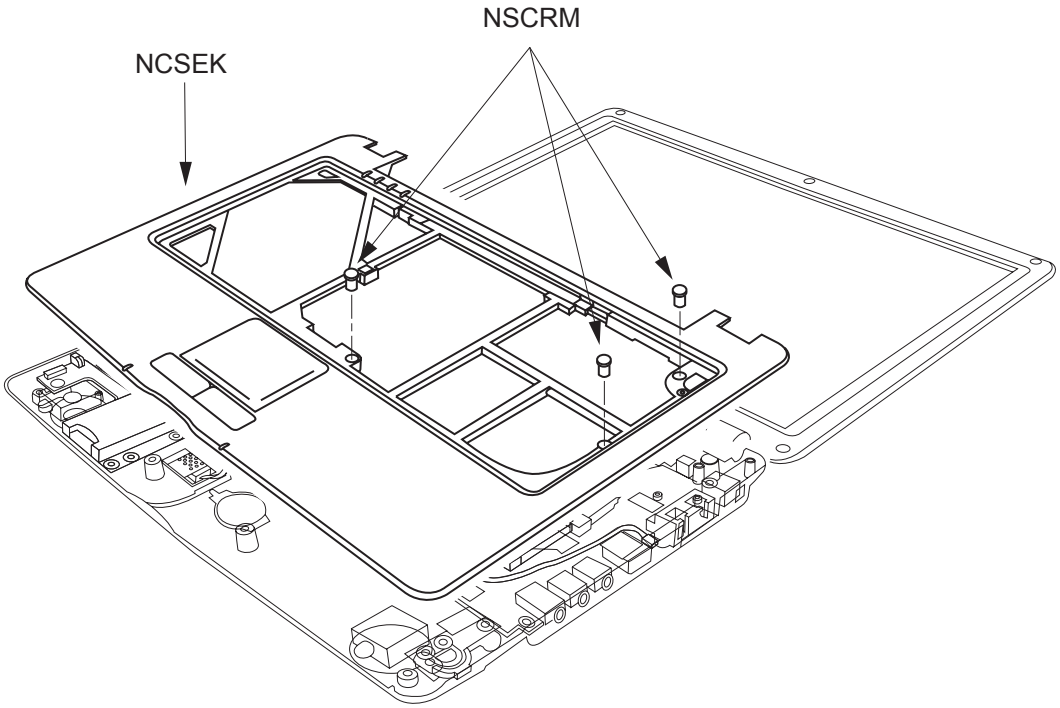
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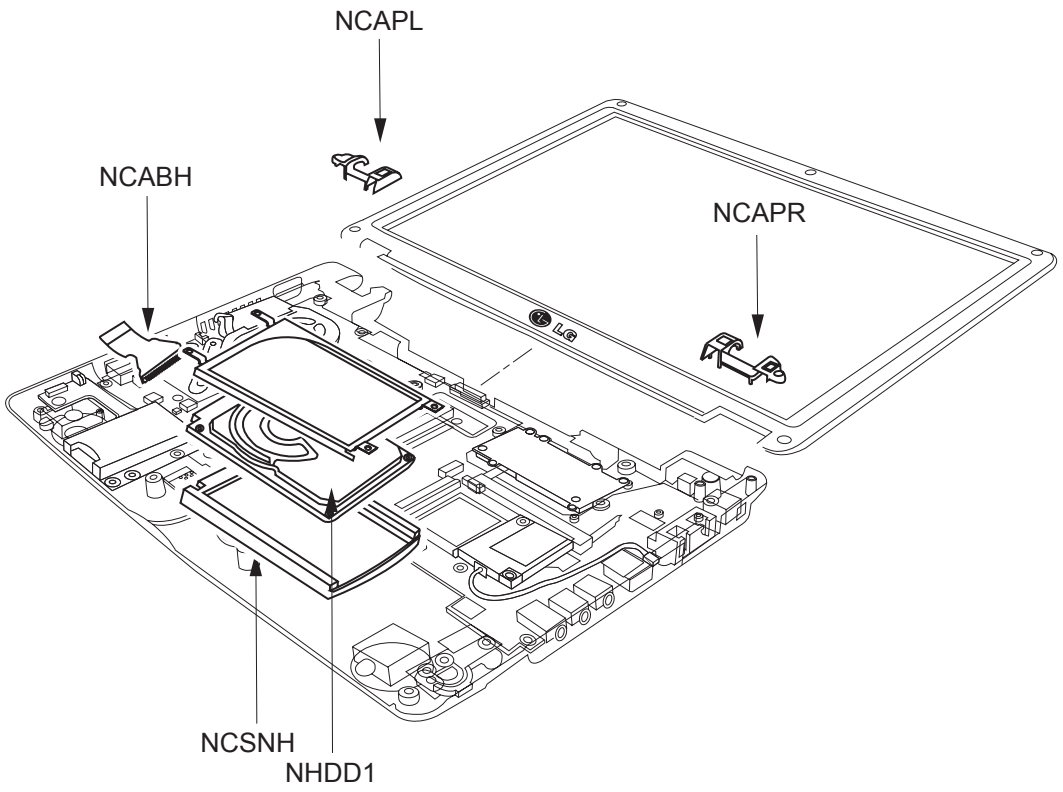
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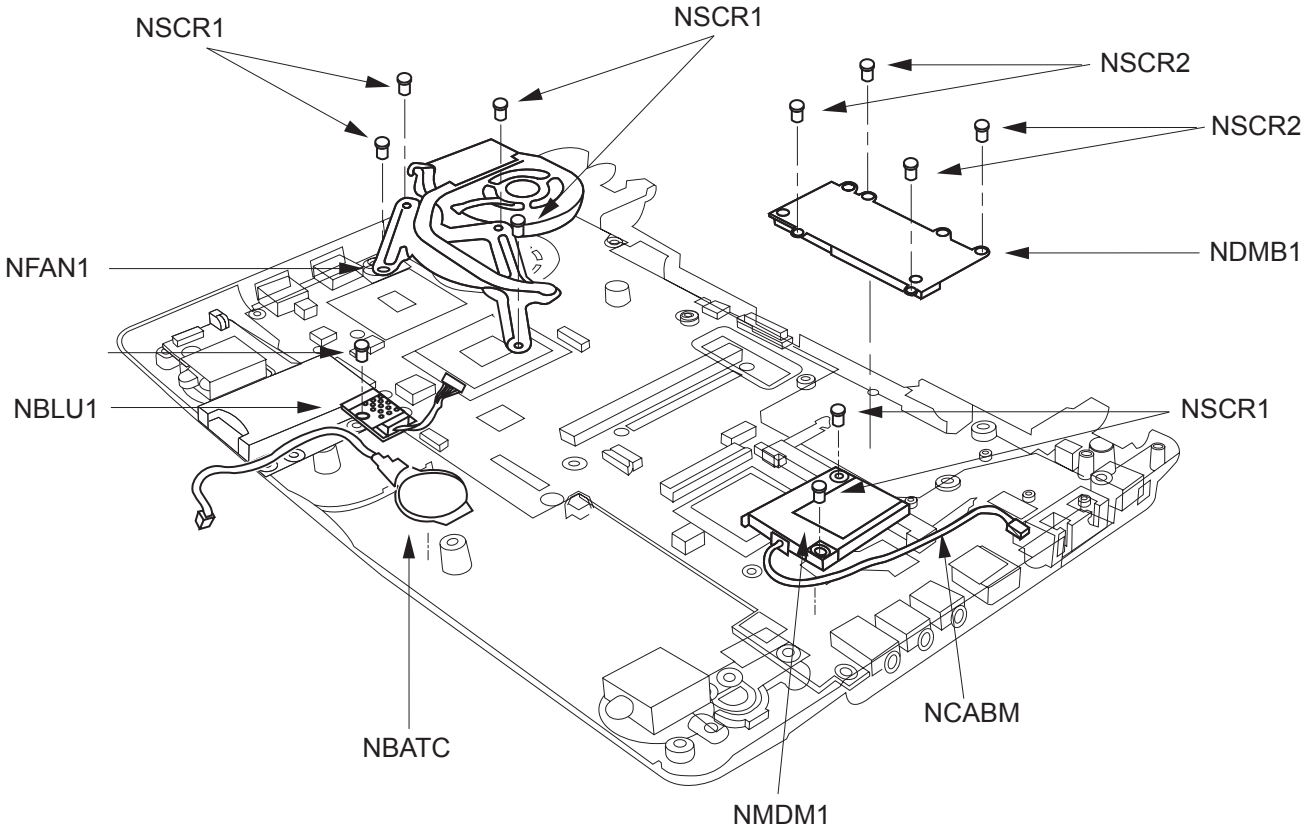
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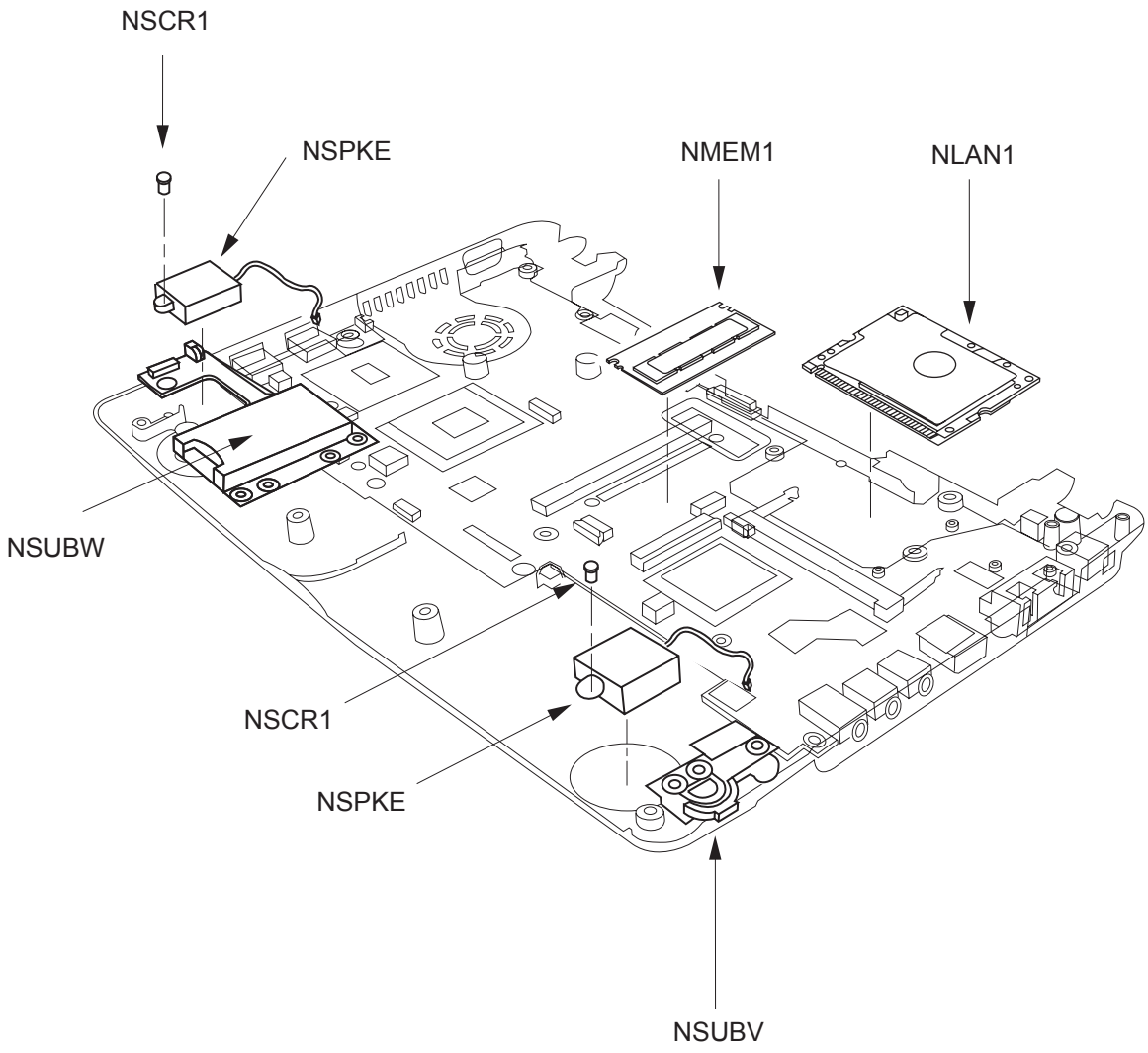
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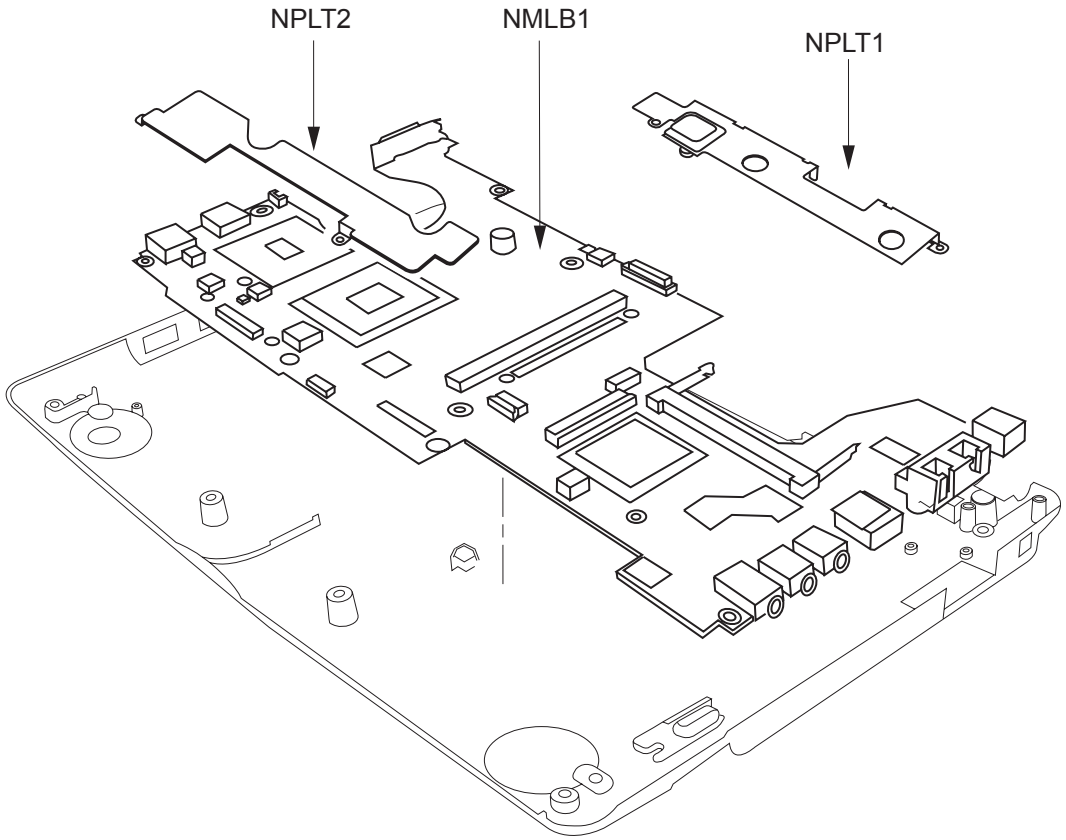
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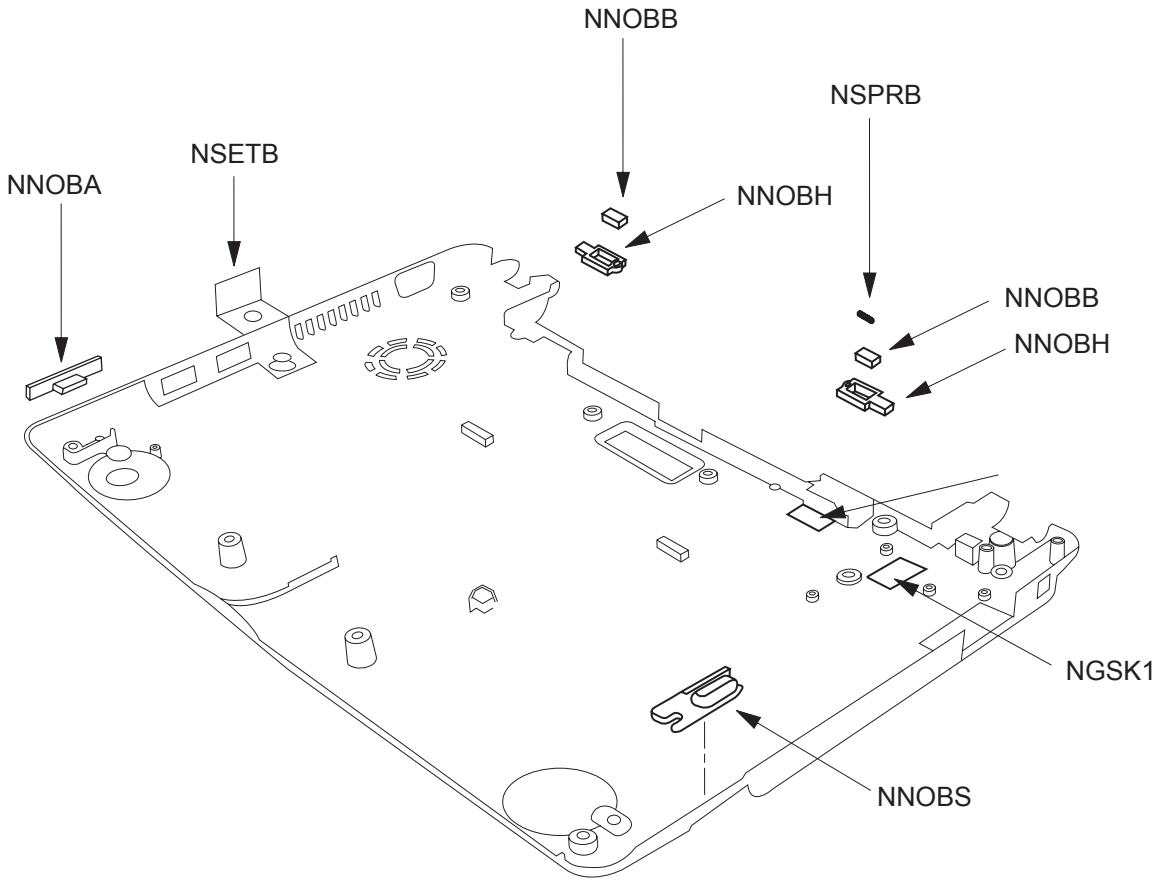
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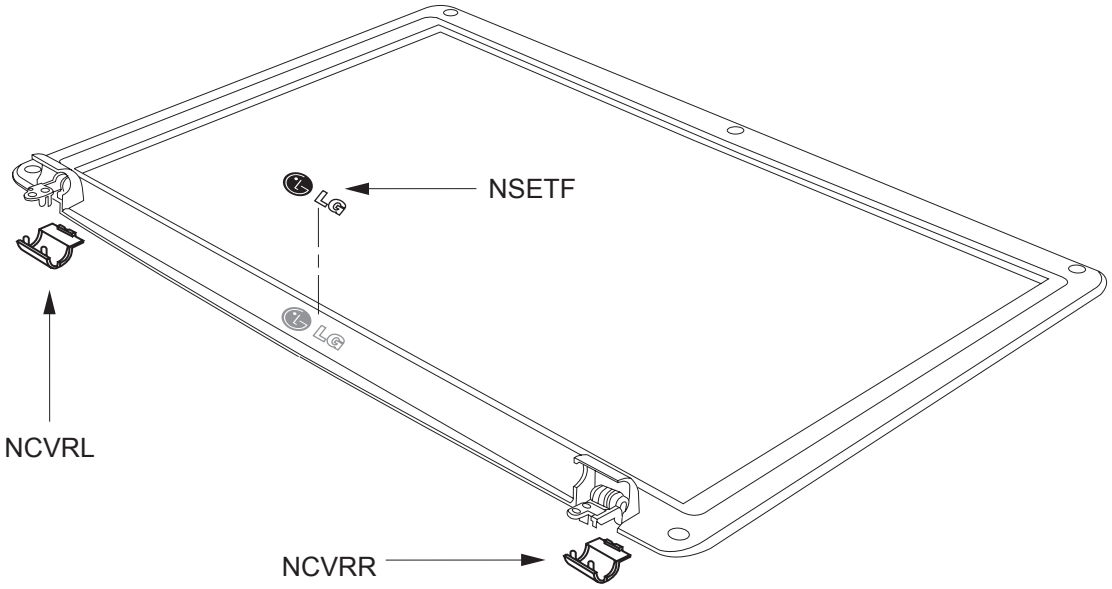
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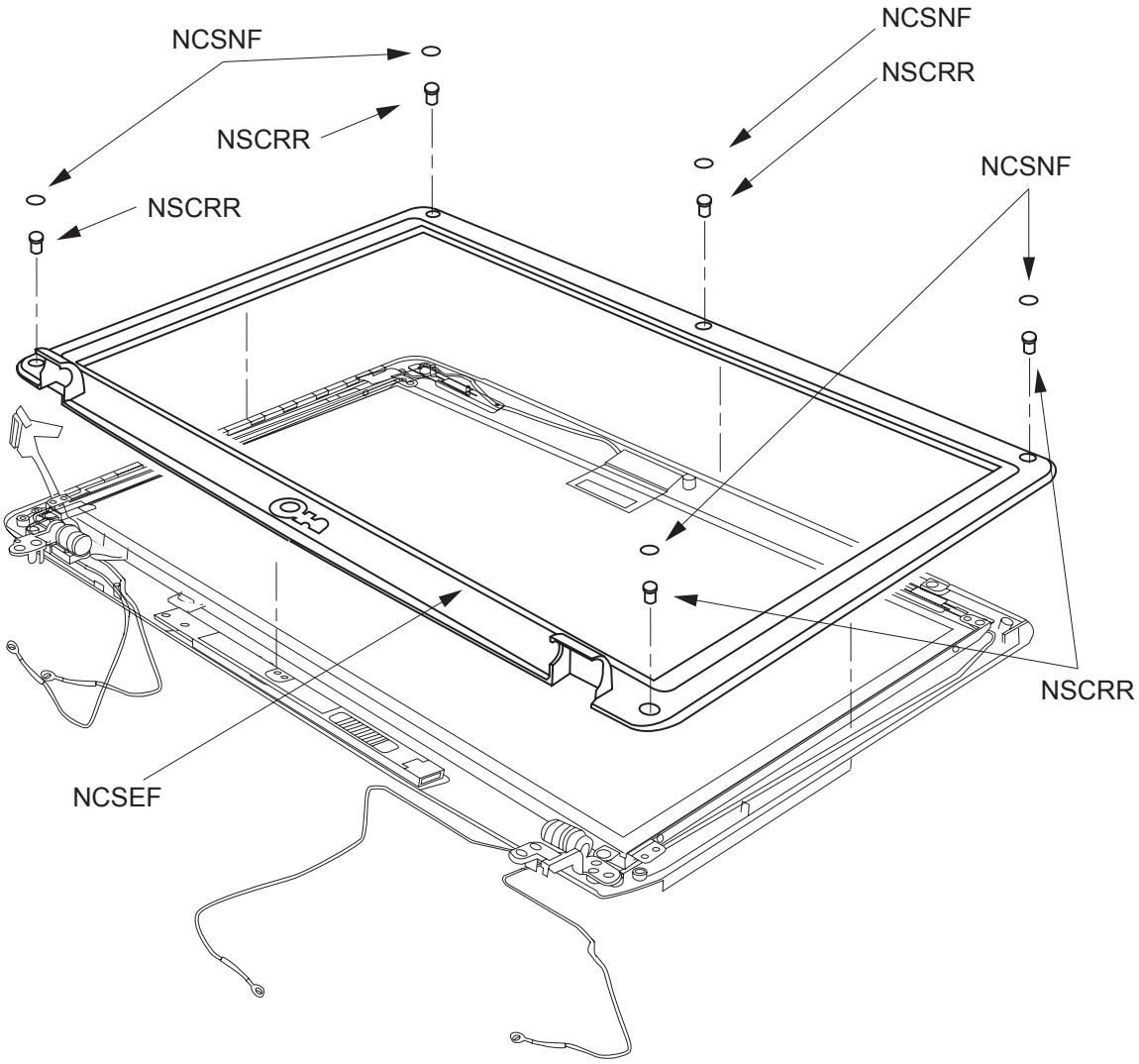
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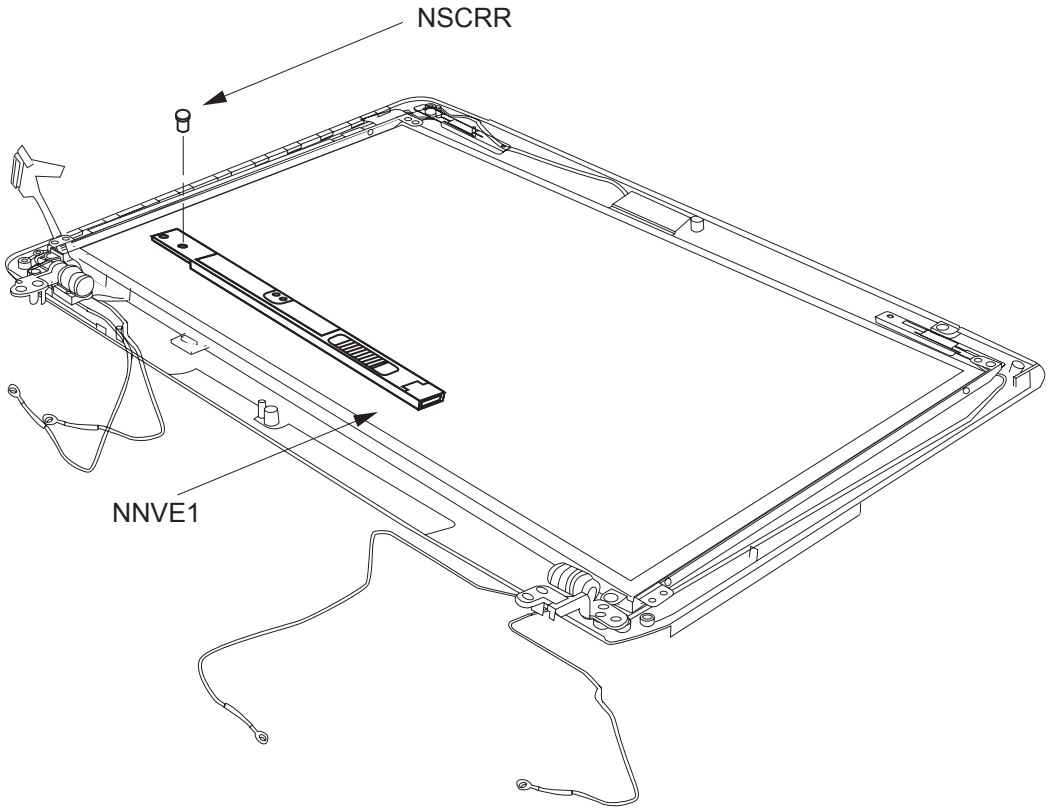
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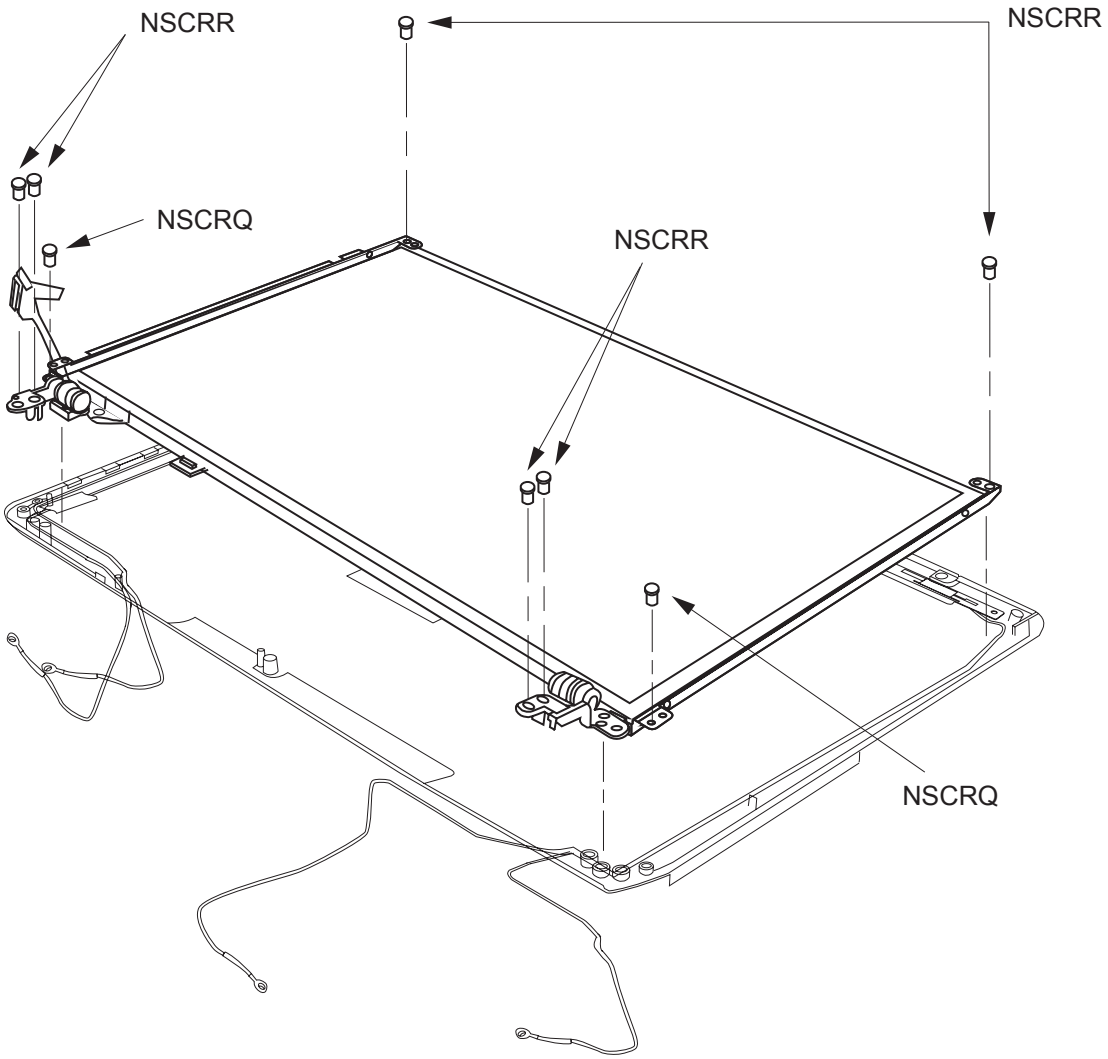
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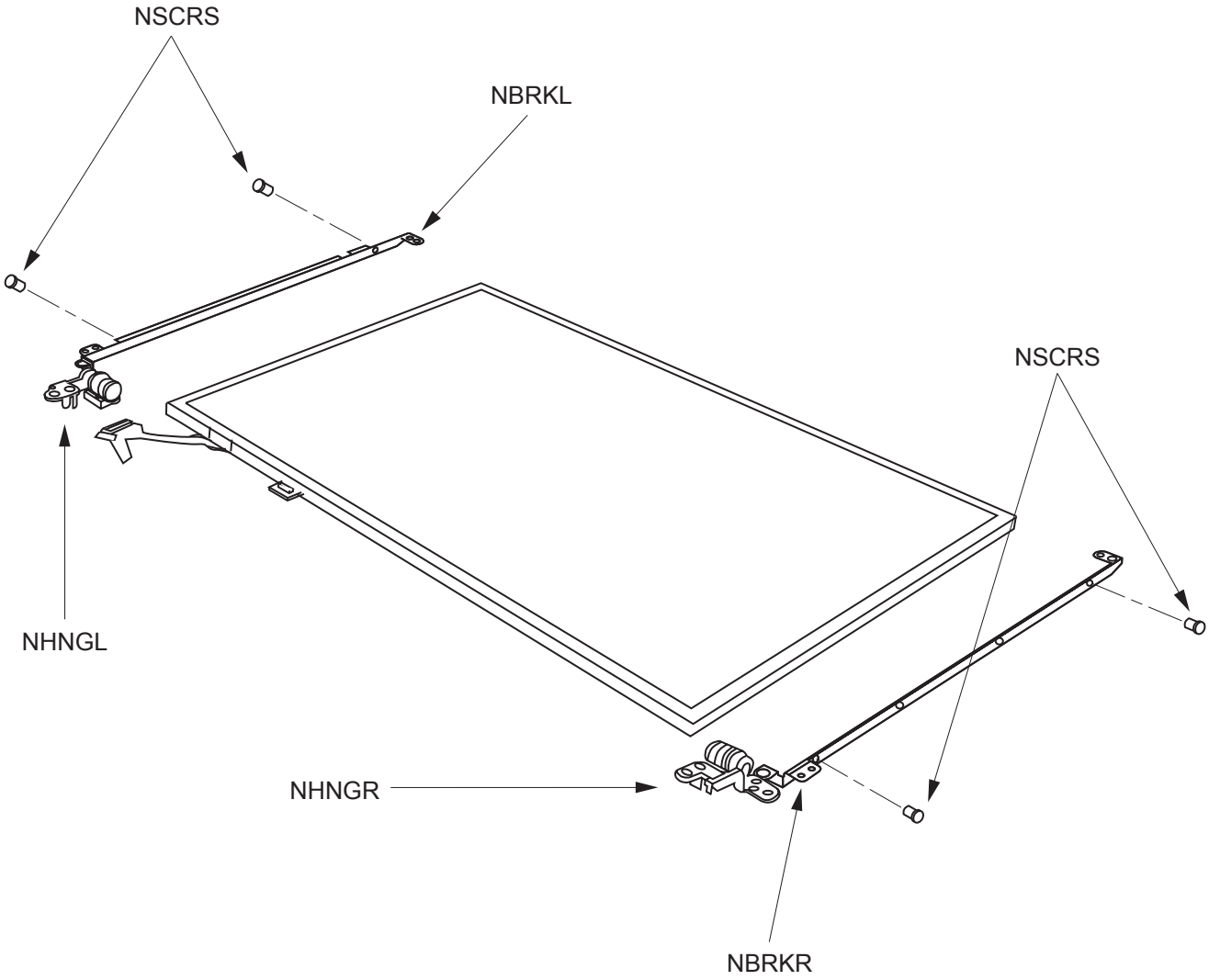
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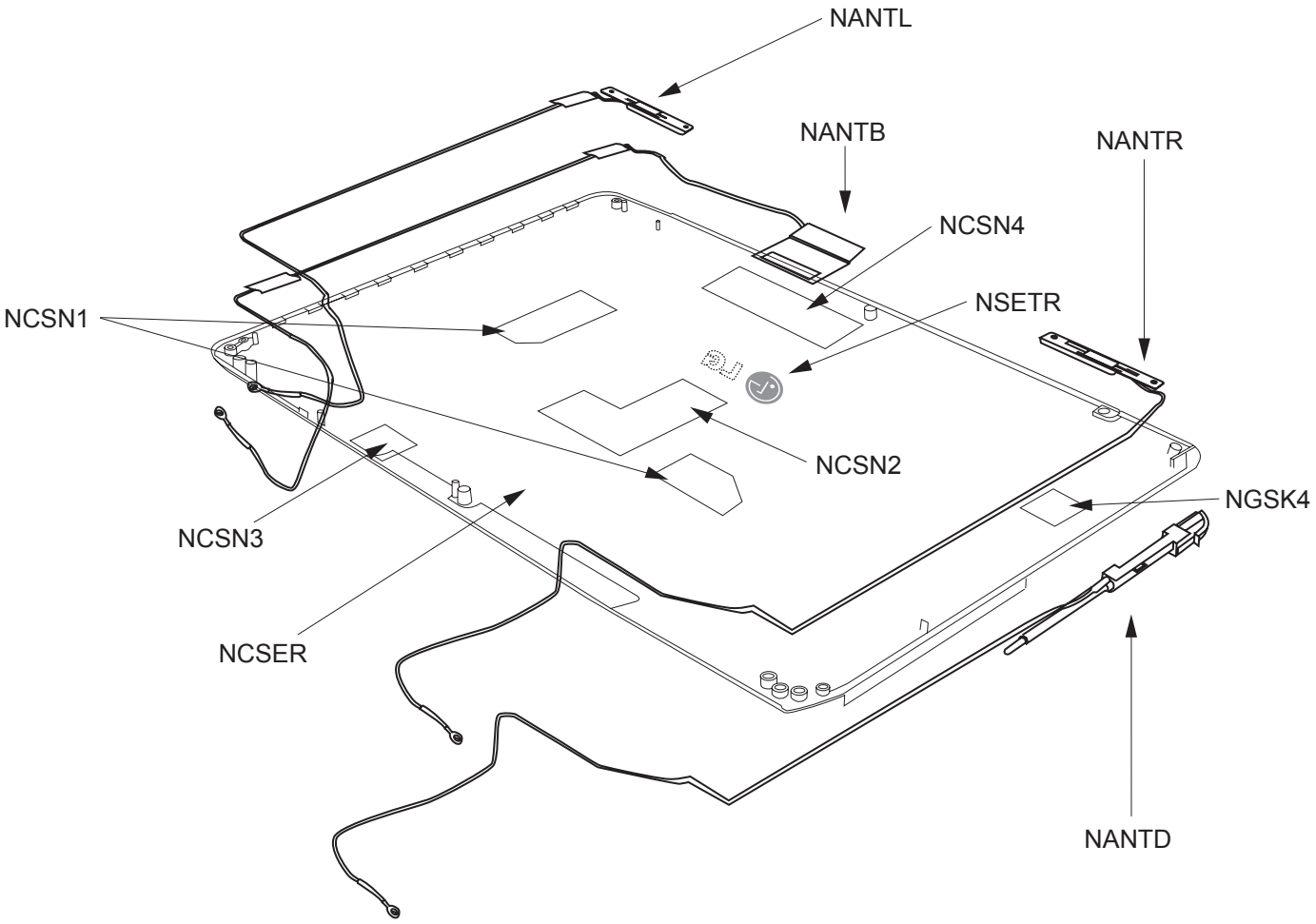
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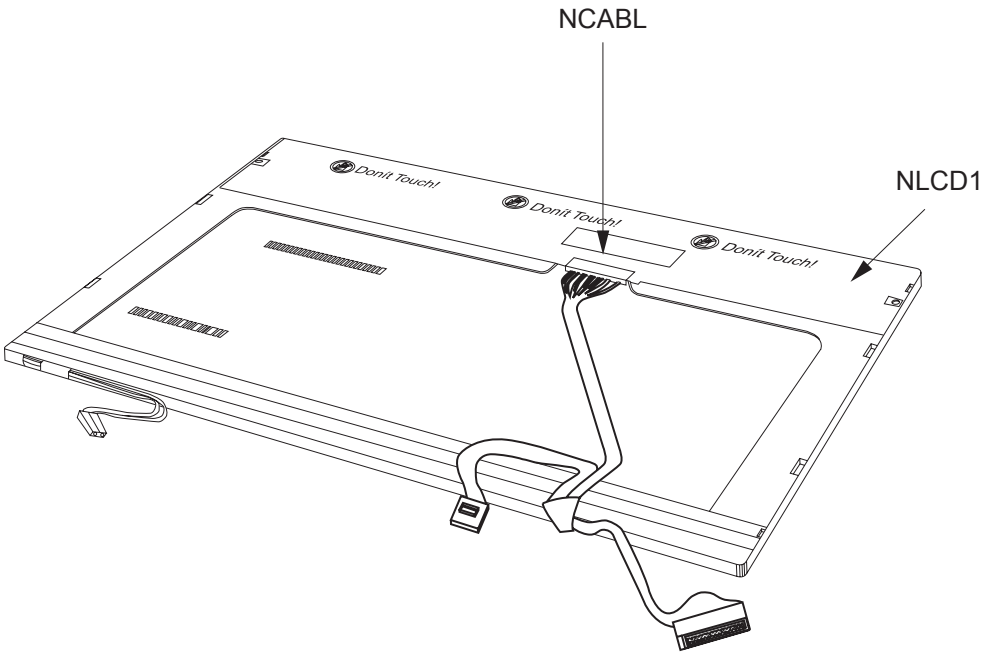
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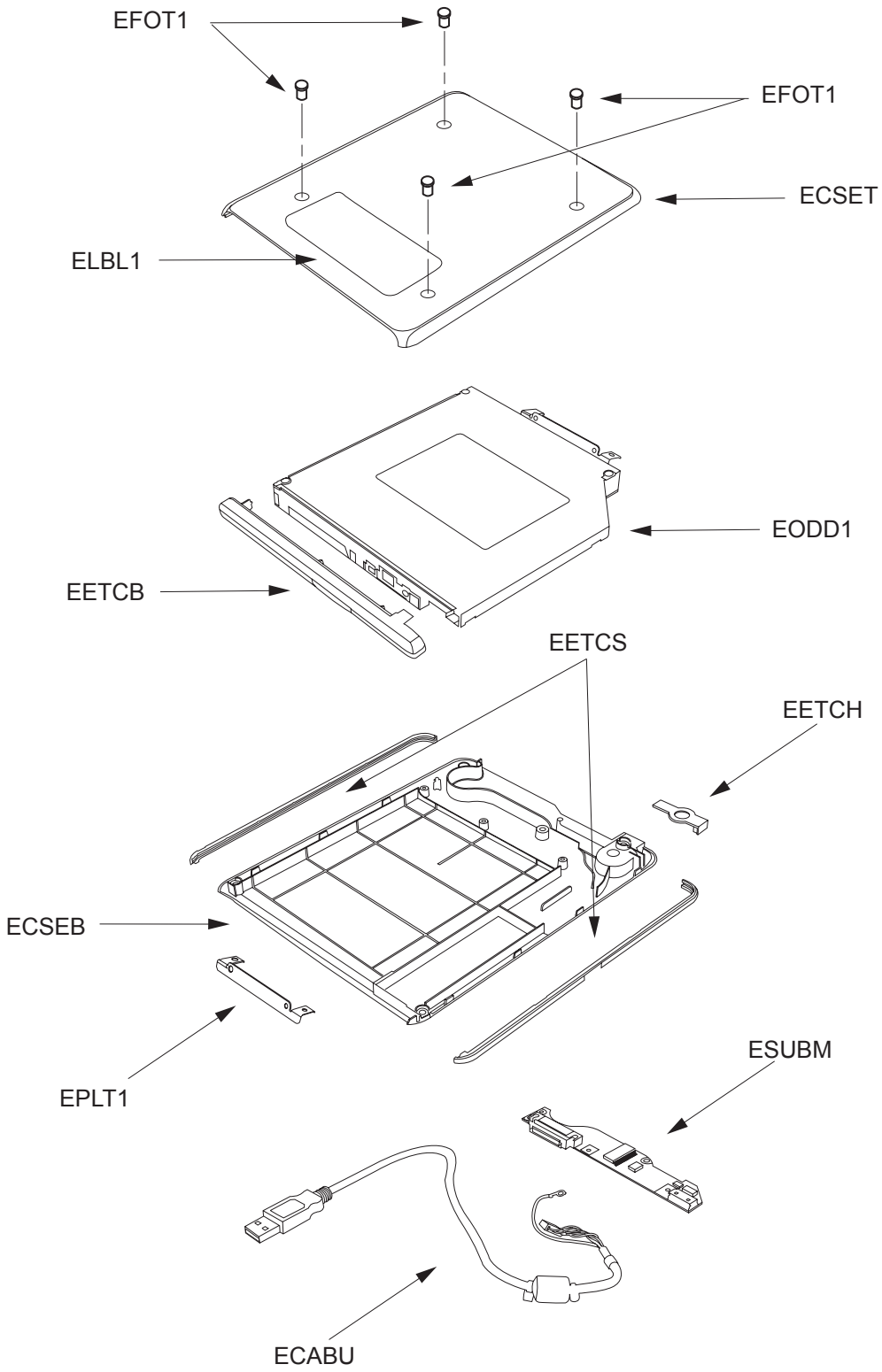
Donit Touch!
Donit Touch!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