

BOXER-6404M

Fanless Embedded Box PC

User's Manual 3rd Ed

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Packing List

Before setting up your product, please make sure the following items have been shipped:

| Item | Quantity |
|-----------------|----------|
| ● BOXER-6404M | 1 |
| ● Power adapter | 1 |

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

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 at AAEON.com for the latest version of this document.

Safety Precautions

Please read the following safety instructions carefully. It is advised that you keep this manual for future references

1. All cautions and warnings on the device should be noted.
2. All cables and adapters supplied by AAEON are certified and in accordance with the material safety laws and regulations of the country of sale. Do not use any cables or adapters not supplied by AAEON to prevent system malfunction or fires.
3. Make sure the power source matches the power rating of the device.
4. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
5. Always completely disconnect the power before working on the system's hardware.
6. No connections should be made when the system is powered as a sudden rush of power may damage sensitive electronic components.
7. If the device is not to be used for a long time, disconnect it from the power supply to avoid damage by transient over-voltage.
8. Always disconnect this device from any AC supply before cleaning.
9. While cleaning, use a damp cloth instead of liquid or spray detergents.
10. Make sure the device is installed near a power outlet and is easily accessible.
11. Keep this device away from humidity.
12. Place the device on a solid surface during installation to prevent falls
13. Do not cover the openings on the device to ensure optimal heat dissipation.
14. Watch out for high temperatures when the system is running.
15. Do not touch the heat sink or heat spreader when the system is running
16. Never pour any liquid into the openings. This could cause fire or electric shock.

17. As most electronic components are sensitive to static electrical charge, be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and contain all electronic components in any static-shielded containers.
18. If any of the following situations arises, please the contact our service personnel:
 - i. Damaged power cord or plug
 - ii. Liquid intrusion to the device
 - iii. Exposure to moisture
 - iv. Device is not working as expected or in a manner as described in this manual
 - v. The device is dropped or damaged
 - vi. Any obvious signs of damage displayed on the device
19. **DO NOT LEAVE THIS DEVICE IN AN UNCONTROLLED ENVIRONMENT WITH TEMPERATURES BEYOND THE DEVICE'S PERMITTED STORAGE TEMPERATURES (SEE CHAPTER 1) TO PREVENT DAMAGE.**

Warning!



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. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions and your local government's recycling or disposal directives.

Attention:

Il y a un risque d'explosion si la batterie est remplacée de façon incorrecte. Ne la remplacer qu'avec le même modèle ou équivalent recommandé par le constructeur. Recycler les batteries usées en accord avec les instructions du fabricant et les directives gouvernementales de recyclage.

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

| 部件名称 | 有毒有害物质或元素 | | | | | |
|-----------------|-----------|-----------|-----------|-----------------|---------------|-----------------|
| | 铅 (Pb) | 汞 (Hg) | 镉 (Cd) | 六价铬 (Cr(VI)) | 多溴联苯 (PBB) | 多溴二苯 醚(PBDE) |
| 印刷电路板 及其电子组件 | × | ○ | ○ | ○ | ○ | ○ |
| 外部信号 连接器及线材 | × | ○ | ○ | ○ | ○ | ○ |
| 外壳 | ○ | ○ | ○ | ○ | ○ | ○ |
| 中央处理器 与内存 | × | ○ | ○ | ○ | ○ | ○ |
| 硬盘 | × | ○ | ○ | ○ | ○ | ○ |
| 液晶模块 | × | × | ○ | ○ | ○ | ○ |
| 光驱 | × | ○ | ○ | ○ | ○ | ○ |
| 触控模块 | × | ○ | ○ | ○ | ○ | ○ |
| 电源 | × | ○ | ○ | ○ | ○ | ○ |
| 电池 | × | ○ | ○ | ○ | ○ | ○ |

本表格依据 SJ/T 11364 的规定编制。

○：表示该有毒有害物质在该部件所有均质材料中的含量均在 GB/T 26572 标准规定的限量要求以下。

×：表示该有害物质的某一均质材料超出了 GB/T 26572 的限量要求，然而该部件

仍符合欧盟指令 2011/65/EU 的规范。

备注：

- 一、此产品所标示之环保使用期限，系指在一般正常使用状况下。
- 二、上述部件物质中央处理器、内存、硬盘、光驱、电源为选购品。
- 三、上述部件物质液晶模块、触控模块仅一体机产品适用。

Hazardous and Toxic Materials List

AAEON System

QO4-381 Rev.A0

| Component Name | Hazardous or Toxic Materials or Elements | | | | | |
|--|--|--------------|--------------|------------------------------|---------------------------------|-------------------------------|
| | Lead (Pb) | Mercury (Hg) | Cadmium (Cd) | Hexavalent Chromium (Cr(VI)) | Polybrominated biphenyls (PBBS) | Polybrominated ethers (PBDES) |
| PCB and Components | X | O | O | O | O | O |
| Wires & Connectors for Ext.Connections | X | O | O | O | O | O |
| Chassis | O | O | O | O | O | O |
| CPU & RAM | X | O | O | O | O | O |
| HDD Drive | X | O | O | O | O | O |
| LCD Module | X | X | O | O | O | O |
| Optical Drive | X | O | O | O | O | O |
| Touch Control Module | X | O | O | O | O | O |
| PSU | X | O | O | O | O | O |
| Battery | X | O | O | O | O | O |

This form is prepared in compliance with the provisions of SJ/T 11364.

O: The level of toxic or hazardous materials present in this component and its parts is below the limit specified by GB/T 26572.

X: The level of toxic of hazardous materials present in the component exceed the limits specified by GB/T 26572, but is still in compliance with EU Directive 2011/65/EU (RoHS 2).

Notes:

1. The Environment Friendly Use Period indicated by labelling on this product is applicable only to use under normal conditions.
2. Individual components including the CPU, RAM/memory, HDD, optical drive, and PSU are optional.
3. LCD Module and Touch Control Module only applies to certain products which feature these components.

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Chapter 1

Product Specifications

1.1 Specifications

System

| | |
|-------------------|--|
| CPU | Intel® Celeron® J1900, 2.0 GHz Intel® Celeron® N2807, 1.58 GHz |
| Chipset | Intel® System on Chip |
| System Memory | DDR3L 1333 SODIMM slot x 1, up to 8 GB (J1900) or 4 GB (N2807) |
| Display Interface | HDMI |
| Storage Device | CFast™, HDD/SSD |
| Ethernet | Intel® I211, 10/100/1000Base-TX x 4 |
| I/O | RS-232 x 1 USB 2.0 x 2 USB 3.2 Gen 1 x 1 HDMI x 2 LAN x 4 CFast slot x 1 Antenna hole x 1 Power button Power input |
| Expansion | Full-size Mini-Card (USB interface only) x 1 |
| Indicator | Power LED on power button |
| OS support | Windows® 10, Windows® 8.1, Windows® 7, Windows® Embedded 8, Windows® Embedded 7, Linux Fedora |

Power Supply

Power Requirement 12~24V with lockable DC jack

Mechanical

Mounting VESA (Mounting kit is optional) DIN rail
(Mounting kit is optional)

Dimensions (W x H x D) 6.53" x 4.20" x 2.05" (166mm x 106.6mm x 52mm)

Gross Weight 3.81 lbs. (1.73 kg)

Net Weight 2.8 lbs. (1.27 kg)

Environmental

Operating Temperature -22°F ~ 167°F (-30°C ~ 75°C) with wide temperature CFast™ card (according to IEC68-2-14 with 0.5 m/s airflow; with industrial devices)

Storage Temperature -22°F ~ 176°F (-30°C ~ 80°C)

Storage Humidity 95% @ 40°C, non-condensing

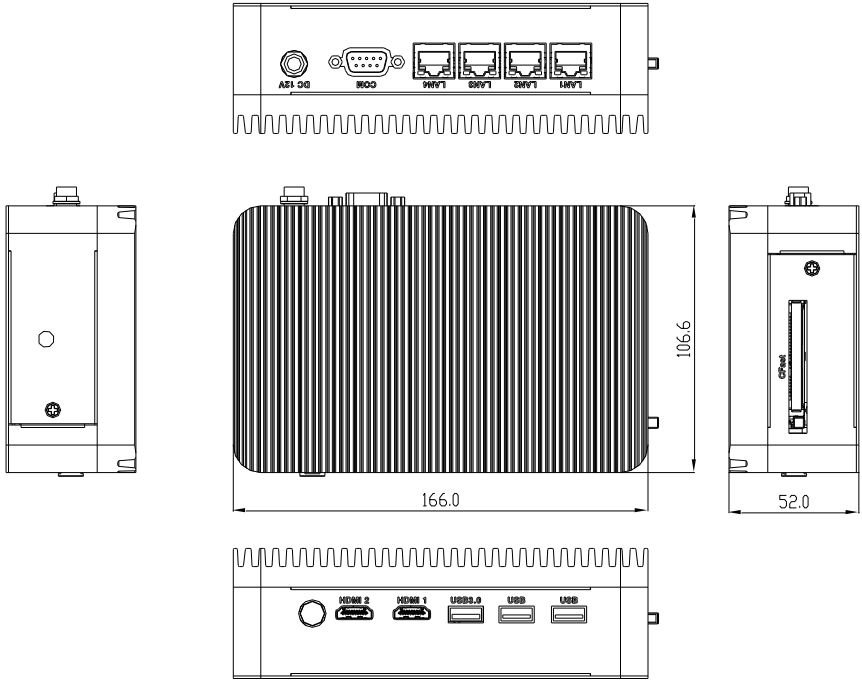
Anti-Vibration 5 Grms/ 5 ~ 500Hz/ operation – CFast™ card or SSD
1 Grms/ 5 ~ 500Hz/ operation – HDD

Certification CE/FCC class A

Chapter 2

Hardware Information

2.1 Dimensions

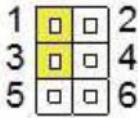


2.2 List of Jumpers

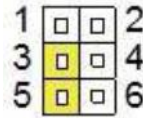
Please refer to the table below for all of the system's jumpers that you can configure for your application

| Label | Function |
|--------------|---|
| JP12 (1,3,5) | Clear CMOS Jumper |
| JP12 (2,4,6) | Auto Power Button Enable/ Disable Selection |
| SW1 | Push Power Button with Orange LED |

2.2.1 Clear CMOS Jumper (JP12, pin 1,3,5)

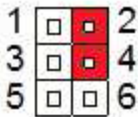


Normal (Default)

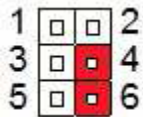


Clear CMOS

2.2.2 Auto Power Button Enable/ Disable Selection (JP12, pin 2,4,6)

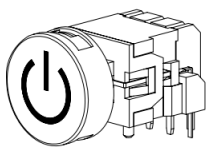


Enable

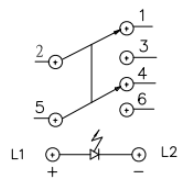


Disable (Default)

2.2.3 Push Power Button with Orange LED (SW1)



CIRCUIT



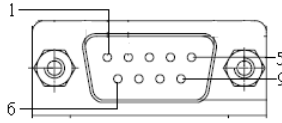
| Pin | Pin Name | Signal Type | Signal Level |
|-----|----------|-------------|--------------|
| L1 | +V5S | IN | +5V |
| L2 | GND | GND | GND |
| 1 | NC | | |
| 2 | PWRBTN# | OUT | |
| 3 | GND | GND | GND |
| 4 | NC | | |
| 5 | NC | | |
| 6 | NC | | |

2.3 List of Connectors

Please refer to the table below for all of the system's connectors that you can configure for your application

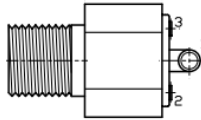
| Label | Function |
|-------|------------------------------------|
| CN1 | COM port RS-232 |
| CN2 | +12 V Input |
| CN3 | LAN (RJ-45) Port |
| CN4 | LAN (RJ-45) Port |
| CN5 | LAN (RJ-45) Port |
| CN6 | LAN (RJ-45) Port |
| CN7 | +5V Output for SATA HDD |
| CN8 | SATA Port |
| CN9 | DDR3L SO-DIMM Slot |
| CN11 | C-FAST CARD Connector |
| CN13 | MiniCard Slot (USB2.0 port 2 ONLY) |
| CN14 | Battery |
| CN17 | USB3.0 port 0 |
| CN18 | USB2.0 port 3 |
| CN19 | USB2.0 port 1 |
| CN20 | HDMI1 Port |
| CN21 | HDMI 2 Port |
| CN22 | LPC Expansion Connector |
| CN23 | SPI Programming Header |

2.3.1 COM Port RS-232 (CN1)



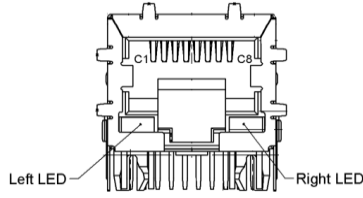
| Pin | Pin Name | Signal Type | Signal Level |
|-----|----------|-------------|--------------|
| 1 | DCD | IN | |
| 2 | RX | IN | |
| 3 | TX | OUT | ±9V |
| 4 | DTR | OUT | ±9V |
| 5 | GND | GND | |
| 6 | DSR | IN | |
| 7 | RTS | OUT | ±9V |
| 8 | CTS | IN | |
| 9 | RI | IN | |

2.3.2 +12 V Input (CN2)



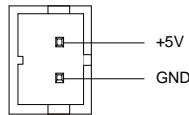
| Pin | Pin Name | Signal Type | Signal Level |
|-----|----------|-------------|--------------|
| 1 | +12 V | PWR | +12 V |
| 2-3 | GND | GND | |

2.3.3 LAN (RJ-45) Port 1,2,3,4 (JP3,4,5,6)



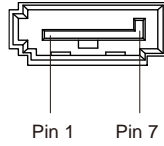
| Pin | Pin Name | Signal Type | Signal Level |
|-----|----------|-------------|--------------|
| C1 | MDI0+ | DIFF | |
| C2 | MDI0- | DIFF | |
| C3 | MDI1+ | DIFF | |
| C4 | MDI2+ | DIFF | |
| C5 | MDI2- | DIFF | |
| C6 | MDI1- | DIFF | |
| C7 | MDI3+ | DIFF | |
| C8 | MDI3- | DIFF | |

2.3.4 +5 V Output for SATA HDD (CN7)



| Pin | Pin Name | Signal Type | Signal Level |
|-----|----------|-------------|--------------|
| 1 | +V5S | PWR | +5V |
| 2 | GND | GND | |

2.3.5 SATA Port (CN8)



| Pin | Pin Name | Signal Type | Signal Level |
|-----|-----------|-------------|--------------|
| 1 | GND | GND | |
| 2 | SATA_TXP1 | DIFF | |
| 3 | SATA_TXN1 | DIFF | |
| 4 | GND | GND | |
| 5 | SATA_RXN1 | DIFF | |
| 6 | SATA_RXP1 | DIFF | |
| 7 | GND | GND | |

2.3.6 DDR3L SO-DIMM Slot (CN9)

Standard Specification

2.3.7 C-FAST Card Connector (CN11)

| Pin | Pin Name | Signal Type | Signal Level |
|-----|-----------|-------------|--------------|
| S1 | GND | GND | |
| S2 | SATA_TXP0 | DIFF | |
| S3 | SATA_TXN0 | DIFF | |
| S4 | GND | GND | |
| S5 | SATA_RXN0 | DIFF | |
| S6 | SATA_RXP0 | DIFF | |
| S7 | GND | GND | |

| Pin | Pin Name | Signal Type | Signal Level |
|-----|----------|-------------|--------------|
| P1 | NC | | |
| P2 | GND | GND | |
| P3 | NC | | |
| P4 | NC | | |
| P5 | NC | | |
| P6 | NC | | |
| P7 | GND | GND | |
| P8 | CFD_LED# | OUT | +3.3 V |
| P9 | NC | | |
| P10 | NC | | |
| P11 | NC | | |
| P12 | NC | | |
| P13 | +V3.3S | PWR | +3.3 V |
| P14 | +V3.3S | PWR | +3.3 V |
| P15 | GND | GND | |
| P16 | GND | GND | |
| P17 | NC | | |

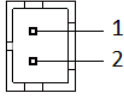
2.3.8 MiniCard Slot (CN13) (USB Port2 Only)

| Pin | Pin Name | Signal Type | Signal Level |
|-----|-----------------|-------------|--------------|
| 1 | WAKE_PCIE0#_3P3 | IN | |
| 2 | +V3.3A | PWR | +3.3 V |
| 3 | NC | | |
| 4 | GND | GND | |
| 5 | NC | | |

| Pin | Pin Name | Signal Type | Signal Level |
|-----|----------------|-------------|--------------|
| 6 | +V1.5S | PWR | +1.5 V |
| 7 | NC | IN | |
| 8 | NC | PWR | |
| 9 | GND | GND | |
| 10 | NC | I/O | |
| 11 | NC | DIFF | |
| 12 | NC | IN | |
| 13 | NC | DIFF | |
| 14 | NC | IN | |
| 15 | GND | GND | |
| 16 | NC | PWR | |
| 17 | NC | | |
| 18 | GND | GND | |
| 19 | NC | | |
| 20 | WL_DISABLED0# | OUT | +3.3 V |
| 21 | GND | GND | |
| 22 | BUF_PLT_RST# | OUT | +3.3 V |
| 23 | NC | DIFF | |
| 24 | +V3.3A | PWR | +3.3 V |
| 25 | NC | DIFF | |
| 26 | GND | GND | |
| 27 | GND | GND | |
| 28 | +V1.5S | PWR | +1.5 V |
| 29 | GND | GND | |
| 30 | SMB_CLK_3P3_FA | I/O | +3.3 V |
| 31 | NC | DIFF | |

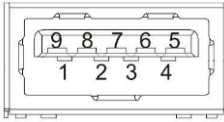
| Pin | Pin Name | Signal Type | Signal Level |
|-----|-----------------|-------------|--------------|
| 32 | SMB_DATA_3P3_FA | I/O | +3.3 V |
| 33 | NC | DIFF | |
| 34 | GND | GND | |
| 35 | GND | GND | |
| 36 | USB_DN2 | DIFF | |
| 37 | GND | GND | |
| 38 | USB_DP2 | DIFF | |
| 39 | +V3.3A | PWR | +3.3 V |
| 40 | GND | GND | |
| 41 | +V3.3A | PWR | +3.3 V |
| 42 | NC | | |
| 43 | NC | | |
| 44 | NC | | |
| 45 | NC | | |
| 46 | NC | | |
| 47 | NC | | |
| 48 | +V1.5S | PWR | +1.5 V |
| 49 | NC | | |
| 50 | GND | GND | |
| 51 | NC | | |
| 52 | +V3.3A | PWR | +3.3 V |

2.3.9 Battery (CN14)



| Pin | Pin Name | Signal Type | Signal Level |
|-----|----------|-------------|--------------|
| 1 | +3.3 V | PWR | 3.3 V |
| 2 | GND | GND | |

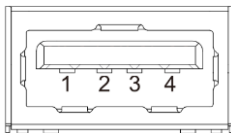
2.3.10 USB 3.0 Port 0 (CN17)



| Pin | Pin Name | Signal Type | Signal Level |
|-----|------------|-------------|--------------|
| 1 | +5VSB | PWR | +5 V |
| 2 | USB0_D- | DIFF | |
| 3 | USB0_D+ | DIFF | |
| 4 | GND | GND | |
| 5 | USB0_SSRX- | DIFF | |
| 6 | USB0_SSRX+ | DIFF | |
| 7 | GND | GND | |
| 8 | USB0_SSTX- | DIFF | |
| 9 | USB0_SSTX+ | DIFF | |

2.3.11 USB 2.0 Port 1, 3 (CN18,19)

Standard USB Connector



| Pin | Pin Name | Signal Type | Signal Level |
|-----|----------|-------------|--------------|
| 1 | +5VSB | PWR | +5 V |
| 2 | USB1_D- | DIFF | |
| 3 | USB1_D+ | DIFF | |
| 4 | GND | GND | |

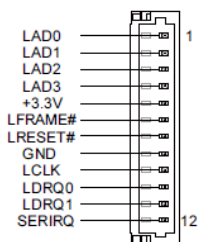
2.3.12 HDMI Port 1, 2 (CN20,21)



| Pin | Pin Name | Signal Type | Signal Level |
|-----|------------|-------------|--------------|
| 1 | TMDS_DAT2+ | DIFF | |
| 2 | GND | GND | |
| 3 | TMDS_DAT2- | DIFF | |
| 4 | TMDS_DAT1+ | DIFF | |
| 5 | GND | GND | |
| 6 | TMDS_DAT1- | DIFF | |
| 7 | TMDS_DAT0+ | DIFF | |
| 8 | GND | GND | |
| 9 | TMDS_DAT0- | DIFF | |
| 10 | TMDS_CLK+ | DIFF | |
| 11 | GND | GND | |

| Pin | Pin Name | Signal Type | Signal Level |
|-----|-------------|-------------|--------------|
| 12 | TMDS_CLK- | DIFF | |
| 13 | NC | | |
| 14 | NC | | |
| 15 | DDC_CLK | I/O | +5 V |
| 16 | DDC_DATA | I/O | +5 V |
| 17 | GND | GND | |
| 18 | +5V | I/O | +5 V |
| 19 | HPLG_DETECT | IN | |

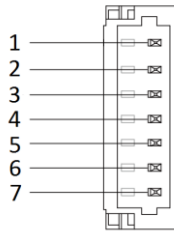
2.3.13 LPC Port (CN22)



| Pin | Pin Name | Signal Type | Signal Level |
|-----|----------|-------------|--------------|
| 1 | LAD0 | I/O | +3.3 V |
| 2 | LAD1 | I/O | +3.3 V |
| 3 | LAD2 | I/O | +3.3 V |
| 4 | LAD3 | I/O | +3.3 V |
| 5 | +V3.3S | PWR | +3.3 V |
| 6 | LFRAME# | IN | |
| 7 | LRESET# | OUT | +3.3 V |
| 8 | GND | GND | |
| 9 | LCLK | OUT | |

| Pin | Pin Name | Signal Type | Signal Level |
|-----|----------|-------------|--------------|
| 10 | LDRQ0 | IN | |
| 11 | LDRQ1 | IN | |
| 12 | SERIRQ | I/O | +3.3 V |

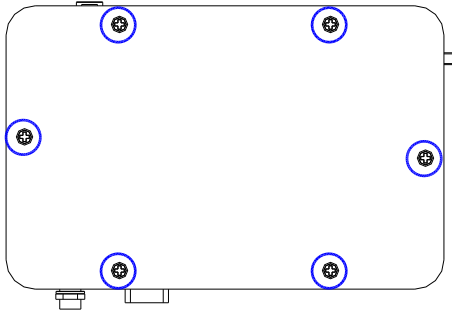
2.3.14 SPI Programming Header (CN23)



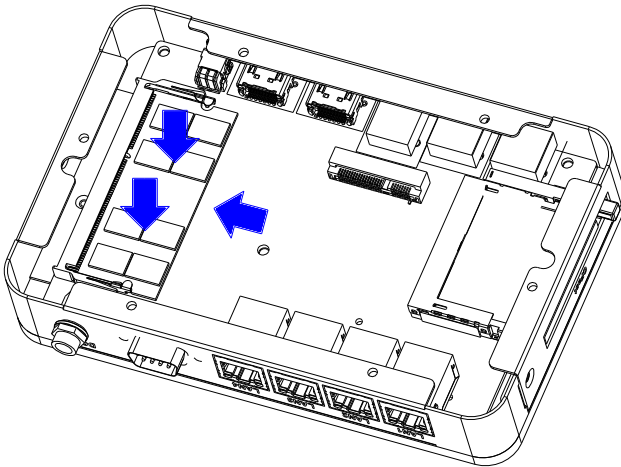
| Pin | Pin Name | Signal Type | Signal Level |
|-----|------------|-------------|--------------|
| 1 | SPI_SO_F | OUT | |
| 2 | GND | GND | |
| 3 | SPI_CLK_F | IN | |
| 4 | +V3.3A_SPI | PWR | +3.3 V |
| 5 | SPI_SI_F | IN | |
| 6 | SPI_CS0#_F | IN | |
| 7 | NC | | |

2.4 Installing DRAM

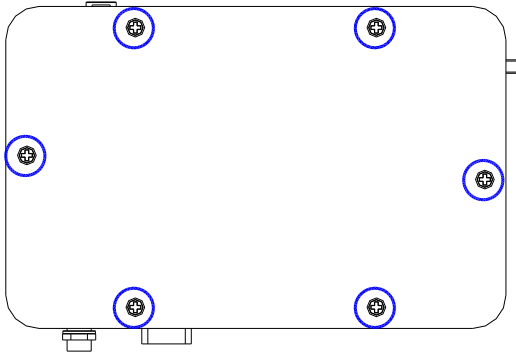
1. Remove the screws as shown below



2. Slot in the RAM diagonally into the slot, push down to secure.

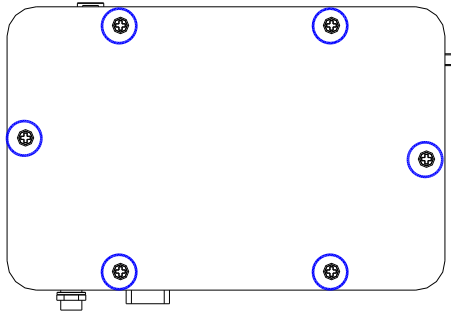


3. Re-tighten the screws

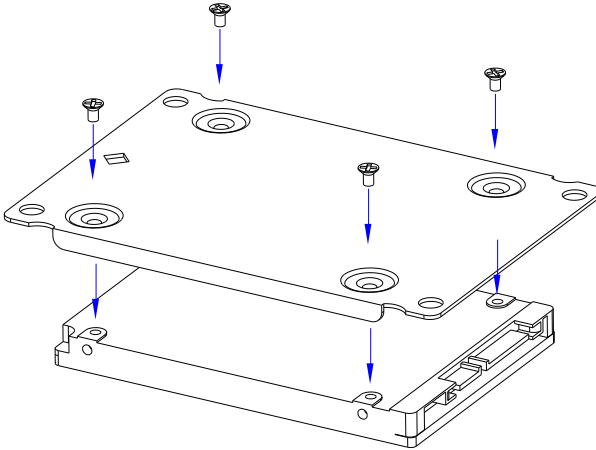


2.5 Installing HDD

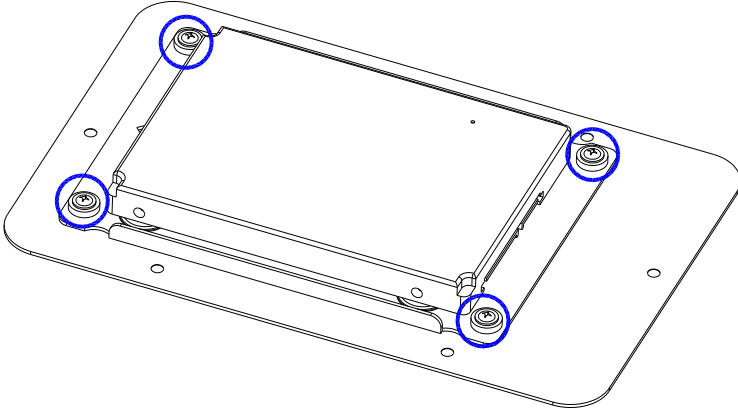
1. Remove the screws as shown below



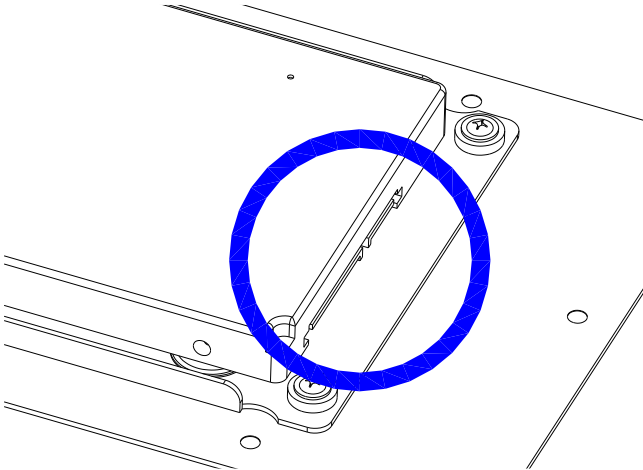
2. Attach the HDD bracket to the HDD with screws

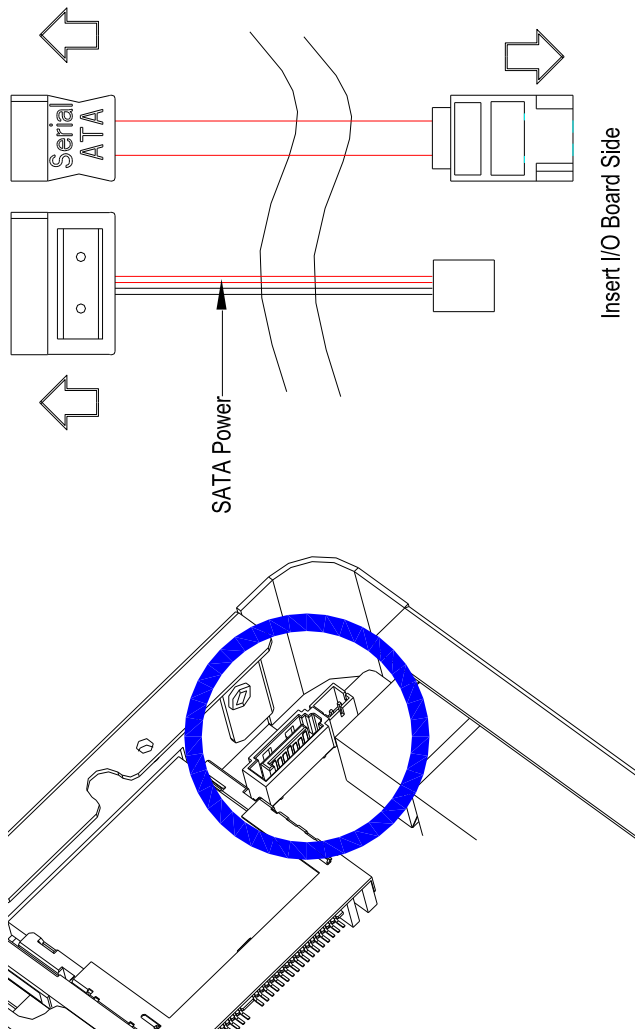


3. Attach the assembled HDD to the underside of the cover with screws



4. Connect up the HDD using the cables below





Chapter 3

AMI BIOS Setup

3.1 System Test and Initialization

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

The system configuration verification routines check the current system configuration against the values stored in the CMOS memory. If they do not match, an error message will be outputted, in which case you will need to run the BIOS setup program to set the configuration information in memory.

There are three situations in which you will need to change the CMOS settings:

- You are starting your system for the first time
- You have changed your system's hardware
- The CMOS memory has lost power and the configuration information is erased

The system's CMOS memory uses a backup battery for data retention, which is to be replaced once emptied.

3.2 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 or <F2> immediately while your computer is powering up.

The function for each interface can be found below.

Main – Date and time can be set here. Press <Tab> to switch between date elements

Advanced – Enable/ Disable boot option for legacy network devices

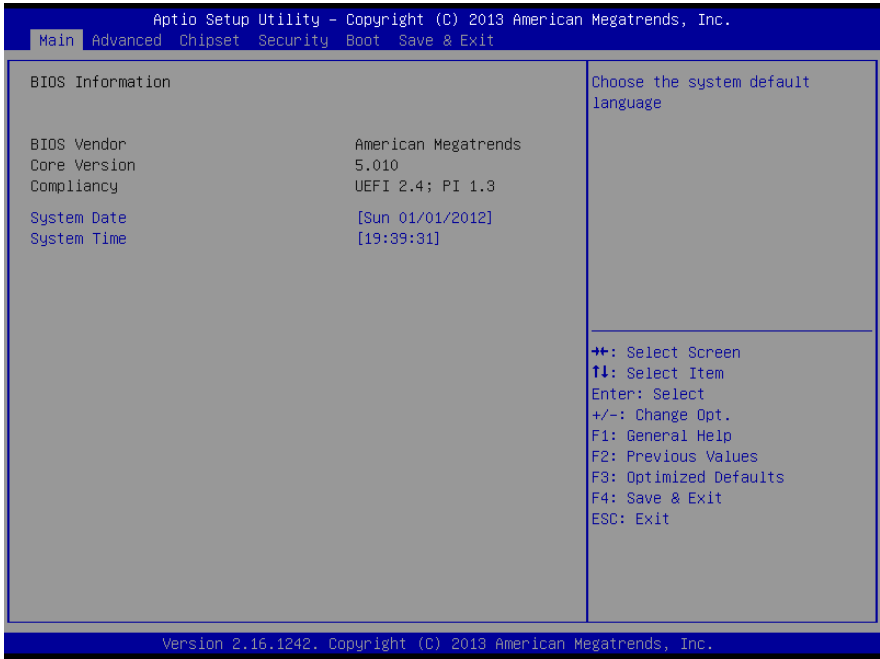
Chipset – For hosting bridge parameters

Boot – Enable/ Disable quiet Boot Option

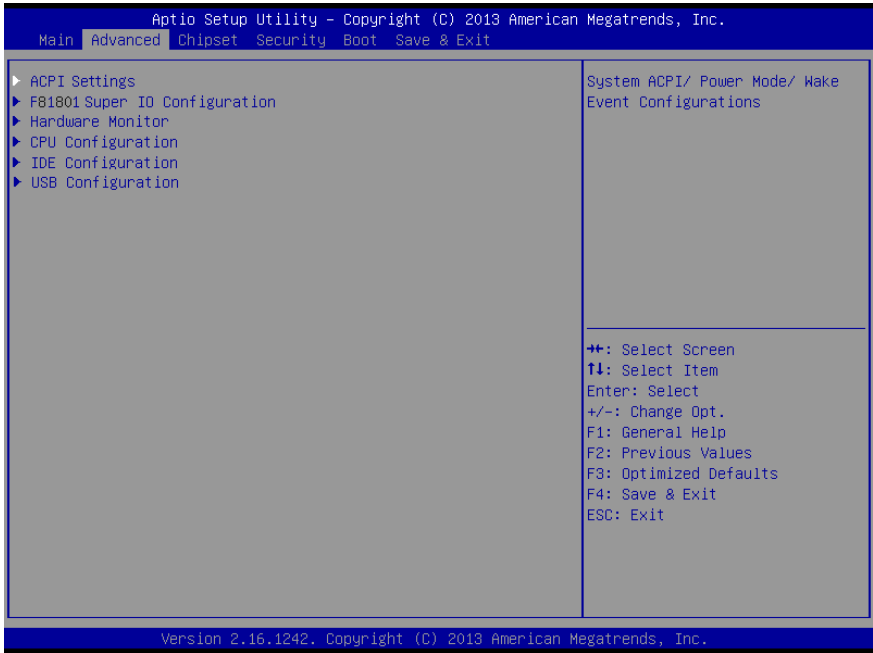
Security – The setup administrator password can be set here

Save & Exit – Save your changes and exit the program

3.3 Setup Submenu: Main



3.4 Setup Submenu: Advanced



3.4.1 Advanced: ACPI Settings

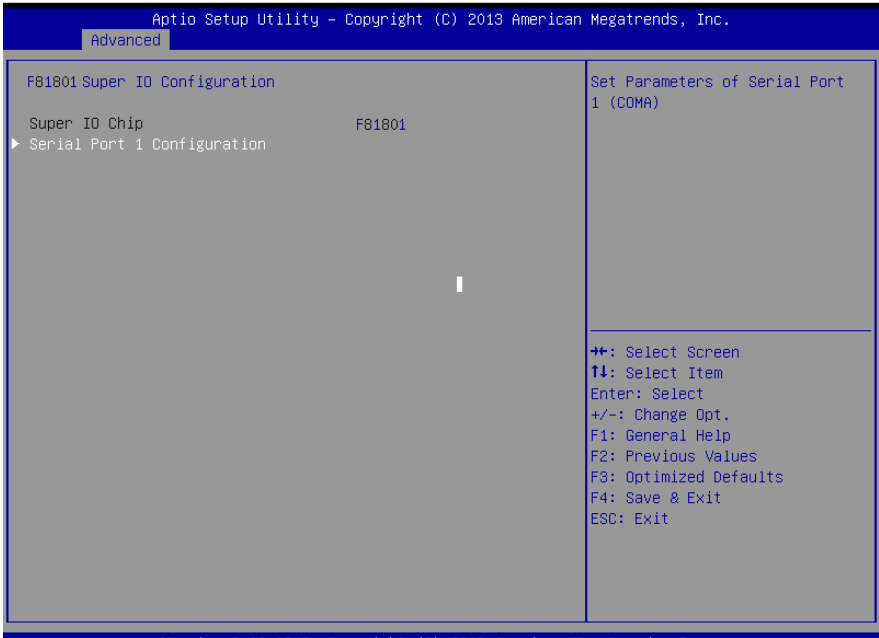


Options summary:

| | | |
|---|---------------------|-----------------------------------|
| ACPI Sleep State | Suspend Disabled | |
| | S3 (Suspend to RAM) | Optimal Default, Failsafe Default |
| Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed. | | |
| Restore AC Power | Power Off | Optimal Default, Failsafe Default |
| Loss | Power On | |
| | Last State | |
| Select AC power state when power is re-applied after a power failure | | |
| Power Mode | ATX Type | Optimal Default, Failsafe Default |

| | | |
|--|-----------------|-----------------------------------|
| | AT Type | |
| Select power supply mode | | |
| Wake on Ring | Disabled | Optimal Default, Failsafe Default |
| | Enabled | |
| En/Disabled wake from ring | | |
| Wake system with Fixed Time | Disabled | |
| | Enabled | |
| Enable or disable System wake on alarm event. Wake up time is setting by following settings. | | |
| Wake up day | 0-31 | |
| Select 0 for daily system wake up | | |
| Wake up hour | 0-23 | |
| | | |
| Wake up minute | 0-59 | |
| | | |
| Wake up second | 0-59 | |
| | | |
| Wake system with Dynamic Time | Disabled | |
| | Enabled | |
| Enable or disable System wake on alarm event. Wake up time is current time + Increase minutes. | | |
| Wake up minute increase | 1-5 | |
| | | |

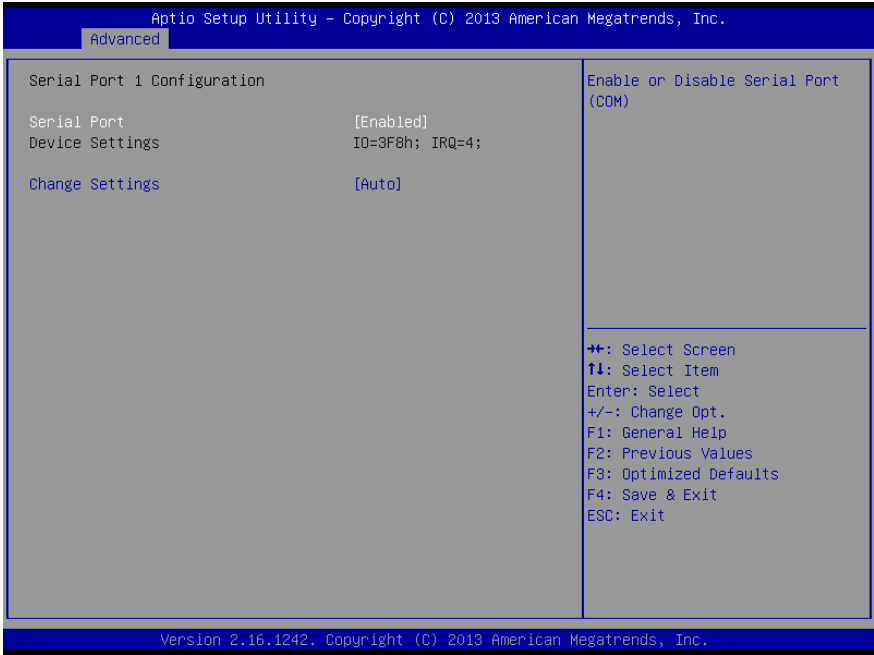
3.4.2 Advanced: F81801 Super IO Configuration



Options summary:

| | | |
|-----------|-----------|-----------------------------------|
| SATA Mode | IDE Mode | Optimal Default, Failsafe Default |
| | AHCI Mode | |

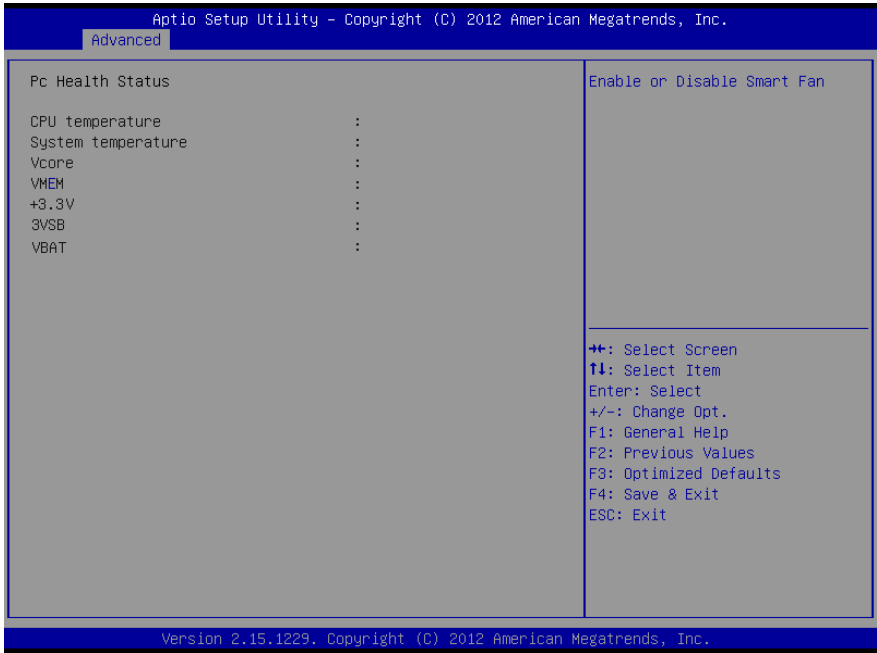
3.4.2.1 Super IO Configuration: Serial Port 1 Configuration



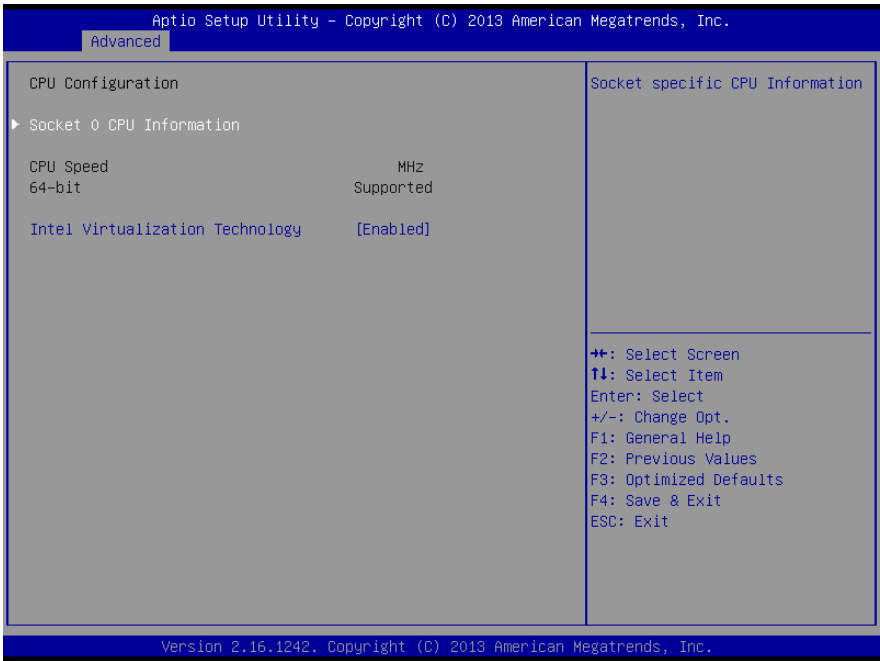
Options summary:

| | | |
|--|----------|-----------------------------------|
| Legacy USB Support | Enabled | Optimal Default, Failsafe Default |
| | Disabled | |
| | Auto | |
| <p>Enables BIOS Support for Legacy USB Support. When enabled, USB can be functional in legacy environment like DOS. AUTO option disables legacy support if no USB devices are connected</p> | | |

3.4.3 Advanced: H/W Monitor



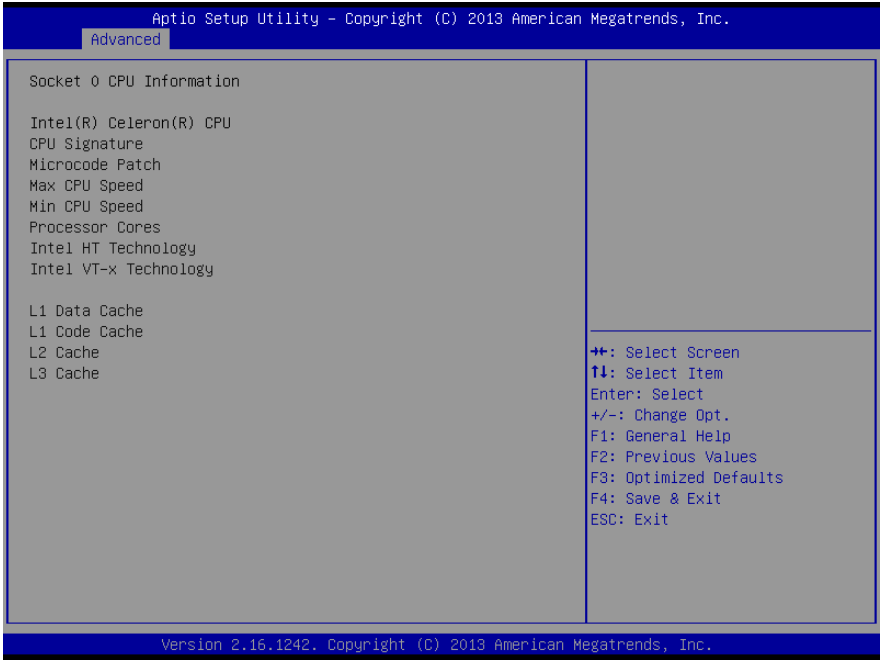
3.4.4 Advanced: CPU Configuration



Options summary:

| | | |
|---|----------|-----------------------------------|
| Intel Virtualization | Disabled | Optimal Default, Failsafe Default |
| Technology | Enabled | |
| When enabled, a VMM can utilize the additional hardware capabilities provided by Vander pool Technology | | |

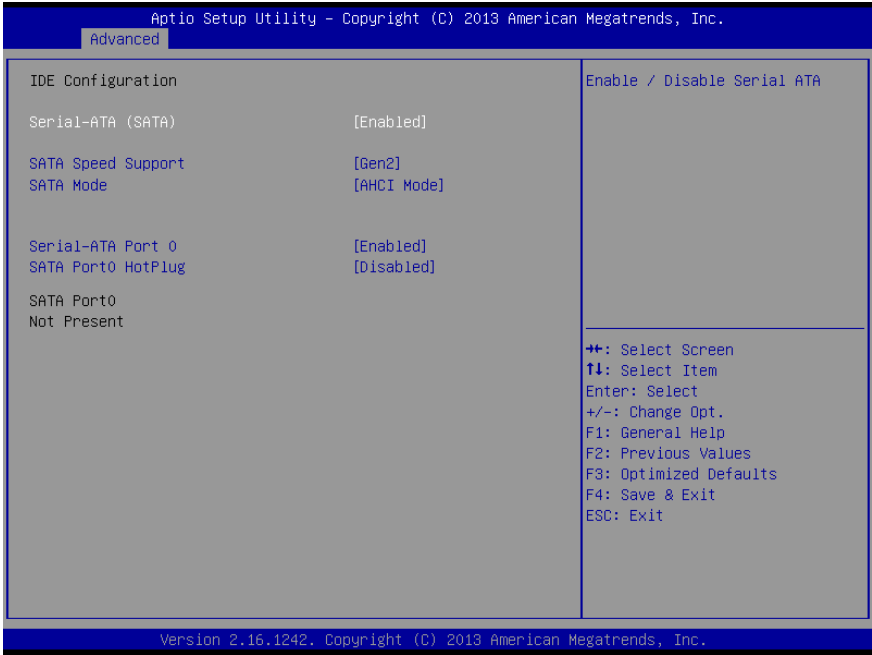
3.4.4.1 CPU Configuration: Socket 0 CPU Information



Options summary:

| | | |
|--|--------------|-----------------------------------|
| Power Mode | ATX Type | Optimal Default, Failsafe Default |
| | AT Type | |
| Select power supply mode. | | |
| AC Power Loss | Last State | Optimal Default, Failsafe Default |
| | Power On | |
| | Power Off | |
| Select power state when power is re-applied after a power failure. | | |
| RTC wake system from S5 | Disabled | Optimal Default, Failsafe Default |
| | Fixed Time | |
| | Dynamic Time | |
| Enable or disable System wake on alarm event. When enabled, System will wake on the hr::min::sec specified | | |

3.4.5 Advanced: SATA Configuration

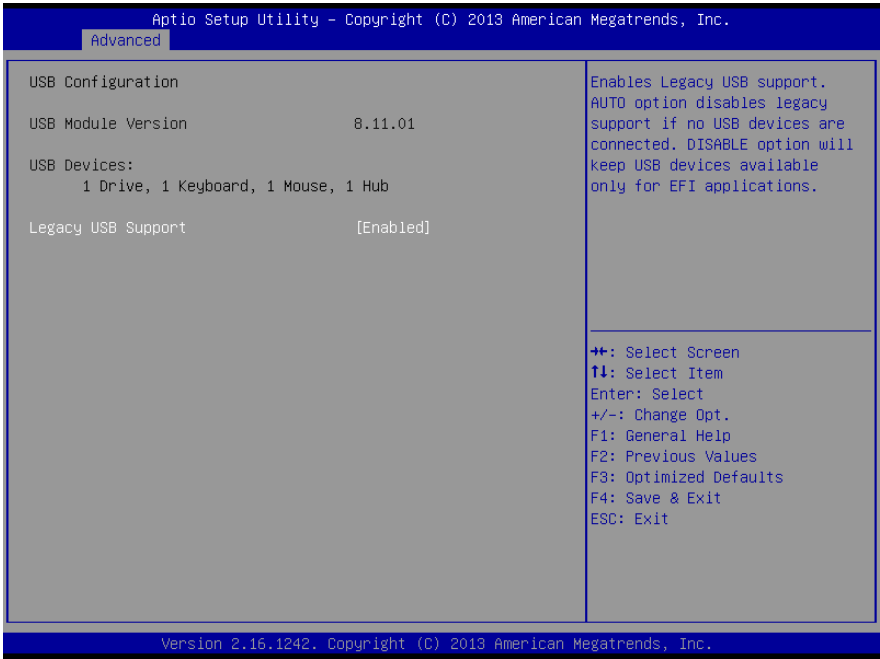


Options summary:

| | | |
|---------------------------------|----------|---------|
| Serial-ATA (SATA) | Enabled | Default |
| | Disabled | |
| En/Disable SATA | | |
| SATA Speed Support | Gen1 | Default |
| | Gen2 | |
| SATA Speed Support Gen1 or Gen2 | | |
| SATA Mode | IDE | Default |
| | AHCI | |

| | | |
|--|----------|---------|
| IDE: Configure SATA controllers as legacy IDE | | |
| AHCI: Configure SATA controllers to operate in AHCI mode | | |
| Serial-ATA Port 0 | Enabled | Default |
| | Disabled | |
| En/Disable SATA Port | | |
| SATA Port1 HotPlug | Enabled | |
| | Disabled | Default |
| En/Disable SATA Port Hotplug | | |

3.4.6 Advanced: USB Configuration

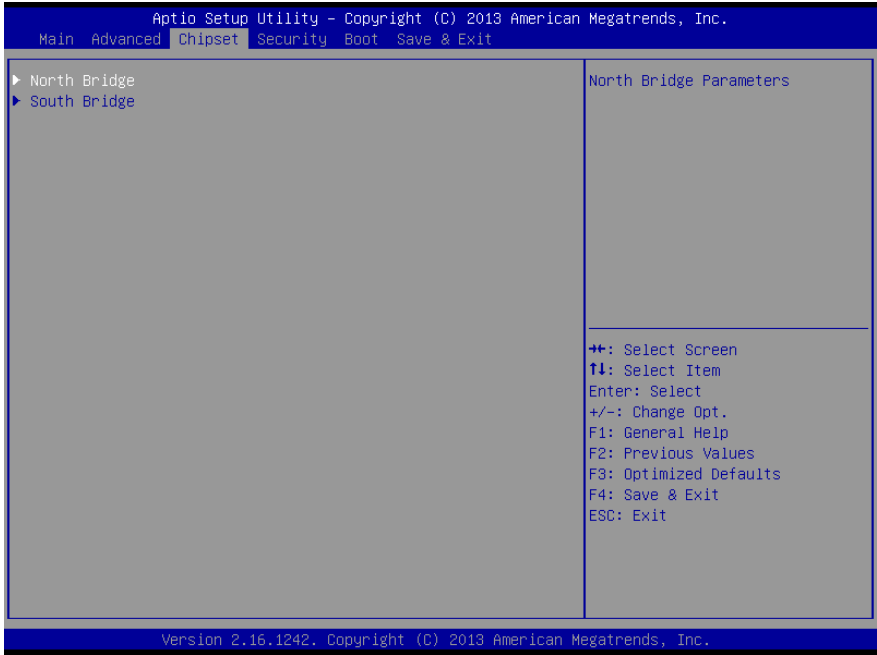


Options summary:

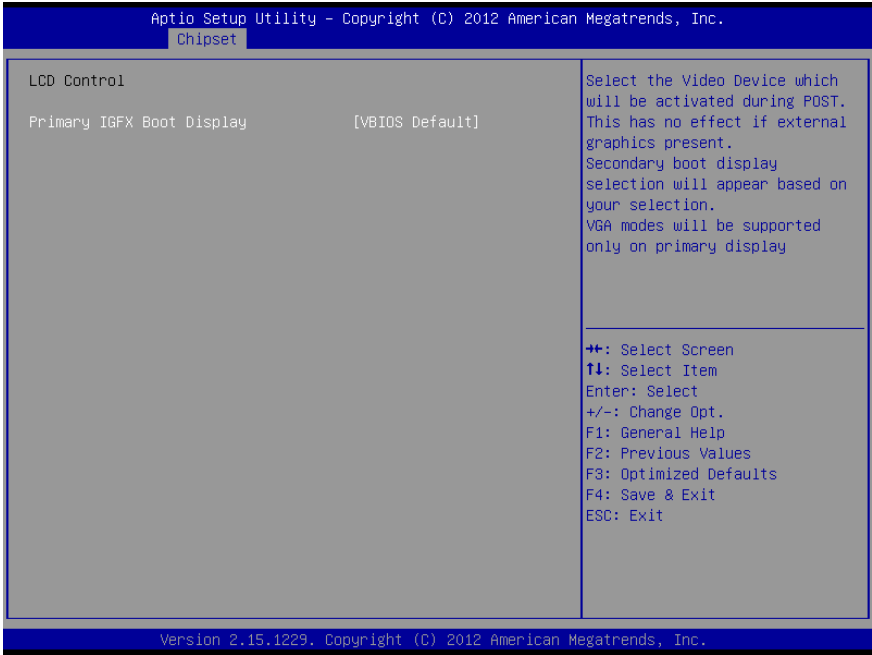
| | | |
|--|----------|-----------------------------------|
| Legacy USB Support | Enabled | Optimal Default, Failsafe Default |
| | Disabled | |
| | Auto | |
| <p>Enables BIOS Support for Legacy USB Support. When enabled, USB can be functional in legacy environment like DOS.</p> <p>AUTO option disables legacy support if no USB devices are connected</p> | | |
| Device Name (Emulation | Auto | Optimal Default, Failsafe Default |

| | | |
|---|------------|--|
| Type) | Floppy | |
| | Forced FDD | |
| | Hard Disk | |
| | CDROM | |
| If Auto. USB devices less than 530MB will be emulated as Floppy and remaining as Floppy and remaining as hard drive. Forced FDD option can be used to force a HDD formatted drive to boot as FDD(Ex. ZIP drive) | | |

3.5 Setup Submenu: Chipset



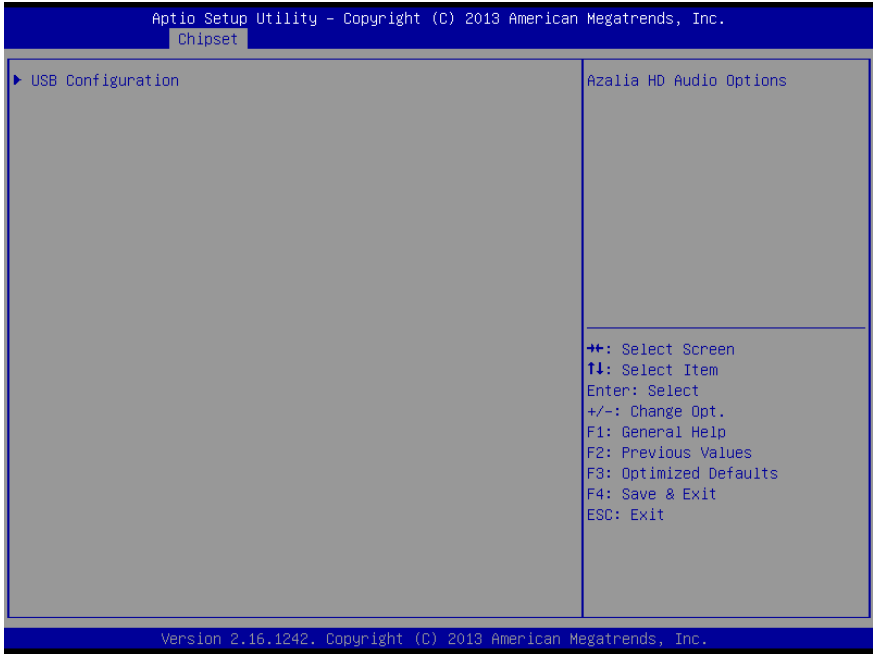
3.5.1 Chipset: North Bridge



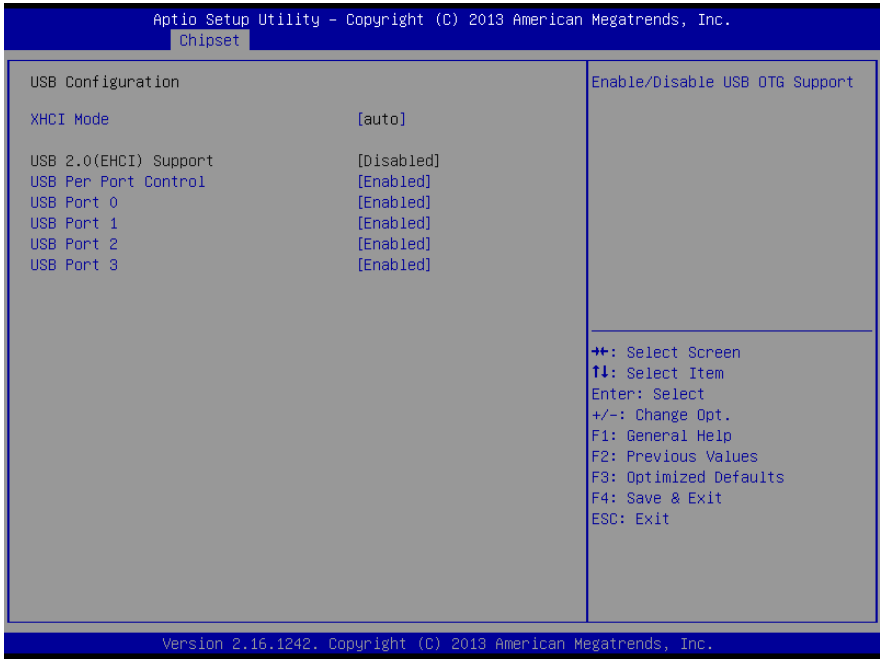
Options summary:

| | | |
|---------------------------|---------------|-----------------------------------|
| Primary IGFX Boot Display | VBIOS Default | Optimal Default, Failsafe Default |
| | HDMI1 | |
| | HDMI2 | |
| Select the Video device | | |

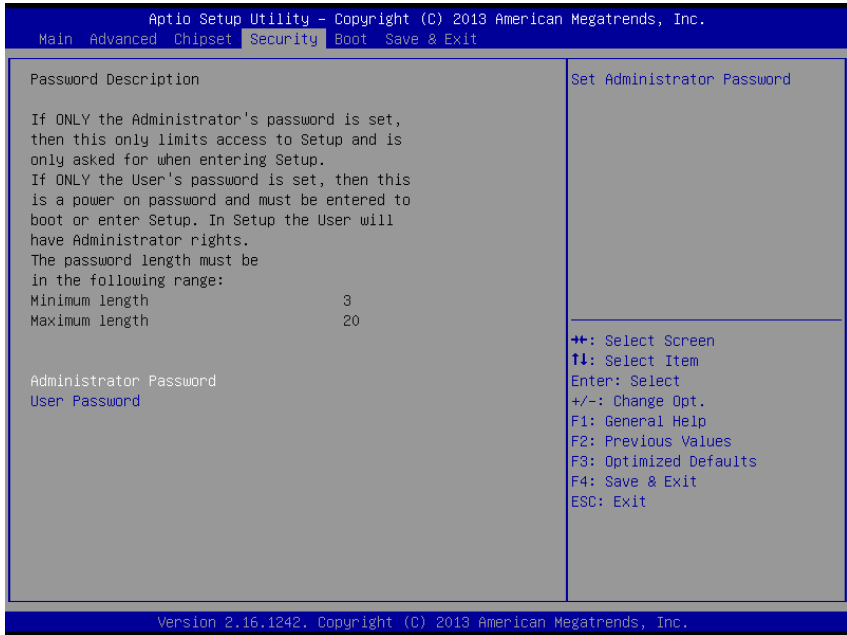
3.5.2 Chipset: South Bridge



3.5.2.1 South Bridge: USB Configuration (Default Setting)



3.6 Setup Submenu: Security



Change User/Administrator Password

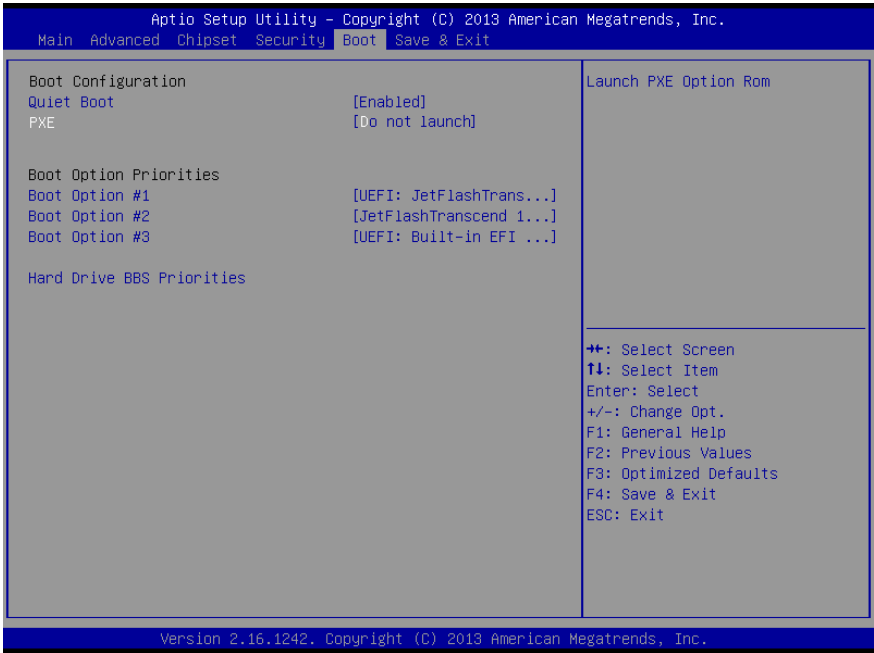
You can set an Administrator Password or User Password. An Administrator Password must be set before you can set a User Password. The password will be required during boot up, or when the user enters the Setup utility. A User Password does not provide access to many of the features in the Setup utility.

Select the password you wish to set, and press Enter. In the dialog box, enter your password (must be between 3 and 20 letters or numbers). Press Enter and retype your password to confirm. Press Enter again to set the password.

Removing the Password

Select the password you want to remove and enter the current password. At the next dialog box press Enter to disable password protection.

3.7 Setup Submenu: Boot

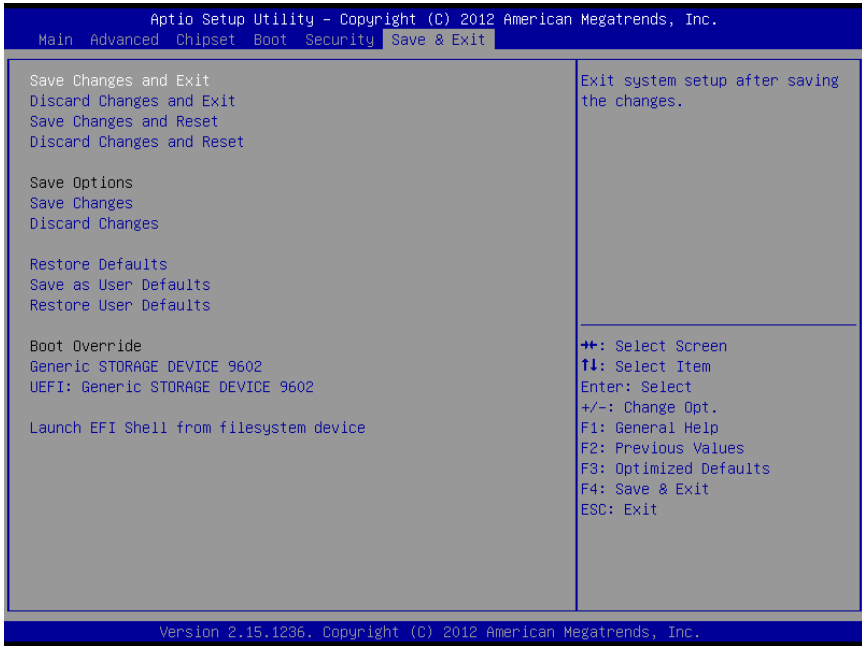


Options summary:

| | | |
|-------------------------------|---------------|---------|
| Quiet Boot | Disabled | Default |
| | Enabled | |
| En/Disable showing boot logo. | | |
| PXE | Do not launch | Default |
| | Enabled | |
| En/Disable PXE boot | | |

* Only LAN1 and LAN2 supports PXE

3.8 Setup Submenu: Save & Exit



Chapter 4

Drivers Installation

4.1 Drivers Download and Installation

Drivers for the BOXER-6404M can be downloaded from the product page on the AAEON website by following this link:

<https://www.aaeon.com/en/p/ultra-slim-box-pc-boxer-6404m>

Download the driver(s) you need and follow the steps below to install them.

Step 1 – Install Chipset Drivers

1. Open the **Step 1 - Chipset** folder and select your OS
2. Open the **SetupChipset.exe** file in the folder
3. Follow the instructions
4. Drivers will be installed automatically

Step 2 – Install Graphics Driver

1. Open the **Step 2 - VGA** folder and select your OS
2. Open the **Setup.exe** file in the folder
3. Follow the instructions
4. Drivers will be installed automatically

Step 3 – Install Network Driver

1. Open the **Step 3 - LAN** folder and select your OS
2. Open the **.exe** file in the folder
3. Follow the instructions
4. Drivers will be installed automatically

Step 4 – Install TXE Driver (Windows 8.1/10 only)

1. Open the **Step 4 - TXE** folder and select your OS
2. Open the **SetupTXE.exe** file in the folder
3. Follow the instructions
4. Drivers will be installed automatically

Step 5 – Install USB 3.0 Drivers (Windows 7 only)

1. Open the **Step 5 – USB 3.0** followed by the **Setup.exe** file
2. Follow the instructions
3. Drivers will be installed automatically

Step 6 – Install MBI Drivers

1. Open the **Step 6 - MBI** folder and select your OS
2. Open the **Setup.exe** file
3. Follow the instructions
4. Drivers will be installed automatically

Appendix A

Watchdog Timer Programming

A.1 Watchdog Timer Initial Program

| Table 1 : Watch dog relative IO address | | |
|---|---------------|---|
| | Default Value | Note |
| I/O Base 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 |
| Watchdog WDTRST# Enable | 0x00 | 7 | 1 | Enable/Disable time out output via WDTRST# 0: Disable 1: Enable |
| Pulse Width | 0x05 | 0:1 | 01 | Width of Pulse signal 00: 1ms (do not use) 01: 25ms 10: 125ms 11: 5s <i>Pulse width is must longer then 16ms.</i> |
| Signal Polarity | 0x05 | 2 | 0 | 0: low active 1: high active <i>Must set this bit to 0</i> |
| Counting Unit | 0x05 | 3 | 0 | Select time unit. 0: second 1: minute |
| Output Signal Type | 0x05 | 4 | 1 | 0: Level 1: Pulse <i>Must set this bit to 1</i> |
| Watchdog Timer Enable | 0x05 | 5 | 1 | 0: Disable 1: Enable |
| Timeout Status | 0x05 | 6 | 1 | 1: timeout occurred. Write a 1 to clear timeout status |
| Timer Counter | 0x06 | | | Time of watchdog timer (0~255) |

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 WDRstBit 0x80 // Watchdog WDTRST# (Bit7)
    #define WDRstVal 0x80 // Enabled WDTRST#
#define TimerReg   0x05 // Timer register
    #define PSWidthBit 0x00 // WDTRST# Pulse width (Bit0:1)
    #define PSWidthVal 0x01 // 25ms for WDTRST# pulse
    #define PolarityBit 0x02 // WDTRST# Signal polarity (Bit2)
    #define PolarityVal 0x00 // Low active for WDTRST#
    #define UnitBit    0x03 // Unit for timer (Bit3)
    #define ModeBit    0x04 // WDTRST# mode (Bit4)
    #define ModeVal    0x01 // 0:level 1: pulse
    #define EnableBit  0x05 // WDT timer enable (Bit5)
    #define EnableVal  0x01 // 1: enable
    #define StatusBit  0x06 // WDT timer status (Bit6)
#define CounterReg 0x06 // Timer counter register
*****

*****

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 procedure will enable the WDT counting.
    AaeonWDTEnable();
}
*****

*****
// Procedure : AaeonWDTEnable
```

```

VOID  AeonWDTEnable (){
    WDTEnableDisable(1);
}

// Procedure : AeonWDTConfig
VOID  AeonWDTConfig (byte Counter, BOOLEAN Unit){
    // Disable WDT counting
    WDTEnableDisable(0);
    // Clear Watchdog Timeout Status
    WDTClearTimeoutStatus();
    // WDT relative parameter setting
    WDTParameterSetting(Timer, Unit);
}

VOID  WDTEnableDisable(byte Value){
    If (Value == 1)
        WDTSetBit(TimerReg, EnableBit, 1);
    else
        WDTSetBit(TimerReg, EnableBit, 0);
}

VOID  WDTParameterSetting(byte Counter, BOOLEAN Unit){
    // Watchdog Timer counter setting
    WDTWriteByte(CounterReg, Counter);
    // WDT counting unit setting
    WDTSetBit(TimerReg, UnitBit, Unit);
    // WDT output mode set to pulse
    WDTSetBit(TimerReg, ModeBit, ModeVal);
    // WDT output mode set to active low
    WDTSetBit(TimerReg, PolarityBit, PolarityVal);
    // WDT output pulse width is 25ms
    WDTSetBit(TimerReg, PSWidthBit, PSWidthVal);
    // Watchdog WDTRST# Enable
    WDTSetBit(DevReg, WDTRstBit, WDTRstVal);
}

VOID  WDTClearTimeoutStatus(){
    WDTSetBit(TimerReg, StatusBit, 1);
}

*****
*****

```

```
VOID  WDTWriteByte(byte Register, byte Value){
    IOWriteByte(WDTAddr+Register, Value);
}

byte  WDTReadByte(byte Register){
    return IOReadByte(WDTAddr+Register);
}

VOID  WDTSetBit(byte Register, byte Bit, byte Val){
    byte TmpValue;

    TmpValue = WDTReadByte(Register);
    TmpValue &= ~(1 << Bit);
    TmpValue |= Val << Bit;
    WDTWriteByte(Register, TmpValue);
}
```









































```
*****
```














Appendix B

I/O Information

B.1 I/O Address Map

Note: There is no PS/2 interface on the BOXER-6404M, hence the exclamation marks.

- ▼  Input/output (IO)
 -  [00000000 - 0000006F] PCI Express Root Complex
 -  [00000020 - 00000021] Programmable interrupt controller
 -  [00000024 - 00000025] Programmable interrupt controller
 -  [00000028 - 00000029] Programmable interrupt controller
 -  [0000002C - 0000002D] Programmable interrupt controller
 -  [0000002E - 0000002F] Motherboard resources
 -  [00000030 - 00000031] Programmable interrupt controller
 -  [00000034 - 00000035] Programmable interrupt controller
 -  [00000038 - 00000039] Programmable interrupt controller
 -  [0000003C - 0000003D] Programmable interrupt controller
 -  [00000040 - 00000043] System timer
 -  [0000004E - 0000004F] Motherboard resources
 -  [00000050 - 00000053] System timer
 -  [00000060 - 00000060] Standard PS/2 Keyboard
 -  [00000061 - 00000061] Motherboard resources
 -  [00000063 - 00000063] Motherboard resources
 -  [00000064 - 00000064] Standard PS/2 Keyboard
 -  [00000065 - 00000065] Motherboard resources
 -  [00000067 - 00000067] Motherboard resources
 -  [00000070 - 00000070] Motherboard resources
 -  [00000070 - 00000077] System CMOS/real time clock
 -  [00000078 - 0000007F] PCI Express Root Complex
 -  [00000080 - 0000008F] Motherboard resources
 -  [00000092 - 00000092] Motherboard resources
 -  [000000A0 - 000000A1] Programmable interrupt controller
 -  [000000A4 - 000000A5] Programmable interrupt controller
 -  [000000A8 - 000000A9] Programmable interrupt controller
 -  [000000AC - 000000AD] Programmable interrupt controller
 -  [000000B0 - 000000B1] Programmable interrupt controller
 -  [000000B2 - 000000B3] Motherboard resources
 -  [000000B4 - 000000B5] Programmable interrupt controller
 -  [000000B8 - 000000B9] Programmable interrupt controller
 -  [000000BC - 000000BD] Programmable interrupt controller
 -  [000002C8 - 000002CF] Communications Port (COM10)
 -  [000002D8 - 000002DF] Communications Port (COM9)
 -  [000003B0 - 000003BB] Intel(R) HD Graphics
 -  [000003C0 - 000003DF] Intel(R) HD Graphics
 -  [000003F8 - 000003FF] Communications Port (COM1)
 -  [00000400 - 0000047F] Motherboard resources










































-  [000004D0 - 000004D1] Programmable interrupt controller
-  [00000500 - 000005FE] Motherboard resources
-  [00000600 - 0000061F] Motherboard resources
-  [00000680 - 0000069F] Motherboard resources
-  [00000A00 - 00000A0F] Motherboard resources
-  [00000A10 - 00000A1F] Motherboard resources
-  [00000D00 - 0000FFFF] PCI Express Root Complex
-  [0000B000 - 0000BFFF] Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor PCI Express - Root Port 4 - 0F4E
-  [0000C000 - 0000CFFF] Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor PCI Express - Root Port 3 - 0F4C
-  [0000D000 - 0000DFFF] Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor PCI Express - Root Port 2 - 0F4A
-  [0000E000 - 0000EFFF] Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor PCI Express - Root Port 1 - 0F48
-  [0000F000 - 0000F01F] Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor Platform Control Unit - SMBus Port - 0F12
-  [0000F080 - 0000F087] Intel(R) HD Graphics








































B.2 Memory Address Map









































| | |
|---|---|
| ▼ | Memory |
| ▶ | [000A0000 - 000BFFFF] Intel(R) HD Graphics |
| ▶ | [000A0000 - 000BFFFF] PCI Express Root Complex |
| ▶ | [000C0000 - 000DFFFF] PCI Express Root Complex |
| ▶ | [000E0000 - 000FFFFFF] PCI Express Root Complex |
| ▶ | [C0000000 - CFFFFFFF] Intel(R) HD Graphics |
| ▶ | [C0000000 - D0A16FFF] PCI Express Root Complex |
| ▶ | [D0000000 - D03FFFFFF] Intel(R) HD Graphics |
| ▶ | [D0400000 - D04FFFFFF] Intel(R) Trusted Execution Engine Interface |
| ▶ | [D0500000 - D05FFFFFF] Intel(R) Trusted Execution Engine Interface |
| ▶ | [D0600000 - D061FFFF] Intel(R) I211 Gigabit Network Connection |
| ▶ | [D0600000 - D06FFFFFF] Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor PCI Express - Root Port 4 - 0F4E |
| ▶ | [D0620000 - D0623FFF] Intel(R) I211 Gigabit Network Connection |
| ▶ | [D0700000 - D071FFFF] Intel(R) I211 Gigabit Network Connection #2 |
| ▶ | [D0700000 - D07FFFFFF] Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor PCI Express - Root Port 3 - 0F4C |
| ▶ | [D0710000 - D0713FFF] High Definition Audio Controller |
| ▶ | [D0720000 - D0723FFF] Intel(R) I211 Gigabit Network Connection #2 |
| ▶ | [D0800000 - D081FFFF] Intel(R) I211 Gigabit Network Connection #3 |
| ▶ | [D0800000 - D08FFFFFF] Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor PCI Express - Root Port 2 - 0F4A |
| ▶ | [D0820000 - D0823FFF] Intel(R) I211 Gigabit Network Connection #3 |
| ▶ | [D0900000 - D091FFFF] Intel(R) I211 Gigabit Network Connection #4 |
| ▶ | [D0900000 - D09FFFFFF] Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor PCI Express - Root Port 1 - 0F48 |
| ▶ | [D0920000 - D0923FFF] Intel(R) I211 Gigabit Network Connection #4 |
| ▶ | [D0A00000 - D0A0FFFF] Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft) |
| ▶ | [D0A10000 - D0A13FFF] High Definition Audio Controller |
| ▶ | [D0A14000 - D0A1401F] Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor Platform Control Unit - SMBus Port - 0F12 |
| ▶ | [D0A16000 - D0A167FF] Standard SATA AHCI Controller |
| ▶ | [E0000000 - EFFFFFFF] Motherboard resources |
| ▶ | [E00000D0 - E00000DB] Intel(R) Sideband Fabric Device |
| ▶ | [FED00000 - FED003FF] High precision event timer |
| ▶ | [FED01000 - FED01FFF] Motherboard resources |
| ▶ | [FED03000 - FED03FFF] Motherboard resources |
| ▶ | [FED04000 - FED04FFF] Motherboard resources |
| ▶ | [FED08000 - FED08FFF] Motherboard resources |
| ▶ | [FED0C000 - FED0FFFF] Motherboard resources |
| ▶ | [FED1C000 - FED1CFFF] Motherboard resources |
| ▶ | [FEE00000 - FEEFFFFFF] Motherboard resources |
| ▶ | [FEF00000 - FEFFFFFFF] Motherboard resources |
| ▶ | [FF000000 - FFFFFFFF] Device |











































B.3 IRQ Mapping Chart











































Note: There is no PS/2 interface on the BOXER-6404M, hence the exclamation marks.










































| | | |
|---|---|--|
| ▼ |  | Interrupt request (IRQ) |
| |  | (ISA) 0x00000000 (00) System timer |
| |  | (ISA) 0x00000001 (01) Standard PS/2 Keyboard |
| |  | (ISA) 0x00000003 (03) High Definition Audio Controller |
| |  | (ISA) 0x00000004 (04) Communications Port (COM1) |
| |  | (ISA) 0x00000008 (08) High precision event timer |
| |  | (ISA) 0x0000000A (10) Communications Port (COM10) |
| |  | (ISA) 0x0000000B (11) Communications Port (COM9) |
| |  | (ISA) 0x0000000C (12) PS/2 Compatible Mouse |
| |  | (ISA) 0x00000036 (54) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000037 (55) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000038 (56) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000039 (57) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x0000003A (58) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x0000003B (59) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x0000003C (60) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x0000003D (61) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x0000003E (62) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x0000003F (63) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000040 (64) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000041 (65) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000042 (66) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000043 (67) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000044 (68) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000045 (69) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000046 (70) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000047 (71) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000048 (72) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000049 (73) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x0000004A (74) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x0000004B (75) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x0000004C (76) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x0000004D (77) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x0000004E (78) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x0000004F (79) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000050 (80) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000051 (81) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000052 (82) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000053 (83) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000054 (84) Microsoft ACPI-Compliant System |
| |  | (ISA) 0x00000055 (85) Microsoft ACPI-Compliant System |











































| | |
|--|---------------------------------|
|  (ISA) 0x00000056 (86) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000057 (87) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000058 (88) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000059 (89) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000005A (90) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000005B (91) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000005C (92) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000005D (93) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000005E (94) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000005F (95) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000060 (96) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000061 (97) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000062 (98) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000063 (99) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000064 (100) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000065 (101) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000066 (102) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000067 (103) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000068 (104) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000069 (105) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000006A (106) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000006B (107) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000006C (108) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000006D (109) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000006E (110) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000006F (111) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000070 (112) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000071 (113) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000072 (114) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000073 (115) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000074 (116) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000075 (117) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000076 (118) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000077 (119) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000078 (120) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000079 (121) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000007A (122) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000007B (123) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000007C (124) | Microsoft ACPI-Compliant System |











































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|--|---------------------------------|
|  (ISA) 0x0000007D (125) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000007E (126) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000007F (127) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000080 (128) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000081 (129) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000082 (130) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000083 (131) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000084 (132) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000085 (133) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000086 (134) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000087 (135) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000088 (136) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000089 (137) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000008A (138) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000008B (139) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000008C (140) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000008D (141) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000008E (142) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000008F (143) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000090 (144) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000091 (145) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000092 (146) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000093 (147) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000094 (148) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000095 (149) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000096 (150) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000097 (151) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000098 (152) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000099 (153) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000009A (154) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000009B (155) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000009C (156) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000009D (157) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000009E (158) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000009F (159) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000A0 (160) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000A1 (161) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000A2 (162) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000A3 (163) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000A4 (164) | Microsoft ACPI-Compliant System |











































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|--|---------------------------------|
|  (ISA) 0x000000A5 (165) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000A6 (166) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000A7 (167) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000A8 (168) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000A9 (169) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000AA (170) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000AB (171) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000AC (172) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000AD (173) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000AE (174) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000AF (175) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000B0 (176) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000B1 (177) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000B2 (178) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000B3 (179) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000B4 (180) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000B5 (181) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000B6 (182) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000B7 (183) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000B8 (184) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000B9 (185) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000BA (186) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000BB (187) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000BC (188) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000BD (189) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000BE (190) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000BF (191) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000C0 (192) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000C1 (193) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000C2 (194) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000C3 (195) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000C4 (196) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000C5 (197) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000C6 (198) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000C7 (199) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000C8 (200) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000C9 (201) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000CA (202) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000CB (203) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000000CC (204) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000100 (256) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000101 (257) | Microsoft ACPI-Compliant System |











































| | |
|--|---------------------------------|
|  (ISA) 0x00000102 (258) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000103 (259) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000104 (260) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000105 (261) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000106 (262) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000107 (263) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000108 (264) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000109 (265) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000010A (266) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000010B (267) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000010C (268) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000010D (269) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000010E (270) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000010F (271) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000110 (272) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000111 (273) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000112 (274) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000113 (275) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000114 (276) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000115 (277) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000116 (278) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000117 (279) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000118 (280) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000119 (281) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000011A (282) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000011B (283) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000011C (284) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000011D (285) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000011E (286) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000011F (287) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000120 (288) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000121 (289) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000122 (290) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000123 (291) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000124 (292) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000125 (293) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000126 (294) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000127 (295) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000128 (296) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000129 (297) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000012A (298) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000012B (299) | Microsoft ACPI-Compliant System |

























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|--|---------------------------------|
|  (ISA) 0x0000012C (300) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000012D (301) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000012E (302) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000012F (303) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000130 (304) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000131 (305) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000132 (306) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000133 (307) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000134 (308) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000135 (309) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000136 (310) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000137 (311) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000138 (312) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000139 (313) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000013A (314) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000013B (315) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000013C (316) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000013D (317) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000013E (318) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000013F (319) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000140 (320) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000141 (321) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000142 (322) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000143 (323) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000144 (324) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000145 (325) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000146 (326) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000147 (327) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000148 (328) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000149 (329) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000014A (330) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000014B (331) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000014C (332) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000014D (333) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000014E (334) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000014F (335) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000150 (336) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000151 (337) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000152 (338) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000153 (339) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000154 (340) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000155 (341) | Microsoft ACPI-Compliant System |

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|--|---------------------------------|
|  (ISA) 0x00000156 (342) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000157 (343) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000158 (344) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000159 (345) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000015A (346) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000015B (347) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000015C (348) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000015D (349) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000015E (350) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000015F (351) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000160 (352) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000161 (353) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000162 (354) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000163 (355) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000164 (356) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000165 (357) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000166 (358) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000167 (359) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000168 (360) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000169 (361) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000016A (362) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000016B (363) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000016C (364) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000016D (365) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000016E (366) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000016F (367) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000170 (368) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000171 (369) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000172 (370) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000173 (371) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000174 (372) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000175 (373) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000176 (374) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000177 (375) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000178 (376) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000179 (377) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000017A (378) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000017B (379) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000017C (380) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000017D (381) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000017E (382) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000017F (383) | Microsoft ACPI-Compliant System |

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|  (ISA) 0x00000180 (384) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000181 (385) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000182 (386) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000183 (387) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000184 (388) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000185 (389) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000186 (390) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000187 (391) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000188 (392) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000189 (393) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000018A (394) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000018B (395) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000018C (396) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000018D (397) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000018E (398) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000018F (399) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000190 (400) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000191 (401) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000192 (402) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000193 (403) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000194 (404) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000195 (405) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000196 (406) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000197 (407) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000198 (408) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00000199 (409) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000019A (410) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000019B (411) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000019C (412) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000019D (413) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000019E (414) | Microsoft ACPI-Compliant System |
|  (ISA) 0x0000019F (415) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001A0 (416) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001A1 (417) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001A2 (418) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001A3 (419) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001A4 (420) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001A5 (421) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001A6 (422) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001A7 (423) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001A8 (424) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001A9 (425) | Microsoft ACPI-Compliant System |

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|  (ISA) 0x000001AA (426) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001AB (427) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001AC (428) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001AD (429) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001AE (430) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001AF (431) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001B0 (432) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001B1 (433) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001B2 (434) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001B3 (435) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001B4 (436) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001B5 (437) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001B6 (438) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001B7 (439) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001B8 (440) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001B9 (441) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001BA (442) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001BB (443) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001BC (444) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001BD (445) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001BE (446) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001BF (447) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001C0 (448) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001C1 (449) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001C2 (450) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001C3 (451) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001C4 (452) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001C5 (453) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001C6 (454) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001C7 (455) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001C8 (456) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001C9 (457) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001CA (458) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001CB (459) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001CC (460) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001CD (461) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001CE (462) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001CF (463) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001D0 (464) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001D1 (465) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001D2 (466) | Microsoft ACPI-Compliant System |
|  (ISA) 0x000001D3 (467) | Microsoft ACPI-Compliant System |

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|  (ISA) 0x00001D4 (468) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001D5 (469) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001D6 (470) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001D7 (471) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001D8 (472) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001D9 (473) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001DA (474) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001DB (475) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001DC (476) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001DD (477) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001DE (478) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001DF (479) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001E0 (480) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001E1 (481) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001E2 (482) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001E3 (483) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001E4 (484) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001E5 (485) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001E6 (486) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001E7 (487) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001E8 (488) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001E9 (489) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001EA (490) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001EB (491) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001EC (492) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001ED (493) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001EE (494) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001EF (495) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001F0 (496) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001F1 (497) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001F2 (498) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001F3 (499) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001F4 (500) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001F5 (501) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001F6 (502) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001F7 (503) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001F8 (504) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001F9 (505) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001FA (506) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001FB (507) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001FC (508) | Microsoft ACPI-Compliant System |
|  (ISA) 0x00001FD (509) | Microsoft ACPI-Compliant System |

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|  | (ISA) 0x000001FE (510) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000001FF (511) | Microsoft ACPI-Compliant System |
|  | (PCI) 0x0000000A (10) | Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor Platform Control Unit - SMBus Port - 0F12 |
|  | (PCI) 0x00000016 (22) | High Definition Audio Controller |
|  | (PCI) 0xFFFFFFFFB (-21) | Intel(R) Trusted Execution Engine Interface |
|  | (PCI) 0xFFFFFFFFEC (-20) | Intel(R) I211 Gigabit Network Connection #4 |
|  | (PCI) 0xFFFFFFFFED (-19) | Intel(R) I211 Gigabit Network Connection #3 |
|  | (PCI) 0xFFFFFFFFEE (-18) | Intel(R) I211 Gigabit Network Connection #2 |
|  | (PCI) 0xFFFFFFFFEF (-17) | Intel(R) I211 Gigabit Network Connection #2 |
|  | (PCI) 0xFFFFFFFFF0 (-16) | Intel(R) I211 Gigabit Network Connection #2 |
|  | (PCI) 0xFFFFFFFFF1 (-15) | Intel(R) I211 Gigabit Network Connection #2 |
|  | (PCI) 0xFFFFFFFFF2 (-14) | Intel(R) I211 Gigabit Network Connection #3 |
|  | (PCI) 0xFFFFFFFFF3 (-13) | Intel(R) I211 Gigabit Network Connection #3 |
|  | (PCI) 0xFFFFFFFFF4 (-12) | Intel(R) I211 Gigabit Network Connection #3 |
|  | (PCI) 0xFFFFFFFFF5 (-11) | Intel(R) I211 Gigabit Network Connection #4 |
|  | (PCI) 0xFFFFFFFFF6 (-10) | Intel(R) I211 Gigabit Network Connection #4 |
|  | (PCI) 0xFFFFFFFFF7 (-9) | Intel(R) I211 Gigabit Network Connection #4 |
|  | (PCI) 0xFFFFFFFFF8 (-8) | Intel(R) USB 3.0 eXtensible Host Controller - 1.0 (Microsoft) |
|  | (PCI) 0xFFFFFFFFF9 (-7) | Intel(R) HD Graphics |
|  | (PCI) 0xFFFFFFFFFA (-6) | Intel(R) I211 Gigabit Network Connection |
|  | (PCI) 0xFFFFFFFFFB (-5) | Intel(R) I211 Gigabit Network Connection |
|  | (PCI) 0xFFFFFFFFFC (-4) | Intel(R) I211 Gigabit Network Connection |
|  | (PCI) 0xFFFFFFFFFD (-3) | Intel(R) I211 Gigabit Network Connection |
|  | (PCI) 0xFFFFFFFFFE (-2) | Standard SATA AHCI Controller |

Appendix C

Electrical Specifications for I/O Ports

C.1 Electrical Specifications for I/O Ports

| I/O | Reference | Signal Name | Rate output |
|---------------------------------------|------------|--------------------|----------------------------------|
| COM Port | CN1 | +5 V/ +12 V | +5 V/ 1 A or +12 V/ 1 A |
| +5 V Output for SATA HDD | CN7 | +5 V | +5 V/ 1 A |
| CFast Slot | CN11 | +3.3 V | +3.3 V/ 0.5 A |
| MiniCard Slot (USB 2.0 Port2 Only) | CN13 | +3.3 VSB +1.5 V | +3.3 V/ 1.1 A +1.5 V/ 0.375 A |
| USB 3.0 Port 0 | CN17 | +5 VSB | +5V/ 1A |
| USB 2.0 Port 3 | CN18 | +5 VSB | +5 V/ 0.5A |
| USB 2.0 Port 1 | CN19 | +5 VSB | +5 V/ 0.5A |
| HDMI Port | CN20, CN21 | +5 V | +5 V/ 1A |