# 6. System Expansion

6-1. Opening the computer case

Always consult with your service representatives before opening the computer case.

Follow the guidelines below when opening the case.

■ Quit all running programs.
■ Turn off the computer and monitor, and unplug and remove the power cords.
■ Keep magnetic objects such as screw driver away from the parts inside the computer.
■ Open the computer case in a safe, clean area.
■ The static electricity can damage the parts inside the computer. Touch a bare, unpainted metal part of the computer for 2~3 seconds to remove the static electricity before opening the computer case.
■ Always wear gloves to avoid injury when disassembling the computer.

Opening and closing the computer case
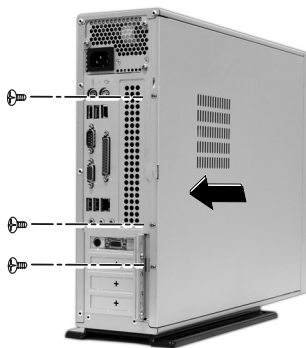
Remove 3 screws from the cover and then push the cover as the direction of the arrow.
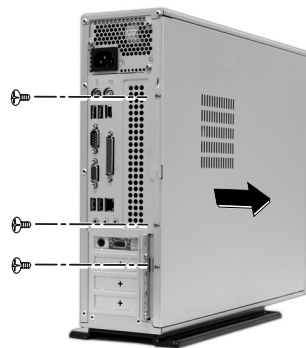
Push the cover in the direction of arrow as it aligns the groove of computer cover with body shown on the picture and fasten 3 screws.

⚠ Warning

Make sure that there is no metallic object left inside the computer before closing the case. There is the risk of electric shock or fire.

6-2. Main board

The main board determines the model name of your computer. Check the model name on a label located at the rear of your computer before system expansion.

❶ **PCI slot** ❹ **Memory socket (DIMM)**
❷ **AGP slot** ❺ **Floppy disk connector**
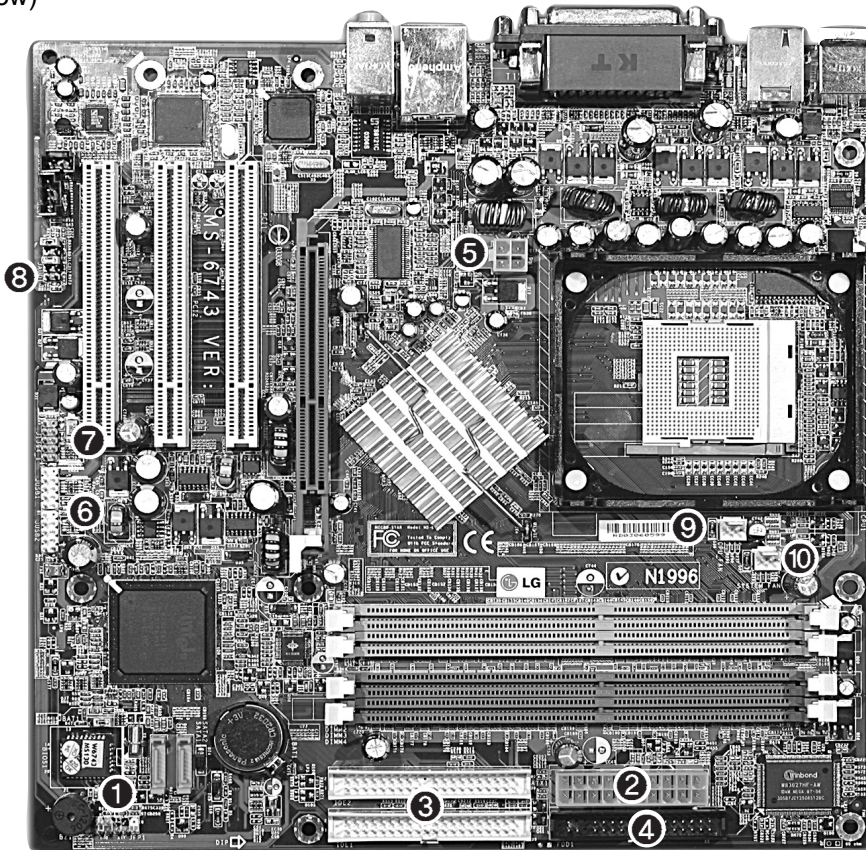❸ **CPU socket** ❻ **Hard disk/CD-ROM connector**
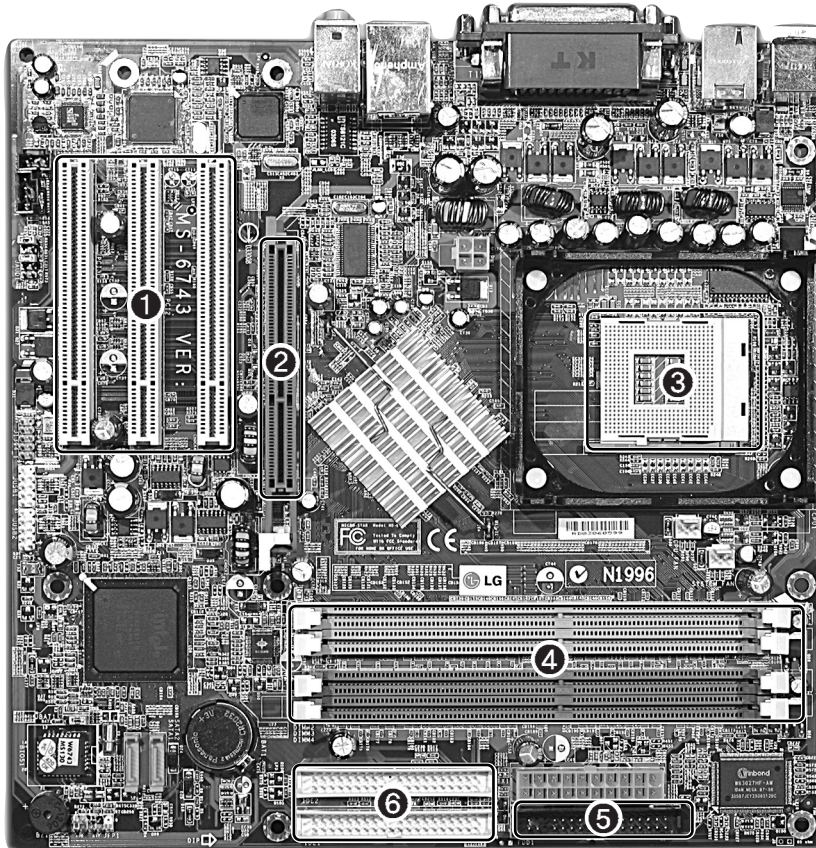
Note

■ The main board in your computer may look different from the picture.
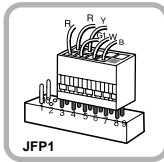
6-3. Connectors

The peripheral devices are connected to the main board through the connectors shown below. (The main board in your computer may look different from the picture below)


⚠ Caution

■ Before removing the connector, check the status of connection and make a note.

■ Aline the groove to the right direction when connecting floppy disk drive connector, hard disk/CD-ROM connector.

■ Match the pin number with the color of cable. There is a risk of disfunction to the computer.

■ There is a 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.

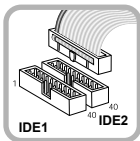❶ Power switch, power/ hard disk activity LED connector (JFP1)

connects power switch and hard disk activity LED .
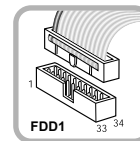
❷ Power connector (CONN1: 20 pins)
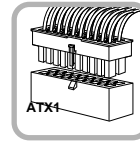
connects to the power.

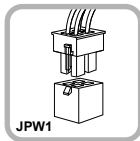❸ Hard disk/CD-ROM drive connectors (IDE1, IDE2: 40 pins)

IDE connector connects hard disk and CD-ROM drive. If only one hard disk is connected, it should be connected to IDE1 hard disk connector.
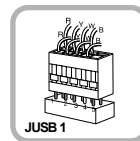
❹ Floppy disk drive connector(FDD1: 34 pins)

connects to the floppy disk drive.

❺ Power connector(JPW1: 4 pins)

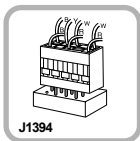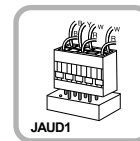connects to the power supply.

❻ USB connector(JUSB1: 10 pins)

connects to the USB on the front of the computer.

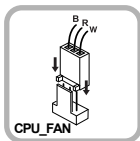❼ IEEE1394 connector(J1394 : 7pins)

connects to the IEEE 1394(7 pins) on the front of the computer.
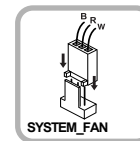
❽ Audio connector(JAUD1: 7 pins)

connects to the headphone and microphone jacks on the front of the computer.

❾ CPU fan(CPU_FAN: 3 pins)

connects and supplies power to the CPU fan.

❿ System fan (SYSTEM_FAN)

connects and supplies power to the system fan at the bottom of the computer.

6-4 Replacing the CPU

The shape and replacement method of the CPU fan may be different depending on the model.

1 Clamps on both sides of the CPU fasten the fan tightly to the CPU socket. raise the handle❶, release the clamps, and then spread them outward❷.
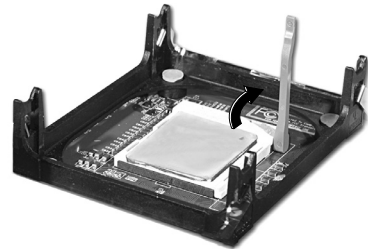
⚠ **Caution**

Align the groove to the right position, pins can easily be broken.
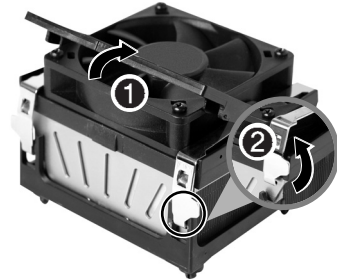
2 After releasing the clamps, lift and remove the CPU fan from the socket.

3 Raise the handle on the CPU socket to unlock the CPU.

4 Lift the CPU straight up. Be careful not to damage the pins at the bottom of the CPU.
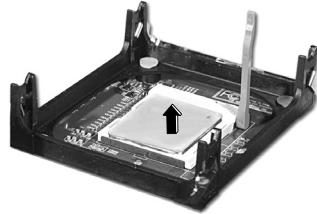
5 Align the identifying marks at the corners of the new CPU and socket, and carefully install the CPU in the socket. Lower the handle to lock the CPU in place.
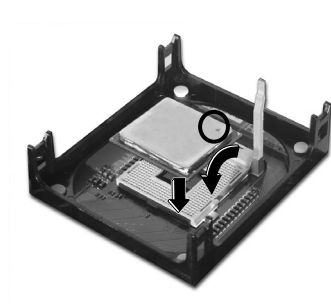
6 Lower the handle as shown picture**❶** and lock the clamps as shown picture **❷**.
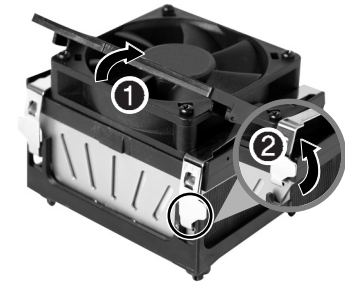
⚠ **Caution**

In a specific system, clamps are not fully open.
Raise the CPU fan from the fully opened space.
To assemble it, install from the opposite side.

● **Replacing CPU**

1 While pressing the both sides of the clamps as ❶, raise the fan to the direction of ❷ to release the clamps.
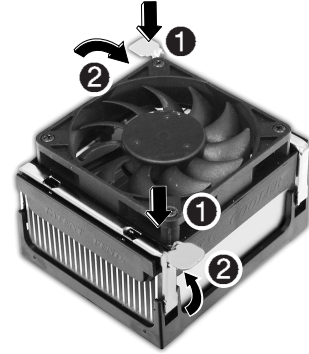
2 After releasing the clams, raise the CPU fan to remove.

3 Release the CPU socket as the direction of arrow.
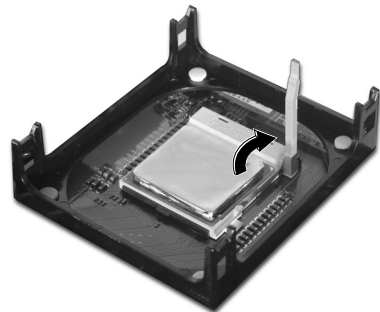
4 Raise the CPU as the direction of arrrow.
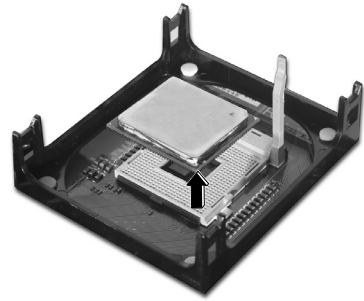
5 Align the identifying marks at the corners of the new CPU and socket, and carefully install the CPU in the socket. Lower the handle to lock the CPU in place.

6 Push the both side of clamps after align the grooves to the clamps.

⚠ **Caution**

Please gently push the clamps not to make it broken.

6-5. Increasing the memory

If you run out of memory while using the computer, you may want to increase the amount of memory in your computer.

About memory

Your computer uses DDR(Double Data Rate) SDRAM DIMM(Dual In-Line Memory Module) with 184 pins. Your computer supports Unbuffered DDR SDRAM DIMM of 256MB up to 512MB in size in each socket, and 2GB total.
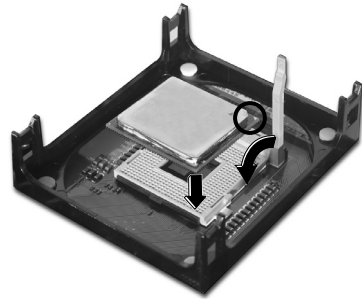
Note

■ Windows 95, 98SE, ME supports memory up to 512MB total. Increasing the memory beyond 512MB in these systems may cause errors while using the computer.

Before increasing the memory

■ Always wear gloves to avoid injury when disassembling the computer
■ Static electricity can damage memory modules be sure to minimize the static electricity when replacing memory.
■ Make sure to replace the memory of the same type as the installed memory.
■ DIMM is different from SIMM in that it is configured for 64 bit operation; therefore, your computer can operate with only one DIMM installed.

Note

■ Use a 2.5V DDR SDRAM DIMM.(The shape of the memory may be different depending on the model) DDR SDRAM enhances the rate of data transmission of the SDRAM and looks different from SDRAM.

DDR
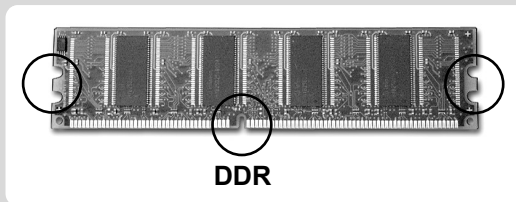
⚠ **Caution**

■ Your computer supports PC2700/3200 DDR memory.

■ Use Unbuffered DDR SDRAM DIMM only to increase the memory.

■ Dual channel mode operates when each identical memory is installed in the same color of DIMM slot.

FSB Frequency	Supported memory type
533/800MHz	PC2700/3200-DDR SDRAM 333/400MHz

Purchasing a memory

Check the type of memory installed in your computer and refer to the memory configuration chart before purchasing a memory.

Specification: PC2700/3200(184 pin DDR SDRAM DIMM)
Speed   : 333MHz(166MHz X 2), 400MHz(200MHz X 2)
Size   : 256MB, 512MB

Memory configuration chart

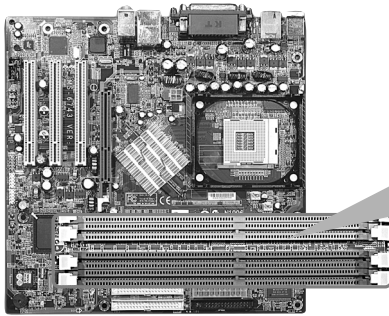| Total memory	DIMM 1	DIMM 2	DIMM 3	DIMM 4	DUAL/SINGLE
256MB	256				SINGLE
512MB	256MB		256MB		DUAL
		256MB		256MB	DUAL
	512 (1/4)				SINGLE
1024MB	256MB	256MB	256MB	256MB	DUAL
	512MB		512MB		DUAL
		512MB		512MB	DUAL
2048MB	512MB	512MB	512MB	512MB	DUAL

Note

■ Dual channel improves the efficiency of the system.

■ Each identical memory should be used for dual channel setting.

■ Dual channel setting is recommended.

Replacing the memory

The main board configuration, memory socket, and the shape of memory may be different depending on the model.
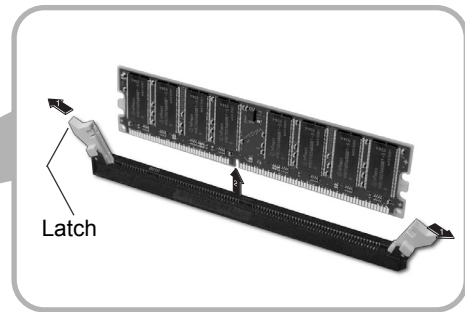
Note

1 Remove the screws on the real of the computer, and open the com puter case.

■ Before opening the case, turn off the computer and peripheral devices, and remove the power cords.

2 Pull the latch on each side of a memory socket to release the memory.

Latch

Installing a memory

1 Pull the latch on each side of a memory socket.

Note

■ For dual channel system, each mem ory should be installed in independent slot(1&3 slot or 2&4 slot) when using DDR Memory

  It is recognized as a single channel if there is a difference between dual channel 1 and 3, 2 and 4.
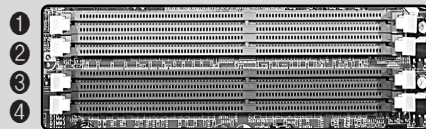
2 Align the notch at the bottom of the memory with a protrusion in the middle of the socket, and then insert the memory straight down.

❶
❷
❸
❹

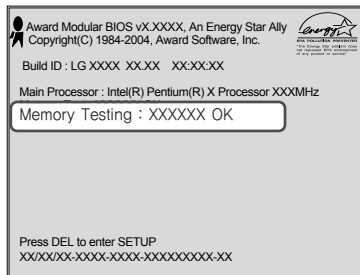Firmly push the latch to lock the memory.

● Checking the size of the installed memory

The computer automatically recognizes the newly installed memory; therefore, you do not need to change the system setup. Follow the instruction below to check the size of the installed memory.

1 Connect the power cord and other devices, and turn on the computer and monitor. The following screen appears to inspect the status of the computer.

2 If the following screen appears, press **[Esc]**. POST screen appears.

3 If the following screen appears, press **[Pause]** key to pause the screen. Make sure **[Memory Testing : XXXXXX OK]** appears.

Award Modular BIOS vX.XXXX, An Energy Star Ally
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Build ID : LG XXXX XX.XX   XX:XX:XX

Main Processor : Intel(R) Pentium(R) X Processor XXXMHz

Memory Testing : XXXXXX OK

Press DEL to enter SETUP
XX/XX/XX-XXXX-XXXX-XXXXXXXXX-XX

Note

■ To stop the logo screen for a moment, press **[Delete]** key ➡ Advanced BIOS Features ➡ Full Screen Logo Show Selectable, and then select Disable.

4 After check the memory, press **[Esc]**. Windows screen appears.