Asus AAEON BOXER-6614 User Manual

Fanless embedded box pc

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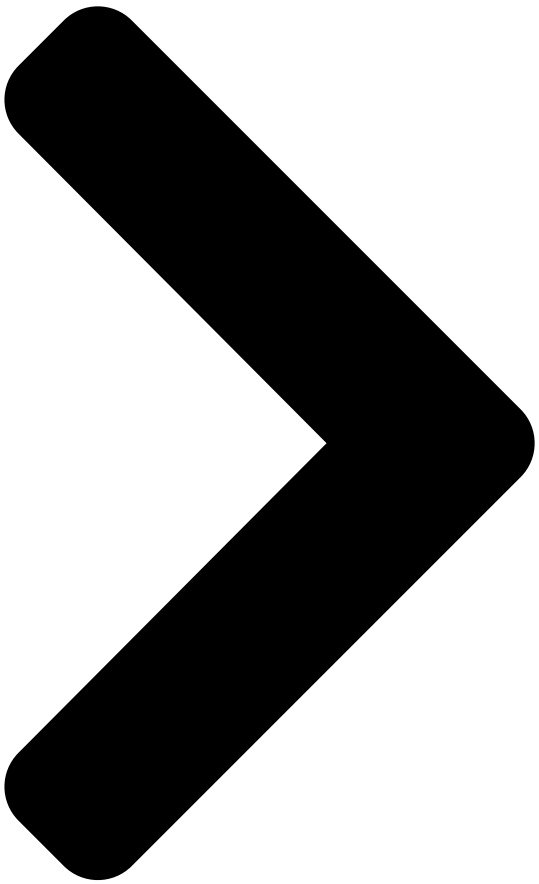

BOXER-6614

Fanless Embedded Box PC

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User's Manual 5

Ed

Last Updated: February 14, 2020

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Related Manuals for Asus AAEON BOXER-6614

Controller Asus AAEON BOXER-6843-ADS User Manual

Fanless embedded controller (149 pages)

Controller Asus AAEON AIOT-MSSP01 User Manual

Mini ssp vending control board (62 pages)

Controller Asus LSI 8300XLP User Manual

User manual (64 pages)

Controller Asus OC STATION Quick Installation Manual

Rog oc controller (49 pages)

Controller Asus PCI-DA2200 User Manual

Pci-to-ultra2 scsi raid controller (369 pages)

Controller Asus AAEON AHP-1154 User Manual

Industrial hmi touch panel (78 pages)

Summary of Contents for Asus AAEON BOXER-6614

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Page 3 Acknowledgement All other products' name or trademarks are properties of their respective owners. Microsoft Windows ® is a registered trademark of Microsoft Corp. • Intel®, Celeron® are registered trademarks of Intel Corporation • ITE is a trademark of Integrated Technology Express, Inc. •...

Page 4 Packing List Before setting up your product, please make sure the following items have been shipped: Item Quantity BOXER-6614 • Wallmount bracket • Screw Package • RAM Thermal Pad x 1 (60mm x 25mm x 3mm) (For A1/A1M • SKU without HDD kit only) 3 Pin DC-In Power Connector x 1 (For A1M/A2M, for DC •...

Page 5 About this Document This User's Manual contains all the essential information, such as detailed descriptions and explanations on the product's hardware and software features (if any), its specifications, dimensions, jumper/connector settings/definitions, and driver installation instructions (if any), to facilitate users in setting up their product. Users may refer to the product page on AAEON.com for the latest version of this document.

Page 6 Safety Precautions Please read the following safety instructions carefully. It is advised that you keep this manual for future references All cautions and warnings on the device should be noted. Make sure the power source matches the power rating of the device. Position the power cord so that people cannot step on it.

Page 7 If any of the following situations arises, please the contact our service personnel: Damaged power cord or plug Liquid intrusion to the device iii. Exposure to moisture Device is not working as expected or in a manner as described in this manual The device is dropped or damaged Any obvious signs of damage displayed on the device...

Page 8 FCC Statement This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this

device must accept any interference received including interference that may cause undesired operation. Caution: There is a danger of explosion if the battery is incorrectly replaced.

Page 9 China RoHS Requirements (CN) 产品中有毒有害物质或元素名称及含量 AAEON System QO4-381 Rev.A0 有毒有害物质或元素 部件名称 铅 汞 镉 六价铬 多溴联苯 多溴二苯 醚(PBDE) (Pb) (Hg) (Cd) (Cr(VI)) (PBB) 印刷电路板 × ○ ○ ○ ○ ○ 及其电子组件 外部信号 × ○ ○ ○ ○ ○ 连接器及线材 ○ ○...

Page 10 China RoHS Requirement (EN) Hazardous and Toxic Materials List AAEON System QO4-381 Rev.A0 Hazardous or Toxic Materials or Elements Component Name PCB and Components Wires & Connectors for Ext.Connections Chassis CPU & RAM HDD Drive LCD Module Optical Drive Touch Control Module Battery This form is prepared in compliance with the provisions of SJ/T 11364.

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Page 16: Specifications

Specifications System Intel® Celeron® N2930, 1.83 GHz Intel® Celeron® N2807, 1.58GHz Intel® System on Chip Chipset DDR3L 1333 SODIMM slot x 1, up to 8 GB (N2930) System Memory or 4 GB (N2807) VGA, HDMI Display Interface CFast™, HDD/SSD Storage Device Intel®...

Page 17 Power Supply 9 - 30V with 3-pin terminal block, 12V with Power Requirement lockable DC jack Mechanical Wallmount Mounting DIN Rail (Mounting kit is optional) Dimensions (W x H x D) 8.35” x 4.21” x 2.53” (212.15mm x 107mm x 64.2mm) Gross Weight 6.6 lbs.

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2.3.1 COM2 Pin8 Function Selection (JP8) +12V Ring (Default) 2.3.2 COM3 Pin8 Function Selection (JP9) +12V Ring (Default) 2.3.3 Auto Power Button Enable/Disable Selection (JP17) Disable Enable (Default) Note: When disabled, use JP19 (1-2) to power on the system 2.3.4 Clear CMOS Jumper (JP21) 1 2 3 Normal (Default)

Page 28: List Of Connectors

List of Connectors Please refer to the table below for all of the system's connectors that you can configure for your application Label Function +5VSB Output w/SMBus +5V Output for SATA HDD SATA Port External +12V Input Audio I/O Port CN10 MiniCard Slot (Half-MiniCard) CN11...

Page 29: 5Vsb Output W/ Smbus (Cn1)

Label Function CN33 CFast Slot CN34 DDR3L SO-DIMM Slot CN35 UIM Card Socket CN37 MiniCard Slot (Full-MiniCard) 2.4.1 +5VSB Output w/ SMBus (CN1) SMB_DATA SMB_CLK PS_ON# +5VSB Pin name Signal Type Signal Level SMB_DATA +3.3V SMB_CLK +3.3V PS_ON# +3.3V +5VSB Chapter 2 –...

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Page 32: Minicard Slot (Half-Minicard) (Cn10)

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Page 34: Lpc Port (Cn11)

Pin name Signal Type Signal Level +1.5V +1.5V +3.3VSB +3.3V Note 1: CN10 can be selected for Mini-Card or mSATA by changing BOM. Note 2: You can choose the function either from mSATA or from CFast on the motherboard. 2.4.8 LPC Port (CN11) Pin name Signal Type...

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2.4.17 BIOS Debug Port (CN19) P IN 1 P IN 2 P IN 3 P IN 4 P IN 5 P IN 6 P IN 7 P IN 8 Pin name Signal Type Signal Level +3.3VSB +3.3V SPI_CS SPI_CLK SPI_MISO SPI_MOSI 2.4.18 PS/2 Keyboard/Mouse Combo Port (CN22)

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2.4.20 LAN (RJ-45) Port1 (CN26) Pin name Signal Type Signal Level MDI0+ DIFF MDI0- DIFF MDI1+ DIFF MDI2+ DIFF MDI2- DIFF MDI1- DIFF MDI3+ DIFF MDI3- DIFF 2.4.21 LAN (RJ-45) Port2 (CN27) Pin name Signal Type Signal Level MDI0+ DIFF MDI0- DIFF MDI1+...

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Page 49 Pin name Signal Type Signal Level UIM_CLK PCIE_REF_CLK+ DIFF UIM_RST UIM_VPP W_DISABLE# +3.3V PCIE_RST# +3.3V PCIE_RX- DIFF +3.3VSB +3.3V PCIE_RX+ DIFF +1.5V +1.5V SMB_CLK +3.3V PCIE_TX- DIFF SMB_DATA +3.3V PCIE_TX+ DIFF USB_D- DIFF USB_D+ DIFF Chapter 2 – Hardware Information...

Page 50 Pin name Signal Type Signal Level +3.3VSB +3.3V +3.3VSB +3.3V +1.5V +1.5V +3.3VSB +3.3V Chapter 2 – Hardware Information...

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Chapter 3 Chapter 3 - AMI BIOS Setup...

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System Test and Initialization The system uses certain routines to perform testing and initialization during the boot up sequence. If an error, fatal or non-fatal, is encountered, the system will output a few short beeps or an error message. The board can usually continue the boot up sequence with non-fatal errors.

Page 64: Ami Bios Setup

AMI BIOS Setup The AMI BIOS ROM has a pre-installed Setup program that allows users to modify basic system configurations, which is stored in the battery-backed CMOS RAM and BIOS NVRAM so that the information is retained when the power is turned off. To enter BIOS Setup, press <Del>...

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Setup Submenu: Main Press “Delete” to enter Setup Chapter 3 – AMI BIOS Setup...

Page 66: Setup Submenu: Advanced

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Page 68 Options Summary Lock Legacy Resources Enable Disable Optimal Default, Failsafe Default Enables or Disables Lock of Legacy Resources Wake on Ring Enable Optimal Default, Failsafe Default Disable Enabled/Disabled wake from Ring Wake on LAN Enable Optimal Default, Failsafe Default Disable Enabled/Disabled wake from LAN Chapter 3 –...

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3.4.2 Advanced: Super IO Configuration Options Summary Serial Port Disabled Enabled Optimal Default, Failsafe Default Enable or Disable Serial Port (COM) Change Settings Auto Optimal Default, Failsafe Default IO=2E8h; IRQ=3; IO=3F8h; IRQ=3,4; IO=2F8h; IRQ=3,4; IO=3E8h; IRQ=3,4; IO=2E8h; IRQ=3,4; Select an optimal setting for Super IO device Chapter 3 –...

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Page 73: Super Io Configuration: Serial Port 3 Configuration

3.4.2.3 Super IO Configuration: Serial Port 3 Configuration Chapter 3 – AMI BIOS Setup...

Page 74: Super Io Configuration: Serial Port 4 Configuration

3.4.2.4 Super IO Configuration: Serial Port 4 Configuration Options Summary Serial Port Disabled Enabled Default Allows BIOS to En/Disable correspond serial port. Change Settings Auto Default (Serial Port 1) IO=3F8h; IRQ=4; IO=3F8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2F8h; IRQ=3,4,5,6,7,9,10,11,12; IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12; Allows BIOS to Select Serial Port resource. Change Settings Auto Default...

Page 75 Options Summary Working model RS232 Default RS422 RS485 Select Working model

Change Settings Auto Default (Serial Port 3) IO=3E8h; IRQ=7; IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12; Working model RS232 Default RS422 RS485 Select Working model Change Settings Auto Default (Serial Port 4) IO=2E8h;...

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Page 81: Advanced: Trusted Computing

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Page 85: Chipset: South Bridge

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Page 87: South Bridge: Usb Configuration

3.5.2.2 South Bridge: USB Configuration Chapter 3 – AMI BIOS Setup...

Page 88: South Bridge: Pci Express Configuration

3.5.2.3 South Bridge: PCI Express Configuration Options Summary PCI Express Root Port 0 Disabled Enabled Optimal Default, Failsafe Default Enabling/Disabling PCI Express root ports PCI

Express Root Port x Disabled Enabled Auto Optimal Default, Failsafe Default Enabling/Disabling PCI Express root ports Chapter 3 –...

Page 89: Setup Submenu: Security

Setup submenu: Security Change User/Administrator Password You can set an Administrator Password or User Password. An Administrator Password must be set before you can set a User Password. The password will be required during boot up, or when the user enters the Setup utility. A User Password does not provide access to many of the features in the Setup utility.

Page 90: Setup Submenu: Boot

Setup submenu: Boot Options Summary Quiet Boot Disabled Enabled Default Enable/Disable showing boot logo. Launch i210/i211 PXE Disabled Default OpROM Enabled Enable/Disable PXE boot for 8111E LAN Chapter 3 – AMI BIOS Setup...

Page 91: Setup Submenu: Save & Exit

Setup submenu: Save & Exit Chapter 3 – AMI BIOS Setup...

Page 92: Chapter 4 - Drivers Installation

Chapter 4 Chapter 4 – Drivers Installation...

Page 93: Driver Download And Installation

Driver Download and Installation Drivers for the BOXER-6614 can be downloaded from the product page on the AAEON website by following this link: https://www.aaeon.com/en/p/fanless-embedded-computers-boxer-6614 Download the driver(s) you need and follow the steps below to install them. Step 1 – Install Chipset Driver Open the Step1 - Chipset folder and select your OS Open the SetupChipset.exe file in the folder Follow the instructions...

Page 94 Step 3 – Install Audio Driver Open the Step4 - Audio folder and select your OS Followed by the .exe file in the folder Follow the instructions Drivers will be installed automatically Step 5 – Install TXE Driver Open the Step5 - TXE folder and select your OS Open the Setup.TXE.exe file in the folder Follow the instructions Drivers will be installed automatically...

Page 95 Step 8 – Install UART Drivers (Optional) For Windows 7: Change User Account Control settings to Never notify Reboot and log in as administrator Chapter 4 – Driver Installation...

Page 96 Run patch.bat as administrator Chapter 4 – Driver Installation...

Page 97 For Windows 8: Open the Apps Screen, right click on the Command Prompt tile and select Run as Administrator To install the driver (patch.bat), you will first have to locate the file in command prompt. To do that, go to the folder in which the file resides by entering cd (file path) eg: if the file is in a folder named abc in c drive, enter cd c:\abc (screenshot for reference only) You are now at the folder where the file is located.

Page 98 Reboot after installation completes. To confirm the installation, go to Device Manager, expand the Ports (COM & LPT) tree and double click on any of the COM ports to open its properties. Go to the Driver tab, select Driver Details and click on serial.sys, you should see its provider as Windows (R) Win 7 DDK Provider.

Page 99 For Windows 10: You will need administrator rights to install the drivers. To get it, first go to Computer Management in Control Panel and double-click on Administrator Chapter 4 – Driver Installation...

Page 100 In the dialog box, uncheck the Account is disabled option to enable administrator account. Restart and sign in as the administrator (not password-protected by default) Chapter 4 – Driver Installation...

Page 101 Go back to the Windows 10 Serial Port Drivers directory and run patch.bat as administrator. Step 9 – Install USB3.0 Driver (Windows 7 only) Open the Step9 - USB3.0 folder followed by Setup.exe Follow the instructions Drivers will be installed automatically Chapter 4

–...

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Appendix A Appendix A - Watchdog Timer Programming...

Page 103: Watchdog Timer Registers

Watchdog Timer Registers Table 1: Watch dog relative IO address I/O Base Default Value Note Address 0xA00 I/O Base address for Watchdog operation. This address is assigned by SIO LDN7, register 0x60-0x61. Table 2: Watchdog relative register table Register Offset BitNum Value Note...

Page 104: A.2 Watchdog Sample Program

A.2 Watchdog Sample Program
**********// WDT I/O operation relative definition (Please reference to Table 1) #define WDTAddr 0xA00 // WDT I/O base address Void WDTWriteByte(byte Register, byte Value); byte WDTReadByte(byte Register); Void WDTSetReg(byte Register, byte Bit, byte Val); // Watch Dog relative definition (Please reference to Table 2) #define DevReg 0x00 // Device configuration register #define WDTRstBit 0x80 // Watchdog WDTRST# (Bit7) #define WDTRstVal 0x80 // Enabled WDTRST#...

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********** VOID Main(){ // Procedure : AaeonWDTConfig // (byte)Timer : Counter of WDT timer.(0x00~0xFF) // (boolean)Unit : Select time unit(0: second, 1: minute). AaeonWDTConfig(Counter, Unit); // Procedure : AaeonWDTEnable // This procudure will enable the WDT counting. WDTSetBit(TimerReg, PSWidthBit, PSWidthVal); // Watchdog WDTRST# Enable WDTSetBit(DevReg, WDTRstBit, WDTRstVal);...

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