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HOW TO USE THIS MANUAL

This manual is written in a user-friendly style. It would be advisable for users to read it in an orderly sequence :

1. For Hardware Information:

Read “**Page A: COMPONENT LOCATION DIAGRAM**”, “**Page B: CHECK LIST OF THE PACKAGING**” and “**Page C: CONNECTORS DESCRIPTION**”.

2. For Mainboard and System Features:

Read “**Chapter 1 Introduction**” in detail, and you will find helpful information on mainboard and system features. Especially, when you want to do some feature setup, detailed instructions are provided therein to help you through.

3. For CPU, Memory and Drivers Installation:

Read “**Chapter 2 Installation**” for your CPU, memory and application drivers installation. Detailed instructions are provided to guide all kinds of users.

4. For BIOS Update and Setup:

Read “**Chapter 3 Award BIOS Setup**” for updating your mainboard BIOS and setting up your BIOS Configuration.

5. For Installing Thermister:

Read “**APPENDIX A**” for thermister installation. You will find that the self-explanatory drawings enclosed therein make the job easy and simple..

6. For other Technical Support:

Read “**APPENDIX B**”, fill and send the Request Form to your dealer for other technical support.

It is often heard that the default settings on a mainboard is not what user expects. A user-friendly manual would be the handiest assistant to help change the on-board configuration or default setting. In case this manual

cannot solve all your problems, please ask your dealer for help and be sure the warranty on your system is still valid.

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CHAPTER 1 INTRODUCTION

Welcome to use this mainboard, the latest top technology of today's multimedia socket 370 mainboard, along with the varied needs of our customers. Whether you are using our product for the first time or you are a computer expert, this mainboard will fit your needs.

This manual examines the hardware and software features of the mainboard. The means to effectively fulfill that user's informational needs were tested and refined in the development of this manual.

The mainboard contains a high degree of functionality, the manual emphasizes the mainboard layout and features rather than electrical details. The software topics are delivered in the context of IDE driver installation and others. It is also provided information for the multiplatform applications.

1-1 SYSTEM FEATURES

-  Socket 370 supporting Intel Celeron™ PPGA package CPU with 66MHz Front Side Bus (300MHz~433MHz) and 100MHz FSB.
-  Intel 440ZX AGPset.
-  Two 168-pin DIMM sockets for two banks of 64-bit wide path up to 256MB Unbuffered SDRAM.
-  Built-in Switching Voltage Regulator.(VRM 8.2 SPEC.)
-  Auto-detect CPU core voltage range 1.8V to 3.5V.
-  One AGP slot with revision 1.0, three PCI slots with revision 2.1 interface compliant and two 16-bit ISA slots.
-  Dual Master IDE Connectors supporting Ultra DMA/33(33MB/sec), up to four devices in two channels for connecting high capacity hard disk, CD-ROM, LS-120MB floppy drive, tape backup etc.
-  Supports the USB (Universal Serial Bus) Header.
-  Keyboard Connector and PS/2 Mouse Connector.
-  Winbond 83977 high-speed Ultra Multi-I/O chipset.
-  Supports Infrared transfer (IrDA TX/RX) Connector.
-  One FDC port supports two devices up to 2.88MB.
-  Two 16550A fast UARTs compatible serial ports.
-  One EPP/ECP mode parallel printer port.
-  Built-in Hardware Health Monitoring chip. (option)
-  Board Dimension is 230mm x 220mm (9.05" x 8.65").
-  Baby-AT form factor ; ATX & AT power supply connector.

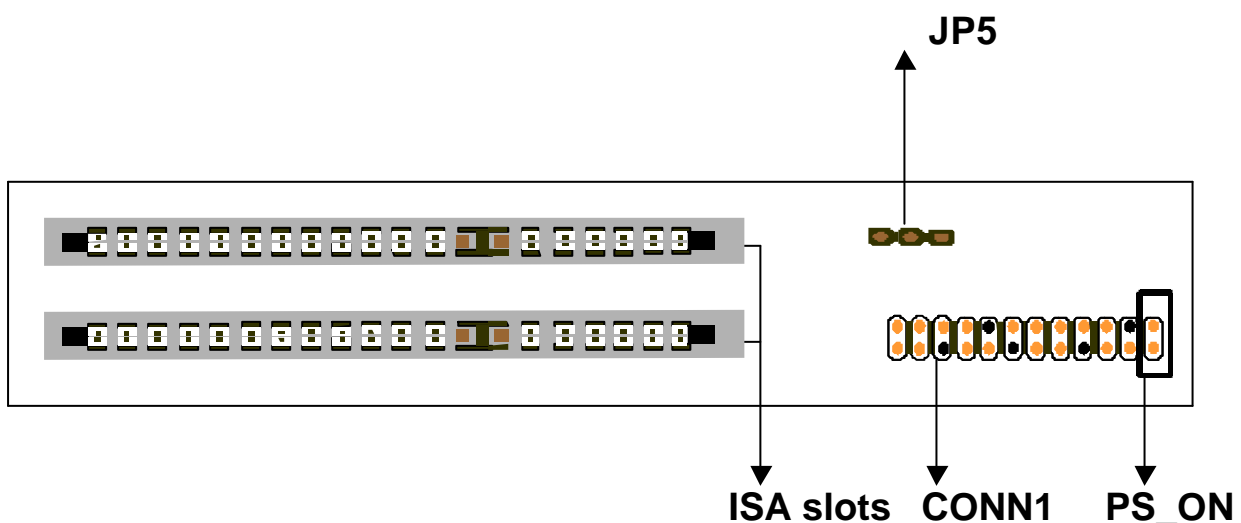
1-2 SOFTWARE POWER OFF CONTROL

The mainboard designs support Software Power Off Control feature through the SMI code in the BIOS under Windows 95/98, and MS-DOS operation system environment. This is Intel ATX form factor feature and you must use ATX power supply if you want to use the above functions.

First, you should connect the power switch cable (provided by the ATX case supplier) to the connector “PS-ON” on the mainboard. In the BIOS screen of POWER MANAGEMENT SETUP’, choose “User Defined” (or “Min. Power Saving” or “Max. Power Saving”) in ‘Power Manager’ and choose “Yes” in ‘PM Control by APM’.

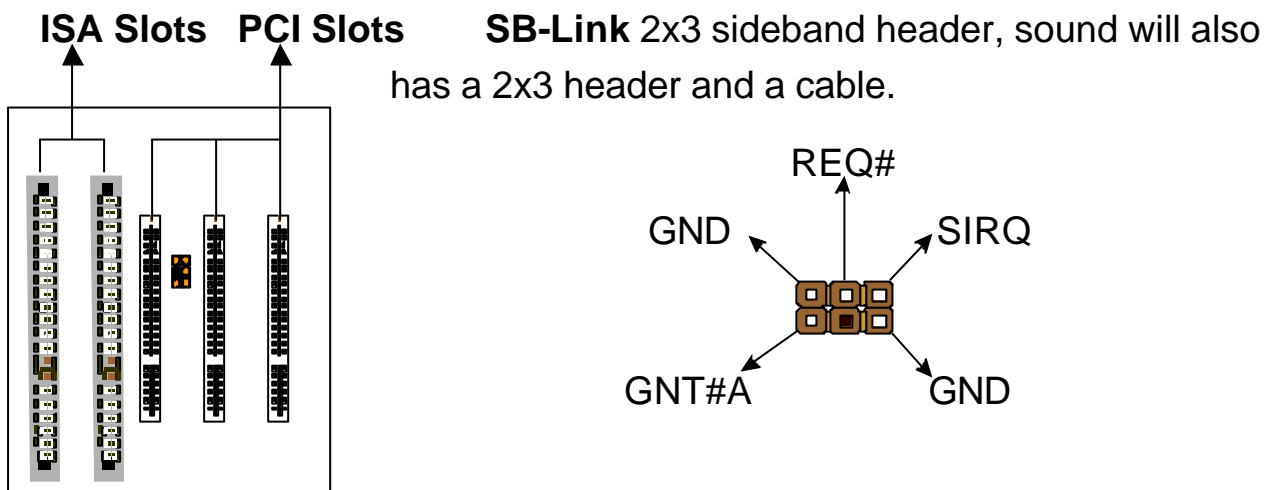
In Windows 95/98, if you would like to power off the system, you just choose “shutdown the computer ?” in the “Shut Down Windows“ from Windows 95/98, then the system power will be off directly, and become to be the stand-by status. You will find the power LED light blinking. You have to enable/disable power LED light blinking. If you want to disable blinking, please set the Jumper of JP5 from default to 2-3 (close) position. If you would like to restart the system, just press the power switch button, and the system will be on.

JP5	TB-LED
Pin1-2	FLASH



1-3 SB-Link Sideband Signals

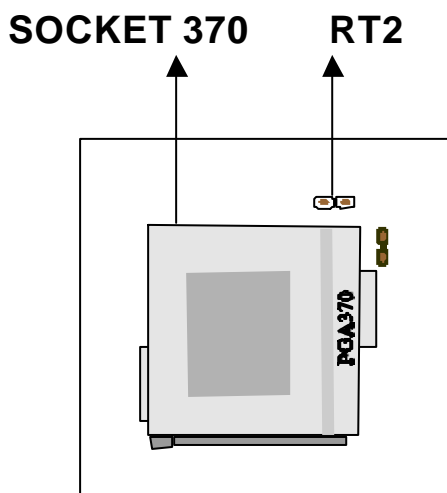
In order to migrate the legacy Sound Blaster compatible audio to the PCI bus, EMU8008 incorporates a pair of SB-Link request/grant sideband signals (PCPCIR EQN and PCPCIGNTN) to interface to the PCI bus. SB-Link is a mechanism that was defined and developed by Creative as a docking solution which allows ISA slots to exist in docking station, so it can be connected to desktop PC PCI bus.



1-4 Thermister (option)

When setting up the thermister, the BIOS will load the CPU temperature automatically. There is a choice of the warning beep sound if the user set the option on. If the CPU temperature is overheated, the user will get the notice from the thermister. This time you should shut down computer and check your devices. Or you can connect with you dealer.

Therefore, protecting and monitoring the CPU temperature is the thermister's job.



1-5 Keyboard & PS/2 Mouse Power On (JP9)

The mainboard built-in **Jumper of JP9** may have two easy and convenient ways to power up the system. Users may power on the system by typing a password, or by double-clicking the PS/2 mouse, when **JP9** is 2-3 closed.

In addition to satisfying different users with different needs, the mainboard provides four different methods to power up the system:

1. KB Power On Password:

The following functions are available for ATX power only. User can select the power on method to turn on the system, by entering Award BIOS Setup menu/Integrated Peripherals/Power On Function. The options are the following :Password : when user select this option, it will show “Enter Password:”, after user type password, it will show “ Confirm Password:”, user should type the same password to confirm it. After power off, if user types the correct password, the system will power on.

2. Hot Key Power On:

When user select this option, it will show another line as Hot Key Power ON: “Ctrl-F1” select any one you like. After power off, if user key in the control-F, it will power up the system.

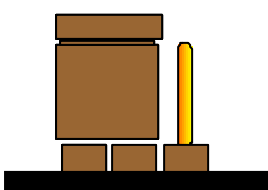
3. Mouse Left, Mouse Right :

It will power up the system by double click the left or right mouse. Note do not move your mouse between the first click and the second click.

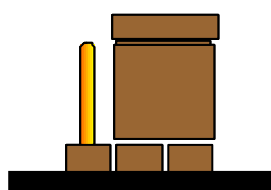
4. BUTTON ONLY :

Only the power button can power the system.

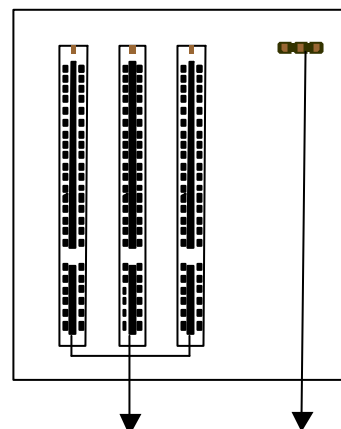
JP9	KB & PS/2 Wakeup
1-2	Disable
2-3	Enable



(a) Disable



(b) Enable



PCI slots JP9

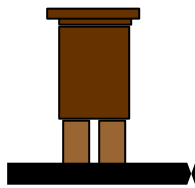
1-6 Running 100 MHz CPU Bus on mainboard (JP11)

This mainboard provides **Jumper of JP11** where it allows you to set your CPU host clock to perform the function of CPU overclock. There are two ways of option to set CPU host clock which are 'closed' and 'open'. Set 'closed' which the system will auto detect the CPU host clock, i.e.66MHz and 100MHz. Another way is to set **Jumper of JP11** to 'open' which the system can be operated the higher CPU host clock than CPU itself.

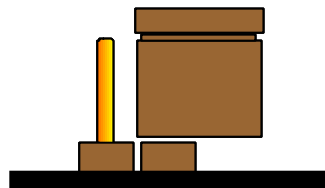
It is recommended that users should use Intel 100 MHz CPU. Moreover, the SDRAM memory module should use 8 nano-second (Maximum Frequency 125 MHz) speed of memory –die or less.

It is important to remember that the default setting of **JP11** is 'close'.

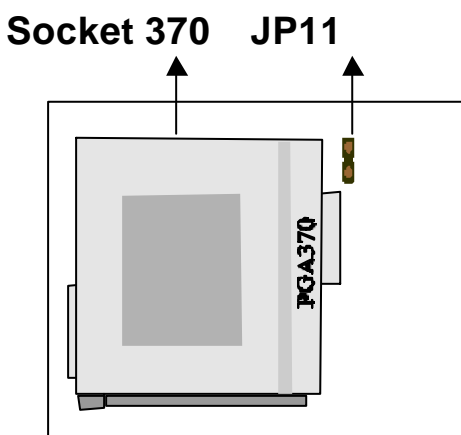
Jumper 11	BASE CLK
Closed	Auto
Open	100 MHz



(a) Closed Option



(b) Open Option



★ Running 115 124MHz CPU host bus, please select “CHIPSET FEATURES SETUP” this option in BIOS and set it in the item of “CPU Host Clock”.

1-7 Wake-On-LAN

The remote Wake-On-LAN mode of operation is a mechanism that uses Advanced Micro Device Magic Packet technology to power up a sleeping workstation on the network. This mechanism is accomplished when the LAN card receives a specific packet of information, called a Magic Packet, addressed to the node on the network. For additional protection, Secure ON is an optional security feature that can be added to the Magic Packet that requires a password to power up the sleeping workstation. When the LAN card is in remote Wake-On-LAN mode, main system power can be shut down leaving power only for the LAN card and auxiliary power recondition.

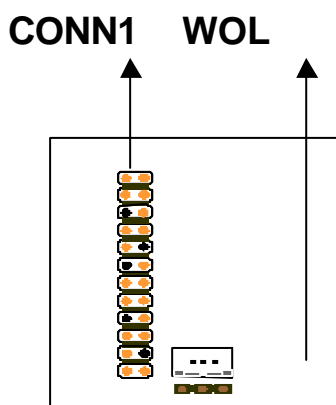
The LAN card performs no network activities while in the remote Wake-On-LAN mode of operation. It only monitors the network for receipt of a Magic Packet. If a Magic Packet is addressed to the LAN card on the network, the LAN card wake up the system. If the Secure ON feature has been enabled, the password added to the Magic Packet is also verified prior to waking up the system.

WOL LAN card will provide a 3-pin line to connect the WOL connector on the mainboard.

CAUTION :

For Wake-on-LAN, the +5V standby line for the power supply must be capable of delivering +5V \pm 5% at 720mA. Failure to provide adequate standby current when implementing Wake-on-LAN, can damage the power supply.

Before you enable Wake-on-LAN function, first check your power supply specification to meet the above requirement or not.



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CHAPTER 2 INSTALLATION

2-1 INSTALLATION PROCEDURE

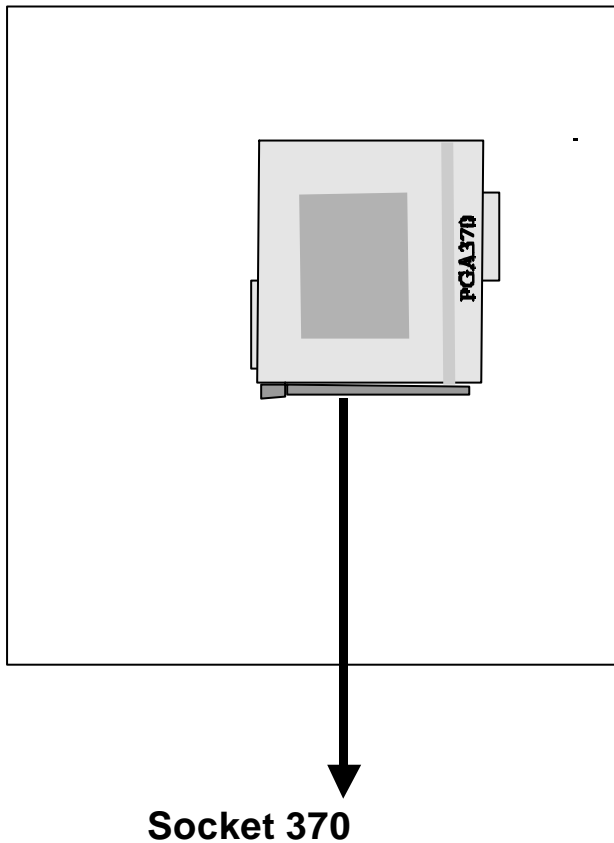
Before installing the computer, please prepare all components such as CPU, DRAM; peripherals such as hard drive, keyboard, CD-ROM; and accessories such as cables. Then, install the system as following:

1. Plug CPU/ heat sink (refer to CPU installation guide), and DRAM modules on the mainboard.
2. Set DIP switch based on your configuration.
3. Plug add-on cards into PCI/ISA slots, if needed.
4. Connect the power supply.
5. Connect I/O and other cables to the system, especially for Sound connector.
6. Make sure all components and devices are well connected, turn on the power and
setup System BIOS based on your configuration.
7. Install peripheral devices, add-on card drivers and test them.

If all of above procedures are running successfully, turn it off and screw the chassis cover to the system, and then connect external devices which are cabled to the system.

2-2 CPU INSTALLATION

- ☞ The mainboard has built-in VID (Voltage Identify) function to auto detect CPU voltages, hence you do not have to set the CPU voltage setting. Also, the mainboard has socket 370 on board that supports Intel Supports Intel PPGA Celeron™ CPU . The Intel PPGA Celeron™ CPU is now available.



2-3 SYSTEM MEMORY INSTALLATION

The mainboard provides two 168-pin DIMM sockets for system memory expansion from 8MB to 128MB unbuffered SDRAM. These two DIMMs are arranged to two banks, please refer to page A.

Bank/DIMM	Memory Module	Total Memory
Bank0/DIMM1	8/16/32/64/128	8MB~128MB
Bank1/DIMM2	8/16/32/64/128	8MB~128MB
Total System Memory		8MB~256MB

DRAM type, Size, parity supported:

- ⌚ Unbuffered SDRAM
- ⌚ 3.3V, Single/double-side, 8/16/32/64/128Mbytes

-
- ◆ *For 66MHz host bus CPUs use 12ns or faster DIMM module;*
 - ◆ *For 100MHz host bus CPUs use 10ns or faster and PC-100 compliant modules .*
-

🔍 SPD (Serial Presence Detect)

This EPROM contains speed and design information of the memory module. The mainboard may get optimal performance via accessing the data of SPD.

2-4 IDE DRIVER INSTALLATION

The IDE driver installation procedure is as following :

Setup for Windows 95/98 :

1. Starting Windows 95/98
2. Put your All-In-One CD into CD-ROM drive.
3. Select "START", "RUN".
4. Type "E:\IDE\WIN95\SETUP.EXE".
(If your CD-ROM is not the drive E, type the appropriate letter instead.)
5. Restart computer, then follow the instructions on your screen to install new IDE driver we offer in the CD.
6. Exit Windows 95, turn power off; then turn power on.
After installation, the screen will show a yellow , please ignore it.
(The other platforms please refer to readme file.)

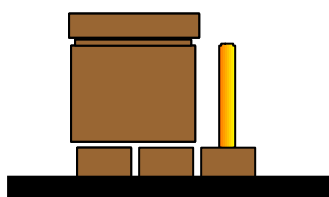
CHAPTER 3 Award BIOS SETUP

Award BIOS manufacturer provides access to the system BIOS through the hardware and software on the mainboard. The hardware consists of a Flash ROM and the software is a group of programs that are installed in the ROMBIOS along with all the other data that should be included into the BIOS.

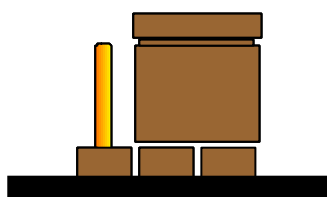
After the BIOS is updated, if you want to clear the old setup data stored in the CMOS, then you can clear CMOS.

NOTE: In case CMOS should be cleared, unplug the power cord, set Jumper 8 2-3 closed for at least 5 seconds, put it back to 1-2 position and plug the power cord again.

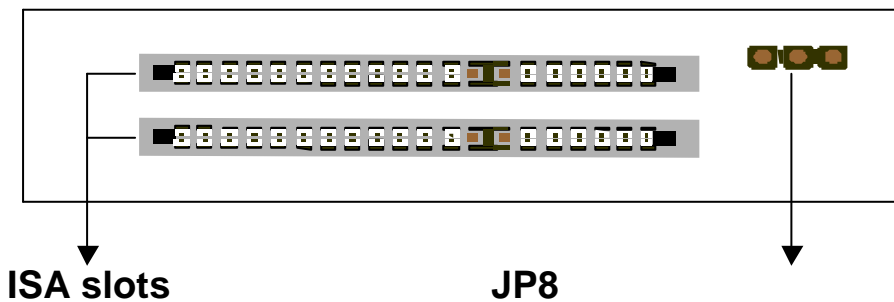
	JP8
Normal	1-2
Clear	2-3



Normal (1-2 closed)



Clear CMOS(2-3 closed)



3-1 UPDATE BIOS PROCEDURE

If the BIOS needs to be updated, you can get an All-In-One CD from your system supplier. The BIOS updated driver in All-In-One CD includes :

“awdf flash.exe” -- BIOS updated utility program
“awdf flash.doc”

The updated procedure is in the following:

1. Boot the system to DOS mode in a normal manner.
2. Insert the updated CD to drive D (or E).
3. Change working directory to CD-ROM drive, D or E, which contains the update BIOS CD. -- Type “d:\” or “e:\”, then press “ENTER”.
4. Type “cd flash”, then press “ENTER”.
5. Type “awdf flash”, then press “ENTER”-- for running the BIOS update utility.
6. Type “(update BIOS file name with version number).bin”, ENTER.
7. If you do not want to save the old BIOS, type “N” when the screen displays the message : " Do you want to save BIOS (Y/N) ?".
8. Type “Y“ when the screen shows the message : " Are you sure to program (Y/N) ?".
9. Follow instructions displayed on the screen. DO NOT remove the update BIOS CD from the CD-ROM drive nor turn the system power off until the BIOS update is completed.
10. Turn the power off. Clear the data in CMOS according to the procedure described in the previous page.
11. Turn the system power on and test that your system is working properly.

3-1-1 UPDATE MICROCODE API

Intel also provides MICROCODE API (Applications Programming Interface) for the mainboard user to update data block in BIOS quickly and easily. (You can find this utility in All-In-One CD in the package.)

Integrators must ensure that this BIOS stepping data matches the processor stepping used. When the BIOS does not contain stepping data that matches the processor stepping, integrators must update the data in the BIOS before shipping the system.

Intel's BIOS updated API allows just the stepping data within the BIOS to be updated as needed. Mainboards that contain a BIOS with the Intel-defined BIOS updated API can be quickly and easily updated, if required, without obtaining a complete BIOS upgrade. However, if the stepping data requires updating, the mainboard BIOS must contain the Intel-defined BIOS updated API, otherwise a complete BIOS upgrade is required from the mainboard vendor.

Since API program can only be executed under **DOS Real Mode**, you must **enter Real Mode first** and load the API program to Drive C.

To load the program to C by following steps:

- (1) Type " md c:\ api " and press Enter. Directory "api" is made in Drive C now.
- (2) Insert the Driver/Utility CD into CD ROM Drive E.
- (3) Then type " copy e:\api*. * c:\api " and press Enter.
(API program is loaded to Drive C now.)
- (4) Type " C:\ api \checkup " to execute this program.

The main menu should now be displayed, showing the following four options :

- 1) Check and load updated
- 2) Specify stepping data file [current : pep.pdb]
- 3) Help
- 4) Quit without loading updated

Select 1 to know the stepping filename, select 2 to load right patch code, then select 1 to updated proper patch code. Then cold boot (mechanical power off) system to continue. For more information, please refer to "CHECKUP.HLP" file.

3-2 SYSTEM BIOS CONFIGURATION SETUP

The following pages explain how to set up the system configuration (CMOS) under the Award BIOS. The SETUP program is stored in the Read-Only-Memory (ROM) on the mainboard. To do the SETUP procedure, press the key when the system is booting up. The following main menu will appear. Please select " STANDARD CMOS SETUP" to enter the next screen.

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	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
Time, Date, Hard Disk Type	

The section on the bottom of the main menu explains how to control this screen. The other section displays the items highlighted in the list.

3-2-1. STANDARD CMOS SETUP

This section records some basic hardware information, and sets the system clock and error handling. These records could be lost or corrupted if the on-board battery has failed or become weak.

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

Date (mm:dd:yy) : Wed, Dec 01 1998									
Time(hh:mm:ss) : 13 : 37 : 14									
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE	
Primary Master	: Auto	0	0	0	0	0	0	Auto	
Primary Slave	: Auto	0	0	0	0	0	0	Auto	
Secondary Master	: Auto	0	0	0	0	0	0	Auto	
Secondary Slave	: Auto	0	0	0	0	0	0	Auto	
Drive A : 1.44M, 3.5 in.									
Drive B : None									
Floppy 3 Mode Support : Disabled									
Video : EGA/VGA									
Halt On: All, but keyboard									
					Base Memory : 640K				
					Extended memory : 7168K				
					Other Memory : 384K				

					Total Memory : 8192K				
ESC : Quit			↑↓→←:Select Item				PU/PD/+/- : Modify		
F1 : Help			(Shift) F2 : Change Color						

Date

The date format is <day>, <date><month><year>. Press<F3> to show the calendar.

Day : The date, from Sun to Sat, determined by the BIOS and is display-only.

Date : The date, from 1 to 31.

Month : The month, Jan. through Dec.

Year : The year, from 1900 to 2099.

Time

The time format is <hour><minute><second>. The time is calculated based

on the 24-hour military-time clock. For example, 1p.m. is 13:00:00.

Primary/Second Master, Secondary Master/Slave

These categories identify the types of the 2 channels that have been installed in the computer. There are 45 predefined types and 4 user definable types are for Enhanced IDE BIOS. Type 1 to 45 are predefined. Type 'user' is user-definable. Press PgUp/PgDn to select a numbered hard disk type or type the number and press <Enter>. If you select 'Auto', the BIOS will auto-detect the HDD & CD-ROM Drive at the POST stage and show the IDE for HDD & CD-ROM Drive. If you select 'user', you will need to know the information listed below. Enter the information directly from the keyboard and press <Enter>. This information should be from your hard disk vender or dealer. If the controller of the HDD interface is ESDI, the selection shall be 'Type 1'; if SCSI, the selection shall be 'None'. If no device is installed select 'NONE' and press <Enter>.

Type : drive type ; Size : automatically adjusts ; CYLS : number of cylinders ;
HEAD : number of heads ; PRECOMP : write precom ; LANDZ : landing zone
SECTOR : number of sectors ; MODE : mode type

Drive A, Drive B

This category identifies the types of floppy disk drive A or drive B that have been installed in the computer.

None : No floppy drive installed ; **360K, 5.25 inch** : 5.25" PC-type 360KB capacity
1.2M, 5.25 inch : 5.25" AT-type 1.2MB capacity
720K, 3.5 inch : 3.5" double-side 720KB capacity
1.44M, 3.5 inch : 3.5" double-side 1.44MB capacity
2.88M, 3.5 inch : 3.5" double-side 2.88MB capacity

Floppy 3 Mode Support

This is the Japanese standard floppy drive. This standard stores 1.2MB in a 3.5" diskette.

Video

This category selects the type of video adapter used for the primary

system monitor. Although secondary monitors are supported, you do not have to select the type in Setup.

EGA/VGA : Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA,

SEGA, SVGA or VGA monitor adapters.

CGA 40 : Color Graphics Adapters, power up in 40 column mode.

CGA 80 : Color Graphics Adapters, power up in 80 column mode.

MONO : Monochrome adapter, includes high resolution monochrome adapters

Halt On

This category determines whether the computer will stop if an error is detected during power up.

No errors : The system boot will not be stopped for any error that may be detected.

All errors : When the BIOS detects a non-fatal error the system will be stopped and you will be prompted.

All, But Keyboard : The system boot will not stop for a keyboard error, it will stop for all other errors.

All, But Diskette : The system boot will not stop for a disk error, it will stop for all other errors.

All, But Disk / Key : The system boot will not stop for a disk or keyboard error will stop for all other errors.

Memory

This category is display-only which is determined by POST (Power On Self Test) of the BIOS. **Base Memory**: The POST will determine the amount of base (or conventional) memory installed in the system. The value of the base memory is typically 512K or 640K based on the memory installed on the mainboard. **Extended Memory**: How much extended memory is present during the POST. This is the amount of memory located above 1MB in the CPU's memory address map. **Other Memory**: This refers to the memory located in the 640K to 1024K address space. This is memory that can be used for different applications. DOS users this area to load device drivers in an effort to keep as much base memory free for application programs. The BIOS is the most frequent user of this RAM area since this is where it

shadows RAM.

3-2-2. BIOS FEATURES SETUP

This section shows a list of system configuration options. Some of them are defaults required by the mainboard's design, others depend on the features of your system.

ROM PCI/ISA BIOS
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

Virus Warning	: Enabled	Video BIOS Shadow	: Disabled
CPU Level 1 Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
CPU Level 2 Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
CPU L2 Cache ECC	: Disabled	D0000-D3FFF Shadow	: Disabled
Checking			
Quick Power On Self Test	: 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	: Off		
Gate A20 Option	: Fast		
Security Option	: Setup		
PCI/VGA Palette Snoop	: Disabled		
OS Select for DRAM>64MB	: Non-OS2		
Report No FDD For Win95	: Yes	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

When this item is enabled, the Award BIOS will monitor the boot sector and partition table of the hard disk drive for any attempt at modification. If an attempt is made, the BIOS will halt the system and the following error message will appear.

Afterward if necessary, you will be able to run an antivirus program to locate and remove the problem before any damage is done.

Warning ! Disk boot sector is to be modified. Type 'Y' to accept write or 'N' to abort

write Award software.

Enabled : Activates automatically when the system boots up, if anything attempts to

access the boot sector or hard disk partition table.

Disabled : No warning message will appear when anything attempts to access the boot

sector or hard disk partition table.

Many disk diagnostic 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 first disable Virus Protection beforehand.

CPU Level 1 / 2 Cache

These two categories speed up memory access. However, it depends on CPU/chipset design. The default value is 'enabled'.

CPU L2 Cache ECC Checking

When this item is enabled, it means the system supports Error Checking and Correcting (ECC) memory which can guard against data corruption.

Quick Power On Self Test

This category speeds up Power On Self Test after you power up the computer. If you set enabled, BIOS will shorten or skip some checked items during POST.

Boot Sequence

This category determines which drive to search first for the Disk Operating System (i.e., DOS).

Swap Floppy Drive

This item allows you to determine whether to enable the swap floppy drive

or not.

The choice : Enabled/ Disabled

Boot Up NumLock Status

This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on.

ON : Keypad is numeric keys. **OFF** : Keypad is arrow keys.

Gate A20 Option

This entry allows you to select how the gate A20 is handled. The gate A20 is a device used to address memory above 1 MB. Initially, the gate A20 was handled via a pin on the keyboard. Today, while keyboards still provide this support, it is more common, and much faster, for the system chipset to provide support for gate A20.

Normal is keyboard; Fast is chipset.

Security Option

This category allows you to limit access to the system and Setup, or just to Setup.

To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

System : The system will not boot and access to Setup will be denied if the correct

password is not entered at the prompt.

Setup : The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

PCI/VGA Palette Snoop

It determines whether the MPEG ISA/VESA VGA cards can work with PCI/VGA or not.

Enabled : When PCI/VGA working with MPEG ISA/VESA VGA Card

Disabled : When PCI/VGA not working with MPEG ISA/VESA VGA Card.

OS Select for DRAM > 64MB

This item allows you to access the memory that is over 64MB in OS/2.
The choice : Non-OS2, OS2

Report No FDD For WIN95

Set this item to Yes BIOS will report FDD to Win95. If in standard CMOS setup, set Drive A to none, and set this item to yes. Inside Win95, My Computer and File manager Disk(A:) will show Removable Disk (A:).

Video BIOS Shadow

Determines whether video BIOS will be copied to RAM. However it is optional depending on chipset design. Video Shadow will increase the video speed.

The choice : Enabled/Disabled

C8000 – CBFFF Shadow, DC000-DFFFF Shadow

These categories determine whether option ROMs will be copied to RAM. An example of such option ROM would be the support of onboard SCSI. The choice : Enabled/Disabled

3-2-3. CHIPSET FEATURES SETUP

This section represents the setup of chipset features.

ROM PCI/ISA BIOS
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.

Auto Configuration	: Enabled	Auto Detect DIMM/PCI Clk	: Enabled
EDO DRAM Speed Selection	: 60ns	Spread Spectrum	: Disabled
EDO CASx# MA Wait State	: 2	CPU Host Clock	: 66MHz
		(CPU/PCI)	

EDO RASx# MA Wait State : 2	*Following menus are Optional* CPU Warning : Disabled Temperature Current System Temp. : 20 °C/ 68 °F Current CPU Temperature : 20 °C/ 68 °F Current CPU FAN Speed : 0RPM Current Chassis FAN : 0RPM Speed Vcore : 2.8V : 3.45V +3.3V +5V : 4.91V +12V : 12.22V -12V : -11.76 Shutdown Temperature 60 °C/140 °F	
SDRAM RAS-to-CAS Delay : 3		
SDRAM RAS Precharge Time : 3		
SDRAM CAS Latency Time : 3		
SDRAM Precharge Control : Disabled		
System BIOS Cacheable : Enabled		
Video BIOS Cacheable : Enabled		
Video RAM Cacheable : Enabled		
8 Bit I/O Recovery Time : 1		
16 Bit I/O Recovery Time : 1		
Memory Hole At 15M-16M : Disabled		
Passive Release : Enabled		
Delayed Transaction : Disabled		
AGP Aperture Size (MB) : 128		Esc: Quit :Select Item F1 : Help PU/PD/+/-:Modify F5 : Old Values (Shift)F2 :Color F6 :Load BIOS Defaults F7 : Load Setup Defaults

Auto Configuration

The first chipset settings deal with CPU access to dynamic random access memory (DRAM). The default timings have been carefully chosen and should only be altered if data is being lost. Such a scenario might well occur if your system had mixed speed DRAM chips installed so that greater delays may be required to preserve the integrity of the data held in the slower memory chips.

EDO DRAM Speed Selection

The DRAM speed 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 support loose layouts or slower memory. i.e. 60ns ; 70ns

EDO CASx# MA Wait State

This item allows you to select EDO CASx# MA Wait State. The choice : 1, 2

EDO RASx# Wait State

This sets the relative delay between the row and column address strobes from DRAM (EDO). The choice : 1, 2

SDRAM RAS-to-CAS Delay

This sets the relative delay between the row and column address strobes from DRAM (EDO) is allowed to precharge. The choice : 2,3.

SDRAM RAS Precharge Time

Defines the length of time for Row Address Strobe is allowed to precharge.

SDRAM CAS Latency Time

The system board designer should set values in this field, depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU. The choice : 2, 3.

SDRAM Precharge Control

This option determines the action taken when a page miss occurs (SDRAM only).

System BIOS Cacheable

Select Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

Video BIOS Cacheable

Select Enabled allows caching of the video BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

Video RAM Cacheable

Select Enabled allows caching of the video RAM, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

8 Bit I/O Recovery Time

The recovery time is the length of time, measured in CPU clocks, which the system will be delay after the completion of an I/O request. This delay takes place because the CPU is operating so much faster than the input / output bus that the CPU must be delayed to allow for the completion of the I/O. This item allows you to determine the recovery time allowed for 8-bit I/O. Choices are

from NA, 1 to 8 CPU clocks.

16 Bit I/O Recovery Time

This item allows you to determine the recovery time allowed for 16 I/O. Choices are from NA, 1 to 4 CPU clocks.

Memory Hole At 15M-16M

In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory below 16MB.

Passive Release

When enabled, CPU to PCI bus accesses are allowed during passive release. Otherwise, the arbiter only accepts another PCI master access to local DRAM. The choice : Enabled, disabled.

Delayed Transaction

This chipset has an embedded 32-bit posted write buffer to support deadly transaction cycles. Select Enabled to support compliance with PCI specification version 2.1. The choice : Enabled, disabled space.

AGP Aperture Size (MB)

Select the size of the AGP aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycle that hit the aperture range are forwarded to the AGP without any translation. See www.agpforum.org for AGP information. The choice 4, 8, 16, 32, 64, 128, 256

Auto Detect DIMM/PCI CLK

If this item is enabled, the unused DIMM and PCI slot clock will be disabled. If this item is disabled the unused DIMM and PCI slot will still get the active clock signal.

Spread Spectrum

Enable / Disable this item the BIOS will Enable / Disable the clock generator spread spectrum .

CPU Host Clock (CPU/PCI)

Use this item to set CPU base clock frequency. After change the CPU clock frequency, if the system cannot start, then turn power off, press and hold

“Insert” key, power on until screen show up.

The following functions are optional, and they show only when the monitoring IC exists on the mainboard. Please confirm this with your supplier.

CPU Warning Temperature

When this item is enabled, we can set the CPU warning temperature . If the CPU temperature is higher than the setting temperature, the system will beep.

Current System Temperature

This field displays the *current* system temperature, if your computer contains a monitoring system.

Current CPU Temperature

It shows the current system temperature.

Current CPUFAN/Chassis FAN Speed

It shows the running speed of the system fan, Chassis fan and power fan. The value will be changing when the system is running. If you do not install the fan, the value will show 0.

3-2-4. POWER MANAGEMENT SETUP

This section represents the 'green' features of Power Management.

User Defined : Allows you to set each mode individually. When not disabled, each of the range are from 1min to 1hr. except for HDD Power Down which ranges from 1 to 15min. and disable.

If you would like to use Software Power-off Control function, you cannot choose “ Disabled ” here, and should select “Yes” in PM Control by APM.

PM Control by APM

When enabled, an Advanced Power Management device will be activated to enhance the Max. Power Saving Mode and stop the CPU internal clock. If the Max. Power Saving is not enabled, this will be shown as NO.

Video Off Method

This determines the manner in which the monitor is blanked.

V/H SYNC+Blank : This selection will cause the system to turn off the vertical and

horizontal sync. ports and write blanks to the video buffer

Blank Screen : This option only write blanks to the video buffer.

DPMS : Initial display power management signaling.

Video off After

When enabled, this feature allows the VGA adapter to operate in a power saving mode.

N/A : Monitor will remain on during power saving modes.

Suspend : Monitor blanked when the systems enters the suspend mode.

Standby : Monitor blanked when the system enters Standby mode.

Doze : Monitor blanked when the system enters any power saving mode.

MODEM Use IRQ

This item determines the IRQ in which the MODEM can be used. The choice : 3,4,5,7,9,10,11,NA.

The Following 4 modes are Green PC power saving functions which are only user configurable when ‘User Defined’ power management has been selected.

Doze Mode

When enabled and after the set time of system inactivity, the CPU clock will

run at slower speed while all other devices still operate at full speed.

Standby Mode

When enabled and after the set time of system inactivity, the fixed disk drive and the video would be shut off while all other devices still operate at full speed.

Suspend Mode

When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

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

When the system enters Doze mode, the CPU clock runs only part of time. You may select the percent of time that the clock runs.

VGA Active Monitor

When Enabled, any video active restarts the global timer for standby mode.

Soft-Off by PWR-BTTN

Instant-off : When push the power button, the system power will be off immediately. Delay 4 sec : when push the power button, it will enter suspend mode. We need to push the power button and hold for 4 seconds to turn off the power.

CPUFAN Off In Suspend

Enabled : under suspend mode, the CPU FAN will be turn off. Disabled : suspend mode will not turn off CPU FAN.

PowerOn by Ring

Enabled : when system in suspend mode, it can be wake up by modem. Disabled : it cannot be wake up by modem.

Resume by Alarm

When Enabled, two additional lines will be added to the screen : Date (of Month) Alarm; Time (hh:mm:ss) Alarm to let user set the desired date and time. After power off, the system will automatic power on at the specified date and time.

IRQ 8 Break Suspend

When enabled, the device which occupies the IRQ8 can wake up the system.

Reload Global Timer Events

When enabled, an event occurring on each device listed below restarts the global time for Standby mode. IRQ [3-7, 9-15], NMI; Primary IDE 0; Primary IDE 1 ; Secondary IDE0; Secondary IDE1; Floppy Disk ; Serial Port; Parallel Port.

3-2-5. PNP/PCI CONFIGURATION

This screen configures the PCI Bus slots.

ROM PCI/ISA BIOS
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.

PNP OS Installed : No	Assign IRQ for VGA : Enabled
Resources Controlled by : Auto	Assign IRQ for USB : Enabled
Reset Configuration Data : Disabled	
Esc: Quit ↑↓→← :Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift) F2: Color F6 : Load BIOS Defaults F7 : Load Setup Defaults	

PNP OS Installed

This item allows you to determine PnP OS or not. Choices are Yes or No.

Resource Controlled by

The Award Plug and Play BIOS has the capability to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play OS such as Windows 95. Choices are Auto and Manual.

Reset Configuration Data

This item allows you to determine whether to reset the configuration data or not.

Assign IRQ For VGA

When enabled, this function will force the system to ignore assigning IRQ to VGA.

Assign IRQ For USB

When enabled, this function will force the system to ignore assigning IRQ to USB host controller.

3-2-6. INTEGRATED PERIPHERALS

This section includes all the items of IDE hard drive and Programmed Input/Output features. See also Section “Chipset Features Setup”.

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

IDE HDD Block Mode	: Enabled	Onboard Serial Port 2	: 3F8/IRQ3
IDE Primary Master PIO	: Auto	UART Mode Select	: Normal
IDE Primary Slave PIO	: Auto	PWRON After PWR-Fail	: Off
IDE Secondary Master PIO	: Auto	Onboard Parallel Port	: 378/IRQ7
IDE Secondary Slave PIO	: Auto	Onboard Parallel Mode	: ECP
IDE Primary Master UDMA	: Auto	ECP Mode Use DMA	: 3
IDE Primary Slave UDMA	: Auto		
IDE Secondary Master	: Auto		
UDMA			
IDE Secondary Slave UDMA	: Auto		
On-Chip Primary PCI IDE	: Enabled		
On-Chip Secondary PCI IDE	: Enabled		
USB Keyboard Support	: Disabled		
Init Display First	: PCI Slot		
Power On Function	: Button Only		
KB Power ON Password	: Enter	Esc: Quit	↑↓→← : Select Item
Hot Key Power On	: Ctrl-F1	F1 : Help	PU/PD/+/- : Modify
KBC input clock	: 8 MHz	F5 : Old Values	(Shift) F2: Color
Onboard FDC Controller	: Enabled	F6 : Load BIOS Defaults	
Onboard Serial Port 1	: 3F8/IRQ4	F7 : Load Setup Defaults	

IDE HDD Block Mode

This allows your HD controller to use the fast block mode to transfer data to and from your HD drive. **Enabled** : IDE controller uses block mode. **Disabled** : IDE controller uses standard mode.

IDE Primary Master/Slave PIO, IDE Secondary Master/Slave PIO

PIO - Programmed Input/Output, it allows the BIOS to tell the controller what it wants and then let the controller and the CPU to complete the task by themselves. This is simpler and more faster. Your system supports five modes, 0 - 4, which primarily differ in timing. When **Auto** is selected, the BIOS will select the best available mode.

IDE Primary Master/Slave UDMA, IDE Secondary Master/Slave UDMA

Auto, will support the Ultra DMA function. Disabled, will not support the Ultra DMA function.

On-Chip Primary PCI IDE, On-Chip Secondary PCI IDE

This setup item allows you to either enable or disable the primary/secondary controller. You might choose to disable the controller if you were to add higher performance or specialized controller.

USB Keyboard Support

Enabled will support USB keyboard in Win95 2.1 and NT 5.0 or above operating system.

Init. Display First

This item will activate the AGP in the multi-display environment, it displayed, if disabled, and the system has both AGP and PCI VGA card, the AGP monitor will not display.

Power On Function

KB Power On Password: this function is available for ATX power only. User can select the power on method to power on the system. The options are in the following : Password : when user select this option, it will show "Enter Password:", after user type password, it will show " Confirm Password:", user should type the same password to confirm it. After power off, if user types the correct password, the system will power on.

Hot Key : when user select this option, it will show another line as Hot Key

Power ON: Ctrl-F1” select any one you like. After power off, if user key in the control-F, it will power up the system.

Mouse Left, Mouse Right : it will power up the system by double click the left or right mouse. Note do not move your mouse between the first click and the second click.

BUTTON ONLY : only the power button can power the system.

KBC input clock

Let user change the keyboard working clock.

On Board FDC Controller

This item will enable or disable the floppy disk controller.

On Board Serial Port 1

User can select serial port IRQ. If set to Auto, system will assign an IRQ for it. Note : set to Auto is not recommended.

On Board Serial Port 2

When Last State, this allows you to set whether you want your system to boot up after the power has been interrupted. “Always Off” leaves your system off after reapplying power.

PWRON After PWR-Fail

When Last State, this allows you to set whether you want your system to boot up after the power has been interrupted. “Always Off” leaves your system off after reapplying power.

On Board Parallel Port

Let user select IRQ for parallel port, when Disabled, the parallel port will be disabled

On Board Parallel Mode

Let user select error check mode. This item is not recommended to change except user has special request.

ECP Mode Use DMA

Select a DMA channel for the port. Choices are 3, 1.

3-2-7. IDE HDD AUTO DETECTION

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	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
Time, Date, Hard Disk Type	

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

Hard Disks	Type	Size	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master :								

Select Primary Master Option (N=Skip) : N							
Options	Size	CYLS	Head	PRECOMP	LANDZ	Sector	Mode
2(Y)	1337	648	64	0	2594	63	LBA
1	1339	2595	16	65535	2594	63	NORMAL
3	1338	1297	32	65535	2594	63	LARGE

Note : Some OSes (like SCO-UNIX) must use "Normal" for installation
 ESC : Skip

3-2-8. SAVE & EXIT SETUP

The next step is 'save and exit'. If you select this item and press 'Y', then these records will be saved in the CMOS memory and will be checked every time when you turn on your computer.

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	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
Time, Date, Hard Disk Type	

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

LOADBIOSDEFAULTS When your mainboard has problems and needs to trouble shoot the system, you can use this function. The default values loaded only affect the BIOS Features Setup, Chipset Features Setup, Power Management Setup and PNP/PCI Configuration Setup. There is no effect on the Standard CMOS Setup. To use this function, select it from main menu and press <Enter>. A line will appear on the screen asking if you want to load the BIOS default values. Press <Yes> and <Enter> then the BIOS default values will be loaded.

LOAD SETUP DEFAULTS This allows you to load optimal settings which are stored in the BIOS ROM. The default values loaded only affect the BIOS Features Setup, Chipset Features Setup, Power Management Setup and PNP/PCI Configuration Setup. There is no effect on the Standard CMOS Setup. To use this function, select it from main menu and press <Enter>. A line will appear on the screen asking if you want to load the Setup default values. Press <Yes> and <Enter> then the Setup default values will be loaded.

SUPERVISOR PASSWORD / USER PASSWORD This allows you to set the password. The mainboard defaults with password disabled. If you set both supervisor and user passwords, only the supervisor password allows you to enter the BIOS SETUP program.

Enter/Change password : Enter the current password. And at the prompt, key-in your new password (up to eight alphanumeric characters), then press <Enter>. At the next prompt, confirm the new password by typing it again and press <Enter>.

Disable password : Press the <Enter> key instead of entering a new password when the 'Enter Password' dialog box appears. A message will appear for confirming that the password is disabled.



CAUTION: If you forgot your password, you must disable the CMOS by turning the power off and setting JP 8 to '2-3', then '1-2' to reload the system.

IDE HDD AUTO DETECTION This allows you to detect the IDE hard disk driver's parameters and enter them into 'Standard CMOS Setup' automatically. If the auto-detected parameters displayed do not match the ones that should be used for your hard drive, do not accept them. Press <N> to reject the values and enter the correct ones manually on the Standard CMOS Setup screen.

SAVE & EXIT SETUP This allows you to save the new setting values in the

CMOS memory and continue with the booting process. Select what you want to do, press <Enter>.

EXIT WITHOUT SAVING This allows you to exit the BIOS setup utility without recording any new values or changing old ones.

Control Key Description

UP ARROW		Move to previous item
DOWN ARROW		Move to next item
LEFT ARROW		Move to the item in the left hand
RIGHT ARROW		Move to the item in the right hand
Esc KEY	Esc	Main Menu : Quit and not save changes Setup menu : Exit current page and return to main menu
PgUp KEY		Increase the numeric value or make changes
PgDn KEY		Decrease the numeric value or make changes
F1 KEY	Help	General help
F2 KEY	Shift +F2	Change color from total 16 colors
F5 KEY	Old Value	Restore the pervious CMOS value from CMOS
F6 KEY	Load BIOS default	Load the default CMOS value from BIOS default table
F7 KEY	Load setup default	Load Setup default
F10 KEY	Save & Exit Setup	Save all the CMOS changes and Exit setup, only for Main Menu