

--- **AMI® BIOS Setup** 3

The mainboard uses AMI® BIOS ROM that provides a Setup utility for users to modify the basic system configuration. The information is stored in a battery-backed CMOS RAM so it retains the Setup information when the power is turned off.

This chapter provides you with the overview of the BIOS Setup program. It contains the following topics:

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Entering Setup

Power on the computer and the system will start POST (Power On Self Test) process. When the message below appears on the screen, press key to enter Setup.

Hit DEL if you want to run SETUP

If the message disappears before you respond and you still wish to enter Setup, restart the system by turning it OFF and On or pressing the RESET button. You may also restart the system by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys.

Control Keys

<↑>	Move to the previous item
<↓>	Move to the next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
<Enter>	Select the item
<Esc>	Jumps to the Exit menu or returns to the main menu from a submenu
<+/PU>	Increase the numeric value or make changes
<-/PD>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Load the default CMOS value from Fail-Safe default table, only for Option Page Setup Menu
<F7>	Load Optimized defaults
<F10>	Save all the CMOS changes and exit

Getting Help

After entering the Setup utility, the first screen you see is the Main Menu.

Main Menu

The main menu displays the setup categories the BIOS supplies. You can use the arrow keys (↑↓) to select the item. The on-line description for the selected setup category is displayed on the bottom of the screen.

General Help <F1>

The BIOS setup program provides a General Help screen. You can call up this screen from any menu by simply pressing <F1>. The Help screen lists the appropriate keys to use and the possible selections for the highlighted item. Press <Esc> to exit the Help screen.

Default Settings

The BIOS setup program contains two kinds of default settings: the Setup and BIOS defaults. Setup defaults provide optimum performance settings for all devices and the system. BIOS defaults provide the safest set of parameters instead of the optimal system performance for the system.

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The Main Menu

Once you enter AMIBIOS SIMPLE SETUP UTILITY, the Main Menu will appear on the screen. The Main Menu displays twelve configurable functions and two exit choices. Use arrow keys to move among the items and press <Enter> to enter the sub-menu.

AMIBIOS SETUP - STANDARD CMOS SETUP (C) 2001 American Megatrends, Inc. All Rights Reserved	
Standard CMOS Setup	Load Fail-Safe Defaults
Advanced BIOS Features	Load Optimized Defaults
Advanced Chipset Features	Supervisor Password
Power Management Setup	User Password
PNP/PCI Configurations	IDE HDD Auto Detection
Integrated Peripherals	Save & Exit Setup
Hardware Monitor Setup	Exit & Without Saving
ESC:Quit ↑ ↓ → ← :Select Item (Shift) F2 : Change Color	
F5: Old Values F7: Load Setup Defaults F10: Save & Exit	
Time, Date, Hard Disk Type...	

Standard CMOS Setup

Use this menu for basic system configurations, such as time, date etc.

Advanced BIOS Features

Use this menu to setup the items of AMI® special enhanced features.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system’s performance.

Power Management Setup

Use this menu to specify your settings for power management.

PNP/PCI Configurations

This entry appears if your system supports PnP/PCI.

Integrated Peripherals

Use this menu to load factory default settings into the BIOS for optimal system performance operations.

Hardware Monitor Setup

This entry shows your PC's current status.

Load Fail-Safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

Load Optimized Defaults

Use this menu to load the BIOS default values that are factory settings for optimal performance system operations.

Supervisor Password

Use this menu to set Supervisor Password.

User Password

Use this menu to set User Password.

Save & Exit Setup

Save changes to CMOS and exit setup.

Exit Without Saving

Abandon all changes and exit setup.

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Standard CMOS Features

The items inside STANDARD CMOS SETUP menu are divided into 9 categories. Each category includes one or more setup items. Use the arrow keys to highlight the item you want to modify and use the <PgUp> or <PgDn> keys to switch to the value you prefer.

AMIBIOS SETUP - STANDARD CMOS SETUP									
(C) 2001 American Megatrends, Inc. All Rights Reserved									
Date (mm/dd/yyyy): Wed Feb 21, 2001									
Time (hh/mm/ss): 17:09:25									
TYPE SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE									
Pri Master :Auto									
Pri Slave :Auto									
Sec Master :Auto									
Sec Slave :Auto									
Floppy Drive A:1.44MB 3½					Base Memory:640Kb				
Floppy Drive B:Not Installed					Other Memory: 384Kb				
					Extended Memory: Mb				
					Total Memory: Mb				
Boot Sector Virus Protection:Disabled									
Month : Jan-Dec					ESC:Exit				
Day : 01-31					↑ ↓ → ←:Select Item				
Year : 1901-2099					PU/PD/+/-:Modify				
					(Shift)F2: Color				

Date

This allows you to set the system to the date that you want (usually the current date). The format is <day><month> <date> <year>.

- day** Day of the week, from Sun to Sat, determined by BIOS. Read-only.
- month** The month from Jan. through Dec.
- date** The date from 1 to 31 can be keyed by numeric function keys.
- year** The year depends on the year of the BIOS.

Time

This allows you to set the system time that you want (usually the current time). The time format is <hour> <minute> <second>.

Pri Master/Pri Slave/Sec Master/Sec Slave

Press PgUp/<+> or PgDn/<-> to select the hard disk drive type. The specification of hard disk drive will show up on the right hand according to your selection.

<u>TYPE</u>	Type of the device.
<u>SIZE</u>	Capacity of the device.
<u>CYLS</u>	Number of cylinders.
<u>HEAD</u>	Number of heads.
<u>PRECOMP</u>	Write precompensation.
<u>LANDZ</u>	Cylinder location of Landing zone.
<u>SECTOR</u>	Number of sectors.
<u>MODE</u>	Access mode.

Floppy Drive A/B

This item allows you to set the type of floppy drives installed. Available options are *Not Installed*, *360 KB 5¼*, *1.2 MB 5¼*, *720 KB 3½*, *1.44 MB 3½*, or *2.88 MB 3½*. The default value for Floppy Drive A is *1.44 MB 3½*, and for Floppy Drive B is *Not Installed*.

Boot Sector Virus Protection

The item is to set the Virus Warning feature for IDE Hard Disk boot sector protection. If the function is enabled and any attempt to write data into this area is made, BIOS will display a warning message on screen and beep. Setting options are *Disabled* and *Enabled*. The Setup and BIOS default values are *Disabled*.

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Advanced BIOS Features

AMIBIOS SETUP - ADVANCED CMOS SETUP		
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Quick Boot	Enabled	
1st Boot Device	Floppy	
2nd Boot Device	IDE-0	
3rd Boot Device	CDROM	
S.M.A.R.T. for Hard Disks	Disabled	
BootUp Num-Lock	On	
Floppy Drive Swap	Disabled	
Floppy Drive Seek	Enabled	
Password Check	Setup	
Boot To OS/2	No	
CPU Serial Number	Enabled	
Internal Cache	Enabled	
External Cache	Enabled	
System BIOS Cacheable	Enabled	
C000, 32k Shadow	Cached	
		ESC:Exit ↑↓→←:Select Item F1:Help PU/PD/+/-:Modify F5:Load Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Quick Boot

Setting the item to *Enabled* allows the system to boot within 5 seconds since it will skip some check items. Available options are *Enabled* and *Disabled*. The Setup default value is *Enabled* and the BIOS default is *Disabled*.

1st/2nd/3rd Boot Device

The items allow you to set the sequence of boot devices where AMIBIOS attempts to load the operating system. The settings are:

- IDE0* The system will boot from the first HDD.
- IDE1* The system will boot from the second HDD.
- IDE2* The system will boot from the third HDD.
- IDE3* The system will boot from the fourth HDD.
- Floppy* The system will boot from floppy drive.
- ATAPI ZIP* The system will boot from ATAPI ZIP drive.
- LS-120/ZIP* The systm will boot from LS-120/ZIP drive.
- SCSI* The system will boot from the SCSI.

<i>Network</i>	The system will boot from the Network drive.
<i>CD-ROM</i>	The system will boot from the CD-ROM.
<i>Disabled</i>	Disable this sequence. Settings are:

S.M.A.R.T. for Hard Disks

This allows you to activate the S.M.A.R.T. (Self-Monitoring Analysis & Reporting Technology) capability for the hard disks. S.M.A.R.T is a utility that monitors your disk status to predict hard disk failure. This gives you an opportunity to move data from a hard disk that is going to fail to a safe place before it becomes offline. Setting options are *Enabled* and *Disabled*. The Setup and BIOS default values are *Disabled*.

BootUpNum-Lock

This item is to set the Num Lock status when the system is powered on. Setting to *On* will turn on the Num Lock key when the system is powered on. Setting to *Off* will allow end users to use the arrow keys on the numeric keypad. Setting options are *On* and *Off*. The Setup and BIOS default values are *On*.

Floppy Drive Swap

Setting to *Enabled* will swap floppy drives A: and B:. The Setup and BIOS default values are *Disabled*.

Floppy Drive Seek

Setting to *Enabled* will make BIOS seek floppy drive A: before booting the system. Setting options are *Disabled* and *Enabled*. The Setup and BIOS default values are *Enabled*.

Password Check

This specifies the type of AMIBIOS password protection that is implemented. Setting options are described below.

Option	Description
Setup (default)	The password prompt appears only when end users try to run Setup.
Always	A password prompt appears every time when the computer is powered on or when end users try to run Setup.

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Boot to OS/2

This allows you to run the OS/2® operating system with DRAM larger than 64MB. When you choose the default value *No*, you cannot run the OS/2® operating system with DRAM larger than 64MB. But it is possible if you choose *Yes*. The Setup and BIOS default values are *No*.

CPU Serial Number

This feature is for Pentium® !!! only. When set to *Enabled*, the system will check CPU Serial Number. Set to *Disabled* if you don't want the system to know the CPU Serial Number. The Setup and BIOS default values are *Disabled*.

Internal Cache

This sets the type of caching algorithm used by AMIBIOS and the CPU for L1 cache memory. Setting options are:

- WriteBack* (default) A write-back algorithm is used.
- Disabled* AMIBIOS does not specify the type of caching algorithm. The algorithm is set by the CPU.

■ **Note:** The L1 cache is built inside the processor.

External Cache

The items enable or disable the L2 (external) cache memory for CPU. Setting to *Enabled* will speed up the system performance.

System BIOS Cacheable

Selecting *Enabled* allows caching of the system BIOS ROM resulting in better video performance. Setting options are *Enabled* and *Disabled*. The Setup and BIOS default values are *Disabled*.

C000,32K Shadow

These options specify how the contents of the video ROM are handled. The settings are:


- Disabled** - the Video ROM is not copied to RAM.
- Cached** - the contents of the video ROM from C0000h - C7FFFh are not only copied from ROM to RAM; it can also be written to or read from cache memory.

Shadow - the Contents of the video ROM from C0000h - C7FFFh are copied(shadowed) from ROM to RAM for faster execution. The Optimal and Fail-Safe default setting is Cached.

CHAPTER 3

Advanced Chipset Features

AMIBIOS SETUP - ADVANCED CHIPSET SETUP		
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Configure DRAM Timing by	SPD	
DRAM Frequency	HCLK	
DRAM CAS Latency	2.5Cycles	
DRAM Bank Interleave	Disabled	
DRAM 1T Command	Disabled	
Memory Hole	Disabled	
AGP Mode	4x	
AGP Read Synchronization	Enabled	
AGP Fast Write	Disabled	
AGP Comp. Driving	Auto	
Manual AGP Comp. Driving	CB	
AGP Aperture Size	64MB	
AGP Master 1 W/S Write	Disabled	
AGP Master 1 W/S Read	Disabled	
Search for MDA Resources	Yes	
PCI Delay Transaction	Disabled	
		ESC:Exit ↑↓→←:Select Item F1:Help PU/PD/+/-:Modify F5:Load Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

 **Note:** Change these settings only if you are familiar with the chipset.

Configure DRAM Timing by

Selects whether DRAM timing is controlled by the SPD (Serial Presence Detect) device on the DRAM module. Setting to *SPD* enables DRAM Frequency, DRAM CAS# Latency and DRAM Bank Interleave automatically to be determined by BIOS based on the configurations on the SPD. Selecting *User* allows user to configure the three fields manually. The default value is *SPD*.

DRAMFrequency

Use this item to configure the clock frequency of the installed DRAM. Settings are:

- HCLK* The DRAM clock will be equal to the Host Clock.
- HCLK+33* The DRAM clock will be equal to the Host Clock plus 33MHz. For example, if the Host Clock is 100MHz, the DRAM clock will be 133MHz.

<i>HCLK-33</i>	The DRAM clock will be equal to the Host Clock minus 33MHz. For example, if the Host Clock is 133MHz, the DRAM clock will be 100MH
<i>SPD</i>	<i>SPD</i> will set the clock frequency by reading the contents of the SPD device.

When the installed CPU is 100MHz, this field has three setting options: *HCLK*, *HCLK+33* and *SPD*. When the installed one is 133MHz, the three setting options will be *HCLK*, *HCLK-33* and *SPD*.

DRAMCAS# Latency

This controls the time delay (in clock cycles) before DRAM starts a read command after receiving it. Settings are 2 and 2.5. 2 increases the system performance while 2.5 provides more stable performance. The default value is 2.5.

DRAMBank Interleave

This field selects 2-bank or 4-bank interleave for the installed DRAM. Disable the function if 16MB DRAM is installed. Settings are *Disabled*, *2-Way* and *4-Way*. The default value is *Disabled*.

DRAMIT Command

This item controls the DRAM command rate. Selecting *Enabled* allows DRAM signal controller to run at 1T (T=clock cycles) rate. Selecting *Disabled* makes DRAM signal controller run at 2T rate. *1T* is faster than *2T*. The default value is *Disabled*.

MemoryHole

This allows end user to specify a location of a memory hole. The cycle matching the selected memory hole will be passed to ISA bus. Settings are *Disabled* and *15-16M* (from 15MB to 16MB). The Setup and BIOS default values are *Disabled*.

AGPMode

The item sets an appropriate mode for the installed AGP card. Settings are *1x*, *2x* and *4x* (default). Select *4x* if your AGP card can support it.

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AGP Read Synchronization

The field allows you to enable or disable the AGP Read Synchronization feature. Settings are *Enabled* and *Disabled*.

AGP Fast Write

The field enables or disables the AGP Fast Write feature. The Fast Write technology allows CPU to write directly to the graphics card without passing anything through the system memory and improves the AGP 4X speed. Select *Enabled* only when the installed AGP card supports the function. The default value is *Disabled*.

AGP Comp. Driving

This field is used to adjust the AGP driving force. Selecting *Manual* allows you to select an AGP driving force in **Manual AGP Comp. Driving**. It is strongly suggested to select *Auto* to avoid causing any system error.

Manual AGP Comp. Driving

This item specifies an AGP driving force.

AGP Aperture Size

The field selects the size of the Accelerated Graphics Port (AGP) aperture. Aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. Settings are *4MB*, *8MB*, *16MB*, *32MB*, *64MB*, *128MB* and *256MB*.

AGP Master 1 W/S Write

The field allows users to insert one wait state into the AGP master write cycle. Settings are *Enabled* and *Disabled* (default).

AGP Master 1 W/S Read

The field allows users to insert one wait state into the AGP master read cycle. Settings are *Enabled* and *Disabled* (default).

Search for MDA Resources

MDA stands for Mono Display Adapter. Select *Yes* only when you install and use mono display adapter card.

PCIDelay Transaction

The chipset has an embedded 32-bit posted write buffer to support delayed transactions cycles. Select *Enabled* to support compliance with PCI specification version 2.1. Settings are *Enabled* and *Disabled* (default).

CHAPTER 3

Power Management Setup

AMIBIOS SETUP - POWER MANAGEMENT SETUP			
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IPCA Function	Yes	Wake Up On Ring/LAN	Enabled
ACPI Standby State	S1/POS	Wake Up On PME#	Enabled
USB1 Wakeup From S3-S5	Disabled	Resume By Alarm	Disabled
Power Management/APM	Enabled	Alarm Date	15
Sleep State LED	Dual Color	Alarm Hour	12
Suspend Time Out(Minute)	Disabled	Alarm Minute	30
Display Activity	Ignore	Alarm Second	30
IRQ3	Monitor	ESC:Exit ↑↓→←:Select Item F1:Help PU/PD/+/-:Modify F5:Load Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults	
IRQ4	Monitor		
IRQ5	Ignore		
IRQ7	Monitor		
IRQ9	Ignore		
IRQ10	Ignore		
IRQ11	Ignore		
IRQ13	Ignore		
IRQ14	Monitor		
IRQ15	Ignore		
CPU Critical Temperature	Disabled		
Power Button Function	Suspend		
Restore on AC/Power Loss	Last State		

IPCA Function

This item is to activate the ACPI (Advanced Configuration and Power Management Interface) Function. If your operating system is ACPI-aware, such as Windows 98SE/2000/ME, select *Yes*. Available options are *Yes* and *No*. The default value is *Yes*.

ACPI Standby State

This item specifies the power saving modes for ACPI function. Options are:

- S1/POS*

The S1 sleep mode is a low power state. In this state, no system context is lost (CPU or chipset) and hardware maintains all system context.
- S3/STR*

The S3 sleep mode is a lower power state where the information of system configuration and open applications/files is saved to main memory that remains

powered while most other hardware components turn off to save energy. The information stored in memory will be used to restore the system when an “wake up” event occurs.

The default value is *SI/POS*.

USB Wakeup From S3-S5

This item allows the activity of the USB device to wake up the system from S3, S4 or S5 sleep states. S3, S4 and S5 are three system states for ACPI, which saves different amount of system power. S3 is STR (Suspend to RAM) mode, S4 is Suspend to Disk mode and S5 is Soft-Off state. Settings are *Enabled* and *Disabled*. The default value is *Disabled*.

Power Management/APM

Setting to *Enabled* will activate the Advanced Power Management (APM) features to enhance power saving modes. Settings are *Enabled* and *Disabled*. The default value is *Enabled*.

Sleep State LED

This item sets how the system uses sleep state LED on the case to indicate the sleep state. Available options are:

- Blinking* The sleep state LED blinks to indicate the sleep state.
- Single Color* The sleep state LED remains the same color.
- Dual Color* The sleep state LED changes its color to indicate the sleep state.

The default value is *Dual Color*.

Suspend Time Out (Minute)

The item specifies the length of the period of system inactivity before the system enters the suspend mode from the standby mode. Nearly all power use is reduced in the suspend mode. Settings are *Disabled* (default), 1, 2, 4, 8, 10, 20, 30, 40, 50 and 60 (Minutes).

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Display Activity/IRQ3/IRQ4/IRQ5/IRQ7/IRQ9/IRQ10/IRQ11/IRQ13/IRQ14/IRQ15

These items specify if the BIOS will monitor the activity of the specified hardware peripheral or component. If set to *Monitor*, any activity detected on the specified hardware peripheral or component will wake up the system or prevent the system from entering the power saving modes. Settings are *Monitor* and *Ignore*. The default values for different items are listed below:

Display Activity	<i>Ignore</i>
IRQ3	<i>Monitor</i>
IRQ4	<i>Monitor</i>
IRQ5	<i>Ignore</i>
IRQ7	<i>Monitor</i>
IRQ9	<i>Ignore</i>
IRQ10	<i>Ignore</i>
IRQ11	<i>Ignore</i>
IRQ13	<i>Ignore</i>
IRQ14	<i>Monitor</i>
IRQ15	<i>Ignore</i>

***Note:** IRQ (Interrupt Request) lines are system resources allocated to I/O devices. When an I/O device needs to gain attention of the operating system, it signals this by causing an IRQ to occur. After receiving the signal, when the operating system is ready, the system will interrupt itself and perform the service required by the I/O device.*

CPU Critical Temperature

This item is used to specify a thermal limit for CPU. If CPU temperature reaches the specified limit, the system will issue a warning to prevent the CPU overheat problem. Settings are *Disabled*, 70°C/158°, 75°C/167°F, 80°C/176°F, 85°C/185°F, 90°C/194°F and 95°C/203°F.

Power Button Function

This specifies the function of the power button on the case. Available options are:

<i>On/Off</i>	Each time you press the power button, it turns on/off the computer.
---------------	---

Suspend

When you press the power button, the computer enters suspend mode (sleep state), but if you press the power button for more than four seconds, the computer is turned off.

The Setup and BIOS default values are *On/Off*.

Restore on AC/Power Loss

This item specifies whether your system will reboot after a power failure or interrupt occurs. Available options are:

- | | |
|-------------------|--|
| <i>Power Off</i> | Leaves the computer in the power off state. |
| <i>Power On</i> | Reboots the computer. |
| <i>Last State</i> | Restores the system to the former status before the power failure or interrupt occurred. |

CHAPTER 3

PNP/PCI Configurations

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

AMIBIOS SETUP - PCI/PLUG AND PLAY SETUP		
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PnP Aware O/S	No	
Clear NURAM	No	
PCI Latency Timer	64	
Primary Graphics Adapter	PCI	
PCI VGA Palette Snoop	Disabled	
DMA Channel 0	PnP	
DMA Channel 1	PnP	
DMA Channel 3	PnP	
DMA Channel 5	PnP	
DMA Channel 6	PnP	
DMA Channel 7	PnP	
IRQ3	PCI/PnP	
IRQ4	PCI/PnP	
IRQ5	PCI/PnP	
IRQ7	PCI/PnP	
IRQ9	PCI/PnP	
IRQ10	PCI/PnP	
IRQ11	PCI/PnP	
IRQ14	PCI/PnP	
IRQ15	PCI/PnP	
		ESC:Exit ↑↓→←:Select Item F1:Help PU/PD/+/-:Modify F5:Load Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

PnP Aware O/S

When set to *YES*, BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Windows® 98, 2000 or ME. When set to *NO*, BIOS will initialize all the PnP cards. Select *Yes* if the operating system is Plug & Play aware.

Clear NVRAM

The ESCD (Extended System Configuration Data) NVRAM (Non-volatile Random Access Memory) is where the BIOS stores resource information for both PNP and non-PNP devices in a bit string format. When the item is set

PCI Latency Timer (PCI Clocks)

This option specifies the latency timings (in PCI clocks) for all PCI devices on the PCI bus. The settings are 32, 64, 96, 128, 160, 192, 224 or 248. The Optimal and Fail-Safe default settings are 64.

Primary Graphics Adapter

This item specifies which VGA card is your primary graphics adapter. Settings are *AGP* and *PCI*. The default value is *PCI*.

PCI VGA Palette Snoop

When set to *Enabled*, multiple VGA devices operating on different buses can handle data from the CPU on each set of palette registers on every video device. Bit 5 of the command register in the PCI device configuration space is the VGA Palette Snoop bit (0 is disabled). For example, if there are two VGA devices in the computer (one PCI and one ISA) and the:

VGA Palette Snoop Bit Setting	Action
<i>Disabled</i>	Data read or written by the CPU is only directed to the PCI VGA device's palette registers.
<i>Enabled</i>	Data read or written by the CPU is directed to both the PCI VGA device's palette registers and the ISA VGA device's palette registers, permitting the palette registers of both VGA devices to be identical.

The setting must be set to *Enabled* if any ISA adapter card installed in the system requires VGA palette snooping. The Setup and BIOS default values are *Disabled*.

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

These items specify the bus that the system DMA (Direct Memory Access) channel is used. These options allow you to reserve DMAs for Legacy ISA adapter cards.

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The settings determine if AMIBIOS should remove a DMA from the available DMAs passed to devices that are configurable by the system BIOS. The available DMA pool is determined by reading the ESCD NVRAM. If more DMAs must be removed from the pool, the end user can reserve the DMA by assigning an *ISA/EISA* setting to it. The Setup and BIOS default values are *PnP*.

IRQ 3/4/5/7/9/10/11/14/15

These items specify the bus where the IRQ line is used. These options allow you to reserve IRQs for Legacy ISA adapter cards.

The settings determine if AMIBIOS should remove an IRQ from the pool of available IRQs passed to devices that are configurable by the system BIOS. The available IRQ pool is determined by reading the ESCD NVRAM. If more IRQs must be removed from the IRQ pool, the end user can use these settings to reserve the IRQ by assigning an *ISA/EISA* setting to it. Onboard I/O is configured by AMIBIOS. All IRQs used by onboard I/O are configured as *PCI/PnP*. If all IRQs are set to *ISA/EISA*, and IRQ 14 and 15 are allocated to the onboard PCI IDE, IRQ 9 will still be available for PCI and PnP devices. Available settings are *ISA/EISA* and *PCI/PnP*. The Setup and BIOS default values are *PCI/PnP*.

Integrated Peripherals

AMIBIOS SETUP - PERIPHERAL SETUP			
(C) 2001 American Megatrends, Inc. All Rights Reserved			
FDC Function	Auto	OnChip MC97 Modem	Auto
Serial Port1	Auto	USB Controller	All USB Port
Serial Port2	Auto	USB KB/Mouse Legacy	Disabled
Serial Port2 Mode	Normal		
IR Duplex Mode	Half Duplex		
IR Pin Select	IRRX/IRTX		
Parallel Port	Auto		
Parallel Port Mode	ECP		
EPP Version	N/A		
Parallel Port IRQ	Auto		
Parallel Port DMA	Auto		
Onboard Midi Port	Disabled		
Midi IRQ Select	5		
Onboard Game Port	200		
Keyboard PowerOn Function	Disabled		
Specific Key for PowerOn	N/A		
Mouse PowerOn Function	Disabled		
IDE Function	Both		
OnChip AC97 Audio	Auto		
AC97 Audio Channel	2		
		ESC:Exit ↑↓→←:Select Item F1:Help PU/PD/+/-:Modify F5:Load Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults	

FDCFunction

This is used to enable or disable the onboard Floppy controller.

Option	Description
Auto (default)	BIOS will automatically determine whether to enable the onboard Floppy controller or not.
Enabled	Enables the onboard Floppy controller.
Disabled	Disables the onboard Floppy controller.

Serial Port1/2

These items specify the base I/O port addresses of the onboard Serial Port 1 (COM A)/Serial Port 2 (COM B). Selecting *Auto* allows AMIBIOS to automatically determine the correct base I/O port address. Settings are *Auto*, *3F8h/COM1*, *2F8h/COM2*, *3E8h/COM3*, *2E8h/COM4* and *Disabled*. The default value is *Auto*.

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Serial Port2 Mode

This item sets the operation mode for Serial Port 2. Settings are *Normal*, *1.6uS*, *3/16 Baud* and *ASKIR* (the last three operation modes are setting options for IR function). The default value is *Normal*.

IR Duplex Mode

This field specifies a duplex value for the IR device connected to COM B. Full-Duplex mode permits simultaneous two-direction transmission. Half-Duplex mode permits transmission in one direction only at a time. Settings are *Half Duplex* and *Full Duplex*. The default is *Half Duplex*.

IR Pin Select

Set to *IRRX/IRTX* when using an internal IR module connected to the IR (J6) connector. Set to *SINB/SOUTB*. when connecting an IR adapter to COM B.

Parallel Port

This field specifies the base I/O port address of the onboard parallel port. Selecting *Auto* allows AMIBIOS to automatically determine the correct base I/O port address. Settings are *Auto*, *378*, *278*, *3BC* and *Disabled*. The default value is *Auto*.

Parallel Port Mode

This item selects the operation mode for the onboard parallel port: *ECP*, *Normal*, *Bi-Dir* or *EPP*. The default is *ECP*.

EPP Version

The item selects the EPP version used by the parallel port if the port is set to *EPP* mode. Settings are *1.7* and *1.9*.

Parallel Port IRQ

When **Parallel Port** is set to *Auto*, the item shows *Auto* indicating that BIOS determines the IRQ for the parallel port automatically.

Parallel Port DMA

This feature needs to be configured only when **Parallel Port Mode** is set to the *ECP* mode. When **Parallel Port** is set to *Auto*, the field will show *Auto* indicating that BIOS automatically determines the DMA channel for the parallel port.

OnBoard Midi Port

The field specifies the base I/O port address of the onboard Midi Port. Settings are *Disabled*, *330*, *300*, *310* and *320*.

Midi IRQ Select

The item is used to select the IRQ line for onboard Midi port.

OnBoard Game Port

This item is used to specify the address for the onboard Game Port.

Keyboard PowerOn Function

This controls how and whether the PS/2 keyboard is able to power on the system. Settings are *Disabled*, *PowerKey*, *Any Key* and *Specific Key*.

Specific Key for PowerOn

This item allows you to specify a password for powering on the system when the **Keyboard PowerOn Function** is set to *Specific Key*.

Mouse PowerOn Function

This controls how and whether the PS/2 mouse is able to power on the system. Settings are *Disabled*, *Left-button* and *Right-button*.

IDEFunction

This allows you to enable or disable on-chip IDE controller. Settings are *Disabled*, *Primary*, *Secondary* and *Both*. The default value is *Both*.

CHAPTER 3

OnChip AC'97 Audio

This item is used to enable or disable the onboard AC'97 (Audio Codec'97) feature. Disable the function if you want to use other controller cards to connect an audio device. Settings are *Disabled* and *Enabled*. The default value is *Enabled*.

AC97 Audio Channnel

This allows you to set the AC97 Audio Channel. The default value is 2.

Hardware Monitor Setup

This section is to set CPU ratio, monitor the current hardware status including CPU temperature, CPU/Chassis/Power Fan speed, Vcore etc. This is available only if there is hardware monitoring onboard.

AMIBIOS SETUP - HARDWARE MONITOR SETUP	
(C) 2001 American Megatrends, Inc. All Rights Reserved	
CPU Vcore Adjust(V)	Auto
Spread Spectrum	±0.25%
CPU FSB Clock(Mhz)	Auto
Chassis Intrusion	Disabled
CPU Temperature	
System Temperature	
Ultra Temperature	
CPU Full Speed	
CPU Fan Speed	
Power Fan Speed	
Vcore	
Vtt	
Vio	
+5.0V	
+12.0V	
-12.0V	
-5.0V	
Battery	
+5V SB	
ESC:Exit ↑↓→←:Select Item F1:Help PU/PD/+/-:Modify F5:Load Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults	

CPU Vcore Adjust(V)

The items are used to adjust the CPU voltage (Vcore). The items make overclocking possible.

Spread Spectrum

This item allows you to configure the clock generator's Spread Spectrum feature. When overclocking the processor, always set it to *Disabled*.

CPU FSB/PCI Clock

This item is used to set clock frequencies (in MHz) for CPU FSB (Front Side Bus). Selecting *By H/W* will enable the CPU FSB to follow the hardware configurations. If the installed CPU is **100MHz**, you are allowed to adjust the clock frequency from **100 to 120MHz**. If the installed one is **133MHz**, you are allowed to bring its frequency down to **100~120MHz** or adjust it up to **133~153MHz**. The item makes overclocking possible.

CHAPTER 3

Chassis Intrusion

The field enables or disables the feature of recording the chassis intrusion status and issuing a warning message if the chassis is opened. To clear the warning message, set the field to *Reset*. The setting of the field will automatically return to *Enabled* later on. Settings are *Enabled*, *Reset* and *Disabled*. The default value is *Disabled*.

CPU Temperature/System Temperature/Ultra Temperature/CPU Fan Speed/Chassis Fan Speed/Power Fan Speed/Vcore/Vtt/Vio/+5.0V/+12.0V/-12.0V/-5.0V/Battery/+5V SB

These items display the current status of all of the monitored hardware devices/components such as system voltages, temperatures and fan speeds.