NOTICE TO END USERS

This User's Guide & Technical Reference is for assisting system manufacturers and end-users in setting up and installing the mainboard.

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C O N T E N T

Chapter 1
INTRODUCTION

■ *FEATURES*

CPU

1. Supports Intel Pentium II/III, Celeron CPUs using SLOT 1 at 233 ~ 700MHz or higher CPU.
2. Supports CPU voltage auto detect circuit.
3. Supports 66/100MHz Bus Clock with auto detects. (BIOS supports 103/112MHz BUS Clock without auto detects.)

Chipset

1. Intel 82440BX chipset.
2. PCI Rev2.1, 5V, 33MHz interface compliant.
3. Supports AGP 1x/2x Mode, 3.3V AGP (Accelerated Graphics Port) slot.

L2 Cache

1. Pentium II/III supports 256K/512K write back cache with Pipelined Burst SRAMs.

Main Memory

1. Memory range from 8MB to 768MB with DRAM Table Free configurations.
2. Supports SDRAM with 12/10/8ns DRAM speed.
3. Supports 3pcs 168pin DIMM sockets (3.3V Unbuffered type).
4. DRAM supports ECC or Parity function.

BIOS

1. AWARD Plug and Play BIOS.
2. Supports Advanced Power Management Function and ACPI Function.
3. Flash Memory for easy upgrade.
4. BIOS supports CPU Core Voltage Setting.
5. Supports BIOS Writing Protection.

Super I/O Function

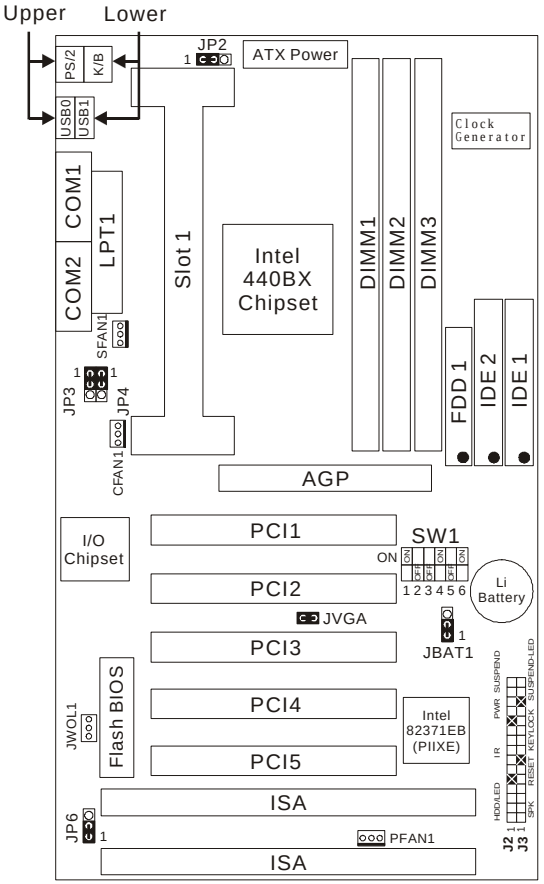
1. Integrated USB (Universal Serial Bus) controller with two USB ports.
2. Supports 2IDE channel with 4IDE devices (including ZIP/LS-120 floppy).
3. Provides PCI IDE Bus Master function and supports Ultra ATA33 function.
4. One floppy port.
5. Two high speed 16550 FIFO UART ports.
6. One parallel port with EPP/ECP/SPP capabilities.
7. PS/2 mouse connector.
8. Built-in RTC, CMOS, keyboard controller on single I/O chip.
9. Peripherals boot function (with ATX power).

Other Functions

1. ATX size 17cm x 30.5cm.
2. 5 PCI Master slots, 2 ISA slots and 1 AGP slot.
3. Supports CPU temperature warning function (optional).
4. Provides DIP switch settings.
5. Supports 66/100MHz Bus Clock.
6. Supports keyboard Power on function.
7. Supports Wake On LAN (WOL) function.
8. Supports Power Lost Resume function.
9. BIOS supports 103/112MHz Bus Clock.

Mainboard layout with default setting

The default settings of the following figure is for the Celeron / Pentium II 233/66MHz or 350/100MHz.



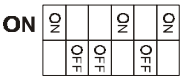
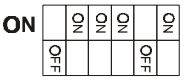
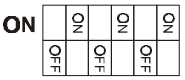
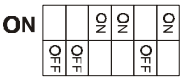
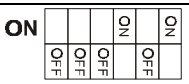
Motherboard layout

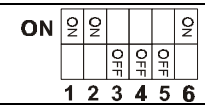
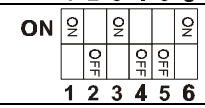
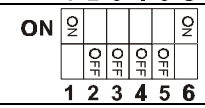
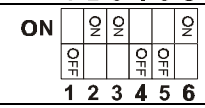
NOTE: For 100MHz CPU environment, the SDRAM specification must comply with PC-100 spec.

Chapter 2
HARDWARE SETUP

■ *CPU Type Configuration*

The CPU Type Configuration

CPU Model	*SW1 Setting*	*CPU Ratio*
Celeron *233/66* Pentium II / III *350/100*		3.5 x
Celeron *266/66* Pentium II / III *400/100*		4.0 x
Celeron *300/66* Pentium II / III *450/100*		4.5 x
Celeron *333/66* Pentium II / III *500/100*		5.0 x
Celeron *366/66* Pentium II / III *550/100*		5.5 x
Celeron *400/66* Pentium II / III *600/100*		6.0 x

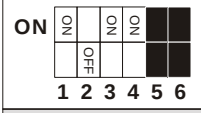
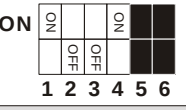
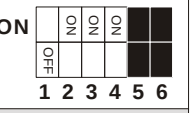
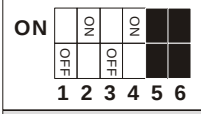
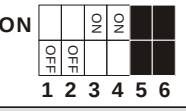
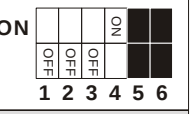
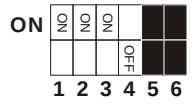
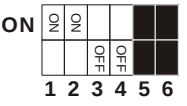
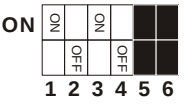
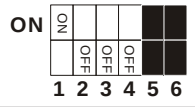
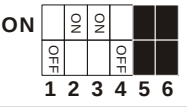
Celeron *433/66* Pentium II / III *650/100*		6.5 x
Celeron *466/66* Pentium II / III *700/100*		7.0 x
Celeron *500/66* Pentium II / III *750/100*		7.5 x
Celeron *533/66* Pentium II / III *800/100*		8.0 x

System Memory Configuration

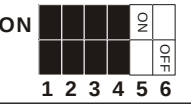
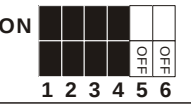
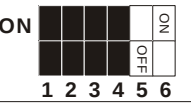
This 82440BX mainboard supports 168pin DIMM of 4MB, 8MB, 16MB, 32MB, 64MB, 128MB and 256MB to form a memory size between 8MB to 768MB(SDRAM). 82440BX chipsets provide "Table Free" function. It means that users can install DRAM with any configuration and in any bank, and that is why the DRAM table is not needed but do remember that the DRAM must be **3.3V** type.

For 100MHz CPUs environment, the SDRAM specification must comply with PC-100 spec.

Bus Ratio Select

SW1 DIP1 ~ DIP4		
3.0x	3.5x	4.0x
		
4.5x	5.0x	5.5x
		
6.0x	6.5x	7.0x
		
7.5x	8.0x	
		

Bus Clock Select

Bus Clock	SW1 DIP5 ~ DIP6
66MHz	
100MHz	
Auto Detect (default)	

■ *Jumper Settings*

JP2: Keyboard Power Select

Keyboard Power On	JP2
Disabled(default)	
Enabled	

NOTE: 1. If the JP2 is fixed by jumperwire then the board does not support keyboard power on function.
2. When the keyboard power on function shows any compatible problem, choose Disabled and report the keyboard model to the vender/maker.
3. Keyboard power on function must be set from the BIOS. Refer to the "Integrated Peripherals" section in the Chapter 3.

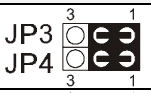
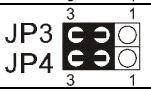
#FAN: Onboard FAN (12V) Connector

#FAN1	*Function*
CFAN1	CPU FAN
SFAN1	SYSTEM FAN
PFAN1	CHASSIS FAN

JBAT1: Clear CMOS Data

CMOS status	*JBAT1*
Clear CMOS	
Retain Data (Default)	

JP3/JP4: USB Port Select

USB Port	*JP3 / JP4*
Redirect USB port 1 to USB connector(Default)	
Redirect USB 1 to AGP port	

JP6: Power Lost Resume

This jumper allows you to use the switch of ATX power supply to control ON/OFF directly instead of using the power switch on the motherboard.

Power Lost Resume	*JP6*
Normal(default)	
Enabled	

JVGA1: VGA Card

JVGA1	
For PCI VGA Card*	
Normal (Default)	

NOTE: This jumper is set for the PCI VGA card. Open this jumper when the system isn't able to boot up. If you use AGP card, it is important to set default with JVGA1.

JWOL1: Wake On LAN (WOL) Connector

This connector is designed to use Lan to bootup the system. Connect the wake on signal from Lan card to this connector.

J2 Switch Signal Summary

J2	Pin	Signal Description
HDD LED Connector	1	+5V
	2	HDD LED Signal
	3	HDD LED Signal
	4	+5V
N.C.	5	No Connection
Infrared Connector	6	Infrared Transmit Signal
	7	GND
	8	Infrared Receive Signal (low speed)
	9	Infrared Receive Signal (high speed)
	10	+5V
N.C.	11	No Connection
PWR	12	GND
	13	Power Switch(for ATX Power)
SUSPEND	14	SUSPEND signal
	15	GND

IDE LED Activity Light (J2 pin1-4)

This connector connects to the hard disk activity indicator light on the case.

Infrared Port Module Connector (J2 pin6-10)

The system board provides a 5-pin infrared connector-R1 for an optional wireless transmitting and receiving module. Pin 6 through 10 are Transmit, GND, Receive (low speed), Receive (high speed), and Vcc, respectively.

PWR Switch (J2 pin12, 13)

Power Switch: Toggle this pin for turning on/off of the Power supply (for ATX power only).

SUSPEND Switch (J2 pin14, 15)

Toggle this jumper forces the system to sleep and the system won't wake up until the hardware event is coming. (The BIOS Power Management setting must be enabled.)

J3 Switch Signal Summary

J3	Pin	Signal Description
Speaker Connector	1	Speaker Signal
	2	No Connection
	3	GND
	4	+5V
Reset Switch	5	Reset Signal
	6	GND
N.C.	7	No Connection
Power LED Connector	8	+5V
	9	No Connection
	10	GND
Keylock Connector	11	Keylock Signal
	12	GND
N.C.	13	No Connection
SUSPEND LED	14	SUSPEND LED signal
	15	No Connection

Speaker Connector (J3 pin1-4)

The speaker connector is a 4-pin connector for connecting the system and the speaker. (See the following drawing for jumper position.)

Reset Switch (J3 pin5, 6)

The system board has a 2-pin connector for rebooting your computer without having to turn off your power switch. This prolongs the life of the system's power supply.

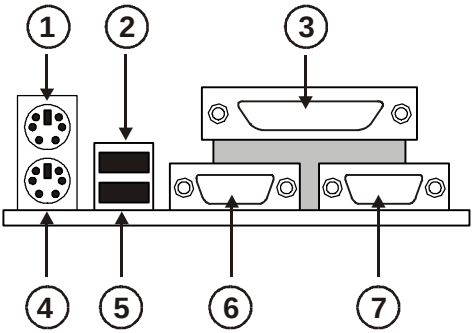
Power LED and Keylock Switch (J3 pin8-12)

The keylock switch is a 5-pin connector for locking the keyboard for security purposes. (See the following drawing for jumper position, and pin1~3 are connected to power LED and pin 4~5 are connected to keylock switch.)

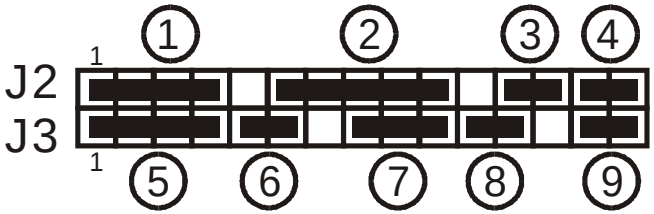
SUSPNED LED (J3 pin14, 15)

Connect to suspend LED.

■ *Other connectors*



① : PS/2 MOUSE
② : USB0
③ : LPT1
④ : PS/2 KEYBOARD
⑤ : USB1
⑥ : COM1
⑦ : COM2



① : HDD LED
② : INFRARED (IR)
③ : POWER SWITCH
④ : SUSPEND CONNECTOR
⑤ : SPEAKER
⑥ : RESET SWITCH
⑦ : POWER LED
⑧ : KEYLOCK
⑨ : SUSPEND LED

■ *Flash Memory Update Installation*

1. Download BIOS files and flash utility from your board vendor. They are: awdflash.exe and .bin file.
2. Copy them to bootable diskette and boot from diskette.
3. The diskette cannot include memory manager e.g. emm386.exe,qemm and himem.sys, otherwise there will appear an error message “insufficient memory”.
4. Type "awdflash filename(XXXX.bin)".
5. Next screen will ask you save current bios to file or not? Depend on your diskette capacity, choose Y or N for this option.
6. Then screen asks you programming the flash memory now? type Y for this option.
7. Programming finish,utility will ask you reboot system.
8. Reset system and press DEL key enter bios setup screen.
9. Select LOAD SETUP DEFAULTS,press ENTER,press Y,press F10,press Y
10. Finish update procedure.

Chapter 3
BIOS SETUP

This mainboard comes with the AWARD BIOS from AWARD Software Inc.
Enter the Award BIOS

Program Main Menu by:

1. Turn on or reboot the system. After a series of diagnostic checks, the following message will appear:

PRESS <DEL> TO ENTER SETUP

2. Press the <DEL> key and the main program screen will appear as follows.

ROM PCI/ISA BIOS
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	HDD LOW LEVEL FORMAT
PNP/PCI CONFIGURATION	IDE HDD AUTO DETECTION
LOAD SETUP DEFAULTS	SAVE & EXIT SETUP
	EXIT WITHOUT SAVING
Esc : Quit	¡ ô õ ÷ :Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

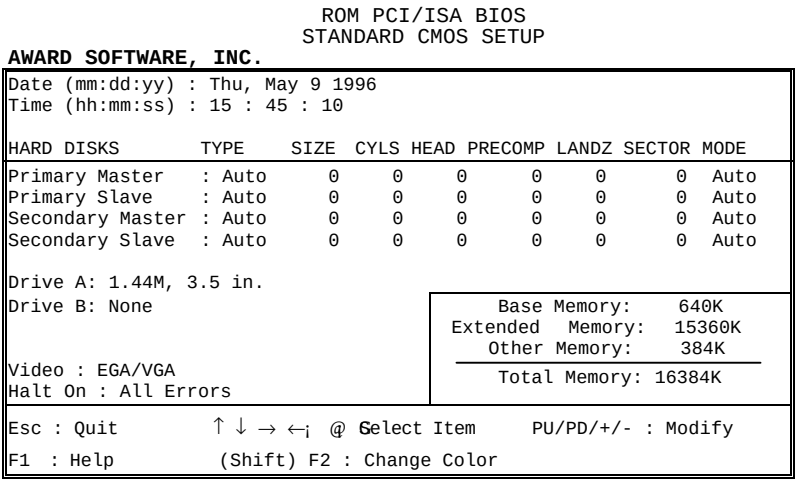
3. Using the arrows on your keyboard selects an option, and press <Enter>. Modify the system parameters to reflect the options installed in your system.
4. You may return to the Main Menu anytime by pressing<ESC>.
5. In the Main Menu, “SAVE AND EXIT SETUP” saves your changes and reboots the system, and “EXIT WITHOUT SAVING” ignores your changes and exits the program.

Standard CMOS Setup

Standard CMOS Setup allows you to record some basic system hardware configuration and set the system clock and error handling. You only need to modify the configuration values of this option when you change your system hardware configuration or the configuration stored in the CMOS memory gets lost or damaged.

Run the Standard CMOS Setup as follows:

1. Choose “STANDARD CMOS SETUP” from the Main Menu and a screen with a list of options will appear.



2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/¡ Keys.

A short description of the screen options is as follows:

Date (mm:dd:yy) **Time (hh:mm:ss)**	Set the current date and time.
Primary **(Secondary)** **Master/Slave**	This field records the specifications for all non-SCSI hard disk drives installed in your system. Refer to The respective documentation on how to install the drives.
Drive A/B	Set this field to the type(s) of floppy disk drive(s) installed in your system. The choices are: 360KB, 5.25 in., 1.2MB, 5.25 in., 720KB, 3.5 in., 1.44M, 3.5 in. (default), 2.88MB, 3.5 in., or None
Video	Set this field to the type of video display card installed in the system. The choices are: Monochrome; Color 40x25; VGA/EGA (default); Color 80x25
Halt On	Set this warning feature for the type of errors that will cause the system to halt. The choices are: All Errors (default) No Errors All, But Keyboard All, But Diskette All, But Disk/Key

3. Press <ESC> to return to the Main Menu when you finish setting up the "Standard CMOS Setup"

BIOS Features Setup

BIOS Features Setup allows you to improve your system performance or set up system features according to your preference.

Run the BIOS Features Setup as follows:

1. Choose “BIOS FEATURES SETUP” from the Main Menu and a screen with a list of options will appear.

ROM PCI/ISA BIOS
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
CPU L2 Cache ECC Checking	: Enabled	D0000-D3FFF Shadow	: Disabled
Boot Sequence	: A,C,SCSI	D4000-D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000-DBFFF Shadow	: Disabled
Boot Up Floppy Seek	: Disabled	DC000-DFFFF Shadow	: Disabled
Boot Up NumLock Status	: On		
Gate A20 Option	: Fast		
Memory Parity/ECC Check	: Disabled		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6	ESC :Quit ¡ ô õ † ø Select Item	
Typematic Delay (Msec)	: 250	F1 :Help PU/PD/+/-: Modify	
Security Option	: Setup	F5 :Old Values(Shift)F2 : Color	
PCI/VGA Palette Snoop	: Disabled	F6 :Load BIOS Defaults	
ASSIGN IRQ FOR VGA	: Enabled	F7 :Load Setup Defaults	
OS Select for DRAMs>64MB	: Non-OS/2		
Report No FDD For WIN 95	: No		

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys. An explanation of the <F> keys follows:
<F1>: “Help” gives options available for each item.
Shift<F2>: Change color.
<F5>: Get the previous values. These values are the values with which the user started in the current session.
<F6>: Load all options with the BIOS default values.
<F7>: Load all options with the Setup default values.

A short description of screen options follows:

Virus Warning *Enabled*: Activates automatically when the system boots up causing a warning message to appear if there is anything attempting to access the boot sector or hard disk partition table.

Disabled: No warning message will appear when there is something attempting to access the boot sector or hard disk partition table

Note: Many diagnostic (or boot manager) programs which attempt to access the boot sector table can cause the above warning message. If you will be running such a program, we recommend that you disable the virus protection first.

CPU Internal Cache Choose Enabled (default) or Disabled. This option allows you to enable or disable the CPU's internal cache.

External Cache Choose Enabled (default) or Disabled. This option allows you to enable or disable the external cache memory.

Quick Power On Self Test Choose Enabled (default) or Disabled. This option allows you to speed up the Power-On Self-Test routine.

Boot Sequence Default is "A, C, SCSI" This option determines which drive to look at first for an operating system.

Swap Floppy Drive Choose Enabled or Disabled (default). This option swaps floppy drive assignments when it is enabled.

Boot Up Floppy Seek	Enabled (default): During POST, BIOS checks the track number of the floppy disk drive to see whether it is 40 or 80 tracks. Disabled: During POST, BIOS will not check the track number of the floppy disk drive.
Boot Up NumLock Status	Choose On (default) or Off. This option lets user activate the NumLock function at boot-up.
Gate A20 Option	Choose Normal or Fast (default). This option allows the RAM to access the memory above 1MB by using the fast gate A20 line.
Memory Parity /ECC Check	Choose Enabled or Disabled
Typematic Rate Setting	Choose Enabled or Disabled(default). Enable this option to adjust the keystroke repeat rate.
Typematic Rate (Chars/Sec)	Range between 6 (default) and 30 characters per second. This option controls the speed of repeating keystrokes.
Typematic Delay (Msec)	Choose 250 (default), 500, 750, and 1000. This option sets the time interval for displaying the first and the second characters.

Security Option	Choose System or Setup (default). This option prevents unauthorized system boot-up or use of BIOS Setup.
PCI/VGA palette Snoop	Choose Enabled or Disabled (default). It determines whether or not the MPEG ISA cards can work with PCI/VGA.
Assign IRQ for VGA	Choose Enabled or Disabled (default). Enabled: Add one IRQ to VGA controller. Disabled: Remove IRQ from VGA controller. The system will have extra IRQ for other devices but the VGA controller will still not disabled. Only IRQ was removed.
OS Select for DRAM > 64MB	Non-OS2 (default): For Non-OS/2 system. OS: For OS/2 system.
Report No FDD For WIN95	Yes: BIOS reports “NO FDD” to Win95. No (default): BIOS will not report “NO FDD” to Win95.
Video BIOS Shadow	Enabled (default): Map the VGA BIOS to system RAM. Disabled: Will not map the VGA BIOS to system RAM.
C8000-CBFFF to **DC000-DFFF Shadow**	These options are used to shadow other expansion card ROMs.

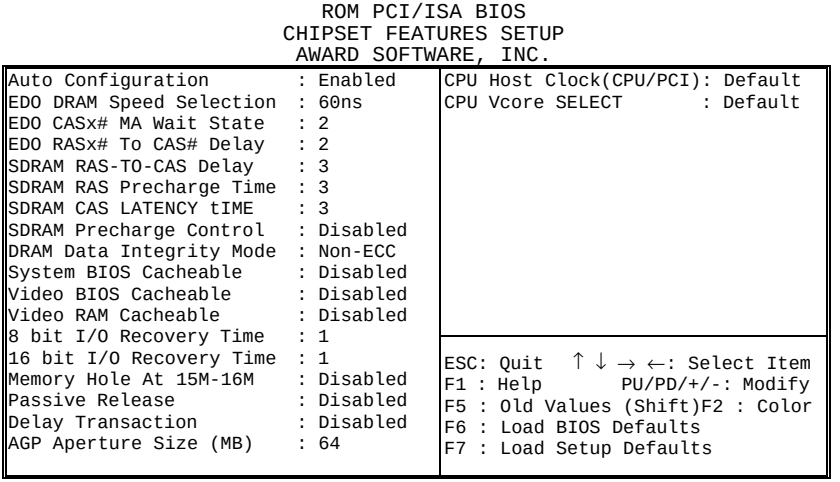
3. Press <ESC> and follow the screen instructions to save or disregard your settings.

Chipset Features Setup

Chipset Features Setup changes the values of the chipset registers. These registers control the system options.

Run the Chipset Features Setup as follows:

1. Choose “CHIPSET FEATURES SETUP” from the Main Menu and a screen with a list of options will appear.



2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/¡ Ð keys.

A short description of screen options follows:

AUTO CONFIGURATION Auto Configuration selects predetermined optimal values of chipset parameters. When Disabled, chipset parameters revert to setup information stored in CMOS. Many fields in this screen are not available when Auto Configuration is Enabled.

EDO DRAM Speed Selection The DRAM timing is controlled by the DRAM Timing Registers. The timings programmed into this register are dependent on the system design. Slower rates may be required in certain system designs to suoourt loose layouts or slower memory.
The Choice: 50ns, 60ns.

EDO CASx# MA Wait State Use the default setting.

EDO RASx# Wait State Use the default setting.

SDRAM RAS-TO-CAS Delay You can select RAS to CAS Delay time in HCLKs of 2/2 or 3/3. The system board designer should set the values in this field, depending on the DRAM installed. Do not change the values in this field unless you change specification of the installed DRAM or the installed CPU.
The Choice: 2, 3.

SDRAM Precharge Time	Defines the length of time for Row Address Strobe is allowed to precharge. The Choice: 2, 3.
SDRAM CAS Latency Time	You can select CAS latency time in HCLKs of 2/2 or 3/3. The system board designer should set the values in this field, depending on the DRAM installed. Do not change the values in this field unless you change specification of the installed DRAM or the installed CPU. The Choice: 2, 3.
SDRAM Precharge Control	Use default setting.
DRAM Data Integrity Mode	Choose Non-ECC¡]default¡ or ECC depending on the DRAM type.ECC stands for Error Check and Correct. Non-ECC: Disabled ECC check function. ECC: Enabled ECC check function.
System BIOS Cacheable	Choose Enabled or Disabled¡]default¡ .^ When Enabled, the access to the system BIOS ROM addressed at F0000H-FFFFFH is cached.

Video BIOS Cacheable	Choose Enabled or Disabled(default). When Enabled, the access to the VGA BIOS ROM addressed at C0000H-C7FFFH is cached.
Video RAM Cacheable	Choose Enabled or Disabled(default). When Enabled, the access to the VGA RAM addressed is cached.
8 Bit I/O Recoversy Time **8 Bit I/O Recoversy Time**	This delay happens when the CPU is running so much faster than the I/O bus that the CPU must be delayed to allow for the completion of the I/O. The choice for 8 bit I/O are N/A, 1 to 8 CPU clock.Default is 3. The choice for 16 bit I/O are N/A, 1 to 4 CPU clock.Default is 2.
Memory Hole AT 15M-16M	Choose Enabled or Disabled(default). In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory's space below 16MB.
Passive Release	Use the default setting.
Delayed Transaction	Use the default setting.

AGP Aperture	Choose 4, 8, 16, 32, 64¡]default¡ ^,128 or 256MB. Memory mapped and graphics data structures can reside in a Graphics APERTURE. This Area is like a linear buffer. BIOS will auto report the starting address of this buffer to the O.S.
CPU Host Clock (CPU/PCI)	Choose 66/75/83/95/100/112/124 /133 MHz.
CPU Vcore Select	The Choice: default, -0.05V, -0.1V, +0.05V, +0.1V, +0.2V, +0.3V, +0.4V

NOTE: Wrong setting of CPU Vcore may cause damage to CPU. In consequence of such a potential risk, we strongly recommend user to leave DEFAULT setting unless user does comprehend how to set accurate CPU Vcore.

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

Power Management Setup

Power Management Setup sets the system's power saving functions.

1. Choose "POWER MANAGEMENT SETUP" from the Main Menu and a screen with a list of options will appear.

ROM PCI/ISA BIOS
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

ACPI Function	:Disabled	**Reload Global Timer Events**	
Power Management	:User Define	IRQ3[3-7,9-15],NMI	: Enabled
PM Control by APM	:Yes	Primary IDE 0	: Enabled
Video Off Method	:V/H SYNC+Blank	Primary IDE 1	: Enabled
Video Off After	:Suspend	Secondary IDE 0	: Enabled
Modem Use IRQ	:3	Secondary IDE 1	: Enabled
Doze Mode	:Disabled	Floppy Disk	: Enabled
Standby Mode	:Disabled	Serial Port	: Enabled
Suspend Mode	:Disabled	Parallel Port	: Enabled
HDD Power Down	:Disabled		
Throttle Duty Cycle	:62.5%		
PCI VGA Act-Monitor	:Disabled		
Soft-Off by PWRBTN	:Instant-Off		
Power On by Ring	:Enabled	ESC : Quit ¡ @ ↑ ↓ → ←: Select Item	
Wake Up on LAN	:Disabled	F1 : Help	PU/PD/+/- : Modify
Wake Up On LAN	:Disabled	F5 : Old Values (Shift)F2 : Color	
IRQ 8 Break Suspend	:Disabled	F6 : Load BIOS Defaults	
Resume by Alarm	:Enabled	F7 : Load Setup Defaults	
Date(of month) Alarm	:0		
Time(hh:mm:ss) Alarm	:0:0:0		

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

A short description of screen options follows:

ACPI Function	This item allows you to enable/disable the Advanced Configuration and Power Interface (ACPI). The choice: Enabled, Disabled.
Power Management	Choose Max. Saving, User Define (default), Disabled, or Min. Saving.
PM Control by APM	Choose Yes (default) or No. You need to choose Yes when the operating system has the APM functions, otherwise choose No.
Video Off Method	Choose Blank , DPMS, or V/H Sync+Blank (default). You can choose either DPMS or V/H Sync+Blank when the monitor has the Green function. You need to choose Blank when the monitor has neither the Green function.
Video Off Option	The default is “Suspend -> Off”. This line defines when the video off features activate. The next line sets how.
MODEM Use IRQ	Assign the IRQ number to the modem which is being used so that the ring signal can wakeup the system. The default setting is 3 (COM2).
Doze Mode	This mode sets the CPU speed down to 33MHz.

Standby Mode
Suspend Mode

These two options allow you to choose the mode for the different timers. The Standby Mode turns off the VGA monitor, and the Suspend Mode turns off the CPU and saves the energy of the system.

HDD Power Down

When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

Throttle Duty Cycle

Choose the duty cycle time: 12.5%, 25%,37.5%,50%,62.5%¡ ¨default¡ ©or 75%. The bigger of the percentage, the more saving power it gets.

PCI/VGA Act-Monitor

Enabled: The system can not enter the power saving mode when monitor is on.
Disabled: The system can enter the power saving mode when monitor is on.

Soft-Off by PWR-BTN

Instant-off: (default) turns off the system power at once after pushing the power button.
Delay 4 Sec: turns off the system power 4 seconds after pushing the power button (to meet PC97/98 spec.)

Resume by Alarm	Enabled: Wake up the system at assigned time, and also, the user needs to set both “Date Alarm” and “Time Alarm”2 options. Disabled¡ ¦default¡ ^Disabled this feature.
Wake On LAN	Enabled¦ ¦default¡ ^Wake up the system form LAN card¡ ¦LAN card must support Wake Up On LAN function and the power supply must provide at least 5V/750mA standby current¡ ^ Disabled¡ ¦default¡ ^Disabled this function.
IRQ 8 Break Suspend	Use the default setting.
Resume by Ring	Enabled: Wake up the system from ring signal. Disabled¦ ¦default¡ ^Ring signal can not wake up the system.
IRQ(#), NM1; Primary IDE 0 Primary IDE 1; Secondary IDE 0 Floppy Disk; Secondary IDE 1; Serial Port; Parallel Port	Enabled¦ ¦default¡ ^The system can not enter the power saving mode when I/O ports or IRQ# is activated. Disabled: The system can enter the power saving mode when I/O ports or IRQ# is activated.

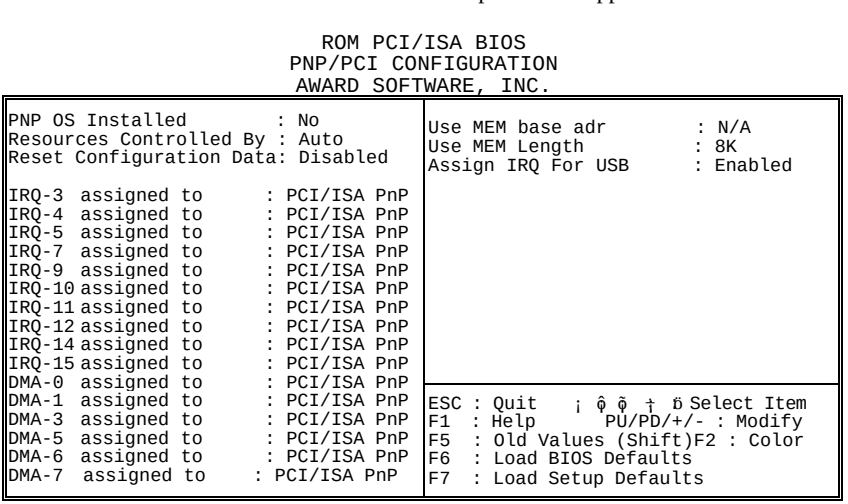
3. Press <ESC> and follow the screen instructions to save or disregard your settings.

PnP/PCI Configuration Setup

PnP/PCI Configuration Setup configures the PCI bus slots.

Run the Chipset Features Setup as follows:

1. Choose “PnP/PCI CONFIGURATION SETUP” from the Main Menu and a screen with a list of options will appear.



2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

A short description of screen options follows:

PNP OS Installed Yes: OS supports Plug and Play function.
No (default): OS doesn't support Plug and Play function.

Note: BIOS will automatically disable all PnP resources except the boot device card when you select Yes on Non-PnP OS..

Resources Controlled By Choose Manual (default) or Auto. The BIOS checks the IRQ/DMA channel number on the ISA and PCI card manually if you choose Manual and the IRQ/DMA channel number will be checked automatically if you choose Auto.

Reset Configuration Data Choose Enabled or Disabled (default). Disabled retains PnP configuration data in BIOS and Enabled resets the PnP configuration data in the BIOS.

IRQ-x assigned to
DMA-x assigned to Legacy ISA: Manually assigns IRQ/DMA to device.
PCI/ISA PnP: BIOS assigns IRQ/DMA to device automatically.

Used MEM Base Addr Choose N/A (default) or ISA legacy card requests to have memory start address.

Used MEM Length*	Choose 8K, 16K, 32K or 64K. With the above two functions, users can define where the used memory address is located and its corresponding length of the legacy area. BIOS will skip the UMB area which is used by the legacy device to avoid memory space conflict. ***This function actives only when the "Used MEM Bade Addr" is chosen.***
Assign IRQ for USB	Choose Enabled (default) or Disabled. Enabled: Add one IRQ to USB controller. Disabled: Remove IRQ from USB controller. The system will have extra IRQ for other devices but the USB controller will still not be disabled (only IRQ was removed.)

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

Load Setup Defaults

"Load Setup Defaults" option loads the default system values to the system configuration fields. If the CMOS is corrupted the defaults are loaded automatically. Choose this option and the following message will appear:

```
"Load Setup Defaults (Y/N)? N"
```

To use the Setup defaults, change the prompt to "Y" and press <Enter>.

Integrated Peripherals

Integrated Peripherals option changes the values of the chipset registers. These registers control system options in the computer.

1. Choose “INTEGRATED PERIPHERALS” from the Main Menu and a screen with a list of options will appear.

ROM PCI/ISA BIOS
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

IDE Primary Mode PIO	: Enabled	UART Mode Select	: IrDA
Primary Master PIO	: Auto	RxD, TxD Active	: Lo, Lo
Primary Slave PIO	: Auto	IR Transmittion Delay	: Disabled
Secondary Master PIO	: Auto	Onboard Parallel Port	: 378/IRQ7
Secondary Slave PIO	: Auto	Parallel Port Mode	: ECP/EPP
Primary Master UDMA	: Auto	ECP Mode Use DMA	: 3
Primary Slave UDMA	: Auto	ECP Mode Use Select	: EPP1, 7
Secondary Master UDMA	: Auto	Power On Function	: BUTTON
Secondary Slave UDMA	: Auto	ONLY	
OnChip Primary PCI IDE	: Enabled		
OnChip Secondary PCI IDE	: Enabled		
USB Keyboard Support	: Disabled		
Init Display First	: PCI Slot		
KBC Input Clock	: 8MHz		
Onboard FDC Controller	: Enabled		
Onboard Serial Port 1	: Auto	ESC : Quit ¡ ô õ † ö Select Item	
Onboard Serial Port 2	: Auto	F1 : Help PU/PD/+/- : Modify	
		F5 : Old Values (Shift)F2: Color	
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/¡ Keys.

A short description of screen options is as follows:

IDE HDD Block Mode	Choose Enabled (default) or Disabled. If your hard disk size is large than 540MB, choose Enabled, and, if you are using the IDE HDD Auto Detection option, the BIOS will choose this option automatically. (NOTE: Some HDDs of old models don't provide this feature.)
IDE Primary Master/Slave PIO **IDE Secondary Master/Slave PIO**	Choose Auto (default) or Mode 0~4. The BIOS will detect the HDD Mode type automatically when you choose Auto. You need to set to a lower mode than Auto when your hard disk becomes unstable**.**
IDE Primary Master/Slave UDMA **IDE Secondary Master/Slave UDMA**	UDMA (Ultra DMA) is a DMA data transfer protocol that utilizes ATA commands and the ATA bus to allow DMA commands to transfer data at a maximum burst rate of 66 MB/s. When you select Auto in the four IDE UDMA fields (for each of up to four IDE devices that the internal PCI IDE interface supports), the system automatically determines the optimal data transfer rate for each IDE device. The choice: Auto, Disabled.
OnChip IDE First Channel **OnChip IDE Second Channel**	Enabled: (default)Turn on the onboard IDE function. Disabled: Turn off the onboard IDE function.

USB Keyboard Support	Enabled: Enables the function when the USB keyboard is being used. Disabled¡ ¢default¡ £When the AT keyboard be used.
KBC Input Clock	Choose 6MHz, 8MHz¤ ¢default¡ £12MHz or 16MHz. There might be a compatible problem when is above 8MHz.
Onboard FDC Controller	Choose Enabled (default) or Disabled. Choose Disabled when you use an ISA card with FDD function, or , choose Enabled to use the onboard FDD connector.
Onboard Serial Port 1	Choose Auto, 3F8/IRQ4 (default), 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, or Disabled. Do no set port 1 & 2 to the same value, except when setting at Disabled.
Onboard Serial Port 2	Choose Auto (default), 3F8/IRQ4 , 2F8/IRQ3 (default), 3E8/IRQ4, 2E8/IRQ3, or Disabled.
UART Mode Select	Choose Standard¦ ¢default¡ £HPSIR, or ASKIR.
IR Transmition Delay	Enabled: Enabled delay when transfers data. Disabled¡ ¢default¡ £Disabled delay when transfers data.

Onboard Parallel Port	Choose the printer I/O address: 378H/IRQ7 (default), 3BCH/IRQ7, 278H/IRQ5, Disabled
Parallel Port Mode	Choose Normal (default), ECP/EPP EPP, or ECP mode. The mode depends on the external device connected to this port.
ECP Mode Use DMA	Choose DMA3 (default) or DMA1. Most sound cards use DMA1. Check with your sound card configuration to make sure that there is no conflict with this function. ****: This option will not be displayed unless the EPP/ECP function is selected..***
EPP Mode Select	Choose EPP1.7 (default) or EPP1.9. EPP1.9 supports hardware handshake. This setting is dependent upon your EPP device. ***Note: The above 2 options will not be displayed unless the EPP/ECP sfunction is selected.***
Power On Function	Choose BUTTON ONLY¡ ¡default¡ ¡^ Password, Mouse Left or Mouse Right. Mouse Left: Use the PS/2 mouse left to boot the system. Mouse Right: Use the PS/2 mouse right to boot the system. Password: Choose a special password which is defined by the user or use one of the HOT keys¡ ¡from CTRL-F1 to CTRL-F12¡ ¡to boot the system.

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

Supervisor/User Password

These two options allow you to set your system passwords. Normally, the supervisor has a higher ability to change the CMOS setup option than the user. The way to set up the passwords for both Supervisor and User are as follows:

1. Choose "Change Password" in the Main Menu and press <Enter>. The following message appears:

```
"Enter Password:"
```

2. The first time you run this option, enter your password up to 8 characters and press <Enter>. The screen does not display the entered characters.

3. After you enter the password, the following message appears prompting you to confirm the password:

```
"Confirm Password:"
```

4. Enter the same password "exactly" as you just typed again to confirm the password and press <Enter>.

5. Move the cursor to Save & Exit Setup to save the password.

6. If you need to delete the password you entered before, choose the Supervisor Password and press <Enter>. It will delete the password that you had before.

7. Move the cursor to Save & Exit Setup to save the option you did, otherwise the old password will still be there the next time you turn your machine on.

8. Press <ESC> to exit to the Main Menu.

Note: If you forget or lose the password, the only way to access the system is to clear the CMOS RAM by setting JBAT1. All setup information will be lost and you need to run the BIOS setup program again.

IDE HDD Auto Detection

IDE HDD Auto Detection detects the parameters of an IDE hard disk drive and automatically enters them to the Standard CMOS Setup screen.

The screen will ask you to select a specific hard disk for Primary Master after you select this option. If you accept a hard disk detected by the BIOS, you can enter "Y" to confirm and then press <Enter> to check next hard disk. This function allows you to check four hard disks and you may press the <ESC> after the <Enter> to skip this function and go back to the Main Menu.

Save & Exit Setup

Save & Exit Setup allows you to save all modifications you have specified into the CMOS memory. Highlight this option on the Main Menu and the following message appears:

SAVE to CMOS and EXIT (Y/N)? Y

Press <Enter> key to save the configuration changes.

Exit Without Saving

Exit Without Saving allows you to exit the Setup utility without saving the modifications that you have specified. Highlight this option on the Main Menu and the following message appears:
Quit Without Saving (Y/N)? N

You may change the prompt to "Y" and press the <Enter> key to leave this option.