Declaration of conformity

CE

QUANTUM DESIGNS(HK) LTD.
5/F Somerset House, TaiKoo Place 979 Kings Road,
Quarry Bay, Hong Kong

declares that the product

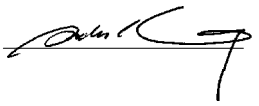
Mainboard
Superb 2

is in conformity with
(reference to the specification under which conformity is declared in accordance with 89/336 EEC-EMC Directive)

☑	EN 55022	Limits and methods of measurements of radio disturbance characteristics of information technology equipment
☑	EN 50081-1	Generic emission standard Part 1: Residential, commercial and light industry
☑	EN 50082-1	Generic immunity standard Part 1: Residential, commercial and light industry

European Representative:

QDI COMPUTER (UK) LTD	QDI COMPUTER (SCANDINAVIA) A/S
QDI SYSTEM HANDEL GMBH	QDI COMPUTER (NETHERLANDS) B. V.
QDI COMPUTER (FRANCE) SARL	QDI COMPUTER HANDELS GMBH
QDI COMPUTER (ESPANA) S.A.	QDI COMPUTER (SWEDEN) AB

Signature :  Place / Date : HONG KONG/1999

Printed Name : Anders Cheung Position/ Title : President

Declaration of conformity

Trade Name:	QDI Computer (U. S . A.) Inc.
Model Name:	Superb 2
Responsible Party:	QDI Computer (U. S. A.) Inc.
Address:	41456 Christy Street Fremont, CA 94538
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Equipment Classification:	FCC Class B Subassembly
Type of Product:	Mainboard
Manufacturer:	**Quantum Designs (HK) Inc.**
Address:	5/F, Somerset House, TaiKoo Place 979 Kings Road, Quarry Bay, HONG KONG

Supplementary Information:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Signature : _____ Date : 1999

CONTENTS

CONTENTS

As widely known, SpeedEasy has been an advanced innovation of QDI.

As the development of Intel' s new processor, the bus ratio of the processor has been locked, it' s not necessary to setup the bus ratio either by hardware jumper or software BIOS. After installing the Intel Celeron™ processor, setup the bus speed in "Chipset Features Setup" section of the BIOS.

We provide users with CPU overclock feature. The bus speed can be set as 66/75/83/100/112MHz. However, whether or not your system can be overclocked depends on your processor' s capability. We do not guarantee the overclock system to be stable.

"CPU Clock Ratio Jumpless" option is reserved for bus ratio unlocked processor. For bus ratio locked processor, this option doesn' t work.

For detailed information, please refer to "Chipset Features Setup" section of the BIOS.

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Chapter 1
Introduction

Overview

The Superb 2 green mainboard utilizes the SiS620 chipset which integrates 2D/3D graphics and video acceleration, providing a highly integrated solution for fully compatible, high performance and cost-effective PC/microATX platform. It provides 66/100MHz system bus support for all Intel Celeron™ PPGA 370 processors. Both 66MHz and 100MHz SDRAMs are supported. It also provides advanced features such as wake-up on LAN, wake-up on internal/external modem and keyboard password power-on function. The mainboard also offers optionally integrated Yamaha PCI audio for an exceptional AC' 97 audio subsystem. The green function is in compliance with the ACPI specification.

Key Features

Form factor

- MicroATX form factor of 244mm x 201mm.

Microprocessor

- Supports Intel Celeron™ PPGA 370 processors at 300A/333/366/400/433/466MHz and future processors.
- Supports 66/100MHz host bus speed.
- CPU core supply voltage adjustable from 1.3V to 3.5V through on- board switching voltage regulator with VID(Voltage ID).

Chipset

- SiS620 :System Controller Integrated 3D Graphics
- SiS5595:PCI-to-ISA Bridge

System memory

- Provides three 168 pin 3.3V unbuffered DIMM sockets.
- Supports both 66MHz and 100MHz SDRAMs.
- Minimum memory size is 8MB, maximum memory size is 768MB.
- SDRAM 64 bit data interface with ECC support.

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 DMA/33" and "Ultra DMA/66" Synchronous DMA mode transferring up to 33/66 Mbytes/sec.
- Integrated 16x32bit buffer for IDE PCI Burst Transfers.

Onboard I/O

- Use SiS6801 super 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 UARTs(COM1/COM2/COM3/COM4 selective) with 16-byte send/receive FIFOs.
- One enabled parallel port at the I/O address 378H/278H/3BCH with additional bi-direction I/O capability and multi-mode as SPP/EPP/ECP (IEEE 1284 compliant).
- Circuit protection provided, preventing damage to the parallel port when a connected printer is powered up or operates at a higher voltage.
- Supports LS-120 floppy disk drive.
- Supports ZIP drives.
- All I/O ports can be enabled/disabled in the BIOS setup.

Onboard AGP

- Based on the onchip AGP graphics controller, integrated 2D/3D graphics and video accelerators.
- AGP 1.0/2.0 specification compliant.
- Onboard 8MB SDRAM display memory achieves optimum 2D/3D performance (manufacturing option).
- Supports shared memory to 8MB when no display memory is on board.
- Supports a maximum resolution of 1600x1200 at 85Hz when having 8MB onboard video SDRAM.

Onboard Audio

- Based on Yamaha YMF740 PCI audio controller and AC 97 audio decoder.
- Compatible with Sound Blaster™, Sound Blaster Pro™ and Windows Sound System ™.
- PC97/PC98 specification compliant.
- Provides onboard Line-in Jack, Speaker-out Jack and Microphone-in Jack.

Advanced features

- PCI 2.2 specification compliant.
- Provides Anti-Virus function.
- Provides on-board PS/2 mouse and PS/2 keyboard ports.
- Two USB ports supported.

- Provides infrared interface.
- Supports Windows 95/98 software power-down.
- Supports wake-up on LAN and wake-up on internal/external modem.
- Supports auto fan off when the system enters suspend mode.
- Provides onboard 3.3V regulator to support ATX power supply without 3.3V output.
- Supports system monitoring (integrated in SiS5595), monitors system voltages and fan speed.
- Provides management application such as ManageEasy and LDCM(LANDesk® Client Manager). (manufacturing option)
- Supports keyboard password power-on function.

BIOS

- Licensed advanced AWARD BIOS, supports flash ROM with 2MB 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 three green modes: Doze, Standby and Suspend.

Expansion slots

- 2 ISA slots and 3 PCI slots.

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Chapter 2

Installation Instructions

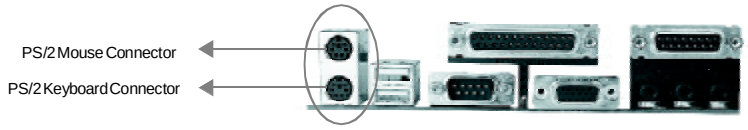
This section covers External Connectors, Jumper Settings and Memory Configuration. Refer to the mainboard layout chart for locations of all jumpers, external connectors, slots and I/O ports. Furthermore, this section lists all necessary connector pin assignments for your reference. The particular state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

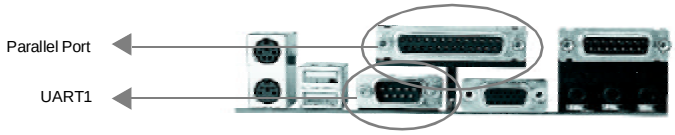


USB1, USB2

Two USB ports are available for connecting USB devices.

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

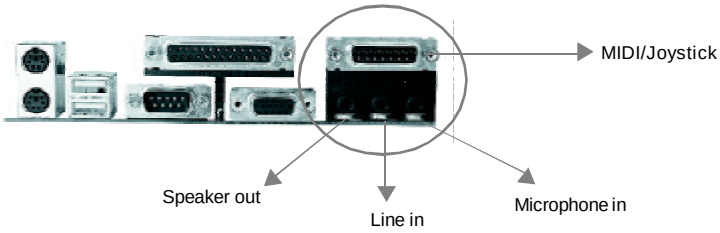
The parallel port connector can be connected to a parallel device such as a printer, while the serial port connectors can be connected to serial port devices such as a serial port mouse. You can enable/disable them and choose the IRQ or I/O address in "Integrated Peripherals" from AWARD BIOS SETUP.



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)

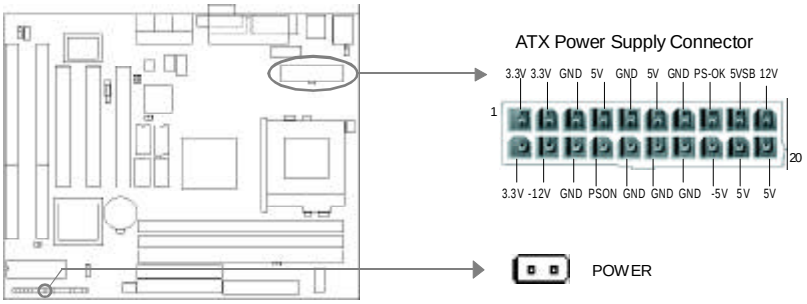
Line-in jack, Microphone-in jack, Speaker-out jack and MIDI/Joystick connector

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.



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:

1. 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.

2. Push the power switch once, within 10 seconds, the AC power supply powers on, enabling the system to be powered on.

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. 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)

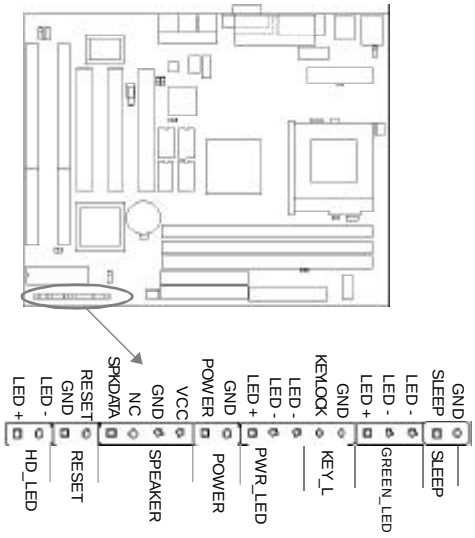
The connector can be connected to the keyboard lock switch on the case for locking the keyboard.

ACPI LED Connector (GREEN_LED)

The ACPI LED has three status. When the system is in power-off status, the LED is off. When the system is powered up, the LED is on. When the system enters suspend mode, the LED will flash. The connector has an orientation.

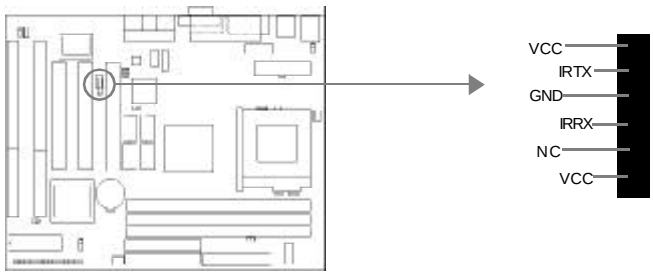
Hardware Green Connector (SLEEP)

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



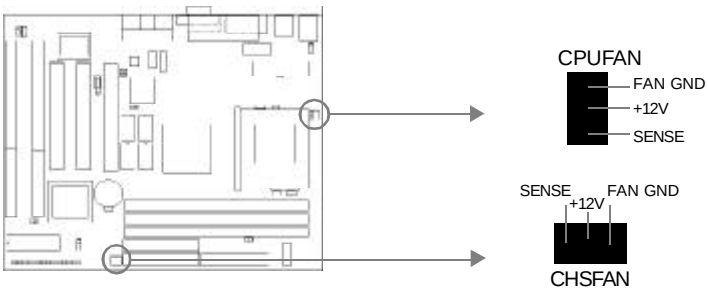
Infrared Header (IrDA)

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.



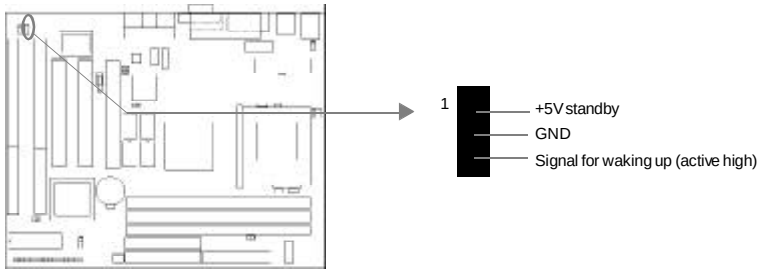
Fan Connector (CPUFAN, CHSFAN)

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



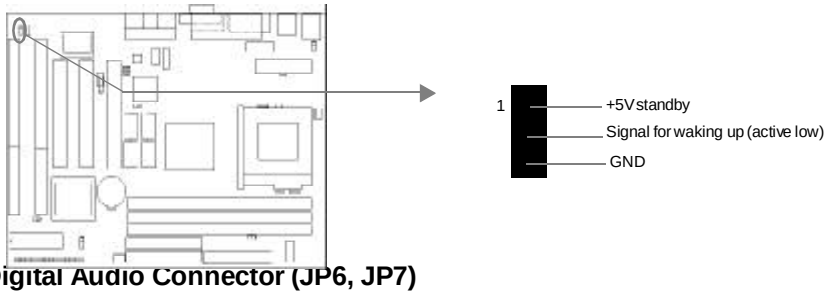
Wake-Up On LAN (WOL)

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 "Ring/LAN Power Up Control" 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.



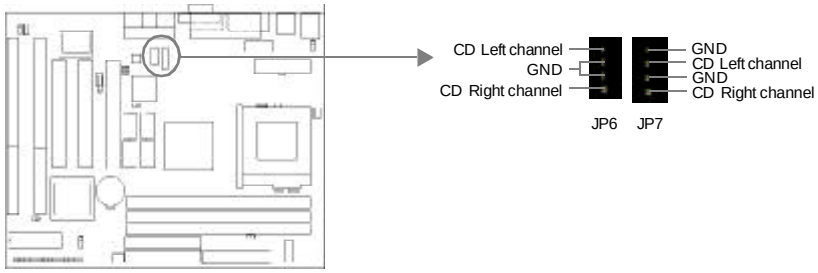
Wake-Up On Internal Modem (WOM)

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 the function is used. Then connect this header to the relevant connector on the modem card, set "Ring/LAN Power Up Control" 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.



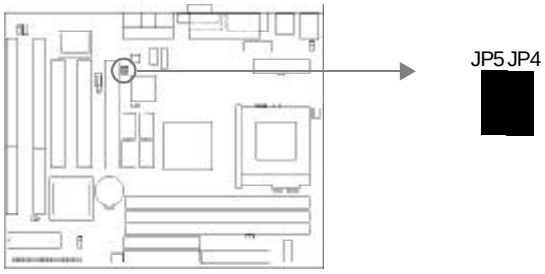
Digital Audio Connector (JP6, JP7)

JP6 is a Sony standard CD audio connector, and JP7 is a Mitsumi standard CD audio connector. They can be connected to a CD-ROM drive respectively through a CD audio cable.



Hardware Volume Control (JP4, JP5)

The onboard audio allows volume control with a push-switch operation. A single-push on the JP5 switch increases volume level by 1.5dB, while a single-push on the JP4 switch attenuates it by 1.5dB. Simultaneous pushing both switches S1 and S2 enables output muting.



Expansion Slots & I/O Ports description

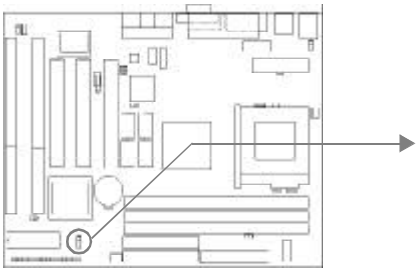
Slot / Port	Description
ISA 1	First ISA slot.
ISA2	Second ISA slot.
PCI1	First PCI slot.
PCI2	Second PCI slot.
PCI3	Third PCI slot.
IDE1	Primary IDE port.
IDE2	Secondary IDE port.
FLOPPY	Floppy Drive Port.

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 JP3. 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.

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

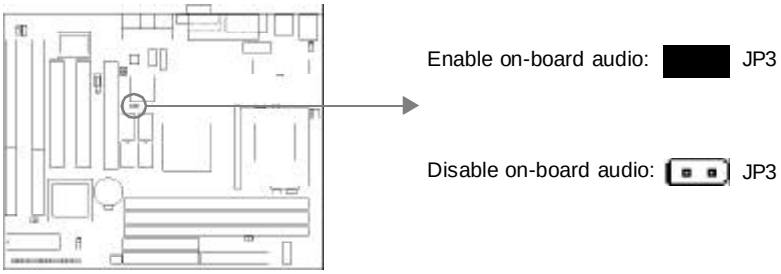
Clear CMOS:

JCC

(Unplug the AC power supply)

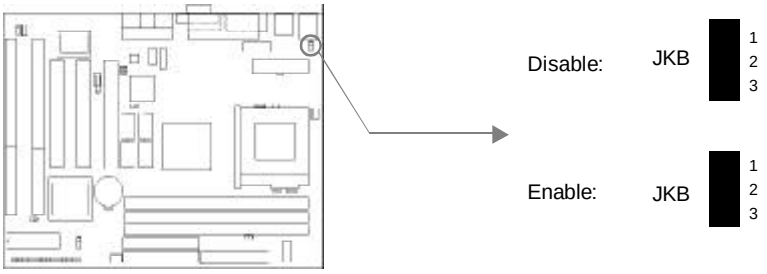
Enable/Disable on-board audio(JP3)

If you want to use the on-board audio, close JP3(default). Otherwise, set JP3 open to disable the on-board audio.



Enable keyboard password power-on function (JKB)

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



In order to implement this function, set "KB Power On Password" from the "Power Management Setup" section of the BIOS. Then you can power up the system either by using the keyboard or by the power switch.

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 the AC power supply cuts off, the keyboard power on password should be set again when the AC power supply resumes, in order to implement this function.

Memory Configuration

This mainboard provides three 168 pin 3.3V un-buffered DIMM sockets to support a flexible memory size ranging from 8MB to 384MB. Both 66MHz and 100MHz SDRAMs are supported. The following set of rules allows optimum configurations.

- The DRAM Timing register, which provides the DRAM speed grade control for the entire memory array, must be programmed to use the timing of the slowest DRAMs installed.
- Possible SDRAM DIMM memory sizes are 8MB, 16MB, 32MB, 64MB, 128MB in each DIMM socket.

Chapter 3
BIOS Description

Utility Support:

FLASH.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 encountering 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 are encountering problems, for example, you find your system doesn't support the new CPU which is 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. Copy FLASH.EXE from the directory \Utility located on the QDI Mainboard Utility CD onto your new bootable diskette.

3. Download the updated BIOS file from the Website (http://www.qdigrp.com). Please be sure to download the suitable BIOS file for your mainboard.

4. Uncompress the file download, 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 FLASH utility at the **A:** prompt. During the process, the system will prompt : ' Do you want to save the BIOS(Y/N)' . If you type ' Y' , the system will prompt for the BIOS name. The system will also display the checksum which should be exactly the same as the checksum you copied from the readme file. Don't turn off power or reset the system until the BIOS upgrade has been completed.

Concerning how to run the FLASH utility, please refer to the following descriptions:

Usage: FLASH [BIOSfile] [/c[<command...>]][/n]

FLASH [BIOSfile] [/g]

/c: Flashing memory will clear previous settings. Default allows settings to remain.

<command> function definition:

c: clear CMOS;

p: clear PnP;

d: clear DMI.

/n: programs BIOS without prompting. If this option is chosen:

Be sure your new BIOS is compatible with your mainboard. If not, the system will be damaged.

/g: Retrieves BIOS file from BIOS ROM.

Examples:

A:\FLASH.EXE BIOSfile.bin

A:\FLASH.EXE BIOSfile.bin /cdpc/n

A:\FLASH.EXE BIOSfile.bin /g

Note: FLASH utility runs incorrectly at Windows DOS prompt.

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 <Del> key or simultaneously press the <Ctrl> + <Alt> + <Esc> keys, to enter the AWARD BIOS CMOS Setup Utility.

Press <Del> to enter SETUP

Once you have entered, the Main Menu (Figure 1) appears on the screen. The main menu allows you to select from nine 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.

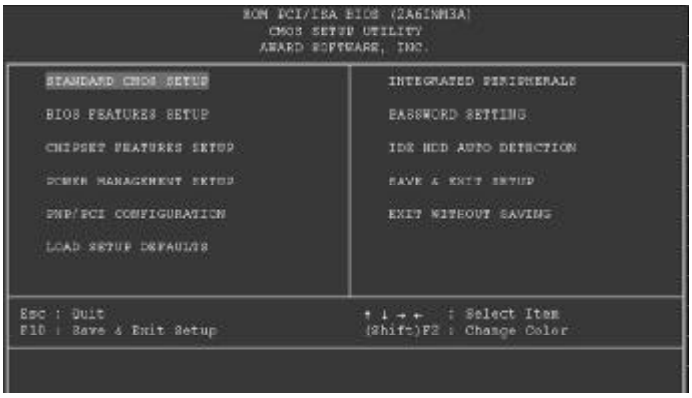


Figure-1 Main Menu

Load Setup Defaults

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

Standard CMOS Setup

The basic CMOS settings included in "Standard CMOS Setup" 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 you want in each item.

Figure-2 Standard CMOS 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

Video

Set this field to the type of video display card installed in your system.

EGA/ VGA	Enhanced Graphics Adapter / Video Graphic Array. For EGA, VGA, SEGA, SVGA, or PGA monitor adapters.
CGA 40	Color Graphic Adapter, powering up in 40 column mode.
CGA 80	Color Graphic Adapter, powering up in 80 column mode.
MONO	Monochrome adapter, including high resolution monochrome adapters.