

# Preface

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Version 1.0

## Disclaimer

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## Trademark Recognition

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Other product names used in this manual are the properties of their respective owners and are acknowledged.

## **Federal Communications Commission (FCC)**

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

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment onto 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

Shielded interconnect cables and a shielded AC power cable must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

## Declaration of Conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

This device is in conformity with the following EC/EMC directives:

- EN 55022** Limits and methods of measurement of radio disturbance characteristics of information technology equipment
- EN 61000-3-2** Disturbances in supply systems caused
- EN 61000-3-3** Disturbances in supply systems caused by household appliances and similar electrical equipment “ Voltage fluctuations”
- EN 55024** Information technology equipment-Immunity characteristics-Limits and methods of measurement
- EN 60950** Safety for information technology equipment including electrical business equipment
- CE marking**



# Canadian Department of Communications

This class B digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

## About the Manual

The manual consists of the following:

- |   |  |
|---|--|
| <b>Chapter 1</b><br><b>Introducing the Motherboard</b>    | Describes features of the motherboard.<br><br>⇒ page 1                 |
| <b>Chapter 2</b><br><b>Installing the Motherboard</b>     | Describes installation of motherboard components.<br><br>⇒ page 9      |
| <b>Chapter 3</b><br><b>Using BIOS</b>                     | Provides information on using the BIOS Setup Utility.<br><br>⇒ page 19 |
| <b>Chapter 4</b><br><b>Using the Motherboard Software</b> | Describes the motherboard software.<br><br>⇒ page 47                   |

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# Chapter 1

## ***Introducing the Motherboard***

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### **Introduction**

Thank you for choosing **LIVA PC KIT** featuring BAT-MINI, the motherboard of high performance, enhanced function. This motherboard has onboard Intel® Bay Trail-M SoC for personal micro desktop markets or educational usage.

This motherboard is based on Intel® Bay Trail-M SoC. This latest Celeron processor is a multi-core system-on-a-chip (SoC) that integrates the next generation Intel® processor core, graphics, memory, and I/O interfaces into one solution. One NGFF card slot is for WPAN/WLAN/Antenna usage (You need to install a key E type Wireless card into it). It implements one USB 3.0 port, one USB 2.0 port and one micro USB 2.0 port(DC\_IN port) at rear panel.

It supports DDR3L up to 2 GB single channel soldered down memory and a direct soldered down eMMC up to 32 GB/64 GB storage. It also can add additional storage from USB flash drive.

The motherboard is equipped with a set of I/O ports at the rear panel, including one DC\_IN port(micro USB2.0, 5V), one VGA port, one HDMI port, one RJ45 LAN connector, one USB 3.0 port, and one USB 2.0 port.



*Warning: due to power limitation, it is suggested that USB HDD devices be used with additional power supply.*

## Package Contents

Your motherboard package ships with the following items:

- BAT-MINI Motherboard
- User Manual
- DVD
- Power Adapter
- Chassis
- Wireless Card
- Antenna



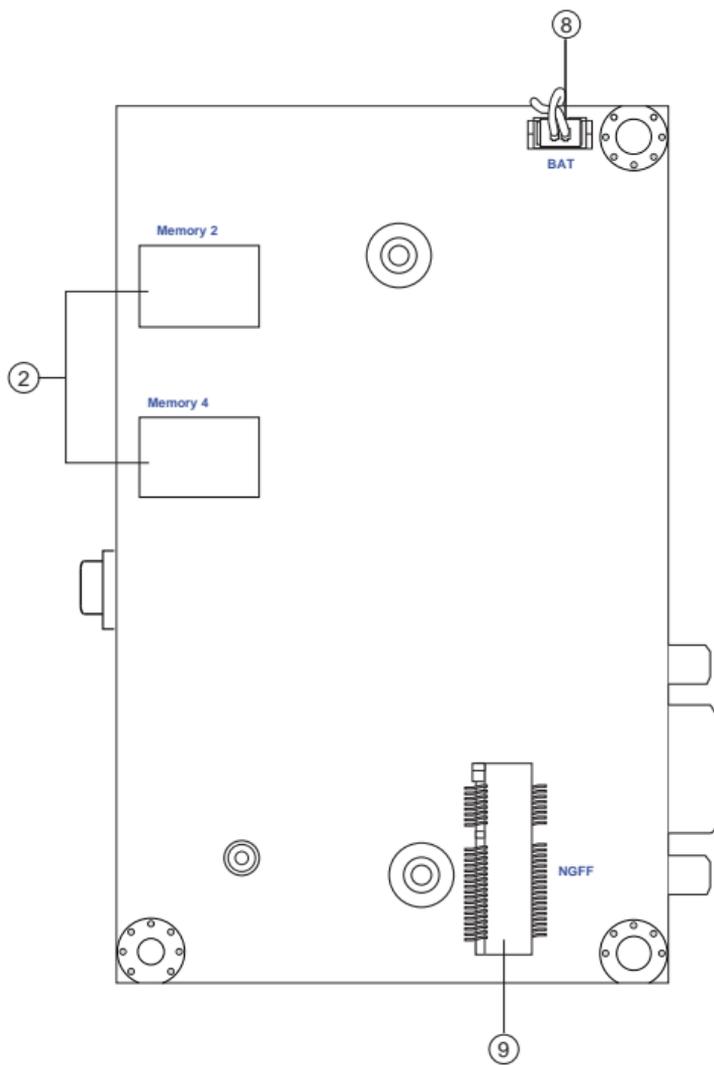
*Accessories may vary, please refer to actual goods you purchase.*

## Specifications

<b>CPU/Chipset</b>	<ul style="list-style-type: none"> <li>• Intel® Bay Trail-M SoC</li> <li>• TDP 4.3W, SDP 2.5W</li> </ul>
<b>Memory</b>	<ul style="list-style-type: none"> <li>• 2GB DDR3L</li> <li>- Single channel DDR3L soldered down memory</li> </ul>
<b>Wireless</b>	<ul style="list-style-type: none"> <li>• 1 x NGFF card slot for Wireless Card(NGFF, Key E type, 16 x 30mm)</li> <li>• Support IEEE 802.11a/b/g/n and Bluetooth 4.0</li> </ul>
<b>Storage</b>	<ul style="list-style-type: none"> <li>• IC: Sandisk SDIN8DE4 - 32G/64G (SDIO)</li> <li>- Direct soldered down eMMC 32/64GB</li> <li>- Additional storage from USB flash drive</li> </ul>

<b>Audio</b>	<ul style="list-style-type: none"> <li>• Realtek ALC282           <ul style="list-style-type: none"> <li>- 2 Channel High Definition Audio Codec</li> <li>- 3.5 mm jack with stereo sound and mic (combo) supports for jack detection</li> </ul> </li> </ul>
<b>LAN</b>	<ul style="list-style-type: none"> <li>• Realtek RTL8111GS Gigabit LAN           <ul style="list-style-type: none"> <li>- 10/100/1000 Fast Ethernet Controller</li> </ul> </li> </ul>
<b>Rear Panel I/O</b>	<ul style="list-style-type: none"> <li>• 1 x HDMI port</li> <li>• 1 x VGA port</li> <li>• 1 x DC_IN port(micro USB2.0, 5V only)</li> <li>• 1 x RJ45 LAN connector</li> <li>• 1 x USB 3.0 port</li> <li>• 1 x USB 2.0 port</li> </ul>
<b>Internal I/O Connectors &amp; Headers</b>	<ul style="list-style-type: none"> <li>• 1 x 2-pin battery connector</li> <li>• 1 x NGFF E-Key card slot</li> <li>• 1 x one stereo sound and mic combo jack</li> <li>• 1 x power button</li> <li>• 1 x System LED header</li> <li>• 1 x UART Debug header</li> </ul>
<b>System BIOS</b>	<ul style="list-style-type: none"> <li>• AMI BIOS with 64Mb SPI Flash ROM</li> <li>• Support dual display(depends on display output)</li> </ul>
<b>OS Support</b>	<ul style="list-style-type: none"> <li>• Supports windows 8.1</li> </ul>
<b>Power Adapter</b>	<ul style="list-style-type: none"> <li>• 5V/ 3A/ 15W DC Adapter</li> </ul>
<b>Form Factor</b>	<ul style="list-style-type: none"> <li>• 4 x 2.5 inch</li> </ul>

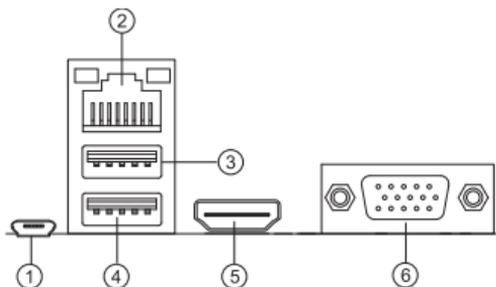




## Table of Motherboard Components

LABEL	COMPONENTS
1. CPU	Bay Trail-M SoC
2. Memory 1~4	Single channel DDR3L soldered down memory
3. AUDIO_JACK	2 Channel stereo sound and mic combo jack
4. UART_DBG	UART debug header
5. SYS_LED	System power LED
6. SW	Power On/Off button
7. eMMC	Direct soldered down 32/64GB eMMC
8. BAT	Battery connector
9. NGFF	Wireless card slot

## I/O Ports



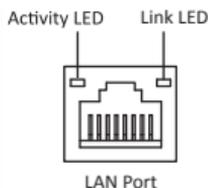
### 1. 5V DC\_IN Port (micro USB2.0, B type)

Connect the DC\_IN port to the power adapter.

### 2. LAN Port

Connect an RJ-45 jack to the LAN port to connect your computer to the Network.

LAN LED	Status	Description
Activity LED	OFF	No data
	Orange blinking	Active
Link LED	OFF	No link
	Green	Link



### 3. USB 2.0 Port

Use the USB 2.0 port to connect USB 2.0 device.

### 4. USB 3.0 Port

Use the USB 3.0 port to connect USB 3.0 device.

### 5. HDMI Port

You can connect the display device to the HDMI port.

### 6. VGA Port

Connect your monitor to the VGA port.



## Chapter 2

### *Installing the Motherboard*

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#### 2-1. Safety Instructions

Your system is designed and tested to meet the latest standards of safety for information technology equipment. However, to ensure your safety, it is important that you read the following safety instructions.

#### Setting up your system

- Read and follow all instructions in the documentation before you operate your system.
- Do not use this product near water or a heated source such as a radiator.
- Set up the system on a stable surface.
- Openings on the chassis are for ventilation. Do not block or cover these openings. Make sure you leave plenty of space around the system for ventilation. Never insert objects of any kind into the ventilation openings.
- Use this product in environments with ambient temperatures between 0°C and 40°C.
- If you use an extension cord, make sure that the total ampere rating of the devices plugged into the extension cord does not exceed its ampere rating.

## Attention during use

- Do not step on the power cord or let anything rest on top of it.
- Do not spill water or any other liquid on your system.
- When the system is turned OFF, a small amount of electrical current still flows. Always unplug all power, modem, and network cables from the power outlets before cleaning the system.
- If you encounter the following technical problems with the product, unplug the power cord and contact a qualified service technician or your retailer.
  - The power cord or plug is damaged.
  - Liquid has been spilled into the system.
  - The system does not function properly even if you follow the operating instructions.
  - The system was dropped or the cabinet is damaged.
  - The system performance changes

## Safety cautions and warnings

### Optical Drive Safety Information

Optical drive sold with this system contains a CLASS 1 LASER PRODUCT.



#### CAUTION:

Invisible laser radiation when open. Do not stare into beam or view directly with optical instruments.

**WARNING:**

Making adjustments or performing procedures other than those specified in the user's manual may result in hazardous laser exposure. Do not attempt to disassemble the optical drive. For your safety, have the optical drive serviced only by an authorized service provider.

**Product disposal notice****IMPORTANT:**

This symbol if the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

**Nordic Lithium Cautions (for lithium-ion batteries)****CAUTION:**

Danger of explosion if battery is incorrectly replaced only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

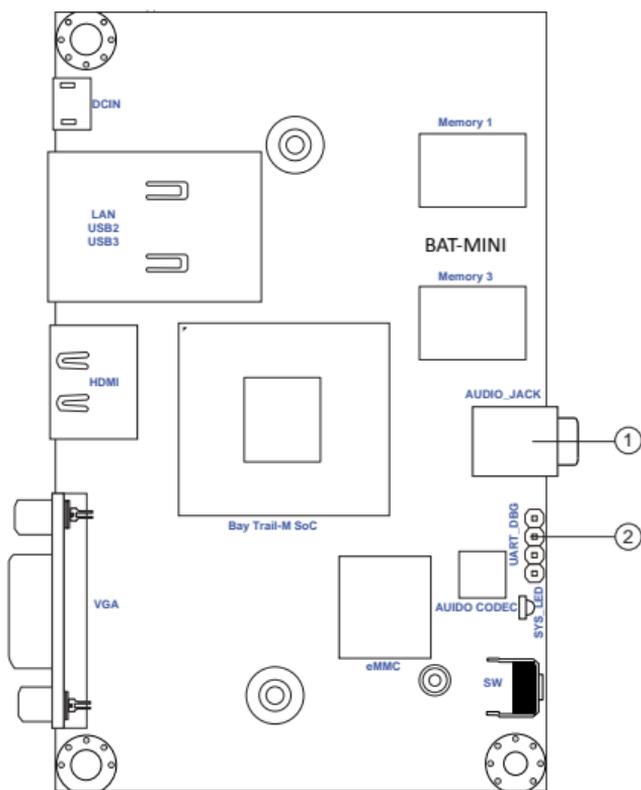
## Product disposal notice



1. Do not place this product underneath heavy loads or in an unstable position.
2. Do not use or expose this product around magnetic fields as magnetic interference may affect the performance of the product.
3. Do not expose this product to high levels of direct sunlight, high-humidity or wet conditions.
4. Do not block the air vents to this product or impede the airflow in any way.

## 2-2. Connecting Optional Devices

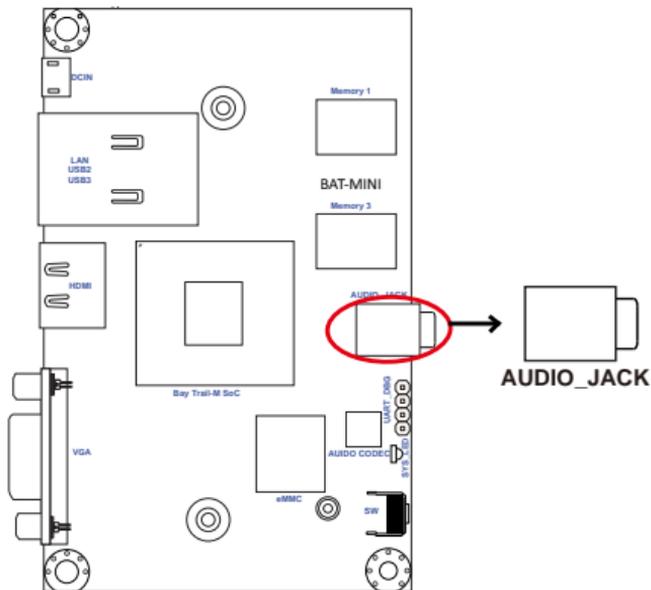
Refer to the following for information on connecting the motherboard's optional devices:



No.	Components
1	AUDIO JACK
2	UART_DBG

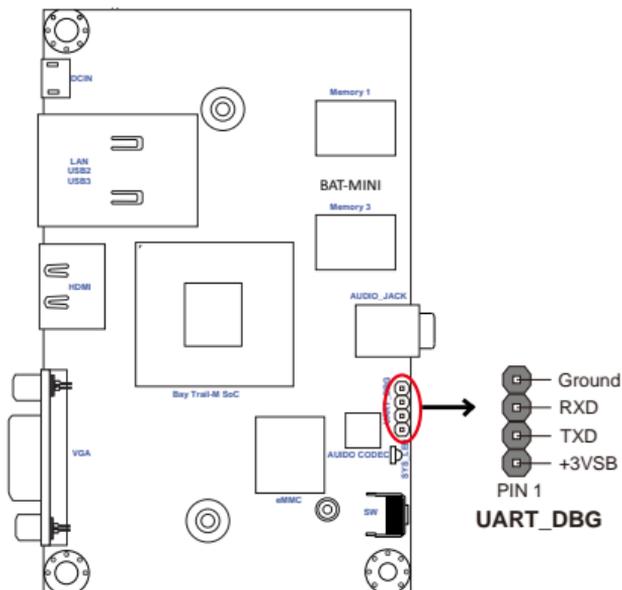
## 1. AUDIO\_JACK: Stereo sound and mic combo jack

This 3.5 mm audio jack is a stereo sound and microphone combo jack. It supports jack detection.



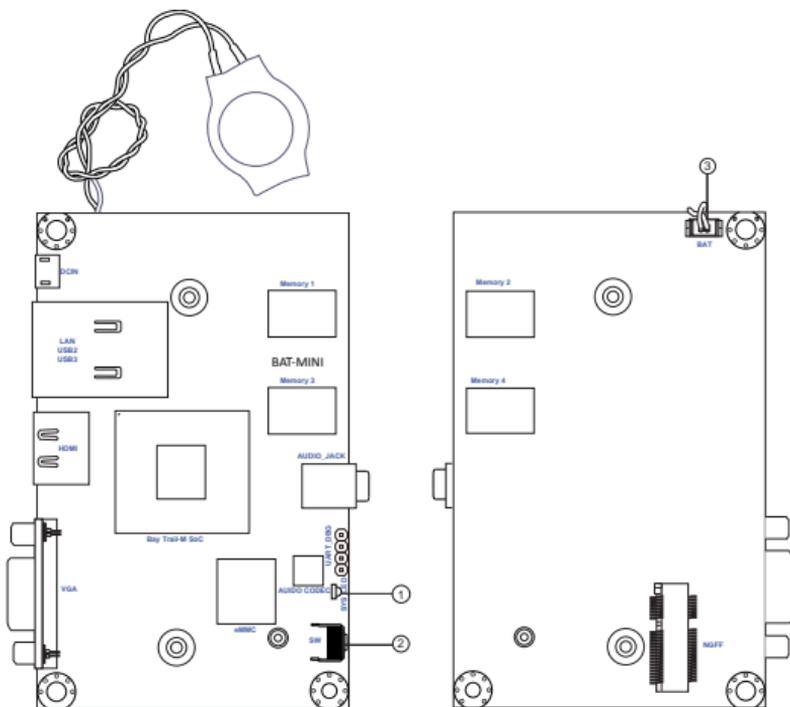
## 2. UART\_DBG: UART debug header

The UART debug header is for factory debug and test use only.



## 2-3 Connecting Case Components

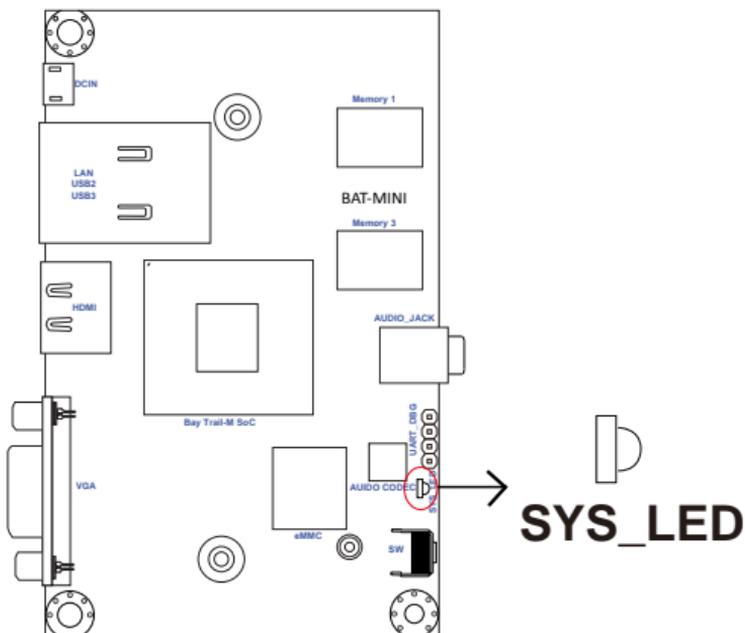
After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:



No.	Components
1	SYS_LED
2	SW
3	BAT

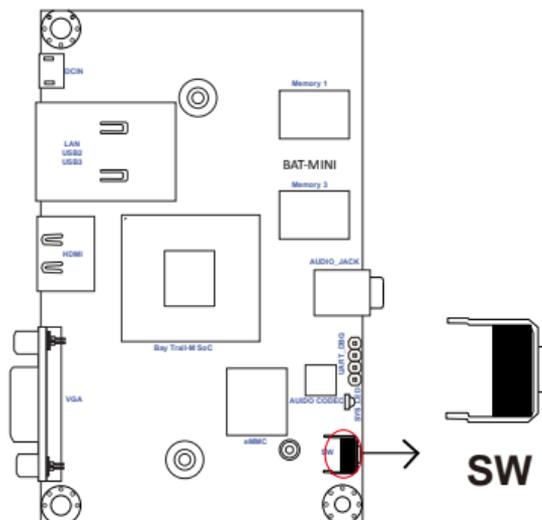
## 1. SYS\_LED: System LED

The system led shows the system power status.

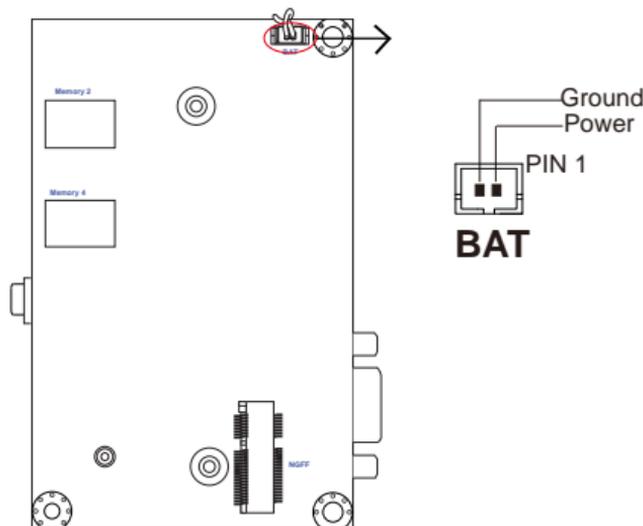


	Status	Description
System LED	OFF	Power off
	Green	Power on

## 2. SW: Power on/off button



## 3. BAT: Battery connector



## Chapter 3

### *Using BIOS*

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#### About the Setup Utility

The computer uses the latest “American Megatrends Inc. ” BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system’s configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

## ***The Standard Configuration***

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

This Setup Utility should be used:

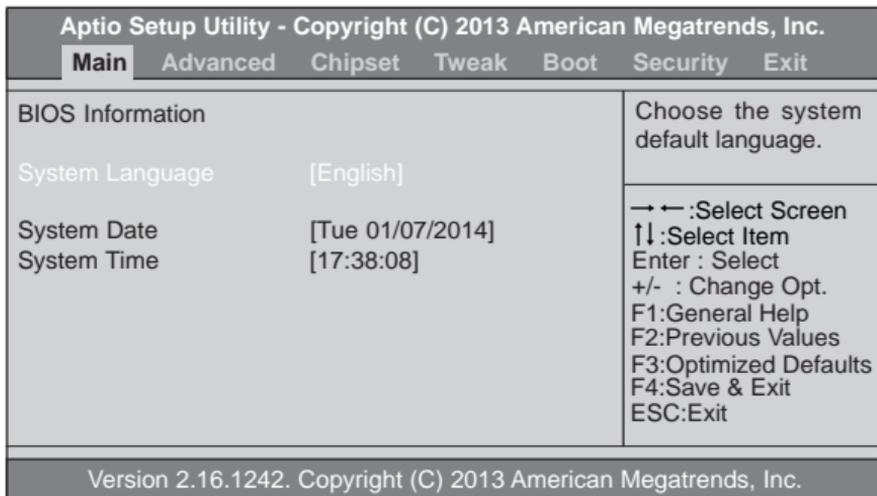
- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

## ***Entering the Setup Utility***

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

### **Press DEL to enter SETUP**

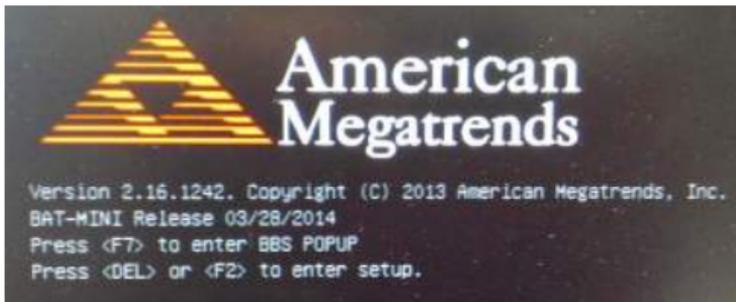
Press the delete key to access BIOS Setup Utility.



## Resetting the Default CMOS Values

When powering on for the first time, the POST screen may show a “CMOS Settings Wrong” message. This standard message will appear following a clear CMOS data at factory by the manufacturer. You simply need to Load Default Settings and Save it to reset the default CMOS values.

Note: Changes to system hardware such as different CPU, memories, etc. may also trigger this message.



## Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ►) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle ►.



*The default BIOS setting for this motherboard apply for most conditions with optimum performance. We do not suggest users change the default values in the BIOS setup and take no responsibility to any damage caused by changing the BIOS settings.*

## BIOS Navigation Keys

The BIOS navigation keys are listed below:

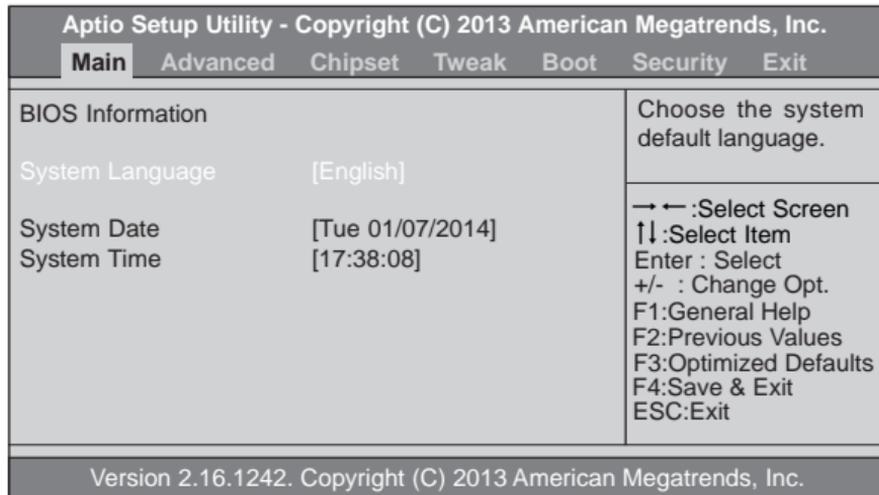
KEY	FUNCTION
<b>ESC</b>	Exits the current menu
↑↓→←	Scrolls through the items on a menu
+/-	Change Opt.
<b>Enter</b>	Select
<b>F1</b>	General Help
<b>F2</b>	Previous Value
<b>F3</b>	Optimized Defaults
<b>F4</b>	Save & Exit



*For the purpose of better product maintenance, the manufacture reserves the right to change the BIOS items presented in this manual. The BIOS setup screens shown in this chapter are for reference only and may differ from the actual BIOS. Please visit the manufacture's website for updated manual.*

## Main Menu

When you enter the BIOS Setup program, the main menu appears, giving you an overview of the basic system information. Select an item and press <Enter> to display the submenu.



### System Language (English)

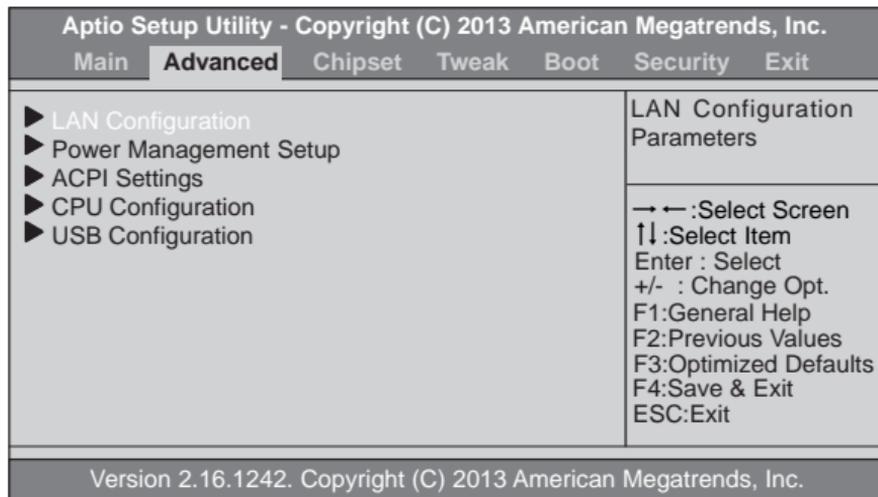
This item is used to set system language.

### System Date & Time

The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

## Advanced Menu

The Advanced menu items allow you to change the settings for the CPU and other system.



## ► LAN Configuration

The item in the menu shows the LAN-related information that the BIOS automatically detects.

Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc.						
Main	Advanced	Chipset	Tweak	Boot	Security	Exit
LAN Configuration		Enabled/Disabled				
Onboard LAN Controller		[Enabled]				
		Onboard LAN 1 Controller				
		→ ← : Select Screen ↑ ↓ : Select Item Enter : Select +/- : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit				
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.						

### Onboard LAN Controller (Enabled)

Use this item to enable or disable Onboard LAN 1 controller.

Press <Esc> to return to the Advanced Menu page.

## ► Power Management Setup

This page sets up some parameters for system power management operation.

Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc.	
Main	Advanced
Chipset	Tweak
Boot	Security
Exit	
Power Management Setup	
Resume By PME	[Enabled]
Resume By USB	[Enabled]
Resume By RTC Alarm	[Disabled]
EUP Function	[Enabled]
About Resume by PCI/PCI-E/LAN/Ext .USB3.0 PME	
→ ← : Select Screen ↑ ↓ : Select Item Enter : Select +/- : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.	

### Resume By PME (Enabled)

This item specifies whether the system will be awakened from power saving modes when activity or input signal of the specified hardware peripheral or components is detected.

### Resume By USB (Enabled)

This item allows you to enable/disable the USB device wakeup function from S3 mode.

### Resume By RTC Alarm (Disabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system's RTC (realtime clock). Use the items below this one to set the date and time of the wakeup alarm. You must use an ATX power supply in order to use this feature.

### **EUP Function (Enabled)**

This item allows user to enable or disable EUP support.

Press <Esc> to return to the Advanced Menu page.

## ► ACPI Configuration

The item in the menu shows the highest ACPI sleep state when the system enters suspend.

Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc.	
Main	Advanced
ACPI Settings	Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.
ACPI Sleep State [S3 (Suspend to RAM)]	→ ← : Select Screen ↑ ↓ : Select Item Enter : Select +/- : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.	

### ACPI Sleep State [S3(Suspend to RAM)]

This item allows user to enter the ACPI S3 (Suspend to RAM) Sleep State (default).

Press <Esc> to return to the Advanced Menu page.

## ► CPU Configuration

The item in the menu shows the CPU Configuration.

Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc.		
Main	Advanced	Chipset Tweak Boot Security Exit
CPU Configuration		Socket sepcific CPU Information
▶ Socket 0 CPU Information		
CPU Speed	1.60 GHz	
64-bit	Supported	
Limit CPUID Maximum	[Disabled]	→ ← :Select Screen ↑ ↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit
Execute Disable Bit	[Enabled]	
Hardware Prefetcher	[Enabled]	
Adjacent Cache Line Prefetch	[Enabled]	
Intel Virtualization Technology	[Enabled]	
Power Technology	[Energy Efficient]	
Enhanced Halt (C1E)	[Enabled]	
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.		

## ► Socket 0 CPU Information

Scroll to this item and press <Enter> and view the following screen:

Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc.		
Main	Advanced	Chipset Tweak Boot Security Exit
Socket 0 CPU Information		
Intel(R) Celeron(R) CPU N2805 @ 1.46GHz		
CPU Signature	30673	
Microcode Patch	31e	
Max CPU Speed	1467 MHz	
Min CPU Speed	533 MHz	
Processor Cores	2	
Intel HT Technology	Not Supported	
Intel VT-x Technology	Supported	
L1 Data Cache	24 KB x 2	
L1 Code Cache	32 KB x 2	
L2 Cache	1024 KB x 1	
L3 Cache	Not Present	
		→ ← : Select Screen ↑ ↓ : Select Item Enter : Select +/- : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.		

### **Intel(R) Celeron(R) CPU N2805 @ 1.46GHz**

This is display-only field and displays the information of the CPU installed in your computer.

### **CPU Signature (30673)**

This item shows the information of the CPU signature.

### **Microcode Patch (31e)**

This item shows the version of microcode patch.

### **Max CPU Speed (1467 MHz)**

This item shows the max speed of the CPU.

**Min CPU Speed (533 MHz)**

This item shows the min speed of the CPU.

**Processor Cores (2)**

This item shows the number of cores of the processor.

**Intel HT Technology (Not Supported)**

This item shows the computer supports Intel HT technology or not.

**Intel VT-X Technology (Supported)**

This item shows the computer supports Intel VT-X technology or not.

**L1 Data Cache (24 KB x 2)**

This item shows the size of CPU L1 Data Cache memory.

**L1 Code Cache (32 KB x 2)**

This item shows the size of CPU L1 Code Cache memory.

**L2/L3 Cache (1024 KB x 1/Not Present)**

These items show the size of CPU L2/L3 Cache memory.

Press <Esc> to return to the CPU Configuration page.

**CPU Speed (1.46 GHz)**

This item shows the processor speed.

**64-bit (Supported)**

This item shows the computer supports EMT64.

**Limit CPUID Maximum (Disabled)**

Use this item to enable or disable the maximum CPUID value limit, you can enable this item to prevent the system from “rebooting” when trying to install Windows NT 4.0.

**Execute Disable Bit (Enabled)**

This item allows the processor to classify areas in memory by where application code can execute and where it cannot. When a malicious worm attempts to insert code in the buffer, the processor disables code execution, preventing damage or worm propagation. Replacing older computers with Execute Disable Bit enabled systems can halt worm attacks, reducing the need for virus related repair.

**Hardware Prefetcher (Enabled)**

This item enables or disables hardware prefetcher.

**Adjacent Cache Line Prefetch (Enabled)**

This item enables or disables adjacent cache line prefetch.

**Intel Virtualization Technology (Enabled)**

When disabled, a VMM cannot utilize the additional hardware capabilities provided by Vander Pool Technology.

**Power Technology (Energy Efficient)**

Use this item to control the Energy mode of the processor.

**Enhanced Halt (C1E) (Enabled)**

Use this item to enable the CPU energy-saving function when the system is not running.

Press <Esc> to return to the Advanced Menu page.

## ► USB Configuration

Use this item to show the information of USB configuration.

Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc.						
Main	Advanced	Chipset	Tweak	Boot	Security	Exit
USB Configuration					USB Support Parameters	
All USB Device		[Enabled]				
XHCI Mode		[Enabled]				
					→ ← :Select Screen ↑ ↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit	
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.						

### All USB Device (Enabled)

Use this item to enable or disable all USB devices.

### XHCI Mode (Enabled)

Use this item to enable or disable USB XHCI mode.

Press <Esc> to return to the Advanced Menu page.

## Chipset Menu

The chipset menu items allow you to change the settings for the SoC chip and other system.

Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc.						
Main	Advanced	Chipset	Tweak	Boot	Security	Exit
▶ SoC Configuration	SoC Parameters					
▶ TXE Information	→ ← : Select Screen ↑ ↓ : Select Item Enter : Select +/- : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit					
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.						

## ► SoC Configuration

Scroll to this item and press <Enter> and view the following screen:

Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc.						
Main	Advanced	Chipset	Tweak	Boot	Security	Exit
SoC Configuration			Select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the Internal Graphics Device.			
DVMT Pre-Allocated		[64M]				
DVMT Total Gfx Mem		[256MB]				
Restore AC Power Loss		[Power Off]				
Audio Configuration			→ ← :Select Screen ↑ ↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit			
Azalia HD Audio		[Enabled]				
Azalia Internal HDMI Codec		[Enabled]				
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.						

### DVMT Pre-Allocated (64M)

This item is used to select DVMT 5.0 Pr-Allocated (Fixed) Graphics Memory size used by the Internal Graphics Device.

### DVMT Total Gfx Mem (256MB)

This item shows the information of DVMT 5.0 and Graphic memory size used by the Internal Graphics Device.

### Restore AC Power Loss (Power Off)

This item enables your computer to automatically restart or return to its operating status.

### Azalia HD Audio (Enabled)

This item enables or disables Azalia HD Audio.

## Azalia Internal HDMI Codec (Enabled)

This item enables or disables Azalia Internal HDMI Codec.

Press <Esc> to return to the Chipset Menu page.

### ► TXE Information

Scroll to this item and press <Enter> and view the following screen:

Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc.						
Main	Advanced	Chipset	Tweak	Boot	Security	Exit
TXE Information					Enable/Disable TXE Firmware	
Sec RC Version		00.05.00.00				
TXE FW Version		01.00.02.1060				
TXE Mode		[Enabled]				
						→ ← : Select Screen ↑ ↓ : Select Item Enter : Select +/- : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.						

#### Sec RC Version (00.05.00.00)

This item shows the Sec Reference Code Version.

#### TXE FW Version (01.00.02.1060)

This item shows the TXE Firmware Version.

#### TXE Mode (Enabled)

This is TXE mode control item, it is used to enable or disable the TXE firmware.

## Tweak Menu

This page enables you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.

Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc.						
Main	Advanced	Chipset	<b>Tweak</b>	Boot	Security	Exit
Tweak						
CPU Frequency	133.3 MHz					
CPU Ratio	11					
Intel(R) Celeron(R) CPU N2805 @ 1.46GHz						
CPU Speed	1.46 GHz					
Memory Frequency	1066 MHz					
Total Memory	2048 MB (LPDDR3)					
		→ ← :Select Screen ↑ ↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit				
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.						

### CPU Frequency (133.3 MHz)

This item shows the information of the CPU frequency.

### CPU Ratio (11)

This item shows the information of the CPU Ratio.

### Intel(R) Celeron(R) CPU N2805 @ 1.46GHz

This is display-only field and displays the information of the CPU installed in your computer.

### CPU Speed (1.46 GHz)

This item shows the processor speed.

### Memory Frequency (1066 MHz)

This item shows the memory frequency.

## **Total Memory (2048 MB (LPDDR3))**

This item shows the total memory.

## Boot Menu

This page enables you to set the keyboard Numlock State.

Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc.		
Main	Advanced	Chipset Tweak <b>Boot</b> Security Exit
Boot Configuration		Windows 7 or other OS: Boot policy for legacy OS
Operation System Select	[Windows 8.x]	
Launch Network OpROM	[Disabled]	
Fast Boot	[Disabled]	Windows 8.x: Boot policy for UEFI OS without Compatibility Support Module (CSM)
Bootup Numlock State	[On]	
Quiet Boot	[Enabled]	
Boot Mode Select	[UEFI]	Manual: User customized CSM parameters & boot policy
Set Boot Priority		
Boot Option #1	[Hard Disk : Windows...]	
Boot Option #2	[CD/DVD]	
Boot Option #3	[USB/Floppy]	
Boot Option #4	[USB CD/DVD]	
Boot Option #5	[USB Hard Disk]	
Boot Option #6	[USB Flash]	
Boot Option #7	[Network]	
▶UEFI Hard Disk Drive Priorities		
→ ← :Select Screen ↑ ↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit		
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.		

### Operation System Select (Windows 8.x)

This item is used to select the operation system.

### Launch Network OpROM (Disabled)

This item enables or disables launch PXE Option ROM.

### Fast Boot (Disabled)

This item enables or disables the fast boot.

**Bootup Numlock State (On)**

This item enables you to select Numlock state.

**Quiet Boot (Enabled)**

This item enables or disables the quiet boot.

**Boot Mode Select (UEFI)**

Use this item to select boot mode.

**Boot Option #1~7**

These items show the boot priorities and can be used to set the boot priorities of various device categories.

**UEFI Hard Disk Drive Priorities**

This item enables you to specify the sequence of loading the operating system from the installing UEFI Boot drive. Press <Enter> to view the submenu.

## Security Menu

This page enables you to set setup administrator password and user password.

Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc.		
Main	Advanced	Chipset Tweak Boot Security Exit
Administrator Password Status	Not Installed	Customizable Secure Boot settings
User Password Status	Not Installed	
Administrator Password		→ ← :Select Screen ↑ ↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit
▶ Secure Boot menu		
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.		

### Administrator Password Status (Not Installed)

This item shows administrator password installed or not.

### User Password Status (Not Installed)

This item shows user password installed or not.

## ► Secure Boot menu

Scroll to this item and press <Enter> and view the following screen:

Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc.						
Main	Advanced	Chipset	Tweak	Boot	Security	Exit
System Mode				Setup		Secure Boot can be enabled if 1. System running in User mode with enrolled Platform Key(PK) 2. CSM function is disabled  → ← : Select Screen ↑ ↓ : Select Item Enter : Select +/- : Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Secure Boot				Not Active		
Secure Boot Mode				[Enabled] [Standard]		
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.						

### System Mode (User)

This item shows system of secure boot (can be setup or user).

### Secure Boot (Active/Enabled)

This item shows the active state of secure boot.

### Secure Boot Mode (Standard)

This item is used to select secure boot mode, when you select standard mode, secure boot policy is fixed; when you select custom mode, the image execution policy and secure boot key databases are changeable.

## Exit Menu

This page enables you to set the keyboard Numlock State.

Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc.	
Main    Advanced    Chipset    Tweak    Boot    Security <b>Exit</b>	
Save Changes and Exit Discard Changes and Exit Save Changes and Reset Discard changes and Reset  Save Options Save Changes Discard Changes  Restore Defaults Save as User Defaults Restore User Defaults  Boot Override Windows Boot Manager	Exit system setup after saving the changes.       → ← :Select Screen ↑ ↓ :Select Item Enter : Select +/- : Change Opt. F1:General Help F2:Previous Values F3:Optimized Defaults F4:Save & Exit ESC:Exit
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.	

### Save Changes and Exit

This item enables you to exit the system setup after saving the changes.

### Discard Changes and Exit

This item enables you to exit the system setup without saving any changes.

### Save Changes and Reset

This item enables you to reset the system setup after saving the changes.

**Discard Changes and Reset**

This item enables you to reset the system setup without saving any changes.

**Save Options**

This item enables you to save the options that you have made.

**Save Changes**

This item enables you to save the changes that you have made.

**Discard Changes**

This item enables you to discard any change that you have made.

**Restore Defaults**

This item enables you to restore the system defaults.

**Save as User Defaults**

This item enables you to save the changes that you have made as user defaults.

**Restore as User Defaults**

This item enables you to restore the user defaults.

**Boot Override**

Use this item to select the boot device.

## Updating the BIOS

You can download and install updated BIOS for this motherboard from the manufacturer's Website. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs. Install new BIOS as follows:

- 1 If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
- 2 If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.)
- 3 Prepare a bootable device or create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
- 4 Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the bootable device.
- 5 Turn off your computer and insert the bootable device in your computer. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the bootable device first.)
- 6 At the C:\ or A:\ prompt, type the Flash Utility program name and the file name of the new BIOS and then press <Enter>. Example: AFUDOS.EXE 040706.ROM
- 7 When the installation is complete, remove the bootable device from the computer and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten. The computer will restart automatically.

## Chapter 4

### *Using the Motherboard Software*

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#### Installing the Windows OS

There are two ways to install the Windows OS:

1. Install Windows OS via Windows official DVD.
2. Install Windows OS via USB flash drive.
  - a) Create an ISO file from the Windows 8.1 DVD.
  - b) Download the **Windows 7 USB/DVD Download Tool** from Microsoft and install it. Please refer to the link:  
[http://www.microsoftstore.com/store/msusa/html/pbPage.Help\\_Win7\\_usbdvd\\_dwnTool](http://www.microsoftstore.com/store/msusa/html/pbPage.Help_Win7_usbdvd_dwnTool).

This free program from Microsoft properly formats your flash drive and then copies the contents of the Windows 8.1 installation ISO file to the flash drive.

- c) Boot from the USB device that you just created to start the Windows 8.1 installing process.



*You need to change the booting priority in BIOS in order to boot from USB device. Enter into BIOS and select the Boot in menu (or press the hotkey F7), set USB drive as the first booting priority.*

## Installing the Ubuntu OS

Follow the instruction to install the Ubuntu OS:

1. Getting installation image. Download link of Ubuntu installation image (ISO) for 64 bit version:

<http://cdimage.ubuntu.com/daily-live/current/>

2. Make a bootable USB flash drive, with Ubuntu installation image inside.

3. Boot from the USB device that you just created to start the Ubuntu installing process.



*You need to change the booting priority in BIOS in order to boot from USB device. Enter into BIOS and select the Boot in menu (or press the hotkey F7), set USB drive as the first booting priority.*

For more detail and information, please refer to:

<https://help.ubuntu.com/community/Installation>

## Drivers auto-installing under Windows 8.1

The auto-install DVD-ROM makes it easy for you to install the drivers and software. The support software DVD-ROM disc loads automatically under Windows 8.1. When you insert the DVD-ROM disc in the DVD-ROM drive, the auto-run feature will automatically bring up the installation screen.



### **Information:**

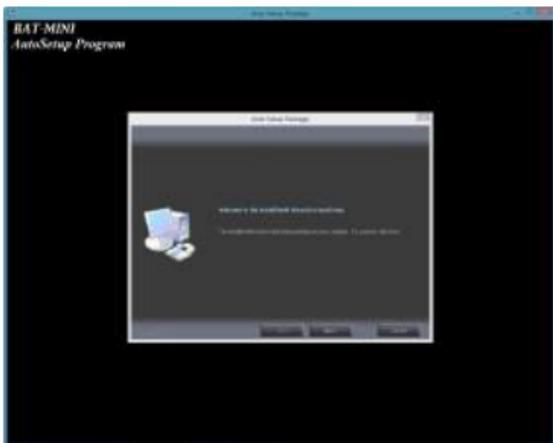
Displays the path for all software and drivers available on the disk.

Click the **“Setup”** button to select and run the software installation program.

## Running Setup

Follow these instructions to install device drivers and software for the motherboard:

1. Click **Setup**. The installation program begins:



*The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.*

The motherboard identification is located in the upper left-hand corner.

2. Click **Next**. The following screen appears:



3. Check the box next to the items you want to install. The default options are recommended.

4. Click **Next** to run the Installation Wizard. An item installation screen appears:



5. Follow the instructions on the screen to install the items.

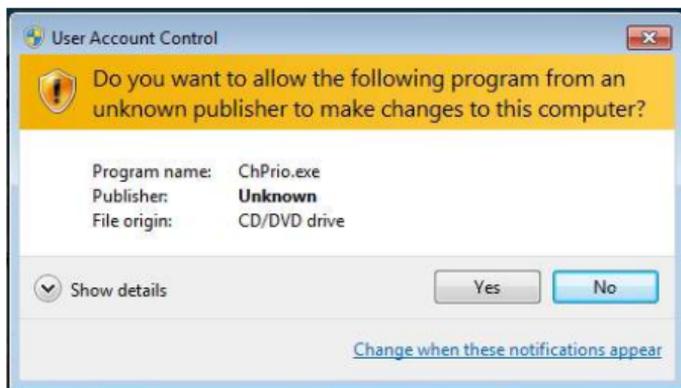


*Drivers and software are automatically installed in sequence. Follow the onscreen instructions, confirm commands and allow the computer to restart a few times to complete the installation.*

*Windows 8.1 will show the following screen after system restart, you must select “Desktop” in the bottom left to install the next driver.*



*Windows 8.1 will appear below UAC (User Account Control) message after the system restart. You must select “Yes” to install the next driver. Continue this process to complete the drivers installation.*



## Manual Installation

If the auto-install DVD-ROM does not work on your system, you can still install drivers through the file manager for your OS (for example, Windows Explorer). Look for the chipset and motherboard model, and then browse to the directory and path to begin installing the drivers. Most drivers have a setup program (SETUP.EXE) that automatically detects your operating system before installation. Other drivers have the setup program located in the operating system subfolder.

If the driver you want to install does not have a setup program, browse to the operating system subfolder and locate the readme text file (README.TXT or README.DOC) for information on installing the driver or software for your operating system.

## eDLU

ECS eDLU utility makes updating drivers fast and easy. eDLU saves time and hassle by listing all the latest drivers online. Just select the one you prefer and start to download and install the drivers.



## eBLU

ECS eBLU utility makes BIOS update faster and easier. eBLU will list the latest BIOS with a default check-mark. Click "install" button to install.



*Microsoft .NET Framework 3.5 is required.*