



Asus Blitz Formula User Manual

Blitz formula user's manual e3151 english edition

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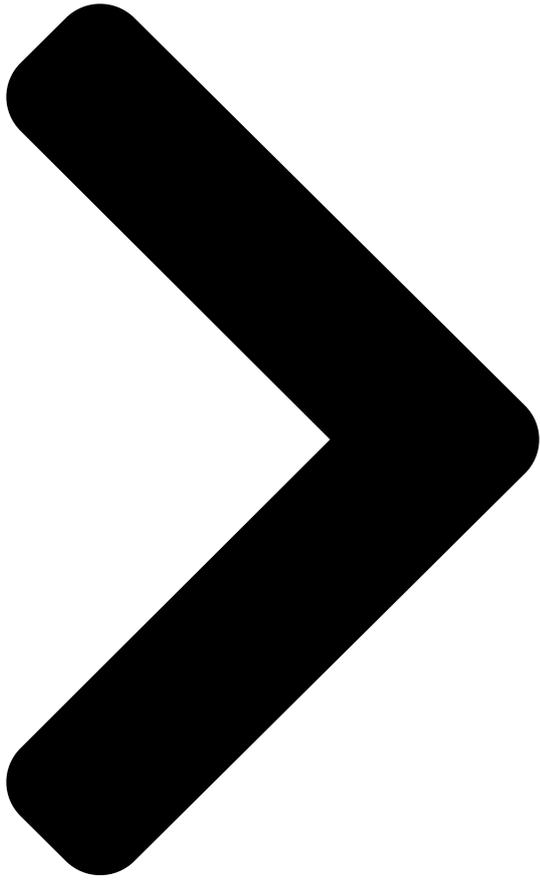
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User manual (188 pages)

[Motherboard Asus CUSL2-C BP User Manual](#)

Intel 815ep atx motherboard (106 pages)

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Summary of Contents for Asus Blitz Formula

[Page 1](#) Blitz Formula...

[Page 2](#) Product warranty or service will not be extended if: (1) the product is repaired, modified or altered, unless such repair, modification or alteration is authorized in writing by ASUS; or (2) the serial number of the product is defaced or missing.

[Page 3: Table Of Contents](#)

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[Page 7: Notices](#)

Notices Federal Communications Commission Statement This device complies with Part 15 of the FCC Rules. 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.

[Page 8: Safety Information](#)

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.

[Page 9: About This Guide](#)

Refer to the following sources for additional information and for product and software updates. ASUS websites The ASUS website provides updated information on ASUS hardware and software products. Refer to the ASUS contact information. Optional documentation Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer.

[Page 10: Conventions Used In This Guide](#)

Conventions used in this guide To make sure that you perform certain tasks properly, take note of the following symbols used throughout this manual. DANGER/WARNING: Information to prevent injury to yourself when trying to complete a task. CAUTION: Information to prevent damage to the components when trying to complete a task.

[Page 11: Blitz Formula Specifications Summary](#)

D / Pentium 4 / Celeron D Processors ® ® ® Compatible with Intel 05B/05A/06 processors ® * Refer to www.asus.com for Intel CPU support list Chipset Intel P35 / ICH9R with Intel Fast Memory Access ® ® Technology System Bus...

[Page 12](#) - AI Booster Utility - O.C. Profile Overclocking protection: - COP EX (Component Overheat Protection -EX) - Voltminder LED - ASUS C.P.R. (CPU Parameter Recall) ROG Special Features Fusion Block System LCD Poster Onboard Switches: Power / Reset / Clr CMOS...

[Page 13](#) Blitz Formula specifications summary Accessories ASUS Optional Fan DIY Pedestal 3 in 1 ASUS Q-connector kit UltraDMA 133/100/66 cable Floppy disk drive cable Serial ATA cables Serial ATA power cables 2-port USB2.0 + IEEE 1394a module I/O Shield Cable ties...

[Page 15: Chapter 1: Product Introduction](#)

This chapter describes the motherboard features and the new technologies it supports. Product introduction...

[Page 16](#) Chapter summary Welcome!1-1 Package contents 1-1 Special features1-2 ROG Blitz Formula...

[Page 17: Welcome](#)

® The motherboard delivers a host of new features and latest technologies, making it another standout in the long line of ASUS quality motherboards! Before you start installing the motherboard, and hardware devices on it, check the items in your package with the list below.

[Page 18: Special Features](#)

Native DDR2 1066 memory support To attain top performance, ASUS engineers have successfully unleashed the true potential of DDR2 memory. While in DDR2 1066 mode, ASUS's exclusive technology offers a choice of FSB 1333, providing great performance for 3D graphics and other memory demanding applications. See page 2-19 for details.

[Page 19](#) See page 2-19 for details. ASUS Super Memspeed Technology To attain top performance, ASUS has managed to break through current FSB and DRAM ratio proportions by utilizing Super Memspeed Technology—the latest technology that provides even more precise overclocking options to unleash the true potential of DDR2 memory.

[Page 20: Rog Intelligent Performance & Overclocking Features](#)

Green ASUS This motherboard and its packaging comply with the European Union's Restriction on the use of Hazardous Substances (RoHS). This is in line with the ASUS vision of creating environment-friendly and recyclable products/packaging to safeguard consumers' health while minimizing the impact on the environment.

[Page 21: Loadline Calibration](#)

See page 4-17 and 5-25 for details. AI Booster The ASUS AI Booster allows you to overclock the CPU speed in Windows environment without the hassle of booting the BIOS. See page 5-28 for details.

[Page 22: Rog Unique Features](#)

See page 2-41 for details. ASUS Q-Fan 2 ASUS Q-Fan 2 technology intelligently adjusts both CPU fan and chassis fan speeds according to system loading to ensure quiet, cool and efficient operation. See pages 4-32, 4-33, and 5-29 for details.

[Page 23: Asus Quiet Thermal Solution](#)

The localized BIOS menus allow easier and faster configuration. See page 4-12 for details. ASUS Quiet Thermal Solution ASUS Quiet Thermal solution makes system more stable and enhances the overclocking capability. AI Gear 2 AI Gear 2 allows you to choose profiles to adjust the CPU frequency and Vcore voltage to minimize system noise and power consumption.

[Page 24](#) Fanless Design-Stack Cool 2 ASUS Stack Cool 2 is a fan-less and zero-noise cooling solution that lowers the temperature of critical heat generating components. The motherboard uses a special design on the printed circuit board (PCB) to dissipate heat these critical components generate.

[Page 25: Chapter 2: Hardware Information](#)

This chapter lists the hardware setup procedures that you have to perform when installing system components. It includes description of the jumpers and connectors on the motherboard. Hardware information...

[Page 26](#) Before you proceed2-1 Motherboard overview2-5 Central Processing Unit (CPU) 2-9 System memory 2-18 Expansion slots2-24 Jumper2-27 Audio card, I/O shield, and LCD Poster Installation2-28 Connectors 2-30 ROG Blitz Formula...

[Page 27: Before You Proceed](#)

CPU LED Refer to the illustration below for the location of the CPU LED and the table below for LED definition. CPU_CRAZY CPU_HIGH CPU_NORMAL BLITZ FORMULA BLITZ FORMULA CPU LED Normal (green) High (yellow) Crazy (red) CPU Voltage 1.10000~1.50000 1.51250~1.69375 1.70000~1.90000...

[Page 28](#) Refer to the illustration below for the location of the northbridge/southbridge LEDs and the table below for LED definition. NB_CRAZY NB_HIGH NB_NORMAL SB_CRAZY SB_HIGH

SB_NORMAL BLITZ FORMULA BLITZ FORMULA North/South Bridge LED Normal (green) High (yellow) Crazy (red) North Bridge Voltage 1.25~1.59 1.61~1.83 1.85~2.03 FSB Termination Voltage 1.20~1.40...

[Page 29](#) LEDs shows that the frequency is high (fast). Refer to the illustration below for the location of the FSB frequency LEDs and the table below for LED definition. BLITZ FORMULA Fast Default BLITZ FORMULA Frequency LED 200-299 300-399 400-499 500-599 600~...

[Page 30](#) HD_LED BLITZ FORMULA BLITZ FORMULA Hard Disk LED Power LED The motherboard comes with a power-on switch 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.

[Page 31: Motherboard Overview](#)

Place nine (9) 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 BLITZ FORMULA ROG Blitz Formula...

[Page 32: Motherboard Layout](#)

PCIEX16_1 88E8001 PCIEX1_2 VT6308P HD_LED CLRTC_SW ® Intel PCIEX1_3 PES24N3A SATA12 ICH9R SATA34 SB_CRAZY PCIEX16_2 SB_HIGH SB_NORMAL Super OPT_TEMP2 BLITZ FORMULA SATA56 BIOS OPT_FAN2 PCI2 CHASSIS FREQUENCY CHA_FAN2 Fast RST_SW OPT_FAN1 IE1394_2 USB1112 USB910 USB78 OPT_TEMP1 PWR_SW Default PANEL Refer to 2.8 Connectors for more information about rear panel connectors and internal connectors.

[Page 33: Layout Contents](#)

Rear Speaker Out port (black) 2-31 Side Speaker Out port (gray) 2-31 USB 2.0 ports 1, 2, 3 and 4 2-31 IEEE 1394a port 2-31 Clear CMOS switch 2-31 Optical S/PDIF Out port 2-31 USB 2.0 ports 5 and 6 2-31 ROG Blitz Formula...

[Page 34](#) 3-pin OPT_FAN1~2) Chassis intrusion connector (4-1 pin CHASSIS) 2- 37 ATX power connectors (24-pin EATXPWR, 8-pin EATX12V) 2- 37 Digital audio connector (4-1 pin SPDIF_OUT, for ASUS HDMI 2- 38 VGA card) System panel connector (20-8 pin PANEL) 2-39 Onboard switches...

[Page 35: Central Processing Unit \(Cpu\)](#)

ASUS will shoulder the cost of repair only if the damage is shipment/transit-related. • Keep the cap after installing the motherboard. ASUS will process Return Merchandise Authorization (RMA) requests only if the motherboard comes with the cap on the LGA775 socket.

[Page 36: Installing The Cpu](#)

To install a CPU: Locate the CPU socket on the motherboard. BLITZ FORMULA BLITZ FORMULA CPU Socket 775 Before installing the CPU, make sure that the cam box is facing towards you and the load lever is on your left.

[Page 37](#) The motherboard supports Intel LGA775 processors with the Intel Enhanced ® ® Memory 64 Technology (EM64T), Enhanced Intel SpeedStep ® Technology (EIST), and Hyper-Threading Technology. Refer to the Appendix for more information on these CPU features. ROG Blitz Formula 2-11...

[Page 38: Installing The Cpu Heatsink And Fan](#)

2.3.2 Installing the CPU heatsink and fan The Intel ® LGA775 processor requires a specially designed heatsink and fan assembly to ensure optimum thermal condition and performance. • When you buy a boxed Intel processor, the package includes the CPU fan ®...

[Page 39](#) CPU FAN PWM CPU FAN IN CPU FAN PWR BLITZ FORMULA BLITZ FORMULA CPU fan connector DO NOT forget to connect the CPU fan connector! Hardware monitoring errors can occur if you fail to plug this connector. ASUS Blitz Formula...

[Page 40: Uninstalling The Cpu Heatsink And Fan](#)

2.3.3 Uninstalling the CPU heatsink and fan To uninstall the CPU heatsink and fan: Disconnect

the CPU fan cable from the connector on the motherboard. Rotate each fastener counterclockwise. Pull up two fasteners at a time in a diagonal sequence to disengage the heatsink and fan assembly from the motherboard.

[Page 41](#) The narrow end of the groove should point outward after resetting. (The photo shows the groove shaded for emphasis.) Refer to the documentation in the boxed or stand-alone CPU fan package for detailed information on CPU fan installation. ASUS Blitz Formula 2-15...

[Page 42: Installing The Optional Fans](#)

2.3.4 Installing the optional fans Install the optional fan only if you are using a passive cooler or a water cooler. Installing the optional fan with an active CPU cooler will interfere with the airflow and destabilize the system. Optional fan on one side fins Position the fan above the pipe Fit the fan to the grooved edge of the heatsink.

[Page 43](#) Make sure the optional fan is installed correctly to prevent damage to the fan and motherboard components. When you are using water-cooling modules, make sure to install TWO optional fans to obtain more effective heat dissipation. ASUS Blitz Formula 2-17...

[Page 44: System Memory](#)

Sockets Channel A DIMM_A1 and DIMM_A2 Channel B DIMM_B1 and DIMM_B2 • This chipset officially supports DDR2-800 MHz. With the ASUS Super Memspeed Technology, this motherboard natively supports up to DDR2-1066 MHz. See the table below. DDR2 1333 1066* 1333...

[Page 45: Memory Configurations](#)

DDR2-667. If this happens, contact your memory vendor to check the ODT value. • Due to chipset limitation, DDR2-800 with CL=4 will be downgraded to run at DDR2-667 by default setting. If you want to operate with lower latency, adjust the memory timing manually. ASUS Blitz Formula 2-19...

[Page 46](#) Dual-channel memory configuration. • C*: Supports 4 modules inserted into both the blue and white slots as two pairs of Dual-channel memory configuration. Visit the ASUS website for the latest DDR2-1000/800/667MHz QVL. 2-20 Chapter 2: Hardware information...

[Page 47](#) Blitz Formula Motherboard Qualified Vendors Lists (QVL) DDR2-800 MHz capability DIMM support Size Vendor Chip No. Part No. 512MB KINGSTON K4T51083QC KVR800D2N5/512 • • • 1024MB KINGSTON Heat-Sink Package KHX6400D2LL/1G • • • 1024MB KINGSTON Heat-Sink Package KHX6400D2LLK2/1GN • • ...

[Page 48](#) Blitz Formula Motherboard Qualified Vendors Lists (QVL) DDR2-667MHz capability DIMM support Size Vendor Chip No. Part No. 512MB KINGSTON D6408TEBGGL3U KVR667D2N5/512 • • • 1024MB KINGSTON D6408TEBGGL3U KVR667D2N5/1G • • • 256MB KINGSTON HYB18T256800AF3S KVR667D2N5/256 • • • 256MB KINGSTON 6SBI2D9DCG KVR667D2N5/256 • ...

[Page 49: Installing A Dimm](#)

DIMM. Support the DIMM lightly with your fingers when pressing the retaining clips. The DIMM might get damaged when it flips out with DDR2 DIMM notch extra force. Remove the DIMM from the socket. ASUS Blitz Formula 2-23...

[Page 50: Expansion Slots](#)

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.

[Page 51: Interrupt Assignments](#)

- shared USB 2.0 controller 2 - - shared - - - - - SATA controller 1 - - - - - shared - SATA controller 2 - - - - - shared - ASUS Blitz Formula 2-25...

[Page 52: Pci Slots](#)

2.5.4 PCI slots The PCI slots support cards such as a LAN card, SCSI card, USB card, and other cards that comply with PCI specifications. Refer to the figure below for the location of the slots.
2.5.5 PCI Express x1 slots This motherboard supports PCI Express x1 network cards, SCSI cards and other cards that comply with the PCI Express specifications.

[Page 53: Jumper](#)

Removing the cap will cause system boot failure! CLRTC_SW Disable CLR_CMOS Enable CLR_CMOS (Default) BLITZ FORMULA BLITZ FORMULA Clear RTC RAM clr CMOS switch behavior System power state S0 (DOS mode) S0 (OS mode) Clearing CMOS *G3: Power off without +5VSB power (AC power loss); S5: Power off with +5VSB power **The system shuts down immediately.

[Page 54: Audio Card, I/O Shield, And Lcd Poster Installation](#)

Audio card, I/O shield, and LCD Poster installation 2.7.1 Audio card Installation Take out the Audio card from the Locate the audio slot on the package. motherboard. Align the card connector with the The photo below shows the slot and press firmly until the card audio card installed on the sits on the slot completely.

[Page 55: I/O Shield And Lcd Poster Installation](#)

Plug the LCD Poster cable into through the opening until its the onboard connector labeled stopper snaps into place. LCD_CON. This photo shows the LCD Poster installed. Place the device wherever you can monitor the screen. ROG Blitz Formula 2-29...

[Page 56: Connectors](#)

Connectors 2.8.1 Rear panel connectors CMOS PS/2 keyboard port (purple). This port is for a PS/2 keyboard. Coaxial S/PDIF Out port. This port connects an external audio output device via a coaxial S/PDIF cable. LAN 2 (RJ-45) port. This port allows Gigabit connection to a Local Area Network (LAN) through a network hub.

[Page 57](#) 14. Optical S/PDIF Out port. This port connects an external audio output device via an optical S/PDIF cable. 15. USB 2.0 ports 5 and 6. These 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices. ROG Blitz Formula 2-31...

[Page 58: Internal Connectors](#)

PIN 1. BLITZ FORMULA PIN 1 BLITZ FORMULA Floppy disk drive connector IDE connector (40-1 pin PRI_EIDE) The onboard IDE connector is for the Ultra DMA 133/100/66 signal cable. There are three connectors on each Ultra DMA 133/100/66 signal cable: blue, black, and gray.

[Page 59](#) NOTE: Orient the red markings (usually zigzag) on the IDE cable to PIN 1. BLITZ FORMULA BLITZ FORMULA IDE connector ICH9R Serial ATA connectors (7-pin SATA1~6) These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives.

[Page 60](#) USB 2.0 connectors Never connect a 1394 cable to the USB connectors. Doing so will damage the motherboard! You can connect the USB cable to ASUS Q-Connector (USB, blue) first, and then install the Q-Connector (USB) to the USB connector onboard. 2-34...

[Page 61](#) Never connect a USB cable to the IEEE 1394a connector. Doing so will damage the motherboard! You can connect the 1394 cable to ASUS Q-Connector (1394, red) first, and then install the Q-Connector (1394) to the 1394 connector onboard. Thermal sensor cable connectors (2-pin OPT_TEMP1/2) These connectors are for temperature monitoring.

[Page 62: Cpu, Chassis, And Optional Fan Connectors](#)

CHA_FAN2 OPT_FAN1 OPT_FAN2 BLITZ FORMULA Rotation +12V BLITZ FORMULA Fan connectors
• Only the CPU_FAN, CHA_FAN1~3, and OPT_FAN1~2 connectors support the ASUS Q-Fan2 feature.
• If you install two VGA cards, we recommend that you plug the chassis fan cable to the motherboard connector labeled CHA_FAN1 or CHA_FAN2 for better thermal environment.

[Page 63: Chassis Intrusion Connector \(4-1 Pin Chassis\)](#)

CHASSIS BLITZ FORMULA (Default) BLITZ FORMULA Chassis intrusion connector ATX power connectors (24-pin EATXPWR, 8-pin EATX12V) These connectors are for ATX power supply plugs. The power supply plugs are designed to fit these connectors in only one orientation. Find the

proper orientation and push down firmly until the connectors completely fit.

[Page 64](#) If you want to use two high-end PCI Express x16 cards, use a PSU with 500W to 600W power or above to ensure the system stability. 10. Digital audio connector (4-1 pin SPDIF_OUT for ASUS HDMI VGA card) This connector is for an additional Sony/Philips Digital Interface (S/PDIF) port(s).

[Page 65: System Panel Connector](#)

IDE_LED PWRSW BLITZ FORMULA Requires an ATX power supply. BLITZ FORMULA System panel connector • System power LED (2-pin PLED) This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode.

[Page 66](#) ASUS Q-Connector (system panel) You can use the ASUS Q-Connector to connect/disconnect chassis front panel cables in a few steps. Refer to the instructions below to install the ASUS Q- Connector. Connect the front panel cables to the ASUS Q-Connector.

[Page 67: Onboard Switches](#)

Power-on switch Press the power-on switch to wake/power up the system. BLITZ FORMULA BLITZ FORMULA Power on switch Reset switch Press the reset switch to reboot the system. BLITZ FORMULA BLITZ FORMULA Reset switch...

[Page 68: Installing The Diy Pedestal](#)

2.8.4 Installing the DIY Pedestal Arrange and stick the rubber Take out the DIY Pedestal from studs to wherever you wish to the motherboard package. place your motherboard. Put the motherboard on the DIY Pedestal to get more efficient heat dissipation.

[Page 69: Chapter 3: Powering Up](#)

This chapter describes the power up sequence, the vocal POST messages, and ways of shutting down the system. Powering up...

[Page 70](#) Chapter summary Starting up for the first time3-1 Turning off the computer 3-2 ROG Blitz Formula...

[Page 71: Starting Up For The First Time](#)

One continuous beep followed by three No VGA detected short beeps One continuous beep followed by four Hardware component failure short beeps At power on, hold down the <Delete> key to enter the BIOS Setup. Follow the instructions in Chapter 4. ROG Blitz Formula...

[Page 72: Turning Off The Computer](#)

Turning off the computer 3.2.1 Using the OS shut down function If you are using Windows ® Click the Start button then select Turn Off Computer. Click the Turn Off button to shut down the computer. The power supply should turn off after Windows ®...

[Page 73: Chapter 4: Bios Setup](#)

This chapter tells how to change the system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided. BIOS setup...

[Page 74](#) Managing and updating your BIOS4-1 BIOS setup program4-9 Main menu 4-12 Extreme Tweaker menu 4-17 Advanced menu 4-22 Power menu4-29 Boot menu 4-35 Tools menu 4-39 Exit menu4-41 ROG Blitz Formula...

[Page 75: Managing And Updating Your Bios](#)

ASUS Update (Updates the BIOS in Windows environment.) ® ASUS EZ Flash 2 (Updates the BIOS using a floppy disk or USB flash disk.) ASUS AFUDOS (Updates the BIOS using a bootable floppy disk.) ASUS CrashFree BIOS 3 (Updates the BIOS using a bootable floppy disk, USB flash disk or the motherboard support DVD when the BIOS file fails or gets corrupted.)

[Page 76](#) To update the BIOS through the Internet: desktop by clicking Start Launch the ASUS

Update utility from the Windows ® > Programs > ASUS > ASUSUpdate > ASUSUpdate. The ASUS Update main window appears. Select Update BIOS from the Select the ASUS FTP site nearest...

[Page 77](#) To update the BIOS through a BIOS file: desktop by clicking Start Launch the ASUS Update utility from the Windows ® > Programs > ASUS > ASUSUpdate > ASUSUpdate. The ASUS Update main window appears. Select Update BIOS from a file option from the drop-down menu, then click Next.

[Page 78: Creating A Bootable Floppy Disk](#)

4.1.2 Creating a bootable floppy disk Do either one of the following to create a bootable floppy disk. DOS environment a. Insert a 1.44MB floppy disk into the drive. b. At the DOS prompt, type format A:/S then press <Enter>. Windows XP environment ®...

[Page 79: Asus Ez Flash 2 Utility](#)

4.1.3 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 2 utility is built-in the BIOS chip so it is accessible by pressing <Alt>...

[Page 80: Afudos Utility](#)

Updating the BIOS file To update the BIOS file using the AFUDOS utility: Visit the ASUS website (www.asus.com) and download the latest BIOS file for the motherboard. Save the BIOS file to a bootable floppy disk. Chapter 4: BIOS setup...

[Page 81](#) A:\>afudos /iBlitz Formula.ROM The utility verifies the file and starts updating the BIOS. A:\>afudos /iBlitz Formula.ROM AMI Firmware Update Utility - Version 1.19(ASUS V2.07(03.11.24BB)) Copyright (C) 2002 American Megatrends, Inc. All rights reserved. WARNING!! Do not turn off power during flash BIOS Reading file ..

[Page 82: Asus Crashfree Bios 3 Utility](#)

4.1.5 ASUS CrashFree BIOS 3 utility The ASUS CrashFree BIOS 3 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 DVD, the floppy disk, or the USB flash disk that contains the updated BIOS file.

[Page 83: Bios Setup Program](#)

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. ROG Blitz Formula...

[Page 84: Bios Menu Screen](#)

4.2.1 BIOS menu screen Menu items Menu bar Configuration fields General help BIOS SETUP UTILITY Main Extreme Tweaker Advanced Power Boot Tools Exit System Time [10:55:25] Use [ENTER], [TAB] or System Date [Mon 05/07/2007] [SHIFT-TAB] to select a field. Legacy Diskette A [1.44M, 3.5 in] Language [English]...

[Page 85: Menu Items](#)

Up/Down arrow keys or <Page Up> /<Page Down> keys to display the other items on the screen. 4.2.9 General help Pop-up window At the top right corner of the menu screen Scroll bar is a brief description of the selected item. ROG Blitz Formula 4-11...

[Page 86: Main Menu](#)

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 4.2.1 BIOS menu screen for information on the menu screen items and how to navigate through them. BIOS SETUP UTILITY Main Extreme Tweaker...

[Page 87: Sata 1-6](#)

When set to [Disabled], the data transfer from and to the device occurs one sector at a time. Configuration options: [Disabled] [Auto] PIO Mode [Auto] Selects the PIO mode. Configuration

options: [Auto] [0] [1] [2] [3] [4] ROG Blitz Formula 4-13...

[Page 88: Sata Configuration](#)

DMA Mode [Auto] Selects the DMA mode. Configuration options: [Auto] [SWDMA0] [SWDMA1] [SWDMA2] [MWDMA0] [MWDMA1] [MWDMA2] [UDMA0] [UDMA1] [UDMA2] [UDMA3] [UDMA4] [UDMA5] SMART Monitoring [Auto] Sets the Smart Monitoring, Analysis, and Reporting Technology. Configuration options: [Auto] [Disabled] [Enabled] 32Bit Data Transfer [Enabled] Enables or disables 32-bit data transfer.

[Page 89: Ahci Configuration](#)

AHCI Port1 Select the type of devices connected to Device :Not Detected the system. SATA Port1 [Auto] SATA Port1 [Auto] Allows you to select the type of device connected to the system. Configuration options: [Auto] [Not Installed] ROG Blitz Formula 4-15...

[Page 90: System Information](#)

4.3.8 System Information This menu gives you an overview of the general system specifications. The BIOS automatically detects the items in this menu. BIOS SETUP UTILITY Main AMIBIOS Version : 0145 Build Date : 05/04/07 Processor Type : Genuine Intel(R) CPU @ 2.40GHz Speed : 2400MHz Count...

[Page 91: Extreme Tweaker Menu](#)

Standard Loads the standard settings for the system. N.O.S. The ASUS Non-delay Overclocking System feature intelligently determines the system load and automatically boosts the performance for the most demanding tasks. Some of the following items appear when you set AI Overclocking to [Manual] or [N.O.S.].

[Page 92](#) Turbo N.O.S. [Overclock 3%] Configuration options: [Overclock 3%] [Overclock 5%] [Overclock 10%] [Overclock 15%] [Overclock 20%] [Overclock 30%] CPU Ratio Control [Auto] Configuration options: [Auto] [Manual] The following item appears when the CPU Ratio Control item is set to [Manual]. Ratio CMOS Setting [12] Use the <+>...

[Page 93](#) CPU Spread Spectrum [Auto] Allows you to enable or disable the CPU spread spectrum. Configuration options: [Auto] [Disabled] PCIe Spread Spectrum [Auto] Allows you to enable or disable the PCIe spread spectrum. Configuration options: [Auto] [Disabled] ROG Blitz Formula 4-19...

[Page 94](#) CPU Voltage [Auto] Allows you to select the CPU voltage. The text color in the configuration field corresponds to the onboard CPU LED color, both of which indicate CPU voltage condition. Refer to page 2-1 for CPU LED definition. Configuration options: [Auto] [1.10000V] [1.10625V] [1.11250V] [1.11875V] [1.12500V] [1.13125V] [1.13750V] [1.14375V] [1.15000V] [1.15625V] [1.16250V] [1.16875V] [1.17500V] [1.18125V] [1.18750V] [1.19375V] [1.20000V] [1.20625V] [1.21250V] [1.21875V] [1.22500V] [1.23125V] [1.23750V] [1.24375V] [1.25000V]...

[Page 95](#) When you set the SB LED Selection item to [SB Volt], the onboard southbridge LED displays southbridge voltage condition. Refer to page 2-2 for southbridge LED definition. Configuration options: [Auto] [1.50V] [1.52V] [1.56V] [1.58V] [1.60V]~[1.92V] [1.94V] [1.96V] [1.98V] [2.00V] ROG Blitz Formula 4-21...

[Page 96: Advanced Menu](#)

NB LED Selection [NB Volt] Allows you to switch the onboard northbridge LED display between northbridge voltage [NB Volt] and front side bus termination voltage [FSBT Volt]. Configuration options: [NB Volt] [FSBT Volt] SB LED Selection [PLL Volt] Allows you to switch the onboard southbridge LED display between PLL voltage [PLL Volt] and southbridge voltage [SB Volt].

[Page 97: Ai Net 2](#)

The USB Devices Enabled item shows the auto-detected values. If no USB device is detected, the item shows None. USB Functions [Enabled] Allows you to enable or disable the USB functions. The following sub-items appear when this item is set to [Enabled]. Configuration options: [Disabled] [Enabled] ROG Blitz Formula 4-23...

[Page 98](#) The following items appear only when you set USB Functions to [Enabled]. USB 2.0

Controller [Enabled] Allows you to enable or disable the USB 2.0 controller. Configuration options: [Enabled] [Disabled] USB 2.0 Controller Mode [HiSpeed] Allows you to set the USB 2.0 controller mode to HiSpeed (480 Mbps) or FullSpeed (12 Mbps).

[Page 99: Cpu Configuration](#)

Configuration options: [Disabled] [Enabled] Execute Disable Bit [Enabled] Allows you to enable or disable the No-Execution Page Protection Technology. Setting this item to [Disabled] forces the XD feature flag to always return to zero (0). Configuration options: [Disabled] [Enabled] ROG Blitz Formula 4-25...

[Page 100: Chipset](#)

PECI [Enabled] Allows you to enable or disable the Peci interface. Configuration options: [Enabled] [Disabled] The following item appears when the item CPU Ratio Control is set to [Auto]. Inter(R) SpeedStep (tm) Tech. [Disabled] Configuration options: [Enabled] [Disabled] 4.5.4 Chipset The Chipset menu allows you to change the advanced chipset settings.

[Page 101: Onboard Devices Configuration](#)

Configuration options: [Enabled] [Disabled] LAN Boot ROM [Disabled] Configuration options: [Disabled] [Enabled] Marvell GigaBit LAN 2 [Enabled] Configuration options: [Enabled] [Disabled] LAN Boot ROM [Disabled] Configuration options: [Disabled] [Enabled] VIA Firewire 1394 [Enabled] Configuration options: [Enabled] [Disabled] ROG Blitz Formula 4-27...

[Page 102: Pci Pnp](#)

4.5.6 PCI PnP The PCIPnP menu items allow you to change the advanced settings for PCI/PnP devices. Take caution when changing the settings of the PCI PnP menu items. Incorrect field values can cause the system to malfunction. BIOS SETUP UTILITY Advanced Advanced PCI/PnP Settings NO: lets the BIOS...

[Page 103: Power Menu](#)

Allows you to enable or disable the Advanced Configuration and Power Interface (ACPI) support in the Advanced Programmable Interrupt Controller (APIC). When set to Enabled, the ACPI APIC table pointer is included in the RSDT pointer list. Configuration options: [Disabled] [Enabled] ROG Blitz Formula 4-29...

[Page 104: Apm Configuration](#)

4.6.5 APM Configuration BIOS SETUP UTILITY Power APM Configuration <Enter> to select whether or not to restart the system Restore on AC Power Loss [Power Off] after AC power loss. Power On By RTC Alarm [Disabled] Power On By PCI Devices [Disabled] Power On By PCIE Devices [Disabled]...

[Page 105: Hardware Monitor](#)

Remove the thermal sensor cable from the assigned device when you set this item to [SB Overheat Protection]. The next item varies depending on whether you set the South Bridge Sensor Select item to [SB Overheat Protection] or [OPT_TEMP2]. ROG Blitz Formula 4-31...

[Page 106](#) South Bridge Overheat Protection [Auto] Allows you to enable/disable the southbridge overheat auto-protection function or set the temperature over which the system shuts down. Configuration options: [Auto] [70C] [80C] [Disabled] OPT_TEMP2 Overheat Protection [Disabled] If you monitor a device temperature using a thermal sensor cable connected to the OPT_TEMP2 connector, you can use this item to set the temperature over which the system shuts down or disable this function.

[Page 107](#) The Q-Fan detects the temperature of the fan connected to the OPT_FAN1/2 connector and adjusts the fan speed. Configuration options: [DUTY CYCLE] [Q-FAN] You need to connect the thermal sensor cables to the OPT_TEMP1/2 connectors to enable this function. ROG Blitz Formula 4-33...

[Page 108](#) Duty Cycle Mode [90%] Allows you to set the fan duty cycle. When the OPT_Fan1/2 Q-Fan Control item is set to [Q-FAN], this item does not appear. Configuration options: [70%] [80%] [90%] [100%] TargetTemp Value [32] Allows you to set the temperature at which the optional fan starts up. When the OPT_Fan1/2 Q-Fan Control item is set to [DUTY CYCLE], this

item does not appear.

[Page 109: Boot Menu](#)

These items specify the boot device priority sequence from the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system. Configuration options: [xxx Drive] [Disabled] ROG Blitz Formula 4-35...

[Page 110: Boot Settings Configuration](#)

BIOS performs all the POST items. Configuration options: [Disabled] [Enabled] Full Screen Logo [Enabled] This allows you to enable or disable the full screen logo display feature. Configuration options: [Disabled] [Enabled] Set this item to [Enabled] to use the ASUS MyLogo3 feature.™ AddOn ROM Display Mode [Force BIOS] Sets the display mode for option ROM.

[Page 111: Security](#)

<Enter>. The message "Password Uninstalled" appears. If you forget your BIOS password, you can clear it by erasing the CMOS Real Time Clock (RTC) RAM. See section 2.6 Jumper for information on how to erase the RTC RAM. ROG Blitz Formula 4-37...

[Page 112: Change User Password](#)

After you have set a supervisor password, the other items appear to allow you to change other security settings. BIOS SETUP UTILITY Boot Security Settings <Enter> to change password. <Enter> again to Supervisor Password :Not Installed disabled password. User Password :Not Installed Change Supervisor Password User Access Level...

[Page 113: Tools Menu](#)

4.8.1 ASUS EZ Flash 2 Allows you to run ASUS EZ Flash 2. When you press <Enter>, a confirmation message appears. Use the left/right arrow key to select between [Yes] or [No], then press <Enter> to confirm your choice. Please see page 4-5, section 4.1.3 for details.

[Page 114: Asus O.c. Profile](#)

4.8.2 ASUS O.C. Profile This item allows you to store or load multiple BIOS settings. BIOS SETUP UTILITY Tools O.C. PROFILE Configuration Save to Profile 1 O.C. Profile 1 Status :Not Installed O.C. Profile 2 Status :Not Installed Save to Profile 1...

[Page 115: Exit Menu](#)

Setup menus. When you select this option or if you press <F5>, a confirmation window appears. Select YES to load default values. Select Exit & Save Changes or make other changes before saving the values to the non-volatile RAM. ROG Blitz Formula 4-41...

[Page 116](#) 4-42 Chapter 4: BIOS setup...

[Page 117: Chapter 5: Software Support](#)

This chapter describes the contents of the support DVD that comes with the motherboard package. Software support...

[Page 118](#) Chapter summary Installing an operating system 5-1 Support DVD information5-1 Software information5-9 RAID configurations5-30 Creating a RAID driver disk5-39 ROG Blitz Formula...

[Page 119: Installing An Operating System](#)

The contents of the support DVD are subject to change at any time without notice. Visit the ASUS website (www.asus.com) for updates. 5.2.1 Running the support DVD Place the support DVD to the optical drive.

[Page 120: Drivers Menu](#)

The drivers menu shows the available device drivers if the system detects installed devices. Install the necessary drivers to activate the devices. ASUS InstAll - Installation Wizard for Drivers Launches the ASUS InstAll driver installation wizard. Intel Chipset Inf Update Program Installs

the Intel chipset inf update program.

[Page 121: Utilities Menu](#)

Click to display the next screen Click to display the previous screen ASUS InstAll-Installation Wizard for Utilities Installs all of the utilities through the Installation Wizard. Marvell Yukon VCT Application Installs the Marvell Yukon VCT applications. ASUS PC Probe II This smart utility monitors the fan speed, CPU temperature, and system voltages, and alerts you of any detected problems.

[Page 122](#) ASUS AI Suite Installs the ASUS AI Suite. ASUS Update The ASUS Update utility allows you to update the motherboard BIOS in Windows ® environment. This utility requires an Internet connection either through a network or an Internet Service Provider (ISP).

[Page 123: Make Disk Menu](#)

5.2.4 Make Disk menu The Make Disk menu contains items to create the Intel ICH8 or JMicron JMB36X ® RAID/AHCI driver disk. Intel ICH9R 32/64bit AHCI/RAID Driver Allows you to create an ICH9R 32/64bit AHCI/RAID driver disk. ROG Blitz Formula...

[Page 124: Manuals Menu](#)

Reader from the Utilities menu before opening a user manual ® ® file. 5.2.6 ASUS Contact information Click the Contact tab to display the ASUS contact information. You can also find this information on the inside front cover of this user guide. Chapter 5: Software support...

[Page 125: Other Information](#)

The icons on the top right corner of the screen give additional information on the motherboard and the contents of the support DVD. Click an icon to display the specified information. Motherboard Info Displays the general specifications of the motherboard. Browse this DVD Displays the support DVD contents in graphical format. ROG Blitz Formula...

[Page 126: Technical Support Form](#)

Technical support form Displays the ASUS Technical Support Request Form that you have to fill out when requesting technical support. Filelist Displays the contents of the support DVD and a brief description of each in text format. Chapter 5: Software support...

[Page 127: Software Information](#)

Before using the ASUS MyLogo3 , use the AFUDOS utility to make a copy ™ of your original BIOS file, or obtain the latest BIOS version from the ASUS website. See section 4.1.4 AFUDOS utility. • Make sure that the BIOS item Full Screen Logo is set to [Enabled] if you wish to use ASUS MyLogo3™.

[Page 128](#) Ratio box. When the screen returns to the ASUS Update utility, flash the original BIOS to load the new boot logo. 10. After flashing the BIOS, restart the computer to display the new boot logo during POST.

[Page 129: Ai Net2](#)

LAN cable(s) connected to the LAN port(s). • If you want the system to check the status of the LAN cable before entering the OS, enable the item Post Check LAN Cable in the BIOS Setup. ROG Blitz Formula 5-11...

[Page 130: Soundmax ® High Definition Audio Utility](#)

5.3.3 SoundMAX High Definition Audio utility ® The ADI AD1988B High Definition Audio CODEC provides 8-channel audio capability through the SoundMAX audio utility with AudioESP software to deliver ® ™ the ultimate audio experience on your PC. The software implements high quality audio synthesis/rendering, 3D sound positioning, and advanced voice-input technologies.

[Page 131: Audio Setup Wizard](#)

SoundMAX ® ® Control Panel. Audio Setup Wizard By clicking the icon from the SoundMAX control panel, you can easily ® configure your audio settings. Simply follow succeeding screen instructions and begin enjoying High Definition Audio. ROG Blitz Formula 5-13...

[Page 132](#) Jack configuration Adjust speaker volume This screen helps you configure your This screen helps you adjust speaker volume. Click the Test button to hear computer's audio ports, depending on the audio devices you have installed. the changes you have made. Adjust microphone volume This screen helps you adjust microphone volume.

[Page 133: Listening Environment Options](#)

Click the General tab to choose your playback and recording devices, enable/ disable the AudioESP feature, and enable/disable digital output.™ Listening Environment options Click the Listening Environment tab to set up your speaker, acoustic environment, and enable/disable the Virtual Theater Surround function. ROG Blitz Formula 5-15...

[Page 134: Microphone Options](#)

Microphone options Click the Microphone tab to optimize your microphone input settings. 5-16 Chapter 5: Software support...

[Page 135: Asus Pc Probe Ii](#)

To launch the PC Probe II from the Windows® > ASUS > PC Probe II > PC Probe II v1.xx.xx. The PC Probe II main window appears. After launching the application, the PC Probe II icon appears in the Windows®...

[Page 136](#) Button Function Opens the Configuration window Opens the Report window Opens the Desktop Management Interface window Opens the Peripheral Component Interconnect window Opens the Windows Management Instrumentation window Opens the hard disk drive, memory, CPU usage window Shows/Hides the Preference section Minimizes the application Closes the application Sensor alert...

[Page 137](#) Click to clicking the or buttons. You can increase also adjust the threshold values value using the Config window. Click to You cannot adjust the sensor decrease threshold values in a small value monitoring panel. ROG Blitz Formula 5-19...

[Page 138](#) Monitoring sensor alert The monitor panel turns red when a component value exceeds or is lower than the threshold value. Refer to the illustrations below. Small display Large display WMI browser Click to display the WMI (Windows Management Instrumentation) browser. This browser displays various Windows®...

[Page 139](#) The left panel of the tab lists all logical drives. Click a hard disk drive to display the information on the right panel. The pie chart at the bottom of the window represents the used (blue) and the available HDD ROG Blitz Formula 5-21...

[Page 140](#) Memory usage The Memory tab shows both used and available physical memory. The pie chart at the bottom of the window represents the used (blue) and the available Configuring PC Probe II Click to view and adjust the sensor threshold values. The Config window has two tabs: Sensor/Threshold and Preference.

[Page 141: Asus Ai Suite](#)

5.3.5 ASUS AI Suite ASUS AI Suite allows you to launch AI Gear, AI N.O.S., AI Booster, AI Nap, and Q-Fan utilities easily. Installing AI Suite To install AI Suite on your computer: Place the support DVD to the optical drive. The Drivers installation tab appears if your computer has an enabled Autorun feature.

[Page 142](#) Other feature buttons Click on right corner of the main window to open the monitor window. Displays the CPU/ system temperature, CPU/memory/PCIE voltage, and CPU/ chassis fan speed Displays the FSB/CPU frequency Click on right corner of the expanded window to switch the temperature from degrees Centigrade to degrees Fahrenheit.

[Page 143: Asus Ai N.o.s](#)

5.3.6 ASUS AI N.O.S. This ASUS Non-delay Overclocking System feature intelligently determines the system load and automatically boosts the performance for the most demanding tasks. After installing AI Suite from the bundled support DVD, you can launch the utility by double-clicking the AI Suite icon on the Windows OS taskbar and click the AI N.O.S.

[Page 144: Asus Ai Gear 2](#)

5.3.7 ASUS AI Gear 2 ASUS AI Gear 2 provides four system performance options that allows you to select the best performance setting for your computing needs. This easy-to-use utility adjusts the processor frequency and vCore voltage to minimize system noise and power consumption.

[Page 145: Asus Ai Nap](#)

To switch the power button functions from AI Nap to shutting down, just right click the AI Suite icon on the OS taskbar, select AI Nap and click Use power button. Unclick the the item to switch the function back. ROG Blitz Formula 5-27...

[Page 146: Asus Ai Booster](#)

5.3.9 ASUS AI Booster The ASUS AI Booster application allows you to overclock the CPU speed in Windows environment without the hassle of booting the BIOS. ® After installing AI Suite from the bundled support DVD, you can launch the utility...

[Page 147: Asus Q-Fan 2](#)

5.3.10 ASUS Q-Fan 2 This ASUS Q-Fan 2 Control feature allows you to set the appropriate performance level of the CPU Q-Fan 2 or the Chassis Q-Fan 2 for more efficient system operation. After enabling the Q-Fan 2 function, the fans can be set to automatically adjust depending on the temperature, to decrease fan speed, or to achieve the maximum fan speed.

[Page 148: Raid Configurations](#)

RAID configurations The motherboard comes with the Intel ICH9R Southbridge RAID controller that ® allows you to configure IDE and Serial ATA hard disk drives as RAID sets. 5.4.1 RAID definitions RAID 0 (Data striping) optimizes two identical hard disk drives to read and write data in parallel, interleaved stacks.

[Page 149: Installing Serial Ata Hard Disks](#)

Select the item Onboard Serial-ATA BOOTROM, press <Enter>, then select Enabled from the options. Save your changes, then exit the BIOS Setup. Refer to the system or the motherboard user guide for details on entering and navigating through the BIOS Setup. ROG Blitz Formula 5-31...

[Page 150: Intel Matrix Storage Manager Option Rom Utility](#)

Intel Matrix Storage Manager Option ROM Utility ® The Intel Matrix Storage Manager Option ROM utility allows you to create RAID 0, ® RAID 1, RAID 10 (RAID 0+1), and RAID 5 set(s) from Serial ATA hard disk drives that are connected to the Serial ATA connectors supported by the Southbridge. To enter the Intel ®...

[Page 151: Creating A Raid 0 Set \(Striped\)](#)

Select 2 to 4 disks to use in creating the volume. [↑ ↓]-Previous/Next [SPACE]-Selects [ENTER]-Selection Complete Use the up/down arrow key to highlight a drive, then press <Space> to select. A small triangle marks the selected drive. Press <Enter> after completing your selection. ROG Blitz Formula 5-33...

[Page 152](#) Use the up/down arrow key to select the stripe size for the RAID 0 array, then press <Enter>. The available stripe size values range from 4 KB to 128 KB. The default stripe size is 128 KB. TIP: We recommend a lower stripe size for server systems, and a higher stripe size for multimedia computer systems used mainly for audio and video editing.

[Page 153: Creating A Raid 1 Set \(Mirrored\)](#)

WARNING: ALL DATA ON SELECTED DISKS WILL BE LOST. Are you sure you want to create this volume? (Y/N): Press <Y> to create the RAID volume and return to main menu or <N> to go back to Create Volume menu. ROG Blitz Formula 5-35...

[Page 154](#) Creating a RAID 10 set (RAID 0+1) To create a RAID 10 set: From the utility main menu, select 1. Create RAID Volume, then press <Enter>. This screen appears. Intel(R) Matrix Storage Manager Option ROM v5.0.0.1032 ICH9R wRAID5 Copyright(C) 2003-05 Intel Corporation. All Rights Reserved. [CREATE ARRAY MENU Name: Volume10...

[Page 155](#) [↑ ↓]-Change [TAB]-Next [ESC]-Previous Menu [Enter]-Select Enter a name for the

RAID 5 set, then press <Enter>. When the RAID Level item is highlighted, press the up/down arrow key to select RAID 5(Parity), then press <Enter>. ROG Blitz Formula 5-37...

[Page 156](#) The Disks item is highlighted, press <Enter> to select the hard disk drives to configure as RAID. The following pop-up screen appears. [SELECT DISKS Port Drive Model Serial # Size Status 0 XXXXXXXXXXXX XXXXXXXX XX.XGB Non-RAID Disk 1 XXXXXXXXXXXX XXXXXXXX XX.XGB Non-RAID Disk 2 XXXXXXXXXXXX XXXXXXXX...

[Page 157: Creating A Raid Driver Disk](#)

Press <F6> then insert the floppy disk with RAID driver into the floppy disk drive. When prompted to select the SCSI adapter to install, make sure you select ICH9R. Follow the succeeding screen instructions to complete the installation. ROG Blitz Formula 5-39...

[Page 158](#) To install the RAID driver in Windows Vista™: ® Insert the floppy disk/USB device with RAID driver into the floppy disk drive/USB port. During the OS installation, select Intel ICH9R. Follow the succeeding screen instructions to complete the installation. 5-40 Chapter 5: Software support...

[Page 159: Appendix: Cpu Features](#)

The Appendix describes the CPU features and technologies that the motherboard supports as well as the debug code table for the LCD Poster. CPU features...

[Page 160: Chapter Summary](#)

Chapter summary Intel ® EM64TA-1 Enhanced Intel SpeedStep Technology (EIST)A-1 ® Intel Hyper-Threading TechnologyA-3 ® Debug Code TableA-4 ROG Blitz Formula...

[Page 161: Intel ® Em64T](#)

32-bit operating systems. • The motherboard comes with a BIOS file that supports EM64T. You can download the latest BIOS file from the ASUS website (www.asus.com/ support/download/) if you need to update the BIOS file. See Chapter 4 for details.

[Page 162: Using The Eist](#)

A.2.2 Using the EIST To use the EIST feature: Turn on the computer, then enter the BIOS Setup. Go to the Advanced Menu, highlight CPU Configuration, then press <Enter>. Set the Intel(R) SpeedStep Technology item to [Automatic], then press <Enter>. See page 4-26 for details. Press <F10>...

[Page 163: Intel ® Hyper-Threading Technology](#)

Power up the system and enter the BIOS Setup. Under the Advanced Menu, make sure that the item Hyper-Threading Technology is set to [Enabled]. The BIOS item appears only if you installed a CPU that supports Hyper-Threading Technology. Restart the computer. ROG Blitz Formula...

[Page 164: Debug Code Table](#)

Debug Code Table Code Description CPU INIT CPU Initiation DET CPU Test CMOS R/W functionality. Early chipset initialization: -Disable shadow RAM CHIPINIT -Disable L2 cache (socket 7 or below) -Program basic chipset registers Detect memory DET DRAM -Auto-detection of DRAM size, type and ECC. -Auto-detection of L2 cache (socket 7 or below) DC FCODE Expand compressed BIOS code to DRAM...

[Page 165](#) Enter AWDFLASH.EXE if : CUTIRQ12 -AWDFLASH is found in floppy drive. -ALT+F2 is pressed DET IDE Detect & install all IDE devices: HDD, LS120, ZIP, CDROM..... COM/LPT Detect serial ports & parallel ports. DET FPU Detect & install co-processor ROG Blitz Formula...

[Page 166](#) CPU CHG CPU change CPR FAIL CPR error FAN FAIL Fan error UCODEERR UCODE error FLOPYERR Floppy error KB ERROR Keyboard error HD ERR HDD error CMOS ERR CMOS error MS ERROR Mouse error 80P ERR 80 port error BOOT CHG Boot device change SMARTERR HDD smart function error...

