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You can read the recommendations in the user guide, the technical guide or the installation guide for ASROCK H61M-DGS. You'll find the answers to all your questions on the ASROCK H61M-DGS in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

**User manual ASROCK H61M-DGS**  
**User guide ASROCK H61M-DGS**  
**Operating instructions ASROCK H61M-DGS**  
**Instructions for use ASROCK H61M-DGS**  
**Instruction manual ASROCK H61M-DGS**

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**ASRock**

H61M-DGS

User Manual

Version 1.0  
Published December 2011  
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**Manual abstract:**

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ASRock Website: <http://www.asrock.com>

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In this manual, chapter 1 and 2 contain introduction of the motherboard and stepby-step guide to the hardware installation. Chapter 3 and 4 contain the configuration guide to BIOS setup and information of the Support CD. Because the motherboard specifications and the BIOS software might be updated, the

content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock website without further notice. You may find the latest VGA cards and CPU support lists on ASRock website as well. ASRock website <http://www.asrock.com> If you require technical support related to this motherboard, please visit our website for specific information about the model you are using. [www.asrock.com/support/index.asp](http://www.asrock.com/support/index.asp)

1.1 Package Contents ASRock H61M-DGS Motherboard (Micro ATX Form Factor: 8.9-in x 6.8-in, 22.6 cm x 17.3 cm) ASRock H61M-DGS Quick Installation Guide ASRock H61M-DGS Support CD 2 x Serial ATA (SATA) Data Cables (Optional) 1 x I/O Panel Shield ASRock Reminds You... To get better performance in Windows® 7 / 7 64-bit / Vista™ / Vista™ 64bit, it is recommended to set the BIOS option in Storage Configuration to AHCI mode.

For the BIOS setup, please refer to the "User Manual" in our support CD for details. 5.1.2 Platform CPU Specifications - Micro ATX Form Factor: 8.9-in x 6.8-in, 22.6 cm x 17.3 cm - Solid Capacitor for CPU power - Supports 2nd Generation Intel® Core™ i7 / i5 / i3 in LGA1155 Package - Supports Intel® Turbo Boost 2.0 Technology - Supports K-Series unlocked CPU - Supports Hyper-Threading Technology (see CAUTION 1) - Intel® H61 - Dual Channel DDR3 Memory Technology (see CAUTION 2) - 2 x DDR3 DIMM slots - Supports DDR3 1600/1333/1066 non-ECC, un-buffered memory (DDR3 1600 with Intel® Ivy Bridge CPU, DDR3 1333 with Intel® Sandy Bridge CPU) - Max. capacity of system memory: 16GB (see CAUTION 3) - 1 x PCI Express 2.0 x16 slot (blue @ x16 mode) - 1 x PCI Express 2.

0 x1 slot - Supports Intel® HD Graphics Built-in Visuals: Intel® Quick Sync Video, Intel® Clear Video HD Technology, Intel® HD Graphics 2000/3000, Intel® Advanced Vector Extensions (AVX) - Pixel Shader 4.1, DirectX 11 with Intel® Ivy Bridge CPU, DirectX 10.1 with Intel® Sandy Bridge CPU - Max. shared memory 1759MB (see CAUTION 4) - Dual VGA Output: support DVI-D and D-Sub ports by independent display controllers - Supports DVI with max. resolution up to 1920x1200 @ 60Hz - Supports D-Sub with max. resolution up to 2048x1536 @ 75Hz - Supports HDCP function with DVI port - Supports Full HD 1080p Blu-ray (BD) / HD-DVD playback with DVI port - 5.1 CH HD Audio (Realtek ALC662 Audio Codec) - PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Realtek RTL8111C - Supports Wake-On-LAN - Supports PXE Chipset Memory Expansion Slot Graphics Audio LAN 6 Rear Panel I/O Connector BIOS Feature Support CD Unique Feature I/O Panel - 1 x PS/2 Mouse Port - 1 x PS/2 Keyboard Port - 1 x D-Sub Port - 1 x DVI-D Port - 6 x Ready-to-Use USB 2.0 Ports - 1 x RJ-45 LAN Port with LED (ACT/LINK LED and SPEED LED) - HD Audio Jack: Line in/Front Speaker/Microphone - 4 x SATA2 3.0 Gb/s connectors, support NCQ, AHCI and Hot Plug functions - 1 x Print Port header - 1 x COM port header - CPU/Chassis/Power FAN connector - 24 pin ATX power connector - 4 pin 12V power connector - Front panel audio connector - 2 x USB 2.0 headers (support 4 USB 2.

0 ports) - 32Mb AMI BIOS - AMI UEFI Legal BIOS with GUI support - Supports "Plug and Play" - ACPI 1.1 Compliance Wake Up Events - Supports jumperfree - SMBIOS 2.3.1 Support - IGPU, DRAM, PCH, CPU PLL, VTT, VCCSA Voltage Multi-adjustment - Drivers, Utilities, AntiVirus Software (Trial Version), CyberLink MediaEspresso 6.5 Trial, Creative Sound Blaster X-Fi MB - Trial, ASRock MAGIX Multimedia Suite - OEM) - ASRock Extreme Tuning Utility (AXTU) (see CAUTION 5) - ASRock Instant Boot - ASRock Instant Flash (see CAUTION 6) - ASRock APP Charger (see CAUTION 7) - ASRock SmartView (see CAUTION 8) - ASRock XFast USB (see CAUTION 9) - ASRock XFast LAN (see CAUTION 10) - ASRock XFast RAM (see CAUTION 11) 7 Hardware Monitor OS Certifications - Hybrid Booster: - ASRock U-COP (see CAUTION 12) - Boot Failure Guard (B.



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F.G.) - Combo Cooler Option (C.C.O.)

) (see CAUTION 13) - CPU Temperature Sensing - Chassis Temperature Sensing - CPU/Chassis/Power Fan Tachometer - CPU/Chassis Quiet Fan (Allow Chassis Fan Speed Auto-Adjust by CPU Temperature) - CPU/Chassis Fan Multi-Speed Control - Voltage Monitoring: +12V, +5V, +3.3V, CPU Vcore - Microsoft® Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit / XP / XP 64-bit compliant (see CAUTION 14) - FCC, CE, WHQL - ErP/EuP Ready (ErP/EuP ready power supply is required) (see CAUTION 15) \* For detailed product information, please visit our website: <http://www.asrock.com> WARNING Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, applying Untied Overclocking Technology, or using the third-party overclocking tools. Overclocking may affect your system stability, or even cause damage to the components and devices of your system. It should be done at your own risk and expense. We are not responsible for possible damage caused by overclocking. 8 CAUTION! 1. 2. About the setting of “Hyper Threading Technology”, please check page 40.

This motherboard supports Dual Channel Memory Technology. Before you implement Dual Channel Memory Technology, make sure to read the installation guide of memory modules on page 18 for proper installation. Due to the operating system limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows® 7 / Vista™ / XP. For Windows® OS with 64-bit CPU, there is no such limitation. You can use ASRock XFast RAM to utilize the memory that Windows® cannot use. The maximum shared memory size is defined by the chipset vendor and is subject to change. Please check Intel® website for the latest information. ASRock Extreme Tuning Utility (AXTU) is an all-in-one tool to fine-tune different system functions in a user-friendly interface, which is including Hardware Monitor, Fan Control, Overclocking, OC DNA and IES. In Hardware Monitor, it shows the major readings of your system. In Fan Control, it shows the fan speed and temperature for system.

13. Combo Cooler Option (C.C.O.) provides the flexible option to adopt three different CPU cooler types, Socket LGA 775, LGA 1155 and LGA 1156. Please be noticed that not all the 775 and 1156 CPU Fan can be used. 10 14. ASRock XFast RAM is not supported by Microsoft® Windows® XP / XP 64-bit.

15. EuP, stands for Energy Using Product, was a provision regulated by European Union to define the power consumption for the completed system. According to EuP, the total AC power of the completed system shall be under 1.00W in off mode condition. To meet EuP standard, an EuP ready motherboard and an EuP ready power supply are required. According to Intel's suggestion, the EuP ready power supply must meet the standard of 5v standby power efficiency is higher than 50% under 100 mA current consumption. For EuP ready power supply selection, we recommend you checking with the power supply manufacturer for more details. 11 1.3 Motherboard Layout 1 2 3 17.3cm (6.8 in) PS2 Keyboard PS2 Mouse CPU\_FAN1 ATX12V1 X X DDR3\_B1 (64 bit, 240-pin module) RoHS Fast USB Fast LAN ErP/EuP Ready DDR3 DDR3\_A1 (64 bit, 240-pin module) USB 2.0 T: USB0 B: USB1 ATXPWR1 22.

6cm (8.9 in) 4 5 6 Designed in Taipei 32Mb BIOS USB 2.0 T: USB2 B: USB3 USB 2.0 T: USB4 B: USB5 VGA1 DVI1 Top: RJ-45 23 Bottom: MIC IN Top: LINE IN LAN PHY PWR\_FAN1 H61M-DGS PCIE1 X Center: FRONT Fast RAM 22 AUDIO CODEC Super I/O CLRCMOS1 21 20 HD\_AUDIO1 1 CMOS Battery Intel H61 1 SPEAKER1 7 PCIE2 USB8\_9 SATA2\_3 SATA2\_1 CHA\_FAN1 COM1 1 USB6\_7 PLED PWRBTN 8 1 1 LPT1 1 1 1 HDLED RESET PANEL1 SATA2\_2 SATA2\_0 19 18 17 16 15 14 13 12 11 10 9 1 2 3 4 5 6 7 8 9 10 11 12 1155-Pin CPU Socket ATX 12V Power Connector (ATX12V1) CPU Fan Connector (CPU\_FAN1) ATX Power Connector (ATXPWR1) 2 x 240-pin DDR3 DIMM Slots (Dual Channel: DDR3\_A1, DDR3\_B1, Blue) Intel H61 Chipset 32Mb SPI Flash SATA2 Connector (SATA2\_1, Blue) Chassis Fan Connector (CHA\_FAN1) SATA2 Connector (SATA2\_0, Blue) SATA2 Connector (SATA2\_3, Blue) SATA2 Connector (SATA2\_2, Blue) 13 14 15 16 17 18 19 20 21 22 23 Chassis Speaker Header (SPEAKER 1, White) System Panel Header (PANEL1, White) USB 2.0 Header (USB6\_7, Blue) USB 2.0 Header (USB8\_9, Blue) COM Port Header (COM1) Print Port Header (LPT1, White) Front Panel Audio Header (HD\_AUDIO1, White) PCI Express 2.0 x1 Slot (PCIE2, White) Clear CMOS Jumper (CLRCMOS1) PCI Express 2.0 x16 Slot (PCIE1, Blue) Power Fan Connector (PWR\_FAN1) 12 1.4 I/O Panel 1 \*2 3 \*\* 4 5 6 PS2 Mouse Port (Green) LAN RJ-45 Port Line In (Light Blue) Front Speaker (Lime) Microphone (Pink) USB 2.0 Ports (USB45) 7 8 9 10 11 USB 2.

0 Ports (USB23) USB 2.0 Ports (USB01) DVI-D Port D-Sub Port PS2 Keyboard Port (Purple) \* There are two LED next to the LAN port. Please refer to the table below for the LAN port LED indications. LAN Port LED Indications Activity/Link LED Status Description Status SPEED LED Description ACT/LINK LED SPEED LED Off No Link Blinking Data Activity On Link Off Orange Green 10Mbps connection 100Mbps connection 1Gbps connection LAN Port \*\* To enable Multi-Streaming function, you need to connect a front panel audio cable to the front panel audio header. Please refer to below steps for the software setting of Multi-Streaming.

For Windows® XP: After restarting your computer, you will find “Mixer” tool on your system. Please select “Mixer ToolBox”, click “Enable playback multi-streaming”, and click “ok”. Choose “2CH” or “4CH” and then you are allowed to select “Realtek HDA Primary output” to use Rear Speaker and Front Speaker, or select “Realtek HDA Audio 2nd output” to use front panel audio. Then reboot your system. For Windows® 7 / Vista™: After restarting your computer, please double-click “Realtek HD Audio Manager” on the system tray.

Set “Speaker Configuration” to “Quadraphonic” or “Stereo”. Click “Device advanced settings”, choose “Make front and rear output devices playbacks two different audio streams simultaneously”, and click “ok”. Then reboot your system. 13 Chapter 2: Installation This is a Micro ATX form factor (8.9" x 6.8", 22.6 x 17.3 cm) motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it. Make sure to unplug the power cord before installing or removing the motherboard.

Failure to do so may cause physical injuries to you and damages to motherboard components. 2.1 Screw Holes Place screws into the holes indicated by circles to secure the motherboard to the chassis. Do not over-tighten the screws! Doing so may damage the motherboard. 2.2 Pre-installation Precautions Take note of the following precautions before you install motherboard components or change any motherboard settings.



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1. Unplug the power cord from the wall socket before touching any component. 2. To avoid damaging the motherboard components due to static electricity, NEVER place your motherboard directly on the carpet or the like.

Also remember to use a grounded wrist strap or touch a safety grounded object before you handle components. 3. Hold components by the edges and do not touch the ICs. 4. Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that comes with the component.

Before you install or remove any component, ensure that the power is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components. 14 2.3 CPU Installation For the installation of Intel 1155-Pin CPU, please follow the steps below. Load Plate Load Lever Contact Array Socket Body 1155-Pin Socket Overview Before you insert the 1155-Pin CPU into the socket, please check if the CPU surface is unclean or if there is any bent pin on the socket.

Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged. Step 1. Open the socket: Step 1-1. Disengaging the lever by depressing down and out on the hook to clear retention tab. Step 1-2. Rotate the load lever to fully open position at approximately 135 degrees. Step 1-3. Rotate the load plate to fully open position at approximately 100 degrees. Step 2.

Remove PnP Cap (Pick and Place Cap). 1. It is recommended to use the cap tab to handle and avoid kicking off the PnP cap. 2. This cap must be placed if returning the motherboard for after service. 15 Step 3. Insert the 1155-Pin CPU: Step 3-1. Hold the CPU by the edge where is marked with black line. black line Step 3-2. Orient the CPU with IHS (Integrated Heat Sink) up.

Locate Pin1 and the two orientation key notches. orientation key notch Pin1 alignment key Pin1 alignment key orientation key notch 1155-Pin CPU 1155-Pin Socket For proper inserting, please ensure to match the two orientation key notches of the CPU with the two alignment keys of the socket. Step 3-3. Carefully place the CPU into the socket by using a purely vertical motion. Step 3-4.

Verify that the CPU is within the socket and properly mated to the orient keys. Step 4. Close the socket: Step 4-1. Rotate the load plate onto the IHS. Step 4-2. While pressing down lightly on load plate, engage the load lever. 16 2.4 Installation of CPU Fan and Heatsink This motherboard is equipped with 1155-Pin socket that supports Intel 1155-Pin CPU. Please adopt the type of heatsink and cooling fan compliant with Intel 1155Pin CPU to dissipate heat. Before you installed the heatsink, you need to spray thermal interface material between the CPU and the heatsink to improve heat dissipation. Ensure that the CPU and the heatsink are securely fastened and in good contact with each other. Then connect the CPU fan to the CPU\_FAN connector (CPU\_FAN1, see page 12, No. 3). For proper installation, please kindly refer to the instruction manuals of your CPU fan and heatsink. Below is an example to illustrate the installation of the heatsink for 1155-Pin CPU.

Step 1. Apply thermal interface material onto center of IHS on the socket surface. Apply Thermal Interface Material Step 2. Step 3. Step 4. Place the heatsink onto the socket. Ensure fan cables are oriented on side closest to the CPU fan connector on the motherboard (CPU\_FAN1, see page 12, No. 3). Align fasteners with the motherboard throughholes. Rotate the fastener clockwise, then press down on fastener caps with thumb to install and lock.

Repeat with remaining fasteners. Fan cables on side closest to MB header Fastener slots pointing straight out Press Down (4 Places) If you press down the fasteners without rotating them clockwise, the heatsink cannot be secured on the motherboard. Step 5. Step 6. Connect fan header with the CPU fan connector on the motherboard.

Secure excess cable with tie-wrap to ensure cable does not interfere with fan operation or contact other components. Please be noticed that this motherboard supports Combo Cooler Option (C.C.O.), which provides the flexible option to adopt three different CPU cooler types, Socket LGA 775, LGA 1155 and LGA 1156.

The white throughholes are for Socket LGA 1155/1156 CPU fan. 17 2.5 Installation of Memory Modules (DIMM) This motherboard provides two 240-pin DDR3 (Double Data Rate 3) DIMM slots, and supports Dual Channel Memory Technology. For dual channel configuration, you always need to install two identical (the same brand, speed, size and chiptype) memory modules in the DDR3 DIMM slots to activate Dual Channel Memory Technology. Otherwise, it will operate at single channel mode. 1. It is not allowed to install a DDR or DDR2 memory module into DDR3 slot; otherwise, this motherboard and DIMM may be damaged. If you install only one memory module or two non-identical memory modules, it is unable to activate the Dual Channel Memory Technology. Some DDR3 1GB double-sided DIMMs with 16 chips may not work on this motherboard. It is not recommended to install them on this motherboard.

2. 3. Installing a DIMM Please make sure to disconnect power supply before adding or removing DIMMs or the system components. Step 1. Step 2. Unlock a DIMM slot by pressing the retaining clips outward. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot. notch break notch break The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation. Step 3.

Firmly insert the DIMM into the slot until the retaining clips at both ends fully snap back in place and the DIMM is properly seated. 18 2.6 Expansion Slots (PCI Express Slots) There are 2 PCI Express slots on this motherboard. PCIE1 (PCIE x16 slot; Blue) is used for PCI Express x16 lane width graphics cards. PCIE2 (PCIE x1 slot; White) is used for PCI Express cards with x1 lane width cards, such as Gigabit LAN card, SATA2 card, etc.

Installing an expansion card Step 1. Before installing the expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation. Remove the system unit cover (if your motherboard is already installed in a chassis). Remove the bracket facing the slot that you intend to use.

Keep the screws for later use. Align the card connector with the slot and press firmly until the card is completely seated on the slot. Fasten the card to the chassis with screws. Replace the system cover. Step 2. Step 3. Step 4. Step 5. Step 6. 19 2.

7 Dual Monitor and Surround Display Features Dual Monitor Feature This motherboard supports dual monitor feature. With the internal VGA output support (DVI-D and D-Sub), you can easily enjoy the benefits of dual monitor feature without installing any add-on VGA card to this motherboard.



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This motherboard also provides independent display controllers for DVI-D and D-Sub to support dual VGA output so that DVI-D and D-sub can drive same or different display contents. To enable dual monitor feature, please follow the below steps: 1. Connect DVI-D monitor cable to DVI-D port on the I/O panel, and connect D-Sub monitor cable to D-Sub port on the I/O panel. D-Sub port DVI-D port 2. If you have installed onboard VGA driver from our support CD to your system already, you can freely enjoy the benefits of dual monitor function after your system boots. If you haven't installed onboard VGA driver yet, please install onboard VGA driver from our support CD to your system and restart your computer. 20 Surround Display Feature This motherboard supports surround display upgrade. With the internal VGA output support (DVI-D and D-Sub) and external add-on PCI Express VGA cards, you can easily enjoy the benefits of surround display feature.

Please refer to the following steps to set up a surround display environment: 1. Install the PCI Express VGA card on PCIE1 slot. Please refer to page 19 for proper expansion card installation procedures for details. 2. Connect DVI-D monitor cable to DVI-D port on the I/O panel, and connect D-Sub monitor cable to D-Sub port on the I/O panel.

Then connect other monitor cables to the corresponding connectors of the add-on PCI Express VGA card on PCIE1 slot. 3. Boot your system. Press <F2> or <Del> to enter UEFI setup. Enter "Onboard VGA Share Memory" option to adjust the memory capability to [32MB], [64MB], [128MB], [256MB] or [512MB] to enable the function of D-sub.

Please make sure that the value you select is less than the total capability of the system memory. If you do not adjust the UEFI setup, the default value of "Onboard VGA Share Memory", [Auto], will disable D-Sub function when the add-on VGA card is inserted to this motherboard. 4. Install the onboard VGA driver and the add-on PCI Express VGA card driver to your system. If you have installed the drivers already, there is no need to install them again. 5. Set up a multi-monitor display. For Windows® XP / XP 64-bit OS: Right click the desktop, choose "Properties", and select the "Settings" tab so that you can adjust the parameters of the multi-monitor according to the steps below. A. Click the "Identify" button to display a large number on each monitor.

B. Right-click the display icon in the Display Properties dialog that you wish to be your primary monitor, and then select "Primary". When you use multiple monitors with your card, one monitor will always be Primary, and all additional monitors will be designated as Secondary. C. Select the display icon identified by the number 2. D. Click "Extend my Windows desktop onto this monitor". E. Right-click the display icon and select "Attached", if necessary. F. Set the "Screen Resolution" and "Color Quality" as appropriate for the second monitor. Click "Apply" or "OK" to apply these new values. G. Repeat steps C through E for the display icon identified by the number one, two, three and four. 21 For Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit OS: Right click the desktop, choose "Personalize", and select the "Display Settings" tab so that you can adjust the parameters of the multi-monitor according to the steps below.

A. Click the number "2" icon. B. Click the items "This is my main monitor" and "Extend the desktop onto this monitor". C. Click "OK" to save your change. D. Repeat steps A through C for the display icon identified by the number three and four. 6. Use Surround Display. Click and drag the display icons to positions representing the physical setup of your monitors that you would like to use. The placement of display icons determines how you move items from one monitor to another. HDCP Function HDCP function is supported on this motherboard. To use HDCP function with this motherboard, you need to adopt the monitor that supports HDCP function as well. Therefore, you can enjoy the superior display quality with high-definition HDCP encryption contents.

Please refer to below instruction for more details about HDCP function. What is HDCP? HDCP stands for High-Bandwidth Digital Content Protection, a specification developed by Intel® for protecting digital entertainment content that uses the DVI interface. HDCP is a copy protection scheme to eliminate the possibility of intercepting digital data midstream between the video source, or transmitter - such as a computer, DVD player or set-top box and the digital display, or receiver - such as a monitor, television or projector. In other words, HDCP specification is designed to protect the integrity of content as it is being transmitted. Products compatible with the HDCP scheme such as DVD players, satellite and cable HDTV set-top-boxes, as well as few entertainment PCs requires a secure connection to a compliant display. Due to the increase in manufacturers employing HDCP in their equipment, it is highly recommended that the HDTV or LCD monitor you purchase is compatible. 22 2.8 Jumpers Setup The illustration shows how jumpers are setup. When the jumper cap is placed on pins, the jumper is "Short". If no jumper cap is placed on pins, the jumper is "Open".

The illustration shows a 3-pin jumper whose pin1 and pin2 are "Short" when jumper cap is placed on these 2 pins. Jumper Clear CMOS Jumper (CLR\_CMOS1) (see p.12, No. 1) (SATA2\_1: see p. 12, No. 8) (SATA2\_2: see p.12, No. 12) (SATA2\_3: see p.12, No. 16) Print Port Header (25-pin LPT1) (see p.12 No. 2) Connect Mic\_IN (MIC) to MIC2\_L. B. Connect Audio\_R (RIN) to OUT2\_R and Audio\_L (LIN) to OUT2\_L. C. Connect Ground (GND) to Ground (GND). D. MIC\_RET and OUT\_RET are for HD audio panel only.

You don't need to connect them for AC'97 audio panel. E. To activate the front mic. For Windows® XP / XP 64-bit OS: Select "Mixer". Select "Recorder". Then click "FrontMic". Note the positive and negative pins before connecting the cables. RESET (Reset Switch): Connect 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. PLED (System Power LED): Connect to the power status indicator on the chassis front panel.

The LED is on when the system is operating. The LED keeps blinking when the system is in S1 sleep state. The LED is off when the system is in S3/S4 sleep state or powered off (S5). 25 HDLED (Hard Drive Activity LED): Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

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.



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When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assignments are matched correctly. Chassis Speaker Header (4-pin SPEAKER 1) (see p.12 No.

13) Please connect the chassis speaker to this header. Chassis and Power Fan Connectors (4-pin CHA\_FAN1) (see p.12 No. 9) CHA\_FAN\_SPEED +12V FAN\_SPEED\_CONTROL GND Please connect the fan cables to the fan connectors and match the black wire to the ground pin. (3-pin PWR\_FAN1) (see p.12 No. 23) CPU Fan Connectors (4-pin CPU\_FAN1) (see p.12 No. 3) 4 3 2 1 Please connect the CPU fan cable to the connector and match the black wire to the ground pin. GND +12V CPU\_FAN\_SPEED FAN\_SPEED\_CONTROL Though this motherboard provides 4-Pin CPU fan (Quiet Fan) support, the 3-Pin CPU fan still can work successfully even without the fan speed control function.

If you plan to connect the 3-Pin CPU fan to the CPU fan connector on this motherboard, please connect it to Pin 1-3. Pin 1-3 Connected 3-Pin Fan Installation ATX Power Connector (24-pin ATXPWR1) (see p.12 No. 4) 12 24 Please connect an ATX power supply to this connector. 1 13 26 Though this motherboard provides 24-pin ATX power connector, it can still work if you adopt a traditional 20-pin ATX power supply. To use the 20-pin ATX power supply, please plug your power supply along with Pin 1 and Pin 13. 12 24 20-Pin ATX Power Supply Installation 1 13 ATX 12V Power Connector (4-pin ATX12V1) (see p.12 No. 2) Please connect an ATX 12V power supply to this connector. Serial port Header (9-pin COM1) (see p. 12 No. 17) This COM1 header supports a serial port module. 27 2.10 Serial ATA (SATA) / Serial ATAII (SATAII) Hard Disks Installation This motherboard adopts Intel® H61 chipset that supports Serial ATA (SATA) / Serial ATAII (SATAII) hard disks. You may install SATA / SATAII hard disks on this motherboard for internal storage devices.

This section will guide you to install the SATA / SATAII hard disks. STEP 1: Install the SATA / SATAII hard disks into the drive bays of your chassis. STEP 2: Connect the SATA power cable to the SATA / SATAII hard disk. STEP 3: Connect one end of the SATA data cable to the motherboard's SATAII connector. STEP 4: Connect the other end of the SATA data cable to the SATA / SATAII hard disk.

2.11 Hot Plug Function for SATA / SATAII HDDs This motherboard supports Hot Plug function for SATA / SATAII in AHCI mode. Intel® H61 chipset provides hardware support for Advanced Host controller Interface (AHCI), a new programming interface for SATA host controllers developed thru a joint industry effort. NOTE What is Hot Plug Function? If the SATA / SATAII HDDs are NOT set for RAID configuration, it is called "Hot Plug" for the action to insert and remove the SATA / SATAII HDDs while the system is still power-on and in working condition. However, please note that it cannot perform Hot Plug if the OS has been installed into the SATA / SATAII HDD. 28 2.12 SATA / SATAII HDD Hot Plug Feature and Operation Guide This motherboard supports Hot Plug feature for SATA / SATAII HDD in AHCI mode. Please read below operation guide of Hot Plug feature carefully. Before you process the SATA / SATAII HDD Hot Plug, please check below cable accessories from the motherboard gift box pack. A.

7-pin SATA data cable B. SATA power cable with SATA 15-pin power connector interface A. SATA data cable (Red) B. SATA power cable SATA 7-pin connector The SATA 15-pin power connector (Black) connect to SATA / SATAII HDD 1x4-pin conventional power connector (White) connect to power supply Caution 1. Without SATA 15-pin power connector interface, the SATA / SATAII Hot Plug cannot be processed. 2. Even some SATA / SATAII HDDs provide both SATA 15-pin power connector and IDE 1x4-pin conventional power connector interfaces, the IDE 1x4-pin conventional power connector interface is definitely not able to support Hot Plug and will cause the HDD damage and data loss. Points of attention, before you process the Hot Plug: 1. Below operation procedure is designed only for our motherboard, which supports SATA / SATAII HDD Hot Plug. \*The SATA / SATAII Hot Plug feature might not be supported by the chipset because of its limitation, the SATA / SATAII Hot Plug support information of our motherboard is indicated in the product spec on our website: www.

asrock.com 2. Make sure your SATA / SATAII HDD can support Hot Plug function from your dealer or HDD user manual. The SATA / SATAII HDD, which cannot support Hot Plug function, will be damaged under the Hot Plug operation. 3.

Please make sure the SATA / SATAII driver is installed into system properly. The latest SATA / SATAII driver is available on our support website: www.asrock.com 4. Make sure to use the SATA power cable & data cable, which are from our motherboard package.

5. Please follow below instructions step by step to reduce the risk of HDD crash or data loss. 29 How to Hot Plug a SATA / SATAII HDD: Points of attention, before you process the Hot Plug: Please do follow below instruction sequence to process the Hot Plug, improper procedure will cause the SATA / SATAII HDD damage and data loss. Step 1 Please connect SATA power cable 1x4-pin end Step 2 (White) to the power supply 1x4-pin cable. Connect SATA data cable to the motherboard's SATAII connector. SATA power cable 1x4-pin power connector (White) Step 3 Connect SATA 15-pin power cable connector (Black) end to SATA / SATAII HDD. Step 4 Connect SATA data cable to the SATA / SATAII HDD. How to Hot Unplug a SATA / SATAII HDD: Points of attention, before you process the Hot Unplug: Please do follow below instruction sequence to process the Hot Unplug, improper procedure will cause the SATA / SATAII HDD damage and data loss. Step 1 Unplug SATA data cable from SATA / SATAII HDD side. Step 2 Unplug SATA 15-pin power cable connector (Black) from SATA / SATAII HDD side.

30 2.13 Driver Installation Guide To install the drivers to your system, please insert the support CD to your optical drive first. Then, the drivers compatible to your system can be auto-detected and listed on the support CD driver page. Please follow the order from up to bottom side to install those required drivers.

Therefore, the drivers you install can work properly. 2.14 Installing Windows® 7 / 7 64-bit / VistaTM / VistaTM 64-bit / XP / XP 64-bit Without RAID Functions If you want to install Windows® 7 / 7 64-bit / VistaTM / VistaTM 64-bit / XP / XP 64bit OS on your SATA / SATAII HDDs without RAID functions, please follow below procedures according to the OS you install. 2.14.1 Installing Windows® XP / XP 64-bit Without RAID Functions If you want to install Windows® XP / XP 64-bit OS on your SATA / SATAII HDDs without RAID functions, please follow below steps.

Using SATA / SATAII HDDs with NCQ function STEP 1: Set Up UEFI. A. Enter UEFI SETUP UTILITY Advanced screen Storage Configuration. B. Set the option "SATA Mode" to [AHCI].

STEP 2: Make a SATA / SATAII driver diskette.



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(Please use USB floppy or floppy disk.) A. Insert the Support CD into your optical drive to boot your system. B.

During POST at the beginning of system boot-up, press <F11> key, and then a window for boot devices selection appears. Please select CD-ROM as the boot device. C. When you see the message on the screen, "Do you want to generate Serial ATA driver diskette [YN]?", press <Y>. D. Then you will see these messages, Please insert a diskette into the floppy drive. WARNING! Formatting the floppy diskette will lose ALL data in it! Start to format and copy files [YN]? Please insert a floppy diskette into the floppy drive, and press <Y>. E. The system will start to format the floppy diskette and copy SATA / SATAII drivers into the floppy diskette. 31 STEP 3: Install Windows® XP / XP 64-bit OS on your system.

After making a SATA / SATAII driver diskette, you can start to install Windows® XP / XP 64-bit on your system. At the beginning of Windows® setup, press F6 to install a third-party AHCI driver. When prompted, insert the SATA / SATAII driver diskette containing the Intel® AHCI driver. After reading the floppy disk, the driver will be presented. Select the driver to install according to the mode you choose and the OS you install. Using SATA / SATAII HDDs without NCQ function STEP 1: Set up UEFI. A. Enter UEFI SETUP UTILITY Advanced screen Storage Configuration. B. Set the option "SATA Mode" to [IDE].

STEP 2: Install Windows® XP / XP 64-bit OS on your system. 2.14.2 Installing Windows® 7 / 7 64-bit / VistaTM / VistaTM 64-bit Without RAID Functions If you want to install Windows® 7 / 7 64-bit / VistaTM / VistaTM 64-bit OS on your SATA / SATAII HDDs without RAID functions, please follow below steps.

Using SATA / SATAII HDDs with NCQ function STEP 1: Set Up UEFI.

A. Enter UEFI SETUP UTILITY Advanced screen Storage Configuration. B. Set the option "SATA Mode" to [AHCI]. STEP 2: Install Windows® 7 / 7 64-bit / VistaTM / VistaTM 64-bit OS on your system.

Using SATA / SATAII HDDs without NCQ function STEP 1: Set up UEFI. A. Enter UEFI SETUP UTILITY Advanced screen Storage Configuration. B. Set the option "SATA Mode" to [IDE]. STEP 2: Install Windows® 7 / 7 64-bit / VistaTM / VistaTM 64-bit OS on your system. 32 Chapter 3: UEFI SETUP UTILITY 3.1 Introduction This section explains how to use the UEFI SETUP UTILITY to configure your system. The UEFI chip on the motherboard stores the UEFI SETUP UTILITY. You may run the UEFI SETUP UTILITY when you start up the computer.

Please press <F2> or <Del> during the Power-On-Self-Test (POST) to enter the UEFI SETUP UTILITY, otherwise, POST will continue with its test routines. If you wish to enter the UEFI SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on. Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen. 3.1.1 UEFI Menu Bar The top of the screen has a menu bar with the following selections: Main To set up the system time/date information OC Tweaker To set up overclocking features Advanced To set up the advanced UEFI features H/W Monitor To display current hardware status Boot To set up the default system device to locate and load the Operating System Security To set up the security features Exit To exit the current screen or the UEFI SETUP UTILITY Use < > key or < > key to choose among the selections on the menu bar, and then press <Enter> to get into the sub screen. You can also use the mouse to click your required item. 33 3.1.2 Navigation Keys Please check the following table for the function description of each navigation key. Navigation Key(s) Function Description / Moves cursor left or right to select Screens / Moves cursor up or down to select items + / To change option for the selected items <Enter> To bring up the selected screen <F1> To display the General Help Screen <F9> To load optimal default values for all the settings <F10> To save changes and exit the UEFI SETUP UTILITY <ESC> To jump to the Exit Screen or exit the current screen 3.2 Main Screen When you enter the UEFI SETUP UTILITY, the Main screen will appear and display the system overview. 34 3.3 OC Tweaker Screen In the OC Tweaker screen, you can set up overclocking features.

Load CPU EZ OC Setting You can use this option to load CPU EZ overclocking settings. Please note that overclocking may cause damage to your CPU and motherboard. It should be done at your own risk and expense. CPU Configuration CPU Ratio Use this item to change the ratio value of this motherboard. Intel SpeedStep Technology Intel SpeedStep technology is Intel's new power saving technology. Processors can switch between multiple frequencies and voltage points to enable power saving. The default value is [Enabled]. Configuration options: [Enabled] and [Disabled]. If you install Windows® VistaTM / 7 and want to enable this function, please set this item to [Enabled]. This item will be hidden if the current CPU does not support Intel SpeedStep technology. Please note that enabling this function may reduce CPU voltage and lead to system stability or compatibility issues with some power supplies. Please set this item to [Disabled] if above issues occur. Intel Turbo Boost Technology Use this item to enable or disable Intel Turbo Boost Mode Technology. Turbo Boost Mode allows processor cores to run faster than marked frequency in specific conditions. The default value is [Enabled].

Long Duration Power Limit Use this item to configure long duration power limit in watts. The default value is [Auto]. 35 Long Duration Maintained Use this item to configure time window which the long duration power is maintained. The default value is [Auto]. Short Duration Power Limit Use this item to configure short duration power limit in watts. The default value is [Auto]. Primary Plane Current Limit Use this item to configure the maximum instantaneous current allowed for the primary plane. The default value is [Auto]. Secondary Plane Current Limit Use this item to configure the maximum instantaneous current allowed for the secondary plane. The default value is [Auto].

GT OverClocking Support Use this item to enable or disable GT OverClocking Support. The default value is [Disabled]. DRAM Timing Configuration DRAM Frequency If [Auto] is selected, the motherboard will detect the memory module(s) inserted and assign the appropriate frequency automatically. DRAM Configuration DRAM tCL Use this item to change CAS# Latency (tCL) Auto/Manual setting. The default is [Auto].

DRAM tRCD Use this item to change RAS# to CAS# Delay (tRCD) Auto/Manual setting. The default is [Auto]. 36 DRAM tRP Use this item to change Row Precharge Time (tRP) Auto/Manual setting.

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The default is [Auto]. DRAM tRAS Use this item to change RAS# Active Time (tRAS) Auto/Manual setting.

The default is [Auto]. Command Rate (CR) Use this item to change Command Rate (CR) Auto/Manual setting. The default is [Auto]. DRAM tWR Use this item to change Write Recovery Time (tWR) Auto/Manual setting. The default is [Auto]. DRAM tRFC Use this item to change Refresh Cycle Time (tRFC) Auto/Manual setting. The default is [Auto]. DRAM tRRD Use this item to change RAS to RAS Delay (tRRD) Auto/Manual setting. The default is [Auto]. DRAM tWTR Use this item to change Write to Read Delay (tWTR) Auto/Manual setting.

The default is [Auto]. DRAM tRTP Use this item to change Read to Precharge (tRTP) Auto/Manual setting. The default is [Auto]. DRAM tFAW Use this item to change Four Activate Window (tFAW) Auto/Manual setting. The default is [Auto]. DRAM tCWL Use this item to change CAS# Write Latency (tCWL) Auto/Manual setting. The default is [Auto]. ODT WR (CH A) Use this item to change ODT WR (CH A) setting. The default is [Auto]. ODT WR (CH B) Use this item to change ODT WR (CH B) setting.

The default is [Auto]. ODT NOM (CH A) Use this item to change ODT NOM (CH A) setting. The default is [Auto]. ODT NOM (CH B) Use this item to change ODT NOM (CH B) setting. The default is [Auto].

MRC Fast Boot Use this item to enable or disable MRC Fast Boot. The default is [Enabled]. 37 Voltage Configuration CPU Core Voltage Offset Use this to select CPU Core Voltage Offset. The default value is [Auto]. IGPU Voltage Offset Use this to select IGPU Voltage Offset.

The default value is [Auto]. DRAM Voltage Use this to select DRAM Voltage. The default value is [Auto]. VTT Voltage Use this to select VTT Voltage. The default value is [Auto]. PCH Voltage Use this to select PCH Voltage. The default value is [Auto]. CPU PLL Voltage Use this to select CPU PLL Voltage. The default value is [Auto]. VCCSA Voltage Use this to select VCCSA Voltage.

The default value is [Auto]. User Defaults In this option, you are allowed to load and save three user defaults according to your own requirements. 38 3.4 Advanced Screen In this section, you may set the configurations for the following items: CPU Configuration, North Bridge Configuration, South Bridge Configuration, Storage Configuration, Super IO Configuration, ACPI Configuration and USB Configuration. Setting wrong values in this section may cause the system to malfunction. Instant Flash Instant Flash is a UEFI flash utility embedded in Flash ROM. This convenient UEFI update tool allows you to update system UEFI without entering operating systems first like MS-DOS or Windows®. Just save the new UEFI file to your USB flash drive, floppy disk or hard drive and launch this tool, then you can update your UEFI only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system. If you execute Instant Flash utility, the utility will show the UEFI files and their respective information.

Select the proper UEFI file to update your UEFI, and reboot your system after the UEFI update process is completed. 39 3.4.1 CPU Configuration Intel Hyper Threading Technology To enable this feature, a computer system with an Intel processor that supports Hyper-Threading technology and an operating system that includes optimization for this technology, such as Microsoft® Windows® XP / Vista™ / 7 is required. Set to [Enabled] if using Microsoft® Windows® XP, Vista™, 7, or Linux kernel version 2.

4.18 or higher. This option will be hidden if the installed CPU does not support Hyper-Threading technology. Active Processor Cores Use this item to select the number of cores to enable in each processor package. The default value is [All].

Enhance Halt State (C1E) All processors support the Halt State (C1). The C1 state is supported through the native processor instructions HLT and MWAIT and requires no hardware support from the chipset. In the C1 power state, the processor maintains the context of the system caches. CPU C3 State Support Use this to enable or disable CPU C3 (ACPI C2) report to OS. CPU C6 State Support Use this to enable or disable CPU C6 (ACPI C3) report to OS.

Package C State Support Selected option will program into C State package limit register. The default value is [Auto]. CPU Thermal Throttling You may select [Enabled] to enable CPU internal thermal control mechanism to keep the CPU from overheating. 40 No-Execute Memory Protection No-Execution (NX) Memory Protection Technology is an enhancement to the IA-32 Intel Architecture. An IA-32 processor with “No Execute (NX) Memory Protection” can prevent data pages from being used by malicious software to execute codes.

This option will be hidden if the current CPU does not support No-Execute Memory Protection. Intel Virtualization Technology When this option is set to [Enabled], a VMM (Virtual Machine Architecture) can utilize the additional hardware capabilities provided by Vanderpool Technology. This option will be hidden if the installed CPU does not support Intel Virtualization Technology. Hardware Prefetcher Use this item to turn on/off the MLC streamer prefetcher. Adjacent Cache Line Prefetch Use this item to turn on/off prefetching of adjacent cache lines. 41 3.4.2 North Bridge Configuration Primary Graphics Adapter This allows you to select the boot graphic adapter priority. Configuration options: [Onboard] and [PCI Express]. The default value is [PCI Express].

VT-d Use this to enable or disable Intel® VT-d technology (Intel® Virtualization Technology for Directed I/O). The default value of this feature is [Disabled]. Share Memory This allows you to set onboard VGA share memory feature. The default value is [Auto]. Configuration options: [Auto], [32MB], [64MB], [128MB], [256MB] and [512MB].

IGD Multi-Monitor Use this to enable or disable IGD Multi-Monitor by Internal Graphics Device. The default value is [Disabled]. Render Standby Use this to enable or disable Render Standby by Internal Graphics Device. The default value is [Enabled]. 42 3.

4.3 South Bridge Configuration Onboard HD Audio Select [Auto], [Enabled] or [Disabled] for the onboard HD Audio feature. If you select [Auto], the onboard HD Audio will be disabled when PCI Sound Card is plugged. Front Panel Select [Auto] or [Disabled] for the onboard HD Audio Front Panel. Onboard HDMI HD Audio This allows you to enable or disable the “Onboard HDMI HD Audio” feature. Onboard LAN This allows you to enable or disable the “Onboard LAN” feature. Deep Sleep Mobile platforms support Deep S4/S5 in DC only and desktop platforms support Deep S4/S5 in AC only. Configuration options: [Disabled], [Enabled in S5] and [Enabled in S4 and S5]. The default value is [Enabled in S5]. Restore on AC/Power Loss This allows you to set the power state after an unexpected AC/power loss.

If [Power Off] is selected, the AC/power remains off when the power recovers. If [Power On] is selected, the AC/power resumes and the system starts to boot up when the power recovers.



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43 3.4.4 Storage Configuration SATA Controller(s) Use this item to enable or disable the SATA Controller feature. SATA Mode Selection Use this to select SATA mode. Configuration options: [IDE Mode], [AHCI Mode] and [Disabled]. The default value is [IDE Mode]. AHCI (Advanced Host Controller Interface) supports NCQ and other new features that will improve SATA disk performance but IDE mode does not have these advantages. Hard Disk S.M.A.R.T. Use this item to enable or disable the S.

M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) feature.

Configuration options: [Disabled] and [Enabled]. 44 3.4.5 Super IO Configuration Serial Port Use this item to enable or disable the onboard serial port. Serial Port Address Use this item to set the address for the onboard serial port. Configuration options: [3F8 / IRQ4] and [3E8 / IRQ4]. Parallel Port Use this item to enable or disable the onboard parallel port. Device Mode Use this item to change the Printer Port mode. Change Settings Use this item to select an optional setting for Super IO device. 45 3.

4.6 ACPI Configuration Suspend to RAM Use this item to select whether to auto-detect or disable the Suspend-toRAM feature. Select [Auto] will enable this feature if the OS supports it. Check Ready Bit Use this item to enable or disable the feature Check Ready Bit. ACPI HPET Table Use this item to enable or disable ACPI HPET Table. The default value is [Enabled]. Please set this option to [Enabled] if you plan to use this motherboard to submit Windows® Vista™ certification. PS/2 Keyboard Power On Use this item to enable or disable PS/2 keyboard to turn on the system from the power-soft-off mode. PCI Devices Power On Use this item to enable or disable PCI devices to turn on the system from the power-soft-off mode. Ring-In Power On Use this item to enable or disable Ring-In signals to turn on the system from the power-soft-off mode.

RTC Alarm Power On Use this item to enable or disable RTC (Real Time Clock) to power on the system. USB Keyboard/Remote Power On Use this item to enable or disable USB Keyboard/Remote to turn on the system from the power-soft-off mode. USB Mouse Power On Use this item to enable or disable USB Mouse to turn on the system from the power-soft-off mode. 46 3.4.

7 USB Configuration USB 2.0 Controller Use this item to enable or disable the use of USB 2.0 controller. Legacy USB Support Use this option to select legacy support for USB devices. There are four configuration options: [Enabled], [Auto], [Disabled] and [UEFI Setup Only].

The default value is [Enabled]. Please refer to below descriptions for the details of these four options: [Enabled] - Enables support for legacy USB. [Auto] - Enables legacy support if USB devices are connected. [Disabled] - USB devices are not allowed to use under legacy OS and UEFI setup when [Disabled] is selected. If you have USB compatibility issue, it is recommended to select [Disabled] to enter OS. [UEFI Setup Only] - USB devices are allowed to use only under UEFI setup and Windows / Linux OS. 47 3.5 Hardware Health Event Monitoring Screen In this section, it allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, CPU fan speed, chassis fan speed, and the critical voltage. CPU Fan Setting This allows you to set the CPU fan speed. Configuration options: [Full On] and [Automatic Mode].

The default is value [Full On]. Chassis Fan Setting This allows you to set the chassis fan speed. Configuration options: [Full On] and [Automatic Mode]. The default is value [Full On]. Over Temperature Protection Use this item to enable or disable Over Temperature Protection. The default value is [Enabled]. 48 3.6 Boot Screen In this section, it will display the available devices on your system for you to configure the boot settings and the boot priority. Setup Prompt Timeout This shows the number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.

Bootup Num-Lock If this item is set to [On], it will automatically activate the Numeric Lock function after boot-up. PCI ROM Priority Use this item to adjust PCI ROM Priority. The default value is [Legacy ROM]. Full Screen Logo Use this item to enable or disable OEM Logo. The default value is [Enabled]. AddOn ROM Display Use this option to adjust AddOn ROM Display. If you enable the option "Full Screen Logo" but you want to see the AddOn ROM information when the system boots, please select [Enabled]. Configuration options: [Enabled] and [Disabled]. The default value is [Enabled].

@@@ Discard Changes and Exit When you select this option, it will pop-out the following message, "Discard changes and exit setup?" Select [OK] to exit the UEFI SETUP UTILITY without saving any changes.

Discard Changes When you select this option, it will pop-out the following message, "Discard changes?" Select [OK] to discard all changes. Load UEFI Defaults Load UEFI default values for all the setup questions. F9 key can be used for this operation. Launch EFI Shell from filesystem device Attempts to Launch EFI Shell application (Shell64.efi) from one of the available filesystem devices. 51 Chapter 4: Software Support 4.1 Install Operating System This motherboard supports various Microsoft® Windows® operating systems: 7 / 7 64-bit / Vista™ / Vista™ 64-bit / XP / XP 64-bit. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer to your OS documentation for more information. 4.

2 Support CD Information The Support CD that came with the motherboard contains necessary drivers and useful utilities that enhance the motherboard features. 4.2.1 Running The Support CD To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu did not appear automatically, locate and double click on the file "ASSETUP.EXE" from the BIN folder in the Support CD to display the menus. 4.2.2 Drivers Menu The Drivers Menu shows the available devices drivers if the system detects installed devices.

Please install the necessary drivers to activate the devices. 4.2.3 Utilities Menu The Utilities Menu shows the applications software that the motherboard supports. Click on a specific item then follow the installation wizard to install it.

4.2.4 Contact Information If you need to contact ASRock or want to know more about ASRock, welcome to visit ASRock's website at <http://www.asrock.com>; or you may contact your dealer for further information.

52 Installing OS on a HDD Larger Than 2TB This motherboard is adopting UEFI BIOS that allows Windows® OS to be installed on a large size HDD (>2TB). Please follow below procedure to install the operating system. 1. Please make sure to use Windows® Vista™ 64-bit (with SP1 or above) or Windows® 7 64-bit. 2. Press <F2> or <Delete> at system POST.



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*Set AHCI Mode in UEFI Setup Utility > Advanced > Storage Configuration > SATA Mode. 3. Choose the item "UEFI:xxx" to boot in UEFI Setup Utility > Boot > Boot Option #1. ("xxx" is the device which contains your Windows® installation files.*

*Normally it is an optical drive.) You can also press <F11> to launch boot menu at system POST and choose the item "UEFI:xxx" to boot. 4. Start Windows® installation. 5. If you install Windows® 7 64-bit OS, OS will be formatted by GPT (GUID Partition Table). Please install the hotfix file from Microsoft®: <http://support.microsoft.com/kb/979903> 53 .*



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