Note to Users

This User' s Guide & Technical Reference are for assisting system manufacturers and end users in setting up and installing the motherboard. Every effort has been made to ensure that the information in this manual is accurate. **Weal Union** Development Limited is not responsible for printing or clerical errors. Information in this document is subject to change without notice and does not represent a commitment on the part of **Weal Union**. For previous or updated manuals, BIOS, drivers, or product release information, please contact **Weal Union** Development Limited at http://www.tigatech.com or through any of the means indicated on the following pages.

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WebSite:	http://www.tigatech.com
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Product Name:	T-801E+S / T-801E+, T-801K+S / T-801K+
Version:	1.00
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Table of Contents

Chapter 1 Introduction 3
1.1 Product Features 3
1.1.1 Full Software Configurable 3
1.1.2 T-801E+S / T-801E+ motherboard 4
1.1.3 T-801K+S / T-801K+ motherboard 5
Chapter 2 Installation 6
2.1 Installation Instructions 6
2.2 Motherboard Layout 7
2.3 Function & Installation Instructions 8
2.3.1 ATX Power Supply Connector 8
2.3.2 External Connectors 8
2.3.3 USB2 Connector 9
2.3.4 SDRAM Sockets 9
2.3.5 PCI Slots 10
2.3.6 ISA Slot 10
2.3.7 AMR Slot 10
2.3.8 Floppy Drive Connector 10
2.3.9 IDE Connectors 10
2.3.10 BIOS 11
2.3.11 Wake-On-LAN Interface 11
2.3.12 Front Panel Function Connector 11
2.3.13 CPU Socket 11
2.3.14 CPU Fan Connector 12
2.3.15 Internal Audio Connectors 12
Chapter 3 STR Installation 13
Chapter 4 Software Installation 15
Chapter 5 AMI BIOS Setup 16
5.1 Standard CMOS Setup 18
5.2 Advanced CMOS Setup 20
5.3 Advanced Chipset Setup 20
5.4 Power Management Setup 20
5.5 PCI/PnP Setup 20
5.6 CPU Configuration Setup 20
5.7 Save Settings and Exit 20
5.8 Exit Without Saving 20

Chapter 1

Introduction

1.1 Product Features

1.1.1 Full Software Configurable

TIGA motherboard series are full software configurable. There is no jumper or DIP switch on board and all the necessary hardware settings are made through CMOS setup. This motherboard auto-detects the CPU brand and core voltage, where as the CPU speed is selected in CMOS setup menu by the instruction of users.

In addition, **TIGA** motherboard series employs AMI BIOS which provides two start-up hot keys "J" and "F" to give a way out of stability problems due to improper CMOS settings. That is, to press "J" key at the same time to switch on the system, which re-detects CPU brand and allows user to select again in the CMOS setup. To press "F" key at the same time to switch on the system clearing all CMOS settings (except BIOS passwords).

1.1.2 T-801E+S / T-801E+ motherboard

- ★ Support Intel Pentium III FCPGA, Celeron PPGA or Cyrix III Processor on Socket 370
- ★ VIA VT8601A PLE133 Chipset
- ★ Support 66/100/133MHz Processor Front-side Bus (FSB)
- ★ AGP Graphics Controller Integrated inside VIA VT8601A chipset
  - ★ Dynamic Graphics Memory Allocation on System Memory up to 8MB
  - ★ High AGP Performance with up to 533MB/sec Transfer Rate
  - ★ rCADE3D Accelerator with 4Kbyte 3D Texture Cache
  - ★ Hardware MPEG-2 Architecture for DVD Video Playback with AC-3
  - ★ Extended Screen Resolution up to 1600x1200 with 24-bit True Color
  - ★ Full Support for Microsoft Direct 3D and Direct Draw
- ★ VIA VT82C686B Super South Bridge
- ★ Full Software Configurable: CPU Plug-and-Play and Full Jumperless
- ★ Suspend-to-RAM (STR) Technology to support Instant ON
- ★ Three DIMM slots Supporting up to 1.5GB Memory Capacity
- ★ Support 133MHz PC133 SDRAM DIMM
- ★ 1 x AMR slot, 5 x PCI slots, 1 x ISA slot
- ★ 4 x USB ports, 1 x PS/2 mouse port, 1 x PS/2 Keyboard port, 1 x IrDA port
- ★ 1 x FDD port, 1 x LPT port, 2 x COM ports
- ★ Dual IDE Channels Supporting Four Ultra-DMA33/66/100 IDE Devices
- ★ Support Keyboard and PS/2 Mouse Wakeup
- ★ Modem Ring Wakeup with External Modem
- ★ Interface Header to Support Wake-On-LAN Enabled Ethernet Card
- ★ System Health Monitoring with Win95/98/Me/NT/2000 Support
- ★ AMI Flash BIOS, PC99/ACPI/DMI Compliant
- ★ ATX format, 305mm x 180mm PCB
- ★ Integrated AC97 Audio Onboard (*model **T-801E+S** only*)
  - ★ AC97 2.1 Compliant Codec with 3D Stereo Enhancement
  - ★ SoundBlaster Pro Hardware for DOS Mode Compatibility
  - ★ Complete Driver Support for Win95/98/Me/NT/2000
  - ★ 1x Line-out, 1x Line-in, 1x Mic-in
  - ★ 1x CD-in, 1x AUX-in, 1x Telephony Port, 1x Game Port

1.1.3 T-801K+S / T-801K+ motherboard

★ Support AMD Full K7 Series of Processors on Socket A.
★ Support 200/266MHz Processor Front-side Bus
★ VIA VT8361 KLE133 Chipset
★ AGP Graphics Controller Integrated inside VIA VT8361 chipset
  ★ Dynamic Graphics Memory Allocation on System Memory up to 8MB
  ★ High AGP Performance with up to 533MB/sec Transfer Rate
  ★ rCADE3D Accelerator with 4Kbyte 3D Texture Cache
  ★ Hardware MPEG-2 Architecture for DVD Video Playback with AC-3
  ★ Extended Screen Resolution up to 1600x1200 with 24-bit True Color
  ★ Full Support for Microsoft Direct 3D and Direct Draw
★ VIA VT82C686B Super South Bridge
★ Full Software Configurable: CPU Plug-and-Play and Full Jumperless
★ Suspend-to-RAM Technology to support Instant ON
★ Three DIMM slots Supporting up to 1.5GB Memory Capacity
★ Support 133MHz SDRAM DIMM
★ 1 x AMR slot, 5 x PCI slots, 1 x ISA slot
★ 4 x USB ports, 1 x PS/2 mouse port, 1 x IrDA port
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★ Dual IDE Channels Supporting Four Ultra-DMA33/66/100 IDE Devices
★ Keyboard and PS/2 Mouse Wakeup
★ Modem Ring Wakeup with External Modem
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★ AMI Flash BIOS, PC99/ACPI/DMI Compliant
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  ★ AC97 2.1 Compliant Codec with 3D Stereo Enhancement
  ★ SoundBlaster Pro Hardware for DOS Mode Compatibility
  ★ Complete Driver Support for Win95/98/Me/NT/2000
  ★ 1x Line-out, 1x Line-in, 1x Mic-in
  ★ 1x CD-in, 1x AUX-in, 1x Telephony Port, 1x Game Port

Chapter 2
Installation

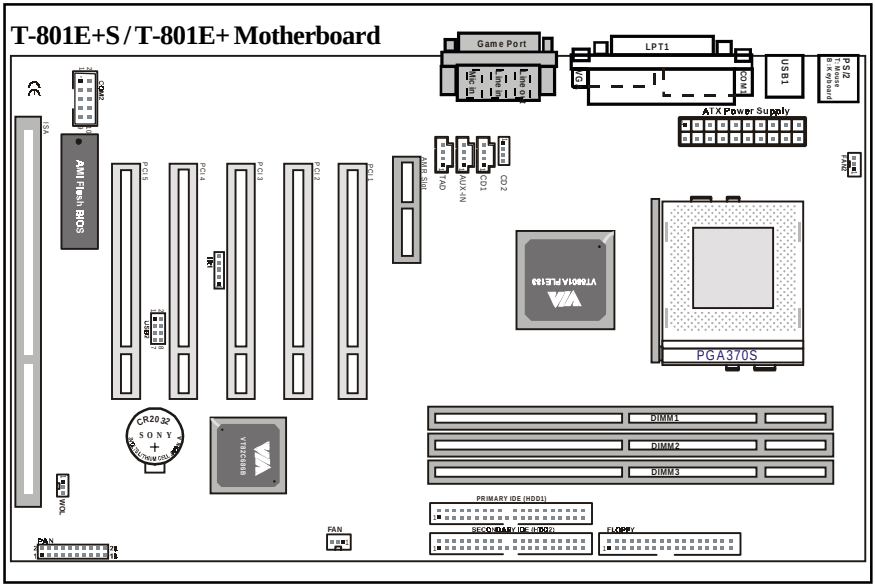
2.1 Installation Instructions

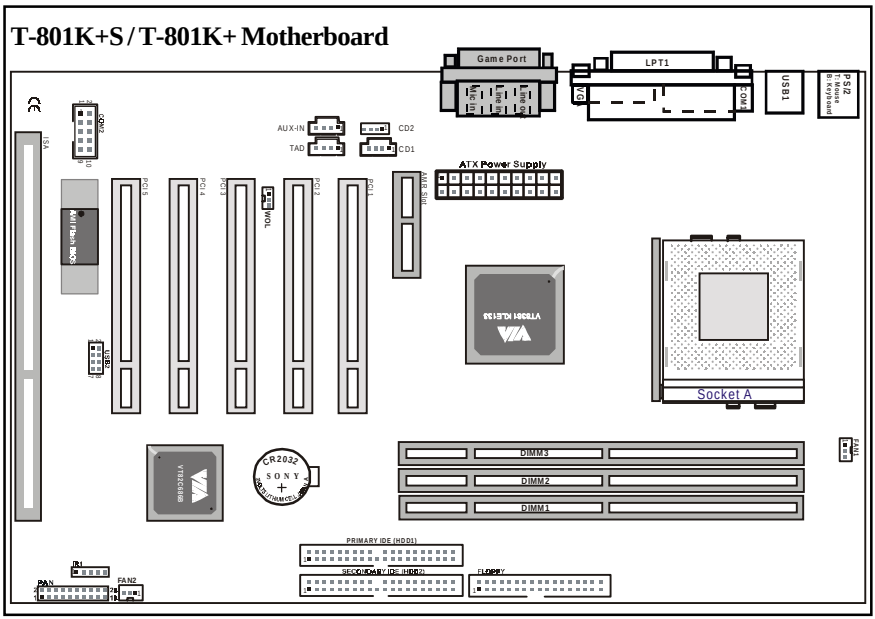
This section covers External Connectors and Memory Configuration. Please refer to the motherboard layout chart for external connectors, slots and I/O ports. Furthermore, this section lists all necessary connector pin assignments for your reference. The locations of the connectors and ports are illustrated in the following figures. Before inserting these connectors, please pay attention to the orientations.

NOTICE !!!

1. Make sure to unplug your power supply while adding or removing system components
2. Always work on an antistatic surface to avoid possible damage to the motherboard or other components from static discharge.

2.2 Motherboard Layout

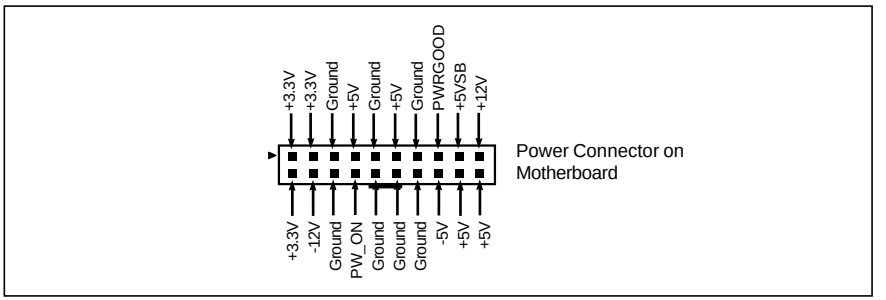




2.3 Function & Installation Instructions

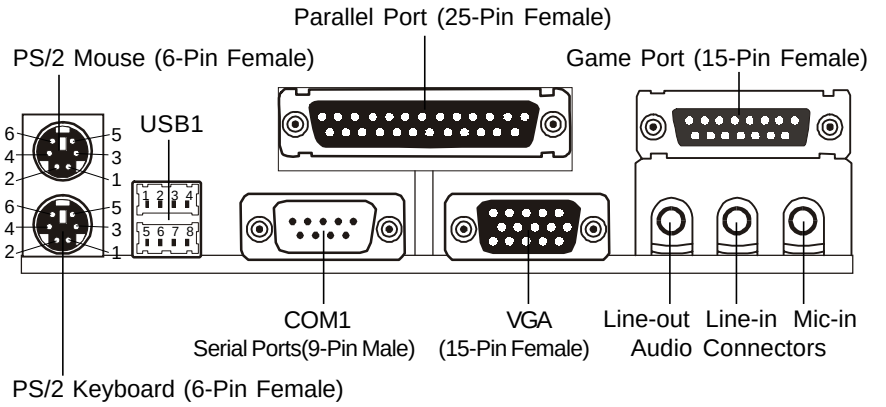
2.3.1 ATX Power Supply Connector (20-Pin)

This connector connects to an ATX power supply. The plug from ATX power supply will only insert in one orientation because of the different hole sizes. Find the proper orientation and push down firmly making sure that the pins are aligned. The system power can be turned off through software control, like the shut down in Windows 2000 / ME / 98 / 95 start menu. Power management must be enabled in the system BIOS in order to activate this soft-off feature. Once the system BIOS receives the power management command from the OS, it will switch the system power off.



ATX Power Connector

2.3.2 External Connectors

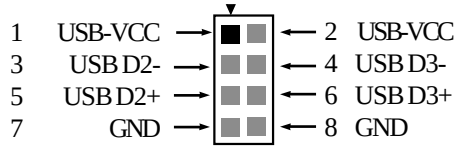


PS/2 Mouse / Keyboard Connector	
Pin No.	Description
1	Data
2	NC
3	GND
4	VCC(+5V)
5	Clock
6	NC

USB1 (Rear USB Port)	
Pin No.	Description
1	USB V0
2	USB D0-
3	USB D0+
4	GND
5	USB V1
6	USB D1-
7	USB D1+
8	GND

2.3.3 USB2 Connector (Front USB Connector)

This 8-pin connector connects to the optional USB ports cable with a mounting bracket.



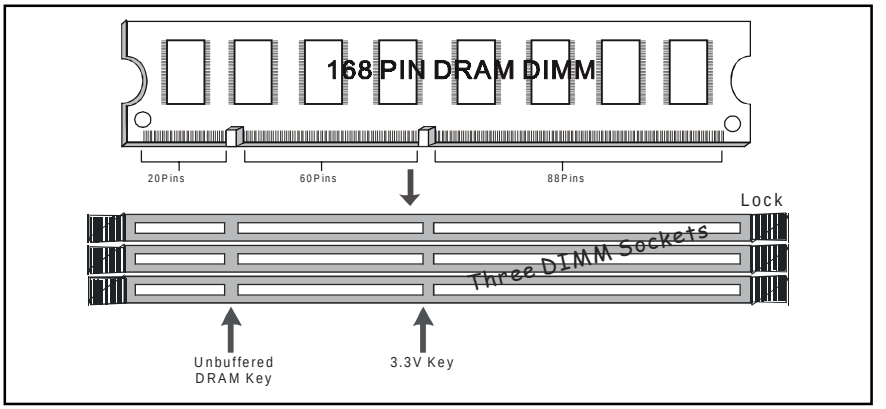
EXPANSION CARDS INSTALLATION

Before adding or removing any expansion cards or system components, confirm that you already unplugged your power supply. Otherwise, it may severely damage to your motherboard and expansion cards. Please follow the installation procedures as below:

1. Check carefully if those hardware or software settings for your expansion cards are in the proper position as shown in their User' s Manual.
2. Remove your computer case' s cover and unscrew the bracket plate for those slots needed to insert.
3. Those expansion cards must be aligned on the slots firmly with good connection.
4. Put on the computer case cover.
5. If needed, set up the BIOS configuration and install the required drivers for your expansion cards.

2.3.4 SDRAM Sockets

There are three SDRAM sockets on-board to provide more flexibility for your system memory upgrade. Because the number of pins are different on either side of the breaks, the DIMM module will only fit the 3.3V 168-pin unbuffered for this motherboard.



168-Pin SDRAM Module Installation Diagram

2.3.5 PCI Slots

This motherboard provides five full-length 32-bit PCI slots with up to 133MB/sec burst data transfer rate.

2.3.6 ISA Slot

This motherboard provides one 16-bit ISA slot.

2.3.7 AMR Slot (Audio Modem Riser)

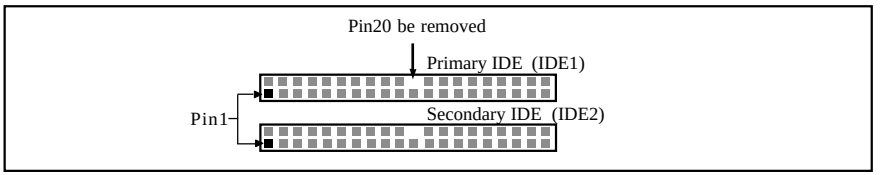
This connector supports a specially designed audio and/or modem card called an AMR.

2.3.8 Floppy Drive Connector (34-Pin)

This connector supports the provided floppy drive ribbon cable. After connecting the single end to the on-board "FLOPPY" connector, connect the remaining plugs on the other end to the floppy drives correspondingly.

2.3.9 IDE Connectors (40-Pin)

The IDE connectors support the provided IDE HDD ribbon cable. After connecting the single end to the board, connect the two plugs at the other end to your HDDs. If you install two IDE devices on the same cable, you must configure the second device to slave mode by setting its jumper accordingly. (Refer to your IDE device document for the jumper settings. Pin 20 is removed to prevent inserting in the wrong orientation when using ribbon cables with pin 20 plugged.)



IDE Connectors

2.3.10 BIOS

The motherboard flash BIOS provides users with more flexibility in upgrading their motherboards. The flash BIOS can be easily reprogrammed via software.

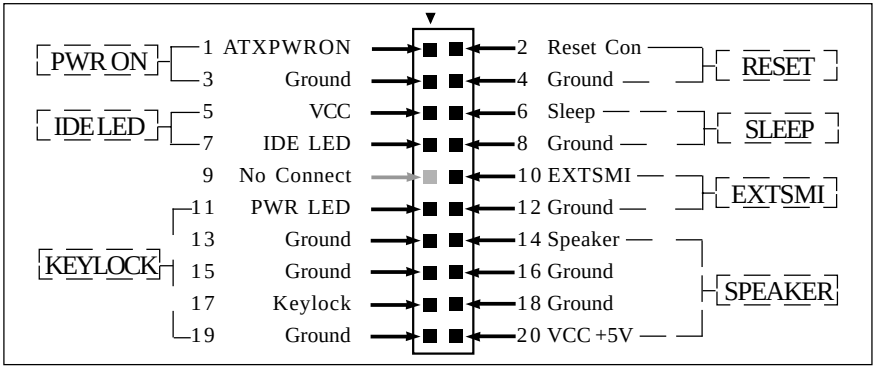
2.3.11 Wake-On-LAN Interface

This connector connects to a LAN card with a Wake-On-LAN output. The connector powers up the system when a wakeup signal is received from the network.

2.3.12 Front Panel Function Connector

The front panel integrates: Power On, IDE LED, Keylock, Reset Switch, Sleep, ExtSMI, Speaker, etc...

The connector pin out are described as the figure below:



2.3.13 CPU Socket

The **T-801E+S** / **T-801E+** motherboard provides a ZIF Socket 370. The CPU that comes with the motherboard should have a fan attached to it to prevent overheating. If it is not so, purchase a fan before you turn on your system.

The **T-801K+S** / **T-801K+** motherboard provides a Socket A for install AMD K7 CPU. The CPU that comes with the motherboard should have a fan and heatsink attached to it to prevent overheating. If it is not so, purchase a fan and heatsink before you turn on your system.

Notice !!!

Be sure that there is a sufficient air circulation across the processor' s heatsink by regularly checking that your CPU fan is working. Without sufficient circulation, the processor could be overheated and it may damage both the processor and the motherboard. You may install an auxiliary fan, if necessary.

Installation step:

1. Turn off the power of your system and remove its cover;
2. Locate the ZIF socket and open it by first pulling the lever sideways away from the socket then upwards to a 90-degree angle;
3. Insert the CPU with correct orientation
   (The CPU has a corner pin for two of the four corners, that the CPU only fit in the orientation.)
4. Once completely inserted, pull down the socket' s lever to horizontal and make sure the CPU is firmly locked in the socket.

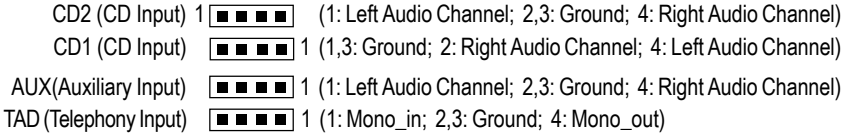
2.3.14 CPU Fan Connector

CPU Fan cable plug in the 3-pin CPU Fan connector onboard.

Pin1 Sense
Pin2 +12V
Pin3 GND

2.3.15 Internal Audio Connectors (models **T-801E+S** / **T-801K+S** only)

These connectors allow you to receive stereo audio input from sound sources such as a CD-ROM or MPEG card. The Modem connector allows the onboard audio to interface with an voice modem card with a similar connector. It also allows the sharing of mono_in (such as a phone) and mono_out(such as a speaker) between the onboard audio and the voice modem card.



Chapter 3

STR Installation

1. Introduce STR function:

STR (Suspend-to-RAM) is a Windows 98/2000/Me ACPI sleep mode function. When recovering from STR (S3) sleep mode, the system is able, in just a few seconds, to retrieve the last " state" of the system before it went to sleep and recover to that state. The " state" is stored in memory (RAM) before the system goes to sleep. During STR sleep mode, your system uses only enough energy to maintain critical information and system functions, primarily the system state and the ability to recognize various " wake up" triggers or signals, respectively.

2. STR function Installation

Please use the following steps to complete the STR function installation.

Step-By-Step Setup

Step 1:

To utilize the STR function, the system must be in Windows 98/2000/Me ACPI mode. Putting Windows 98/2000/Me into ACPI mode is fairly easy.

Step 2:

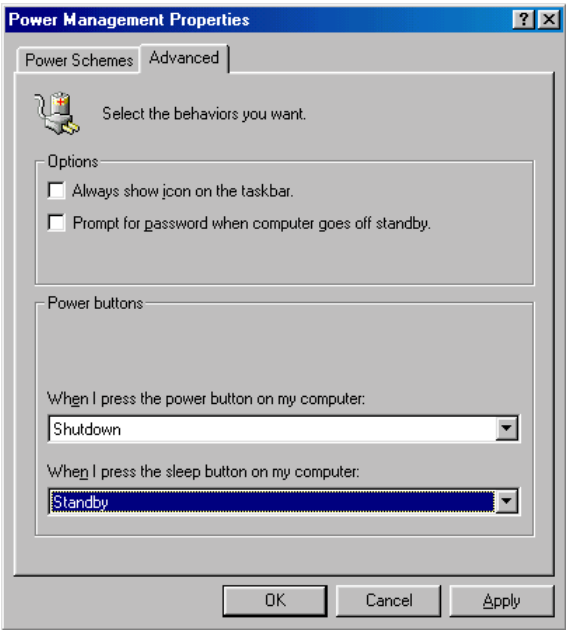
After software setup completes, reboot your system and setup BIOS. Select the item **"POWER MANAGEMENT SETUP",** then select **"ACPI Sleep Type: S3 / STR"**. Remember to save the settings by pressing " ESC" and choose the **"SAVE & EXIT SETUP"** option.

3. How to put your system into STR mode?

There are two ways to accomplish this:

a. Choose the " Stand by" item in the " Shut Down Windows" area.
Press the " **Start**" button ==>> select " **Shut Down**" ==>> select the " **Stand by**" item ==>> press " **OK**"

b. Define the system " power on" button to initiate STR sleep mode:
Double click " **My Computer**" ==>>" **Control Panel**" ==>>" **Power Management**" item. ==>> Select the " **Advanced**" tab and " **Standby**" mode in Power buttons ==>> **OK** ==>> Restart your computer to complete setup.



When you want to enter STR sleep mode, just instanter press the " Power on" button.

4 How to recover from the STR sleep mode?

There are seven ways to " wake up" the system:

a. Press the " Power On" button.
b. Use the " PS/2 Keyboard Power On" function.
c. Use the " PS/2 Mouse Power On" function.
d. Use the " Resume by Alarm" function.
e. Use the " Modem Ring On" function.
f. Use the " Wake-On-LAN" function.
g. Use the " USB Device Wake up" function.

Notices!!!

In order for STR to function properly, several hardware and software requirements must be satisfied:

A. Your ATX power supply must comply with the ATX 2.01 specification (provide more than720 mA 5V Stand-By current).

B. Your SDRAM must be PC-100 or PC-133 compliant.

Chapter 4
Software Installation

Note:
Before installation, you must already have Windows 95/98/2000/Me or Windows NT4.0 install on your computer.

The installation procedure is as below:

1. Make sure that Auto-insert detection is enabled for your CDROM drive. It should be enabled by default.
2. Insert this CD disk into your CDROM drive.
3. The Explorer screen will then appear, that gives you instructions for installation.
4. There may require restarts of Windows during some software setup. In these cases, you can just eject then close the CD-tray in order to get back to the Explorer screen. You can then proceed with the next step.

   You can get more information with open file: ***readme.txt*** in the CD disk.

Chapter 5

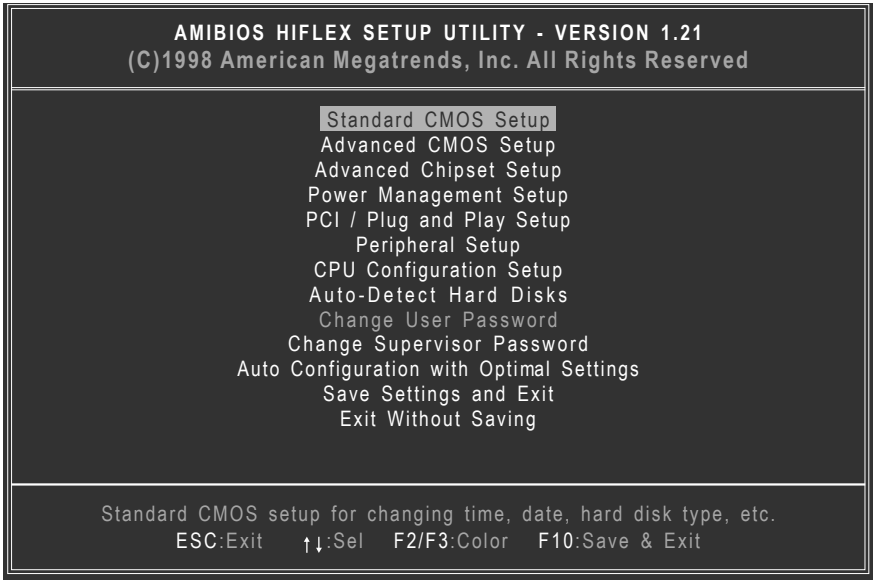
AMI BIOS Setup

This motherboard comes with the AMI BIOS from AMI Software Inc. Enter the AMI BIOS program Main Menu by:

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

   Press <DEL> to enter setup, ESC to skip memory test

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



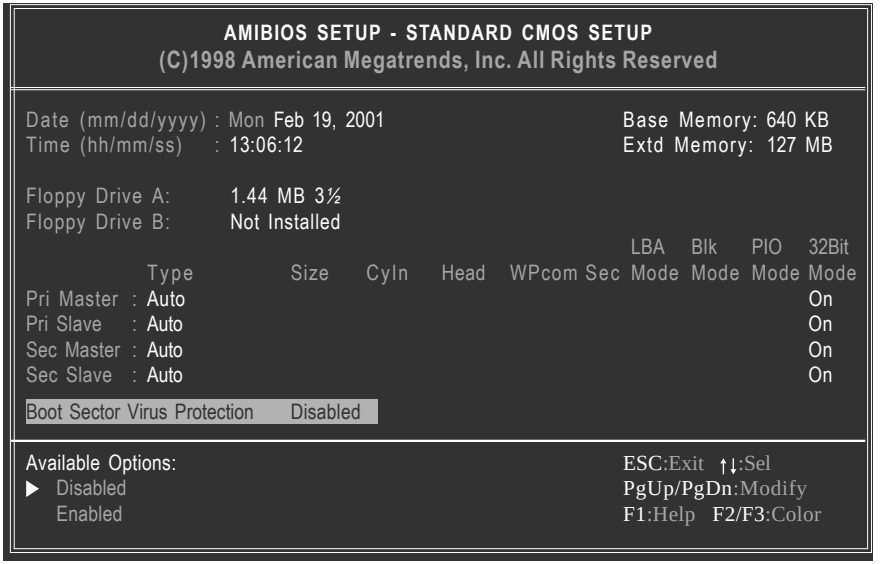
3. Using the arrows ↑↓ on your keyboard, select an option, and press <Enter>. Modify the system parameters to reflect the options installed in your system. Otherwise you may return to the Main Menu anytime by pressing <ESC> .

Types of Setup	**Description**
Standard CMOS Setup	Sets time, date, hard disk type, types of floppy drives, monitor type, and if keyboard is installed.
Advanced CMOS Setup	Sets Typematic Rate and Delay, Above 1MB Memory Test, Memory Test Tick Sound, Hit <Del> Message Display, System Boot Up Sequence, and others.
Advanced Chipset Setup	Sets chipset-specific options and features.
Power Management Setup	Controls power conservation options.
PCI/PnP Setup	Sets options related to the PCI bus and Plug and Play options.
Peripheral Setup	Controls I/O Controller-related options.
CPU Configuration Setup	This option selects the type of CPU install in the motherboard. The settings are *Auto* (AMIBIOS automatically determines the CPU type).

4. In the Main Menu, "Save Settings and Exit" saves your changes and reboots the system, and "Exit Without Saving" ignores your changes and exits the CMOS Setup.

5.1 Standard CMOS Setup

Select the AMIBIOS Setup options by choosing Standard Setup from the AMIBIOS Setup main menu. Standard Setup options are described below.



Date

The date format is <week>, <month>, <day>, <year>.

Week	The week, from Sun to Sat, determined by the BIOS and is display-only
Month	The month, Jan. Through Dec.
Day	The day, from 1 to 31 (or the maximum allowed in the month)
Year	The year, from 1900 through 2099

Time

The times format in <hour> <minute> <second>. The time is calculated base on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

Floppy Drive A: and B:

Move the cursor to these fields via ↑ and ↓ and select the floppy type. The settings are *360 KB 5¼ inch*, *1.2 MB 5¼ inch*, *720 KB 3½ inch*, *1.44 MB 3½ inch*, or *2.88 MB 3½ inch.*

Primary Master, Slave
Secondary Master, Slave

Select these options to configure the drive named in the option. Select *Auto Detect IDE* to let AMIBIOS automatically configure the drive. A screen with a list of drive parameters appears. Click on *OK* to configure the drive.

Type	How to Configure
SCSI	Select *Type*. Select *Not Installed* the drive parameter screen. The SCSI drivers provided by the SCSI manufacturer should allow you to configure the SCSI drive.
IDE	Select *Type*. Select ***Auto*** to let AMIBIOS determine the parameters. Click on OK when AMIBIOS displays the drive parameters. Select *LBA/Large Mode*. Select *On* if the drive has a capacity greater than 540 MB. Select ***Block*** *Mode*. Select *On* to allow block mode data transfers. Select ***32-Bit*** *Transfer*. Select *On* to allow 32-bit data transfers. Select the ***PIO*** *Mode*. It is best to select *Auto* to allow AMIBIOS to determine the PIO mode. If you select a PIO mode that is not supported by the IDE drive, the drive will not work properly. If you are absolutely certain that you know the drive' s PIO mode, select PIO mode 0-5, as appropriate.
CD-ROM	Select *Type*. Select *CDROM*. Click on *OK* when AMIBIOS displays the drive parameters.
Standard MFM	Select *Type*. You must know the drive parameters. Select the drive type that exactly matches your drive' s parameters.
Non-Standard MFM	Select *Type*. If the drive parameters do not match the drive parameters listed for drive types 1-46, select *User* and enter the correct hard disk drive parameters.

Entering Drive Parameters

You can also enter the hard disk drive parameters. The drive parameters are

Parameter	Description
Type	The number for a drive with certain identification parameters.
Cylinders	The number of cylinders in the disk drive.
Heads	The number of heads.
Write Precompensation	The actual physical size of a sector gets progressively smaller as the track diameter diminishes. Yet each sector must still hold 512 bytes. Write precompensation circuitry on the hard disk compensates for the physical difference in sector size by boosting the write current for sectors on inner tracks. This parameter is the track number on the disk surface where write precompensation begins.
Landing Zone	This number is the cylinder location where the heads normally park when the system is shut down.
Sectors	The number of sectors per track. MFM drives have 17 sectors per track. RLL drives have 26 sectors per track. ESDI drives have 34 sectors per track. SCSI and IDE drives have even more sectors per track.
Capacity	The formatted capacity of the drive is the number of heads times the number of cylinders times the number of sectors per track times 512 (bytes per sector).

5.2 Advanced CMOS Setup

The AMIBIOS Setup options described in this section are selected by choosing Advanced CMOS Setup from the AMIBIOS Setup main menu.

5.3 Advanced Chipset Setup

Choose Chipset Setup on the AMIBIOS Setup main menu. All Chipset Setup options are then displayed. AMIBIOS Setup can be customized.

5.4 Power Management Setup

The AMIBIOS Setup options described in this section are selected by choosing Power Management Setup from the AMIBIOS Setup main menu.

5.5 PCI/PnP Setup

Choose PCI/Plug and Play Setup from the AMIBIOS Setup screen to display the PCI and Plug and Play Setup options.

5.6 CPU Configuration Setup

This system BIOS is capable to detect the CPU type, say Pentium III, Pentium II or Celeron. The user is only required to select the CPU speed. In addition, overclocking option is provided for advanced users who prefer to run the CPU over the specified clock frequency.

5.7 Save Settings and Exit

Choose Save Setting and Exit from the AMIBIOS Setup main menu. Type "Y" to exit the BIOS Setup program and saving the values. Type "N" to return to the Setup program.

5.8 Exit Without Saving

Choose Exit Without Saving from the AMIBIOS Setup main menu. Type "Y" to exit the BIOS Setup program without saving the values. Type "N" to return to the Setup program.

The End