

GA-D525TUD GA-D425TUD

User's Manual

Rev. 1502

12ME-525TUD-1502R

Declaration of Conformity

We, Manufacturer/Importer,

G.B.T. Technology Trading GmbH

Address: Bullenkoppel 16, 22047 Hamburg, Germany

Declare that the product

Product Type: Motherboard

Product Name: GA-D525TUD/GA-D425TUD

conforms with the essential requirements of the following directives:

☒ 2004/108/EC EMC Directive:

| | |
|--|---------------------------|
| <input checked="" type="checkbox"/> Conduction & Radiated Emissions: | EN 55022:2010 |
| <input checked="" type="checkbox"/> Immunity: | EN 55024:2010 |
| <input checked="" type="checkbox"/> Power-line harmonics: | EN 61000-3-2:2006+A2:2009 |
| <input checked="" type="checkbox"/> Power-line flicker: | EN 61000-3-3:2008 |

☒ 2006/95/EC LVD Directive

| | |
|---|-------------------------|
| <input checked="" type="checkbox"/> Safety: | EN60950-1:2006+A12:2011 |
|---|-------------------------|

☒ 2011/65/EU RoHS Directive

| | |
|---|--|
| <input checked="" type="checkbox"/> Restriction of use of certain substances in electronic equipment: | This product does not contain any of the restricted substances listed in Annex II, in concentrations and applications banned by the directive. |
|---|--|

☒ CE marking

CE

Signature: Timmy Huang

(stamp)

Date: Feb. 17, 2012

Name: Timmy Huang

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)



Responsible Party Name: G.B.T. INC. (U.S.A.)

Address: 17358 Railroad Street

City of Industry, CA 91748

Phone/Fax No: (626) 854-9338/ (626) 854-9326

hereby declares that the product

Product Name: Motherboard

Model Number: GA-D525TUD/

GA-D425TUD

Conforms to the following specifications:

FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109 (a), Class B Digital Device

Supplementary Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful and (2) this device must accept any interference received, including that may cause undesired operation.

Representative Person's Name: ERIC LU

Signature: Eric Lu

Date: Feb. 17, 2012

Copyright

© 2013 GIGA-BYTE TECHNOLOGY CO., LTD. All rights reserved.

The trademarks mentioned in this manual are legally registered to their respective owners.

Disclaimer

Information in this manual is protected by copyright laws and is the property of GIGABYTE.

Changes to the specifications and features in this manual may be made by GIGABYTE without prior notice.

No part of this manual may be reproduced, copied, translated, transmitted, or published in any form or by any means without GIGABYTE's prior written permission.

■ In order to assist in the use of this product, carefully read the User's Manual.

■ For product-related information, check on our website at: <http://www.gigabyte.com>

Identifying Your Motherboard Revision

The revision number on your motherboard looks like this: "REV: X.X." For example, "REV: 1.0" means the revision of the motherboard is 1.0. Check your motherboard revision before updating motherboard BIOS, drivers, or when looking for technical information.

Example:

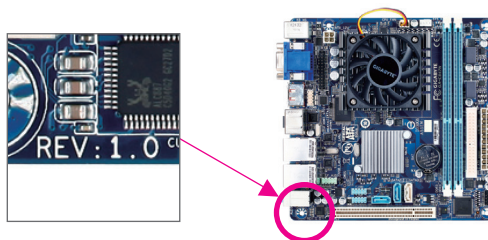
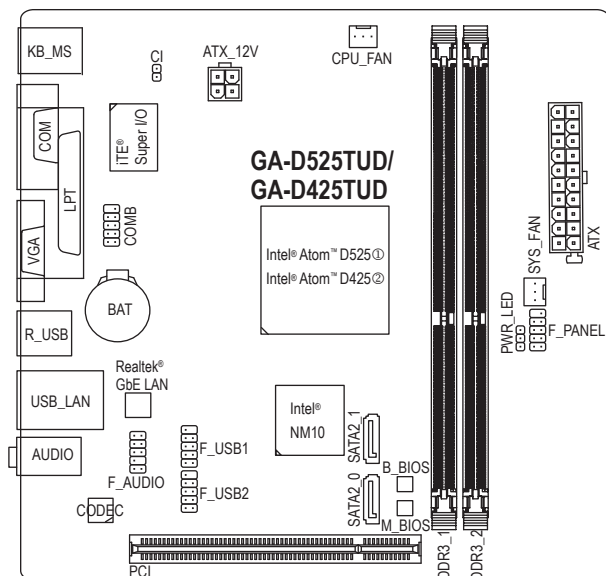


Table of Contents

| | |
|--|----|
| GA-D525TUD/GA-D425TUD Motherboard Layout..... | 4 |
| GA-D525TUD/GA-D425TUD Motherboard Block Diagram..... | 5 |
| Chapter 1 Hardware Installation | 6 |
| 1-1 Installation Precautions | 6 |
| 1-2 Product Specifications | 7 |
| 1-3 Installing the Memory | 9 |
| 1-4 Back Panel Connectors | 9 |
| 1-5 Internal Connectors | 10 |
| Chapter 2 BIOS Setup | 15 |
| 2-1 Startup Screen..... | 15 |
| 2-2 MB Intelligent Tweaker(M.I.T.) | 16 |
| 2-3 Standard CMOS Features | 16 |
| 2-4 Advanced BIOS Features | 17 |
| 2-5 Integrated Peripherals | 19 |
| 2-6 Power Management Setup | 21 |
| 2-7 PnP/PCI Configurations..... | 22 |
| 2-8 PC Health Status | 23 |
| 2-9 Load Fail-Safe Defaults | 24 |
| 2-10 Load Optimized Defaults | 24 |
| 2-11 Set Supervisor/User Password | 24 |
| 2-12 Save & Exit Setup | 25 |
| 2-13 Exit Without Saving..... | 25 |
| Chapter 3 Appendix | 26 |
| Drivers Installation | 26 |
| Regulatory Statements | 27 |
| Contact Us | 32 |

GA-D525TUD/GA-D425TUD Motherboard Layout



Box Contents

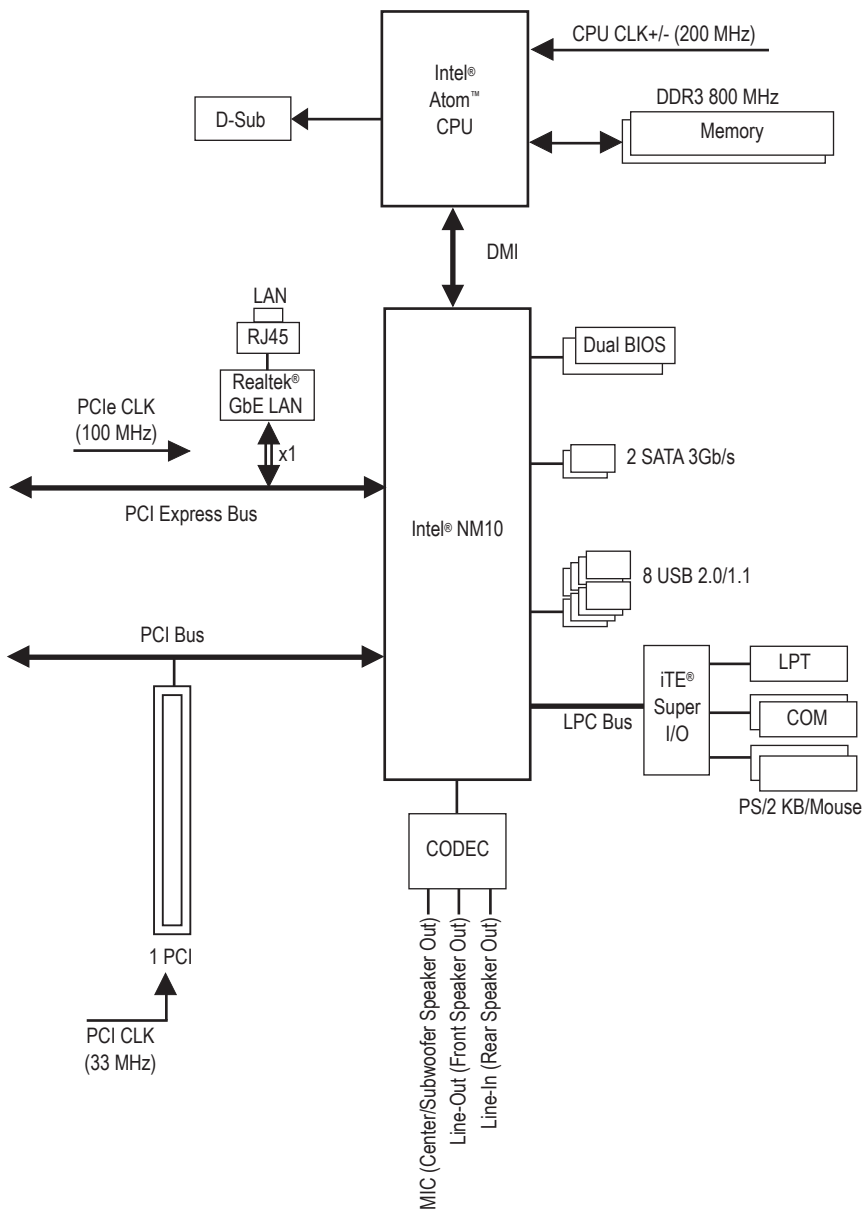
- | | |
|--|--|
| <input checked="" type="checkbox"/> GA-D525TUD or GA-D425TUD motherboard | <input checked="" type="checkbox"/> One SATA cable |
| <input checked="" type="checkbox"/> Motherboard driver disk | <input checked="" type="checkbox"/> I/O Shield |
| <input checked="" type="checkbox"/> User's Manual | |

The box contents above are for reference only and the actual items shall depend on the product package you obtain. The box contents are subject to change without notice.

① Only for GA-D525TUD.

② Only for GA-D425TUD.

GA-D525TUD/GA-D425TUD Motherboard Block Diagram



For detailed product information/limitation(s), refer to "1-2 Product Specifications."











Chapter 1 Hardware Installation

1-1 Installation Precautions

The motherboard contains numerous delicate electronic circuits and components which can become damaged as a result of electrostatic discharge (ESD). Prior to installation, carefully read the user's manual and follow these procedures:









- Prior to installation, make sure the chassis is suitable for the motherboard.
- Prior to installation, do not remove or break motherboard S/N (Serial Number) sticker or warranty sticker provided by your dealer. These stickers are required for warranty validation.
- Always remove the AC power by unplugging the power cord from the power outlet before installing or removing the motherboard or other hardware components.
- When connecting hardware components to the internal connectors on the motherboard, make sure they are connected tightly and securely.
- When handling the motherboard, avoid touching any metal leads or connectors.
- It is best to wear an electrostatic discharge (ESD) wrist strap when handling electronic components such as a motherboard, CPU or memory. If you do not have an ESD wrist strap, keep your hands dry and first touch a metal object to eliminate static electricity.
- Prior to installing the motherboard, please have it on top of an antistatic pad or within an electrostatic shielding container.
- Before unplugging the power supply cable from the motherboard, make sure the power supply has been turned off.
- Before turning on the power, make sure the power supply voltage has been set according to the local voltage standard.
- Before using the product, please verify that all cables and power connectors of your hardware components are connected.
- To prevent damage to the motherboard, do not allow screws to come in contact with the motherboard circuit or its components.
- Make sure there are no leftover screws or metal components placed on the motherboard or within the computer casing.
- Do not place the computer system on an uneven surface.
- Do not place the computer system in a high-temperature environment.
- Turning on the computer power during the installation process can lead to damage to system components as well as physical harm to the user.
- If you are uncertain about any installation steps or have a problem related to the use of the product, please consult a certified computer technician.

1-2 Product Specifications

| | |
|---|---|
|  CPU | <ul style="list-style-type: none"> ♦ Built in with an Intel® Dual-core Atom™ D525^①/ Intel® Single-core Atom™ D425^② processor (1.8 GHz) <ul style="list-style-type: none"> * Do not disassemble the onboard CPU/chipset and the heatsinks/fan by yourself to avoid damage to these components. ♦ 1M L2 cache^①/512K L2 cache^② |
|  Chipset | <ul style="list-style-type: none"> ♦ Intel® NM10 |
|  Memory | <ul style="list-style-type: none"> ♦ 2 x 1.5V DDR3 DIMM sockets supporting up to 4 GB of system memory <ul style="list-style-type: none"> * Due to a Windows 32-bit operating system limitation, when more than 4 GB of physical memory is installed, the actual memory size displayed will be less than the size of the physical memory installed. ♦ Support for DDR3 800 MHz memory modules (Go to GIGABYTE's website for the latest supported memory speeds and memory modules.) |
|  Onboard Graphics | <ul style="list-style-type: none"> ♦ Integrated Graphics Processor: <ul style="list-style-type: none"> - 1 x D-Sub port |
|  Audio | <ul style="list-style-type: none"> ♦ Realtek® ALC887 codec ♦ High Definition Audio ♦ 2/4/5.1/7.1-channel <ul style="list-style-type: none"> * To configure 7.1-channel audio, you have to use an HD front panel audio module and enable the multi-channel audio feature through the audio driver. |
|  LAN | <ul style="list-style-type: none"> ♦ Realtek® GbE LAN chip (10/100/1000 Mbit) |
|  Expansion Slots | <ul style="list-style-type: none"> ♦ 1 x PCI slot |
|  Storage Interface | <ul style="list-style-type: none"> ♦ Chipset: <ul style="list-style-type: none"> - 2 x SATA 3Gb/s connectors |
|  USB | <ul style="list-style-type: none"> ♦ Chipset: <ul style="list-style-type: none"> - 8 x USB 2.0/1.1 ports (4 ports on the back panel, 4 ports available through the internal USB headers) |
|  Internal Connectors | <ul style="list-style-type: none"> ♦ 1 x 20-pin ATX main power connector ♦ 1 x 4-pin ATX 12V power connector ♦ 2 x SATA 3Gb/s connectors ♦ 1 x CPU fan header ♦ 1 x system fan header ♦ 1 x front panel header ♦ 1 x front panel audio header ♦ 2 x USB 2.0/1.1 headers ♦ 1 x serial port header ♦ 1 x chassis intrusion header ♦ 1 x power LED header |

① Only for GA-D525TUD.

② Only for GA-D425TUD.

| | | |
|---|-----------------------|---|
|  | Back Panel Connectors | <ul style="list-style-type: none"> ♦ 1 x PS/2 keyboard port ♦ 1 x PS/2 mouse port ♦ 1 x parallel port ♦ 1 x serial port ♦ 1 x D-Sub port ♦ 4 x USB 2.0/1.1 ports ♦ 1 x RJ-45 port ♦ 3 x audio jacks (Line In, Line Out, Mic In) |
|  | I/O Controller | <ul style="list-style-type: none"> ♦ iTE® I/O Controller Chip |
|  | Hardware Monitor | <ul style="list-style-type: none"> ♦ System voltage detection ♦ CPU temperature detection ♦ CPU/System fan speed detection ♦ CPU fan speed control |
|  | BIOS | <ul style="list-style-type: none"> ♦ 2 x 4 Mbit flash ♦ Use of licensed AWARD BIOS ♦ Support for DualBIOS™ ♦ PnP 1.0a, DMI 2.0, SM BIOS 2.4, ACPI 1.0b |
|  | Unique Features | <ul style="list-style-type: none"> ♦ Support for @BIOS ♦ Support for Q-Flash ♦ Support for Xpress BIOS Rescue ♦ Support for Download Center ♦ Support for Xpress Install ♦ Support for Xpress Recovery2 ♦ Support for EasyTune <ul style="list-style-type: none"> * Available functions in EasyTune may differ by motherboard model. ♦ Support for Smart Recovery ♦ Support for Auto Green ♦ Support for ON/OFF Charge ♦ Support for Q-Share |
|  | Bundled Software | <ul style="list-style-type: none"> ♦ Norton® Internet Security (OEM version) |
|  | Operating System | <ul style="list-style-type: none"> ♦ Support for Windows 7/Vista/XP |
|  | Form Factor | <ul style="list-style-type: none"> ♦ Mini-ITX Form Factor; 17.0cm x 17.0cm |

* GIGABYTE reserves the right to make any changes to the product specifications and product-related information without prior notice.

* Please visit the **Support & Downloads\Utility** page on GIGABYTE's website to check the supported operating system(s) for the software listed in the "Unique Features" and "Bundled Software" columns.

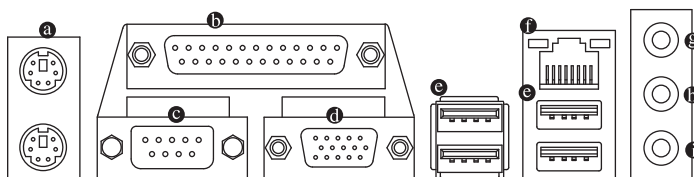
1-3 Installing the Memory



Read the following guidelines before you begin to install the memory:

- Make sure that the motherboard supports the memory. It is recommended that memory of the same capacity, brand, speed, and chips be used.
(Go to GIGABYTE's website for the latest supported memory speeds and memory modules.)
- Always turn off the computer and unplug the power cord from the power outlet before installing the memory to prevent hardware damage.
- Memory modules have a foolproof design. A memory module can be installed in only one direction. If you are unable to insert the memory, switch the direction.
- DDR3 and DDR2 DIMMs are not compatible to each other or DDR DIMMs. Be sure to install DDR3 DIMMs on this motherboard.

1-4 Back Panel Connectors



a PS/2 Keyboard and PS/2 Mouse Port

Use the upper port (green) to connect a PS/2 mouse and the lower port (purple) to connect a PS/2 keyboard.

b Parallel Port

Use the parallel port to connect devices such as a printer, scanner and etc. The parallel port is also called a printer port.

c Serial Port

Use the serial port to connect devices such as a mouse, modem or other peripherals.

d D-Sub Port

The D-Sub port supports a 15-pin D-Sub connector. Connect a monitor that supports D-Sub connection to this port.

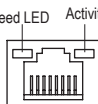
e USB 2.0/1.1 Port

The USB port supports the USB 2.0/1.1 specification. Use this port for USB devices such as a USB keyboard/mouse, USB printer, USB flash drive and etc.

f RJ-45 LAN Port

The Gigabit Ethernet LAN port provides Internet connection at up to 1 Gbps data rate. The following describes the states of the LAN port LEDs.

Connection/
Speed LED



LAN Port

Activity LED

Connection/Speed LED:

| State | Description |
|--------|--------------------|
| Orange | 1 Gbps data rate |
| Green | 100 Mbps data rate |
| Off | 10 Mbps data rate |

Activity LED:

| State | Description |
|----------|--|
| Blinking | Data transmission or receiving is occurring |
| Off | No data transmission or receiving is occurring |



- When removing the cable connected to a back panel connector, first remove the cable from your device and then remove it from the motherboard.
- When removing the cable, pull it straight out from the connector. Do not rock it side to side to prevent an electrical short inside the cable connector.

Line In Jack (Blue)

The default line in jack. Use this audio jack for line in devices such as an optical drive, walkman, etc.

Line Out Jack (Green)

The default line out jack. Use this audio jack for a headphone or 2-channel speaker. This jack can be used to connect front speakers in a 4/5.1/7.1-channel audio configuration.

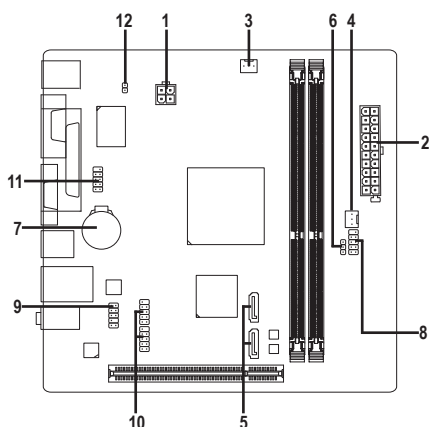
Mic In Jack (Pink)

The default Mic in jack. Microphones must be connected to this jack.



To configure 7.1-channel audio, you have to use an HD front panel audio module and enable the multi-channel audio feature through the audio driver.

1-5 Internal Connectors



| | |
|--------------|-------------------|
| 1) ATX_12V | 7) BAT |
| 2) ATX | 8) F_PANEL |
| 3) CPU_FAN | 9) F_AUDIO |
| 4) SYS_FAN | 10) F_USB1/F_USB2 |
| 5) SATA2_0/1 | 11) COMB |
| 6) PWR_LED | 12) CI |



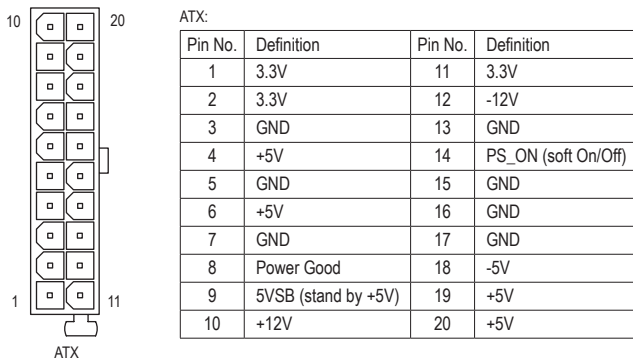
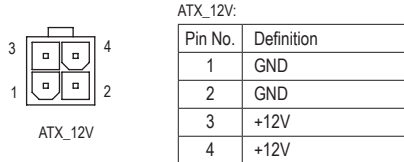
Read the following guidelines before connecting external devices:

- First make sure your devices are compliant with the connectors you wish to connect.
- Before installing the devices, be sure to turn off the devices and your computer. Unplug the power cord from the power outlet to prevent damage to the devices.
- After installing the device and before turning on the computer, make sure the device cable has been securely attached to the connector on the motherboard.

1/2) ATX_12V/ATX (2x2 12V Power Connector and 2x10 Main Power Connector)

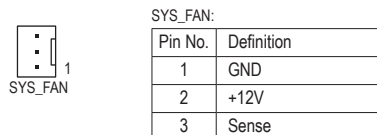
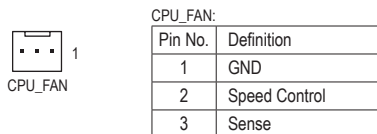
With the use of the power connector, the power supply can supply enough stable power to all the components on the motherboard. Before connecting the power connector, first make sure the power supply is turned off and all devices are properly installed. The power connector possesses a foolproof design. Connect the power supply cable to the power connector in the correct orientation.

The 12V power connector mainly supplies power to the CPU. If the 12V power connector is not connected, the computer will not start.



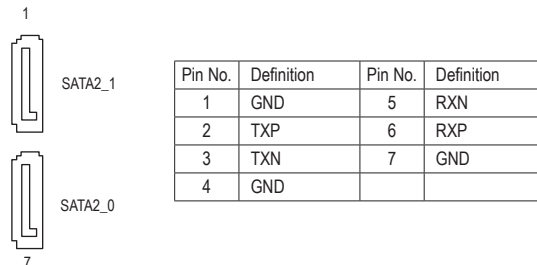
3/4) CPU_FAN/SYS_FAN (Fan Headers)

All fan headers on this motherboard are 3-pin. Most fan headers possess a foolproof insertion design. When connecting a fan cable, be sure to connect it in the correct orientation (the black connector wire is the ground wire). The motherboard supports CPU fan speed control, which requires the use of a CPU fan with fan speed control design. For optimum heat dissipation, it is recommended that a system fan be installed inside the chassis.



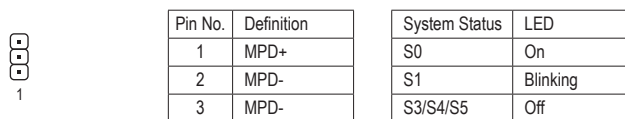
5) SATA2_0/1 (SATA 3Gb/s Connectors)

The SATA connectors conform to SATA 3Gb/s standard and are compatible with SATA 1.5Gb/s standard. Each SATA connector supports a single SATA device.



6) PWR_LED (System Power LED Header)

This header can be used to connect a system power LED on the chassis to indicate system power status. The LED is on when the system is operating. The LED keeps blinking when the system is in S1 sleep state. The LED is off when the system is in S3/S4 sleep state or powered off (S5).



7) BAT (Battery)

The battery provides power to keep the values (such as BIOS configurations, date, and time information) in the CMOS when the computer is turned off. Replace the battery when the battery voltage drops to a low level, or the CMOS values may not be accurate or may be lost.



You may clear the CMOS values by removing the battery:

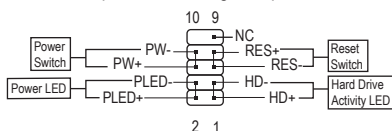
1. Turn off your computer and unplug the power cord.
2. Gently remove the battery from the battery holder and wait for one minute. (Or use a metal object like a screwdriver to touch the positive and negative terminals of the battery holder, making them short for 5 seconds.)
3. Replace the battery.
4. Plug in the power cord and restart your computer.



- Always turn off your computer and unplug the power cord before replacing the battery.
- Replace the battery with an equivalent one. Danger of explosion if the battery is replaced with an incorrect model.
- Contact the place of purchase or local dealer if you are not able to replace the battery by yourself or uncertain about the battery model.
- When installing the battery, note the orientation of the positive side (+) and the negative side (-) of the battery (the positive side should face up).
- Used batteries must be handled in accordance with local environmental regulations.

8) F_PANEL (Front Panel Header)

Connect the power switch, reset switch, and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.



- **PLED (Power LED):**

| System Status | LED |
|---------------|----------|
| S0 | On |
| S1 | Blinking |
| S3/S4/S5 | Off |

Connects to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED keeps blinking when the system is in S1 sleep state. The LED is off when the system is in S3/S4 sleep state or powered off (S5).

- **PW (Power Switch):**

Connects to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch (refer to Chapter 2, "BIOS Setup," "Power Management Setup," for more information).

- **HD (Hard Drive Activity LED):**

Connects to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

- **RES (Reset Switch):**

Connects to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.

- **NC:**No connection.



The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assignments are matched correctly.

9) F_AUDIO (Front Panel Audio Header)

The front panel audio header supports Intel High Definition audio (HD) and AC'97 audio. You may connect your chassis front panel audio module to this header. Make sure the wire assignments of the module connector match the pin assignments of the motherboard header. Incorrect connection between the module connector and the motherboard header will make the device unable to work or even damage it.



| For HD Front Panel Audio: | | For AC'97 Front Panel Audio: | |
|---------------------------|------------|------------------------------|--------------|
| Pin No. | Definition | Pin No. | Definition |
| 1 | MIC2_L | 1 | MIC |
| 2 | GND | 2 | GND |
| 3 | MIC2_R | 3 | MIC Power |
| 4 | -ACZ_DET | 4 | NC |
| 5 | LINE2_R | 5 | Line Out (R) |
| 6 | GND | 6 | NC |
| 7 | FAUDIO_JD | 7 | NC |
| 8 | No Pin | 8 | No Pin |
| 9 | LINE2_L | 9 | Line Out (L) |
| 10 | GND | 10 | NC |



- The front panel audio header supports HD audio by default.
- Audio signals will be present on both of the front and back panel audio connections simultaneously.
- Some chassis provide a front panel audio module that has separated connectors on each wire instead of a single plug. For information about connecting the front panel audio module that has different wire assignments, please contact the chassis manufacturer.

10) F_USB1/F_USB2 (USB 2.0/1.1 Headers)

The headers conform to USB 2.0/1.1 specification. Each USB header can provide two USB ports via an optional USB bracket. For purchasing the optional USB bracket, please contact the local dealer.



| Pin No. | Definition | Pin No. | Definition |
|---------|------------|---------|------------|
| 1 | Power (5V) | 6 | USB DY+ |
| 2 | Power (5V) | 7 | GND |
| 3 | USB DX- | 8 | GND |
| 4 | USB DY- | 9 | No Pin |
| 5 | USB DX+ | 10 | NC |



- Do not plug the IEEE 1394 bracket (2x5-pin) cable into the USB header.
- Prior to installing the USB bracket, be sure to turn off your computer and unplug the power cord from the power outlet to prevent damage to the USB bracket.

11) COMB (Serial Port Header)

The COM header can provide one serial port via an optional COM port cable. For purchasing the optional COM port cable, please contact the local dealer.



| Pin No. | Definition | Pin No. | Definition |
|---------|------------|---------|------------|
| 1 | NDCD- | 6 | NDSR- |
| 2 | NSIN | 7 | NRTS- |
| 3 | NSOUT | 8 | NCTS- |
| 4 | NDTR- | 9 | NRI- |
| 5 | GND | 10 | No Pin |

12) CI (Chassis Intrusion Header)

This motherboard provides a chassis detection feature that detects if the chassis cover has been removed. This function requires a chassis with chassis intrusion detection design.



| Pin No. | Definition |
|---------|------------|
| 1 | Signal |
| 2 | GND |

Chapter 2 BIOS Setup

When the power is turned off, the battery on the motherboard supplies the necessary power to the CMOS to keep the configuration values in the CMOS.

To access the BIOS Setup program, press the <Delete> key during the POST when the power is turned on. To see more advanced BIOS Setup menu options, you can press <Ctrl> + <F1> in the main menu of the BIOS Setup program.

To upgrade the BIOS, use either the GIGABYTE Q-Flash or @BIOS utility.

- Q-Flash allows the user to quickly and easily upgrade or back up BIOS without entering the operating system.
- @BIOS is a Windows-based utility that searches and downloads the latest version of BIOS from the Internet and updates the BIOS.



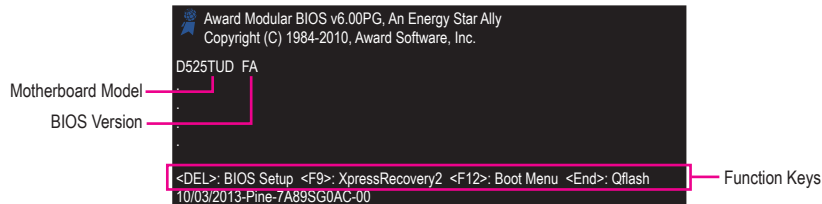
- Because BIOS flashing is potentially risky, if you do not encounter problems using the current version of BIOS, it is recommended that you not flash the BIOS. To flash the BIOS, do it with caution. Inadequate BIOS flashing may result in system malfunction.
- It is recommended that you not alter the default settings (unless you need to) to prevent system instability or other unexpected results. Inadequately altering the settings may result in system's failure to boot. If this occurs, try to clear the CMOS values and reset the board to default values. (Refer to the "Load Optimized Defaults" section in this chapter or introductions of the battery/clear CMOS jumper in Chapter 1 for how to clear the CMOS values.)

2-1 Startup Screen

The following screens may appear when the computer boots.

The POST Screen

(Sample BIOS Version:GA-D525TUD FA)



- If you do not find the settings you want in the Main Menu or a submenu, press <Ctrl>+<F1> to access more advanced options.
- When the system is not stable as usual, select the Load Optimized Defaults item to set your system to its defaults.
- The BIOS Setup menus described in this chapter are for reference only and may differ by BIOS version.

☞ Time (hh:mm:ss)

Sets the system time.

☞ IDE Channel 0, 1 Master

▶▶ IDE Channel 0, 1 Master

Configure your SATA devices by using one of the three methods below:

- None If no SATA devices are used, set this item to None so the system will skip the detection of the device during the POST for faster system startup.
- Auto Lets the BIOS automatically detect SATA devices during the POST. (Default)
- Manual Allows you to manually enter the specifications of the hard drive when the hard drive access mode is set to **CHS**.

▶▶ Access Mode Sets the hard drive access mode. Options are: Auto (default), CHS, LBA, Large.

☞ Halt On

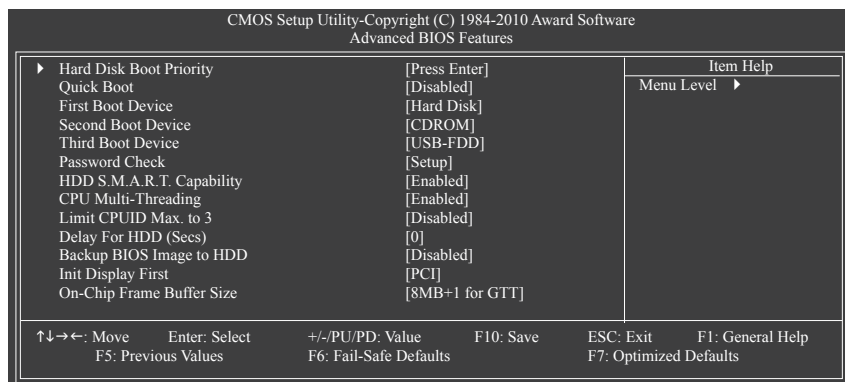
Allows you to determine whether the system will stop for an error during the POST.

Options are: "All Errors," "No Errors," "All, But Keyboard". (Default)

☞ Memory

These fields are read-only and are determined by the BIOS POST.

2-4 Advanced BIOS Features



☞ Hard Disk Boot Priority

Specifies the sequence of loading the operating system from the installed hard drives. Use the up or down arrow key to select a hard drive, then press the plus key <+> (or <PageUp>) or the minus key <-> (or <PageDown>) to move it up or down on the list. Press <Esc> to exit this menu when finished.

☞ Quick Boot

Enables or disables the quick boot function to speed up the system boot-up process to shorten the waiting time for entering the operating system and to deliver greater efficiency for daily use. (Default: Disabled)

☞ First/Second/Third Boot Device

Specifies the boot order from the available devices. Use the up or down arrow key to select a device and press <Enter> to accept. Options are: LS120, Hard Disk, CDROM, ZIP, USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, Legacy LAN, Disabled.

☞ **Password Check**

Specifies whether a password is required every time the system boots, or only when you enter BIOS Setup. After configuring this item, set the password(s) under the **Set Supervisor/User Password** item in the BIOS Main Menu.

- Setup A password is only required for entering the BIOS Setup program. (Default)
- System A password is required for booting the system and for entering the BIOS Setup program.

☞ **HDD S.M.A.R.T. Capability**

Enables or disables the S.M.A.R.T. (Self Monitoring and Reporting Technology) capability of your hard drive. This feature allows your system to report read/write errors of the hard drive and to issue warnings when a third party hardware monitor utility is installed. (Default: Enabled)

☞ **CPU Multi-Threading**

Allows you to determine whether to enable all CPU cores and multi-threading function when using an Intel CPU that supports multi-core technology. This feature only works for operating systems that support multi-processor mode.

- Enabled Enables all CPU cores and multi-threading capability. (Default)
- Disabled Enables only one CPU core.

☞ **Limit CPUID Max. to 3**

Allows you to determine whether to limit CPUID maximum value. Set this item to **Disabled** for Windows XP operating system; set this item to **Enabled** for legacy operating system such as Windows NT4.0. (Default: Disabled)

☞ **Delay For HDD (Secs)**

Allows you to set a delay time for the BIOS to initialize the hard drive as the system boots up. The adjustable range is from 0 to 15 seconds. (Default: 0)

☞ **Backup BIOS Image to HDD**

Allows the system to copy the BIOS image file to the hard drive. If the system BIOS is corrupted, it will be recovered from this image file. (Default: Disabled)

☞ **Init Display First**

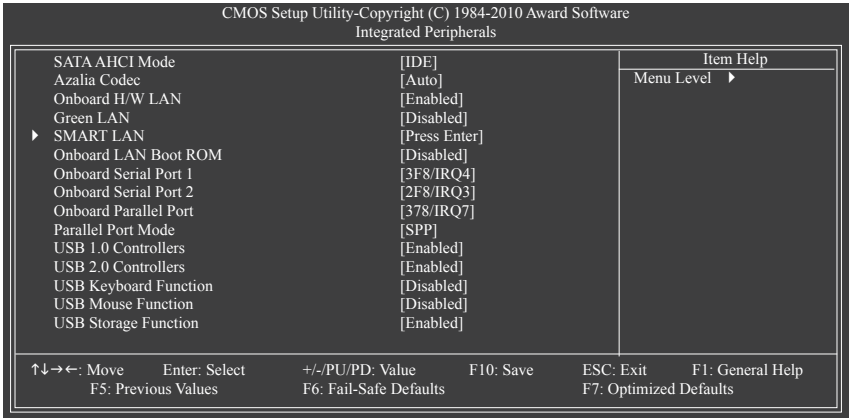
Specifies the first initiation of the monitor display from the installed PCI graphics card or the onboard graphics.

- PCI Sets the PCI graphics card as the first display. (Default)
- Onboard Sets the onboard graphics as the first display.

☞ **On-Chip Frame Buffer Size**

Frame buffer size is the total amount of system memory allocated solely for the onboard graphics controller. MS-DOS, for example, will use only this memory for display. Options are: 8MB+1 for GTT (default), 1MB+1 for GTT.

2-5 Integrated Peripherals



☞ SATA AHCI Mode

Allows you to decide whether to configure the SATA controller integrated in the Chipset to AHCI mode.

- ▶ IDE Configures the SATA controller to IDE mode. (Default)
- ▶ AHCI Configures the SATA controllers to AHCI mode. Advanced Host Controller Interface (AHCI) is an interface specification that allows the storage driver to enable advanced Serial ATA features such as Native Command Queuing and hot plug.

☞ Azalia Codec

Enables or disables the onboard audio function. (Default: Auto)

If you wish to install a 3rd party add-in audio card instead of using the onboard audio, set this item to **Disabled**.

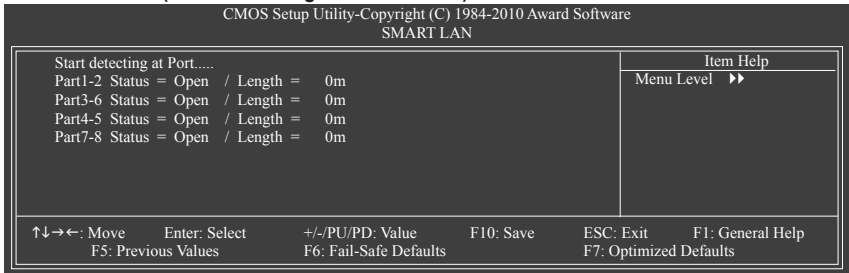
☞ Onboard H/W LAN

Enables or disables the onboard LAN function. (Default: Enabled) If you wish to install a 3rd party add-in network card instead of using the onboard LAN, set this item to **Disabled**.

☞ Green LAN

When the onboard LAN function and **Green LAN** are enabled, the system will dynamically detect if a LAN cable is connected or not. If not, the corresponding LAN controller will be disabled automatically. (Default: Disabled)

☞ SMART LAN (LAN Cable Diagnostic Function)



This motherboard incorporates cable diagnostic feature designed to detect the status of the attached LAN cable. This feature will detect cabling issue and report the approximate distance to the fault or short. Refer to the following information for diagnosing your LAN cable:

☞ **Onboard LAN Boot ROM**

Allows you to decide whether to activate the boot ROM integrated with the onboard LAN chip. (Default: Disabled)

☞ **Onboard Serial Port 1**

Enables or disables the first serial port and specifies its base I/O address and corresponding interrupt. Options are: Auto, 3F8/IRQ4 (default), 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Disabled.

☞ **Onboard Serial Port 2**

Enables or disables the first serial port and specifies its base I/O address and corresponding interrupt. Options are: Auto, 3F8/IRQ4, 2F8/IRQ3 (default), 3E8/IRQ4, 2E8/IRQ3, Disabled.

☞ **Onboard Parallel Port**

Enables or disables the onboard parallel port (LPT) and specifies its base I/O address and corresponding interrupt. Options are: 378/IRQ7 (default), 278/IRQ5, 3BC/IRQ7, Disabled.

☞ **Parallel Port Mode**

Selects an operating mode for the onboard parallel (LPT) port. Options are: SPP (Standard Parallel Port) (default), EPP (Enhanced Parallel Port), ECP (Extended Capabilities Port), ECP+EPP.

☞ **USB 1.0 Controller**

Enables or disables the integrated USB 1.0 controller. (Default: Enabled)

Disabled will turn off all of the USB functionalities below.

☞ **USB 2.0 Controller**

Enables or disables the integrated USB 2.0 controller. (Default: Enabled)

☞ **USB Keyboard Function**

Allows USB keyboard to be used in MS-DOS. (Default: Disabled)

☞ **USB Mouse Function**

Allows USB mouse to be used in MS-DOS. (Default: Disabled)

☞ **USB Storage Function**

Determines whether to detect USB storage devices, including USB flash drives and USB hard drives during the POST. (Default: Enabled)

HPET Mode^(Note)

Allows you to select the HPET mode for your Windows 7/Vista operating system. Select **32-bit mode** when you install 32-bit Windows 7/Vista; select **64-bit mode** when you install 64-bit Windows 7/Vista. This item is configurable only if the **HPET Support** is set to **Enabled**. (Default: 32-bit mode)

Power On By Mouse

Allows the system to be turned on by a PS/2 mouse wake-up event.

Note: To use this function, you need an ATX power supply providing at least 1A on the +5VSB lead.

- » Disabled Disables this function. (Default)
- » Double Click Double click on left button on the PS/2 mouse to turn on the system.

Power On By Keyboard

Allows the system to be turned on by a PS/2 keyboard wake-up event.

Note: To use this function, you need an ATX power supply providing at least 1A on the +5VSB lead.

- » Disabled Disables this function. (Default)
- » Password Set a password with 1~5 characters to turn on the system.
- » Keyboard 98 Press POWER button on the Windows 98 keyboard to turn on the system.

KB Power ON Password

Set the password when **Power On by Keyboard** is set to **Password**. Press <Enter> on this item and set a password with up to 5 characters and then press <Enter> to accept. To turn on the system, enter the password and press <Enter>.

Note: To cancel the password, press <Enter> on this item. When prompted for the password, press <Enter> again without entering the password to clear the password settings.

AC Back Function

Determines the state of the system after the return of power from an AC power loss.

- » Soft-Off The system stays off upon the return of the AC power. (Default)
- » Full-On The system is turned on upon the return of the AC power.
- » Memory The system returns to its last known awake state upon the return of the AC power.

ErP Support

Determines whether to let the system consume least power in S5 (shutdown) state. (Default: Disabled)

Note: When this item is set to Enabled, the following functions will become unavailable: PME event wake up, power on by mouse, power on by keyboard, and wake on LAN.

2-7 PnP/PCI Configurations

| CMOS Setup Utility-Copyright (C) 1984-2010 Award Software | | | | | |
|---|---------------|------------------------|-----------|------------------------|------------------|
| PnP/PCI Configurations | | | | | |
| PCI1 IRQ Assignment [Auto] | | | | Item Help | |
| | | | | Menu Level ▶ | |
| ↑↓→←: Move | Enter: Select | +/-/PU/PD: Value | F10: Save | ESC: Exit | F1: General Help |
| F5: Previous Values | | F6: Fail-Safe Defaults | | F7: Optimized Defaults | |

PCI1 IRQ Assignment

- » Auto BIOS auto-assigns IRQ to the first PCI slot. (Default)
- » 3,4,5,7,9,10,11,12,14,15 Assigns IRQ 3,4,5,7,9,10,11,12,14,15 to the first PCI slot.

(Note) Supported on Windows 7/Vista operating system only.

2-8 PC Health Status

| CMOS Setup Utility-Copyright (C) 1984-2010 Award Software | | |
|---|---|--------------|
| PC Health Status | | |
| Reset Case Open Status | [Disabled] | Item Help |
| Case Opened | No | Menu Level ▶ |
| Vcore | 1.220V | |
| DDR15V | 1.504V | |
| +3.3V | 3.392V | |
| +12V | 12.048V | |
| Current CPU Temperature | 40°C | |
| Current CPU FAN Speed | 3375 RPM | |
| Current SYSTEM FAN Speed | 0 RPM | |
| CPU Smart FAN Control | [Enabled] | |
| ↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help | F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults | |

- ☞ **Reset Case Open Status**
 - ▶▶ Disabled Keeps or clears the record of previous chassis intrusion status. (Default)
 - ▶▶ Enabled Clears the record of previous chassis intrusion status and the **Case Open** field will show "No" at next boot.
- ☞ **Case Open**

Displays the detection status of the chassis intrusion detection device attached to the motherboard CI header. If the system chassis cover is removed, this field will show "Yes", otherwise it will show "No". To clear the chassis intrusion status record, set **Reset Case Open Status** to **Enabled**, save the settings to the CMOS, and then restart your system.
- ☞ **Vcore/DDR15V/+3.3V/+12V**

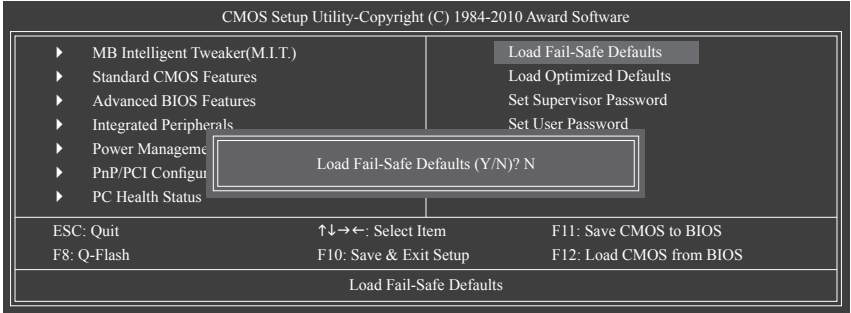
Displays the current system voltages.
- ☞ **Current CPU Temperature**

Displays current CPU temperature.
- ☞ **Current CPU/System Fan Speed**

Displays current CPU/system fan speeds.
- ☞ **CPU Smart FAN Control**

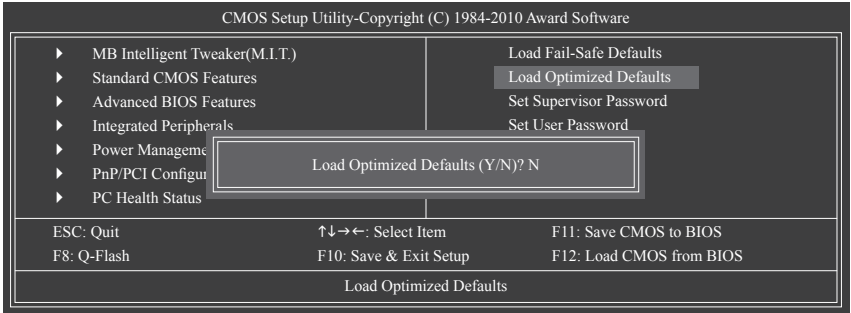
Enables or disables the CPU fan speed control function. **Enabled** allows the CPU fan to run at different speed according to the CPU temperature. You can adjust the fan speed with EasyTune based on system requirements. If disabled, the CPU fan runs at full speed. (Default: Enabled)

2-9 Load Fail-Safe Defaults



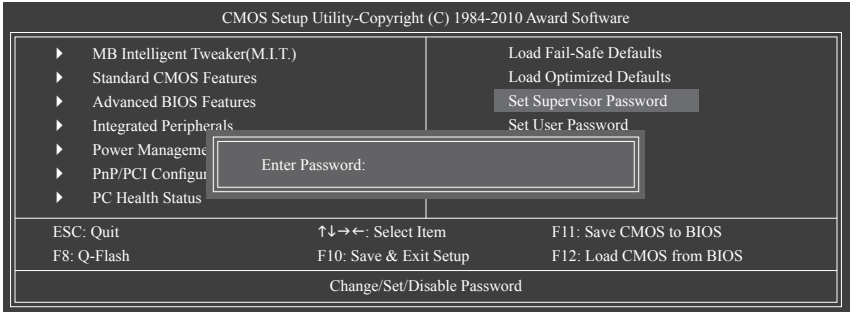
Press <Enter> on this item and then press the <Y> key to load the safest BIOS default settings. In case system instability occurs, you may try to load Fail-Safe defaults, which are the safest and most stable BIOS settings for the motherboard.

2-10 Load Optimized Defaults



Press <Enter> on this item and then press the <Y> key to load the optimal BIOS default settings. The BIOS default settings help the system to operate in optimum state. Always load the Optimized defaults after updating the BIOS or after clearing the CMOS values.

2-11 Set Supervisor/User Password



Press <Enter> on this item and type the password with up to 8 characters and then press <Enter>. You will be requested to confirm the password. Type the password again and press <Enter>.

The BIOS Setup program allows you to specify two separate passwords:

☞ Supervisor Password

When a system password is set and the **Password Check** item in **Advanced BIOS Features** is set to **Setup**, you must enter the supervisor password for entering BIOS Setup and making BIOS changes.

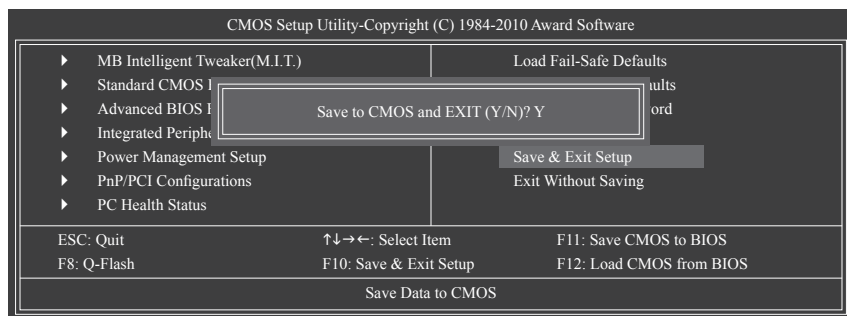
When the **Password Check** item is set to **System**, you must enter the supervisor password (or user password) at system startup and when entering BIOS Setup.

☞ User Password

When the **Password Check** item is set to **System**, you must enter the supervisor password (or user password) at system startup to continue system boot. In BIOS Setup, you must enter the supervisor password if you wish to make changes to BIOS settings. The user password only allows you to view the BIOS settings but not to make changes.

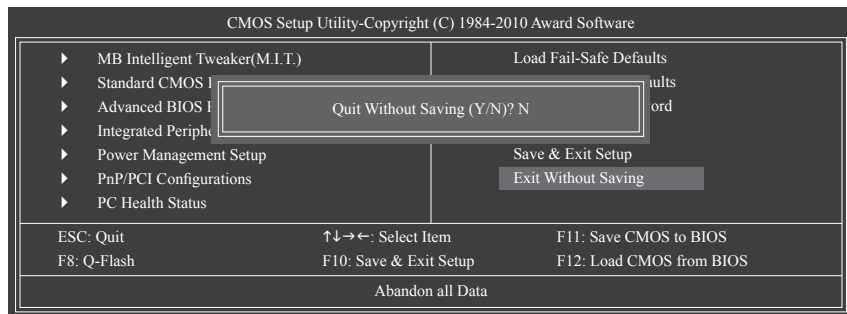
To clear the password, press <Enter> on the password item and when requested for the password, press <Enter> again. The message "PASSWORD DISABLED" will appear, indicating the password has been cancelled.

2-12 Save & Exit Setup



Press <Enter> on this item and press the <Y> key. This saves the changes to the CMOS and exits the BIOS Setup program. Press <N> or <Esc> to return to the BIOS Setup Main Menu.

2-13 Exit Without Saving



Press <Enter> on this item and press the <Y> key. This exits the BIOS Setup without saving the changes made in BIOS Setup to the CMOS. Press <N> or <Esc> to return to the BIOS Setup Main Menu.

Chapter 3 Appendix

Drivers Installation



- Before installing the drivers, first install the operating system.
- After installing the operating system, insert the motherboard driver disk into your optical drive. The driver Autorun screen is automatically displayed which looks like that shown in the screen shot below. (If the driver Autorun screen does not appear automatically, go to My Computer, double-click the optical drive and execute the **Run.exe** program.)

After inserting the driver disk, "Xpress Install" will automatically scan your system and then list all the drivers that are recommended to install. You can click the **Install All** button and "Xpress Install" will install all the recommended drivers. Or click **Install Single Items** to manually select the drivers you wish to install.

Regulatory Statements

Regulatory Notices

This document must not be copied without our written permission, and the contents there of must not be imparted to a third party nor be used for any unauthorized purpose.

Contravention will be prosecuted. We believe that the information contained herein was accurate in all respects at the time of printing. GIGABYTE cannot, however, assume any responsibility for errors or omissions in this text. Also note that the information in this document is subject to change without notice and should not be construed as a commitment by GIGABYTE.

Our Commitment to Preserving the Environment

In addition to high-efficiency performance, all GIGABYTE motherboards fulfill European Union regulations for RoHS (Restriction of Certain Hazardous Substances in Electrical and Electronic Equipment) and WEEE (Waste Electrical and Electronic Equipment) environmental directives, as well as most major worldwide safety requirements. To prevent releases of harmful substances into the environment and to maximize the use of our natural resources, GIGABYTE provides the following information on how you can responsibly recycle or reuse most of the materials in your "end of life" product.

Restriction of Hazardous Substances (RoHS) Directive Statement

GIGABYTE products have not intended to add and safe from hazardous substances (Cd, Pb, Hg, Cr+6, PBDE and PBB). The parts and components have been carefully selected to meet RoHS requirement. Moreover, we at GIGABYTE are continuing our efforts to develop products that do not use internationally banned toxic chemicals.

Waste Electrical & Electronic Equipment (WEEE) Directive Statement

GIGABYTE will fulfill the national laws as interpreted from the 2002/96/EC WEEE (Waste Electrical and Electronic Equipment) directive. The WEEE Directive specifies the treatment, collection, recycling and disposal of electric and electronic devices and their components. Under the Directive, used equipment must be marked, collected separately, and disposed of properly.

WEEE Symbol Statement



The symbol shown below is on the product or on its packaging, which indicates that this product must not be disposed of with other waste. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling and disposal procedure. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local government office, your household waste disposal service or where you purchased the product for details of environmentally safe recycling.

- ♦ When your electrical or electronic equipment is no longer useful to you, "take it back" to your local or regional waste collection administration for recycling.
- ♦ If you need further assistance in recycling, reusing in your "end of life" product, you may contact us at the Customer Care number listed in your product's user's manual and we will be glad to help you with your effort.

Finally, we suggest that you practice other environmentally friendly actions by understanding and using the energy-saving features of this product (where applicable), recycling the inner and outer packaging (including shipping containers) this product was delivered in, and by disposing of or recycling used batteries properly. With your help, we can reduce the amount of natural resources needed to produce electrical and electronic equipment, minimize the use of landfills for the disposal of "end of life" products, and generally improve our quality of life by ensuring that potentially hazardous substances are not released into the environment and are disposed of properly.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

[illegible]

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

[illegible]



Contact Us

GIGA-BYTE TECHNOLOGY CO., LTD.

Address: No.6, Bao Chiang Road, Hsin-Tien Dist., New Taipei City 231,Taiwan

TEL: +886-2-8912-4000, FAX: +886-2-8912-4005

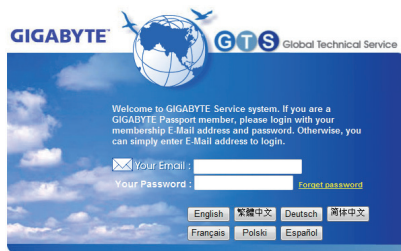
Tech. and Non-Tech. Support (Sales/Marketing) : <http://ggts.gigabyte.com.tw>

WEB address (English): <http://www.gigabyte.com>

WEB address (Chinese): <http://www.gigabyte.tw>

You may go to the GIGABYTE website, select your language in the language list on the top right corner of the website.

- **GIGABYTE Global Service System**



To submit a technical or non-technical (Sales/Marketing) question, please link to:

<http://ggts.gigabyte.com.tw>

Then select your language to enter the system.