

Chapter 4

Using BIOS

4.1 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.

1. 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:

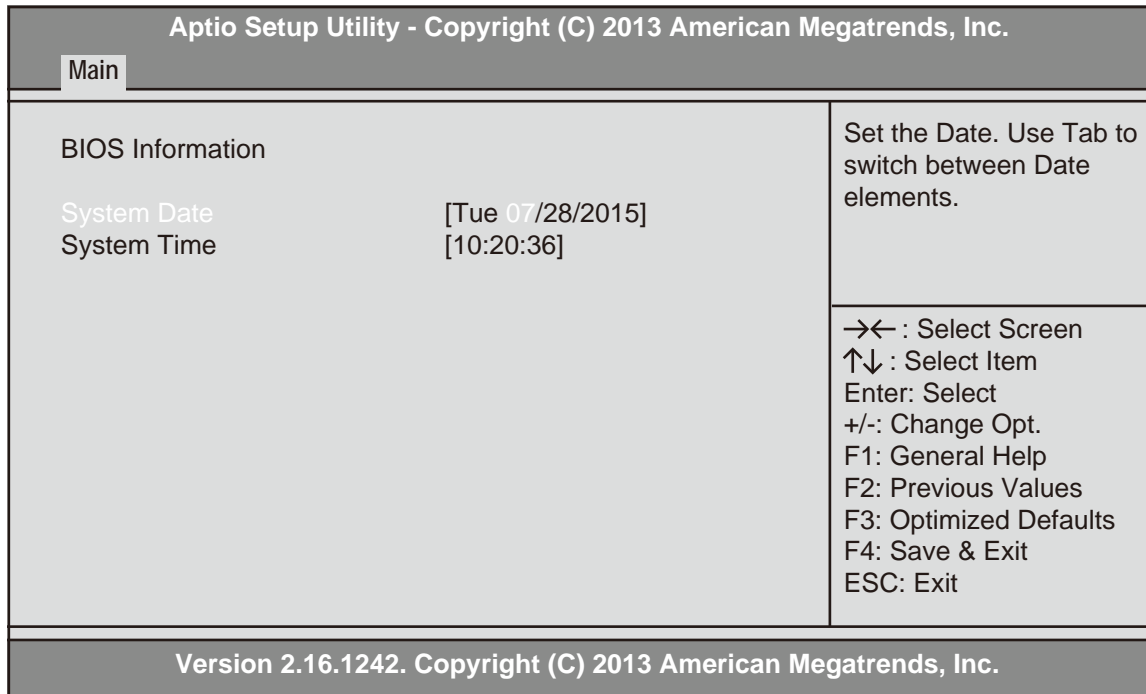
- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security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

2. 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.



4.2 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.

1. BIOS Navigation Keys

The BIOS navigation keys are listed below:

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

2. 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.

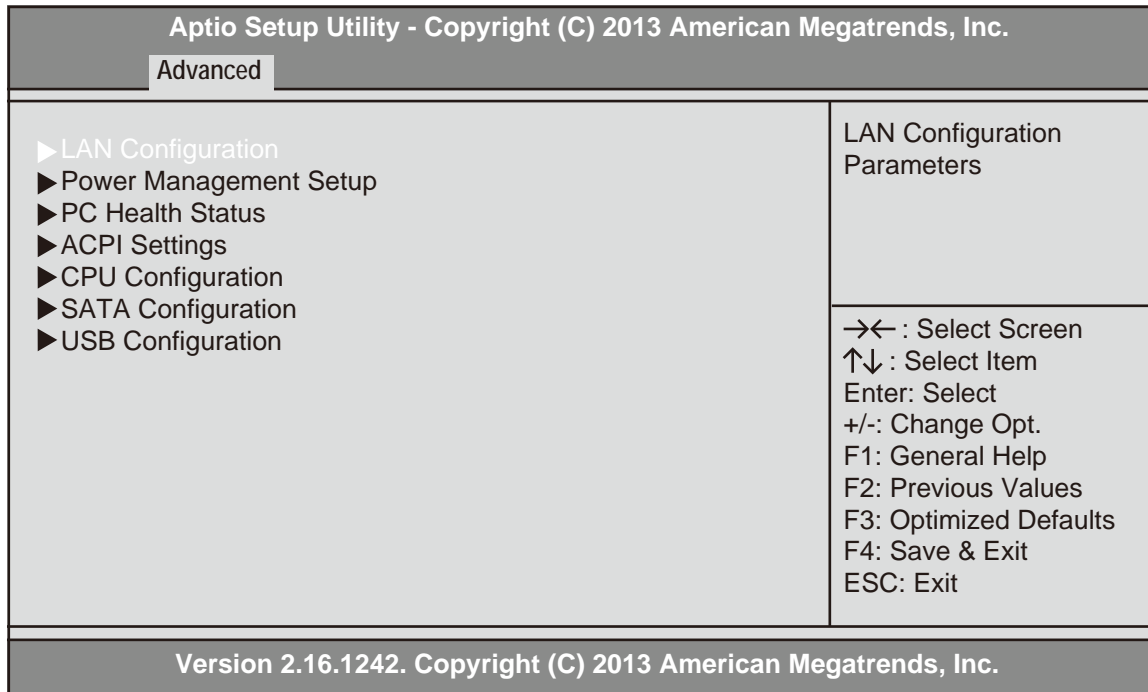
| Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc. | |
|--|--|
| Main | |
| BIOS Information System Date [Tue 07/28/2015] System Time [10:20:36] | Set the Date. Use Tab to switch between Date elements. →← : Select Screen ↑↓ : Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
| Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc. | |

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.

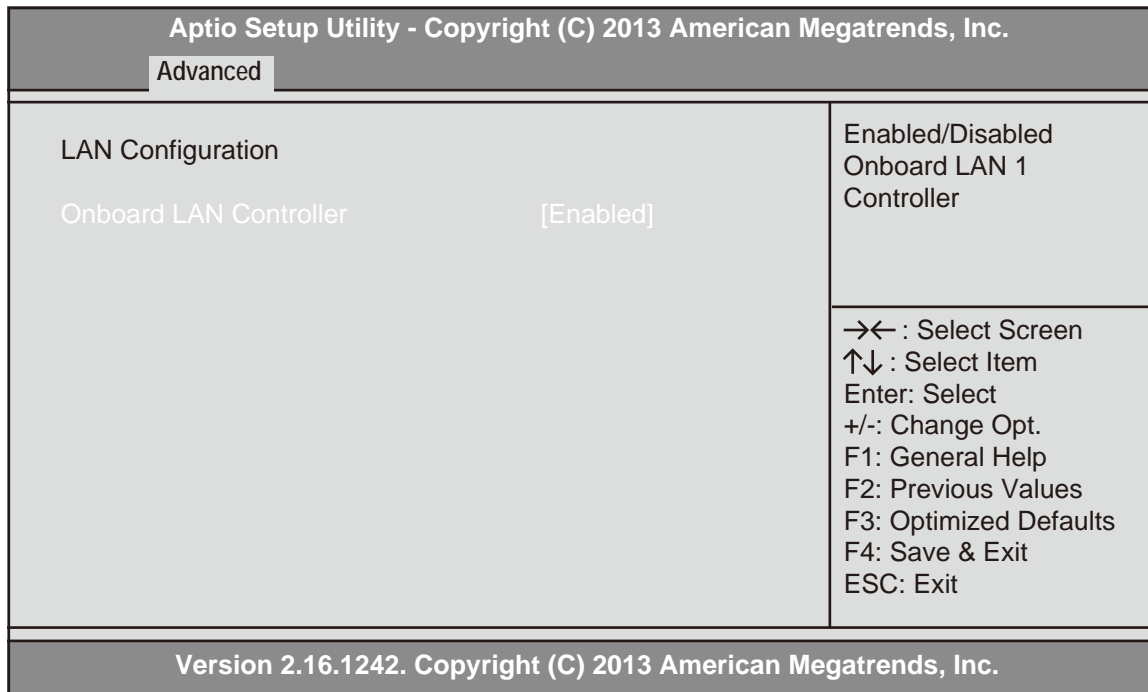
3. Advanced Menu

This page sets up more advanced information about your system. Handle this page with caution. Any changes can affect the operation of your computer.



▶ LAN Configuration

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



Onboard LAN Controller (Enabled)

Use this item to enable or disable the Onboard LAN.

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. | |
|--|--|
| Advanced | |
| Power Management Setup | Resume from LAN1 Help |
| Resume from LAN [Enabled] | |
| Resume By PME [Disabled] | |
| Resume By USB [Enabled] | |
| Resume By RTC Alarm [Disabled] | |
| EUP Function [Enabled] | |
| | →← : Select Screen ↑↓ : Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
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Resume from LAN (Enabled)

Use this item to enable or disable resume from LAN.

Resume By PME (Disabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the PCI/PCI-E Modem or PCI/PCI-E LAN card. You must use an ATX power supply in order to use this feature. Use this item to do wake-up action if inserting the PCI/PCI-E card.

Resume By USB (Enabled)

This item allows you to enable or 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 item below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.

EUP Function (Enabled)

This item allows you to enable or disable EUP function.

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

► PC Health Status

This motherboard supports hardware monitoring, this item lets you monitor the parameters for critical voltages, temperatures and fan speeds.

| Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc. | | |
|--|---------|--|
| Advanced | | |
| PC Health Status | | Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed. |
| Smart Fan Function | | |
| System Temperature | 30 °C | →← : Select Screen ↑↓ : Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
| CPU Temperature | 34 °C | |
| CPU Fan Speed | 920 RPM | |
| VCore | 0.996V | |
| DIMM Voltage | 1.380V | |
| +12V | 12.240V | |
| VCC | 5.040V | |
| VCC3 | 3.336V | |
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System Component Characteristics

These items display the monitoring of the overall inboard hardware health events, such as CPU & DIMM voltage, CPU & System fan speed...etc.

- System Temperature
- CPU Temperature
- CPU Fan Speed
- VCore
- DIMM Voltage
- +12V
- VCC
- VCC3

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

► ACPI Settings

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

| Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc. | |
|--|--|
| 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 |
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ACPI Sleep State (S3 (Suspend to RAM))

This item allows you 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 this menu shows the CPU configuration.

| Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc. | |
|--|--|
| Advanced | |
| CPU Configuration | Socket specific CPU Information |
| ► Socket 0 CPU Information | |
| CPU Speed 2.16 GHz 64-bit Supported | →← : Select Screen ↑↓ : Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
| Limit CPUID Maximum [Disabled] | |
| Execute Disable Bit [Enabled] | |
| Intel Virtualization Technology [Enabled] | |
| Power Technology [Energy Efficient] | |
| Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc. | |

► Socket 0 CPU Information

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

| Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc. | | |
|--|---------------|--|
| Advanced | | |
| Socket 0 CPU Information | | Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed. |
| Intel(R) Celeron(R) CPU N2830 @ 2.16GHz | | →← : Select Screen ↑↓ : Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
| CPU Signature | 30678 | |
| Microcode Patch | 815 | |
| Max CPU Speed | 2168 MHz | |
| Min CPU Speed | 500 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 | |
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Intel(R) Celeron(R) CPU N2830 @ 2.16GHz

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

CPU Signature (30678)

This item shows the information of the CPU signature.

Microcode Patch (815)

This item shows the version of microcode patch.

Max CPU Speed (2168 MHz)

This item shows the max speed of the CPU.

Min CPU Speed (500 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 (1024KB 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 (2.16 GHz)

This item shows the processor speed.

64-bit (Supported)

This item shows the computer supports 64-bit.

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.

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.

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

► SATA Configuration

Use this item to show the mode of Serial ATA configuration options.

| Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc. | | |
|--|-------------|--|
| Advanced | | |
| SATA Configuration | | Select IDE / AHCI |
| SATA Mode | [AHCI Mode] | |
| mSATA Port | Not Present | |
| SATA Port | 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. | | |

SATA Mode (AHCI Mode)

Use this item to select SATA mode.

mSATA/SATA Port (Not Present)

This motherboard supports one mSATA and one SATA channel, and each channel allows one mSATA /SATA device to be installed. Use these items to configure each device on the mSATA/SATA channel.

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. | | |
|--|-----------|--|
| Advanced | | |
| USB Configuration | | USB Support Parameters |
| All USB Devices | [Enabled] | |
| Legacy USB Support | [Enabled] | |
| XHCI Mode | [Auto] | |
| External USB3.0 Device | [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 Devices (Enabled)

Use this item to enable or disable all USB devices.

Legacy USB Support (Enabled)

Use this item to enable or disable support for legacy USB devices.

XHCI Mode (Auto)

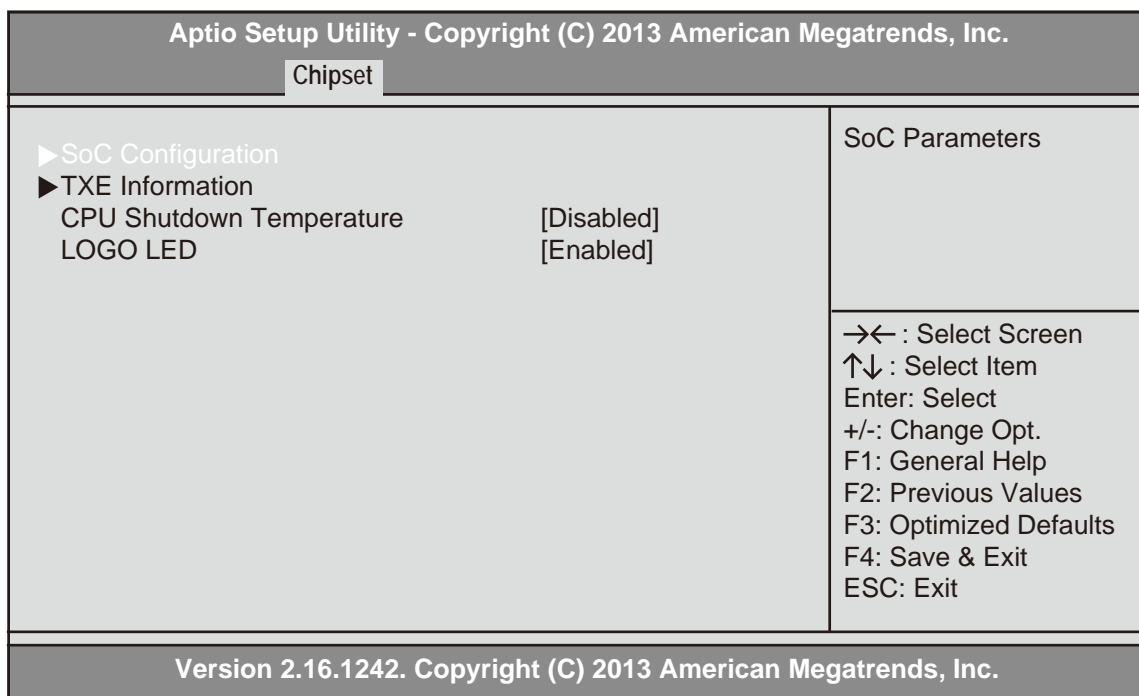
Use this item to enable or disable all USB XHCI mode.

External USB3.0 Device (Enabled)

Use this item to enable or disable external USB 3.0 device.

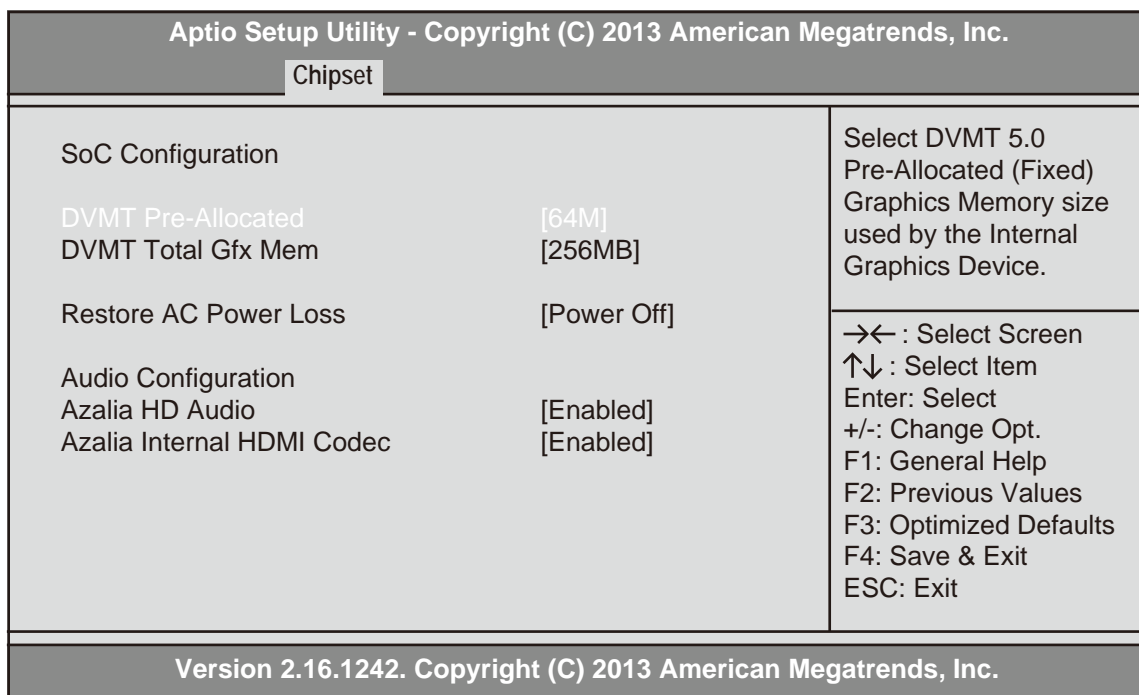
4. Chipset Menu

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



► SoC Configuration

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



DVMT Pre-Allocated (64M)

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

DVMT Total Gfx Mem (256MB)

This item is used to select DVMT 5.0 and Graphics 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> to view the following screen:

| Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc. | | |
|--|---------------|--|
| Chipset | | |
| TXE Information | | Enable/Disable TXE Firmware |
| Sec RC Version | 00.05.00.00 | |
| TXE FW Version | 01.01.00.1089 | |
| 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 (01.01.00.1089)

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.

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

CPU Shutdown Temperature (Disabled)

This item enables or disables CPU shutdown temperature.

LOGO LED (Enabled)

This item enables or disables LOGO LED.

5. Boot Menu

This page enables you to set the keyboard NumLock state and devices boot sequence.

| Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc. | | |
|--|------------------------|--|
| Boot | | |
| Boot Configuration | | Windows 7 or other OS: Boot policy for Legacy OS |
| Operation System Select | [Windows 7 or othe...] | Windows 8.x: Boot policy for UEFI OS without Compatibility Support Module (CSM) |
| Launch Network OpROM | [Disabled] | |
| Launch Storage OpROM | [Disabled] | |
| Fast Boot | [Disabled] | Windows 8.x with CSM: Boot policy for Windows 8.x with Compatibility Support Module (CSM) |
| Bootup NumLock State | [On] | |
| Quiet Boot | [Disabled] | |
| Boot Mode Select | [LEGACY] | |
| Set Boot Priority | | →← : Select Screen ↑↓ : Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
| Boot Option #1 | [Hard Disk] | |
| 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] | |
| Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc. | | |

Operation System Select (Windows 7 or othe...)

This item is used to select the operation system.

Launch Network OpROM (Disabled)

This item enables or disables launch network option ROM.

Launch Storage OpROM (Disabled)

This item enables or disables launch storage option ROM.

Fast Boot (Disabled)

This item enables or disables boot with initialization of a minimal set of device required to launch active boot option. Has no effect for BBS boot options.

Bootup Numlock State (On)

This item enables you to select Numlock state.

Quiet Boot (Disabled)

This item enables or disables quiet boot.

Boot Mode Select (LEGACY)

Use this item to select boot mode.

Boot Option #1 /2 /3 /4 /5 /6 /7

These items show the boot priorities.

6. Security Menu

This page enables you to set setup administrator and password.

| Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc. | | |
|--|---------------|--|
| Security | | |
| Administrator Password Status | Not Installed | Set Administrator Password |
| 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> to view the following screen:

| Aptio Setup Utility - Copyright (C) 2013 American Megatrends, Inc. | | |
|--|------------|--|
| Security | | |
| 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 |
| Secure Boot | Not Active | |
| Secure Boot | [Disabled] | →← : 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. | | |

System Mode (Setup)

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

Secure Boot (Not Active/Disabled)

This item shows the active state of secure boot.

7. Exit Menu

This page enables you to exit system setup after saving or without saving the changes.

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

Save Changes and Exit

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

Discard Changes and Exit

This item enables you to discard any changes that you have made and exit.

Save Changes and Reset

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

Discard Changes and Reset

This item enables you to discard any changes that you have made and reset.

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 changes 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 User Defaults

This item enables you to restore user defaults.

Boot Override

Use this item to select the boot device.

8. 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 5

Feature Information

5.1 Introduction

The NFC and wireless charger is optional feature on this computer. Please refer to following instructions.

1. Wireless charger (Not Support)

The Wireless charger specification that the computer support is compatible with Qi. Put the Rx device on charger area for power transfer.

2. NFC

The NFC module that compatible with (1) ISO 15693 (2) ISO 14443A (3) ISO 14443B. Put the device on the center of computer for read/write.

