



## Chapter 1

### Introduction

#### Overview

SynactiX 2E green mainboard utilizes the Intel integrated graphics chipset — Intel® 815E Chipset, providing a fully compatible, high performance and cost-effective PC/ATX platform. The new integrated technologies, together with AGP 4X support, the software configurable AC'97 audio (support up to 6 channel by CNR), integrated LAN, 4 USB ports, and ATA100/66/33 give customers an advanced, multimedia solution at an extremely low price. It provides 66/100/133 MHz system bus to support all Intel® Pentium III FC-PGA and Celeron PPGA 370 processors. 100/133MHz SDRAMs are supported up to 512MB. It also provides advanced features such as Wake-on-LAN, Wake-on-Modem and Keyboard Password Power-on functions. Suspend to RAM, the optimal implementation of the Advanced Configuration and Power Interface (ACPI) specification, makes the PC's power consumption drop to the lowest possible level and enable quick wakeup. ManageEasy, our system management application is also supplied to enable remote monitoring and configuration of the system.

#### Key Features

##### Form factor

- ATX form factor of 305mm x 210mm.

##### Microprocessor

- Supports all Intel® Pentium III (Coppermine) FC-PGA processors at 533/600/667/733/800/866/933MHz and future processors with 133MHz bus speed.
- Supports all Intel® Pentium III (Coppermine) FC-PGA processors at 500/550/600/650/700/750/800/850MHz and future processors with 100MHz bus speed.
- Supports all Intel® Celeron™ FC-PGA processors at 533/566/600MHz and future processors with 66MHz bus speed.
- Supports all Intel® Celeron™ PPGA processors at 300/300A/333/366/400/433/466/500/533MHz with 66MHz bus speed.
- Supports 66/100/133MHz host bus speed.
- CPU core frequency = Bus speed x3, x3.5, x4, x4.5, x5, x5.5, x6, x6.5, x7, x7.5, x8, x8.5, x9, x9.5, x10, x10.5, x11, x11.5, x12.
- The CPU core voltage adjustable from 1.3V to 2.0V automatically through onboard switching voltage regulator with VID (Voltage ID).
- Provides onboard 1.5V, 1.8V, 2.5V and 3.3V standby regulator.

##### System memory

- Provides three 168 pin 3.3V unbuffered DIMM sockets.
- Supports 64-bit wide DIMM modules with 100/133MHz SDRAM devices.
- Supports 32MB to 256MB SDRAM using 16Mb/64Mb/128Mb technology.



- Supports 512MB SDRAM using 256Mb technology.
- Supports up to three double-sided DIMMs(6 Rows) at 100MHz system memory bus.
- Supports up to two double-sided or three single-sided DIMMs(4 Rows Max) at 133MHz system memory bus(PC-133).

#### **Onchip AGP**

- Integrated 2D/3D Graphics Controller.
- Up to 1600x1200 in 8bit color at 85MHz refresh.
- Integrated H/W Motion Compensation Engine.
- Intel D.V. M. technology.
- 4MB 32-bit 133MHz SDRAM Display Cache interface multiplexed on the AGP interface, providing flexibility by optional AIMM.

#### **Onboard IDE**

- Supports two PCI PIO and Bus Master IDE ports.
- Two fast IDE interfaces supporting four IDE devices including IDE hard disks and CD-ROM drives.
- Supports up to PIO Mode 4 timing.
- Supports "Ultra ATA/33" Synchronous DMA modes, transferring data up to 33MB/s.
- Supports "Ultra ATA/66" Synchronous DMA modes, transferring data up to 66MB/s.
- Supports "Ultra ATA/100" Synchronous DMA modes, transferring data up to 100MB/s.
- Integrated 16x32bit buffer for IDE PCI Burst Transfers.

#### **Onboard I/O**

- Winbond W83627HF LPC I/O chip.
- One floppy port supporting up to two 3.5" or 5.25" floppy drives with 360K/720K/1.2M/1.44M/2.88M format.
- Two high speed 16550 compatible UART (COM1/COM2/COM3/COM4 selective) with 16-byte send/receive FIFOs.
- USB host interface supporting 2 USB ports.
- One joystick port.
- Infrared interface.
- All I/O ports can be enabled/disabled in the BIOS setup.

#### **Onboard Sound(Optional)**

- AC'97 2.1 Specification Compliant.
- 18bit stereo codec.
- Multiple stereo input mixer.
- Mono and stereo volume control.
- Provides onboard Line-in Jack, Microphone-in Jack, Speaker-out Jack and MIDI/Joystick Connector.

#### **AGP Interface**

- AGP Universal Connector supports AGP 2.0 including 4x AGP data transfers.

#### **Advanced features**

- PCI 2.2 Specification Compliant.
- Provides Trend ChipAwayVirus On Guard.
- Provides PC-Cillin software with killing virus function.



- Supports Windows 95/98/2000 software power-down.
- Supports Wake-on-LAN and Wake-on-Modem.
- Supports 10/100 LAN interface built-in on-board (optional).
- Supports Keyboard Password Power-on function.
- Onboard I/O Winbond 83627HF supports system monitoring (monitors CPU and system temperatures, system voltages, chassis intrusion and fan speed).
- Supports management applications such as QDI's ManageEasy or LDCM (LANDesk Client Manager). (optional)
- Provides onboard 3.3V regulator to support ATX power supply without 3.3V output. (Optional)
- System status resumes after AC power failure.
- Supports QDI's innovations such as SpeedEasy, RecoveryEasy, BIOS-ProtectEasy and ManageEasy.
- Protects the system BIOS from being attacked by severe virus such as CIH.
- Supports Suspend to RAM.

#### **BIOS**

- Licensed advanced AWARD BIOS, supports flash ROM with 4Mb memory size, plug and play ready.
- Supports IDE CD-ROM or SCSI boot up.

#### **Green function**

- Supports ACPI (Advanced Configuration and Power Interface) and ODPM (OS Directed Power Management).
- Supports four ACPI power status: Full-on, Stop Grant, Suspend to RAM, and Soft-off.

#### **Expansion slots**

- 1 AGP slot.
- 6 PCI slots.
- 1 CNR slot.

## **Introduction to New Features**

### **AGP In-Line Memory Module(AIMM)**

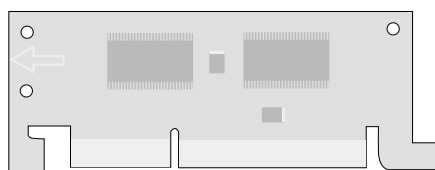
The Intel 815E chipset GMCH multiplexes the integrated graphics' display cache interface with the AGP signal interface. As a result, for a flexible mainboard that supports both integrated graphics and add-in AGP video cards, display cache (for integrated graphics) is needed to populate on a card sharing the universal AGP slot. The card is called an AGP In-Line Memory Module(AIMM).

When an AGP card is installed in the system, the Intel 815E GMCH internal graphics is disabled and the AGP controller will be enabled. You can choose to populate the AGP slot with AGP graphics card to utilize the advanced features that your AGP card may provide you, or with an AIMM card to enable the highest-possible internal graphics performance, or with nothing to obtain the lowest-cost internal graphics solution.



#### Installation Steps:

1. Insert the AIMM card into the AGP slot. Please notice that the side of Display Cache is towards to those PCI slots.
2. Install the AGP retention(Optional) on the AGP slot to ensure its fixity.



AIMM Card

#### ESD(Electrostatic discharge) Protection:

This mainboard provides a very high level(up to 25kv) of protection for sensitive electronic components that may be subjected to electrostatic discharge(ESD), especially for the USB interface and PS2 connector. The ESD components that complies with IED61000-4-2 (level 4) and MIL STD883C-Method 3015-6 Class-3 are populated on the mainboard to prevent the system from resetting or hanging by static electricity.

#### BIOS-ProtectEasy

The BIOS of the mainboard is inside the FWH. Some severe viruses such as CIH virus are so dangerous that it may overwrite the BIOS of the mainboard. If the BIOS has been damaged, the system will be unable to boot. We provide the following solution which protects the system BIOS from being attacked by such viruses.

Here are two choices which implements this function.

1. Set the jumper (JAV) as closed, the BIOS can not be overwritten.
2. Set the jumper (JAV) as open, meanwhile set "Flash Write Protect" as Enabled in AWARD BIOS CMOS Setup. In this way, the BIOS can not be overwritten, but the DMI information can be updated.

Refer to page 16 for detailed information on jumper setting, and page 28 for related BIOS setting.



### Suspend to RAM

Suspend to RAM is a cost-effective, optimal implementation of the Advanced Configuration and Power Interface (ACPI) 1.0 specification, which makes a PC's power consumption drop to the lowest possible level and enables quick wakeup. When the system is in Suspend-to-RAM status, the system context is maintained in system memory, the system consumes only a small fraction of the power used for full operation. Instead of shutting down the system to save power when not in use and then having to reboot later, Suspend-to-RAM solution enables the system to quickly wake up, restoring all applications and features, enabling operation in a few seconds.

To implement this function, the following requirements are essential:

1. Power supply requirements: The current of 5VSB line of the power supply should be more than 0.72A.
2. The BIOS option "ACPI function" should be enabled, and "ACPI Suspend Type" should be set as S3 in AWARD BIOS CMOS setup. Refer to page 30 for detailed information.
3. An ACPI-enabled operating system such as Windows 98 or Windows 2000 family is needed. Set the "ACPI Function" as "Enabled" in "Power Management Setup" of BIOS. Navigate to the CD-ROM drive from the MS-DOS Command Prompt and enter the following from the Win98 directory on the CD:

D:\SETUP

(This manual assumes that your CD-ROM device driver letter is D:)

Windows 98 will be installed with ACPI enabled.

For Windows 98 SE and Windows 2000, just install them directly.

4. Three ways to enter Suspend-to-RAM status under ACPI-enabled Windows 98 or Windows 2000:
  - Click Start -> Shut down -> Standby to enable the system to enter Suspend-to-RAM status.
  - Click Start -> Setup -> Control Panel -> Power Management -> Advanced and choose Standby item, the system will enter Suspend-to-RAM status when you press power button.
  - From Power Management Properties in Control Panel, set the latency time in System Standby, the system will enter Suspend-to-RAM status when time out.

The same ways used to power up the system can be used to wake up the system from Suspend-to-RAM status. For example, pushing the power button, through the Wake-on-LAN, Wake-on-Modem function or RTC Alarm. If the keyboard password power-on function is enabled, the keyboard password should be used to wake up the system instead of pushing the power button.

**Ultra ATA/100**

According to the previous ATA/IDE hard drive data transfer protocol, the signaling way to send data was in synchronous strobe mode by using the rising edge of the strobe signal. The Ultra ATA/33 protocol doubles the burst transfer rate from 16.6MB/s to 33.3MB/s, by using both the rising and falling edges of the strobe signal, this time Ultra ATA/66 doubles the Ultra ATA burst transfer rate once again (from 33.3MB/s to 66.6MB/s) by reducing setup times and increasing the strobe rate. In the same way, the burst transfer rate of Ultra ATA/100 is 50% higher than ATA/66 (from 66.6MB/s to 100MB/s) by reducing the pulse width from 30ns to 20ns and increasing the strobe rate. The faster strobe rate increases EMI, which cannot be eliminated by the standard 40-pin cable used by ATA and Ultra ATA. To eliminate this increase in EMI, a new 40-pin, 80-conductor cable is needed. This cable adds 40 additional ground lines between each of the original 40 ground and signal lines. The additional 40 lines help shield the signal from EMI, reduce crosstalk and improve signal integrity.

Ultra ATA/33 introduced CRC (Cyclical Redundancy Check), a new feature of IDE that provides data integrity and reliability. Ultra ATA/66 uses the same process. The CRC value is calculated by both the host and the hard drive. After the host-request data is sent, the host sends its CRC to the hard drive, and the hard drive compares it to its own CRC value. If the hard drive reports errors to the host, then the host retries the command containing the CRC error.

Ultra ATA/66 technology increases both performance and data integrity. However, there are basically five requirements for your system to run in Ultra ATA/66 mode:

1. The system board must have a special Ultra ATA/66 detect circuit, such as SynactiX 2E mainboard.
2. The system BIOS must also support Ultra ATA/66.
3. The operating system must be capable of DMA transfers. Win95 (OSR2) and Win98 are capable.
4. An Ultra ATA/66 capable, 40-pin, 80-conductor cable is required.
5. Ultra ATA/66 compatible IDE device such as a hard drive or CD-ROM drive.



## Chapter 2

### Installation Instructions

This section covers External Connectors, Jumper Settings and Memory Configuration. Refer to the mainboard layout chart for locations of all jumpers, external connectors, slots and I/O ports. Furthermore, this section lists all necessary connector pin assignments for your reference. The particular state of the jumpers, connectors and ports are illustrated in the following figures. Before setting the jumpers or inserting these connectors, please pay attention to the directions.

**Be sure to unplug the AC power supply before adding or removing expansion cards or other system peripherals, otherwise your mainboard and expansion cards might be seriously damaged.**

#### External Connectors

##### PS/2 Keyboard Connector, PS/2 Mouse Connector

PS/2 keyboard connector is for the usage of PS/2 keyboard. If using a standard AT size keyboard, an adapter should be used to fit this connector. PS/2 mouse connector is for the usage of PS/2 mouse.



##### USB1, USB2

Two USB ports are available for connecting USB devices.



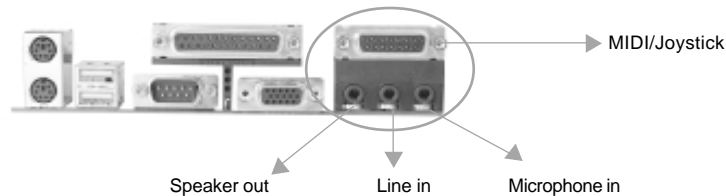
##### Parallel Port Connector, Serial Port Connector and Monitor Output Connector(Parallel, UART1, VGA Monitor)

The parallel port connector can be connected to a parallel device such as a printer. The monitor output connector is for output to a VGA-compatible device. You can enable/disable them and choose the IRQ or I/O address in "Integrated Peripherals" from AWARD BIOS SETUP.



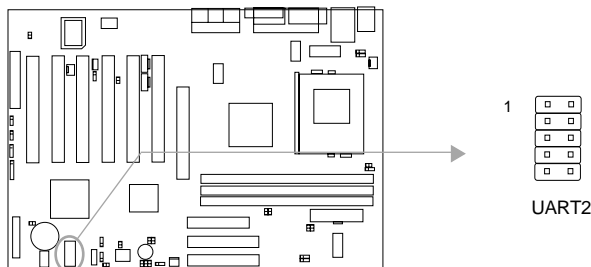
##### Line-in jack, Microphone-in jack, Speaker-out jack and MIDI/Joystick connector

The Line-in jack can be connected to devices such as a cassette or minidisc player for playback or recording. The Microphone-in jack can be connected to a microphone for voice input. The Speaker-out jack allows you to connect speakers or headphones for audio output from the internal amplifier. The MIDI/Joystick connector allows you to connect a game joystick or a MIDI device.



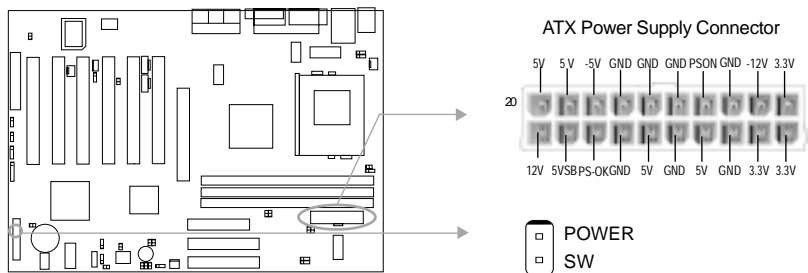
## UART2

The serial port UART2 is not available on the back panel. Therefore, we provide a 9-pin ribbon cable with bracket for UART2 port. (manufacturing option)



## ATX Power Supply Connector & Power Switch (POWER SW)

Be sure to connect the power supply plug to this connector in its proper orientation. The power switch (POWER SW) should be connected to a momentary switch. When powering up your system, first turn on the mechanical switch of the power supply (if one is provided), then push once the power switch. When powering off the system, you needn't turn off the mechanical switch, just ***Push once*** the power switch.



**Note:** If you change “Soft-off by PWR-BTTN” from default “Instant-off” to “Delay 4 Secs” in the “POWER MANAGEMENT SETUP” section of the BIOS, the power switch should be pressed for more than 4 seconds before the system powers down.



### Hard Disk LED Connector (HD\_LED)

The connector connects to the case's IDE indicator LED indicating the activity status of IDE hard disk. The connector has an orientation. If one way doesn't work, try the other way.

### Reset Switch (RESET)

The connector connects to the case's reset switch. Press the switch once, the system resets.

### Speaker Connector (SPEAKER)

The connector can be connected to the speaker on the case.

### Power LED Connector (PWR\_LED)

The power LED has four status. When the system is in power up status, the LED is on. When the system is in suspend status, the LED is blink. When the system is in Suspend to RAM, the LED is off. When the system is in Soft-Off status, the LED is off. The connector has an orientation.

### ACPI LED Connector (ACPI\_LED)(Reserved)

The ACPI LED is a double-color light with three pins. Pin1&Pin2 drive different color lights. If Pin1 drives the orange light, Pin2 drives the green light, the following status will come out. When the system is in power up status, the LED is green on. When the system is in suspend status, the LED is green blink. When the system is in Suspend to RAM status, the LED is orange on. When the system is in soft-off status, the LED is off.

### GREEN LED Connector (GREEN\_LED)

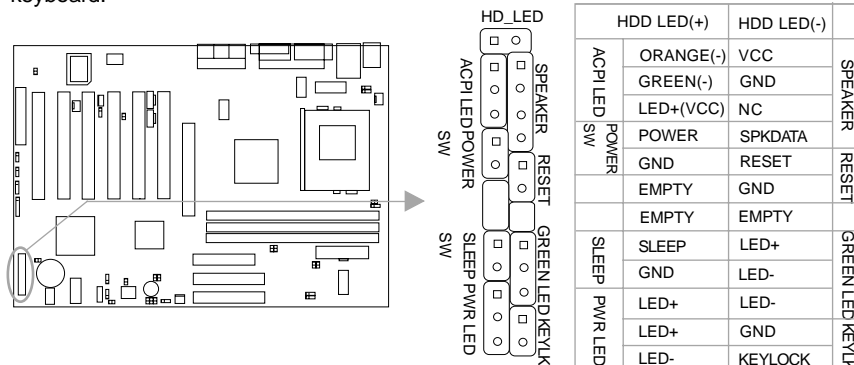
The GREEN LED has four status. When the system is in three status (including power up, suspend, soft-off), the LED is off. When the system is in suspend to RAM status, the LED is on.

### Hardware Green Connector (SLEEP\_SW)

Push once the switch connected to this header, the system enters suspend mode.

### Key Lock Connector (KEYLK)

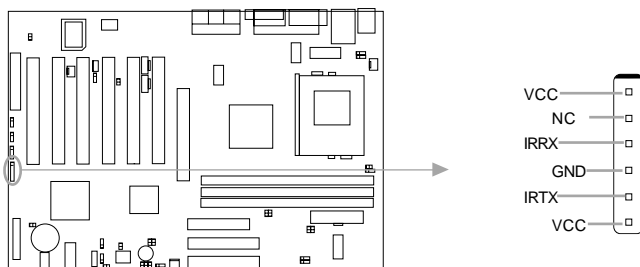
The connector can be connected to the keyboard lock switch on the case for locking the keyboard.





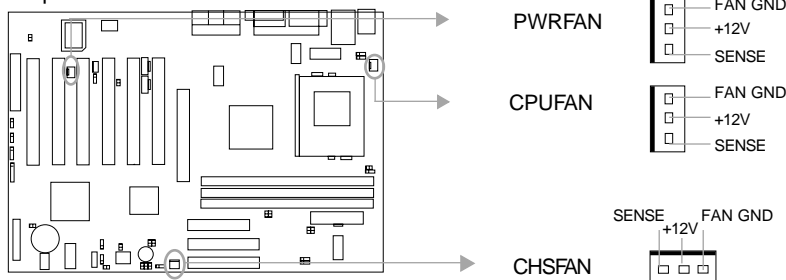
### Infrared Header (IrDA)

This connector supports wireless transmitting and receiving. Before using this function, configure the settings for IR Address, IR Mode and IR IRQ from the "INTEGRATED PERIPHERALS" section of the BIOS.



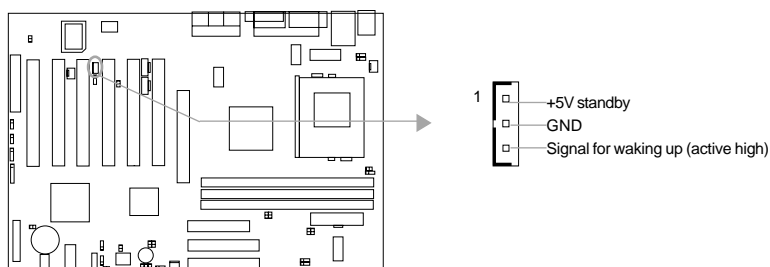
### Fan Connector (PWFAN, CPUFAN, CHSFAN)

The fan speed of these three fans can be detected and viewed in "PC Health" section of the BIOS. These three fans will be automatically turned off after the system enters suspend mode.



### Wake-Up On LAN (WOL)

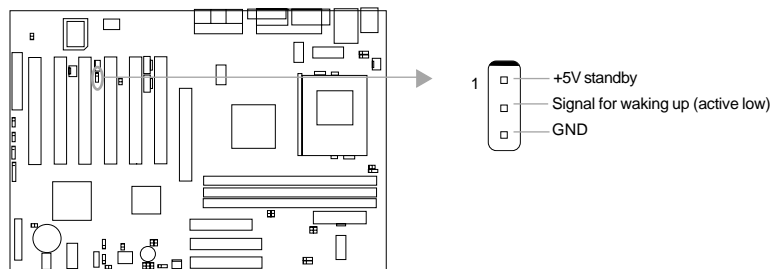
Through the Wake-Up On LAN function, a wake event occurring from the network can wake up the system. If this function is to be used, please be sure an ATX 2.01 power supply of which 5VSB line is capable of delivering 720mA, and a LAN adapter which supports this function is used. Then connect this header to the relevant connector on the LAN adapter, set "Wake-Up by LAN/Ring" as Enabled in the "POWER MANAGEMENT SETUP" section of the BIOS. Save & exit, then boot the operating system once to make sure this function takes effect.





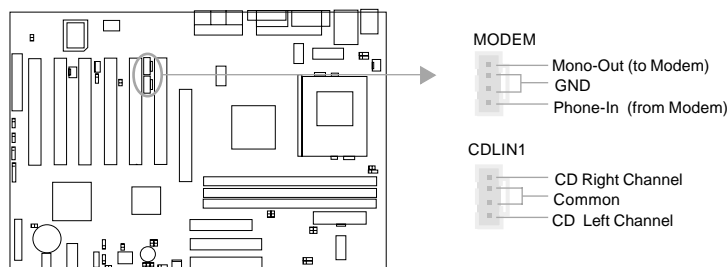
### Wake-Up On Internal Modem (WOM)

Through this function, the system which is in the power-off status can be powered on by a ring signal received from the internal modem. When this function is used, be sure an internal modem card which supports this function is used. Then connect this header to the relevant connector on the modem card, set "Wake-Up by LAN/Ring" to Enabled in the "Power Management Setup" section of the BIOS. Save & exit, then boot the operating system once to make sure this function takes effect.



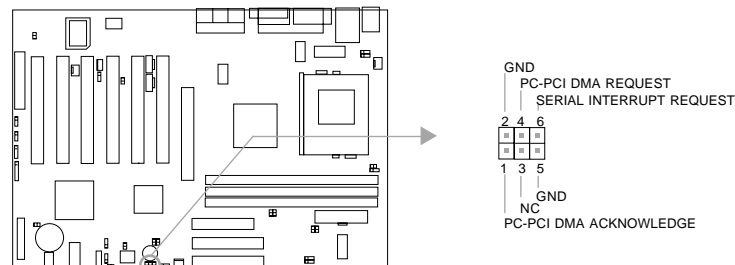
### Audio Connector (CDLIN1, MODEM)

CDLIN1 is a Sony standard CD audio connector, it can be connected to a CD-ROM drive through a CD audio cable. The MODEM connector allows the onboard audio to interface with a voice modem card with a similar connector. It also allows the sharing of mono\_in (such as a phone) and mono\_out (such as a speaker) between the onboard audio and the voice modem card.



### Sound Connector (PC-PCI)

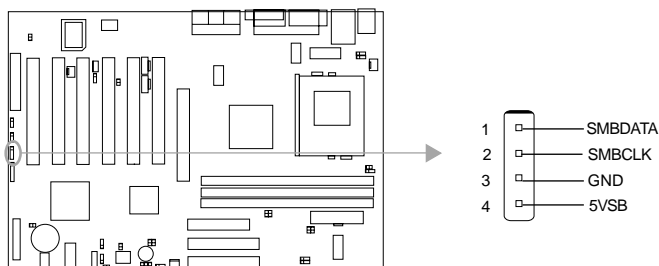
This connector provides a bridge between the mainboard and PCI sound card to deliver sound compatibility under DOS real-mode environment.





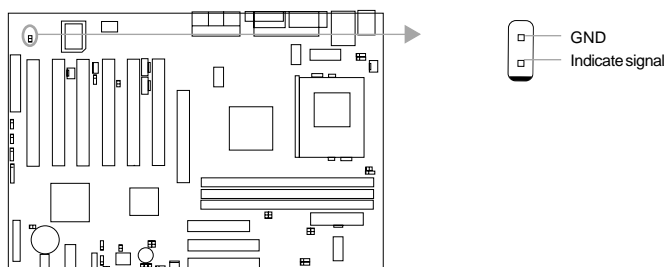
#### 4 pin SMBus Connector(SMBUS)

This connector allows you to connect SMBus devices. SMBus devices communicate by means of the SMBus with an SMBus host and/or other SMBus devices. The SMBus or System Management Bus is a specific implementation of an I<sup>2</sup>C bus, which is a multi-master bus, that is, multiple chips can be connected to the same bus and each one can act as a master by initiating data transfer.



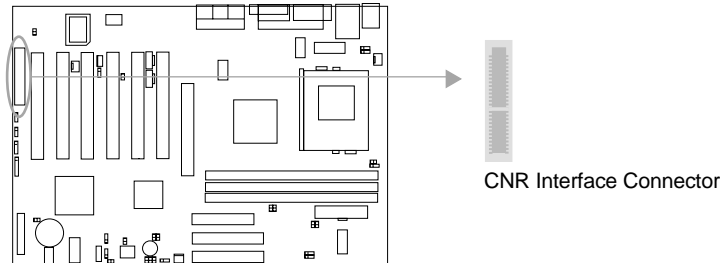
#### Chassis Security Switch (CHSSEC)

The connector connects to the chassis security switch on the case. The system can detect the chassis intrusion through the status of this connector. If the connector has been closed once, the system will record the status and indicate the chassis has been opened. You can receive this information from QDI ManageEasy software.



#### Communication Network Riser Interface Connector(CNR)

This interface supports multi-channel audio, V.90 analog modem, phone-line based networking, and 10/100 Ethernet based networking. The CNR mechanically shares a PCI slot, when you insert the CNR card, the PCI slot which is just beside it cannot be used.






CNR Interface Connector

### Expansion Slots & I/O Ports description

Slot / Port	Description
PCI1	First PCI slot.
PCI2	Second PCI slot.
PCI3	Third PCI slot.
PCI4	Fourth PCI slot.
PCI5	Fifth PCI slot.
PCI6	Sixth PCI slot.
IDE1	Primary IDE port. (Blue)
IDE2	Secondary IDE port. (White)
CNR	CNR slot.
AGP	AGP slot.
FLOPPY	Floppy Drive Port.

### Jumper Settings

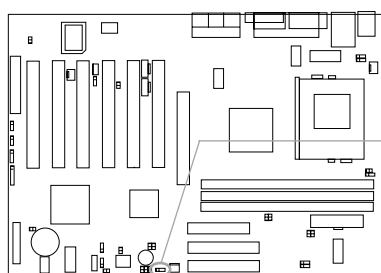
Jumpers are located on the mainboard, they represent, clear CMOS jumper JCC, enable keyboard password power-on function jumper JKB, and enable/disable onboard audio jumper JSD etc. Pin 1 for all jumpers are located on the side with a thick white line ( Pin1→  ), referring to the mainboard's silkscreen. Jumpers with three pins will be shown as  to represent pin1 & pin2 connected and  to represent pin2 & pin3 connected. For default jumper settings, please refer to the following table:

JFS0	1-2 (Auto)
JFS1	1-2 (Auto)
JCC	2-3 (Normal Status)
JSD	2-3 (Enable Audio)
JSB	Closed (Connect PCI 3.3Vsb) (Optional)
JKB	1-2 (Enable KB Power-on)
JP25	1-2 (Enable on-board E <sup>2</sup> PROM)
JAV	Open (Enable Flash BIOS)



### Clear CMOS (JCC)

If you want to clear CMOS, unplug the AC power supply first, close JCC (pin1 & pin2) once, set JCC back to the normal status with pin2 & pin3 connected, then power on the system.



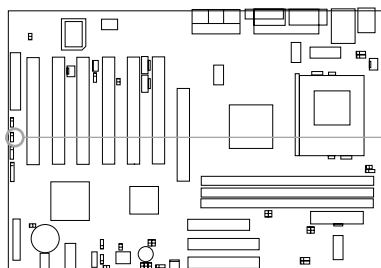
Normal status:  JCC

Clear CMOS:  JCC

(Unplug the AC power supply)

### Enable/Disable on-board audio(JSD)

If you want to use the on-board audio, set JSD with pin2 & pin3 closed (default). Otherwise, set JSD with pin1 & pin2 closed for disabling this function.



Enable on-board audio:

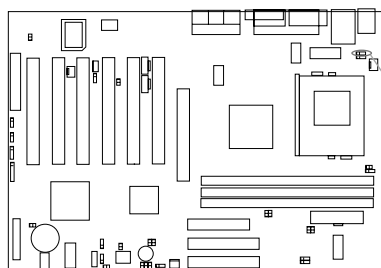


Disable on-board audio:




### Enable keyboard password power-on function (JKB)

The mainboard provides the advanced keyboard password power-on function. Before using this function, set JKB with pin1 & pin2 closed. Otherwise, set JKB with pin2 & pin3 closed for disabling.



Disable:  JKB

Enable:  JKB



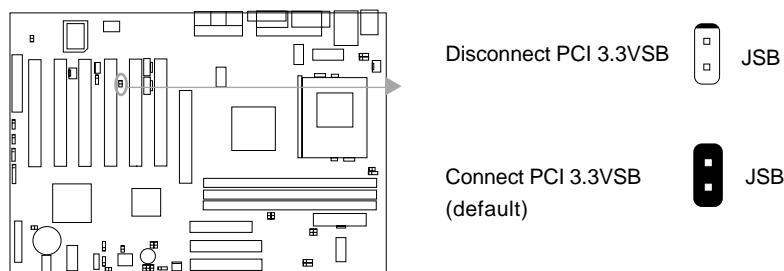
Furthermore in order to implement this function, set “POWER ON Function” to Password and enter the keyboard power-on password in the “INTEGRATED PERIPHERALS” section of the BIOS. Save and exit, then power off your system. In this case, the power button’s power-on function has been disabled.

**Note:**

1. If using this function, 5VSB line of the power supply should be capable of delivering enough current (eg. 200mA) for all the devices connected to the keyboard port, if not, you will be unable to power up the system using the keyboard.
2. If you set JKB with pin2 & pin3 closed, set “POWER ON Function” to **BUTTON ONLY**, don’t set it to Password, or you’ll be unable to power up your system by the keyboard or the power button.
3. If you encounter the above problems, clear CMOS and set the jumper and BIOS option again.

### Connector PCI 3.3VSB Voltage Jumper (JSB) (Optional)

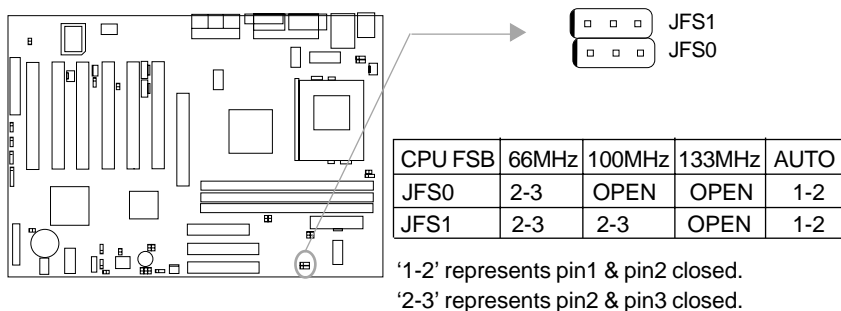
Setting JSB open can disconnect the 3.3VSB voltage to PCI slots. This can prevent the mainboard from being damaged if you add or remove expansion cards without unplugging the AC power supply. However, if you want to use the PCI 2.2 specification compliant expansion cards to wake up the system, for example, a network card which supports wake-up on LAN function but without the WOL header, set JSB as closed, meanwhile set “Wake-Up by PCI card” as enabled in “Power Management Setup” section of the BIOS.



**Note:** If AMR card is used, this jumper must be set as default setting closed.

### Overclocking Jumper Setting (JFS0, JFS1)

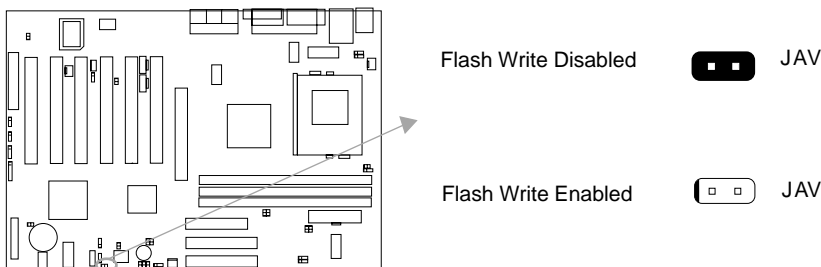
Jumpers labeled JFS0 and JFS1 are located on the mainboard providing users with CPU overclocking feature. The host bus speed can be set as 66/100/133MHz or AUTO select. Refer to the chart below for the location of these jumpers, and the table for information on how to set them.



If CPU FSB is set as default setting Auto, the system detects the CPU front side bus automatically. If CPU FSB is set as 100MHz, the system will run at 100MHz even if a processor with 66MHz or 133MHz FSB is installed. Setting up to 133MHz using processors with 100MHz bus speed is also supported. However, whether or not the system can be overclocked depends on your processor's capability. Whether the processor is bus ratio locked or unlocked should also be taken into account. For bus ratio unlocked processor, this overclocking feature can be implemented by setting CPU FSB as 100/133MHz, meanwhile adjusting the bus ratio(multiplier) lower in "CPU SpeedEasy Setup" in AWARD BIOS CMOS Setup. We do not guarantee the overclocking system to be stable.

### BIOS Protection Jumper (JAV)

The BIOS of the mainboard is inside the FWH. If the jumper JAV is set as closed, you will be unable to flash the BIOS to the mainboard. However in this status, the system BIOS is protected from being attacked by serious virus such as CIH virus.



Setting the jumper JAV as open (default), meanwhile disabling the "Flash Write Protect" item in AWARD BIOS CMOS Setup, allows you to flash the BIOS to the flash ROM in FWH.

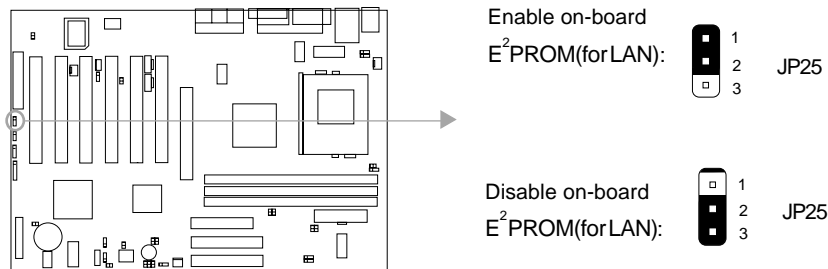
The DMI (Desktop Management Interface) system information such as the CPU type/speed, memory size, and expansion cards will be detected by the onboard BIOS and stored in the flash ROM in FWH. Whenever the system hardware configuration is changed, DMI information will be updated automatically. However, setting jumper JAV as closed makes flashing BIOS and updating DMI information impossible.

Refer to page 4 for the two choices to implement BIOS-ProtectEasy.



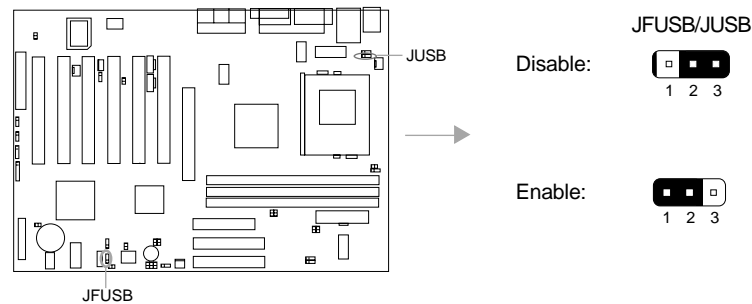
### Onboard E<sup>2</sup>PROM Enable (JP25) (Optional)

Set JP25 as pin1&pin2 closed to enable on-board E<sup>2</sup>PROM(for LAN), if it is set as pin2&pin3 closed, then the on-board E<sup>2</sup>PROM is disabled.



### Enable Front/Back Panel USB Device Wake-up Function (JFUSB/JUSB)

The mainboard provides the advanced USB device wake-up function. The system can be waken up from its power saving including ACPI S3 by activating USB device. Before using this function, set JFUSB/JUSB with pin1 & pin2 closed. Otherwise, set JFUSB/JUSB with pin2 & pin3 closed for disabling.





## Memory Configuration

This mainboard provides three 168 pin 3.3V PC133 un-buffered DIMM sockets to support a flexible memory size ranging from 32MB up to 512MB for SDRAM. PC100/PC133MHz SDRAM with SPD are supported, the following set of rules allows optimum configurations.

- Possible SDRAM DIMM memory sizes are 32MB, 64MB, 128MB, 256MB, 512MB in each DIMM socket, but the total memory size cannot be over 512MB.
- Processor with 66MHz FSB should be paired with PC100, PC133 SDRAM  
processor with 100MHz FSB should be paired with either PC100 or PC133 SDRAM,  
processor with 133MHz FSB should be paired only with PC133 SDRAM.
- Supports Suspend to RAM.

## Installation of All Drivers (EASY!)

A QDI Driver CD 2000 is supplied with this mainboard, all drivers can be installed from this CD-ROM. Before installing the drivers, check the system requirements such as the enough system memory (at least 32MB for Windows 95/98 system or 64MB for Windows 2000 system) and enough disk space. Windows 95 or Windows 98 must be fully installed and running on the system. All running applications should be closed before installing these drivers.

### Features of this CD-ROM:

#### - DemoShield Software

Utilizing DemoShield software to develop it, providing you a very new, easier-to-use and more intuitive user interface.

#### - Point-and-Click

when using this CD-ROM, just point to the option you required and click it, then the driver or the software that you need will be automatically installed.

#### - Intelligently Recognition

Automatically recognizing the hardware, then installing the necessary drivers for your onboard components to work properly.

Please refer to page 38 to get more detailed information of the contents contained in this CD-ROM.



### **PC-cillin 98**

New viruses are appearing frequently; the chance of your PC being infected increases; antivirus softwares are becoming a must. PC-cillin 98 offers you full-time active virus protection as well as manual scans, plus virus clean capability. Keeping up to date on the latest threats and updating significant files are crucial in keeping antivirus software effective. PC-cillin 98 provides Free Virus Pattern File Updates from the Trend Micro Website:

<http://www.trend.com/download/pattern.htm> or

<http://www.antivirus.com/download/pattern.htm>.

### **QDI ManageEasy**

It is well known that guaranteeing the computer's security and reliability is essential. Especially today, effectively managing and monitoring the computer's hardware is even more important; because processing and exchanging critical data through computer and network are happening everyday. Moving with the computer's development, the system of the computer will become more and more complex; at the same time, the control of computer's hardware will be strengthened. Today, it is possible to monitor and manage your complex hardware from Windows 9X and Windows NT. QDI ManageEasy is a system tool, like a bridge between the complex hardware and OS, used to access hardware status and to execute some control functions. It supports stronger functions for Windows 9X and Windows NT. These functions enables you to view more than one hundred of the basic information about your computer and monitor some key reference data about computer health in real time. QDI ManageEasy also helps you to use remote access and control computers in your local area network. With QDI ManageEasy, you can improve your management level.

### **Additional Information**

When you change a new CPU, whose bus ratio has not been locked, and is lower than that of the previous one, be sure to clear CMOS once before boot up, otherwise the previous CPU's higher bus ratio saved in CMOS will still take effect, and the new CPU may not work at that high speed.