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You can read the recommendations in the user guide, the technical guide or the installation guide for GIGABYTE GA-970A-DS3. You'll find the answers to all your questions on the GIGABYTE GA-970A-DS3 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-970A-DS3**  
**User guide GIGABYTE GA-970A-DS3**  
**Operating instructions GIGABYTE GA-970A-DS3**  
**Instructions for use GIGABYTE GA-970A-DS3**  
**Instruction manual GIGABYTE GA-970A-DS3**



## GA-970A-DS3

User's Manual  
Rev. 1001  
12ME-970ADS3-1001R



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**Manual abstract:**

© 2010, 2012 Jan. 20, 2012 Copyright © 2012 GIGA-BYTE TECHNOLOGY CO., LTD. All rights reserved. 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.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-970A-DS3 Motherboard Layout ..

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.. 4- GA-970A-DS3 Motherboard Layout KB\_MS CPU\_FAN ATX\_12V R\_USB2 Socket AM3+ R\_USB1 PWR\_FAN R\_USB30 USB\_LAN Etron EJ168 PCIEX1\_1 (Note) PCIEX16 PCIEX1\_2 PCIEX1\_3 PCIEX4 SYS\_FAN1 iTE IT8728 PCI1 PCI2 M\_BIOS B\_BIOS CLR\_CMOS SATA3 024 135 AMD 970 DDR3\_4 DDR3\_2 DDR3\_3 DDR3\_1 ATX AUDIO Realtek GbE LAN CODEC GA-970A-DS3 BAT AMD SB950 F\_AUDIO SYS\_FAN2 SPDIF\_O F\_USB3 F\_USB2 F\_USB1 F\_PANEL (Note) Due to a hardware limitation, the PCIEX1\_1 slot can only accommodate a shorter PCI Express x1 expansion card. For a longer expansion card, use other expansion slots. Box Contents 5 GA-970A-DS3 motherboard 5 Motherboard driver disk 5 User's Manual 5 Two SATA cables 5 I/O Shield \* The box contents above are for reference only and the actual items shall depend on the product package you obtain.

-5- GA-970A-DS3 Motherboard Block Diagram CPU CLK+/- (200 MHz) 1 PCI Express x16 AM3+/AM3 CPU DDR3 2000 (O.C.)/1866/1600/ 1333/1066 MHz Dual Channel Memory Hyper Transport Bus LAN RJ45 Realtek GbE LAN PCIe CLK (100 MHz) 3 PCI Express x1 2 USB 3.0/2.0 Etron EJ168 x16 x1 x1 x1 AMD 970 x1 x1 PCIe CLK (100 MHz) PCI Express Bus PCI Express Bus PCI Express Bus 6 SATA 6Gb/s x4 PCIe CLK (100 MHz) AMD SB950 1 PCI Express x4 12 USB 2.0/1.1 Dual BIOS PCI Bus LPC iTE Bus IT8728 PS/2 KB/Mouse CODEC 2 PCI PCI CLK (33 MHz) MIC (Center/Subwoofer Speaker Out) Line Out (Front Speaker Out) Line In (Rear Speaker Out) -6- S/PDIF Out Chapter 1 1-1 Hardware Installation 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.

-7- 1-2 Product Specifications CPU AM3+ Socket: - AMD AM3+ FX processors - AMD AM3 Phenom™ II processor/ AMD Athlon™ II processor (Go to GIGABYTE's website for the latest CPU support list.) 4800 MT/s North Bridge: AMD 970 South Bridge: AMD SB950 4 x 1.5V DDR3 DIMM sockets supporting up to 32 GB of system memory Hyper Transport Bus Chipset Memory \* Due to 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 4 GB. Dual channel memory architecture Support for DDR3 2000(O.C.)/1866/1600/1333/1066 MHz memory modules \* To support a DDR3 1866 MHz (and above) memory, you must install an AM3+ CPU first. Audio (Go to GIGABYTE's website for the latest supported memory speeds and memory modules.) Realtek HD audio codec High Definition Audio 2/4/5.1/7.1-channel Support for S/PDIF Out Realtek GbE LAN chip (10/100/1000 Mbit) 1 x PCI Express x16 slot, running at x16 (PCIEX16) \* For optimum performance, if only one PCI Express graphics card is to be installed, be sure to install it in the PCIEX16 slot. LAN Expansion Slots Storage Interface USB Internal Connectors 1 x PCI Express x16 slot, running at x4 (PCIEX4) 3 x PCI Express x1 slots (All PCI Express slots conform to the PCI Express 2.0 standard.) 2 x PCI slots South Bridge: - 6 x SATA 6Gb/s connectors supporting up to 6 SATA 6Gb/s devices - Support for RAID 0, RAID 1, RAID 5, RAID 10, and JBOD South Bridge: - Up to 12 USB 2.0/1.1 ports (6 ports on the back panel, 6 ports available through the internal USB headers) Etron EJ168 chip: - Up to 2 USB 3.



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0/2.0 ports on the back panel 1 x 24-pin ATX main power connector 1 x 4-pin ATX 12V power connector 6 x SATA 6Gb/s connectors 1 x CPU fan header 2 x system fan headers 1 x power fan header 1 x front panel header -8- Internal Connectors Back Panel Connectors 1 x front panel audio header 1 x S/PDIF Out header 3 x USB 2.0/1.1 headers 1 x Clear CMOS jumper 1 x PS/2 keyboard/mouse port 6 x USB 2.0/1.1 ports 2 x USB 3.0/2.0 ports 1 x RJ-45 port 3 x audio jacks (Line In/Line Out/Microphone) iTE IT8728 chip System voltage detection CPU/System temperature detection CPU/System/Power fan speed detection CPU overheating warning CPU/System/Power fan fail warning CPU/System fan speed control I/O Controller Hardware Monitor \* Whether the CPU/system fan speed control function is supported will depend on the CPU/system cooler you install. BIOS Unique Features Bundled Software Operating System Form Factor 2 x 32 Mbit flash Use of licensed AWARD BIOS Support for DualBIOS™ PnP 1.0a, DMI 2.

0, SM BIOS 2.4, ACPI 1.0b Support for @BIOS Support for Q-Flash Support for Download Center Support for Xpress Install Support for Xpress Recovery2 Support for EasyTune Support for Turbo XHD Support for Smart Recovery Support for Auto Green Support for ON/OFF Charge Support for 3TB+ Unlock Support for Q-Share Norton Internet Security (OEM version) Support for Microsoft® Windows 7/Vista/XP ATX Form Factor; 30.5cm x 22.5cm \* Available functions in EasyTune may differ by motherboard model.

\* GIGABYTE reserves the right to make any changes to the product specifications and product-related information without prior notice. -9- 1-3 Installing the CPU 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. · 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 staa 4/5.1/7.1-channel audio configuration. 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. · 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. - 12 - 1-7 Internal Connectors 1 3 5 2 8 4 7 10 11 4 12 9 6 1) 2) 3) 4) 5) 6) ATX\_12V ATX\_CPU\_FAN SYS\_FAN1/SYS\_FAN2 PWR\_FAN CLR\_CMOS 7) 8) 9) 10) 11) 12) SATA3 0/1/2/3/4/5 BAT Ffer to Chapter 4, "Configuring SATA Hard Drive(s)," for instructions on configuring a RAID array. SATA3 1 1 1 DEBUG PORT DEBUG PORT Pin No. 1 2 3 4 5 6 7 Definition GND TXP TXN GND RXN RXP GND 7 7 7 024 135 · A RAID 0 or RAID 1 configuration requires at least two hard drives. If more than two hard drives are to be used, the total Please connect the L-shaped end of the number of hard drives must be an even number. · A RAID 5 configuration requires at least three hard drives.

SATA cable to your SATA hard drive. (The total number of hard drives ·does not have to be an even number.) · A RAID 10 configuration requires four hard drives. 8) 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.

- 16 - 9) 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+ SPEAK20 19 PWR- 2 1 HD+ HDRESRES+ PWR+ CI+ Hard Drive Activity LED Reset Switch · MSG/PWR (Message/Power/Sleep LED, Yellow/Purple): Connects to the power status indicator on the chassis front panel. The LED is System Status LED on when the system is operating. The LED keeps blinking when the system S0 On S1 Blinking is in S1 sleep state. The LED is off when the system is in S3/S4 sleep state S3/S4/S5 Off 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 Setup," 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. If a problem is detected, the BIOS may issue beeps in different patterns to indicate the problem. Refer to Chapter 5, "Troubleshooting," for information about beep codes. · 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.



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· 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. 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. - 17 - -IC Power LED Chassis Intrusion Header 10) 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: Pin No. Definition 1 MIC2\_L 2 GND 3 MIC2\_R 4 -ACZ\_DET 5 LINE2\_R 6 GND 7 FAUDIO\_JD 8 No Pin 9 LINE2\_L 10 GND For AC'97 Front Panel Audio: Pin No. Definition 1 MIC 2 GND 3 MIC Power 4 NC 5 Line Out (R) 6 NC 7 NC 8 No Pin 9 Line Out (L) 10 NC 9 10 1 2 · 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. 11) 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. For information about connecting the S/PDIF digital audio cable, carefully read the manual for your expansion card. 1 Pin No. 1 2 Definition SPDIF\_O GND - 18 - 12) F\_USB1/F\_USB2/F\_USB3 (USB 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. 1 2 3 4 5 6 7 8 9 10 Definition Power (5V) Power (5V) USB DX USB DY USB DX+ USB DY+ GND GND No Pin NC 9 10 1 2 · 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. - 19 - Chapter 2 BIOS Setup 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. · BIOS will emit a beep code during the POST. Refer to Chapter 5, "Troubleshooting," for the beep codes description. · 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/clearing CMOS jumper in Chapter 1 for how to clear the CMOS values.) 2-1 The following screens may appear when the computer boots. Startup Screen A.

The LOGO Screen (Default) Function Keys B. The POST Screen Award Modular BIOS v6.00PG Copyright (C) 1984-2011, Award Software, Inc. GA-970A-DS3 F1a . . . <DEL>: BIOS Setup <F9>: XpressRecovery2 <F12>: Boot Menu <End>: Qflash 12/30/2011-RD970-SB950-7A66FG0AC-00 Motherboard Model BIOS Version Function Keys - 20 - 2-2 Once you enter the BIOS Setup program, the Main Menu (as shown below) appears on the screen. Use arrow keys to move among the items and press <Enter> to accept or enter a sub-menu. The Main Menu (Sample BIOS Version: F1a) CMOS Setup Utility-Copyright (C) 1984-2011 Award Software MB Intelligent Tweaker(M.

I.T.) Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Management Setup PC Health Status : Select Item F10: Save & Exit Setup Change CPU's Clock & Voltage Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password Set User Password Save & Exit Setup Exit Without Saving F11: Save CMOS to BIOS F12: Load CMOS from BIOS ESC: Quit F8: Q-Flash · 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.

The Functions of the <F11> and <F12> keys (For the Main Menu Only) F11: Save CMOS to BIOS This function allows you to save the current BIOS settings to a profile. You can create up to 8 profiles (Profile 1-8) and name each profile. First enter the profile name (to erase the default profile name, use the SPACE key) and then press <Enter> to complete. F12: Load CMOS from BIOS 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, then press <Enter> to complete.



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- 21 - 2-3 MB Intelligent Tweaker(M.I.T.) CMOS Setup Utility-Copyright (C) 1984-2011 Award Software MB Intelligent Tweaker(M.I.T.) [Auto] [Auto] [Enabled] [Auto] [Disabled] [Auto] 200 [Auto] [Auto] [Auto] 2400Mhz [Disabled] [Auto] x6.66 1333Mhz [PressEnter] [Auto] Auto Auto Auto 1.4125V 1.500V F10: Save ESC: Exit F1: General Help F7: Optimized Defaults Item Help Menu Level CPU Clock Ratio CPU NorthBridge Freq.

Core Performance Boost (Note) CPB Ratio (Note) Turbo CPB (Note) CPU Host Clock Control x CPU Frequency(MHz) PCIE Clock(MHz) HT Link Width HT Link Frequency DREAM E.O.C.P Set Memory Clock x Memory Clock DRAMConfiguration \*\*\*\*\* System Voltage Optimized \*\*\*\*\* System Voltage Control x DRAM Voltage control x CPU Voltage Control x CPU NB VID Control Normal CPU Vcore Normal CPU Vcore NB Enter: Select : Move F5:

Previous Values +/-/PU/PD: Value F6: Fail-Safe Defaults · 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.) · When the System Voltage Optimized item blinks in red, it is recommended that you set the System Voltage Control item to Auto to optimize the system voltage settings. & CPU Clock Ratio & CPU NorthBridge Freq.

Allows you to alter the clock ratio for the installed CPU. The adjustable range is dependent on the CPU being used. Allows you to alter the North Bridge controller frequency for the installed CPU. The adjustable range is dependent on the CPU being used. Allows you to determine whether to enable the Core Performance Boost (CPB) technology, a CPU performance-boost technology.

(Default: Enabled) Allows you alter the ratio for the CPB. The adjustable range is dependent on the CPU being installed. (Default: Auto) Allows you to determine whether to improve CPU performance. (Default: Disabled) & Core Performance Boost (Note) & CPB Ratio (Note) & Turbo CPB (Note) & CPU Host Clock Control Enables or disables the control of CPU host clock. Auto (default) allows the BIOS to automatically adjust the CPU host frequency. Manual allows the CPU Frequency (MHz) item below to be configurable. Note: If your system fails to boot after overclocking, please wait for 20 seconds to allow for automated system reboot, or clear the CMOS values to reset the board to default values. This item is present only when you install a CPU that supports this feature. - 22 - (Note) & CPU Frequency(MHz) & PCIE Clock(MHz) Allows you to manually set the CPU host frequency. The adjustable range is from 200 MHz to 500 MHz. This option is configurable only when CPU Host Clock Control is set to Manual. Important It is highly recommended that the CPU frequency be set in accordance with the CPU specifications. Allows you to manually set the PCIe clock frequency. The adjustable range is from 100 MHz to 150 MHz. Auto sets the PCIe clock frequency to standard 100 MHz.

(Default: Auto) Allows you to manually set the width for the HT Link between the CPU and chipset. Auto BIOS will automatically adjust the HT Link Width. (Default) 8 bit Sets HT Link Width to 8 bit. 16 bit Sets HT Link Width to 16 bit. Allows you to manually set the frequency for the HT Link between the CPU and chipset. Auto BIOS will automatically adjust the HT Link Frequency. (Default) x1~x13 Sets HT Link Frequency to x1~x13 (200 MHz~2.6 GHz). Allows you to determine whether to use the preset memory overclocking profile to achieve optimum overclocking performance. (Default: Disabled) Determines whether to manually set the memory clock.

Auto lets BIOS automatically set the memory clock as required. Manual allows the memory clock control item below to be configurable. (Default: Auto) This option is configurable only when Set Memory Clock is set to Manual. The adjustable range is dependent on the CPU being installed. & HT Link Width & HT Link Frequency & DRAM E.

O.C.P & Set Memory Clock & Memory Clock & DRAM Configuration CMOS Setup Utility-Copyright (C) 1984-2011 Award Software DRAMConfiguration CPU Host Clock Control x CPU Frequency(MHz) Set Memory Clock x Memory Clock DCTs Mode DDR3 Timing Items x 1T/2T Command Timing x CAS# latency x RAS to CAS R/W Delay x Row Precharge Time x Minimum RAS Active Time x TwTr Command Delay x Trfc0 for DIMM1, DIMM3 x Trfc1 for DIMM2, DIMM4 x Write Recovery Time x Precharge Time x Row Cycle Time x RAS to RAS Delay \*\*DCTs Drive Strength\*\* Enter: Select : Move F5: Previous Values [Auto] 200 [Auto] x6.66 1333Mhz [Unganged] [Auto] SPD Auto Auto --Auto 9T 9T Auto 9T 9T Auto 9T 9T Auto 24T 24T Auto 5T 5T Auto 110ns 110ns Auto --Auto 10T 10T Auto 5T 5T Auto 33T 33T Auto 4T 4T DCT0 DCT1 +/-/PU/PD: Value F6: Fail-Safe Defaults F10: Save Item Help Menu Level ESC: Exit F1: General Help F7: Optimized Defaults - 23 - CMOS Setup Utility-Copyright (C) 1984-2011 Award Software DRAMConfiguration ProcOdt(ohms) DQS Drive Strength Data Drive Strength MEMCLK Drive Strength Addr/Cmd Drive Strength CS/ODT Drive Strength CKE Drive Strength \*\*DCTs Addr/Cmd Timing\*\* Addr/Cmd Setup Time Addr/Cmd Fine Delay CS/ODT Setup Time CS/ODT Fine Delay CKE Setup Time CKE Fine Delay Channel Interleaving Bank Interleaving DQS Training Control CKE Power Down Mode Memclock tri-stating Enter: Select : Move F5: Previous Values [Auto] 60 [Auto] 1.0x [Auto] 1.

0x [Auto] 1.25x [Auto] 1.5x [Auto] 1.5x [Auto] 1.5x DCT0 [Auto] 1/2T [Auto] 0/64 [Auto] 1/2T [Auto] 0/64 [Auto] 1/2T [Auto] 0/64 [Auto] 240 [Auto] 1.0x [Auto] 1.0x [Auto] 1.25x [Auto] 1.5x [Auto] 1.5x [Auto] 1.

5x DCT1 [Auto] 1/2T [Auto] 0/64 [Auto] 1/2T [Auto] 0/64 [Auto] 1/2T [Auto] 0/64 Item Help Menu Level [Enabled] [Enabled] [Skip DQS] [Disabled] [Disabled] +/-/PU/PD: Value F6: Fail-Safe Defaults F10: Save ESC: Exit F1: General Help F7: Optimized Defaults & CPU Host Clock Control, CPU Frequency (MHz), Set Memory Clock, Memory Clock The settings under the four items above are synchronous to those under the same items on the MB Intelligent Tweaker(M.I.T.) main menu. Allows you to set memory control mode. Ganged Sets memory control mode to single dual-channel. Unganged Sets memory control mode to two single-channel. (Default) Manual allows all DDR3 Timing items below to be configurable. Options are: Auto (default), Manual. Options are: Auto (default), 1T, 2T.

Options are: Auto (default), 5T~14T. Options are: Auto (default), 2T~19T. Options are: Auto (default), 2T~19T. Options are: Auto (default), 8T~40T. Options are: Auto (default), 4T~9T.

Options are: Auto (default), 90ns, 110ns, 160ns, 300ns, 350ns.



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Options are: Auto (default), 90ns, 110ns, 160ns, 300ns, 350ns. - 24 - & DCTs Mode & DDR3 Timing Items & IT/2T Command Timing & CAS# latency & RAS to CAS R/W Delay & Row Precharge Time & Minimum RAS Active Time & TwTr Command Delay & Trfc0 for DIMM1, DIMM3 & Trfc1 for DIMM2, DIMM4 & Write Recovery Time & Precharge Time Options are: Auto (default), 5T~8T, 10T, 12T, 14T, 16T. Options are: Auto (default), 4T~10T. Options are: Auto (default), 10T~56T.

Options are: Auto (default), 1T~9T. & Row Cycle Time & RAS to RAS Delay \*\*DCTs Drive Strength\*\* & ProcOdt(ohms) Options are: Auto (default), 240 ohms, 120 ohms, 60 ohms. Options are: Auto (default), 0.75x, 1.0x, 1.25x, 1.5x. Options are: Auto (default), 0.75x, 1.0x, 1.

25x, 1.5x. Options are: Auto (default), 0.75x, 1.0x, 1.25x, 1.5x. Options are: Auto (default), 1.0x, 1.25x, 1.

5x, 2.0x. Options are: Auto (default), 1.0x, 1.25x, 1.

5x, 2.0x. & DQS Drive Strength & Data Drive Strength & MEMCLK Drive Strength & Addr/Cmd Drive Strength & CS/ODT Drive Strength & CKE Drive Strength Options are: Auto (default), 1.0x, 1.25x, 1.

5x, 2.0x. DCTs Addr/Cmd Timing\*\* \*\* & Addr/Cmd Setup Time & Addr/Cmd Fine Delay & CS/ODT Setup Time & CS/ODT Fine Delay & CKE Setup Time & CKE Fine Delay Options are: Auto (default), 1/2T, 1T. Options are: Auto (default), 0/64~31/64. Options are: Auto (default), 1/2T, 1T. Options are: Auto (default), 0/64~31/64. Options are: Auto (default), 1/2T, 1T. @@@@Auto lets the BIOS automatically set the system voltages as required. Manual allows all voltage control items below to be configurable. (Default: Auto) Allows you to set memory voltage.

Normal Supplies the memory voltage as required. @@@@Allows you to set the CPU voltage. Auto sets the CPU voltage as required. The adjustable range is dependent on the CPU being installed. @@Allows you to set the CPU North Bridge VID voltage. Auto sets the CPU North Bridge VID voltage as required. The adjustable range is dependent on the CPU being installed. @@Displays the normal operating voltage of your CPU. @@@@ Access Mode Sets the hard drive access mode. Options are: Auto (default), CHS, LBA, Large.

@@@@ Access Mode Sets the hard drive access mode. Options are: Auto (default), Large. Capacity Approximate capacity of the currently installed hard drive. @@@@This item allows you to adjust Vdroop at different levels. @@Auto lets the BIOS automatically configure this setting.

@@@@If not, the C1E function will be disabled. @@If not, the BIOS will enable the software C1E function. Disabled Disables the C1E function.

@@@@ Auto Lets the BIOS to enable all CPU cores (number of cores available depends on the CPU being used). (Default) Manual Allows you to individually enable/disable CPU Core 1/2/3/4/5.

This item is present only when you install a CPU that supports this feature. - 28 - (Note) & CPU core 0 (Note) & CPU core 1, 2/3/4/5 (Note) This setting is fixed. CPU Core 0 is always enabled. Enables or disables CPU Core 1/2/3/4/5. (Default: Enabled) & Hard Disk Boot Priority & EFI CD/DVD Boot Option 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. Set this item to EFI if you want to install the operating system to a hard drive larger than 2.2 TB. Make sure the operating system to be installed supports booting from a GPT partition, such as Windows 7 64-bit and Windows Server 2003 64-bit.

Auto lets the BIOS automatically configure this setting depending on the hard drive you install. (Default: Auto) 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. 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. 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: Disabled) Enables or disables Away Mode in Windows XP Media Center operating system. Away Mode allows the system to silently perform unattended tasks while in a low-power mode that appears off. (Default: Disabled) Allows you to determine whether to display the GIGABYTE Logo at system startup. Disabled displays normal POST message. (Default: Enabled) Enables or disables AMD IOMMU support.

(Default: Disabled) & First/Second/Third Boot Device & Password Check & HDD S.M.A.R.T. Capability & Away Mode & Full Screen LOGO Show & IOMMU support & Init Display First Specifies the first initiation of the monitor display from the installed PCI graphics card or the PCI Express graphics card. PCI Slot Sets the PCI graphics card as the first display. @@@@ Native IDE Allows the SATA controller to operate in Native IDE mode. @@ RAID Enables RAID for the SATA controller. AHCI Configures the SATA controllers to AHCI mode.

@@@ Configures the operating mode of the integrated SATA3 4/5 connectors. @@@@When set to Disabled, the SATA controller will operate in SATA 3Gb/s mode. (Default: Enabled) CMOS Setup Utility-Copyright (C) 1984-2011 Award Software OnChip SATA Port as ESP Port0 as ESP Port1 as ESP Port2 as ESP Port3 as ESP x Port4 as ESP x Port5 as ESP Enter: Select : Move F5: Previous Values [Disabled] [Disabled] [Disabled] [Disabled] Disabled Disabled +/-PU/PD: Value F6: Fail-Safe Defaults F10: Save Item Help Menu Level & OnChip SATA Port4/5 Type (AMD SB950 South Bridge, SATA3 4/5 connectors) & OnChip SATA RAID5 Support (AMD SB950 South Bridge, SATA3 0~5 connectors) & OnChip SATA3.0 Support & OnChip SATA Port as ESP ESC: Exit F1: General Help F7: Optimized Defaults - 30 - & Port0 as ESP/Port1 as ESP/Port2 as ESP/Port3 as ESP This option is configurable only when OnChip SATA Type is set to AHCI. Enabled will speed up the hot plug detection of the connected SATA device. (Default: Disabled) & Port4 as ESP/Port5 as ESP This option is configurable only when OnChip SATA Type is set to AHCI and OnChip SATA Type Port4/5 is set to As SATA Type. Enabled will speed up the hot plug detection of the connected SATA device. (Default: Disabled) & Onboard LAN Function Enables or disables the onboard LAN function.



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

(Default: Disabled) CMOS Setup Utility-Copyright (C) 1984-2011 Award Software SMART LAN / / / / Length Length Length Length = = = = 0m 0m 0m 0m +/-/PU/PD: Value F6: Fail-Safe Defaults F10: Save Item Help Menu Level & Onboard LAN Boot ROM & SMART LAN (LAN Cable Diagnostic Function) Start detecting at Port.....

Part1-2 Status = Open Part3-6 Status = Open Part4-5 Status = Open Part7-8 Status = Open Enter: Select : Move F5: Previous Values ESC: Exit F1: General Help F7: Optimized Defaults 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. & Onboard Audio Function Enables or disables the onboard audio function. (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. Enables or disables the Etron EJ168 USB controller.

(Default: Enabled) & USB30 Controller (Etron EJ168 USB Controller) & USB Controllers Enables or disables the integrated USB controllers. (Default: Enabled) Disabled will turn off all of the USB functionalities below. Allows USB keyboard to be used in MS-DOS. (Default: Enabled) & USB Legacy Function & USB Storage Function Determines whether to detect USB storage devices, including USB flash drives and USB hard drives during the POST. (Default: Enabled) - 31 - 2-7 Power Management Setup CMOS Setup Utility-Copyright (C) 1984-2011 Award Software Power Management Setup [S3(STR)] [Instant-off] [Enabled] [Disabled] [Enabled] [Enabled] [Disabled] [Disabled] Enter [Soft-Off] [Disabled] Everyday 0:0:0 [Disabled] +/-/PU/PD: Value F6: Fail-Safe Defaults F10: Save Item Help Menu Level ACPI Suspend Type Soft-Off by Power button USB Wake Up from S3 Modem Ring Resume PME Event Wake Up HPET Support (Note) Power On By Mouse Power On By Keyboard x KB Power ON Password AC Back Function Power-On by Alarm x Date (of Month) x Resume Time (hh:mm:ss) ErP Support Enter: Select : Move F5: Previous Values ESC: Exit F1: General Help F7: Optimized Defaults & ACPI Suspend Type Specifies the ACPI sleep state when the system enters suspend. S1(POS) Enables the system to enter the ACPI S1 (Power on Suspend) sleep state. In S1 sleep state, the system appears suspended and stays in a low power mode. The system can be resumed at any time. S3(STR) Enables the system to enter the ACPI S3 (Suspend to RAM) sleep state (default). In S3 sleep state, the system appears to be off and consumes less power than in the S1 state.

When signaled by a wake-up device or event, the system resumes to its working state exactly where it was left off. Configures the way to turn off the computer in MS-DOS mode using the power button. Instant-Off Press the power button and then the system will be turned off instantly. (Default) Delay 4 Sec. Press and hold the power button for 4 seconds to turn off the system. If the power button is pressed for less than 4 seconds, the system will enter suspend mode. Allows the system to be awakened from ACPI S3 sleep state by a wake-up signal from the installed USB device. (Default: Enabled) Allows the system to be awakened from an ACPI sleep state by a wake-up signal from a modem that supports wake-up function. (Default: Disabled) Allows the system to be awakened from an ACPI sleep state by a wake-up signal from a PCI or PCIe device. Note: To use this function, you need an ATX power supply providing at least 1A on the +5VSB lead.

(Default: Enabled) Enables or disables High Precision Event Timer (HPET) for Windows 7/Vista operating system. (Default: Enabled) Supported on Windows 7/Vista operating system only. - 32 - & Soft-Off by Power button & USB Wake Up from S3 & Modem Ring Resume & PME Event Wake Up & HPET Support (Note) (Note) & 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. Allows the system to be turned on by a PS/2 keyboard wake-up event. Note: 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.

Any KEY Press any key on the keyboard to turn on the system. Keyboard 98 Press POWER button on the Windows 98 keyboard to turn on the system. 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. 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. Determines whether to power on the system at a desired time. (Default: Disabled) If enabled, set the date and time as following: Date (of Month): Turn on the system at a specific time on each day or on a specific day in a month. Resume Time (hh: mm: ss): Set the time at which the system will be powered on automatically. Note: When using this function, avoid inadequate shutdown from the operating system or removal of the AC power, or the settings may not be effective. Determines whether to let the system consume less than 1W power in S5 (shutdown) state. (Default: Disabled) Note: When this item is set to Enabled, the following four functions will become unavailable: PME event wake up, power on by mouse, power on by keyboard, and wake on LAN. & Power On By Keyboard & KB Power ON Password & AC Back Function & Power-On by Alarm & ErP Support (Note) Supported on Windows 7/Vista operating system only. - 33 - 2-8 PC Health Status CMOS Setup Utility-Copyright (C) 1984-2011 Award Software PC Health Status Hardware Thermal Control Reset Case Open Status Case Opened Vcore DDR15V +12V +3.3V Current System Temperature Current CPU Temperature Current CPU FAN Speed Current SYSTEM FAN1 Speed Current SYSTEM FAN2 Speed Current POWER FAN Speed CPU Warning Temperature CPU FAN Fail Warning SYSTEM FAN1 Fail Warning SYSTEM FAN2 Fail Warning POWER FAN Fail Warning CPU Smart FAN Control CPU Smart FAN Mode System Smart FAN Control [Enabled] [Disabled] No 1.



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424V 1.472V 11.985V 3.280V 36oC 39oC 2360 RPM 0 RPM 0 RPM 0 RPM [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Enabled] [Auto] [Enabled] +/-PU/PD: Value F6: Fail-Safe Defaults F10: Save Item Help Menu Level Enter: Select : Move F5: Previous Values ESC: Exit F1: General Help F7: Optimized Defaults & Hardware Thermal Control Enables or disables the CPU overheating protection function. When enabled, the CPU core voltage and ratio will be reduced when the CPU is overheated.

(Default: Enabled) Keeps or clears the record of previous chassis intrusion status. Enabled clears the record of previous chassis intrusion status and the Case Opened field will show "No" at next boot. (Default: Disabled) 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.

Displays the current system voltages. & Reset Case Open Status & Case Opened & Current Voltage(V) Vcore/DDR15V/+12V/+3.3V & Current System/CPU Temperature Displays current system/CPU temperature. Displays current CPU/system/power fan speed. & Current CPU/SYSTEM/POWER FAN Speed (RPM) & CPU Warning Temperature 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/system/power fan is not connected or fails. Check the fan condition or fan connection when this occurs. (Default: Disabled) & CPU/SYSTEM/POWER FAN Fail Warning - 34 - & 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) Specifies how to control CPU fan speed. This item is configurable only when CPU Smart FAN Control is enabled. Auto Lets the BIOS automatically detect the type of CPU fan installed and sets the optimal CPU fan control mode. (Default) Voltage Sets Voltage mode for a 3-pin CPU fan. PWM Sets PWM mode for a 4-pin CPU fan. Enables or disables the system fan speed control function. Enabled allows the system fan to run at different speed according to the system temperature.

If disabled, system fan runs at full speed. (Default: Enabled) & CPU Smart FAN Mode & System Smart FAN Control 2-9 Load Fail-Safe Defaults CMOS Setup Utility-Copyright (C) 1984-2011 Award Software MB Intelligent Tweaker(M.I.T.) Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Management Setup PC Health Status Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password Set User Password Load Fail-Safe Defaults Save & Exit Setup (Y/N)? N Exit Without Saving : Select Item F10: Save & Exit Setup Load Fail-Safe Defaults F11: Save CMOS to BIOS F12: Load CMOS from BIOS ESC: Quit F8: Q-Flash 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 CMOS Setup Utility-Copyright (C) 1984-2011 Award Software MB Intelligent Tweaker(M.I.T.) Load Fail-Safe Defaults Standard CMOS Features Load Optimized Defaults Advanced BIOS Features Set Supervisor Password Integrated Peripherals Set User Password Power Management Setup Save & N Load Optimized Defaults (Y/N)? Exit Setup PC Health Status Exit Without Saving : Select Item F10: Save & Exit Setup Load Optimized Defaults F11: Save CMOS to BIOS F12: Load CMOS from BIOS ESC: Quit F8: Q-Flash Press <Enter> on this item and then press the <Y> key to load the optimal BIOS default settings.

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. - 35 - 2-11 Set Supervisor/User Password CMOS Setup Utility-Copyright (C) 1984-2011 Award Software MB Intelligent Tweaker(M.I.T.) Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Management Setup Enter Password: PC Health Status : Select Item F10: Save & Exit Setup Change/Set/Disable Password Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password Set User Password Save & Exit Setup Exit Without Saving F11: Save CMOS to BIOS F12: Load CMOS from BIOS ESC: Quit F8: Q-Flash 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 CMOS Setup Utility-

Copyright (C) 1984-2011 Award Software MB Intelligent Tweaker(M.I.T.) Load Fail-Safe Defaults Standard CMOS Features Load Optimized Defaults Save to CMOS and EXIT (Y/N)? Y Advanced BIOS Features Set Supervisor Password Integrated Peripherals Set User Password Power Management Setup Save & Exit Setup PC Health Status Exit Without Saving : Select Item F10: Save & Exit Setup Save Data to CMOS F11: Save CMOS to BIOS F12: Load CMOS from BIOS ESC: Quit F8: Q-Flash 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. - 36 - 2-13 Exit Without Saving CMOS Setup Utility-Copyright (C) 1984-2011 Award Software MB Intelligent Tweaker(M.I.T.) Standard CMOS Features Advanced BIOS Features Integrated Peripherals Power Management Setup PC Health Status : Select Item F10: Save & Exit Setup Abandon all Data Load Fail-Safe Defaults Load Optimized Defaults Quit Without Saving (Y/N)? N Set Supervisor Password Set User Password Save & Exit Setup Exit Without Saving F11: Save CMOS to BIOS F12: Load CMOS from BIOS ESC: Quit F8: Q-Flash Press <Enter> on this item and press the <Y> key.



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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 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. -

37 - Chapter 4 4-1 Before you begin Appendix Configuring SATA Hard Drive(s) Please prepare: · At least two SATA hard drives (to ensure optimal performance, it is recommended that you use two hard drives with identical model and capacity). If you do not want to create RAID, you may prepare only one hard drive. · Windows 7/Vista/XP setup disk. · Motherboard driver disk. · A USB floppy disk drive (needed during Windows XP installation).

· An empty formatted floppy disk (needed during Windows XP installation). Configuring the Onboard SATA Controller A. Installing SATA hard drive(s) in your computer Attach one end of the SATA signal cable to the rear of the SATA hard drive and the other end to available SATA port on the motherboard. Then connect the power connector from your power supply to the hard drive. B. Configuring SATA controller mode in BIOS Setup Make sure to configure the SATA controller mode correctly in system BIOS Setup. For the BIOS Setup menus, refer to Chapter 2, "BIOS Setup," "Integrated Peripherals." Steps: 1. Turn on your computer and press <Delete> to enter BIOS Setup during the POST (Power-On Self-Test). Ensure OnChip SATA Controller is enabled under Integrated Peripherals.

To enable RAID for the SATA3 0/1/2/3 connectors, set OnChip SATA Type to RAID. To enable RAID for the SATA2 4/SATA2 5 connectors, set OnChip SATA Type to RAID and set OnChip SATA Port4/5 Type to As SATA Type. 2. Save changes and exit BIOS Setup. The BIOS Setup menus described in this section may differ from the exact settings for your motherboard.

The actual BIOS Setup menu options you will see shall depend on the motherboard you have and the BIOS version. C. Configuring RAID set in RAID BIOS Enter the RAID BIOS setup utility to configure a RAID array. After the POST memory test begins and before the operating system boot begins, look for a message which says "Press <Ctrl-F> to enter RAID Option ROM Utility". Press <Ctrl> + <F> to enter the RAID BIOS setup utility.

To create a new array, press <2> to enter the LD View/LD Define Menu window. To create an array, press <Ctrl+C> to access the LD Define Menu. In the LD Define Menu, use the up or down arrow key to move to an item for further configuration. In the following procedure, we'll create RAID 0 as an example. Steps: 1. Under the RAID Mode section, press the <SPACE> key to select RAID 0. 2. Set the Stripe Block size. 64 KB is the default. 3.

Under the Drives Assignments section, press the up or down arrow key to highlight a drive. 4. Press the <SPACE> key or <Y> to change the Assignment option to Y. This action adds the drive to the disk array. The Drv section will show the number of disks assigned. - 38 - 5. Press <Ctrl>+<Y> keys to save the information. The message in Figure 1 will appear. Press <Ctrl>+<Y> to input the array name. @@@@ Then, the message in Figure 3 will appear. Press <Ctrl>+<Y> to set the capacity of the RAID array or press other keys to set the array to its maximum capacity. Press Ctrl-Y to Modify Array Capacity or press any other key to use maximum capacity... Figure 3 8.

After the creation is complete, the screen will return to LD View Menu where you will see the newlycreated array. 9. Press <Esc> to return to Main Menu and press <Esc> again if you want to exit the RAID BIOS utility. Making a SATA RAID Driver Diskette Before installing Windows XP, connect a USB floppy disk drive to your computer first because you need to install the SATA RAID/AHCI driver from a floppy disk that contains the driver during the OS installation. To copy the RAID driver for Windows XP, copy all files in the \BootDrv\SBxxx\86 folder in the motherboard driver disk to your floppy disk. @@@@ When completed, proceed with the Windows XP installation. B. @@Select Load Driver. Insert the motherboard driver disk and then browse to the location of the driver. Then follow the on-screen instructions to load the driver. The locations of the drivers for Windows 7 are as follows: RAID driver for Windows 32-bit: \BootDrv\SBxxxW7\RAID\W7 RAID driver for Windows 64-bit: \BootDrv\SBxxxW7\RAID\W764A After loading the driver, continue the OS installation. - 39 - 4-2 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.

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*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. - 40 - - 41 - - 42 - - 43 - Contact Us GIGA-BYTE TECHNOLOGY CO., LTD. Address: No.*

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