



# WM343-MB Desktop Box IPC User's Manual

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## FCC and DOC Statement on Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

### **Notice:**

- 1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- 2. Shielded interface cables must be used in order to comply with the emission limits.

# **Table of Contents**

| Copyright 2  |
|--|
| Trademarks2  |
| FCC and DOC Statement on Class A2  |
| About this Manual 4  |
| Warranty   |
| Static Electricity Precautions   |
| Safety Measures 4  |
| Safety Precautions   |
| About the Package 5  |
| Before Using the System 5  |
| Chapter I - Introduction   |
| Overview   |
| Chapter 3 - Installing Devices   |
| Chapter 4 - Jumper Settings  |
| Jumper Settings (MB330-CRM)       I7         Clear CMOS Data (MB330-CRM)       17         PS/2 Keyboard/Mouse Power Select (MB330-CRM)       17         USB Power Select (MB330-CRM)       18         Power-on Select (MB330-CRM)       18         COM1/COM2 RS232/RS422/RS485 Select (MB330-CRM)       19         COM1/COM2 RS232/Power Select (MB330-CRM)       19         Jumper Settings (MB331-CRM)       20         Clear CMOS Data (MB331-CRM)       20         PS/2 Keyboard/Mouse Power Select (MB331-CRM)       20         USB Power Select (MB331-CRM)       20         USB Power Select (MB331-CRM)       20         Sclear CMOS Data (MB331-CRM)       20 |
|  |

| Power-on Select (MB331-CRM)<br>COM1/COM2 RS232/RS422/RS485 Select (MB331-CRM)<br>COM1/COM2 RS232/Power Select (MB331-CRM) |    |
|---|----|
| Chapter 5 - Ports and Connectors  | 23 |
| Rear Panel I/O Ports (MB330-CRM)  | 23 |
| I/O Connectors (MB330-CRM)  | 27 |
| Rear Panel I/O Ports (MB331-CRM)  | 34 |
| I/O Connectors (MB331-CRM)  |    |
| Chapter 6 - Mounting Options  | 44 |
| Chapter 7 - BIOS Setup 46   |    |

| Overview                               | 46  |
|--|-----|
| AMI BIOS Setup Utility (MB330-CRM)     | 47  |
| Main                                   | 47  |
| Advanced                               | 47  |
| Chipset                                | 57  |
| Boot                                   | 62  |
| Security                               | 64  |
|  | 05  |
| AMI BIOS Setup Utility (MB331-CRM)     | 66  |
| Main                                   | 00  |
| Boot                                   | 80  |
| Security                               | 81  |
| Save & Exit                            | 82  |
| Updating the BIOS                      | 83  |
| Notice: BIOS SPI ROM                   | 83  |
| Chapter 9 Supported Setturare          | 01  |
| Chapter 6 - Supported Software         | 04  |
|  |     |
| Chapter 9 - Intel AMT Settings         | 95  |
|  |     |
| Appendix A - Troubleshooting Checklist | 109 |

## **About this Manual**

An electronic file of this manual can be obtained from the DFI website at www.dfi.com. To download the user's manual from our website, please go to "Support" > "Download Center." On the Download Center page, select your product or type the model name and click "Search" to find all technical documents including the user's manual for a specific product.

## Warranty

- 1. Warranty does not cover damages or failures that arised from misuse of the product, inability to use the product, unauthorized replacement or alteration of components and product specifications.
- 2. The warranty is void if the product has been subjected to physical abuse, improper installation, modification, accidents or unauthorized repair of the product.
- 3. Unless otherwise instructed in this user's manual, the user may not, under any circumstances, attempt to perform service, adjustments or repairs on the product, whether in or out of warranty. It must be returned to the purchase point, factory or authorized service agency for all such work.
- 4. We will not be liable for any indirect, special, incidental or consequencial damages to the product that has been modified or altered.

## **Static Electricity Precautions**

It is quite easy to inadvertently damage your PC, system board, components or devices even before installing them in your system unit. Static electrical discharge can damage computer components without causing any signs of physical damage. You must take extra care in handling them to ensure against electrostatic build-up.

- 1. To prevent electrostatic build-up, leave the system board in its anti-static bag until you are ready to install it.
- 2. Wear an antistatic wrist strap.
- 3. Do all preparation work on a static-free surface.
- 4. Hold the device only by its edges. Be careful not to touch any of the components, contacts or connections.
- 5. Avoid touching the pins or contacts on all modules and connectors. Hold modules or con nectors by their ends.

| 🔶 Importan | t: |
|------------|----|
|------------|----|

Electrostatic discharge (ESD) can damage your processor, disk drive and other components. Perform the upgrade instruction procedures described at an ESD workstation only. If such a station is not available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the system chassis. If a wrist strap is unavailable, establish and maintain contact with the system chassis throughout any procedures requiring ESD protection.

## **Safety Measures**

To avoid damage to the system:

• Use the correct AC input voltage range.

To reduce the risk of electric shock:

• Unplug the power cord before removing the system chassis cover for installation or servicing. After installation or servicing, cover the system chassis before plugging the power cord.

Battery:

- Danger of explosion if battery incorrectly replaced.
- Replace only with the same or equivalent type recommend by the manufacturer.
- Dispose of used batteries according to local ordinance.

## **Safety Precautions**

- Use the correct DC input voltage range.
- Unplug the power cord before removing the system chassis cover for installation or servicing. After installation or servicing, cover the system chassis before plugging the power cord.
- Danger of explosion if battery incorrectly replaced.
- Replace only with the same or equivalent type recommend by the manufacturer.
- Dispose of used batteries according to local ordinance.
- Keep this system away from humidity.
- Place the system on a stable surface. Dropping it or letting it fall may cause damage.
- The openings on the system are for air ventilation to protect the system from overheating. DO NOT COVER THE OPENINGS.
- Place the power cord in such a way that it will not be stepped on. Do not place anything on top of the power cord. Use a power cord that has been approved for use with the system and that it matches the voltage and current marked on the system's electrical range label.
- If the system will not be used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
- If one of the following occurs, consult a service personnel:
  - The power cord or plug is damaged.
  - Liquid has penetrated the system.
  - The system has been exposed to moisture.
  - The system is not working properly.
  - The system dropped or is damaged.
  - The system has obvious signs of breakage.
- The unit uses a three-wire ground cable which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace the outlet.
- Disconnect the system from the DC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.

## **About the Package**

The package contains the following items. If any of these items are missing or damaged, please contact your dealer or sales representative for assistance.

- 1 WM343-MB System Unit
- 1 CPU cooler
- 1 SATA Data Cable (Length: 650mm)
- 4 HDD Screws
- 1 Quick Installation Guide
- 1 250W PSU
- 1 System Fan

### **Optional Items**

Power Cord

The board and accessories in the package may not come similar to the information listed above. This may differ in accordance to the sales region or models in which it was sold. For more information about the standard package in your region, please contact your dealer or sales representative.

## **Before Using the System**

Before powering-on the system, prepare the basic system components.

If you are installing the system board in a new system, you will need at least the following internal components.

- Memory module
- Storage devices such as hard disk drive, CD-ROM, etc.

You will also need external system peripherals you intend to use which will normally include at least a keyboard, a mouse and a video display monitor.

# **Chapter 1 - Introduction**

## **Overview**



**Front View** 

## **Key Features**

| Model Name | WM343-MB   |  |  |  |
|------------|--|--|--|--|
| Processor  | 3rd/2nd Generation Intel <sup>®</sup> Core <sup>™</sup> processors                         |  |  |  |
| Chipset    | Intel <sup>®</sup> Q77 Express chipset   |  |  |  |
| LAN        | 2 LAN ports  |  |  |  |
| СОМ        | 1 COM port (MB330-CRM, plus 2 optional)<br>2 COM ports (MB331-CRM, plus 2 optional)        |  |  |  |
| Displays   | MB330-CRM: 2 DVI-I (top: DVI-D signal), 1 HDMI<br>MB331-CRM: 1 VGA, 1 DVI-I (DVI-D signal) |  |  |  |
| USB        | MB330-CRM: 4 USB 3.0 ports + 2 USB 2.0 ports<br>MB331-CRM: 4 USB 3.0 ports                 |  |  |  |
| Audio      | Mic-in, Line-in, Line-out  |  |  |  |



Rear View (MB330-CRM)



Rear View (MB331-CRM)

## Specifications

| System    | Processor               | LGA 1155 Socket<br>3rd Generation Intel <sup>®</sup> Core <sup>™</sup> Processors<br>Intel <sup>®</sup> Core <sup>™</sup> i7-3770, 8M Cache, 3.4GHz (3.9GHz), 77W<br>Intel <sup>®</sup> Core <sup>™</sup> i5-3550S, 6M Cache, 3GHz (3.7GHz), 65W<br>Intel <sup>®</sup> Core <sup>™</sup> i3-3220, 3M Cache, 3.3GHz, 55W<br>Intel <sup>®</sup> Pentium <sup>®</sup> G2120, 3M Cache, 3.1GHz, 55W<br>Intel <sup>®</sup> Celeron <sup>®</sup> G1620, 2M Cache, 2.7GHz, 55W<br>2nd Generation Intel <sup>®</sup> Core <sup>™</sup> Processors<br>Intel <sup>®</sup> Core <sup>™</sup> i7-2600, 8M Cache, 3.4GHz (3.8GHz), 95W<br>Intel <sup>®</sup> Core <sup>™</sup> i5-2400, 6M Cache, 3.1GHz, 65W<br>Intel <sup>®</sup> Pentium <sup>®</sup> G850, 3M Cache, 2.9GHz, 65W |  |  |
|-----------|-------------------------|---|--|--|
|           | Chipset                 | Intel® Q77 Express Chipset  |  |  |
|           | Memory                  | Four 240-pin DIMM up to 32GB<br>Dual Channel DDR3 1333/1600MHz (3rd gen processors)<br>Dual Channel DDR3 1066/1333MHz (2nd gen processors)  |  |  |
|           | BIOS                    | AMI SPI 64Mbit  |  |  |
| Graphics  | Controller              | Intel <sup>®</sup> HD Graphics 4000 (Core i7)<br>Intel <sup>®</sup> HD Graphics 2500 (Core i5/i3/Pentium)   |  |  |
|           | Feature                 | Direct X 11, OGL 3.0  |  |  |
|           | Display                 | MB330-CRM:<br>1 x DVI-I (DVI-D signal)<br>1 x DVI-I<br>1 x HDMI<br>MB331-CRM:<br>1 x VGA<br>1 x DVI-I (DVI-D signal)<br>DVI, HDMI: resolution up to 1920x1200 @ 60Hz<br>VGA: resolution up to 2048x1536 @ 75Hz, 32-bit  |  |  |
|           | Triple/Quad<br>Displays | MB330-CRM: DVI-I + DVI-I + HDMI<br>MB331-CRM: VGA + DVI-I   |  |  |
| Storage   | External                | 1 or 2 x 3.5"/2.5" SATA 3.0 Drive Bays<br>(1 x 3.5" SATA drive bay, by default)<br>1 x 5.25" Optical Drive Bay  |  |  |
| Expansion | Interface               | <ol> <li>x PCIe x16         <ul> <li>(3rd gen processors support Gen 3)</li> <li>(2nd gen processors support Gen 2)</li> </ul> </li> <li>x PCIe x4 (Gen 2)</li> <li>x PCI (PCI 2.3)</li> <li>x Full-size Mini PCIe (PCIe/USB) (MB330-CRM only)</li> </ol>   |  |  |
| Audio     | Codec                   | Realtek ALC886 5.1-channel  |  |  |

| ETHERNET          | Controller           | 1 x Intel® WG82574L PCIe (10/100/1000Mbps)<br>1 x Intel® WG82579LM PCIe with iAMT8.0 (10/100/1000Mbps)   |
|-------------------|----------------------|--|
| LED               | Indicators           | 1 x Power LED<br>1 x HDD LED   |
| REAR I/O          | Ethernet             | 2 x GbE (RJ-45)  |
|                   | Serial               | MB330-CRM:<br>1 x RS-232/422/485 (DB-9)<br>2 x RS-232 (DB-9) (available upon request)<br>MB331-CRM:<br>2 x RS-232/422/485 (DB-9)<br>2 x RS-232 (DB-9) (available upon request)   |
|                   | USB                  | MB330-CRM:<br>4 x USB 3.0 + 2 x USB 2.0<br>4 x USB 2.0 (available upon request)<br>4 x USB 2.0 (available upon request)<br>4 x USB 3.0 (available upon request)<br>MB331-CRM:<br>4 x USB 3.0 + 6 x USB 2.0<br>4 x USB 2.0 (available upon request) |
|                   | PS/2                 | MB330-CRM:<br>1 x PS/2 (mini-DIN-6)<br>MB331-CRM:<br>2 x PS/2 (mini-DIN-6)   |
|                   | Display              | MB330-CRM:<br>1 x DVI-I<br>1 x DVI-I (DVI-D signal)<br>1 x HDMI<br>MB331-CRM:<br>1 x VGA<br>1 x DVI-I (DVI-D signal)   |
|                   | Audio                | 1 x Line-out<br>1 x Line-in<br>1 x Mic-in  |
|                   | Buttons              | 1 x Power Button   |
| Cooling           | Fan                  | 1 x System Fan   |
| WatchDog<br>Timer | Output &<br>Interval | System Reset, Programmable via Software from 1 to 255 Seconds  |
| Power             | Supply               | Flex ATX 250W  |
| <b>OS Support</b> |                      | WES7, Windows 8  |
| Mechanical        | Construction         | Sheet Metal  |
|                   | Compliance           | Wall Mount   |
|                   | Dimensions           | 349mm x 140mm x 300mm (13.74" x 5.51" x 11.81") (W x H x D)  |
|                   | Weight               | TBD  |
|                   |                      |  |

| Environment | Operating<br>Temperature | 0 to 45°C   |
|-------------|--------------------------|---|
|             | Storage<br>Temperature   | 0 to 60°C   |
|             | Relative<br>Humidity     | 5 to 95% RH (non-condensing)  |
| Mechanical  | Shock                    | Operating: 3G<br>Non-operating: 5G                                  |
|             | Vibration                | Operating: Random 5~500Hz 0.5G<br>Non-operating: Sine 10~500Hz 1.5G |
|             | Package<br>Drop          | ISTA Project 1A   |
|             | Certification            | CE, FCC Class A, RoHS   |

## Getting to Know the WM343-MB

**Front View** 



### Rear View (MB330-CRM)



### Rear View (MB331-CRM)



DVI-I Port Used to connect a DVI device.

HDMI Used to connect an HDMI device.

COM Ports Used to connect serial devices.

USB Ports Used to connect USB 3.0/2.0/1.1 devices.

LAN Ports Used to connect the system to a local area network.

Line-out Used to connect to a speaker.

#### Line-in

Used to connect any audio devices such as Hi-fi set, CD player, tape player, AM/FM radio tuner, synthesizer, etc.

Mic-in Used to connect an external microphone.

PS/2 KB/Mouse Used to connect a PS/2 keyboard and PS/2 mouse.

Expansion slots Supports to add riser cards.

Power Button Press to power-on or power-off the system.

HDD LED Indicates the status of the hard drive.

Power LED Indicates the power status of the system.

SATA Drive Bay Used to insert a SATA drive.

Optical Drive Bay Used to insert a DVD or CD-ROM.

## Mechanical Dimensions (MB330-CRM)

## Mechanical Dimensions (MB331-CRM)

5.5



**Rear View** 



**Front View** 

**Front View** 

**Rear View** 

## Motherboard Dimensions (MB330-CRM)



#### 47.29 45.72 171.72 0.00 6.65 26.97 63.46 82.61 105.13 203.2 197.48 13.66 135.56 Тď \*\*\*\*\*\*\*\* 0.00 00000 000 00 000 22.86 29.22 000 00000 0000 0000 46.94 10000 0000 0000 10000 75.29 0 ê ..... 112.79 $\cap$ **1**000 000 000 000 0000 150.29 147.19 , (🎲 154.94 154.94 0 Φ 164.54 6 173.33 177.67 0 900,000 0 $\square$ 188.23 197.02 • **°**°°° 0 0 °°°° 0 0 00000 0 مصفا ومس 8 (\*) \*\*\*\*\*\* 0 227.33 227.33 203.20 165.82 <u>45.72</u> 35.89 90.81 20.32 7.14

Motherboard Dimensions (MB331-CRM)

## **Chapter 2 - Getting Started**

### **Preparing the System**

Before you start using the system, you need the following items:

- SATA hard drive
- AC power adapter
- PS/2 or USB keyboard
- PS/2 or USB mouse
- CD-ROM drive (for installing software/drivers)
- Screwdriver
- Memory module (optional)

### **Installing Devices**

The following are devices that can be installed in the system.

- Memory module
- SATA hard drive

### **Configuring the BIOS**

To get you started, you may need to change configurations such as the date, time and the type of hard disk drive.

- 1. Power-on the system.
- 2. After the memory test, the message "Press DEL to run setup" will appear on the screen. Press the Delete key to enter the AMI BIOS setup utility.

### **Installing the Operating System**

Most operating system software can be installed using a DVD (and DVD burner) or bootable USB drive.

Please refer to your operating system manual for instructions on installing an operating system.

### **Installing the Drivers**

The system requires you to install drivers for some devices to operate properly. Refer to the Supported Software chapter for instructions on installing the drivers.

## **Chapter 3 - Installing Devices**

## **Opening the Chassis**

- 1. Make sure the system and all other peripheral devices connected to it has been powered-off.
- 2. Disconnect all power cords and cables.
- 3. Remove the top cover by uninstalling the thumb screws.
- 4. slide the cover backwards.



Slide the Cover backward



5. Remove the CD tray.

CD tray screws

CD tray screws





5. The DIMM sockets are readily accessible after removing the chassis cover.



## Installing a 2.5" or 3.5" SATA Drive

## Installing a 2.5" SATA Drive

1. Remove the thumb screws that secure the drive bay to the chassis and then remove the drive bay.



## Installing a 3.5" SATA Drive

2. Secure the hard drive to the drive bay. Use 4 mounting screws to install the hard drive onto the drive bay.







- 3. Slide the HDD drive back to the system.
- 4. Connect the SATA data cable and SATA power cable to the connectors on the SATA drive.



## **Installing a PCI or PCIe Expansion Card**

1. To install the expansion card, you need to remove the mounting bracket and the mounting screw that secure the bracket to the chassis. Put the screw and the brackets in a safe place for later use.



2. Insert the Expansion card into the PCI or PCIe slot. Replace the screw you removed in step 1 to secure the bracket in place.





The Expansion card used in the above illustrations may not resemble the actual cards. These illustrations are for reference only.

## **Chapter 4 - Jumper Settings**

Jumper Settings (MB330-CRM)

## Clear CMOS Data (MB330-CRM)



If you encounter the following,

- a) CMOS data becomes corrupted.
- b) You forgot the supervisor or user password.

you can reconfigure the system with the default values stored in the ROM BIOS.

- To load the default values stored in the ROM BIOS, please follow the steps below.
- 1. Power-off the system and unplug the power cord.
- 2. Set JP9 pins 2 and 3 to On. Wait for a few seconds and set JP9 back to its default setting, pins 1 and 2 On.
- 3. Now plug the power cord and power-on the system.

## PS/2 Keyboard/Mouse Power Select (MB330-CRM)



JP1 is used to select the power of the PS/2 keyboard and PS/2 mouse ports. Selecting  $+5V_{-}$  standby will allow you to use the PS/2 keyboard or PS/2 mouse to wake up the system.



The +5VSB power source of your power supply must support  $\geq$ 720mA.



These jumpers are used to select the power of the USB ports. Selecting +5V\_standby will allow you to use a USB device to wake up the system.

#### Important:

USB Power Select (MB330-CRM)

If you are using the Wake-On-USB Keyboard/Mouse function for 2 USB ports, the +5V\_standby power source of your power supply must support  $\geq$ 1.5A. For 3 or more USB ports, the +5V\_standby power source of your power supply must support  $\geq$ 2A.

### Power-on Select (MB330-CRM)



To power-on via WOL after G3:

1. Set JP10 pins 2 and 3 to On.

2. Set the "After G3" field to Power Off/WOL.

3. Set the "GbE Wake Up From S5" to Enabled.

The BIOS fields are in the "South Bridge Configuration" submenu (Chipset menu) of the AMI BIOS utility.

To power-on via AC Power:

1. Set JP10 pins 2 and 3 to On.

2. Set the "After G3" field to Power On.



COM1/COM2 RS232/RS422/RS485 Select (MB330-CRM)

JP2 (for COM1) and JP7 (for COM2) are used to configure the COM ports to RS232, RS422 (Full Duplex) or RS485.

The pin function of the COM ports will vary according to the jumper settings.



## COM1/COM2 RS232/Power Select (MB330-CRM)



Chapter 4 Jumper Settings

## Jumper Settings (MB331-CRM)

## Clear CMOS Data (MB331-CRM)



If you encounter the following,

- a) CMOS data becomes corrupted.
- b) You forgot the supervisor or user password.

you can reconfigure the system with the default values stored in the ROM BIOS.

To load the default values stored in the ROM BIOS, please follow the steps below.

- 1. Power-off the system and unplug the power cord.
- 2. Set JP7 pins 2 and 3 to On. Wait for a few seconds and set JP7 back to its default setting, pins 1 and 2 On.
- 3. Now plug the power cord and power-on the system.

## PS/2 Keyboard/Mouse Power Select (MB331-CRM)



JP3 is used to select the power of the PS/2 keyboard and PS/2 mouse ports. Selecting  $+5V_{-}$  standby will allow you to use the PS/2 keyboard or PS/2 mouse to wake up the system.



#### **Important:** The +5VSB power source of your power supply must support $\geq$ 720mA.

Chapter 4 Jumper Settings

## USB Power Select (MB331-CRM)



These jumpers are used to select the power of the USB ports. Selecting +5V\_standby will allow you to use a USB device to wake up the system.

#### Important:

If you are using the Wake-On-USB Keyboard/Mouse function for 2 USB ports, the +5V\_standby power source of your power supply must support  $\geq$ 1.5A. For 3 or more USB ports, the +5V\_standby power source of your power supply must support  $\geq$ 2A.

### Power-on Select (MB331-CRM)



To power-on via WOL after G3:

- 1. Set JP8 pins 2 and 3 to On.
- 2. Set the "After G3" field to **Power Off/WOL**.
- 3. Set the "GbE Wake Up From S5" to **Enabled**.

The BIOS fields are in the "South Bridge Configuration" submenu (Chipset menu) of the AMI BIOS utility.

To power-on via AC Power:

- 1. Set JP8 pins 2 and 3 to On.
- 2. Set the "After G3" field to **Power On**.



COM1/COM2 RS232/RS422/RS485 Select (MB331-CRM)

JP1 (for COM1) and JP2 (for COM2) are used to configure the COM ports to RS232, RS422 (Full Duplex) or RS485.

The pin function of the COM ports will vary according to the jumper's setting.



### COM1/COM2 RS232/Power Select (MB331-CRM)



## **Chapter 5 - Ports and Connectors**

## Rear Panel I/O Ports (MB330-CRM)



The rear panel I/O consists of the following ports:

- 1 PS/2 keyboard/mouse port
- 1 COM port (plus 2 optional)
- 2 DVI-I port (top: DVI-D signal)
- 1 HDMI port
- 2 RJ45 LAN ports
- 2 USB 2.0 ports (plus 4 optional)
- 4 USB 3.0 ports
- Line-out jack
- Line-in jack
- Mic-in jack

## **PS/2 Keyboard/Mouse Port**



These ports are used to connect a PS/2 mouse and a PS/2 keyboard. The PS/2 mouse port uses IRQ12.

#### Wake-On-PS/2 Keyboard/Mouse

The Wake-On-PS/2 Keyboard/Mouse function allows you to use the PS/2 keyboard or PS/2 mouse to power-on the system. To use this function:

#### • Jumper Setting

JP1 must be set to "2-3 On: +5V\_standby". Refer to "PS/2 Power Select" in chapter 4 for more information.

#### BIOS Setting

Configure the PS/2 keyboard/mouse wake up function in the Advanced menu ("ACPI Power Management Configuration" submenu) of the BIOS. Refer to chapter 7 -BIOS setup for more information.



The +5V\_standby power source of your power supply must support  $\geq$ 720mA.

## **COM (Serial) Ports**



COM 3 to COM 6 are fixed at RS232.

The pin function of COM 1 and COM 2 ports will vary according to JP2 and JP7 setting respectively. Refer to "COM1/COM2 RS232/RS485 Select" in chapter 4 for more information.

The serial ports are asynchronous communication ports with 16C550A-compatible UARTs that can be used with modems, serial printers, remote display terminals, and other serial devices.

#### **Connecting External Serial Ports**

Your COM port may come mounted on a card-edge bracket. Install the card-edge bracket to an available slot at the rear of the system chassis then insert the serial port cable to the COM connector. Make sure the colored stripe on the ribbon cable is aligned with pin 1 of the COM connector.

#### **BIOS Setting**

Configure the serial ports in the Advanced menu ("Super IO Configuration" submenu) of the BIOS. Refer to chapter 7 for more information.

### **Graphics Interfaces**

The display ports consist of the following:

- 2 DVI-I port (top: DVI-D signal)
- 1 HDMI port



#### HDMI Port

The HDMI port which carries both digital audio and video signals is used to connect a LCD monitor or digital TV that has the HDMI port.

### **DVI-I Ports**

The DVI ports are used to connect an LCD monitor. The board is equipped with 2 ports. The top one supports DVI-D signal only.

Connect the display device's cable connector to the DVI-I port. After you plug the cable connector into the port, gently tighten the cable screws to hold the connector in place.

#### **BIOS Setting**

Configure the display device in the Chipset menu ("North Bridge Configuration" submenu) of the BIOS. Refer to chapter 7 for more information.

### **RJ45 LAN Ports**



#### Features

- Intel 82579LM with iAMT8.0 Gigabit Ethernet Phy
- Intel 82574L PCI Express Gigabit Ethernet controller

The LAN ports allow the system board to connect to a local area network by means of a network hub.

#### **BIOS Setting**

Configure the onboard LAN in the Chipset menu ("South Bridge Configuration" submenu) of the BIOS. Refer to chapter 7- BIOS Setup for more information.

#### **Driver Installation**

Install the LAN drivers. Refer to chapter 8 for more information.

### USB Ports



USB allows data exchange between your computer and a wide range of simultaneously accessible external Plug and Play peripherals.

The system board is equipped with four onboard USB 3.0/2.0/1.1 ports (0-3) and two onboard 2.0/1.1 ports (8-9). The two 10-pin connectors allow you to connect 4 additional USB 2.0/1.1 ports (USB 10-13). The additional USB ports may be mounted on a card-edge bracket. Install the card-edge bracket to an available slot at the rear of the system chassis and then insert the USB port cables to a connector.

### **BIOS Setting**

Configure the onboard USB in the Advanced menu ("USB Configuration" submenu) of the BIOS. Refer to chapter 7 for more information.

#### **Driver Installation**

You may need to install the proper drivers in your operating system to use the USB device. Refer to your operating system's manual or documentation for more information.

#### Wake-On-USB Keyboard/Mouse

The Wake-On-USB Keyboard/Mouse function allows you to use a USB keyboard or USB mouse to wake up a system from the S3 (STR - Suspend To RAM) state. To use this function:

#### • Jumper Setting

JP4, JP5 and/or JP8 must be set to "2-3 On: 5V\_standby". Refer to "USB Power Select" in chapter 4 for more information.



Important:

If you are using the Wake-On-USB Keyboard/Mouse function for 2 USB ports, the +5V\_standby power source of your power supply must support  $\geq$ 1.5A. For 3 or more USB ports, the +5V\_standby power source of your power supply must support  $\geq$ 2A.

### Audio



#### **Rear Audio**

The system board is equipped with 3 audio jacks. A jack is a one-hole connecting interface for inserting a plug.

- Mic-in Jack (Pink) This jack is used to connect an external microphone.
- Line-in Jack (Light blue) This jack is used to connect any audio devices such as Hi-fi set, CD player, tape player, AM/FM radio tuner, synthesizer, etc.
- Line-out Jack (Lime) This jack is used to connect a headphone or external speakers.

#### Front Audio

The front audio connector allows you to connect to the second line-out and mic-in jacks that are at the front panel of your system.

### **BIOS Setting**

Configure the onboard audio in the Chipset menu ("South Bridge" submenu) of the BIOS. Refer to chapter 7 for more information.

#### **Driver Installation**

Install the audio driver. Refer to chapter 8 for more information.

## I/O Connectors (MB330-CRM) S/PDIF Connector



The S/PDIF connector is used to connect an external S/PDIF port. Your S/PDIF port may be mounted on a card-edge bracket. Install the card-edge bracket to an available slot at the rear of the system chassis then connect the audio cable to the S/PDIF connector. Make sure pin 1 of the audio cable is aligned with pin 1 of the S/PDIF connector.

### **Digital I/O Connector**

## **Digital I/O Power Connector**



The 8-bit Digital I/O connector provides powering-on function to external devices that are connected to these connectors.

| Pin | Pin Assignment | Pin | Pin Assignment |
|-----|----------------|-----|----------------|
| 1   | GND            | 2   | +12V           |
| 3   | DIO7           | 4   | +12V           |
| 5   | DIO6           | 6   | GND            |
| 7   | DIO5           | 8   | VCC            |
| 9   | DIO4           | 10  | VCC            |
| 11  | DIO3           | 12  | GND            |
| 13  | DIO2           | 14  | V_5P0_STBY     |
| 15  | DIO1           | 16  | V_5P0_STBY     |
| 17  | DIO0           | 18  | GND            |
| 19  | GND            |     |                |

### SATA (Serial ATA) Connectors



### Features

- SATA 0 and SATA 1 support data transfer rate up to 6Gb/s
- SATA 2 to SATA 5 support data transfer rate up to 3Gb/s SATA 4 provides adequate space for SATA DOM
- Integrated Advanced Host Controller Interface (AHCI) controller
- Supports RAID 0, RAID 1, RAID 5 and RAID 10

The Serial ATA connectors are used to connect Serial ATA devices. Connect one end of the Serial ATA cable to a SATA connector and the other end to your Serial ATA device.

#### **BIOS Setting**

Configure the Serial ATA drives in the Advanced menu of the BIOS. Refer to chapter 7 for more information.

## **Cooling Fan Connectors**



The fan connectors are used to connect cooling fans. The cooling fans will provide adequate airflow throughout the chassis to prevent overheating the CPU and system board components.

#### **BIOS Setting**

The Advanced menu ("Hardware Health Configuration" submenu) of the BIOS will display the current speed of the cooling fans. Refer to chapter 7 for more information.

### **Chassis Intrusion Connector**



The board supports the chassis intrusion detection function. Connect the chassis intrusion sensor cable from the chassis to this connector. When the system's power is on and a chassis intrusion occurred, an alarm will sound. When the system's power is off and a chassis intrusion occurred, the alarm will sound only when the system restarts.

#### **MyGuard Hardware Monitor**

Install the "MyGuard Hardware Monitor" utility. By default, the chassis intrusion detection function is disabled. When enabled, a warning message will appear when the chassis is open. The utility can also be configured so that a beeping alarm will sound when the chassis is open. Refer to the "MyGuard Hardware Monitor" section in chapter 7 for more information.





### **Standby Power LED**



This LED will light red when the system is in the standby mode. It indicates that there is power on the system board. Power-off the PC and then unplug the power cord prior to installing any devices. Failure to do so will cause severe damage to the motherboard and components.

Use a power supply that complies with the ATX12V Power Supply Design Guide Version 1.1. An ATX12V power supply unit has a standard 24-pin ATX main power connector that must be inserted into the 24-pin connector. The 8-pin +12V power connector enables the delivery of more +12VDC current to the processor's Voltage Regulator Module (VRM).

The power connectors from the power supply unit are designed to fit the 24-pin and 8-pin connectors in only one orientation. Make sure to find the proper orientation before plugging the connectors.

The system board requires a minimum of 300 Watt power supply to operate. Your system configuration (CPU power, amount of memory, add-in cards, peripherals, etc.) may exceed the minimum power requirement. To ensure that adequate power is provided, we strongly recommend that you use a minimum of 400 Watt (or greater) power supply.



#### Important:

Insufficient power supplied to the system may result in instability or the add-in boards and peripherals not functioning properly. Calculating the system's approximate power usage is important to ensure that the power supply meets the system's consumption requirements.

## **Front Panel Connector**



#### HDD-LED - HDD LED

This LED will light when the hard drive is being accessed.

#### **RESET SW - Reset Switch**

This switch allows you to reboot without having to power off the system.

#### **PWR-BTN - Power Switch**

This switch is used to power on or off the system.

#### **PWR-LED - Power/Standby LED**

When the system's power is on, this LED will light. When the system is in the S1 (POS - Power On Suspend) state, it will blink every second. When the system is in the S3 (STR - Suspend To RAM) state, it will blink every 4 seconds.

|                 | Pin | Pin Assignment |         | Pin | Pin Assignment |
|-----------------|-----|----------------|---------|-----|----------------|
|                 | 3   | HDD Power      | PWR-LED | 2   | LED Power      |
| HDD-LED         | 5   | Signal         |         | 4   | LED Power      |
|                 | 7   | Ground         |         | 6   | Signal         |
| <b>RESET SW</b> | 9   | RST Signal     | PWR-BTN | 8   | Ground         |
|                 | 11  | N.C.           |         | 10  | Signal         |

### **Expansion Slots**



### PCI Express x16 Slot

Install PCI Express x16 graphics card, that comply to the PCI Express specifications, into the PCI Express x16 slot. To install a graphics card into the x16 slot, align the graphics card above the slot then press it down firmly until it is completely seated in the slot. The retaining clip of the slot will automatically hold the graphics card in place.

### PCI Express x4 Slot

Install PCI Express cards such as network cards or other cards that comply to the PCI Express specifications into the PCI Express x4 slot.

#### PCI Slots

The PCI slot supports expansion cards that comply with PCI specifications.

#### Mini PCIe Slot (not supports m-SATA)

The Mini PCIe socket is used to install a Mini PCIe card. Mini PCIe card is a small form factor PCI card with the same signal protocol, electrical definitions, and configuration definitions as the conventional PCI.



### **IDE Connector**



The IDE connector is used to connect hard drives. The connector on the IDE cable can be inserted into this connector only if pin 1 of the cable is aligned with pin 1 of this connector.

The IDE connector supports 2 devices, a Master and a Slave. Use an IDE ribbon cable to connect the drives to the system board. An IDE ribbon cable has 3 connectors on them, one that plugs into the IDE connector on the system board and the other 2 connects to IDE devices. The connector at the end of the cable is for the Master drive and the connector in the middle of the cable is for the Slave drive.



Note:

Refer to your disk drive user's manual for information about selecting proper drive switch settings.

#### Adding a Second IDE Disk Drive

When using two IDE drives, one must be set as the master and the other as the slave. Follow the instructions provided by the drive manufacturer for setting the jumpers and/or switches on the drives.

The system board supports Enhanced IDE or ATA-2, ATA/33, ATA/66, ATA/100 and ATA/133 hard drives. We recommend that you use hard drives from the same manufacturer. In a few cases, drives from two different manufacturers will not function properly when used together. The problem lies in the hard drives, not the system board.



#### Important:

If you encountered problems while using an ATAPI CD-ROM drive that is set in Master mode, please set the CD-ROM drive to Slave mode. Some ATAPI CD-ROMs may not be recognized and cannot be used if incorrectly set in Master mode.

### **BIOS Setting**

Configure the onboard IDE in the Integrated Peripherals submenu (JMB36X ATA Configuration section) of the BIOS. Refer to chapter 7 - BIOS Setup for more information.

## **Battery**



The lithium ion battery powers the real-time clock and CMOS memory. It is an auxiliary source of power when the main power is shut off.

### Safety Measures

- Danger of explosion if battery incorrectly replaced.
- Replace only with the same or equivalent type recommend by the manufacturer.
- Dispose of used batteries according to local ordinance.

## Rear Panel I/O Ports (MB331-CRM)



The rear panel I/O consists of the following ports:

- 1 PS/2 keyboard and mouse port
- 2 COM port (plus 2 optional)
- 1 VGA port
- 1 DVI-I port (DVI-D signal)
- 2 RJ45 LAN ports
- 4 USB 3.0 ports (plus 6 optional USB 2.0 ports)
- Line-out jack
- Line-in jack
- Mic-in jack

### **PS/2 Keyboard/Mouse Ports**



These ports are used to connect a PS/2 mouse and a PS/2 keyboard. The PS/2 mouse port uses IRQ12.

#### Wake-On-PS/2 Keyboard/Mouse

The Wake-On-PS/2 Keyboard/Mouse function allows you to use the PS/2 keyboard or PS/2 mouse to power-on the system. To use this function:

#### • Jumper Setting

JP3 must be set to "2-3 On:  $+5V_{standby}$ ". Refer to "PS/2 Power Select" in chapter 4 for more information.

#### • BIOS Setting

Configure the PS/2 keyboard/mouse wake up function in the Advanced menu ("ACPI Power Management Configuration" submenu) of the BIOS. Refer to chapter 7 for more information.



The +5V\_standby power source of your power supply must support  $\geq$ 720mA.

## **COM (Serial) Ports**



#### COM 3 to COM 6 are fixed at RS232.

The pin function of COM 1 and COM 2 ports will vary according to JP1 and JP2's setting respectively. Refer to "COM1/COM2 RS232/RS422/RS485 Select" in chapter 4 for more information.

The serial ports are asynchronous communication ports with 16C550A-compatible UARTs that can be used with modems, serial printers, remote display terminals, and other serial devices.

#### **Connecting External Serial Ports**

Your COM port may come mounted on a card-edge bracket. Install the card-edge bracket to an available slot at the rear of the system chassis then insert the serial port cable to the COM connector. Make sure the colored stripe on the ribbon cable is aligned with pin 1 of the COM connector.

#### **BIOS Setting**

Configure the serial ports in the Advanced menu ("Super IO Configuration" submenu) of the BIOS. Refer to chapter 7 for more information.

### **Graphics Interfaces**

The display ports consist of the following:

- 1 VGA port
- 1 DVI-I port (DVI-D signal only)



#### VGA Port

The VGA port is used for connecting a VGA monitor. Connect the monitor's 15-pin D-shell cable connector to the VGA port. After you plug the monitor's cable connector into the VGA port, gently tighten the cable screws to hold the connector in place.

### **DVI-I Ports**

The DVI-I port is used to connect an LCD monitor. This port supports DVI-D signal only.

Connect the display device's cable connector to the DVI-I port. After you plug the cable connector into the port, gently tighten the cable screws to hold the connector in place.

#### **BIOS Setting**

Configure the display device in the Chipset menu ("North Bridge Configuration" submenu) of the BIOS. Refer to chapter 7 for more information.

#### **Driver Installation**

Install the VGA graphics driver. Refer to chapter 8 for more information.

### **RJ45 LAN Ports**



#### Features

1 x Intel<sup>®</sup> 82574L PCI Express Gigabit Ethernet controller 1 x Intel<sup>®</sup> 82579LM with iAMT8.0 Gigabit Ethernet Phy

The LAN ports allow the system board to connect to a local area network by means of a network hub.

#### **BIOS Setting**

Configure the onboard LAN in the Chipset menu ("South Bridge Configuration" submenu) of the BIOS. Refer to chapter 7 for more information.

#### **Driver Installation**

Install the LAN drivers. Refer to chapter 8 for more information.

### **USB Ports**



USB allows data exchange between your computer and a wide range of simultaneously accessible external Plug and Play peripherals.

The system board is equipped with four onboard USB 3.0/2.0/1.1 ports (USB 0-3). The three 10-pin connectors allow you to connect 6 additional USB 2.0/1.1 ports (USB 8-13). The additional USB ports may be mounted on a card-edge bracket. Install the card-edge bracket to an available slot at the rear of the system chassis and then insert the USB port cables to a connector.

### **BIOS Setting**

Configure the onboard USB in the Advanced menu ("USB Configuration" submenu) of the BIOS. Refer to chapter 7 for more information.

#### **Driver Installation**

You may need to install the proper drivers in your operating system to use the USB device. Refer to your operating system's manual or documentation for more information.
## Wake-On-USB Keyboard/Mouse

The Wake-On-USB Keyboard/Mouse function allows you to use a USB keyboard or USB mouse to wake up a system from the S3 (STR - Suspend To RAM) state. To use this function:

## • Jumper Setting

JP11, JP5 and/or JP6 must be set to "2-3 On: 5V\_standby". Refer to "USB Power Select" in chapter 4 for more information.



## Important:

If you are using the Wake-On-USB Keyboard/Mouse function for 2 USB ports, the +5V\_standby power source of your power supply must support  $\geq 1.5A$ . For 3 or more USB ports, the +5V\_standby power source of your power supply must support  $\geq 2A$ .

## **Audio**



## **Rear Audio**

The system board is equipped with 3 audio jacks. A jack is a one-hole connecting interface for inserting a plug.

- Line-in Jack (Light Blue) This jack is used to connect any audio devices such as Hi-fi set, CD player, tape player, AM/FM radio tuner, synthesizer, etc.
- Line-out Jack (Lime) This jack is used to connect a headphone or external speakers.
- Mic-in Jack (Pink) This jack is used to connect an external microphone.

## Front Audio

The front audio connector allows you to connect to the second line-out and mic-in jacks that are at the front panel of your system.

## **BIOS Setting**

Configure the onboard audio in the Chipset menu ("South Bridge" submenu) of the BIOS. Refer to chapter 7 for more information.

#### **Driver Installation**

Install the audio driver. Refer to chapter 8 for more information.

# I/O Connectors (MB331-CRM) S/PDIF Connector



The S/PDIF connector is used to connect an external S/PDIF port. Your S/PDIF port may be mounted on a card-edge bracket. Install the card-edge bracket to an available slot at the rear of the system chassis then connect the audio cable to the S/PDIF connector. Make sure pin 1 of the audio cable is aligned with pin 1 of the S/PDIF connector.

## **Digital I/O Connector**

# **Digital I/O Power Connector**



The 8-bit Digital I/O connector provides powering-on function to external devices that are connected to these connectors.

| Pin | Pin Assignment | Pin | Pin Assignment |
|-----|----------------|-----|----------------|
| 1   | GND            | 2   | +12V           |
| 3   | DIO7           | 4   | +12V           |
| 5   | DIO6           | 6   | GND            |
| 7   | DIO5           | 8   | VCC            |
| 9   | DIO4           | 10  | VCC            |
| 11  | DIO3           | 12  | GND            |
| 13  | DIO2           | 14  | V_5P0_STBY     |
| 15  | DIO1           | 16  | V_5P0_STBY     |
| 17  | DIO0           | 18  | GND            |
| 19  | GND            |     |                |

# SATA (Serial ATA) Connectors



## Features

- SATA 0 and SATA 1 support data transfer rate up to 6Gb/s
- SATA 2 to SATA 5 support data transfer rate up to 3Gb/s
- Integrated Advanced Host Controller Interface (AHCI) controller
- Supports RAID 0, RAID 1, RAID 5 and RAID 10

The Serial ATA connectors are used to connect Serial ATA devices. Connect one end of the Serial ATA cable to a SATA connector and the other end to your Serial ATA device.

## **BIOS Setting**

Configure the Serial ATA drives in the Advanced menu ("IDE Configuration" submenu) of the BIOS. Refer to chapter 7 for more information.

# **Cooling Fan Connectors**



## **Chassis Intrusion Connector**



The fan connectors are used to connect cooling fans. The cooling fans will provide adequate airflow throughout the chassis to prevent overheating the CPU and system board components.

## **BIOS Setting**

The Advanced menu ("Hardware Health Configuration" submenu) of the BIOS will display the current speed of the cooling fans. Refer to chapter 7 for more information.

The board supports the chassis intrusion detection function. Connect the chassis intrusion sensor cable from the chassis to this connector. When the system's power is on and a chassis intrusion occurred, an alarm will sound. When the system's power is off and a chassis intrusion occurred, the alarm will sound only when the system restarts.

#### **MyGuard Hardware Monitor**

Install the "MyGuard Hardware Monitor" utility. By default, the chassis intrusion detection function is disabled. When enabled, a warning message will appear when the chassis is open. The utility can also be configured so that a beeping alarm will sound when the chassis is open. Refer to the "MyGuard Hardware Monitor" section in chapter 7 for more information.

## **Power Connectors**



## **Standby Power LED**



This LED will light red when the system is in the standby mode. It indicates that there is power on the system board. Power-off the PC and then unplug the power cord prior to installing any devices. Failure to do so will cause severe damage to the motherboard and components.

Use a power supply that complies with the ATX12V Power Supply Design Guide Version 1.1. An ATX12V power supply unit has a standard 24-pin ATX main power connector that must be inserted into the 24-pin connector. The 8-pin +12V power connector enables the delivery of more +12VDC current to the processor's Voltage Regulator Module (VRM).

The power connectors from the power supply unit are designed to fit the 24-pin and 8-pin connectors in only one orientation. Make sure to find the proper orientation before plugging the connectors.

The system board requires a minimum of 300 Watt power supply to operate. Your system configuration (CPU power, amount of memory, add-in cards, peripherals, etc.) may exceed the minimum power requirement. To ensure that adequate power is provided, we strongly recommend that you use a minimum of 400 Watt (or greater) power supply.

## **Important**:

Insufficient power supplied to the system may result in instability or the add-in boards and peripherals not functioning properly. Calculating the system's approximate power usage is important to ensure that the power supply meets the system's consumption requirements.

# **Front Panel Connector**



### HDD-LED - HDD LED

This LED will light when the hard drive is being accessed.

#### **RESET SW - Reset Switch**

This switch allows you to reboot without having to power off the system.

#### **PWR-BTN - Power Switch**

This switch is used to power on or off the system.

#### **PWR-LED - Power/Standby LED**

When the system's power is on, this LED will light. When the system is in the S1 (POS - Power On Suspend) state, it will blink every second. When the system is in the S3 (STR - Suspend To RAM) state, it will blink every 4 seconds.

|                 | Pin | Pin Assignment |         | Pin | Pin Assignment |
|-----------------|-----|----------------|---------|-----|----------------|
|                 | 3   | HDD Power      | PWR-LED | 2   | LED Power      |
| HDD-LED         | 5   | Signal         |         | 4   | LED Power      |
|                 | 7   | Ground         |         | 6   | Signal         |
| <b>RESET SW</b> | 9   | RST Signal     | PWR-BTN | 8   | Ground         |
|                 | 11  | N.C.           |         | 10  | Signal         |

## **Expansion Slots**



## PCI Express x16 Slot

Install PCI Express x16 graphics card, that comply to the PCI Express specifications, into the PCI Express x16 slot. To install a graphics card into the x16 slot, align the graphics card above the slot then press it down firmly until it is completely seated in the slot. The retaining clip of the slot will automatically hold the graphics card in place.

## PCI Express x4 Slot

Install PCI Express cards such as network cards or other cards that comply to the PCI Express specifications into the PCI Express x4 slot.

## **PCI Slots**

The PCI slot supports expansion cards that comply with PCI specifications.

# **Battery**



The lithium ion battery powers the real-time clock and CMOS memory. It is an auxiliary source of power when the main power is shut off.

## Safety Measures

- Danger of explosion if battery incorrectly replaced.
- Replace only with the same or equivalent type recommend by the manufacturer.
- Dispose of used batteries according to local ordinance.

# **Chapter 6 - Mounting Options**



**Note:** The system unit used in the following illustrations may not resemble the actual one. These illustrations are for reference only.

#### There are 2 mount brackets available:

Wall mount



• Rack-mount tray bracket



# Wall Mount





1. On the bottom of the system, use 4 mounting screws to secure the wall mount brackets on each side of the system.



The mechanical drawing of the wall mount illustration with dimentions.





# **Rack Tray Mount**





- 1. Place the system on the rack-mount tray and align the mounting holes of the tray with the mount bracket.
- 2. Follow the rack manufacture's instruction to properly secure the system to the rack.

# Chapter 7 - BIOS Setup

# **Overview**

The BIOS is a program that takes care of the basic level of communication between the CPU and peripherals. It contains codes for various advanced features found in this system board. The BIOS allows you to configure the system and save the configuration in a battery-backed CMOS so that the data retains even when the power is off. In general, the information stored in the CMOS RAM of the EEPROM will stay unchanged unless a configuration change has been made such as a hard drive replaced or a device added.

It is possible that the CMOS battery will fail causing CMOS data loss. If this happens, you need to install a new CMOS battery and reconfigure the BIOS settings.



The BIOS is constantly updated to improve the performance of the system board; therefore the BIOS screens in this chapter may not appear the same as the actual one. These screens are for reference purpose only.

## **Default Configuration**

Most of the configuration settings are either predefined according to the Load Optimal Defaults settings which are stored in the BIOS or are automatically detected and configured without requiring any actions. There are a few settings that you may need to change depending on your system configuration.

# **Entering the BIOS Setup Utility**

The BIOS Setup Utility can only be operated from the keyboard and all commands are keyboard commands. The commands are available at the right side of each setup screen.

The BIOS Setup Utility does not require an operating system to run. After you power up the system, the BIOS message appears on the screen and the memory count begins. After the memory test, the message "Press DEL to run setup" will appear on the screen. If the message disappears before you respond, restart the system or press the "Reset" button. You may also restart the system by pressing the <Ctrl> <Alt> and <Del> keys simultaneously.

## Legends

| Keys                  | Function   |  |
|-----------------------|--|--|
| Right and Left arrows | Moves the highlight left or right to select a menu.                      |  |
| Up and Down arrows    | Moves the hightlight up or down between submenu or fields.               |  |
| <esc></esc>           | Exit to the BIOS Setup Utility.  |  |
| + (plus key)          | Scrolls forward through the values or options of the highlighted field.  |  |
| - (minus key)         | Scrolls backward through the values or options of the highlighted field. |  |
| Tab                   | Select a field.  |  |
| <f1></f1>             | Displays general help  |  |
| <f2></f2>             | Pervious values  |  |
| <f3></f3>             | Optimized defaults   |  |
| <f4></f4>             | Saves and exits the setup program.                                       |  |
| <enter></enter>       | Press <enter> to enter the highlighted submenu.</enter>                  |  |

# Scroll Bar

When a scroll bar appears to the right of the setup screen, it indicates that there are more available fields not shown on the screen. Use the up and down arrow keys to scroll through all the available fields.

## Submenu

When " $\blacktriangleright$ " appears on the left of a particular field, it indicates that a submenu which contains additional options are available for that field. To display the submenu, move the highlight to that field and press <Enter>.

# AMI BIOS Setup Utility (MB330-CRM)

## Main

The Main menu is the first screen that you will see when you enter the BIOS Setup Utility.



## System Date

The date format is <day>, <month>, <date>, <year>. Day displays a day, from Sunday to Saturday. Month displays the month, from January to December. Date displays the date, from 1 to 31. Year displays the year, from 1980 to 2099.

#### System Time

The time format is <hour>, <minute>, <second>. The time is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Hour displays hours from 00 to 23. Minute displays minutes from 00 to 59. Second displays seconds from 00 to 59.

## Advanced

The Advanced menu allows you to configure your system for basic operation. Some entries are defaults required by the system board, while others, if enabled, will improve the performance of your system or let you set some features according to your preference.



Important:

Setting incorrect field values may cause the system to malfunction.

| Aptio Setup Utility – Copyright (C) 2011 American<br>Main <mark>Advanced</mark> Chipset Boot Security Save & Exit   | Megatrends, Inc.   |
|---|--|
| <ul> <li>ACPI Power Hanagement Configuration</li> <li>PC Health Status</li> <li>Trusted Computing</li> <li>CPU Configuration</li> <li>SATA Configuration</li> <li>Intel TXT(LT) Configuation</li> <li>HAT Configuration</li> <li>USB Configuration</li> <li>F71879 Super IO Configuration</li> <li>F61217 Second Super IO Configuration</li> <li>Network Stack</li> </ul> | System ACPI Parameters.  |
|   | <pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Prevlous Values F3: Optimized Defaults F4: Save &amp; Reset ESC: Exit</pre> |

#### **ACPI Power Management Configuration**

This section is used to configure the ACPI Power Management.



Selects the highest ACPI sleep state the system will enter when the Suspend button is pressed.

S1(POS) Enables the Power On Suspend function.

S3(STR) Enables the Suspend to RAM function.

### **Resume by PME**

Enable this field to use the PME signal to wake up the system.

#### **Resume by Ring**

Enable this field to use the Ring signal to wake up the system.

#### **Resume by USB**

Enable this field to use a USB device to wake up the system.

#### Resume by PS2 KB/MS (S1, S3)

Enable this field to use the PS/2 KB/MS to wake up the system.

### Wake system with Fixed Time

Enable or disable the system wake on alarm event. When enabled, system will wake on the hr::min::sec specified.

## PC Health Status

This section displays the SIO hardware health monitor.

| System Hardware Monitor |             | Smart Fan Function     |
|-------------------------|-------------|------------------------|
|                         |             |                        |
| Case Open Beep          | [Disabled]  |                        |
| CPU Temperature         | : +42 C     |                        |
| System Temperature      | : +27 C     |                        |
| CPU FAN Speed           | : 1827 RPM  |                        |
| System FAN Speed        | : N/A       |                        |
| System FAN2 Speed       | : N/A       |                        |
| Vcore                   | : +0.936 V  |                        |
| +5.0V                   | : +5.072 V  |                        |
| +12V                    | : +12.144 V |                        |
| VDIMM                   | : +1.520 V  | ++: Select Screen      |
| +3.3V                   | : +3.296 V  | ↑↓: Select Item        |
| VS5V                    | : +4.992 V  | Enter: Select          |
|                         |             | +/-: Change Opt.       |
|                         |             | F1: General Help       |
|                         |             | F2: Previous Values    |
|                         |             | F3: Optimized Defaults |
|                         |             | F4: Save & Reset       |
|                         |             | ESC: Exit              |
|                         |             |                        |
|                         |             |                        |
|                         |             |                        |
|                         |             |                        |

#### Smart Fan Function

| Aptio Setup Utili<br>Advanced  | ty – Copyright (C) 2011   | American Megatrends, Inc.  |
|--|---|--|
| Advanced<br>PPU Snart Fan Control<br>Boundary 1<br>Boundary 2<br>Boundary 3<br>Boundary 4<br>Speed Count 1<br>Speed Count 2<br>Speed Count 3<br>Speed Count 3<br>Speed Count 5<br>System Smart Fan(1) Control<br>Boundary 1<br>Boundary 1<br>Boundary 3<br>Boundary 4<br>Speed Count 1<br>Speed Count 2<br>Speed Count 2<br>Speed Count 3<br>Speed Count 3<br>Speed Count 4<br>Speed Count 4<br>Speed Count 5<br>System Smart Fan(2) Control | [Automatic]<br>60<br>50<br>40<br>30<br>100<br>75<br>50<br>40<br>30<br>[Automatic]<br>60<br>50<br>40<br>30<br>100<br>75<br>50<br>40<br>30<br>100<br>75<br>50<br>40<br>30 | <ul> <li>▲ Enable CPU SmartFan</li> <li>*+: Select Screen</li> <li>11: Select Item</li> <li>Enter: Select</li> <li>+/-: Change Opt.</li> <li>F1: General Help</li> <li>F2: Previous Values</li> <li>F3: Optimized Defaults</li> <li>F4: Face &amp; Preset</li> </ul> |
| Boundary 1<br>Boundary 2<br>Boundary 3<br>Boundary 4   | 60<br>50<br>40<br>30  | ESC: Exit  |

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#### **Security Device Support**

This field is used to enable or disable BIOS supporting for the security device. O.S will not show the security device. TCG EFI protocol and INT1A interface will not be available.

#### **CPU Smart Fan Control**

When this feature is set to Automatic, the CPU's fan speed will rotate according to the CPU's temperature. The higher the temperature, the faster the speed of rotation.

Boundary 1 to Boundary 4

The range is from 0-127.

Speed Count 1 to Speed Count 5

The range is from 1-100.

Case Open Beep

Set this field to Enabled to allow the system to alert you of a chassis intrusion event.

## **Trusted Computing**

This section configures settings relevant to Trusted Computing innovations.

| Configuration       Enables or Disables BIOS         TPM SUPPORT       Disable]         Current Status Information       SUPPORT TURNED OFF         Disable       Enable         Enable       TPM SUPPORT         Disable       InTLA interface will not be available.         **: Select Screen       **: Select Screen         **: Select Item       **: Select Item         Fit: General Help       F2: Previous Values         F3: Optimized Defaults       F4: Save & Reset         ESC: Exit       SC: Exit | Aptio Setup Util<br>Advanced                     | ity – Copyright (C) 2011 A         | American Megatrends, Inc.   |
|---|--|------------------------------------|---|
| Current Status Information<br>SUPPORT TURNED OFF<br>TPM SUPPORT<br>Disable<br>Enable<br>**: Select Screen<br>14: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Save & Reset<br>ESC: Exit   | Configuration<br>TPM SUPPORT                     | [Disable]                          | Enables or Disables BIOS<br>support for security device.<br>O.S. will not show Security<br>Device. TOG EFI protocol and |
| TPH SUPPORT         Disable         Enable         **: Select Screen         11: Select Item         Enable         **: Select Screen         11: Select Item         Enable         **: Select Screen         12: Select Item         F1: General Help         F2: Previous Values         F3: Optimized Defaults         F4: Save & Reset         ESC: Exit   | Current Status Information<br>SUPPORT TURNED OFF |                                    | INTIA interface will not be<br>available.   |
| Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit   |  | TPM SUPPORT —<br>Disable<br>Enable | ++: Select Screen   |
| F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit  |  |                                    | Enter: Select Tethin<br>+/-: Change Opt.<br>F1: General Help  |
|   |  |                                    | F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit  |
|   |  |                                    |   |

### **TPM Support**

This field is used to enable or disable BIOS supporting for the security device. O.S will not show the security device. TCG EFI protocol and INT1A interface will not be available.

## **CPU Configuration**

This section is used to configure the CPU. It will also display the detected CPU information.

| Aptio Setup Utility<br>Advanced  | – Copyright (C) 2011 Ame  | erican Megatrends, Inc.  |
|--|---|--|
| CPU Configuration<br>Intel(R) Core(TM) i5–3550S CPU @ 3<br>CPU Speed   | .00GHz<br>3000 MHz  | Disabled for Windows XP  |
| Processor Cores<br>Intel HT Technology<br>Limit CPUID Maximum<br>Intel Virtualization Technology<br>EIST<br>Turbo Mode | 4<br>Not Supported<br>[Disabled]<br>[Enabled]<br>[Enabled]<br>[Enabled] |  |
|  |   | ++: Select Screen<br>1: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
| Version 2 14 1219  | Conuright (C) 2011 Ameri  | ican Megathends The  |

The CPUID instruction of some newer CPUs will return a value greater than 3. The default is Disabled because this problem does not exist in the Windows series operating systems. If you are using an operating system other than Windows, this problem may occur. To avoid this problem, enable this field to limit the return value to 3 or less than 3.

## **Intel Virtualization Technology**

When this field is set to Enabled, the VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

## EIST

This field is used to enable or disable the Intel Enhanced SpeedStep Technology.

## **Turbo Mode**

If you want the system to run at a faster speed, set this field to Enabled. However, compatibility problems may occur with some DRAMs if the system is running in Turbo mode. If you encounter this problem, set this field to Disabled.

## SATA Configuration

This section is used to configure the settings of SATA device.

| Aptio S<br>Advanced   | etup Utility – Copyright (C) 2011 Americ   | an Megatrends, Inc.  |
|---|--|--|
| SATA Controller(s)<br>SATA Mode Selection   | [Enabled]<br>(IDE]   | Determines how SATA<br>controller(s) operate.  |
| Serial ATA Port 0<br>Software Preserve<br>Serial ATA Port 1<br>Software Preserve<br>Serial ATA Port 2<br>Software Preserve<br>Serial ATA Port 3<br>Software Preserve<br>Serial ATA Port 4 | Empty<br>Unknown<br>Empty<br>Unknown<br>Empty<br>Unknown<br>Empty<br>SATA Mode Selection |  |
| Software Preserve<br>Serial ATA Port 5<br>Software Preserve   | AHCI<br>RAID   | ++: Select Screen<br>14: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset |
| Vana La   | n 2 14 1219 Conuniati (C) 2011 American  | ESC: Exit  |

## SATA Controller(s)

This field is used to enable or disable the Serial ATA devices.

## **SATA Mode Selection**

The mode selection determines how the SATA controller(s) operates.

## IDE Mode

This option configures the Serial ATA drives as Parallel ATA storage devices.

## AHCI Mode

This option allows the Serial ATA devices to use AHCI (Advanced Host Controller Interface).

## RAID Mode

This option allows you to create RAID or Intel Matrix Storage confi guration on Serial ATA devices.

When IDE mode is selected in the SATA Mode Selection, it will display the following information:

| Aptio Setur<br>Advanced  | o Utility – Copyright (C) 2011 Am   | merican Megatrends, Inc.  |
|--|---|---|
| SATA Controller(s)<br>SATA Mode Selection<br>Serial ATA Port 0<br>Software Preserve<br>Serial ATA Port 1<br>Software Preserve<br>Serial ATA Port 2<br>Software Preserve<br>Serial ATA Port 3 | [Enabled]<br>[IDE]<br>Empty<br>Unknown<br>Empty<br>Unknown<br>Empty<br>Unknown<br>Empty | Determines how SATA<br>controller(s) operate.   |
| Software Preserve<br>Serial ATA Port 4<br>Software Preserve<br>Serial ATA Port 5<br>Software Preserve  | Unknown<br>Empty<br>Unknown<br>Empty<br>Unknown   | ++: Select Screen<br>14: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
| linesies A   |   |   |

When AHCI or RAID mode is selected in the SATA Mode Selection, it will display the following information:

| Advanc   | Aptio Setup Utility – )<br>ced   | Copyright (C) 2011 American  | Megatrends, Inc.   |
|--|--|--|--|
| Advance<br>SATA Controll<br>SATA Mode Sel<br>Aggressive LF<br>SATA Controll<br>Software Feat<br>Alternate ID<br>Serial ATA PC<br>Software Pr<br>Port 0<br>Hot Plug<br>Serial ATA PC<br>Software Pr<br>Port 1<br>Hot Plug<br>Serial ATA PC<br>Software Pr<br>Port 2<br>Hot Plug<br>Serial ATA PC<br>Software Pr<br>Port 3<br>Hot Plug<br>Serial ATA PC<br>Software Pr | eed<br>Ler(s)<br>Lection<br>PM Support<br>Ler Speed<br>ture Mask Configuration<br>ort 0<br>reserve<br>ort 1<br>reserve<br>ort 1<br>reserve<br>ort 2<br>reserve<br>ort 3<br>reserve | [Enabled]     •       [RAID]     [Enabled]       [Enabled]     [Gen3]       [Disabled]     •       Empty     Unknown       [Enabled]     [Disabled]       Empty     Unknown       [Enabled]     [Disabled]       Empty     Unknown       [Enabled]     [Disabled]       Empty     Unknown       [Enabled]     [Enabled]       [Disabled]     Empty       Unknown     [Enabled]       [Disabled]     Empty       Unknown     [Enabled]       [Disabled]     Empty       Unknown     [Enabled] | RAID OROM/RST driver will<br>refer to the SWFM<br>configuration to enable or<br>disable the storage features.<br>++: Select Screen<br>T1: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
|  |  |  |  |

## SATA Controllers(s)

## **Enable or Disable SATA controllers.**

## SATA Controller Speed

Indicates the maximum speed that the SATA controller can support.

**Agressive LPM Support** Enable PCH to aggressively enter link power state.

### Software Feature Mask Configuration

RAID OROM/RST driver will refer to the SWFM configuration to enable or disable the storage features.

Alternate ID Report alternate Device ID.

## Port 0, Port 1 and Port 4

Enables or disables the SATA port.

## Hot Plug

Designates the SATA port as hot pluggable.

## Intel TXT (LT) Configuration

This section displays the Intel Trusted Execution technology information.

| Aptio Setup Utility -<br>Advanced   | Copyright (C) 2011 American  | Megatrends, Inc.  |
|---|------------------------------|---|
| Intel Trusted Execution Technology C  | onfiguration                 |   |
| Intel TXT support only can be enable<br>is enabled. VT and VT-d support must<br>prior to TXT. |                              |   |
| Secure Mode Extensons (SMX)   | Enabled                      |   |
| Intel TXT(LT) Support   | [Disabled]                   |   |
|   |                              | ++: Select Screen<br>11: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
| Version 2.14.1219, Co   | pyright (C) 2011 American Mu | egatrends. Inc.   |

## Intel AMT Configuration

This section displays the Intel AMT technology information.

| Aptio Setup<br>Advanced      | Utility – Copyright (C) 2011 Ar  | merican Megatrends, Inc.  |
|------------------------------|----------------------------------|---|
| Intel AMT<br>Un-Configure ME | (Enabled)<br>(Disabled)          | Enable/Disable Intel (R)<br>Active Management Technology<br>BIOS Extension.<br>Note : iANT H/N is always<br>enabled.<br>This option just controls the<br>BIOS extension execution.<br>If enabled, this requires<br>additional firmware in the SPI<br>device |
|                              | Intel AMT<br>Disabled<br>Enabled | <pre>++: Select Screen<br/>11: Select Item<br/>Enter: Select<br/>+/-: Change Opt.<br/>F1: General Help<br/>F2: Previous Values<br/>F3: Optimized Defaults<br/>F4: Save &amp; Reset<br/>ESC: Exit</pre>  |

The following options are disabled: Secure Mode Extensions (SMX)

Intel TXT(LT) Support

## Intel AMT

Enables or disables the AMT function.

## Un-Configure ME

Select Enabled to unconfigure the ME function without the need for a password.

## **USB** Configuration

This section is used to configure the parameters of the USB device.



Legacy USB Support

Enabled

Enables legacy USB.

Auto

Disables support for legacy when no USB devices are connected.

Disabled

Keeps USB devices available only for EFI applications.

## **XHCI Hand-off**

This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.

## **EHCI Hand-off**

This is a workaround for OSes that does not support EHCI hand-off. The EHCI ownership change should be claimed by the EHCI driver.

#### Port 60/64 Emulation

Enables I/O port 60h/64h emulation support. This should be enabled for the complete USB keyboard legacy support for non-USB aware OSes.

## Super IO Configuration

This section is used to configure the I/O functions supported by the onboard F71879 Super I/O chip.

| Aptio Setup Util.<br>Advanced  | ity – Copyright (C) 20                                  | 11 American Megatrends, Inc.   |
|--|---|--|
| F71879 Super IO Configuration  |   | Restore AC Power Loss Help   |
| F71879 Super IO Chip   | F71879  |  |
| Restore AC Power Loss  |   |  |
| WatchDog Timer<br>SuperIO WatchDog Timer   | [Disabled]<br>10  |  |
| <ul> <li>▶ Serial Port 1 Configuration</li> <li>▶ Serial Port 2 Configuration</li> </ul> | Restore AC Power<br>Power Off<br>Power On<br>Last State | Loss<br>+: Select Screen<br>4: Select Item<br>nter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
| Version 2.14.12  | 19. Copyright (C) 2011                                  | American Megatrends, Inc.  |

**Restore AC Power Loss** 

#### **Power Off**

When power returns after an AC power failure, the system's power is off. You must press the Power button to power-on the system.

## Power On

When power returns after an AC power failure, the system will automatically power-on.

#### Last State

When power returns after an AC power failure, the system will return to the state where you left off before power failure occurs. If the system's power is off when AC power failure occurs, it will remain off when power returns. If the system's power is on when AC power failure occurs, the system will power-on when power returns.

## Watchdog Timer

Selects the watchdog timer unit: second or minute.

#### Super IO Watchdog Timer

Sets the timeout value of the super IO watchdog timer. 0 means disabled.

## Serial Port 1 & Serial Port 2 Configuration

Sets the parameters of serial port 0 (COM A) and serial port 1 (COM B).

| Serial Port 1 Configuration |                                    | Enable or Disable Serial Port  |
|-----------------------------|------------------------------------|--|
|                             |                                    | (COM)  |
| Device Settings             | IO=3F8h; IRQ=4;                    |  |
| Change Settings             | [Auto]                             |  |
|                             | Serial Port<br>Disabled<br>Enabled | <pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Reset ESC: Exit</pre> |

## Serial Port

Enables or disables the serial port (COM).

#### Change Settings

Selects the IO/IRQ setting of the I/O device.

## Second Super IO Configuration

This section is used to configure the I/O functions supported by the onboard F81217 Super I/O chip.

| Aptio Setup Utility – Copyright (C) 2011 American<br>Advanced   | Megatrends, Inc.  |
|---|---|
| F81217 Second Super IO Configuration  | Set Parameters of Serial Port<br>3 (COMC)   |
| F81217 Second Super IO Chip<br>Serial Port 3 Configuration<br>Serial Port 4 Configuration<br>Serial Port 5 Configuration<br>Serial Port 6 Configuration | ++: Select Screen<br>14: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
| Version 2.14.1219. Copyright (C) 2011 American Me   | egatrends, Inc.   |

## System Smart Fan Control

When this feature is set to Automatic, the System's fan speed will rotate according to the System's temperature. The higher the temperature, the faster the speed of rotation.

#### Boundary 1 to Boundary 4

The range is 0-127.

Speed Count 1 to Speed Count 5

The range is 1-100%.

## Case Open

Sets this field to Enabled to allow the system to alert you of a chassis intrusion event.

#### Serial Port 3 to Serial Port 6 Configuration

#### Serial Port

Enables or disables the serial port (COM).

## **Change Settings**

Selects the IO/IRQ setting of the I/O device.

## **Network Stack**

| Aptio Setu<br>Advanced | p Utility – Copyright (C) 2011 Ameri | ican Megatrends, Inc.  |
|------------------------|--------------------------------------|--|
| Network stack          | (Disabled)                           | Enable/Disable UEFI network<br>stack   |
|                        | Network stack<br>Disabled<br>Enabled | <pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Reset ESC: Exit</pre> |
| Version 2              | .14.1219. Copyright (C) 2011 America | an Megatrends, Inc.  |

## **Network Stack**

Enable or disable UEFI network stack.

## Ipv4 PXE Support

When enabled, Ipv4 PXE boot is supported. When disabled, Ipv4 PXE boot option will not be created.

## Ipv6 PXE Support

When enabled, Ipv6 PXE boot is supported. When disabled, Ipv6 PXE boot option will not be created.

# Chipset

This section configures relevant chipset functions.

| Aptio Setup Utility – Copyright (C) 2011 American<br>Main Advanced <mark>Chipset</mark> Boot Security Save & Exit | Megatrends, Inc.   |
|---|--|
| ▶ South Bridge<br>▶ North Bridge<br>▶ ME Subsystem  | South Bridge Parameters  |
|   | <pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Reset ESC: Exit</pre> |
| Version 2.14.1219, Convright (C) 2011 American Ma   | egatrends. Inc.  |

## South Bridge Configuration

This section is used to configure the parameters of PCH.

| - |  |              |                           |
|---|--|--------------|---------------------------|
|   | Intel PCH RC Version                   | 1.0.0.0      | PCI Express Configuration |
|   | Intel PCH SKU Name<br>Intel PCH Rev ID | Q77<br>04/C1 | settings                  |
|   | POT European Configuration             |              |                           |
|   | USB Configuration                      |              |                           |
| • | PCH Azalia Configuration               |              |                           |
|   | PCH LAN Controller                     | [Enabled]    |                           |
|   | Wake on LAN from S5                    | [Enabled]    |                           |
|   | After G3                               | [Power On]   |                           |
|   |  |              | ++: Select Screen         |
|   |  |              | ↑↓: Select Item           |
|   |  |              | Enter: Select             |
|   |  |              | F1: General Help          |
|   |  |              | F2: Previous Values       |
|   |  |              | F3: Optimized Defaults    |
|   |  |              | F4: Save & Reset          |
|   |  |              | ESC: Exit                 |
|   |  |              |                           |
|   |  |              |                           |
|   |  |              |                           |

## PCH LAN Controller

Enables or disables the PCH LAN Controller.

## Wake on LAN from S5

When enabled, it allows the system to wake up from S5 via the network LAN.

## After G3

Power Off / WOL

Power-on the system via WOL after G3.

Power On

Power-on the system after G3.

## **PCI Express Configuration**

This field is used to configure the PCI Express settings.

| Aptio Setup Util<br>Chipset         | ity – Copyright (C) 2011 Amer               | rican Megatrends, Inc.  |
|-------------------------------------|---|---|
| PCI Express Root Port<br>PCIe Speed | [Enabled]<br>[Auto]<br>Auto<br>Gen1<br>Gen2 | Select PCI Express port speed.<br>++: Select Screen<br>11: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
| Version 2.14.12                     | 19. Copyright (C) 2011 Americ               | can Megatrends. Inc.  |

## PCI Express Configuration

This field is used to configure the PCI Express settings.



## On Board LAN2

Enable or disable the onboard LAN.

## PCI Express Root Port 1

Controls the PCI Express Root Port.

## **PCIe Speed**

Selects the speed of PCI Express port.

## **USB** Configuration

This field is used to configure the USB settings.

| Aptio Setup Utility -<br>Chipset   | Copyright (C) 2011 American | Megatrends, Inc.  |
|------------------------------------|-----------------------------|---|
| USB Configuration                  |                             | Mode of operation of xHCI   |
| XHCI Pre-Boot Driver<br>×HCI Mode  | [Enabled]<br>[Smart Auto]   | controller.   |
| EHCI1                              | [Enabled]                   |   |
| EHC12                              | [Enabled]                   |   |
| USB Ports Per-Port Disable Control | [Disabled]                  |   |
|                                    |                             |   |
|                                    |                             | ++: Select Screen<br>14: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
| Version 2.14.1219. Co              | pyright (C) 2011 American M | egatrends, Inc.   |

## **USB** Precondition

Precondition works on USB host controller and root ports for faster enumeration.  ${\bf xHCI}\ {\bf Mode}$ 

Mode of operation of xHCI controller. Options are Smart Auto, Auto, Disabled.

## EHCI1 and EHCI2

These fields are used to enable or disable USB 2.0.

## USB Ports Per-Port Disable Control

Control each of the USB ports (0~13) disabling.

## PCH Azalia Configuration

This field is used to configure the PCH Azalia settings.

| PCH Azalia Configuration       Control Detection of th<br>Azalia device.         Azalia Internal HOMI Codec       [Enabled]         Azalia HOMI codec Port D       [Enabled]         Enabled = Azalia will b<br>unconditionally Enabled         ++: Select Screen         11: Select Item<br>Enter: Select         +/-: Change Opt.         F1: General Help         F2: Optimized Defaults         F3: Optimized Defaults         F4: Save & Reset         F5: Exit | Aptio Setup Uti.<br>Chipset  | lity – Copyright (C)                | ) 2011 American M     | legatrends, Inc.  |
|--|--|-------------------------------------|-----------------------|---|
| ++: Select Screen<br>14: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>F5: Fvit   | PCH Azalia Configuration<br>Azalia<br>Azalia Internal HDMI Codec<br>Azalia HDMI codec Port D | [Enabled]<br>[Enabled]<br>[Enabled] | C<br>D<br>U<br>U<br>U | ontrol Detection of the<br>zalia device.<br>Misabled = Azalia will be<br>nconditionally disabled<br>nabled = Azalia will be<br>nconditionally Enabled.  |
|  |  |                                     |                       | <ul> <li>*: Select Screen</li> <li>4: Select Item</li> <li>inter: Select</li> <li>/-: Change Opt.</li> <li>1: General Help</li> <li>2: Previous Values</li> <li>3: Optimized Defaults</li> <li>4: Save &amp; Reset</li> <li>SC: Exit</li> </ul> |

## Azalia internal HDMI codec

Enables or disables the Azalia internal HDMI codec.

## North Bridge Configuration

This section is used to configure the parameters of North Bridge.

| Aptio Se<br>Chips  | tup Utility – Copyright (C) 2011 Amer<br>et  | rican Megatrends, Inc.  |
|--|--|---|
| Total Memory<br>DIM##0<br>DIMM#1<br>DIMM#2<br>DIMM#3<br>Primary Display<br>VT-d<br>DVMT Pre-Allocated<br>► NB PCIe Configuration | 4096 MB (DDR3)<br>4096 MB (DDR3)<br>Not Present<br>Not Present<br>(Auto)<br>[Enabled]<br>Primary Display<br>Auto<br>IGFX<br>PEG<br>PCI | Select which of IGFX/PEG/PCI<br>Graphics device should be<br>Primary Display On select SG<br>for Switchable Gfx.<br>++: Select Screen<br>11: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
| Vencion  | 2 14 1219 Conunight (C) 2011 Amonid  | an Megathende Inc   |

#### **Primary Display**

Auto When the system boots, it will auto detects the display device.

IGFX When the system boots, it will first initialize the onboard VGA.

 $\ensuremath{\text{PEG}}$  When the system boots, it will first initialize the PCI Express x16 graphics card.

**PCI** When the system boots, it will first initialize the PCI graphic

## VT-d

Check to enable VT-d function on MCH.

### **DVMT Pre-Allocated**

Select DVMT 5.0  $\ensuremath{\mathsf{Pre-Allocated}}$  (Fixed) Graphics Memory size used by the Internal Graphics Device.

## **PCI Express Configuration**

This field is used to configure the PCI Express settings of the North Bridge.

| NB PCTe Configuration |             | To enable or disable the PF |
|-----------------------|-------------|-----------------------------|
| PEG                   | Not Present |                             |
| PEG - Gen X           | [Auto]      |                             |
| Enable PEG            |             |                             |
|                       |             |                             |
|                       |             |                             |
|                       |             |                             |
|                       |             |                             |
|                       |             |                             |
|                       |             |                             |
|                       |             |                             |
|                       |             | the Select Screen           |
|                       |             | Enter: Select               |
|                       |             | +/-: Change Opt.            |
|                       |             | F1: General Help            |
|                       |             | F2: Previous Values         |
|                       |             | F3: Optimized Defaults      |
|                       |             | F4: Save & Reset            |
|                       |             | ESC: Exit                   |
|                       |             |                             |
|                       |             |                             |
|                       |             |                             |

#### PEG Speed

Selects the speed of the PEG. Enable PEG

Enable or disable the PEG.

## ME Subsystem

This field is used to configure the Intel ME firmware.

| Intel ME Subsystem Configuration                               | Enable∕Disable Me FW Image   |
|--|--|
| ME FW Version 8.1.30.1350 F<br>Me FW Image Re-Flash [Disabled] | Re-Flash function.   |
| Me FH Image Re-Flash<br>Disabled<br>Enabled                    | <pre>##: Select Screen pl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Reset ESC: Exit</pre> |

## Me firmware Image Re-Flash

Enable/Disable the firmware image re-flashing.

61

## Boot

| Aptio Setup Utili<br>Main Advanced Chipset Boot | ty – Copyright (C) 2011 Ame<br>Security Save & Exit | rican Megatrends, Inc.        |
|---|---|-------------------------------|
| Boot Configuration                              |   | Number of seconds to wait for |
| Setup Prompt Timeout                            | 1   | setup activation key.         |
| BOOTUD NUMLOCK State                            | LOUI  | waiting.                      |
| Quiet Boot                                      | [Disabled]  |                               |
| Fast Boot                                       | [Disabled]  |                               |
| CSM16 Module Version                            | 07.69   |                               |
| GateA20 Active                                  | [Upon Request]                                      |                               |
| Option ROM Messages                             | [Force BIOS]  |                               |
| INT19 Trap Response                             | [Immediate]   |                               |
| Boot Option Priorities                          |   | ++: Select Screen             |
| COV poporators                                  |   | T4: Select Item               |
| CSM paralleters                                 |   | Enter: Select                 |
|   |   | F1: General Help              |
|   |   | F2: Previous Values           |
|   |   | F3: Optimized Defaults        |
|   |   | F4: Save & Reset              |
|   |   | ESC: Exit                     |
|   |   |                               |
|   |   |                               |
|   |   |                               |
| Version 2.14.121                                | 9. Copyright (C) 2011 Ameria                        | can Megatrends, Inc.          |

#### Setup Prompt Timeout

Selects the number of seconds to wait for the setup activation key. 65535(0xFFFF) denotes indefinite waiting.

#### **Bootup NumLock State**

This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on wherein the function of the numeric keypad is the number keys. When set to Off, the function of the numeric keypad is the arrow keys.

### **Quiet Boot**

Enables or disables the quiet boot function.

#### Fast Boot

Enables or disables boot with initialization of a minimal set of devices re

quired to launch active boot option. Has no effect for BBS boot options.

#### GateA20 Active

Upon Request- GA20 can be disabled using BIOS services.

Always- Do not allow disabling GA20; this option is useful when any RT code is executed above 1MB.

## **Option ROM Messages**

Set display mode for option ROM.

#### Int19 Trap Response

BIOS reaction on Int19 trapping by option ROM.

## **CSM Parameters**

| Aptio Setup Utility<br>Boot   | y – Copyright (C) 2011 Ame                                    | rican Megatrends, Inc.   |
|---|---|--|
| Launch CSM<br>Launch PXE OpROM policy<br>Launch Storage OpROM policy<br>Launch Video OpROM policy | [Always]<br>[Do not launch]<br>[Legacy only]<br>[Legacy only] | This option controls if CSM<br>will be launched<br>++: Select Screen<br>fl: Select Item<br>Enter: Select<br>+/-: Change Opt. |
|   |   | F2: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit                           |

## Launch CSM

This option controls if CSM will be launched.

## Launch PXE OpROM policy

Controls the execution of UEFI and legacy PXE OpROM.

## Launch Storage OpROM policy

Controls the execution of UEFI and legacy storage OpROM.

## Launch Video OpROM policy

Controls the execution of UEFI and legacy video OpROM.

## **Security**

| Aptio Setup Utilit<br>Main Advanced Chipset Boot  | y – Copyright (C) 2011<br>Security Save & Exit  | American Megatrends, Inc.  |
|---|---|--|
| Password Description  |   | Set Administrator Password   |
| If ONLY the Administrator's pass<br>then this only limits access to<br>only asked for when entering Set<br>If ONLY the User's password and must<br>boot or enter Setup. In Setup th<br>have Administrator rights.<br>The password length must be<br>in the following range:<br>Minimum length | word is set,<br>Setup and is<br>up.<br>et, then this<br>be entered to<br>e User will<br>3 |  |
| Maximum length  | 20  | ++: Select Screen  |
| Administrator Password<br>User Password   |   | <pre>f4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values</pre> |
| UEFI Secure Boot Management<br>Secure Boot control<br>▶ Secure Boot Policy  | [Enabled]   | F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit  |
| Version 2.14.1219   | . Copyright (C) 2011 Ar   | merican Megatrends, Inc.   |

## **Administrator Password**

Sets the administrator's password.

## **User Password**

Sets the user's password.

## Secure Boot Control

Secure boot fl ow control. Secure boot is possible only if system runs in User Mode.

## **Secure Boot Policy**

This screen sets the Image Execution Policy on Security Violation. It configures permission/denial of different kind of Images when secure boot is enabled.

| Aptio Setup Ut  | tility – Copyright (C) 2011 Ameri<br>Security                          | ican Megatrends, Inc.   |
|---|--|---|
| Internal FV<br>Option ROM<br>Removable Media<br>Fixed Media | [Always Execute]<br>[Deny Execute]<br>[Deny Execute]<br>[Deny Execute] | Image Execution Policy on<br>Security Violation. Image load<br>device path  |
|   |  | ++: Select Screen<br>11: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
| Version 2.14.   | .1219. Copyright (C) 2011 America                                      | an Megatrends, Inc.   |

#### Internal FV

The option is Always Execute.

#### **Option ROM**

The options are Always Execute, Always Deny, Allow Execute, Defer Execute, Deny Execute, and Query User.

### **Removable Media**

The options are Always Execute, Always Deny, Allow Execute, Defer Execute, Deny Execute, and Query User.

#### **Fixed Media**

The options are Always Execute, Always Deny, Allow Execute, Defer Execute, Deny Execute, and Query User.

# Save & Exit

| Aptio Setup Utility – Copyright (C) 2011 Americ:<br>Main Advanced Chipset Boot Security Save & Exit | an Megatrends, Inc.                        |
|---|--|
| Save Changes and Reset<br>Discard Changes and Reset   | Reset the system after saving the changes. |
| Save Options  |  |
| Save Changes<br>Discard Changes   |  |
| Restore Defaults  |  |
| Save as User Defaults<br>Restore User Defaults  |  |
| Boot Override   |  |
| Launch EFI Shell from filesystem device   | ++: Select Screen                          |
|   | Enter: Select                              |
|   | +/-: Change Opt.                           |
|   | F2: Previous Values                        |
|   | F3: Optimized Defaults                     |
|   | ESC: Exit                                  |
|   |  |
|   |  |
|   |  |
| Version 2.14.1219. Copyright (C) 2011 American  | Megatrends, Inc.                           |

### Save Changes and Reset

To save the changes, select this fi eld and then press <Enter>. A dialog box will appear. Select Yes to reset the system after saving all changes made.

## **Discard Changes and Reset**

To discard the changes, select this fi eld and then press <Enter>. A dialog box will appear. Select Yes to reset the system setup without saving any changes.

#### **Save Changes**

Save changes done so far to any of the setup options.

### **Discard Changes**

Discard changes done so far to any of the setup options.

### **Restore Defaults**

To restore and load the optimized default values, select this field and then press <Enter>. A dialog box will appear. Select Yes to restore the default values of all the setup options.

## Save as User Defaults

To save changes done so far as user default, select this field and then press <Enter>. A dialog box will appear. Select Yes to save values as user default.

## **Restore User Defaults**

To restore user default to all the setup options, select this field and then press <Enter>. A dialog box will appear. Select Yes to restore user default.

#### Launch EFI Shell from filesystem device

It attempts to launch an EFI shell application (shellx64.efi) from one of the available file system devices.

# AMI BIOS Setup Utility (MB331-CRM)

## Main

The Main menu is the first screen that you will see when you enter the BIOS Setup Utility.



#### System Date

The date format is <day>, <month>, <date>, <year>. Day displays a day, from Sunday to Saturday. Month displays the month, from January to December. Date displays the date, from 1 to 31. Year displays the year, from 1980 to 2099.

### **System Time**

The time format is <hour>, <minute>, <second>. The time is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Hour displays hours from 00 to 23. Minute displays minutes from 00 to 59. Second displays seconds from 00 to 59.

## **Advanced**

The Advanced menu allows you to configure your system for basic operation. Some entries are defaults required by the system board, while others, if enabled, will improve the performance of your system or let you set some features according to your preference.



Setting incorrect field values may cause the system to malfunction.

| ACPI Power Management Configuration                              | System ACPI Parameters.              |
|--|--------------------------------------|
| PC Health Status   |                                      |
| CPU Configuration  |                                      |
| SATA Configuration   |                                      |
| Intel TXT(LT) Configuation                                       |                                      |
| <ul> <li>AMT Configuration</li> <li>USB Configuration</li> </ul> |                                      |
| ▶ F71879 Super IO Configuration                                  |                                      |
| • F81217 Second Super IO Configuration                           |                                      |
| <ul> <li>JMB36X ATA Controller Configuration</li> </ul>          |                                      |
| ► Network Stack  |                                      |
|  | ++: Select Screen                    |
|  | ↑↓: Select Item                      |
|  | Enter: Select                        |
|  | +/-: Change Opt.<br>E1: General Heln |
|  | F2: Previous Values                  |
|  | F3: Optimized Defaults               |
|  | F4: Save & Reset                     |
|  | COD. EX10                            |
|  |                                      |
|  |                                      |

## **ACPI Power Management Configuration**

This section is used to configure the ACPI Power Management.

| Aptio Setup Utility -<br>Advanced   | - Copyright (C) 2011 Americ   | an Megatrends, Inc.  |
|---|---|--|
| ACPI Power Management Configuration   | 1   | Select the highest ACPI sleep<br>state the system will enter<br>when the SUSPEND button is   |
| ACPI Sleep State<br>Resume by PME<br>Resume by USB<br>Resume by PS2 KB (S1,S3)<br>Resume by PS2 MS (S1,S3)<br>Wake system with Fixed Time | [S3 (Suspend to RAH)]<br>[Disabled]<br>[Disabled]<br>[Disabled]<br>[Disabled]<br>[Disabled]<br>[Disabled] | <pre>when the SUSPEND button is pressed.  ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Cone 2 Previous</pre> |
|   |   | ESC: Exit  |

#### ACPI Sleep State

Selects the highest ACPI sleep state the system will enter when the Suspend button is pressed.

S1(POS)Enables the Power On Suspend function.

S3(STR)Enables the Suspend to RAM function.

#### **Resume by PME**

Enable this field to use the PME signal to wake up the system.

#### **Resume by Ring**

Set this field to Enabled to use the modem ring-on function. This will allow your system to power-on to respond to calls coming through an external or internal modem.

#### **Resume by USB**

About resume by USB; Options are enabled or disabled.

## Resume by PS2 KB (S1, S3)

About resume by PS2 keyboard (S1, S3); Options are enabled or disabled.

#### Resume by PS2 MS (S1, S3)

About resume by PS2 mouse (S1, S3); Options are enabled or disabled.

#### Wake system with Fixed Time

Enable or disable the system wake on alarm event. When enabled, system will wake on the hr::min::sec specified.

## **PC Health Status**

This section displays the SIO hardware health monitor information.

| Advanced   |   |  |
|--|---|--|
| ACPI Power Management Configuration  |   | Select the highest ACPI sleep<br>state the system will enter<br>when the SUSPEND button is   |
| ACPI Sleep State<br>Resume by PME<br>Resume by USB<br>Resume by USB<br>Resume by PS2 KB (S1,S3)<br>Resume by PS2 MS (S1,S3)<br>Wake system with Fixed Time | [S3 (Suspend to RAM)]<br>[Disabled]<br>[Disabled]<br>[Disabled]<br>[Disabled]<br>[Disabled]<br>[Disabled] | <pre>++: Select Screen 14: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Reset ESC: Exit</pre> |

## Smart Fan Function

| Aptio Setup Utility<br>Advanced   | – Copyright (C) 2011  | American Megatrends, Inc.  |
|---|---|--|
| CPU Smart Fan Control<br>Boundary 1<br>Boundary 2<br>Boundary 3<br>Boundary 4<br>Speed Count 1<br>Speed Count 2<br>Speed Count 3<br>Speed Count 5<br>System Smart Fan(1) Control<br>Boundary 1    | [Automatic]<br>60<br>50<br>40<br>30<br>100<br>75<br>50<br>40<br>30<br>[Automatic]<br>60 | ▲ Enable CPU SmartFan  |
| Boundary 2<br>Boundary 3<br>Boundary 4<br>Speed Count 1<br>Speed Count 2<br>Speed Count 3<br>Speed Count 5<br>System Smart Fan(2) Control<br>Boundary 1<br>Boundary 2<br>Boundary 3<br>Boundary 4 | 50<br>40<br>30<br>100<br>75<br>50<br>40<br>30<br>[Automatic]<br>60<br>50<br>40<br>30    | <pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Reset ESC: Exit</pre> |

## CPU Smart Fan/System Smart Fan (1)/System Smart Fan (2) Control

When this feature is set to Automatic, the CPU fan speed will rotate according to the CPU's (or system) temperature. The higher the temperature, the faster the speed of rotation.

## Boundary 1 to Boundary 4

The range is from 0-127.

Speed Count 1 to Speed Count 5

The range is from 1-100.

## Case Open Beep

Set this field to Enabled to allow the system to alert you of a chassis intrusion event.

## **Trusted Computing**

This section configures settings relevant to Trusted Computing innovations.

| onfiguration<br>TPM SUPPORT                           | Enables or Disables BIOS<br>support for security device. |
|---|--|
|   | Device. TCG EFI protocol and                             |
| urrent Status Information<br>NO Security Device Found | INTIA interface will not be available.                   |
|   |  |
|   |  |
|   |  |
|   | ++: Select Screen  |
|   | ↑↓: Select Item<br>Enter: Select                         |
|   | +/-: Change Opt.   |
|   | F1: General Help<br>F2: Previous Values                  |
|   | F3: Optimized Defaults                                   |
|   | ESC: Exit  |
|   |  |

## **TPM Support**

Enables or Disables TPM. Resetting the platform is required for the O.S. to show TPM.

## **CPU Configuration**

This section is used to configure the CPU. It will also display the detected CPU information.

| CPU Configuration                  |               | Disabled for Windows XP |
|------------------------------------|---------------|-------------------------|
| Intel(R) Core(TM) i5-3550S CPU @ 3 | .00GHz        |                         |
| CPU Speed                          | 3000 MHz      |                         |
| Processor Cores                    | 4             |                         |
| Intel HT Technology                | Not Supported |                         |
|                                    |               |                         |
| Intel Virtualization Technology    | [Disabled]    |                         |
| EIST                               | [Enabled]     |                         |
| Turbo Mode                         | [Enabled]     |                         |
|                                    |               |                         |
|                                    |               |                         |
|                                    |               | ++: Select Screen       |
|                                    |               | t↓: Select Item         |
|                                    |               | Enter: Select           |
|                                    |               | +/-: Change Opt.        |
|                                    |               | F1: General Help        |
|                                    |               | F2: Previous Values     |
|                                    |               | F3: Optimized Defaults  |
|                                    |               | F4: Save & Reset        |
|                                    |               | ESC: Exit               |
|                                    |               |                         |
|                                    |               |                         |
|                                    |               |                         |
|                                    |               |                         |

#### Limit CPUID Maximum

The CPUID instruction of some newer CPUs will return a value greater than 3. The default is Disabled because this problem does not exist in the Windows series operating systems. If you are using an operating system other than Windows, this problem may occur. To avoid this problem, enable this field to limit the return value to 3 or less than 3.

#### Intel Virtualization Technology

When this field is set to Enabled, the VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

#### EIST

Enable or disable Intel Speedstep.

## **Turbo Mode**

If you want the system to run at a faster speed, set this field to Enabled. However, compatibility problems may occur with some DRAMs if the system is running in Turbo mode. If you encounter this problem, set this field to Disabled.

## **SATA Configuration**

This section is used to configure SATA functions.

| Aptio<br>Advanced   | Setup Utility – Copyright (C) 2011 Am  | erican Megatrends, Inc.   |
|---|--|---|
| SATA Controller(s)<br>SATA Mode Selection<br>Serial ATA Port 0<br>Software Preserve<br>Serial ATA Port 1<br>Software Preserve<br>Serial ATA Port 2<br>Software Preserve<br>Serial ATA Port 3<br>Software Preserve<br>Serial ATA Port 4<br>Software Preserve<br>Serial ATA Port 5<br>Software Preserve | [Enabled]<br>[IDE]<br>Empty<br>Unknown<br>Empty<br>Unknown<br>Empty<br>Unknown<br>Empty<br>Unknown<br>Empty<br>Unknown<br>Empty<br>Unknown<br>Empty<br>Unknown | Enable or disable SATA Device.<br>++: Select Screen<br>14: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
| Vene  | ion 2 14 1219 Conucidat (C) 2011 Amer  | ican Megatrends Inc   |

## SATA Controller(s)

This field is used to enable or disable the Serial ATA channels.

## **SATA Mode Selection**

## IDE Mode

This option configures the Serial ATA drives as Parallel ATA storage devices.

## AHCI Mode

This option allows the Serial ATA devices to use AHCI (Advanced Host Controller Interface).

## RAID Mode

This option allows you to create RAID or Intel Matrix Storage configuration on Serial ATA devices.

If AHCI or RAID is selected in the SATA Mode Selection, it will display the following information:

| SATA Controller(s)     | [Enabled]  | Determines how SATA    |
|------------------------|------------|------------------------|
|                        |            | controller(s) operate. |
| Aggressive LPM Support | [Enabled]  |                        |
| SATA Controller Speed  | [Gen3]     |                        |
| Serial ATA Port 0      | Empty      |                        |
| Software Preserve      | Unknown    |                        |
| Port 0                 | [Enabled]  |                        |
| Hot Plug               | [Disabled] |                        |
| Serial ATA Port 1      | Empty      |                        |
| Software Preserve      | Unknown    |                        |
| Port 1                 | [Enabled]  |                        |
| Hot Plug               | [Disabled] |                        |
| Serial ATA Port 2      | Empty      | ++: Select Screen      |
| Software Preserve      | Unknown    | 14: Select Item        |
| Port 2                 | [Enabled]  | Enter: Select          |
| Hot Plug               | [Disabled] | +/-: Change Opt.       |
| Serial ATA Port 3      | Empty      | F1: General Help       |
| Software Preserve      | Unknown    | F2: Previous Values    |
| Port 3                 | [Enabled]  | F3: Optimized Defaults |
| Hot Plug               | [Disabled] | F4: Save & Reset       |
| Serial ATA Port 4      | Empty      | ESC: Exit              |
| Software Preserve      | Unknown    |                        |
| Port 4                 | [Enabled]  |                        |
| Hot Plug               | [Disabled] | <b>T</b>               |

## SATA Controller(s)

This field is used to enable or disable the Serial ATA channels.

## **SATA Controller Speed**

Indicates the maximum speed that the SATA controller can support.

Agressive LPM Support Enable PCH to aggressively enter link power state.

## Serial ATA Port 0 to Serial ATA Port 5

These fields are used to configure the connected SATA devices.

## **Hot Plug**

Designates the SATA port as hot pluggable.

## Intel TXT (LT) Configuration

This section is used to configure the Intel Trusted Execution technology.

| Aptio<br>Advanced   | Setup Utility – Copyright (C) 20:  | l1 American Megatrends, Inc.  |
|---|--|---|
| SATA Controller(s)<br>SATA Mode Selection<br>Serial ATA Port 0<br>Software Preserve<br>Serial ATA Port 1<br>Software Preserve<br>Serial ATA Port 2<br>Software Preserve<br>Serial ATA Port 3<br>Software Preserve<br>Serial ATA Port 4<br>Software Preserve<br>Serial ATA Port 5<br>Software Preserve | [Enabled]<br>[IDE]<br>Empty<br>Unknown<br>Empty<br>Unknown<br>Empty<br>Unknown<br>Empty<br>Unknown<br>Empty<br>Unknown | Enable or disable SATA Device.<br>++: Select Screen<br>14: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
| Vers  | ion 2.14.1219, Converight (C) 2011   | American Megatrends, Inc.   |

The following options are disabled:

Secure Mode Extensions (SMX)

Intel TXT(LT) Support

## Intel AMT Configuration

| Intel AMT<br>Un-Configure ME | [Enabled]<br>[Disabled] | OEMFlag Bit 15:<br>Un-Configure ME without<br>password.   |
|------------------------------|-------------------------|---|
|                              |                         | ++: Select Screen<br>11: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |

## Intel AMT

Enables or disables the AMT function.

## **Un-Configure ME**

Select Enabled to unconfigure the ME function without the need for a password.

## **USB Configuration**

This section is used to configure USB.

| USB Configuration   | Enchlas Larger USP support  |
|---|---|
| USB Devices:<br>1 Keyboard, 2 Hubs<br>Legacy USB Support [Enabled]<br>XHCI Hand-off [Enabled]<br>EHCI Hand-off [Disabled]<br>Port 60/64 Emulation [Enabled] | AUTO option disables Support.<br>AUTO option disables legacy<br>support if no USB devices are<br>connected. DISABLE option will<br>keep USB devices available<br>only for EFI applications. |
|   | <pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Reset ESC: Exit</pre>                      |

## Legacy USB Support

Enabled

Enable legacy USB.

## Auto

Disable support for legacy when no USB devices are connected.

## Disabled

Keep USB devices available only for EFI applications.

## **XHCI Hand-off**

This is a workaround for OSes that does not support XHCI hand-off. The XHCI ownership change should be claimed by the XHCI driver.

## **EHCI Hand-off**

This is a workaround for OSes that does not support EHCI hand-off. The EHCI ownership change should be claimed by the EHCI driver.

#### Port 60/64 Emulation

Enables I/O port 60h/64h emulation support. This should be enabled for the complete USB keyboard legacy support for non-USB aware OSes.
#### **Super IO Configuration**

This section is used to configure the I/O functions supported by the onboard F71879 Super I/O chip.

| Aptio Setup Utility -<br>Advanced  | Copyright (C) 2011 America  | n Megatrends, Inc.  |
|--|-----------------------------|---|
| F71879 Super IO Configuration  |                             | Restore AC Power Loss Help  |
| F71879 Super IO Chip   | F71879                      |   |
| Restore AC Power Loss  |                             |   |
| WatchDog Timer<br>SuperIO WatchDog Timer   | [Disabled]<br>10            |   |
| <ul> <li>▶ Serial Port 1 Configuration</li> <li>▶ Serial Port 2 Configuration</li> </ul> |                             | ++: Select Screen<br>11: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>E90: Evit |
| Version 2 14 1219 6  | nnucight (C) 2011 Amarican. | verstrends Inc  |

#### **Restore AC Power Loss**

#### Off

When power returns after an AC power failure, the system's power is off. You must press the Power button to power-on the system.

### On

When power returns after an AC power failure, the system will automatically power-on.

#### Last State

When power returns after an AC power failure, the system will return to the state where you left off before power failure occurs. If the system's power is off when AC power failure occurs, it will remain off when power returns. If the system's power is on when AC power failure occurs, the system will power-on when power returns.

#### Watchdog Timer

Enable or disable Super I/O watchdog timer.

#### Serial Port 1 & Serial Port 2 Configuration



#### Serial Port

Enable or disable the serial port.

#### Change Settings

Select the IO/IRQ setting of the I/O device.

## F81217 Second Super IO Configuration

This section is used to configure the serial port functions.

| Aptio Setup Utility – Copyright (C) 2011 American<br>Advanced  | Megatrends, Inc.   |
|--|--|
| F81217 Second Super IO Configuration   | Set Parameters of Serial Port<br>3 (COMC)  |
| <pre>F81217 Second Super IO Chip F81217 SecondIo &gt; Serial Port 3 Configuration &gt; Serial Port 4 Configuration &gt; Serial Port 5 Configuration &gt; Serial Port 6 Configuration</pre> | ++: Select Screen<br><b>14:</b> Select Item<br>Enter: Select<br>+/-: Change Opt.                   |
|  | F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |

# Serial Port 3 Configuration to Serial Port 6 Configuration

Serial Port

Enables or disables the serial port.

### Change Settings

Selects the IO/IRQ setting of the I/O device.

### JMB36X ATA Controller Configuration

This section is used to configure the JMB36X ATA storage controller.

| DATA Daiman Master  | Net Descent | Select an operative mode for            |
|---------------------|-------------|---|
| PHIH Primary Master | NOT Present | HTH controller.                         |
|                     |             |   |
|                     |             |   |
|                     |             |   |
|                     |             |   |
|                     |             |   |
|                     |             | and the second second second            |
|                     |             | ++: Select Screen                       |
|                     |             | ↑↓: Select Item<br>Enter: Select        |
|                     |             | +/-: Change Opt.                        |
|                     |             | F1: General Help<br>F2: Previous Values |
|                     |             | F3: Optimized Defaults                  |
|                     |             | F4: Save & Reset<br>ESC: Exit           |
|                     |             |   |
|                     |             |   |

## JMB 360 ATA Controller

Enable the IDE mode or disable the ATA controller.

#### **Network Stack**

This section is used to configure the network stack settings.

| Aptio Setup<br>Advanced                               | Utility – Copyright              | (C) 2011 American | Megatrends, Inc.   |
|---|----------------------------------|-------------------|--|
| Network stack<br>Ipv4 PXE Support<br>Ipv6 PXE Support | [Enable]<br>[Enable]<br>[Enable] |                   | Enable/Disable UEFI network<br>stack   |
|   |                                  |                   | <pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Reset ESC: Exit</pre> |

#### **Network Stack**

Enable or disable UEFI network stack.

#### Ipv4 PXE Support

When enabled, Ipv4 PXE boot is supported. When disabled, Ipv4 PXE boot option will not be created.

#### Ipv6 PXE Support

When enabled,  $\ensuremath{\text{Ipv6}}$  PXE boot is supported. When disabled,  $\ensuremath{\text{Ipv6}}$  PXE boot option will not be created.

### South Bridge

| Aptio Setup<br>Chipset   | Utility – Copyright (C) 2011 American | Megatrends, Inc.  |
|--|---------------------------------------|---|
| Intel PCH RC Version<br>Intel PCH SKU Name<br>Intel PCH Rev ID   | 1.0.0.0<br>Q77<br>04/C1               | PCI Express Configuration<br>settings   |
| <ul> <li>PCI Express Configuration</li> <li>USB Configuration</li> <li>PCH Azalia Configuration</li> </ul> |                                       |   |
| PCH LAN Controller<br>Wake on LAN from S5  | [Enabled]<br>[Enabled]                |   |
| After G3   | [Power On]                            |   |
|  |                                       | ++: Select Screen<br>14: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>F0: Set |
|  |                                       | E20+ EXI(   |

### **PCH LAN Controller**

Enable or disable the PCH LAN Controller.

#### Wake on LAN from S5

Set this field to Enabled to wake up the system via the onboard LAN or via a LAN card that supports the remote wake up function.

#### After G3

#### Power Off / WOL

Power-on the system via WOL after G3.

### Power On

Power-on the system after G3.

### **PCI Express Configuration**

| Aptio Setup Utility – Copyright (C) 2011 American<br><mark>Chipset</mark>   | Megatrends, Inc.  |
|---|---|
| PCI Express Configuration   | PCI Express Root Port Settings.   |
| <ul> <li>PCI Express Root Port</li> <li>PCIE Port 6 is assigned to PCH LAN</li> <li>On Board LAN2</li> <li>PCI Express Root Port 8</li> </ul> |   |
|   | ++: Select Screen<br>11: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
|   |   |

## PCI Express Root Port

Enable or disable the PCIe root port.

### **PCIe Speed**

Select the speed of the PCIe root port.

#### On Board LAN2

Enable or disable the onboard LAN.

## PCI Express Root Port 8

It configures the PCIe Root Port 8 settings.

### PCI Express Root Port 8

| Aptio Setup<br>Chipset   | Utility – Copyright (C) 2011 Amer | rican Megatrends, Inc.   |
|--|-----------------------------------|--|
| Intel PCH RC Version<br>Intel PCH SKU Name<br>Intel PCH Rev ID   | 1.0.0.0<br>Q77<br>04/C1           | PCI Express Configuration<br>settings  |
| <ul> <li>PCI Express Configuration</li> <li>USB Configuration</li> <li>PCH Azalia Configuration</li> </ul> |                                   |  |
| PCH LAN Controller<br>Nake on LAN from S5  | [Enabled]<br>[Enabled]            |  |
| After G3   | (Power On)                        | ++: Select Screen  |
|  |                                   | <pre>f↓: Select Item Enter: Select +/-: Change Opt.</pre>  |
|  |                                   | F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>F9: Save text |
|  |                                   | E30. EXIL  |
| Version 2.1  | 4.1219. Copyright (C) 2011 Americ | can Megatrends, Inc.   |

Enable or disable the PCIe root port 8.

## ASPM Suport

Set the ASPM level.

### UBP

Enable or disable PCIe unsupported Requested Reporting.

### FER

Enable or disable PCIe device fatal error reporting.

## NFER

Enable or disable PCIe device non-fatal error reporting.

### CER

Enable or disable PCIe device correctable error reporting.

#### СТО

76

Chapter 7 BIOS Setup

Enable or disable PCIe device completion timer to.

### SEFE

Enable or disable root PCIe system error on fatal error.

#### SENFE

Enable or disable root PCIe system error on non-fatal error.

#### SECE

Enable or disable PCIe system error on correctable error.

#### PME SCI

Enable or disable PCIe PME SCI.

#### Hot plug

Enable or disable PCIe hot plug.

#### PCIe speed

Select the PCIe speed.

## **USB** Configuration

| Aptio Setup Utility -<br>Chipset   | Copyright (C) 2011 American | Megatrends, Inc.  |
|------------------------------------|-----------------------------|---|
| USB Configuration                  |                             | Enable or disable XHCI  |
| XHCI Pre-Boot Driver<br>xHCI Mode  | [Enabled]<br>[Smart Auto]   | Pre-Boot Univer Support.  |
| EHCI1                              | [Enabled]                   |   |
| EHC12                              | (Enabled)                   |   |
| USB Ports Per-Port Disable Control | [Disabled]                  |   |
|                                    |                             | ++: Select Screen<br>11: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
| Version 2.14.1219. Co              | pyright (C) 2011 American M | egatrends, Inc.   |

#### **xHCI Mode**

Mode of operation of xHCI controller. Options are Smart Auto, Auto, Enabled, Disabled.

#### EHCI1 and EHCI2

These fields are used to enable or disable USB 2.0.

#### USB Ports Per-Port Disable Control

Control each of the USB ports (0~13) disabling.

## **PCH Azalia Configuration**

| USB Configuration XHCI Pre-Boot Driver (Enabled) (Smart Auto] EHCI1 (Enabled) USB Ports Per-Port Disable Control (Disabled)  ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Reset ESC: Exit   | Aptio Setup Utility -<br>Chipset   | Copyright (C) 2011 Ame    | erican Megatrends, Inc.                    |
|--|------------------------------------|---------------------------|--|
| XHCI Pre-Boot Driver       [Enabled]         xHCI Mode       [Smart Auto]         EHCI1       [Enabled]         USB Ports Per-Port Disable Control       [Disabled]         ++: Select Screen       11: Select Item         Enter: Select Item       Enter: Select +/-: Change Opt.         F1: General Help       F2: Previous Values         F3: Optimized Defaults       F4: Save & Reset         ESC: Exit       ESC: Exit | USB Configuration                  |                           | Enable or disable XHCI                     |
| EHCI1 [Enabled]<br>EHCI2 [Enabled]<br>USB Ports Per-Port Disable Control [Disabled]<br>++: Select Screen<br>11: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit   | XHCI Pre-Boot Driver<br>xHCI Mode  | [Enabled]<br>[Smart Auto] | Freeboot priver support.                   |
| EHCI2 [Enabled]<br>USB Ports Per-Port Disable Control [Disabled]<br>++: Select Screen<br>11: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit  | EHCI1                              | [Enabled]                 |  |
| USB Ports Per-Port Disable Control [Disabled]<br>++: Select Screen<br>11: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit   | EHC12                              | [Enabled]                 |  |
| ++: Select Screen<br>11: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit  | USB Ports Per-Port Disable Control | [Disabled]                |  |
| ++: Select Screen<br>11: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit  |                                    |                           |  |
| Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit  |                                    |                           | ++: Select Screen                          |
| +/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit   |                                    |                           | Enter: Select                              |
| F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit   |                                    |                           | F1: General Help                           |
| F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit  |                                    |                           | F2: Previous Values                        |
| ESC: Exit  |                                    |                           | F3: Uptimized Defaults<br>F4: Save & Reset |
|  |                                    |                           | ESC: Exit                                  |
|  |                                    |                           |  |
|  |                                    |                           |  |
| Version 2 14 1219 Convright (C) 2011 American Megatrends. Inc.   | Version 2 14 1219 D                | opunight (C) 2011 Ameri   | ican Megatrands. Inc                       |

### Azalia internal HDMI codec

Enable or disable the Azalia internal HDMI codec.

### North Bridge

| Total Memory<br>DIMM#0<br>DIMM#1<br>DIMM#2<br>DIMM#3<br>Primary Display<br>VT-d<br>DVMT Pre-Allocated | 4096 MB (DDR3)<br>4096 MB (DDR3)<br>Not Present<br>Not Present<br>Not Present<br>[Auto]<br>[Enabled]<br>[64M] | Select which of IGFX/PEG/PCI<br>Graphics device should be<br>Primary Display Or select SG<br>for Switchable Gfx.  |
|---|---|---|
|   |   | ++: Select Screen<br>11: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |

## **Primary Display**

Auto When the system boots, it will auto detects the display device.

IGFX When the system boots, it will first initialize the onboard VGA.

 $\mathsf{PEG}$   $% \mathsf{PEG}$  When the system boots, it will first initialize the PCI Express x16 graphics card.

PCI When the system boots, it will first initialize the PCI graphic card.

#### VT-d

Check to enable VT-d function on MCH.

#### **DVMT Pre-Allocated**

Select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the Internal Graphics Device.

78

### **NB PCIe Configuration**

This field is used to configure the PCI Express settings of the North Bridge.

| Aptio Setup Ut:<br>Chipset                                | ility – Copyright (C) 2011 Am      | merican Megatrends, Inc.  |
|---|------------------------------------|---|
| NB PCIe Configuration<br>PEG<br>PEG - Gen X<br>Enable PEG | Not Present<br>[Auto]<br>[Enabled] | Configure PEG 80:D1:F0<br>Gen1-Gen3   |
|   |                                    | ++: Select Screen<br>f1: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |

## PEG - Gen X

Selects the speed of the PEG.

#### Enable PEG

Enable or disable the PEG.

## ME Subsystem

This field is used to configure the Intel ME firmware.

| Total Memory<br>DIMM#0   | 4096 MB (DDR3)<br>4096 MB (DDR3)  | Select which of IGFX/PEG/PCI   |
|--|---|--|
| DIMM#1<br>DIMM#2<br>DIMM#3<br>Primary Display<br>VT-d<br>DVMT Pre-Allocated<br>> NB PCIE Configuration | Not Present<br>Not Present<br>Not Present<br>[Auto]<br>[Enabled]<br>[64M] | Primary Display Or select SG<br>for Switchable Gfx.  |
|  |   | <pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Reset ESC: Exit</pre> |

## Me firmware Image Re-Flash

Enable/Disable the firmware image re-flashing.

## Boot

| Aptio Setup Uti<br>Main Advanced Chipset Boo  | lity – Copyright (C) 2011 Am<br>t Security Save & Exit | erican Megatrends, Inc.   |
|---|--|---|
| Boot Configuration<br>Setup Prompt Timeout<br>Bootup NumLock State<br>Quiet Boot<br>Fast Boot<br>CSM16 Module Version | 1<br>[On]<br>[Disabled]<br>[Disabled]<br>07.69         | OpROM execution, boot options<br>filter, etc.   |
| GateA20 Active<br>Option ROM Messages<br>INT19 Trap Response  | [Upon Request]<br>[Force BIOS]<br>[Immediate]          |   |
| Boot Option Priorities<br>CSM parameters  |  | ++: Select Screen<br>fl: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
| Version 2.14.1  | 219. Copyright (C) 2011 Amer                           | ican Megatrends, Inc.   |

#### Setup Prompt Timeout

Selects the number of seconds to wait for the setup activation key. 65535(0xFFFF) denotes indefinite waiting.

#### **Bootup NumLock State**

This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on wherein the function of the numeric keypad is the number keys. When set to Off, the function of the numeric keypad is the arrow keys.

#### **Quiet Boot**

Enables or disables the quiet boot function.

#### Fast Boot

Enables or disables boot with initialization of a minimal set of devices re

quired to launch active boot option. Has no effect for BBS boot options.

#### GateA20 Active

Upon Request- GA20 can be disabled using BIOS services.

Alwasy- Do not allow disabling GA20; this option is useful when any RT code is executed above 1MB.

#### **Option ROM Messages**

Set display mode for option ROM.

#### Int19 Trap Response

BIOS reaction on Int19 trapping by option ROM.

Immediate- execute the trap right away.

Postpone- execute the trap during legacy boot.

#### **CSM Parameters**

| Aptio Setup Utility<br>Boot   | – Copyright (C) 2011 America                                  | n Megatrends, Inc.   |
|---|---|--|
| Launch CSM<br>Launch PXE OpROM policy<br>Launch Storage OpROM policy<br>Launch Video OpROM policy | [Always]<br>[Do not launch]<br>[Legacy only]<br>[Legacy only] | This option controls if CSM<br>will be launched<br>+*: Select Screen<br>fl: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
| Version 2 14 1219   | Conunight (C) 2011 American                                   | Megatrends Inc   |

## Launch PXE OpROM policy

Controls the execution of UEFI and legacy PXE OpROM.

## Launch Storage OpROM policy

Controls the execution of UEFI and legacy storage OpROM.

## Launch Video OpROM policy

Controls the execution of UEFI and legacy video OpROM.

# **Security**

| 000001 0 00001 1pt 1011      |                   | Set Administrator Password |
|------------------------------|-------------------|----------------------------|
| If ONLY the Administrator's  | password is set.  |                            |
| then this only limits access | to Setup and is   |                            |
| only asked for when entering | Setup.            |                            |
| If ONLY the User's password  | is set, then this |                            |
| is a power on password and m | ust be entered to |                            |
| boot or enter Setup. In Setu | p the User will   |                            |
| have Administrator rights.   |                   |                            |
| in the following range:      |                   |                            |
| dinimum length               | 3                 |                            |
| Maximum length               | 20                |                            |
|                              |                   | ++: Select Screen          |
|                              |                   | ↑↓: Select Item            |
|                              |                   | Enter: Select              |
| Jser Password                |                   | +/-: Change Opt.           |
|                              |                   | F1: General Help           |
| IEEE One Deat Management     |                   | F2: Previous Values        |
| JEFI Secure Boot Management  | [Epobled]         | F3: Uptimized Detaults     |
| Recure Boot Policy           | [Endored]         | F9. Save a Reset           |
| becare boot rorreg           |                   | LOC. EXIT                  |
|                              |                   |                            |

#### **Administrator Password**

Sets the administrator password.

#### **User Password**

Sets the user password.

#### **Secure Boot Control**

Secure boot flow control. Secure boot is possible only if system runs in User Mode.

#### **Security Boot Policy**

This screen sets the Image Execution Policy on Security Violation. It configures permission/denial of different kind of Images when secure boot is enabled.

| Aptio Setup   | Utility – Copyright (C) 2011 American<br>Security                      | Megatrends, Inc.  |
|---|--|---|
| Internal FV<br>Option ROM<br>Removable Media<br>Fixed Media | [Always Execute]<br>[Deny Execute]<br>[Deny Execute]<br>[Deny Execute] | Image Execution Policy on<br>Security Violation. Image load<br>device path<br>++: Select Screen<br>14: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Reset<br>ESC: Exit |
| Version 2.1   | 14.1219. Copyright (C) 2011 American M                                 | egatrends, Inc.   |

#### **Internal FV**

The option is Always Execute.

#### **Option ROM**

The options are Always Execute, Always Deny, Allow Execute, Defer Execute, Deny Execute, and Query User.

#### **Removable Media**

The options are Always Execute, Always Deny, Allow Execute, Defer Execute, Deny Execute, and Query User.

#### **Fixed Media**

The options are Always Execute, Always Deny, Allow Execute, Defer Execute, Deny Execute, and Query User.

# Save & Exit



#### Save Changes and Reset

To save the changes, select this field and then press <Enter>. A dialog box will appear. Select Yes to reset the system after saving all changes made.

#### **Discard Changes and Reset**

To discard the changes, select this field and then press <Enter>. A dialog box will appear. Select Yes to reset the system setup without saving any changes.

#### **Save Changes**

Save changes done so far to any of the setup options.

#### **Discard Changes**

Discard changes done so far to any of the setup options.

#### **Restore Defaults**

To restore and load the optimized default values, select this field and then press <Enter>. A dialog box will appear. Select Yes to restore the default values of all the setup options.

#### Save as User Defaults

To save changes done so far as user default, select this field and then press <Enter>. A dialog box will appear. Select Yes to save values as user default.

#### **Restore User Defaults**

To restore user default to all the setup options, select this field and then press <Enter>. A dialog box will appear. Select Yes to restore user default.

# **Updating the BIOS**

To update the BIOS, you will need the new BIOS file and a flash utility, AFUDOS.EXE. Please contact technical support or your sales representative for the files. To execute the utility, type: A:> AFUDOS BIOS\_File\_Name /b /p /n then press <Enter>.

| AMI Fi<br>Copyright (C)2008  | irmware Update Utility(APTIO) v2.25<br>8 American Megatrends Inc. All Rights Reserved. |  |
|--|--|--|
| Reading file<br>Erasing flash<br>Writing flash<br>Verifying flash<br>Erasing BootBlock<br>Writing BootBlock<br>Verifying BootBlock<br>C:\AFU\AFUDOS> | done<br>done<br>done<br>done<br>done<br>done<br>done                                   |  |

# **Notice: BIOS SPI ROM**

1. The Intel® Management Engine has already been integrated into this system board. Due to the safety concerns, the BIOS (SPI ROM) chip cannot be removed from this system board and used on another system board of the same model.

2. The BIOS (SPI ROM) on this system board must be the original equipment

from the factory and cannot be used to replace one which has been utilized on

other system boards.

3. If you do not follow the methods above, the Intel® Management Engine will

not be updated and will cease to be effective.

#### Note:

- a. You can take advantage of flash tools to update the default configuration of the BIOS (SPI ROM) to the latest version anytime.
- b. When the BIOS IC needs to be replaced, you have to populate it properly onto the system board after the EEPROM programmer has been burned and follow the technical person's instructions to confirm that the MAC address should be burned or not.

# **Chapter 8 - Supported Software**

Some devices of the system require drivers from hardware manufactures to operate properly. The system may come with a CD/DVD that contains drivers, utilities and software applications. Insert the CD into a CD-ROM drive. The auto-run screen (Mainboard Utility CD) will appear. If the "Autorun" does not automatically start, please go to the root directory of the CD and double-click "Setup".

If your product package does not include a CD/DVD, you can download the latest drivers from the DFI Download Center:

#### http://www.dfi.com/DownloadCenter

Once you are in the Download Center page, select your product or type the model name and click "Search" to find product-related resources such as documentation and drivers.

# **Auto Run Pages**









84

Depending on your model, the model name displayed on the DVD can be either MB330 or MB331.

<< Previous

Exit

# **Intel Chipset Software Installation Utility**

The Intel Chipset Software Installation Utility is used for updating Windows<sup>®</sup> INF files so that the Intel chipset can be recognized and configured properly in the system.

To install the utility, click "Intel Chipset Software Installation Utility" on the main menu.

| 1. | Setup is ready to install the              | Intel® Chipset Device Software   |  |
|----|--|--|--|
|    | utility. Click Next.                       | Intel <sup>®</sup> Chipset Device Software   | intel  |
|    |  | Welcome to the Setup Program   |  |
|    |  | This setup program will install the Intel® Chipset Device Software onto this co<br>strongly recommended that you exit all programs before continuing.  | nputer. It is  |
|    |  | < Each. [ year ><br>Intel® Inst  | Cancel   |
| 2. | Read the license agreement then click Yes. | Intel® Chipset Device Software Intel@ Chipset Device Software License Agreement  |  |
|    |  | You must accept all of the terms of the license agreement in order to continue to<br>program. Do you accept the terms?<br>INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution & Single<br>IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.<br>Do not use or load this software and any associated materials (collectively, th<br>und you have carefully read the following terms and conditions. By loading or<br>Software, you agree to the terms of this Agreement. If you do not wish to so<br>install or use the Software<br>Please Also Note:<br>* If you are an Original Equipment Manufacture (OEM), Independent Hardwa<br>(HW), or Independent Software Vendor (ISV), this complete LICENSE AGREEM | In setup<br>User)<br>In "Software")<br>Using the<br>agree, do not<br>re Vendor<br>ENT applies; |

3. Go through the readme document for more installation tips then click Next.



4. Click Finish to exit setup.



Intel® Installation Framewor

# **Intel Graphics Drivers**

To install the driver, click "Intel Graphics Drivers" on the main menu.

1. Setup is now ready to install the graphics driver. Click Next.

| Intel® Installation Framework  |                  |                  |                    |
|--|------------------|------------------|--------------------|
| Intel® HD Graphics Driver  |                  |                  |                    |
| Welcome to the Setup Program   |                  | (                | intel              |
| This setup program will install the following compor<br>- Intel® HD Graphics Driver<br>- Intel® Display Audio Driver | nents:           |                  |                    |
| It is strongly recommended that you exit all progra  | ams before conti | nuing. Click Nex | t to continue.     |
| V Automatically run WinSAT and enable the Wind   | lows Aero deskto | op theme (if sup | ported).           |
|  | < Back           | Next >           | Cancel             |
|  | L                | — Intel® Inst    | allation Framework |

By default, the "Automatically run WinSAT and enable the Windows Aero desktop theme" is enabled. With this enabled, after installing the graphics driver and the system rebooted, the screen will turn blank for 1 to 2 minutes (while WinSAT is running) before the Windows 7/Windows 8.1/Windows 10 desktop appears. The "blank screen" period is the time Windows is testing the graphics performance.

2. Read the license agreement then click Yes.

| Intel® Installation Framework   |  |   | - • •                              |
|---|--|---|------------------------------------|
| Intel® HD Graphics Driver   |  |   |                                    |
| License Agreement   |  | (   | intel                              |
| You must accept all of the terms of the license<br>program. Do you accept the terms?  | e agreement in order   | to continue the   | setup                              |
| INTEL SOFTWARE LICENSE AGREEMENT (OEI<br>IMPORTANT - READ BEFORE COPYING, INST.<br>Do not use or load this software and any asse<br>until you have carefully read the following ter<br>Software, you agree to the terms of this Agre<br>Install or use the Software.<br>Please Also Note: | M / IHV / ISV Distribu<br>ALLING OR USING.<br>ociated materials (col<br>ms and conditions. B<br>eement. If you do no | tion & Single Us<br>lectively, the "S<br>y loading or usin<br>it wish to so agr | er)  fortware") ng the ee, do not  |
| * If you are an Original Equipment Manufactu<br>(IHV), or Independent Software Vendor (ISV)<br>* If you are an End-User, then only Exhibit A  | rer (OEM), Independ<br>I, this complete LICE<br>, the INTEL SOFTWA   | ent Hardware NSE AGREEMEN<br>RE LICENSE AG                                      | /endor<br>T applies;<br>REEMENT, T |
|   | < Back   | Yes   | No                                 |
|   |  | — Intel® Inst-  | allation Framework                 |

 Go through the readme document for system requirements and installation tips then click Next.



4. Setup is now installing the driver. Click Next to con-tinue.

| ntel® HD Graphics Driver  | (intel)   |
|---|---|
| Please wait while the following setup operations are performed  | d:  |
| Creating Registry Key: HKLM\SOFTWARE\Microsoft\Windows<br>Creating Registry Key: HKLM\SOFTWARE\Microsoft\Windows  | Media Foundation (HardwareMFT<br>Media Foundation (HardwareMFT<br>Media Foundation (HardwareMFT   |
| Registering DLI: C: Program Files/Common Files/Intel/Weaks S<br>Registering DLI: C: Program Files/Common Files/Intel/Weaks S<br>Dealeing Registry Key: HCM/SOFTWARE/Intel/Weaks/SK/Dag<br>Creating Process: E: (Graphices/WIN7)8.15.10.2639Win32)O<br>Click Hext to continue. | neuro 2001/2010 / 11/25/40 32.<br>DK(2)3.0 (m/s, mft / h25/40 32.<br>DK(2)3.0 (m/s, mft / n25/40 32.<br>DK(2)3.0 (m/s, mft / n2010 32 |

- 5. Click "Yes, I want to restart this computer now" then click Finish.
  - Restarting the system will allow the new software installation to take effect.



# **Audio Drivers**

To install the driver, click "Audio Drivers" on the main menu.

driver. Click Next.



2. Click "Yes, I want to restart Realtek High Definition Audio Driver Setup (3.25) R26 my computer now" then click Finish.

Restarting the system will allow the new software installation to take effect.



# **Intel LAN Drivers**

To install the driver, click "Intel LAN Drivers" on the main menu.

1. Setup is ready to install the 🖟 Intel(R) Network Connections - InstallShield Wizard driver. Click Next.



2. Click "I accept the terms in the license agreement" then click "Next".



3. Select the program featuers you want installed then click Next.



1. Setup

4. Click Install to begin the installation.

| eady to Install the Program<br>The wizard is ready to begin installation. |                                 | intel                    |
|---|---------------------------------|--------------------------|
| Click Install to begin the installation.                                  |                                 |                          |
| If you want to review or change any of y<br>exit the wizard.              | rour installation settings, cli | ck Back. Click Cancel to |
|   |                                 |                          |

5. After completing installa-tion, click Finish.



# **Intel Management Engine Drivers**

To install the driver, click "Intel Management Engine Drivers" on the main menu.

| 1. | Setup is ready to install the | Setup  | ×        |
|----|-------------------------------|--|----------|
|    | driver. Click "Next".         | Intel® Management Engine Components Wekome Wekome  |          |
|    |                               | You are about to install the following product:  |          |
|    |                               | Intel® Management Engine Components  |          |
|    |                               | It is strongly recommended that you exit all programs before continuing.<br>Click Next to continue, or click Cancel to exit the setup program.   |          |
|    |                               | Instal Intel® Control Center   |          |
|    |                               | Intel® Control Center provides a centralized starting point for Intel applications making it<br>easier to find the programs that you need.   |          |
|    |                               | Intel Corporation Kext >   | Çancel   |
| 2. | Read the license agreement    | Setup  | ×        |
|    | then click "Next".            | Intel® Management Engine Components<br>License Agreement   |          |
|    |                               | INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution & Single User)  | ^        |
|    |                               | IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.<br>Do not use or load this software and any associated materials (collectively, the "Software<br>unil you have: carefully read the following terms and conditions. By loading or using the<br>Software, you agree to the terms of this Agreement. If you do not wish to so agree, do n<br>install or use the Software. | ר<br>not |
|    |                               | Please Also Note:<br>"If you are an Original Equipment Manufacturer (OEM), Independent Hardware Vendor<br>(IHI), or Independent Software Vendor (ISV), this complete LICENSE AGREEMENT applies<br>"If you are an End-User, then only Exhibit A, the INTEL SOFTWARE LICENSE AGREEMEN<br>applies.  | ;;<br>π, |
|    |                               | For OEMs, IHVs, and ISVs:  |          |
|    |                               | LICENSE. This Software is licensed for use only in conjunction with Intel component produ<br>Use of the Software in conjunction with non-Intel component products is not licensed  | cts. 🗸   |
|    |                               | A accept the terms in the License Agreement :  |          |

Intel Corporation

<<u>Back</u> <u>N</u>ext > <u>C</u>ancel

3. Setup is currently installing the driver. After installation has completed, click "Next".

| older, or click Ch | nance to choos    | e another dest  | ination folder.                              |
|--------------------|-------------------|---|--|
| (R) Managemen      | t Engine Comp     | onents  |  |
|                    |                   |   | Change                                       |
|                    |                   |   |  |
|                    |                   |   |  |
|                    |                   |   |  |
|                    |                   |   |  |
|                    |                   |   |  |
|                    |                   |   |  |
|                    | older, or dick Cl | older, or click Change to choos<br>(R) Management Engine Comp | older, or dick Change to choose another dest |

4. Please wait while the product is being installed.

| s (intel) |           |
|-----------|-----------|
|           |           |
|           |           |
|           |           |
|           |           |
|           |           |
|           |           |
|           |           |
|           | s (intel) |

5. After completing installation, click "Finish".



# Infineon TPM 1.2 Driver and Tool (Optional)

To install the driver, click "Infineon TPM driver and tool (option)" on the main menu.

- 1. The setup program is preparing Infineon TPM Professional Package - InstallShield Wizard to install the driver. Preparing to Install... 2 Infineon TPM Professional Package Setup is preparing the InstallShield Wizard, which will guide you through the program setup process. Please wait. Configuring Windows Installer .....
- 2. The setup program is now ready to install the utility. Click "Next".

click "Next".



Cancel

3. Click "I accept the terms in the 记 Infineon TPM Professional Package - InstallShield Wizard license agreement" and then License Agreement Please read the following license agreement carefully. Software Setup End User License Conditions for the Infineon TPM Professional Package 1. Attention This software contains copyright protected content (e.g. codes and structures) and confidential content (e.g. algorithms, ideas and concepts) of Infineon Technologies AG and Microsoft Corporation (Microsoft patterns & practices Enterprise Library C Microsoft Corporation). in road these linence terms and conditions (he I accept the terms in the license agreement Print I do not accept the terms in the license agreement Next > Cancel < Back

X

Intel USB 3.0 Drivers

| and then click "Next".                        | Customer Information<br>Please enter your information.  | To install the driver, click "Intel USB 3.0             | Driver" on the main menu.  |
|---|---|---|--|
|   | User Name:  | 1. Setup is ready to install the driver.<br>Click Next. | Intel® Installation Framework  Intel® USB 3.0 eXtensible Host Controller Driver Welcome to the Setup Program   |
|   | InstaliSheld  |   | This setup program will install the following components:<br>• Inst@ USB 3.0 Automable Host Controller Driver<br>• Inst@ USB 3.0 Hob Driver<br>• Inst@ USB 3.0 Hob Auto Controller Switch Driver<br>• Inst@ USB 3.0 Monitor<br>Click Next to continue.   |
| 5. Select a setup type and then click "Next". | Itili Infineon TPM Professional Package - InstallShield Wizard     Image: Choose the setup type that best suits your needs.       Please select a setup type.   |   | < Back Next > Cancel - Intel® Instalation Framewor   |
|   | Complete     All program features will be installed. (Requires the most disk. space.)     Custom     Definition     Conset which program features you want installed and where they will be installed. Recommended for advanced users.  | 2. Read the license agreement then click Yes.           | Intel® Installation Framework Intel® USB 3.0 eXtensible Host Controller Driver License Agreement   |
|   | InstaliSheld  |   | You must accept all of the terms of the license agreement in order to continue the setup<br>program. Do you accept the terms?  INTEL SOFTWARE LICENSE AGREEMENT (OEM / Inv / ISV Distribution & Single User) INPORTANT - READ BEFORE COPYING, INSTALLING OR USING. Do not use or load this software and any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By hading or using the<br>Software, you agree to the terms of this Agreement. If you do not wish to so agree, do not<br>intal our eat the Software.  |
| 6. Click "Install".                           | Imfineon TPM Professional Package - InstallShield Wizard         Ready to Install the Program         The wizard is ready to begin installation.         Click Install to begin the installation.         If you wark to review or change any of your installation settings, click Back. Click Cancel to exit the wizard. |   | Please Aloo Note:<br>* If you are an Original Equipment Manufacturer (OEM), Independent Hardware Vendor<br>(IHV), or Independent Software Vendor (ISV), this complete LICENSE AGREEMENT apples;<br>* If you are an End-User, then only Exhibit A, the INTEL SOFTWARE LICENSE AGREEMENT, *<br><a href="https://www.endotemet.com"></a><br>* If you are an End-User, then only Exhibit A, the INTEL SOFTWARE LICENSE AGREEMENT, *<br><a href="https://www.endotemet.com"></a><br><a href="https://www.endotemet.com"></a><br>* If you are an End-User, then only Exhibit A, the INTEL SOFTWARE LICENSE AGREEMENT, *<br><a href="https://www.endotemet.com"></a><br><a href="https://www.endotemet.com">www.endotemet.com</a><br>* If you are an End-User, then only Exhibit A, the INTEL SOFTWARE LICENSE AGREEMENT, *<br><a href="https://www.endotemet.com">www.endotemet.com</a><br><a href="https://www.endotemet.com">www.endotemet.com</a><br><a href="https://www.endotemet.com">www.endotemet.com</a><br><a href="https://www.endotemet.com">www.endotemet.com</a><br><a href="https://www.endotemet.com"></a> www.endotemet.com<br><a href="https://www.endotemet.com"></a> www.endotemet.com<br><a href="https://www.endotemet.com"></a> www.endotemet.com |
|   |   |   |  |

< Back Install Cancel

🙀 Infineon TPM Professional Package - InstallShield Wizard

4. Enter the necessary information

-----

3. Go through the readme document for more installation tips then click Next.



4. Setup is currently installing the driver. After installation has completed, click Next.

| ntel® USB 3.0 eXtensi<br>ietup Progress | ble Host Controller Driver                                  |
|---|---|
| Please wait while the following setup   | operations are performed:                                   |
| Copying File: C:\Program Files (x86)    | [Intel/Intel(R) USB 3.0 eXtensible Host Controller Driver/A |
| Copying File: C:\Program Files (x86)    | [Intel/Intel(R) USB 3.0 eXtensible Host Controller Driver/A |
| Copying File: C:\Program Files (x86)    | [Intel/Intel(R) USB 3.0 eXtensible Host Controller Driver/A |
| Copying File: C: \Program Files (x86)   | (Intel/Intel(R) USB 3.0 eXtensible Host Controller Driver/A |
| Copying File: C: \Program Files (x86)   | Vintel/Intel(R) USB 3.0 eXtensible Host Controller Driver/A |
| Copying File: C: \Program Files (x86)   | Vintel/Intel(R) USB 3.0 eXtensible Host Controller Driver/A |
| Copying File: C: \Program Files (x86)   | Vintel/Intel(R) USB 3.0 eXtensible Host Controller Driver/A |
| Copying File: C: \Program Files (x86)   | Vintel/Intel(R) USB 3.0 eXtensible Host Controller Driver/A |
| Copying File: C:\Program Files (x86)    | \Intel\Intel(R) USB 3.0 eXtensible Host Controller Driver\A |
| Creating Registry Key: HKLM\SOFTV       | VARE\Microsoft\Windows\CurrentVersion\Run\USB3MON=          |
| Click Next to continue.                 |   |
|   | Next >  |
|   | Intel® Installation Framew                                  |

Intel® Installation Framework

5. After completing installation, click Finish.



# **Intel Rapid Storage Drivers**

The Intel Rapid Storage Technology is a utility that allows you to monitor the current status of the SATA drives. It enables enhanced performance and power management for the storage subsystem.

To install the driver, click "Intel Rapid Storage Technology" on the main menu.

1. Setup is now ready to install the utility. Click Next.



2. Read the warning then click Yes.



3. Read the license agreement then click Yes.



4. Go through the readme document for system requirements and installation tips then click Next.



5. Setup is now installing the utility. Click Next to continue.



Intel® Installation Framework

6. Click "Yes, I want to restart my computer now" then click Finish.

Restarting the system will allow the new software installation to take effect.



92

# **MyGuard Hardware Monitor**

- 1. Locate for the MyGuard folder in the provided disc.
- In the MyGuard folder, right-click on the "setup" file.
- 3. Select Run As Administrator.
- 4. Double-click Setup.

| Organize 👻 🔝 Open | reew tolder       |                             |      |               |                    | ··· • 01 |
|-------------------|-------------------|-----------------------------|------|---------------|--------------------|----------|
| 🚖 Favorites       | Name              |                             | Date | modified      | Type               | Size     |
| Nesktop           | 🔄 datal           |                             | 12/2 | /2009 7:20 PM | Cabinet File       | 519 KB   |
| 😹 Downloads       | data1.hdr         |                             | 12/2 | /2009 7:20 PM | HDR File           | 53 K     |
| Recent Places     | 📓 data2           |                             | 12/2 | /2009 7:20 PM | Cabinet File       | 3,261 K8 |
|                   | 🚆 engine32        |                             | 10/2 | 1/2004 12:16  | Cabinet File       | 460 KI   |
| 🥽 Libraries       | layout.bin        |                             | 12/2 | /2009 7:20 PM | BIN File           | 1 K)     |
| Documents         | El setup          | Onen                        |      | 1/2004 12:16  | Application        | 116 KJ   |
| J Music           | 🗋 setup 🛖         | Property and an independent |      | (2009 7:20 PM | IBT File           | 368 KI   |
| Pictures          | <li>a setup </li> | Troublechest compatibility  |      | (2009 7:20 PM | Configuration sett | 1 K      |
| Videos            | setup             | Restances companying        |      | /2009 7:20 PM | JNX File           | 214 KI   |
|                   | setup             | Mestore previous versions   |      | 1/2004 12:17  | ISN File           | 63 K     |
| : Computer        |                   | Send to                     | •    |               |                    |          |
|                   |                   | Cut                         |      |               |                    |          |
| w Network         |                   | Copy                        |      |               |                    |          |
|                   |                   |                             |      |               |                    |          |
|                   |                   | Create shortcut             |      |               |                    |          |
|                   |                   | Delete                      |      |               |                    |          |
|                   |                   | Rename                      |      |               |                    |          |
|                   |                   | Properties                  |      |               |                    |          |
|                   |                   |                             |      | 1             |                    |          |
|                   |                   |                             |      |               |                    |          |
|                   |                   |                             |      |               |                    |          |



#### Important:

Perform steps 1-3 only when using Windows 7 or later versions.

5. Setup is ready to install the utility. Click Next.



6. Click Install to begin installation.



7. Setup is currently installing the utility.



8. After completing installation, click Finish to exit setup.



# Adobe Acrobat Reader 9.3

To install the reader, click "Adobe Acrobat Reader 9.3" on the main menu.

| 1. | Click Next to install or click<br>Change Destination Folder<br>to select another folder. | rë Adobe Reader 9.3 - Setup 🛛 🔀   |
|----|--|---|
|    |  | Destination Folder<br>Click Next to install to this folder, or click Change to install to a different folder. |
|    |  | Install Adobe Reader 9.3 to:<br>C:\Program Files(Adobe)Reader 9.0\  |
|    |  | WARNING: This program is protected by copyright law and international treaties.                               |
|    |  | Adobe Change Destination Folder   < Back Next > Cancel  |
| 2. | Click Install to begin installa-<br>tion.  | Reader 9.3 - Setup  |

| $\nearrow$  |
|---|
| Ready to Install the Program  |
| Click Install to begin the installation.  |
| If you want to review or change any of your installation folder, click Back. Click Cancel to exit<br>setup. |
|   |
|   |
|   |
|   |
|   |
|   |
| Adobe   |
|   |

3. Click Finish to exit installation.



# **Chapter 9 - Intel AMT Settings**

# **Overview**

Intel Active Management Technology (Intel $^{\otimes}$  AMT) combines hardware and software solution to provide maximum system defense and protection to networked systems.

The hardware and software information are stored in non-volatile memory. With its built-in manageability and latest security applications, Intel<sup>®</sup> AMT provides the following functions.

• Discover

Allows remote access and management of networked systems even while PCs are powered off; significantly reducing desk-side visits.

• Repair

Remotely repair systems after OS failures. Alerting and event logging help detect problems quickly to reduce downtime.

• Protect

Intel AMT's System Defense capability remotely updates all systems with the latest security software. It protects the network from threats at the source by proactively blocking incoming threats, reactively containing infected clients before they impact the network, and proactively alerting when critical software agents are removed.

# **Enable Intel® AMT in the AMI BIOS**

- 1. Power-on the system then press <Del> to enter the main menu of the AMI BIOS.
- 2. In the Advanced menu, select AMT Configuration.

| Aptio Se  | tup Utility - Copyri   | ght (C) 2011   | American Mega    | trends, Inc.  |
|---|--|----------------|------------------|---|
| Main Advanced   | Chipset Boot   | Security       | Save & Exit      |   |
| ACP1 Power Managen     PC Health Status     Trusted Computing     CPU Configuration     SATA Configuration     Intel TXT(LT) Configu-     AMT Configuration     FT1879 Super IO Confi     FR1217 Second Super     JMB36x ATA Controll | ent Configuration<br>ration<br>iguration<br>fO Configuration<br>er Configuration |                |                  | System ACPI parameters<br>→ ←: Select Screen<br>12: Select Item<br>Enter: Select<br>+/-: Change Opt.<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Exit<br>ESC: Exit |
| Versio  | n 2.14.1219. Copyrig   | ght (C) 2011 A | American Megatre | nds, Inc.   |

3. In the **Advanced** menu, select **Enable** in the **AMT** field.

| Aptio Setup Ut<br>Advanced   | ility - Copyright (C) 2011 Americ: | an Megatrends, Inc.   |
|------------------------------|------------------------------------|---|
| Intel AMT<br>Un-Configure ME | [Enabled]<br>[Disabled]            | Enable/ Disable Intel<br>(R) Active Management<br>Technology BIOS<br>Extension. Note: 1AMT<br>H/W is always enabled.<br>This option just controls<br>the BIOS extension<br>execution. If enabled,<br>this requires addition<br>firmware in the SPI<br>device.<br>→ ←: Select Screen<br>↑↓: Select Item<br>Enter: Select<br>H=Pi<br>Enter: Select<br>F1: General Help<br>F2: Previous Values<br>F3: Optimized Defaults<br>F4: Save & Exit<br>ESC: Exit |
| Version 2.14.                | 1219. Copyright (C) 2011 American  | Megatrends, Inc.  |

4. In the Save & Exit menu, select Save Changes and Reset then select OK.

|             |  | Aptio S                                 | etup Utility | - Copyri  | ght (C) 2011 | American Megati   | rends, Inc.  |
|-------------|--|---|--------------|-----------|--------------|-------------------|--|
|             | Main                                   | Advanced                                | Chipset      | Boot      | Security     | Save & Exit       |  |
| S<br>E      | lave Chan<br>Discard Cl                | iges and Reset<br>hanges and Re         | set          |           |              |                   | Reset the system after saving the changes.   |
| S<br>S<br>L | ave Optic<br>ave Chan<br>Discard Cl    | ons<br>iges<br>hanges                   |              |           |              |                   |  |
| R<br>S<br>R | Restore De<br>lave as Us<br>Restore Us | efaults<br>ser Defaults<br>ser Defaults |              |           |              |                   |  |
| B           | Boot Over                              | ride                                    |              |           |              |                   | Contract Saraan  |
| L           | aunch EI                               | FI Shell from f                         | lesystem dev | vice      |              |                   | <ul> <li>→ Select Scheen</li> <li>→ Select item</li> <li>Enter: Select</li> <li>+→: Change Opt</li> <li>F1: General Help</li> <li>F2: Previous Values</li> <li>F3: Optimized Defaults</li> <li>F4: Save &amp; Exit</li> <li>ESC: Exit</li> </ul> |
|             |  | Versio                                  | on 2.14.1219 | . Copyrig | ht (C) 2011  | American Megatrer | ids, Inc.  |

# Enable Intel® AMT in the Intel® Management Engine BIOS Extension (MEBX) Screen

1. When the system reboots, the following message will be displayed. Press **<Ctrl-P>** as soon as the message is displayed; as this message will be displayed for only a few seconds.



Main Menu

# MEBx Login

> Intel (R) ME General Settings
 > Intel (R) AMT Configuration
 MEBx Exit

#### Intel (R) ME Password

 $\uparrow\downarrow$ ] = Move highlight [ENTER] = Select Entry [ESC]= Exit

3. Enter a new password in the space provided under Intel(R) ME New Password then press Enter. The password must include:

8-32 characters

Strong 7-bit ASCII characters excluding : , and " characters

At least one digit character (0, 1, ...9)

At least one 7-bit ASCII non alpha-numeric character, above 0x20, (e.g. !, \$, ;)

Both lower case and upper case characters

 $[\uparrow\downarrow] =$  Move highlight [ENTER] = Select Entry

| Intel(R) Management Engine BIOS Extension v8.0.0.0061/Intel(R) ME v8.0.4.1441<br>Copyright(C) 2003-12 Intel Corporation. All Rights Reserved. |
|---|
| Main Menu   |
| MEBx Login<br>> Intel (R) ME General Settings<br>> Intel (R) AMT Configuration<br>MEBx Exit<br>Intel (R) ME Password                          |
| Intel (R) ME Password   |

[ESC]= Exit

4. You will be asked to verify the password. Enter the same new password in the space provided under Verify Password then press Enter.

| Intel(R) Management Engine BIOS Extension v8.0.0.0061/Intel(R) ME v8.0.4.1441<br>Copyright(C) 2003-12 Intel Corporation. All Rights Reserved. |
|---|
| Main Menu   |
| MEBx Login<br>> Intel (R) ME General Settings<br>> Intel (R) AMT Configuration<br>MEBx Exit<br>Verify Password                                |
| Intel (R) ME Password   |
| $[\uparrow\downarrow] =$ Move highlight [ENTER] = Select Entry [ESC]= Exit  |

5. Select Intel(R) ME General Settings then press Enter.



6. Select Change Intel(R) ME Password then press Enter. You will be prompted for a password. The default password is "admin". Enter the default password in the space provided under Intel(R) ME New Password then press Enter.

8-32 characters

Strong 7-bit ASCII characters excluding : , and " characters

At least one digit character (0, 1, ...9)

At least one 7-bit ASCII non alpha-numeric character, above 0x20, (e.g. !, \$, ;)

Both lower case and upper case characters

| Intel(R) Management Engine BIOS Extension v8.0.00061/Intel(R) ME v8.0.4.1441<br>Copyright(C) 2003-12 Intel Corporation. All Rights Reserved. |                   |  |  |  |
|--|-------------------|--|--|--|
| INTEL (R) ME PLATFORM CONFIGURATION  |                   |  |  |  |
| Change ME Password<br>Local FW Updtate <ena<br>&gt; Power Control</ena<br>   | abled>            |  |  |  |
| Intel (R) ME New Password  |                   |  |  |  |
| $[\uparrow\downarrow] = Move highlight [ENTER] = Select$   | Entry [ESC]= Exit |  |  |  |

7. Select Local FW Update then press Enter. Select Enabled then press Enter.

. . . . . . . .

1.000.0

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| Intel(R) Management Engine BIOS Extension v8.0.0.0061/Intel(R) ME v8.0.4.1441<br>Copyright(C) 2003-12 Intel Corporation. All Rights Reserved.                              |  |
|--|--|
| INTEL (R) ME PLATFORM CONFIGURATION  |  |
| > Change ME Password<br>Local FW Update <a href="mailto:exercised-system">Enabled</a><br>> Power Control           Disabled           Enabled           Password Protected |  |
|  |  |
| <pre><enter> = Complete Entry [ESC]= Discard Changes</enter></pre>   |  |

8. In the Intel(R) ME Platform Configuration menu, select Power Control then press Enter.

| Intel(R) Management Engine BIOS Extension v8.0.0.0061/Intel(R) ME v8.0.4.1441<br>Copyright(C) 2003-12 Intel Corporation. All Rights Reserved. |                     |  |
|---|---------------------|--|
| INTEL (R) ME PLATFORM CONFIGURATION   |                     |  |
| Change ME Password<br>Local FW Updtate<br>Power Control   | <enabled></enabled> |  |
| Intel (R) ME New Password   |                     |  |

9. In the Intel(R) ME Power Control menu, select Intel(R) ME ON in Host Sleep States then press Enter. Select an option then press Enter.

| Intel(R) Management Engine BIOS Extension v8.0.0.0061/Intel(R) ME v8.0.4.1441<br>Copyright(C) 2003-12 Intel Corporation. All Rights Reserved. |  |
|---|--|
| INTEL (R) ME POWER CONTROL  |  |
| Intel (R) ME ON in Host Sleep States <desktop: in="" on="" s0="">Idle Timeout1</desktop:>   |  |
| Desktop: ON in S0<br>Desktop: ON in S0, ME Wake in S3, S4-5   |  |
|   |  |
| $[\uparrow\downarrow]$ = Move highlight [ENTER] = Select Entry [ESC]= Discard changes   |  |

 In the Intel(R) ME Power Control menu, select Idle Timeout then press Enter. Enter the timeout value.



11. Select Previous Menu until you return to the Main Menu. Select Intel(R) AMT Configuration then press Enter.



12. In the **Intel(R) AMT Configuration** menu, select **Manageability Feature Selection** then press Enter. Select disabled then press Enter.



13. In the Intel(R) AMT Configuration menu, select SOL/IDER/KVM then press Enter.

| Intel(R) Management Engine BIOS Extension v8.0.0.0061/Intel(R) ME v8.0.4.1441<br>Copyright(C) 2003-12 Intel Corporation. All Rights Reserved. |   | l(R) ME v8.0.4.1441<br>ts Reserved. |
|---|---|-------------------------------------|
| SOL/ IDER/ KVM  |   |                                     |
| Username and passwor<br>SOL<br>IDER<br>KVM Feature Selection  | d < Enabled<br><enabled<br><enabled<br><enabled< td=""><td>&gt; .</td></enabled<></enabled<br></enabled<br> | > .                                 |
| Legacy Redirection Mc   | ode <disabled< td=""><td>&gt;</td></disabled<>  | >                                   |
| Menu for FW Redirection Configuration   |   |                                     |
| $[\uparrow\downarrow] = Move highlight$   | [ENTER] = Select Entry  | [ESC]= Exit                         |

 In the SOL/IDER/KVM menu, select Username and Password then press Enter. Select disabled then press Enter.



- 15. In the **SOL/IDER/KVM** menu, select **SOL** then press Enter. Select disabled then press Enter.
- Intel(R) Management Engine BIOS Extension v8.0.0.0061/Intel(R) ME v8.0.4.1441 Copyright(C) 2003-12 Intel Corporation. All Rights Reserved.

| SOL/ IDER/ KVM   |   |
|--|---|
| Username and password<br>SOL<br>IDER<br>KVM Feature Selection<br>Legacy Redirection Mode | < Enabled><br><enabled><br/><enabled><br/><enabled><br/>Disabled&gt;<br/>Disabled<br/>Enabled</enabled></enabled></enabled> |
| <enter></enter>  | = Complete Entry [ESC]= Discard Changes   |

16. In the **SOL/IDER/KVM** menu, select **IDER** then press Enter. Select disabled then press Enter.

| Intel(R) Management Engine BIOS Extension v8.0.0.0061/Intel(R) ME v8.0.4.1441<br>Copyright(C) 2003-12 Intel Corporation. All Rights Reserved. |  |  |
|---|--|--|
| SOL/ IDER/ KVM  |  |  |
| Username and password<br>SOL<br>IDER<br>KVM Feature Selection<br>Legacy Redirection Mode  | < Enabled><br><enabled><br/><enabled><br/><enabled><br/><disabled><br/>sabled<br/>abled</disabled></enabled></enabled></enabled> |  |
| <enter> = Co</enter>  | mplete Entry [ESC]= Discard Changes  |  |

17. In the **SOL/IDER/KVM menu**, select **KVM** then press Enter. Select disabled then press Enter.



#### 18. In the SOL/IDER/KVM menu, select Legacy Redirection Mode then press Enter.



19. Select Enabled then press Enter.



20. Select Previous Menu until you return to the Intel(R) AMT Configuration menu. Select User Consent then press Enter.



21. In the **User Consent Configuration** menu, select **User Opt-in** then press Enter. Select **None** then press Enter.



22. In the User Consent Configuration menu, select Opt-in Configurable from Remote IT then press Enter. Select Disable Remote Control of KVM Opt-in Policy then press Enter.



23. Select Previous Menu until you return to the Intel(R) AMT Configuration menu. Select Password Policy then press Enter.

You may choose to use a password only during setup and configuration or to use a password anytime the system is being accessed.

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24. In the Intel(R) AMT Configuration menu, select Network Setup then press Enter.

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|---|------------------------------|--|
| INTEL (R) AMT CONFIGURATION   |                              |  |
| Manageability Feature Selection<br>> SOL/ IDER/ KVM   | < Enabled>                   |  |
| > User Consent<br>Password Policy   | <anytime></anytime>          |  |
| Activate Network Access<br>Unconfigure Network Access   | <full unprovision=""></full> |  |
| > Remote Setup And Configuration  | -                            |  |
|   |                              |  |
|   |                              |  |
| $[\uparrow\downarrow] = Move highlight [ENTER] = S$   | elect Entry [ESC]= Exit      |  |

25. In the Intel(R) Network Setup menu, select Intel(R) ME Network Name Settings then press Enter.

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|---|--|--|
| INTEL (R) ME NETWORK SETUP  |  |  |
| Intel (R) ME Network Name Settings TCP/ IP Settings   |  |  |
|   |  |  |
| $[\uparrow\downarrow]$ = Move highlight [ENTER] = Select Entry [ESC]= Exit  |  |  |

26. In the Intel(R) ME Network Name Settings menu, select Host Name then press Enter. Enter the computer's host name then press Enter.



27. Select **Domain Name** then press Enter. Enter the computer's domain name then press Enter.

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|--|--|
| INTEL (R) ME NETWORK NAME SETTINGS   |  |
| Host Name<br>Domain Name<br>Shared/ Dedicated FQDN<br>Dynamic DNS Update   |  |
| Computer Domain Name   |  |
| <pre><enter> = Complete Entry [ESC]= Discard Changes</enter></pre>   |  |

28. Select **Shared/Dedicated FQDN** then press Enter. Select Shared or Dedicated then press Enter.



29. Select **Dynamic DNS Update** then press Enter. Select Enabled or Disabled then press Enter.

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|---|--|
| INTEL (R) ME NETWORK NAME SETTINGS  |  |
| Host Name<br>Domain Name<br>Shared/ Dedicated FQDN <shared><br/>Dynamic DNS Update <disabled><br/>Disabled<br/>Enabled</disabled></shared>    |  |
| <enter> = Complete Entry [ESC]= Discard Changes</enter>   |  |

30. Select Previous Menu until you return to the Intel(R) ME Network Setup menu. Select TCP/IP Settings then press Enter.

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|---|--|--|
| TCP/ IP SETTINGS  |  |  |
| > Wired LAN IPV4 Configuration  |  |  |
|   |  |  |
|   |  |  |
|   |  |  |
|   |  |  |
|   |  |  |
|   |  |  |
|   |  |  |
|   |  |  |
|   |  |  |
| $[\uparrow\downarrow]$ = Move highlight [ENTER] = Select Entry [ESC]= Exit  |  |  |

31. In the **TCP/IP Settings** menu, select **Wired LAN IPV4 Configuration** then press Enter.

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|---|------------------------|
| WIRED LAN IPV4 CONFIC   | JURATION               |
| DHCP Mode Disabled Enabled  | <enabled></enabled>    |
| <enter> = Complete Entry</enter>  | [ESC]= Discard Changes |

32. Select Previous Menu until you return to the **Intel(R) AMT Configuration** menu. Select **Activate Network Access** then press Enter. Type **Y** then press Enter.

| Intel(R) Management E<br>Copyright(C)   | ngine BIOS Exte<br>2003-12 Intel C     | ension v8.0.0.0061/<br>orporation. All R             | /Intel(R) ME v8.0.4.1441<br>Lights Reserved. |
|---|--|--|--|
| Π   | NTEL (R) AMT                           | CONFIGURATI  | ION  |
| Manageability Feat<br>> SOL/ IDER/ KVM  | ure Selection                          | < Ena  | abled>                                       |
| <ul> <li>&gt; Oser Consent</li> <li>Password Policy</li> <li>&gt; Network Setup</li> <li>Activate Netwok A</li> </ul> | ccess                                  | <any< td=""><td>time&gt;</td></any<>                 | time>  |
| Unconfigure Netw<br>> Remote Setup And  | Activiates the<br>and opens the<br>Cor | current network<br>e ME netwotk int<br>ntinue: (Y/N) | settings<br>erface                           |
| [↑↓] = Move highligl  | nt [ENTER] :                           | = Select Entry                                       | [ESC]= Exit                                  |

33. In the Intel(R) AMT Configuration menu, select Unconfigure Network Access then press Enter. Type Y then press Enter.

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|---|------------------------------|--|
| INTEL (R) AMT CON   | NFIGURATION                  |  |
| Manageability Feature Selection<br>> SOL/ IDER/ KVM   | < Enabled>                   |  |
| <ul> <li>&gt; User Consent</li> <li>Password Policy</li> <li>&gt; Network Setup</li> </ul>  | <anytime></anytime>          |  |
| Activate Netwok Access<br>Unconfigure Network Access<br>> Remote Setun And Configuration  | <full unprovision=""></full> |  |
| Full Unprovis<br>Partial Unprov   | sion<br>vision               |  |
| <enter> = Complete E</enter>  | Entry [ESC]= Discard Changes |  |

34. In the Intel(R) AMT Configuration menu, select Remote Setup And Configuration then press Enter.



35. In the Intel(R) Automated Setup And Configuration menu, select Current Provisioning Mode then press Enter.

| Current Provisioning M<br>Provisioning Record | Mode                    |  |
|---|-------------------------|--|
| Provisioning Server IP                        | PV4/IPV6 _              |  |
| Provisioning Server F                         | QDN _                   |  |
| > RCFG  |                         |  |
| > TLS PSK                                     | Provisioning Mode:PKI   |  |
| > TLS PKI                                     | r tovisioning wode.r Ki |  |
|   |                         |  |
|   |                         |  |
|   |                         |  |
|   |                         |  |
|   |                         |  |
|   |                         |  |
|   |                         |  |

36. In the Intel(R) Automated Setup And Configuration menu, select Provisioning Record then press Enter.



37. Select Previous Menu until you return to the Intel(R) Automated Setup And Configuration menu. Select Provisioning Server IPV4/IPV6 then press Enter. Type server address then press Enter.

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| Current Prov<br>Provisioning<br>Provisioning<br>Provisioning<br>> RCFG | isioning Mode<br>Record<br>Server IPV4/IPV6<br>Server FQDN | -                      |
|--|--|------------------------|
| > TLS PSK<br>> TLS PKI   | Provisioning server  | address                |
|  | <enter> = Complete Entry</enter>                           | [ESC]= Discard Changes |

38. In the Intel(R) Automated Setup And Configuration menu, select Provisioning Server FQDN then press Enter. Type FQDN of provisioning server then press Enter.

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|--|
| INTEL (R) AUTOMATED SETUP AND CONFIGURATION  |
| Current Provisioning Mode<br>Provisioning Record<br>Provisioning Server IPV4/IPV6<br>Provisioning Server FQDN<br>> RCFG<br>> TLS PSK<br>> TLS PKI<br>Enter FQDN of provisioning server |
| <enter> = Complete Entry [ESC]= Discard Changes</enter>  |

 In the Intel(R) Remote Configuration menu, select Start Configuration then press Enter. Type Y then press Enter.

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|---|--|--|
| INTEL (R) REMOTE CONFIGURATION  |  |  |
| Start Configuration   |  |  |
| This will activate Remote Configuration.<br>Continue: (Y/N)   |  |  |
| $[\uparrow\downarrow]$ = Move highlight [ENTER] = Select Entry [ESC]= Exit  |  |  |

40. In the Intel(R) Automated Setup And Configuration menu, select TLS PSK then press Enter.

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|---|
| INTEL (R) TLS PSK CONFIGURATION   |
| Set PID and PPS **  |
| Enter PID (e.g. ABCD-1234)  |
| <enter> = Complete Entry [ESC]= Exit</enter>  |

106

41. In the Intel(R) Remote Configuration menu, select Set PID and PPS \*\* then press Enter. Type PID code then press Enter.

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|--|---------------------------------------|
| INTEL (R) TLS PSK CONFIGURATI  | ON                                    |
| Set PID and PPS ** Delete PID and PPS ** Enter PID (e.g. ABCD-1234)  |                                       |
|  |                                       |
| <enter> = Complete Entry</enter>   | [ESC]= Exit                           |

42. In the Intel(R) Remote Configuration menu, select Delete PID and PPS \*\* then press Enter. Type Y then press Enter.



43. Select Previous Menu until you return to the Intel(R) Automated Setup And Configuration menu. Select TLS PKI then press Enter.

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|---|
| INTEL (R) AUTOMATED SETUP AND CONFIGURATION   |
| Current Provisioning Mode<br>Provisioning Record<br>Provisioning Server IPV4/IPV6<br>Provisioning Server FQDN<br>> RCFG<br>> TLS PSK<br>> TLS PKI |
| $[\uparrow\downarrow] =$ Move highlight [ENTER] = Select Entry [ESC]= Exit  |

44. In the Intel(R) Remote Configuration menu, select Remote Configuration \*\* then press Enter. Select Disabled then press Enter.



45. In the **Intel(R) Remote Configuration** menu, select **PKI DNS Suffix** then press Enter. Type PKI DNS Suffix then press Enter.

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|---|---|--|
| INTEL   | (R) REMOTE CONFIGURA  | ΓΙΟΝ                                       |
| Remote Configuration<br>PKI DNS Suffix<br>> Manage Hashes | ** <enable< td=""><td>vd&gt;</td></enable<>                       | vd>  |
|   | Enter PKI DNS Suffix  |  |
|   |   |  |
|   |   |  |
| <   | ENTER> = Complete Entry   | [ESC]= Discard Changes                     |

46. In the Intel(R) Remote Configuration menu, select Manage Hashes then press Enter.

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|---|---|---------------------------------|-----------|
| INTEL (R) REMOTE CONFIGURATION  |   |                                 |           |
| Hash Name   | Active  | Default                         | Algorithm |
| VeriSign Class 3  | Active: [*]                                   | Default: [*]                    | SHA1      |
| VeriSign Class 3  | Active: [*]                                   | Default: [*]                    | SHA1      |
| Go Daddy Class 2  | Active: [*]                                   | Default: [*]                    | SHA1      |
| Comodo AAA CA   | Active: [*]                                   | Default: [*]                    | SHA1      |
| Starfield Class 2   | Active: [*]                                   | Default: [*]                    | SHA1      |
| VeriSign Class 3  | Active: [*]                                   | Default: [*]                    | SHA1      |
| VeriSign Class 3  | Active: [*]                                   | Default: [*]                    | SHA1      |
| VeriSign Class 3  | Active: [*]                                   | Default: [*]                    | SHA1      |
| GTE CyberTrust G1   | Active: [*]                                   | Default: [*]                    | SHA1      |
| Baltimore Cyber Tr  | Active: [*]                                   | Default: [*]                    | SHA1      |
| Cyber Trust Global  | Active: [*]                                   | Default: [*]                    | SHA1      |
| Verizon Global Ro   | Active: [*]                                   | Default: [*]                    | SHA1      |
| Entrust. net CA (2  | Active: [*]                                   | Default: [*]                    | SHA1      |
| [Ins]= Add New ash<br>[↑↓] =Move highlight  | [Delete] = Delete Hash<br>[ENTER] = View Hash | [+] = Activate H<br>[Esc]= Exit | ash       |

Select Previous Menu until you return to the Main Menu. Select Exit then press Enter.
 Type Y then press Enter.

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|---|--|--|
| Main Menu   |  |  |
| <ul> <li>&gt; Intel (R) ME General Settings</li> <li>&gt; Intel (R) AMT Configuration</li> <li>MEBx Exit</li> </ul>                           |  |  |
| Are you sure you want to exit? (Y/N)<br>Exit  |  |  |
| $\uparrow\uparrow\downarrow$ ] = Move highlight [ENTER] = Select Entry [ESC]= Exit  |  |  |
## **Appendix A - Troubleshooting Checklist**

## **Troubleshooting Checklist**

This chapter of the manual is designed to help you with problems that you may encounter with your personal computer. To efficiently troubleshoot your system, treat each problem individually. This is to ensure an accurate diagnosis of the problem in case a problem has multiple causes.

Some of the most common things to check when you encounter problems while using your system are listed below.

- 1. The power switch of each peripheral device is turned on.
- 2. All cables and power cords are tightly connected.
- 3. The electrical outlet to which your peripheral devices are connected is working. Test the outlet by plugging in a lamp or other electrical device.
- 4. The monitor is turned on.
- 5. The display's brightness and contrast controls are adjusted properly.
- 6. All add-in boards in the expansion slots are seated securely.
- 7. Any add-in board you have installed is designed for your system and is set up correctly.

## **Monitor/Display**

#### If the display screen remains dark after the system is turned on:

- 1. Make sure that the monitor's power switch is on.
- 2. Check that one end of the monitor's power cord is properly attached to the monitor and the other end is plugged into a working AC outlet. If necessary, try another outlet.
- 3. Check that the video input cable is properly attached to the monitor and the system's display adapter.
- 4. Adjust the brightness of the display by turning the monitor's brightness control knob.

#### The picture seems to be constantly moving.

- 1. The monitor has lost its vertical sync. Adjust the monitor's vertical sync.
- 2. Move away any objects, such as another monitor or fan, that may be creating a magnetic field around the display.
- 3. Make sure your video card's output frequencies are supported by this monitor.

#### The screen seems to be constantly wavering.

1. If the monitor is close to another monitor, the adjacent monitor may need to be turned off. Fluorescent lights adjacent to the monitor may also cause screen wavering.

### **Power Supply**

#### When the computer is turned on, nothing happens.

- 1. Check that one end of the AC power cord is plugged into a live outlet and the other end properly plugged into the back of the system.
- 2. Make sure that the voltage selection switch on the back panel is set for the correct type of voltage you are using.
- 3. The power cord may have a "short" or "open". Inspect the cord and install a new one if necessary.

## **Floppy Drive**

#### The computer cannot access the floppy drive.

- 1. The floppy diskette may not be formatted. Format the diskette and try again.
- 2. The diskette may be write-protected. Use a diskette that is not write-protected.
- 3. You may be writing to the wrong drive. Check the path statement to make sure you are writing to the targeted drive.
- 4. There is not enough space left on the diskette. Use another diskette with adequate storage space.

## **Hard Drive**

#### Hard disk failure.

- 1. Make sure the correct drive type for the hard disk drive has been entered in the BIOS.
- 2. If the system is configured with two hard drives, make sure the bootable (first) hard drive is configured as Master and the second hard drive is configured as Slave. The master hard drive must have an active/bootable partition.

#### Excessively long formatting period.

If your hard drive takes an excessively long period of time to format, it is likely a cable connection problem. However, if your hard drive has a large capacity, it will take a longer time to format.

## **Serial Port**

# The serial device (modem, printer) doesn't output anything or is outputting garbled characters.

- 1. Make sure that the serial device's power is turned on and that the device is on-line.
- 2. Verify that the device is plugged into the correct serial port on the rear of the computer.
- 3. Verify that the attached serial device works by attaching it to a serial port that is working and configured correctly. If the serial device does not work, either the cable or the serial device has a problem. If the serial device works, the problem may be due to the onboard I/O or the address setting.
- 4. Make sure the COM settings and I/O address are configured correctly.

## **Keyboard**

#### Nothing happens when a key on the keyboard was pressed.

- 1. Make sure the keyboard is properly connected.
- 2. Make sure there are no objects resting on the keyboard and that no keys are pressed during the booting process.

## **System Board**

- 1. Make sure the add-in card is seated securely in the expansion slot. If the add-in card is loose, power off the system, re-install the card and power up the system.
- 2. Check the jumper settings to ensure that the jumpers are properly set.
- 3. Verify that all memory modules are seated securely into the memory sockets.
- 4. Make sure the memory modules are in the correct locations.
- 5. If the board fails to function, place the board on a flat surface and seat all socketed components. Gently press each component into the socket.
- 6. If you made changes to the BIOS settings, re-enter setup and load the BIOS defaults.