

SpeedEasy ; Ë Ù ¤ Ö Ä Ï

3. ĐỒ

1. 0xμθIntel®Penium II/III(Slot1)0NēΛE÷
2. ²ħÆĦÅÖ×é³ÉöûΛεñµ³
3. ĸÆđľűŎ;²Çò×ƧDel>¼ü½ħBIOSÉÖÄĐó
4. ½ħëCPU SpeedEasy Setup”²ű¥Ŏű½ÜñēΛÆµĶŮÈ

× ò á È ò µ ½ Ũ Ñ ċ Å Æ µ Ķ Ψ È Ĩ ĩ ¾ ð Ò É µ Ķ Ψ ð ð 100 Ō × Ō Ũ
 Ĩ ß ÅPU » ð Ğ00 Ō × Ō ð ð 133 Ō × Ō Ũ ß ÅPU » ð Ğ00 Ō × Ō ð ð 1 Ō
 Ó É Æ ĩ Ÿ ĩ Å ÅPU, Ō ð Æ ĩ µ È Ψ ð.

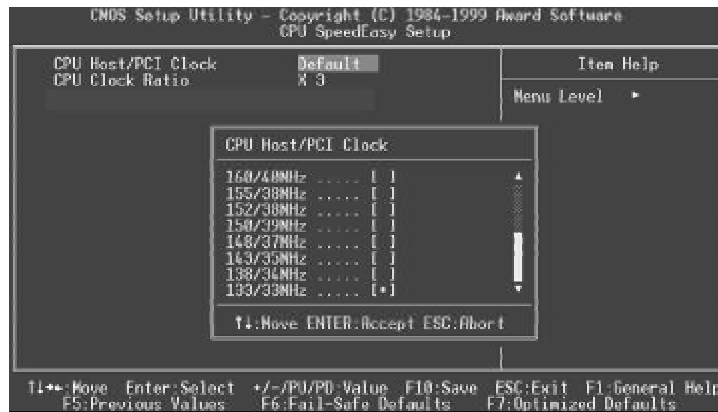
5. ' æ é ħ ö μ í ë ð IOS, ï ħ ¾ ħ ð ô ä ħ ħ ü ä ů û ü á ë



SpeedEasy 1/2 1/2

SpeedEasy 0 N e A E E 2 P Y

0 E 0 A P 0 N 0 CPU SpeedEasy Setup>I i E a E e 0 P Y



I 1/4 1 SpeedEasy 0 N e A E E I A P Y

BIOS I A P 0 N e A E I a 0 x e n N I i 0 0 n e k P A 0 Jumper). E 1/2 1
A 0 0 0 "CPU SpeedEasy Setup" 2 P E I I 0 N e A E N 0 0 E P A x E P E



3/4 1/2

Ç E E 0 N e A E P A P 1/2 1/2 B E 0 Y E x E P E. 0 0 3/4 E 3/4 E » a 0 0
Ó E E 0 0 0 A P E 0 0



Chapter 1

Introduction

Overview

The CenturieX 1 green mainboard utilizes the Intel®820 Chipset (Camino), providing a fully compatible, high performance and cost-effective PC/ATX platform. The software configurable AC' 97 audio and modem system give customers an advanced, multimedia solution at an extremely low price. It provides 100/133 MHz system bus support for all Intel Pentium®III and Pentium®II processors. 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. It supports new technologies 300/400MHz Direct Rambus memory and AGP 4X mode , which will improve system performance greatly.

Key Features

Form factor

- ATX form factor of 305mm x 200mm.

Microprocessor

- Supports Intel Pentium®III Processors at 450/500/533/550/600/650/667/700 /733MHz and future processors with 100/133MHz bus speed.
- Supports Intel Pentium®II Processors at 300/350/400/450MHz with 100MHz bus speed.
- Supports 100/133MHz host bus speed.
- The CPU core voltage adjustable from 1.3V to 3.5V automatically through onboard switching voltage regulator with VID(Voltage ID).

System memory

- Provides two 266/300/356/400MHz RIMM sockets.
- Each of the 2 RIMM sockets should be plugged in with either RIMM module or RIMM continuity card.
- Supports Suspend to RAM.

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.
- 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

- Intel 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, headphone-out Jack and MIDI/Joystick Connector.
- Provides onboard modem connector.

AGPSLOT

- Supports an 1X/2X/4X AGP card.

Advanced features

- PCI 2.2 Specification Compliant.
- Provides Trend ChipAway/Virus® On Guard.
- Supports Windows 95/98 software power-down.
- Supports Wake-on-LAN, Wake-on-Modem and PS2 mouse Wake-Up.
- 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 LDCM (LANDesk® Client Manager) or QDI's ManageEasy. (manufacturing option)
- Provides onboard 3.3V regulator to support ATX power supply without 3.3V output.
- System status resumes after AC power failure.
- Supports QDI's innovation such as SpeedEasy.
- 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 states: Full-on, Stop Grant, Suspend to RAM, and soft-off.

Expansion slots

- 5 PCI slots.
- 1 AMR.
- 1 AGP.

*** **Note:** Please check the chipset driver in the CD-ROM disk we offered to you.

Introduction to New Features

FWH(Firmware Hub) Protection

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 26 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 0.75A.
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 28 for detailed information.
3. An ACPI-enabled operating system such as Windows 98 is needed.

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 /P J

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

Windows 98 will be installed with ACPI enabled.



4. Three ways to enter Suspend-to-RAM status under ACPI-enabled Windows 98:
 - 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/66

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. 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 CenturieX 1 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

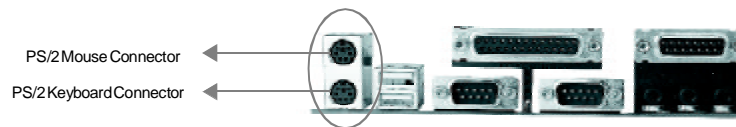
This section covers External Connectors and Jumper Settings. Refer to the mainboard layout chart for locations of all jumpers, external connectors, slots and I/O ports. Furthermore, this section lists all necessary connector pin assignments for your reference. The particular state of the jumpers, connectors 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.



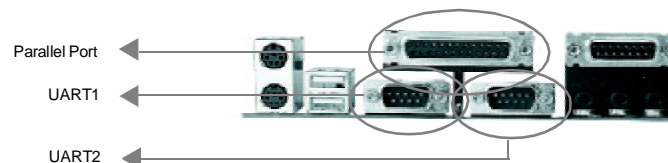
USB1, USB2

Two USB ports are available for connecting USB devices.



Parallel Port Connector and Serial Port Connector (UART1, UART2)

The parallel port connector can be connected to a parallel device such as a printer, while the serial port connectors can be connected to serial port devices such as a serial port mouse. You can enable/disable them and choose the IRQ or I/O address in "Integrated Peripherals" from AWARD BIOS SETUP.

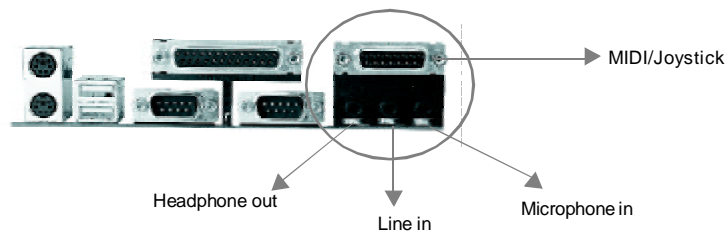




Line-in jack, Microphone-in jack, Headphone-out jack and MIDI/Joystick connector

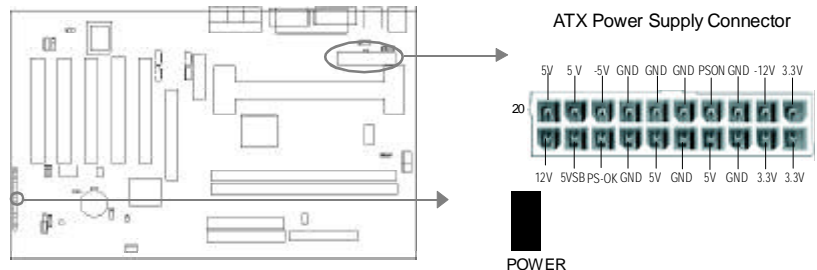
The Line-in jack can be connected to devices such as a cassette or minidisc player for playback or recording. The Microphone-in jack can be connected to a microphone for voice input. The Speaker-out jack allows you to connect speakers or headphones for audio output from the internal amplifier.

The MIDI/Joystick connector allows you to connect a game joystick or a MIDI device.



ATX Power Supply Connector & Power Switch (POWER)

Be sure to connect the power supply plug to this connector in its proper orientation. The power switch (POWER) 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 (HDLED)

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. However, press the switch for more than 4 seconds, the system will be powered off.



Speaker Connector (SPEAKER)

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

Power LED Connector (PWR_LED)

The power LED has two status. When the system is in power-off status, the LED is off. When the system is powered up, the LED is on. The connector has an orientation.

Key-Lock Connector (KEY_L)

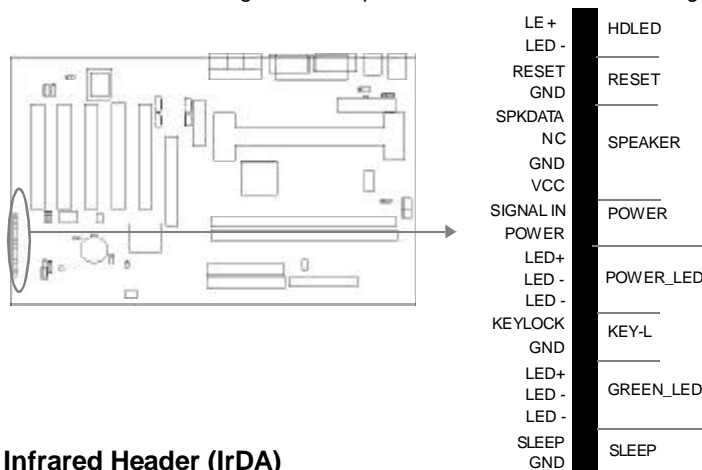
The connector can be connected to the keyboard lock switch on the case for locking the keyboard.

ACPI LED Connector (GREEN_LED)

The ACPI LED has three status. When the system is in power-off or S3 mode(suspend-to-RAM), the LED is off. When the system is powered up, the LED is on. When the system enters S1 mode(suspend), the LED will flash. The connector has an orientation.

Hardware Green Connector (SLEEP)

Push once the switch connected to this header, the system enters suspend mode. However, in Windows 98 ACPI mode, it would have no function, unless the BIOS option "ACPI function" in Power Management Setup is set as Disabled when installing Windows 98.



Infrared Header (IrDA)

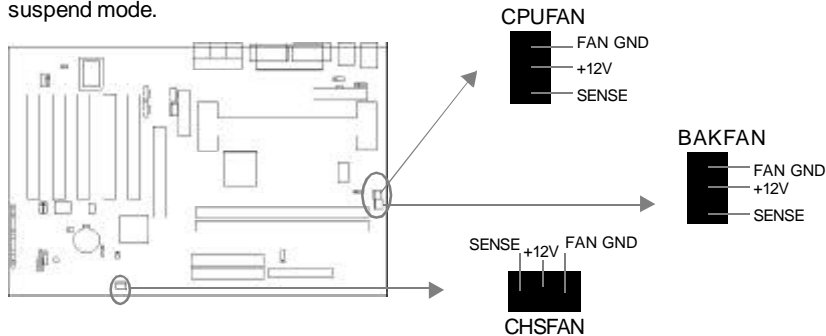
This connector supports wireless transmitting and receiving. When using this function, configure the settings for IR Address, IR Mode and IR IRQ from the "INTEGRATED PERIPHERALS" section of the BIOS.





Fan Connector (CPUFAN, BAKFAN, 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.



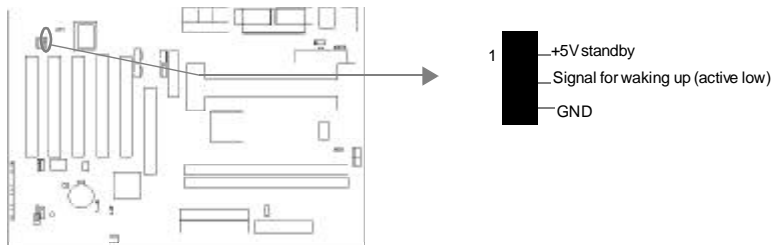
Wake-Up On LAN (WOL)

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 “Power on 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)

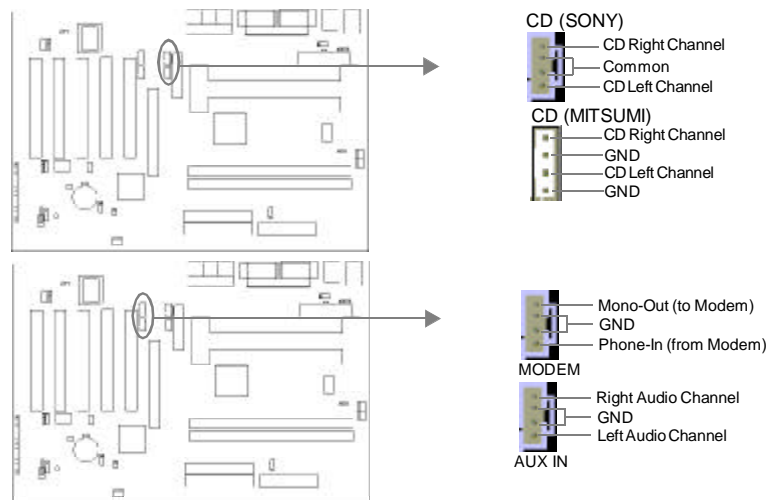
Through the Wake-Up On Internal Modem function, the system which is in the power-off status can be powered on by a ring signal received from the internal modem. If this function is to be used, be sure an internal modem card which supports this function is used. Then connect this header to the relevant 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.





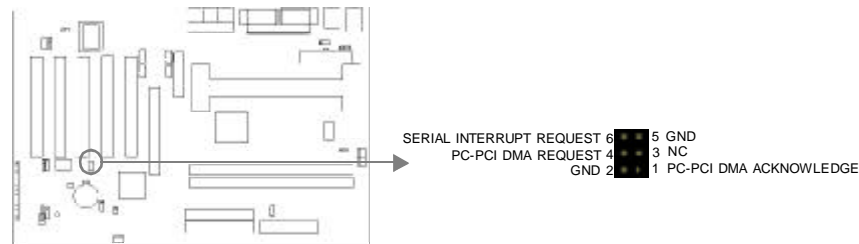
Internal Audio Connector (AUX, CD, MODEM)

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



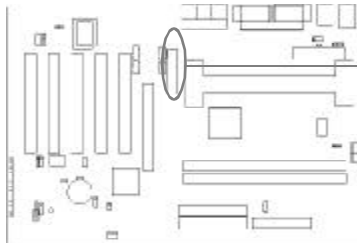
Sound Connector (PC-PCI)

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



Audio/Modem Riser Interface Connector (AMR)

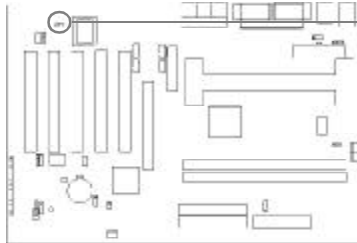
The AMR Interface Connector is the interface between the mainboard and the Audio/Modem Riser card. The connector provides all necessary signals which supports several different configurations of audio and modem in the system, such as audio and modem on the Riser, audio on the mainboard and modem on the Riser, or no audio with modem on the Riser. CenturieX 1 mainboard provides you with audio onboard solution, onboard audio can be enabled/disabled. Either AMR (Audio/Modem Riser) card or MR (Modem Riser) card can be used on this system. If you choose to use the audio on AMR card, the onboard audio can be set as disabled. This software configurable AC' 97 audio and modem system gives customers an advanced, multimedia solution at an extremely low price.



AMR Interface Connector

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.



GND Indicate signal



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.
RIMM1	First RIMM port.
RIMM2	Second RIMM port.
AMR	AMR 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®

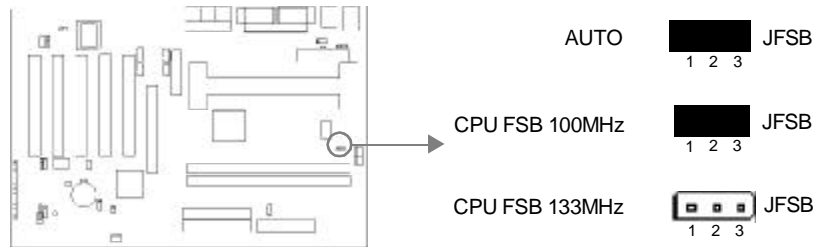


), referring to the mainboard's silkscreen. Jumpers with three pins will be shown as  to represent pin1 & pin2 connected and  to represent pin2 & pin3 connected.



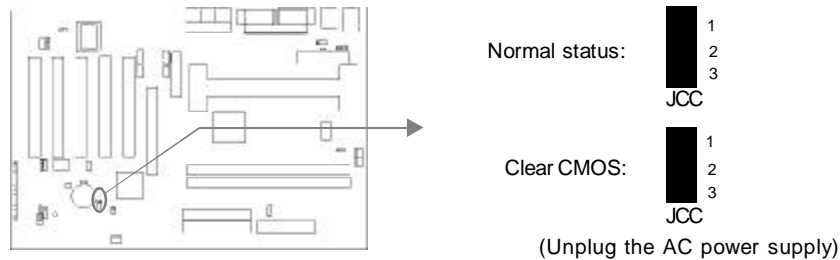
FSB Frequency Selection(JFSB)

The jumper labeled JP1 is located on the mainboard providing users with FSB frequency selection. The host bus speed can be set as 100MHz with pin1 and pin2 closed, and 133MHz with JP1 open, when it is set as Auto with pin2 and pin3 closed, the system detects the CPU front side bus automatically. For more FSB frequency selection, you could check it in AWARD BIOS CMOS Setup and set the proper frequency that you need.



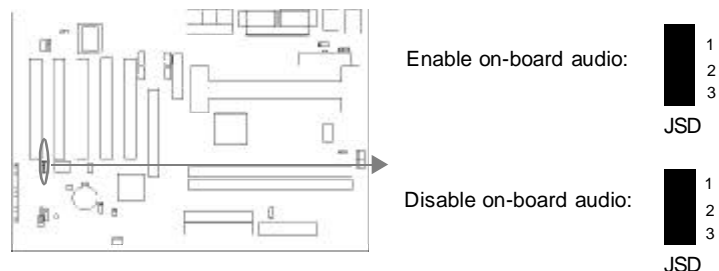
Clear CMOS (JCC)

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.



Enable/Disable on-board audio CODEC(JSD)

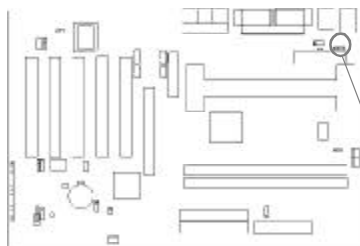
If you want to use the on-board audio, set JSD with pin2 & pin3 closed (default). Otherwise, set JSD with pin1 & pin2 closed for disabling this function.





Enable 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
1 2 3

Enable:  JKB
1 2 3

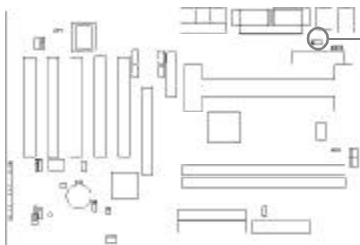
Furthermore in order to implement this function, set "POWER ON Function" to Password and enter the keyboard power-on password in the "INTEGRATED PERIPHERALS" section of the BIOS. Save and exit, then power off your system. In this case, the power button's power-on function has been disabled.

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.

Enable USB Device Wake-up Function (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 JUSB with pin1 & pin2 closed. Otherwise, set JUSB with pin2 & pin3 closed for disabling in BIOS



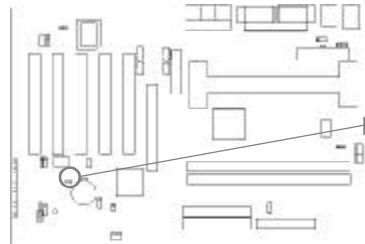
Disable:  JUSB
1 2 3

Enable:  JUSB
1 2 3



FWH 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.



Flash Write Disabled



JAV

Flash Write Enabled

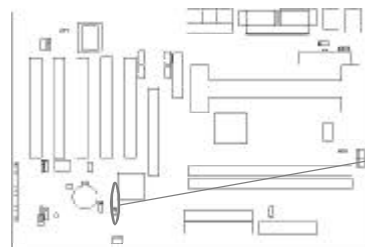


JAV

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 FWH Protection function.

CPU Frequency Multiplier(J2X)

If the jumper JP6 is set as closed, the system boots up with the lowest CPU frequency multiplier 2, if it is set as open, the CPU frequency multiplier is as CMOS setting.

CPU frequency multiplier
is 2

J2X

CPU frequency multiplier
is as CMOS setting

J2X

Installation of All Drivers

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, which provide 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 49 to get more detailed information of the contents contained in this CD-ROM.

Note: Because Intel®810 chipset driver is compatible with Intel®820 chipset, you can also choose the option “Intel 810 INF” on CD-2000 to install.

Memory configuration

This motherboard provides two Rambus In-line Memory Module (RIMM) sockets to support a flexible memory size ranging from 64MB up to 1GB. Both 300MHz and 400MHz Direct Rambus are supported. The following set of rules allows optimum configurations

- Possible Direct Rambus memory size are 64MB, 128MB, 256MB, 512MB in each RIMM socket.
- 300MHz Direct Rambus only run at 100MHz system host bus, 400MHz Direct Rambus can run at 100/133MHz system host bus.
- Supports up to 32 Direct Rambus devices per channel

The following table determines the some ways of arranging RIMM memory.

RIMM 1	RIMM2
RIMM	*C-RIMM
*C-RIMM	RIMM
RIMM	RIMM

*Note: C-RIMM is RIMM continuity card.



Chapter 3

BIOS Description

Utility Support:

AWDFLASH.EXE

This is a flash memory write/read utility used for the purpose of upgrading your BIOS when necessary. Before doing so, please note:

- **We strongly recommend you only upgrade BIOS when encounter problems.**
- **Before upgrading your BIOS, review the description below to avoid making mistakes, destroying the BIOS and resulting in a non-working system.**

When you encounter problems, for example, you find your system does not support the latest CPU released after our current mainboard, you may therefore upgrade the BIOS.

Follow the steps exactly for a successful upgrade.

1. Create a bootable system floppy diskette by typing Format A:/s from the DOS prompt under DOS6.xx or Windows 9x environment.
2. Download AWDFLASH.EXE (version ≥ 7.36) from our website (<http://www.qdigrp.com>), copy it onto your new bootable diskette.

Update the CenturieX mainboard BIOS, make sure AWDFLASH.EXE's version must be 7.36 or later.

3. Download the updated BIOS file from the Website. Please be sure to download the suitable BIOS file for your mainboard.
4. Decompress the file downloaded, copy the BIOS file (xx.bin) onto the bootable diskette, and note the checksum of this BIOS which is located in readme file.
5. Reboot the system from the bootable diskette created.
6. Then run the AWDFLASH utility at the A:\ prompt as shown below:

```
A:\AWDFLASH xxxx.bin
```

Follow the instruction through the process. Don't turn off power or reset the system until the BIOS upgrade has been completed.

If you require more detailed information concerning AWDFLASH Utility, for example, the different usage of parameters, please type A:\>AWDFLASH /?



AWARD BIOS Description

Entering Setup

Power on the computer, when the following message briefly appears at the bottom of the screen during the POST (Power On Self Test), press key or simultaneously press the <Ctrl> + <Alt> + <Esc> keys, to enter the AWARD BIOS CMOS Setup Utility.

Press to enter SETUP

Once you have entered, the Main Menu (Figure 1) appears on the screen. The main menu allows you to select from eleven setup functions and two exit choices. Use the arrow keys to select among the items and press the <Enter> key to accept or enter the sub-menu.

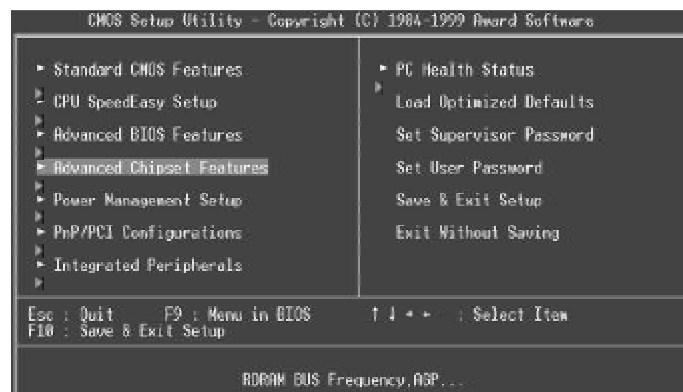


Figure-1 Main Menu

Load Optimized Defaults

The Optimized Defaults are common and efficient. It is recommended users load the optimized defaults first, then modify the needed configuration settings.

Standard CMOS Features Setup

The basic CMOS settings included in "Standard CMOS Features" are Date, Time, Hard Disk Drive Types, Floppy Disk Drive Types, and VGA etc. Use the arrow keys to highlight the item, then use the <PgUp> or <PgDn> keys to select the value desired in each item.



Figure-2 Standard CMOS Setup Menu

For the items marked, press enter, a window will pop up as shown below. You can view detailed information or make modifications.

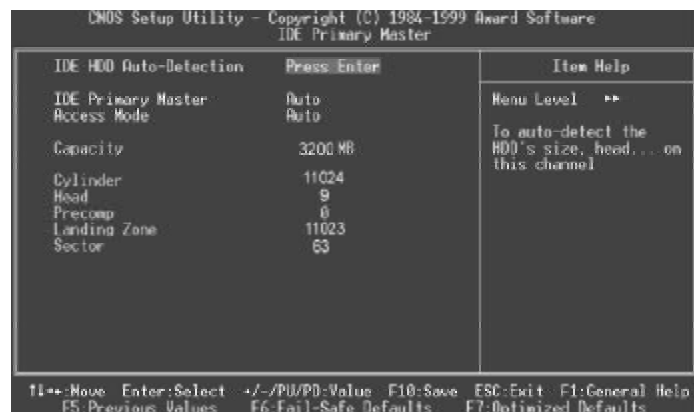


Figure-2-1 IDE Primary Master Setup Menu

Hard Disk

Primary Master/Primary Slave/Secondary Master/Secondary Slave

These categories identify the HDD types of 2 IDE channels installed in the computer system. There are three choices provided for the Enhanced IDE BIOS: None, Auto, and User. 'None' means no HDD is installed or set; 'Auto' means the system can auto-detect the hard disk when booting up; by choosing 'user', the related information should be entered regarding the following items. Enter the information directly from the keyboard and press < Enter>:

CYLS	number of cylinders	HEAD	number of heads
PRECOMP	write pre-compensation	LANDZ	landing zone
SECTOR	number of sectors	MODE	HDD access mode



The Award BIOS supports 3 HDD modes: NORMAL, LBA and LARGE.

NORMAL

Generic access mode in which neither the BIOS nor the IDE controller will make any transformation during accessing. The maximum number of cylinders, heads and sectors for NORMAL mode are 1024, 16 and 63.

If the user sets his HDD to NORMAL mode, the maximum accessible HDD size will be 528 megabytes even though its physical size may be greater than that.

LBA (Logical Block Addressing) mode

A new HDD accessing method to overcome the 528 Megabyte bottleneck. The number of cylinders, heads and sectors shown in setup may not be the number physically contained in the HDD.

During HDD accessing, the IDE controller will transform the logical address described by sector, head and cylinder number into its own physical address inside the HDD. The maximum HDD size supported by LBA mode is 8.4 Gigabytes.

LARGE mode

Some IDE HDDs contain more than 1024 cylinder without LBA support (in some cases, users do not want LBA). The Award BIOS provides another alternative to support these kinds of HDD.

BIOS tricks DOS (or other OS) into dividing the number of cylinders is less than 1024 by dividing it by 2. At the same time, the number of heads is multiplied by 2. A reverse transformation process will be made inside INT13h in order to access the right HDD address.

If using Auto detect, the BIOS will automatically detect the IDE hard disk mode and set it as one of the three modes.

Remark

To support LBA or LARGE mode of HDDs, there must be some softwares involved which are located in Award HDD Service Routine(INT13h).It may fail to access a HDD with LBA (LARGE) mode selected if you are running under an Operating System which replaces the whole INT 13h.