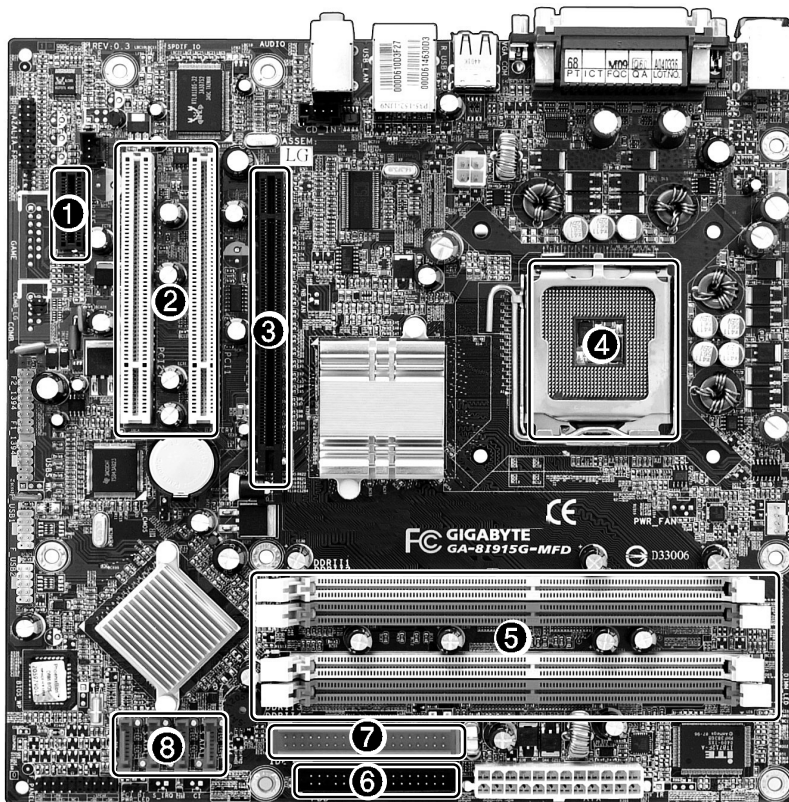


6-2. Main Board

The model name of the computer depends on the main board type. When extending the computer, check the model name on the label attached on the rear panel of the computer and the following. Before extending the computer, check the main board first.

- | | |
|--------------------------------------|---------------------------------------|
| ❶ Expansion slot (PCI-E x1) | ❺ Memory socket (DIMM) |
| ❷ Expansion slot (PCI) | ❻ Floppy disk connector |
| ❸ Expansion slot (PCI-E x16) | ❼ Hard disk/CD-ROM connector |
| ❹ CPU socket (with Pentium4 LGA 775) | ❽ Serial ATA-type hard disk connector |

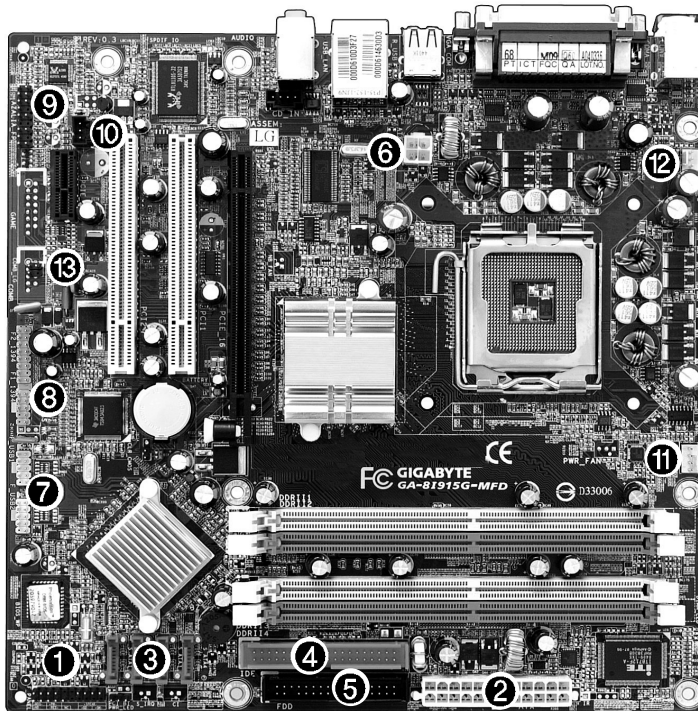


Note

- The main board in your computer may look different from the picture.

6-3. Internal Connectors

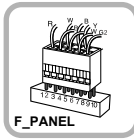
Connectors are configured in a certain way at the factory, and connectors show the connection status between the main board of the computer and peripherals. (Connector configuration depends on product models.)



Caution

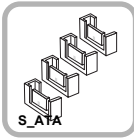
- Before separating the connector, check the connection state of the connectors and leave a record on the state.
- Link the floppy disk driver connector and the hard disk/CD-ROM connector in the correct direction.
- The Pin Number and the color of the connector cable must match. Otherwise, an error may occur in the computer.
- Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
- There is a risk of explosion if the backup(standby) RTC battery is replaced by an incorrect type. Dispose of used backup(stadby) RTC battery according to your local ordinances or regulation.

❶ Power on/off and power/hard disk operation status indication lamp connector (F_PANEL)



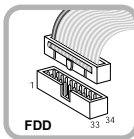
Connects the power on/off switch and the power/hard disk operation status indication lamp.

❸ Hard disk connector (S_ATA1, S_ATA2, S_ATA3, S_ATA4: 7 pins)



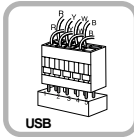
S_ATA connector is linked to the hard disk driver.

❺ Floppy disk driver connector (FDD: 34 pins)



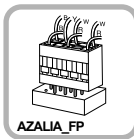
Connects the floppy disk driver.

❷ USB connector (F_USB1, F_USB1: 10 pins)



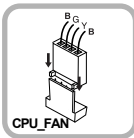
Connects the front USB.

❹ Audio connector (AZALIA_FP: 10 pins)



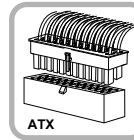
Connects a front earphone and microphone.

❾ CPU fan (CPU_FAN: 4 pins)



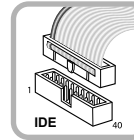
Provides power to the CPU fan.

❺ Power connector (ATX: 24 pins)



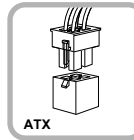
Connects the power supply unit.

❻ Optic drive connector (IDE : 40 pins)



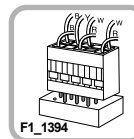
CDROM, hard disk driver.

❻ Power connector (ATX_12V: 4 pins)



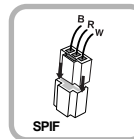
Connects the power supply unit.

❽ 1394 connector (F1_1394: 10 pins)



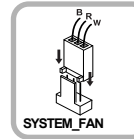
Connects camcorders supporting IEEE1394.

❿ SPDIF connector (SPDIF_LG: 3 pins)



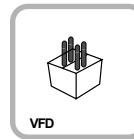
Connects the SPDIF port with optic output feature.

⓫ System fan (SYSTEM_FAN: 3 pins)



Installed at the bottom (rear panel) of the system, and connects the VFD.

⓬ VFD connector



Connects the VFD.

6-4 Replacing the CPU

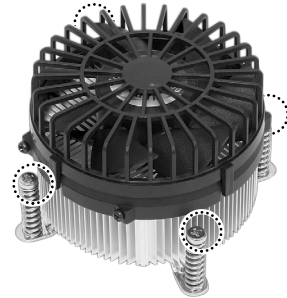
To upgrade the CPU for better performance of the computer, you need to replace the CPU first. Check the location and the type of the CPU in the main board, and do the following. (Shape of the CPU FAN and CPU replacement methods may differ by model.)

- 1 Unfasten four screws fixing the CPU fan as shown in the figure.

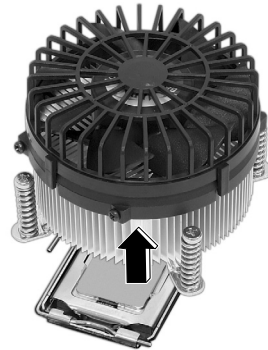


Caution

Align the groove to the right position, pins can easily be broken.



- 2 Remove the CPU fan as shown in the figure.



- 3 Turn the CPU socket handle as shown in the figure of Step 1, and open the cover as shown in the figure of Step 2.



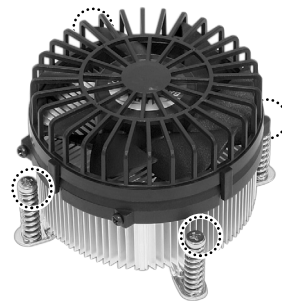
4 Lift the CPU up carefully to remove it from the main board.



5 Insert the new CPU with caution in the CPU socket in the correct direction and close the cover 1 and then put down the handle of the CPU socket 2.



6 Insert the CPU FAN as shown in the figure, and fix it with four screws.



Caution

Always wear gloves to avoid injuries.

6-5. Expanding the Computer Memory

You may expand the memory capacity, if needs be.

About Memory

This system uses a 240-pin memory module called Double Data Rate-2 (DDR-2), not the old 184-pin memory module called Double Data Rate (DDR). The main board can support maximum 2GB in memory.

Note

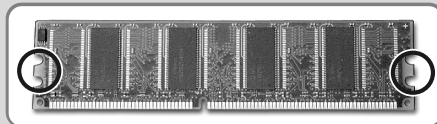
- Windows 95, 98SE, and ME support maximum 512MB. Installing a memory with higher capacity than 512MB may cause malfunctioning of the system.

Before Expanding the Memory

- When disassembling the computer, wear gloves to protect internal parts of the computer and slot cards from damage.
- As the memory is sensitive to static electricity, be careful with the static electricity when removing or installing a memory.
- Check the specifications of the current memory and the new memory before expanding the memory.
- Unlike SIMM, DIMM is of 64 bits. Therefore, single DIMM can function, and you can add DIMM by one.

Note

- When expanding the memory, add a memory with the same specification (DDR-2 SDRAM for 1.8V). (The shape of the memory may differ depending on the product model.)
- The DDR-2 memory provides greatly improved transmission rate than existing memories, and is differently shaped.



DDR-2



Caution

- This computer supports PC3200/4300, DDR-2 specification.
- When expanding the memory, use only unbuffered DDR SDRAM DMM
- When inserting two same memories in same-colored DIMM slots, the computer will operate in Dual Channel mode.

FSB Frequency	Usable Memory
400/533 MHz	PC3200/4300-DDR-2 SDRAM 400/533MHz

Preparing a Memory

Before purchasing memory, study the specifications and features of the current memory.

Specification : PC3200/4300 (240-pin DDR-2 SDRAM)

Rate : 400MHz (200MHz × 2), 533MHz (266MHz × 2)

Type : 256MB, 512MB

Composing the Memory

Refer to the following when expanding memory.

Total memory capacity	DIMM 1	DIMM 2	DIMM 3	DIMM 4	DUAL/SINGLE
256MB	256 (One out of four slots)				SINGLE
512MB	256MB		256MB		DUAL
		256MB		256MB	DUAL
	512 (One out of four slots)				SINGLE
1024MB	256MB	256MB	256MB	256MB	DUAL
	512MB		512MB		DUAL
		512MB		512MB	DUAL
2048MB	512MB	512MB	512MB	512MB	DUAL

Note

- The computer operates faster in Dual Channel mode.
- Use the same memory to operate the computer in Dual Channel mode.
- It is recommended to use Dual Channel mode.

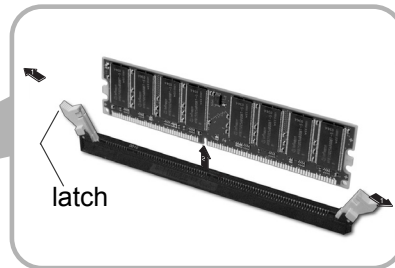
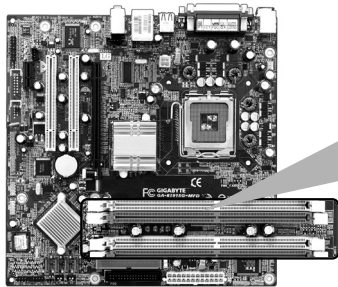
Replacing the Memory

Main board configuration, memory socket and memory type may differ by model.

- 1 Loosen the screws on the rear panel of the computer, and remove the cover.
- 2 Release the latches from both flanks of the memory. The memory will be removed automatically.

Note

- Before opening the computer cover, turn off the power and all peripherals connected to the computer. Disconnect all power cables.

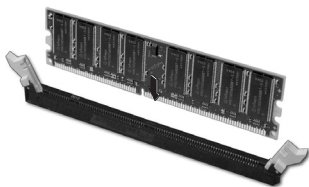


Installing Memory

- 1 Lay the latches outwards from the memory socket.



- 2 Insert the memory (DIMM) vertically in the socket in line with the grooves as shown in the figure.

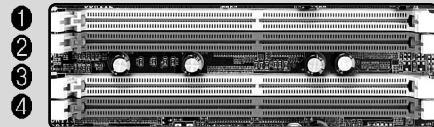


Note

- When using a DDR-2 memory, the memory must be installed in each channel for Dual Channel mode.

1-3 and 2-4 of dual Channels No. 1 ~ 4

The memory will be automatically installed even if not latched. However, it is recommended to fasten the latches until the memory is completely fixed.



The memory will be automatically installed even if not latched. However, it is recommended to fasten the latches until the memory is completely fixed.

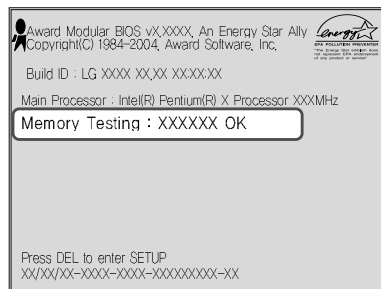
● Checking the Expanded Memory

Turn on the power after installing the memory. Then, the computer will detect the memory so that you don't need to change the system setup. The capacity of the installed memory is checked as follows.

- ❶ Connect the power cord and other cables, and turn on the computer and the monitor. Then, the initial screen to check the status of the computer will appear.
- ❷ When the following screen appears, press **[Esc]** key. Then, **POST** screen will appear.



- ❸ On the next screen, press **[Pause]** to freeze the screen temporarily and to check the **Memory Testing : XXXXXX OK** part.



Note

- In the case that the logo screen is processed too fast to stop, press **[Delete]** key on the **LG logo** screen. Then, select **Advanced BIOS Features ▶ Full Screen Logo Show Selectable**, and change status from **Enabled** to **Disabled**.

- ❹ After checking the memory, press the **[Esc]** key. Windows screen will proceed.

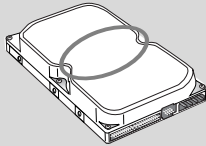
6-6. Adding a Hard Disk

This computer supports up to four serial ATA controllers, and you can add one hard disk drive.

Before Adding a Hard Disk

The following is when you purchase a hard disk and install it, and describes the most common case when you add a hard disk to a computer that is already equipped with one hard disk.

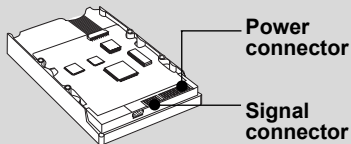
Note



- Write down the capacity, the cylinder count, the numbers of heads and sectors of the hard disk marked on the upper part of the hard disk. They are necessary for system setup (depending on the product model.).

Adding a Hard Disk

Note



- Prepare the hard disk to install.
- The hard disk must be serial ATA type.

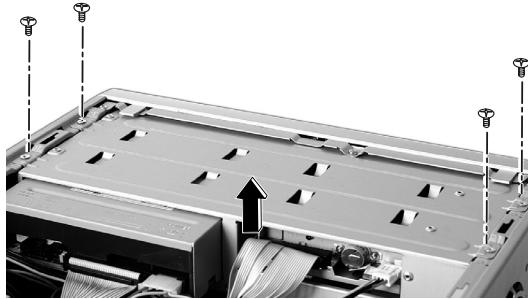


Caution

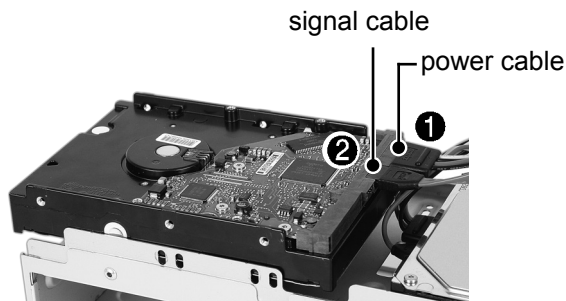
- When disassembling the computer, wear gloves to protect internal parts of the computer and slot cards from damage.
- Use screws compatible with specification when installing the hard disk in the main body. Otherwise, critical damage may be done to electronic parts. For stable use of the hard disk, fix the hard disk in the main body of the computer to prevent vibration.

● Adding a hard disk drive

- 1 Refer to Opening the computer case (page 68) to remove the computer case cover.
- 2 Remove 4 screws on the hard drive case and open the hard drive case as the direction of the arrow.



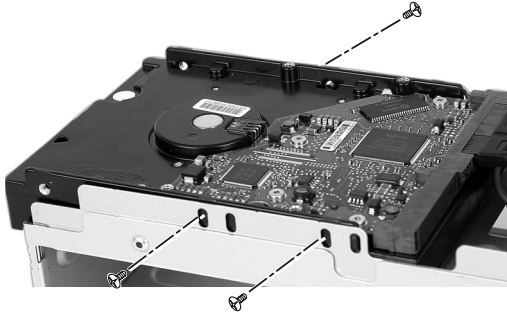
- 3 Connect the power cable connector as shown 1 and the signal cable connector as shown 2 to the new hard disk you want to replace in the hard disk case.



Warning

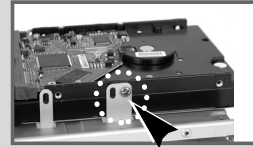
Incorrect connection of the signal and power cord may cause disfunction to the computer or electrical shock.

- 4 Install a new hard disk (Slave hard) to add in the hard disk case and then fasten three screws.



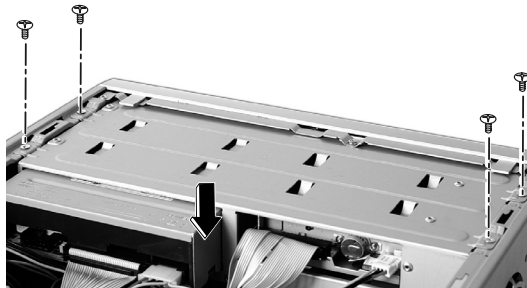
Note

Check the exact location of screws when installing the hard disk



Right side

- 5 Fasten 4 screws after installing the hard disk drive as shown on the picture.



- 6 Refer to Closing the computer case (page 68) to close the computer case cover.

Note

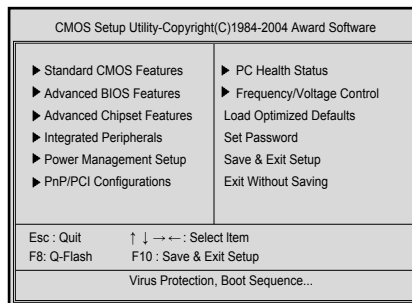
- You should setup and format your computer after installing the hard disk. Refer to the Hard disk setup (page81).

● Hard disk drive setup

- 1 Turn on the computer and the monitor.
- 2 While the **LG logo** screen is on, press **[Delete]** key.

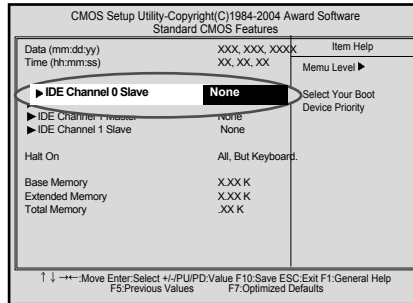


- 3 Then, the initial screen of System Setup menu will appear.

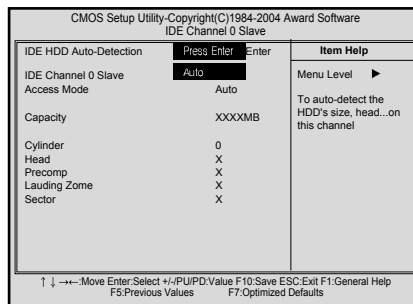


- 4 Execute the initial screen of the System Setup menu, and select **Standard CMOS Features** by pressing **[↑]**, **[↓]**, **[←]**, and **[→]** keys. Then, press **[Enter]**.

- 5 When the following appears, select **IDE Channel 0 Slave** by pressing [**↑**],[**↓**] keys and press [**Enter**] key.

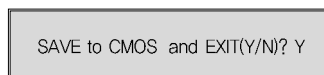


- 6 Press [**Enter**] key on **IDE Channel 0 Slave** to set it as Auto, and press [**Enter**] key again on **IDE HDD Auto-Detection** to set it as Slave. Then, the additionally installed hard disk will be automatically detected.



- 7 To save changes in System Setup, press the [**F10**] key.

- 8 When the following message appears, press the [**Enter**] key to restart the computer.



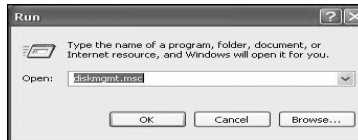
● Configuring the Hard Disk (in Factory Setting Status)



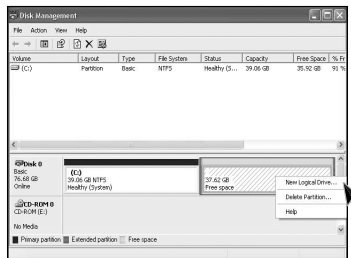
Caution

If you partition the hard disk using "diskmgmt.msc" existing data on the hard disk driver will be deleted. You must carefully partition the hard disk when there is data on the disk.

- 1 Select the **[Start]** button on the desk top, and click the **[Execute]**.
- 2 Input **diskmgmt.msc**, and click **[OK]**.



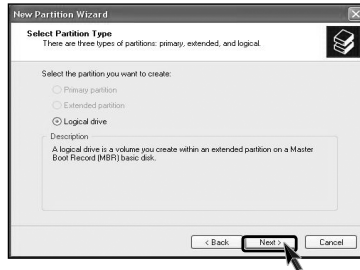
- 3 Select Added Disk 1 on Disk Management screen. Right-click and select **[New Logical Drive]**.



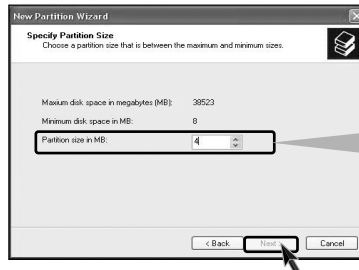
- 4 When New Partition Wizard screen appears, click the **[Next]** button.



- 5 When the partition type selection screen appears, select the main partition and click the **[Next]** button.

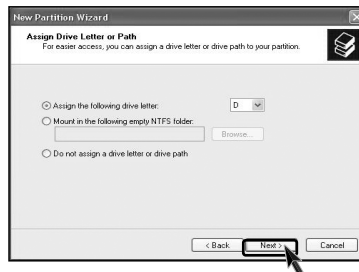


- 6 Select the maximum size, and click the **[Next]** button.

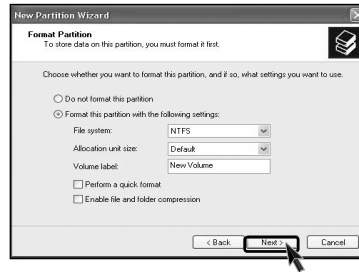


You can use as much space as you select in the above window.

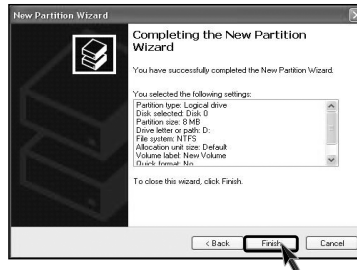
- 7 Select the Drive Letter and click the **[Next]** button.



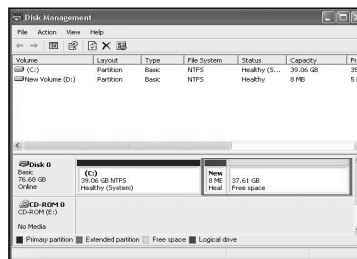
- 8 When the partition format appears, set the file system, allocation unit, and volume label suitable for the User Environment and click the **[Next]** button.



- 9 The Partition Wizard has been completed. Click the **[Finish]** button.



- 10 After the completion, the additional hard disk will normally function.



6-7. Installing expansion cards

When you are using the computer, you may need to install expansion cards to improve functionality. The following instruction describes how to install expansion cards.

1 Refer to Opening the computer case to open the computer case cover.

2 Remove the caps shown on the picture.



3 Remove 2 screws as shown on the picture.



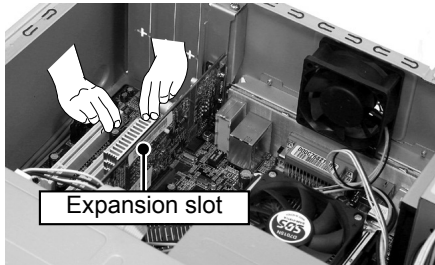
4 Use the driver and remove the metal slot cover.
(Remove it, only when installing an additional extension card.)



Warning

- Use proper tools (for example, drivers) when removing metallic slot covers to prevent hand injuries.
- When disassembling the computer, wear gloves to protect internal parts of the computer and slot cards from damage.

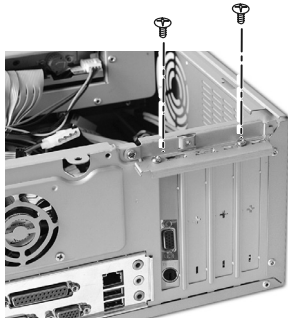
- 5 Hold the expansion card with both hands and align the expansion card and slot. Push down evenly to insert the card into the slot.



! Caution

- Incorrect installation of an expansion card may damage the main board and result in a computer malfunction.

- 6 Fasten 2 screws after installing the extension slot.



! Warning

- Using the computer without closing the case may result in fire, electric shock, injury, and/or damage to the computer.

- 7 Close the cap in the same position as you removed it.



- 8 Refer to Closing the computer case to close the case cover of the computer.

- 9 Install the driver program for the new expansion card.

memo

memo

memo

Product Specifications *NK Model

※ Specifications below differ depending on the models.

CPU	Supports Pentium4/ LGA775 2.8/3.0/3.2/3.4/3.6 GHz or higher (FSB: 533/800MHz)
System memory	128MB or higher. Differs depending on the model. (This model allocates minimum 8MB or maximum 64MB as the local video memory [frame buffer] using a built-in VGA.)
Cache memory	256KB/512KB or 1024KB L2 cache is equipped in the CPU.
Hard disk drive	40 GB or higher (Serial ATA type).
Keyboard	PS/2 keyboard (104keys)
Mouse	PS/2 mouse or USB (ball / wheel)
Video	Equipped in PCI-E 16x video card (one 15-pin connector) or in the main board.
Sound	Equipped in the main board (MIC connector, speaker connector, line-in connector) and in the extension connector on the rear part of the system.
USB	Equipped in the main board (four) and in the front (two).
Serial I/O	Installed in the main board. (one 9-pin connector).
Front I/O	Two USB ports and audio ports (SPEAKER-OUT and MIC-IN)
Parallel I/O	One printer port (25pins)
Extension slot	One PCI-E 16x slot, One PCI-E 1x slot, Two PCI slots.
Product size	Width 136 x Height 354 x depth 378(mm)
Power spec	100~127 / 200~240VAC, 5A / 4A, 50/60Hz or 200~240VAC. 4A, 50/60Hz
Environmental requirement	Temperature:Average temperature:77°F (25°C) Operating temperature:41°F~95°F (5~35°C) Storage temperature:-4°F~131°F (-25~55°C)/Humidity:Average humidity:60%(RH) Operating humidity:30%~80%(RH)/Storage humidity:30%~80%(RH)

—NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

 **Caution**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.