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You can read the recommendations in the user guide, the technical guide or the installation guide for ASROCK N68-VS3 FX. You'll find the answers to all your questions on the ASROCK N68-VS3 FX in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual ASROCK N68-VS3 FX
User guide ASROCK N68-VS3 FX
Operating instructions ASROCK N68-VS3 FX
Instructions for use ASROCK N68-VS3 FX
Instruction manual ASROCK N68-VS3 FX



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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>

com 2 Contents 1 . Introduction

.....

.....

.....

.....

.....

.....

.....

5 1.1 1.2 1.3 1.4 1.

5 Package Contents

.....

.....

.....

.....

.....

.....

.....

.....

.... Specifications

.....

.....

.....

.....

.....

.....

.....

.....

Motherboard Layout (N68-VGS3 FX / N68-VS3 FX)

.....

..... I/O Panel (N68-VGS3 FX) .

.....

.....

.....

.....

.....

.....

.....

..... I/O Panel (N68-VS3 FX) ..

.....

.....

.....

.....

.....

.....

.....

Installation

.....
.....
.....
.....
.....
.....

.. 14 Pre-installation Precautions

.....
.....
.....
.....
.....

..... 2.1 CPU Installation

.....
.....
.....
.....
.....
.....
.....
.....

2 Installation of CPU Fan and Heatsink

.....
.....
.....
..... 2.

3 Installation of Memory Modules (DIMM)

.....
.....
.....

..... 2.4 Expansion Slots (PCI and PCI Express Slots) ...

.....
.....
.....

. 2.5 2.6 2.7 2.

8 2.9 2.10 2.11 2.12 2.

13 2.14 2.15 3.1 Easy Multi Monitor Feature

.....
.....
.....
.....

.... Jumpers Setup .

.....

.....
.....
.....
.....

.....
.....
.....
.....

... Onboard Headers and Connectors

.....
.....
.....

.....
.....

SATAII Hard Disk Setup Guide

.....
.....
.....
.....
.....

..... Serial ATA (SATA) / Serial ATAII (SATAII) Hard Disks Installation

.....
.....
.....

.....
.....
.....
.....

.....
.....
.....

..... Hot Plug and Hot Swap Functions for SATA / SATAII HDDs

SATA / SATAII HDD Hot Plug Feature and Operation Guide *Driver Installation Guide*

.....
.....
.....

.....
.....
.....
.....

..... Installing Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit / XP / XP 64-bit Without RAID Functions

.....
.....
.....

.....
.....

.... Installing Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit With RAID Functions .

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.....
.....

.....
.....
.....
.....

.....
.....

.....
.... *Untied Overclocking Technology*

.....
.....
.....
.....

.....
Introduction

.....
.....
.....
.....
.....

.....
.....
.....
..... 3.

1.1 BIOS Menu Bar

.....
.....
.....
.....
.....
.....

.... *3.1.2 Navigation Keys*

.....
.....
.....
.....
.....

..... *Main Screen* ...

.....
.....
.....
.....
.....

..... *OC Tweaker Screen*

.....
.....
.....
.....
.....
.....

Advanced Screen

.....
.....
.....
.....
.....
.....
.....

. 3.4.1 CPU Configuration ..

.....
.....
.....
.....
.....

.. 3.4.2 Chipset Configuration .

.....
.....
.....
.....
.....

..... 3.4.

3 ACPI Configuration

.....
.....
.....
.....
.....

..... 3.4.

4 Storage Configuration

.....
.....
.....
.....
.....

.... 3.4.5 PCIPnP Configuration

.....
.....
.....
.....
.....

3.4.6 Super IO Configuration

.....
.....
.....
.....

.....

.....

.....

.....

.....

..... *Install Operating System ...*

.....

.....

.....

.....

.....

.....

.....

..... *Support CD Information*

.....

.....

.....

.....

.....

.....

.....

..... *4.2.*

1 Running Support CD

.....

.....

.....

.....

.....

.....

..... *4.2.2 Drivers Menu ..*

.....

.....

.....

.....

.....

.....

.....

.....

.....

4.2.3 Utilities Menu ...

.....

.....

.....

.....

.....

.....

.....

.....

... 4.2.4 Contact Information

.....

.....

.....

.....

50 4 1. Introduction Thank you for purchasing ASRock N68-VGS3 FX / N68-VS3 FX 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 step-by-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.

Package Contents One ASRock N68-VGS3 FX / N68-VS3 FX Motherboard (Micro ATX Form Factor: 8.5-in x 7.0-in, 21.6 cm x 17.8 cm) One ASRock N68-VGS3 FX / N68-VS3 FX Quick Installation Guide One ASRock N68-VGS3 FX / N68-VS3 FX Support CD Two Serial ATA (SATA) Data Cables (Optional) One I/O Panel Shield 5.1.2 Specifications - Micro ATX Form Factor: 8.5-in x 7.0-in, 21.6 cm x 17.8 cm - Support for Socket AM3+ processors (see CAUTION 1) - Support for AM3 processors: AMD Phenom™ II X6 / X4 / X3 / X2 (except 920 / 940) / Athlon™ II X4 / X3 / X2 / Sempron processors (see CAUTION 2) - Supports 8-Core CPU - Supports UCC feature (Unlock CPU Core) (see CAUTION 3) - Supports AMD's Cool 'n' Quiet™ Technology - FSB 1000 MHz (2).

0 GT/s) - Supports Untied Overclocking Technology (see CAUTION 4) - Supports Hyper-Transport Technology - NVIDIA® GeForce 7025 / nForce 630a - Dual Channel DDR3 Memory Technology (see CAUTION 5) - 2 x DDR3 DIMM slots - Support DDR3 1600/1333/1066/800 non-ECC, un-buffered memory (see CAUTION 6) - Max. capacity of system memory: 8GB (see CAUTION 7) - 1 x PCI Express x16 slot - 1 x PCI slot - Integrated NVIDIA® GeForce 7025 graphics - DX9.0 VGA, Pixel Shader 3.0 - Max. shared memory 256MB (see CAUTION 8) - Supports D-Sub with max. resolution up to 1920x1440 @ 60Hz - 5.1 CH HD Audio (VIA® VT1705 Audio Codec) - N68-VGS3 FX Realtek Giga PHY RTL8211CL, speed 10/100/1000 Mb/s - N68-VS3 FX Realtek PHY RTL8201EL, speed 10/100 Mb/s - Supports Wake-On-LAN - Supports PXE I/O Panel - 1 x PS/2 Mouse Port - 1 x PS/2 Keyboard Port - 1 x VGA Port - 4 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 Platform CPU Chipset Memory Expansion Slot Graphics Audio LAN Rear Panel I/O 6 Connector BIOS Feature Support CD Unique Feature Hardware Monitor - 4 x SATA2 3.0Gb/s connectors, support RAID (RAID 0, RAID 1, RAID 0+1, RAID 5, JBOD), NCQ and "Hot Plug" functions (see CAUTION 9) - 1 x ATA133 IDE connector (supports 2 x IDE devices) - 1 x Print port header - 1 x COM port header - CPU/Chassis FAN connector - 24 pin ATX power connector - 4 pin 12V power connector - Front panel audio header - 2 x USB 2.0 headers (support 4 USB 2.0 ports) - 8Mb AMI BIOS - AMI Legal BIOS - Supports "Plug and Play" - ACPI 1.1 Compliance Wake Up Events - Supports jumperfree - SMBIOS 2.3.1 Support - CPU, VCCM Voltage Multi-adjustment - Drivers, Utilities, AntiVirus Software (Trial Version), CyberLink MediaEspresso 6.5 Trial, ASRock Software Suite (CyberLink DVD Suite - OEM and Trial; Creative Sound Blaster X-Fi MB Trial; ASRock MAGIX Multimedia Suite - OEM) - ASRock OC Tuner (see CAUTION 10) - ASRock Intelligent Energy Saver (see CAUTION 11) - ASRock Instant Boot - ASRock Instant Flash (see CAUTION 12) - ASRock OC DNA (see CAUTION 13) - ASRock APP Charger (see CAUTION 14) - ASRock SmartView (see CAUTION 15) - ASRock XFast USB (see CAUTION 16) - ASRock XFast LAN (see CAUTION 17) - Hybrid Booster: - CPU Frequency Steplless Control (see CAUTION 18) - ASRock U-COP (see CAUTION 19) - Boot Failure Guard (B.



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F.G.) - CPU Temperature Sensing - Chassis Temperature Sensing - CPU Fan Tachometer - Chassis Fan Tachometer - CPU Quiet Fan - Voltage Monitoring: +12V, +5V, +3.3V, Vcore 7 OS Certifications - Microsoft® Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit / XP / XP 64-bit compliant - FCC, CE, WHQL
* For detailed product information, please visit our website: <http://www.asrock.com>

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 thirdparty 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. CAUTION!

1. 2. 3. If you adopt AM3+ CPU and install Windows® XP OS, you need to use the external graphics card. This motherboard supports CPU up to 95W.

Please refer to our website for CPU support list.

ASRock website <http://www.asrock.com> ASRock UCC (Unlock CPU Core) feature simplifies AMD CPU activation. As long as a simple switch of the BIOS option "ASRock UCC", you can unlock the extra CPU core to enjoy an instant performance boost. When UCC feature is enabled, the dual-core or triple-core CPU will boost to the quadcore CPU, and some CPU, including quad-core CPU, can also increase L3 cache size up to 6MB, which means you can enjoy the upgrade CPU performance with a better price.

Please be noted that UCC feature is supported with AM3/AM3+ CPU only, and in addition, not every AM3/AM3+ CPU can support this function because some CPU's hidden core may be malfunctioned. 4. 5. This motherboard supports Untied Overclocking Technology. Please read "Untied Overclocking Technology" on pa5).

With APP Charger driver installed, you can easily enjoy the marvelous charging experience than ever. ASRock website:

<http://www.asrock.com/Feature/AppCharger/index.asp> 15. SmartView, a new function of internet browser, is the smart start page for IE that combines your most visited web sites, your history, your Facebook friends and your real-time newsfeed into an enhanced view for a more personal Internet experience.

ASRock motherboards are exclusively equipped with the SmartView utility that helps you keep in touch with friends on-the-go. To use SmartView feature, please make sure your OS version is Windows® 7 / 7 64 bit / Vista™ / Vista™ 64 bit, and your browser version is IE8. ASRock website: <http://www.asrock.com/Feature/SmartView/index.asp>

16. ASRock XFast USB can boost USB storage device performance. The performance may depend on the property of the device. 17. ASRock XFast LAN provides a faster internet access, which includes below benefits. LAN Application Prioritization: You can configure your application priority ideally and/or add new programs. Lower Latency in Game: After setting online game priority higher, it can lower the latency in game. Traffic Shaping: You can watch Youtube HD video and download files simultaneously. Real-Time Analysis of Your Data: With the status window, you can easily recognize which data streams you are currently transferring.

18. Although this motherboard offers stepless control, it is not recommended to perform over-clocking. Frequencies other than the recommended CPU bus frequencies may cause the instability of the system or damage the CPU. 19. While CPU overheat is detected, the system will automatically shutdown.

Before you resume the system, please check if the CPU fan on the motherboard functions properly and unplug the power cord, then plug it back again. To improve heat dissipation, remember to spray thermal grease between the CPU and the heatsink when you install the PC system. 10 Layout (N68-VGS3

N68-VS3 1.3 Motherboard L ayout (N68-VGS3 FX / N68-VS3 FX) 1 17.8cm (7.

0-in) 2 3 Support 8-Core CPU 1 PS2_USB_PWR1 USB 2.0 T: USB2 B: USB3 21.6cm (8.5-in) 26 ATXPWR1 PS2 Keyboard PS2 Mouse 1 USB_PWR2 CPU_FAN1 DDR3_B1 (64 bit, 240-pin module) DDR3_A1 (64 bit, 240-pin module) FSB800 4 5 6 Dual Channel VGA1 AM3+ DDR3 1600 IDE1 SOCKET AM3 USB6_7 USB4_5 25 USB 2.0 T: USB0 B: USB1 Top: RJ-45 7 Phenom II SATAII_1 (PORT 0.0) SATAII_2 (PORT 0.1) SATAII_3 (PORT 1.0) SATAII_4 (PORT 1.1) 1 1 8 9 10 11 12 13 14 15 ATX12V1 24 23 22 HD_AUDIO1 NVIDIA GeForce 7025 / nForce 630a PCIE1 Bottom: MIC IN Top: LINE IN Center: FRONT 1 LAN PHY Super I/O 8Mb BIOS CMOS BATTERY CHA_FAN1 AUDIO CODEC RoHS COM1 PANEL 1 PLED PWRBTN 1 CLRCMOS1 SPEAKER1 21 1 1 HDLED RESET PCI1 1 LPT1 16 20 1 2 3 4 5 6 7 8 9 10 11 12 13 14 PS2_USB_PWR1 Jumper CPU Fan Connector (CPU_FAN1) USB_PWR2 Jumper 2 x 240-pin DDR3 DIMM Slots (Dual Channel: DDR3_A1, DDR3_B1; Blue) CPU Heatsink Retention Module Primary IDE Connector (IDE1, Blue) USB 2.0 Header (USB6_7, Blue) USB 2.

0 Header (USB4_5, Blue) SATAII Connector (SATAII_2 (PORT 0.1)) SATAII Connector (SATAII_4 (PORT 1.1)) SATAII Connector (SATAII_3 (PORT 1.0)) SATAII Connector (SATAII_1 (PORT 0.0)) NVIDIA GeForce 7025 / nForce 630a SPI Flash Memory (4Mb) 15 16 17 18 19 20 21 22 23 24 25 26 19 18 17 Clear CMOS Jumper (CLRCMOS1) System Panel Header (PANEL1, White) Chassis Speaker Header (SPEAKER 1, White) Print Port Header (LPT1, White)

Chassis Fan Connector (CHA_FAN1) Serial Port Connector (COM1) PCI Slot (PCI1) PCI Express x16 Slot (PCIE1) Front Panel Audio Header (HD_AUDIO1, Lime) ATX 12V Power Connector (ATX12V1) AM3 CPU Socket ATX Power Connector (ATXPWR1) 11 1.4 1 Panel (N68-VGS3 I/O Panel (N68-VGS3 FX) 2 3 4 5 9 8 7 6 7 8 9 6 USB 2.0 Ports (USB01) USB 2.0 Ports (USB23) VGA Port PS/2 Keyboard Port (Purple) 1 *2 3 4 5 PS/2 Mouse Port (Green) RJ-45 Port Line In (Light Blue) Front Speaker (Lime) Microphone (Pink) * 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 SPEED LED LED Off No Activity Blinking Data Activity 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.

After restarting your computer, you will find "VIA HD Audio Deck" tool on your system. Please follow below instructions according to the OS you install. For Windows® XP / XP 64-bit OS: Please click "VIA HD Audio Deck" icon , and click "Speaker". Then you are allowed to select "2 Channel" or "4 Channel".

Click "Power" to save your change.

For Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit OS: Please click "VIA HD Audio Deck" icon , and click "Advanced Options" on the left side on the bottom. In "Advanced Options" screen, select "Independent Headphone", and click "OK" to save your change. 12 1.5 1 Panel (N68-VS3 I/O Panel (N68-VS3 FX) 2 3 4 5 9 8 7 6 7 8 9 6 USB 2.



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0 Ports (USB01) USB 2.

0 Ports (USB23) VGA Port PS/2 Keyboard Port (Purple) 1 *2 3 4 5 PS/2 Mouse Port (Green) RJ-45 Port Line In (Light Blue) Front Speaker (Lime) Microphone (Pink) * 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 SPEED LED LED Off No Activity Blinking Data Activity Off Orange 10Mbps connection 100Mbps connection LAN Port To enable Multi-Streaming function, you need to connect a front panel audio cable to the front panel audio header. After restarting your computer, you will find "VIA HD Audio Deck" tool on your system. Please follow below instructions according to the OS you install. For Windows® XP / XP 64-bit OS: Please click "VIA HD Audio Deck" icon, and click "Speaker". Then you are allowed to select "2 Channel" or "4 Channel". Click "Power" to save your change. For Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit OS: Please click "VIA HD Audio Deck" icon, and click "Advanced Options" on the left side on the bottom. In "Advanced Options" screen, select "Independent Headphone", and click "OK" to save your change.

13 2. Installation This is a Micro ATX form factor (8.5-in x 7.0-in, 21.6 cm x 17.8 cm) motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it. Pre-installation Precautions Take note of the following precautions before you install motherboard components or change any motherboard settings. 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.

1. 2. 3. 4. 5.

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.

When placing screws into the screw holes to secure the motherboard to the chassis, please do not over-tighten the screws! Doing so may damage the motherboard. 14 2.1 Step 1. Step 2. Step 3. CPU Installation Unlock the socket by lifting the lever up to a 90 degree angle. Position the CPU directly above the socket such that the CPU corner with the golden triangle matches the socket corner with a small triangle. Carefully insert the CPU into the socket until it fits in place. The CPU fits only in one correct orientation. DO NOT force the CPU into the socket to avoid bending of the pins.

Step 4. When the CPU is in place, press it firmly on the socket while you push down the socket lever to secure the CPU. The lever clicks on the side tab to indicate that it is locked. Lever 90° Up CPU Golden Triangle Socket Corner Small Triangle STEP 1: Lift Up The Socket Lever STEP 2 / STEP 3: Match The CPU Golden Triangle To The Socket Corner Small Triangle STEP 4: Push Down And Lock The Socket Lever 2.2 Installation of CPU Fan and Heatsink After you install the CPU into this motherboard, it is necessary to install a larger heatsink and cooling fan to dissipate heat. You also need to spray thermal grease between the CPU and the heatsink to improve heat dissipation. Make sure 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 11, No. 2). For proper installation, please kindly refer to the instruction manuals of the CPU fan and the heatsink.

15 2.3 Installation of Memory Modules (DIMM) N68-VGS3 FX / N68-VS3 FX 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 chip-type) memory modules in the DDR3 DIMM slots to activate Dual Channel Memory Technology. Otherwise, it will operate at single channel mode. 1. 2. 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. 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. 16 2.4 Expansion Slots (PCI and PCI Express Slots) There are 1 PCI slot and 1 PCI Express slot on this motherboard. PCI slot:

PCI slot is used to install expansion cards that have the 32-bit PCI interface.

PCIE slot: PCIE1 (PCIE x16 slot) is used for PCI Express cards with x16 lane width graphics cards. 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 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.

Step 2. Step 3.

Step 4. 17 2.5 Easy Multi Monitor Feature This motherboard supports Multi Monitor upgrade. With the internal onboard VGA and the external add-on PCI Express VGA card, you can easily enjoy the benefits of Multi Monitor feature. Please refer to the following steps to set up a multi monitor environment: 1. Install the NVIDIA® PCI Express VGA card to PCIE1 (PCIE x16 slot). Please refer to page 17 for proper expansion card installation procedures for details. 2. Connect the D-Sub monitor cable to the VGA/D-Sub port on the I/O panel of this motherboard. Connect another D-Sub monitor cable to the VGA/D-Sub connector of the add-on PCI Express VGA card.

Connect the DVI-D monitor cable to the VGA/DVI-D connector of the add-on PCI Express VGA card. 3. Boot your system. Press <F2> or to enter BIOS setup. Enter "Share Memory" option to adjust the memory capability to [16MB], [32MB], [64MB], [128MB] or [256MB] to enable the function of onboard VGA/D-sub.



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1 0 Hot Plug and Hot Swap Functions for SATA / SATAII HDDs This motherboard supports Hot Plug and Hot Swap functions for SATA / SATAII Devices.
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.

What is Hot Swap Function? If SATA / SATAII HDDs are built as RAID1 or RAID 5 then it is called "Hot Swap" for the action to insert and remove the SATA / SATAII HDDs while the system is still power-on and in working condition. 25 SATA / SATAII HDD Hot Plug Feature and Operation Guide This motherboard supports Hot Plug feature for SATA / SATAII HDD in RAID mode. Please read below operation guide of SATA / SATAII HDD 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. 26 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 (White) to the power supply 1x4-pin cable.

Step 2 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. 27 2. 1 2 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. 2.13 Installing Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit / XP / XP 64-bit Without RAID Functions If you just want to install Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit / XP / XP 64bit on your SATA / SATAII HDDs without RAID functions, you don't have to make a SATA / SATAII driver diskette. Besides, there is no need for you to change the BIOS setting. You can start to install Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit / XP / XP 64-bit on your system directly.

2.14 Installing Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit With RAID Functions If you want to install Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit OS on your SATA / SATAII HDDs with RAID functions, please follow below procedures according to the OS you install. STEP 1: Set Up BIOS. A. Enter BIOS SETUP UTILITY Advanced screen Storage Configuration.

B. Set the "SATA Operation Mode" option to [RAID]. STEP 2: Use "RAID Installation Guide" to set RAID configuration. Before you start to configure RAID function, you need to check the RAID installation guide in the Support CD for proper configuration. Please refer to the BIOS RAID installation guide part of the document in the following path in the Support CD: . \ RAID Installation Guide STEP 3: Install Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit OS on your system. NOTE. If you install Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit on IDE HDDs and want to manage (create, convert, delete, or rebuild) RAID functions on SATA / SATAII HDDs, you still need to set up "SATA Operation Mode" to [RAID] in BIOS first. Then, please set the RAID configuration by using the Windows RAID installation guide in the following path in the Support CD: .

. \ RAID Installation Guide NOTE. For Windows® 7 / 7 64-bit users, you do not need to load RAID driver from ASRock support CD. Please use the native driver to install Windows® 7 / 7 64-bit OS, and then install ASRock All-in-1 driver. 28 Technology 2. 1 5 Untied Overclocking Technology This motherboard supports Untied Overclocking Technology, which means during overclocking, FSB enjoys better margin due to fixed PCI / PCIE buses. Before you enable Untied Overclocking function, please enter "Overclock Mode" option of BIOS setup to set the selection from [Auto] to [CPU, PCIE, Async.]. Therefore, CPU FSB is untied during overclocking, but PCI / PCIE buses are in the fixed mode so that FSB can operate under a more stable overclocking environment. Please refer to the warning on page 8 for the possible overclocking risk before you apply Untied Overclocking Technology.

29 3. BIOS SETUP UTILITY 3.1 Introduction This section explains how to use the BIOS SETUP UTILITY to configure your system. The SPI Memory on the motherboard stores the BIOS SETUP UTILITY. You may run the BIOS SETUP UTILITY when you start up the computer. Please press <F2> or during the Power-On-Self-Test (POST) to enter the BIOS SETUP UTILITY, otherwise, POST will continue with its test routines.



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If you wish to enter the BIOS 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 BIOS software is constantly being updated, the following BIOS setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen. 3.

1.1 BIOS Menu Bar The top of the Main OC Tweaker Advanced H/W Monitor Boot screen has a menu bar with the following selections: To set up the system time/date information To set up overclocking features To set up the advanced BIOS features To display current hardware status 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 BIOS 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. 30 3 . 1 . 2 Navigation Keys Please check the following table for the function description of each navigation key. Navigation Key(s) // + / <Enter> <F1> <F9> <F10> <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 To bring up the selected screen To display the General Help Screen To load optimal default values for all the settings To save changes and exit the BIOS SETUP UTILITY To jump to the Exit Screen or exit the current screen 3.2 Main Screen When you enter the BIOS SETUP UTILITY, the Main screen will appear and display the system overview. N68-VGS3 FX OC Tweaker BIOS SETUP UTILITY Advanced H/W Monitor Boot Security Exit Main System Overview System Time System Date BIOS Version Processor Type [17:00:09] [Tue 09/06/2011] Use [Enter], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to configure system Time. : N68-VGS3 FX P1.

00 : AMD Athlon (tm) II X2 265 Processor (64bit) Processor Speed : 3300MHz Microcode Update : 100F63/10000B6 : 256KB L1 Cache Size : 2048KB L2 Cache Size Total Memory DDR3_A1 DDR3_B1 : 2048MB Dual-Channel Memory Mode : 1024MB/533MHz DDR3_1066 : 1024MB/533MHz DDR3_1066 +Tab F1 F9 F10 ESC Select Screen Select Item Change Field Select Field General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc. System Time [Hour:Minute:Second] Use this item to specify the system time. System Date [Day Month/Date/Year] Use this item to specify the system date. 31 N68-VS3 FX OC Tweaker BIOS SETUP UTILITY Advanced H/W Monitor Boot Security Exit Main System Overview System Time System Date BIOS Version Processor Type [17:00:09] [Tue 09/06/2011] Use [Enter], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to configure system Time. : N68-VS3 FX P1.00 : AMD Athlon (tm) II X2 265 Processor (64bit) Processor Speed : 3300MHz Microcode Update : 100F63/10000B6 : 256KB L1 Cache Size : 2048KB L2 Cache Size Total Memory DDR3_A1 DDR3_B1 : 2048MB Dual-Channel Memory Mode : 1024MB/533MHz DDR3_1066 : 1024MB/533MHz DDR3_1066 +Tab F1 F9 F10 ESC Select Screen Select Item Change Field Select Field General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc. System Time [Hour:Minute:Second] Use this item to specify the system time.

System Date [Day Month/Date/Year] Use this item to specify the system date. Tweak weaker 3.3 OC Tweaker Screen In the OC Tweaker screen, you can set up overclocking features. Main OC Tweaker CPU Configuration Overclock Mode CPU Frequency (MHz) PCIE Frequency (MHz) Boot Failure Guard Boot Failure Guard Count CPU/LDT Spread Spectrum PCIE Spread Spectrum SATA Spread Spectrum ASRock UCC AMD Turbo Core Technology AMD IO C-State Support CPU Active Core Control [Auto] [200] [100] [Enabled] [3] [Enabled] [Enabled] [Enabled] [Disabled] [Auto] [Enabled] [Disabled] BIOS SETUP UTILITY Advanced H/W Monitor Boot Security Exit Overclocking may cause damage to your CPU and motherboard. It should be done at your own risk and expense.

Processor Maximum Frequency x16.5 3300 MHZ North Bridge Maximum Frequency x10.0 2000 MHZ Processor Maximum Voltage 1.43750 V [Auto] Multiplier/Voltage Change Enter F1 F9 F10 ESC Select Screen Select Item Go to Sub Screen General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc.

CPU Configuration Overclock Mode Use this to select Overclock Mode. The default value is [Auto]. Configuration options: [Auto], [CPU, PCIE, Sync.], [CPU, PCIE, Async.] and [Optimized]. CPU Frequency (MHz) Use this option to adjust CPU frequency. 32 PCIE Frequency (MHz) Use this option to adjust PCIE frequency. Boot Failure Guard Enable or disable the feature of Boot Failure Guard. Boot Failure Guard Count Enable or disable the feature of Boot Failure Guard Count. CPU/LDT Spread Spectrum This feature will be set to [Enabled] as default.

Configuration options: [Disabled] and [Enabled]. PCIE Spread Spectrum This feature will be set to [Enabled] as default. Configuration options: [Disabled] and [Enabled]. SATA Spread Spectrum This feature will be set to [Enabled] as default. Configuration options: [Disabled] and [Enabled]. ASRock UCC ASRock UCC (Unlock CPU Core) feature simplifies AMD CPU activation. As long as a simple switch of the BIOS option "ASRock UCC", you can unlock the extra CPU core to enjoy an instant performance boost. When UCC feature is enabled, the dual-core or triple-core CPU will boost to the quad-core CPU, and some CPU, including quad-core CPU, can also increase L3 cache size up to 6MB, which means you can enjoy the upgrade CPU performance with a better price. Please be noted that UCC feature is supported with AM3/AM3+ CPU only, and in addition, not every AM3/AM3+ CPU can support this function because some CPU's hidden core may be malfunctioned. AMD Turbo Core Technology This item appears only when the processor you adopt supports this feature.

Use this to select enable or disable AMD Turbo Core Technology. Configuration options: [Auto] and [Disabled]. The default value is [Auto]. AMD IO C-State Support This allows you to enable or disable AMD IO C-State Support. The default value is [Enabled].

CPU Active Core Control This allows you to adjust CPU Active Core Control feature. The configuration options depend on the CPU core you adopt. The default value is [Disabled]. Processor Maximum Frequency It will display Processor Maximum Frequency for reference. North Bridge Maximum Frequency It will display North Bridge Maximum Frequency for reference.

Processor Maximum Voltage It will display Processor Maximum Voltage for reference. 33 Multiplier/Voltage Change This item is set to [Auto] by default. If it is set to [Manual], you may adjust the value of Processor Frequency and Processor Voltage. However, it is recommended to keep the default value for system stability. Main OC Tweaker CPU Configuration Overclock Mode CPU Frequency (MHz) PCIE Frequency (MHz) Boot Failure Guard Boot Failure Guard Count CPU/LDT Spread Spectrum PCIE Spread Spectrum SATA Spread Spectrum ASRock UCC AMD Turbo Core Technology AMD IO C-State Support CPU Active Core Control [Auto] [200] [100] [Enabled] [3] [Enabled] [Enabled] [Enabled] [Disabled] [Auto] [Enabled] [Disabled] BIOS SETUP UTILITY Advanced H/W Monitor Boot Security Exit Overclocking may cause damage to your CPU and motherboard.



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It should be done at your own risk and expense. Processor Maximum Frequency x16.5 3300 MHZ North Bridge Maximum Frequency x10.0 2000 MHZ Processor Maximum Voltage 1.43750 V [Manual] Multiplier/Voltage Change Enter F1 F9 F10 ESC Select Screen Select Item Go to Sub Screen General Help Load Defaults Save and Exit Exit v02.

54 (C) Copyright 1985-2005, American Megatrends, Inc. CPU Frequency Multiplier For safety and system stability, it is not recommended to adjust the value of this item. Processor Voltage It allows you to adjust the value of processor voltage. However, for safety and system stability, it is not recommended to adjust the value of this item. NB Frequency Multiplier For safety and system stability, it is not recommended to adjust the value of this item. HT Bus Speed This feature allows you selecting Hyper-Transport bus speed. Configuration options: [Auto], [x1 200 MHz] to [x5 1000 MHz]. HT Bus Width This feature allows you selecting Hyper-Transport bus width. Configuration options: [Auto], [8 Bit] and [16 Bit]. Memory Configuration Memory Clock This item can be set by the code using [Auto].

You can set one of the standard values as listed: [400MHz DDR3_800], [533MHz DDR3_1066], [667MHz DDR3_1333] and [800MHz DDR3_1600]. DRAM Voltage Use this to select DRAM voltage. The default value is [Auto]. 34 Memory Timing BIOS SETUP UTILITY OC Tweaker Memory Timing Power Down Enable Bank Interleaving Channel Interleaving CAS Latency (CL) TRCD TRP TRAS Command Rate TRC TRTP TWR TRFC TRRD TWTR TRTP TFAW [Disabled] [Auto] [Hash 2] [Auto] [Auto] [Auto] [Auto] [Auto] [Auto] [Auto] [Auto] [Auto] [Auto] [Auto] [Auto] [Auto] [Auto] +F1 F9 F10 ESC Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2003, American Megatrends, Inc.

Power Down Enable Use this item to enable or disable DDR power down mode. Bank Interleaving Interleaving allows memory accesses to be spread out over banks on the same node, or across nodes, decreasing access contention. Channel Interleaving This allows you to enable Channel Memory Interleaving. The default value is [Hash 2]. CAS Latency (CL) Use this item to adjust the means of memory accessing.

The default value is [Auto]. TRCD Use this to adjust TRCD values. The default value is [Auto]. TRP Use this to adjust TRP values. The default value is [Auto]. TRAS Use this to adjust TRAS values. The default value is [Auto]. Command Rate Use this item to change Command Rate Auto/Manual setting. Min: 1N. Max: 2N.

The default is [Auto]. TRC Use this to adjust TRC values. The default value is [Auto]. TRTP Use this to adjust TRTP values. The default value is [Auto]. TWR Use this to adjust TWR values. The default value is [Auto]. TRFC Use this to adjust TRFC values. The default value is [Auto]. 35 TRRD Use this to adjust TRRD values.

The default value is [Auto]. TWTR Use this to adjust TWTR values. The default value is [Auto]. TRTP Use this to adjust TRTP values. The default value is [Auto].

TFAW Use this to adjust TFAW values. The default value is [Auto]. Chipset Settings Chipset Voltage Use this to select chipset voltage. The default value is [Auto]. 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.

36 3.4 Advanced Screen In this section, you may set the configurations for the following items: CPU Configuration, Chipset Configuration, ACPI Configuration, Storage Configuration, PCIPnP Configuration, SuperIO Configuration, and USB Configuration. BIOS SETUP UTILITY Boot OC Tweaker Advanced H/W Monitor Main Security Exit Advanced Settings WARNING : Setting wrong values in below sections may cause system to malfunction. CPU Configuration Chipset Configuration ACPI Configuration Storage Configuration PCIPnP Configuration SuperIO Configuration USB Configuration BIOS Update Utility ASRock Instant Flash Options for CPU Enter F1 F9 F10 ESC Select Screen Select Item Go to Sub Screen General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc. Setting wrong values in this section may cause the system to malfunction. ASRock Instant Flash ASRock Instant Flash is a BIOS flash utility embedded in Flash ROM. This convenient BIOS update tool allows you to update system BIOS without entering operating systems first like MS-DOS or Windows®. Just launch this tool and save the new BIOS file to your USB flash drive, floppy disk or hard drive, then you can update your BIOS 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 ASRock Instant Flash utility, the utility will show the BIOS files and their respective information. Select the proper BIOS file to update your BIOS, and reboot your system after BIOS update process completes. 37 3.4.1 CPU Configuration BIOS SETUP UTILITY Advanced CPU Configuration Cool 'n' Quiet Secure Virtual Machine Enhanced Halt State (C1E) [Auto] [Enabled] [Disabled] Enabling this function may reduce CPU voltage and memory freq., and lead to system stability or compatibility issue with some memory modules or power supplies. Please set this item to [Disabled] if above issue occurs.

Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit +F1 F9 F10 ESC v02.54 (C) Copyright 1985-2003, American Megatrends, Inc. Cool 'n' Quiet Use this item to enable or disable AMD's Cool 'n' Quiet™ technology. The default value is [Auto]. Configuration options: [Auto], [Enabled] and [Disabled]. If you install Windows ® 7 / Vista™ and want to enable this function, please set this item to [Enabled]. Please note that enabling this function may reduce CPU voltage and memory frequency, and lead to system stability or compatibility issue with some memory modules or power supplies. Please set this item to [Disable] if above issue occurs.

Secure Virtual Machine When this option is set to [Enabled], a VMM (Virtual Machine Architecture) can utilize the additional hardware capabilities provided by AMD-V. The default value is [Enabled]. Configuration options: [Enabled] and [Disabled]. 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. 38 3 . 4 . 2 Chipset Configuration BIOS SETUP UTILITY Advanced Chipset Settings Onboard LAN Onboard HD Audio Front Panel Share Memory Primary Graphics Adapter [Enabled] [Auto] [Auto] [Auto] [PCI] Auto/Enable/Disable Onboard HD Audio. +F1 F9 F10 ESC Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2003, American Megatrends, Inc. Onboard LAN This allows you to enable or disable the onboard LAN feature.



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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.

Share Memory This allows you to set share memory feature. The default value is [Auto]. Configuration options: [Auto], [32MB], [64MB], [128MB] and [256MB]. Primary Graphics Adapter This item will switch the PCI Bus scanning order while searching for video card. It allows you to select the type of Primary VGA in case of multiple video controllers. The default value of this feature is [PCI]. Configuration options: [PCI], [Onboard] and [PCI Express]. 39
3.4.3 ACPI Configuration BIOS SETUP UTILITY Advanced ACPI Settings Suspend To RAM Away Mode Support Restore on AC / Power Loss Ring-In Power On PCI Devices Power On PS / 2 Keyboard Power On RTC Alarm Power On ACPI HPET Table [Disabled] [Disabled] [Power Off] [Disabled] [Disabled] [Disabled] [By OS] [Disabled] Select auto-detect or disable the STR feature.

+F1 F9 F10 ESC Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2003, American Megatrends, Inc. Suspend to RAM Use this item to select whether to auto-detect or disable the Suspend-to-RAM feature. Select [Auto] will enable this feature if the OS supports it. If you set this item to [Disabled], the function "Repost Video on STR Resume" will be hidden.

Away Mode Support Use this item to enable or disable Away Mode support under Windows® XP Media Center OS. The default value is [Disabled]. 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.

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. PCI Devices Power On Use this item to enable or disable PCI devices to turn on the system from the power-soft-off mode. 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. RTC Alarm Power On Use this item to enable or disable RTC (Real Time Clock) to power on the system. ACPI HPET Table Use this item to enable or disable ACPI HPET Table. The default value is [Disabled]. Please set this option to [Enabled] if you plan to use this motherboard to submit Windows® Vista™ certification. 40 3.4.4 Storage Configuration BIOS SETUP UTILITY Advanced Storage Configuration Onboard IDE Controller Onboard SATA Controller SATA Operation Mode IDE1 Master IDE1 Slave SATAII_1 SATAII_2 SATAII_3 SATAII_4 [Enabled] [Enabled] [IDE] [Hard Disk] [Not Detected] [Not Detected] [Not Detected] [Not Detected] [Not Detected] [Not Detected] +F1 F9 F10 ESC Options Disabled Enabled Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.

54 (C) Copyright 1985-2003, American Megatrends, Inc. Onboard IDE Controller Use this item to enable or disable the "Onboard IDE Controller" feature. Onboard SATA Controller Use this item to enable or disable the "Onboard SATA Controller" feature. SATA Operation Mode Use this item to adjust SATA Operation Mode. The default value of this option is [IDE]. If you want to operate RAID function on SATA / SATAII HDDs, please select [RAID].

Configuration options: [IDE] and [RAID]. * If you select [RAID] mode, SATA / SATAII HDDs can not be accessed until you finish configuring RAID functions in NVIDIA BIOS / Windows RAID Utility. * If you install OS on SATA / SATAII HDDs, please do not change the setting of this item after OS installation. IDE Device Configuration You may set the IDE configuration for the device that you specify.

We will use the "IDE1 Master" as the example in the following instruction, which can be applied to the configurations of "IDE1 Slave" as well. BIOS SETUP UTILITY Advanced IDE Master Device Vendor Size LBA Mode Block Mode PIO Mode Async DMA Ultra DMA S.M.A.R.

T. :Hard Disk :MAXTOR 6L080J4 :80.0 GB :Supported :16Sectors :4 :MultiWord DMA-2 :Ultra DMA-6 :Supported [Auto] [Auto] [Auto] [Auto] [Auto] [Disabled] [Disabled] Select the type of device connected to the system. Type LBA/Large Mode Block (Multi-Sector Transfer) PIO Mode DMA Mode S.M.A.R.T. 32Bit Data Transfer +F1 F9 F10 ESC Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2003, American Megatrends, Inc. 41 TYPE Use this item to configure the type of the IDE device that you specify. Configuration options: [Not Installed], [Auto], [CD/DVD], and [ARMD]. [Not Installed]: Select [Not Installed] to disable the use of IDE device. [Auto]: Select [Auto] to automatically detect the hard disk drive. After selecting the hard disk information into BIOS, use a disk utility, such as FDISK, to partition and format the new IDE hard disk drives.

This is necessary so that you can write or read data from the hard disk. Make sure to set the partition of the Primary IDE hard disk drives to active. [CD/DVD]: This is used for IDE CD/DVD drives. [ARMD]: This is used for IDE ARMD (ATAPI Removable Media Device), such as MO. LBA/Large Mode Use this item to select the LBA/Large mode for a hard disk > 512 MB under DOS and Windows; for Netware and UNIX user, select [Disabled] to disable the LBA/Large mode. Block (Multi-Sector Transfer) The default value of this item is [Auto]. If this feature is enabled, it will enhance hard disk performance by reading or writing more data during each transfer. PIO Mode Use this item to set the PIO mode to enhance hard disk performance by optimizing the hard disk timing. DMA Mode DMA capability allows the improved transfer-speed and data-integrity for compatible IDE devices. 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], [Auto], [Enabled]. 32Bit Data Transfer Use this item to enable 32-bit access to maximize the IDE hard disk data transfer rate. 42 3.4.5 PCIPnP Configuration BIOS SETUP UTILITY Advanced Advanced PCI / PnP Settings PCI Latency Timer PCI IDE BusMaster [32] [Enabled] Value in units of PCI clocks for PCI device latency timer register. +F1 F9 F10 ESC Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2003, American Megatrends, Inc. Setting wrong values in this section may cause the system to malfunction. PCI Latency Timer The default value is 32. It is recommended to keep the default value unless the installed PCI expansion cards' specifications require other settings.

PCI IDE BusMaster Use this item to enable or disable the PCI IDE BusMaster feature. 43 3.4.6 Super IO Configuration BIOS SETUP UTILITY Advanced Configure Super IO Chipset Serial Port Address Parallel Port Address Parallel Port Mode EPP Version ECP Mode DMA Channel Parallel Port IRQ [3F8 / IRQ4] [378] [ECP + EPP] [1].



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9] [DMA3] [IRQ7] Allow BIOS to Enable or Disable Floppy Controller. +F1 F9 F10 ESC Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2003, American Megatrends, Inc. Serial Port Address Use this item to set the address for the onboard serial port or disable it. Configuration options: [Disabled], [3F8 / IRQ4], [2F8 / IRQ3], [3E8 / IRQ4], [2E8 / IRQ3]. Parallel Port Address Use this item to set the address for the onboard parallel port or disable it.

Configuration options: [Disabled], [378], and [278]. Parallel Port Mode Use this item to set the operation mode of the parallel port. The default value is [ECP+EPP]. If this option is set to [ECP+EPP], it will show the EPP version in the following item, "EPP Version". Configuration options: [Normal], [Bi-Directional], and [ECP+EPP].

EPP Version Use this item to set the EPP version. Configuration options: [1.9] and [1.7]. ECP Mode DMA Channel Use this item to set the ECP mode DMA channel.

Configuration options: [DMA0], [DMA1], and [DMA3]. Parallel Port IRQ Use this item to set the IRQ for the parallel port. Configuration options: [IRQ5] and [IRQ7]. 44 3.4.7 USB Configuration BIOS SETUP UTILITY Advanced USB Configuration USB Controller USB 2.0 Support Legacy USB Support USB

Keyboard/Remote Power On USB Mouse Power On [Enabled] [Enabled] [Enabled] [Disabled] [Disabled] To enable or disable the onboard USB controllers. +F1 F9 F10 ESC Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc. USB Controller Use this item to enable or disable the use of USB controller.

USB 2.0 Support Use this item to enable or disable the USB 2.0 support. Legacy USB Support Use this option to select legacy support for USB devices. There are four configuration options: [Enabled], [Auto], [Disabled] and [BIOS 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 BIOS setup when [Disabled] is selected. If you have USB compatibility issue, it is recommended to select [Disabled] to enter OS.

[BIOS Setup Only] - USB devices are allowed to use only under BIOS setup. USB Keyboard/Remote Power On Use this item to enable or disable USB Keyboard/Remote Power On on the system. @@@@The default value is [Disabled]. @@Target CPU Temperature The target temperature will be between 45 C/113 F and 65 C/149 F. The default value is [50 C/122 F].

Target Fan Speed Use this option to set the target fan speed. You can freely adjust the target fan speed according to the target CPU temperature that you choose. The default value is [Fast]. Configuration options: [Fast], [Middle] and [Slow]. 46 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. Main OC Tweaker BIOS SETUP UTILITY Advanced H/W Monitor Boot Security Exit Boot Settings Boot Settings Configuration 1st Boot Device 2nd Boot Device 3rd Boot Device 4th Boot Device Hard Disk Drives Removable Drives CD/DVD Drives [1st Floppy Device] [HDD: PM - HDS722580VL] [CD / DVD: 3S - CD - ROM C] [USB] Configure Settings during System Boot. Enter F1 F9 F10 ESC Select Screen Select Item Go to Sub Screen General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc. 3 . 6 . 1 Boot Settings Configuration BIOS SETUP UTILITY Boot Boot Settings Configuration Boot From Onboard LAN Bootup Num-Lock [Disabled] [On] To enable or disable the boot from network feature. +F1 F9 F10 ESC Select Screen Select Item Change Option General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2003, American Megatrends, Inc. Boot From Onboard LAN Use this item to enable or disable the Boot From Onboard LAN feature.

Boot Up Num-Lock If this item is set to [On], it will automatically activate the Numeric Lock function after boot-up. 47 3.7 Security Screen In this section, you may set or change the supervisor/user password for the system. For the user password, you may also clear it. BIOS SETUP UTILITY Advanced H/W Monitor Boot Main OC Tweaker Security Exit Security Settings Supervisor Password User Password : Not Installed Install or Change the password. Change Supervisor Password Change User Password Enter F1 F9 F10 ESC Select Screen Select Item Change General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc. 48 3 . 8 Exit Screen Main OC Tweaker BIOS SETUP UTILITY Advanced H/W Monitor Boot Security Exit Exit system setup after saving the changes. F10 key can be used for this operation.

Exit Options Save Changes and Exit Discard Changes and Exit Discard Changes Load BIOS Defaults Load Performance Setup Default Load Power Saving Setup Default Enter F1 F9 F10 ESC Select Screen Select Item Go to Sub Screen General Help Load Defaults Save and Exit Exit v02.54 (C) Copyright 1985-2005, American Megatrends, Inc. Save Changes and Exit When you select this option, it will pop-out the following message, "Save configuration changes and exit setup?" Select [OK] to save the changes and exit the BIOS SETUP UTILITY. 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 BIOS 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 BIOS Defaults Load BIOS default values for all the setup questions. F9 key can be used for this operation. Load Performance Setup Default This performance setup default may not be compatible with all system configurations. If system boot failure occurs after loading, please resume optimal default settings. F5 key can be used for this operation.

Load Power Saving Setup Default Load power saving setup default. F6 key can be used for this operation. 49 Software Support 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."



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