

Chapter 3: Setup

About the Setup Utility

This chapter explains how to use and modify the BIOS setup utility that is stored on the mainboard. The setup utility stores information about the mainboard components, and the configuration of other devices that are connected to it. The system uses this information to test and initialize components when it is started up, and to make sure everything runs properly when the system is operating.

The setup utility is installed with a set of default values. The default values are designed to ensure that the system will operate adequately. You will probably have to make changes to the setup utility whenever you add new components to your system such as new disk drives. You may be able to generate increased performance by changing some of the timing values in the setup, but this can be limited by the kind of hardware you are using, for example the rating of your memory chips. In certain circumstances, the system may generate an error message which asks you to make changes to the setup utility. This happens when the system finds an error during the POST (power on self test) that it carries out at start up.

Starting the Setup Utility

You can only start the setup utility shortly after the computer has been turned on. A prompt appears on the computer display which says “*Press DEL to run Setup*”. When you see this prompt, press the **Delete** key, and the system will start the setup utility and display the main menu of the utility.

Using the Setup Utility

When you press the **Delete** key to start setup, the main menu of the utility appears.

The main menu of the setup utility shows a list of the options that are available in the utility. A highlight shows which option is currently selected. You can use the cursor arrow keys to move the highlight to other options. When an option is highlighted, you can execute the option by pressing the **Enter** key.

Some options lead to dialog boxes which ask you verify that that you wish to execute that option. You usually answer these dialogs by typing **Y** for yes and **N** for no.

Some options lead to dialog boxes which ask for more information. Setting the User Password or Supervisor Password have this kind of dialog box.

ROM PCI/ISA BIOS (P5SD-B+)
 CMOS SETUP UTILITY
 AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	SAVE & EXIT SETUP
LOAD BIOS DEFAULTS	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	
Esc : Quit	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	(Shift)F2 : Change Color

Some options lead to tables of items. These items usually have a value on the right side. The value of the first item is highlighted, and you can use the cursor arrow keys to select any of the other values in the table of items. When an item is highlighted, you can change the value by pressing the **PageUp** or **PageDown** keys, or the **Plus** or **Minus** keys. The **PageUp** and **Plus** keys cycle forward through the available values, the **PageDown** and **Minus** keys cycle backwards through the values.

When you are in the main menu, you can exit the utility by pressing the **Escape** key. You can save the current selections and exit the utility by pressing the **F10** key. You can change the color scheme of the utility by pressing the **F2** key while holding down the **Shift** key.

When you are in one of the options that displays a dialog box, you can return to the main menu by pressing the **Escape** key.

When you are in one of the options that displays a table of items, you can return to the main menu by pressing the **Escape** key. For some items, you can display a help message by pressing the **F1** key. You can change the color scheme of the utility by pressing the **F2** key while holding down the **Shift** key. You can press **F5** to discard any changes you have made and return all items to the value that they held when the setup utility was started. You can press **F6** to load the displayed items with a standard list of default values. You can press **F7** to load the displayed items with a high-performance list of default values.

Standard CMOS Setup Option

This option displays a table of items which defines basic information about your system.

```
ROM PCI/ISA BIOS (P5SD-B+)
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Thu, Jul 2 1998
Time (hh:mm:ss) : 11 : 1 : 8

HARD DISKS          TYPE   SIZE  CYLS HEAD PRECOMP LANDZ SECTOR  MODE
-----
Primary Master   : None    0     0  0  0     0  0  0  -----
Primary Slave    : None    0     0  0  0     0  0  0  -----
Secondary Master : None    0     0  0  0     0  0  0  -----
Secondary Slave  : None    0     0  0  0     0  0  0  -----

Drive A : None
Drive B : None
Floppy 3 Mode Support : Disabled

Video : EGA/UGA
Halt On : All Errors

Base Memory: 0K
Extended Memory: 0K
Other Memory: 512K
-----
Total Memory: 512K

ESC : Quit          ↑ ↓ → ← : Select Item      PU/PD/+/- : Modify
F1  : Help          (Shift)F2 : Change Color
```

Date and Time

The Date and Time items show the current date and time held by your computer. If you are running a Windows operating system, these items will automatically be updated whenever you make changes to the Windows Date and Time Properties utility.

Hard Disks

Defaults: None

These items show the characteristics of any hard disk drives on the four available IDE channels. (Note that SCSI hard disk drives do not appear here.) You can automatically install most modern hard disks using the IDE HDD Auto Detect Option from the main menu. However, if you find that a drive cannot be automatically detected, you can use these items to select USER, and then manually enter the characteristics of the drive. The documentation provided with your drive provides the data you need to fill in the values for CYLS (cylinders), HEAD (read/write heads), and so on.

The documentation provided with the drive may not tell you what value to use under the MODE heading. If the drive is smaller than 528 MB, set MODE to Normal. If the drive is larger than 528 MB and it supports Logical Block Addressing, set MODE to LBA. Very few high-capacity drives do not support Logical Block Addressing. If you have such a drive, you might be able to configure it by setting the MODE to Large. If you're not sure which MODE setting is required by your drive, set MODE to Auto and let the setup utility try to determine the mode automatically.

Drive A and Drive B

Default: None

These items define the characteristics of any diskette drive attached to the system. You can connect one or two diskette drives.

Floppy 3 Mode Support **Default: Disabled**

Floppy 3 Mode is a special mode that supports 3.5" diskettes with a capacity of 1.2 MB. Outside of Japan, very few people use this kind of diskette.

Video **Default: EGA/VGA**

This item defines the video mode of the system. This mainboard has a built-in VGA graphics system so you must leave this item at the default value.

Halt On **Default: All Errors**

This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which kind of errors in the POST are sufficient to halt the system.

Base, Extended and Other Memory.

These items show how much memory is available on the system. They are automatically detected by the system so you cannot manually make changes to these items.

BIOS Feature Setup Option

This option displays a table of items which defines more advanced information about your system. You can make modifications to most of these items without introducing fatal errors to your system.

ROM PCI/ISA BIOS (P5SD-B+)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D0000-D3FFF Shadow	: Disabled
Boot From LAN First	: Enabled	D4000-D7FFF Shadow	: Disabled
Boot Sequence	: A,C,SCSI	D8000-DBFFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	DC000-DFFFF Shadow	: Disabled
Boot Up NumLock Status	: On		
Gate A20 Option	: Fast		
Memory Parity/ECC Check	: Enabled		
Security Option	: Setup		
IDE Second Channel Control	: Enabled		
PCI/UGA Palette Snoop	: Disabled		
OS Select For DRAM > 64MB	: Non-OS2		
		ESC : Quit	↑↓←→ : Select Item
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values (Shift)	F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

Virus Warning **Default: Disabled**

When this item is enabled it provides some protection against viruses which try to write to the boot sector and partition table of your hard disk drive. This item is disabled as a default so that you can install an operating system. We recommend that you enable Virus Warning as soon as you have installed your disk with an OS.

CPU Internal Cache **Default: Enabled**

All the processors that can be installed in this mainboard use internal (level 1) cache memory to improve performance. Leave this item at the default value Enabled for better performance.

External Cache**Default: Enabled**

This mainboard is installed with 512K of external (level 2) cache memory to improve performance. Leave this item at the default value Enabled for better performance.

Quick Power On Self Test**Default: Enabled**

You can enable this item to shorten the power on testing and have your system start up a little faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.

Boot Sequence**Default: A,C,SCSI**

This item defines where the system will look for an operating system, and the order of priority. You can boot an operating system from many locations including a SCSI device, a ZIP drive, a floppy diskette drive or an LS-120 high-capacity diskette drive.

Swap Floppy Drive**Default: Disabled**

If you have two floppy diskette drives in your system, this item allows you to swap around the assigned drive letters so that drive A becomes drive B, and drive B becomes drive A.

Boot Up NumLock Status**Default: On**

This item defines if the keyboard Num Lock key is active when your system is started.

Gate A20 Option**Default: Fast**

This option provides compatibility with older software written for the 286 processor. Leave this item at the default value Fast.

Memory Parity/ECC Check**Default: Enabled**

This mainboard supports memory with a parity bit or memory with error correction code, so leave this item at the default value of Enabled so that potential memory errors can be eliminated.

Security Option**Default: Setup**

If you have installed password protection, this item defines if the password is required at system start up, or if it is only required when a user tries to enter the setup utility.

IDE Second Channel Control**Default: Enabled**

If you have more than one hard disk connected to the IDE channel, set this item to enabled to improve the access time to the disks. If you only have one hard disk drive installed, disable this item.

PCI/VGA Palette Snoop**Default: Disabled**

This item is designed to overcome some problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

OS Select For DRAM > 64 MB**Default: Non-OS2**

This item is only required if you have installed more than 64 MB of memory and you are running the OS/2 operating system. Otherwise, leave this item at the default Non-OS2.

Video BIOS Shadow**Default: Enabled**

This item allows the video BIOS to be copied to system memory for faster performance.

XXXXX-XXXXX Shadow**Default: Disabled**

These items allow the BIOS of other devices to be copied to system memory for faster performance.

Chipset Features Option

This option displays a table of items that define critical timing parameters of the mainboard components including the CPU, the memory, and the system logic.

As a general rule, you should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values, or load the optimum settings, you may introduce fatal errors or recurring instability into your system. The item list below shows only the default values for some items.

ROM PCI/ISA BIOS (P5SD-B+)			
CMOS SETUP UTILITY			
CHIPSET FEATURES SETUP			
Bank 0/1 DRAM Timing	: FP/EDO 70ns	CPU Warning Temperature	: Disabled
Bank 2/3 DRAM Timing	: FP/EDO 70ns	Current CPU Temperature	:
Bank 4/5 DRAM Timing	: FP/EDO 70ns	CPUFAN	:
SDRAM Cycle Length	: 3	SYSFAN	:
DRAM Read Pipeline	: Enabled	Current Vin3(V)	:
Cache Rd+CPU Wt Pipeline	: Enabled		
Cache Timing	: Fast		
Video BIOS Cacheable	: Enabled		
System BIOS Cacheable	: Enabled		
Memory Hole At 15Mb Addr.	: Disabled		
AGP Aperture Size	: 64M		
		ESC : Quit	↑↓←→ : Select Item
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values (Shift)	F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

Bank 0/1 DRAM Timing

Default: FP/EDO 70ns

Bank 2/3 DRAM Timing

Default: FP/EDO 70ns

Bank 4/5 DRAM Timing

Default: FP/EDO 70ns

These items define the timing parameters for Fast Page-mode and EDO RAM. We recommend that you leave these items at the default values. The default value ensures reliability if slower memory is used.

SDRAM Cycle Length

Default: 3

This item sets the number of CPU cycles between SDRAM refresh. If insufficient time is allowed, refresh may be incomplete and data can be lost. We recommend that you leave this item at the default value.

DRAM Read Pipeline

Default: Enabled

When this item is enabled, the performance of the DRAM bus speed is faster. We recommend that you leave this item at the default value enabled.

Cache Rd+CPU Wt Pipeline

Default: Enabled

When this item is enabled, the transfer speed from cache to RAM is faster. We recommend that you leave this item at the default value enabled.

Video BIOS Cacheable
System BIOS Cacheable

Default: Enabled
Default: Enabled

These two items allow the system and video BIOS to be cached for faster performance. We recommend that you leave these items at the default value Enabled.

Memory Hole at 15M-16M

Default: Disabled

This item can be used to reserve memory space for some ISA cards that require it. We recommend that you leave this item at the default value Disabled.

AGP Aperture Size

Default: 64M

This item defines the size of the aperture for the Accelerated Graphics Port. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space.

Right Side Items

The items on the right side of the Chipset Features option are concerned with monitoring certain temperatures, voltages, and so on in your system. These items do not function unless you have installed an optional system monitoring chip on your mainboard.

Power Management Setup Option

This option displays a table of items which lets you control the power management of the system. Modern operating systems take care of much of the routine power management. This mainboard supports ACPI (advanced configuration and power interface).

This system supports three levels of power-saving modes; doze mode, standby mode, and suspend mode. Standby mode uses less power than doze mode and suspend mode uses the least power.

The power management in the setup utility lets you specify a timeout for each of the power-saving modes, and a timeout for a hard disk drive power down. A timeout, means a period of time when the system (or the hard disk drive) is inactive. If the timeout completes, the system power-saving mode will execute, or the hard disk drive will power down.

You can resume from the power-saving modes by carrying out any of the activities which are enabled in the list ****PM Events****. If the hard disk has been powered down it will automatically resume to full power when an access to the hard disk is required (this takes just a few seconds).

ROM PCI/ISA BIOS (P5SD-B+)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

Power Management : User Define	Primary INTR : ON
PM Control by APM : Yes	IRQ3 (COM 2) : Primary
Video Off Option : Suspend -> Off	IRQ4 (COM 1) : Primary
Video Off Method : DPMS Support	IRQ5 (LPT 2) : Primary
MODEM Use IRQ : 3	IRQ6 (Floppy Disk): Primary
Soft-Off by PWRBTN : Delay 4 Sec	IRQ7 (LPT 1) : Primary
** PM Timers **	IRQ8 (RTC Alarm) : Disabled
HDD Power Down : Disable	IRQ9 (IRQ2 Redir) : Secondary
Doze Mode : Disable	IRQ10 (Reserved) : Secondary
Suspend Mode : Disable	IRQ11 (Reserved) : Secondary
** PM Events **	IRQ12 (PS/2 Mouse) : Primary
UGA : OFF	IRQ13 (Coprocesor): Primary
LPT & COM : LPT/COM	IRQ14 (Hard Disk) : Primary
HDD & FDD : ON	IRQ15 (Reserved) : Disabled
Modem Ring Resume : Disabled	ESC : Quit ↑↓← : Select Item
RTC Alarm Resume : Disabled	F1 : Help PU/PD/+- : Modify
	F5 : Old Values (Shift)F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

Power Management

Default: User Define

This item acts like a master switch for the power-saving modes and hard disk timeouts. If this item is set to Disabled, all the power-saving modes are disabled. If this item is set to Max Saving, doze, standby, and suspend mode, will occur after a timeout of 20 seconds. If this item is set to Min Saving, doze, standby, and suspend mode will occur after a timeout of 40 minutes. If the item is set to User Define, you can insert your own timeouts for the power-saving modes.

PM Control by APM

Default: Yes

Windows 95 and 98 have built-in power management capabilities called APM (advanced power management). When you enable this item, you allow the APM routines in Windows to operate on your system.

Video Off Option

Default: Suspend -> Off

This option defines which level of power-saving mode is required in order to power down the video display. As a default, the video powers down in both suspend mode and standby mode.

Video Off Method

Default: DPMS Support

This item defines how the video is powered down to save power. As a default, this is set to DPMS Support (display power management software).

Modem Use IRQ

Default: 3

If you would like an incoming call on a modem to automatically resume the system from suspend mode, use this item to specify the interrupt request line (IRQ) that is used by the modem.

Soft-Off by PWRBTN

Default: Delay 4 sec

Under ACPI (advanced configuration and power interface) the system can be turned off mechanically (by the power button) or it can undergo a software power off. If the system has been turned off by software, the system can be resumed by a LAN, MODEM or ALARM wake up signal. This item allows you to define a software power off using the power button. If the value is set to Instant-Off, the power button will automatically cause a

software power off. If the value is set to Delay 4 Sec. the power button must be held down for a full four seconds to cause a software power off.

HDD Power Down**Default: Disabled**

You can use this item to set a timeout for a hard disk powerdown. You can set a time from 1 to 15 minutes. If the hard disk is inactive for the time specified, it will power down. It will automatically return to full power when it is next accessed.

Doze Mode**Default: Disabled**

If you have selected User Define for the Power Management item, you can set this item to a selection of timeouts from 20 seconds to 40 minutes.

Suspend Mode**Default: Disabled**

If you have selected User Define for the Power Management item, you can set this item to a selection of timeouts from 20 seconds to 40 minutes.

VGA**Default: Off**

When this item is enabled, any activity on the graphics system can reset power-saving mode timeouts to zero, or resume the system from a power saving mode.

LPT & COM**Default: LPT/COM**

When this item is enabled, it defines system activities which can reset power-saving mode timeouts to zero, or resume the system from a power saving mode. This item is for transmissions through the serial or parallel ports.

HDD & FDD**Default: ON**

When this item is enabled, it defines system activities which can reset power-saving mode timeouts to zero, or resume the system from a power saving mode. This item is for hard disk and/or diskette drive activity.

Modem Ring Resume**Default: Disabled**

This item allows you to enable or disable the modem wakeup function which is a feature of this motherboard. When enabled, it will resume the system from any of the power-saving modes.

RTC Alarm Resume**Default: Disabled**

This item lets you install a wakeup alarm, which resumes the system from a power saving mode at a fixed date and time. When the item is enabled, new items appear which allow you to set the date and time of the alarm.

Primary INTR**Default: On**

This item acts like a master switch for all the interrupt items that follow. If this item is set to ON, the all the following interrupts can be manually configured to act as resets for the power saving timeouts. If this item is set to OFF, then all the following interrupt items cannot be used to reset the power saving timeouts.

IRQX

These interrupt events can act as triggers to reset the power saving timeouts or other system maintenance tasks. If you set an interrupt event to Primary, any activity on that interrupt will reset the timeouts that use the primary timer (e.g. the power saving modes). If you set an interrupt to Secondary, then any activity on the interrupt will reset those timeouts that use the secondary timer (usually background maintenance tasks). If you set an interrupt event to Disabled, any activity on the interrupt will not reset the timeouts.

PNP/PCI Configuration Option

This option displays a table of items that configures how PNP (Plug and Play) and PCI expansion cards operate in your system. If you have not installed a riser card with expansion slots, you do not need to make any changes to this option.

ROM PCI/ISA BIOS (P5SD-B+)
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.

PNP OS Installed	: Yes	Assign IRQ For USB	: Enabled
Resources Controlled By	: Auto	Assign IRQ For VGA	: Enabled
Reset Configuration Data	: Disabled		
ACPI I/O Device Mode	: Enabled		
		ESC : Quit	F1+* : Select Item
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values (Shift)	F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

PNP OS Installed

Default: Yes

If you have installed a Plug and Play operating system such as Windows 95 or 98, you can change this item to Yes. When the item is set to Yes you can use the Device Manager utility in the operating system to make changes to the configuration of expansion cards.

Resources Controlled By

Default: Auto

You should leave this item at the default Auto. If you find that you cannot get a particular expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and defining the characteristics of the card in the new items which appear.

If you change this item to Manual, the display will list a series of items that allow you to define the assignments of the system interrupt lines (IRQs) and Direct Memory Access (DMA) channels. As a default, these items are set to PCI/ISA PnP. If you install an ISA-bus card that does not support PNP, and it requires a special IRQ and DMA, you can modify the list of assignments. Change the values of the IRQ and DMA that are required to Legacy ISA.

Reset Configuration Data

Default: Disabled

If you enable this item and restart the system, any PNP configuration data stored in the BIOS setup will be cleared from memory. New updated configuration data will be created.

ACPI I/O Device Mode

Default: Enabled

This item is used for system development and diagnostics. Leave this item at the default value Enabled.

Assign IRQ for USB

Default: Enabled

When this item is enabled, the system will assign an IRQ to the USB ports.

Assign IRQ for VGA**Default: Enabled**

When this item is enabled, the system will assign an IRQ to the VGA system

Load BIOS Defaults Option

This option displays a dialog box which allows you to install BIOS defaults for all appropriate items in the whole setup utility. Press the **Y** key and then the **Enter** key to install the defaults. Press the **N** key and then **Enter** to not install the defaults. The BIOS defaults do not place great demands on the system and are generally very stable. If your system is not functioning correctly, you might like to install the BIOS defaults as a first step in getting your system working properly again. If you only want to install BIOS defaults for a specific option, select and display that option, and then press the **F6** key.

Load Setup Defaults Option

This option displays a dialog box which allows you install optimum defaults for all appropriate items in the whole setup utility. Press the **Y** key and then the **Enter** key to install the defaults. Press the **N** key and then **Enter** to not install the defaults. The optimum defaults can place some demands on the system that are greater than the performance level of the components, such as the processor and the memory. You could cause fatal errors or recurring instability if you install the optimum defaults when your hardware does not support it. If you only want to install optimum defaults for a specific option, select and display that option, and then press the **F7** key.

Integrated Peripherals Option

This option displays a list of items which defines the operation of some peripheral items on the system's input/output ports.

ROM PCI/ISA BIOS (P5SD-B+)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

OnChip IDE First Channel : Enabled	Onboard Parallel Port : 378/IRQ7
OnChip IDE Second Channel: Enabled	Onboard Parallel Mode : SPP
IDE Prefetch Mode : Enabled	
IDE HDD Block Mode : Enabled	
IDE Primary Master PIO : Auto	USB Controller : Enabled
IDE Primary Slave PIO : Auto	USB Keyboard Support : Disabled
IDE Secondary Master PIO : Auto	
IDE Secondary Slave PIO : Auto	
IDE Primary Master UDMA : Auto	
IDE Primary Slave UDMA : Auto	
IDE Secondary Master UDMA: Auto	
IDE Secondary Slave UDMA: Auto	
Init Display First : PCI Slot	
Onboard FDD Controller : Enabled	
Onboard Serial Port 1 : 3F8/IRQ4	ESC : Quit t1++ : Select Item
Onboard Serial Port 2 : 2F8/IRQ3	F1 : Help PU/PD/+/- : Modify
UART 2 Mode : Standard	F5 : Old Values (Shift)F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

Onchip IDE First Channel	Default: Enabled
Onchip IDE Second Channel	Default: Enabled

You can use this item to enable or disable the primary and secondary IDE channels that are built into this mainboard. When one or both channels are enabled (the default value is Both) items appear which allow you to set the PIO (programmable input/output) mode and the UltraDMA mode for master and slave devices on the channels. We recommend that you leave these items at the default value Auto. The system will then automatically use the best performance PIO mode and UltraDMA mode for each device.

IDE Prefetch Mode	Default: Enabled
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The built-in IDE drive interfaces support IDE prefetching for faster drive accesses. If you use an alternative IDE interface (on an expansion card, disable this field if the alternate IDE interface does not support prefetching.

IDE HDD Block Mode	Default: Enabled
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IDE hard disks can deliver better performance if they use block mode transfer. Most modern hard disk drives support block mode transfers so this item is Enabled as a default.

IDE Primary Master PIO	Default: Auto
IDE Primary Slave PIO	Default: Auto
IDE Secondary Master PIO	Default: Auto
IDE Secondary Slave PIO	Default: Auto

Each IDE channel supports a master device and a slave device. These four items let you assign which kind of PIO (Programmed Input/Output) is used by IDE devices. You can choose Auto, to let the system auto detect which PIO mode is best, or you can install a PIO mode from 0-4.

IDE Primary Master UDMA	Default: Auto
IDE Primary Slave UDMA	Default: Auto
IDE Secondary Master UDMA	Default: Auto
IDE Secondary Slave UDMA	Default: Auto

Each IDE channel supports a master device and a slave device. This motherboard supports UltraDMA. UltraDMA technology provides faster access to IDE devices. If you install a device which supports UltraDMA, change the appropriate item on this list to Auto. You may have to install the UltraDMA driver supplied with this motherboard in order to use an UltraDMA device.

Init Display First	Default: PCI Slot
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Use this item to define if your graphics adapter is installed in one of the PCI slots, or if you have installed an AGP graphics adapter into the AGP slot.

Onboard FDC Controller	Default: Enabled
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This item enables or disables the floppy diskette drive controller built into this mainboard.

Onboard Serial Port 1	Default: 3F8/IRQ4
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This item lets you disable the built-in serial port 1, or enable it by assigning an I/O address and an Interrupt Request Line (IRQ).

Onboard Serial Port 2	Default: 2F8/IRQ3
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This item lets you disable the built-in serial port 2, or enable it by assigning an I/O address and an Interrupt Request Line (IRQ).

UART 2 Mode**Default: Standard**

This item defines the operation of serial port 2. In the default Standard setting, serial port 2 is assigned to the connector on the mainboard. If you have installed an optional infrared port, you must change the setting of this item to either HPSIR, or ASKIR. These settings will disable the mainboard serial port connector and assign serial port 2 to the infrared device. HPSIR prepares the port to receive infrared communications using the IrDA serial infrared standard. ASKIR prepares the port to receive infrared communications using the ASK serial infrared standard. The ASK standard is supported by many devices made by the Sharp Corporation. If you have selected an IR mode, a new item appears, *Use IR Pins*. Set this item according to the kind of IR port you have installed.

Onboard Parallel Port**Default: 378/IRQ7**

This item lets you disable the built-in parallel port, or enable it by assigning an I/O address and an Interrupt Request Line (IRQ).

Onboard Parallel Mode**Default: SPP**

This item defines the operation of the parallel port. As a default it is set to SPP (standard parallel port). If you are connected to a parallel device that supports the higher-performance EPP (enhanced parallel port) or the ECP (extended capabilities port) make the appropriate changes to this item. If you change the parallel port to EPP or ECP, new items appear to let you configure the EPP and ECP modes.

USB Controller**Default: Enabled**

This mainboard has a built-in USB (universal serial bus) port. If you connect an optional USB port to your system, use this item to enable the port.

USB Keyboard Support**Default: Disabled**

If you connect a USB keyboard to your system, enable this item.

Password Settings

This item can be used to install a password. To install a password, follow these steps:

1. Highlight the item Password Settings on the main menu and press **Enter**.
2. The password dialog box will appear.
3. If you are installing a new password, carefully type in the password. You cannot use more than 8 characters or numbers. The password will differentiate between upper case and lower characters. Press **Enter** after you have typed in the password. If you are deleting a password that is already installed just press **Enter** when the password dialog box appears.
4. The system will ask you to confirm the new password by asking you to type it in a second time. Carefully type the password again and press **Enter**, or just press **Enter** if you are deleting a password that is already installed.
5. If you typed the password correctly, the password will be installed.

IDE HDD Auto Detection Option

This item automatically detects and installs any hard disk drives installed on the primary and secondary IDE channel. Most modern drives can be detected. If you are

using a very old drive that can't be detected, you can install it manually using the Standard CMOS Setup option.

Setup will check for two devices on the primary IDE channel and then two devices on the secondary IDE channel. At each device, the system will flash an N in the dialog box. Press **Enter** to skip the device and proceed to the next device. Press **Y**, then **Enter** to tell the system to auto-detect the device.

Save And Exit Setup Option

Highlight this item and press **Enter** to save the changes that you have made in the setup utility and exit the setup program. When the Save and Exit dialog box appears, press **Y** to save and exit, or press **N** to return to the setup main menu.

Exit Without Saving Option

Highlight this item and press **Enter** to discard any changes that you have made in the setup utility and exit the setup program. When the Exit Without Saving dialog box appears, press **Y** to discard changes and exit, or press **N** to return to the setup main menu.