

ASUS[®]

Vintage V2-PE3

PC (Desktop Barebone)



E2548

**First Edition V1
March 2006**

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Notices

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received including interference that may cause undesired operation.

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 manufacturer's 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 to 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.



WARNING! The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This class B digital apparatus complies with Canadian ICES-003.

Safety information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing devices into the system, carefully read all the documentation that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet. Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

Lithium-Ion Battery Warning

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

VORSICHT: Explosionsgefahr bei unsachgemäßen Austausch der Batterie. Ersatz nur durch denselben oder einem vom Hersteller empfohlenem ähnlichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

LASER PRODUCT WARNING

CLASS 1 LASER PRODUCT

About this guide

Audience

This guide provides general information and installation instructions about the ASUS Vintage V2-PE3 barebone system. This guide is intended for experienced users and integrators with hardware knowledge of personal computers.

How this guide is organized

This guide contains the following parts:

1. Chapter 1: System introduction

This chapter gives a general description of the ASUS Vintage V2-PE3. The chapter lists the system features, including introduction on the front and rear panel, and internal components.

2. Chapter 2: Basic installation

This chapter provides step-by-step instructions on how to install components in the system.

3. Chapter 3: Starting up

This chapter helps you power up the system and install drivers and utilities from the support CD.

4. Chapter 4: Motherboard information

This chapter gives information about the motherboard that comes with the system. This chapter includes the motherboard layout, jumper settings, and connector locations.

5. Chapter 5: BIOS information

This chapter tells how to change system settings through the BIOS Setup menus and describes the BIOS parameters.

Conventions used in this guide



WARNING: Information to prevent injury to yourself when trying to complete a task.



CAUTION: Information to prevent damage to the components when trying to complete a task.



IMPORTANT: Instructions that you **MUST** follow to complete a task.



NOTE: Tips and additional information to aid in completing a task.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. ASUS Websites

The ASUS websites worldwide provide updated information on ASUS hardware and software products. Refer to the ASUS contact information.

2. Optional Documentation

Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

System package contents

Check your Vintage V2-PE3 system package for the following items.

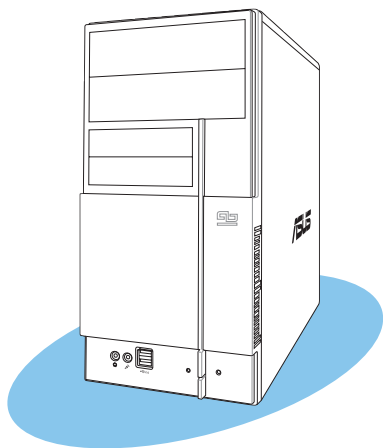


If any of the items is damaged or missing, contact your retailer immediately.

Item description
1. ASUS Vintage V2-PE3 barebone system with <ul style="list-style-type: none">ASUS motherboard300 W PFC power supply unitASUS chassis
2. Cable <ul style="list-style-type: none">AC power cable
3. Support CD
4. User guide

Chapter 1

This chapter gives a general description of the ASUS Vintage V2-PE3. The chapter lists the system features including introduction on the front and rear panel, and internal components.



1.1 Welcome!

Thank you for choosing the ASUS Vintage V2-PE3!

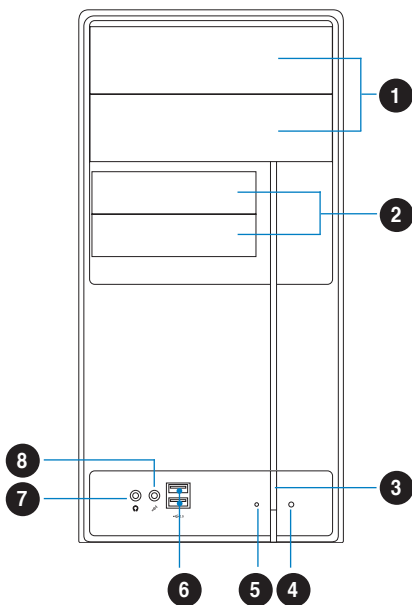
The ASUS Vintage V2-PE3 is an all-in-one barebone system with a versatile home entertainment feature.

The system comes in a stylish mini-tower casing and powered by the ASUS motherboard that supports the Intel® Pentium® D, Intel® Pentium® 4 or Intel® Celeron® processor in the 775-land package.

The system supports up to 2 GB of system memory using DDR 400/333 or DDR2-533 DIMMs, high-resolution graphics via integrated graphics controller or AGP slot, Serial ATA, USB 2.0, and 6-channel audio features the system takes you ahead in the world of power computing.

1.2 Front panel

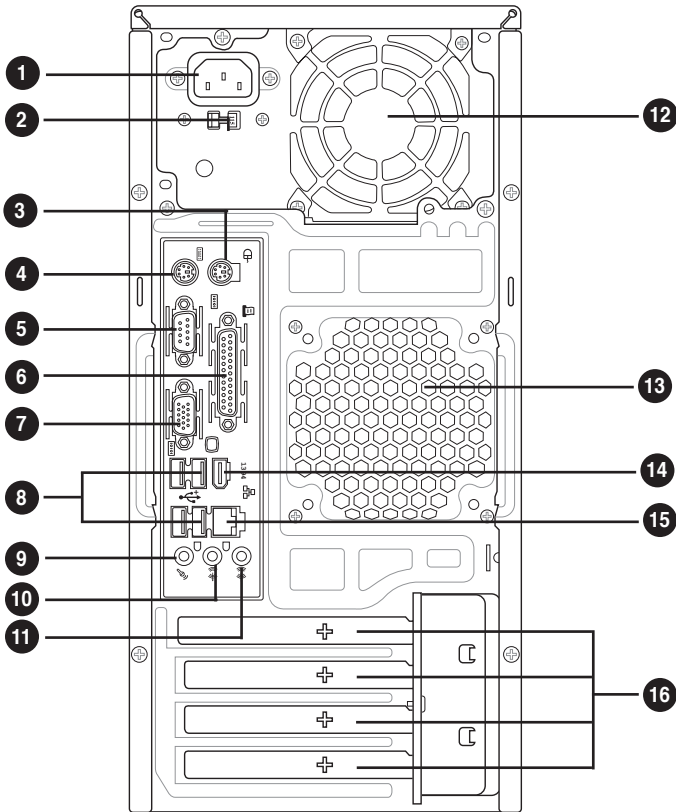
The front panel includes the optical drive bays, floppy disk drive slot, power button, and several I/O ports are located at the front panel.



1. **Two empty 5.25-inch bays.** These bays are for IDE optical drives.
2. **3.5-inch drive bays.** These slots are for 3.5-inch floppy or hard disk drives.
3. **Power button.** Press this button to turn the system on.
4. **Reset button.** Press this button to reboot the system without turning off the power.
5. **HDD LED.** This LED lights up when data is read from or written to the hard disk drive.
6. **USB 2.0 ports.** These Universal Serial Bus 2.0 (USB 2.0) ports are available for connecting USB 2.0 devices such as a mouse, printer, scanner, camera, PDA, and others.
7. **Headphone port.** This Line In (green) port connects a headphone with a stereo mini-plug.
8. **Microphone port.** This Mic (pink) port connects a microphone.

1.3 Rear panel

The system rear panel includes the power connector and several I/O ports that allow convenient connection of devices.



1. **Power connector.** This connector is for the power cable and plug.
2. **Voltage selector.** This switch allows you to adjust the system input voltage according to the voltage supply in your area. See the section “Voltage selector” on page 1-6 before adjusting this switch.
3. **PS/2 mouse port.** This green 6-pin connector is for a PS/2 mouse.
4. **PS/2 keyboard port.** This purple 6-pin connector is for a PS/2 keyboard.
5. **Serial port (COM1).** This port connects a mouse, modem, or other devices that conform with serial specification.

6. **Parallel port.** This 25-pin port connects a printer, scanner, or other devices.
7. **VGA port (COM2).** This port connects a VGA monitor.
8. **USB 2.0 ports 1, 2, 3 and 4.** These 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.
9. **Microphone port (pink).** This port connects a microphone.
10. **Line Out port (lime).** This port connects a headphone or a speaker. In 4-channel and 6-channel configuration, the function of this port becomes Front Speaker Out.
11. **Line In port (light blue).** This port connects the tape, CD, DVD player, or other audio sources.
12. **Power supply unit fan vent.** This vent is for the PSU fan that provides ventilation inside the power supply unit.
13. **Chassis fan vent.** This vent is for the fan that provides ventilation inside the system chassis.
14. **IEEE 1394a port.** This port provides high-speed connectivity for IEEE 1394a-compliant audio/video devices, storage peripherals, and other PC devices.
15. **LAN (RJ-45) port.** This port allows Gigabit connection to a Local Area Network (LAN) through a network hub.
16. **Expansion slot covers.** Remove these covers when installing expansion cards.



Refer to the audio configuration table below for the function of the audio ports in 2, 4, or 6-channel configuration.

Audio 2, 4, or 6-channel configuration

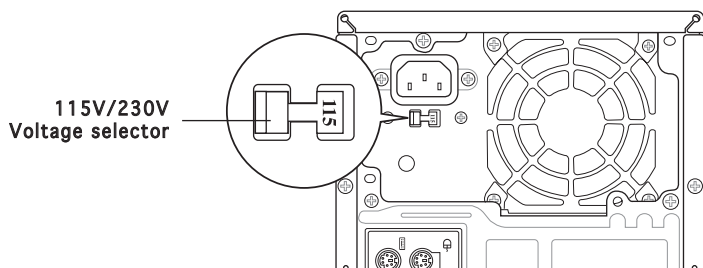
Port	Headset 2-speaker	4-speaker	6-speaker
Light Blue	Line In	Rear Speaker Out	Rear Speaker Out
Lime	Line Out	Front Speaker Out	Front Speaker Out
Pink	Mic In	Mic In	Center/Subwoofer

Voltage selector

The PSU has a 115 V/230 V voltage selector switch located beside the power connector. Use this switch to select the appropriate system input voltage according to the voltage supply in your area.

If the voltage supply in your area is 100-127 V, set this switch to 115 V.

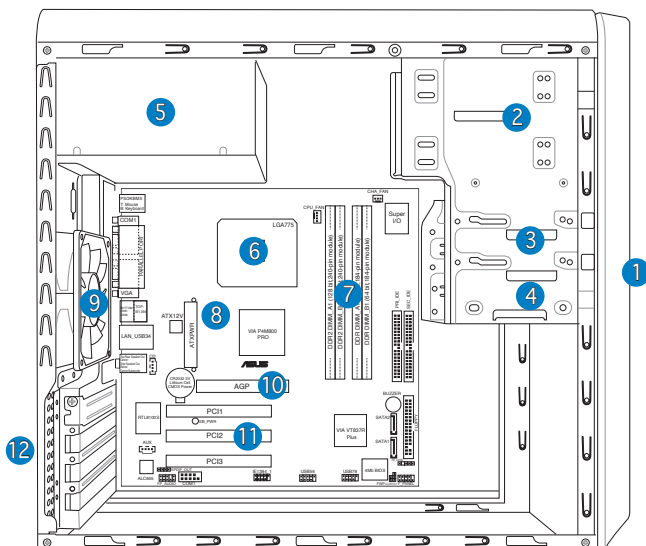
If the voltage supply in your area is 200-240 V, set this switch to 230 V.



Setting the switch to 115V in a 230V environment or 230V in a 115V environment will seriously damage the system!

1.4 Internal components

The illustration below is the internal view of the system when you remove the top cover and the power supply unit. The installed components are labeled for your reference. Proceed to Chapter 2 for instructions on installing additional system components.



- | | |
|---------------------------------|------------------------|
| 1. Front panel cover | 8. ASUS motherboard |
| 2. 5.25-inch optical drive bays | 9. Chassis fan |
| 3. Hard disk drive bay | 10. AGP slot |
| 4. Floppy disk drive bay | 11. PCI slots |
| 5. Power supply unit | 12. Metal bracket lock |
| 6. CPU socket | |
| 7. DIMM sockets | |

Chapter 2

This chapter provides step-by-step instructions on how to install components in the system.



2.1 Preparation

Before you proceed, make sure that you have all the components you plan to install in the system.

Basic components to install

1. Central Processing Unit (CPU)
2. DDR or DDR2 Dual Inline Memory Module (DIMM)
3. Expansion card(s)
4. Hard disk drive
5. Optical drive
6. Floppy disk drive

Tool

Phillips (cross) screw driver

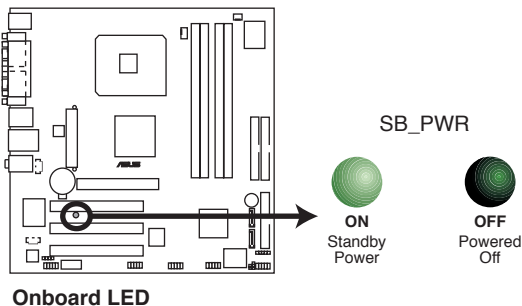
2.2 Before you proceed

Take note of the following precautions before you install components into the system.



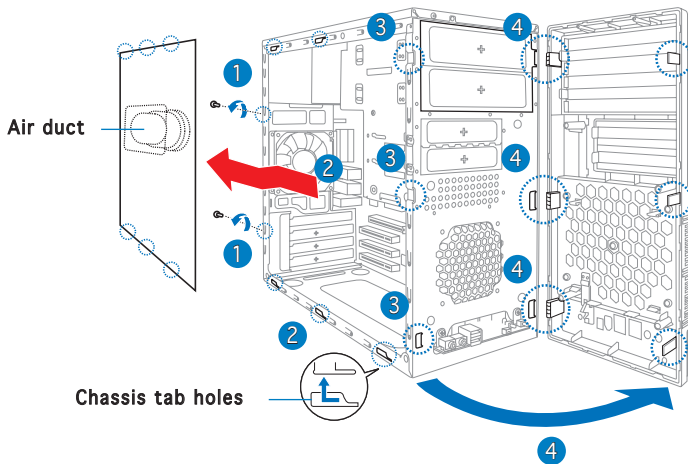
- Use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, before handling components to avoid damaging them due to static electricity.
- Hold components by the edges to avoid touching the ICs on them.
- Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.

The motherboard comes with an onboard standby power LED. This LED lights up to indicate that the system is ON, in sleep mode or in soft-off mode, and not powered OFF. Unplug the power cable from the power outlet and make sure that the standby power LED is OFF before installing any system component.



2.3 Removing the side cover and front panel assembly

1. Remove the cover screws on the rear panel.
2. Pull the side cover toward the rear panel until its hooks disengage from the chassis tab holes. Set the side cover aside.
3. Locate the front panel assembly hooks, then lift them until they disengage from the chassis.
4. Swing the front panel assembly to the right, until the hinge-like tabs on the right side of the assembly are exposed.
5. Remove the front panel assembly, then set aside.



2.4 Central Processing Unit (CPU)

2.4.1 Overview

The motherboard comes with a surface mount LGA775 socket designed for the Intel® Pentium® 4 processor in the 775-land package.



- Your boxed Intel® Pentium® 4 LGA775 processor package should come with installation instructions for the CPU, heatsink, and the retention mechanism. If the instructions in this section do not match the CPU documentation, follow the latter.
- Check your motherboard to make sure that the PnP cap is on the CPU socket and the socket contacts are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket contacts/motherboard components. ASUS will shoulder the cost of repair only if the damage is shipment/transit-related.
- Keep the cap after installing the motherboard. ASUS will process Return Merchandise Authorization (RMA) requests only if the motherboard comes with the cap on the LGA775 socket.
- The product warranty does not cover damage to the socket contacts resulting from incorrect CPU installation/removal, or misplacement/loss/incorrect removal of the PnP cap.

2.4.2 Installing CPU

To install a CPU:

1. Locate the CPU socket on the motherboard.

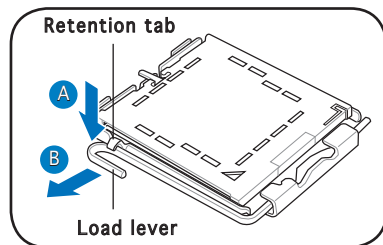


Before installing the CPU, make sure that the socket box is facing towards you and the load lever is on your left.

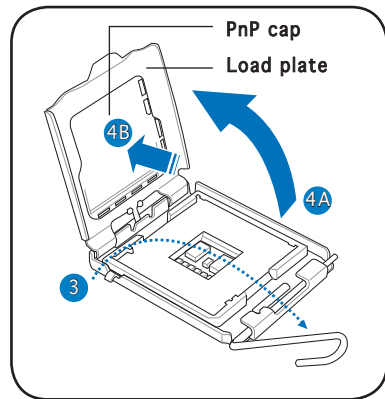
2. Press the load lever with your thumb (A), then move it to the left (B) until it is released from the retention tab.



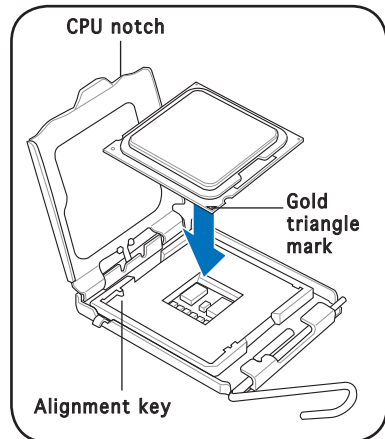
To prevent damage to the socket pins, do not remove the PnP cap unless you are installing a CPU.



3. Lift the load lever in the direction of the arrow to a 135° angle.
4. Lift the load plate with your thumb and forefinger to a 100° angle (4A), then push the PnP cap from the load plate window to remove (4B).



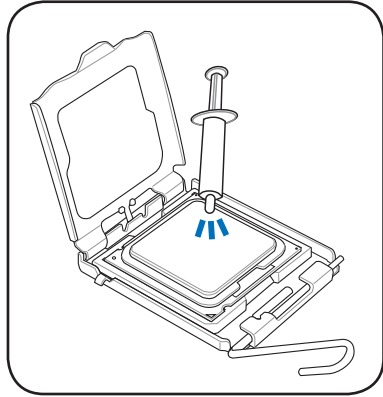
5. Position the CPU over the socket, making sure that the gold triangle is on the bottom-left corner of the socket then fit the socket alignment key into the CPU notch.



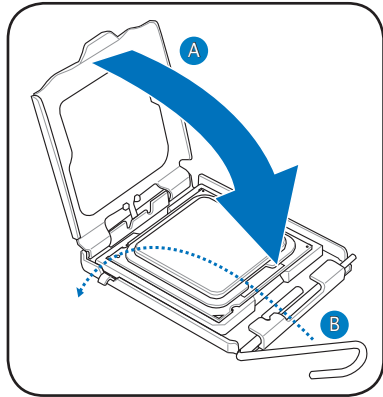
6. Apply Thermal Interface Material on the CPU before closing the load plate.



DO NOT eat the Thermal Interface Material. If it gets into your eyes or touches your skin, make sure to wash it off immediately, and seek professional medical help.



7. Close the load plate (A), then push the load lever (B) until it snaps into the retention tab.



2.4.3 Installing the CPU fan and heatsink assembly

The Intel® Pentium® 4 LGA775 processor requires a specially designed heatsink and fan assembly to ensure optimum thermal condition and performance.



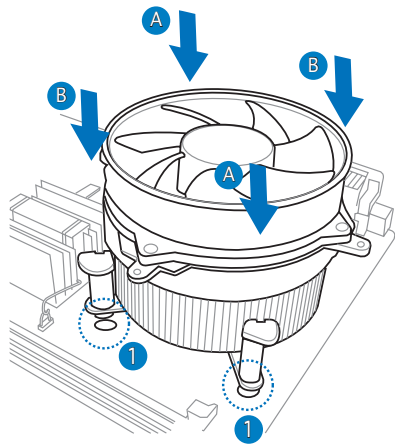
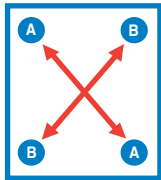
- When you buy a boxed Intel® Pentium® 4 processor, the package includes the CPU fan and heatsink assembly. If you buy a CPU separately, make sure that you use only Intel®-certified multi-directional heatsink and fan.
- Your Intel® Pentium® 4 LGA775 heatsink and fan assembly comes in a push-pin design and requires no tool to install.



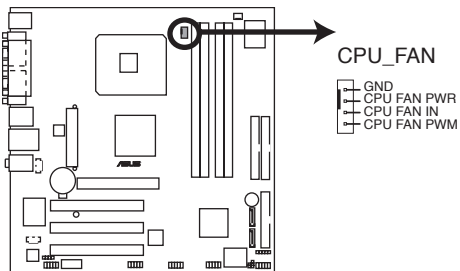
If you purchased a separate CPU heatsink and fan assembly, make sure that the Thermal Interface Material is properly applied to the CPU heatsink or CPU before you install the heatsink and fan assembly.

To install the CPU heatsink and fan:

1. Place the heatsink on top of the installed CPU, making sure that the four fasteners match the holes on the motherboard.
2. Push down two fasteners at a time in a diagonal sequence to secure the heatsink and fan assembly in place.



3. When the fan and heatsink assembly is in place, connect the CPU fan cable to the connector on the motherboard.



CPU FAN Connector



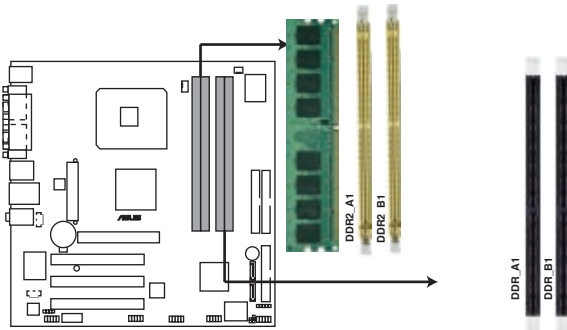
Do not forget to connect the CPU fan connector! Hardware monitoring errors can occur if you fail to plug this connector.

2.5 Installing a DIMM

The motherboard comes with two 240-pin Double Data Rate 2 (DDR2) and two 184-pin DDR Dual Inline Memory Modules (DIMM) sockets.

DDR2 DIMMS are notched differently to prevent misplacement in DDR DIMM sockets.

The following figure illustrates the location of the sockets:



DDR and DDR2 DIMM Sockets



To prevent damage to the motherboard, do not use DDR and DDR2 memory simultaneously.

2.5.1 Memory configurations

You may install 256 MB, 512 MB and 1 GB unbuffered non-ECC DDR/DDR2 DIMMs into the DIMM sockets using the memory configurations in this section.



- Always install DIMMs with the same CAS latency. For optimum compatibility, we recommend that you obtain memory modules from the same vendor. Refer to the DDR/DDR2 Qualified Vendors List on the next page for details.
 - Due to chipset resource allocation, the system may detect less than 2 GB system memory when you installed two 1 GB DDR or DDR2 memory modules.
-

DDR2 (533 MHz) Qualified Vendors List

Size	Type	Vendor	Module	Chip Vendor	Chip Component
256Mbytes	Unbuffer	Infineon	HYS64T32000GU-3.7-A	Infineon	HYS64T32000GU-3.7-A
256Mbytes	Unbuffer	Micron	MT8HTF3264AG-53EB3	Micron	MT4CB11Z9BQT
256Mbytes	Unbuffer	Samsung	M378T3253FG0-CD5	Samsung	K4T56083QF-GCD5
512Mbytes	Unbuffer	Adata	M2OHT2G3H3110A1B0Z	Hynix	HYS5P12821
512Mbytes	Unbuffer	Corsair	CM2X-512-4300	Corsair	CM2X-512-4300
512Mbytes	Unbuffer	Elpida	EBE51ED8ABFA-5C-E	Elpida	U5108AB-5C-E
512Mbytes	Unbuffer	Elpida	EBE51UD8ABFA-5C-E	Elpida	E5108AB-5C-E
512Mbytes	Unbuffer	Elpida	EBE51UD8ABFA-5C	Elpida	E5108AB-5C
512Mbytes	Unbuffer	Hynix	HYMP564U648-C4 AA	Hynix	HYS5P12821F-C4
512Mbytes	Unbuffer	Hynix	HYMP564U728-C4	Hynix	HYS5P12821F-C4
512Mbytes	Unbuffer	Infineon	HYS64T64000GU-3.7-A	Infineon	HYB18T512
512Mbytes	Unbuffer	Infineon	HYS64T6000HU-3.7-A	Infineon	HYB18T512
512Mbytes	Unbuffer	Kingston	KVR533D2N4/512GID	SEC	K4T51083QC
512Mbytes	Unbuffer	Micron	MT16HTF6464AG-53EB2	Micron	MT4DB11Z9BQT
512Mbytes	Unbuffer	Samsung	M378T6453FG0-CD5	Samsung	K4T56083QF-GCD5
512Mbytes	Unbuffer	Samsung	M378T6553BG0-CD5	Samsung	K4T51083QB-GCD5
512Mbytes	Unbuffer	Samsung	M391T6453FG0-CD5	Samsung	K4T51083QB-GCD5
512Mbytes	Unbuffer	Samsung	M391T6553BG0-CD5	Samsung	K4T56083QF-GCD5
1024Mbytes	ECC	Hynix	HYMP512U648-C4	Hynix	HYS5P12821F-C4
1024Mbytes	Unbuffer	Hynix	HYMP512U728-C4 ECC	Hynix	HYS5P12821F-D4
1024Mbytes	Unbuffer	Micron	MT16HTF12864AY-53EA1	Micron	4MA1 D9CRZ
2048Mbytes	Unbuffer	Elpida	EBE21EE8AFA-5C-E	Elpida	E1108AA-5C-E

DDR (400 MHz) Qualified Vendors List

Size	Type	Vendor	Module	Chip Vendor	Chip Component
256Mbytes	Unbuffer	Albatron	MDGV05F3G31CB1E22	Vdata	VDD8608A8A-5B
256Mbytes	Unbuffer	Apacer	73.85397.460	Samsung	K4H560838D-TCC4
256Mbytes	Unbuffer	Corsair	CMX256A-3200LL	Winbond	W942508BH-5
256Mbytes	Unbuffer	Corsair	VS256MB400	Corsair	VS32M8-5
256Mbytes	Unbuffer	Corsair	VS256MB400	Corsair	PR1200528
256Mbytes	Unbuffer	Elixir	M2U25664DS88B3G-5T	Elixir	N2DS25680BT-5T
256Mbytes	Unbuffer	Hynix	HYMD232646A8J-D43 AA	Hynix	HYS5DU56822AT-D43
256Mbytes	Unbuffer	Hynix	HYMD232646D8J-D43 AA	Hynix	HYS5DU56822DT-D43
256Mbytes	Unbuffer	Kingmax	MPLB62D-68K DDR	Kingmax	KDL684T4A2A-06
256Mbytes	Unbuffer	Kingston	KVR400X64C3A/256	Kingston	D3208DHT-5
256Mbytes	Unbuffer	Kingston	KVR400X64C25/256	Winbond	W942508BH-5
256Mbytes	Unbuffer	Kingston	KVR400X64C3A/256	Hynix	HYS5DU56822BT-D43
256Mbytes	Unbuffer	Micron	MT8VDDT3264AG-40BC4	Micron	MT46V32M8TG-5BC
256Mbytes	Unbuffer	PromOS	V826632K24SCTG-D0	PromOS	V58C2256804SCT5B
256Mbytes	Unbuffer	Samsung	M368L3223DTM-CC4	Samsung	K4H560838D-TCC4
256Mbytes	Unbuffer	Samsung	M368L3223FTN-CCC	Samsung	K4H560838F-TCCC
256Mbytes	Unbuffer	Trancend	256MB DDR400	Winbond	W942508BH-5
256Mbytes	Unbuffer	TwinMOS	M2G9108A-TT	TwinMOS	TMD7608F8E50D
256Mbytes	Unbuffer	TwinMOS	PC3200 256MB DDR/CL2.5	Winbond	W942508BH-5

(continued on the next page)

DDR (400 MHz) Qualified Vendors List

Size	Type	Vendor	Module	Chip Vendor	Chip Component
256Mbytes	Unbuffer	TwinMOS	M2S9I08AIAPIAS9F0811A-T	PSC	A2S56730BTP
512Mbytes	Unbuffer	Adata	MDOPM5F3H41Y0B1E0Z	Mosel	V58C2256804SCT5B
512Mbytes	Unbuffer	Apacer	77.10736.46G	Samsung	K4H560838F-TCCC
512Mbytes	ECC	Apacer	77.10738.464	Samsung	K4H560838E-TCCC
512Mbytes	Unbuffer	Apacer	77.10739.534	PSC	A2S56D30BTP
512Mbytes	Unbuffer	Corsair	V5512MB400	Corsair	VS32M8-5
512Mbytes	Unbuffer	Corsair	V5512MB400	Corsair	EL1100528
512Mbytes	Unbuffer	Hynix	HYMD264646A8J-D43 AA	Hynix	HY5DU56822AT-D
512Mbytes	Unbuffer	Infineon	HYS64D64320GU-5-C	Infineon	HY564D64320GU-5-C
512Mbytes	Unbuffer	Kingmax	MPXC22D-38KT3	Kingmax	KDL388P4EA-50
512Mbytes	Unbuffer	Kingston	KVR400X64C3A/512	Hynix	HY5DU56822BT-D43
512Mbytes	Unbuffer	Kingston	KVR400X64C3A/512	Kingston	D3208DH1T-5
512Mbytes	Unbuffer	Kingston	KVR400X64C3A/512	Mosel	V58C2256804SAT5B
512Mbytes	Unbuffer	Micron	MT116VDDT6464AG-40BC4	Micron	MT46V32M8TG-5BC
512Mbytes	Unbuffer	PNV	DDCS1230.38P6B	Bravo	ADP 328TM-50
512Mbytes	Unbuffer	ProMOS	V826664K24SCTG-D0	ProMOS	V58C2256804SCT5B
512Mbytes	ECC	PQI	MDAD-421HA2801-04D6	PQI	PQ4D328D5
512Mbytes	Unbuffer	Samsung	M368L6423FTN-CCC	Samsung	K4H560838F-TCCC
512Mbytes	Unbuffer	Transcend	512MB DDR400 DIMM	Mosel	V85C2256804SAT5B
512Mbytes	Unbuffer	Transcend	TS64MLD64V4F	PSC	A2S56D30BTP
512Mbytes	Unbuffer	Weblink	PW200411130-0447	Rami	RS56D08BTP-5
512Mbytes	Unbuffer	Winbond	W9451GBB8-5	Winbond	W942508BH-5
512Mbytes	Unbuffer	Winbond	U24512ADWBG6H20	Winbond	W942508CH-5
1024Mbytes	Unbuffer	Transcend	TS128MLD64V4J.1GB	Samsung	K4H510838C-UCCC

DDR (333 MHz) Qualified Vendors List

Size	Type	Vendor	Module	Chip Vendor	Chip Component
256Mbytes	Unbuffer	Corsair	VS256MB333	Samsung	K4H560838D-TBC3
256Mbytes	Unbuffer	Elixir	M2U25H64DS8HB2G-6K	Elixir	N2DS12H80BT-6K
256Mbytes	Unbuffer	Elixir	M2U25664DS88B2G-6K	Elixir	N2DS25680BT-6K
256Mbytes	Unbuffer	Infineon	HYS64D32000GU-6-B	Infineon	HYB25D256800BT-6
256Mbytes	Unbuffer	Infineon	HYS64D32300GU-6-C	Infineon	HYB25D256800CE-6
256Mbytes	Unbuffer	Micron	MT116VDDT3264AG-335B3	Micron	MT46V16M8TG-6TB
256Mbytes	Unbuffer	Micron	MT8VDDT3264AG-335GB	Micron	MT46V32M8TG-6TG
256Mbytes	Unbuffer	PQI	MD3456UPS.T286A-02D3	PQI	PQ3D328S60248
256Mbytes	Unbuffer	Samsung	M368L3223FTN-CB3	Samsung	K4H560838F-TCB3
512Mbytes	ECC	Buffalo	NBPC333CL25-521	Infineon	HYB25D256800BT-6
512Mbytes	Unbuffer	Corsair	V5512MB333	Corsair	VS32M8-6
512Mbytes	Unbuffer	Elixir	M2U51264DS8B1G-6K	Elixir	N2DS25680BT-6K
512Mbytes	Unbuffer	Infineon	HYS64D64320GU-6-C	Infineon	HYB25D256800CE-6
512Mbytes	Unbuffer	Kingston	KVR333X64C25/512	Winbond	W942508BH-6
512Mbytes	Unbuffer	Micron	MT116VDDT6464AG-335GB	Micron	MT46V32M8-6TG
1024Mbytes	Unbuffer	Nanya	NT1GD64S8HA0F-6K	Nanya	NTSD564M8AF-6K
1024Mbytes	Unbuffer	Transcend	TS128MLD64V3J	Samsung	K4H510838B-TCB3

SS - Single-sided

DS - Double-sided



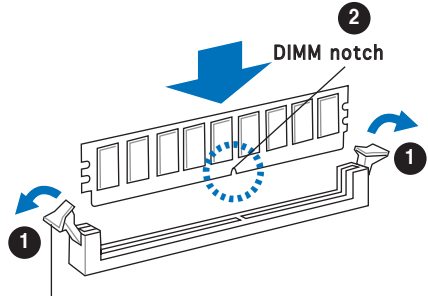
Visit the system builder's website for the latest DDR2-533/DDR-400/DDR-333 Qualified Vendors List.

2.5.2 Installing a DIMM



Make sure to unplug the power supply before adding or removing DIMMs or other system components. Failure to do so may cause severe damage to both the motherboard and the components.

1. Unlock a DIMM socket by pressing the retaining clips outward.
2. Align a DIMM on the socket such that the notch on the DIMM matches the break on the socket.

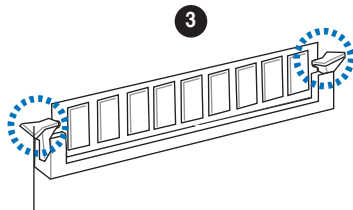


Unlocked retaining clip



- A DDR/DDR2 DIMM is keyed with a notch so that it fits in only one direction. Do not force a DIMM into a socket to avoid damaging the DIMM.
- The DDR2 DIMM sockets do not support DDR DIMMs. DO not install DDR DIMMs to the DDR2 DIMM sockets.

3. Firmly insert the DIMM into the socket until the retaining clips snap back in place and the DIMM is properly seated.

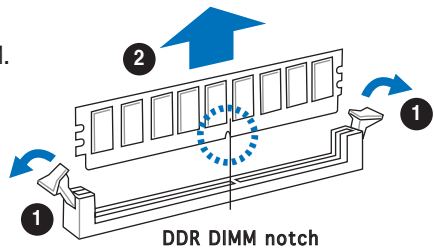


Locked Retaining Clip

2.5.3 Removing a DIMM

Follow these steps to remove a DIMM.

1. Simultaneously press the retaining clips outward to unlock the DIMM.



Support the DIMM lightly with your fingers when pressing the retaining clips. The DIMM might get damaged when it flips out with extra force.

2. Remove the DIMM from the socket.

2.6 Expansion slots

In the future, you may need to install expansion cards. The following sub-sections describe the slots and the expansion cards that they support.



Make sure to unplug the power cord before adding or removing expansion cards. Failure to do so may cause you physical injury and damage motherboard components.

2.6.1 Installing an expansion card

To install an expansion card:

1. Before installing the expansion card, read the documentation that came with it and make the necessary hardware settings for the card.
2. Remove the system unit cover (if your motherboard is already installed in a chassis).
3. Remove the bracket opposite the slot that you intend to use. Keep the screw for later use.
4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
5. Secure the card to the chassis with the screw you removed earlier.
6. Replace the system cover.

2.6.2 Configuring an expansion card

After installing the expansion card, configure it by adjusting the software settings.

1. Turn on the system and change the necessary BIOS settings, if any. See Chapter 5 for information on BIOS setup.
2. Assign an IRQ to the card. Refer to the tables on the next page.
3. Install the software drivers for the expansion card.

Standard interrupt assignments

IRQ	Priority	Standard Function
0	1	System Timer
1	2	Keyboard Controller
2	-	Re-direct to IRQ#9
3	11	Communications Port (COM2)*
4	12	Communications Port (COM1)*
5	13	IRQ holder for PCI steering*
6	14	Floppy Disk Controller
7	15	Printer Port (LPT1)*
8	3	System CMOS/Real Time Clock
9	4	IRQ holder for PCI steering*
10	5	IRQ holder for PCI steering*
11	6	IRQ holder for PCI steering*
12	7	PS/2 Compatible Mouse Port*
13	8	Numeric Data Processor
14	9	Primary IDE Channel
15	10	Secondary IDE Channel

* These IRQs are usually available for ISA or PCI devices.

IRQ assignments for this motherboard

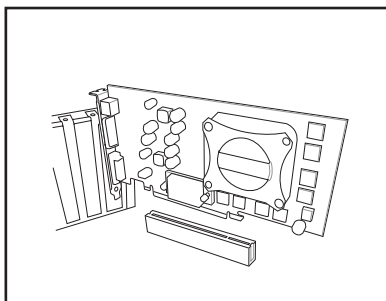
	A	B	C	D	E	F	G	H
PCI slot 1	shared	—	—	—	—	—	—	—
PCI slot 2	—	shared	—	—	—	—	—	—
PCI slot 3	—	—	shared	—	—	—	—	—
Onboard USB controller 0-1	shared	—	—	—	—	—	—	—
Onboard USB controller 2-3	shared	—	—	—	—	—	—	—
Onboard USB controller 4-5	—	shared	—	—	—	—	—	—
Onboard USB controller 6-7	—	shared	—	—	—	—	—	—
Onboard USB 2.0 controller	—	—	shared	—	—	—	—	—
Onboard AC `97 Audio	—	—	shared	—	—	—	—	—
Onboard PCI LAN	—	—	—	—	shared	—	—	—
Onboard PCI 1394	—	—	—	—	—	shared	—	—
AGP Slot	shared	—	—	—	—	—	—	—



When using PCI cards on shared slots, ensure that the drivers support "Share IRQ" or that the cards do not need IRQ assignments. Otherwise, conflicts will arise between the two PCI groups, making the system unstable and the card inoperable.

2.6.3 AGP slot

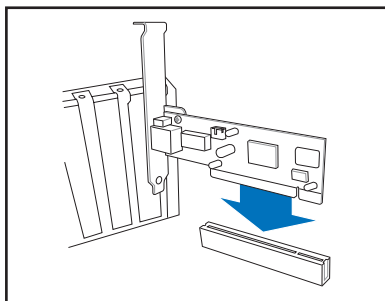
The Accelerated Graphics Port (AGP) slot supports AGP8X/4X cards. When you buy an AGP card, make sure that you ask for one with +1.5V specification. Note the notches on the card golden fingers to ensure that they fit the AGP slot on your motherboard. The below figure shows a graphic card to be installed on a AGP slot.



Install only 1.5 V or 0.8 V AGP cards on this motherboard! 3.3V AGP cards are not supported in this motherboard.

2.6.4 PCI slots

The PCI slots support cards such as a LAN card, SCSI card, USB card, and other cards that comply with PCI specifications. The figure shows a LAN card to be installed on a PCI slot.

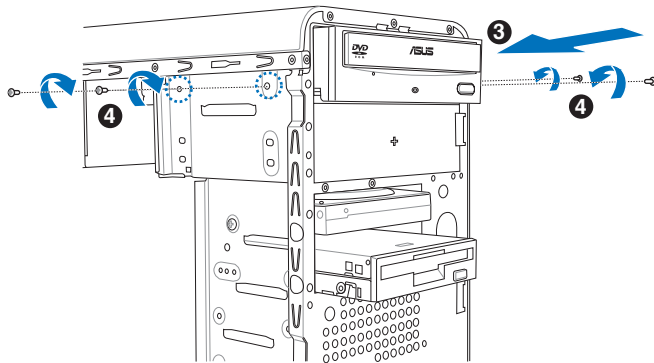


2.7 Installing an optical drive

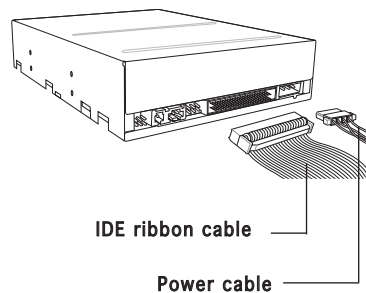
Refer to the instructions in this section if you wish to install a new optical drive.

Follow these steps to install an optical drive:

1. Place the chassis upright.
2. Remove the drive slot metal plate cover.
3. Insert the optical drive into the upper 5.25-inch drive bay and carefully push the optical drive into the bay until its screw holes align with the holes on the bay as shown.
4. Secure the optical drive with two screws on both sides of the bay.



5. Connect a power cable from the power supply to the power connector at the back of the optical drive.
6. Connect one end of the IDE ribbon cable to the IDE interface at the back of the optical drive, matching the red stripe on the cable with Pin 1 on the IDE interface.



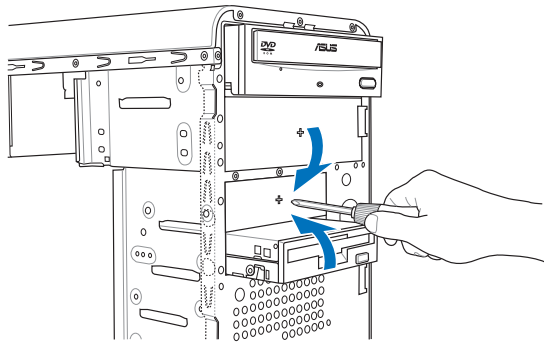
7. Connect the other end of the IDE ribbon cable to the secondary IDE connector (labeled SEC_IDE) on the motherboard.
8. Remove the dummy drive slot cover from the front panel.
9. Replace the front panel.

2.8 Installing a hard disk drive

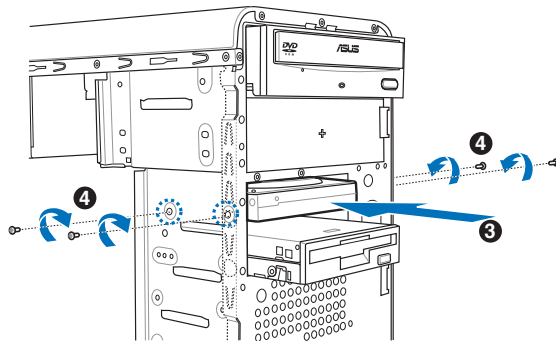
The system may have one pre-installed 3.5-inch Serial ATA or IDE hard disk drive. Refer to this section to install additional Serial ATA or IDE hard disk drive(s).

To install a Serial ATA hard disk drive:

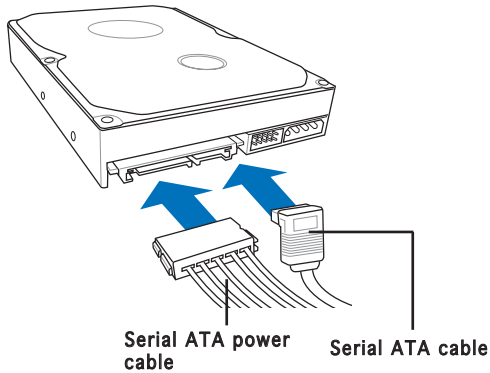
1. Place the chassis upright.
2. Use a screw driver to remove the HDD drive slot metal plate cover.



3. With the HDD label side up, carefully insert the drive into the 3.5-inch bay and push the drive into the bay until its screw holes align with the holes on the drive bay.



4. Secure the drive with two screws on both sides.



5. Connect one end of the Serial ATA cable to the SATA connector at the back of the drive, then connect the other end to a Serial ATA connector on the motherboard.
6. Connect a 15-pin Serial ATA power plug from the power supply unit to the 15-pin power connector at the back of the drive.

- OR -

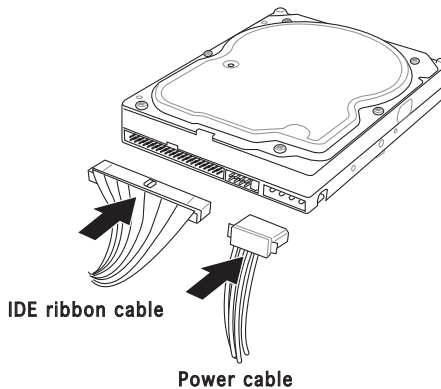
Connect a 4-pin (female) power plug from the power supply unit to the 4-pin (male) power connector at the back of the drive.



If your Serial ATA HDD has both 4-pin and 15-pin connectors at the back, use either the 15-pin SATA power adapter plug **OR** the legacy 4-pin power connector. **DO NOT** use both to prevent damage to components and to keep the system from becoming unstable.

To install an IDE hard disk drive:

1. Follow steps 1-4 of the previous section.
2. Connect the blue interface of the IDE ribbon cable to the primary IDE connector (blue connector labeled PRI_IDE) on the motherboard.



-
- If you will install only one hard disk drive, make sure to configure your hard disk drive as Master device before connecting the IDE cable and power plug. Refer to the HDD documentation on how to set the drive as a Master device.
 - If you will install two IDE hard disk drives, configure the other device as Slave.
-

3. Connect the gray interface of the IDE ribbon cable to the IDE connector on the drive.
4. If you install two IDE hard disk drives, connect the black interface of the IDE ribbon cable to the IDE connector on the second (Slave) IDE hard disk drive.
5. Connect a 4-pin power plug from the power supply unit to the power connector at the back of the drive(s).

2.9 Installing a floppy disk drive

The Vintage V2-PE3 system comes with one 3.25-inch drive bay for a floppy disk drive.

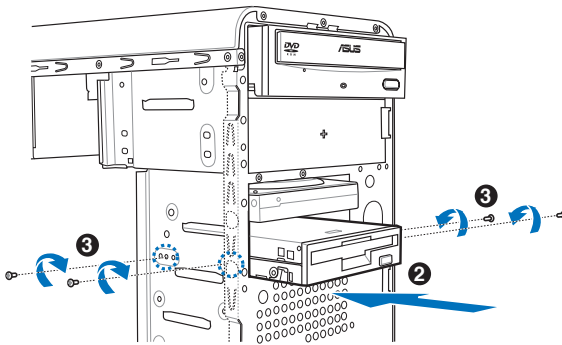
To install a floppy disk drive:

1. Remove the front panel cover.

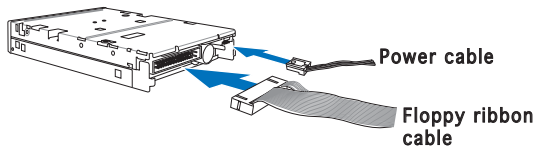


For instructions on how to remove the front panel cover, refer to page 2-3 of section “2.3 Removing the side cover and front panel assembly”.

2. Carefully insert the floppy disk drive into the floppy drive bay until the screw holes align with the holes on the bay.
3. Secure the floppy disk drive with two screws on both sides.



4. Connect the floppy disk drive signal cable to the signal connector at the back of the drive.

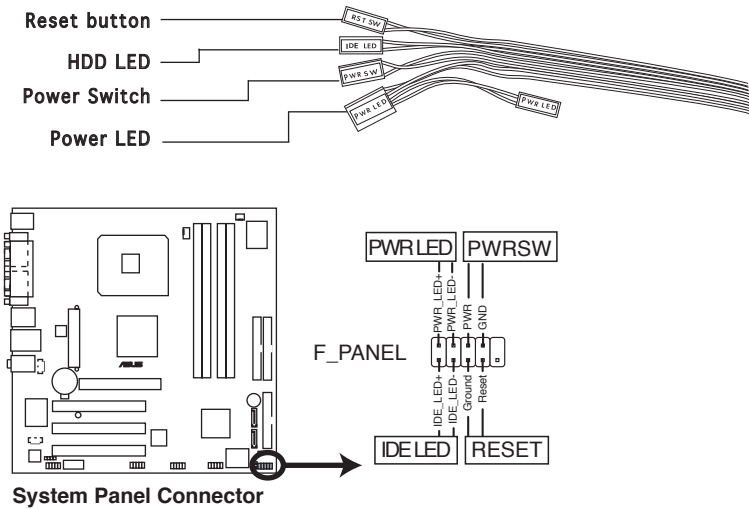


5. Connect the other end of the signal cable to the floppy disk drive connector on the motherboard. See page 4-6 for the location of the floppy disk drive connector.
6. Connect a 4-pin power cable from the power supply unit to the power connector at the back of the floppy disk drive.

2.10 Re-connecting cables

You may have disconnected some cables when you were installing components. You must re-connect these cables before you replace the chassis cover.

LED cables

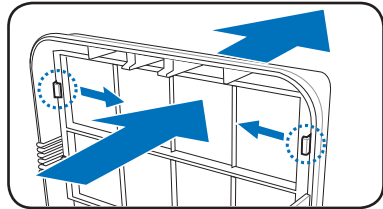


Connect the **reset button**, **power switch**, **power LED**, and **HDD LED** cables to their respective leads in the system panel connector on the motherboard. See page 4-12 for the system panel descriptions.

2.11 Removing the bay covers and reinstalling the front panel assembly and side cover

If you installed an optical and/or floppy disk drive, remove the bay cover(s) on the front panel assembly before reinstalling it to the chassis. To do this:

1. Locate the bay cover locks.
2. Press the locks inward to release the bay cover.
3. Push the bay cover outward, then set it aside.
4. Follow the same instructions to remove the 3.5" drive bay cover.

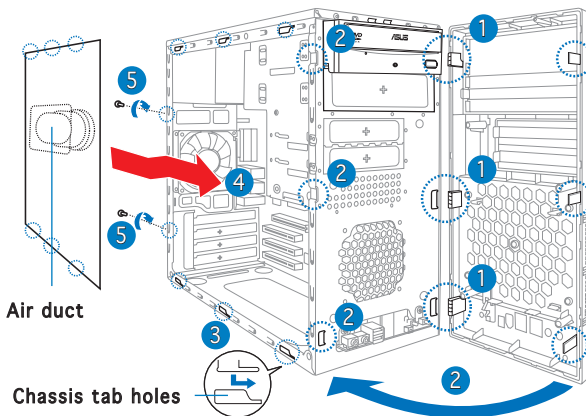


To reinstall the front panel assembly and side cover:

1. Insert the front panel assembly hinge-like tabs to the holes on the right side of the chassis.
2. Swing the front panel assembly to the left, then insert the hooks to the chassis until the front panel assembly fits in place.
3. Insert the six side cover hooks into the chassis tab holes.
4. Push the side cover to the direction of the front panel until it fits in place.
5. Secure the cover with two screws you removed earlier.

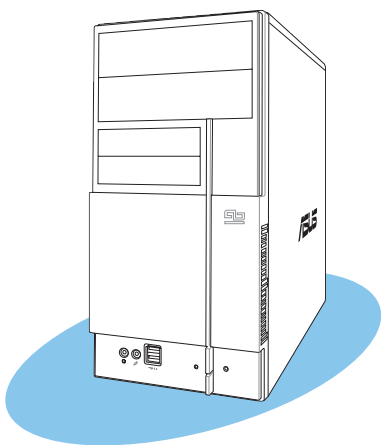


If the air duct interferes with the CPU fan, adjust the air duct accordingly.



Chapter 3

This chapter helps you power up the system and install drivers and utilities from the support CD.



ASUS Vintage V2-PE3

Download from [Www.Somanuals.com](http://www.Somanuals.com). All Manuals Search And Download.

Starting up

3.1 Installing an operating system

The barebone system supports Windows® 2000/XP operating systems (OS). Always install the latest OS version and corresponding updates so you can maximize the features of your hardware.



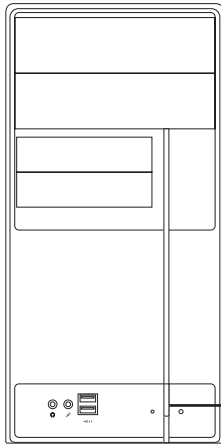
Because motherboard settings and hardware options vary, use the setup procedures presented in this chapter for general reference only. Refer to your OS documentation for more information.



- Windows XP OS setup cannot recognize Serial ATA hard drives without the necessary drivers. Use the bundled floppy disk when installing Windows XP OS to a Serial ATA hard drive.
- From the Windows XP setup screen, press F6 when prompted then follow succeeding screen instructions to install the SATA drivers.

3.2 Powering up

Press the system power button (⏻) to enter the OS.



Press to turn ON the system

3.3 Support CD information

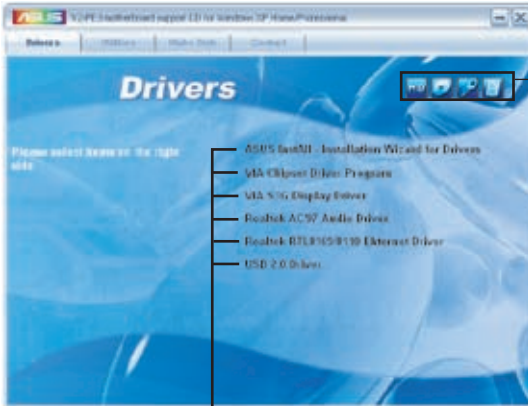
The support CD that came with the system contains useful software and several utility drivers that enhance the system features.



- Screen display and driver options may not be the same for different operating system versions.
- The contents of the support CD are subject to change at any time without notice. Visit the ASUS website for updates.

3.3.1 Running the support CD

To begin using the support CD, place the CD in your optical drive. The CD automatically displays the **Drivers** menu if Autorun is enabled in your computer.



Click an icon to display support CD/motherboard information

Click an item to install



If **Autorun** is NOT enabled in your computer, browse the contents of the support CD to locate the file **ASSETUP.EXE** from the BIN folder. Double-click the **ASSETUP.EXE** to run the CD.

ASUS InstAll - Drivers Installation Wizard

Automatically installs all the necessary drivers for this motherboard.

VIA Chipset Driver Program

Installs the VIA chipset driver program.

VIA S3G Display driver

Installs the S3G display driver.

Realtek AC'97 Audio Driver

Installs the AC'97 audio driver.

Realtek RTL8169/8110 Ethernet Driver

Installs the Realtek RTL8169/8110 ethernet Driver.

USB 2.0 Driver

Installs the USB 2.0 driver file that came with the utility for details.

3.3.2 Utilities menu

The Utilities menu shows the applications and other software that the motherboard supports.



ASUS InstAll-Installation Wizard for Utilities

Installs the ASUS InstAll-Installation Wizard Utilities.

ASUS PC Probe II

This smart utility monitors the fan speed, CPU temperature, and system voltages, and alerts you of any detected problems. This utility helps you keep your computer in healthy operating condition.

ASUS Update

The ASUS Update utility allows you to update the motherboard BIOS in a Windows® environment. This utility requires an Internet connection either through a network or an Internet Service Provider (ISP).

ASUS Screen Saver

Installs the ASUS screen saver.

Adobe Reader V7.0

Installs the Adobe® Acrobat® Reader V7.0 that allows you to open, view, and print documents in Portable Document Format (PDF).

Microsoft DirectX 9.0c Driver

Installs the Microsoft® DirectX 9.0c driver.

Anti-virus utility

The anti-virus application scans, identifies, and removes computer viruses. View the online help for detailed information.

3.3.3 Make Disk

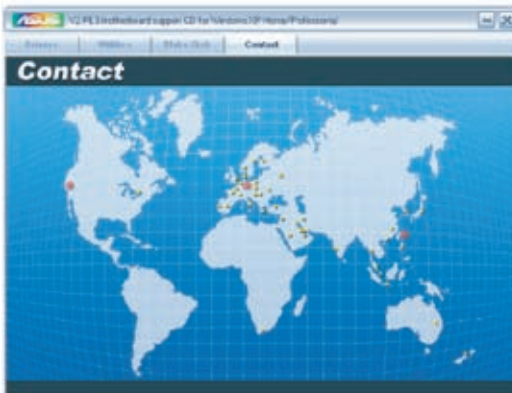


VIA 32/64bit RAID Driver

Creates the VIA 32/64bit RAID driver.

3.3.4 ASUS Contact information

Click the **Contact** tab to display the ASUS contact information. You can also find this information on the inside front cover of this user guide.



3.4 Software information

Most of the applications in the support CD have wizards that will conveniently guide you through the installation. View the online help or readme file that came with the software for more information.

ASUS PC Probe II

PC Probe II is a utility that monitors the computer's vital components and alerts you of any problem with these components. PC Probe II senses fan rotations, CPU temperature, and system voltages, among others. PC Probe II is software-based, allowing you to start monitoring your computer the moment you turn it on. With this utility, you are assured that your computer is always at a healthy operating condition.

Installing PC Probe II

To install PC Probe II on your computer:

1. Place the support CD to the optical drive. The **Drivers** installation tab appears if your computer has an enabled Autorun feature.



If Autorun is not enabled in your computer, browse the contents of the support CD to locate the setup.exe file from the ASUS PC Probe II folder. Double-click the setup.exe file to start installation.

2. Click the **Utilities** tab, then click **ASUS PC Probe II**.
3. Follow the screen instructions to complete installation.

Launching PC Probe II

You can launch the PC Probe II right after installation or anytime from the Windows® desktop.

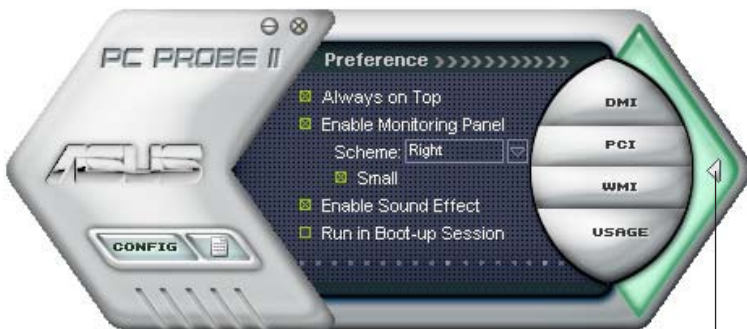
To launch the PC Probe II from the Windows® desktop, click **Start > All Programs > ASUS > PC Probe II**. The PC Probe II main window appears.

After launching the application, the PC Probe II icon appears in the Windows® taskbar. Click this icon to close or restore the application.










Using PC Probe II

Main window

The PC Probe II main window allows you to view the current status of your system and change the utility configuration. By default, the main window displays the **Preference** section. You can close or restore the **Preference** section by clicking on the triangle on the main window right handle.



Click to close the Preference panel

Button	Function
	Opens the Configuration window
	Opens the Report window
	Opens the Desktop Management Interface window
	Opens the Peripheral Component Interconnect window
	Opens the Windows Management Instrumentation window
	Opens the hard disk drive, memory, CPU usage window
	Shows/Hides the Preference section
	Minimizes the application
	Closes the application

Sensor alert

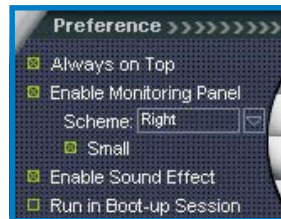
When a system sensor detects a problem, the main window right handle turns red, as the illustrations below show.



When displayed, the monitor panel for that sensor also turns red. Refer to the **Monitor panels** section for details.

Preferences

You can customize the application using the Preference section in the main window. Click the box before each preference to activate or deactivate.



Hardware monitor panels

The hardware monitor panels display the current value of a system sensor such as fan rotation, CPU temperature, and voltages.

The hardware monitor panels come in two display modes: hexagonal (large) and rectangular (small). When you check the **Enable Monitoring Panel** option from the **Preference** section, the monitor panels appear on your computer's desktop.



Large display



Small display

Changing the monitor panels position

To change the position of the monitor panels on the desktop, click the arrow down button of the **Scheme** options, then select another position from the list box. Click **OK** when finished.



Moving the monitor panels

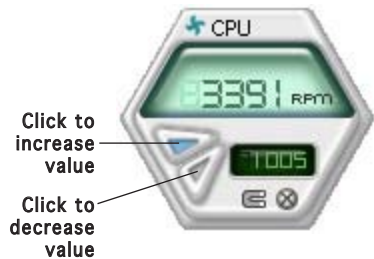
All monitor panels move together using a magnetic effect. If you want to detach a monitor panel from the group, click the horseshoe magnet icon. You can now move or reposition the panel independently.



Adjusting the sensor threshold value

You can adjust the sensor threshold value in the monitor panel by clicking the arrow buttons. You can also adjust the threshold values using the **Config** window.

You cannot adjust the sensor threshold values in a small monitoring panel.



Monitoring sensor alert

The monitor panel turns red when a component value exceeds or is lower than the threshold value. Refer to the illustrations below.



Large display



Small display

WMI browser

Click **WMI** to display the WMI (Windows Management Instrumentation) browser. This browser displays various Windows® management information. Click an item from the left panel to display on the right panel. Click the plus sign (+) before **WMI Information** to display the available information.



You can enlarge or reduce the browser size by dragging the bottom right corner of the browser.

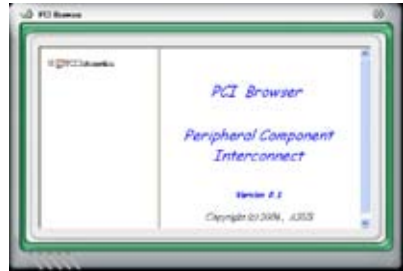
DMI browser

Click **DMI** to display the DMI (Desktop Management Interface) browser. This browser displays various desktop and system information. Click the plus sign (+) before **DMI Information** to display the available information.



PCI browser

Click **PCI** to display the PCI (Peripheral Component Interconnect) browser. This browser provides information on the PCI devices installed on your system. Click the plus sign (+) before the **PCI Information** item to display available information.



Usage

The **Usage** browser displays real-time information on the CPU, hard disk drive space, and memory usage. Click **USAGE** to display the Usage browser.

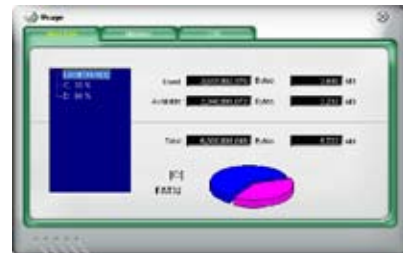
CPU usage

The **CPU** tab displays real-time CPU usage in line graph representation. If the CPU has an enabled Hyper-Threading, two separate line graphs display the operation of the two logical processors.



Hard disk drive space usage

The **Hard Disk** tab displays the used and available hard disk drive space. The left panel of the tab lists all logical drives. Click a hard disk drive to display the information on the right panel. The pie chart at the bottom of the window represents the used (blue) and the available HDD space.



Memory usage

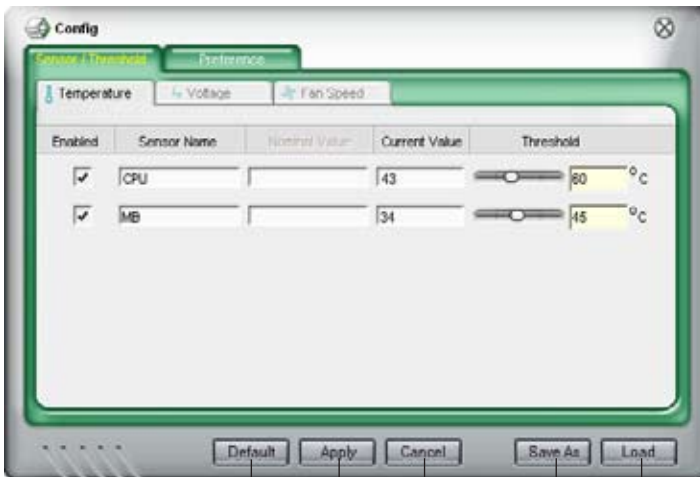
The **Memory** tab shows both used and available physical memory. The pie chart at the bottom of the window represents the used (blue) and the available physical memory.



Configuring PC Probe II

Click  to view and adjust the sensor threshold values.

The **Config** window has two tabs: **Sensor/Threshold** and **Preference**. The **Sensor/Threshold** tab enables you to activate the sensors or to adjust the sensor threshold values. The **Preference** tab allows you to customize sensor alerts, change temperature scale, or enable the Q-Fan feature.



Loads the default threshold values for each sensor

Applies your changes

Cancels or ignores your changes

Loads your saved configuration
 Saves your configuration

Chapter 4

This chapter gives information about the motherboard that comes with the system. This chapter includes the motherboard layout, jumper settings, and connector locations.

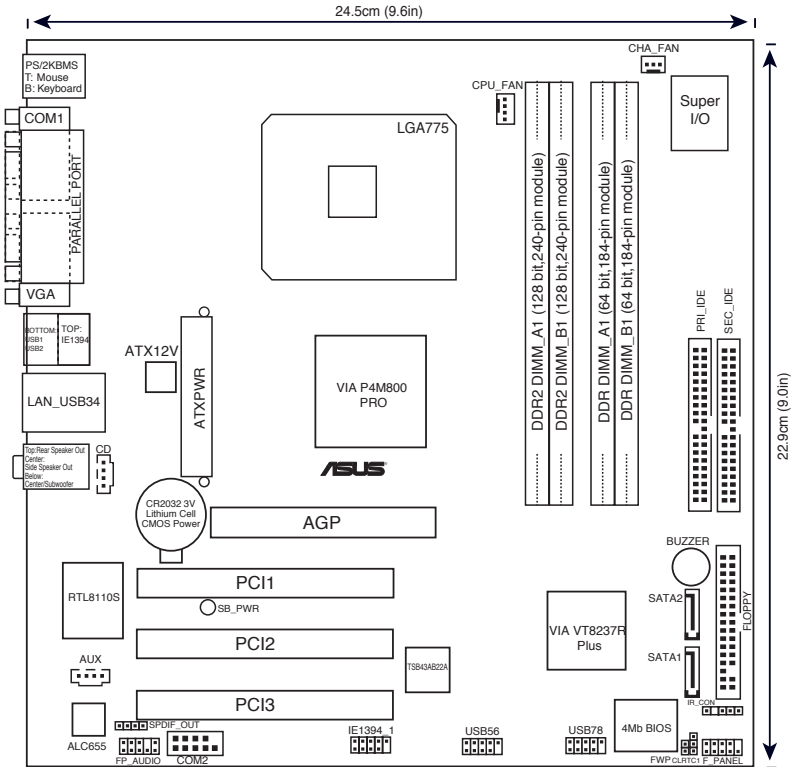


Motherboard info

4.1 Introduction

The Vintage V2-PE3 barebone system comes with an ASUS motherboard. This chapter provides technical information about the motherboard for future upgrades or system reconfiguration.

4.2 Motherboard layout



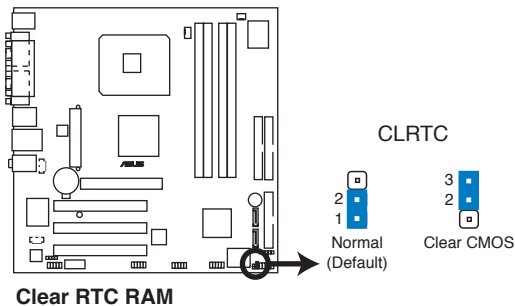
4.3 Jumpers

1. Clear RTC RAM (CLRRTC)

This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The onboard button cell battery powers the RAM data in the CMOS, which includes the system setup information such as system passwords.

To erase the RTC RAM:

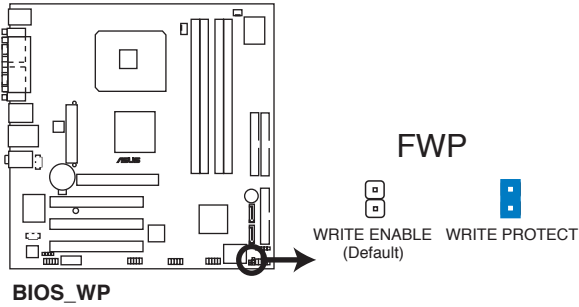
1. Turn OFF the computer and unplug the power cord.
2. Remove the battery.
3. Move the jumper cap from pins 1-2 (default) to pins 2-3. Keep the cap on pins 2-3 for about 5-10 seconds, then move the cap back to pins 1-2.
4. Re-install the battery.
5. Plug the power cord and turn ON the computer.
6. Hold down the key during the boot process and enter BIOS setup to re-enter data.



Except when clearing the RTC RAM, never remove the cap on CLRRTC jumper default position. Removing the cap will cause system boot failure.

2. Flash Write Protection (FWP)

Place the jumper cap on this jumper to write protect the BIOS. If you need to update your BIOS, remove the jumper cap.



A warning message “Please make sure whether lockout jumper is set to correct or not.” appears when you flash the BIOS with the jumper cap. Remove the jumper cap before you update your BIOS.

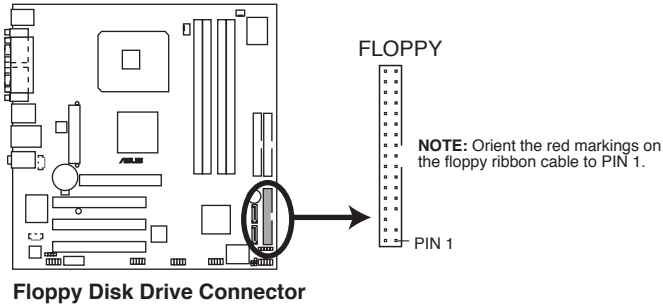
4.4 Connectors

1. Floppy disk drive connector (34-1 pin FLOPPY)

This connector is for the provided floppy disk drive (FDD) signal cable. Insert one end of the cable to this connector, then connect the other end to the signal connector at the back of the floppy disk drive.

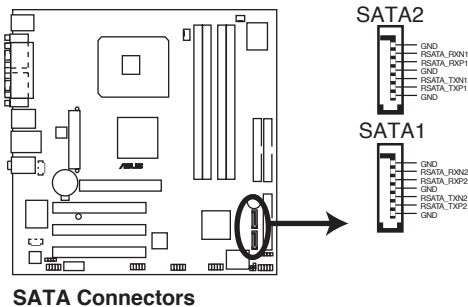


Pin 5 on the connector is removed to prevent incorrect cable connection when using a FDD cable with a covered Pin 5.



2. Serial ATA connectors (7-pin SATA1, SATA2)

These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives.

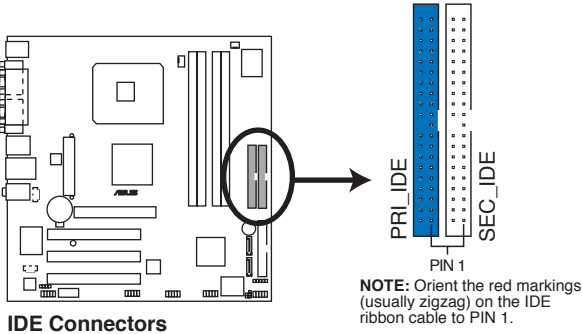


Important notes on Serial ATA:

- You must install Windows® 2000 Service Pack 4 or the Windows® XP Service Pack 1 before using Serial ATA hard disk drives.
- When using the connectors in **Standard IDE** mode, connect the primary (boot) hard disk drive to the SATA1 or SATA2 connector.

3 IDE connectors (40-1 pin PRI_IDE, SEC_IDE)

The onboard IDE connectors are for Ultra DMA 133/100/66 signal cable(s). There are three connectors on each Ultra DMA 133/100/66 signal cable: blue, black, and gray. Connect the blue connector to the motherboard's IDE connector, then select one of the following modes to configure your device(s).



	Drive jumper setting	Mode Cable of device(s)	Cable connector
Single device	Cable-Select or Master	-	Black
Two devices	Cable-Select	Master Slave	Black Gray
	Master Slave	Master Slave	Black or gray



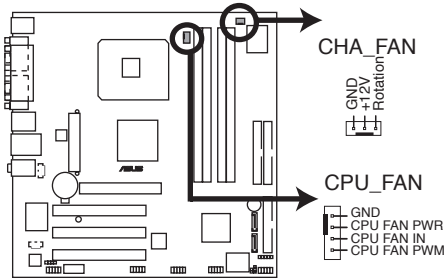
- Pin 20 on the IDE connector is removed to match the covered hole on the Ultra DMA cable connector. This prevents incorrect insertion when you connect the IDE cable.
- Use the 80-conductor IDE cable for Ultra DMA 133/100/66 IDE devices.



If any device jumper is set as “Cable-Select”, make sure all other device jumpers have the same setting.

4. CPU and Chassis Fan connectors (4-pin CPU_FAN, 3-pin CHA_FAN)

The fan connectors support cooling fans of 350 mA~740 mA (8.88 W max.) or a total of 1 A~2.22 A (26.64 W max.) at +12V. Connect the fan cables to the fan connectors on the motherboard, making sure that the black wire of each cable matches the ground pin of the connector.



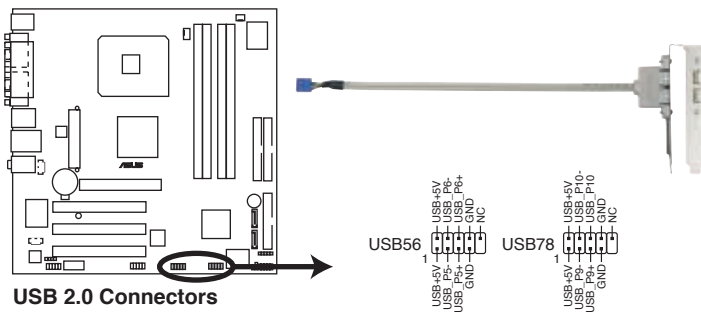
FAN Connectors



Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! Do not place jumper caps on the fan connectors!

5. USB connectors (10-1 pin USB56, USB78)

These connectors are for USB 2.0 ports. Connect the USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480 Mbps connection speed.



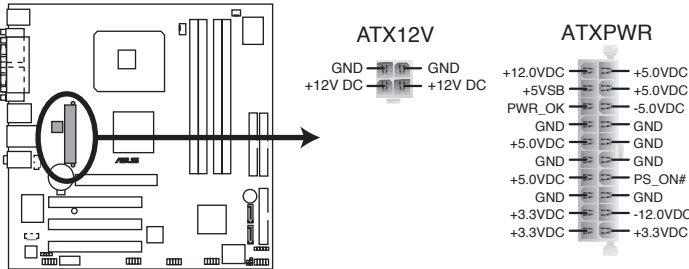
Never connect a **1394 cable** to the USB connectors. Doing so will damage the motherboard!



The USB module is purchased separately.

6. ATX power connectors (20-pin EATXPWR, 4-pin ATX12V)

These connectors are for ATX power supply plugs. The plugs from the power supply are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.



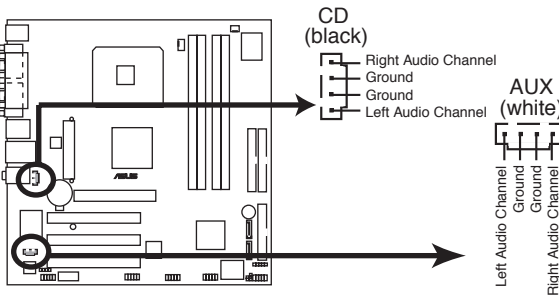
ATX Power Connectors



- Do not forget to connect the 4-pin ATX +12 V power plug; otherwise, the system will not boot.
- Use of a PSU with a higher power output is recommended when configuring a system with more power-consuming devices. The system may become unstable or may not boot up if the power is inadequate.
- The power supply unit (PSU) available along with this barebone system has a 24-pin plug. Match the 1-20 pins of this plug to the ATX power connector and leave the 21-24 pins idle.
- Make sure that your power supply unit (PSU) can provide at least the minimum power required by your system.

7. Internal audio connectors (4-pin CD, 4-pin AUX)

These connectors allow you to receive stereo audio input from sound sources such as a CD-ROM, TV tuner, or MPEG card.



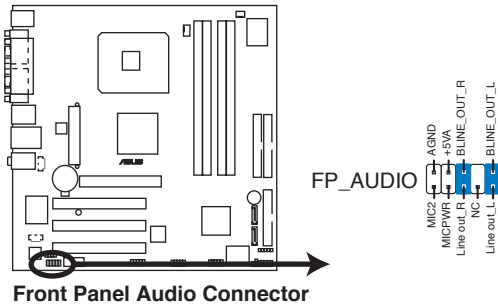
Internal Audio Connectors



Enable the CD-IN function in the audio utility when using this connector.

8. Front panel audio connector (10-1 pin FP_AUDIO)

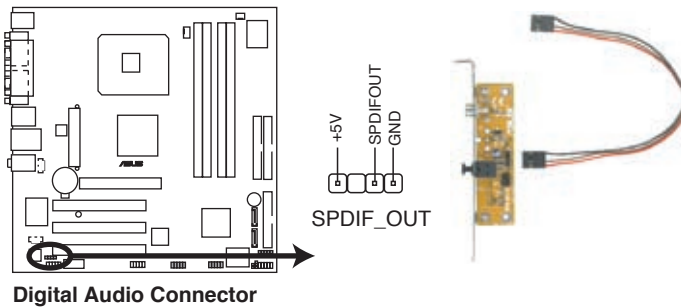
This connector is for a chassis-mounted front panel audio I/O module that supports legacy AC'97 audio standard.



We recommend that you connect a high-definition front panel audio module to this connector to avail of the motherboard's high-definition audio capability.

9. Digital audio connector (4-1 pin SPDIF_OUT)

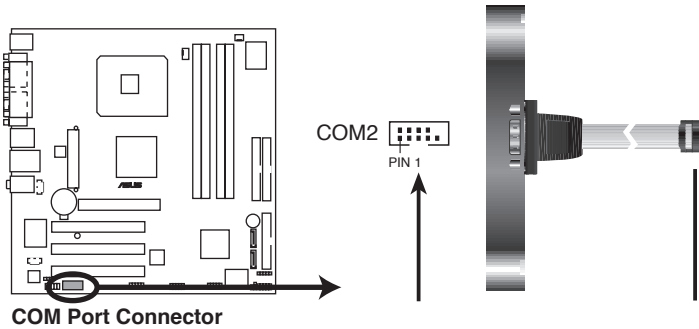
This connector is for an additional Sony/Philips Digital Interface (S/PDIF) port(s). Connect the S/PDIF module cable to this connector, then install the module to a slot opening at the back of the system chassis.



The S/PDIF module is purchased separately.

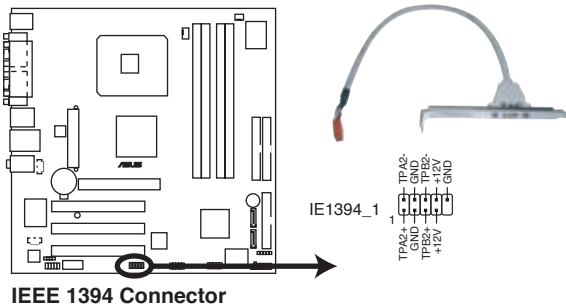
10. Serial port connector (10-1 pin COM2)

This connector is for a serial (COM) port. Connect the serial port module cable to this connector, then install the module to a slot opening at the back of the system chassis.



11 IEEE 1394 port (10-1 pin IE1394_1)

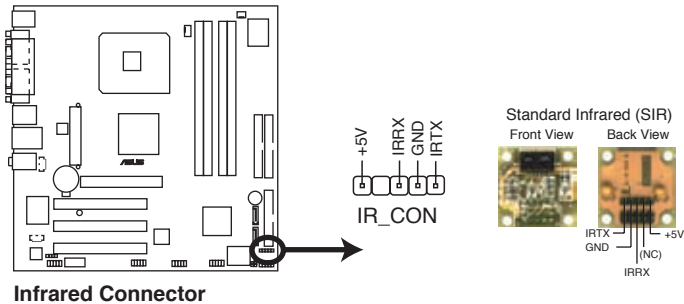
This connector is for a IEEE 1394 port. Connect the IEEE 1394 module cable to this connector, then install the module to a slot opening at the back of the system chassis. (*optional*)



Never connect a **USB cable** to the IEEE 1394 connector. Doing so will damage the motherboard!

12. Infrared Module connector (5-1 pin IR_CON)

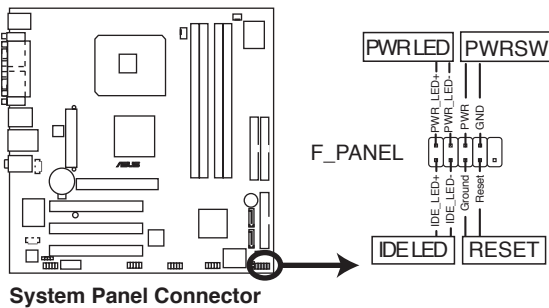
This connector supports a wireless transmitting and receiving infrared module. The module mounts to a small opening on the system chassis that supports this feature.



If you use an infrared module on this motherboard, set the item **UART Mode Select** to [IrDA] or [ASKIR] in the BIOS. Refer to “5.5 Integrated Peripherals” on page 5-14 for details.

13. System panel connector (10-1 pin PANEL)

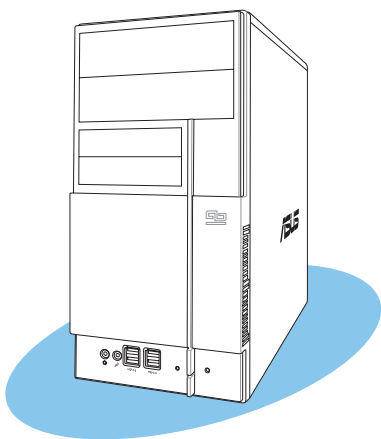
This connector supports several chassis-mounted functions.



- **System power LED (2-pin PWRLED)**
This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode.
- **Hard disk drive activity (2-pin HDLED)**
This 2-pin connector is for the HDD Activity LED. Connect the HDD Activity LED cable to this connector. The IDE LED lights up or flashes when data is read from or written to the HDD.
- **Power/Soft-off button (2-pin PWRBTN)**
This connector is for the system power button. Pressing the power button turns the system ON or puts the system in SLEEP or SOFT-OFF mode depending on the BIOS settings. Pressing the power switch for more than four seconds while the system is ON turns the system OFF.
- **Reset button (2-pin RESET)**
This 2-pin connector is for the chassis-mounted reset button for system reboot without turning off the system power.

Chapter 5

This chapter tells how to change system settings through the BIOS Setup menus and describes the BIOS parameters.



5.1 Managing and updating your BIOS

The following utilities allow you to manage and update the motherboard Basic Input/Output System (BIOS) setup.

1. **ASUS EZ Flash** (Updates the BIOS using a floppy disk during POST.)
2. **Award BIOS Flash Utility** (Updates the BIOS in DOS mode using a bootable floppy disk.)
3. **ASUS CrashFree BIOS 2** (Updates the BIOS using a bootable floppy disk or the motherboard support CD when the BIOS file fails or gets corrupted.)

Refer to the corresponding sections for details on these utilities.



Save a copy of the original motherboard BIOS file to a bootable floppy disk in case you need to restore the BIOS in the future. Copy the original motherboard BIOS using the ASUS Update or AWDFLASH utilities.

5.1.1 Creating a bootable floppy disk

1. Do either one of the following to create a bootable floppy disk.
 - DOS environment*
 - a. Insert a 1.44MB floppy disk into the drive.
 - b. At the DOS prompt, type `format A:/S` then press <Enter>.
 - Windows® XP environment*
 - a. Insert a 1.44 MB floppy disk to the floppy disk drive.
 - b. Click **Start** from the Windows® desktop, then select **My Computer**.
 - c. Select the 3 1/2 Floppy Drive icon.
 - d. Click **File** from the menu, then select **Format**. A **Format 3 1/2 Floppy Disk** window appears.
 - e. Select **Create an MS-DOS startup disk** from the format options field, then click **Start**.
 - Windows® 2000 environment*

To create a set of boot disks for Windows® 2000:

 - a. Insert a formatted, high density 1.44 MB floppy disk into the drive.
 - b. Insert the Windows® 2000 CD to the optical drive.
 - c. Click **Start**, then select **Run**.

- d. From the Open field, type
D:\bootdisk\makeboot a:
assuming that D: is your optical drive.
 - e. Press <Enter>, then follow screen instructions to continue.
2. Copy the original or the latest motherboard BIOS file to the bootable floppy disk.

5.1.2 ASUS EZ Flash utility

The ASUS EZ Flash feature allows you to update the BIOS without having to go through the long process of booting from a floppy disk and using a DOS-based utility. The EZ Flash utility is built-in the BIOS chip so it is accessible by pressing <Alt> + <F2> during the Power-On Self-Test (POST).

To update the BIOS using EZ Flash:

1. Visit the ASUS website (www.asus.com) to download the latest BIOS file for the motherboard and rename the same to **P5VDCTVM.ROM**.
2. Save the BIOS file to a floppy disk, then restart the system.
3. Press <Alt> + <F2> during POST to display the following.

```
EZFlash starting BIOS update
Checking for floppy...
```

4. Insert the floppy disk that contains the BIOS file to the floppy disk drive. When the correct BIOS file is found, EZ Flash performs the BIOS update process and automatically reboots the system when done.



- Do not shutdown or reset the system while updating the BIOS to prevent system boot failure!
- A “Floppy not found!” error message appears if there is no floppy disk in the drive. A “P5VDCTVM.ROM not found!” error message appears if the correct BIOS file is not found in the floppy disk. Make sure that you rename the BIOS file to P5VDCTVM.ROM.

5.1.3 Award BIOS Flash Utility

The Basic Input/Output System (BIOS) can be updated using the AwardBIOS Flash Utility. Follow these instructions to update the BIOS using this utility.

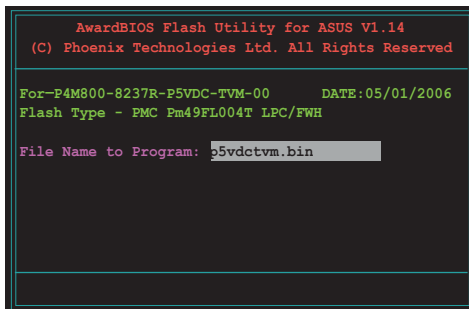
1. Download the latest BIOS file from the ASUS web site. Rename the file to **P5VDCTVM.BIN** and save it to a floppy disk.



Save only the updated BIOS file in the floppy disk to avoid loading the wrong BIOS file.

2. Download the AwardBIOS Flash Utility (awdfash.exe) from ASUS website to the floppy disk with the latest BIOS file.
3. Boot the system in DOS mode using the bootable floppy disk you created earlier.
4. When the A:> appears, replace the bootable floppy disk with the floppy disk containing the new BIOS file and the Award BIOS Flash Utility.
5. At the prompt, type awdfash then press <Enter>. The Award BIOS Flash Utility screen appears.

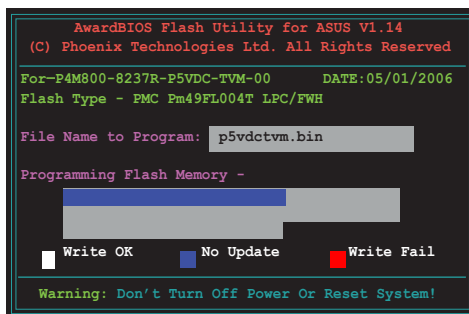
6. Type the BIOS file name in the File Name to Program field, then press <Enter>.



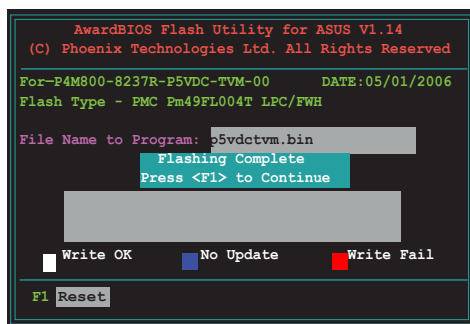
7. Press <N> when the utility prompts you to save the current BIOS file.
8. The utility verifies the BIOS file in the floppy disk and starts flashing the BIOS file.



Do not turn off or reset the system during the flashing process!



9. The utility displays a Flashing Complete message indicating that you have successfully flashed the BIOS file. Remove the floppy disk then press <F1> to restart the system.



5.1.4 Saving the current BIOS file

You can use the AwardBIOS Flash Utility to save the current BIOS file. You can load the current BIOS file when the BIOS file gets corrupted during the flashing process.



Make sure that the floppy disk has enough disk space to save the file.

To save the current BIOS file using the AwardBIOS Flash Utility:

1. Follow steps 1 to 6 of the previous section.
2. Press <Y> when the utility prompts you to save the current BIOS file.

```
AwardBIOS Flash Utility for ASUS V1.14
(C) Phoenix Technologies Ltd. All Rights Reserved

For-P4M800-8237R-P5VDC-TVM-00    DATE:05/01/2006
Flash Type - PMC Pm49FL004T LPC/FWH

File Name to Program: p5vdcetvm.bin
Save current BIOS as:

Message:
```

3. Type a filename for the current BIOS file in the Save current BIOS as field, then press <Enter>.

```
AwardBIOS Flash Utility for ASUS V8.64
(C) Phoenix Technologies Ltd. All Rights Reserved

For-P4M800-8237R-P5VDC-TVM-00    DATE:05/01/2006
Flash Type - PMC Pm49FL004T LPC/FWH

File Name to Program: p5vdcetvm.bin
Checksum:
Save current BIOS as: 01.bin

Message: Please Wait!
```

4. The utility saves the current BIOS file to the floppy disk, then returns to the BIOS flashing process.

```
AwardBIOS Flash Utility for ASUS V8.64
(C) Phoenix Technologies Ltd. All Rights Reserved

For-P4M800-8237R-P5VDC-TVM-00    DATE:05/01/2006
Flash Type - PMC Pm49FL004T LPC/FWH

File Name to Program: 01.bin
Now Backup System BIOS to
File!

Message: Please Wait!
```

5.1.5 ASUS CrashFree BIOS 2 utility

The ASUS CrashFree BIOS 2 is an auto recovery tool that allows you to restore the BIOS file when it fails or gets corrupted during the updating process. You can update a corrupted BIOS file using the motherboard support CD or the floppy disk that contains the updated BIOS file.



- Prepare the motherboard support CD or the floppy disk containing the updated motherboard BIOS before using this utility.
- Make sure that you rename the original or updated BIOS file in the floppy disk to **P5VDCTVM.ROM**.

Recovering the BIOS from a floppy disk

To recover the BIOS from a floppy disk:

1. Turn on the system.
2. Insert the floppy disk with the original or updated BIOS file to the floppy disk drive.
3. The utility displays the following message and automatically checks the floppy disk for the original or updated BIOS file.

```
Bad BIOS checksum. Starting BIOS recovery...
Checking for floppy...
```

When found, the utility reads the BIOS file and starts flashing the corrupted BIOS file.

```
Bad BIOS checksum. Starting BIOS recovery...
Checking for floppy...
Floppy found!
Reading file "P5VDCTVM.ROM". Completed.
Start flashing...
```



DO NOT shut down or reset the system while updating the BIOS! Doing so can cause system boot failure!

4. Restart the system after the utility completes the updating process.

5.2 BIOS setup program

This motherboard supports a programmable firmware chip that you can update using the provided utility.

Use the BIOS Setup program when you are installing a motherboard, reconfiguring your system, or prompted to “Run Setup.” This section explains how to configure your system using this utility.

Even if you are not prompted to use the Setup program, you can change the configuration of your computer in the future. For example, you can enable the security password feature or change the power management settings. This requires you to reconfigure your system using the BIOS Setup program so that the computer can recognize these changes and record them in the CMOS RAM of the firmware hub.

The firmware hub on the motherboard stores the Setup utility. When you start up the computer, the system provides you with the opportunity to run this program. Press during the Power-On Self-Test (POST) to enter the Setup utility; otherwise, POST continues with its test routines.

If you wish to enter Setup after POST, restart the system by pressing <Ctrl> + <Alt> + , or by pressing the reset button on the system chassis. You can also restart by turning the system off and then back on. Do this last option only if the first two failed.

The Setup program is designed to make it as easy to use as possible. Being a menu-driven program, it lets you scroll through the various sub-menus and make your selections from the available options using the navigation keys.



-
- The default BIOS settings for this motherboard apply for most conditions to ensure optimum performance. If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Select the **Load Optimized Defaults** from the BIOS menu screen. See section “2.2 BIOS menu screen.”
 - The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.
 - Visit the system builder’s website to download the latest BIOS file for this motherboard.
-

List box

This box appears only in the opening screen. The box displays an initial list of configurable items in the menu you selected.

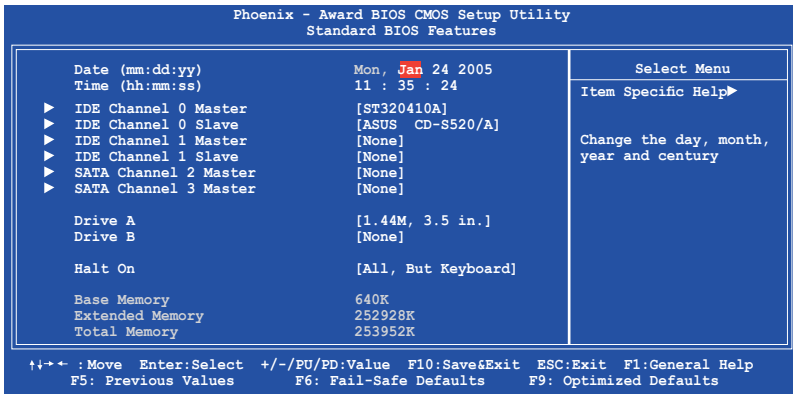
Sub-menu

Note that a right pointer symbol (▶) appears to the left of certain fields. This pointer indicates that you can display a sub-menu from this field. A sub-menu contains additional options for a field parameter. To display a sub-menu, move the highlight to the field and press <Enter>. The sub-menu appears. Use the legend keys to enter values and move from field to field within a sub-menu as you would within a menu. Use the <Esc> key to return to the main menu.

Take some time to familiarize yourself with the legend keys and their corresponding functions. Practice navigating through the various menus and sub-menus. If you accidentally make unwanted changes to any of the fields, press <F6> to load the fail-safe default values. While moving around through the Setup program, note that explanations appear in the Item Specific Help window located to the right of each menu. This window displays the help text for the currently highlighted field.

5.4 Standard BIOS Features

The Standard BIOS Features screen gives you an overview of the basic system information.



Date [Day, xx/xx/xxxx]

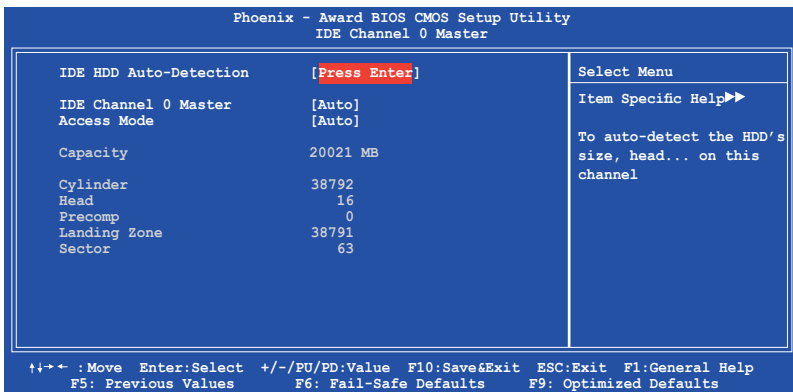
Allows you to set the system date.

Time [xx:xx:xx]

Allows you to set the system time.

IDE Channel 0 Master/Slave IDE Channel 1 Master/Slave

While entering Setup, the BIOS automatically detects the presence of IDE devices. There is a separate sub-menu for each IDE device. Select a device item then press <Enter> to display the IDE device information.



IDE HDD Auto-Detection [Press Enter]

Allows auto-detection of the hard disk drive's specifications.

IDE Channel 0, 1 Master/Slave [Auto]

Sets the selected channel as Master or Slave.

Configuration options: [None] [Auto] [Manual]

Access Mode [Auto]

This item allows the user to select the sector addressing mode. CHS mode supports 528 MB hard disks. LBA (logical block addressing) mode supports hard disks up to 128 GB in size. Large mode (also called extended CHS mode) supports hard disks above 528 MB in size, but does not support LBA mode. Configuration options: [CHS] [LBA] [Large] [Auto]



Before attempting to configure a hard disk drive, make sure you have the correct configuration information supplied by the drive manufacturer. Incorrect settings may cause the system to fail to recognize the installed hard disk.

Capacity

Displays the auto-detected hard disk capacity. This item is not configurable.

Cylinder

Shows the number of the hard disk cylinders. This item is not configurable.

Head

Shows the number of the hard disk read/write heads. This item is not configurable.

Precomp

Shows the number of precomp per track. This item is not configurable.

Landing Zone

Shows the number of landing zone per track. This item is not configurable.

Sector

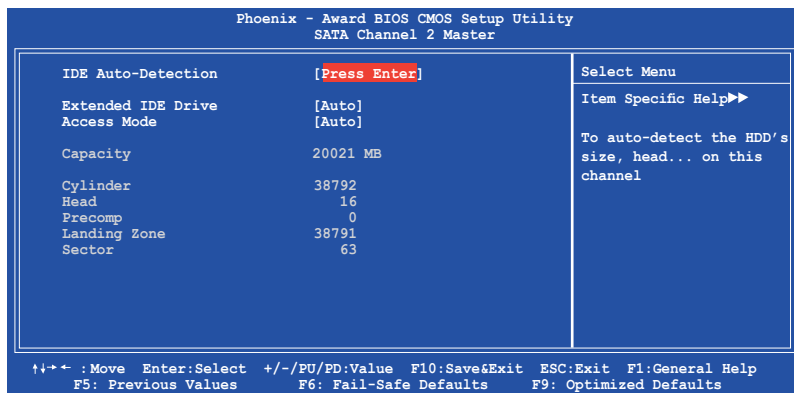
Shows the number of sectors per track. This item is not configurable.



After entering the IDE hard disk drive information into the BIOS, use a disk utility, such as FDISK, to partition and format new IDE hard disk drives. This is necessary so that you can write or read data from the hard disk. Make sure to set the partition of the Primary IDE hard disk drives to active.

SATA Channel 2, 3 Master

While entering Setup, the BIOS automatically detects the presence of Serial ATA devices. There is a separate sub-menu for each SATA device. Select a device item then press <Enter> to display the SATA device information.



Extended IDE Drive [Auto]

Select [Auto] to automatically detect a SATA hard disk drive. If automatic detection is successful, Setup program automatically fills in the correct values for the remaining fields (including Capacity, Cylinder, Head, Precomp, Landing Zone, Sector) on this sub-menu. Configuration options: [None] [Auto]

Access Mode [Auto]

Allows the user to select the sector addressing mode. Configuration options: [Large] [Auto]



Before attempting to configure a hard disk drive, make sure you have the correct configuration information supplied by the drive manufacturer. Incorrect settings may cause the system to fail to recognize the installed hard disk.

Capacity

Displays the auto-detected hard disk capacity. This item is not configurable.

Cylinder

Shows the number of the hard disk cylinders. This item is not configurable.

Head

Shows the number of the hard disk read/write heads. This item is not configurable.

Precomp

Shows the number of precomp per track. This item is not configurable.

Landing Zone

Shows the number of landing zone per track. This item is not configurable.

Sector

Shows the number of sectors per track. This item is not configurable.



After entering the IDE hard disk drive information into the BIOS, use a disk utility, such as FDISK, to partition and format new IDE hard disk drives. This is necessary so that you can write or read data from the hard disk. Make sure to set the partition of the Primary IDE hard disk drives to active.

Drive A/B [1.44M, 3.5 in.]

Specifies the capacity and physical size of diskette drive A. Do not select [None] if you are using a floppy disk drive. Configuration options: [None] [360K, 5.25 in.] [1.2M, 5.25 in.] [720K, 3.5 in.] [1.44M, 3.5 in.]

Halt On [All, But Keyboard]

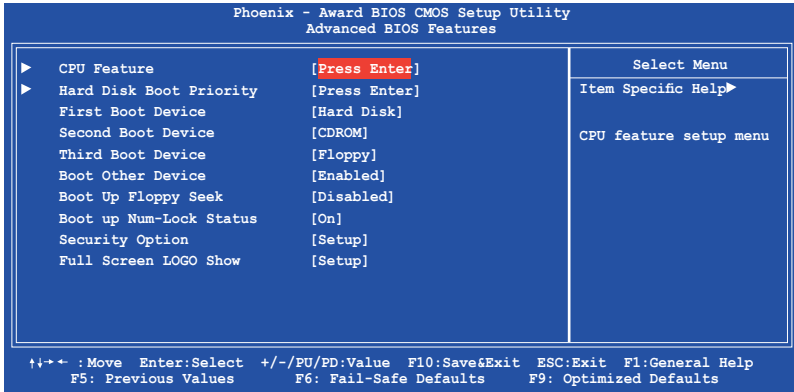
Sets the system to halt on errors according to the system functions specified in each option. Configuration options: [All Errors] [No Errors] [All, But Keyboard] [All, But Diskette] [All, But Disk/Key]

5.5 Advanced BIOS Features

The Advanced BIOS Features menu items allow you to change the advanced BIOS settings.



Take caution when changing the settings of the Advanced BIOS Features items. Incorrect field values may cause the system to malfunction.



CPU Feature [Press Enter]

Allows you to view the CPU feature setup menu.

Execute Disable Bit [Enabled]

When disabled, the processor forces the XD feature flag to always return 0. Configuration options: [Disabled] [Enabled]

CPU Hyper-Threading [Enabled]

Enables or disabled the processor Hyper-Threading technology. Set this item to [Enabled] if you are using Windows® XP, Linux 2.4, or other operating systems optimized for Intel® Hyper-Threading technology. Set this item to [Disabled] if you are using other operating systems that are not optimized for Intel® Hyper-Threading technology. Configuration options: [Disabled] [Enabled]

Hard Disk Boot Priority [Press Enter]

Allows you to select the hard disk boot device priority. The number of devices that appears on the screen depends on the number of devices installed in the system.

First/Second/Third Boot Device

Allows you to assign the boot device priority. Configuration options:
[Floppy] [LS120] [Hard Disk] [CDROM] [ZIP] [USB-FDD] [USB-ZIP]
[USB-CDROM] [LAN] [Disabled]

Boot Other Device [Enabled]

Enables or disables support for other bootable devices. Configuration options: [Enabled] [Disabled]

Boot Up Floppy Seek [Disabled]

When [Enabled], the BIOS will seek the floppy disk drive to determine whether the drive has 40 or 80 tracks.
Configuration options: [Disabled] [Enabled]

Boot UP Num-Lock Status [On]

Allows you to select the power-on state for the NumLock.
Configuration options: [Off] [On]

Security Option [Setup]

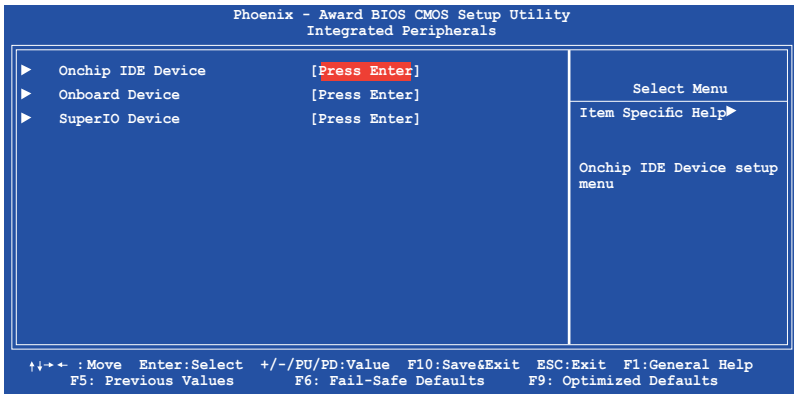
Select [Setup] to require the password before entering the BIOS Setup.
Select [System] to require the password before entering the system.
Configuration options: [Setup] [System]

Full Screen LOGO Show [Enabled]

Enable or disable full screen logo show support. Configuration options:
[Enabled] [disabled]

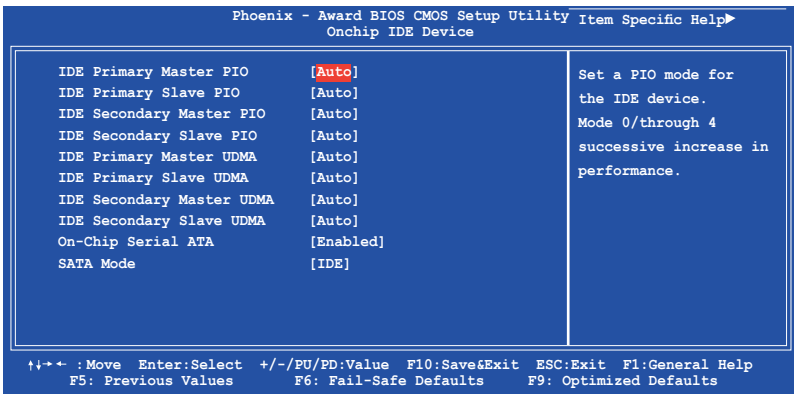
5.6 Integrated Peripherals

The Integrated Peripherals menu items allow you to change the onboard devices configuration settings.



Onchip IDE Device

This sub-menu contains IDE function-related items. Select an item then press <Enter> to edit.



IDE Primary, Secondary Master/Slave PIO [Auto]

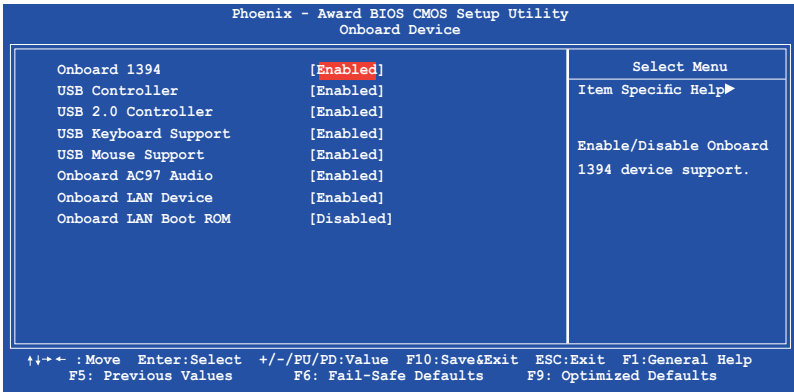
This option lets you set a PIO (Programmed Input/Output) mode for the IDE device. Modes 0 through 4 provide successive increase in performance. Configuration options: [Auto] [Mode 0] [Mode 1] [Mode 2] [Mode 3] [Mode 4]

IDE Primary, Secondary Master/Slave UDMA [Auto]

Ultra DMA capability allows improved transfer speeds and data integrity for compatible IDE devices. Set to [Disabled] to suppress Ultra DMA capability. Configuration options: [Disabled] [Auto]

Onboard Device

This sub-menu allows you to set the configurations for onboard devices. Select an item then press <Enter> to edit.



Onboard 1394 [Enabled]

Allows you to enable or disable the onboard 1394 controller.

Configuration options: [Enabled] [Disabled]

USB Controller [Enabled]

Allows you to enable or disable the USB 2.0 controller.

Configuration options: [Enabled] [Disabled]

USB 2.0 Controller [Enabled]

Allows you to enable or disable the EHCI controller. If the BIOS has built-in high speed USB support, this item will be enabled automatically when a high speed device is attached. Configuration options: [Enabled] [Disabled]

USB Keyboard Support [Enabled]

Allows you to enable or disable legacy USB device support.

Configuration options: [Disabled] [Enabled]

USB Mouse Support [Enabled]

Allows you to enable or disable USB mouse support.

Configuration options: [Disabled] [Enabled]

AC97 Audio [Auto]

Allows the BIOS to automatically enable support for legacy AC`97 audio, or disable the onboard AC`97 Audio controller.

Configuration options: [Enabled] [Disabled]

Onboard LAN Device [Enabled]

Allows you to enable or disable the onboard LAN device support.

Configuration options: [Disabled] [Enabled]

Onboard LAN Boot ROM [Disabled]

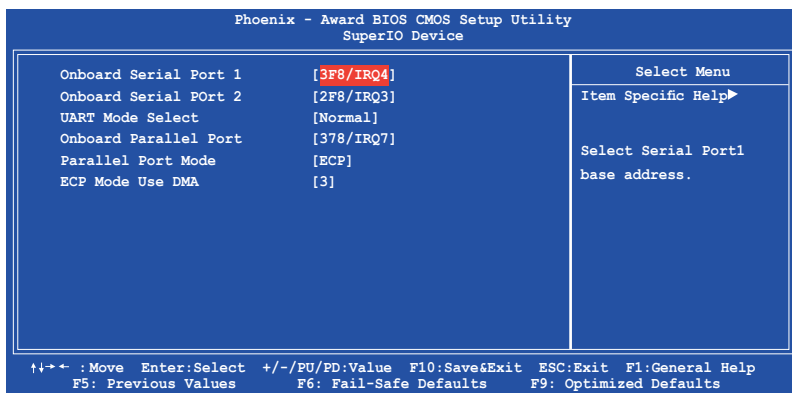
Allows you to enable or disable the boot ROM of the onboard LAN chip.

Configuration options: [Enabled] [Disabled]

SuperIO Device

This sub-menu allows you to set the configurations for SuperIO devices.

Select an item then press <Enter> to edit.



Onboard Serial Port 1 [3F8/IRQ4]

Allows you to set the Serial Port 1 base address.

Configuration options: [Disabled] [3F8/IRQ4] [2F8/IRQ3] [3E8/IRQ4] [2E8/IRQ3] [Auto]

Onboard Serial Port 2 [2F8/IRQ3]

Allows you to set the Serial Port 2 base address.

Configuration options: [Disabled] [3F8/IRQ4] [2F8/IRQ3] [3E8/IRQ4] [2E8/IRQ3] [Auto]

Onboard Parallel Port [378/IRQ7]

Allows you to set the base address of the onboard parallel port connector.

Configuration options: [Disabled] [378/IRQ7] [278/IRQ5] [3BC/IRQ7]

Parallel Port Mode [ECP]

Allows you to set the operation mode of the parallel port.

Configuration options: [SPP] [EPP] [ECP] [ECP+EPP]

UART Mode Select [Normal]

Allows you to set the operation mode of the Universal Asynchronous Receiver/Transmitter (UART) microchip, that is used to control serial devices. Select [IrDA] or [ASKIR] if you connect any infrared devices to the motherboard. IrDA provides a max speed of up to 115K baud while ASKIR reaches a max speed of 19.2K baud.

Configuration options: [Normal] [IrDA] [ASKIR]

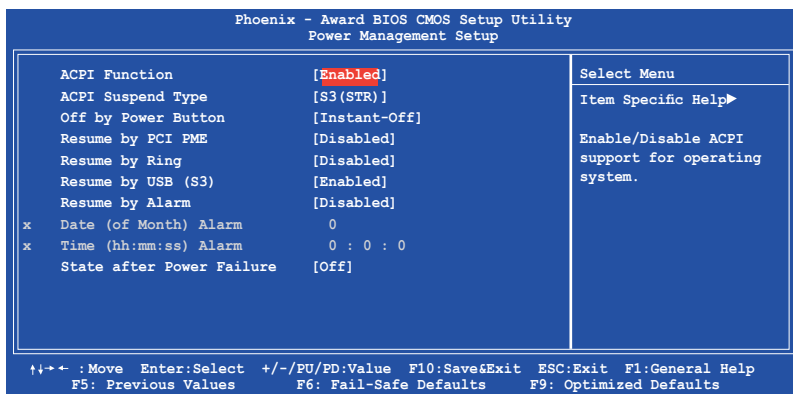
ECP Mode Use DMA [3]

Allows you to select the ECP Mode. This item becomes configurable only if the Parallel Port Mode is set to [ECP] or [ECP+EPP].

Configuration options: [1] [3]

5.7 Power Management Setup

The Power Management Setup menu items allow you to change the settings for the Advanced Power Management (APM) and Advanced Configuration and Power Interface (ACPI).



ACPI Function [Enabled]

Allows you to enable or disable the ACPI support for the operating system.
Configuration options: [Enabled] [Disabled]

ACPI Suspend Type [S3(STR)]

Allows you to select the ACPI state used for system suspend.
Configuration options: [S1(POS)] [S3(STR)]

Off by Power Button [Instant-Off]

When set to [Instant-Off], the system goes to soft-off when you press the power button for less than 4 seconds. When set to [Delay 4 Sec], press the power button for more than 4 seconds to power off the system.
Configuration options: [Instant-Off] [Delay 4 Sec]

Resume by PCI PME [Disabled]

Enables or disables system wake-up by power management event (PME).
Configuration options: [Disabled] [Enabled]

Resume by Ring [Enabled]

Allows you to enable or disable system power up when the external modem receives a call while the computer is in soft-off mode.

Configuration options: [Disabled] [Enabled]



The computer cannot receive or transmit data until the computer and applications are fully running. Thus, connection cannot be made on the first try. Turning an external modem off and then back on while the computer is off causes an initialization string that turns the system power on.

Resume by USB (S3) [Enabled]

Allows you to wake up the system using a USB mouse or keyboard.

Configuration options: [Disabled] [Enabled]

Resume by Alarm [Disabled]

Allows you to enable or disable RTC to generate an event. When this item is enabled, you can set the date and time of alarm using the two following items. Configuration options: [Disabled] [Enabled]



The following items become configurable only when the Resume by Alarm item is set to [Enabled].

Day of Month Alarm [NA]

To set the day of alarm, highlight this item and press <Enter> to display a pop-up menu. Key in a value (Min=0, Max=31), then press <Enter>. Selecting [0] means the alarm will set off everyday.

Time (hh:mm:ss) Alarm [0 : 0 : 0]

To set the time of alarm:

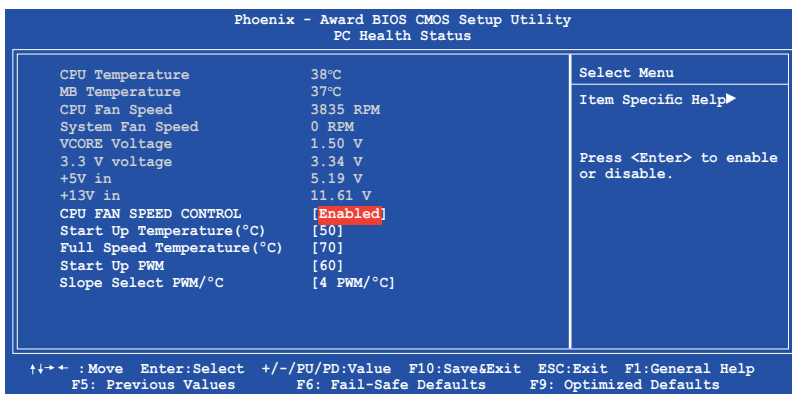
1. Highlight this item and press <Enter> to display a pop-up menu for the hour field.
2. Key-in a value (Min=0, Max=23), then press <Enter>.
3. Press tab to move to the minutes field, then press <Enter>.
4. Key-in a minute value (Min=0, Max=59), then press <Enter>.
5. Press tab to move to the seconds field, then press <Enter>.
6. Key-in a value (Min=0, Max=59), then press <Enter>.

State after Power Failure [Off]

When set to Off, the system goes into off state after an AC power loss. When set to On, the system turns on after an AC power loss. When set to Former-Sts, the system goes to its previous state before the AC power loss. Configuration options: [Off] [On] [Former-Sts]

5.8 PC Health Status

The PC Health Status screen shows the motherboard CPU and fan temperatures, and allows you to set threshold levels for efficient system operation.



The BIOS auto-detects the former eight items. The user cannot configure these items.

CPU Temperature [xxx°C]

MB Temperature [xxx°C]

The onboard hardware monitor automatically detects and displays the CPU and motherboard temperatures.

CPU Fan Speed [xxxxRPM]

System Fan Speed [xxxxRPM]

The onboard hardware monitor automatically detects and displays the CPU and system fan speed in rotations per minute (RPM). If the fan is not connected to the motherboard, the field shows 0 RPM.

VCORE Voltage, 3V Voltage, +5V in, +13V in

The onboard hardware monitor automatically detects the voltage output through the onboard voltage regulators.

CPU Fan Speed Control [Enabled]

Allows you to enable or disable the CPU fan speed controller.
Configuration options: [Enabled] [Disabled]

Start Up Temperature (°C) [50]

Allows you to set the fan start-up temperature.
Configuration options: [0] [1] ~ [100]

Full Speed Temperature (°C) [70]

Allows you to set the threshold temperature before the fan begins running at full speed. Configuration options: [0] [1] ~ [100]

Start Up PWM [60]

Sets the start-up Pulse Width Modulation (PWM) value when the fan starts running. Configuration options: [0] [1] ~ [127]

Slope Select PWM/°C [4 PWM/°C]

Sets the PWM increase value per degree Celcius to control the fan speed when the system temperature increases.
Configuration options: [0 PWM/°C] [1 PWM/°C] [2 PWM/°C] [4 PWM/°C] [8 PWM/°C] [16 PWM/°C] [32 PWM/°C] [64 PWM/°C]

5.9 Other items

Load Optimized Defaults

Allows you to load the optimized defaults.

Supervisor Password

Allows you to set the supervisor password. To set a password, press <Enter>. Type in and confirm the password when prompted.

User Password

Allows you to set a user password for access to system after boot-up.

Save & Exit Setup

Once you are finished making your selections, choose this option to ensure that the values you selected are saved to the CMOS RAM. When you select this option, a confirmation window appears. Select **Yes** to save changes and exit.

Exit Without Saving

Select this option only if you do not want to save the changes that you made to the Setup program.

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