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You can read the recommendations in the user guide, the technical guide or the installation guide for GIGABYTE GA-Z77-D3H. You'll find the answers to all your questions on the GIGABYTE GA-Z77-D3H in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual GIGABYTE GA-Z77-D3H
User guide GIGABYTE GA-Z77-D3H
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GA-Z77-D3H
GA-H77-D3H-MVP
GA-H77-D3H

User's Manual
Rev. 1101
2ME-Z77D3H-1101R



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Manual abstract:

For detailed product information, 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. 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. 64 Updating the BIOS with the Q-Flash Utility. 64 Updating the BIOS with the @BIOS Utility. @@The The box contents are subject to change without notice.

@@@These stickers are required for warranty validation. @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. -9- Hardware Installation 1-2 Product Specifications CPU Support for Intel

Core i7 processors/Intel Core i5 processors/ Intel Pentium processors/ Intel Celeron processors in the LGA1155 package (Go to GIGABYTE's website for the latest CPU support list.) L3 cache varies with CPU Intel Z77j/Intel H77kl Express Chipset 4 x 1. 5V DDR3 DIMM sockets supporting up to 32 GB of system memory * 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. Chipset Memory Support for DDR3 1600/1333/1066 MHz memory modules Support for non-ECC memory modules Support for Extreme Memory Profile (XMP) memory modules * To support DDR3 1600 MHz, you must install an Intel 22nm (Ivy Bridge) CPU. KI Onboard Graphics * To support XMP memory, you must install an Intel 22nm (Ivy Bridge) CPU.

KI (Go to GIGABYTE's website for the latest supported memory speeds and memory modules. 1-channel Support for S/PDIF Out Atheros GbE LAN chip (10/100/1000 Mbit) 1 x PCI Express x16 slot, running at x16 (PCIEX16) (The PCIEX16 slot conforms to PCI Express 3. 0 standard.) LAN Expansion Slots * For optimum performance, if only one PCI Express graphics card is to be installed, be sure to install it in the PCIEX16 slot. * Whether PCI Express 3. 0 is supported depends on CPU and graphics card compatibility. * The PCIEX4 slot shares bandwidth with the PCIEX1_2/3 slots. The PCIEX1_2/3 slots will become unavailable when a PCIe x4 expansion card is installed. 1 x PCI Express x16 slot, running at x4 (PCIEX4) Multi-Graphics Support for AMD CrossFireX technology Technology j Only for GA-Z77-D3H.) 2 x PCI slots Storage Interface Chipset: - 2 x SATA 6Gb/s connectors (SATA3 0/SATA3 1) supporting up to 2 SATA 6Gb/s devices - 4 x SATA 3Gb/s connectors (SATA2 2~SATA2 5) supporting up to 4 SATA 3Gb/s devices - 1 x mSATA connector * The SATA2 5 connector will become unavailable when the mSATA connector is installed with a solid state drive.

* When a RAID set is built across the SATA 6Gb/s and SATA 3Gb/s channels, the system performance of the RAID set may vary depending on the devices being connected. 0 ports (2 ports on the back panel, 2 ports available through the internal USB header) * In Windows XP, the Intel USB 3. 1 ports (4 ports on the back panel, 6 ports available through the internal USB headers) Etron EJ168 chip: - Up to 2 USB 3. 0/2. 0 ports on the back panel 1 x 24-pin ATX main power connector 1 x 8-pin ATX 12V power connector 2 x SATA 6Gb/s connectors 4 x SATA 3Gb/s connectors 1 x mSATA connector 1 x CPU fan header 3 x system fan headers 1 x front panel header 1 x front panel audio header 1 x S/PDIF Out header 1 x USB 3.

1 ports 1 x RJ-45 port 1 x optical S/PDIF Out connector 5 x audio jacks (Center/Subwoofer Speaker Out, Rear Speaker Out, Side Speaker Out, Line In/Mic In, Line Out) - - 11 - Hardware Installation I/O Controller Hardware Monitor iTE I/O Controller Chip System voltage detection CPU/System temperature detection CPU/System fan speed detection CPU overheating warning CPU/System fan fail warning CPU/System fan speed control * Whether the CPU/system fan speed control function is supported will depend on the CPU/system cooler you install. 0a Support for @BIOS Support for Q-Flash Support for Xpress Install Support for Xpress Recovery2 Support for EasyTune Support for eXtreme Hard Drive (X. h. D) Support for Auto Green Support for ON/OFF Charge Support for Q-Share Support for 3D Power Support for EZ Setup Norton Internet Security (OEM version) Intel Rapid Start Technology Intel Smart Connect Technology Intel Smart Response Technology LucidLogix Virtu MVPjk * Available functions in EasyTune may differ by motherboard model. Bundled Software * Make sure the monitor cable has been connected to the integrated graphics port on the back panel. 4cm * GIGABYTE reserves the right to make any changes to the product specifications and product-related information without G prior notice.



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* Please visit GIGABYTE's website to check the supported operating system(s) for the software listed in the "Unique Features" and "Bundled Software" columns. Hardware Installation - 12 - 1-3 Installing the CPU and CPU Cooler Read the following guidelines before you begin to install the CPU: Make sure that the motherboard supports the CPU. (Go to GIGABYTE's website for the latest CPU support list.) Always turn off the computer and unplug the power cord from the power outlet before installing the CPU to prevent hardware damage. Locate the pin one of the CPU. The CPU cannot be inserted if oriented incorrectly. (Or you may locate the notches on both sides of the CPU and alignment keys on the CPU socket.) Apply an even and thin layer of thermal grease on the surface of the CPU. Do not turn on the computer if the CPU cooler is not installed, otherwise overheating and damage of the CPU may occur.

Set the CPU host frequency in accordance with the CPU specifications. It is not recommended that the system bus frequency be set beyond hardware specifications since it does not meet the standard requirements for the peripherals. If you wish to set the frequency beyond the standard specifications, please do so according to your hardware specifications including the CPU, graphics card, memory, hard drive, etc. 1-3-1 Installing the CPU A. Locate the alignment keys on the motherboard CPU socket and the notches on the CPU. LGA1155 CPU Socket Alignment Key Alignment Key Pin One Corner of the CPU Socket LGA1155 CPU Notch Notch Triangle Pin One Marking on the CPU - 13 - Hardware Installation B. Follow the steps below to correctly install the CPU into the motherboard CPU socket. Before installing the CPU, make sure to turn off the computer and unplug the power cord from the power outlet to prevent damage to the CPU. Step 1: Gently press the CPU socket lever handle down and away from the socket with your finger. Then completely lift the CPU socket lever and the metal load plate will be lifted as well.

Step 2: Remove the CPU socket cover as shown. Hold your index finger down on the rear grip of the socket cover and use your thumb to lift up the front edge (next to the "REMOVE" mark) and then remove the cover. (DO NOT touch socket contacts. To protect the CPU socket, always replace the protective socket cover when the CPU is not installed.) Step 3: Hold the CPU with your thumb and index fingers.

Align the CPU pin one marking (triangle) with the pin one corner of the CPU socket (or you may align the CPU notches with the socket alignment keys) and gently insert the CPU into position. Step 4: Once the CPU is properly inserted, use one hand to hold the socket lever and use the other to lightly replace the load plate. When replacing the load plate, make sure the front end of the load plate is under the shoulder screw. Step 5: Push the CPU socket lever back into its locked position. NOTE: Hold the CPU socket lever by the handle, not the lever base portion.

Hardware Installation - 14 - 1-3-2 Installing the CPU Cooler Follow the steps below to correctly install the CPU cooler on the motherboard. (The following procedure uses Intel's boxed cooler as the example cooler.) Direction of the Arrow Sign on the Male Push Pin Male Push Pin The Top of Female Push Pin Female Push Pin Step 1: Apply an even and thin layer of thermal grease on the surface of the installed CPU. Step 2: Before installing the cooler, note the direction of the arrow sign on the male push pin. (Turning the push pin along the direction of arrow is to remove the cooler, on the contrary, is to install.) Step 3: Place the cooler atop the CPU, aligning the four push pins through the pin holes on the motherboard. Push down on the push pins diagonally. Step 4: You should hear a "click" when pushing down each push pin. Check that the Male and Female push pins are joined closely. (Refer to your CPU cooler installation manual for instructions on installing the cooler.)

Step 5: After the installation, check the back of the motherboard. If the push pin is inserted as the picture above shows, the installation is complete. Step 6: Finally, attach the power connector of the CPU cooler to the CPU fan header (CPU_FAN) on the motherboard to the chassis back panel with a screw. 5. After installing all expansion cards, replace the chassis cover(s). 6. Turn on your computer. If necessary, go to BIOS Setup to make any required BIOS changes for your expansion card(s). 7. Install the driver provided with the expansion card in your operating system.

Example: Installing and Removing a PCI Express Graphics Card: Installing a Graphics Card: Gently push down on the top 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. To meet expansion requirements, it is recommended that a power supply that can withstand high power consumption be used (500W or greater).

If a power supply is used that does not provide the required power, the result can lead to an unstable or unbootable system. aTX_12V_2X4: 8 4 5 1 ATX_12V_2X4 Pin No. 1 2 3 4 5 6 7 8 Definition GND (Only for 2x4-pin 12V) GND (Only for 2x4-pin 12V) GND GND +12V (Only for 2x4-pin 12V) +12V (Only for 2x4-pin 12V) +12V +12V ATX: 12 24 1 13 Pin No. 3V -12V GND PS_ON (soft On/Off) GND GND GND -5V +5V +5V +5V (Only for 2x12-pin ATX) GND (Only for 2x12-pin ATX) Hardware Installation - 22 - 3/4 CPU_FAN/SYS_FAN1/SYS_FAN2/SYS_FAN3 (Fan Headers) All fan headers on this motherboard are 4-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 speed control function requires the use of a fan with fan speed control design. For optimum heat dissipation, it is recommended that a system fan be installed inside the chassis. 1 2 3 4 1 SYS_FAN2 1 SYS_FAN3 SYS_FAN 2/3: 5) BAT (Battery) Be sure to connect fan cables to the fan headers to prevent your CPU and system from overheating. Overheating may result in damage to the CPU or the system may hang. These fan headers are not configuration jumper blocks. Do not place a jumper cap on the headers. 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.)



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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. - 23 - Hardware Installation 6) SATA3 0/1 (SATA 6Gb/s Connectors, Controlled by Intel Z77/H77 Chipset) The SATA connectors conform to SATA 6Gb/s standard and are compatible with SATA 3Gb/s and SATA 1.5Gb/s standard. Each SATA connector supports a single SATA device. (Please use the included SATA 6Gb/s cable).

The SATA3 0/1 connectors support RAID 0 and RAID 1. RAID 5 and RAID 10 can be implemented on the two connectors with the "SATA2 2/3/4/5" and mSATA connectors (Note). 1 2 3 4 5 6 7 Definition GND TXP TXN GND RXN RXP GND SATA3 7 7 1 1 0 DEBUG PORT 7) SATA2 2/3/4/5 (SATA 3Gb/s Connectors, Controlled by Intel Z77/H77 Chipset) 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.

If more than two hard drives are to be used, the total number of hard drives must be an even number. A RAID 5 configuration requires at least three hard drives. (The total number of hard drives does not have to be an even number.) A RAID 10 configuration requires four hard drives. (Note) When a RAID set is built across the SATA 6Gb/s and SATA 3Gb/s channels, the system performance of the RAID set may vary depending on the devices being connected. Hardware Installation - 24 DEBUG PORT DEBUG PORT F_AUDIO(H) F_PANEL(NH) F_PANEL (H61M-D2) 8) mSATA (Solid-State Drive Connector, Controlled by the Intel Z77/H77 Chipset) The mSATA connector conforms to SATA 3Gb/s standard and can connect to a single solid-state drive. When the mSATA connector is installed with a solid-state drive, the SATA2 5 connector will become unavailable. DB_PORT BIOS Switcher (X58A-OC) 1 mSATA M_SATA Voltage measurement module(X58A-OC) PWM Switch (X58A-OC) DIP 1 2 3 1 2 3 1 DIP 1 2 3 PCIe power connector (SATA)(X58A-OC) 9) CLR_CMOS (Clear CMOS Jumper) Use this jumper to clear the CMOS values (e. g. Date information and BIOS configurations) and reset the CMOS values to factory defaults.

To clear the CMOS values, use a metal object like a screwdriver to touch the two pins for a few seconds. Open: Normal Always turn off your computer and unplug the power cord from the power outlet before clearing the CMOS values. After system restart, go to BIOS Setup to load factory defaults (select Load Optimized Defaults) or manually configure the BIOS settings (refer to Chapter 2, "BIOS Setup," for BIOS configurations). DIP 1 1 1 2 3 DIP Short: Clear CMOS Values - 25 - Hardware Installation 10) F_PANEL (Front Panel Header) Connect the power switch, reset switch, speaker, chassis intrusion switch/sensor 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. Message/Power/ Sleep LED Power Switch Speaker MSG+ MSGPW+ PW- SPEAK+ 2 1 HD+ HDRESRES+ CICI+ PWR+ PWR-SPEAK20 19 Hard Drive Activity LED Reset Switch Power LED Chassis Intrusion Header MSG/PWR (Message/Power/Sleep LED, Yellow/Purple): Connects to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED is off when the system is in S3/S4 sleep state or powered off (S5). PW (Power Switch, Red): 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," for more information).

SPEAK (Speaker, Orange): Connects to the speaker on the chassis front panel. the system reports system startup status by issuing a beep code. One single short beep will be heard if no problem is detected at system startup. HD (Hard Drive Activity LED, Blue): 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, Green): 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. CI (Chassis Intrusion Header, Gray): Connects to the chassis intrusion switch/sensor on the chassis that can detect if the chassis cover has been removed. This function requires a chassis with a chassis intrusion switch/sensor. System Status LED S0 On S3/S4/S5 Off 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, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assignments are matched correctly. hardware Installation - 26 - 11) 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. If your chassis provides an AC'97 front panel audio module, refer to the instructions on how to activate AC'97 functionality via the audio software in Chapter 5, "Configuring 2/4/5." Audio signals will be present on both of the front and back panel audio connections simultaneously. If you want to mute the back panel audio (only supported when using an HD front panel audio module), refer to Chapter 5, "Configuring 2/4/5." 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. 12) SPDIF_O (S/PDIF Out Header) This header supports digital S/PDIF Out and connects a S/PDIF digital audio cable (provided by expansion cards) for digital audio output from your motherboard to certain expansion cards like graphics cards and sound cards. For example, some graphics cards may require you to use a S/PDIF digital audio cable for digital audio output from your motherboard to your graphics card if you wish to connect an HDMI display to the graphics card and have digital audio output from the HDMI display at the same time.



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For information about connecting the S/PDIF digital audio cable, carefully read the manual for your expansion card. Each USB header can provide two USB ports via an optional USB bracket. For purchasing the optional USB bracket, please contact the local dealer. 0 specification and can provide two USB ports. For purchasing the optional 3.5" front panel that provides two USB 3.1 12 13 14 15 16 17 18 19 20 Definition D2+ D2GND SSTX2+ SSTX2GND SSRX2+ SSRX2VBUS No Pin 10 F_PANEL(NH) 11 1 20 Do not plug the IEEE 1394 bracket (2x5-pin) cable into the USB 2.

⌘ 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. hardware Installation - 28 - TPM w/housing F_USB30 15) COMA (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. 1 2 3 4 5 6 7 8 9 10 Definition NDCDNSIN NSOUT NDTRGND NDSRNRTSNCTSNRIF_AUDIO(H) No Pin 9 10 1 2 F_USB30 DB_PORT 16) TPM (Trusted Platform Module Header) You may connect a TPM (Trusted Platform Module) to this header.

11 12 13 14 15 16 17 18 19 20 Definition LAD0 GND NC ID SB3V SERIRQ GND NC NC SUSCLK - 29 - Hardware Installation Hardware Installation - 30 - Chapter 2 BIOS Setup BIOS (Basic Input and Output System) records hardware parameters of the system in the CMOS on the motherboard. Its major functions include conducting the Power-On Self-Test (POST) during system startup, saving system parameters and loading operating system, etc. BIOS includes a BIOS Setup program that allows the user to modify basic system configuration settings or to activate certain system features. 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 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. For instructions on using the Q-Flash and @BIOS utilities, refer to Chapter 4, "BIOS Update Utilities." ⌘ 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.) - 31 - BIOS Setup 2-1 The following startup Logo screen will appear when the computer boots. Startup Screen Function Keys Function Keys:

: BIOS SETUP\Q-FLASH Press the <Delete> key to enter BIOS Setup or to access the Q-Flash utility in BIOS Setup. <F9>: SYSTEM INFORMATION Press the <F9> key to display your system information. <F12>: BOOT MENU Boot Menu allows you to set the first boot device without entering BIOS Setup. In Boot Menu, use the up arrow key <h> or the down arrow key <i> to select the first boot device, then press <Enter> to accept. The system will boot from the device immediately. Note: The setting in Boot Menu is effective for one time only. After system restart, the device boot order will still be based on BIOS Setup settings. <END>: Q-FLASH Press the <End> key to access the Q-Flash utility directly without having to enter BIOS Setup first.

BIOS Setup - 32 - 2-2 A. The 3D BIOS Screen (Default) The Main Menu On GIGABYTE's uniquely designed 3D BIOS screen, you can use your mouse to move through the motherboard image and click to enter the function menu in each area for quick configuration. For example, pass your mouse arrow over the CPU and memory sockets and enter the System Tuning menu to configure CPU/memory frequency, memory timings, and voltage settings. For more detailed configuration items, you can click the function menu icons at the bottom of the screen or press <F1> to switch to the main menu of the BIOS Setup program.

(If a mouse is not connected, the 3D BIOS screen will automatically switch to the main menu of the BIOS Setup Program.

) B. The Main Menu of the BIOS Setup Program (Sample BIOS Version: F15f) On the main menu of the BIOS Setup program, press arrow keys to move among the items and press <Enter> to accept or enter a sub-menu. Or you can use your mouse to select the item you want. Setup Menus Switch to 3D BIOS Screen Enter Q-Flash Select Default Language Help Function Keys Configuration Items Current Settings - 33 - BIOS Setup BIOS Setup Program Function Keys <f><g> <h><i> <Enter> <+>/<Page Up> <->/<Page Down> <F5> <F7> <F8> <F9> <F10> <F12> <Esc> Move the selection bar to select a setup menu Move the selection bar to select an configuration item on a menu Execute command or enter a menu Increase the numeric value or make changes Decrease the numeric value or make changes Restore the previous BIOS settings for the current submenus Load the Optimized BIOS default settings for the current submenus Access the Q-Flash utility Display system information Save all the changes and exit the BIOS Setup program Capture the current screen as an image and save it to your USB drive Main Menu: Exit the BIOS Setup program Submenus: Exit current submenu BIOS Setup Menus ⌘ M. ⌘ System Use

this menu to configure the clock, frequency, and voltages of your CPU and memory, etc. or check the system/CPU temperatures, voltages, and fan speeds. Use this menu to configure the default language used by the BIOS and system time and date. This menu also displays information on the devices connected to the SATA ports. Use this menu to configure the device boot order, advanced features available on the CPU, and the primary display adapter. use this menu to configure all peripheral devices, such as SATA, USB, integrated audio, and integrated LAN, etc. Use this menu to configure all the power-saving functions. ⌘ BIOS Features ⌘ Peripherals ⌘ Power Management ⌘ Save & Exit Save all the changes made in the BIOS Setup program to the CMOS and exit BIOS Setup.



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You can save the current BIOS settings to a profile or load optimized defaults for optimal-performance system operations. ¶ If the system is not stable as usual, load optimized defaults 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.

Whether the system will work stably with the overclock/overvoltage settings you made is dependent on your overall system configurations. Incorrectly doing overclock/overvoltage may result in damage to CPU, chipset, or memory and reduce the useful life of these components. This page is for advanced users only and we recommend you not to alter the default settings to prevent system instability or other unexpected results. (Inadequately altering the settings may result in system's failure to boot. If this occurs, clear the CMOS values and reset the board to default values.) This section provides information on the BIOS version, CPU base clock, CPU frequency, memory frequency, total memory size , CPU temperature, Vcore, and memory voltage. ``Advanced Frequency

Settings & CPU/PCIe Base Clock & Processor Graphics Clock Allows you to manually set the CPU base clock and PCIe bus frequency in 0.01 MHz increments. (Default: Auto) Important: It is highly recommended that the CPU frequency be set in accordance with the CPU specifications. Allows you to set the onboard graphics clock.

The adjustable range is from 400 MHz to 3200 MHz. (Default: Auto) & CPU Clock Ratio & CPU Frequency Allows you to alter the clock ratio for the installed CPU. The adjustable range is dependent on the CPU being installed. displays the current operating CPU frequency. BIOS Setup - 36 - `Advanced CPU Core Features & CPU Clock Ratio, CPU Frequency & Intel(R) Turbo Boost Technology (Note) The settings under the two items above are synchronous to those under the same items on the Advanced Frequency Settings menu.

Allows you to determine whether to enable the Intel CPU Turbo Boost technology. Auto lets the BIOS automatically configure this setting. (Default: Auto) Allows you to set the CPU Turbo ratios for different number of active cores. Auto sets the CPU Turbo ratios according to the CPU specifications. (Default: Auto) Allows you to set a power limit for CPU Turbo mode.

When the CPU power consumption exceeds the specified power limit, the CPU will automatically reduce the core frequency in order to reduce the power. Auto sets the current limit according to the CPU specifications. (Default: Auto) Allows you to set a current limit for CPU Turbo mode. When the CPU current exceeds the specified current limit, the CPU will automatically reduce the core frequency in order to reduce the current. Auto sets the current limit according to the CPU specifications. (Default: Auto) Allows you to determine whether to enable all CPU cores. Auto lets the BIOS automatically configure this setting. (Default: Auto) Allows you to determine whether to enable multi-threading technology when using an Intel CPU that supports this function. This feature only works for operating systems that support multi-processor mode. Auto lets the BIOS automatically configure this setting.

(Default: Auto) & Turbo Ratio (1-Core Active~4-Core Active) (Note) & Turbo Power Limit (Watts) & Core Current Limit (Amps) & CPU Core Enabled (Note) & Hyper-Threading Technology (Note) This item is present only when you install a CPU that supports this feature. For more information about Intel CPUs' unique features, please visit Intel's website. - 37 BIOS Setup & CPU Enhanced Halt (C1E) (Note 1) & C3/C6 State Support (Note 1) Enables or disables Intel CPU Enhanced Halt (C1E) function , a CPU power-saving function in system halt state. When enabled, the CPU core frequency and voltage will be reduced during system halt state to decrease power consumption. Auto lets the BIOS automatically configure this setting. (Default: Auto) Allows you to determine whether to let the CPU enter C3/C6 mode in system halt state. When enabled, the CPU core frequency and voltage will be reduced during system halt state to decrease power consumption. The C3/C6 state is a more enhanced power-saving state than C1. Auto lets the BIOS automatically configure this setting. (Default: Auto) Enables or disables Intel CPU Thermal Monitor function , a CPU overheating protection function.

When enabled, the CPU core frequency and voltage will be reduced when the CPU is overheated. Auto lets the BIOS automatically configure this setting. (Default: Auto) & CPU Thermal Monitor (Note 1) & CPU EIST Function (Note 1) Enables or disables Enhanced Intel SpeedStep Technology (EIST). Depending on CPU loading, Intel EIST technology can dynamically and effectively lower the CPU voltage and core frequency to decrease average power consumption and heat production. Auto lets the BIOS automatically configure this setting.

) (Note 2) & System Memory Multiplier & Memory Frequency(Mhz) Allows the BIOS to read the SPD data on XMP memory module(s) to enhance memory performance when enabled. Allows you to set the system memory multiplier. Auto sets memory multiplier according to memory SPD data. (Default: Auto) The first memory frequency value is the normal operating frequency of the memory being used; the second is the memory frequency that is automatically adjusted according to the System Memory Multiplier settings. (Note 1) This item is present only when you install a CPU that supports this feature.

For more information about Intel CPUs' unique features, please visit Intel's website. (Note 2) This item is present only when you install a CPU and a memory module that support this feature.)(Note), System Memory Multiplier (SPD), Memory Frequency(Mhz) & Performance Enhance The settings under the three items above are synchronous to those under the same items on the Advanced Frequency Settings menu. Allows the system to operate at three different performance levels. ¶Normal Lets the system operate at its basic performance level. ¶Turbo Lets the system operate at its good performance level. (Default) ¶Extreme Lets the system operate at its best performance level. Quick and Expert allows the Channel Interleaving, Rank Interleaving, and memory timing settings below to be configurable. options are: Auto (default) , Quick , Expert. When using a non-XMP memory module or Extreme Memory Profile (X.

) is set to Profile1 or Profile2, this item will display the value based on the SPD data on the XMP memory. The value displayed here is dependent on the CPU being used. & DRAM Timing Selectable (SPD) & Profile DDR Voltage & Profile VTT Voltage & Channel Interleaving & Rank Interleaving Enables or disables memory channel interleaving. Enabled allows the system to simultaneously access different channels of the memory to increase memory performance and stability. Auto lets the BIOS automatically configure this setting.



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(Default: Auto) Enables or disables memory rank interleaving. Enabled allows the system to simultaneously access different ranks of the memory to increase memory performance and stability. Auto lets the BIOS automatically configure this setting. (Default: Auto) This item is present only when you install a CPU and a memory module that support this feature. - 39 BIOS Setup (Note) `Channel A/B Timing Settings This sub-menu provides memory timing settings for each channel of memory.

The respective timing setting screens are configurable only when DRAM Timing Selectable is set to Quick or Expert. Note: Your system may become unstable or fail to boot after you make changes on the memory timings. If this occurs, please reset the board to default values by loading optimized defaults or clearing the CMOS values. `Advanced Voltage Settings BIOS Setup - 40 - `3D Power Control & PWM Phase Control Allows you to automatically change the PWM phase according to the CPU load. The power-saving levels are (from lowest to highest): eXm Perf (Extreme Performance), High Perf (High Performance), Perf (Performance), Balanced, Mid PWR (Mid Power), and Lite PWR (Light Power).

Auto lets the BIOS automatically configure this setting. (Default: Auto). & Vcore Voltage Response Allows you to configure the response time for Vcore changes using preset levels. Auto Lets the BIOS automatically configure this setting. (Default) Standard~Fast Selects Standard or Fast which represents different levels of the response time for Vcore changes.

& Vcore Loadline Calibration & GFX Voltage Loadline Calibration Allows you to set the Load-Line Calibration level for the Vcore. The levels are (from highest to lowest): Extreme, Turbo, High, Medium, Low, and Standard. Selecting a higher level keeps the Vcore more consistent with what is set in BIOS under heavy load. Auto lets the BIOS automatically configure this setting and sets the voltage following Intel's specifications. (Default: Auto) Allows you to set the Load-Line Calibration level for the GFX voltage. The levels are (from highest to lowest): High, Medium, Low, and Standard. Selecting a higher level keeps the GFX voltage more consistent with what is set in BIOS under heavy load. Auto lets the BIOS automatically configure this setting and sets the voltage following Intel's specifications. (Default: Auto) & Vcore Protection Allows you to set the voltage limit on the Vcore for over-voltage protection. The adjustable range is from 150.

Auto lets the BIOS automatically configure this setting. (Default: Auto) - 41 - BIOS Setup & Vcore Current Protection & GFX Current Protection Allows you to set the over-current protection level for the Vcore. Auto Lets the BIOS automatically configure this setting. (Default) Standard~Extreme Selects Standard, Low, Medium, High, Turbo, or Extreme which represents different level of over-current protection for the Vcore. Allows you to set the over-current protection level for the GFX voltage. Auto Lets the BIOS automatically configure this setting. (Default) Standard~Extreme Selects Standard, Low, Medium, High, Turbo, or Extreme which represents different level of over-current protection for the GFX voltage. Allows you to set the PWM thermal protection threshold for the Vcore area. Auto lets the BIOS automatically configure this setting. (Default) Enabled Clears the record of previous chassis intrusion status and the Case Open field will show "No" at next boot.

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. & CPU Warning Temperature & CPU/System Fan Fail Warning & CPU Fan Control Mode Sets the warning threshold for CPU temperature. When CPU temperature exceeds the threshold, BIOS will emit warning sound.

options are: Disabled (default) , 60oC/140oF , 70oC/158oF , 80oC/176oF , 90oC/194oF. Allows the system to emit warning sound if the CPU fan or system fans are not connected or fail. Check the fan condition or fan connection when this occurs. (Default: Disabled) Specifies how to control CPU fan speed. This item is configurable only when CPU FAN Speed Control is enabled.

Auto Lets the BIOS automatically detect the type of CPU fan installed and sets the optimal CPU fan control mode. Note: The Voltage mode can be set for a 3-pin CPU fan or a 4-pin CPU fan. However, for a 4-pin CPU fan that is not designed following Intel PWM fan specifications, selecting PWM mode may not effectively reduce the fan speed. Allows you to determine whether to enable the CPU fan speed control function and adjust the fan speed. Normal Allows the CPU fan to run at different speeds according to the CPU temperature. You can adjust the fan speed with EasyTune based on your system requirements. (Default) Silent Allows the CPU fan to run at slow speeds. Manual Allows you to control the CPU fan speed under the Slope PWM item. Disabled Allows the CPU fan to run at full speeds. Allows you to control the CPU fan speed.

This item is configurable only when CPU Fan Speed Control is set to Manual. Allows you to determine whether to enable the system fan speed control function and adjust the fan speed. Normal Allows the system fans to run at different speeds according to the system temperature. You can adjust the fan speed with EasyTune based on your system requirements. (Default) Silent Allows the system fans to run at slow speeds. Manual Allows you to control the system fans speed under the Slope PWM item. Disabled Allows the system fans to run at full speeds. Allows you to control the system fan speed. This item is configurable only when 1st/2nd/3rd System Fan Speed Control is set to Manual. & CPU Fan Speed Control & Slope PWM & 1st/2nd/3rd System Fan Speed Control & Slope PWM BIOS Setup - 44 - `Miscellaneous Settings & PEG Gen 3 Slot Configuration Allows you to set the operation mode of the PCI Express slots to Gen 1, Gen 2, or Gen 3.

Actual operation mode is subject to the hardware specification of each slot. For example, the PCI Express x1 slots can support up to Gen 2 mode only. Auto lets the BIOS automatically configure this setting. (Default: Auto) - 45 - BIOS Setup 2-4 System This section provides information on your CPU, memory, motherboard model, and BIOS version. You can also select the default language used by the BIOS and manually set the system time. & System Language & System Date Selects the default language used by the BIOS. & System Time Sets the system date. The date format is week (read-only), month, date and year. Use <Enter> to switch between the Month, Date, and Year fields and use the <Page Up> or <Page Down> key to set the desired value.



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sets the system time.

The time format is hour, minute, and second. Use <Enter> to switch between the Hour, Minute, and Second fields and use the <Page Up> or <Page Down> key to set the desired value. Displays the current access level depending on the type of password protection used. (If no password is set, the default will display as Administrator.) The Administrator level allows you to make changes to all BIOS settings; the User level only allows you to make changes to certain BIOS settings but not all. & Access Level`ATA Port Information This section provides information on the device connected to each SATA port controlled by Intel Z77/H77 Chipset. You can enable/disable each SATA port or enable/disable the hot plug capability. BIOS Setup - 46 - 2-5 BIOS Features & Boot Option Priorities & Hard Drive/CD/DVD ROM Drive/Floppy Drive/Network Device BBS Priorities Specifies the overall boot order from the available devices. For example, you can set hard drive as the first priority (Boot Option #1) and DVD ROM drive as the second priority (Boot Option #2). The list only displays the device with the highest priority for a specific type.

For example, only hard drive defined as the first priority on the Hard Drive BBS Priorities submenu will be presented here. Removable storage devices that support GPT format will be prefixed with "UEFI:" string on the boot device list. To boot from an operating system that supports GPT partitioning, select the device prefixed with "UEFI:" string. Or if you want to install an operating system that supports GPT partitioning such as Windows 7 64-bit, select the optical drive that contains the Windows 7 64-bit installation disk and is prefixed with "UEFI:" string. Specifies the boot order for a specific device type, such as hard drives, optical drives, floppy disk drives, and devices that support Boot from LAN function, etc. Press <Enter> on this item to enter the submenu that presents the devices of the same type that are connected. This item is present only if at least one device for this type is installed. Enables or disables Numlock feature on the numeric keypad of the keyboard after the POST. (Default: Enabled) Allows you to determine whether to display the GIGABYTE Logo at system startup.

Disabled skips the GIGABYTE Logo when the system starts up.

(Default: Enabled) Allows you to determine which Option ROM to launch. options are Legacy ROM and EFI Compatible ROM. (Default: EFI Compatible ROM) & Bootup NumLock State & Full Screen LOGO Show & PCI ROM Priority - 47 - BIOS Setup & Limit CPUID Maximum (Note) & Execute Disable Bit (Note) 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. This function may enhance protection for the computer, reducing exposure to viruses and malicious buffer overflow attacks when working with its supporting software and system.

(Default: Enabled) Enables or disables Intel Virtualization Technology. Virtualization enhanced by Intel Virtualization Technology will allow a platform to run multiple operating systems and applications in independent partitions. With virtualization, one computer system can function as multiple virtual systems.

(Default: Disabled) Enables or disables Intel Virtualization Technology for Directed I/O & Intel Virtualization Technology (Note) & VT-d (Note) & Network stack & IPv6 PXE Boot Support & IPv4 PXE Boot Support Disables or enables booting from the network to install a GPT format OS, such as installing the OS from the Windows Deployment Services server. (Default: Disable Link) Enables or disables IPv6 PXE Support.

This item is configurable only when Network stack is enabled. enables or disables IPv4 PXE Support. This item is configurable only when Network stack is enabled. & Administrator Password & User Password Allows you to configure an administrator password. Press <Enter> on this item, type the password, and then press <Enter>. You will be requested to confirm the password. Type the password again and press <Enter>. You must enter the administrator password (or user password) at system startup and when entering BIOS Setup. Differing from the user password, the administrator password allows you to make changes to all BIOS settings. allows you to configure a user password.

Press <Enter> on this item, type the password, and then press <Enter>. You will be requested to confirm the password. Type the password again and press <Enter>. You must enter the administrator password (or user password) at system startup and when entering BIOS Setup. However, the user password only allows you to make changes to certain BIOS settings but not all. To cancel the password, press <Enter> on the password item and when requested for the password, enter the correct one first. When prompted for a new password, press <Enter> without entering any password. press <Enter> again when prompted to confirm. (Note) This item is present only when you install a CPU that supports this feature. For more information about Intel CPUs' unique features, please visit Intel's website.

- 48 - BIOS Setup 2-6 Peripherals & LAN PXE Boot Option ROM Allows you to decide whether to activate the boot ROM integrated with the onboard LAN chip. (Default: Disabled) & SATA Controller(s) Enables or disables the integrated SATA controllers. (Default: Enabled) - 49 - BIOS Setup & SATA Mode Selection & xHCI Pre-Boot Driver (Intel Z77/H77 Chipset) Enables or disables RAID for the SATA controllers integrated in the Intel Z77/H77 Chipset or 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. Enabled The USB 3.

0 ports are routed to the xHCI controller before booting to OS. (Default) Disabled The USB 3. 0 ports are routed to the EHCI controller before booting to OS. If you want to set xHCI Mode below to Smart Auto, set this item to Enabled; when this item is set to Disabled, xHCI Mode will be automatically set to Auto. Allows you to determine the operating mode for the xHCI controller in OS.

Smart Auto This mode is available only when the BIOS supports the xHCI controller in the preboot environment. This mode is similar to Auto, but it adds the capability to route the ports to xHCI or EHCI according to setting used in previous boots (for non-G3 boot) in the pre-boot environment. This allows the use of USB 3. 0 devices prior to OS boot. XHCI controller enabling and rerouting should follow the steps in Auto, when previous boot routes ports to EHCI.

Note: This is the recommended mode when BIOS has xHCI pre-boot support. (Default) Auto BIOS routes the sharable ports to EHCI controller.



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Then it uses ACPI protocols to provide an option to enable the xHCI controller and reroute the sharable ports. Note: This is the recommended mode when BIOS does NOT have xHCI pre-boot support. Enabled All shared ports are eventually routed to the xHCI controller during the BIOS boot process.

If BIOS does not have pre-boot support for the xHCI controller, it should initially route the sharable ports to the EHCI controller and then prior to OS boot it should route the ports to xHCI controller. Note: OS has to provide support for the xHCI controller in this mode. If the OS does not provide support, all sharable ports won't work. Disabled The USB 3.0 ports are routed to the EHCI controller and the xHCI controller is turned off. If this item is set to Disabled, the HS Port #1/2/3/4 Switchable and xHCI Streams items below will become unconfigurable. 0 device attached on this port with Super-Speed capability is visible to xHCI controller. 0 device attached on this port with Super-Speed capability will function as High-Speed. 0 Streams support, devices may require UASP class driver updates from UASP driver vendors to be fully compatible with Intel USB 3. (Default: Enabled) If you wish to install a 3rd party add-in audio card instead of using the onboard audio, set this item to Disabled.

Specifies the first initiation of the monitor display from the installed PCI graphics card, PCI Express graphics card, or the onboard graphics. Auto Lets BIOS automatically configure this setting. (Default) IGFX Sets the onboard graphics as the first display. PCI Sets the graphics card on the PCI slot as the first display. enables or disables the onboard graphics function.

(Default: Auto) Allows you to set the onboard graphics memory size. options are: 32M~1024M. This item is configurable only when an SSD is installed.

This item appears only when a USB storage device is installed. Set this item to Enable when a TPM device is installed.

Specifies the operating bandwidth for the PCIEX4 slot. Always Off The system stays off upon the return of the AC power.

Allows the system to be turned on by a PS/2 keyboard wake-up event. Disabled Disables this function. (Default) Any Key Press any key to turn on the system. Determines whether to power on the system at a desired time. This saves the changes to the CMOS and exits the BIOS Setup program. Select No or press <Esc> to return to the BIOS Setup Main Menu. press <Enter> on this item and select Yes. Select No or press <Esc> to return to the BIOS Setup Main Menu.

The BIOS defaults settings help the system to operate in optimum state. Always load the Optimized defaults after updating the BIOS or after clearing the CMOS values. & Boot Override Allows you to select a device to boot immediately. Press <Enter> on the device you select and select Yes to confirm. Your system will restart automatically and boot from that device. & Save Profiles & Load Profiles This function allows you to save the current BIOS settings to a profile. You can create up to 4 profiles and save as Setup Profile 1~ Setup Profile 4. press <Enter> to complete. If your system becomes unstable and you have loaded the BIOS default settings, you can use this function to load the BIOS settings from a profile created before, without the hassles of reconfiguring the BIOS settings. First select the profile you wish to load and then press <Enter> to complete.

- 55 - BIOS Setup BIOS Setup - 56 - Chapter 3 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.

) 3-1 Installing Chipset Drivers 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. The Found New Hardware Wizard) displayed when "Xpress Install" is installing the drivers. Failure to do so may affect the driver installation.

Some device drivers will restart your system automatically during the driver installation. After the system restart, "Xpress Install" will continue to install other drivers. After "Xpress Install" installs all of the drivers, a dialog box will appear asking whether to install new GIGABYTE utilities. click Yes to automatically install the utilities. Or click No if you want to manually select the utilities to install on the Application Software page later. For USB 2.0 driver support under the Windows XP operating system, please install the Windows XP Service Pack 1 or later. After installing the SP1 (or later), if a question mark still exists in Universal Serial Bus Controller in Device Manager, please remove the question mark (by right-clicking your mouse and select Uninstall) and restart the system. (The system will then autodetect and install the USB 2.0 driver.

3-5 System This page provides the basic system information. Xpress Recovery2 can only back up/restore the first physical hard drive that has the operating system installed. As Xpress Recovery2 will save the backup file at the end of the hard drive, make sure to leave enough unallocated space in advanced (10 GB or more is recommended; actual size requirements vary, depending on the amount of data).

It is recommended to back up your system soon after the operating system and drivers are installed. The amount of data and hard drive access speed may affect the speed at which the data is backed up/ restored. It takes longer to back up a hard drive than to restore it. At least 512 MB of system memory VESA compatible graphics card Windows XP with SP3 or later, Windows 7 Xpress Recovery and Xpress Recovery2 are different utilities. For example, a backup file created with Xpress Recovery cannot be restored using Xpress Recovery2. System Requirements: Installation and Configuration: Turn on your system to boot from the Windows 7 setup disk. Xpress Recovery2 checks the first physical hard drive in the following sequence: The first SATA connector, the second SATA connector and so forth.

For example, When hard drives are attached to the first and third SATA connectors, the hard drive on the first SATA connector is the first physical drive.



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- 61 Unique Features Step 3: When partitioning your hard drive, make sure to leave unallocated space (10 GB or more is recommended; actual size requirements vary, depending on the amount of data) and begin the installation of the operating system. Step 4: After the operating system is installed, click Start, right-click the Computer and select Manage. go to Disk Management to check disk allocation. Step 5: Xpress Recovery2 will save the backup file to the unallocated space (black stripe along the top).

Please note that if there is no enough unallocated space, Xpress Recovery2 cannot save the backup file. When you see the following message: Press any key to startup Xpress Recovery2, press any key to enter Xpress Recovery2. c. Using the Backup Function in Xpress Recovery2 Xpress Recovery2 will automatically create a new partition to store the backup image file. Step 1: Select BACKUP to start backing up your hard drive data.

Step 2: When finished, go to Disk Management to check disk allocation. unique Features - 62 - D. Using the Restore Function in Xpress Recovery2 Select RESTORE to restore the backup to your hard drive in case the system breaks down. The RESTORE option will not be present if no backup is created before. e. Removing the Backup Step 1: If you wish to remove the backup file, select REMOVE. Step 2: After the backup file is removed, no backup image file will be present in Disk Management and hard drive space will be freed up. GIGABYTE Q-Flash and @BIOS are easy-to-use and allow you to update the BIOS without the need to enter MS-DOS mode. Additionally, this motherboard features the DualBIOS design, which enhances protection for the safety and stability of your computer by adding one more physical BIOS chip. what is DualBIOS? Motherboards that support DualBIOS have two BIOS onboard, a main BIOS and a backup BIOS.

Normally, the system works on the main BIOS. However, if the main BIOS is corrupted or damaged, the backup BIOS will take over on the next system boot and copy the BIOS file to the main BIOS to ensure normal system operation. For the sake of system safety, users cannot update the backup BIOS manually. what is Q-Flash? With Q-Flash you can update the system BIOS without having to enter operating systems like MS-DOS or Window first. Embedded in the BIOS, the Q-Flash tool frees you from the hassles of going through complicated BIOS flashing process. what is @BIOS? @BIOS allows you to update the system BIOS while in the Windows environment. @BIOS will download the latest BIOS file from the nearest @BIOS server site and update the BIOS. 4-2-1 Updating the BIOS with the Q-Flash Utility A. before You Begin 1. From GIGABYTE's website, download the latest compressed BIOS update file that matches your motherboard model.

2. Extract the file and save the new BIOS file (e. During the POST, press the <End> key to enter Q-Flash. Note: You can access Q-Flash by either pressing the <End> key during the POST or pressing the <F8> key in BIOS Setup. However, if the BIOS update file is saved to a hard drive in RAID/AHCI mode or a hard drive attached to an independent SATA controller, use the <End> key during the POST to access Q-Flash.

Because BIOS flashing is potentially risky, please do it with caution. Updating the BIOS In the main menu of Q-Flash, use the keyboard or mouse to select an item to execute. When updating the BIOS, choose the location where the BIOS file is saved. The following procedure assumes that you save the BIOS file to a USB flash drive. step 1: 1.

Insert the USB flash drive containing the BIOS file into the computer. in the main menu of Q-Flash , select Update BIOS From Drive. The Save BIOS to Drive option allows you to save the current BIOS file. Q-Flash only supports USB flash drive or hard drives using FAT32/16/12 file system. If the BIOS update file is saved to a hard drive in RAID/AHCI mode or a hard drive attached to an independent SATA controller, use the <End> key during the POST to access Q-Flash. Make sure the BIOS update file matches your motherboard model. Step 2: The process of the system reading the BIOS file from the USB flash drive is displayed on the screen. When the message "Are you sure to update BIOS? " appears , select Yes to begin the BIOS update. The monitor will display the update process. Do not turn off or restart the system when the system is reading/updating the BIOS.

Do not remove the USB flash drive or hard drive when the system is updating the BIOS. Step 3: When the update process is complete, select Reboot to reboot the system. q-Flash BIOS update is completed. Power off Reboot - 65 - Unique Features Step 4: During the POST, press <Delete> to enter BIOS Setup. Select Load Optimized Defaults on the Save & Exit screen and press <Enter> to load BIOS defaults. System will re-detect all peripheral devices after a BIOS update, so we recommend that you reload BIOS defaults. select Yes to load BIOS defaults Step 5: Select Save & Exit Setup and press <Enter>. And then select Yes to save settings to CMOS and exit BIOS Setup. The procedure is complete after the system restarts. Unique Features - 66 - 4-2-2 Updating the BIOS with the @BIOS Utility A.

This helps prevent unexpected failures when performing a BIOS update. 2. During the BIOS update process, ensure the Internet connection is stable and do NOT interrupt the Internet connection (for example, avoid a power loss or switching off the Internet). Failure to do so may result in a corrupted BIOS or a system that is unable to start. 3.

Do not use the G. GIGABYTE product warranty does not cover any BIOS damage or system failure resulting from an inadequate BIOS flashing. Update the BIOS Using the Internet Update Function: Click Update BIOS from GIGABYTE Server, select the @BIOS server site closest to your location and then download the BIOS file that matches your motherboard model. follow the on-screen instructions to complete. If the BIOS update file for your motherboard is not present on the @BIOS server site, please manually download the BIOS update file from GIGABYTE's website and follow the instructions in "Update the BIOS without Using the Internet Update Function" below.

2. Update the BIOS without Using the Internet Update Function: Click Update BIOS from File, then select the location where you save the BIOS update file obtained from the Internet or through other source. Save the Current BIOS File: Click Save Current BIOS to File to save the current BIOS file. 4. Load BIOS Defaults after BIOS Update: Select the Load CMOS default after BIOS update check box and then the system will automatically load BIOS defaults after BIOS update and after the system restarts. c. After Updating the BIOS Restart your system after updating the BIOS.



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