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PACKAGE CHECKLIST

- FDD Cable x 1
- HDD Cable x 1
- S/PDIF Cable x 1
- User's Manual x 1
- Serial ATA Cable x 1
- Serial ATA power cable x 1
- Fully Setup Driver CD x 1
- Rear I/O Panel for ATX Case x 1
- USB 2.0 Cable x 1 (optional)

CHAPTER 1: INTRODUCTION

1.1 MOTHERBOARD FEATURES

CPU

- Supports Socket 754.
- Supports AMD Athlon 64 processor up to 3700+.
- Supports AMD Sempron processor.
- Supports HyperTransport Technology up to 1600MT/s.

Dimensions

- Micro ATX Form Factor: 21.86cm (W) x 24.4cm (L)

System Memory

- Supports DDR 266/333/400.
- Maximum memory capacity is 2GB, supporting 2 DIMM sockets.
- Chipset
- North Bridge: NVIDIA GeForce 6100.
- South Bridge: NVIDIA nForce 410.

Super I/O

- Chip: ITE IT8712F.
- Environment Control initiatives.
  - H/W Monitor
  - Fan Speed Controller
  - ITE's "Smart Guardian" function

IDE

- 2 on-board connectors support 4 IDE disk drives.

Supports PIO mode 0~4 and Ultra DMA 33/66/100/133 bus master mode.

Serial ATA II

- nForce 410 supports SATA 2.0 specification, with data transfer rates up to 3Gb/s.

AC'97 Audio Sound Codec

- Chip: ALC655, supports 6 channels audio output.

10/100 LAN PHY

- PHY: RTL8201BL/RTL8201CL, supports ACPI, PCI power management.

Operating Systems

- Supports Windows 2000 and Windows XP.

Note: *Does not support Windows 98SE and Windows ME.*

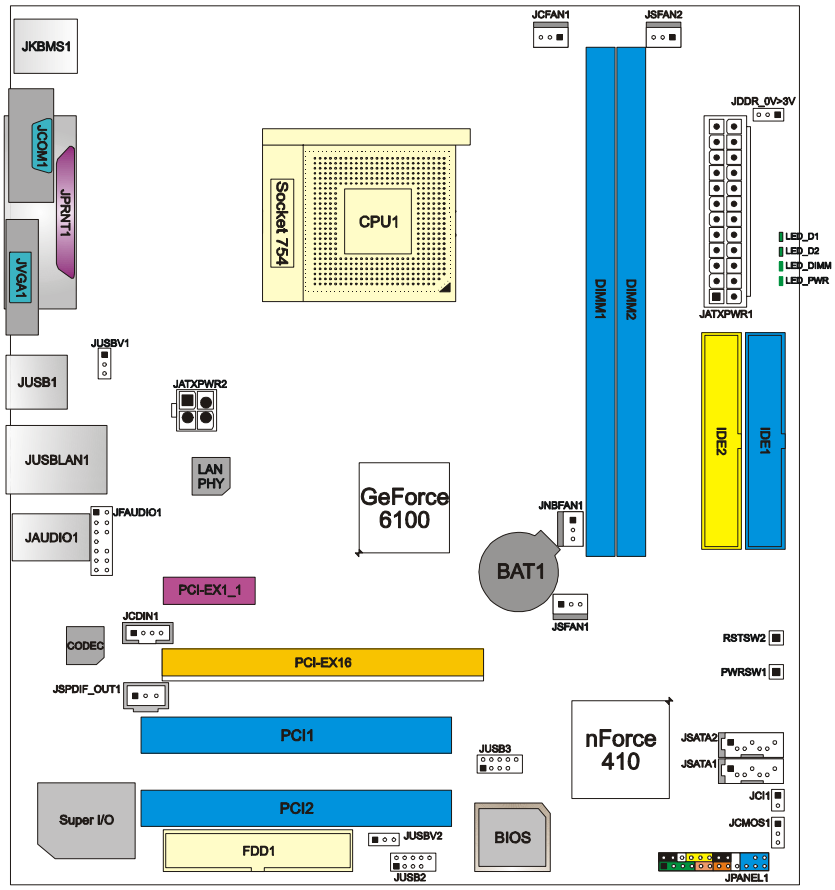
Internal On-board Slots and Connectors

- One PCI-Express X1 slot.
- One PCI-Express X16 slot.
- One S/PDIF-Out connector.
- One CD-ROM audio-in connector.
- Two PCI slots.
- Two SATA ports.
- Two Ultra DMA 33/66/100/133 IDE connectors.

Back Panel I/O Connectors and Ports

- 4 USB 2.0 Ports.
- 1 VGA Port.
- 1 Serial Port.
- 1 Printer Port.
- 1 RJ-45 LAN jack.
- 1 PS/2 Mouse Port.
- 1 PS/2 Keyboard Port.
- 1 Vertical audio port including 1 Line-in connector, 1 Line-out connector, and 1 MIC-in connector.

1.2 LAYOUT AND COMPONENTS

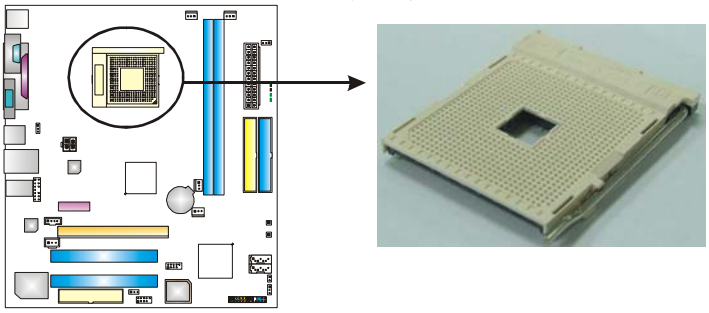


Note: ■ represents the 1st pin.

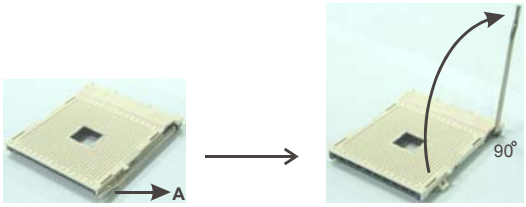
CHAPTER 2: HARDWARE INSTALLATION

2.1 INSTALLING CENTRAL PRIOCESSING UNIT (CPU)

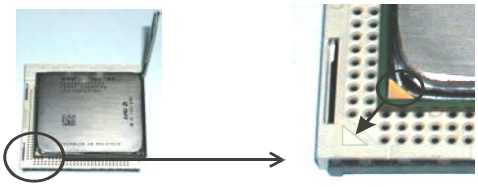
A. Central Processing Unit (CPU)



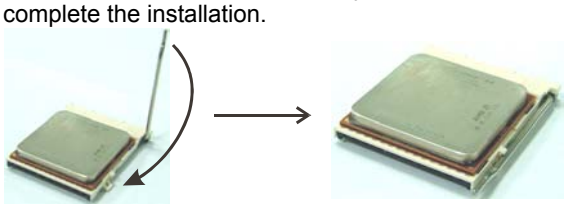
Step 1: Pull the lever toward direction A from the socket and then raise the lever up to a 90-degree angle.



Step 2: Look for the white triangle on socket, and the gold triangle on CPU should point forwards this white triangle. The CPU will fit only in the correct orientation.



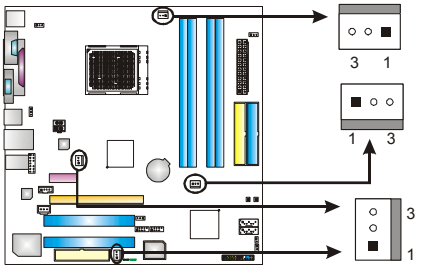
Step 3: Hold the CPU down firmly, and then close the lever to complete the installation.



Step 4: Put the CPU Fan on the CPU and buckle it. Connect the CPU FAN power cable to the JCFAN1. This completes the installation.

B. About FAN Headers

CPU FAN Power Header: JCFAN1
System Fan Power Headers: JSFAN1/JSFAN2
North Bridge Fan Power Header: JNBFAN1



JCFAN1:

Pin	**Assignment**
1	Ground
2	Smart Fan Control
3	FAN RPM rate sense

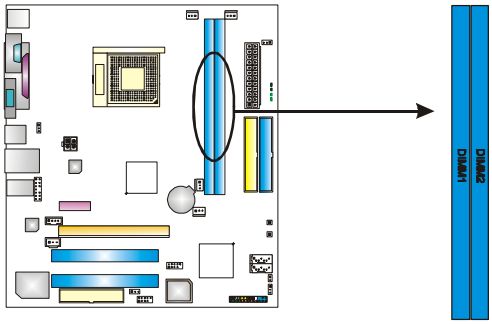
JSFAN1/JSFAN2

Pin	**Assignment**
1	Ground
2	+12V
3	FAN RPM rate sense

JNBFAN1

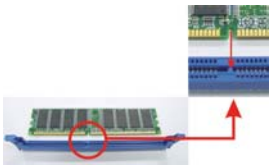
1	Ground
2	+12V
3	N/A

2.2 SYSTEM MEMORY

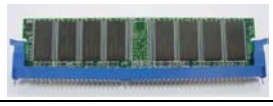


A. Memory Modules

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 vertically and firmly into the slot until the retaining chip snaps back in place and the DIMM is properly seated.



Notes:
To remove the DDR modules, push the ejector tabs at both sides of the slot outward at the same time, and pull the modules out vertically.

B. Memory Capacity

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

C. Dual Channel Memory installation

To trigger the Dual Channel function of the motherboard, the memory module must meet the following requirements:

Install memory module of the same density in pairs, shown in the following table.

Duual Channel Status	DIMM1	DIMM2	DIMM3	DIMM4
Enabled	O	X	O	X
Enabled	X	O	X	O
Enabled	O	O	O	O

(O means memory installed, X means memory not installed.)

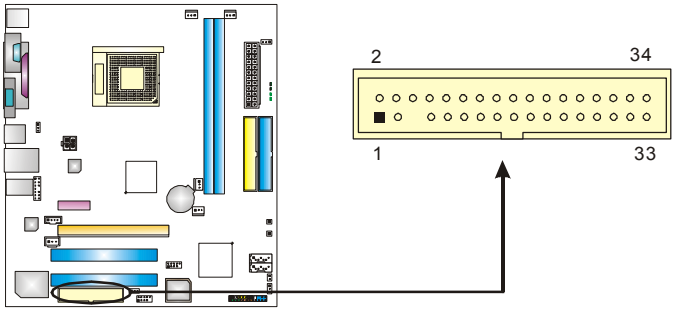
The DRAM bus width of the memory module must be the same (x8 or x16).

2.3 PERIPHERALS

A. Card and I/O Slots:

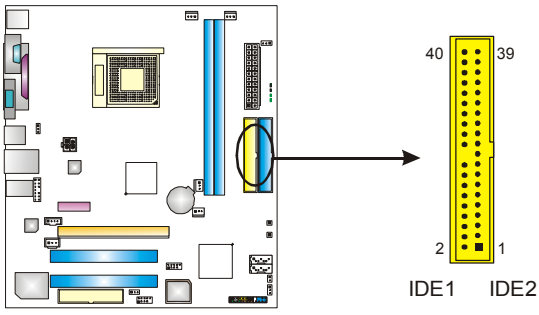
Floppy Disk Connector: FDD1

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.



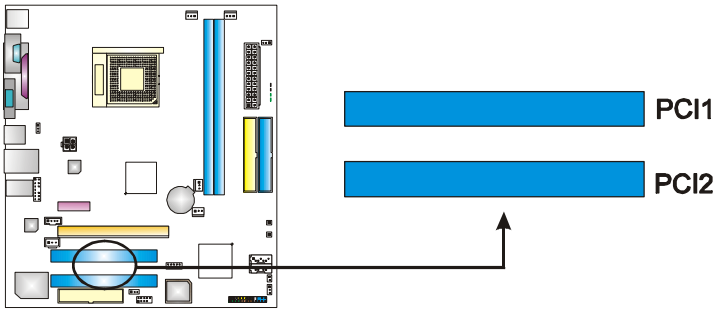
Hard Disk Connectors: IDE1/IDE2

The motherboard has two 32-bit Enhanced PCI IDE Controllers that provide PIO Mode 0~5, 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.



Peripheral Component Interconnect Slots: PCI1~PCI2

This motherboard is equipped with 4 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.



PCI-Express Slots: PCI-EX16/PCI-EX1_1

PCI-EX16:

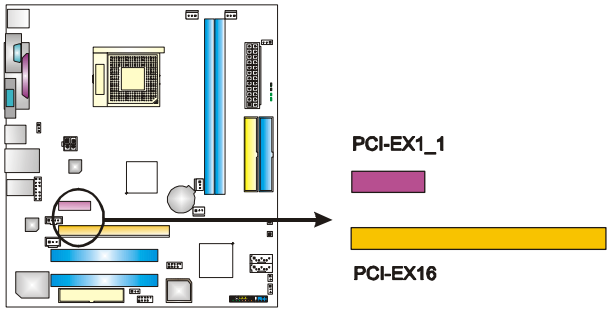
PCI Express 1.0a compliant.

Maximum bandwidth is up to 4GB/s per direction.

PCI-EX1_1:

PCI Express 1.0a compliant.

Maximum bandwidth is up to 250MB/s per direction.



B. Connectors and Headers:

How to setup Jumpers

The illustration shows how to set up jumpers. When the jumper cap is placed on pins, the jumper is “closed”, if not, that means the jumper is “open”.

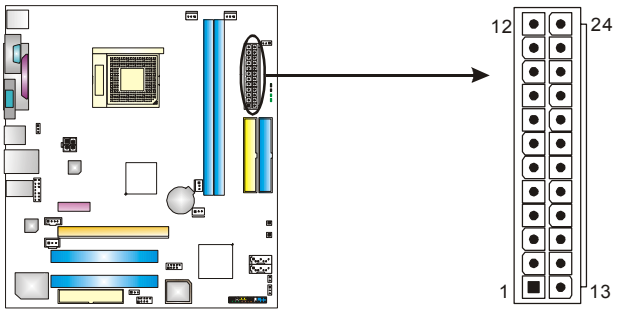
Pin opened

Pin closed

Pin1-2 closed

ATX Power Source Connector: JATXPWR1

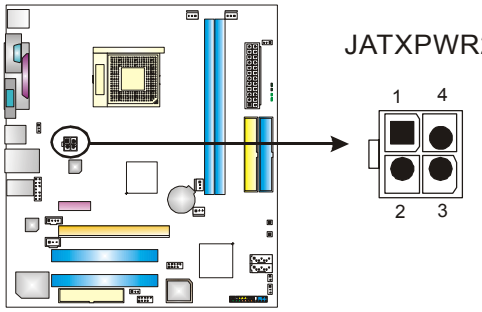
JATXPWR1 allows user to connect 24-pin power connector on the ATX power supply.



Pin	Assignment	Pin	Assignment
13	+3.3V	1	+3.3V
14	-12V	2	+3.3V
15	Ground	3	Ground
16	PS_ON	4	+5V
17	Ground	5	Ground
18	Ground	6	+5V
19	Ground	7	Ground
20	NC	8	PW_OK
21	+5V	9	Standby Voltage+5V
22	+5V	10	+12V
23	+5V	11	+12V
24	Ground	12	+3.3V

ATX Power Source Connector: JATXPWR2

By connecting JATXPWR2, it will provide +12V to CPU power circuit.

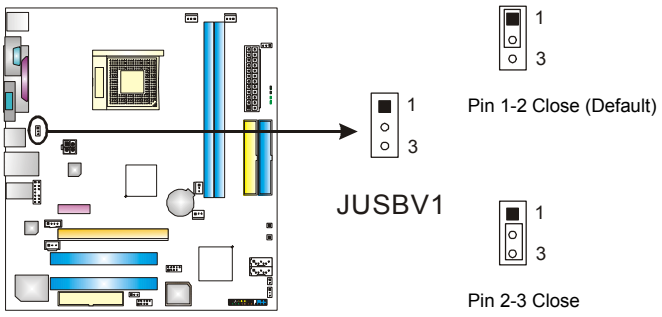


Pin	Assignment
1	+12V
2	+12V
3	Ground
4	Ground

JUSBV1: Power Source Headers for PS/2 Keyboard and Mouse and USB Ports

Pin 1-2 Close: +5V for USB ports at JUSBLAN1 and PS/2 keyboard and mouse ports at JKBMS1.

Pin 2-3 Close: USB ports at JUSBLAN1 and PS/2 keyboard and mouse ports are powered by +5V or +5V standby voltage.

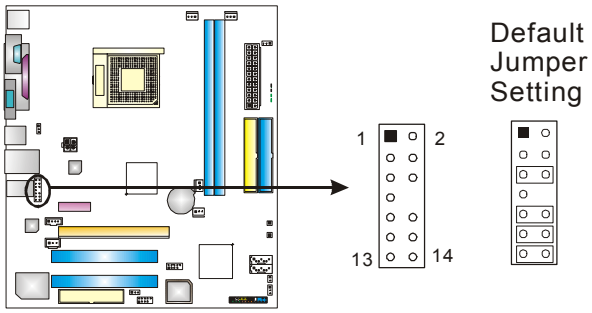


Note:

In order to support this function “Power-On system via keyboard, mouse and USB device,” “JUSBV1” jumper cap should be placed on Pin 2-3.

Front Panel Audio-out Header: JFAUDIO1

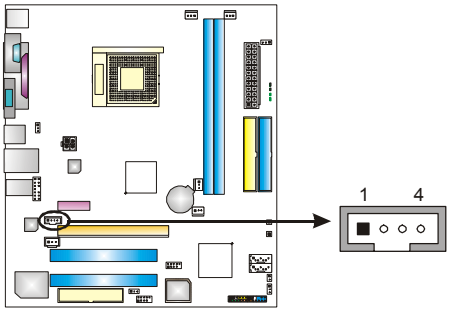
This connector will allow user to connect with the front audio output headers on the PC case. It will disable the output on back panel audio connectors.



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 speaker Left	14	Left line in/ Rear speaker Left

CD-ROM Audio-in Connector: JCDIN1

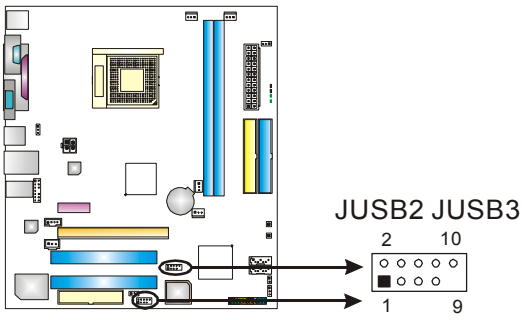
This connector allows user to connect the audio source from a variety of devices, like CD-ROM, DVD-ROM, PCI sound card, PCI TV tuner card etc.



Pin	Assignment
1	Left channel input
2	Ground
3	Ground
4	Right channel input

Headers for USB Ports at Front Panel: JUSB2~JUSB3

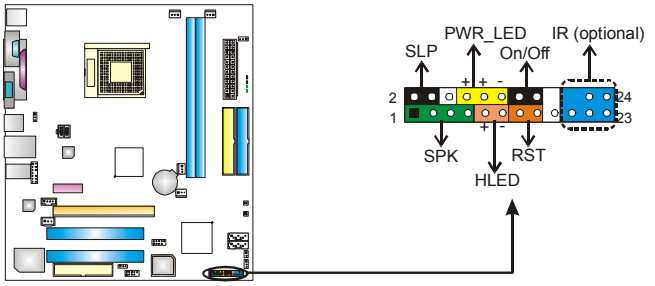
This connector allows user to connect additional USB cables at PC front panel, and also can be connected with internal USB devices, like USB card reader.



Pin	Assignment
1	+5V (fused)
2	+5V (fused)
3	USB-
4	USB-
5	USB+
6	USB+
7	Ground
8	Ground
9	Key
10	NC

Header for Front Panel Facilities: JPANEL1

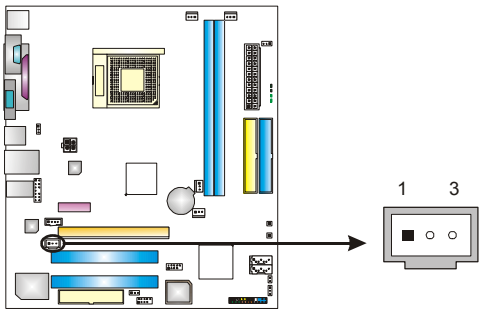
This 16-pin connector includes Power-on, Reset, HDD LED, Power LED, Sleep button, speaker and IrDA Connection. It allows user to connect the PC case's front panel switch functions.



Pin	Assignment	Function	Pin	Assignment	Function
1	+5V	Speaker nector	2	Sleep control	Sleep button
3	N/A		4	Ground	
5	N/A		6	N/A	N/A
7	Speaker		8	Power LED (+)	Power LED
9	HDD LED (+)	Hard drive LED	10	Power LED (+)	
11	HDD LED (-)		12	Power LED (-)	
13	Ground	Reset button	14	Power button	Power-on button
15	Reset control		16	Ground	
17	N/A		18	Key	
19	N/A	IrDA Connector (Optional)	20	Key	IrDA Connector (Optional)
21	+5V		22	Ground	
23	IRTX		24	IRRX	

Digital Audio-out Connector: JSPDIF_OUT1

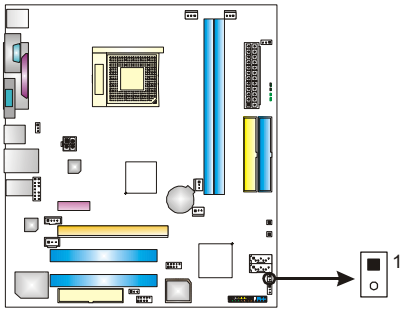
This connector allows users to connect the PCI bracket SPDIF output header.



Pin	Assignment
1	+5V
2	SPDIF OUT
3	Ground

Case Open Header: JCI1

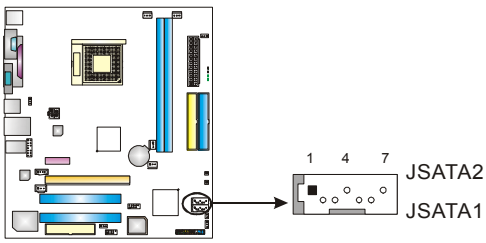
This connector allows system to monitor PC case open status. If the signal has been triggered, it will record to the CMOS and show the message on next boot-up.



Pin	Assignment
1	Case open signal
2	Ground

Serial ATA Connectors: JSATA1~JSATA2

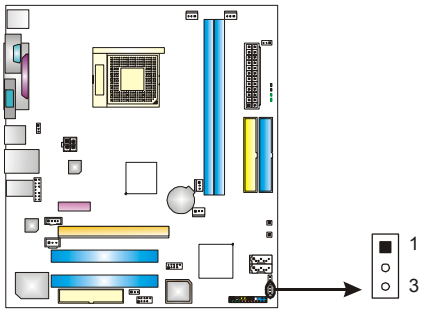
With the SATA Controller provided in the chipset, this motherboard supports 4 channel SATA II connectors. It satisfies the SATA 2.0 spec with transfer rate of 3.0 Gb/s.



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

Clear CMOS Header: JCMOS1

By placing the jumper on pin 2-3, it allows user to restore the BIOS safe setting and the CMOS data, please carefully follow the procedures to avoid damaging the motherboard.



Pin 1-2 close:
Normal Operation
(Default).

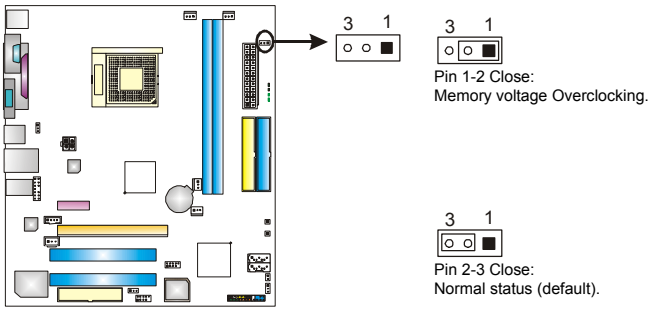
Pin 2-3 close:
Clear CMOS data.

※ 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”.1
5. Power on the AC.
6. Reset your desired password or clear the CMOS data.

Header for Memory Voltage Overclocking: JDDR_OV>3V

When processing Memory Voltage Overclocking, please place the jumper to pin1-2 Closed. The Default setting is Pin 2-3 Closed.

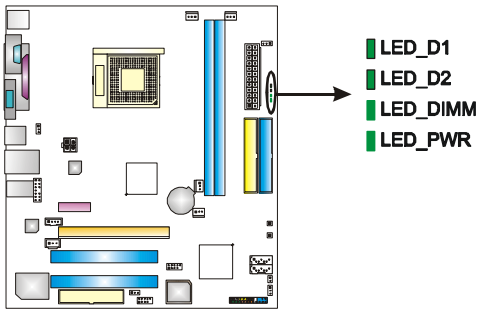


Note:

1. When “JDDR_OV>3V” jumper cap is placed on Pin 2-3, memory voltage can be manually adjusted under CMOS setup.
2. When “JDDR_OV>3V” jumper cap is placed on Pin 1-2, memory voltage will be fixed at 3.3V automatically, and can’t be adjusted under COMS setup.
3. Before setting memory voltage overclocking, please ensure that your DDR supports up to 3V. (Consulting your DDR supplier)

On-Board LED Indicators

There are 4 LED indicators on the motherboard to show system status.



LED_D1 and LED_D2:

These 2 LED indicate system power on diagnostics.
Please refer to the table below for different messages:

LED_D1	LED_D2	Message
ON	ON	Normal
ON	OFF	Memory Error
OFF	ON	VGA Error
OFF	OFF	Abnormal: CPU / Chipset error.

LED_DIMM:

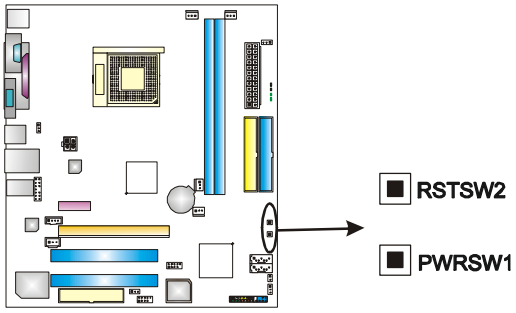
This LED indicates the voltage of memory is activated normally.

LED_PWR:

This LED indicates the system is ready for Power-on.

On-Board Buttons

There are 2 on-board buttons.



PWRSW:

This is an on-board Power Switch button.

RSTSW:

This is an on-board Reset button.

CHAPTER 3: OVERCLOCK QUICK GUIDE

3.1: T-POWER INTRODUCTION

Biostar T-Power is a whole new utility that is designed for overclock users.

Based on many precise tests, *Biostar Engineering Team* (BET) has developed this ultimate overclock engine to raise system performance.

No matter whether under BIOS or Windows interface, *T-Power* is able to present the best system state according to users' overclock setting.

T-Power BIOS Features:

- Overclocking Navigator Engine (O.N.E.)
- CMOS Reloading Program (C.R.P.)
- Memory Integration Test (M.I.T., under Overclock Navigator Engine)
- Integrated Flash Program (I.F.P.)
- Smart Fan Function (under PC Health Status)
- Self Recovery System (S.R.S)

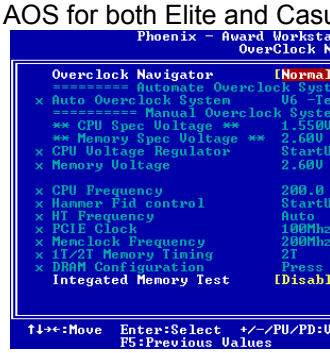
T-Power Windows Feature:

- Hardware Monitor
- Overclock Engine
- Smart Fan Function
- Life Update

3.2: T-POWER BIOS FEATURE

A. Overclocking Navigator Engine (O.N.E.):

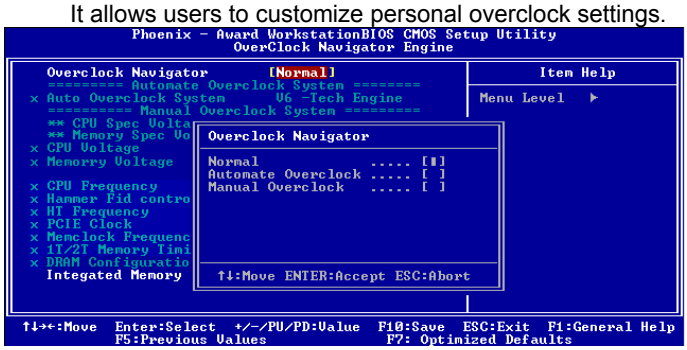
ONE provides two powerful overclocking engines: MOS and AOS for both Elite and Casual overclockers.

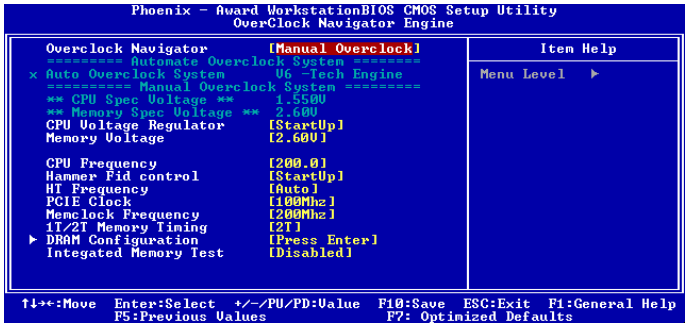


Manual Overclock System (M.O.S.)

MOS is designed for experienced overclock users.

It allows users to customize personal overclock settings.





CPU Overclock Setting:

CPU Voltage:

This function will increase CPU stability when overclocking. However, the CPU temperature will increase when CPU voltage is increased.

Choices: The range is from 0.8V to 1.7V.

CPU Frequency:

CPU Frequency is directly in proportion to system performance. To maintain the system stability, CPU voltage needs to be increased also when raising CPU frequency.

Choices: This range is from 200 to 450, with an interval of 1MHz.

Hammer CPU Multiplier:

The MOS allows users to downgrade the CPU ratio when overclocking.

Choices: The lower limit is x4 (800MHz). The upper limit is decided by different CPU type. With an x1 (200MHz) interval.

Memory Overclock Setting:

Memory Voltage:

This function will increase memory stability when overclocking.

Choices: The range is from 2.6V to 2.9V, with an interval of 0.1V.

Memclock Frequency:

To get better system performance, sometimes downgrading the memory frequency is necessary when CPU frequency is adjusted over the upper limit.

Choices: 100, 133, 166, 200, 216, 233, 250 (MHz).

PCI-Express Overclock Setting:

PCIE Clock:

It helps to increase VGA card performance.

Choices: The range is from 100 to 145, with an interval of 1MHz.

Chipset Overclock Setting:

HT Frequency:

We recommend users to set this item at "x4" when overclocking.

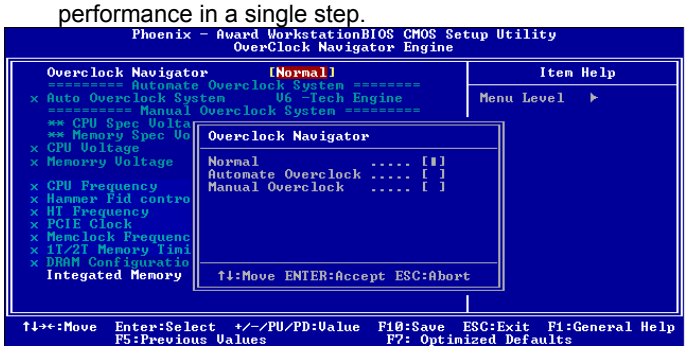
Choices: x1, x2, x3, x4, x5, Auto.

Notice: According to tests that have been done; AMD Athlon XP 3000+ CPU is the best CPU type for overclock function.

Automatic Overclock System (A.O.S.)

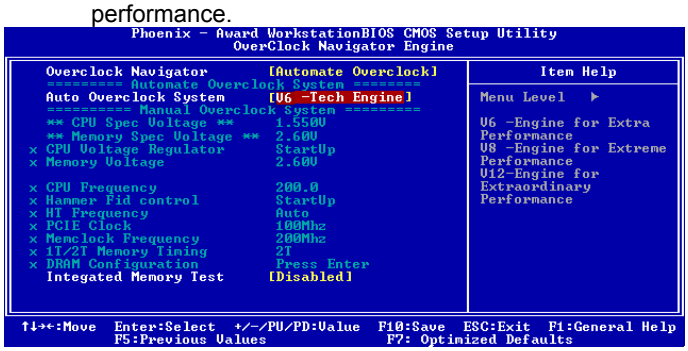
For beginners in overclock field, BET had developed an easy, fast, and powerful feature to increase the system performance, named A.O.S.

Based on many tests and experiments, A.O.S. provides 3 ideal overclock configurations that are able to raise the system performance in a single step.



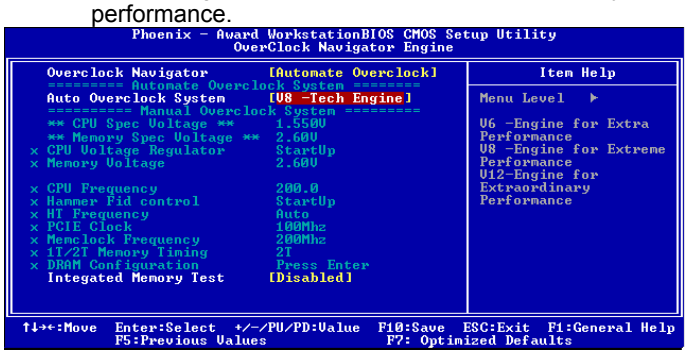
V6 Tech Engine:

This setting will raise about 10%~15% of whole system performance.



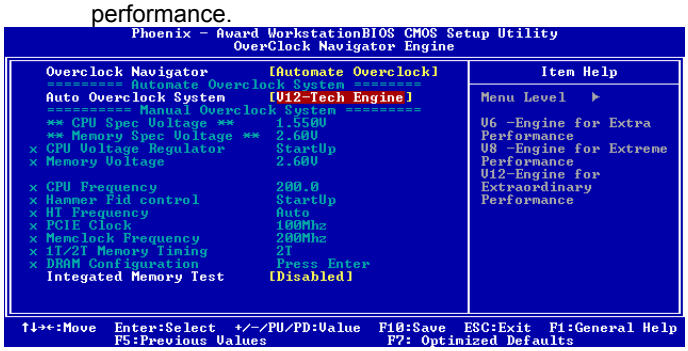
V8 Tech Engine:

This setting will raise about 15%~25% of whole system performance.



V12 Tech Engine:

This setting will raise about 25%~30% of whole system performance.



Notices:

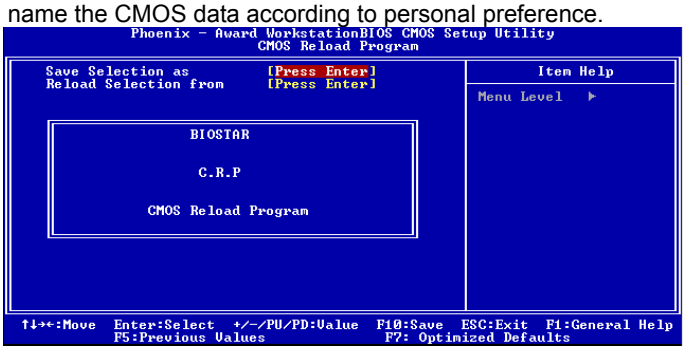
1. Not all types of AMD CPU perform above overclock setting ideally; the difference will be based on the selected CPU model.
2. From BET experiments, the Atholon64 FX CPU is not suitable for this A.O.S. feature.

B. CMOS Reloading Program (C.R.P.):

It allows users to save different CMOS settings into BIOS-ROM. Users are able to reload any saved CMOS setting for customizing system configurations.

Moreover, users are able to save an ideal overclock setting during overclock operation.

There are 50 sets of record addresses in total, and users are able to name the CMOS data according to personal preference.



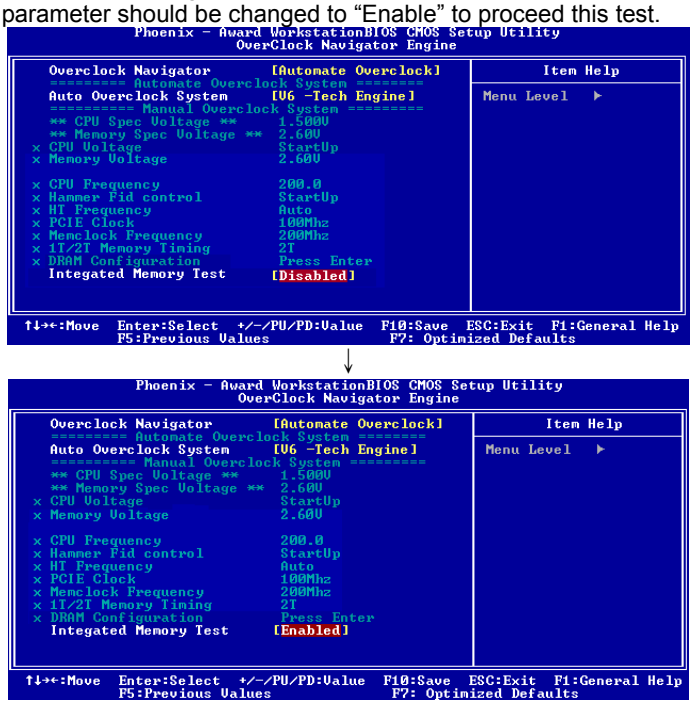
C. Memory Integration Test (M.I.T.):

This function is under “Overclocking Navigator Engine” item.

MIT allows users to test memory compatibilities, and no extra devices or software are needed.

Step 1:

The default setting under this item is “Disabled”; the condition parameter should be changed to “Enable” to proceed this test.



Step 2:

Save and Exit from CMOS setup and reboot the system to activate this test.

Run this test for 5 minutes (minimum) to ensure the memory stability.

Step 3:

When the process is done, change the setting back from “Enable” to “Disable” to complete the test.

D. Self Recovery System (S.R.S.):

This function can't be seen under T-Power BIOS setup; and is always on whenever the system starts up.

However, it can prevent system hang-up due to inappropriate overclock actions.

When the system hangs up, S.R.S. will automatically log in the default BIOS setting, and all overclock settings will be re-configured.

E. Integrated Flash Program (I.F.P.):

IFP is a safe and quick way to upgrade BIOS.

Step 1:

Go to Biostar website (http://www.biostar.com.tw) to download the latest BIOS file. Then, save the file into a floppy disk.

Step 2:

Insert the floppy disk and reboot the system to get into CMOS screen.

Step 3:

Select the item "Integrated Flash Program" to get the following frame and choose the BIOS file downloaded in step 1.

Step 4:

Press "Enter" key to start BIOS file loading, and BIOS updating will process automatically.

Step 5:

When the BIOS update is completed, press YES to the message "Flash done, Reset system", and the system will reboot automatically to finish the process.

Advise:

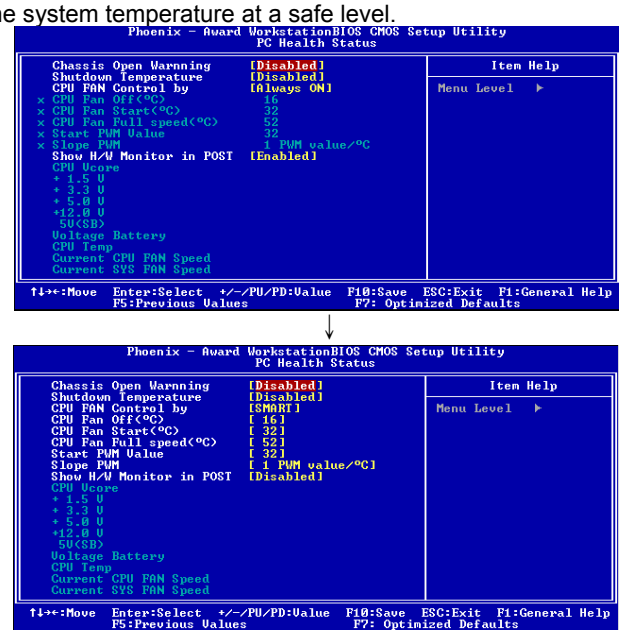
You can update the system BIOS by simply pressing "Enter" key for three times.

F. Smart Fan Function:

Smart Fan Function is under “PC Health Status”.

This is a brilliant feature to control CPU Temperature vs. Fan speed. When enabling Smart Fan function, Fan speed is controlled automatically by CPU temperature.

This function will protect CPU from overheat problem and maintain the system temperature at a safe level.



CPU Fan Off <℃>:

If the CPU temperature is lower than the set value, the CPU fan will turn off. The range is from 0℃~127℃, with an interval of 1℃.

Choices: 16℃ (default).

CPU Fan Start <℃>

The CPU fan starts to work when CPU temperature arrives to this set value. The range is from 0℃~127℃, with an interval of 1℃.

Choices: 32℃ (default).

CPU Fan Full speed <℃>

When CPU temperature arrives to the set value, the CPU fan will work under Full Speed. The range is from 0℃~127℃, with an interval of 1℃.

Choices: 52℃ (default).

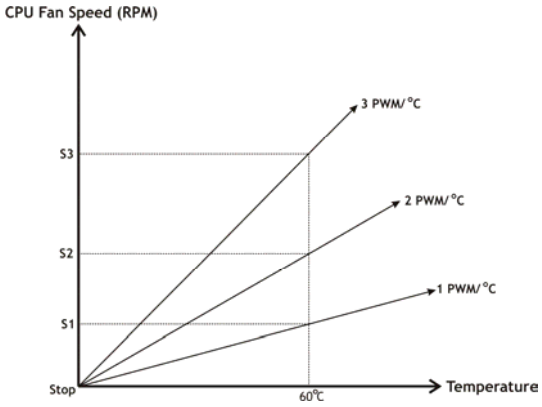
Start PWM Value

When CPU temperature arrives to the set value, the CPU fan will work under Smart Fan Function mode. The range is from 0~127, with an interval of 1.

Choices: 32 (default).

Slope PWM

Choices: 1 PWM Value/℃ (default), 2 PWM Value/℃, 4 PWM Value/℃, 8 PWM Value/℃, 16 PWM Value/℃, 32 PWM Value/℃, 64PWM Value/℃.



S1: CPU temperature is 60℃, and PWM value is 1 PWM/℃.

S2: CPU temperature is 60℃, and PWM value is 2 PWM/℃.

S3: CPU temperature is 60℃, and PWM value is 3 PWM/℃.

Increasing the value of slope PWM will raise the speed of CPU fan.

As in above diagram, when the CPU temperature reaches 60℃, the CPU fan speed for 3 PWM/℃ is higher than 1 PWM/℃ (S1<S2<S3).

3.3 T-POWER WINDOWS FEATURE

A.Hardware Monitor:

T-Power Hardware monitor allows users to monitor system voltage, temperature and fan speed accordingly.
Additionally, a rescue action will be taken by the program automatically while the system faces an abnormal condition. The program will trigger an alarm or shut down the system when unpredictable errors occur.
All the monitoring items are illustrated by a waveform diagram.

Hardware Monitor Toolbar

i. Start-up Setting

Click on this item to run Hardware Monitor Program when the Windows starts-up.

ii. Dialogue-Box Setting

Click on this item to pop-up warning dialogue-box when PC system is abnormal.

iii. Exit

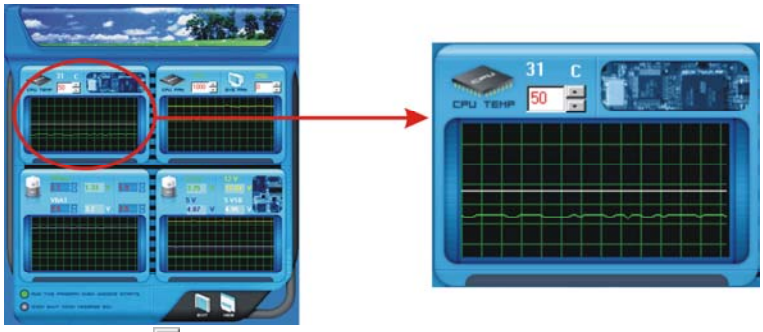
Click on this item to exit Hardware Monitor Program.

iv. Hide

Click on this item to hide this program in system tray. When hiding the program, there will be a check icon in the system tray.

CPU Temperature

This column configures the CPU temperature. There is a waveform to represent the status of CPU temperature.

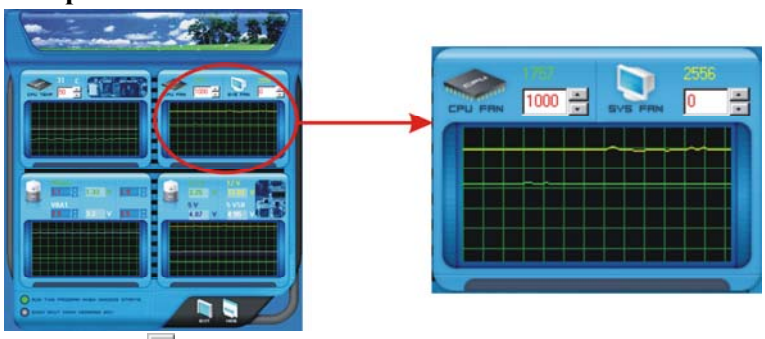


By adjusting , users can easily configure the upper limit of CPU temperature for system operating.

In this diagram, the white line represents the upper limit which user-set for CPU temperature and the green line shows present CPU temperature.

If the CPU temperature is higher than the upper limit, the status line color will change from green to red, and a warning sound will alert you. Also, the system tray icon would change to .

FAN Speed

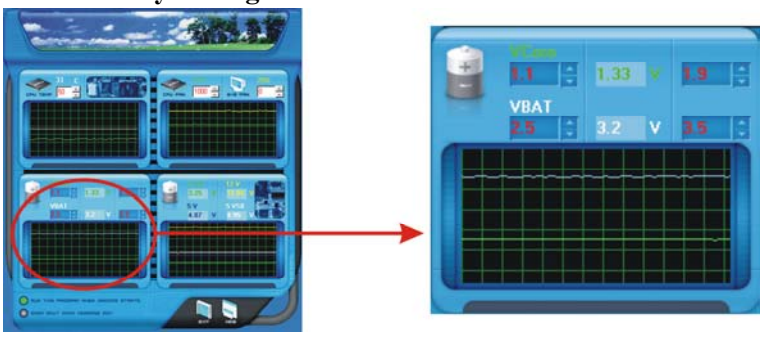


By adjusting , users can easily configure the lower limit of the fan speed.

In this diagram, the green line shows present CPU Fan speed, and the yellow line shows System Fan speed (if any).

If any one of the fans speeds is lower than the set value, the status line will change into a red warning line, and the program will trigger an alarm system automatically. Also, the system tray icon would change to .

CPU/Battery Voltage



i. VCore

This item displays the CPU voltage, represented by a light blue line.

Users can set the upper and lower limit by adjusting to monitor the CPU operating voltage.
If CPU voltage is higher or lower than the set value, the status line will change into a red warning line, and a warning sound will alert you. Also, the system tray icon will change to .

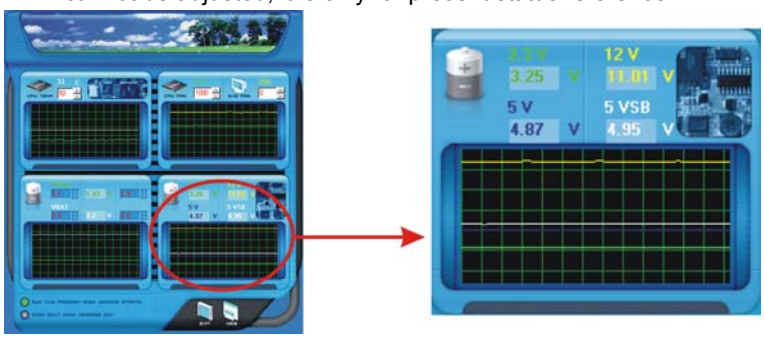
ii. VBAT

This item displays the CMOS battery voltage, represented by a light green line.

Users can set the upper and lower limit by adjusting to monitor the status of battery voltage.
If battery voltage is higher or lower than the set value, the status line will change to a red warning line, and a warning sound will alert you. Also, the system tray icon will change to .

Reference data

This column represents the status of power supply voltage and cannot be adjusted, it is only for present status reference.

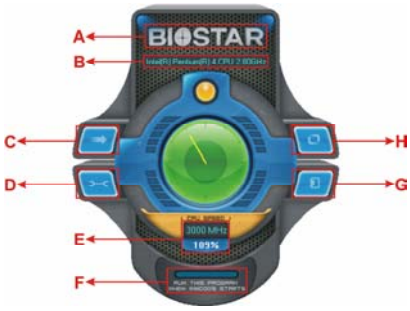


B. Overclocking Configurations

This diagram is designed for T-series Overclocking utility. Friendly interface and solid overclock features are the major concept of this utility.

Graphic 1 will appear when activating this utility.

Graphic 1



Graphic 2

A. Clicking on “Biostar” will lead you to the Biostar Homepage.
B. This column shows the CPU speed information.
C. Click on this button and the utility will pop-up 4 sub-screens (Please refers to Graphic 3).
D. Click on this button to minimize this program to taskbar.
E. This column shows present CPU speed and overclocking percentage.
F. Clicking on this button will make the program start up as soon as the Windows starts up.
G. Click on this button to exit this overclock utility.
H. Click on this button to reset all the overclock features to default setting.

By adjusting the overclocking features in 4 sub-screens, users can tune the system performance to an optimal level.

Graphic 3

CPU Overclocking Settings:

By adjusting can configure three items for CPU overclocking.

A. CPU Frequency

Range: 133MHz~450MHz.
Interval: 1MHz.

B. CPU Ratio

Range: 4~25.
Interval: 1.

C. CPU Voltage

Range: 1.175V~1.725V.
Interval: 0.025V.

Memory Overclocking Settings:

By adjusting can configure two items for Memory overclocking.

A. Memory Clock Frequency

Choices: 100, 133, 166, 200, 233,250.

B. Memory Voltage

Range: 2.5V~2.8V.
Interval: 0.1V.

AGP/PCI-Express Overclocking Setting:

By adjusting can configure VGA card overclocking. And this function helps to increase VGA card performance.

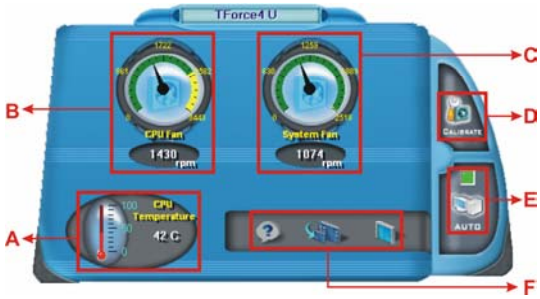
Range: 100MHz~150MHz.
Interval: 1MHz.

PCI Overclocking Setting:

This diagram shows present PCI working status and helps to monitor PCI peripherals working status.

This item cannot be adjusted.

C. Smart Fan Function



When Smart Fan Function is activated, screens will pop-up to illustrate the fan speed information.

i. CPU Temperature:

Show current CPU temperature.

ii. CPU Fan speed:

Show current CPU Fan speed.

iii. System Fan speed:

Show current system Fan speed.

iv. Calibrate:

When changing CPU Fan or System Fan, click on this button to re-calibrate the Fan speed.

Note:

1. When Smart Fan Function activates for the first time, this calibrate function would auto-run to get upper and lower limitation of CPU Fan and System Fan.
2. When calibrating process is done, the calibrating window will auto-close, and the main screen will show new fan speed data.

v. Auto:

If the green indicator is lit up, the Smart Fan Function is "On" (Default Setting).

Click on this button again to close Smart Fan Function, and a screen as below would pop-up.

There will be pulling-meter besides the CPU Fan and System Fan, the CPU Fan and the System Fan speed can be adjusted by adjusting the Cursor Up or Down.

vi. Program Tool Bar:

- ***About:***

  Click on this button to get program-related information.

- ***Minimize:***

  Click on this button to minimize the program to system tray

- ***Exit:***

  Click on this button to exit this program.

D. Live Update

When Live Update program is activated, a screen will pop up to illustrate BIOS related information.

i. Link to Internet:

Click on this button will link to Biostar website and BIOS file will be downloaded.

ii. Update BIOS:

Click on this button to run BIOS flashing process, and it's easy and safe.

iii. Backup BIOS:

Click on this button, and BIOS file will be saved into the user-selected folder.

iv. Clear CMOS:

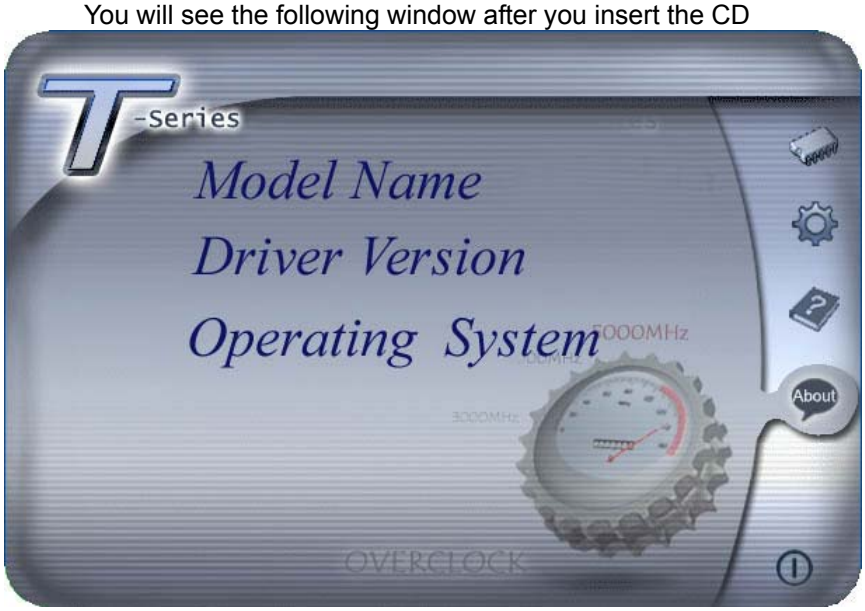
Click on this item will clear the CMOS Data. When carrying this job, the previous CMOS data would be cleared and returned to default setting.

CHAPTER 4: USEFUL HELP

4.1 DRIVER INSTALLATION NOTE

After you installed your operating system, please insert the Fully Setup Driver CD into your optical drive and install the driver for better system performance.

You will see the following window after you insert the CD



The setup guide will auto detect your motherboard and operating system.

> ***Note:***
> If this window didn't show up after you insert the Driver CD, please use file browser to locate and execute the file ***SETUP.EXE*** under your optical drive.

Driver Installation

To install the driver, please click on the Driver icon. The setup guide will list the compatible driver for your motherboard and operating system. Click on each device driver to launch the installation program.

Software Installation

To install the software, please click on the Software icon. The setup guide will list the software available for your system, click on each software title to launch the installation program.

Manual

Aside from the paperback manual, we also provide manual in the Driver CD. Click on the Manual icon to browse for available manual.

> ***Note:***
> You will need Acrobat Reader to open the manual file. Please download the latest version of Acrobat Reader software from
> ***http://www.adobe.com/products/acrobat/readstep2.html***

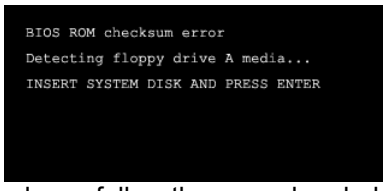
4.2 AWARD BIOS BEEP CODE

Beep Sound	Meaning
One long beep followed by two short beeps	Video card not found or video card memory bad
High-low siren sound	CPU overheated System will shut down automatically
One Short beep when system boots-up	No error found during POST
Long beeps every other second	No DRAM detected or installed

4.3 EXTRA INFORMATION

A. BIOS Update

After you fail to update BIOS or BIOS is invaded by a virus, the Boot-Block function will help to restore BIOS. If the following message is shown after boot-up of the system, it means the BIOS contents are corrupted.



In this case, please follow the procedure below to restore the BIOS:

1. Make a bootable floppy disk.
2. Download the Flash Utility "AWDFLASH.exe" from the Biostar website: www.biostar.com.tw
3. Confirm motherboard model and downl7oad the respective BIOS from Biostar website.
4. Copy "AWDFLASH.exe" and respective BIOS onto floppy disk.
5. Insert the bootable disk into floppy drive and press Enter.
6. System will boot-up to DOS prompt.
7. Type *"Awdflash xxxx.bf/sn/py/r"* in DOS prompt.
8. System will update BIOS automatically and restart.
9. The BIOS has been recovered and will work properly.

B. CPU Overheated

If the system shuts down automatically after power on of system for a few seconds that means the CPU protection function has been activated.

When the CPU is overheated, the motherboard will shutdown automatically to avoid damaging the CPU, and the system will not power on again.

In this case, please double check:

1. The CPU cooler surface is placed evenly with the CPU surface.
2. CPU fan is rotating normally.
3. CPU fan speed is fulfilling the CPU speed.

After confirmation, please follow the steps below to relieve the CPU protection function.

1. Remove the power cord from power supply for a few seconds.
2. Wait for a few seconds.
3. Plug in the power cord and boot up the system.

Or you can:

1. Clear the CMOS data.
   (See “JCMOS1: Clear CMOS Header” section)
2. Wait for a few seconds.
3. Power on the system again.

4.4 TROUBLESHOOTING

Problem	Solution
1. No power to the system at all Power light don't illuminate, fan inside power supply does not turn on. 2. Indicator light on keyboard does not turn on.	1. Make sure power cable is securely plugged in. 2. Replace cable. 3. Contact technical support.
System inoperative. Keyboard lights are on, power indicator lights are lit, and hard drive is spinning.	Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.
System does not boot from hard disk drive, can be booted from optical drive.	1. 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. 2. Backing up the hard drive is extremely important. All hard disks are capable of breaking down at any time.
System only boots from optical drive. Hard disk can be read and applications can be used but booting from hard disk is impossible.	1. Back up data and application files. 2. Reformat the hard drive. Re-install applications and data using backup disks.
Screen message says "Invalid Configuration" or "CMOS Failure."	Review system's equipment. Make sure correct information is in setup.
Cannot boot system after installing second hard drive.	1. Set master/slave jumpers correctly. 2. Run SETUP program and select correct drive types. Call the drive manufacturers for compatibility with other drives.

GERMAN

CPU

- Unterstützt Sockel 754..
- Unterstützt AMD Athlon 64 Prozessoren bis zu 3700+.
- Unterstützt AMD Sempron Prozessoren.
- Unterstützt HyperTransport™-Techologie bis zu 1600 MHz.

Abmessungen

- Mikro-ATX-Formfaktor: 24.4cm (L) x 21.86cm (B)

Systemspeicher

- Unterstützt DDR 266/333/400.
- Unterstützt die Speichergröße von maximal 2GB mit 2 DIMM-Steckplätze.

Chipsatz

- North Bridge: NVIDIA GeForce 6100.
- South Bridge: NVIDIA nForce 410.

Super E/A

- Chip: ITE 8712F.
- Systemumgebungskontrolle.
  - Hardwareüberwachung
  - Lüfterdrehzahl-Controller
  - "Smart Guardian"-Funktion von ITE

IDE

- Zwei integrierte Anschlüsse für 4 Geräte.
- Unterstützt PIO-Modus 0~4 und Ultra DMA 33/66/100/133 Bus-Mastermodus.

Serial ATA II

- nForce 410 unterstützt die Serial ATA 2.0-Spezifikation, datentransferrate von bis zu 3GB/s.

AC'97 Audio Sound CODEC

- Chip: ALC655, unterstützt 6 Kanäle.

10/100 LAN PHY

- PHY: RTL8201BL/RTL8201CL, unterstützt die ACPI, PCI-Energieverwaltung.

Betriebssystemunterstützung

- Unterstützt Windows 2000 und Windows XP.

Hinweis: *Windows 98SE und Windows ME werden nicht unterstützt.*

Interne integrierte Steckplätze und Anschlüsse

- 1 PCI-Express x1-Steckplatz
- 1 PCI-Express x16-Steckplatz
- 1 CD-ROM-Audioeingang
- 1 S/PDIF-Ausgangsanschluss
- 2 PCI-Steckplätze
- 2 Serial ATA II-Anschlüsse
- 2 Ultra DMA 33/66/100/133 IDE-Anschlüsse

Rücktafel-E/A-Anschlüsse

- 4 USB 2.0-Anschlüsse
- 1 VGA Anschluss
- 1 serieller Anschluss
- 1 drucker Anschluss
- 1 RJ-45 LAN-Anschluss
- 1 PS/2-Mausanschluss
- 1 PS/2-Tastaturanschluss
- 6 Audioanschlüsse für 8-Kanal-Audioausgabefunktionen.

FRENCH

Processeur

- Supporte le socket 754.
- Supporte les processeurs AMD Athlon 64 jusqu'à 3700+.
- Prise en charge des processeurs AMD Sempron.
- Supporte Technologie HyperTransport™ jusqu'à 1600MHz.

Dimensions

- Facteur de forme Micro ATX: 24.4cm (Long) x 21.86cm (Larg)

Mémoire système

- Prise en charge de DDR 266/333/400.
- Espace mémoire maximum de 2GB, prenant en charge 2 barrettes DIMM.

Chipset

- North Bridge: NVIDIA GeForce 6100.
- South Bridge: NVIDIA nForce 410.

E/S disque

- Chip: ITE 8712F.
- Initiatives Contrôle d'environnement.
  - Moniteur matériel
  - Contrôleur de vitesse de ventilateur
  - Fonction "Smart Guardian" d'ITE

IDE

- Deux connecteurs sur carte permettant la prise en charge de 4 périphériques.
- Prise en charge PIO mode 0~4 et mode bus maître Ultra DMA 33/66/100/133.

ATA II Série

- nForce 410 prise en charge des spécifications ATA 2.0 Série, débit de transfert des données jusqu'à 3 Go/s.

CODEC audio AC'97

- Chip: ALC655, prise en charge 6 canaux.

10/100 LAN PHY

- PHY: RTL8201BL/RTL8201CL, prise en charge Gestion de l'alimentation ACPI, PCI.

Systèmes d'exploitation pris en charge

- Prise en charge de Windows 2000 et Windows XP.

Note: *Windows 98SE et Windows ME ne sont pas pris en charge.*

Emplacements et connecteurs sur carte internes

- 1 emplacement PCI-Express x1
- 1 emplacement PCI-Express x16
- 1 connecteur S/PDIF-Out
- 1 connecteur d'entrée CD-ROM audio-in
- 2 emplacements PCI
- 2 ports série ATA II
- 2 connecteurs IDE Ultra DMA 33/66/100/133

Connecteurs E/S panneau arrière

- 4 ports USB 2.0
- 1 port VGA
- 1 port imprimeur
- 1 port série
- 1 prise LAN RJ-45
- 1 port souris PS/2
- 1 port clavier PS/2
- 1 port audio vertical comprenant 1 connecteur d'entrée Line-in, 1 connecteur de sortie Line-out, et 1 connecteur d'entrée MIC-in.

ITALIAN

CPU

- Supporto di Socket 754.
- Supporto AMD Athlon 64 fino a 3700+.
- Supporto processore AMD Sempron.
- Tecnologia HyperTransport™ fino a 1600MHz.

Dimensioni

- Fattore di forma ATX micro: 24.4cm (L) x 21.86cm (P)

Memoria di sistema

- Supports di DDR 266/333/400.
- Lo spazio massimo di memoria è 2 GB e supporta 2 prese DIMM.

Chipset

- North Bridge: NVIDIA GeForce 6100.
- South Bridge: NVIDIA nForce 410.

Super I/O

- Chip: ITE 8712F.
- Funzioni di controllo dell'ambiente.
  - Monitoraggio hardware
  - Controller velocità ventolina
  - Funzione "Smart Guardian" di ITE

IDE

- Due connettori integrati supportano 4 dispositivi.
- Modalità: PIO 0-4, bus master e Ultra DMA 33/66/100/133.

Serial ATA II

- nForce 410 supporto specifiche Serial ATA 2.0, velocità di trasferimento dei dati fino 3GB/s.

Audio CODEC AC'97

- Chip: ALC655, supporto di 6 canali.

10/100 LAN PHY

- PHY: RTL8201BL/RTL8201CL, supporto gestione energetica ACPI, PCI.

Sistemi operativi supportati

- Supporto di Windows 2000 e Windows XP.

Nota: *Non supporta Windows 98SE e Windows ME.*

Connettori e alloggiamenti interni integrato

- 1 alloggiamento PCI-Express x1
- 1 alloggiamento PCI-Express x16
- 1 connettore S/PDIF-out
- 1 connettore ingresso audio CD-ROM
- 2 alloggiamenti PCI
- 2 porte Serial ATA II
- 2 connettori Ultra DMA 33/66/100/133 IDE

Connettori I/O del pannello posteriore

- 4 porte USB 2.0
- 1 porta VGA
- 1 porta Serial
- 1 porta stampatore
- 1 connettore LAN RJ-45
- 1 porta mouse PS/2
- 1 porta tastiera PS/2
- 1 porta audio verticale che include: 1 connettore Line-in (ingresso linea), 1 connettore Line-out (uscita linea) ed 1 connettore MIC-in (ingresso microfono).

SPANISH

Procesador

- Soporta el Socket 754.
- Admite procesador AMD Athlon 64 de hasta 3700+.
- Compatible con el procesador AMD Sempron.
- Admite la tecnología HyperTransport de hasta 1600 MT/s.

Dimensiones

- Formato Micro ATX: 24.4cm (LA) x 21.86cm (AN)

Memoria del sistema

- Compatible con Admite DDR 266/333/400.
- Espacio máximo de memoria de 2 GB, que admite 2 zócalos DIMM.

Conjunto de chips

- North Bridge: NVIDIA GeForce 6100.
- South Bridge: NVIDIA nForce 410.

Súper E/S

- Procesador: ITE 8712F.
- Iniciativas de control medioambiental.
  - Supervisor H/W
  - Controlador de la velocidad del ventilador
  - Función "Guardián inteligente" de ITE

IDE

- Dos conectores integrados que admiten 4 dispositivos.
- Admite el modo PIO 0~4 y el modo de bus maestro Ultra DMA 33/66/100/133.

Serial ATA II

- nForce 410 compatible con la especificación Serial ATA 2.0, tasa de transferencia de datos de hasta 3 GB/s.

Códec de audio AC'97

- Procesador: ALC655, admite 6 canales.

10/100 LAN PHY

- PHY: RTL8201BL/RTL8201CL, admite administración de energía ACPI.

Sistemas operativos compatibles

- Compatible con Windows 2000 y Windows XP.

Nota: *no compatible con Windows 98SE ni Windows ME.*

Conectores y ranuras integrados e internos

- 1 ranura 1X PCI-Express
- 1 ranura 16X PCI-Express
- 1 conector de salida S/PDIF
- 1 conector de entrada de audio en CD-ROM
- 2 ranuras PCI
- 2 puertos Serial ATA II
- 2 conectores Ultra DMA 33/66/100/133 IDE

Back Conectores de E/S del panel posterior

- 4 puertos USB 2.0
- 1 puertos VGA
- 1 puertos Serial
- 1 puerto impresora
- 1 conector de red LAN RJ-45
- 1 puerto para ratón PS/2
- 1 puerto para teclado PS/2
- 1 puerto de audio vertical que incluye un conector de entrada de línea, un conector de salida de línea y un conector de entrada de micrófono.

PORTUGUESE

CPU

- Suporta o socket 754.
- Suporta um processador AMD Sempron.
- Suporta um processador AMD 64 até 3700+.
- Suporta a tecnologia HyperTransport™ até 1600 MHz.

Dimensões

- Factor de forma Micro ATX: 24.4cm (C) x 21.86cm (L)

Memória do sistema

- Suporta módulos DDR 266/333/400.
- Capacidade máxima da memória: 2GB, suportando 2 sockets DIMM.

Chipset

- Ponte Norte: NVIDIA GeForce 6100.
- Ponte Sul: NVIDIA nForce 410.

Especificação Super I/O

- Chip: ITE 8712F.
- Iniciativas para controlo do ambiente.
  - Monitorização do hardware
  - Controlador da velocidade da ventoinha
  - Função "Smart Guardian" da ITE

IDE

- Dois conectores na placa para 4 dispositivos.
- Suporta o modo PIO 0~4 e o modo bus master Ultra DMA 33/66/100/133.

Serial ATA II

- nForce 410 suporta a especificação Serial ATA 2.0, velocidade de transferência de dados até3 GB/s.

CODEC de som AC'97

- Chip: ALC655, suporta 6 canais.

10/100 LAN PHY

- PHY: RTL8201BL/RTL8201CL, suporta a gestão de energia ACPI, PCI.

Sistemas operativos suportados

- Suporta o Windows 2000 e o Windows XP.

Nota: *Não suporta o Windows 98SE e o Windows ME.*

Conectores e ranhuras internos na placa

- 1 ranhura PCI Express x1
- 1 ranhura PCI Express x16
- 1 conector S/PDIF-Out
- 1 conector CD-ROM para entrada de áudio
- 2 ranhuras PCI
- 2 portas Serial ATA II
- 2 conectores Ultra DMA 33/66/100/133 IDE

Conectores I/O do painel traseiro

- 4 portas USB 2.0
- 1 porta VGA
- 1 porta série
- 1 porta impressora
- 1 tomada LAN RJ-45
- 1 porta para rato PS/2
- 1 porta para teclado PS/2
- 1 porta de áudio vertical incluindo 1 conector de entrada de linha, 1 conector de saída de linha e 1 conector de entrada para microfone.

POLAND

PROCESOR

- Obsługa gniazd Socket 754.
- Obsługa procesorów AMD Athlon 64 do 3700+.
- Obsługa procesorów AMD Sempron
- Obsługa HyperTransport Technology do 1600MT/s.

Wymiary

- Obudowa Mikro ATX: 24.4cm (D) x 21.86cm (S)

Pamięć systemowa

- Obsługa DDR 266/333/400.
- Maksymalna wielkość pamięci wynosi 2GB z obsługą 2 gniazd DIMM.

Chipset

- Mostek północny: NVIDIA GeForce 6100.
- Mostek południowy: NVIDIA nForce 410.

Super I/O

- Chip: ITE 8712F.
- Inicjatywy kontroli środowiska.
  - Monitor H/W
  - Kontroler prędkości wentylatora
  - Funkcja ITE "Smart Guardian"

IDE

- Dwa wbudowane złącza z możliwością obsługi 4 urządzeń.
- Obsługa trybu PIO 0~4 oraz tryb magistrali głównej Ultra DMA 33/66/100/133.

Serial ATA II

- nForce 410 obsługa specyfikacji Serial ATA 2.0, transfer danych do 3GB/s.

KODEK dźwięku AC'97

- Chip: ALC655, obsługa 6 kanałów.

10/100 LAN PHY

- PHY: RTL8201BL/RTL8201CL, obsługa zarządzania zasilaniem ACPI, PCI.

Obsługiwane systemy operacyjne

- Obsługa Windows 2000 oraz Windows XP.

Uwaga: *Brak obsługi Windows 98SE oraz Windows ME.*

Wewnętrzne, wbudowane gniazda oraz złącza

- 1 gniazdo PCI-Express x1
- 1 gniazdo PCI-Express x16
- 1 złącze wyjścia S/PDIF
- 1 złącze wejścia audio CD-ROM
- 2 gniazda PCI
- 2 porty Serial ATA II
- 2 złącza Ultra DMA 33/66/100/133 IDE

Złącza I/O na panelu tylnym

- 4 porty USB 2.0
- 1 port VGA
- 1 port drukarki
- 1 port szeregowy
- 1 gniazdo LAN RJ-45
- 1 port myszy PS/2
- 1 port klawiatury PS/2
- 1 pionowy port audio zawierający 1 złącze wejścia liniowego, 1 złącze wyjścia liniowego i 1 złącze wejścia mikrofonu.

RUSSIAN

Процессор

- Поддерживает гнездо 754.
- Поддерживает процессоры AMD Athlon 64 до 3700+.
- Поддерживает процессоры AMD Sempron.
- Поддержка технологии HyperTransport до 1600 млн. передач в секунду.

Размеры

- Форм-фактор Микро-ATX: 24.4cm x 21.86cm (Д x Ш)

Системная память

- Поддерживает DDR 266/333/400.
- Максимальный объем памяти 2 Гб в 2 гнездах DIMM.

Набор микросхем

- Северный мост: NVIDIA GeForce 6100
- Южный мост: NVIDIA nForce 410.

Супер ввод-вывод

- Контроллер: ITE 8712F.
- Функции управления режимом эксплуатации.
  - Монитор состояния оборудования
  - Контроллер скорости вентиляторов
  - Функция «Smart Guardian» компании ITE

IDE

- Два встроенных разъема поддерживают подключение четырех жестких дисков IDE.
- Поддержка режимов PIO 0–4 и Ultra DMA 33/66/100/133.

Serial ATA II

- nForce 410 Поддерживает спецификацию Serial ATA 2.0, скорость передачи данных до или 3 Гб/с.

Звуковой кодек AC'97

- Контроллер: ALC655, Поддерживает 6-канальный звук.

10/100 LAN PHY

- PHY: RTL8201BL/RTL8201CL.
- Поддерживает управление питанием ACPI, PCI.

Поддерживаемые операционные системы

- Поддерживает Windows 2000 и Windows XP.

***Примечание:** не поддерживает Windows 98SE и Windows ME.*

Встроенные разъемы ввода-вывода

- 1 слот PCI Express x1
- 1 слот PCI Express x16
- 1 разъем S/PDIF-выхода
- 1 Один входной разъем звукового сигнала с привода для компакт-дисков
- 2 слота PCI
- 2 порта Serial ATA II
- 2 разъем Ultra DMA 33/66/100/133 IDE

Разъемы ввода-вывода на задней панели

- 4 порта USB 2.0
- 1 порт мыши VGA
- 1 последовательный порт
- 1 порт принтер
- 1 гнездо RJ-45 ЛВС
- 1 порт мыши PS/2
- 1 порт клавиатуры PS/2
- 1 вертикальный звуковой порт, содержащий 1 разъем линейного входа, 1 разъем линейного выхода и 1 разъем микрофонного входа.

ARABIC

وحدة المعالجة المركزية (CPU)

- تدعم قاعدة توصيل 754.
- دعم معالج AMD Athlon 64 حتى سرعات تزيد على 3700.
- تدعم معالجات AMD Sempron processor.
- دعم تقنية Hyper Transport حتى 1600 نقلة ميجا في الثانية.

الأبعاد

- عامل نموذج مايكرو ATX: 24.4 سم (الطول) × 21.86 سم (العرض)

ذاكرة النظام

- تدعم DDR 400/333/266.
- أقصى مساحة للذاكرة 2 جيجابايت، مع دعم 2 منافذDIMM.

مجموعة الشرائح

- الجسر الشمالي: NVIDIA GeForce 6100.
- الجسر الجنوبي: NVIDIA nForce 410.

دخل/خرج فائق

- الشريحة: ITE IT8712F.
- مبادرات التحكم في البيئة.
  - مراقبة H/W
  - وحدة تحكم في سرعة المروحة
  - ITEوظيفة "الواقي الذكي" من

IDE

- موصلان على اللوحة يدعمان أربعة أجهزة.
- دعم وضع الدخل/الخرج المبرمج (PIO) 4-0، ووضع القفل والأوضاع الرئيسية.
- للنقل من خلال الوصول الفائق للذاكرة مباشرة (Ultra DMA (33/66/100/133.

سلسلة ATA II

- وحدة تحكم متكاملة مع nForce 410
- يتوافق nForce 410 مع مواصفات SATA 2.0 وذلك بخصوص معدل نقل بيانات الذي يصل إلى 3 جيجا في الثانية.

شفرة صوت AC'97

- الشريحة: ALC655 تدعم 6 قنوات خرج صوت.

توصيل شبكي بسرعة نقل 10/100

- PHY: RTL8201BL/RTL8201CL ودعم إدارة الطاقة من خلال ACPI و PCI.

نظم التشغيل المدعمة

- يدعم Windows 2000 وWindows XP.

ملاحظة: *لا يوجد دعم لنظامي تشغيل Windows 98SE وWindows ME.*

منافذ توصيل وفتحات اللوحة الداخلية

- 1 فتحة PCI-Express × 1
- 1 فتحة PCI-Express × 16
- 1 منفذ توصيل خرج SPDIF-Out واحد
- 1 منفذ توصيل دخل صوت CD-ROM واحد
- 2 فتحتان PCI
- 2 منفذان SATA II
- 2 منفذا توصيل Ultra DMA 33/66/100/133 IDE

موصلات المدخلات/المخرجات باللوحة الخلفية

- 4 منافذ USB 2.0
- 1 منفذ VGA
- 1 منفذ تسلسي
- 1 منفذ طابعة
- 1 قابس RJ-45 LAN
- 1 منفذ ماوس PS/2
- 1 منفذ لوحة مفاتيح PS/2
- 1 منفذ صوت رأسي يشتمل على 1 طرف توصيل خط داخل و1 طرف توصيل خط خارج و1 طرف

JAPANESE

CPU

- Socket 754 をサポート。
- AMD Athlon 64 プロセッサをサポート。
- AMD Athlon 64 ププロセッサに対応、最大 3700+。
- AMD Sempron プロセッサをサポート。
- ハイパートランスポートテクノロジに対応、最大 1600MHz。

サイズ

- ATX フォームファクタ: 24.4cm (長さ) x 21.86cm (幅)

システムメモリ

- DDR 266/333/400 をサポート。
- 最大メモリ容量 2GB、2 つの DIMM ソケットをサポート。

チップセット

- ノースブリッジ: NVIDIA GeForce 6100。
- サウスブリッジ: NVIDIA nForce 410。

スーパー I/O

- チップ: ITE IT8712F。
- 環境コントロールイニシアチブ、
  - H/W モニタ
  - ファン速度コントローラ
  - ITE「スマート・ガーディアン」機能

IDE

- 2 つのオンボードコネクタが 4 つのデバイスをサポート。
- PIO モード 0~4、ウルトラ DMA 33/66/100/133 バス・マスターモードに対応。

シリアル ATA II

- nForce 410 シリアル ATA 2.0 仕様をサポート、 最大 3GB/秒のデータ転送速度。

AC’97 オーディオ　サウンド・コデック

- チップ: ALC655、6 チャンネルをサポート。

10/100 LAN PHY

- PHY: RTL8201BL/RTL8201CL, ACPI, PCI 電源管理をサポート。

サポートするオペレーティングシステム

- Windows 2000、Windows XP をサポート。

注: Windows 98SE と Windows ME では対応していません。

内部オンボードスロットとコネクタ

- PCI-Express x1 スロット(x1)
- PCI-Express x16 スロット(x1)
- S/PDIF アウトコネクタ(x1)
- CD-ROM オーディオインコネクタ(x1)
- PCI スロット(x2)
- シリアル ATA II ポート(x2)。
- Ultra DMA 33/66/100/133 IDE コネクタ(x2)

背面パネル I/O コネクタ

- USB 2.0 ポート(x4)
- VGA ポート (x1)
- プリンター ポート (x1)
- シリアルポート(x1)
- RJ-45 LAN ジャック(x1)
- PS/2 マウスポート(x1)
- PS/2 キーボードポート(x1)
- ラインイン コネクタ 1 つ、ラインアウト コネクタ 1 つ、および MIC イン
- コネクタを含む縦型オーディオ ポート 1 つ。

05/18，2006

TForce 6100-939 & TForce 6100 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 Nvidia CK8 processor 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.

ACPI Support

Award ACPI BIOS support Version 1.0 of Advanced Configuration and Power interface specification (ACPI). It provides ASL code for power management and device configuration capabilities as defined in the ACPI specification, developed by Microsoft, Intel and Toshiba.

PCI Bus Support

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

DRAM Support

DDR SDRAM (Double Data Rate Synchronous DRAM) are supported.

Supported CPUs

This AWARD BIOS supports the AMD 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.

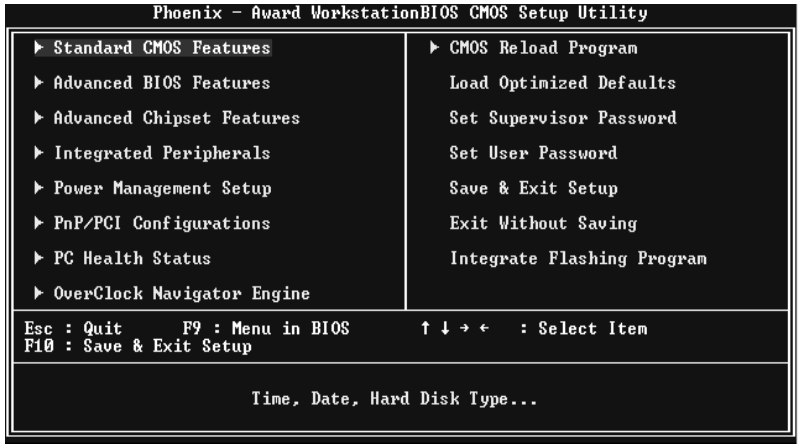
Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left (menu bar)
Right arrow	Move to the item on the right (menu bar)
Move Enter	Move to the item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+ Key	Increase the numeric value or make changes
- Key	Decrease the numeric value or make changes
Esc key	Main Menu – Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu – Exit Current page and return to Main Menu
F1 key	General help on Setup navigation keys
F5 key	Load previous values from CMOS
F7 key	Load the optimized defaults
F10 key	Save all the CMOS changes and exit

1 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.

> *!! WARNING !!*
>
> The information about BIOS defaults on manual (**Figure 1,2,3,4,5,6,7,8,9**) 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.

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.

OverClock Navigator Engine

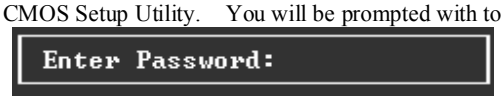
ONE provides two powerful overclock engines, MOS & AOS for both overclock expertises and beginners.

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.

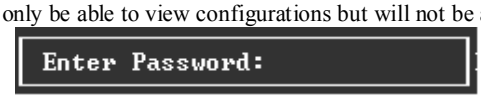
Set Supervisor Password

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.



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.

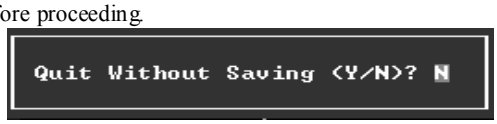


Save & Exit Setup

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

Exit Without Saving

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



Integrate Flashing Program

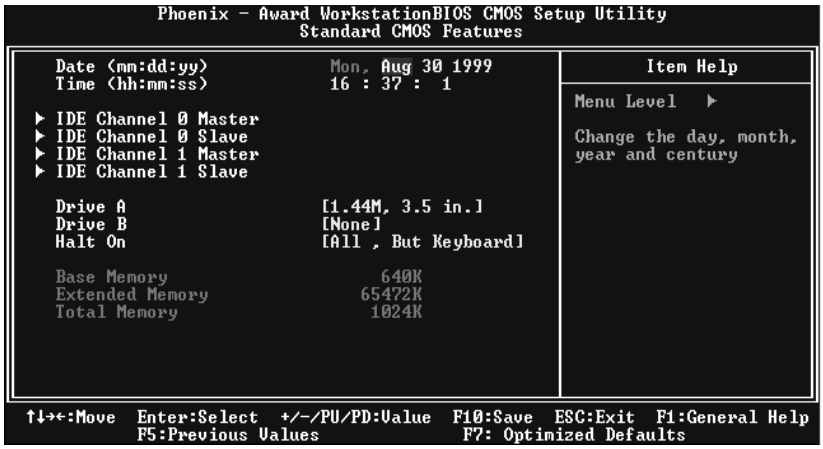
This is a very safe way to upgrade BIOS.

By pressing "Enter" key for three times, and the upgrading process will be completed easily.

2 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**



Main Menu Selections

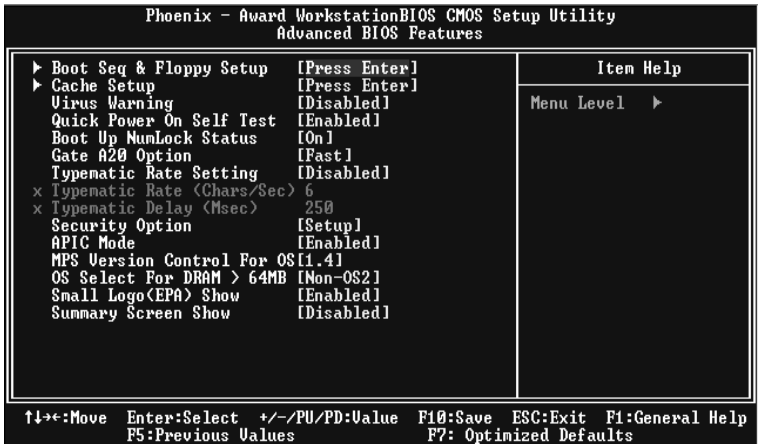
This table shows the selections that you can make on the Main Menu.

Item	Options	Description
Date	mm : dd : yy	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.

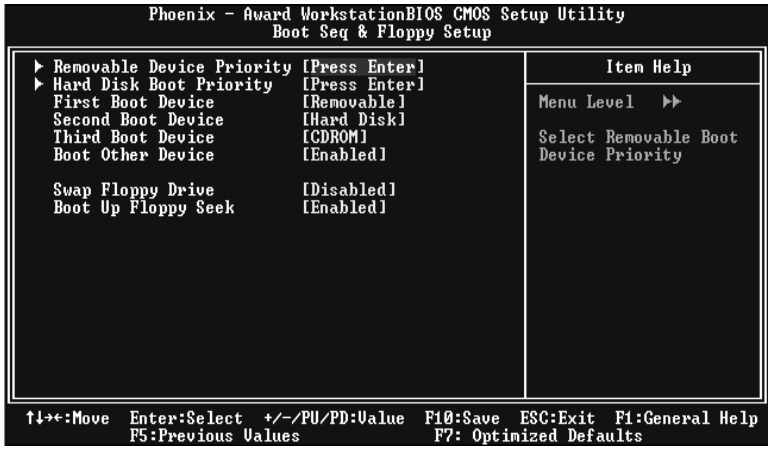
Item	Options	Description
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/ Key	Select the situation in which you want the BIOS to stop the POST process and notify you.
Base Memory	N/A	Displays the amount of conventional memory detected during boot up.
Extended Memory	N/A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

3 Advanced BIOS Features

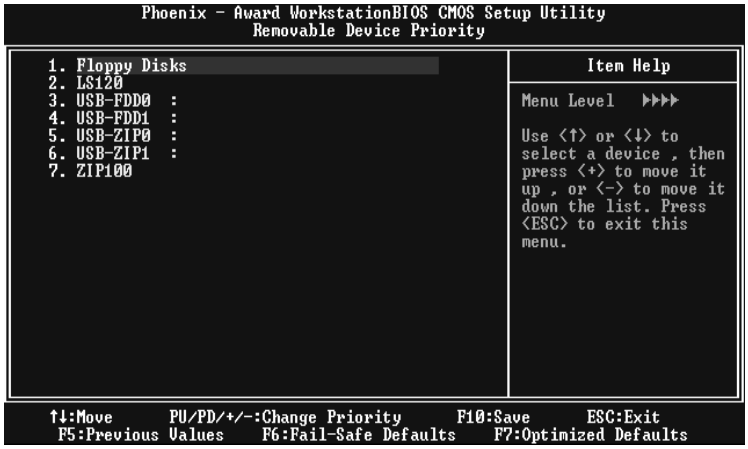
■ **Figure 3. Advanced BIOS Setup**



Boot Seq & Floppy Setup



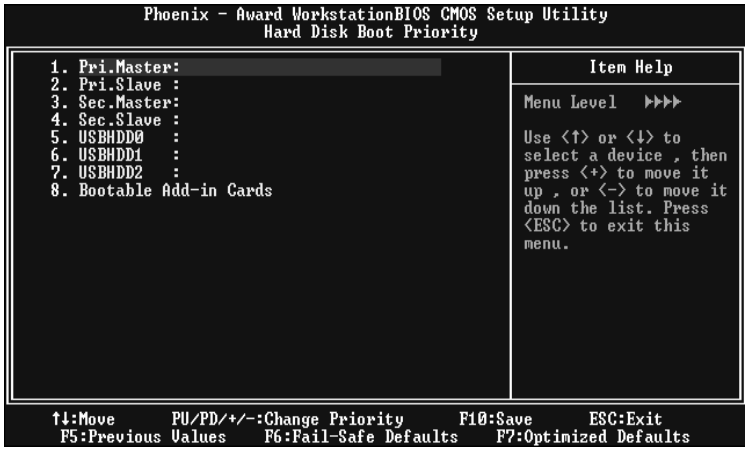
Removable Device Priority



These BIOS attempt to load the operating system from the device in the sequence selected in these items.

The Choices: Floppy Disks, LS120, USB-FDD0, USB-FDD1, USB-ZIP0, USB-ZIP1, And ZIP100.

Hard Disk Boot Priority



These BIOS attempt to load the operating system from the device in the sequence selected in these items.

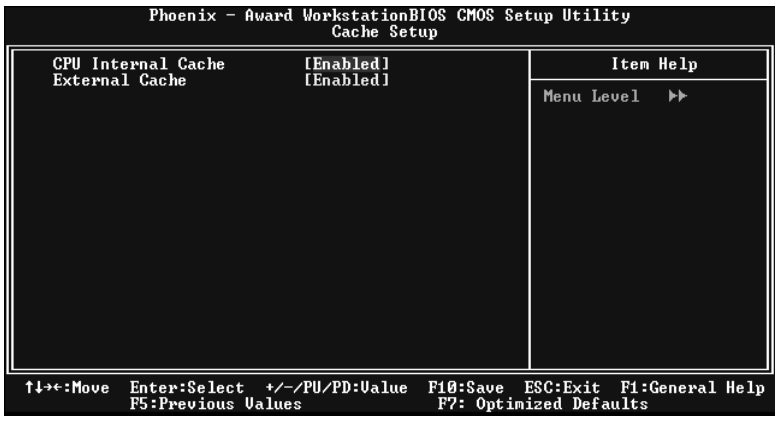
The Choices: Pri. Master, Pri. Slave, Sec. Master, Sec, Slave, USBHDD0, USB HDD1, USB HDD2, and Bootable Add-in Cards.

First/ Second/ Third/ Boot Other Device
These BIOS attempt 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, Disabled.

Swap Floppy Drive
For systems with two floppy drives, this option allows you to swap logical drive assignments.
The Choices: Disabled (default), Enabled.

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.

Cache Setup



These BIOS attempt to load the operating system from the device in the sequence selected in these items.

CPU Internal 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.

External Cache
This option enables or disables "Level 2" secondary cache on the CPU, which may improve performance.
The Choices:

Enabled (default)	Enable cache.
Disabled	Disable cache.

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.

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.

Boot Up NumLock Status

Selects the NumLock. State after power on.

On (default)	Numpad is number keys.
Off	Numpad is arrow keys.

Gate A20 Option

Select if chipset or keyboard controller should control Gate A20.

Normal	A pin in the keyboard controller controls Gate A20.
Fast (default)	Lets chipset control Gate A20.

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.

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.

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.

APIC MODE

Selecting Enabled enables APIC device mode reporting from the BIOS to the operating system.
The Choices: Enabled (default), Disabled.
Note: If the CPU type is AMD 939 Dual Core, this item will be always "Enabled".

MPS Version Control For OS

The BIOS supports version 1.1 and 1.4 of the Intel multiprocessor specification.
Select version supported by the operation system running on this computer.
The Choices: 1.4 (default), 1.1.

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.

Small Logo (EPA) Show

This item allows you to enable/ disable display the small EPA logo.
The Choices: Enabled (default), Disabled.

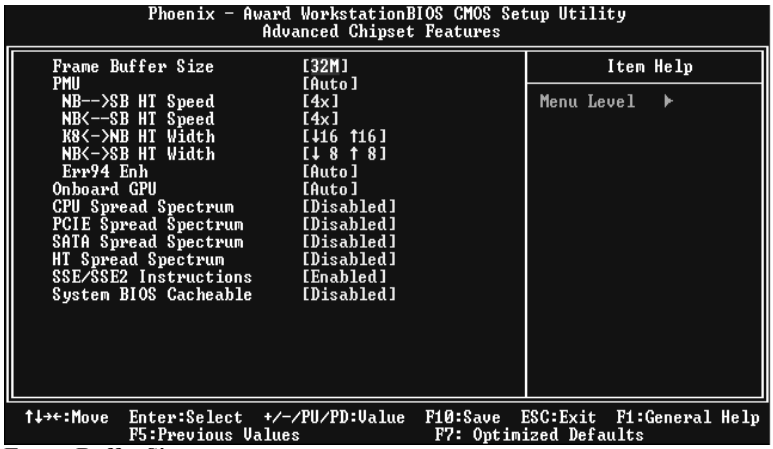
Summary Screen Show

This item allows you to enable/ disable display the Summary Screen Show.
The Choices: Disabled (default), Enabled.

4 Advanced Chipset Features

This submenu allows you to configure the specific features of the chipset installed on your system. This chipset manage 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**



Frame Buffer Size

The Choices: 32M (default), 16M, 64M, 128M, Disabled.

PMU

The Choices: Auto (default), Disabled.

NB-->SB HT Speed

The Choices: 4X (default).1X, 2X, 3X, 5X.

NB<--SB HT Speed

The Choices: 4X (default).1X, 2X, 3X, 5X.

K8<->NB HT Width

The Choices: ↓16 ↑16 (default), ↓8 ↑8.

NB<->SB HT Width

The Choices: ↓8 ↑8 (default), ↓16 ↑16.

Err94 Enh

This item allows you to enable/disable the "sequential Prufetch Feature" of K8 CPU.
The Choices: Auto (default), Disabled.

Onboard GPU

The Choices: **Auto** (default), Always Enable.

CPU Spread Spectrum

The Choices: Disabled (default), Center, Down.

PCIE Spread Spectrum

This item allows you to disable \ enable the SATA spread spectrum function.
The Choices: Disabled (default), Enabled.

SATA Spread Spectrum

This item allows you to disable \ enable the SATA spread spectrum function.
The Choices: Disabled (default), Enabled.

HT Spread Spectrum

The Choices: Disabled (default), Center, Down.

SSE/SSE2 Instructions

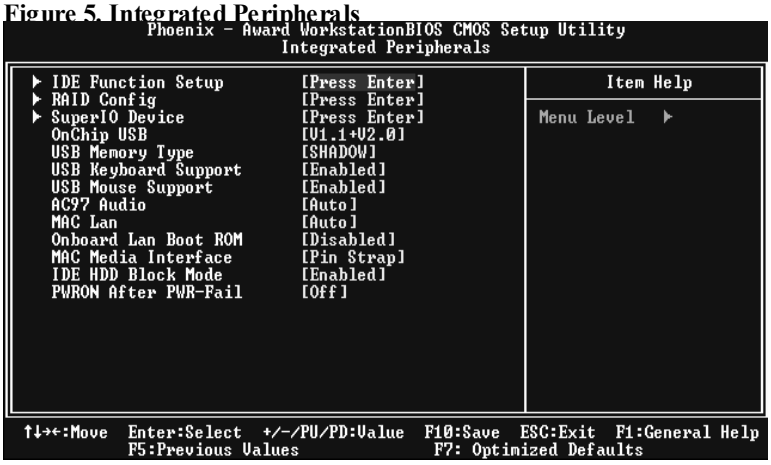
The Choices: Enabled (default), Disabled.

System BIOS Cacheable

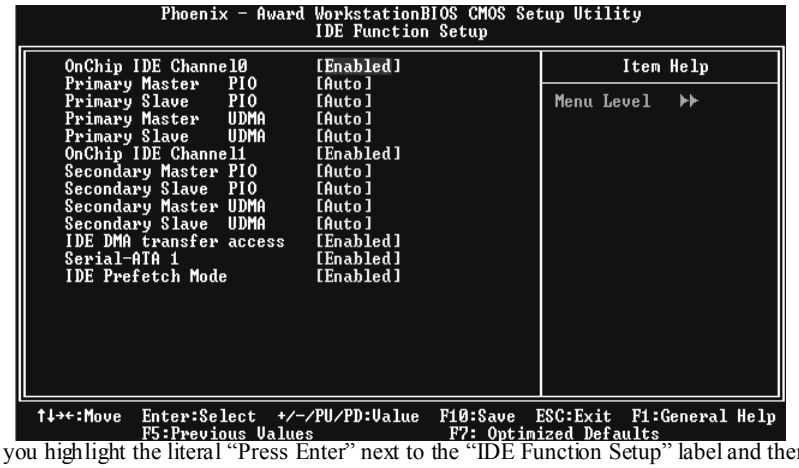
Selecting the "Disabled " option allows caching of the system BIOS ROM at F0000h-FFFFFh which can improve system performance. However, any programs writing to this area of memory will cause conflicts and result in system errors.
The Choices: Disabled (default), Enabled.

5 Integrated Peripherals

- **Figure 5. Integrated Peripherals**



IDE Function Setup



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

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.

Primary / Secondary /Master / Slave PIO
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.

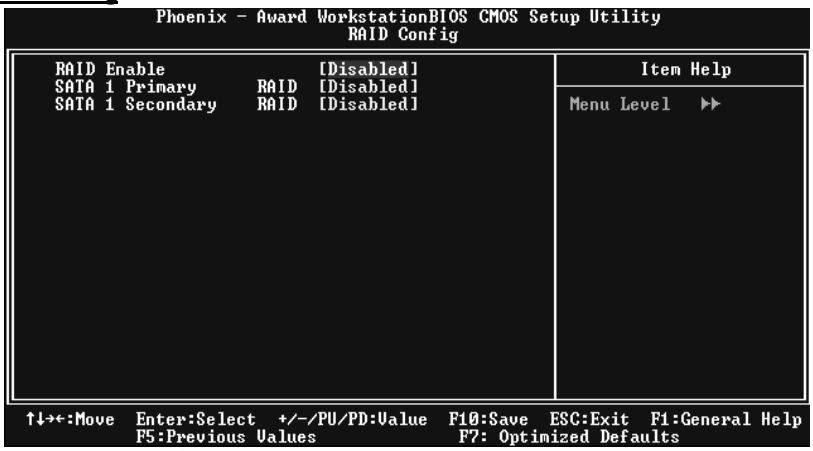
Primary / Secondary /Master / Slave UDMA
Ultra DMA/100 functionality can be implemented if it is supported by the IDE hard drives in your system. As well, your operating environment requires a DMA driver (Windows 95 OSR2 or a third party IDE bus master driver). If your hard drive and your system software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

IDE DMA Transfer Access
The Choices: Enabled (default), Disabled.

Serial-ATA 1
Enables support for Serial-ATA 1.
The Choices: Enabled (default), Disabled.

IDE Prefetch Mode
The Choices: Enabled (default), Disabled.

RAID Config

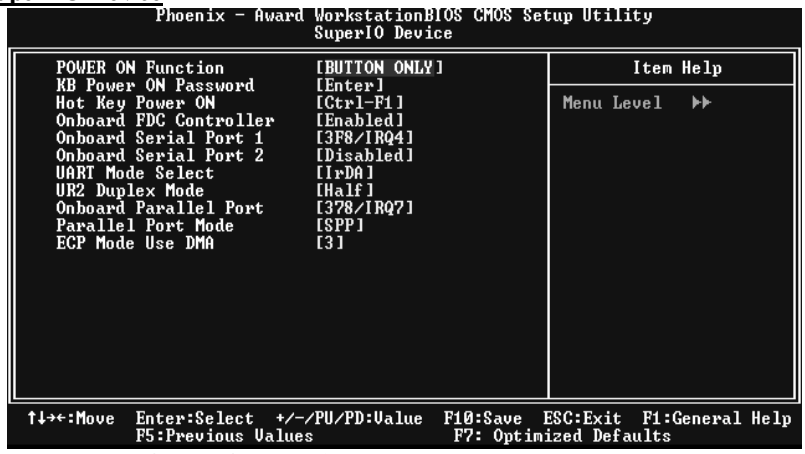


RAID Enable
TheChoices: Disabled (default), Enabled.

SATA 1 Primary
The Choices: Disabled (default), Enabled.

SATA 1 Secondary
The Choices: Disabled (default), Enabled.

Super IO Device



POWER ON Function
This item allows you to choose the power on function.
The Choices: Button ONLY (default), Password, Hot Key, Mouse Left, Mouse Right, Any Key, Keyboard 98.

KB Power On Password
This item allows you to enter a password with at least 5 characters.

HOT Key Power On
This item allows you to set the hot key to power on system.
The Choices: Ctrl-F1 (default), Ctrl-F2, Ctrl-F3, Ctrl-F4, Ctrl-F5, Ctrl-F6, Ctrl-F7, Ctrl-F8, Ctrl-F9, Ctrl-F10, Ctrl-F11, Ctrl-F12.

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 install and FDC or the system has no floppy drive, select Disabled in this field.
The Choices: **Enabled** (default), Disabled.

Onboard Serial Port 1
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 (default), 2F8/IRQ3, 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** (default) .

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.

OnChip USB
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: V1. 1+V2. 0 (default), Disabled, V1.1

USB Memory Type
The Choices: SHADOW (default), Base Memory(640K).

USB keyboard Support
Enables support for USB attached keyboard.
The Choices: Disabled, **Enabled** (default).

USB Mouse Support

Enables support for USB attached mouse.
The Choices: Disabled, **Enabled** (default).

AC97 Audio

This option allows you to control the onboard AC97 audio.
The Choices: Auto (default), Disabled.

MAC LAN

This option allows you to change the state of the onboard MAC LAN.
The Choices: Auto (default), Disabled.

Onboard LAN Boot ROM

This item allows you to enable or disable Onboard LAN Boot ROM.
The Choices: Disabled (default), Enabled.

MAC Media Interface

The Choices: Pin Strap (default).

IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read / write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read / write per sector where the drive can support.
The Choices: Enabled (default)**,** Disabled**.**

POWER After PWR-Fail

This setting specifies whether your system will reboot after a power fail or interrupts occurs.

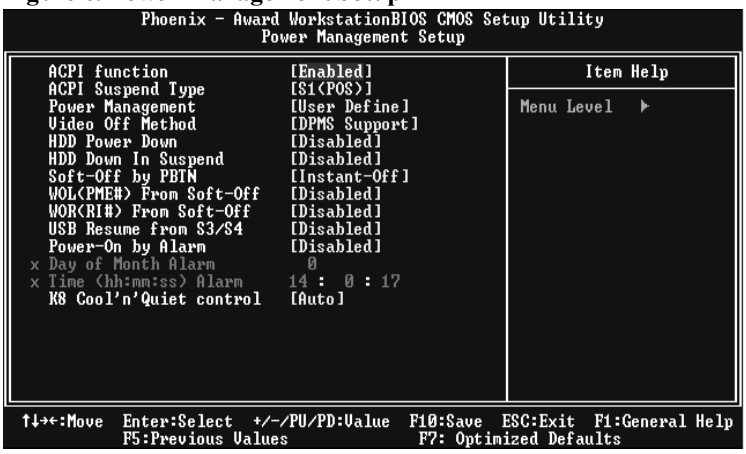
Off	Leaves the computer in the power off state.
On	Reboots the computer.
Former-Sts	Restores the system to the status before power failure or interrupt occurs.

The Choices: Off (default), On, Former-Sts.

6 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

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.

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 Define (default)

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

Video Off Method

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

V/H SYNC+Blank

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.

DPMS (default)

Initial display power management signaling.
The Choices: Stop Grant, PwrOn Suspend.

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.

HDD Down In Suspend

The Choices: Disabled (default), Enable.

Soft-Off by PWR-BTTN

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).

WOL (PME#) From Soft-Off

The Choices: Disabled (default), Enabled.

WOR (RI#) From Soft-Off

The Choices: Disabled (default), Enabled.

USB Resume from S3

The Choices: Disabled (default), Enabled.

Power-On by Alarm

When you select Enabled, an alarm returns the system to Full ON state.
The Choices: Disabled (default), Enabled.

Date (of Month) Alarm

You can choose which month the system will boot up.

Time (hh:mm:ss) Alarm

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

Note: If you have change the setting, you must let the system boot up until it goes to the operating system, before this function will work.

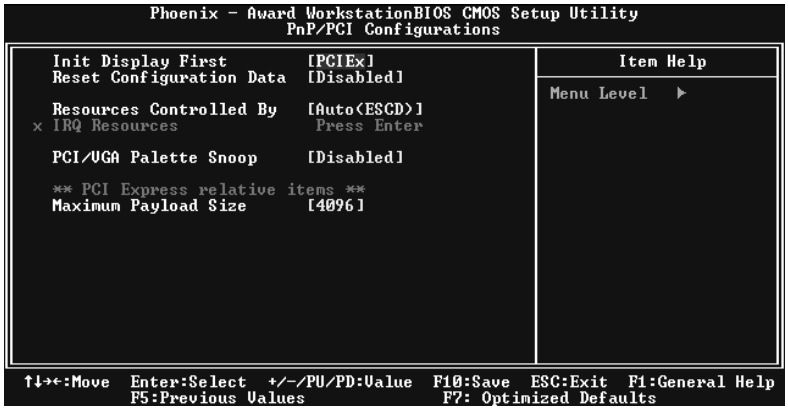
AMD K8 Cool'n' Quiet Control

This function supports AMD Cool 'n' Quick function.
The Choices: AUTO (default).Disable.

7 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**



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 Ex (default),PCI Slot,Onboard.

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.
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(ESCD)**" (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.

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".

IRQ-3	assigned to	PCI Device
IRQ-4	assigned to	PCI Device
IRQ-5	assigned to	PCI Device
IRQ-7	assigned to	PCI Device
IRQ-9	assigned to	PCI Device
IRQ-10	assigned to	PCI Device
IRQ-11	assigned to	PCI Device
IRQ-12	assigned to	PCI Device
IRQ-14	assigned to	PCI Device
IRQ-15	assigned to	PCI Device

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.

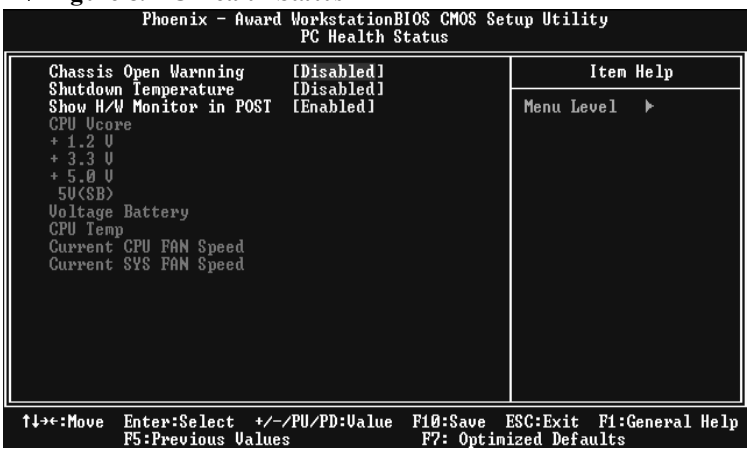
Disabled (default)	Disables the function.
Enabled	Enables the function.

Maximum Payload Size

Set the maximum payload size for Transaction packets (TLP).
The Choice: 4096 (default.)

8 PC Health Status

- **A、Figure 8. PC Health Status**



Chassis Open Warning

This item allows you to enable or disable Chassis Open Warning beep.
The Choices: Disabled (Default), Enabled.

Shutdown Temperature

This item allows you to set up the CPU shutdown Temperature. This item only effective under Windows 98 ACPI mode.
The Choices: Disabled (default), 60℃/140F, 65℃/149F, 70℃/158F, 75℃/167F.

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.

CPU Vcore/ +1.2V+3.3V/ +5.0V/ 5V<SB>/ Voltage Battery

Detect the system's voltage status automatically.

CPU Temperature

This field displays the current temperature of the CPU.

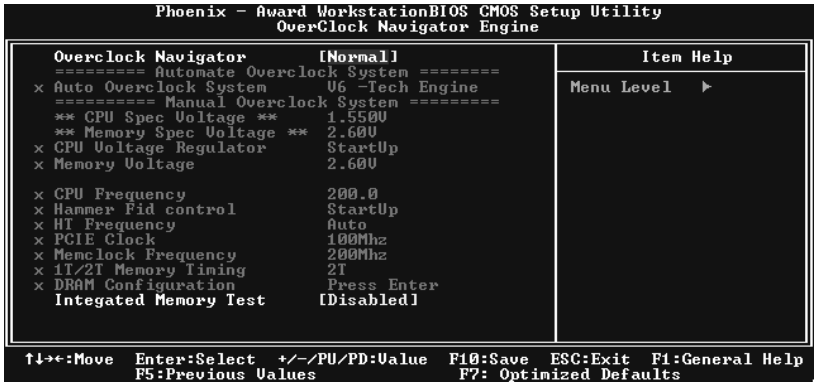
Current CPU FAN Speed

This field displays the current speed of CPU fan.

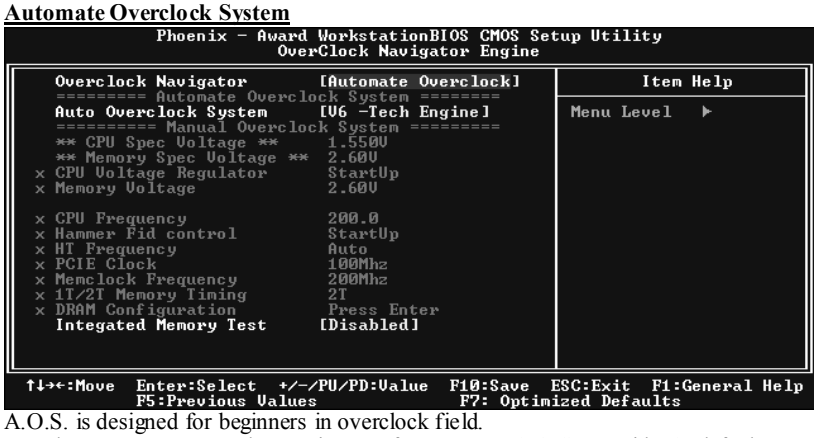
Current SYS FAN Speed

This field displays the current speed SYSTEM fan.

9 Over Clock Navigator Engine

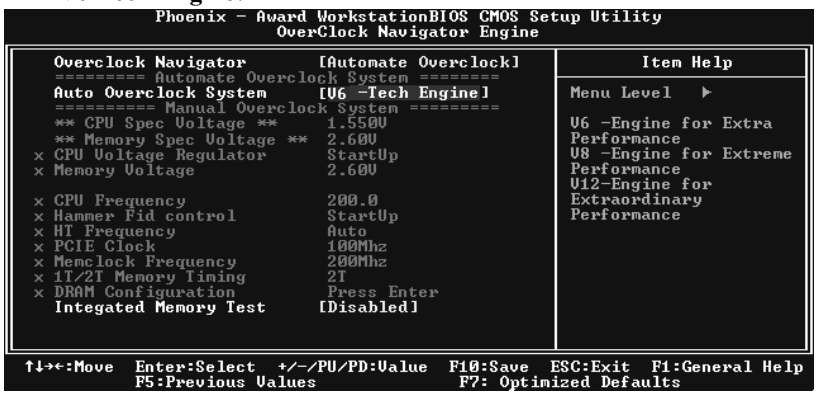


Automate Overclock System

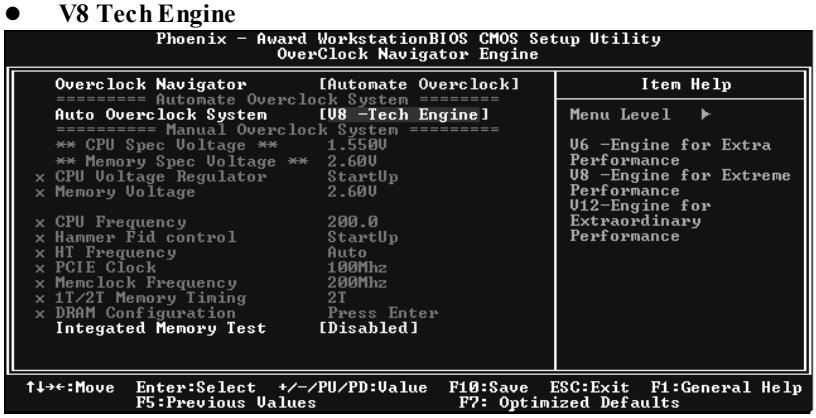


A.O.S. is designed for beginners in overclock field.
Based on many test and experiments from BET, A.O.S. provide 3 default overclock configurations that are able to raise the system performance

- **V6 Tech Engine:**

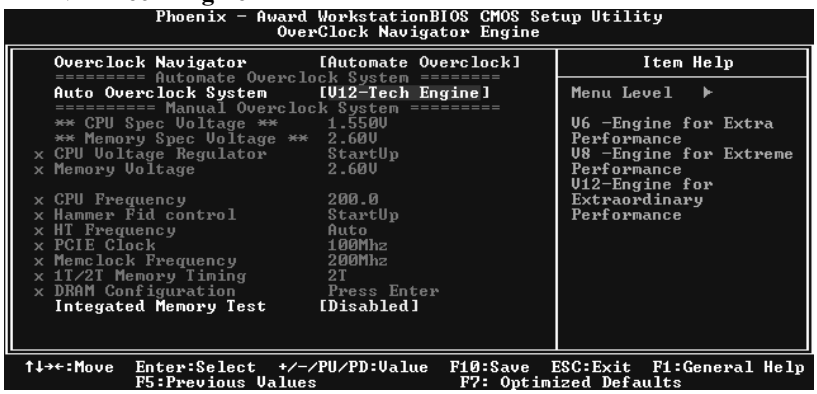


- **V8 Tech Engine**



This setting will raise about 15%~25% of whole system performance.

- **V12 Tech Engine**

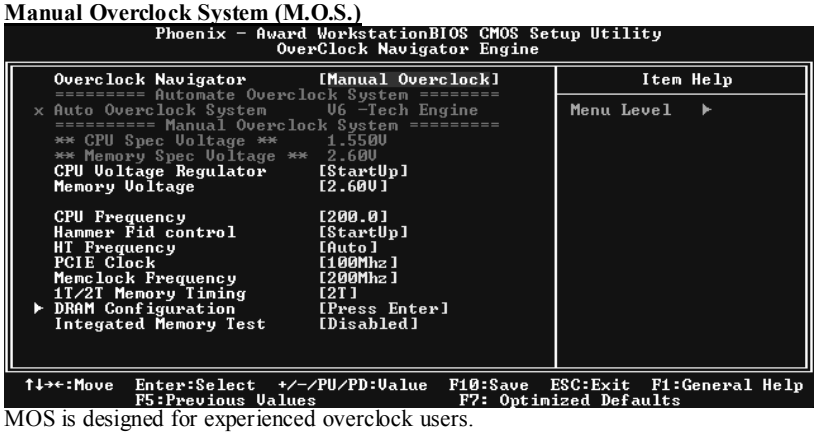


This setting will raise about 25%~30% of whole system performance.

Cautions:

1. Not all types of AMD CPU perform above overclock setting ideally; the difference will be based on the selected CPU model.
2. From BET experiment, the Atholon64 FX CPU is not suitable for this A.O.S. feature.

Manual Overclock System (M.O.S.)



MOS is designed for experienced overclock users.
It allows users to customize personal overclock setting.

Cautions:

According tests have been done; AMD 3000+ CPU is the best CPU type for overclock function.

CPU Voltage Regulator

This item allows you to select CPU Voltage Control.

The Choices: StartUp (default),1.825V,1.750V,1.675V,1.600V,1.575V,1.550V, 1.525V, 1.500V, 1.475 …… 1.100.

Memory Voltage

The Choices: 2.60V (default), 2.70V, 2.80V, 2.90V.

CPU Frequency

This item allows you to select the CPU Frequency.

The Choices: 200 (default),201,202,203,204,205,206,207,208,209…..450. (Max.is 450)

Hammer Fid Control

The Choices: StartUp (default).

HT Frequency

This item allows you to select the HT Frequency.

The Choices: Auto (default),1x,2x,3x,4X,5x.x4.

PCIE Clock

The Choices: 100MHz (default)**,** 101MHz, 102MHz, 103MHz, 104MHz, 105MHz, 106MHz, 107MHz, etc.

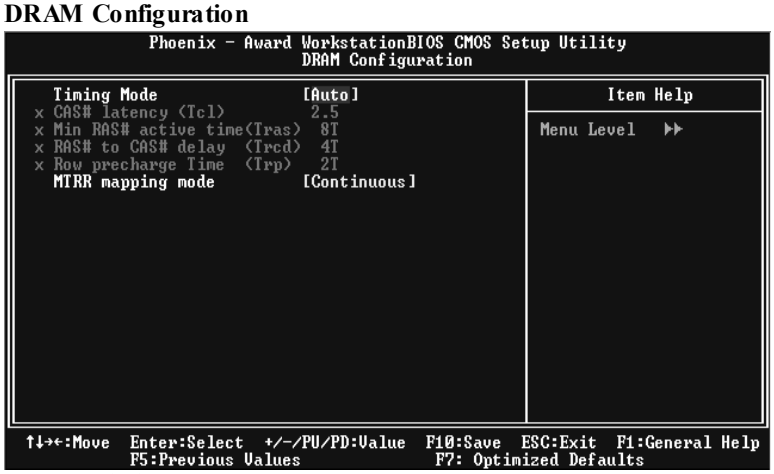
Memclock Frequency

The Choices: 200MHz (default), 100MHz, 133MHz, 166MHz, 200MHz, 216MHz, 233MHz, 250MHz.

1T/2T Memory Timing

The Choices: 2T (default).

DRAM Configuration



Timing Mode
The Choices: Auto (default), Manual.

CAS# Latency
This field specify the cas# latency, i.e. cas# to read data valid.
The Choices: CL=2.5 (default), CL=3.0, CL=2.0

Min RAS# active time (tRAS)
This field specifies the minimum RAS# active time. Typically -45-60 Nsec.
The Choices: 8T (default).

RAS# to CAS# Delay (tRCD)
This field specifies the RAS# to CAS# Delay to read/ write command to the same bank. Typically -20 Nsec.
The Choices: 4T (default).

Row precharge Time (tRP)
This field specifies the Row precharge Time. Precharge to Active or Auto-Refresh of the same bank. Typically 20-24 Nsec.
The Choices: 2T (default).

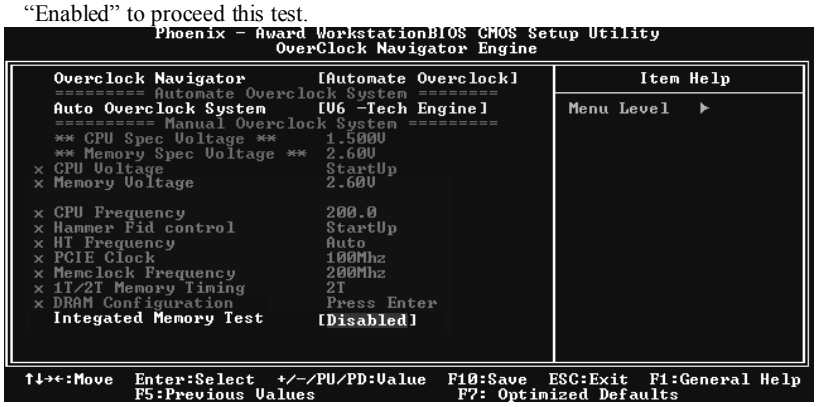
MIRR mapping mode
The Choices: Continuous (default), Discrete.

Integrated Memory Test

Integrated Memory Test allows users to test memory compatibilities, and no extra devices or software are needed.

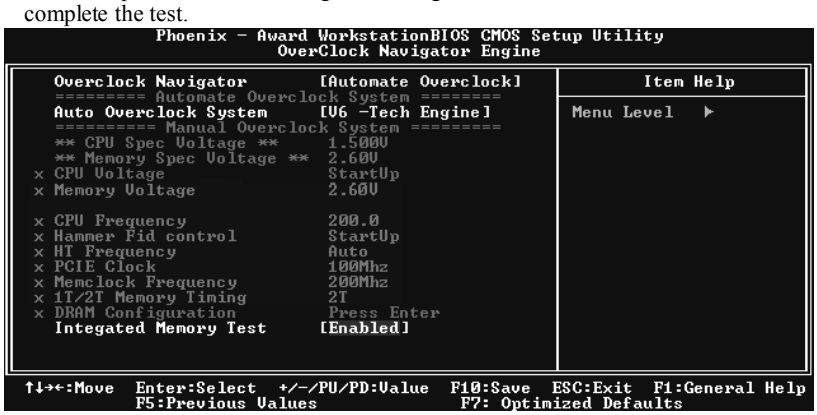
Step 1*:*

The default setting under this item is "Disabled", the condition should be change into "Enabled" to proceed this test.



Step 2*:*

When the process is done, change the setting back from "Enabled" to "Disabled" to complete the test.



10 CMOS Reload Program (C.R.P.)

It allows users to save different CMOS settings into BIOS-ROM.
Users are able to reload any saved CMOS setting to change system configurations.
Moreover, users are able to save ideal overclock setting when under overclock operation.
There are 50 sets record addresses in total, and users are able to name the CMOS data according to personal like.