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HOW TO USE THIS MANUAL

To obtain maximum use from this manual it is suggested:

First, please read page A **COMPONENT LOCATION DIAGRAM** and **I/O connectors description** where you will find the mainboard layout diagram and I/O connectors locations. Please refer to it when you configure the system.

Second, please read page B **CHECK LIST OF THE PACKAGING** where you find the packing contents.

Third, please read about an overview of the mainboard features, and how to upgrade as well as to change hardware configurations such as memory size, CPU type, jumper settings lists and connectors in the following categories:

Chapter 1 Introduction

Chapter 2 Installation

Next, after reading of both chapter 1 and chapter 2, turn to **Chapter 3 Award BIOS Setup** where you will find the update BIOS procedure and the further information which is stored in the SETUP is the system hardware configuration.

Last, **APPENDIX A** shows you how to setup thermister and **APPENDIX B** is a list of request form for technical support.

Your system dealer will set up the mainboard according to your demand of the computer. It means that the current settings of your mainboard may not be the same as the defaults shown in this user's manual. If you need to change your configuration, please ask your dealer first. Be sure this will not void your system warranty, or ask your dealer to do it for you.

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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 multi-platform applications.

1-1 SYSTEM FEATURES

- ☞ INTEL PPGA Celeron™ CPU operating at 300, 330, 366, 400, 433MHz.
- ☞ INTEL 440LX AGPset.
- ☞ Using three 168-pin DIMM sockets, provides three banks of 64-bit wide path up to 384MB SDRAM / 768MB EDO DRAM (with parity chip ECC support).
- ☞ Built-in Switching Voltage Regulator.(VRM 8.2 SPEC.)
- ☞ Supports auto-detect CPU core voltage range from 1.3V to 2.0V.
- ☞ Supports one AGP revision 1.0 slot, three PCI revision 2.1 interface compliant and two 16-bit ISA slots.
- ☞ Dual Master IDE connectors support Ultra DMA/33, up to four devices in two channels for connecting of high capacity hard drive, CD-ROM, tape backup etc..
- ☞ Supports the USB (Universal Serial Bus) connector.
- ☞ AT style keyboard connector and PS/2 mouse header.
- ☞ 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)
- ☞ Hardware Dimension is 235mm x 220mm (9.24" x 8.65").
- ☞ 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 AT & 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. If you would like to restart the system, just press the power switch button, and the system will be on.

MODE 1: Two LED mode,JP5 set “1-2”

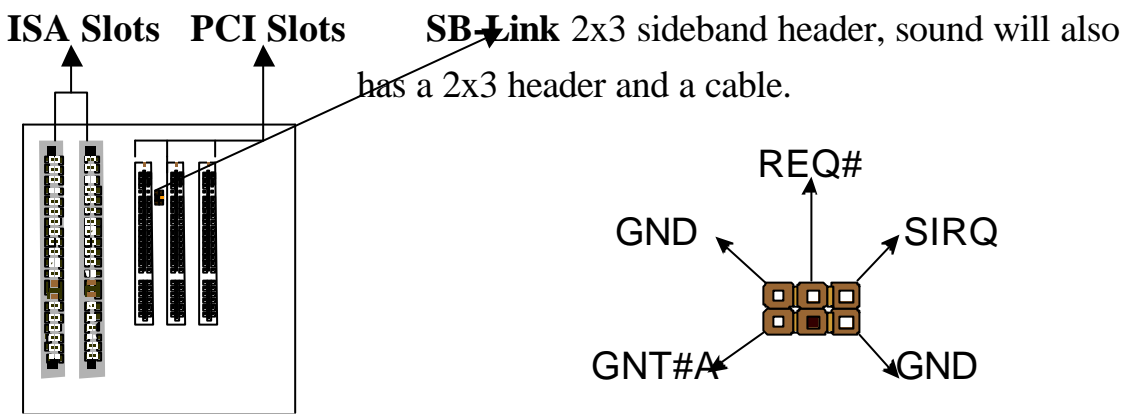
State	Power LED
Power-on	ON
Soft-off	Flash
Mech-off	OFF
APM	ON

MODE2: One LED mode,JP5 set “2-3”

State	Power LED
Power-on	ON
Soft-off	OFF
Mech-off	OFF
APM	ON

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 Keyboard & PS/2 Mouse Power On (JP9)

The ATC7100M 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 power on the system by double-clicking the PS/2 mouse, when **JP9** is 1-2 close.

In addition to satisfying different users with different needs, the ATC7100M 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 :

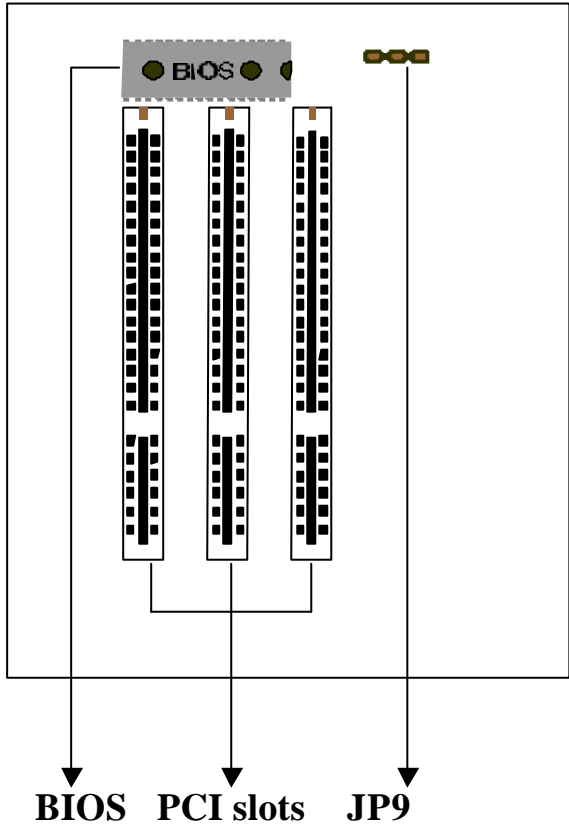
Only the power button can power the system.

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



(a) Enable

(b) Disable



1-5 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.

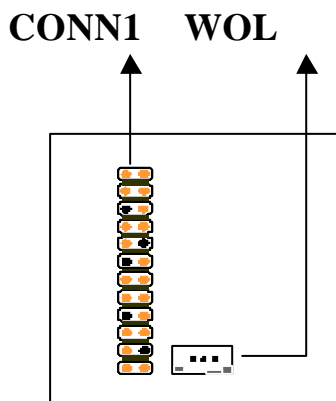
The LAN card performs no network activities while in the remote Wake-On-LAN mode of operation. It only monitors the network for receipt of a Magic Packet. If a Magic Packet is addressed to the LAN card on the network, the LAN card wake up the system. If the Secure ON feature has been enabled, the password 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 capable of delivering +5V \pm 5% at 720mA. Failure to provide adequate standby current when implementing Wake-on-LAN, can damage the power supply.

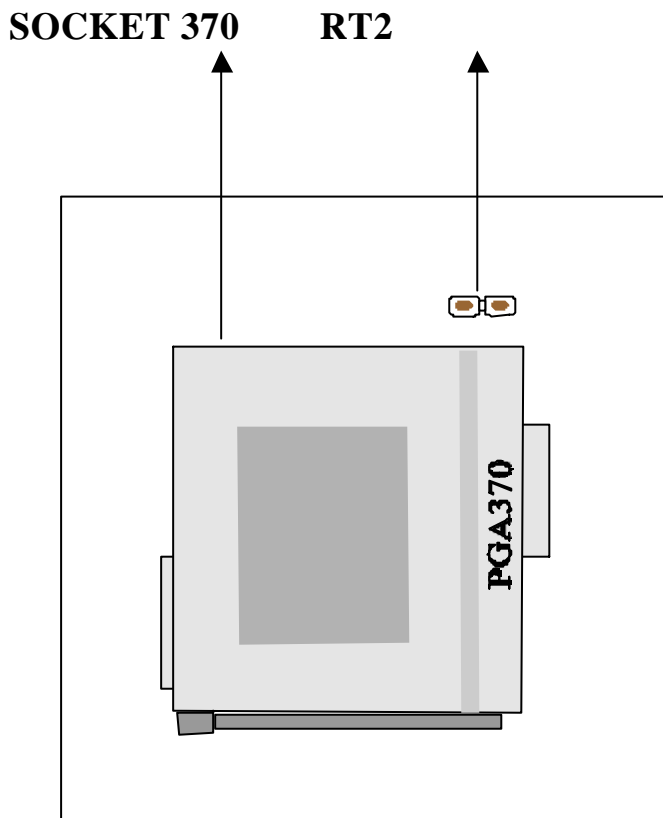
Before you enable Wake-on-LAN function, first check your power supply specification to meet the above requirement or not.



1-6 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 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.



CHAPTER 2 INSTALLATION

2-1 INSTALLATION PROCEDURE

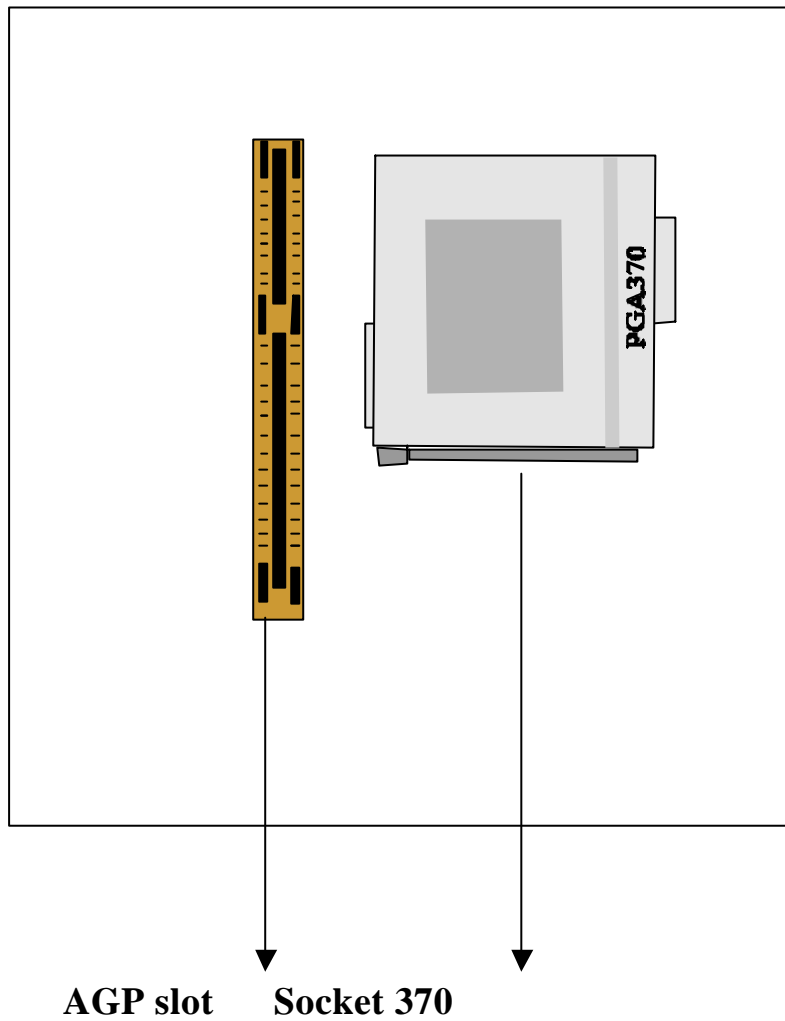
Before installing the computer, please prepare all components such as CPU, DRAM; peripherals such as hard drive, keyboard, CD-ROM; and accessories such as cables. Then, install the system as following:

1. Plug CPU/ heat sink and DRAM modules on the mainboard.
2. Set jumpers 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 ATC7100M 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 ATC7100M mainboard has socket 370 on board that supports Intel PPGA Celeron™ CPU. The Intel PPGA Celeron™ CPU is now available.



2-3 SYSTEM MEMORY INSTALLATION

The ATC7100M provides three 168-pin DIMM sockets for system memory expansion from 8MB to 384MB SDRAM, 768MB EDO DRAM. These three DIMMs are arranged to three banks, please refer to page A.

Bank/DIMM	Memory Module	Total Memory
Bank0/DIMM1	8/16/32/64/128/256MB	8MB~256MB
Bank1/DIMM2	8/16/32/64/128/256MB	8MB~256MB
Bank2/DIMM3	8/16/32/64/128/256MB	8MB~256MB
Total System Memory		8MB~768MB

DRAM type, Size, parity supported:

- ⌚ Unbuffered SDRAM with SPD
- ⌚ Both parity or non-parity are available.
- ⌚ 3.3V, Single/double-side, 8/16/32/64/128/256Mbytes
(Max. memory size: 128MB SDRAM / 256MB EDO DRAM)

-
- ◆ *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.

⌚ ECC (Error Check and Correction)

This mainboard can support the ECC function while utilizing parity modules. To enable this function, users must set “DRAM Data Integrity Mode” to “ECC” through “Chipset Features Setup” from the BIOS setup screen. All in all, ECC’s function is to detect and correct the errors of transfer datas.

2-4 IDE DRIVER INSTALLATION

The IDE driver installation procedure is as following :

Setup for Windows 95 :

1. Starting Windows 95
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 diskette or 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

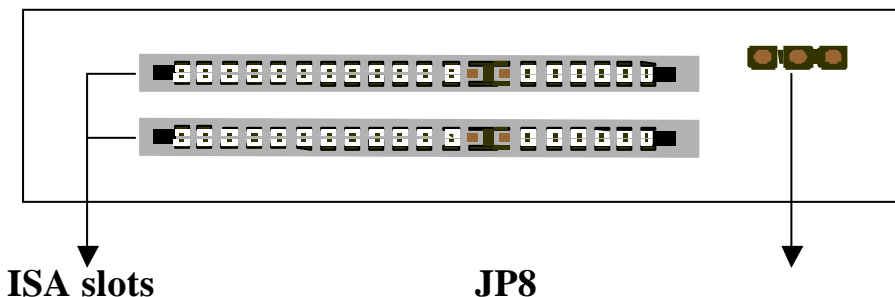
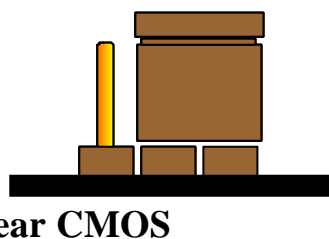
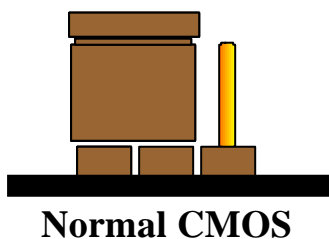
Award BIOS manufacturer provides access to the system BIOS through the hardware and software on each ATC7100M mainboard. The hardware consists of a Flash ROM and the software is a group of programs that are installed in the ROMBIOS along with all the other data the BIOS must contain.

The ATC7100M mainboard will require special driver supplied by the manufacturer to updated the BIOS SETUP program. It is a good idea to read the next page for details for updated BIOS driver installation or you can ask your system dealer to do it for you.

When the driver has been successfully updated, it is very important to contact your system dealer to change the CMOS settings for your computer. The CMOS settings are shown in the following pages.

NOTE : To clear CMOS you should unplug the power cord, then set 2-3 to clear, put it back to normal position and plug the power cord again.

	JP8
Normal	1-2
Clear	2-3



3-1 UPDATE BIOS PROCEDURE

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

“awdfash.exe” -- BIOS updated utility program
“awdfash.doc”

The updated procedure is in the following:

1. Boot the system to DOS mode in a normal manner.
2. Insert the CD to CD-ROM drive.
3. Change working directory to CD-ROM drive, which contains the updated BIOS driver. Type “d:\flash”, then press “ENTER” key.
4. Run the BIOS updated utility -- Type “awdfash”, “ENTER”.
5. Type “(updated BIOS file name with version number).bin”, ENTER.
6. If you do not want to save the old BIOS version, type “N” when the screen displays the message : " Do you want to save BIOS (Y/N) ?".
7. Type “Y” when the screen shows the message : " Are you sure to program (Y/N) ?".
8. Follow the instructions on the screen. DO NOT remove the CD from CD-ROM drive nor turn the system power off until the BIOS updated is completed.
9. Turn the power off. Clear the data in CMOS according to the procedure described in the previous page.
10. 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 ATC7100M 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.

Put All-In-One CD into CD-ROM drive, e.g. drive E, and then type
E:\>"ENTER", and type \api\checkup.

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 update proper patch code. Then cold boot (mechanical power off) system to continue. For more information, please refer to "CHECKUP.HLP" file.

3-2 Award 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 (ATC7100M)
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 (ATC7100M)
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Wed, Dec 08 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 PGA 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 or keyboard error, it will stop for all other errors.

All, But Disk / Key : The system boot will not stop for a disk or keyboard error, it 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 (ATC7100M)

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 Sequence	: A,C,SCSI	D4000-D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000-DBFFF Shadow	: Disabled
Boot Up NumLock Status	: On	DC000-DFFFF Shadow	: Disabled
Gate A20 Option	: Fast		
Security Option	: Setup		
PCI/VGA 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

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, Internal Cache, External Cache

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

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

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 (ATC7100M)

CHIPSET FEATURES SETUP

AWARD SOFTWARE, INC.

Auto Configuration	: Enabled	SDRAM CAS latency Time	: 3
DRAM Speed Selection	: 60ns	Auto Detect DIMM/PCI Clk	: Enabled
MA Wait State	: Fast	Spread Spectrum Modulated	: Disabled
EDO RAS# To CAS# Delay	: 3	CPU Host Clock	: 66MHz
EDO RAS# Precharge Time	: 4	*Following menus are optional*	
EDO DRAM Read Burst	: x222	*CPU Warning Temperature	: Disabled
EDO Write Burst	: x222	*Current System Temp.	: 60 ° C/140 ° F
DRAM Data Integrity Mode	: Non-ECC	*Current CPU1 FAN Speed	: 20 ° C/ 68 ° F
CPU-To-PCI IDE Posting	: Enabled	*Current CPU FAN Speed	: 20 ° C/ 68 ° F
System BIOS Cacheable	: Enabled	*Current Chassis FAN Speed	: 20 ° C/ 68 ° F
Video BIOS Cacheable	: Enabled	*Vcore : 2.80V	+3.3V : 3.45V
Video RAM Cacheable	: Enabled	* +5V : 4.91V	+12V : 12.22V
8 Bit I/O Recovery Time	: 1	*-12V : -11.76	
16 Bit I/O Recovery Time	: 1	Shutdown Temperature	: 60 ° C/140 ° F
Memory Hole At 15M-16M	: Disabled		
Passive Release	: Enabled	Esc: Quit	:Select Item
Delayed Transaction	: Disabled	F1 : Help	PU/PD/+/-:Modify
AGP Aperture Size (MB)	: 128	F5 : Old Values	(Shift)F2 :Color
SDRAM RAS-to-CAS Delay	: Fast	F6 :Load BIOS Defaults	
SDRAM RAS Precharge Time	: Fast	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.

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.

MA Wait State

This item allows you to select MA Wait State. The choice : Fast, Slow.

EDO 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 : 3, 4.

EDO RAS# Precharge Time

Defines the length of time for Row Address Strobe from DRAM (EDO) is allowed to precharge. The choice : 3, 4.

EDO DRAM Read Burst / EDO DRAM Write Burst

This sets the timing for burst mode read (or writes)from DRAM (EDO). Burst read and write requests are generated by the CPU in four separate parts. The lower the timing numbers, the faster the system will address memory. i.e. x222 is read/write DRAM timings are 2-2-2-2.

DRAM Data Integrity Mode

Select parity, ECC, or Disabled, depending on the type of DRAM installed in your system. The choice : ECC, Parity, Disabled

CPU-To-PCI IDE Posting

Select Enabled to post write cycles from the CPU to the PCI IDE interface. IDE access are posted in the CPU to PCI buffers, for cycle optimization. The choice : Enabled, disabled.

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 transactions 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

SDRAM RAS-to-CAS Delay

You can select RAS to CAS Delay time (CAS latency time) in HCLKs of 2/2 or 3/3.

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 the 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

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 Modulated

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

CPU Host Clock

Use this item to set CPU base clock frequency. After change the CPU Host Clock, if the system can not 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 CPU1 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.

ROM PCI/ISA BIOS (ATC7100M)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

ACPI function	: Disabled	*Reload Global Timer Events*
Power Management	: User Defined	IRQ [3-7, 9-15], NMI :Disabled
PM Control by APM	: Yes	Primary IDE 0 :Disabled
Video Off Method	: DPMS	Primary IDE 1 :Disabled
Video Off After	: Standby	Secondary IDE 0 :Disabled
Modem Use IRQ	: 3	Secondary IDE 1 :Disabled
Doze Mode	: Disabled	Floppy Disk :Disabled
Standby Mode	: Disabled	Serial Port :Enabled
Suspend Mode	: Disabled	Parallel Port :Disabled
HDD Power Down	: Disabled	
Throttle Duty Cycle	: 62.5%	Esc: Quit ↑↓→← : Select Item
PCI/VGA ACT-monitor	: Disabled	F1 : Help PU/PD/+/- : Modify
Soft-Off by PWR-BTTN	: Instant-Off	F5 : Old Values (Shift) F2: Color
CPUFAN Off In Suspend	: Enabled	F6 : Load BIOS Defaults
PowerOn by Ring	: Enabled	F7 : Load Setup Defaults
Resume by Alarm	: Disabled	
PCI PME# Function	: Disabled	
IRQ 8 Break Suspend	: Disabled	

ACPI Function This item allows you to determine the ACPI OS or not.

Power Management

This category allows you to select the type (or degree) of power saving and is directly related to the following modes : **Doze; Standby; Suspend; HDD Power Down.**

Disabled : No power management. Disable all 4 modes.

Min. Power Saving : Minimum power management. Doze = 1hr ; Standby = 1hr ;
Suspend = 1hr ; HDD Power Down = 15min

Max. Power Saving : Maximum power management only available for SL CPU. Doze
=1min;Standby=1min;Suspend= min;HDD Power Down=1min

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 model

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.

PCI/VGA ACT-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.

PCI PME# Function

Enabled : If you have installed LDCM administrator software, and any client side is powered off, you can wake up by LAN through the LDCM mechanism. Disabled : You cannot wake up by LAN.

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 (ATC7100M)

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 IRO For VGA

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

Assign IRO 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 (ATC7100M)

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	Onboard Parallel Port	: 378/IRQ7
IDE Secondary Master PIO	: Auto	Onboard Parallel Mode	: ECP
IDE Secondary Slave PIO	: Auto	ECP Mode Use DMA	: 3
IDE Primary Master UDMA	: Auto	EPP Mode Select	: EPP1.7
IDE Primary Slave UDMA	: Auto	PWRON After PWR Fail	: Off
IDE Secondary Master UDMA	: Auto		
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		
		Esc: Quit	↑↓→← :Select Item
		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, if 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

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

UART Mode Select

This lets you select the Infrared mode. Choices are Standard, HPIR, and ASKIR. If you choose HPIR or ASKIR mode, the screen will show another two lines to let you choose 'IR Function Duplex' (Full or Half) and 'RxD TxD Active' (Hi Lo; Lo Hi; Hi Hi;Lo Lo).

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.

EPP Mode Use DMA

You can set this function either EPP1.7 or EPP1.9.

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.

3-2-7. IDE HDD AUTO DETECTION

ROM PCI/ISA BIOS (ATC7100M)
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

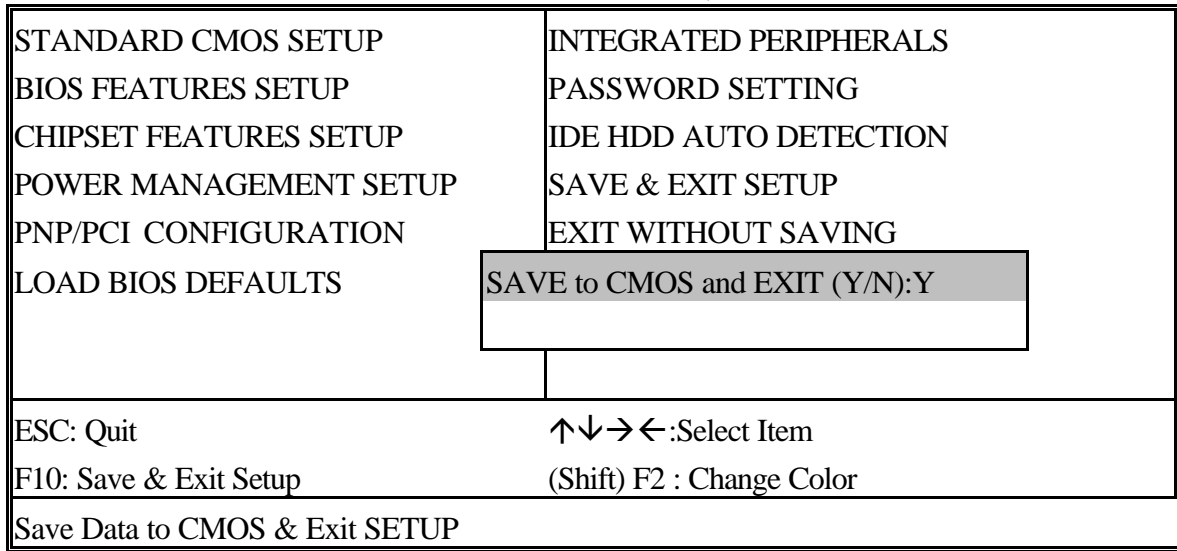
Note : Some OSes (like SCO-UNIX) must use "Normal" for installation

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 (ATC7100M)
 STANDARD CMOS SETUP
 AWARD SOFTWARE, INC.



LOAD BIOS DEFAULTS

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.

Enter/Change password : Enter the current password, at the prompt, key-in your new password (up to eight alphanumeric characters), 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 confirming that the password is disabled. If you set both supervisor and user passwords, only the supervisor password allows you to enter the BIOS SETUP program.

CAUTION : If you forgot your password, you must disable the CMOS by turning power off and set JP8 to 'close'. And then open reload the system.

IDE HDD AUTO DETECTION

This allows you to detect the IDE hard disk drivers' 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