

NF520D3 BIOS Manual

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BIOS Setup

Introduction

The purpose of this manual is to describe the settings in the AMI BIOS Setup program on this motherboard. The Setup program allows users to modify the basic system configuration and save these settings to CMOS RAM. The power of CMOS RAM is supplied by a battery so that it retains the Setup information when the power is turned off.

Basic Input-Output System (BIOS) determines what a computer can do without accessing programs from a disk. This system controls most of the input and output devices such as keyboard, mouse, serial ports and disk drives. BIOS activates at the first stage of the booting process, loading and executing the operating system. Some additional features, such as virus and password protection or chipset fine-tuning options are also included in BIOS.

The rest of this manual will guide you through the options and settings in BIOS Setup.

Plug and Play Support

This AMI BIOS supports the Plug and Play Version 1.0A specification.

EPA Green PC Support

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

APM Support

This AMI 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 also be managed by this AMI BIOS.

ACPI Support

AMI ACPI BIOS support Version 1.0/2.0 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.

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PCI Bus Support

This AMI BIOS also supports Version 2.3 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

DRAM Support

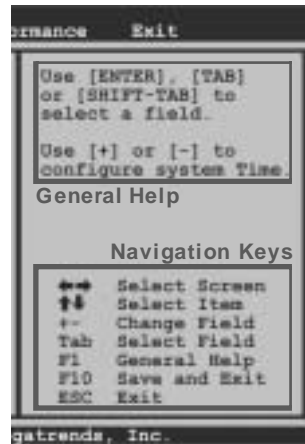
DDR3 SDRAM (Double Data Rate III Synchronous DRAM) is supported.

Supported CPUs

This AMI BIOS supports the AMD CPU.

Using Setup

When starting up the computer, press during the **Power-On Self-Test (POST)** to enter the BIOS setup utility. In the BIOS setup utility, you will see **General Help** description at the top right corner, and this is providing a brief description of the selected item. **Navigation Keys** for that particular menu are at the bottom right corner, and you can use these keys to select item and change the settings.



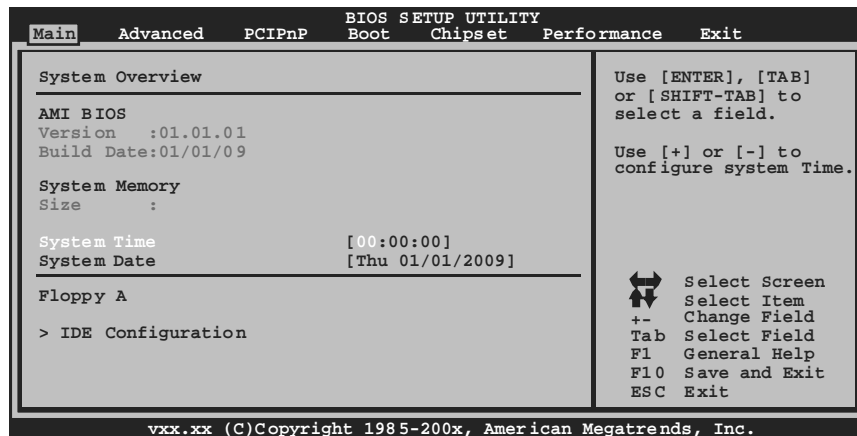
Notice

- The default BIOS settings apply for most conditions to ensure optimum performance of the motherboard. If the system becomes unstable after changing any settings, please load the default settings to ensure system's compatibility and stability. Use Load Setup Default under the Exit Menu.
- For better system performance, the BIOS firmware is being continuously updated. The BIOS information described in this manual is for your reference only. The actual BIOS information and settings on board may be slightly different from this manual.
- The content of this manual is subject to be changed without notice. We will not be responsible for any mistakes found in this user's manual and any system damage that may be caused by wrong-settings.

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1 Main Menu

Once you enter AMI BIOS Setup Utility, the Main Menu will appear on the screen providing an overview of the basic system information.



AMI BIOS

Shows system information including BIOS version and built date.

System Memory

Shows system memory size, VGA shard memory will be excluded..

System Time

Set the system internal clock.

System Date

Set the system date. Note that the 'Day' automatically changes when you set the date.

Floppy A

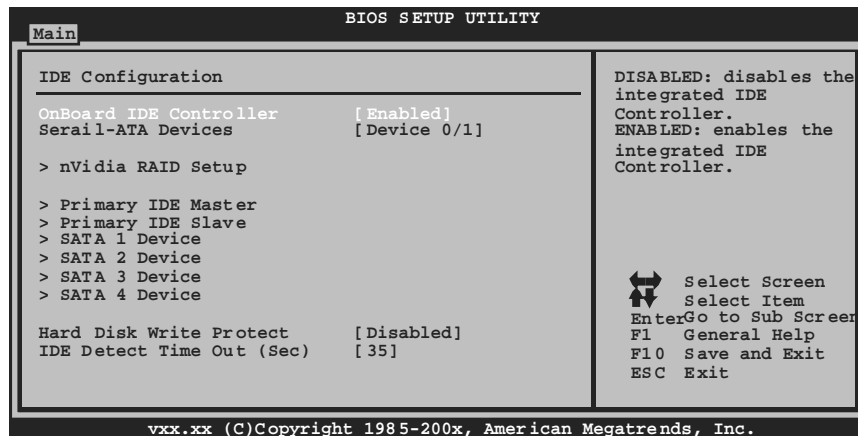
Select the type of floppy disk drive installed in your system.

Options: 360K, 5.25 in / 1.2M, 5.25 in / 720K, 3.5 in / 1.44M, 3.5 in / 2.88M, 3.5 in / None

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IDE Configuration

The BIOS will automatically detect the presence of IDE/SATA devices. There is a sub-menu for each IDE/SATA device. Select a device and press <Enter> to enter the sub-menu of detailed options.



OnBoard IDE Controller

This item allows you to control the onboard IDE controller.

Options: Enhanced (Default) / Disabled

Serial-ATA Devices

This item allows you to choose SATA Devices.

Options: Device 0/1 (Default) / Device 0 / Disabled

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nVidia RAID Setup

| BIOS SETUP UTILITY | |
|--|--------------|
| Chipset | |
| RAID Setup | |
| nVidia RAID Function | [Disabled] |
| SATA 1 Raid | [Disabled] |
| SATA 2 Raid | [Disabled] |
| SATA 3 Raid | [Disabled] |
| SATA 4 Raid | [Disabled] |
| Options | |
| Disabled Enabled | |
| Select Screen Select Item Enter Update F1 General Help F10 Save and Exit ESC Exit | |
| vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc. | |

nVidia RAID Function

This item allows you to activate RAID function.

Options: Disabled (Default) / Enabled

SATA 1/2/3/4 Raid

Enable or disable RAID function of SATA devices.

Options: Disabled (Default) / Enabled

Primary IDE Master/Slave ; SATA 1/2/3/4 Device

| BIOS SETUP UTILITY | |
|--|-------------|
| Main | |
| Primary IDE Master | |
| Device : | |
| Type | [Auto] |
| LBA/Large Mode | [Auto] |
| Block (Multi-Sector Transfer) | [Auto] |
| PIO Mode | [Auto] |
| DMA Mode | [Auto] |
| S.M.A.R.T | [Auto] |
| 32Bit Data Transfer | [Enabled] |
| Select the type of device connected to the system. | |
| Select Screen Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit | |
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The BIOS detects the information and values of respective devices, and these information and values are shown below to the name of the sub-menu.

Type

Select the type of the IDE/SATA drive.

Options: Auto (Default) / CDROM / ARMD / Not Installed

LBA/Large Mode

Enable or disable the LBA mode.

Options: Auto (Default) / Disabled

Block (MultiSector Transfer)

Enable or disable multi-sector transfer.

Options: Auto (Default) / Disabled

PIO Mode

Select the PIO mode.

Options: Auto (Default) / 0 / 1 / 2 / 3 / 4

DMA Mode

Select the DMA mode.

Options: Auto (Default) / SWDMA0 ~ 2 / MWDMA0 ~ 2 / UDMA0 ~ 5

S.M.A.R.T

Set the Smart Monitoring, Analysis, and Reporting Technology.

Options: Auto (Default) / Disabled / Enabled

32Bit Data Transfer

Enable or disable 32-bit data transfer.

Options: Enabled (Default) / Disabled

Hard Disk Write Protect

Disable or enable device write protection. This will be effective only if the device is accessed through BIOS.

Options: Disabled (Default) / Enabled

IDE Detect Time Out (Sec)

Select the time out value for detecting IDE/SATA devices.

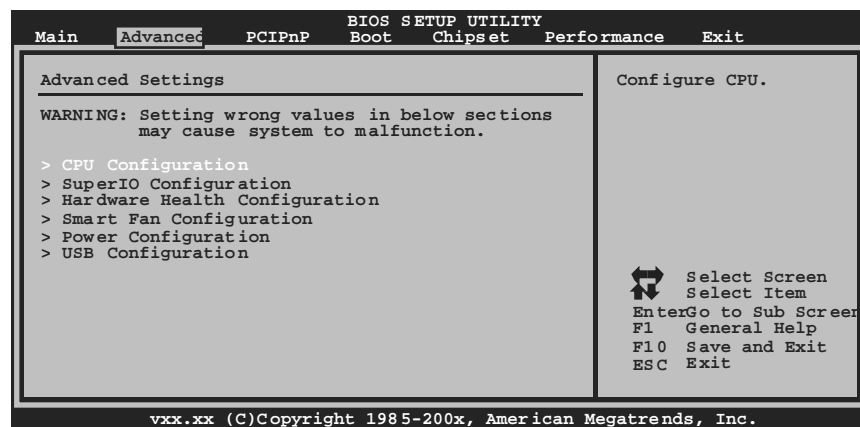
Options: 35 (Default) / 30 / 25 / 20 / 15 / 10 / 5 / 0

2 Advanced Menu

The Advanced Menu allows you to configure the settings of CPU, Super I/O, Power Management, and other system devices.

Notice

- Beware of that setting inappropriate values in items of this menu may cause system to malfunction.



CPU Configuration

This item shows the CPU information that the BIOS automatically detects.



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GART Error Reporting

This option should remain disabled for the normal operation. The driver developer may enable it for testing purpose.

Options: Disabled (Default) / Enabled

Microcode Update

This item allows you to enable or disable Microcode Update function.

Options: Enabled (Default) / Disabled

Secure Virtual Machine Mode

Virtualization Technology can virtually separate your system resource into several parts, thus enhance the performance when running virtual machines or multi interface systems.

Options: Enabled (Default) / Disabled

PowerNow

This item allows you to enable or disable the PowerNow power saving technology.

Options: Enabled (Default) / Disabled

ACPI SRAT Table

The operating system scans the ACPI SRAT at boot time and uses the information to better allocate memory and schedule software threads for maximum performance. This item controls whether the SRAT is made available to the operating system at boot up, or not.

Options: Enabled (Default) / Disabled

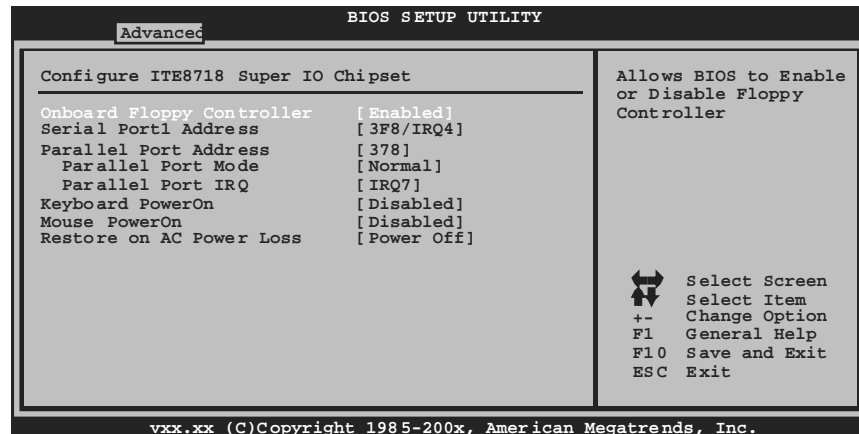
Probe Filter

This item allows you to control the initialization mode for Probe Filter.

Options: Auto (Default) / Disabled / MP Mode

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SuperIO Configuration



Onboard Floppy Controller

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

Options: Enabled (Default) / Disabled

Serial Port1 Address

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

Options: 3F8/IRQ4 (Default) / 2F8/IRQ3 / 3E8/IRQ4 / 2E8/IRQ3 / Disabled

Parallel Port Address

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

Options: 378 (Default) / 278 / 3BC / Disabled

Parallel Port Mode

This item allows you to determine how the parallel port should function.

Options: Normal (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.

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ECP Mode DMA Channel

This item allows you to select parallel port ECP DMA.

Options: DMA3 (Default) / DMA0 / DMA1

Parallel Port IRQ

This item allows you to select the IRQ for the onboard parallel port.

Options: IRQ7 (Default) / IRQ5 / Disabled

Keyboard PowerOn

This item allows you to control the keyboard power on function.

Options: Disabled (Default) / Specific Key / Stroke Key / Any Key

Specific Key Enter

This item will show only when Keyboard PowerOn is set "Specific Key."

Stroke Keys Selected

This item will show only when Keyboard PowerOn is set "Stroke Key."

Options: Ctrl+F1 (Default) / Wake Key / Power Key / Ctrl+F2 / Ctrl+F3 /
Ctrl +F4 / Ctrl+F5 / Ctrl+F6

Mouse PowerOn

This item allows you to control the mouse power on function.

Options: Disabled (Default) / Enabled

Restore on AC Power Loss

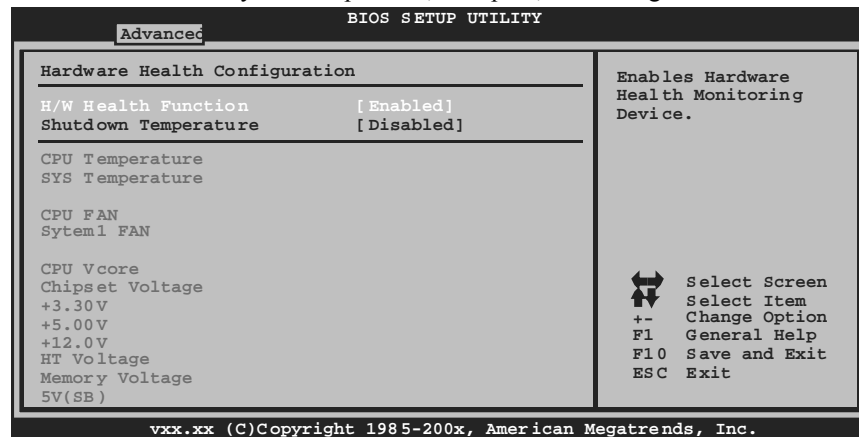
This setting specifies how your system should behave after a power fail or interrupts occurs. By choosing Disabled will leave the computer in the power off state. Choosing Enabled will restore the system to the status before power failure or interrupt occurs.

Options: Power Off (Default) / Last State

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Hardware Health Configuration

This item shows the system temperature, fan speed, and voltage information.



H/W Health Function

If with a monitoring system, the system will show PC health status during POST stage.

Options: Enabled (Default) / Disabled

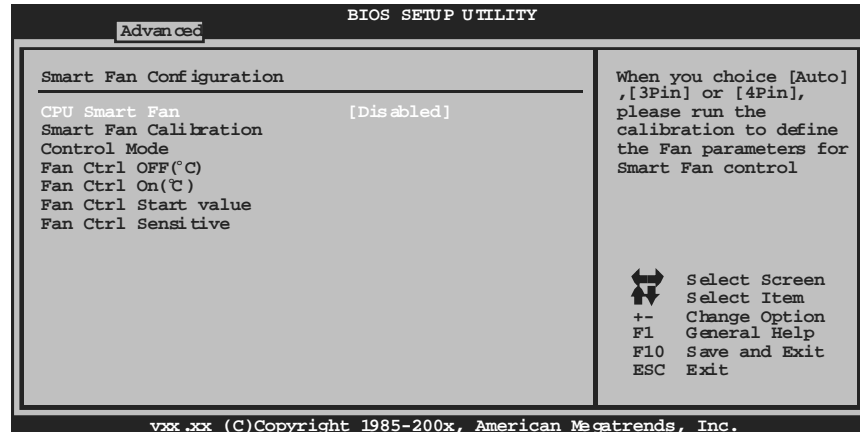
Shutdown Temperature

This item allows you to set up the CPU shutdown Temperature. This item is only effective under Windows 98 ACPI mode.

Options: Disabled (Default) / 60°C/140°F / 65°C/149°F / 70°C/158°F / 75°C/167°F / 80°C/176°F / 85°C/185°F / 90°C/194°F

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Smart Fan Configuration



CPU Smart Fan

This item allows you to control the CPU Smart Fan function.

Options: Disabled (default) / Auto / 4-pin / 3-pin

Smart Fan Calibration

Choose this item and then the BIOS will auto test and detect the CPU/System fan functions and show CPU/System fan speed.

Control Mode

This item provides several operation modes of the fan.

Options: Quiet / Performance / Manual

Fan Ctrl OFF(°C)

If the CPU/System Temperature is lower than the set value, FAN will turn off.

Options: 0~127 (°C) (With the interval of 1°C)

Fan Ctrl On(°C)

CPU/System fan starts to work under smart fan function when arrive this set value.

Options: 0~127 (°C) (With the interval of 1°C)

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Fan Ctrl Start Value

When CPU/System temperature arrives to the set value, the CPU/System fan will work under Smart Fan Functionmode.

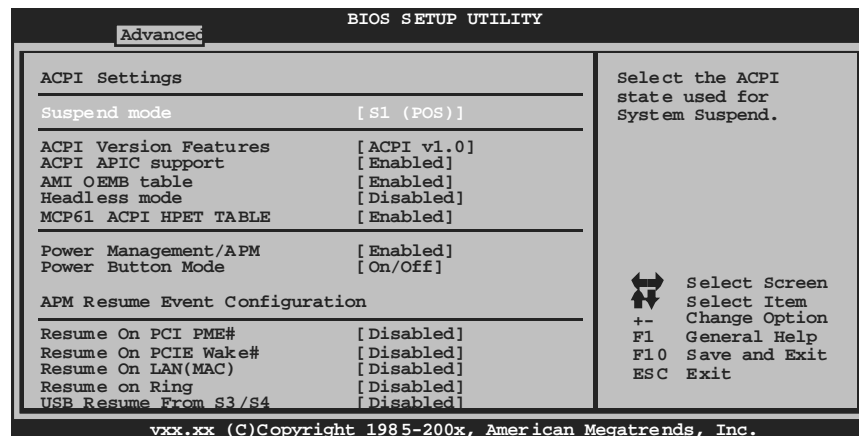
Options: 0~127 (With the interval of 1)

Fan Ctrl Sensitive

Increasing the value will raise the speed of CPU/System fan.

Options: 1~127 (With the interval of 1)

Power Configuration



Suspend mode

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

Options: S1 (POS) (Default) Power on Suspend
 S3 (STR) Suspend to RAM
 S1 & S3 POS+STR

ACPI Version Features

The item allows you to select the version of ACPI.

Options: ACPI v1.0 (Default) / ACPI v2.0 / ACPI v3.0

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ACPI APIC support

This item is used to enable or disable the motherboard's APIC (Advanced Programmable Interrupt Controller). The APIC provides multiprocessor support, more IRQs and faster interrupt handling.

Options: Enabled (Default) / Disabled

AMI OEMB table

Set this value to allow the ACPI BIOS to add a pointer to an OEMB table in the Root System Description Table (RSDT) table.

Options: Enabled (Default) / Disabled

Headless mode

This is a server-specific feature. A headless server is one that operates without a keyboard, monitor or mouse. To run in headless mode, both BIOS and operating system (e.g. Windows Server 2003) must support headless operation.

Options: Disabled (Default) / Enabled

MCP61 ACPI HPET TABLE

This item allows you to enable or disable MCP61 ACPI HPET TABLE.

Options: Enabled (Default) / Disabled

Power Management/APM

This item allows you to activate Power Management.

Options: Enabled (Default) / Disabled

Power Button Mode

This item allows you to choose the mode when Power Button is pressed.

Options: On/Off (Default) / Suspend

Resume On PCI PME#

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

For this function to work, you may need a LAN add-on card which supports the Wake on LAN function. Set the Wake on LAN (WOL) jumper on motherboard to enable if applicable.

Options: Disabled (Default) / Enabled

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Resume PCIE Wake#

Enable / Disable PCIE to generate a wake event.

Options: Disabled (Default) / Enabled

Resume On LAN (MAC)

Enable / Disable LAN (MAC) to generate a wake event.

Options: Disabled (Default) / Enabled

Resume on Ring

This item allows you control the wake on ring function.

Options: Disabled (Default) / Enabled

USB Resume from S3/S4

This item allows you to enable or disabled the USB resume from S3/S4 function.

Options: Disabled (Default) / Enabled

Resume By RTC Alarm

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

Options: Disabled (Default) / Enabled

RTC Alarm Date (Days)

You can choose which date the system will boot up.

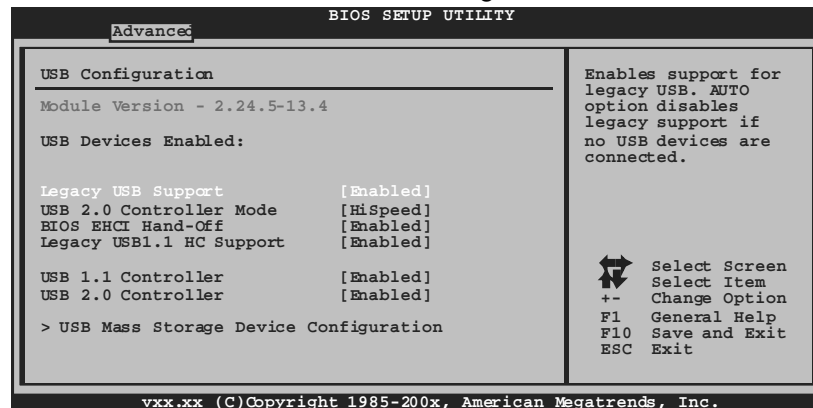
System Time

You can choose the system boot up time, input hour, minute and second to specify.

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USB Configuration

This item shows the USB controller and using USB device information.



Legacy USB Support

This item determines if the BIOS should provide legacy support for USB devices like the keyboard, mouse, and USB drive. This is a useful feature when using such USB devices with operating systems that do not natively support USB (e.g. Microsoft DOS or Windows NT).

Options: Enabled (Default) / Disabled

USB 2.0 Controller Mode

This item allows you to select the operation mode of the USB 2.0 controller.

Options: HiSpeed (Default) USB 2.0-480Mbps
FullSpeed USB 1.1-12Mbps

BIOS EHCI Hand-Off

This item allows you to enable support for operating systems without an EHCI hand-off feature.

Options: Enabled (Default) / Disabled

Legacy USB1.1 HC Support

This item allows you to enable to support USB1.1 HC.

Options: Enabled (Default) / Disabled

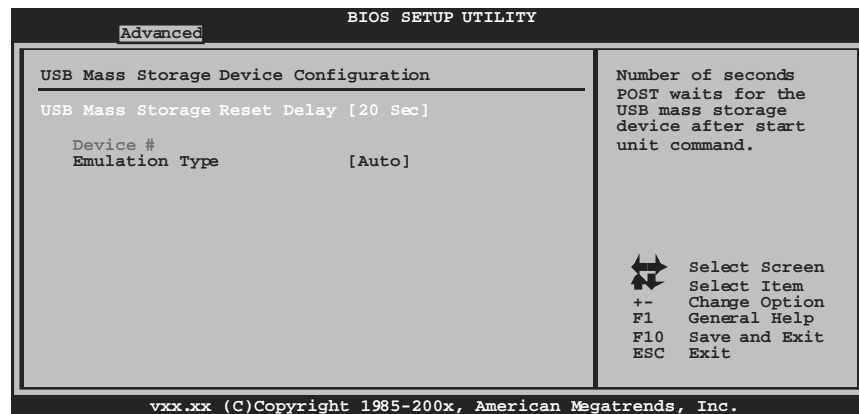
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USB 1.1/2.0 Controller

This item allows you to enable or disable USB 1.1/2.2 Controller.

Options: Enabled (Default) / Disabled

USB Mass Storage Device Configuration



USB Mass Storage Reset Delay

This item allows you to set the reset delay for USB mass storage device.

Options: 20 Sec (Default) / 10 Sec / 30 Sec / 40 Sec

Emulation Type

This item allows you to select the emulation type of the USB mass storage device.

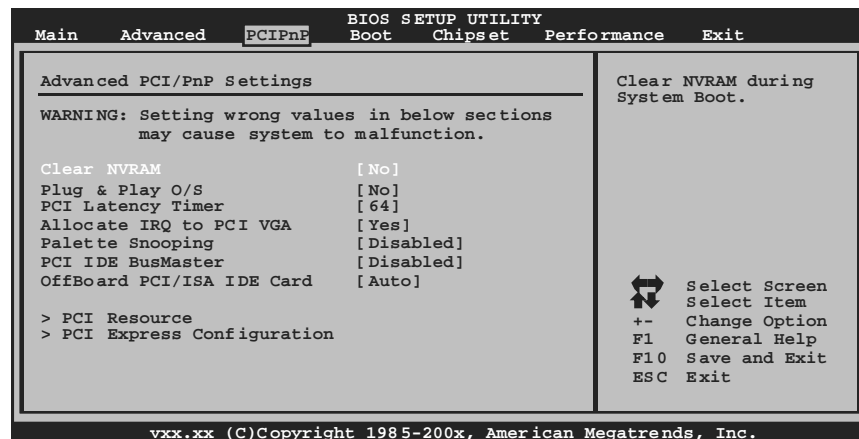
Options: Auto (Default) / Floppy / Forced FDD / Hard Disk / CDROM

3 PCIPnP Menu

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 when communicating with its own special components.

Notice

- Beware of that setting inappropriate values in items of this menu may cause system to malfunction.



Clear NVRAM

This item allows you to clear the data in the NVRAM (CMOS) by selecting “Yes”.

Options: No (Default) / Yes

Plug & Play OS

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

Options: No (Default) / Yes

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PCI Latency Timer

This item controls how long a PCI device can hold the PCI bus before another takes over. The longer the latency, the longer the PCI device can retain control of the bus before handing it over to another PCI device.

Options: 64 (Default) / 0-255

Allocate IRQ to PCI VGA

This item allows BIOS to choose a IRQ to assign for the PCI VGA card.

Options: Yes (Default) / No

Palette Snooping

Some old graphic controllers need to “snoop” on the VGA palette and then map it to their display as a way to provide boot information and VGA compatibility. This item allows such snooping to take place.

Options: Disabled (Default) / Enabled

PCI IDE BusMaster

This item is a toggle for the built-in driver that allows the onboard IDE controller to perform DMA (Direct Memory Access) transfers.

Options: Enabled (Default) / Disabled

OffBoard PCI/ISA IDE Card

Some PCI IDE cards may require this to be set to the PCI slot number that is holding the card.

Options: Auto (Default) / PCI Slot1 ~ 6

OffBoard PCI/ISA Primary & Secondary IRQ

This item allows you to set IRQ of non-onboard PCI/ISA IDE controller adapter.

Options: Disabled (Default) / INTA / INTB / INTC / INTD / Hardwired


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PCI Resource

| BIOS SETUP UTILITY | |
|----------------------|-------------|
| PCIPnP | |
| PCI Resource | |
| IRQ3 | [Available] |
| IRQ4 | [Available] |
| IRQ5 | [Available] |
| IRQ7 | [Available] |
| IRQ9 | [Available] |
| IRQ10 | [Available] |
| IRQ11 | [Available] |
| IRQ14 | [Available] |
| IRQ15 | [Available] |
| DMA Channel 0 | [Available] |
| DMA Channel 1 | [Available] |
| DMA Channel 3 | [Available] |
| DMA Channel 5 | [Available] |
| DMA Channel 6 | [Available] |
| DMA Channel 7 | [Available] |
| Reserved Memory Size | [Disabled] |

Available: Specified
IRQ is available to be
used by PCI/PnP
devices.

Reserved: Specified
IRQ is reserved for
use by Legacy ISA
devices.

 Select Screen
Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit

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IRQ3/4/5/7/9/10/11/14/15

These items will allow you to assign each system interrupt a type, depending on the type of device using the interrupt. The option “Available” means the IRQ is going to assign automatically.

Options: Available (Default) / Reserved

DMA Channel 0/1/3/5/6/7

These items will allow you to assign each DMA channel a type, depending on the type of device using the channel. The option “Available” means the channel is going to assign automatically.

Options: Available (Default) / Reserved

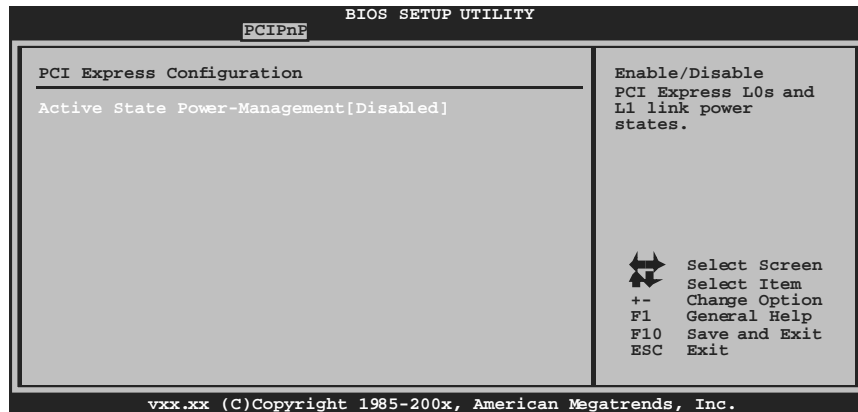
Reserved Memory Size

This item allows BIOS to reserve certain memory size for specific PCI device.

Options: Disabled (Default) / 16K / 32K / 64K

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PCI Express Configuration



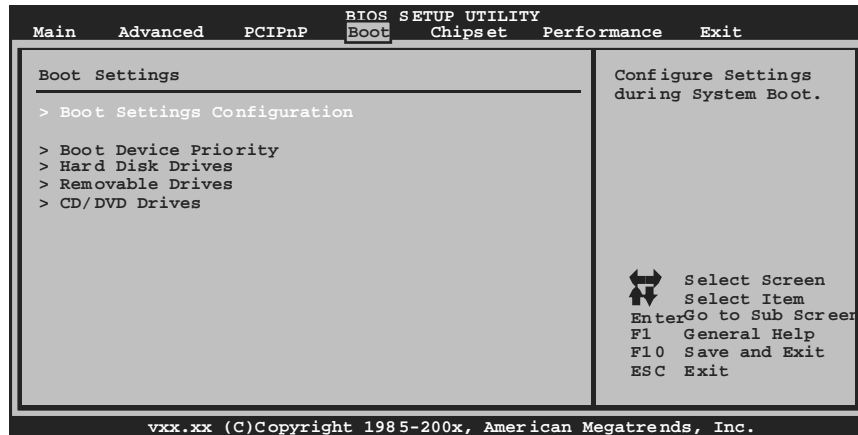
Active State Power-Management

This item sets the ASPM configuration for the PCI Express devices before the operating system boots. This function is for OS which does not support ASPM.

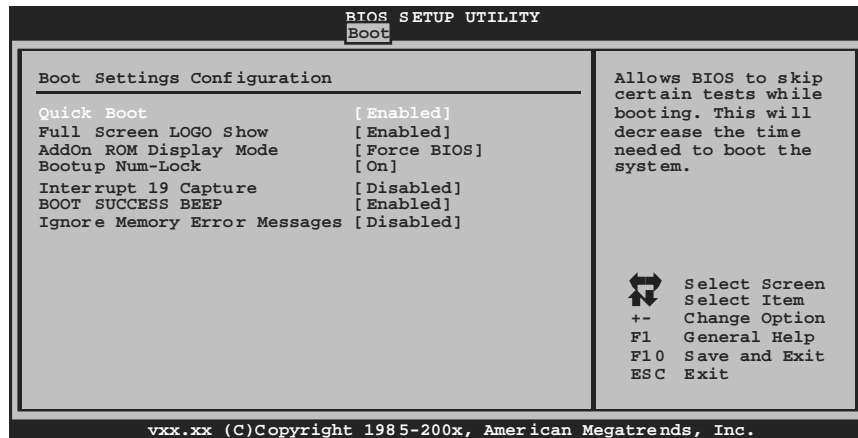
Options: Disabled (Default) / Enabled

4 Boot Menu

This menu allows you to setup the system boot options.



Boot Settings Configuration



Quick Boot

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

Options: Enabled (Default) / Disabled

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Full Screen LOGO Show

This item allows you to enable/disable Full Screen LOGO Show function.
Options: Enabled (Default) / Disabled

AddOn ROM Display Mode

This item sets the display mode for option ROM.
Options: Force BIOS (Default) / Keep Current

Bootup Num-Lock

Selects the NumLock State after the system switched on.
Options: ON (Default) / OFF

Interrupt 19 Capture

Interrupt 19 is the software interrupt that handles the boot disk function. When set to Enabled, this item allows the option ROMs to trap interrupt 19.
Options: Disabled (Default) / Enabled

BOOT SUCCESS BEEP

When this item is set to Enabled, BIOS will let user know boot success with beep.
Options: Enabled (Default) / Disabled

Ignore Memory Error Messages

When set to Enabled, the POST will ignore memory error messages.
Options: Disabled (Default) / Enabled

Boot Device Priority

Items in this sub-menu specify the boot device priority sequence from the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system.
Options: Removable / Hard Disk / CDROM / Legacy LAN / Disabled

Hard Disk Drives

The BIOS will attempt to arrange the hard disk boot sequence automatically. You can also change the booting sequence. The number of device items that appears on the screen depends on the number of devices installed in the system.
Options: Pri. Master / Pri. Slave / Sec. Master / Sec. Slave / USB HDD0 /
USB HDD1 / USB HDD2 / Bootable Add-in Cards

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Removable Drives

The BIOS will attempt to arrange the removable drive boot sequence automatically. You can also change the booting sequence. The number of device items that appears on the screen depends on the number of devices installed in the system.

Options: Floppy Disks / Zip100 / USB-FDD0 / USB-FDD1 / USB-ZIP0 /
USB-ZIP1 / LS120

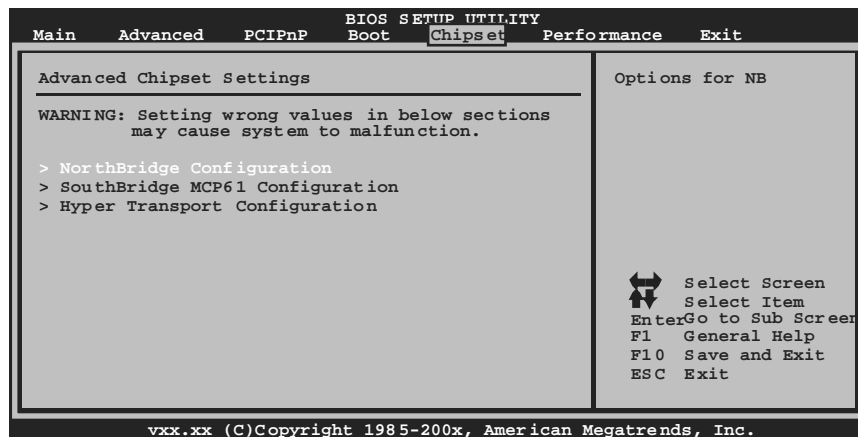
CD/DVD Drives

The BIOS will attempt to arrange the CD/DVD drive boot sequence automatically. You can also change the booting sequence. The number of device items that appears on the screen depends on the number of devices installed in the system.

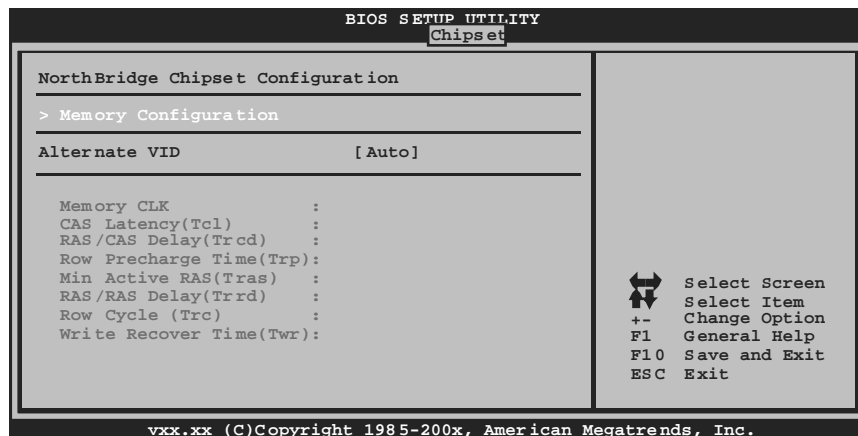
Options: Pri. Master / Pri. Slave / Sec. Master / Sec. Slave / USB CDROM0 /
USB CDROM 1

5 Chipset Menu

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.

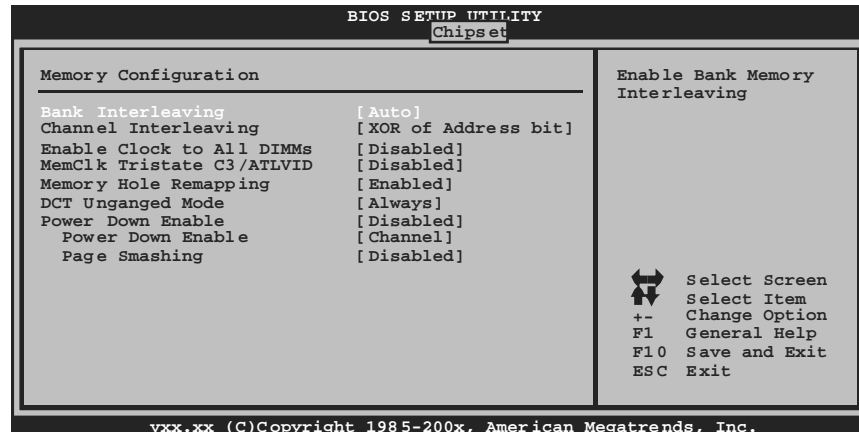


NorthBridge Configuration



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Memory Configuration



Bank Interleaving

Bank Interleaving is an advanced chipset technique used to improve memory performance. Memory interleaving increases bandwidth by allowing simultaneous access to more than one piece of memory.

Options: Auto (Default)

Channel Interleaving

This item allows you to control the DDR2 dual-channel function.

Options: XOR of Address bits [20:16, 6] (Default) / XOR of Address bits [20:16, 9] / Address bits 6 / Address bits 12 / Disabled

Enable Clock to All DIMMs

This item determines whether the BIOS should actively reduce EMI (Electromagnetic Interference) and reduce power consumption by turning off unoccupied or inactive DIMM slots.

Options: Disabled (Default) / Enabled

MemClk Tristate C3/ATLVID

This item enables or disables the MemClk Tristate function in C3 Mode.

Options: Disabled (Default) / Enabled

Memory Hole Remapping

This item allows you to enable or disable the remapping of the overlapped PCI memory above the total physical memory. Only 64-bit OS supports this function.

Options: Enabled (Default) / Disabled

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DCT Unganged Mode

This item controls the DRAM controller ganged (128bit*1) / unganged (64bit*2) dual-channel operation mode. If two DRAM modules with different size are installed, using unganged mode can still make it run in dual-channel operation.

Options: Always (Default) / Auto

Power Down Enable

This item controls the DRAM power down function.

Options: Disabled (Default) / Enabled

Power Down Mode

This item allows you to set the DDR power down mode.

Options: Channel (Default) / Chip Select

Page Smashing

This item is S/W Control of Page Smashing Mechanism.

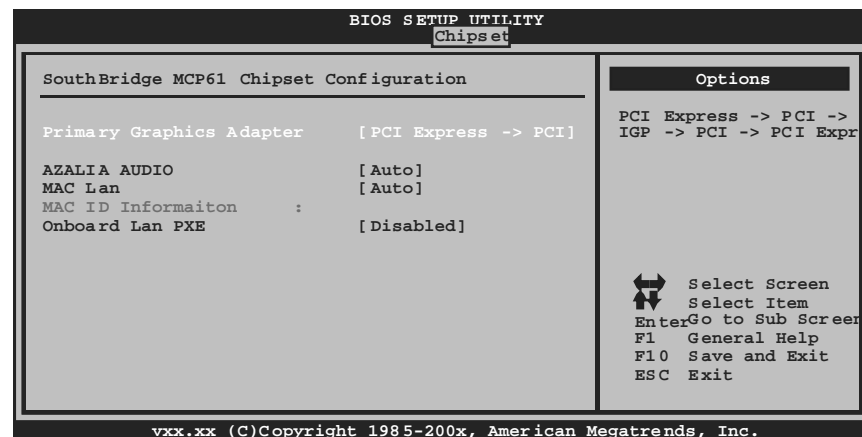
Options: Disabled (Default) / IC / DC / Both

Alternate VID

This item allows you to specify the alternate VID while in low power states..

Options: Auto (Default) / 0.800V ~ 1.550V (Interval: 0.025V)

SouthBridge MCP61 Configuration



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Primary Graphics Adapter

This item allows you to select Primary Graphics Adapter

Options: PCI Express → PCI → IGP (Default) / IGP → PCI → PCI Express

AZALIA AUDIO

This item allows you to control the HD audio device.

Options: Auto (Default) / Disabled

Onboard Lan

This option allows you to control the onboard LAN controller.

Options: Auto (Default) / Disable

MAC ID Information

This item shows the MAC ID.

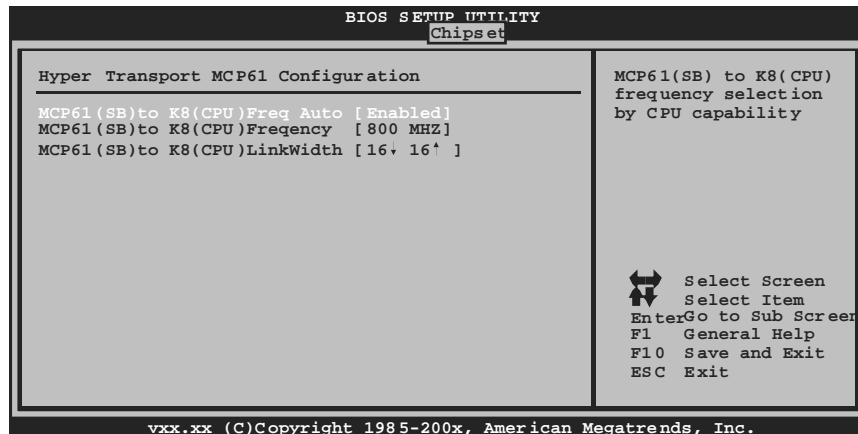
Onboard Lan PXE

This option allows you to control PXE Support.

Options: Disabled (Default) / Enabled

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Hyper Transport MCP61 Configuration



MCP61 (SB) to K8 (CPU) Freq Auto

This option allows you to auto control MCP61 (SB) to K8 (CPU) Frequency.
Options: Enabled (Default) / Disabled

MCP61 (SB) to K8 (CPU) Frequency

This option allows you to auto control MCP61 (SB) to K8 (CPU) Frequency.
Options: 800 MHz (Default) / 200 MHz / 400 MHz / 600 MHz / 1000 MHz
(Differed by CPU)

MCP61 (SB) to K8 (CPU) Link Width

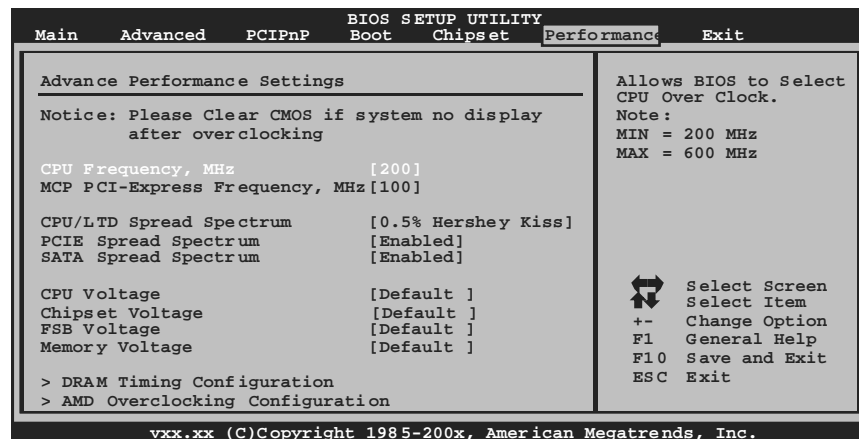
This option allows you to auto control MCP61 (SB) to K8 (CPU) LinkWidth
Options: 16↓ 16↑ (Default) / 8↓ 8↑ / 4↓ 4↑

6 Performance Menu

This submenu allows you to change voltage and clock of various devices.
(However, we suggest you use the default setting. Changing the voltage and clock improperly may damage the device.)

Notice

- Beware of that setting inappropriate values in items of this menu may cause system to malfunction.



CPU Frequency, MHz

This item allows BIOS to select the CPU Over Clock.

Options: 200 (Default) / 200-600

MCP PCI-Express Frequency, MHz

This item allows BIOS to select the PCI-E Over Clock.

Options: 100 (Default) / 100-200

CPU/LDT Spread Spectrum

This item allows you to control CPU/LDT Spread Spectrum function.

Options: 0.5% Hershey Kiss Center spread (Default) / Disabled

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PCIE/SATA Spread Spectrum

This item allows you to control PCIE/SATA Spread Spectrum function.

Options: Enabled (Default) / Disabled

CPU Voltage

This item allows you to select CPU Voltage Control.

Options: Default (Default) / +3.3% / +66% / +10%

Chipset Voltage

This item allows you to select Chipset Voltage Control.

Options: Default (Default) / +0.05V / +0.10V / +0.15V

HT Voltage

This item allows you to select HT Voltage Control.

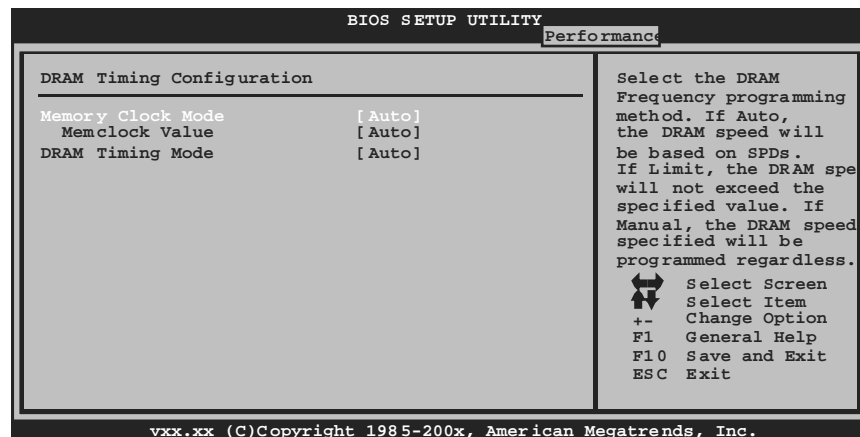
Options: Default (Default) / +0.10V / +0.20V / +0.30V

Memory Voltage

This item allows you to select DDR Voltage Control.

Options: Default (Default) / -0.10V / -0.05V / +0.05V / +0.10V / +0.15V / +0.20V / 0.25V

DRAM Timing Configuration



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Memory Clock Mode

This item allows you to control the Memory Clock.

Options: Auto (Default) / Limit / Manual

Memclock Value

This item allows you to set the Memory Clock.

Options: Auto (Default) / DDR3-800 / DDR3-1066 / DDR3-1333

DRAM Timing Mode

This item allows you to choose to manually or automatically regulate the DRAM Timing.

Options: Auto (Default) / DCT0 / DCT1 / Both

CAS Latency (CL)

Options: Auto (Default) / 4~12 CLK

2T Command

Options: Auto (Default) / 1T / 2T

TRCD

Options: Auto (Default) / 5~12 CLK

TRP

Options: Auto (Default) / 5~12 CLK

tRTP

Options: Auto (Default) / 4~7 CLK

TRAS

Options: Auto (Default) / 15~30 CLK

TRC

Options: Auto (Default) / 12~42 CLK

tWR

Options: Auto (Default) / 5~8 / 10 / 12 CLK

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TR RD

Options: Auto (Default) / 4~7 CLK

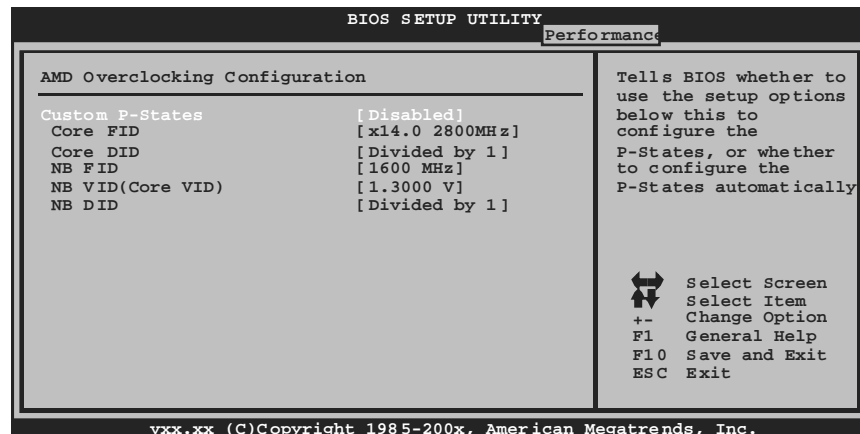
tWTR

Options: Auto (Default) / 4~7 CLK

tRFC0 / tRFC1 / tRFC2 / tRFC3

Options: Auto (Default) / 90ns / 110ns / 160ns / 300ns / 350ns

AMD Overclocking Configuration



Custom P-States

This item allows you to select the P-States controlling.

Options: Disabled (Default) / Enabled

Core FID

This item allows you to select the Ratio/Frequency of AM3 CPU.

Options: x8.0 1600MHz ~ x14 2800MHz

Core DID

This is the Core Divider.

Options: Divided by 1 (Default) / Divided by 2 / Divided by 4 / Divided by 8 / Divided by 16

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NB FID

This item allows you to select the Frequency of NB chip.

Options: 800MHz ~ 2000MHz (Differed by CPU)

NB VID (Core VID)

This function allows you to adjust the vdtage of NB chip.

Options: 0.0125V ~ 1.3250V

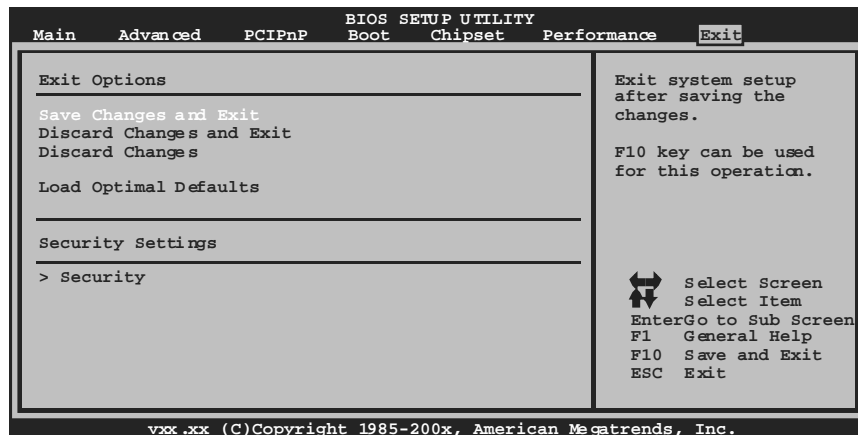
NB DID

This is the NB Divider.

Options: Divided by 1 (Default) / Divided by 2

7 Exit Menu

This menu allows you to load the optimal default settings, and save or discard the changes to the BIOS items.



Save Changes and Exit

Save all configuration changes to CMOS RAM and exit setup.

Discard Changes and Exit

Abandon all changes made during the current session and exit setup.

Discard Changes

Abandon all changes made during the current session and restore the previously saved values.

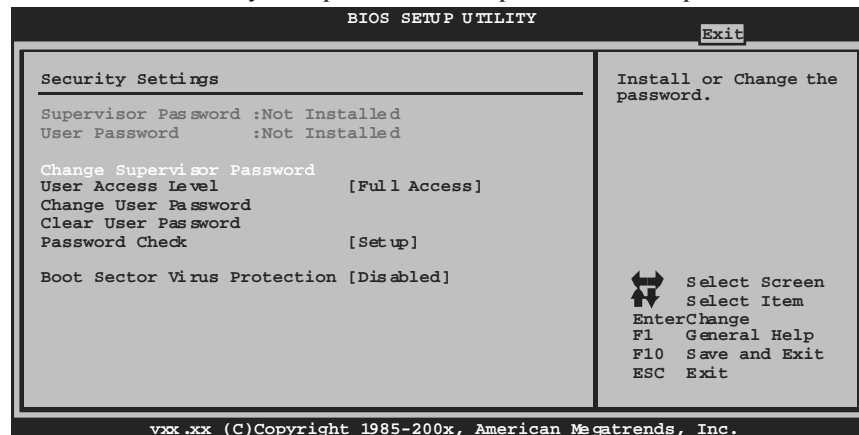
Load Optimal Defaults

This selection allows you to reload the BIOS when problem occurs during system booting sequence. These configurations are factory settings optimized for this system.

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Security

This sub-menu allows you to provide/revise supervisor and user password.



Change 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.

User Access Level

This item allows supervisor to set the user level.

Options: Full Access (Default) / No Access / View Only / Limited

Change 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.

Clear User Password

This item is for clearing user password.

Password Check

This item is for setting the timing that checking password.

Options: Setup (Default) / Always

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Boot Sector Virus Protection

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.

Options: Disabled (Default) / Enabled