Your PDF Guides

You can read the recommendations in the user guide, the technical guide or the installation guide for ASROCK H61M-PS4. You'll find the answers to all your questions on the ASROCK H61M-PS4 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-PS4
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ASRock

H61M-PS4 /
H61M-VG4 /
H61M-VS4

User Manual

Version 1.0
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Manual abstract:

In no event shall ASRock, its directors, officers, employees, or agents be liable for any indirect, special, incidental, or consequential damages (including damages for loss of profits, loss of business, loss of data, interruption of business and the like), even if ASRock has been advised of the possibility of such damages arising from any defect or error in the manual or product. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. CALIFORNIA, USA ONLY The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance. "Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate"

ASRock Website: http://www.asrock.

com 2 Contents 1 Introduction.....

Chapter 1: Introduction

Thank you for purchasing ASRock H61M-PS4 / H61M-VG4 / H61M-VS4 motherboard, a reliable motherboard produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance. 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

1.1 Package Contents ASRock H61M-PS4 / H61M-VG4 / H61M-VS4 Motherboard (Micro ATX Form Factor) ASRock H61M-PS4 / H61M-VG4 / H61M-VS4 Quick Installation Guide ASRock H61M-PS4 / H61M-VG4 / H61M-VS4 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® 8 / 8 64-bit / 7 / 7 64-bit / VistaTM / VistaTM 64-bit, it is recommended to set the BIOS option in Storage Configuration to AHCI mode. 5 1.2 Specifications - Micro ATX Form Factor - All Solid Capacitor design (H61M-PS4 / H61M-VG4) - Solid Capacitor for CPU power (H61M-VS4) - Supports 3rd and 2nd Generation Intel® CoreTM i7 / i5 / i3 in LGA1155 Package - Supports Intel® Turbo Boost 2.0 Technology - Supports K-Series unlocked CPU - Intel® H61 - Supports Intel® Rapid Start Technology and Smart Connect Technology - Dual Channel DDR3 Memory Technology - 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 1) - Supports Intel® Extreme Memory Profile (XMP) 1. 3 / 1.2 with Intel® Ivy Bridge CPU - 1 x PCI Express 3.0 x16 slot (blue @ x16 mode) * PCIE 3.0 is only supported with Intel® Ivy Bridge CPU. With Intel® Sandy Bridge CPU, it only supports PCIE 2. 0. - 1 x PCI Express 2.0 x1 slot * Intel® HD Graphics Built-in Visuals and the VGA outputs can be supported only with processors which are GPU integrated. - Supports Intel® HD Graphics Built-in Visuals: Intel® Quick Sync Video 2.0, Intel® InTruTM 3D, Intel® Clear Video HD Technology, Intel® InsiderTM, Intel® HD Graphics 2500/4000 with Intel® Ivy Bridge CPU - Supports Intel® HD Graphics Built-in Visuals: Intel® Quick Sync Video, Intel® InTruTM 3D, Intel® Clear Video HD Technology, Intel® HD Graphics 2000/3000, Intel® Advanced Vector Extensions (AVX) with Intel® Sandy Bridge CPU - Pixel Shader 5.0, DirectX 11 with Intel® Ivy Bridge CPU. Pixel Shader 4.1, DirectX 10.1 with Intel® Sandy Bridge CPU. - Max.

shared memory 1760MB with Intel® Ivy Bridge CPU. Max. shared memory 1759MB with Intel® Sandy Bridge CPU. Platform CPU Chipset Memory Expansion Slot Graphics 6 Audio LAN Rear Panel I/O Storage Connector BIOS Feature - Supports D-Sub with max. resolution up to 2048x1536 @ 75Hz - 5.1 CH HD Audio (Realtek ALC662 Audio Codec) H61M-PS4 / H61M-VG4 - PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Realtek RTL8111E - Supports Wake-On-LAN - Supports LAN Cable Detection - Supports Energy Efficient Ethernet 802.3az - Supports PXE H61M-VS4 - Realtek PCIE x1 LAN 8105E - Speed: 10/100 Ethernet - Supports Wake-On-LAN - Supports PXE I/O Panel - 1 x PS/2 Mouse Port - 1 x PS/2 Keyboard Port - 1 x Serial Port: COM1 (H61M-PS4) - 1 x Parallel Port (ECP/EPP support) (H61M-PS4) - 1 x D-Sub Port - 4 x 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 IR header - 1 x Power LED header - 1 x Chassis Intrusion header - 1 x LPC/TPM header - 1 x CPU Fan connectors (4-pin) - 1 x Chassis Fan connector (4-pin) - 1 x 24 pin ATX power connector - 1 x 4 pin 12V power connector - 1 x Front panel audio connector - 1 x SPDIF Out connector - 2 x USB 2.0 headers (support 4 USB 2.

0 ports) - 32Mb AMI UEFI Legal BIOS with GUI support - Supports "Plug and Play" - ACPI 1.1 Compliance Wake Up Events 7 Support CD Hardware Monitor OS Certifications - Supports jumperfree - SMBIOS 2.3.1 Support - Drivers, Utilities, AntiVirus Software (Trial Version), CyberLink MediaEspresso 6.5 Trial, Google Chrome Browser and Toolbar - CPU/Chassis Temperature Sensing - CPU/Chassis Fan Tachometer - CPU Quiet Fan (Allow Chassis Fan Speed Auto-Adjust by CPU Temperature) - CPU/Chassis Fan Multi-Speed Control - CASE OPEN detection - Voltage Monitoring: +12V, +5V, +3.

3V, CPU Vcore - Microsoft® Windows® 8 / 8 64-bit / 7 / 7 64-bit / VistaTM / VistaTM 64-bit / XP / XP 64-bit compliant - FCC, CE, WHQL * 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 third-party overclocking tools. Overclocking may affect your system's 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. CAUTION! 1. Due to the operating system limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows® 8 / 7 / VistaTM / XP. For Windows® OS with 64bit CPU, there is no such limitation. You can use ASRock XFast RAM to utilize the memory that Windows® cannot use. 8 1.3 Unique Features ASRock Extreme Tuning Utility (AXTU) ASRock Extreme Tuning Utility (AXTU) is an all-in-one tool to ne-tune different system functions inet access granted to other users. In order to prevent users from bypassing OMG, guest accounts without permission to modify the system time are required. ASRock Internet Flash ASRock Internet Flash searches for available UEFI firmware updates from our servers. In other words, the system can autodetect the latest UEFI from our servers and flash them without entering Windows® OS.

Please note that you must be running on a DHCP configured computer in order to enable this function. ASRock Dehumidifier Function Users may prevent motherboard damages due to dampness by enabling "Dehumidifier Function". When enabling Dehumidifier Function, the computer will power on automatically to dehumidify the system after entering S4/S5 state. ASRock Fast Boot With ASRock's exclusive Fast Boot technology, it takes less than 1.5 seconds to logon to Windows® 8 from a cold boot. No more waiting! The speedy boot will completely change your user experience and behavior. 11 ASRock Restart to UEFI Windows® 8 brings the ultimate boot up experience. The lightning boot up speed makes it hard to access the UEFI setup. ASRock Restart to UEFI technology is designed for those requiring frequent UEFI access. It allows users to easily enter the UEFI automatically when turning on the PC next time.

Just simply enable this function; the PC will be assured to access the UEFI directly in the very beginning. ASRock Combo Cooler Option (C.C.O.) 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. ASRock Good Night LED ASRock Good Night LED technology can offer you a better environment by extinguishing the unessential LED.

By enabling Good Night LED in BIOS, the Power / HDD / LAN LED will be switched off when system is on. Not only this, Good night LED will automatically switch off Power and Keyboard LED when the system enters into Standby / Hibernation mode as well. 12 1.3 Motherboard Layout 1 2 3 USB 2.0 T: USB0 B: USB1 DDR3_A1 (64 bit, 240-pin module) DDR3_B1 (64 bit, 240-pin module) PS2 Keyboard PS2 Mouse ATX12V1 CPU_FAN1 RoHS COM1* VGA1 Bottom: MIC IN Center: FRONT USB 2.0 T: USB2 B: USB3 AUDIO CODEC PARALLEL PORT* Top: RJ-45 ATXPWR1 4 X Fast LAN X Fast USB LAN X Fast RAM PCIE1 5 CHA_FAN1 Top: LINE IN Super I/O CMOS BATTERY Intel H61 32Mb BIOS PLED1 PCIE2 SATA_3 SATA_1 19 HD_AUDIO1 1 IR1 SPDIF_OUT1 1 CI1 USB4_5 USB6_7 1 PLED PWRBTN 6 1 HDLED RESET LPC/TPM1 CLRCMOS1 1 1 1 1 1 1 7 PANEL1 SATA_2 SATA_0 18 17 16 15 14 13 12 11 10 9 8 1 2 3 4 5 6 7 8 9 ATX 12V Power Connector (ATX12V1) CPU Fan Connector (CPU_FAN1) 2 x 240-pin DDR3 DIMM Slots (Dual Channel: DDR3_A1, DDR3_B1) ATX Power Connector (ATXPWR1) Chassis Fan Connector (CHA_FAN1) SATA2 Connector (SATA_1) SATA2 Connector (SATA_0) SATA2 Connector (SATA_3) SATA2 Connector (SATA_2) 10 11 12 13 14 15 16 17 18 19 Power LED Header (PLED1) System Panel Header (PANEL1) USB 2.0 Header (USB6_7) USB 2.0 Header (USB4_5) Clear CMOS Jumper (CLRCMOS1) Chassis Intrusion Header (CI1) LPC / TPM Header (LPC/TPM1) Infrared Module Header (IR1) Front Panel Audio Header (HD_AUDIO1) SPDIF Out Connector (SPDIF_OUT1) * The parallel port (LPT1) and serial port (COM1) on the I/O panel are for H61M-PS4 only. 13 1.4 I/O Panel 3 4 5 6 1 2* 11 1 2 3 4 5 6 10* PS/2 Mouse Port (Green) Parallel Port (LPT1)* LAN RJ-45 Port Line In (Light Blue) Front Speaker (Lime) Microphone (Pink) 9 7 8 9 10 11 8 7 USB 2.

0 Ports (USB23) USB 2.0 Ports (USB01) D-Sub Port (VGA1) Serial Port (COM1)* PS/2 Keyboard Port (Purple) * The parallel port (LPT1) and serial port (COM1) on the I/O panel are for H61M-PS4 only. 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 Status SPEED LED Description Activity/Link LED Status Description ACT/LINK LED SPEED LED Off No Link Blinking Data Activity On Link H61M-PS4 / H61M-VG4: Off 10Mbps connection Orange 100Mbps connection Green 1Gbps connection H61M-VS4: Off 10Mbps connection On 100Mbps connection LAN Port 14 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® 8 / 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. 15 Chapter 2: Installation This is a Micro ATX form factor 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. 1. 2. 3. 4. Unplug the power cord from the wall socket before touching any component. 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.

Hold components by the edges and do not touch the ICs. 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. 16 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: Step 2-1. Attach your index finger to the upper edge of the PnP Cap. Step 2-2.

Use your thumb to remove PnP Cap (Pick and Place Cap) from the CPU socket by lifting the cap tab. A B 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. 17 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. Step 4-3. Secure load lever with load plate tab under retention tab of load lever. 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. 18 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 13, No. 2). 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.

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 13, No. 2). Step 3. Align fasteners with the motherboard throughholes. Step 4. 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.

Connect fan header with the CPU fan connector on the motherboard. Step 6. Secure excess cable with tie-wrap to ensure cable does not interfere with fan operation or contact other components. 19 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. 2. 3.

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. Installing a DIMM Please make sure to disconnect power supply before adding or removing DIMMs or the system components. Step 1. Unlock a DIMM slot by pressing the retaining clips outward. Step 2. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot. 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. 20 2.6 Expansion Slots (PCI Express Slots) There are 2 PCI Express slots on this motherboard. PCIE slots: PCIE1 (PCIE 3.0 x16 slot) is used for PCI Express x16 lane width graphics cards. PCIE2 (PCIE 2.0 x1 slot) is used for PCI Express x1 lane width cards. Only PCIE1 slot supports Gen 3 speed.

To run the PCI Express in Gen 3 speed, please install an Ivy Bridge CPU. If you install a Sandy Bridge CPU, the PCI Express will run only at PCI Express Gen 2 speed. 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. 21 2.7 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 Setting Clear CMOS Jumper (CLRCMOS1) (see p.13, No. 14) Description Note: CLRCMOS1 allows you to clear the data in CMOS. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short pin2 and pin3 on CLRCMOS1 for 5 seconds. However, please do not clear the CMOS right after you update the BIOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action. Please be noted that the password, date, time and user default profile will be cleared only if the CMOS battery is removed. If you clear the CMOS, the case open may be detected.

Please adjust the BIOS option "Clear Status" to clear the record of previous chassis intrusion status. Default Clear CMOS 22 2.8 Onboard Headers and Connectors Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage of the motherboard! Serial ATA2 Connectors (SATA_0: see p. 13, No. 7) (SATA_1: see p.13, No. 6) (SATA_2: see p.13, No.

9) (SATA_3: see p.13, No. 8) SATA_3 SATA_1 SATA_2 SATA_1 These four Serial ATA2 (SATA2) connectors support SATA data cables for internal storage devices. The current SATA2 interface allows up to 3.0 Gb/s data transfer rate. Serial ATA (SATA) Data Cable (Optional) Either end of the SATA data cable can be connected to the SATA / SATA2 hard disk or the SATA2 connector on this motherboard. USB 2.0 Headers (9-pin USB4_5) (see p.13 No. 13) (9-pin USB6_7) (see p.

13 No. 12) Besides four default USB 2.0 ports on the I/O panel, there are two USB 2.0 headers on this motherboard. Each USB 2.0 header can support two USB 2.0 ports. Infrared Module Header (5-pin IR1) (see p.13 No. 17) IRTX +5VSB DUMMY 1 GND IRRX This header supports an optional wireless transmitting and receiving infrared module.

23 Front Panel Audio Header (9-pin HD_AUDIO1) (see p.13 No. 18) GND PRESENCE# MIC_RET OUT_RET 1 OUT2_L J_SENSE OUT2_R MIC2_R MIC2_L This is an interface for front panel audio cable that allows convenient connection and control of audio devices. 1. High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly.

Please follow the instruction in our manual and chassis manual to install your system. 2. If you use AC'97 audio panel, please install it to the front panel audio header as below: A. 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". For Windows® 8 / 8 64-bit / 7 / 7 64-bit / VistaTM / VistaTM 64-bit OS: Go to the "FrontMic" Tab in the Realtek Control panel. Adjust "Recording Volume". System Panel Header (9-pin PANEL1) (see p.13 No. 11) This header accommodates several system front panel functions. Connect the power switch, reset switch and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables. PWRBTN (Power Switch): Connect to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch.

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 24 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). 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.

When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assign-ments are matched correctly. Power LED Header (3-pin PLED1) (see p.13 No. 10) 1 PLEDPLED+ PLED+ Please connect the chassis power LED to this header to indicate system power status. The LED is on when the system is operating. The LED keeps blinking in S1 state. The LED is off in S3/S4 state or S5 state (power off). Chassis Fan Connector (4-pin CHA_FAN1) (see p.13 No. 5) GND +12V CHA_FAN_SPEED FAN_SPEED_CONTROL Please connect the fan cables to the fan connectors and match the black wire to the ground pin.

CPU Fan Connectors 4 3 2 1 (4-pin CPU_FAN1) GND (see p.13 No. 2) +12V CPU_FAN_SPEED FAN_SPEED_CONTROL Please connect the CPU fan cable to the connector and match the black wire to the ground pin.

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 25 ATX Power Connector (24-pin ATXPWR1) (see p.13 No. 4) 12 24 Please connect an ATX power supply to this connector. 1 13 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.13 No. 1) Please connect an ATX 12V power supply to this connector. Chassis Intrusion Header (2-pin CI1) (see p.13, No.

15) 1 GND Signal This motherboard supports CASE OPEN detection feature that detects if the chassis cover has been removed. @@@@@@@@@@@@@Using SATA / SATA2 HDDs with NCQ function STEP 1: Set Up UEFI. A. Enter UEFI SETUP UTILITY Advanced screen Storage Configuration. B.

Set the option "SATA Mode Selection" to [AHCI]. STEP 2: Make a SATA / SATA2 driver diskette. (Please use an USB floppy or a floppy disk.) A. Insert the Support CD into your optical drive to boot your system. B. @@Please select CD-ROM as the boot device. C. @@D. @@ WARNING! Formatting the floppy diskette will lose ALL data in it! Start to format and copy files [YN]? @@E.

@@@@@@@After reading the floppy disk, the driver will be presented. @@Using SATA / SATA2 HDDs without NCQ function STEP 1: Set up UEFI. A. Enter UEFI SETUP UTILITY Advanced screen Storage Configuration. B. Set the option "SATA Mode Selection" to [IDE]. @@Using SATA / SATA2 HDDs with NCQ function STEP 1: Set Up UEFI. A. Enter UEFI SETUP UTILITY Advanced screen Storage Configuration. B.

Set the option "SATA Mode Selection" to [AHCI]. @@A. Enter UEFI SETUP UTILITY Advanced screen Storage Configuration. B. Set the option "SATA Mode Selection" to [IDE].

@@@@@@@And it also boosts the speed of Adobe Photoshop 5 times faster. Another advantage of ASRock XFast RAM is that it reduces the frequency of accessing your SSDs or HDDs in order to extend their lifespan. 31 XFast RAM Settings You may find the XFast RAM setup page in the left panel of ASRock Extreme Tuning utility. First select the desired drive and disk size to create a virtual drive. To access more than 4GB of RAM in Windows® 32-bit OS, please leave PAE mode set to ON.

In the options section, users may enable and assign the size of a partition for Ready Boost if they're using a 32-bit OS. We suggest setting the size of Ready Boost one to three times larger than your RAM for optimized performance. Normally, when the memory being used by all the existing processes exceeds the available RAM, the operating system moves pages (4-KB pieces) of one or more virtual address spaces to the computer's hard disk. By enabling Memory Pagefile, the system puts the pages into the virtual drive instead of the hard disk drive to accelerate performance speed. 32 Lastly, select the files that are supposed to go in the virtual drive to speed up the system's performance. Such as temporary files created by computer programs when they cannot allocate enough memory for its tasks. Or internet cache files including html, images, Cascading Style Sheets and JavaScript scripts from IE, Firefox and Google Chrome. Click Backup XFast RAM if you wish to make a backup. Then click on the APPLY button to activate XFast RAM. Click on STOP if you wish to deactivate XFastRAM.

The virtual disk will appear once you restart the system. 33 2.11.2 ASRock XFast LAN ASRock XFast LAN provides several special features for faster internet access. For example, LAN Application Prioritization allows you to configure your application's priority ideally or add new programs to the priority list. Traffic Shaping helps you watch Youtube HD videos and download files simultaneously without hiccups. And in the status window there's Real-Time Analysis of Your Data so you can easily recognize the data streams you are transferring currently. 34 ASRock XFast LAN UI Overview The default status window Low Latency Mode switch arrow down = currently Open slot on (if needed) configuration arrow up = always on Download activity display dialog no arrow = off TX shaping indicator Show/hide slot activation area Variance of ping time Graphs Transfer rate in % for slots 1-10 Open Current Connections window Ping time in ms Number of TCP/ UDP/TCP+UDP connections Download CPS rate Upload CPS rate Upload activity display Right click for more options 35 Close Windows Hides the status window. Can also be done by double clicking on the status window. Reopen by right clicking on the XFast LAN icon on the bottom right and selecting Open windows.

Window settings Users may configure the skin and effects of the user interface. Make the keyboard LEDs display Traffic Shaping information. Or display the XFast LAN status window on a Logitech gamer keyboard instead of Windows desktop. Traffic Shaping Traffic Shaping is used to optimize or guarantee performance, improve latency, and/or increase usable bandwidth for some kinds of packets by delaying other kinds of packets that meet certain criteria. In other words, it increases the speed while keeping the overall ping time low.

cFos Speed Test Quickly test the upload and download speed of your Internet connection. Speed Guide This guide can either help you get the maximum out of your connection or solve problems with speed, ping time or connections. Current Connection Shows the details of current internet connections. Usage Graph Displays the Usage Graph. Options Configure settings such as program prioritization, language and update the program.

Documentation Opens detailed help for XFast LAN in a browser. 36 Adding a new application and changing its priority Click search and choose a new program you wish to add. You can also type in a short description for the program. Set the priority for the program and TX Limit then click Add to confirm. Hit the switch button to change configurations or Delete to remove the application from the priority list. 37 2.11.3 ASRock XFast USB Not only does ASRock XFast USB boost up the performance of USB 2.0 storage devices, but also USB 3.0 devices.

Users may experience up to five times faster USB data transfer speed! 38 ASRock XFast USB UI Overview Hide the XFast USB window Select your language Select a connected USB storage device Select Normal mode or Turbo mode Click to activate/ deactivate Turbo mode Click to safely remove the USB hard drive Plug in your USB storage device and XFast USB automatically sets it to Turbo mode! 39 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 Tool Useful tools 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. 40 3.1.2 Navigation Keys Please check the following table for the function description of each navigation key.

Navigation Key(s) / / + / - <Tab> <Enter> <PGUP> <PGDN> <HOME> <END> <F1> <F7> <F9> <F10> <F12> <ESC> 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 Switch to next function To bring up the selected screen Go to the previous page Go to the next page Go to the top of the screen Go to the bottom of the screen To display the General Help Screen Discard changes and exit the UEFI SETUP UTILITY Load optimal default values for all the settings Save changes and exit the UEFI SETUP UTILITY Print screen 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. H61M-PS4 41 H61M-VG4 H61M-VS4 42 3.3 OC Tweaker Screen In the OC Tweaker screen, you can set up overclocking features. 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 / 8 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]. Long Duration Maintained Use this item to configure time window which the long duration power is maintained. The default value is [Auto]. 43 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 Load XMP Setting Use this to load XMP setting. Configuration options: [Auto], [Default], [Profile 1] and [Profile 2].

The default value is [Auto]. 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]. 44 DRAM tRP Use this item to change Row Precharge Time (tRP) Auto/Manual setting. 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 Cyle 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 (CHA) Use this item to change ODT WR (CHA) setting. The default is [Auto]. ODT WR (CHB) Use this item to change ODT WR (CHB) setting. The default is [Auto].

ODT NOM (CHA) Use this item to change ODT NOM (CHA) setting. The default is [Auto]. ODT NOM (CHB) Use this item to change ODT NOM (CHB) setting. The default is [Auto]. 45 MRC Fast Boot Use this item to enable or disable MRC Fast Boot.

The default is [Enabled]. Voltage Configuration DRAM Voltage Use this to select DRAM Voltage. The default value is [Auto]. 46 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, Intel(R) Rapid Start Technology, Intel(R) Smart Connect Technology, Super IO Configuration, ACPI Configuration and USB Configuration. Setting wrong values in this section may cause the system to malfunction. 47 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 / VistaTM / 7 / 8 is required.

Set to [Enabled] if using Microsoft® Windows® XP, VistaTM, 7, 8, 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. No-Execute Memory Protection No-Execution (NX) Memory Protection Technology is an enhancement 48 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-Excute 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.

49 3.4.2 North Bridge Configuration Primary Graphics Adapter This allows you to select [Onboard] or [PCI Express] as the boot graphic adapter priority. 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]. PCIE1 Link Speed This allows you to select PCIE1 Link Speed. The default value is [Auto]. Share Memory This allows you to set onboard VGA share memory feature. The default value is [Auto].

IGPU Multi-Moniter This allows you to enable or disable IGPU Multi-Moniter. The default value is [Enabled]. If you install the PCI Express card under Windows® XP / VistaTM OS, please disable this option. Render Standby Use this to enable or disable Render Standby by Internal Graphics Device. The default value is [Enabled]. 50 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 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. 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. Good Night LED Use this item to enable or disable Power LED and LAN LED. 51 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 [AHCI 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. SATA Aggressive Link Power Management Use this item to configure SATA Aggressive Link Power Management. 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]. 52 3.4.5 Intel(R) Rapid Start Technology Intel(R) Rapid Start Technology Use this item to enable or disable Intel(R) Rapid Start Technology. Intel(R) Rapid Start Technology is a new zero power hibernation mode which allows users to resume in just 5-6 seconds. The default is [Enabled]. Entry After Select a time to enable RTC wake timer at S3 entry. The default is [10 minutes]. Active Page Threshold Support This allows you to enable or disable Active Page Threshold Support.

*The default is [Disabled]. 53 3.4.6 Intel(R) Smart Connect Technology Intel(R) Smart Connect Technology Use this item to enable or disable Intel(R) Smart Connect Technology. Intel(R) Smart Connect Technology keeps your e-mail and social networks, such as Twitter, Facebook, etc. updated automatically while the computer is in sleep mode. The default is [Enabled]. 54 3.4.7 Super IO Configuration Serial Port Use this item to enable or disable the onboard serial port. Port Address Use this item to set the address for the onboard serial port. Configuration options: [3F8 / IRQ4] and [3E8 / IRQ4]. Infrared Port Use this item to enable or disable the onboard infrared port. * Serial Port is for H61M-PS4 only. 55 3.*

4.8 ACPI Configuration Suspend to RAM Use this item to select whether to auto-detect or disable the Suspend-toRAM feature. Selecting [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® 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. PCIE Device Power On Use this item to enable or disable PCIE 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. 56 CSM Please disable CSM when you enable Fast Boot option. The default value is [Enabled]. 3.4.9 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. 57 3.5 Tool OMG(Online Management Guard) Administrators are able to establish an internet curfew or restrict internet access at specified times via OMG.

You may schedule the starting and ending hours of internet access granted to other users. In order to prevent users from bypassing OMG, guest accounts without permission to modify the system time are required. UEFI Update Utility 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. Internet Flash Internet Flash searches for available UEFI firmware updates from our servers. In other words, the system can auto-detect the latest UEFI from our servers and flash them without entering Windows OS.

Please note that you must be running on a DHCP configured computer in order to enable this function. 58 Network Configuration Internet Setting Use this item to set up the internet connection mode. Configuration options: [DHCP (Auto IP)] and [PPPOE]. UEFI Download Server Use this item to select UEFI firmware download server for Internet Flash. Configuration options: [Asia], [Europe], [USA] and [China].

Dehumidifier Function Users may prevent motherboard damages due to dampness by enabling "Dehumidifier Function". When enabling Dehumidifier Function, the computer will power on automatically to dehumidify the system after entering S4/S5 state. Dehumidifier Period This allows users to configure the period of time until the computer powers on and enables "Dehumidifier" after entering S4/S5 state. Dehumidifier Duration This allows users to configure the duration of the dehumidifying process before it returns to S4/S5 state. Dehumidifier CPU Fan Setting Use this setting to configure CPU fan speed while "Dehumidifier" is enabled.

Would you like to save current setting user defaults? In this option, you are allowed to load and save three user defaults according to your own requirements. 59 3.6 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 1 Setting This allows you to set the CPU fan 1 speed. Configuration options: [Full On] and [Automatic Mode]. The default is value [Full On]. Chassis Fan 1 Setting This allows you to set the Chassis fan 1 speed. Configuration options: [Full On] and [Automatic Mode]. The default is value [Full On]. Case Open Feature This allows you to enable or disable case open detection feature.

The default is value [Enabled]. Clear Status This option appears only when the case open has been detected. Use this option to keep or clear the record of previous chassis intrusion status. 60 3.7 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. Fast Boot Fast Boot minimizes your computer's boot time. There are three configuration options: [Disabled], [Fast] and [Ultra Fast]. The default value is [Disabled]. Please refer to below descriptions for the details of these three options: [Disabled] - Disable Fast Boot. [Fast] - The only restriction is you may not boot by using an USB flash drive.

[Ultra Fast] - There are a few restrictions. 1. Only supports Windows® 8 UEFI operating system. 2. You will not be able to enter BIOS Setup (Clear CMOS or run utility in Widows® to enter BIOS Setup).

3. If you are using an external graphics card, the VBIOS must support UEFI GOP in order to boot. Boot From Onboard LAN Use this item to enable or disable the Boot From Onboard LAN feature. Setup Prompt Timeout This shows the number of seconds to wait for setup activation key. 65535(0xFFFF) means indefi nite waiting.

Bootup Num-Lock If this item is set to [On], it will automatically activate the Numeric Lock function after boot-up. 61 Full Screen Logo Use this item to enable or disable OEM Logo. The default value is [En abled]. 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]. Boot Failure Guard Enable or disable the feature of Boot Failure Guard. @@@@@@Select [Yes] to save the changes and exit the UEFI SETUP UTILITY. @@Select [Yes] to exit the UEFI SETUP UTILITY without saving any changes.

Discard Changes When you select this option, the following message "Discard changes?" will pop-out. Select [Yes] 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. 64 Chapter 4: Software Support 4.1 Install Operating System This motherboard supports various Microsoft® Windows® operating systems: 8 / 8 64-bit / 7 / 7 64-bit / VistaTM / VistaTM 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. 65 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® VistaTM 64-bit (with SP1 or above), Windows® 7 64-bit or Windows® 8 64-bit. 2. Press <F2> or <Delete> at system POST. 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 66 .