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You can read the recommendations in the user guide, the technical guide or the installation guide for ASUS M2NPV-MX. You'll find the answers to all your questions on the ASUS M2NPV-MX in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

**User manual ASUS M2NPV-MX**  
**User guide ASUS M2NPV-MX**  
**Operating instructions ASUS M2NPV-MX**  
**Instructions for use ASUS M2NPV-MX**  
**Instruction manual ASUS M2NPV-MX**

**M2NPV-MX**



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**Manual abstract:**

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*Operation is subject to the following two conditions: · This device may not cause harmful interference, and · This device must accept any interference received including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class B digital device,*

*pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: · Reorient or relocate the receiving antenna. · Increase the separation between the equipment and receiver. · Connect the equipment to an outlet on a circuit different from that to which the receiver is connected. · Consult the dealer or an experienced radio/TV technician for help. The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations.*

*Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. Canadian Department of Communications Statement This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications. This class B digital apparatus complies with Canadian ICES-003. vi Safety information Electrical safety · To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system. · When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected.*

*If possible, disconnect all power cables from the existing system before you add a device. · Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged. · Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit. · Make sure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company. · If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer. Operation safety · Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package. · Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately. · To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.*



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· Avoid dust, humidity, and temperature extremes. Do not place the product in anling the motherboard, and hardware devices on it, check the items in your package with the list below. 1.

2 Package contents ASUS M2NPV-MX motherboard 1 x Serial ATA signal cables 1 x Serial ATA power cable 1 x Ultra DMA 133/100/66 cable 1 x Floppy disk drive cable I/O shield ASUS motherboard support CD User guide Check your motherboard package for the following items. Motherboard Cables Accessories Application CD Documentation If any of the above items is damaged or missing, contact your retailer. 1.3 1.3.1 Special features Product highlights Latest processor technology The motherboard supports AMD socket AM2 single-core Athlon 64/ Sempron and dual-core Athlon 64 X2/Athlon 64 FX processors with 2MB/ 1MB/512KB L2 cache, which is based on 64-bit architecture. It features 2000/1600 MT/s HyperTransport Bus, dual-channel unbuffered DDR2 800 memory support and AMD Cool n&#rclocking, C.P.R. eliminates the need to open the system chassis and clear the RTC data.

Simply shut down and reboot the system, and the BIOS automatically restores the CPU default setting for each parameter. ASUS MyLogo™ This feature allows you to personalize and add style to your system with customizable boot logos. See page 2-37 for details. ASUS M2NPV-MX 1-5 1.4 Before you proceed Take note of the following precautions before you install motherboard components or change any motherboard settings.

· Unplug the power cord from the wall socket before touching any component. Use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, before handling components to avoid damaging them due to static electricity Hold components by the edges to avoid touching the ICs on them. Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component. Before you install or remove any component, ensure that the ATX power supply is switched off or the p o w e r c o r d i s d e t a c h e d f r o m t h e p o w e r s u p p l y . Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

· Onboard LED The motherboard comes with a standby power LED that lights up to indicate that the system is ON, in sleep mode, or in soft-off mode. This is a reminder that you should shut down the system and unplug the power cable before removing or plugging in any motherboard component. The illustration below shows the location of the onboard LED. M2NPV-MX © SB\_PWR M2NPV-MX Onboard LED ON Standby Power OFF Powered Off 1-6 Chapter 1: Product introduction 1.5 1.5.1 Motherboard overview Motherboard layout 24.5cm (9.6in) PS/2KBMS T: Mouse B: Keyboard KBPWR ATX12V CPU\_FAN DVI PARALLEL PORT DDR2 DIMM\_B1 (64 bit, 240-pin module) DDR2 DIMM\_B2 (64 bit,240-pin module) DDR2 DIMM\_A1 (64 bit,240-pin module) DDR2 DIMM\_A2 (64 bit,240-pin module) Super I/O Socket AM2 VGA USB12 USBPW12 EATXPWR CHA\_FAN1 LAN\_USB34 USBPW34 © GAME FLOPPY PANEL Top:Line In Center:Line Out Bottom:Mic In nVIDIA TV\_OUT GeForceTM6150 PCIEX1\_1 4Mb BIOS PRI\_IDE SEC\_IDE M2NPV-MX 88E1116 PCIEX16 © SATA3 PCII SB\_PWR AD 1986A nForceTM430 SATA1 PCI2 CD AAFP SPDIF\_OUT USBPW78 USBPW56 CR2032 3V Lithium Cell CMOS Power CHASSIS CLRTC USB56 USB78 COM1 ASUS M2NPV-MX SATA2 SATA4 nVIDIA © 24.5cm (9.

6in) 1-7 1.5.2 Placement direction When installing the motherboard, make sure that you place it into the chassis in the correct orientation. The edge with external ports goes to the rear part of the chassis as indicated in the image below. 1.5.3 Screw holes Place eight (8) screws into the holes indicated by circles to secure the motherboard to the chassis. Do not overtighten the screws! Doing so can damage the motherboard. Place this side towards the rear of the chassis M2NPV-MX © 1-8 Chapter 1: Product introduction 1.6 Central Processing Unit (CPU) The motherboard comes with a 940-pin AM2 socket designed for the AMD Athlon™ 64 X2/Athlon™ 64/Athlon™ FX/Sempron™ processor.

The AM2 socket has a different pinout from the 940-pin socket designed for the AMD Opteron™ processor. Make sure you use a CPU is designed for the AM2 socket. The CPU fits in only one correct orientation. DO NOT force the CPU into the socket to prevent bending the connectors on the socket and damaging the CPU! 1 . 6 .

1 Installing the CPU To install a CPU. 1. Locate the CPU socket on the motherboard. M2NPV-MX © M2NPV-MX CPU Socket AM2 2. Unlock the socket by pressing the lever sideways, then lift it up to a 90°-100° angle.

Socket lever Make sure that the socket lever is lifted up to 90°-100° angle, otherwise the CPU does not fit in completely. ASUS M2NPV-MX 1-9 3. Position the CPU above the socket such that the CPU corner with the gold triangle matches the socket corner with a small triangle. Carefully insert the CPU into the socket until it fits in place. Small triangle Gold triangle 4. The CPU fits only in one correct orientation. DO NOT force the CPU into the socket to prevent bending the pins and damaging the CPU! 5. When the CPU is in place, push down the socket lever to secure the CPU. The lever clicks on the side tab to indicate that it is locked. Install a CPU heatsink and fan following the instructions that came with the heatsink package.

Connect the CPU fan cable to the CPU\_FAN connector on the motherboard. CPU\_FAN CPU\_FAN PWM CPU\_FAN IN CPU\_FAN PWR GND M2NPV-MX © 6. 7. M2NPV-MX CPU fan connector Do not forget to connect the CPU fan connector! Hardware monitoring errors can occur if you fail to plug this connector. 1-10 Chapter 1: Product introduction 1.6.2 Installing the heatsink and fan The AMD Athlon™ 64/Sempron™ processor require a specially designed heatsink and fan assembly to ensure optimum thermal condition and performance. Make sure that you use only qualified heatsink and fan assembly. Follow these steps to install the CPU heatsink and fan. 1.

Place the heatsink on top of the installed CPU, making sure that the heatsink fits properly on the retention module base. · The retention module base is already installed on the motherboard upon purchase. You do not have to remove the retention module base when installing the CPU or installing other motherboard components. · If you purchased a separate CPU heatsink and fan assembly, make sure that a Thermal Interface Material is properly applied to the CPU heatsink or CPU before you install the heatsink and fan assembly. CPU Fan CPU Heatsink Retention Module Base Retention bracket Retention bracket lock Your boxed CPU heatsink and fan assembly should come with installation instructions for the CPU, heatsink, and the retention mechanism.



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If the instructions in this section do not match the CPU documentation, follow the latter. ASUS M2NPV-MX 1-11 2. Attach one end of the retention bracket to the retention module base. 3. Align the other end of the retention bracket (near the retention bracket lock) to the retention module base.

A clicking sound denotes that the retention bracket is in place. Make sure that the fan and heatsink assembly perfectly fits the retention mechanism module base; otherwise, you cannot snap the retention bracket in place. 4. Push down the retention bracket lock on the retention mechanism to secure the heatsink and fan to the module base. 1-12 Chapter 1: Product introduction 1.7 1.7.1 System memory Overview The motherboard comes with four Double Data Rate 2 (DDR2) Dual Inline Memory Modules (DIMM) sockets. A DDR2 module has the same physical dimensions as a DDR DIMM but has a 240-pin footprint compared to the 184-pin DDR DIMM. DDR2 DIMMs are notched differently to prevent installation on a DDR DIMM socket.

The figure illustrates the location of the DDR2 DIMM sockets: DIMM\_B1 DIMM\_B2 DIMM\_A1 DIMM\_A2 M2NPV-MX ® M2NPV-MX 240-pin DDR2 DIMM sockets Channel A Channel B Sockets DIMM\_A1 and DIMM\_A2 DIMM\_B1 and DIMM\_B2 1.7.2 Memory configurations You may install 256 MB, 512 MB, 1 GB, and 2 GB unbuffered ECC/non-ECC DDR2 DIMMs into the DIMM sockets. Recommended Memory Configurations Sockets Mode Single Channel DIMM\_A1 Populated Dual-channel (1) Dual-channel (2) Populated Populated DIMM\_A2 Populated Populated DIMM\_B1 Populated Populated Populated DIMM\_B2 Populated Populated Populated ASUS M2NPV-MX 1-13 \* For dual-channel memory configuration (2), you may: · install identical DIMMs in all four sockets OR · install an identical DIMM pair in DIMM\_A1 and DIMM\_B1 (yellow sockets) and another identical DIMM pair in DIMM\_A2 and DIMM\_B2 (black sockets) Always use identical DDR2 DIMM pairs for dual-channel model. For optimum compatibility, we recommend that you obtain memory modules from the same vendor. Visit the ASUS website (www.asus.com) for the latest Qualified Vendors List. \* Important notice on installing Windows® XP 32-bit version If you install Windows® XP 32-bit version Operating System (OS), the limitation of this OS version is that it may reserve a certain amount of memory space for system devices. We recommend that you install less than 3 GB system memory if you would like to work under Windows® XP 32-bit version OS.

The excess memory installation will not cause any usage problem, but it will not give users the benefit of manipulating this excess memory space. Visit the ASUS FAQ site for further explanation: <http://support.asus.com/faq/faq.aspx?SLanguage=en-us> Under General Search make the h, selections as shown, then click h.

Search Click the article titled "4 GB memory installed but less 4." memory size detected. You also may check the URLs below for third party comments on this issue: [http://dlsrv01.asus.com/pub/ASUS/mb/4GB\\_Rev1](http://dlsrv01.asus.com/pub/ASUS/mb/4GB_Rev1).

pdf <http://www.intel.com/support/motherboards/server/sb/cs016594.htm> This motherboard can support 8 GB physical memory on the operating systems listed below. You may install a maximum of 2 GB DIMMs on each slot. 32-bit Windows® 2000 Advanced Server Windows® Server 2003 Enterprise Edition 64-bit Windows® Server 2003 Standard x64 Edition Windows® XP Professional x64 Edition Windows® Server 2003 Enterprise x64 Edition 1-14 Chapter 1: Product introduction Qualified Vendors Lists (QVL) DDR2-800 MHz capability Size 256 MB 256 MB 512 MB 512 MB 512 MB Vendor SAMSUNG

SAMSUNG SAMSUNG Hynix MICRON Model K4T56083QF-ZCE7 EDD339XX HY5PS12821AFP-S6 HY5PS12821AFP-S6 5JAIIZ9DQQ 5JAIIZ9DQQ Heat-Sink Package E2508AB-GE-E E2508AB-GE-E Brand Side(s) SS SS SS SS DS SS DS SS SS SS Component M378T3253FZ3-CE7 M391T3253FZ3-CE7 M378T6553CZ3-CE7 HYMP564U64AP8-S6 HYMP512U64AP8-S6 MT8HTF6464AY-80EA3 MT16HTF12864AY-80EA3 CM2X1024-6400PRO M20EL6F3G3160A1D0Z M20EL6F3G3160A1D0Z · · DIMM support ABC · · · · · K4T56083QF-ZCE7(ECC) 1024 MB Hynix 1024 MB MICRON 1024 MB CORSAIR 256 MB 256 MB A-DATA A-DATA DDR2-667 MHz capability Size Vendor Model E5108AE-6E-E K4T56083QF-ZCE6 K4T56083QF-ZCE6 K4T51163QC-ZCE6 ZCE6K4T51083QC HYB18T512160AF-3S HYB18T512800AF3S Brand Side(s) DS SS DS SS SS SS SS SS DS SS SS SS DS DS DS Component KVR667D2N5/1G M378T3253FZ0-CE6 M378T6453FZ0-CE6 M378T3354CZ0-CE6 M378T6553CZ0-CE6 HYS64T32000HU-3S-A HYS64T64000HU-3S-A HYS72T64000HU-3S-A HYS72T128020HU-3S-A HYMP564U64AP8-Y5 HYMP564U64AP8-Y4 EBE25UC8ABFA-6E-E EBE51UD8AEFA-6E-E BL6464AA664.16FB BL12864AA664.16FA BL12864AL664.16FA · · · · · DIMM support A BC · · · · · 1024 MB KINGSTON 256 MB 512 MB 256 MB 512 MB 256 MB 512 MB 512 MB 512 MB 512 MB 512 MB 256 MB 512 MB 512 MB SAMSUNG SAMSUNG SAMSUNG Infineon Infineon Infineon Hynix Hynix ELPIDA ELPIDA crucial HYB18T512800AF3S(ECC) HYB18T512800AF3S(ECC) HY5PS12821AFP-Y5 HY5PS12821AFP-Y4 E2508AB-6E-E E5108AB-6E-E Heat-Sink Package Heat-Sink Package Heat-Sink Package Heat-Sink Package 1024 MB Infineon 1024 MB crucial 1024 MB crucial 1024 MB crucial ASUS M2NPV-MX 1-15 DDR2-533 MHz capability Size 256 MB 512 MB 512 MB 512 MB 256 MB 256 MB 512 MB 512 MB 512 MB 512 MB 512 MB 512 MB 256 MB 256 MB 512 MB 512 MB Vendor KINGSTON KINGSTON SAMSUNG Infineon Infineon Infineon Infineon Hynix Hynix Hynix ELPIDA ELPIDA Apacer KINGMAX KINGMAX Transcend Model E5116AF-5C-E HYB18T512800AF37 K4T56083QF-GCD5 HYB18T512800AC37 HYB18T512160AF3.

7 HYB18T5121608BF3.7 HYB18T512800BF37 HY5PS12821F-C4 HY5PS12821F-C4 HY5PS12821AFP-C3 E5108AB-5C-E E5108AB-5C-E E5116AB-5C-E E5116AB-5C-E E5108AE-5C-E KKEA88E4AAK-37 K4T51083QB-GCD5 Brand Side(s) SS SS DS SS SS SS SS SS DS SS SS SS SS SS DS SS SS Component KVR533D2N4/256 KVR533D2N4/512 M378T6453FG0-CD5 HYS64T64000GU-3.7-A HYS64T32000HU-3.7-A HYS64T32000HU-3.7-B HYS64T64000HU-3.7-B HYMP564U648-C4 HYMP512U648-C4 HYMP564U728-C4 HYMP564U64AP8-C3 EBE51UD8ABFA-5C EBE51UD8ABFA-5C-E 78.81077.420 KLBB68F-36EP4 KLBB48F-A8EB4 KLBC28F-A8KE4 TS64MLQ64V5J DIMM support A BC · · · · · 1024 MB Hynix HY5PS12821FP-C4(ECC) 1024 MB KINGMAX ); S i d e ( s ) S S - Single-sided D S - Double-sided t: DIMM support Supports one module inserted in any slot as Single-channel memory configuration.



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ASupports one pair of modules inserted into either the blue slots or the black slots as Bone pair of Dual-channel memory configuration. Supports 3 modules inserted into both the blue and black slots as two pairs of CDual-channel memory configuration.

Visit the ASUS website for the latest DDR2-800/667/533 MHz QVL. 1-16 Chapter 1: Product introduction 1.7.3 Installing a DIMM Make sure to unplug the power supply before adding or removing DIMMs or other system components. Failure to do so may cause severe damage to both the motherboard and the components.

2 1. Unlock a DIMM socket by pressing the retaining clips outward. Align a DIMM on the socket such that the notch on the DIMM matches the break on the socket. Firmly insert the DIMM into the socket until the retaining clips snap back in place and the DIMM is properly seated. · 3 DDR2 DIMM notch 2.

1 1 3. Unlocked retaining clip · A DDR2 DIMM is keyed with a notch so that it fits in only one direction. DO NOT force a DIMM into a socket to avoid damaging the DIMM. The DDR2 DIMM sockets do not support DDR DIMMs. Do not install DDR DIMMs to the DDR2 DIMM sockets. 1.7.4 Removing a DIMM 2 To remove a DIMM: 1. Simultaneously press the retaining clips outward to unlock the DIMM. 1 1 1 DDR2 DIMM notch Support the DIMM lightly with your fingers when pressing the retaining clips.

The DIMM might get damaged when it flips out with extra force. 2. Remove the DIMM from the socket. ASUS M2NPV-MX 1-17 1.8 Expansion slots In the future, you may need to install expansion cards. The following sub-sections describe the slots and the expansion cards that they support. Make sure to unplug the power cord before adding or removing expansion cards. Failure to do so may cause you physical injury and damage motherboard components. 1.8.

1 1. 2. 3. 4. 5.

6. Installing an expansion card To install an expansion card: Before installing the expansion card, read the documentation that came with it and make the necessary hardware settings for the card. Remove the system unit cover (if your motherboard is already installed in a chassis). Remove the bracket opposite the slot that you intend to use. Keep the screw for later use.

Align the card connector with the slot and press firmly until the card is completely seated on the slot. Secure the card to the chassis with the screw you removed earlier. Replace the system cover. 1.8.2 Configuring an expansion card After installing the expansion card, configure it by adjusting the software settings. 1. 2. 3. Turn on the system and change the necessary BIOS settings, if any.

See Chapter 2 for information on BIOS setup. Assign an IRQ to the card. Refer to the tables on the next page. Install the software drivers for the expansion card. 1-18 Chapter 1: Product introduction Standard interrupt assignments IRQ 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Priority 1 2 11 12 13 14 15 3 4 5 6 7 8 9 10 Standard Function System Timer Keyboard Controller Re-direct to IRQ#9 IRQ holder for PCI steering\* Communications Port (COM1)\* IRQ holder for PCI steering\* Floppy Disk Controller Printer Port (LPT1)\* System CMOS/Real Time Clock IRQ holder for PCI steering\* IRQ holder for PCI steering\* IRQ holder for PCI steering\* PS/2 Compatible Mouse Port\* Numeric Data Processor Primary IDE Channel Secondary IDE Channel \* These IRQs are usually available for ISA or PCI devices. IRQ assignments for this motherboard A PCI slot 1 PCI slot 2 used -- B -- used C -- -- D -- -- When using PCI cards on shared slots, ensure that the drivers support "Share IRQ" or that the cards do not need IRQ assignments; otherwise, conflicts will arise between the two PCI groups, making the system unstable and the card inoperable. ASUS M2NPV-MX 1-19 1.8.3 PCI slots The PCI slots support cards such as a LAN card, SCSI card, USB card, and other cards that comply with PCI specifications. The figure shows a LAN card installed on a PCI slot.

1.8.4 PCI Express x1 slot This motherboard supports PCI Express x1 network cards, SCSI cards and other cards that comply with the PCI Express specifications. The following figure shows a network card installed on the PCI Express x1 slot. 1.

8.5 PCI Express x16 slot This motherboard has supports PCI Express x16 graphic cards that comply with PCI Express specifications. The figure shows a graphics card installed on the PCI Express x16 slot. 1-20 Chapter 1: Product introduction 1.9 1.

Jumpers Clear RTC RAM (CLRTC) This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The onboard button cell battery powers the RAM data in CMOS, which include system setup information such as system passwords. To erase the RTC RAM: 1. 2. 3. Turn OFF the computer and unplug the power cord. Remove the onboard battery. Move the jumper cap from pins 1-2 (default) to pins 2-3. Keep the cap on pins 2-3 for about 5~10 seconds, then move the cap back to pins 1-2.

Reinstall the battery. Plug the power cord and turn ON the computer. Hold down the <Del> key during the boot process and enter BIOS setup to re-enter data. Except when clearing the RTC RAM, never remove the cap on CLRTC jumper default position. Removing the cap will cause system boot failure! 4. 5. 6. CLRTC M2NPV-MX ® 12 Normal (Default) 23 Clear CMOS M2NPV-MX Clear RTC RAM You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the C.P.

R. (CPU Parameter Recall) feature. Shut down and reboot the system so the BIOS can automatically reset parameter settings to default values. ASUS M2NPV-MX 1-21 2. USB device wake-up (3-pin USBPW12, USBPW34, USBPW56, USBPW78) Set these jumpers to +5V to wake up the computer from S1 sleep mode (CPU stopped, DRAM refreshed, system running in low power mode) using the connected USB devices.

Set to +5VSB to wake up from S3 and S4 sleep modes. The USBPW12 and USBPW34 jumpers are for the rear USB ports. The USBPW56 and USBPW78 jumper is for the internal USB connectors that you can connect to additional USB ports. USBPW12 2 1 +5V (Default) 3 2 +5VSB 2 1 +5V (Default) USBPW34 3 2 +5VSB M2NPV-MX ® USBPW78 USBPW56 246 246 M2NPV-MX USB device wake-up 135 +5V (Default) 135 +5VSB · The USB device wake-up feature requires a power supply that can provide 500mA on the +5VSB lead for each USB port; otherwise, the system will not power up. The total current consumed must NOT exceed the power supply capability (+5VSB) whether under normal condition or in sleep mode.

· 1-22 Chapter 1: Product introduction 3. Keyboard power (3-pin KBPWR) This jumper allows you to enable or disable the keyboard wake-up feature. Set this jumper to pins 2-3 (+5VSB) to wake up the computer when you press a key on the keyboard (the default is the Space Bar).



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This feature requires an ATX power supply that can supply at least 500 mA on the +5VSB lead, and a corresponding setting in the BIOS. KBPWR 2 1 +5V (Default) 3 2 +5VSB M2NPV-MX ® M2NPV-MX Keyboard power setting ASUS M2NPV-MX 1-23 1.10 1 Connectors 2 3 4 5 6 1.10.1 Rear panel connectors 1 1. 2. 3.

10 9 8 7 P S / 2 m o u s e p o r t ( g r e e n ) . This port is for a PS/2 mouse. P a r a l l e l p o r t . This 25-pin port connects a parallel printer, a scanner, or other devices. L A N ( R J - 4 5 ) p o r t . This port allows Gigabit connection to a Local Area Network (LAN) through a network hub. LAN port LED indications ACT/LINK LED Status OFF Orange BLINKING Description No link Linked Data activity Status OFF ORANGE GREEN SPEED LED Description 10 Mbps connection 100 Mbps connection 1 Gbps connection LAN port ACT/LINK S P E E D LED LED 4. 5. L i n e I n p o r t ( l i g h t b l u e ) . This port connects a tape, CD, DVD player, or other audio sources.

L i n e O u t p o r t ( l i m e ) . This port connects a headphone or a speaker. In 4-channel/6-channel configuration, the function of this port becomes Front Speaker Out. M i c r o p h o n e p o r t ( p i n k ) . This port connects a microphone.

Refer to the audio configuration table for the function of the audio ports in 2, 4, or 6-channel configuration. 6. 1-24 Chapter 1: Product introduction Audio 2, 4, or 6-channel configuration Port Light Blue Lime Pink Headset 2-s 2-s p e a k e r Line In Line Out Mic In 4-speaker Surround Out Front Speaker Out Mic 6-speaker Surround Out Front Speaker Out Center/Bass 7. 8. 9.

U S B 2 . 0 p o r t s 3 a n d 4 . These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices. U S B 2 . 0 p o r t s 1 a n d 2 . These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices. V i d e o G r a p h i c s A d a p t e r ( V G A ) p o r t . This 15-pin port is for a VGA monitor or other VGA-compatible devices.

I O . D V I - D O u t p o r t . This port connects a Digital Visual Interface (DVID) card. 1 1 . P S / 2 k e y b o a r d p o r t ( p u r p l e ) . This port is for a PS/2 keyboard. ASUS M2NPV-MX 1-25 1.10.2 Internal connectors 1. Floppy disk drive connector (34-1 pin FLOPPY) This connector is for the provided floppy disk drive (FDD) signal cable.

Insert one end of the cable to this connector, then connect the other end to the signal connector at the back of the floppy disk drive. Pin 5 on the connector is removed to prevent incorrect cable connection when using an FDD cable with a covered Pin 5. FLOPPY NOTE: Orient the red markings on the floppy ribbon cable to PIN 1. M2NPV-MX ® PIN 1 M2NPV-MX Floppy disk drive connector 2. Chassis intrusion connector (4-1 pin CHASSIS) This connector is for a chassis-mounted intrusion detection sensor or switch.

Connect one end of the chassis intrusion sensor or switch cable to this connector. The chassis intrusion sensor or switch sends a high-level signal to this connector when a chassis component is removed or replaced. The signal is then generated as a chassis intrusion event. By default, the pins labeled "Chassis Signal" and "Ground" are shorted with a jumper cap. Remove the jumper caps only when you intend to use the chassis intrusion detection feature.

M2NPV-MX ® CHASSIS (Default) M2NPV-MX Chassis intrusion connector 1-26 Chapter 1: Product introduction Chassis Signal GND +5VSB\_MB 3. IDE connectors (40-1 pin PRI\_IDE; 40-1 pin SEC\_IDE) The onboard IDE connectors are for Ultra DMA 133/100/66 signal cable(s). There are three connectors on each Ultra DMA 133/100/66 signal cable: blue, black, and gray. Connect the blue connector to the motherboard's IDE connector, then select one of the following modes to configure your device(s). Drive jumper setting Single device Two devices Cable-Select or Master Cable-Select Master Slave Mode of device(s) Master Slave Master Slave Cable connector Black Black Gray Black or gray · Pin 20 on the IDE connector is removed to match the covered hole on the Ultra DMA cable connector. This prevents incorrect insertion when you connect the IDE cable. Use the 80-conductor IDE cable for Ultra DMA 133/100/66 IDE devices. · If any device jumper is set as "Cable-Select," make sure all other device jumpers have the same setting. NOTE: Orient the red markings (usually zigzag) on the IDE ribbon cable to PIN 1. M2NPV-MX ® M2NPV-MX IDE connectors PIN 1 ASUS M2NPV-MX SEC\_IDE PRI\_IDE 1-27 4.

Serial ATA connectors (7-pin SATA1, SATA2, SATA3, SATA4) These connectors are for the Serial ATA signal cables for Serial ATA 3.0 Gb/s hard disk and optical disk drives. The Serial ATA 3 Gb/s is backward compatible with Serial ATA 1.5Gb/s specification. The current Serial ATA I interface allows up to 150 MB/s data transfer rate while Serial ATA II allows up to 300 MB/s data transfer rate, faster than the standard parallel ATA with 133 MB/s (Ultra DMA133).

If you install Serial ATA hard disk drives, you can create a RAID 0, RAID 1, RAID 0+1, RAID 5, and JBOD configuration through the onboard NVIDIA® MediaShield™ controller. SATA3 GND RSATA\_TXP3 RSATA\_TXN3 GND RSATA\_RXP3 RSATA\_RXN3 GND M2NPV-MX ® SATA4 GND RSATA\_TXP4 RSATA\_TXN4 GND RSATA\_RXP4 RSATA\_RXN4 GND SATA1 GND RSATA\_TXP1 RSATA\_TXN1 GND RSATA\_RXP1 RSATA\_RXN1 GND SATA2 GND RSATA\_TXP2 RSATA\_TXN2 GND RSATA\_RXP2 RSATA\_RXN2 GND M2NPV-MX SATA connectors Important note on Serial ATA Install the Windows® 2000 Service Pack 4 or the Windows® XP Service Pack1 before using Serial ATA. · For detailed instructions on how to configure RAID 0, 1, 0+1, 5, and JBOD, refer to the RAID manual in the support CD. The RAID function of these connectors is set to [Disabled] by default. If you intend to create a Serial ATA RAID set using these connectors, enable the R A I D E n a b l e d item in the NVRAID Configuration sub-menu in the BIOS.

See section "2.4.6 Onboard Device Configuration" for details. 1-28 Chapter 1: Product introduction 5. CPU, Chassis, and Power Fan connectors (4-pin CPU\_FAN, 3-pin CHA\_FAN1) The fan connectors support cooling fans of 350mA~740mA (8.

88W max.) or a total of 1A~2.22A (26.64W max.) at +12V.

Connect the fan cables to the fan connectors on the motherboard, making sure that the black wire of each cable matches the ground pin of the connector. Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! DO NOT place jumper caps on the fan connectors. Only CPU Fan connector supports Q-Fan function. CPU\_FAN CPU\_FAN CHA\_FAN1 M2NPV-MX ® CHA\_FAN1 Rotation +12V GND M2NPV-MX Fan connectors 6. Digital audio connector (4-1 pin SPDIF\_OUT) This connector is for an additional Sony/Philips Digital Interface (S/PDIF) port(s).



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Connect the S/PDIF module cable to this connector, then install the module to a slot opening at the back of the system chassis. The S/PDIF module is purchased separately. M2NPV-MX ® SPDIF\_OUT M2NPV-MX Digital audio connector ASUS M2NPV-MX SPDIFOUT GND +5V CPU FAN PWM CPU FAN IN CPU FAN PWR GND 1-29 7.

USB connectors (10-1 pin USB56, USB78) These connectors are for USB 2.0 ports. Connect the USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480 Mbps connection speed. USB+5V USB\_P6USB\_P6+ GND NC M2NPV-MX ® USB56 USB+5V USB\_P5USB\_P5+ GND USB78 USB+5V USB\_P7USB\_P7+ GND 1 1 M2NPV-MX USB 2.0 connectors Never connect a 1 3 9 4 c a b l e to the USB connectors. Doing so will damage the motherboard! The USB 2.0 module is purchased separately. 8.

Optical drive audio in connector (4-pin CD) These connectors allow you to receive stereo audio input from sound sources such as a CD-ROM, TV tuner, or MPEG card. M2NPV-MX ® CD (black) M2NPV-MX Internal audio connector 1-30 Chapter 1: Product introduction Right Audio Channel Ground Ground Left Audio Channel USB+5V USB\_P8USB\_P8+ GND NC 9. TV-out connector (8-1 pin TV\_OUT) This 8-1 pin connector is for the TV-out port module that allows you to connect a television to your system. Connect one end of the HDTV-out cable to this connector and the other end to the TV-out module. TV\_OUT ® M2NPV-MX TV out connector · · RGB and TV-out can not be used simultaneously.

The TV-out port module is purchased separately. ASUS M2NPV-MX GND +5V GND M2NPV-MX Pb PR Y +12V 1-31 1 0 . Serial port connector (10-1 pin COM1) This connector is for serial (COM) port. Connect the serial port module cable to this connector, then install the module to a slot opening at the back of the system chassis. The serial port bracket (COM) is purchased separately.

COM1 PIN 1 M2NPV-MX ® M2NPV-MX COM port connector 1 1 . @@@@ @@@@ @@@@ @@@@ This PSU type has 24-pin and 4-pin power plugs. @@@@ @@@@ @@@@ You must install a PSU with a higher power rating if you intend to install additional devices. . . . EATXPWR +3 Volts -12 Volts Ground PSON# ATX12V Ground Ground GND Ground +12V DC +12V DC -5 Volts +5 Volts +5 Volts +5 Volts +5 Volts +5 Volts +3 Volts +3 Volts Ground +5 Volts Ground +5 Volts Ground Power OK +5V Standby +12 Volts +12 Volts +3 Volts M2NPV-MX ® M2NPV-MX ATX power ASUS M2NPV-MX 1-33 1 3 . System panel connector (20-1 pin PANEL) This connector supports several chassis-mounted functions. PWR LED SPKR +5V Ground Ground Speaker PLED+ PLED- PANEL IDE\_LED+ IDE\_LED M2NPV-MX ® HD\_LED RESET PWR BTN M2NPV-MX System panel connector \* Requires an ATX power supply. · System power LED This 3-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. @@@@ Connect the HDD Activity LED cable to this connector. @@@@ The speaker allows you to hear system beeps and warnings.

Power/Soft-off button This connector is for the system power button. @@@@ @@@@ 1. 2. 3. 4. @@@@ @@@@ 2. 3. Place the support CD in the optical drive. The D r i v e r s menu appears. @ @ V X .

XX . XX See page 3-4 for the U t i l i t i e s screen menu. @@@@ @@@@ @@@@ Click Next. @@@@ @@@@ A S U S U p d a t e The ASUS Update main window appears. @ @ 4 .

Locate the BIOS file from the n. @ @ Insert a 1.44MB floppy disk into the drive. b. At the DOS prompt, type format A:/S then press <Enter>.

Windows® XP environment a. Insert a 1.44 MB floppy disk to the floppy disk drive. b. Click S t a r t from the Windows® desktop, then select M y r . Computer c. Select the 3 1/2 Floppy Drive icon. t. d. Click F i l e from the menu, then select F o r m a t A F o r m a t 3 1/2 F l o p p y D i s k window appears.

e. Select C r e a t e a n M S - D O S s t a r t u p d i s k from the format options field, then click S t a r t . Windows® 2000 environment To create a set of boot disks for Windows® 2000: a. Insert a formatted, high density 1.44 MB floppy disk into the drive. b. Insert the Windows® 2000 CD to the optical drive. c. Click S t a r t then select R u n t , n. d.

From the Open field, type D:\bootdisk\makeboot a: assuming that D: is your optical drive. e. Press <Enter>, then follow screen instructions to continue. 2. Copy the original or the latest motherboard BIOS file to the bootable floppy disk.

ASUS M2NPV-MX 2-5 2.1.3 ASUS EZ Flash 2 utility The ASUS EZ Flash 2 feature allows you to update the BIOS without having to go through the long process of booting from a floppy disk and using a DOS-based utility. The EZ Flash utility is built-in the BIOS chip so it is accessible by pressing <Alt> + <F2> during the Power-On Self Tests (POST). To update the BIOS using EZ Flash 2: 1.

2. 3. Visit the ASUS website (www.asus.com) to download the latest BIOS file for the motherboard. Save the BIOS file to a floppy disk, then restart the system. You can launch the EZ Flash 2 by two methods. (1) Insert the floppy disk/USB flash disk that contains the BIOS file to the floppy disk drive or the USB port. Press <Alt> + <F2> during POST to display the following. ASUSTek EZ Flash 2 BIOS ROM Utility B312 FLASH TYPE: Winbond W39V080A 4Mb LPC Current ROM Update ROM BOARD: Unknown BOARD: M2NPVMX VER: Unknown VER: 0122 DATE: Unknown DATE: 04/24/2006 PATH: C:\M2NPVOC WIN98E A: NETTERM C: DRIVERS RECYCLED WUTEMP NEWFOL~1 INSTALL TEST-REB MSDOWNLD.

TMP Note [Enter] Select [Tab]Switch <DIR> <DIR> <DIR> <DIR> <DIR> <DIR> <DIR> <DIR> <DIR> [S] Save [ESC]Exit [Up/Down/Home/End] Move (2) Enter BIOS setup program. Go to the T o o l s menu to select E Z F l a s h 2 and press <Enter> to enable it. You can switch between drives by pressing <Tab> before the correct file is found. Then press <Enter>. 4. When the correct BIOS file is found, EZ Flash 2 performs the BIOS update process and automatically reboots the system when down. · · This function can support devices such as USB flash disk, hard disk, or floppy disk with F A T 3 2 / 1 6 / 1 2 format only. Do not shut down or reset the system while updating the BIOS to prevent system boot failure! 2-6 Chapter 2: BIOS setup 2.1.4 Updating the BIOS The Basic Input/Output System (BIOS) can be updated using the AwardBIOS Flash Utility.

Follow these instructions to update the BIOS using this utility. 1. Download the latest BIOS file from the ASUS web site. Rename the file to M 2 N P V M X . b i n and save it to a floppy disk, CD ROM or a USB flash disk in F A T 1 6 / 1 2 f o r m a t t . Save only the updated BIOS file in the floppy disk to avoid loading the wrong BIOS file. 2. Copy the AwardBIOS Flash Utility (awdfash.exe) from the Software folder of the support CD to the floppy disk, CD ROM or a USB flash disk with the latest BIOS file.



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Boot the system in DOS mode using the bootable floppy disk, CD ROM or a USB flash disk you created earlier.

Under the DOS mode, use <X:> (X stands for the name of the disk assignment) to switch to the folder of the floppy disk, CD ROM or USB flash disk you saved the BIOS file and the Award BIOS Flash Utility. AwardBIOS Flash Utility for ASUS V1.17 (C) Phoenix Technologies Ltd. All Rights Reserved For C51PV-MCP51-M2NPV-MX-00 DATE: 04/13/2006 Flash Type - PMC Pm49FL004T LPC/FWH File Name to Program: 3. 4. 5. At the prompt, type Message: a w d f l a s h then press <Enter>. The Award BIOS Flash Utility screen appears. Please input File Name! 6. Type the BIOS file name in the F i l e N a m e t o P r o g r a m field, then press <Enter>.

AwardBIOS Flash Utility for ASUS V1.17 (C) Phoenix Technologies Ltd. @@@@The following screen appears. @@@@2. Follow steps 1 to 6 of the previous section. @@@@All Rights Reserved For C51PV-MCP51-M2NPV-MX-00 DATE: 04/13/2006 Flash Type - PMC Pm49FL004T LPC/FWH File Name to Program: 0107 .bin Now Backup Syetem BIOS to File! Message: Please wait... ASUS M2NPV-MX 2-9 2.

1.6 ASUS CrashFree BIOS 2 utility The ASUS CrashFree BIOS 2 is an auto recovery tool that allows you to restore the BIOS file when it fails or gets corrupted during the updating process. You can update a corrupted BIOS file using the motherboard support CD or the floppy disk that contains the updated BIOS file. · Prepare the motherboard support CD or the floppy disk containing the updated motherboard BIOS before using this utility. Make sure tRhat you rename the original or updatedd BIOS file in the floppy disk to M 2 N P V M X .

**B I N N.** Recovering the BIOS from the support CD To recover the BIOS from the support CD: 1. 2. 3. Turn on the system.

Insert the motherboard support CD to the optical drive. The utility displays the following message and automatically checks the CD for the BIOS file. Award BootBlock BIOS v1.0 Copyright (C) 2000, Award Software, Inc. BIOS ROM checksum error, Detecting IDE ATAPI device... When found, the utility reads the BIOS file and starts flashing the corrupted BIOS file. Award BootBlock BIOS v1.0 Copyright (C) 2000, Award Software, Inc.

BIOS ROM checksum error, Detecting IDE ATAPI device... Found CDROM, try to Boot from it...Pass · DO NOT shut down or reset the system while updating the BIOS! Doing so can cause system boot failure! 4. Restart the system after the utility completes the updating process. 2-10 Chapter 2: BIOS setup 2.2 BIOS setup program This motherboard supports a programmable Low-Pin Count (LPC) chip that you can update using the provided utility described in section "2.

1 Managing and updating your BIOS." Use the BIOS Setup program when you are installing a motherboard, reconfiguring your system, or prompted to "Run Setup." This section explains how to configure your system using this utility. Even if you are not prompted to use the Setup program, you can change the configuration of your computer in the future. For example, you can enable the security password feature or change the power management settings.

This requires you to reconfigure your system using the BIOS Setup program so that the computer can recognize these changes and record them in the CMOS RAM of the LPC chip. The LPC chip on the motherboard stores the Setup utility. When you start up the computer, the system provides you with the opportunity to run this program. Press <Del> during the Power-On Self-Test (POST) to enter the Setup utility; otherwise, POST continues with its test routines. If you wish to enter Setup after POST, restart the system by pressing <Ctrl+Alt+Delete>, or by pressing the reset button on the system chassis.

You can also restart by turning the system off and then back on. Do this last option only if the first two failed. The Setup program is designed to make it as easy to use as possible. Being a menu-driven program, it lets you scroll through the various sub-menus and make your selections from the available options using the navigation keys. · The default BIOS settings for this motherboard apply for most conditions to ensure optimum performance. If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Select the L o a d D e f a u l t S e t t i n g s item under the Exit Menu. See section "2.8 Exit Menu." The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.

Visit the ASUS website (www.asus.com) to download the latest BIOS file for this motherboard and . . . ASUS M2NPV-MX 2-11 2.2.1 BIOS menu screen Configuration fields General help Menu items Menu bar Main Advanced Phoenix-Award BIOS CMOS Setup Utility Power Boot Tools Exit 15 : 30 : 36 Mon, Mar 2 2006 [1.44M, 3.5 in.] [ST321122A] [ASUS CDS520/A] [None] [None] [None] [None] [None] [None] [Disabled] 512MB 512MB -/+ : Change Value Enter: Select SubMenu F5: Setup Defaults F10: Save and Exit Select Menu Item Specific Help Change the day, month, year and century. System Time System Date Legacy Diskette A: Primary IDE Master Primary IDE Slave Secondary IDE Master Secondary IDE Slave SATA1 SATA2 SATA3 SATA4 HDD SMART

Monitoring Installed Memory Usable Memory F1:Help ESC: Exit : Select Item : Select Menu Sub-menu items Legend bar 2.

2.2 Menu bar For changing the basic system configuration For changing the advanced system settings For changing the advanced power management (APM) configuration For changing the system boot configuration For changing the system tools configuration For selecting the exit options and loading default settings The menu bar on top of the screen has the following main items: Main Advanced Power Boot Tools Exit To select an item on the menu bar, press the right or left arrow key on the keyboard until the desired item is highlighted. · The BIOS setup screens shown in this chapter are for reference purposes only, and may not exactly match what you see on your screen. Visit the ASUS website (www.asus.com) to download the latest BIOS information. · 2-12 Chapter 2: BIOS setup 2.2.3 Legend bar At the bottom of the Setup screen is a legend bar. The keys in the legend bar allow you to navigate through the various setup menus.

The following table lists the keys found in the legend bar with their corresponding functions. Navigation Key <F1> <F5> <Esc> Left or Right arrow Up or Down arrow Function Displays the General Help screen Loads setup default values Exits the BIOS setup or returns to the main menu from a sub-menu Selects the menu item to the left or right Moves the highlight up or down between fields P a g e D o w n o r ( m i n u s ) Scrolls backward through the values for the highlighted field Page Up or + (plus) <Enter> <F10> Scrolls forward through the values for the highlighted field Brings up a selection menu for the highlighted field Saves changes and exit 2.

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2.2.3 Legend bar At the bottom of the Setup screen is a legend bar. The keys in the legend bar allow you to navigate through the various setup menus.



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2.4 Menu items The highlighted item on the menu bar displays the specific items for that menu. For example, selecting *M a i n* shows the Main menu items. The other items (Advanced, Power, Boot, and Exit) on the menu bar have their respective menu items. 2.2.5 Sub-menu items A solid triangle before each item on any menu screen means that the item has a sub-menu. To display the sub-menu, select the item and press <Enter>.

2.2.6 Configuration fields These fields show the values for the menu items. If an item is user-configurable, you can change the value of the field opposite the item. You cannot select an item that is not user-configurable. A configurable field is enclosed in brackets, and is highlighted when selected. To change the value of a field, select it then press <Enter> to display a list of options. Refer to "2.2.7 Pop-up window."

"ASUS M2NPV-MX 2-13 2.2.7 Pop-up window Select a menu item then press <Enter> to display a pop-up window with the configuration options for that item. Main Advanced Phoenix-Award BIOS CMOS Setup Utility Power Boot Tools Exit 15 : 30 : 36 Thu, Oct 20 2005 [1.44M, 3.

5 in. Specifies the capacity and physical size of diskette drive A. Select Menu Item Specific Help Legacy Diskette A: Primary IDE Master Legacy Diskette A: [ST321122A] Primary IDE Slave [ASUS CDS520/A] Secondary IDE Master Disabled [None] ... .. [ ] Secondary IDE Slave 360K , 5.25 in. [None] ..... [ ] 1.

2M , 5.25 in. SATA1 [None] ..... [ ] 720K , 3.5 in. SATA2 [None] .  
..... [ ] 1.

44M, 3.5 in. SATA3 [None] ...

.. [ ] 2.88M, 3.5 in. SATA4 [None] .....

[ ] HDD SMART Monitoring [Disabled] Installed Memory :Move ENTER:Accept 256MB ESC:Abort System Time System Date F1:Help ESC: Exit : Select Item : Select Menu -/+ : Change Value Enter: Select Sub-menu F5: Setup Defaults F10: Save and Exit Pop-up menu 2.2.8 General help At the top right corner of the menu screen is a brief description of the selected item. 2-14 Chapter 2: BIOS setup 2.3 Main menu When you enter the BIOS Setup program, the Main menu screen appears, giving you an overview of the basic system information. Refer to section "2.2.1 BIOS menu screen" for information on the menu screen items and how to navigate through them. Phoenix-Award BIOS CMOS Setup Utility Power Boot Tools Exit 15 : 30 : 36 Thu, Oct 20 2005 [1.44M, 3.

5 in.] [ST321122A] [ASUS CDS520/A] [None] [None] [None] [None] [None] [None] [Disabled] 512MB 512MB -/+ : Change Value Enter: Select Sub-menu F5: Setup Defaults F10: Save and Exit Change the day, month, year and century. Select Menu Item Specific Help Legacy Diskette A: Primary IDE Master Primary IDE Slave Secondary IDE Master Secondary IDE Slave SATA1 SATA2 SATA3 SATA4 HDD SMART Monitoring Installed Memory Usable Memory F1:Help ESC: Exit : Select Item : Select Menu Main Advanced System Time System Date 2.3.1 2.

3.2 2.3.3 System Time [xx:xx:xx] System Date [Day xx/xx/xxxx] Legacy Diskette A [1.44M, 3.

5 in.] Allows you to set the system time. Allows you to set the system date. Sets the type of floppy drive installed. Configuration options: [Disabled] [360K, 5.25 in.] [1.2M , 5.25 in.] [720K , 3.

5 in.] [1.44M, 3.5 in.] ASUS M2NPV-MX 2-15 2.3.4 Primary and Secondary IDE Master/Slave While entering Setup, the BIOS automatically detects the presence of IDE devices. There is a separate sub-menu for each IDE device. Select a device item then press <Enter> to display the IDE device information. Phoenix-Award BIOS CMOS Setup Utility Main Primary IDE Master Primary IDE Master Access Mode Capacity Cylinder Head Sector PIO Mode UDMA Mode Transfer Mode [Auto] [Auto] 82 GB 39420 16 255 [Auto] [Auto] UDMA 6 Select Menu Item Specific Help Press [Enter] to select F1:Help ESC: Exit : Select Item : Select Menu -/+ : Change Value Enter: Select Sub-menu F5: Setup Defaults F10: Save and Exit The BIOS automatically detects the values opposite the dimmed items (Capacity, Cylinder, Head, Sector and Transfer Mode).

These values are not user-configurable. These items show N/A if no IDE device is installed in the system. Primary IDE Master/Slave [Auto] Secondary IDE Master/Slave [Auto] Select [Auto] to automatically detect an IDE hard disk drive. If automatic detection is successful, the BIOS automatically fills in the correct values for the remaining fields on this sub-menu. If the hard disk was already formatted on a previous system, the setup BIOS may detect incorrect parameters.

Select [Manual] to manually enter the IDE hard disk drive parameters. If no drive is installed select [None]. Configuration options: [None] [Auto] [Manual] Access Mode [Auto] The default [Auto] allows automatic detection of an IDE hard disk drive. Select [CHS] for this item if you set the IDE Primary Master/Slave to [Manual]. Configuration options: [CHS] [LBA] [Large] [Auto] Before attempting to configure a hard disk drive, make sure you have the correct configuration information supplied by the drive manufacturer.

Incorrect settings may cause the system to fail to recognize the installed hard disk. 2-16 Chapter 2: BIOS setup Capacity Displays the auto-detected hard disk capacity. This item is not configurable. Cylinder Shows the number of the hard disk cylinders. This item is not configurable. Head Shows the number of the hard disk read/write heads. This item is not configurable. Sector Shows the number of sectors per track. This item is not configurable. PIO Mode [Auto] Sets the PIO mode for the IDE device.

Configuration options: [Auto] [Mode 0] [Mode 1] [Mode 2] [Mode 3] [Mode 4] UDMA Mode [Auto] Disables or sets the UDMA mode. Configuration options: [Disabled] [Auto] Transfer Mode Shows the Transfer mode. This item is not configurable. After entering the IDE hard disk drive information into BIOS, use a disk utility, such as FDISK, to partition and format 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. ASUS M2NPV-MX 2-17 2.3.5 First, Second, Third, Fourth SATA Master

While entering Setup, the BIOS automatically detects the presence of Serial ATA devices. There is a separate sub-menu for each SATA device. Select a device item then press <Enter> to display the SATA device information. Phoenix-Award BIOS CMOS Setup Utility Main SATA1 Extended IDE Drive Access Mode Capacity Cylinder Head Landing Zone Sector [Auto] [Auto] 0 MB 0 0 0 0 Select Menu Item Specific Help Slects the type of fixed disk connected to the system. F1:Help ESC: Exit : Select Item : Select Menu -/+ : Change Value Enter: Select Sub-menu F5: Setup Defaults F10: Save and Exit The BIOS automatically detects the values opposite the dimmed items (Capacity, Cylinder, Head, Precomp, Landing Zone and Sector). These values are not user-configurable. These items show 0 if no SATA device is installed in the system. Extended Drive [Auto] Selects the type of fixed disk connected to the system.



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Configuration options: [None] [Auto] Access Mode [Auto] Sets the sector addressing mode. Configuration options: [Large] [Auto] Before attempting to configure a hard disk drive, make sure you have the correct configuration information supplied by the drive manufacturer. Incorrect settings may cause the system to fail to recognize the installed hard disk. Capacity Displays the auto-detected hard disk capacity.

This item is not configurable. Cylinder Shows the number of the hard disk cylinders. This item is not configurable. 2-18 Chapter 2: BIOS setup Head Shows the number of the hard disk read/write heads. This item is not configurable. Landing Zone Shows the number of landing zone per track. This item is not configurable. Sector Shows the number of sectors per track. This item is not configurable. After entering the IDE hard disk drive information into BIOS, use a disk utility, such as FDISK, to partition and format 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. 2.3.6 HDD SMART Monitoring [Disabled] Allows you to enable or disable the HDD Self-Monitoring Analysis and Reporting Technology (SMART) feature.

Configuration options: [Disabled] [Enabled] 2.3.7 2.3.8 Installed Memory [xxx MB] Usable Memory [XXX MB] Shows the size of installed memory. Shows the size of usable memory. ASUS M2NPV-MX 2-19 2.4 Advanced menu The Advanced menu items allow you to change the settings for the CPU and other system devices. Take caution when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction. Phoenix-Award BIOS CMOS Setup Utility Power Boot Exit Select Menu Item Specific Help Press [Enter] to set. Main Advanced JumperFree Configuration AI NET2 CPU Configuration Chipset PCIPnP Onboard Device Configuration F1:Help ESC: Exit : Select Item : Select Menu -/+ : Change Value Enter: Select SubMenu F5: Setup Defaults F10: Save and Exit 2.4.1 JumperFree Configuration Phoenix-Award BIOS CMOS Setup Utility Advanced JumperFree Configuration Select Menu Item Specific Help DRAM timing and control X X X X AI Tuning Overclock Options CPU Frequency DDR2 Voltage Control CPU Multiplier [Auto] [Disabled] [200.0] [Auto] [Auto] AI Tuning [Auto] Allows selection of CPU overclocking options to achieve desired CPU internal frequency.

Select either one of the preset overclocking configuration options: Manual Auto Standard AI Overclock Allows you to individually set overclocking parameters. Loads the optimal settings for the system. Loads the standard settings for the system. Loads overclocking profiles with optimal parameters for stability when overclocking. 2-20 Chapter 2: BIOS setup The following item becomes user-configurable when you set A I T u n i n g to [AI Overclocking]. Overclock Options [Disabled] Allows you to set the overclocking options. Configuration options: [Disabled] [Overclock 3%] [Overclock 5%] [Overclock 8%] [Overclock 10%] The following items become user-configurable when you set A I T u n i n g to [Manual]. CPU Frequency [XXX] (value is auto-detected) Indicates the frequency sent by the clock generator to the system bus and PCI bus. The bus frequency (external frequency) multiplied by the bus multiple equals the CPU speed. The BIOS auto-detects the value of this item.

The values range from 200.0 to 400.0. Setting a very high CPU frequency may cause the system to become unstable. If this happens, revert to the default setting. DDR2 Voltage Control [Auto] Allows you to set the operating DDR2 voltage. Configuration options: [Auto] [1.9V] CPU Multiplier [Auto] Allows you to set the operating CPU multiplier. The configuration options may vary depending on the type of CPU installed. Configuration options: [Auto] [5x] [5.5x] [6x] ~ [10x] ASUS M2NPV-MX 2-21 2.4.2 AI Net2 Phoenix-Award BIOS CMOS Setup Utility Advanced AI NET2 Select Menu [Disabled] Status Open Open Open Open Length N/A N/A N/A N/A Item Specific Help DRAM timing and control POST Check LAN Cable Pair LAN1(1-2) LAN1(3-6) LAN1(4-5) LAN1(7-8) POST Check LAN Cable [Disabled] Enables or disables checking of the LAN/LAN2 cable during the Power-On Self-Test (POST). Configuration options: [Disabled] [Enabled] 2.4.

3 CPU Configuration Phoenix-Award BIOS CMOS Setup Utility Advanced CPU Configuration CPU Type AMD Engineering Sample Select Menu Item Specific Help DRAM timing and control [Disable] CPU Speed 2600MHz Cache RAM 1024K DRAM Configuration AMD Cool'n'Quiet Function DRAM Configuration The items in the sub-menu show the DRAM-related information autodetected by the BIOS. Phoenix-Award BIOS CMOS Setup Utility Advanced DRAM Configuration Memory Clock Frequency Tcl Trcd Trp Tras Trc Trwt 1T/2T Memory Timing Memory Hole Remapping Bottom of 32-bit[31:24] IO space Bottom of UMA DRAM [31:24] [Auto] [Auto] [Auto] [Auto] [Auto] [Auto] [Auto] [Auto] [Enabled] [E0] [FC] Select Menu Item Specific Help Auto, no user limit MaxMemclk, limit by Memory Clock value Manual, use Memory Clock value 2-22 Chapter 2: BIOS setup Memory Clock Frequency [Auto] Sets the memory clock frequency. Configuration options: [Auto] [DDR2 400] [DDR2 533] [DDR2 667] [DDR2 800] Tcl [Auto] Configuration options: [Auto][3] [4] [5] [6] Trcd [Auto] Configuration options: [Auto] [3] [4] [5] [6] Trp [Auto] Configuration options: [Auto] [3] [4] [5] [6] Tras [Auto] Configuration options: [Auto] [5] [6] [7] ~ [18] Trc [Auto] Configuration options: [Auto] [11] [12] [13] ~ [26] Trwt [Auto] Configuration options: [Auto] [2] [3] [4] ~ [9] 1T/2T Memory Timing [Auto] Configuration options: [Auto] [1T] [2T] Memory Hole Remapping [Enabled] Configuration options: [Disabled] [Enabled] Bottom of 32/bit[31:24] IO space [E0] Min=0000, Max=00E0 Bottom of UMA DRAM [31:24] [FC] Min=0000, Max=00FC AMD Cool 'n' Quiet Function [Disabled] Enables or disables the AMD Cool 'n' Quiet technology. Configuration options: [Auto] [Disabled] ASUS M2NPV-MX 2-23 2.4.

4 Chipset Phoenix-Award BIOS CMOS Setup Utility Advanced Chipset Select Menu [32M] [Auto] [Down] [Enabled] [Enabled] [Down] [Auto] [Disabled] Item Specific Help Select Frame Buffer Size for Onboard Graphic Frame Buffer Size ECC Spread Spectrum PCIE Spread Spectrum SATA Spread Spectrum HT Spread Spectrum RGB/TV Display TV Mode Support Frame Buffer Size [32M] Selects the frame buffer size for Onboard Graphic. Configuration options: [16M] [32M] [64M] [128M] [Disabled] ECC [Auto] Configuration options: [Auto] [Disabled] Spread Spectrum [Down] Enables or disables Spread Spectrum for CPU. Configuration options: [Disabled] [Center] [Down] PCIE Spread Spectrum [Enabled] Enables or disables Spread Spectrum for PCI Express. Configuration options: [Disabled] [Enabled] SATA Spread Spectrum [Enabled] Enables or disables Spread Spectrum for SATA.



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