TA870 BIOS Manual

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 to 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.

PCI Bus Support

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

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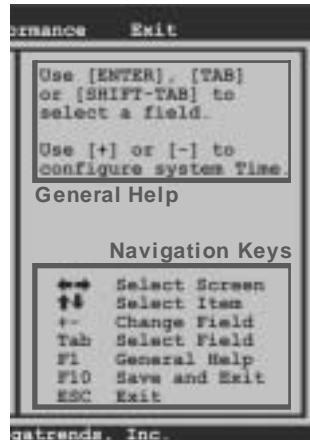
DDR3 SDRAM (Double Data Rate III Synchronous DRAM) is supported.

Supported CPUs

This AMI BIOS supports the AMD CPU.

Using Setup

When starting up the computer, press **<Del>** 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.
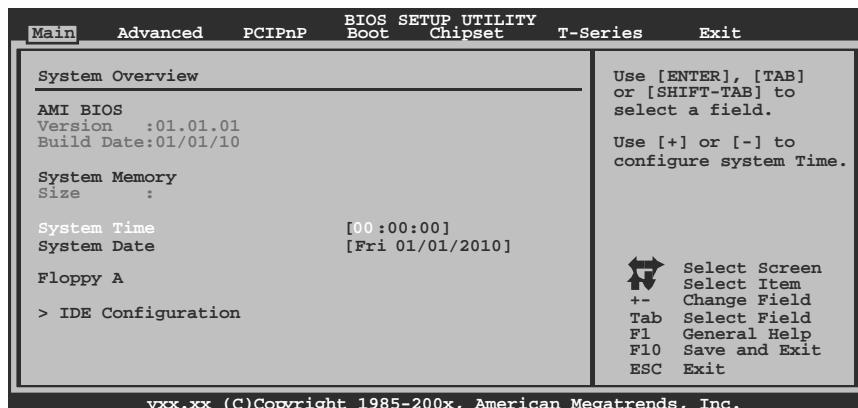
Notice
- The default BIOS settings apply for most conditions to ensure optimum performance of the motherboard. If the system becomes unstable after changing any settings, please load the default settings to ensure system's compatibility and stability. Use Load Setup Default under the Exit Menu.
- For 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.

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.

```
                              BIOS SETUP UTILITY
  Main    Advanced    PCIPnP    Boot    Chipset    T-Series    Exit

  System Overview                                    Use [ENTER], [TAB]
                                                     or [SHIFT-TAB] to
  AMI BIOS                                           select a field.
  Version   :01.01.01
  Build Date:01/01/10                                Use [+] or [-] to
                                                     configure system Time.
  System Memory
  Size    :

  System Time               [00:00:00]
  System Date               [Fri 01/01/2010]

  Floppy A                                               Select Screen
                                                         Select Item
  > IDE Configuration                                +-  Change Field
                                                     Tab Select Field
                                                     F1  General Help
                                                     F10 Save and Exit
                                                     ESC Exit

         vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

AMI BIOS

Shows system information, including BIOS version and built date.

System Memory

Shows system memory size.

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
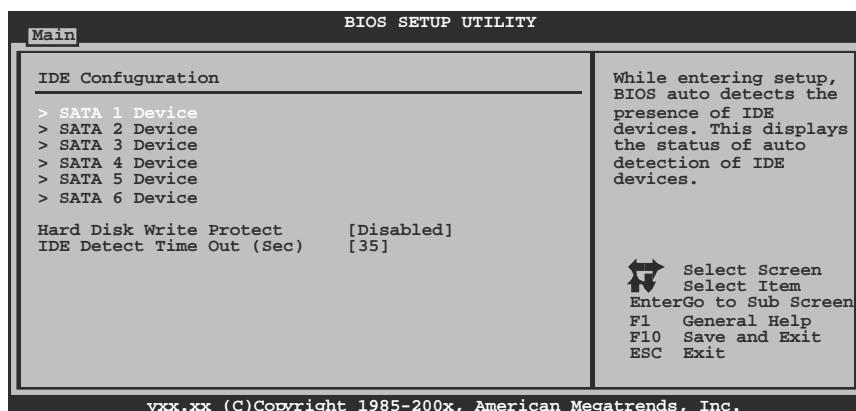
Select the type of floppy disk drive installed in your system.
Options: 360K, 5.25 in / 1.2M, 5.25 in / 720K, 3.5 in / 1.44M, 3.5 in /
            2.88M, 3.5 in / None
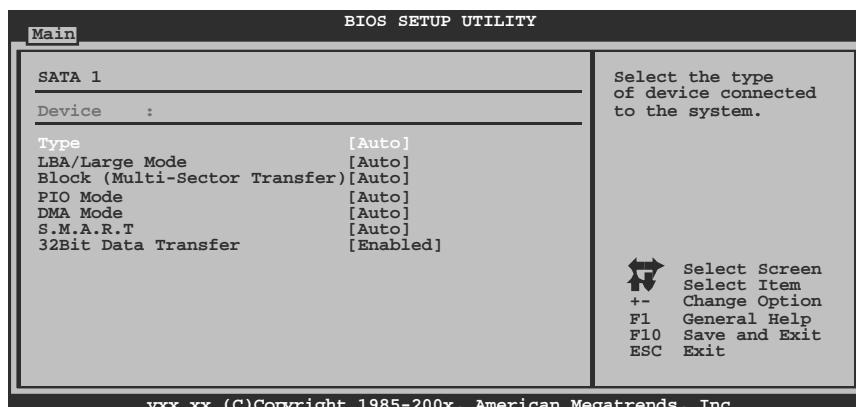
TA870 BIOS Manual

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.

```
                          BIOS SETUP UTILITY
  ┌─────┐
  │Main │
  └─────┘
    IDE Confuguration                          While entering setup,
                                               BIOS auto detects the
    > SATA 1 Device                            presence of IDE
    > SATA 2 Device                            devices. This displays
    > SATA 3 Device                            the status of auto
    > SATA 4 Device                            detection of IDE
    > SATA 5 Device                            devices.
    > SATA 6 Device

    Hard Disk Write Protect      [Disabled]
    IDE Detect Time Out (Sec)    [35]
                                               ↕↔  Select Screen
                                                   Select Item
                                               EnterGo to Sub Screen
                                               F1   General Help
                                               F10  Save and Exit
                                               ESC  Exit

      vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

SATA 1/2/3/4/5/6 Device

```
                          BIOS SETUP UTILITY
  ┌─────┐
  │Main │
  └─────┘
    SATA 1                                     Select the type
                                               of device connected
    Device  :                                  to the system.

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

      vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

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 (Multi-Sector 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
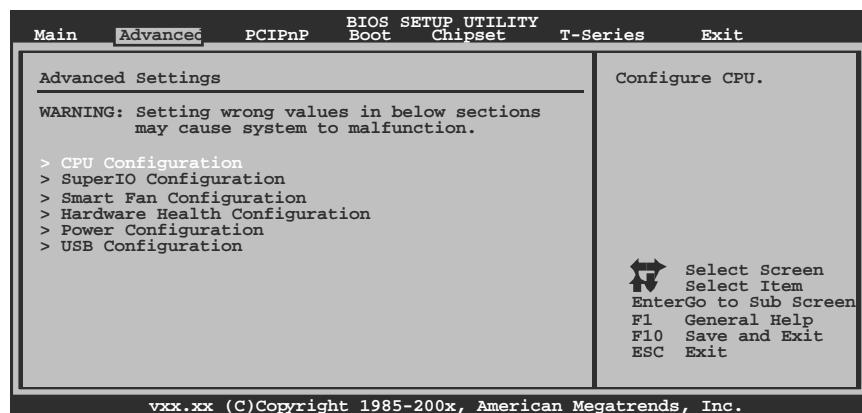
2 Advanced Menu

The Advanced Menu allows you to configure the settings of CPU, Super I/O, Power Management, and other system devices.
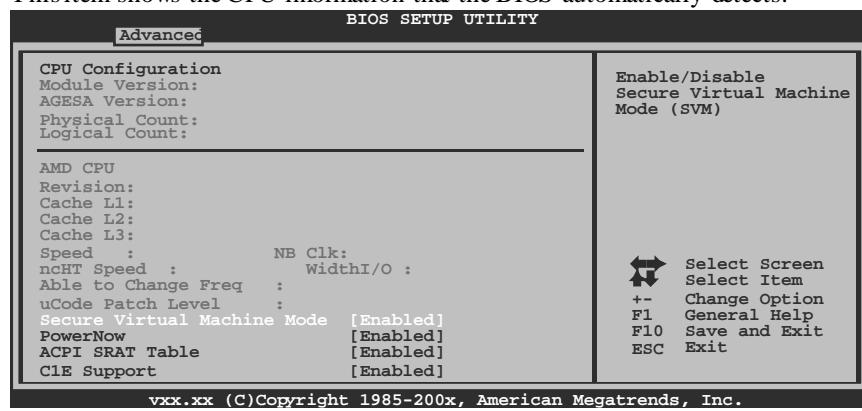
Notice
- Beware of that setting inappropriate values in items of this menu may cause system to malfunction.

```
                         BIOS SETUP UTILITY
   Main     Advanced    PCIPnP   Boot    Chipset      T-Series     Exit
  ─────────────────────────────────────────────────────────────────────
   Advanced Settings                            Configure CPU.

   WARNING: Setting wrong values in below sections
            may cause system to malfunction.

   > CPU Configuration
   > SuperIO Configuration
   > Smart Fan Configuration
   > Hardware Health Configuration
   > Power Configuration
   > USB Configuration
                                                    Select Screen
                                                    Select Item
                                             EnterGo to Sub Screen
                                             F1    General Help
                                             F10   Save and Exit
                                             ESC   Exit

           vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

CPU Configuration

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

```
                         BIOS SETUP UTILITY
        Advanced
  ─────────────────────────────────────────────────────────────────────
   CPU Configuration                            Enable/Disable
   Module Version:                              Secure Virtual Machine
   AGESA Version:                               Mode (SVM)
   Physical Count:
   Logical Count:

   AMD CPU
   Revision:
   Cache L1:
   Cache L2:
   Cache L3:
   Speed    :            NB Clk:
   ncHT Speed   :            WidthI/O :             Select Screen
   Able to Change Freq   :                          Select Item
   uCode Patch Level     :                      +-   Change Option
   Secure Virtual Machine Mode   [Enabled]      F1   General Help
   PowerNow                [Enabled]            F10  Save and Exit
   ACPI SRAT Table         [Enabled]            ESC  Exit
   C1E Support             [Enabled]

           vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

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

C1E Support

This item allows you to configure the Enhanced Halt State (C1E) function, which may reduce the power consumption of your system when the system is idle.
Options: Enabled (Default) / Disabled

Core Leveling

This item allows you to activate Core Leveling function.
Options: Auto(Default) / Manual
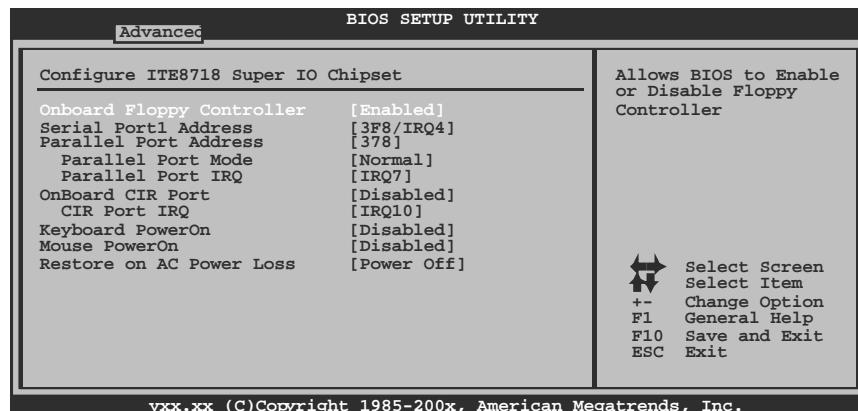
CPU Core0/1/2/3

Options: Enabled (Default) / Disabled

SuperIO Configuration

```
                        BIOS SETUP UTILITY
    Advanced

 Configure ITE8718 Super IO Chipset          Allows BIOS to Enable
                                             or Disable Floppy
 Onboard Floppy Controller     [Enabled]     Controller
 Serial Port1 Address          [3F8/IRQ4]
 Parallel Port Address         [378]
   Parallel Port Mode          [Normal]
   Parallel Port IRQ           [IRQ7]
 OnBoard CIR Port              [Disabled]
   CIR Port IRQ                [IRQ10]
 Keyboard PowerOn              [Disabled]
 Mouse PowerOn                 [Disabled]
 Restore on AC Power Loss      [Power Off]
                                             ⇄    Select Screen
                                                  Select Item
                                             +-   Change Option
                                             F1   General Help
                                             F10  Save and Exit
                                             ESC  Exit

        vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

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.

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

OnBoard CIR Port

This item allows you to select consumer IR port.
Options: Disabled (Default) / Enabled

CIR Port IRQ

This item allows you to select consumer IR port IRQ.
Options: IRQ10 (Default) /IRQ3 / IRQ4 / IRQ11

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
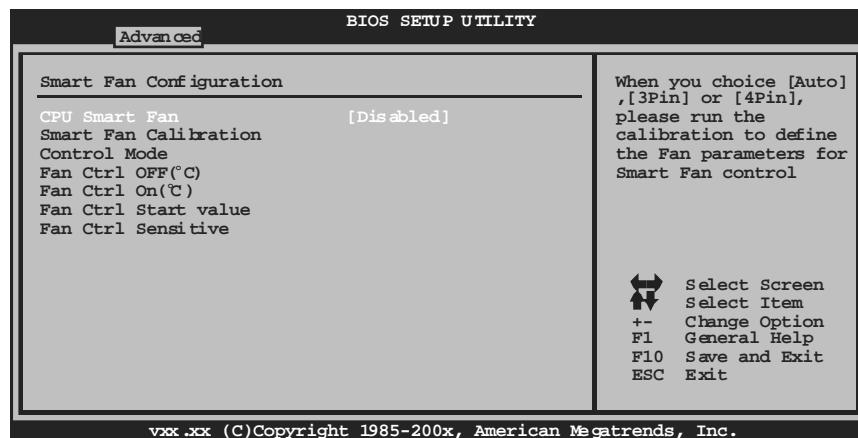
Restore on AC Power Loss

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) / Power ON / Last State

Smart Fan Configuration

```
                              BIOS SETUP UTILITY
        Advanced

   Smart Fan Configuration                              When you choice [Auto]
                                                        ,[3Pin] or [4Pin],
   CPU Smart Fan                 [Disabled]             please run the
   Smart Fan Calibration                                calibration to define
   Control Mode                                         the Fan parameters for
   Fan Ctrl OFF(°C)                                     Smart Fan control
   Fan Ctrl On(°C)
   Fan Ctrl Start value
   Fan Ctrl Sensitive

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

         vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

CPU Smart Fan

This item allows you to control the CPU Smart Fan function.
Options: Disabled (Default) / Auto / 4Pin / 3Pin

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(℃)

If the CPU/System Temperature is lower than the set value, FAN will turn off.
Options: 0~127 (℃)(With the interval of 1℃)

Fan Ctrl On(℃)

CPU/System fan starts to work under smart fan function when arrive this set value.
Options: 0~127 (℃)(With the interval of 1℃)

Fan Ctrl Start Value

When CPU/System temperature arrives to the set value, the CPU/System fan will work under Smart Fan Function mode.
Options: 0~127 (With the interval of 1)
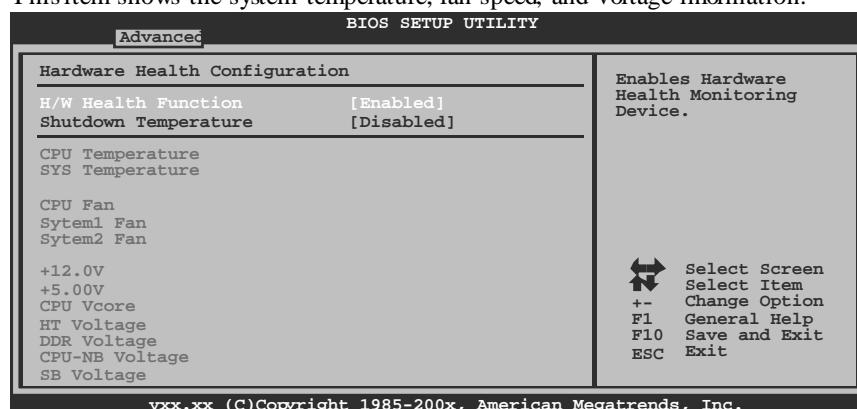
Fan Ctrl Sensitive

Increasing the value will raise the speed of CPU/System fan.
Options: 1~127 (With the interval of 1)

Hardware Health Configuration

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

```
                        BIOS SETUP UTILITY
        Advanced

   Hardware Health Configuration                  Enables Hardware
                                                  Health Monitoring
   H/W Health Function        [Enabled]           Device.
   Shutdown Temperature       [Disabled]

   CPU Temperature
   SYS Temperature

   CPU Fan
   Sytem1 Fan
   Sytem2 Fan

   +12.0V                                         ⬌   Select Screen
   +5.00V                                         ⬍   Select Item
   CPU Vcore                                      +-  Change Option
   HT Voltage                                     F1  General Help
   DDR Voltage                                    F10 Save and Exit
   CPU-NB Voltage                                 ESC Exit
   SB Voltage

        vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

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℃/140°F / 65℃/149°F / 70℃/158°F / 75℃/167°F
/ 80℃/176°F / 85℃/185°F / 90℃/194°F

Power Configuration

```
                          BIOS SETUP UTILITY
        Advanced

   ACPI Settings                                      When EuP Enabled.
                                                      System meets EuP
   EuP Control                 [Disabled]             requirment.
   Suspend mode                [S1 (POS)]             All wake up events
   ACPI Version Features       [ACPI v1.0]            do not work except
   ACPI APIC support           [Enabled]              Power Button after
   AMI OEMB table              [Enabled]              power down system(S5)
   Headless mode               [Disabled]

   RTC Resume                  [Disabled]
   RTC Alarm Date(Days)
   RTC Alarm Time                                      ↔    Select Screen
   USB Wakeup From S3/S4       [Disabled]              ↕    Select Item
   Power On by LAN             [Disabled]             +-    Change Option
   Wakeup On Ring              [Disabled]             F1    General Help
                                                      F10   Save and Exit
                                                      ESC   Exit

         vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

EuP Control

This item is used to enable or disable EuP Control (Energy Using Products).
Options: Disabled (Default) / Enabled

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

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

RTC Resume

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.

RTC Alarm Time

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

USB Wakeup from S3/S4

This item allows you to enable or disabled the USB resume from S3/S4 function.
Options: Disabled (Default) / Enabled

Power On by LAN
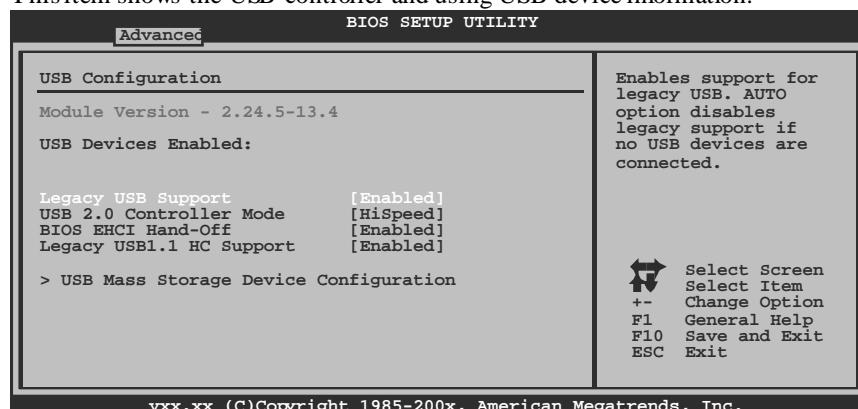
This item allows you control the wake on LAN (WOL) function.
Options: Disabled (Default) / Enabled

Wakeup On Ring

This item allows you control the wakeup on ring function.
Options: Disabled (Default) / Enabled

USB Configuration

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

```
                        BIOS SETUP UTILITY
       Advanced

   USB Configuration                              Enables support for
                                                  legacy USB. AUTO
   Module Version - 2.24.5-13.4                   option disables
                                                  legacy support if
   USB Devices Enabled:                           no USB devices are
                                                  connected.
   Legacy USB Support          [Enabled]
   USB 2.0 Controller Mode     [HiSpeed]
   BIOS EHCI Hand-Off          [Enabled]
   Legacy USB1.1 HC Support    [Enabled]
                                                      Select Screen
   > USB Mass Storage Device Configuration            Select Item
                                                  +-  Change Option
                                                  F1  General Help
                                                  F10 Save and Exit
                                                  ESC Exit

          vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

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
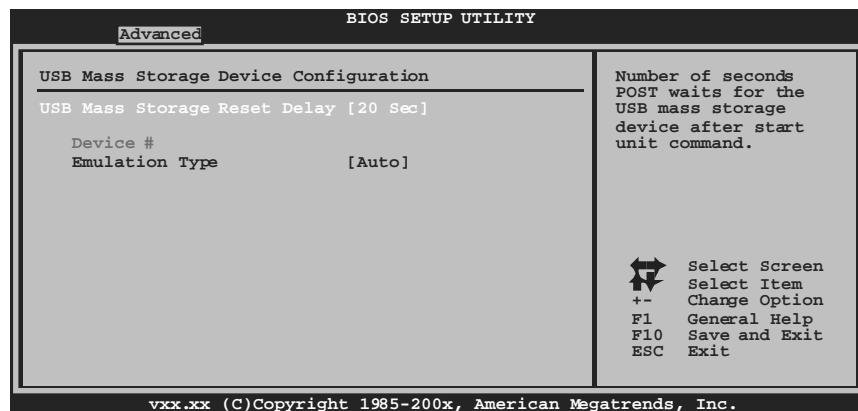
Legacy USB1.1 HC Support

This item allows you to enable to support USB1.1 HC.
Options: Enabled (Default) / Disabled

USB Mass Storage Device Configuration

```
                            BIOS SETUP UTILITY
               Advanced

   USB Mass Storage Device Configuration            Number of seconds
                                                    POST waits for the
   USB Mass Storage Reset Delay [20 Sec]            USB mass storage
                                                    device after start
     Device #                                       unit command.
     Emulation Type          [Auto]



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

           vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

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
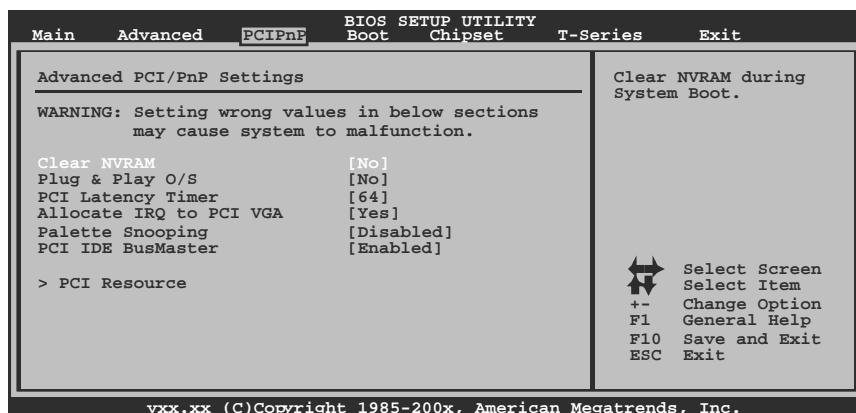
3 PCIPnP Menu

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 uses when communicating with its own special components.

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

```
                              BIOS SETUP UTILITY
   Main      Advanced    PCIPnP   Boot    Chipset     T-Series     Exit

   Advanced PCI/PnP Settings                         Clear NVRAM during
                                                     System Boot.
   WARNING: Setting wrong values in below sections
            may cause system to malfunction.

   Clear NVRAM                    [No]
   Plug & Play O/S                [No]
   PCI Latency Timer              [64]
   Allocate IRQ to PCI VGA        [Yes]
   Palette Snooping               [Disabled]
   PCI IDE BusMaster              [Enabled]

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

        vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

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

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
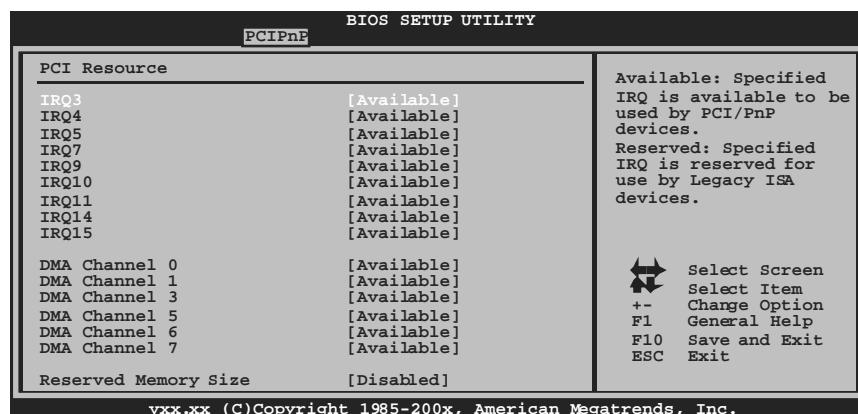
PCI IDE BusMaster

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

PCI Resource

```
                          BIOS SETUP UTILITY
                   PCIPnP

  PCI Resource                               Available: Specified
                                             IRQ is available to be
  IRQ3                    [Available]         used by PCI/PnP
  IRQ4                    [Available]         devices.
  IRQ5                    [Available]
  IRQ7                    [Available]         Reserved: Specified
  IRQ9                    [Available]         IRQ is reserved for
  IRQ10                   [Available]         use by Legacy ISA
  IRQ11                   [Available]         devices.
  IRQ14                   [Available]
  IRQ15                   [Available]

  DMA Channel 0           [Available]                  Select Screen
  DMA Channel 1           [Available]                  Select Item
  DMA Channel 3           [Available]         +-       Change Option
  DMA Channel 5           [Available]         F1       General Help
  DMA Channel 6           [Available]         F10      Save and Exit
  DMA Channel 7           [Available]         ESC      Exit

  Reserved Memory Size    [Disabled]

         vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

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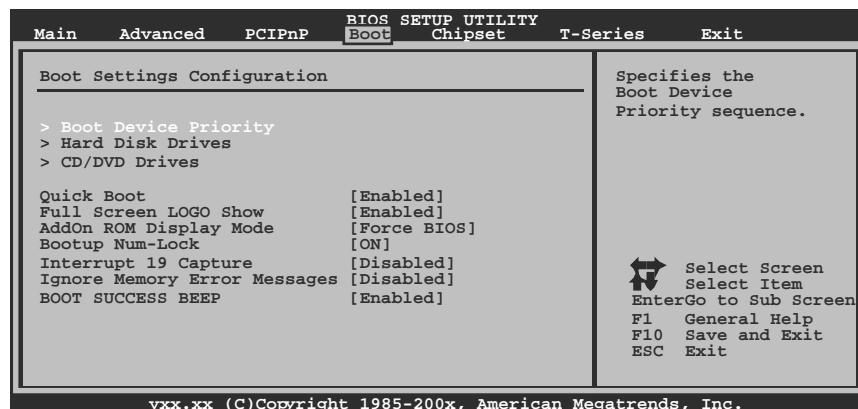
This item allows BIOS to reserve certain memory size for specific PCI device.

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

4 Boot Menu

This menu allows you to setup the system boot options.

```
                         BIOS SETUP UTILITY
   Main    Advanced    PCIPnP   Boot   Chipset    T-Series     Exit

   Boot Settings Configuration                     Specifies the
                                                   Boot Device
                                                   Priority sequence.
 > Boot Device Priority
 > Hard Disk Drives
 > CD/DVD Drives

   Quick Boot               [Enabled]
   Full Screen LOGO Show     [Enabled]
   AddOn ROM Display Mode    [Force BIOS]
   Bootup Num-Lock          [ON]
   Interrupt 19 Capture      [Disabled]           Select Screen
   Ignore Memory Error Messages [Disabled]        Select Item
   BOOT SUCCESS BEEP        [Enabled]          EnterGo to Sub Screen
                                               F1    General Help
                                               F10   Save and Exit
                                               ESC   Exit

        vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

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

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

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

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

When set to Enabled, this item allows the option ROMs to trap interrupt 19.
Options: Disabled (Default) / Enabled

Ignore Memory Error Messages

When set to Enabled, BIOS would ignore memory error messages.
Options: Disabled (Default) / Enabled

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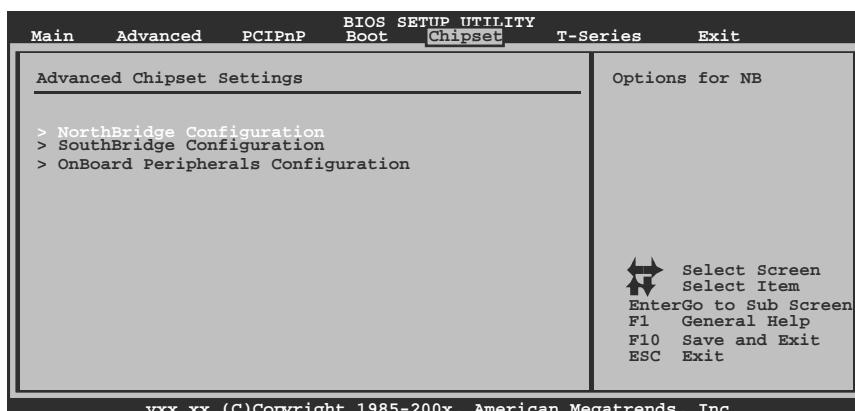
When this item is set to Enabled, BIOS will let user know boot success with beep.
Options: Enabled (Default) / Disabled
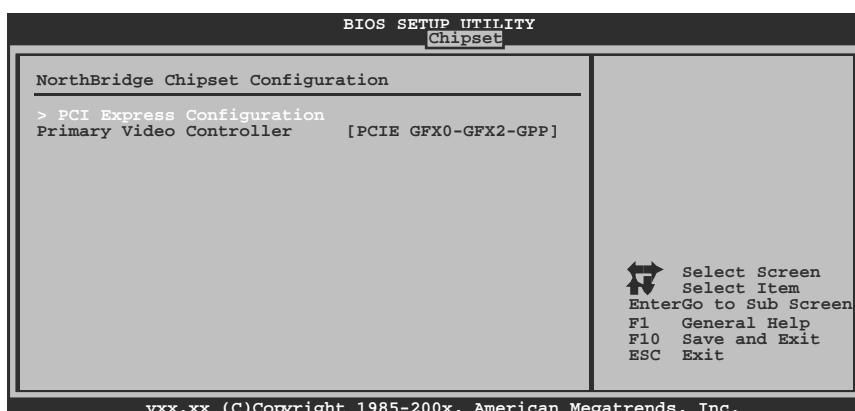
5 Chipset Menu

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.

```
                        BIOS SETUP UTILITY
   Main    Advanced   PCIPnP   Boot    Chipset    T-Series    Exit

   Advanced Chipset Settings                          Options for NB


   > NorthBridge Configuration
   > SouthBridge Configuration
   > OnBoard Peripherals Configuration




                                                 →← Select Screen
                                                 ↑↓ Select Item
                                                 Enter Go to Sub Screen
                                                 F1   General Help
                                                 F10  Save and Exit
                                                 ESC  Exit

           vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

NorthBridge Configuration

```
                        BIOS SETUP UTILITY
                             Chipset

   NorthBridge Chipset Configuration

   > PCI Express Configuration
   Primary Video Controller     [PCIE GFX0-GFX2-GPP]






                                                 →← Select Screen
                                                 ↑↓ Select Item
                                                 Enter Go to Sub Screen
                                                 F1   General Help
                                                 F10  Save and Exit
                                                 ESC  Exit

           vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

PCI Express Configuration

```
                        BIOS SETUP UTILITY
                           Chipset

    PCI Express Configuration

  > Port #02 Features
  > Port #04 Features
  > Port #09 Features
  > Port #10 Features
  > NB-SB Port Features



                                                Select Screen
                                                Select Item
                                             EnterUpdate
                                             F1   General Help
                                             F10  Save and Exit
                                             ESC  Exit

         vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

Port #02/04/09/10 Features

```
                        BIOS SETUP UTILITY
                           Chipset

  Gen2 High Speed Mode      [Disabled]        Auto - RC only
  Link ASPM                 [Disabled]        advertize Gen2
  Link Width                [Auto]            capability.




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

         vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

Gen2 High Speed Mode
Options: Disabled (Default) / Auto
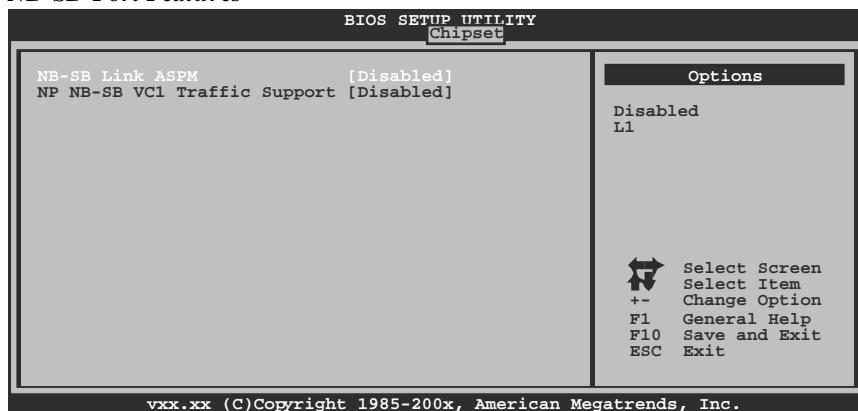
Link ASPM
Options: Disabled (Default) / L0s / L1 / L0x & L1

Link Width (Only for Port #02)
Options: Auto (Default) / x1 / x2 / x4 / x8 / x16

NB-SB Port Features

```
                         BIOS SETUP UTILITY
                            Chipset

  NB-SB Link ASPM              [Disabled]              Options
  NP NB-SB VC1 Traffic Support [Disabled]
                                                 Disabled
                                                 L1




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

        vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

NB-SB Link ASPM
Options: Disabled (Default) / L1

NP NB-SB VC1 Traffic Support
Options: Disabled (Default) / Enabled
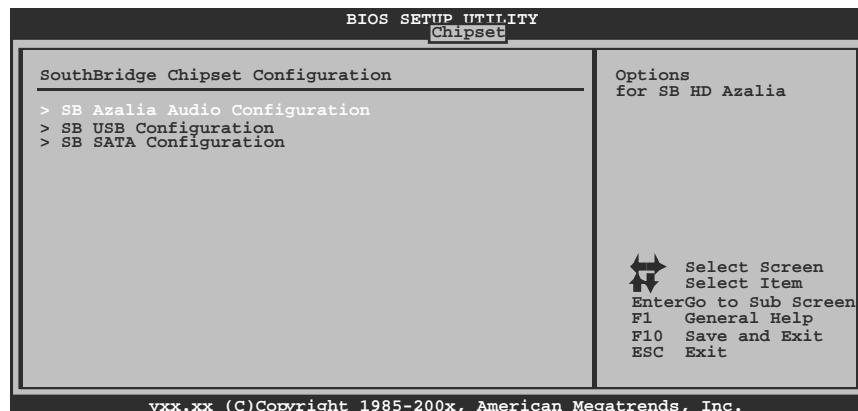
Primary Video Controller

This option allows you to select the video controller in charge.
Options: PCIE GFX0-GFX2-GPP-PCI (Default) / PCIE GFX2- GFX0- GPP -PCI
                  /PCIE GPP - GFX0- GFX2-PCI / PCI-PCIEGFX0- GFX2- GPP
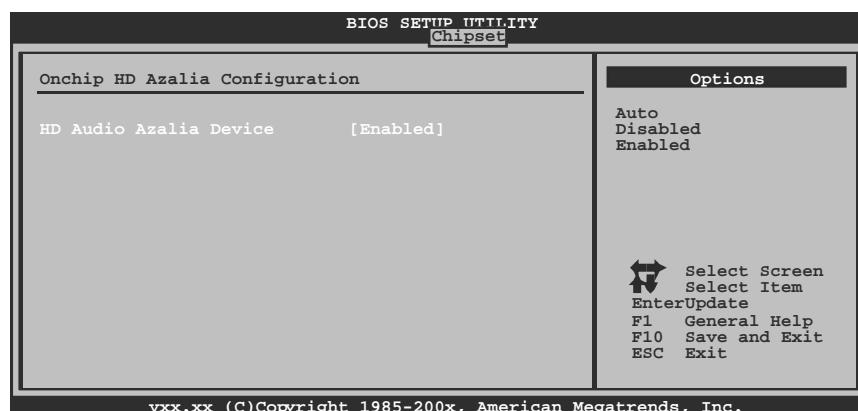
<u>SouthBridge Configuration</u>

```
                    BIOS SETUP UTILITY
                      [Chipset]

  SouthBridge Chipset Configuration              Options
                                                 for SB HD Azalia
  > SB Azalia Audio Configuration
  > SB USB Configuration
  > SB SATA Configuration




                                              ↔    Select Screen
                                              ↕    Select Item
                                              Enter Go to Sub Screen
                                              F1   General Help
                                              F10  Save and Exit
                                              ESC  Exit

      vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

SB Azalia Audio Configuration

```
                    BIOS SETUP UTILITY
                      [Chipset]

  Onchip HD Azalia Configuration                   Options

  HD Audio Azalia Device      [Enabled]         Auto
                                                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.
```

HD Audio Azalia Device
This item allows you to control the HD audio device.
Options: Enabled (Default) / Auto / Disabled

SB USB Configuration

```
                         BIOS SETUP UTILITY
                              Chipset

  Onchip USB Configuration                              Options

                                              Disabled
  OHCI HC(Bus 0 Dev 18 Fn 0)   [Enabled]      Enabled
  EHCI HC(Bus 0 Dev 18 Fn 2)   [Enabled]
  OHCI HC(Bus 0 Dev 19 Fn 0)   [Enabled]
  EHCI HC(Bus 0 Dev 19 Fn 2)   [Enabled]
  OHCI HC(Bus 0 Dev 20 Fn 5)   [Enabled]


                                                   Select Screen
                                                   Select Item
                                              Enter Go to Sub Screen
                                              F1   General Help
                                              F10  Save and Exit
                                              ESC  Exit

         vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```
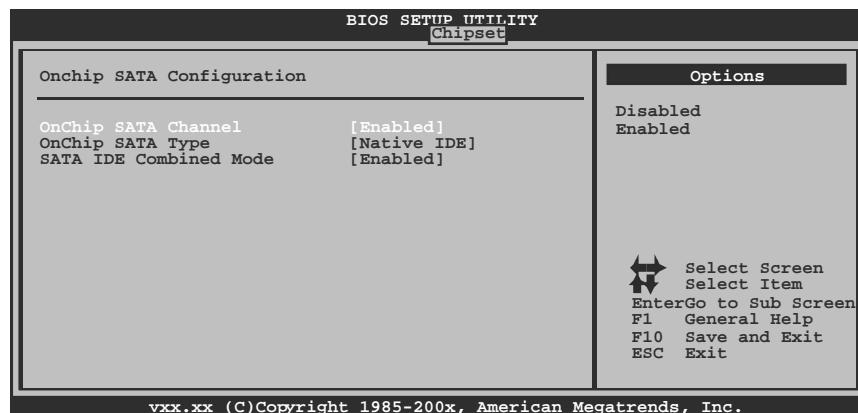
OHCI HC (Bus 0 Dev 18/19/20 Fn 0/5)
This item allows you to control OHCI host controller. (USB 1.1 Device)
Options: Enabled (Default) / Disabled

EHCI HC (Bus 0 Dev 18/19 Fn 2)
This item allows you to control EHCI host controller. (USB 2.0 Device)
Options: Enabled (Default) / Disabled

SB SATA Configuration

```
                         BIOS SETUP UTILITY
                              Chipset

  Onchip SATA Configuration                            Options

                                              Disabled
  OnChip SATA Channel          [Enabled]      Enabled
  OnChip SATA Type             [Native IDE]
  SATA IDE Combined Mode       [Enabled]




                                                   Select Screen
                                                   Select Item
                                              Enter Go to Sub Screen
                                              F1   General Help
                                              F10  Save and Exit
                                              ESC  Exit

         vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

OnChip SATA Channel
This option allows you to enable the on-chip Serial ATA.
Options: Enabled (Default) / Disabled

OnChip SATA Type
This option allows you to select the on-chip Serial ATA operation mode.
Options: Native IDE (Default) / RAID / AHCI / Legacy IDE / IDE➔AHCI

SATA IDE Combined Mode
This option controls the SATA/PATA combined mode.
Options: Enabled (Default) / Disabled

Onboard Peripherals Configuration

```
                          BIOS SETUP UTILITY
                             Chipset

     MAC ID Information :                          Enable/Disable
     Realtek PCIE NIC          [Enabled]           Onboard Realtek
      Realtek Option ROM       [Disabled]          PCIE Network
                                                   Controller




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

          vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

MAC ID Information
This area shows the MAC ID.

Realtek PCIE NIC
This option allows you to control the onboard LAN controller.
Options: Enable (Default) / Disable

Realtek Option ROM
This item allows you to enable or disable the Onboard LAN Boot ROM.
Options: Disabled (Default) / Enabled
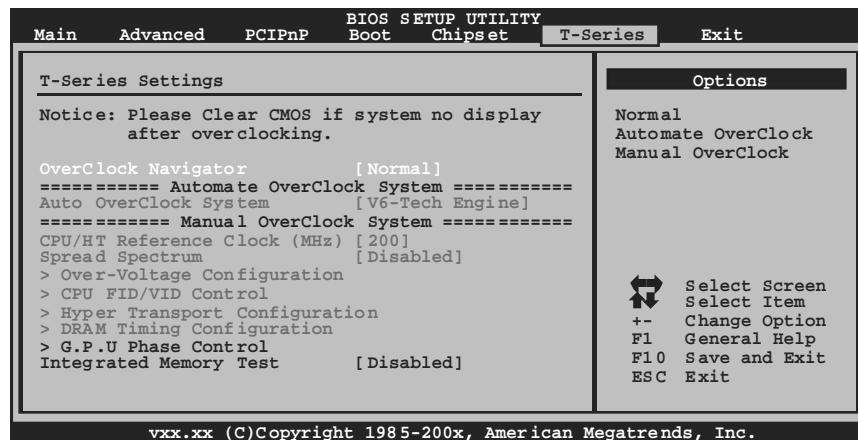
6 T-Series Menu

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.

```
                         BIOS SETUP UTILITY
    Main    Advanced   PCIPnP   Boot   Chipset    T-Series    Exit

    T-Series Settings                                     Options

    Notice: Please Clear CMOS if system no display    Normal
            after overclocking.                       Automate OverClock
                                                      Manual OverClock
    OverClock Navigator          [Normal]
    ========= Automate OverClock System ===========
    Auto OverClock System        [V6-Tech Engine]
    ========= Manual OverClock System ============
    CPU/HT Reference Clock (MHz) [200]
    Spread Spectrum              [Disabled]
    > Over-Voltage Configuration                          Select Screen
    > CPU FID/VID Control                                 Select Item
    > Hyper Transport Configuration                   +-  Change Option
    > DRAM Timing Configuration                       F1  General Help
    > G.P.U Phase Control                             F10 Save and Exit
    Integrated Memory Test       [Disabled]           ESC Exit

         vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

OverClock Navigator

OverClock .Navigator is designed for beginners in overclock field.
Based on many test and experiments from Biostar Engineer Team, OverClock Navigator provides 3 default overclock configurations that are able to raise the system performance.
Options: Normal (Default) / Automate OverClock / Manual OverClock

Auto OverClock System

```
                          BIOS SETUP UTILITY
 Main    Advanced   PCIPnP   Boot   Chipset    T-Series    Exit

   T-Series Settings                              Options

   Notice: Please Clear CMOS if system no display   Normal
           after overclocking.                      Automate OverClock
                                                    Manual OverClock
   OverClock Navigator        [Automate OverClock]
   ========== Automate OverClock System ==========
   Auto OverClock System      [V6-Tech Engine]
   ========== Manual OverClock System ==========
   CPU/HT Reference Clock (MHz) [200]
   Spread Spectrum            [Disabled]
   > Over-Voltage Configuration
   > CPU FID/VID Control                           ⇄   Select Screen
   > Hyper Transport Configuration                 ⇅   Select Item
   > DRAM Timing Configuration                     +-  Change Option
   > G.P.U Phase Control                           F1  General Help
   Integrated Memory Test     [Disabled]           F10 Save and Exit
                                                   ESC Exit

       vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

The Overclock Navigator provides 3 different engines helping you to overclock your system. These engines will boost your system performance to different level.
Options:

V6 Tech Engine
This engine will make a good over-clock performance.

V8 Tech Engine
This engine will make a better over-clock performance.
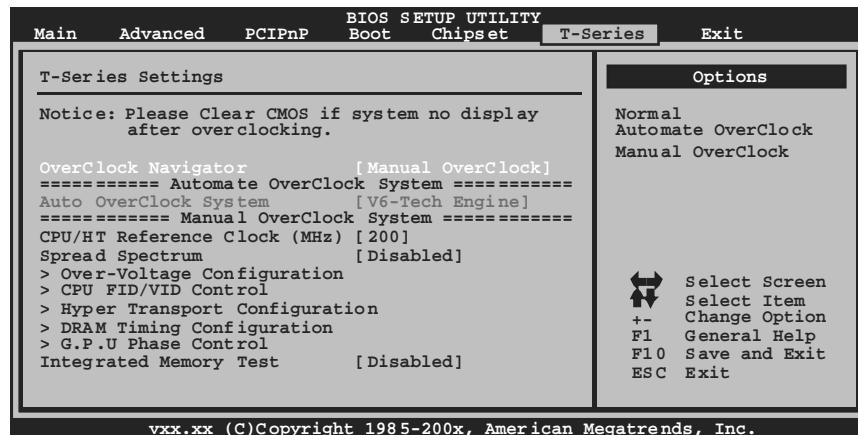
V12 Tech Engine
This engine will make a best over-clock performance.

Cautions:
Not every AMD CPU performs the above overclock setting ideally; the difference may vary with the installed CPU model.

Manual Overclock System (M.O.S.)

```
                         BIOS SETUP UTILITY
 Main     Advanced    PCIPnP    Boot    Chipset    T-Series    Exit

   T-Series Settings                                 Options

   Notice: Please Clear CMOS if system no display    Normal
           after overclocking.                       Automate OverClock
                                                     Manual OverClock
   OverClock Navigator        [Manual OverClock]
   ========== Automate OverClock System ==========
   Auto OverClock System       [V6-Tech Engine]
   ========== Manual OverClock System ==========
   CPU/HT Reference Clock (MHz) [200]
   Spread Spectrum            [Disabled]
 > Over-Voltage Configuration                         ↔   Select Screen
 > CPU FID/VID Control                                ↕   Select Item
 > Hyper Transport Configuration                      +-  Change Option
 > DRAM Timing Configuration                          F1  General Help
 > G.P.U Phase Control                                F10 Save and Exit
   Integrated Memory Test      [Disabled]             ESC Exit


       vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

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

CPU/HT Reference Clock (MHz)
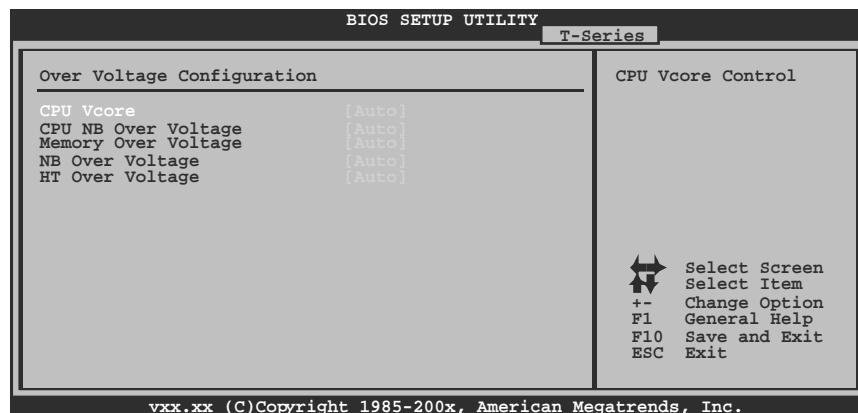
This item allows BIOS to select CPU Over Clock.
Options: 200 (Default) / 200~600

Spread Spectrum

This item allows you to control Spread Spectrum function.
Options: Disabled (Default) / Enabled

Over-Voltage Configuration

```
                          BIOS SETUP UTILITY
                                        T-Series
    Over Voltage Configuration                    CPU Vcore Control

    CPU Vcore                     [Auto]
    CPU NB Over Voltage           [Auto]
    Memory Over Voltage           [Auto]
    NB Over Voltage               [Auto]
    HT Over Voltage               [Auto]


                                              →←  Select Screen
                                              ↑↓  Select Item
                                              +-  Change Option
                                              F1  General Help
                                              F10 Save and Exit
                                              ESC Exit

         vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

CPU Vcore

This item allows you to select CPU Voltage Control.

CPU NB Over Voltage

This item allows you to select CPU NB Voltage Control.

Memory Over Voltage

This item allows you to select Memory Voltage Control.

NB Over Voltage
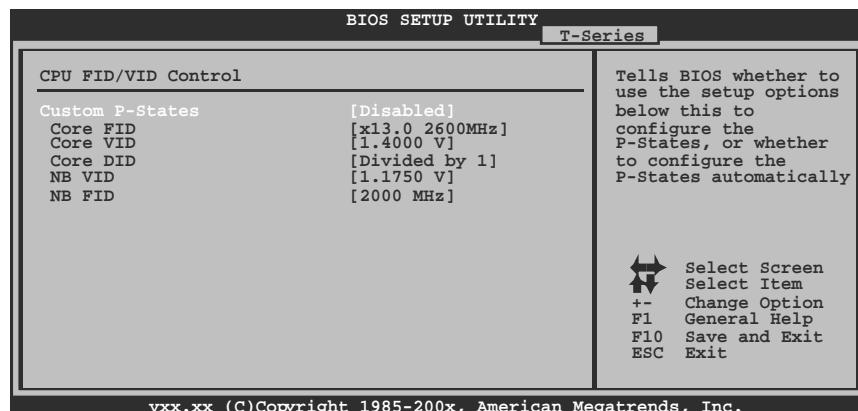
This item allows you to select NB Voltage Control.

HT Over Voltage

This item allows you to select HT Voltage Control.

CPU FID/VID Control

```
                          BIOS SETUP UTILITY
                                         T-Series

  CPU FID/VID Control                              Tells BIOS whether to
                                                   use the setup options
  Custom P-States          [Disabled]              below this to
   Core FID                [x13.0 2600MHz]         configure the
   Core VID                [1.4000 V]              P-States, or whether
   Core DID                [Divided by 1]          to configure the
   NB VID                  [1.1750 V]              P-States automatically
   NB FID                  [2000 MHz]

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

        vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

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 ~ x31.5 6300MHz

Core VID

This function allows you to adjust the voltage of AM3 CPU.

Core DID

This is the Core Divider.
Options: Divided by 1 (Default) / Divided by 2 / Divided by 4 / Divided by 8 /
            Divided by 16

NB VID
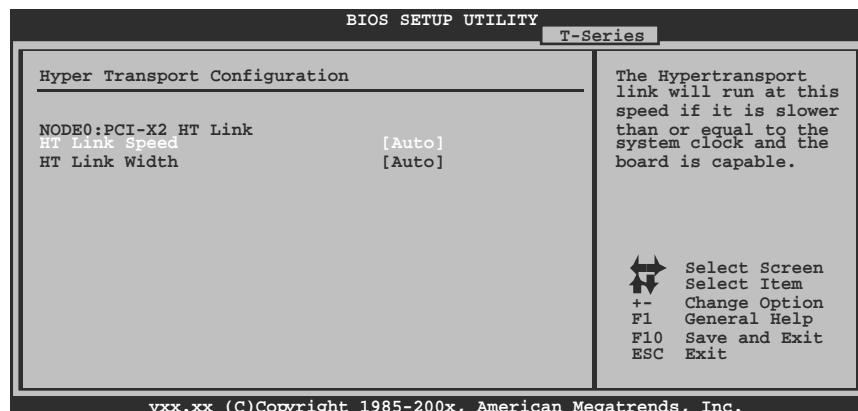
This function allows you to adjust the voltage of NB chip.

NB FID

This item allows you to select the Frequency of NB chip.
Options: 800MHz ~ 7000MHz (Differed by CPU)

Hyper Transport Configuration

```
                        BIOS SETUP UTILITY
                                        T-Series

  Hyper Transport Configuration                    The Hypertransport
                                                   link will run at this
                                                   speed if it is slower
  NODE0:PCI-X2 HT Link                             than or equal to the
  HT Link Speed                   [Auto]           system clock and the
  HT Link Width                   [Auto]           board is capable.




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

        vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

HT Link Speed
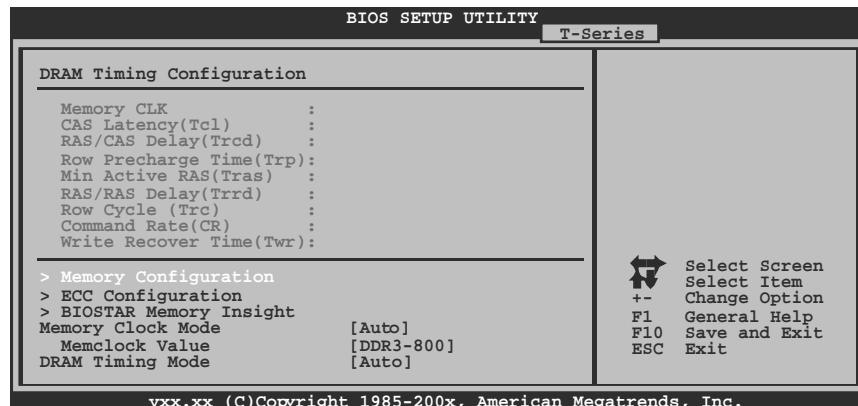
Options: Auto (Default) / 200MHz / 400MHz / 600MHz / 800MHz / 1GHz /
            1.2GHz / 1.4GHz / 1.6GHz / 1.8GHz / 2.0GHz

HT Link Width
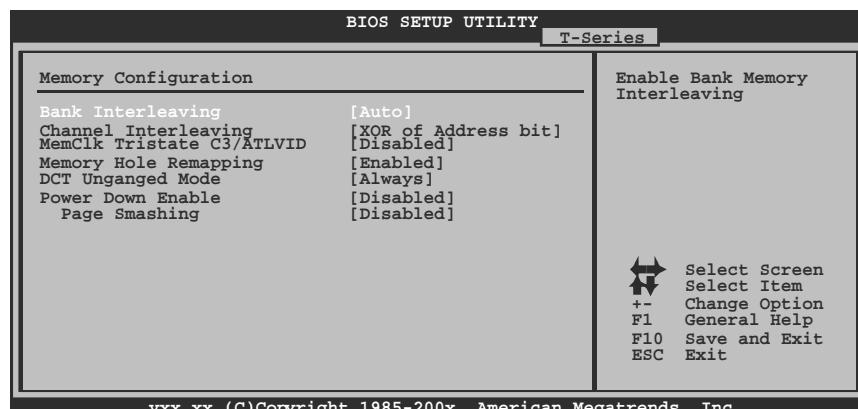
Options: Auto (Default) / 8 Bit / 16 Bit

TA870 BIOS Manual

DRAM Timing Configuration

```
                    BIOS SETUP UTILITY
                                    T-Series

 DRAM Timing Configuration

   Memory CLK           :
   CAS Latency(Tcl)     :
   RAS/CAS Delay(Trcd)  :
   Row Precharge Time(Trp):
   Min Active RAS(Tras) :
   RAS/RAS Delay(Trrd)  :
   Row Cycle (Trc)      :
   Command Rate(CR)     :
   Write Recover Time(Twr):
                                         Select Screen
 > Memory Configuration                  Select Item
 > ECC Configuration                 +-  Change Option
 > BIOSTAR Memory Insight            F1  General Help
 Memory Clock Mode       [Auto]      F10 Save and Exit
   Memclock Value        [DDR3-800]  ESC Exit
 DRAM Timing Mode        [Auto]

     vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

Memory Configuration

```
                    BIOS SETUP UTILITY
                                    T-Series

 Memory Configuration                    Enable Bank Memory
                                         Interleaving
 Bank Interleaving         [Auto]
 Channel Interleaving      [XOR of Address bit]
 MemClk Tristate C3/ATLVID [Disabled]
 Memory Hole Remapping     [Enabled]
 DCT Unganged Mode         [Always]
 Power Down Enable         [Disabled]
   Page Smashing           [Disabled]


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

     vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

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

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

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: Enabled (Default) / Disabled
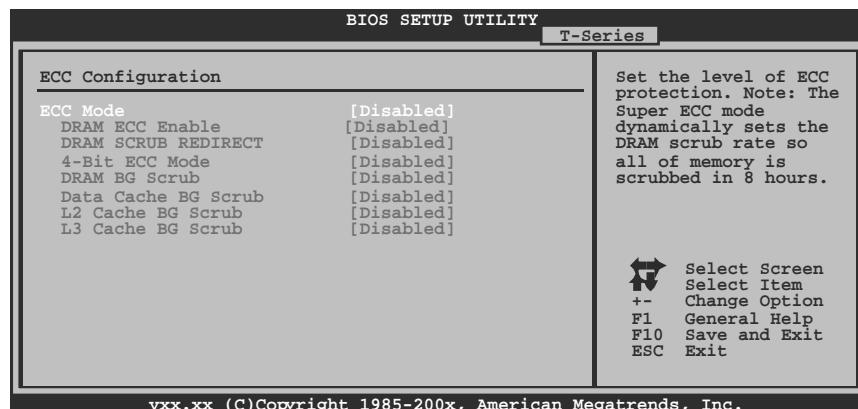
Page Smashing
This item is S/W Control of Page Smashing Mechanism.
Options: Disabled (Default) / IC / DC / Both

TA870 BIOS Manual

ECC Configuration

```
                        BIOS SETUP UTILITY
                                         T-Series

     ECC Configuration                              Set the level of ECC
                                                    protection. Note: The
     ECC Mode                   [Disabled]          Super ECC mode
       DRAM ECC Enable          [Disabled]          dynamically sets the
       DRAM SCRUB REDIRECT      [Disabled]          DRAM scrub rate so
       4-Bit ECC Mode           [Disabled]          all of memory is
       DRAM BG Scrub            [Disabled]          scrubbed in 8 hours.
       Data Cache BG Scrub      [Disabled]
       L2 Cache BG Scrub        [Disabled]
       L3 Cache BG Scrub        [Disabled]

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

          vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

ECC Mode

This item allows you to select the DRAM ECC Mode.
Options: Disabled (Default) / Basic / Good / Super / Max / User

DRAM ECC Enabled

Options: Disabled (Default) / Enabled

DRAM Scrub Redirect

Options: Disabled (Default) / Enabled

4-bit ECC Mode
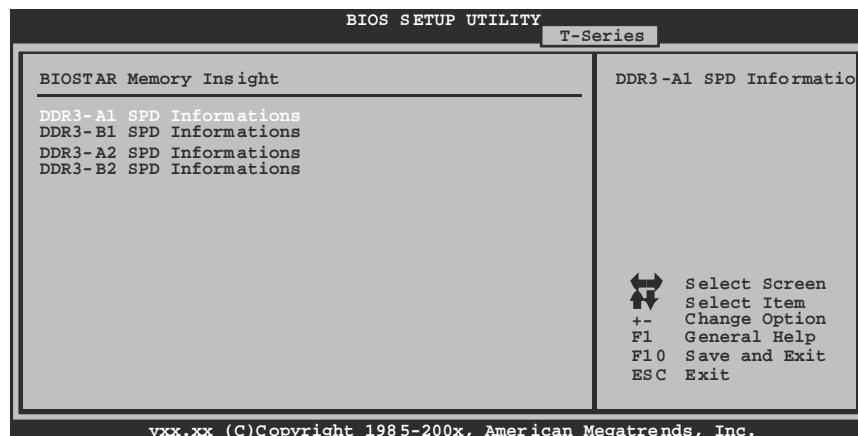
Options: Disabled (Default) / Enabled

DRAM BG Scrub/Data Cache BG Scrub/L2 Cache BG Scrub/L3 Cache BG Scrub

Options: Disabled (Default) / 40ns / 80ns / 160ns / 320ns / 640ns / 1.28us / 2.56us /
            5.12us / 10.2us / 20.5us / 41.0us / 81.9us / 163.8us / 327.7us / 655.4us /
            1.31ms / 2.62ms / 5.24ms / 10.49ms / 20.97ms / 42.00ms / 84.00ms

BIOSTAR Memory Insight

```
                    BIOS SETUP UTILITY
                                       ┌──────────┐
                                       │ T-Series │
                                       └──────────┘
  ┌──────────────────────────────────────┬─────────────────────────────┐
  │                                       │                             │
  │ BIOSTAR Memory Insight                │ DDR3-A1 SPD Informatio      │
  │                                       │                             │
  │ DDR3-A1 SPD Informations              │                             │
  │ DDR3-B1 SPD Informations              │                             │
  │ DDR3-A2 SPD Informations              │                             │
  │ DDR3-B2 SPD Informations              │                             │
  │                                       │                             │
  │                                       │                             │
  │                                       │  ⬌    Select Screen         │
  │                                       │  ⬍    Select Item           │
  │                                       │  +-   Change Option          │
  │                                       │  F1   General Help          │
  │                                       │  F10  Save and Exit          │
  │                                       │  ESC  Exit                   │
  └───────────────────────────────────────┴─────────────────────────────┘
        vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

DDR3-A1/B1/A2/B2 SPD Informations
These items display SPD information of DDR3 memory.

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: DDR3-800 (Default) / DDR3-1066 / DDR3-1333 / DDR3-1600 / Auto

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) / 11~42 CLK

tWR

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

TRRD

Options: Auto (Default) / 4~7 CLK

tWTR
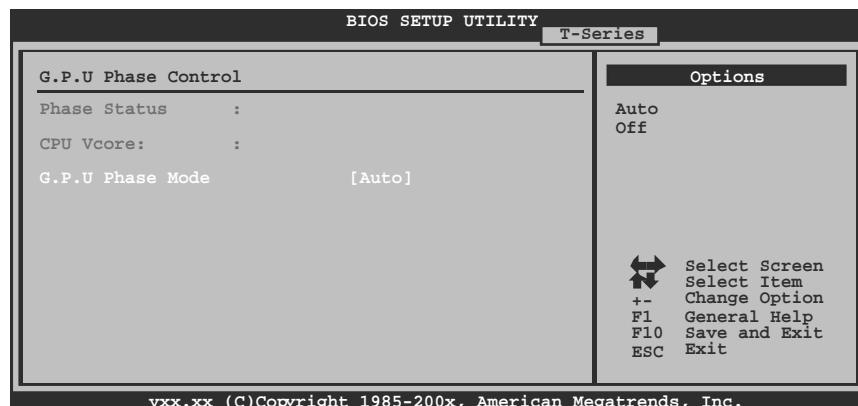
Options: Auto (Default) / 4~7 CLK

tRFC0 / tRFC1 / tRFC2 / tRFC3

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

G.P.U Phase Control

```
                     BIOS SETUP UTILITY
                                     T-Series
 ┌───────────────────────────────────────┐┌────────────────────────────┐
 │ G.P.U Phase Control                    ││          Options           │
 │                                        ││                            │
 │ Phase Status      :                    ││ Auto                       │
 │                                        ││ Off                        │
 │ CPU Vcore:        :                    ││                            │
 │                                        ││                            │
 │ G.P.U Phase Mode          [Auto]       ││                            │
 │                                        ││                            │
 │                                        ││                            │
 │                                        ││    ↔  Select Screen        │
 │                                        ││    ↕  Select Item          │
 │                                        ││   +-  Change Option         │
 │                                        ││   F1  General Help          │
 │                                        ││   F10 Save and Exit         │
 │                                        ││   ESC Exit                  │
 └───────────────────────────────────────┘└────────────────────────────┘
       vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

G.P.U Phase Mode

This item allows you to control G.P.U Phase Mode (power saving technology).
Options: Auto (Default) / Off
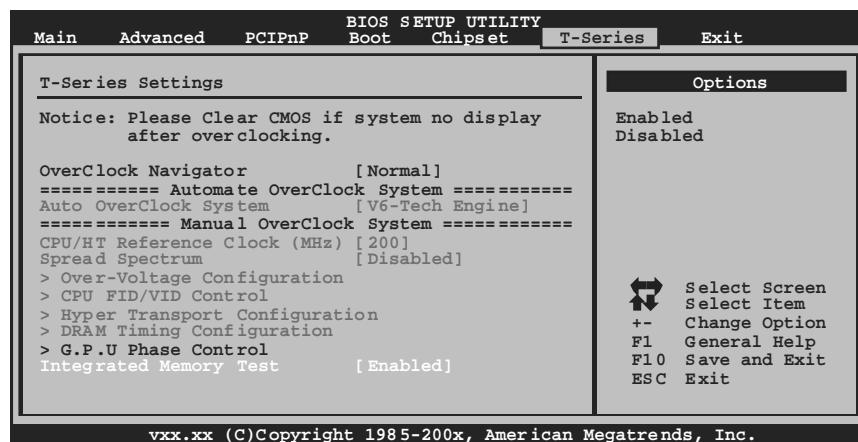
TA870 BIOS Manual

Integrated Memory Test

Integrated Memory Test allows users to test memory module compatibilities without additional device or software.

Step 1*:*

This item is disabled on default; change it to "Enable" to precede memory test.

```
                           BIOS SETUP UTILITY
    Main     Advanced    PCIPnP    Boot    Chipset    T-Series    Exit

    T-Series Settings                                    Options

    Notice: Please Clear CMOS if system no display      Enabled
            after overclocking.                         Disabled

    OverClock Navigator         [Normal]
    ========== Automate OverClock System ==========
    Auto OverClock System      [V6-Tech Engine]
    ========== Manual OverClock System ==========
    CPU/HT Reference Clock (MHz) [200]
    Spread Spectrum            [Disabled]
    > Over-Voltage Configuration
    > CPU FID/VID Control                               Select Screen
    > Hyper Transport Configuration                     Select Item
    > DRAM Timing Configuration                    +-   Change Option
    > G.P.U Phase Control                          F1   General Help
    Integrated Memory Test       [Enabled]         F10  Save and Exit
                                                   ESC  Exit

            vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

Step 2*:*

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

```
                           BIOS SETUP UTILITY
    Main     Advanced    PCIPnP    Boot    Chipset    T-Series    Exit

    T-Series Settings                                    Options

    Notice: Please Clear CMOS if system no display      Enabled
            after overclocking.                         Disabled

    OverClock Navigator         [Normal]
    ========== Automate OverClock System ==========
    Auto OverClock System      [V6-Tech Engine]
    ========== Manual OverClock System ==========
    CPU/HT Reference Clock (MHz) [200]
    Spread Spectrum            [Disabled]
    > Over-Voltage Configuration
    > CPU FID/VID Control                               Select Screen
    > Hyper Transport Configuration                     Select Item
    > DRAM Timing Configuration                    +-   Change Option
    > G.P.U Phase Control                          F1   General Help
    Integrated Memory Test       [Disabled]        F10  Save and Exit
                                                   ESC  Exit

            vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

7 Exit Menu

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

```
                         BIOS SETUP UTILITY
Main     Advanced    PCIPnP    Boot    Chipset    T-Series    Exit

 Exit Options                                    Exit system setup
                                                 after saving the
 Save Changes and Exit                           changes.
 Discard Changes and Exit
 Discard Changes                                 F10 key can be used
                                                 for this operation.
 Load Optimal Defaults

 CMOS Backup Function

 Security Settings                                    Select Screen
                                                      Select Item
 > Security                                       EnterGo to Sub Screen
                                                  F1   General Help
                                                  F10  Save and Exit
                                                  ESC  Exit

        vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

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.
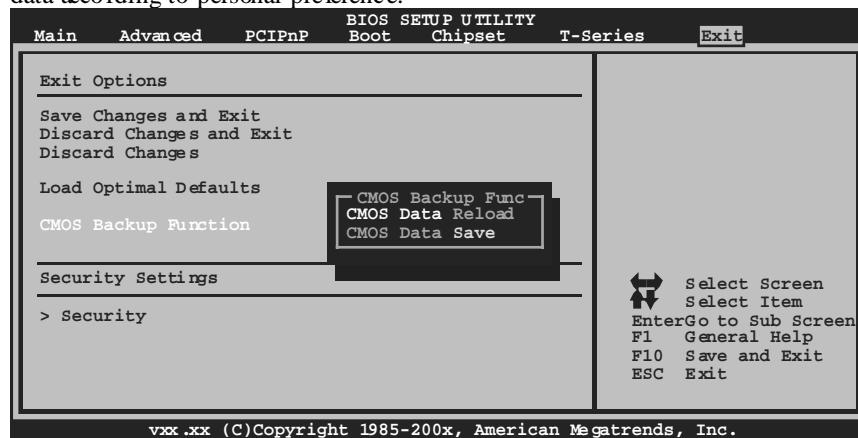
CMOS Backup Function

It allows users to save different CMOS settings into BIOS-ROM and reload any saved CMOS setting for customizing system configurations.
Moreover, users are able to save an ideal overclock setting during overclock operation.
There are 10 sets of record addresses in total, and users are able to name the CMOS data according to personal preference.
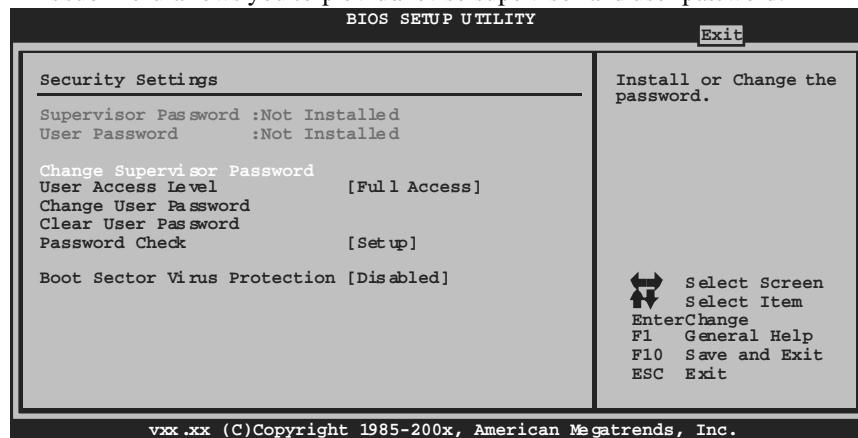
```
                              BIOS SETUP UTILITY
   Main     Advanced    PCIPnP    Boot    Chipset    T-Series      Exit

   Exit Options

   Save Changes and Exit
   Discard Changes and Exit
   Discard Changes

   Load Optimal Defaults          ┌ CMOS Backup Func ┐
                                   │ CMOS Data Reload │
   CMOS Backup Function           │ CMOS Data Save   │
                                   └──────────────────┘

   Security Settings                              ↔    Select Screen
                                                  ↕    Select Item
   > Security                                  EnterGo to Sub Screen
                                               F1    General Help
                                               F10   Save and Exit
                                               ESC   Exit

          vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

Security

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

```
                              BIOS SETUP UTILITY
                                                            Exit

   Security Settings                            Install or Change the
                                                password.
   Supervisor Password :Not Installed
   User Password       :Not Installed

   Change Supervisor Password
   User Access Level            [Full Access]
   Change User Password
   Clear User Password
   Password Check               [Setup]

   Boot Sector Virus Protection [Disabled]       ↔    Select Screen
                                                 ↕    Select Item
                                              EnterChange
                                              F1    General Help
                                              F10   Save and Exit
                                              ESC   Exit

          vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

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

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