

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. **Newbest** 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 **Newbest**. For previous or updated manuals, BIOS, drivers, or product release information, please contact **Newbest** 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 |
| Email: | tsc@tigatech.com |
| Product Name: | TG-810+S, TG-810+ES |
| Version: | 1.00 |
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Chapter 1

Introduction

1.1 Product Features

The highest performance motherboard is based on the all new Intel 810 chipset with Micro ATX form factor to support the latest Socket 370 including Intel Pentium III FCPGA, Celeron FCPGA / PPGA as well as Cyrix III processors. This chipset incorporates with AGP 3D Graphics Support and an optional AC97 Audio. This motherboard is also fully software configurable via AMI BIOS setup and supports high-speed UDMA/66 IDE devices.

1.2 Full Software Configurable

TIGA motherboards 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 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).

1.3 TG-810-S motherboard series features

- ★ Support Intel Pentium III, Celeron or Cyrix III Processor on Socket 370
- ★ Intel 810 Chipset on Model **TG-810+S**
 - ★ Support 66/100MHz Processor Front-side Bus
- ★ Intel 810E Chipset on Model **TG-810+ES**
 - ★ Support 66/100/133MHz Processor Front-side Bus
- ★ AGP Graphics Controller Integrated inside Intel 810 / 810E Chipset
 - ★ Dynamic Graphics Memory Allocation on System Memory up to 11MB
 - ★ Hardware Motion Compensation for Accelerated DVD Video Playback
 - ★ High Graphics Resolution up to 1600x1200 with 8-bit Colour
 - ★ Full Support for Microsoft Direct 3D and Direct Draw
- ★ Full Software Configurable: CPU Plug-and-Play and Full Jumperless
- ★ Two DIMM slots Supporting up to 512MB Memory Capacity
- ★ Support 100MHz PC100 SDRAM DIMM
- ★ 1 x AMR slot, 3 x PCI slots
- ★ 2 x USB ports, 1 x PS/2 mouse 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 IDE Devices
- ★ Modem Ring Wakeup with External Modem
- ★ Interface Header to Support Wake-On-LAN Enabled Ethernet Card
- ★ AMI BIOS, PC99/ACPI/DMI Compliant
- ★ Micro ATX format, 244mm x 170mm PCB
- ★ Integrated AC97 Audio Onboard (*excluded from model TG-810+ / TG-810+E*)
 - ★ AC97 2.1 Compliant Codec with 3D Stereo Enhancement
 - ★ Complete Driver Support for Win95/98/Me/NT/2000
 - ★ 1 x Line-out, 1 x Line-in, 1 x Mic-in
 - ★ 1 x CD-in, 1 x AUX-in, 1 x Telephony Port, 1 x Game Port

Chapter 2 *Installation*

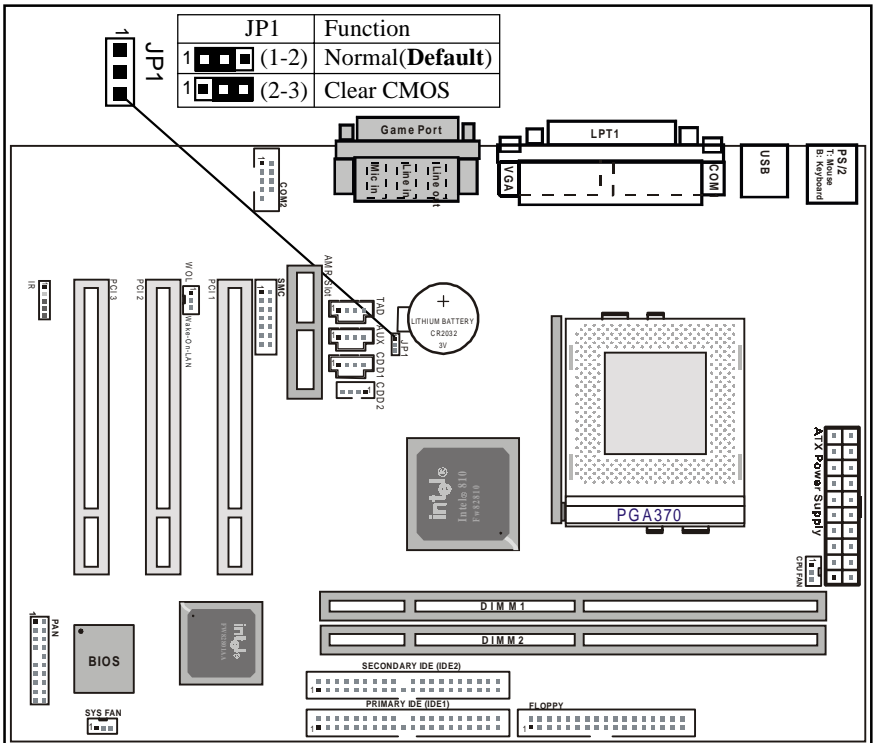
2.1 Installation Instructions

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.

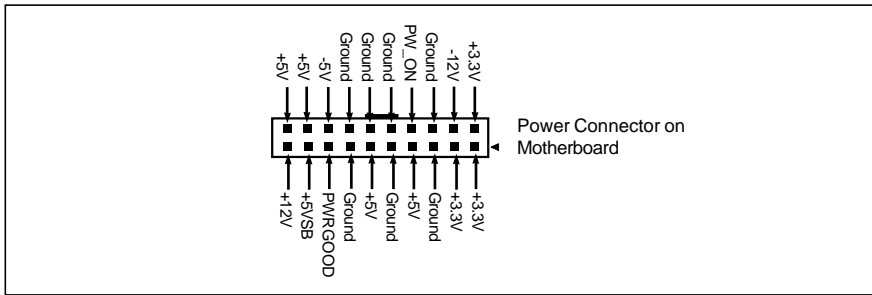
2.2 Motherboard Layout



2.3 Function & Installation Instructions

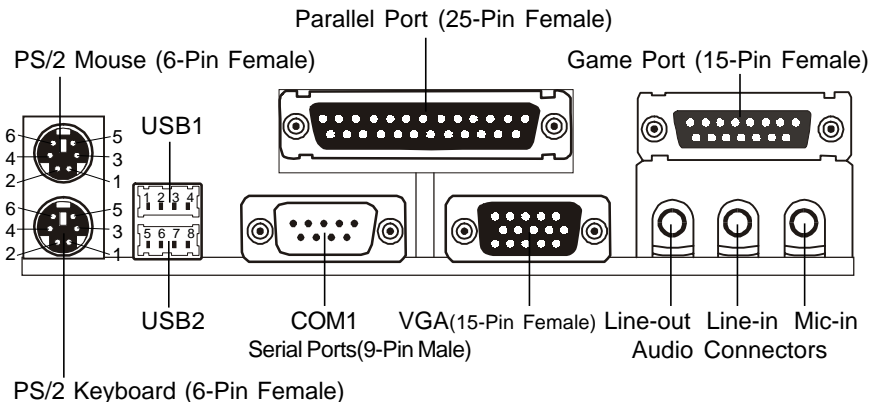
2.3.1 ATX Power Supply Connector (20-Pin)

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 |

| USB Connector | |
|---------------|-------------|
| 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 |

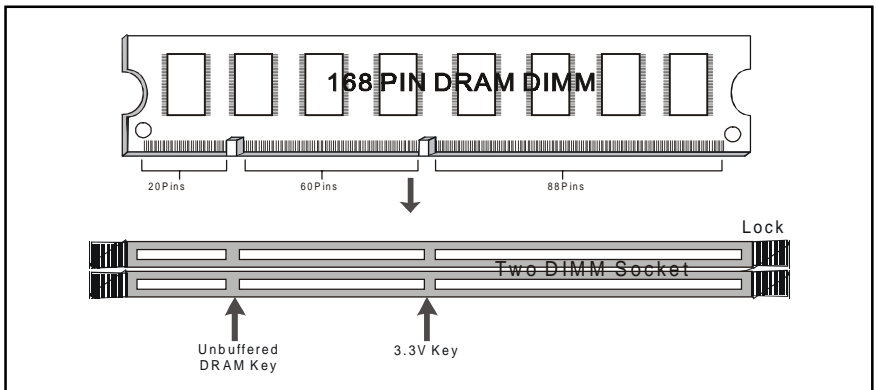
EXPANSION CARDS INSTALLATION

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.

2.3.3 SDRAM Sockets

There are two 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

2.3.4 PCI Slots

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

2.3.5 AMR Slot (Audio Modem Riser)

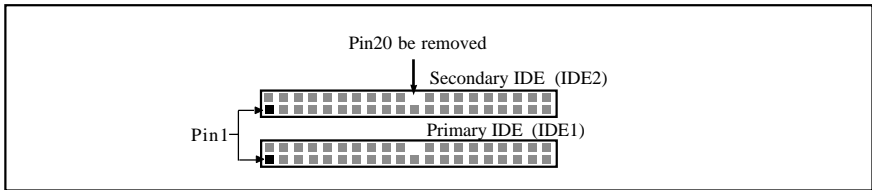
This connector supports a specially designed audio and/or modem card called an AMR.

2.3.6 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.

2.3.7 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

2.3.8 BIOS

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

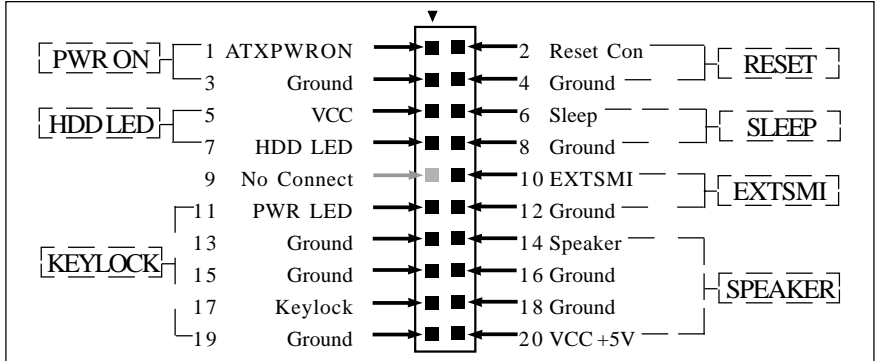
2.3.9 Wake-On-LAN Interface

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.

2.3.10 Front Panel Function Connector

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

The connector pin out are described as the figure below:



2.3.11 PGA370 CPU Socket

The 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.

Notice !!!

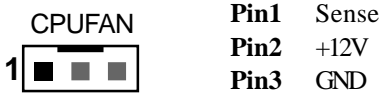
Be sure that there is a sufficient air circulation across the processor's heatsink by regularly checking that your CPU fan is working. Without sufficient circulation, the processor could be overheated and it may damage both the processor and the motherboard. You may install an auxiliary fan, if necessary.

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.


2.3.12 CPU Fan Connector


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





2.3.13 Internal Audio Connectors(CD, AUX, 4-pin Modem)

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.

TAD (Telephony Input) 1  (1: Mono_in; 2,3: Ground; 4: Mono_out)

AUX (Auxiliary Input) 1  (1: Left Audio Channel; 2,3: Ground; 4: Right Audio Channel)

CDD1 (CD Input) 1  (1,3: Ground; 2: Right Audio Channel; 4: Left Audio Channel)

CDD2 (CD Input)  1 (1: Left Audio Channel; 2,3: Ground; 4: Right Audio Channel)

Chapter 3

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 4

AMI BIOS Setup

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

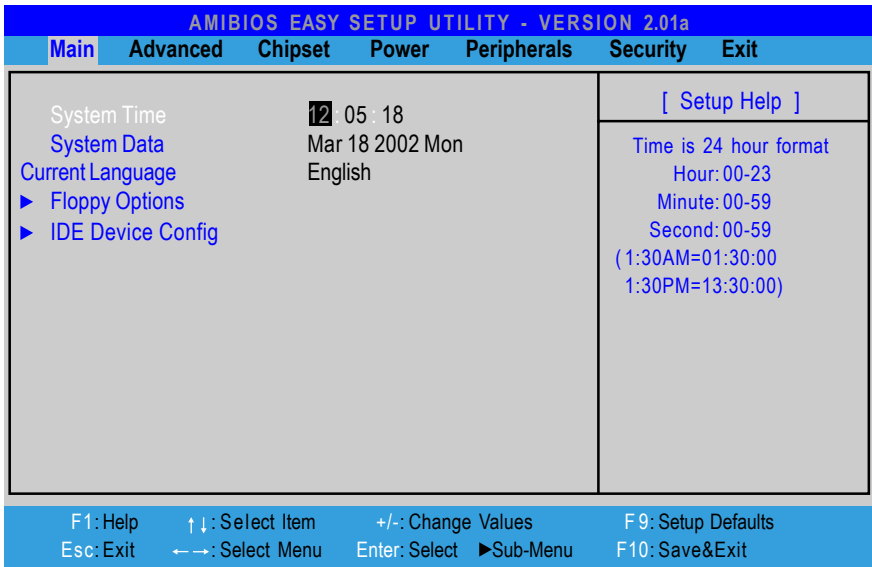
- a. Turn on or reboot the system. After a series of diagnostic checks, the following message will appear:

Press to enter setup, ESC to skip memory test

- b. Press the key and the main menu screen will appear as follows.

4.1 Main menu

The top of the screen has a menu bar, and you can select related menu. You can use main menu this menu to make changes to the basic system configuration.



Legend Bar

At the bottom of the Setup screen is a legend bar. The keys in the legend bar allow you to navigate through the various setup menus. The following table lists the keys found in the legend bar with their corresponding functions.

| Navigation Keys | Function Description |
|-----------------|---|
| F1 | Displays the General Help screen from anywhere in the BIOS Setup |
| ESC | Jumps to the Exit menu or returns to the main menu from a sub-menu |
| ←→ Keys | Selects the menu item to the left or right |
| ↑↓ Keys | Move the highlight up or down between fields |
| - / + keys | Scrolls backward/Forward through the values for the highlighted field |
| Enter | Brings up a selection menu for the highlighted field |
| F9 | Resets the current screen to its Setup Defaults |
| F10 | Saves changes and exits Setup |

Sub-menu (▶)

Note that a right pointer '▶' symbol. This pointer indicates that you can display a sub-menu from this field. A sub-menu contains additional options for a field parameter. To display a sub-menu, move the highlight to the field and press <Enter>. The sub-menu appears. Use the legend keys to enter values and move from field to field within a sub-menu as you would within a menu. Use the <Esc> key to return to the main menu.

4.2 Advanced menu

Use this menu to enable and make changes to the advanced features

| AMIBIOS EASY SETUP UTILITY - VERSION 2.01a | | | | | | |
|--|----------|------------------|-------|-------------|----------|------|
| Main | Advanced | Chipset | Power | Peripherals | Security | Exit |
| Quick Boot | | Enabled | | | | |
| 1st | | Floppy:1.44MB 3½ | | | | |
| 2nd | | IDE-0; | | | | |
| 3rd | | Disabled | | | | |
| Try Other Boot Devices | | Yes | | | | |
| S.M.A.R.T. for Hard Disks | | Disabled | | | | |
| Boot Up Num-Lock | | On | | | | |
| Floppy Drive Seek | | Disabled | | | | |
| PS/2 Mouse Support | | Enabled | | | | |
| Password Check | | Setup | | | | |
| Boot To OS/2 | | No | | | | |
| L1 Cache | | Enabled | | | | |
| L2 Cache | | Enabled | | | | |
| System BIOS Cacheable | | Enabled | | | | |
| C000,32K Shadow | | Cached | | | | |
| C800,16K Shadow | | Disabled | | | | |
| CC00,16K Shadow | | Disabled | | | | |
| F1: Help ↑ ↓ : Select Item +/-: Change Values F9: Setup Defaults Esc: Exit ← → : Select Menu Enter: Select ►Sub-Menu F10: Save&Exit | | | | | | |

4.3 Chipset menu

Use this menu to enable and make changes to the Chipset features

| AMIBIOS EASY SETUP UTILITY - VERSION 2.01a | | | | | | |
|--|----------|--------------|-------|-------------|----------|------|
| Main | Advanced | Chipset | Power | Peripherals | Security | Exit |
| ▶ System Hardware Monitor | | | | | | |
| ▶ CPU Configuration | | | | | | |
| ***** DRAM Timing ***** | | | | | | |
| SDRAM Frequency | | Auto | | | | |
| Configure SDRAM Timing by SPD | | Disabled | | | | |
| SDRAM CAS# Latency | | 3 Clocks | | | | |
| SDRAM RAS# Precharge | | 2 Clocks | | | | |
| SDRAM RAS# to CAS# Delay | | 3 Clocks | | | | |
| SDRAM Precharge Delay | | 5 Clocks | | | | |
| SDRAM Idle Timer | | Infinite | | | | |
| SDRAM Read Thermal Management | | Disabled | | | | |
| DRAM Integrity Mode | | Disabled | | | | |
| Memory Hole | | Disabled | | | | |
| AGP Aperture Size | | 64MB | | | | |
| USB Controller | | All USB Port | | | | |
| USB Device Legacy Support | | Disabled | | | | |
| F1: Help ↑ ↓ : Select Item +/-: Change Values F9: Setup Defaults Esc: Exit ← → : Select Menu Enter: Select ►Sub-Menu F10: Save&Exit | | | | | | |

4.4 Power menu

Use this menu to configure and enable Power Management features

| AMIBIOS EASY SETUP UTILITY - VERSION 2.01a | | | | | | |
|--|----------|------------|-------|-------------|----------|------|
| Main | Advanced | Chipset | Power | Peripherals | Security | Exit |
| Power Management/APM | | Enabled | | | | |
| Video Power Down Mode | | Suspend | | | | |
| Hard Disk Power Down Mode | | Disabled | | | | |
| Standby Time Out(Minute) | | Disabled | | | | |
| Suspend Time Out(Minute) | | Disabled | | | | |
| Throttle Slow Clock Ratio | | 50.0% | | | | |
| System Thermal | | Disabled | | | | |
| Thermal Active Temperature | | 65°C/149°F | | | | |
| Thermal Slow Clock Ratio | | 50.0% | | | | |
| Power Button Function | | On/Off | | | | |
| Restore on AC/Power Loss | | Power Off | | | | |
| Resume On Ring | | Disabled | | | | |
| Resume On LAN | | Disabled | | | | |
| Resume On PME# | | Disabled | | | | |
| Resume On RTC Alarm | | Disabled | | | | |
| RTC Alarm Data | | 15 | | | | |
| RTC Alarm Hour | | 12 | | | | |
| F1: Help ↑↓: Select Item +/-: Change Values F9: Setup Defaults Esc: Exit ←→: Select Menu Enter: Select ►Sub-Menu F10: Save&Exit | | | | | | |

4.5 Peripherals menu

Use this menu to enable and make changes to the Peripherals features

| AMIBIOS EASY SETUP UTILITY - VERSION 2.01a | | | | | | |
|--|----------|----------|-------|-------------|----------|------|
| Main | Advanced | Chipset | Power | Peripherals | Security | Exit |
| ▶ PCI/Plug and Play | | | | | | |
| OnBoard IDE | | Both | | | | |
| OnBoard AC' 97 Audio | | Auto | | | | |
| OnBoard FDC | | Auto | | | | |
| OnBoard Serial Port1 | | Auto | | | | |
| OnBoard Serial Port2 | | Auto | | | | |
| Serial Port2 Mode | | Normal | | | | |
| OnBoard Parallet Port | | Auto | | | | |
| Parallet Port Mode | | ECP | | | | |
| Parallet Port IRQ | | Auto | | | | |
| Parallet Port DMA Channel | | Auto | | | | |
| OnBoard MIDI Port | | Disabled | | | | |
| MIDI Port IRQ | | 5 | | | | |
| OnBoard Game Port | | 200 | | | | |
| K/B Power-on function | | Disabled | | | | |
| Stroke Keys Selected | | N/A | | | | |
| PS/2 Mouse Power-on function | | Disabled | | | | |
| F1: Help ↑↓: Select Item +/-: Change Values F9: Setup Defaults Esc: Exit ←→: Select Menu Enter: Select ►Sub-Menu F10: Save&Exit | | | | | | |

4.6 Security menu

Use this menu to enable and make changes to the Password setting.

| AMIBIOS EASY SETUP UTILITY - VERSION 2.01a | | | | | | |
|--|----------|---------|-------|-------------|---|--|
| Main | Advanced | Chipset | Power | Peripherals | Security | Exit |
| User Password Is Supervisor Password Is Set User Password Set Supervisor Password Password Check | | | | | Clear Clear [Enter] [Enter] Setup | [Setup Help] Specifies the supervisor password. |
| F1: Help ↑↓: Select Item +/-: Change Values F9: Setup Defaults Esc: Exit ←→: Select Menu Enter: Select ►Sub-Menu F10: Save&Exit | | | | | | |

4.7 Exit menu

Use this menu to Saving or Discarding the BIOS setting and exit setting.

| AMIBIOS EASY SETUP UTILITY - VERSION 2.01a | | | | | | |
|--|----------|---------|-------|-------------|--|--|
| Main | Advanced | Chipset | Power | Peripherals | Security | Exit |
| Discard Changes Exit Saving Changes Exit Discarding Changes Load Default Settings | | | | | [Enter] [Enter] [Enter] [Enter] | [Setup Help] Discards changes without exiting setup |
| F1: Help ↑↓: Select Item +/-: Change Values F9: Setup Defaults Esc: Exit ←→: Select Menu Enter: Select ►Sub-Menu F10: Save&Exit | | | | | | |

The End