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U8798 Pro

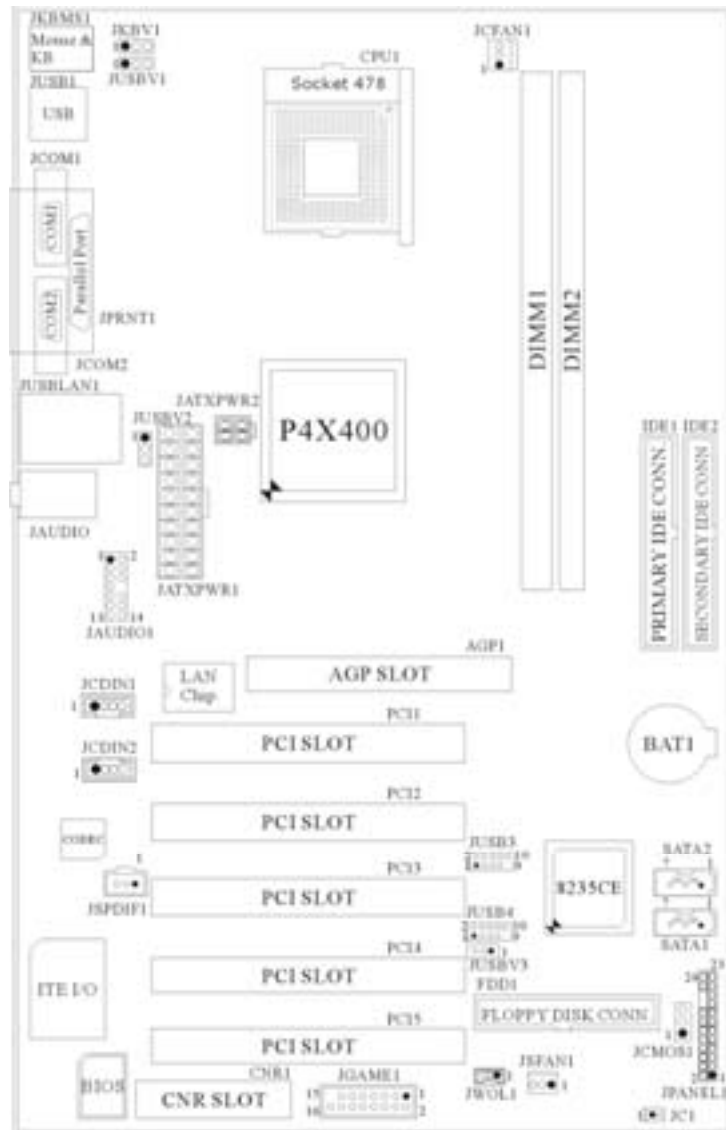
Important Safety Instructions

1. Please read the safety instructions carefully.
2. Please keep this User's Manual for future reference.
3. Don't use liquid or sprayed detergent for cleaning.
4. Please keep this equipment away from humidity.
5. Lay this equipment on a reliable surface when installing. A drop or fall could cause injury.
6. Do not leave this equipment in an environment unconditioned, and storage temperature above 40°C may damage the equipment.
7. Make sure the voltage of the power source when connect the equipment to the power outlet.
8. Place the power cord such a way that people will not step on it. Do not place anything over the power cord.
9. Always unplug the power cord before inserting any add-on card or module.
10. All cautions and warnings on the equipment should be noted.
11. Never pour any liquid into the opening that could damage or cause electrical shock.
12. If any of the following situations occurs, get the equipment checked by a service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated into the equipment.
 - The equipment has been exposed to moisture.
 - The equipment has not work well or you cannot get it work according to User's Manual.
 - The equipment has dropped and damaged.
 - The equipment has an obvious sign of breakage.
13. Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacture

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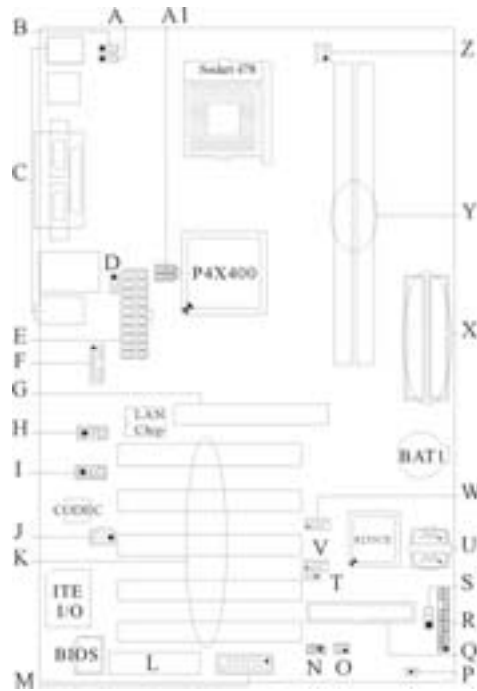
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Layout of U8798 Pro



※NOTE: ● represents the first pin.

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English

1. U8798 Pro Features

A. Hardware

CPU

- Provides Socket 478
- Supports the Intel® processor.
- Front Side Bus at 400/533 MHz.

Chipset

- North Bridge: VIA P4X400
- South Bridge: VIA VT8235.

Main Memory

- Supports up to 2 DDR devices.
- Supports 200/266/333/400 MHz DDR devices.
- Maximum memory size of 2GB.

Super I/O

- Chip: ITE IT8705.

Slots

- Five 32- PCI bus master slots.
- One AGP slot.
 - supports AGP4X/ AGP8X.
- One CNR slot.

On Board IDE

- Supports four IDE disk drives
- Supports PIO Mode 4, Bridge Mode and Ultra DMA 33/66/100/133 Bus Master Mode.

On Board AC'97 Sound Codec

- Chip: CMI9739A
- Compliant with AC'97 specification.
- AC'97 2.2 interface.
- Supports 6 channels.

On Board Peripherals

- 1 floppy port supports 2 FDDs with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes.
- 2 serial ports.
- 1 parallel port. (SPPEPP/ECP mode)
- 1 vertical audio port
- 1 LAN port.
- PS/2 mouse and PS/2 keyboard.

-
-
- Supports 6 USB2.0 ports. (front*2 + rear*4)

Dimensions

- ATX Form Factor: 20.5 X 30.5cm. (W X L)

B. BIOS & Software

BIOS

- Award legal Bios.
- APM1.2.
- ACPI.
- USB Function.

Software

- Supports Warpspeeder™, 9th Touch™, FLASHER™, WinFlasher™ and StudioFun! (optional).
- Offers the highest performance for Windows 98 SE, Windows 2000, Windows Me, Windows XP, SCO UNIX etc.

2. Package contents

- HDD Cable X1
- FDD Cable X1
- User's Manual X1
- USB Cable X1 (optional)
- Rear I/O Panel or ATX Case X1 (optional)
- Fully Setup Driver CD X1
- StudioFun! Application CD X1 (optional)

3. How to setup Jumper

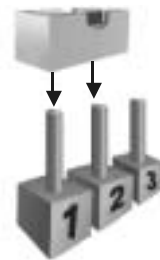
The illustration shows how jumpers are setup. When the Jumper cap is placed on pins, the jumper is "**close**". If no jumper cap is placed on the pins, the jumper is "**open**". The illustration shows a 3-pin jumper whose pin 1 and 2 are "**close**" when jumper cap is placed on these 2 pins.



Jumper close



Jumper open



Pin 1-2 close

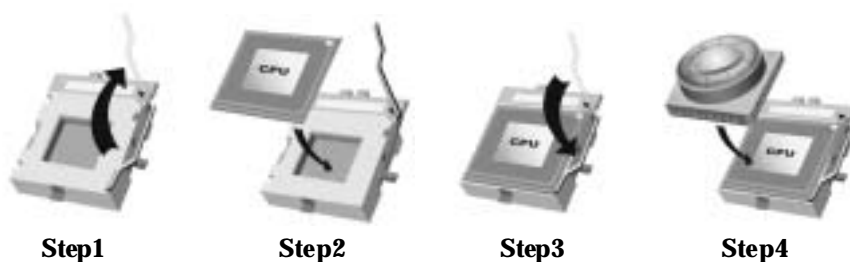
4. CPU Installation

Step1: Pull the lever sideways away from the socket and then raise the lever up to a 90-degree angle.

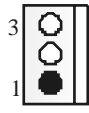
Step2: Look for the white dot/cut edge. The white dot/cut edge should point towards the lever pivot. The CPU will fit only in the correct orientation.

Step3: Hold the CPU down firmly, and then close the lever.


Step4: Put the CPU fan on the CPU and buckle it. Connect the CPU fan power cable to the JCFAN1. This completes the installation.



CPU Fan Headers: JCFAN1

 JCFAN1	Pin No.	Assignment
	1	Ground
	2	+12V
	3	FAN rpm Rate Sense

System Fan Headers: JSFAN1

 JSFAN1	Pin No.	Assignment
	1	Ground
	2	+12V
	3	FAN rpm Rate Sense

5. DDR DIMM Modules: DIMM1/ DIMM2

DRAM Access Time: 2.5/ Unbuffered DDR 200/266/333/400 MHz Type required.

DRAM Type: 64MB/ 128MB/ 256MB/ 512MB/ 1GB DIMM Module (184 pin)

Total Memory Size with Unbuffered DIMMs

DIMM Socket Location	DDR Module	Total Memory Size (MB)
DIMM1	64MB/128MB/256MB/512MB/1GB *1	Max is 2GB
DIMM2	64MB/128MB/256MB/512MB/1GB *1	

Only for reference

Installing DDR Module

1. Unlock a DIMM slot by pressing the retaining clips outward. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot.
2. Insert the DIMM firmly and vertically into the slot until the retaining chip snap back in place and the Dimm is properly seated.



6. Jumpers, Headers, Connectors & Slots

(1) Floppy Disk Connector: FDD1

The motherboard provides a standard floppy disk connector that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types. This connector supports the provided floppy drive ribbon cables.

(2) Hard Disk Connectors: IDE1/ IDE2

The motherboard has a 32-bit Enhanced PCI IDE Controller that provides PIO Mode 0-4, Bus Master, and Ultra DMA 33/ 66/ 100/ 133 functionality. It has two HDD connectors IDE1 (primary) and IDE2 (secondary).

The IDE connectors can connect a master and a slave drive, so you can connect up to four hard disk drives. The first hard drive should always be connected to IDE1.

(3) Peripheral Component Interconnect Slots: PCI 1-5

This motherboard is equipped with 5 standard PCI slots. PCI stands for Peripheral Component Interconnect, and it is a bus standard for expansion cards. This PCI slot is designated as 32 bits.

(4) Accelerated Graphics Port Slot: AGP1

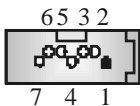
Your monitor will attach directly to that video card. This motherboard supports video cards for PCI slots, but it is also equipped with an Accelerated Graphics Port (AGP). An AGP card will take advantage of AGP technology for improved video efficiency and performance, especially with 3D graphics.

(5) Communication Network Riser Slot: CNR1

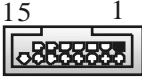
The CNR specification is an open Industry Standard Architecture, and it defines a hardware scalable riser card interface, which supports modem only.

(6) Serial ATA Connector: JSATA1/ JSATA2 (optional)

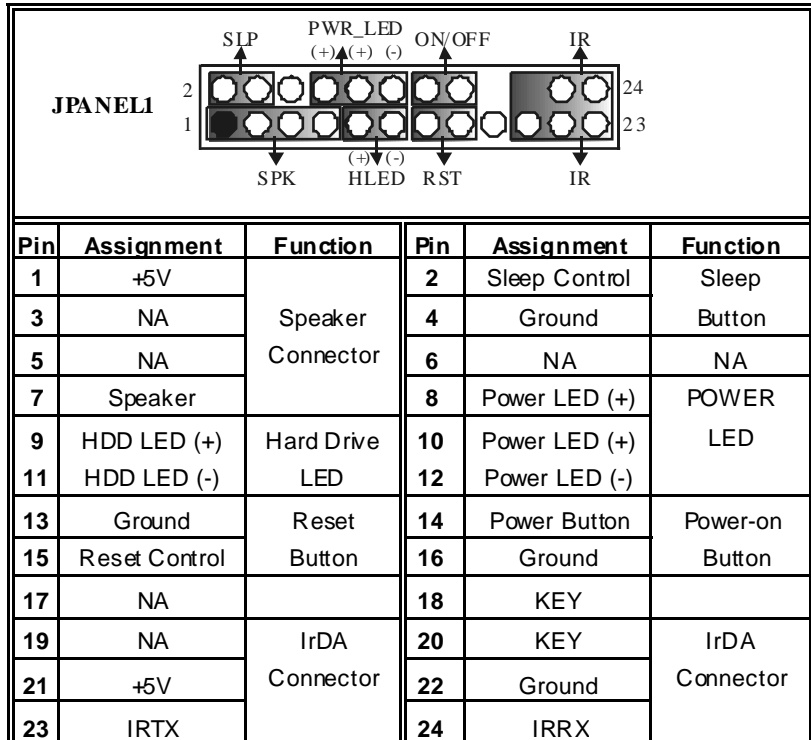
The motherboard has a PCI to SATA Controller with 2 channels SATA interface, it satisfies the SATA 1.0 spec and can transfer data with 1.5GHz speed.

 JSATA1/ JSATA2	Pin	Assignment	Pin	Assignment
	1	Ground	2	TX+
	3	TX-	4	Ground
	5	RX-	6	RX+
	7	Ground		

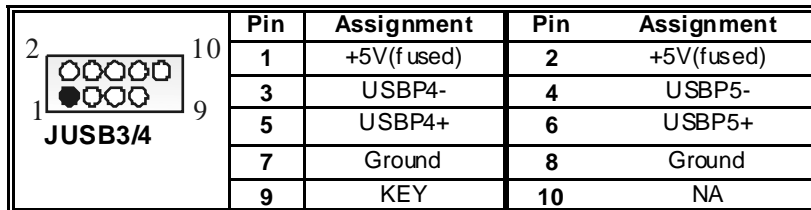
(7) Game Header: JGAME1

 JGAME1			
Pin	Assignment	Pin	Assignment
1	+5V	2	+5V
3	Joy stick B Button 1	4	Joy stick A Button 1
5	Joy stick B Coordinate X	6	Joy stick A Coordinate X
7	MDI Output	8	Ground
9	Joy stick B Coordinate Y	10	Ground
11	Joy stick B Button 2	12	Joy stick A Coordinate Y
13	MDI Input	14	Joy stick A Button 2
15	NA	16	+5V

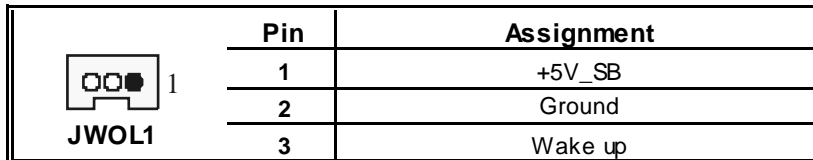
(8) Front Panel Connector: JPANEL1



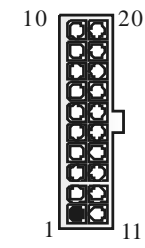
(9) Front USB Header: JUSB3/ (JUSB4→ optional)




(10) Wake On LAN Header: JWOL1

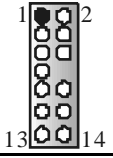


(11) Power Connectors: JATXPWR1

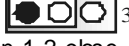
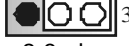
 <p>JATXPWR1</p>	PIN	Assignment	PIN	Assignment
	1	+3.3V	11	+3.3V
	2	+3.3V	12	-12V
	3	Ground	13	Ground
	4	+5V	14	PS_ON
	5	Ground	15	Ground
	6	+5V	16	Ground
	7	Ground	17	Ground
	8	PW_OK	18	-5V
	9	Standby Voltage +5V	19	+5V
10	+12V	20	+5V	

 <p>JATXPWR2</p>	PIN	Assignment	PIN	Assignment
	1	+12V	3	Ground
	2	+12V	4	Ground

(12) Front Panel Audio Header: JAUDIO1



 <p>JAUDIO1</p>			
Pin	Assignment	Pin	Assignment
1	Mic In/ Center	2	Ground
3	Mic Power/ Bass	4	Audio Power
5	Right Line Out/ Speaker Out Right	6	Right Line Out/ Speaker Out Right
7	Reserved	8	Key
9	Left Line Out/ Speaker Out Left	10	Left Line Out/ Speaker Out Left
11	Right Line In/ Rear Speaker Right	12	Right Line In/ Rear Speaker Right
13	Left Line In/ Rear Speake Left	14	Left Line In/ Rear Speaker Left

(13) Power Source Selection for Keyboard\Mouse: JKBV1

JKBV1	Assignment	Description
 Pin 1-2 close	+5V	+5V for key board and mouse
 Pin 2-3 close	+5V Standby Voltage	PS/2 Mouse and PS/2 Key board are powered with +5V standby voltage



Note: In order to support this function "Power-on the system via keyboard and mouse, "JKBV1" jumper cap should be placed on pin 2-3.

(14) Power Source Selection for USB: JUSBV1/ JUSBV2/ JUSBV3

JUSBV1/JUSBV2/ JUSBV3	Assignment	Description
 Pin 1-2 close	+5V	JUSBV1: 5V for USB located at the JUSB1 connector port JUSBV2: 5V for USB located at the JUSBLAN1 connector port JUSBV3: 5V for USB located at the JUSB3/4 connector ports
 Pin 2-3 close	+5V Standby Voltage	JUSBV1: JUSB1 port powered with standby voltage of 5V JUSBV2: JUSBLAN1 port powered with standby voltage of 5V JUSBV3: JUSB3/4 port powered with standby voltage of 5V

Note: In order to support this function "Power-on the system via USB device, "JUSBV1/JUSBV2/JUSBV3" jumper cap should be placed on pin 2-3 respectively.

(15) Clear CMOS Jumper: JCMOS1

JCMOS1	Assignment
 <p>Pin 1-2 Close</p>	Normal Operation (default)
 <p>Pin 2-3 Close</p>	Clear CMOS Data




The following procedures are for resetting the BIOS password. It is important to follow these instructions closely.


※ **Clear CMOS Procedures :**

1. Remove AC power line.
2. Set the jumper to "Pin 2-3 close".
3. Wait for five seconds.
4. Set the jumper to "Pin 1-2 close".
5. Power on AC.
6. Reset your desired password or clear the CMOS data.


(16) Case Open Connector: JC1

 <p>JC1</p>	Pin	Assignment
	1	Case Open Signal
	2	Ground

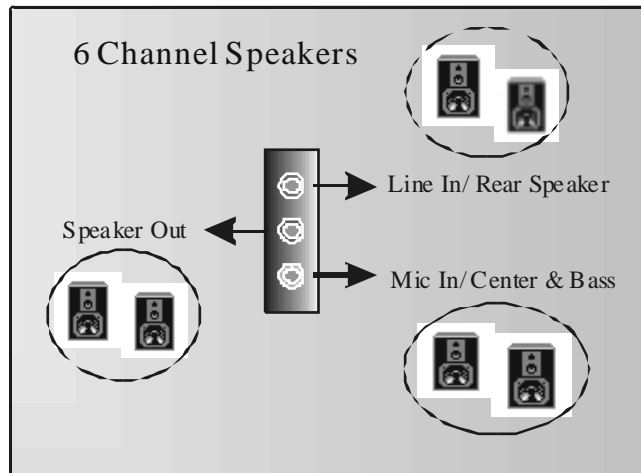
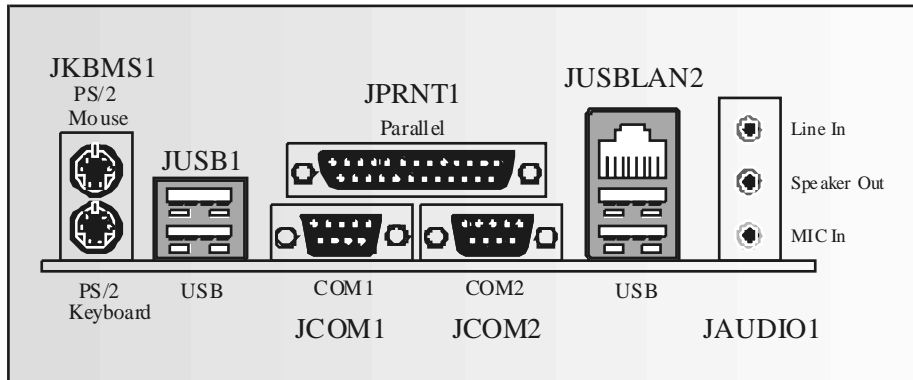
(17) CD-ROM Audio-In Header: JCDIN1/ (JCDIN2→ optional)

 <p>JCDIN1/ JCDIN2</p>	Pin	Assignment
	1	Left Channel Input
	2	Ground
	3	Ground
	4	Right Channel Input

(18) Digital Audio Connector: JSPDIF1

 <p>JSPDIF1</p>	Pin	Assignment
	1	+5V
	2	SPDIF_OUT
	3	Ground

(19) Back Panel Connectors



StudioFun!™

Introduction

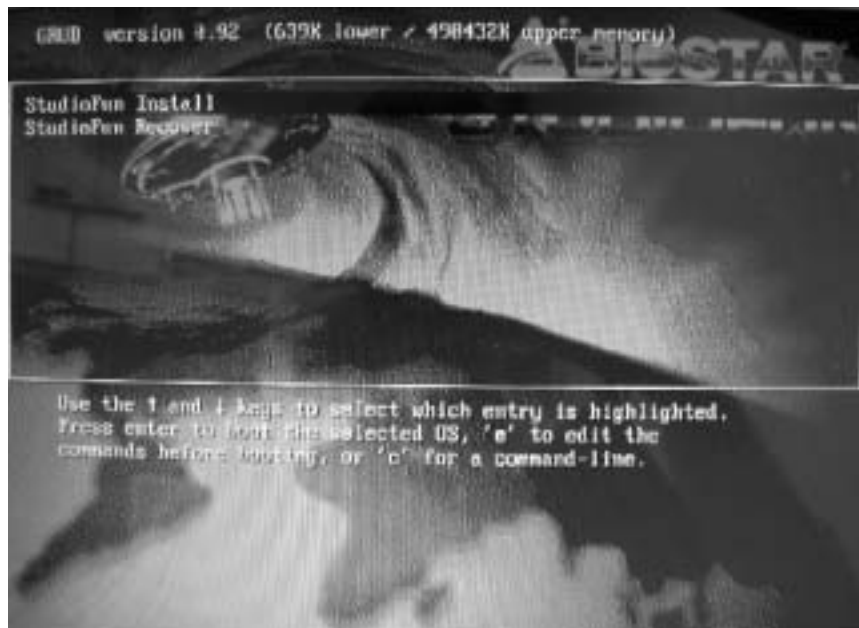
StudioFun!™ is a media-player based on optimized GNU/Linux distribution to bring a "Room Theater" experience into life. It plays DVD, VCD, MP3, Audio CD and other multimedia. Furthermore, Users can take snapshots of video and customize the saved images as screensavers or photo slideshows. Of course, the images can be stored in USB mass storage devices like flash disks and USB floppy disks.

Hardware Requirements

The supported hardware list of StudioFun! updates regularly. So please check the "hwreq.txt" located in the root of StudioFun! Application Pack CD to get the latest supporting information.

Installation Procedure

Insert the "StudioFun! Application Pack CD" in a CD/DVD ROM drive and let the system boot through the CD. The disk will boot and bring up the grub boot loader installation menu. Two options are specified: "StudioFun Install" and "StudioFun Recover".



StudioFun! Install

This option will do the basic installation of the distribution. The installation works on pre-installed windows or GNU/Linux distribution.

On selecting the "StudioFun Install" option the installer boots and displays a dialog box indicating the space required and waits for a confirmation. Selecting "Ok" will continue the installation while selecting "Cancel" will terminate the installation and reboot the machine.

If Windows or GNU/Linux is the only OS installed on the hard disk with no free space, it will resize the partition, either NTFS or FAT32 or ext2, and install StudioFun!. *If the hard disk has a 128MB of free space available, the installation will use the free space.*

After installing the base system you will be prompted to select the resolution from the following choices

1. 1024x768 (recommended)
2. 800x600
3. 640x480

Select the desired resolution. The default is 1024x768 or high-end graphics.

Next you will be prompted to choose the DVD area/region selection code. Choose this based on the type of DVD you will be playing.

The installation procedure will then probe for the type of mouse installed. The distribution currently supports PS/2, USB and Serial mice. In case of serial mouse you will have to move the mouse when prompted. The other two are probed and installed automatically.

The installation procedure will now finish, the CD is ejected and a dialog box prompting to reboot the machine is displayed. Press "OK" button and enjoy StudioFun!.

3.1.1 Error Messages

1. Media corrupted! Please check the media! The CD-ROM is corrupted
2. Extraction of base system failed!! Please try again later!! The CD-ROM is corrupted.
3. Unsupported hardware found. Aborting... If you try to install StudioFun! on an unsupported and undocumented hardware the above error message is popped.
4. No device found! This error message is given if there is no hard disk in the system.

StudioFun! Recover

Where there is a MBR (Master Boot record) corruption, the “StudioFun Recover” will automatically probe the hard disk master boot record and find out the installed operating system(s). Once success, it will re-install the boot loader with correct options in the MBR. Please be noted that the newly probed one will over write any custom boot loader option specified from other GNU/Linux installations.

Booting to StudioFun!

After the Installation, remove the CD from the CD-ROM and restart the system. After the rebooting, you will get the “GRUB boot loader menu screen”. Select the StudioFun! Option to boot to the StudioFun! Partition.



After executing the boot up, you will see the main Desktop screen. The following section is a complete description of the Desktop application.

Desktop



This is the main shell of the StudioFun! software. It illustrates two main categories, one is the main "Media Control" part and the other is the "Control Panel".

Media control

The Media Control consists of the following functionalities:

1. VCD

This control icon will glow whenever a VCD is detected in a DVD/CD-ROM drive. The VCD will be auto-played *only* when it is put in to the drive when the Desktop (StudioFun! shell) is up and running whereas the control will simply glow to inform the user about a VCD present in the DVD/CD-ROM drive when the Desktop is not launched.

2. DVD

This control will glow whenever a DVD is detected in a DVD drive. The DVD will be auto-played *only* when it is put in to the drive when the Desktop (StudioFun! shell) is up

and running, otherwise, the control will simply glow to inform the user about a DVD present in the DVD/CD-ROM.

3. MP3

This control will glow whenever a MP3 is detected in a DVD/CD-ROM drive. The MP3 will be auto-played *only* when it is put in to the drive when the Desktop (StudioFun! shell) is up and running, otherwise, the control will simply glow to inform the user about a MP3 present in the DVD/CD-ROM drive.

4. AUDIO

This control will glow whenever a AUDIO is detected in a DVD/CD-ROM drive. The AUDIO will be auto-played *only* when it is put in to the drive when the Desktop (StudioFun! shell) is up and running, otherwise, the control will simply glow to inform the user about a AUDIO present in the DVD/CD-ROM drive.

5. FILE

This control will glow whenever a File CD (CDs with other media type files) is detected in a DVD/CD-ROM drive. The File CD will be auto-played *only* when it is put in to the drive when the Desktop (StudioFun! shell) is up and running, otherwise, the control will simply glow to inform the user about a File CD present in the DVD/CD-ROM drive.

6. EJECT MEDIA

When clicked this control, the file disk from the DVD/CD-ROM drives will be ejected.

7. EXIT

This is the "Power on/off" control of the Desktop (StudioFun! shell).

Control Panel

The Control panel part has five icons, which are shortcuts to other applications present in the StudioFun!. Tool tips will pop up once the mouse is rolled to the icons

1. Select Region

Clicking this icon will invoke the application for selection DVD region settings. Refer to section 5.2 Select DVD Region application for more details.

2. Screensaver

Clicking this icon will invoke the screensaver application. Refer to section 5.3 **Screensaver** for more details.

3. Display Settings

Clicking this icon will invoke the application for changing the screen resolutions. Refer to section 5.4, **Display Settings** for more details.

4. File Manager

Clicking this icon will invoke the file manager. Refer to section 5.6 **File manager** for more details.

When user has a DVD and a CD-ROM Drive, DVD Drive has the priority:

If user has both DVD and a CD-ROM drive, DVD drive will be given the preference when both the drives hold valid media in them, i.e., if the CD-ROM drive has a media and a DVD drive also has a media, and the StudioFun! is started, the disk inside the DVD drive will be played.

Other general user scenarios

When a user clicks on any of the media-controls when it is not glowing, except the eject media and exit, the media-player will just come up and wait for user input.

Software Details

XINE



XINE is a multimedia player. It plays back Audio CD, DVD, and VCD. It also decodes multimedia files like AVI, MOV, WMV, and MP3 from local disk drives. It interprets most of the common multimedia formats.

- **Features of Xine**

- a. Skinnable GUI
- b. Navigation controls (seeking, pause, fast, slow, next chapter, etc)
- c. On Screen Display (OSD) features
- d. DVD and external subtitles
- e. DVD/VCD menus (requires external plug-in)
- f. Audio and subtitle channel selection
- g. Closed Caption support
- h. Brightness, contrast, audio volume, hue, saturation (adjusting requires hardware/driver support)
- i. Playlist
- j. Image snapshot
- k. Audio re-sampling
- l. Software de-interlacing algorithms
- m. Configuration dialog
- n. Aspect ratio changing
- o. Full-screen display

- **Supported File Formats**

- a. Video CD
- b. MPEG program streams (.mpg .mpeg)
- c. ogg (.ogg) avi (.avi)
- d. asf (.asf, .wmv)
- e. QuickTime (.mov)
- f. MPEG-Video (.mpv, .m2v)
- g. MPEG-Audio (.mp2, .mp3)
- h. WAV (.wav) Video CODEC
- i. MPEG 1/2
- j. MPEG 4 (aka OpenDivX)
- k. MSMPEG 4
- a. Chapter 5: Software Details 10
- l. Windows Media Video 7
- m. Motion JPEG

- **Remote Control Support.**

- a. Infrared interface
-
-

-
-
- b. User-friendly

- **Usage of StudioFun! with CelomaChrome skin**

- a. Select VCD button to play a VCD disc
- b. Select DVD button to play a DVD disc
- c. Select CDDA button to play a Audio CD
- d. Select next chapter or MRL (>>|) button to play next track in Audio CD, VCD and MP3 songs and to play next chapter in DVD
- e. Select previous chapter or MRL (|<<) button to play previous track in Audio CD, VCD and MP3 songs and to play previous chapter in DVD
- f. Select slow motion (<<) button to play the video / audio in slow motion (Select play button after reaching the required position)
- g. Select fast motion (>>) button to play the video / audio in fast motion (Select play button after reaching the required position)
- h. Select subs +/- button to select the appropriate subtitle (Usable while playing)
- i. Select audio +/- button to select the appropriate audio track (For example when
- j. The DVD contains one audio track in English and the other with some other language,
- k. Usable while playing DVD's)
- l. Select "hide button" to hide the control panel of the player
- m. Select "menu" button to use menu while playing DVD
- n. Select "control" button to adjust brightness / color
- o. Select "setup" button to modify the settings of the player
- p. Select "f.scr" button to show the video output of the player in full screen mode
- q. Select "snap" button to take a snapshot of the currently playing video
- r. Select "plist" button to add / remove / manage play list
- s. Select "mrl" button to add new file to play

Select Region

Overview

Select region is a utility to set a DVD region. With the help of this application user can set or change a DVD region. Only one region can be set at a time.

About Select Region

With the help of this application you can set a region for DVD. Only one region can be set at a time. If you keep the mouse pointer on any region, you can view the countries, which comes under that region.

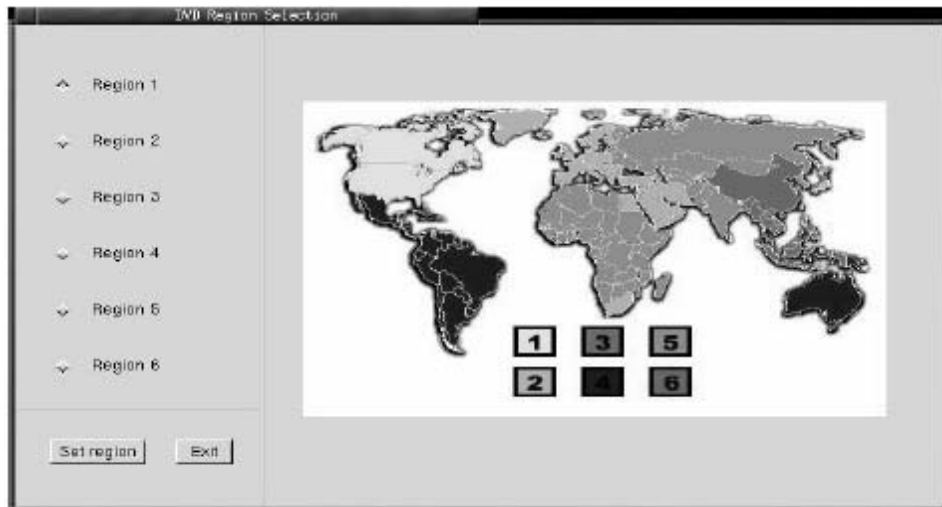
“Ok” - Click to set the selected region.

“Cancel” - Click to quit the application.

How to select DVD region

You can select only one region at a time. You can change your selection by clicking on any other region.

- A snapshot of the application is shown below:



Screensaver

Screensaver

The xscreensaver daemon waits until the keyboard and mouse have been idle for a period, and then runs a graphics demo chosen at random. The demo is terminated as soon as there is any mouse or keyboard activity.

The xscreensaver-demo program is the graphical user interface to xscreensaver. It lets you tune the various parameters used by the xscreensaver daemon, and browse through the graphics demos.

StudioFun! comes with xscreensaver when you click on the screensaver icon the application comes up. Then user can choose various graphics demos like chbg,halo,hypercube or hyperball.

Screensaver comes with various options

- **Preview Option:** When a user selects a particular graphics demo and clicks on preview button the demo comes up

- **Blank After Option:** The screensaver will blank the screen after the keyboard and mouse have been idle default time is 1 minute and user can change the settings.

- **Cycle After Option:** When screensaver is running this cycle time defines the time limit for each screensaver.

- **Mode Screensaver comes with various modes:**
 1. **Random Screen Saver:** When user chooses this option, Screensaver cycles through various graphics demos randomly
 2. **Only one Screen Saver:** When user chooses this option, screensaver displays only one graphics demo.
 3. **Blank Screen Only:** When user chooses this option, screensaver only blanks the screen instead of displaying the graphics demo.
 4. **Disable Screen Saver:** When user chooses this option, screensaver is disabled.

- **Various Graphics Demos**

XScreensaver comes with various screensaver

Chbg: This screensaver displays the images stored in StudioFun! the time gap between images is 5 seconds.

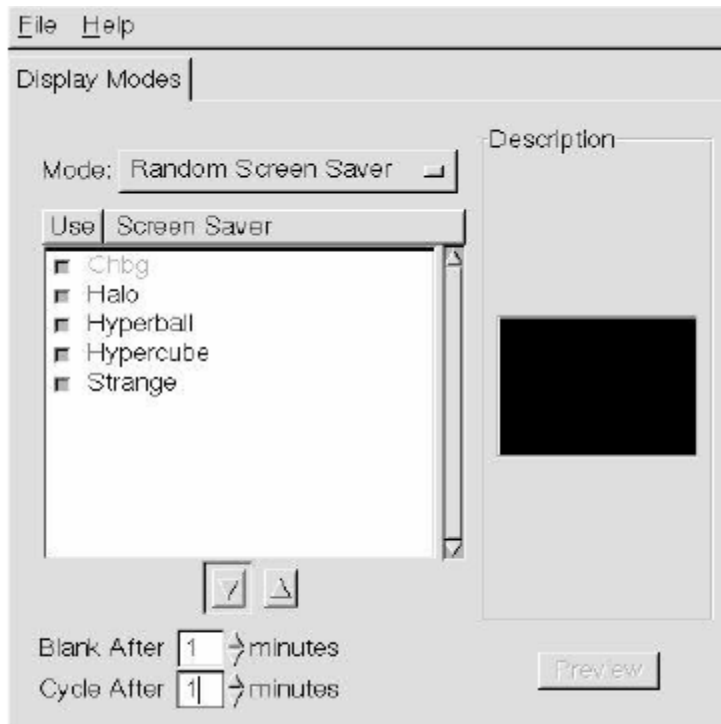
Hyperball

Hypercube

Halo

Strange

- A snapshot of the application is shown below:



Display Settings

Display Settings

Display setting is a program to change the current resolution settings of the Display. By default user of StudioFun! will be given a choice to select between any of the following three resolutions.

- 640x480
- 800x600
- 1024x768

The current resolution of the Display will be selected by default. It requires restart of the StudioFun! to reflect the changes made.

File Manager

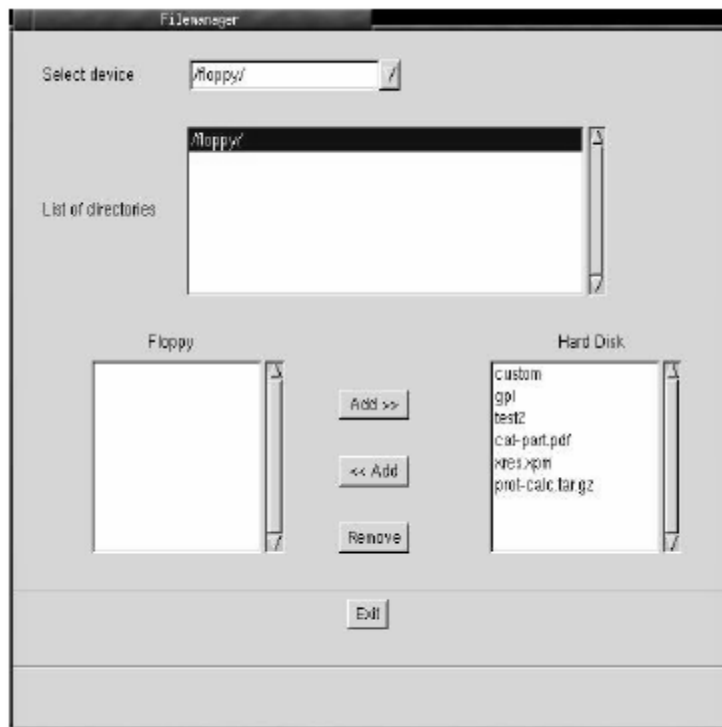
Overview

File manger is a utility to copy files from deferent devices to hard disk and vice versa. User can copy files from devices such as, floppy, CD-Rom and Flashdisk to hard disk and also from hard disk to floppy and Flashdisk.

About File manager

The hard disk files are stored in a directory called "/studio/un" on the hard disk. You can also delete files from hard disk, but you cannot delete files from any device.

- ✧ Select device - Contains the device names /floppy, /cdrom and /flashdisk. Select a device from/to which you want to copy files. **Please double click the device option twice to mount the device.**
- ✧ List Directories - Shows the list of directories of the selected device after double clicking it.
- ✧ Floppy/cdrom/Flashdisk - Shows the contents of the selected directory from the "List directories" field after double clicking it.
- ✧ Hard disk - Shows the contents of a directory called "/studio/un".
- ✧ Add (>>) - Click to copy selected files from a device to hard disk.
- ✧ Add (<<) - Click to copy selected files from hard disk to a device.
- ✧ Remove - Click to delete files from hard disk.
- ✧ Exit - Click to quit the application.



WarpSpeeder



Introduction

[WarpSpeeder™], a new powerful control utility, features three userfriendly functions including Overclock Manager, Overvoltage Manager, and Hardware Monitor.

With the Overclock Manager, users can easily adjust the frequency they prefer or they can get the best CPU performance with just one click. The Overvoltage Manager, on the other hand, helps to power up CPU core voltage and Memory voltage. The cool Hardware Monitor smartly indicates the temperatures, voltage and CPU fan speed as well as the chipset information. Also, in the About panel, you can get detail descriptions about BIOS model and chipsets. In addition, the frequency status of CPU, memory, AGP and PCI along with the CPU speed are synchronically shown on our main panel.

Moreover, to protect users' computer systems if the setting is not appropriate when testing and results in system fail or hang, [WarpSpeeder™] technology assures the system stability by automatically rebooting the computer and then restart to a speed that is either the original system speed or a suitable one.

System Requirement

OS Support: Windows 98 SE, Windows Me, Windows 2000, Windows XP

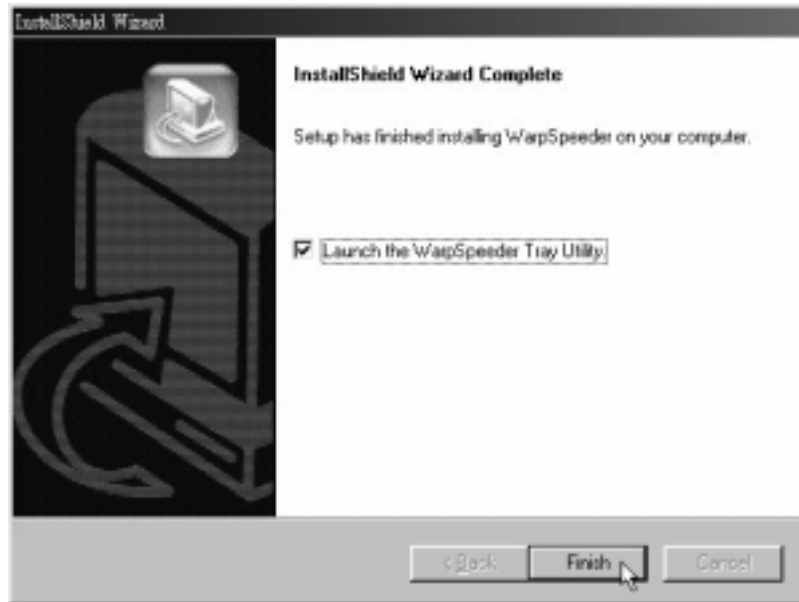
DirectX: DirectX 8.1 or above. (The Windows XP operating system includes DirectX 8.1. If you use Windows XP, you do not need to install DirectX 8.1.)

Installation

1. Execute the setup execution file, and then the following dialog will pop up. Please click “Next” button and follow the default procedure to install.



2. When you see the following dialog in setup procedure, it means setup is completed. If the “Launch the WarpSpeeder Tray Utility” checkbox is checked, the Tray Icon utility and [WarpSpeeder™] utility will be automatically and immediately launched after you click “Finish” button.



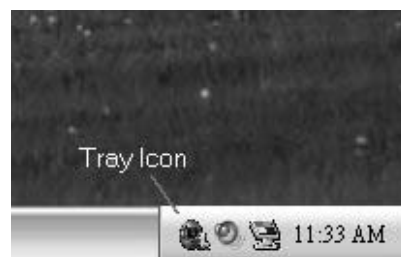
Usage

The following figures are just only for reference, the screen printal in this user manual will change according to your motherboard on hand.

[WarpSpeeder™] includes 1 tray icon and 5 panels:

1. Tray Icon:

Whenever the Tray Icon utility is launched, it will display a little tray icon on the right side of Windows Taskbar.



This utility is responsible for conveniently invoking [WarpSpeeder™] Utility. You can use the mouse by clicking the left button in order to invoke [WarpSpeeder™] directly from the little tray icon or you can right-click the little tray icon to pop up a popup menu as following figure. The “Launch Utility” item in the popup menu has the same function as mouse left-click on tray icon and “Exit” item will close Tray Icon utility if selected.



2. Main Panel

If you click the tray icon, [WarpSpeeder™] utility will be invoked. Please refer to the following figure; the utility's first window you will see is Main Panel.

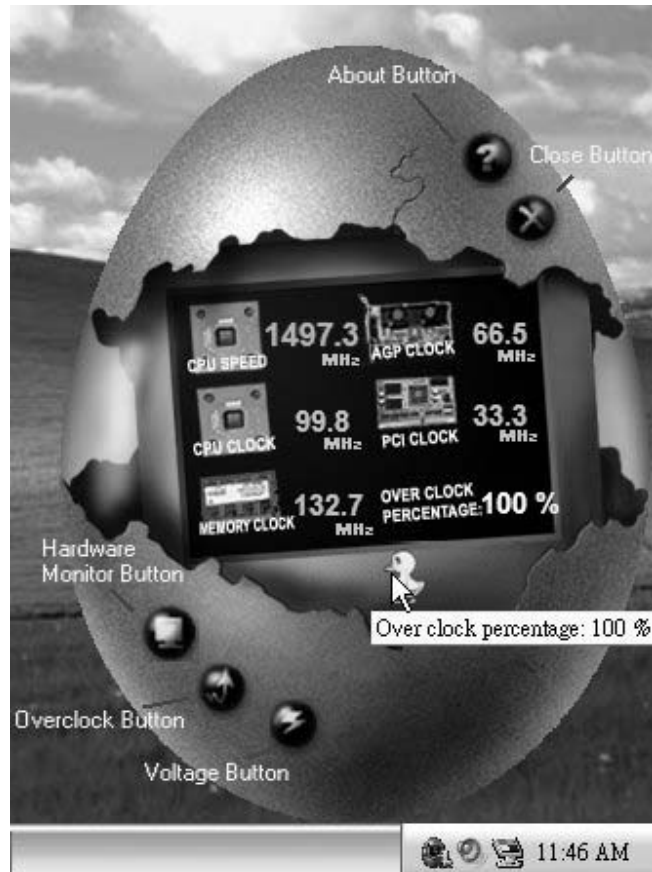
Main Panel contains features as follows:

- a. Display the CPU Speed, CPU external clock, Memory clock, AGP clock, and PCI clock information.
- b. Contains About, Voltage, Overclock, and Hardware Monitor Buttons for invoking respective panels.
- c. With a user-friendly Status Animation, it can represent 3 overclock percentage stages:

Duck walking => overclock percentage from 100% ~ 110 %

Duck running => overclock percentage from 110% ~ 120%

Duck burning => overclock percentage from 120% ~ above



3. Voltage Panel

Click the Voltage button in Main Panel, the button will be highlighted and the Voltage Panel will slide out to up as the following figure.

In this panel, you can decide to increase CPU core voltage and Memory voltage or not. The default setting is "No". If you want to get the best performance of overclocking, we recommend you click the option "Yes".



4. Overclock Panel

Click the Overclock button in Main Panel, the button will be highlighted and the Overclock Panel will slide out to left as the following figure.

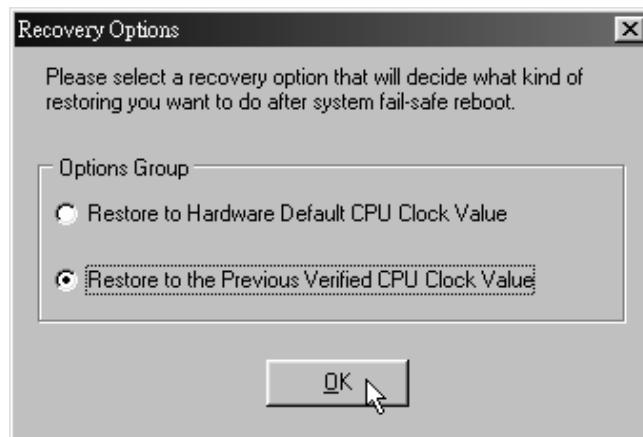


Overclock Panel contains these features:

- a. “-3MHz button”, “-1MHz button”, “+1MHz button”, and “+3MHz button”: provide user the ability to do real-time overclock adjustment.

Warning: Manually overdock is potentially dangerous, especially when the overcbocking percentage is over 110 %. We strongly recommend you verify every speed you overclock by click the Verify button. Or, you can just click Auto overclock button and let [WarpSpeeder™] automatically gets the best result for you.

- b. “Recovery Dialog button”: Pop up the following dialog. Let user select a restoring way if system need to do a fail-safe reboot.



- c. "Auto-overclock button": User can click this button and [WarpSpeeder™] will set the best and stable performance and frequency automatically. [WarpSpeeder™] utility will execute a series of testing until system fail. Then system will do fail-safe reboot by using Watchdog function. After reboot, the [WarpSpeeder™] utility will restore to the hardware default setting or load the verified best and stable frequency according to the Recovery Dialog's setting.
- d. "Verify button": User can click this button and [WarpSpeeder™] will proceed a testing for current frequency. If the testing is ok, then the current frequency will be saved into system registry. If the testing fail, system will do a fail-safe rebooting. After reboot, the [WarpSpeeder™] utility will restore to the hardware default setting or load the verified best and stable frequency according to the Recovery Dialog's setting.

Note: Because the testing programs, invoked in Auto-overclock and Verify, include DirectDraw, Direct3D and DirectShow tests, the DirectX 8.1 or newer runtime library is required. And please make sure your display card's color depth is High color (16 bit) or True color (24/32 bit) that is required for Direct3D rendering.

5. Hardware Monitor Panel

Click the Hardware Monitor button in Main Panel, the button will be highlighted and the Hardware Monitor panel will slide out to left as the following figure.

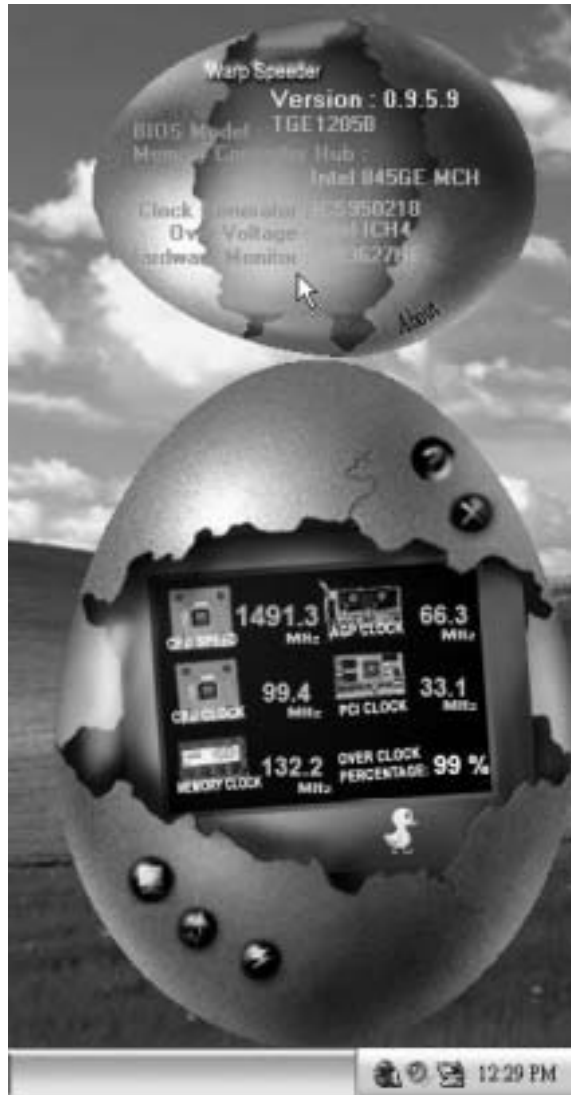
In this panel, you can get the real-time status information of your system. The information will be refreshed every 1 second.



6. About Panel

Click the About button in Main Panel, the button will be highlighted and the About Panel will slide out to up as the following figure.

In this panel, you can get model name and detail information in hints of all the chipset that are related to overclocking. You can also get the mainboard's BIOS model and the Version number of [WarpSpeeder™] utility.



Note: Because the overclock, overvoltage, and hardware monitor features are controlled by several separate chipset, [WarpSpeeder™] divide these features to separate panels. If one chipset is not on board, the correlative button in Main panel will be disabled, but will not interfere other panels' functions. This property can make [WarpSpeeder™] utility more robust.

Trouble Shooting

PROBABLE	SOLUTION
No power to the system at all; power light doesn't illuminate; fan inside power supply does not turn on. Indicator light on keyboard does not turn on.	<ul style="list-style-type: none"> * Make sure power cable is securely plugged in. * Replace cable. * Contact technical support.

PROBABLE	SOLUTION
System inoperative. Keyboard lights are on, power indicator lights are lit, and hard drive is spinning.	<ul style="list-style-type: none"> * Using even pressure on both ends of the DIMM, press down firmly until the module snaps back in place.

PROBABLE	SOLUTION
System does not boot from hard disk drive, but it can be booted from CD-ROM drive.	<ul style="list-style-type: none"> * Check cable running from disk to disk controller board. Make sure both ends are securely plugged in; check the drive type in the standard CMOS setup. * Backing up the hard drive is extremely important. All hard disks are capable of breaking down at any time.

PROBABLE	SOLUTION
System only boots from CD-ROM. Hard disk can be read and applications can be used but booting from hard disk is impossible.	<ul style="list-style-type: none"> * Back up data and applications files. Reformat the hard drive. Re-install applications and data using backup disks.

PROBABLE	SOLUTION
Screen message says "Invalid Configuration" or "CMOS Failure."	<ul style="list-style-type: none"> * Review system's equipment. Make sure correct information is in setup.

PROBABLE	SOLUTION
Cannot boot system after installing second hard drive.	<ul style="list-style-type: none"> * Set master/slave jumpers correctly. * Run SETUP program and select correct drive types. Call drive manufacturers for compatibility with other drives.

PROBABLE	SOLUTION
Error message reading "SECTOR NOT FOUND" or other error messages not allowing certain data to be retrieved.	<ul style="list-style-type: none"> * Back up any salvageable data. Then, low-level format, partition, and high-level format the hard drive. Re-install all saved data when completed.

PROBABLE	SOLUTION
Screen is blank.	<ul style="list-style-type: none"> * Check the power connectors to monitor and to system. Make sure monitor is connected to display card.

PROBABLE	SOLUTION
Screen goes blank periodically.	* Disable screen saver.
PROBABLE	SOLUTION
Memory problem.	* Reboot computer. Reinstall memory, and make sure that all memory modules are installed in correct sockets.
PROBABLE	SOLUTION
Computer virus.	* Use anti-virus programs to detect and clear viruses.
PROBABLE	SOLUTION
Keyboard failure.	* Reconnect keyboard. Check keys again. If no improvement, replace keyboard.
PROBABLE	SOLUTION
No display on screen.	* If possible, connect monitor to another system. If no color still, replace monitor.
PROBABLE	SOLUTION
C: drive failure.	* Check hard drive cable.
PROBABLE	SOLUTION
Missing operating system on hard drive.	* Run setup and select correct drive type.
PROBABLE	SOLUTION
Certain keys do not function.	* Replace keyboard.
PROBABLE	SOLUTION
Keyboard is locked, no keys function.	* Unlock keyboard.

06/18/2003

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U8798 Pro BIOS Setup

BIOS Setup

Introduction

This manual discussed Award™ Setup program built into the ROM BIOS. The Setup program allows users to modify the basic system configuration. This special information is then stored in battery-backed RAM so that it retains the Setup information when the power is turned off.

The Award BIOS™ installed in your computer system's ROM (Read Only Memory) is a custom version of an industry standard BIOS. This means that it supports Intel™ processors input/output system. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports.

Adding important has customized the Award BIOS™, but nonstandard, features such as virus and password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

The rest of this manual is intended to guide you through the process of configuring your system using Setup.

Plug and Play Support

These AWARD BIOS supports the Plug and Play Version 1.0A specification. ESCD (Extended System Configuration Data) write is supported.

EPA Green PC Support

This AWARD BIOS supports Version 1.03 of the EPA Green PC specification.

APM Support

These AWARD BIOS supports Version 1.1&1.2 of the Advanced Power Management (APM) specification. Power management features are implemented via the System Management Interrupt (SMI). Sleep and Suspend power management modes are supported. Power to the hard disk drives and video monitors can be managed by this AWARD BIOS.

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PCI Bus Support

This AWARD BIOS also supports Version 2.1 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

DRAM Support

SDRAM (Synchronous DRAM) are supported.

Supported CPUs

This AWARD BIOS supports the Intel™ CPU.

Using Setup

In general, you use the arrow keys to highlight items, press <Enter> to select, use the <PgUp> and <PgDn> keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program by using the keyboard.

Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left (menu bar)
Right arrow	Move to the item on the right (menu bar)
Esc	Main Menu: Quit without saving changes Submenus: Exit Current page to the next higher level menu
Move Enter	Move to the item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+ Key	Increase the numeric value or make changes
- Key	Decrease the numeric value or make changes
F1 key	General help on Setup navigation keys
F5 key	Load previous values from CMOS
F6 key	Load the fail-safe defaults from BIOS default table
F7 key	Load the optimized defaults
F10 key	Save all the CMOS changes and exit

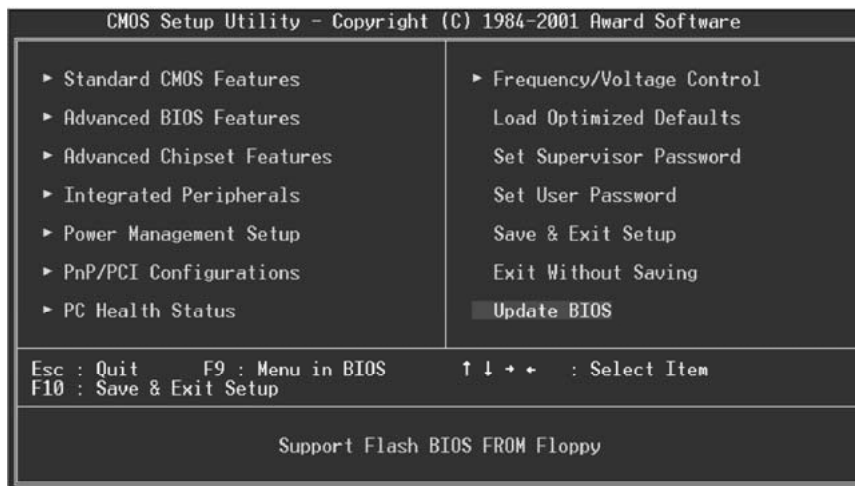
U8798 Pro BIOS Setup

Main Menu

Once you enter Award BIOS™ CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

The information about BIOS defaults on manual is just for reference; please refer to the BIOS installed on board, for update information.

■ Figure 1. Main Menu



Standard CMOS Features

This submenu contains industry standard configurable options.

Advanced BIOS Features

This submenu allows you to configure enhanced features of the BIOS.

U8798 Pro BIOS Setup

Advanced Chipset Features

This submenu allows you to configure special chipset features.

Integrated Peripherals

This submenu allows you to configure certain IDE hard drive options and Programmed Input/ Output features.

Power Management Setup

This submenu allows you to configure the power management features.

PnP/PCI Configurations

This submenu allows you to configure certain “Plug and Play” and PCI options.

PC Health Status

This submenu allows you to monitor the hardware of your system.

Frequency/Voltage Control

This submenu allows you to change CPU clock ratio.

(However, when you try to change different CPU clock ratio, you should check your CPU frequency in advance. The CPU clock ratio should be changed depending on your CPU frequency.)

Load Optimized Defaults

This selection allows you to reload the BIOS when the system is having problems particularly with the boot sequence. These configurations are factory settings optimized for this system. A confirmation message will be displayed before defaults are set.



```
Load Optimized Defaults (Y/N)? N
```

Set Supervisor Password

Setting the supervisor password will prohibit everyone except the supervisor from making changes using the CMOS Setup Utility. You will be prompted with to enter a password.



```
Enter Password:
```

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Set User Password

If the Supervisor Password is not set, then the User Password will function in the same way as the Supervisor Password. If the Supervisor Password is set and the User Password is set, the "User" will only be able to view configurations but will not be able to change them.

Enter Password:

Save & Exit Setup

Save all configuration changes to CMOS(memory) and exit setup. Confirmation message will be displayed before proceeding.

SAVE to CMOS and EXIT (Y/N)? Y

Exit Without Saving

Abandon all changes made during the current session and exit setup. Confirmation message will be displayed before proceeding.

Quit Without Saving (Y/N)? N

Update BIOS

This submenu allows you to update bios.

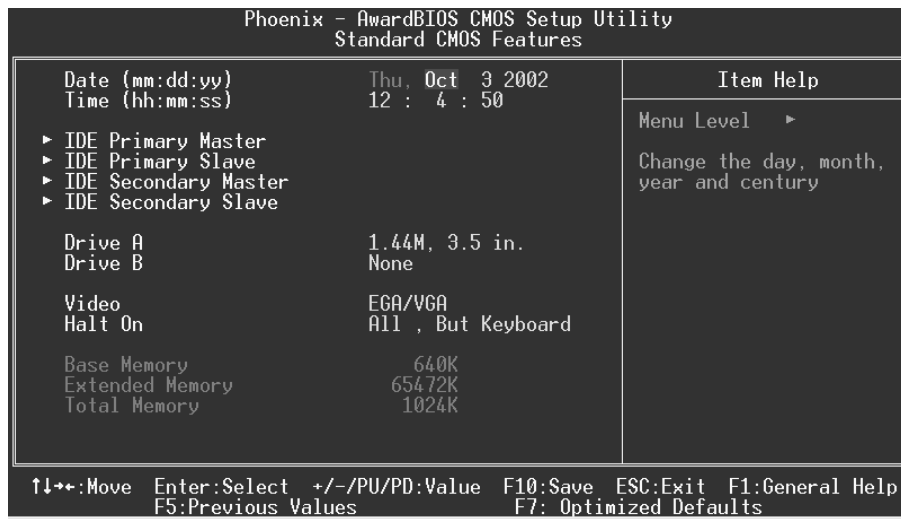
BIOS UPDATE UTILITY (Y/N)? N

U8798 Pro BIOS Setup

Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

■ **Figure 2. Standard CMOS Setup**



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Main Menu Selections

This table shows the selections that you can make on the Main Menu.

Item	Options	Description
Date	MM DD YYYY	Set the system date. Note that the 'Day' automatically changes when you set the date.
Time	HH MM SS	Set the system internal clock
IDE Primary Master	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options
IDE Primary Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
IDE Secondary Master	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
IDE Secondary Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
Drive A Drive B	360K, 5.25 in 1.2M, 5.25 in 720K, 3.5 in 1.44M, 3.5 in 2.88M, 3.5 in None	Select the type of floppy disk drive installed in your system.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.

Item	Options	Description
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/ Key	Select the situation in which you want the BIOS to stop the POST process and notify you
Base Memory Extended Memory	N/A N/A	Displays the amount of conventional memory detected during boot up. Displays the amount of extended memory detected during boot up.
Total Memory	N/A	Displays the total memory available in the system

U8798 Pro BIOS Setup

Advanced BIOS Features

■ Figure 3. Advanced BIOS Setup

Phoenix - AwardBIOS CMOS Setup Utility		
Advanced BIOS Features		
Virus Warning	Disabled	Item Help
CPU L1 & L2 Cache	Enabled	Menu Level ▶
CPU L2 Cache ECC Checking	Enabled	Show summary screen
Quick Power On Self Test	Enabled	
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Third Boot Device	LS120	
Boot Other Device	Enabled	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Enabled	
Boot Up NumLock Status	On	
Typematic Rate Setting	Disabled	
× Typematic Rate (Chars/Sec)	6	
× Typematic Delay (Msec)	250	
Security Option	Setup	
OS Select For DRAM > 64MB	Non-OS2	
Video BIOS Shadow	Enabled	
Summary Screen Show	Disabled	

↑↓+:-Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

Virus Warning

This option allows you to choose the VIRUS Warning feature that is used to protect the IDE Hard Disk boot sector. If this function is enabled and an attempt is made to write to the boot sector, BIOS will display a warning message on the screen and sound an alarm beep.

Disabled (default) Virus protection is disabled.
Enabled Virus protection is activated.

CPU L1 & L2 Cache

Depending on the CPU/chipset in use, you may be able to increase memory access time with this option.

Enabled (default) Enable cache.
Disabled Disable cache.

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CPU L2 Cache ECC Checking

This item allows you to enable/disable CPU L2 Cache ECC Checking

The Choices: Enabled (default), Disabled.

Quick Power On Self Test

Enabling this option will cause an abridged version of the Power On Self-Test (POST) to execute after you power up the computer.

Enabled (default) Enable quick POST.

Disabled Normal POST.

First /Second/Third/ Boot Other Device

These BIOS attempts to load the operating system from the devices in the sequence selected in these items.

The Choices: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, LAN, Enabled, Disabled.

Swap Floppy Drive

For systems with two floppy drives, this option allows you to swap logical drive assignments.

The Choices: Enabled, Disabled (default).

Boot Up Floppy Seek

Enabling this option will test the floppy drives to determine if they have 40 or 80 tracks. Disabling this option reduces the time it takes to boot-up.

The Choices: Enabled (default), Disabled.

Boot Up NumLock Status

Selects the NumLock. State after power on.

On (default) Numpad is number keys.

Off Numpad is arrow keys.

Typematic Rate Setting

When a key is held down, the keystroke will repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be configured.

The Choices: Disabled (default), Enabled

Typematic Rate (Chars/Sec)

Sets the rate at which a keystroke is repeated when you hold the key down.

The Choices: 6 (default), 8,10,12,15,20,24,30.

U8798 Pro BIOS Setup

Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke.

The Choices: 250 (default), 500,750,1000.

Security Option

This option will enable only individuals with passwords to bring the system online and/or to use the CMOS Setup Utility.

System A password is required for the system to boot and is also required to access the Setup Utility.

Setup (default) A password is required to access the Setup Utility only.

This will only apply if passwords are set from the Setup main menu.

OS Select For DRAM > 64MB

A choice other than Non-OS2 is only used for OS2 systems with memory exceeding 64MB.

The Choices: Non-OS2 (default), OS2.

Video BIOS Shadow

Determines whether video BIOS will be copied to RAM for faster execution.

Enabled (default) Optional ROM is enabled.

Disabled Optional ROM is disabled.

Summary Screen Show

This item allows you to enable/ disable display the Summary Screen Show.

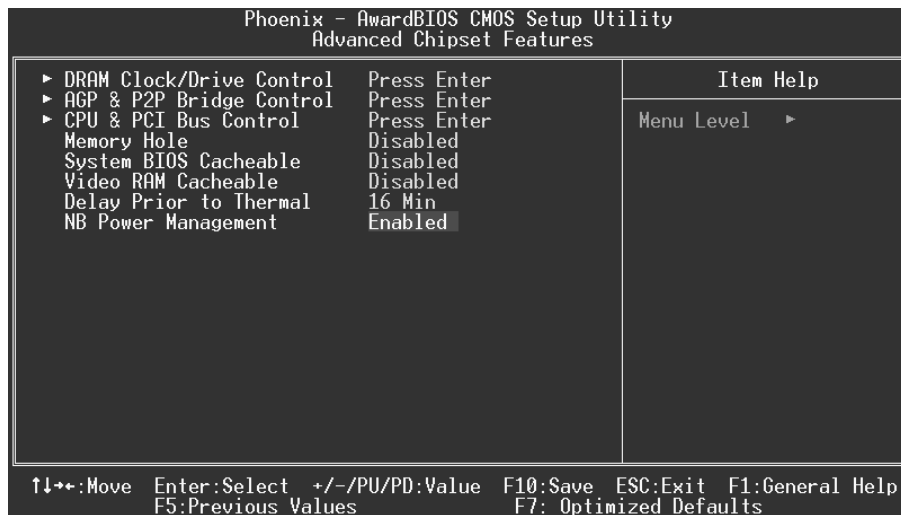
The Choices: Disabled (Default), Enabled.

U8798 Pro BIOS Setup

Advanced Chipset Features

This submenu allows you to configure the specific features of the chipset installed on your system. This chipset manages bus speeds and access to system memory resources, such as DRAM. It also coordinates communications with the PCI bus. The default settings that came with your system have been optimized and therefore should not be changed unless you are suspicious that the settings have been changed incorrectly.

■ **Figure 4. Advanced Chipset Setup**



DRAM Clock/ Drive Control

To control the Clock. If you highlight the literal "Press Enter" next to the "DRAM Clock" label and then press the enter key, it will take you a submenu with the following options:

DRAM Clock

This item determines DRAM clock following 100MHz, 133MHz or By SPD.

The Choices: 100MHz, 133MHz, **By SPD** (default).

U8798 Pro BIOS Setup

DRAM Timing

This item determines DRAM clock/ timing follow SPD or not.

The Choices: By SPD(default), Manual.

SDRAM CAS Latency

When DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.

The Choices: 2.5, 2 (default).

Bank Interleave

This item allows you to enable or disable the bank interleave feature.

The Choices: Disabled (default).

Precharge to Active (Trp)

This items allows you to specify the delay from precharge command to activate command.

The Choices: 2T, 3T (default).

Active to Precharge (Tras)

This items allows you to specify the minimum bank active time.

The Choices: 7T (default), 6T.

Active to CMD (Trcd)

Use this item to specify the delay from the activation of a bank to the time that a read or write command is accepted.

The Choices: 2T, 3T (default).

DRAM Command Rate

This item controls clock cycle that must occur between the last valid write operation and the next command.

The Choices: 1T Command (default), 2T Command.

DRAM Burst Len

The Choices: 4 (default), 8.

Write Recovery Time

The Choices: 3T (default), 2T.

AGP & P2P Bridge Control

If you highlight the literal "Press Enter" next to the "AGP & P2P Bridge Control" label and then press the enter key, it will take you a submenu with the following options:

AGP Aperture Size

Select the size of the Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the

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AGP without any translation.

The Choices: 64M (default), 256M, 128M, 32M, 16M, 8M, 4M.

AGP Mode

This item allows you to select the AGP Mode.

The Choices: 4X (default), 2X, 1X.

AGP Driving Control

By choosing "Auto" the system BIOS will the AGP output Buffer Drive strength P Ctrl by AGP Card. By choosing "Manual", it allows user to set AGP output Buffer Drive strength P Ctrl by manual.

The Choices: Auto (default), Manual.

AGP Driving Value

While AGP driving control item set to "Manual", it allows user to set AGP driving.

The Choices: DA (default).

AGP Fast Write

The Choices: Enabled, Disabled (default).

AGP Master 1 WS Write

When Enabled, writes to the AGP (Accelerated Graphics Port) are executed with one wait states.

The Choices: Disabled (default), Enabled.

AGP Master 1 WS Read

When Enabled, read to the AGP (Accelerated Graphics Port) are executed with one wait states.

The Choices: Disabled (default), Enabled.

DBI Output for AGP Trans.

The Choices: Disabled (default), Enabled.

CPU & PCI Bus Control

If you highlight the literal "Press Enter" next to the "CPU & PCI Bus Control" label and then press the enter key, it will take you a submenu with the following options:

CPU to PCI Write Buffer

When enabled, up to four Dwords of data. Can be written to the PCI bus without interrupting the CPU. When disabled, a write buffer is not used and the CPU read cycle will not be completed until the PCI bus signals that it is ready to receive the data.

The Choices: Enabled (default), Disabled.

PCI Master 0 WS Write

When Enabled, writes to the PCI bus are executed with zero-wait states.

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The Choices: Enabled (default), Disabled.

PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification.

The Choices: Disabled, Enabled (default).

VLink 8X Support

The Choices: Disabled (Default), Enabled.

Memory Hole

When enabled, you can reserve an area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. Refer to the user documentation of the peripheral you are installing for more information.

The Choices: Disabled (default), 15M – 16M.

System BIOS Cacheable

Selecting the “Enabled” option allows caching of the system BIOS ROM at F0000h-FFFFh which can improve system performance. However, any programs writing to this area of memory will cause conflicts and result in system errors.

The Choices: Enabled, Disabled (default).

Video RAM Cacheable

Enabling this option allows caching of the video RAM, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

The Choices: Enabled, Disabled (default).

Delay Prior to Thermal

Set this item to enable the CPU Thermal function to engage after the specified time.

The Choices: 16Min (default), 4Min, 8Min, 32Min.

NB Power Management

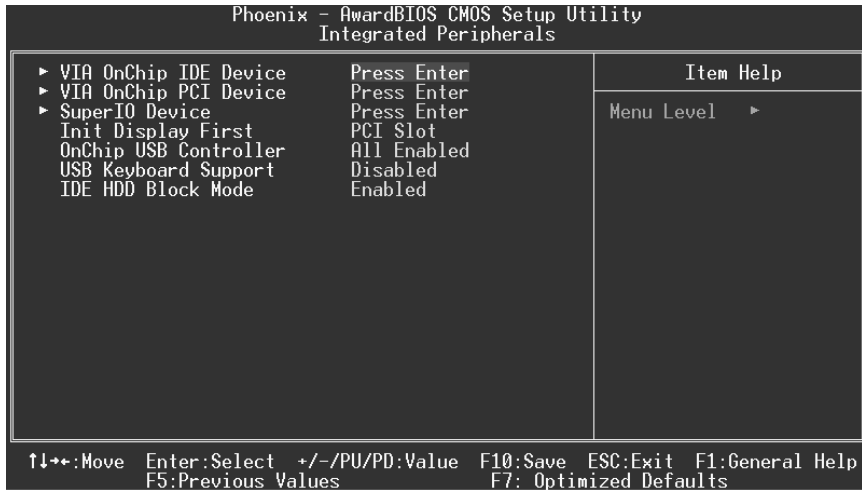
This item allows you to enable or disable NB Power Management.

The Choices: Disabled (Default), Enabled.

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Integrated Peripherals

■ Figure 5. Integrated Peripherals



VIA OnChip IDE Device

If you highlight the literal “Press Enter” next to the “VIA OnChip IDE Device” label and then press the enter key, it will take you a submenu with the following options:

IDE DMA Transfer Access

The “onboard” IDE drive interface supports IDE DMA read/write function.

The Choices: Enabled (default), Disabled.

OnChip IDE Channel 0/1

The motherboard chipset contains a PCI IDE interface with support for two IDE channels. Select “Enabled” to activate the first and/or second IDE interface. Select “Disabled” to deactivate an interface if you are going to install a primary and/or secondary add-in IDE interface.

The Choices: Enabled (default), Disabled.

IDE Prefetch Mode

The “onboard” IDE drive interfaces supports IDE prefetching for faster drive access. If the interface does not support prefetching. If you install a primary and/or secondary add-in IDE interface, set this option to “Disabled”.

The Choices: Enabled (default), Disabled.

Primary / Secondary /Master / Slave PIO

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The IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the IDE devices that the onboard IDE interface supports. Modes 0 to 4 will increase performance progressively. In Auto mode, the system automatically determines the best mode for each device.

The Choices: Auto (default), Mode0, Mode1, Mode2, Mode3, Mode4.

Primary / Secondary / Master / Slave UDMA

Ultra DMA/100 functionality can be implemented if it is supported by the IDE hard drives in your system. As well, your operating environment requires a DMA driver (Windows 95 OSR2 or a third party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/100, select Auto to enable BIOS support.

The Choices: Auto (default), Disabled.

VIA OnChip PCI Device

If you highlight the literal "Press Enter" next to the "VIA OnChip PCI Device" label and then press the enter key, it will take you a submenu with the following options:

VIA-3058 AC97 Audio

This option allows you to control the onboard AC97 audio.

The Choices: Auto (default), Disabled.

VIA-3068 MC97 Modem

This option allows you to control the onboard MC97 modem.

The Choices: Auto (default), Disabled.

VIA-3043 OnChip LAN

This option allows you to control the onboard LAN.

The Choices: Enabled, Disabled (default).

Onboard LAN Boot ROM

This item allows you to enable or disable Onboard LAN Boot ROM.

The Choices: Disabled (default), Enabled.

Super IO Device

If you highlight the literal "Press Enter" next to the "Super IO Device" label and then press the enter key, it will take you a submenu with the following options:

Onboard FDC Controller

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If installed and FDC or the system has no floppy drive, select Disabled in this field.

The Choices: Enabled (default), Disabled.

Onboard Serial Port 1

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Select an address and corresponding interrupt for the first and second serial ports.

The Choices: Disabled, **3F8/IRQ4** (default), 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto.

Onboard Serial Port 2

Select an address and corresponding interrupt for the first and second serial ports.

The Choices: Disabled, **2F8/IRQ3** (default), 3F8/IRQ4, 3E8/IRQ4, 2E8/IRQ3, Auto.

UART Mode Select

This item allows you to determine which Infra Red (IR) function of onboard I/O chip.

The Choices: **Normal**, AS KIR, IrDA.

UR2 Duplex Mode

Select the value required by the IR device connected to the IR port. Full-duplex mode permits simultaneous two-direction transmission. Half-duplex mode permits transmission in one direction only at a time.

The Choices: **Half** (default), Full.

Onboard Parallel Port

This item allows you to determine access onboard parallel port controller with which I/O Address.

The Choices: **378/IRQ7** (default), 278/IRQ5, 3BC/IRQ7, Disabled.

Parallel Port Mode

The default value is SPP.

The Choices:

Spp (Default)	Using Parallel Port as Standard Printer Port.
EPP	Using Parallel Port as Enhanced Parallel Port.
ECP	Using Parallel Port as Extended Capabilities Port.
ECP+EPP	Using Parallel Port as ECP & EPP mode.

ECP Mode Use DMA

Select a DMA Channel for the port.

The Choices: **3** (default), 1.

Game Port Address

Game Port I/O Address.

The Choices: **201** (default), 209, Disabled.

Midi Port Address

Midi Port Base I/O Address.

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The Choices: 330 (default), 300, 290, Disabled.

Midi Port IRQ

This determines the IRQ in which the Midi Port can use.

The Choices: 5, 10 (default).

Init Display First

With systems that have multiple video cards, this option determines whether the primary display uses a PCI Slot or an AGP Slot.

The Choices: PCI Slot (default), AGP.

OnChip USB Controller

This option should be enabled if your system has a USB installed on the system board. You will need to disable this feature if you add a higher performance controller.

The Choices: All Enabled (default), All Disabled.

USB Keyboard Support

Enables support for USB attached keyboards.

The Choices: Disabled (default), Enabled.

IDE HDD Block Mode

Block mode is otherwise known as block transfer, multiple commands, or multiple sector read/write. Select the "Enabled" option if your IDE hard drive supports block mode (most new drives do). The system will automatically determine the optimal number of blocks to read and write per sector.

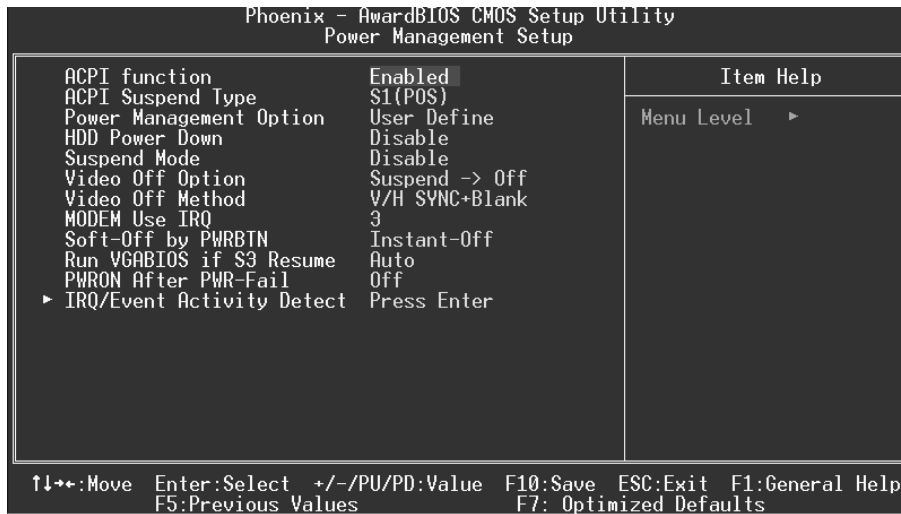
The Choices: Enabled (default), Disabled.

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Power Management Setup

The Power Management Setup Menu allows you to configure your system to utilize energy conservation and power up/power down features.

■ **Figure 6. Power Management Setup**



ACPI function

This item displays the status of the Advanced Configuration and Power Management (ACPI).

The Choices: Enabled (default), Disabled.

ACPI Suspend Type

The item allows you to select the suspend type under the ACPI operating system.

The Choices: S1 (POS) (Default) Power on Suspend.
S3 (STR) Suspend to RAM
S1+S3 POS+STR

Power Management Option

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

1. HDD Power Down.
2. Suspend Mode.

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There are four options of Power Management, three of which have fixed mode settings

Min. Power Saving

Minimum power management.
Suspend Mode = 1 hr.
HDD Power Down = 15 min

Max. Power Saving

Maximum power management only available for sl CPU's.
Suspend Mode = 1 min.
HDD Power Down = 1 min.

User Defined (default)

Allows you to set each mode individually.
When not disabled, each of the ranges are from 1 min. to 1 hr. except for
HDD Power Down which ranges from 1 min. to 15 min. and disable.

HDD Power Down

When enabled, the hard disk drive will power down and after a set time of system inactivity. All other devices remain active.

The Choices: Disabled (default), 1 Min, 2 Min, 3 Min, 4 Min, 5 Min, 6 Min, 7 Min, 8 Min, 9 Min, 10 Min, 11 Min, 12 Min, 13 Min, 14 Min, 15Min.

Suspend Mode

The item allows you to select the suspend type under ACPI operating system.

The Choices: Disabled (default), 1 Min, 2 Min, 4 Min, 6 Min, 8 Min, 10 Min, 20 Min, 30 Min, 40 Min, 1 Hour.

Video Off Option

This field determines when to activate the video off feature for monitor power management.

The Choices: Suspend→**Off** (default), Always on.

Video Off Method

This option determines the manner in which the monitor is goes blank.

V/H SYNC+Blank (default)

This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Blank Screen

This option only writes blanks to the video buffer.

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DPMS Support

Initial display power management signaling

Modem Use IRQ

This determines the IRQ, which can be applied in MODEM use.

3 (default)

4 / 5 / 7 / 9 / 10 / 11 / NA

Soft-Off by PWRBTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has “hung.”

The Choices: Delay 4 Sec, **Instant-Off** (default).

Run VGABIOS if S3 Resume

Choosing Enabled will make BIOS run VGA BIOS to initialize the VGA card when system wakes up from S3 state. The system time is shortened if you disable the function, but system will need AGP driver to initialize the card. So, if the AGP driver of the VGA card does not support the initialization feature, the display may work abnormally or not function after S3.

The Choices: **Auto** (default), No, Yes.

PWRON After PWR-Fail

This field determines the action the system will automatically take when power is restored to a system that had lost power previously without any subsequent manual intervention. There are 3 sources that provide current to the CMOS area that retains these Power-On instructions; the motherboard battery (3V), the Power Supply (5VSB), and the Power Supply (3.3V). While AC is not supplying power, the motherboard uses the motherboard battery (3V). If AC power is supplied and the Power Supply is not turned on, 5VSB from the Power Supply is used. When the Power Supply is eventually turned on 3.3V from the Power Supply will be used.

There are 3 options: “Former-Sts”, “On”, “Off”.

“Off” (default)	Means always set CMOS to the “Off” status when AC power is lost.
“On”	Means always set CMOS to the “On” status when AC power is lost
“Former-Sts”	Means to maintain the last status of the CMOS when AC power is lost.

For example: If set to “Former-Sts” and AC power is lost when system is live, then after

U8798 Pro BIOS Setup

AC power is restored, the system will automatically power on. If AC power is lost when system is not live, system will remain powered off.

IRQ/Event Activity Detect

If you highlight the literal “Press Enter” next to the “IRQ/Event Activity Detect” label and then press the enter key, it will take you a submenu with the following options:

VGA

When set to **On**, any event occurring at a VGA Port will awaken a system which has been powered down.

The Choices: **Off** (default), **On**.

LPT & COM

When this option is set to **On**, any event occurring at a COM(serial)/LPT (printer) port will awaken a system which has been powered down.

The Choices: **LPT/COM** (default), **COM**, **LPT**, **NONE**.

HDD & FDD

When this option is set to **On**, any event occurring on a hard drive or a floppy drive will awaken a system which has been powered down.

The Choices: **On** (default), **Off**.

PCI Master

When set to **On**, you need a LAN add-on card which supports the power function. It should also support the wake-up on LAN jump.

The Choices: **Off** (default), **On**.

PowerOn by PCI Card

When you select **Enabled**, a PME signal from PCI card returns the system to Full ON state.

The Choices: **Disabled** (default), **Enabled**.

Modem Ring Resume

The Choices: **Disabled** (Default), **Enabled**.

RTC Alarm Resume

When “**Enabled**”, you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.

The Choices: **Enabled**, **Disabled** (default).

Date (of Month)

You can choose which month the system will boot up. This field is only configurable when “**RTC Resume**” is set to “**Enabled**”.

Resume Time (hh:mm:ss)

You can choose the hour, minute and second the system will boot up. This

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field is only configurable when “RTC Resume” is set to “Enabled”.

IRQs Activity Monitoring

Press **Enter** to access another sub menu used to configure the different wake up events (i.e. wake on LPT & COMM activity).

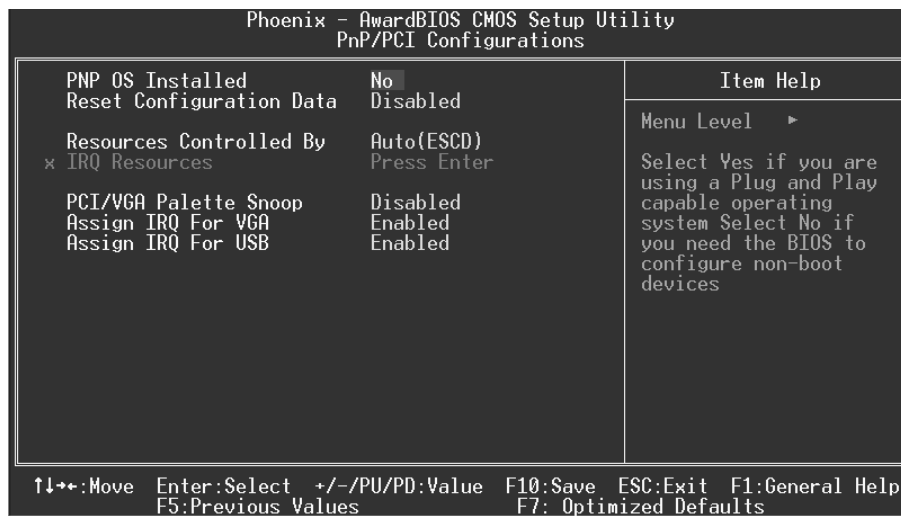
Primary INTR	On
IRQ3 (COM2)	Disabled
IRQ4 (COM1)	Enabled
IRQ5 (LPT2)	Enabled
IRQ6 (Floppy Disk)	Enabled
IRQ7 (LPT1)	Enabled
IRQ8 (RTC Alarm)	Disabled
IRQ9 (IRQ2 Redir)	Disabled
IRQ10 (Reserved)	Disabled
IRQ11 (Reserved)	Disabled
IRQ12 (PS/2 Mouse)	Enabled
IRQ13 (Coprocessor)	Enabled
IRQ14 (Hard Disk)	Enabled
IRQ15 (Reserved)	Disabled

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PnP/PCI Configurations

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

■ **Figure 7. PnP/PCI Configurations**



PNP OS Installed

When set to YES, BIOS will only initialize the PnP cards used for the boot sequence (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Window™ 95. When set to NO, BIOS will initialize all the PnP cards. For non-PnP operating systems (DOS, Netware™), this option must set to NO.

The Choices: No (default), Yes.

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Reset Configuration Data

The system BIOS supports the PnP feature which requires the system to record which resources are assigned and protects resources from conflict. Every peripheral device has a node, which is called ESCD. This node records which resources are assigned to it. The system needs to record and update ESCD to the memory locations. These locations (4K) are reserved in the system BIOS. If the Disabled (default) option is chosen, the system's ESCD will update only when the new configuration varies from the last one. If the Enabled option is chosen, the system is forced to update ESCDs and then is automatically set to the "Disabled" mode.

IRQ-3	assigned to: PCI / ISA PnP
IRQ-4	assigned to: PCI / ISA PnP
IRQ-5	assigned to: PCI / ISA PnP
IRQ-7	assigned to: PCI / ISA PnP
IRQ-9	assigned to: PCI / ISA PnP
IRQ-10	assigned to: PCI / ISA PnP
IRQ-11	assigned to: PCI / ISA PnP
IRQ-12	assigned to: PCI / ISA PnP
IRQ-14	assigned to: PCI / ISA PnP
IRQ-15	assigned to: PCI / ISA PnP
DMA-0	assigned to: PCI / ISA PnP
DMA-1	assigned to: PCI / ISA PnP
DMA-3	assigned to: PCI / ISA PnP
DMA-5	assigned to: PCI / ISA PnP
DMA-6	assigned to: PCI / ISA PnP
DMA-7	assigned to: PCI / ISA PnP

The above settings will be shown on the screen only if "Manual" is chosen for the resources controlled by function.

Legacy is the term, which signifies that a resource is assigned to the ISA Bus and provides non-PnP ISA add-on cards. PCI / ISA PnP signifies that a resource is assigned to the PCI Bus or provides for ISA PnP add-on cards and peripherals.

The Choices: Disabled (default), Enabled.

Resources Controlled By

By Choosing "Auto" (default), the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral.

By Choosing "Manual", the user will need to assign IRQ & DMA for add-on cards. Be sure that there are no IRQ/DMA and I/O port conflicts.

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IRQ Resources

This submenu will allow you to assign each system interrupt a type, depending on the type of device using the interrupt. When you press the "Press Enter" tag, you will be directed to a submenu that will allow you to configure the system interrupts. This is only configurable when "Resources Controlled By" is set to "Manual".

PCI / VGA Palette Snoop

Choose Disabled or Enabled. Some graphic controllers which are not VGA compatible take the output from a VGA controller and map it to their display as a way to provide boot information and VGA compatibility.

However, the color information coming from the VGA controller is drawn from the palette table inside the VGA controller to generate the proper colors, and the graphic controller needs to know what is in the palette of the VGA controller. To do this, the non-VGA graphic controller watches for the Write access to the VGA palette and registers the snoop data. In PCI based systems, where the VGA controller is on the PCI bus and a non-VGA graphic controller is on an ISA bus, the Write Access to the palette will not show up on the ISA bus if the PCI VGA controller responds to the Write.

In this case, the PCI VGA controller should not respond to the Write, it should only snoop the data and permit the access to be forwarded to the ISA bus. The non-VGA ISA graphic controller can then snoop the data on the ISA bus. Unless you have the above situation, you should disable this option.

The Choices: **Disabled** (default) Disables the function.
 Enabled Enables the function.

Assign IRQ For VGA

This item allows the users to choose which IRQ to assign for the VGA.

The Choices: **Enabled** (default), Disabled.

Assign IRQ For USB

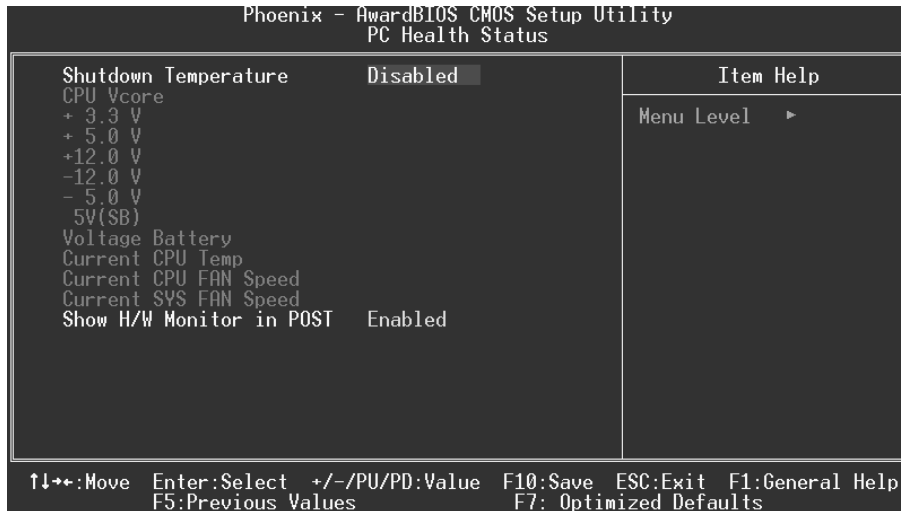
This item allows the users to choose which IRQ to assign for the USB.

The Choices: **Enabled** (default), Disabled.

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PC Health Status

■ Figure 8. PC Health Status



Shutdown Temperature

This item allows you to set the shutdown temperature of the CPU in order not to be damaged by the overheated temperature. When this function is enabled, the system will automatically shutdown if the CPU temperature reaches the shutdown temperature. This function only works under Windows 98 ACPI mode.

The Choices: Disabled (default), 60°C /140°F, 65°C /149°F, 70°C /158°F, 75°C / 167°F.

CPU Vcore/ +3.3V/ +5.0V/ +12V/ -12V/ -5V/ 5V(SB)/ Voltage Battery

Detect the system's voltage status automatically.

Current CPU Temperature

This field displays the current temperature of CPU.

Current CPU FAN Speed

This field displays the current speed of CPU fan.

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Current SYSFAN Speed

This field displays the current speed SYSTEM fan.

Show H/W Monitor in POST

If your computer contains a monitoring system, it will show PC health status during POST stage. The item offers several delay time for you to choose.

The Choices: **Enabled** (default), disabled.

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Frequency/Voltage Control

■ Frequency/Voltage Control

Phoenix - AwardBIOS CMOS Setup Utility		Item Help
Frequency/Voltage Control		
CPU Clock Ratio	8 X	
CPU Voltage	Default	
DDR Voltage	2.5 V	Menu Level ▶
Auto Detect PCI/DIMM Clk	Enabled	
Spread Spectrum	Enabled	
CPU Clock	100MHz	

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7: Optimized Defaults

CPU Clock Ratio

This item allows you to select the CPU Ratio.

The Choices: X8 (default), X9, X10, X11, X12, X13, X14, X15, X16, X17, X18, X19, X20, X21, X22, X23.

CPU Voltage

This item allow syou to select CPU Voltage Regulator.

The Choices: Default (Default), +1.7%, +3.45, +5.1%.

DDR Voltage

This item allows you to select DDR Voltage Regulator.

The Choices: 2.5V (Default), 2.6V, 2.7V, 2.8V.

Auto Detect PCI / DIMM Clk

This item allows you to enable/disable auto detect DIMM/PCI Clock.

The Choices: Enabled (default), Disabled.

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Spread Spectrum

This item allows you to enable/disable the Spread Spectrum function.

The Choices: Enabled (default), Disabled* .

CPU Clock

This item allows you to select CPU Host Clock.

The Choices: 100MHz (Min) (default) ~ 132MHz (Max).

If unfortunately, the system's frequency that you are selected is not functioning, there are two methods of booting-up the system.

Method 1: Clear the CMOS data by setting the JCMOS1 ((2-3) closed)) as "ON" status. All the CMOS data will be loaded as defaults setting.

Method 2: Press the <Insert> key and Power button simultaneously, after that keep-on pressing the <Insert> key until the power-on screen showed. This action will boot-up the system according to FSB of the processor.