



®

***AXIOMTEK***

**IPC922-215-FL**

**Industrial & Fanless Computers**

**User's Manual**



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## Safety Precautions

Before getting started, please read the following important safety precautions.

1. The **IPC922-215-FL** does not come equipped with an operating system. An operating system must be loaded first before installing any software into the computer.
2. Be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and place all electronic components in any static-shielded devices. Most electronic components are sensitive to static electrical charge.
3. Disconnect the power cord from the **IPC922-215-FL** before making any installation. Be sure both the system and the external devices are turned OFF. Sudden surge of power could ruin sensitive components. Make sure the **IPC922-215-FL** is properly grounded.
4. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
5. Turn OFF the system power before cleaning. Clean the system using a cloth only. Do not spray any liquid cleaner directly onto the screen.
6. Do not leave this equipment in an uncontrolled environment where the storage temperature is below  $-20^{\circ}\text{C}$  or above  $80^{\circ}\text{C}$ . It may damage the equipment.
7. Do not open the system's back cover. If opening the cover for maintenance is a must, only a trained technician is allowed to do so. Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:
  - Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This will help to discharge any static electricity on your body.
  - When handling boards and components, wear a wrist-grounding strap, available from most electronic component stores.

## Classification

1. Degree of protection against electric shock: not classified
2. Degree of protection against the ingress of water: IPX0
3. Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.
4. Mode of operation: Continuous
5. Type of protection against electric shock: Class I equipment

## General Cleaning Tips

You may need the following precautions before you begin to clean the computer. When you clean any single part or component for the computer, please read and understand the details below fully.

When you need to clean the device, please rub it with a piece of dry cloth.

1. Be cautious of the tiny removable components when you use a vacuum cleaner to absorb the dirt on the floor.
2. Turn the system off before you start to clean up the component or computer.
3. Never drop the components inside the computer or get circuit board damp or wet.
4. Be cautious of all kinds of cleaning solvents or chemicals when you use it for the sake of cleaning. Some individuals may be allergic to the ingredients.
5. Try not to put any food, drink or cigarette around the computer.

### Cleaning Tools:

Although many companies have created products to help improve the process of cleaning your computer and peripherals users can also use household items to clean their computers and peripherals. Below is a listing of items you may need or want to use while cleaning your computer or computer peripherals.

Keep in mind that some components in your computer may only be able to be cleaned using a product designed for cleaning that component, if this is the case it will be mentioned in the cleaning.

- Cloth: A piece of cloth is the best tool to use when rubbing up a component. Although paper towels or tissues can be used on most hardware as well, we still recommend you to rub it with a piece of cloth.
- Water or rubbing alcohol: You may moisten a piece of cloth a bit with some water or rubbing alcohol and rub it on the computer. Unknown solvents may be harmful to the plastics parts.
- Vacuum cleaner: Absorb the dust, dirt, hair, cigarette particles, and other particles out of a computer can be one of the best methods of cleaning a computer. Over time these items can restrict the airflow in a computer and cause circuitry to corrode.
- Cotton swabs: Cotton swabs moistened with rubbing alcohol or water are excellent tools for wiping hard to reach areas in your keyboard, mouse, and other locations.
- Foam swabs: Whenever possible it is better to use lint free swabs such as foam swabs.



***NOTE*** *It is strongly recommended that you should shut down the system before you start to clean any single components.*

### **Please follow the steps below:**

1. Close all application programs
2. Close operating software
3. Turn off power switch
4. Remove all device
5. Pull out power cable

## **Scrap Computer Recycling**

If the computer equipments need the maintenance or are beyond repair, we strongly recommended that you should inform your Axiomtek distributor as soon as possible for the suitable solution. For the computers that are no longer useful or no longer working well, please contact your Axiomtek distributor for recycling and we will make the proper arrangement.

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# Table of Contents

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Disclaimers.....	ii
Safety Precautions.....	iii
Classification.....	iii
General Cleaning Tips .....	iv
Scrap Computer Recycling.....	v
<b>CHAPTER 1 INTRODUCTION .....</b>	<b>1</b>
<b>1.1 General Description.....</b>	<b>1</b>
<b>1.2 System Specifications .....</b>	<b>2</b>
1.2.1 Main CPU Board.....	2
1.2.2 I/O System .....	2
1.2.3 System Specification.....	3
<b>1.3 Dimensions .....</b>	<b>4</b>
<b>1.4 I/O Outlets .....</b>	<b>5</b>
<b>1.5 Jumper Settings.....</b>	<b>6</b>
1.5.1 CMOS Clear (JP5) .....	6
<b>1.6 Packing List.....</b>	<b>6</b>
<b>CHAPTER 2 HARDWARE INSTALLATION .....</b>	<b>7</b>
2.1 Installing the memory module .....	7
2.2 Installing the Hard Disk Drive .....	9
2.3 Installing the PCI or PCIe Card .....	11
<b>CHAPTER 3 AMI BIOS UTILITY.....</b>	<b>13</b>
3.1 Starting .....	13
3.2 Navigation Keys .....	13
3.3 The Main Menu .....	14
3.4 Advanced BIOS Features .....	15
3.5 Chipset Menu .....	25
3.6 Security Menu .....	26
3.7 Boot Menu .....	27

# CHAPTER 1

## INTRODUCTION



This chapter contains general information and a detailed specification of the **IPC922-215-FL**. Chapter 1 includes the following sections:

- **General Description**
- **System Specification**
- **Dimensions**
- **I/O Outlets**
- **Package List**

### 1.1 General Description

The **IPC922-215-FL** is a fanless system that can support Intel<sup>®</sup> Celeron<sup>®</sup> J1900 processors. The **IPC922-215-FL** supports Windows<sup>®</sup> 7, and Windows<sup>®</sup> 8.1, and Fedora, suitable for the most durable operation.

#### **Embedded O.S. Supported**

The **IPC922-215-FL** not only supports Windows<sup>®</sup> 7, but also supports embedded OS, such as Windows<sup>®</sup> 7 embedded. For storage device, the **IPC922-215-FL** supports one 2.5" HDD drive bay and one onboard CFast<sup>™</sup> socket.

## 1.2 System Specifications

### 1.2.1 Main CPU Board

- CPU
  - Intel® Celeron® J1900 processors
- BIOS
  - AMI BIOS, with Smart View and Customer CMOS Backup.
- System Memory
  - One 204-pin DDR3 SODIMM up to 8GB
- Features
  - Fanless Operation
  - Compact & Front IO design
  - Supports Two expansion slots
  - DC to DC power supply support 10V to 30V
  - Fanless & ventilation-free

### 1.2.2 I/O System

- Standard I/O Interface -- Front
  - 4 x USB 2.0
  - 4 x RS-232-422-485 (COM 1/2/3/4)
  - 2 x RJ-45
  - 1 x VGA
  - 1 x Remote switch
  - 1 x Power on/off switch
  - 1 x ATX/AT DIP switch
  - 1 x PS/2 key board and mouse
- Expansion Slot
  - HAB103: One PCI & One PCIe4 Slot (only support PCIe x1 Function )
  - HAB108: Two PCI Slot



**NOTE** *The maximum power rating for two expansion slots at 50°C can not be exceeded the following values*

- +12V<4A
- +5V<6A
- +3.3V<3A

### 1.2.3 System Specification

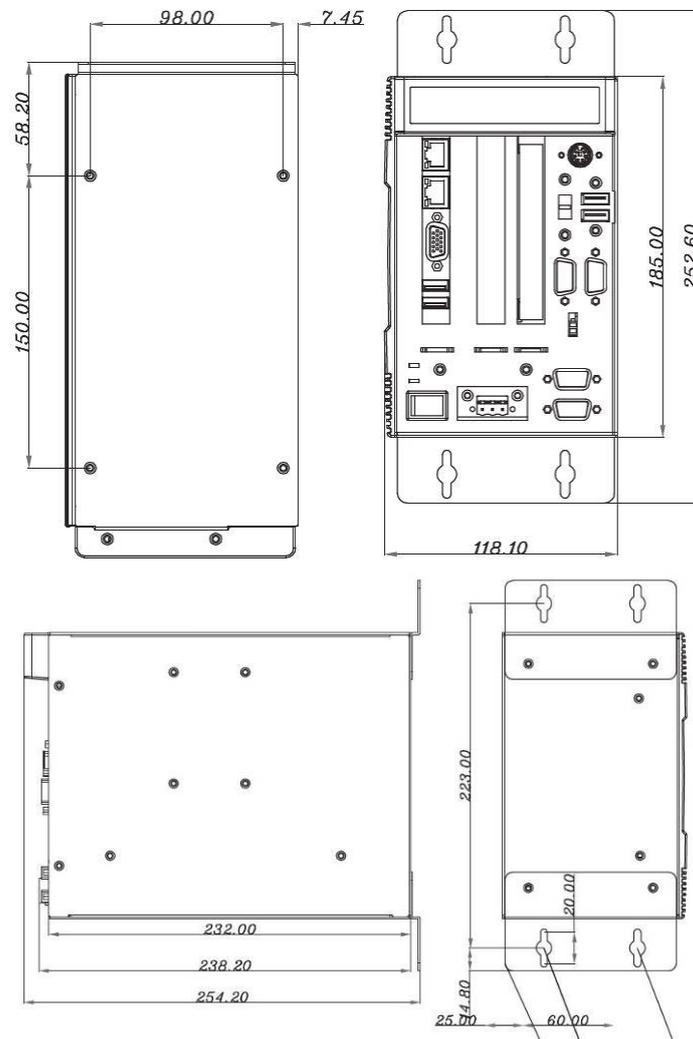
- **Drive Capacity**
  - Supports One 2.5" HDD driver bay
  - One onboard CFast™ Socket
- **Power Input**
  - 10VDC to 30VDC with phoenix power plug
  - External 90W AC Adapter
    - Power Input : 100VAC to 240VAC, +19V@4.74A
    - Power Output : +19VDC
- **Operation Temperature**
  - Ambient with air flow: -10°C ~ 50°C
- **Storage Temperature**
  - -20°C ~ 80°C
- **Humidity**
  - 10% ~ 90% (Non-condensing)
- **Dimensions**
  - 118mm (5.6") (W) x 254 mm (9.9") (D) x 185mm (7.3") (H)



**NOTE** All specifications and images are subject to change without notice.

### 1.3 Dimensions

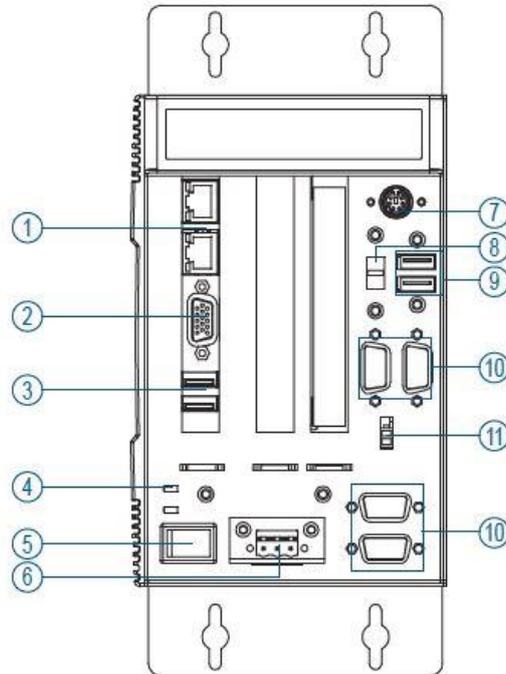
The following diagrams show you dimensions and outlines of the **IPC922-215-FL**.



## 1.4 I/O Outlets

The following figures show you I/O outlets on front and rear panels of the **IPC922-215-FL**.

### Front Panel



1. Ethernet x 2
2. VGA port
3. USB 2.0 x 2
4. LED for power & HDD
5. ATX power switch
6. Power connector (Din-jack or Phoenix plug)
7. PS/2 connector
8. AT/ATX DIP Switch
9. USB 2.0 x 2
10. 4 x RS-232/422/485(COM 1/2/3/4)
11. Remote power switch

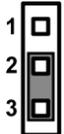
## 1.5 Jumper Settings

The IPC922 has a number of jumpers inside the chassis that allow you to configure your system to suit your application. The table below lists the functions of the various jumpers.

Jumper	Description	Jumper Setting
JP5	Default : Normal Operation	Short 1-2
	CMOS Clear	Short 2-3

### 1.5.1 CMOS Clear (JP5)

You may need to use this jumper is to clear the CMOS memory if incorrect settings in the Setup Utility.

Description	Function	Jumper Setting
CMOS Clear	Normal (Default)	<p><b>JP5</b></p> 
	Clear CMOS	<p><b>JP5</b></p> 

## 1.6 Packing List

The package bundled with your IPC922-215-FL should contain the following items:

- IPC922-215-FL Unit x 1
- 19V 90W Adapter (for IPC922 AC Version)
- Driver CD
- Quick Manual
- Wall Mount Bracket x 2
- HD Bracket x 1
- Screw pack x 1
- Food pad x 4

If you can not find this package or any items are missing, please contact Axiomtek distributors immediately.

## CHAPTER 2 HARDWARE INSTALLATION

The **IPC922-215-FL** are convenient for your various hardware configurations, such as Memory Module, HDD (Hard Disk Drive) and PCIe card. The chapter 2 will show you how to install the hardware. It includes:

### 2.1 Installing the memory module

- Step 1** Turn off the system.
- Step 2** Disconnect the power connector.
- Step 3** Loosen screws to remove the top cover from the chassis

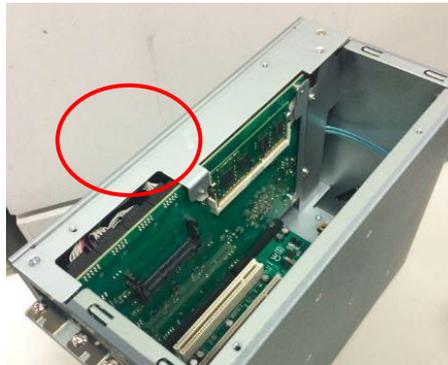


**Step 4** Please follow steps below to install the memory module:

1. Align the memory module with the socket that notches of memory module must match the socket keys for a correct installation.



2. Install the memory module into the socket and push it firmly down until it is fully seated. The socket latches are clipped on to the edges of the SO-DIMM.



**Step 5** Put back the top cover to the chassis and fasten all screws.

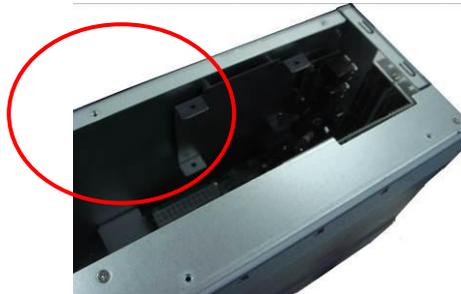
## 2.2 Installing the Hard Disk Drive

The IPC922-215-FL offers a convenient drive bay module for users to install HDD. The system offers users one 2.5" Hard Disk Drive for installation. Please follow the steps:

- Step 1** Turn off the system.
- Step 2** Disconnect the power connector.
- Step 3** Loosen screws to remove the top & Side cover from the chassis.



- Step 4** Open the top cover and locate the Hard Disk Drives from the side.



**Step 5** Use assembly parts to fix HDD with the bracket.



**Step 6** Install and fix the HDD through the side, next, plug the power cable in HDD.



**Step 7** Close the top cover back to the chassis and fasten all screws.

## 2.3 Installing the PCI or PCIe Card

- Step 1** Turn off the system.
- Step 2** Disconnect the power connector.
- Step 3** Loosen screws to remove the top cover from the chassis. Removing the PCI or PCIe bracket by releasing the button as marked.



- Step 4** Locate the PCI or PCIe slots from the top.



**Step 5** Align the PCI or PCIe card with the slot, and press the card into the slot until it is firmly seated.



**Step 6** Close the top cover back to the chassis and fasten all screws.

## CHAPTER 3

# AMI BIOS UTILITY

This chapter provides users with detailed description how to set up basic system configuration through the AMIBIOS8 BIOS setup utility.

### 3.1 Starting

To enter the setup screens, follow the steps below:

1. Turn on the computer and press the <Del> key immediately.

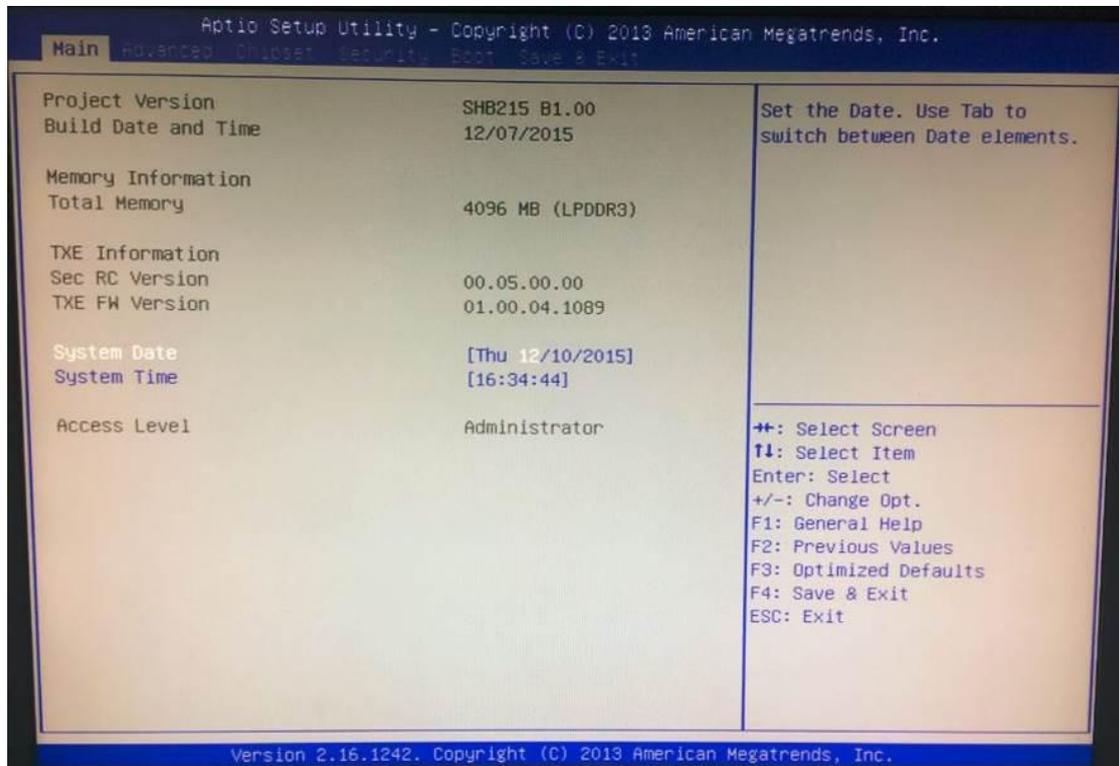
After you press the <Delete> key, the main BIOS setup menu displays. You can access the other setup screens from the main BIOS setup menu, such as the Chipset and Power menus.

### 3.2 Navigation Keys

<b>→← Left/Right</b>	The Left and Right <Arrow> keys allow you to select a setup screen.
<b>↑↓ Up/Down</b>	The Up and Down <Arrow> keys allow you to select a setup screen or sub-screen.
<b>+− Plus/Minus</b>	The Plus and Minus <Arrow> keys allow you to change the field value of a particular setup item.
<b>Tab</b>	The <Tab> key allows you to select setup fields.
<b>F1</b>	The <F1> key allows you to display the General Help screen.
<b>F10</b>	The <F10> key allows you to save any changes you have made and exit Setup. Press the <F10> key to save your changes.
<b>Esc</b>	The <Esc> key allows you to discard any changes you have made and exit the Setup. Press the <Esc> key to exit the setup without saving your changes.
<b>Enter</b>	The <Enter> key allows you to display or change the setup option listed for a particular setup item. The <Enter> key can also allow you to display the setup sub- screens.

### 3.3 The Main Menu

When you first enter the Setup Utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab. There are two Main Setup options. They are described in this section. The Main BIOS Setup screen is shown below.



- **System Time/Date**

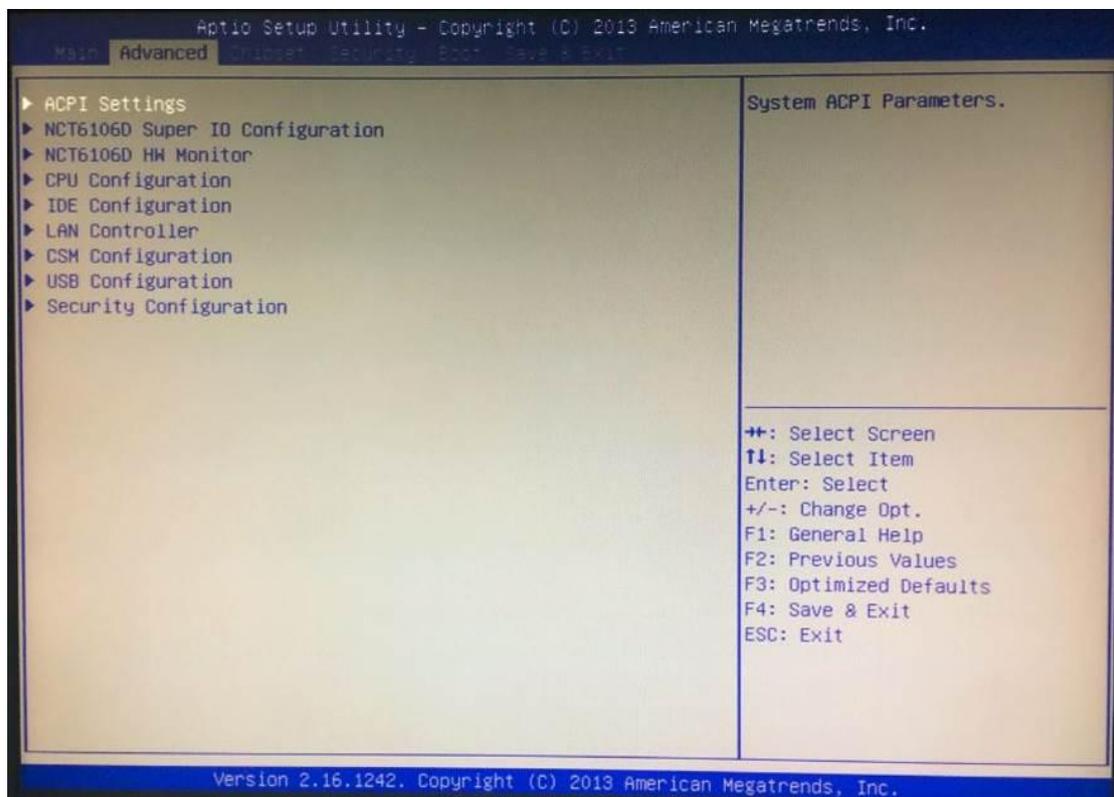
Use this option to change the system time and date. Highlight System Time or System Date using the <Arrow> keys. Enter new values through the keyboard. Press the <Tab> key or the <Arrow> keys to move between fields. The date must be entered in MM/DD/YY format. The time is entered in HH:MM:SS format.

### 3.4 Advanced BIOS Features

The Advanced menu allows users to set configuration of the CPU and other system devices. You can select any of the items in the left frame of the screen to go to the sub menus:

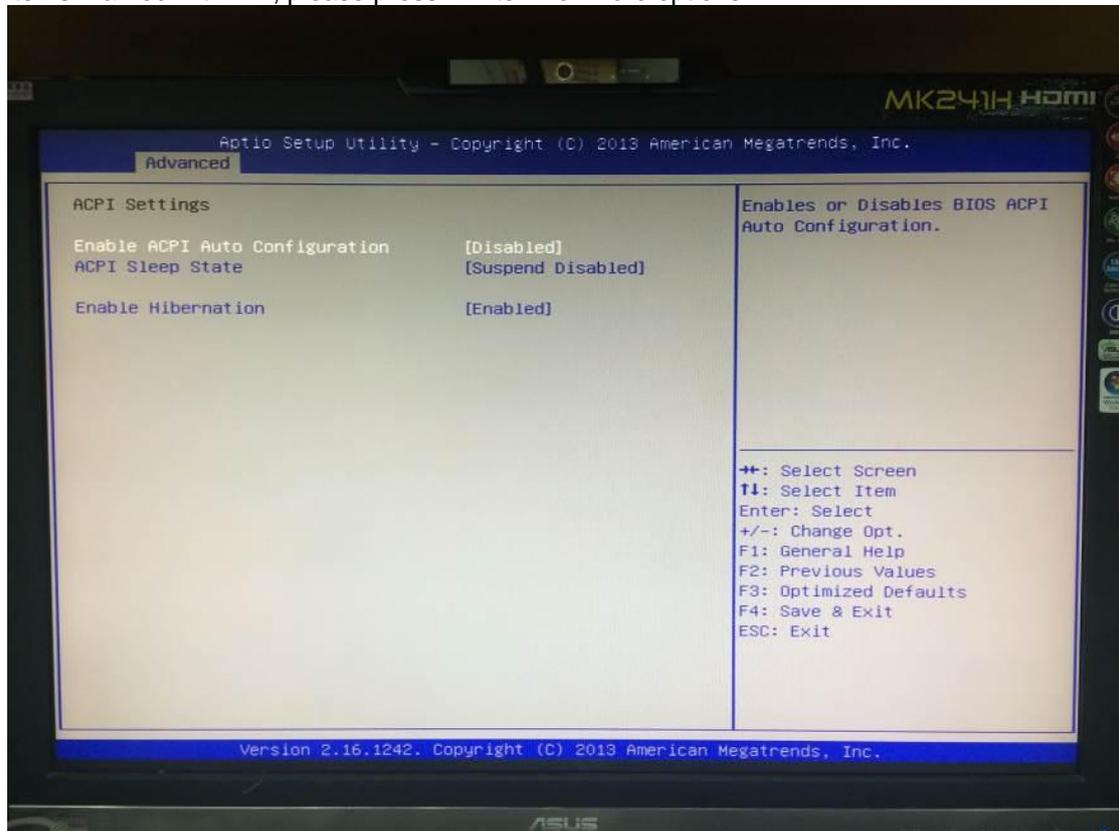
- ACPI Settings
- NCT6106D Super IO Configuration
- NCT6106D HW Monitor
- CPU Configuration
- IDE Configuration
- LAN Controller
- CSM Configuration
- USB Configuration
- Security Configuration

For items marked with “▶”, please press <Enter> for more options.



- **ACPI Settings**

You can use this screen to select options for the ACPI Settings, and change the value of the selected option. A description of the selected item appears on the right side of the screen. For items marked with "►", please press <Enter> for more options.



- **Enable ACPI Auto Configuration**

Use this item to specify the integrated ACPI Auto Configuration. There are two options for your selection: *Disabled*, and *Enabled*.

- **ACPI Sleep State**

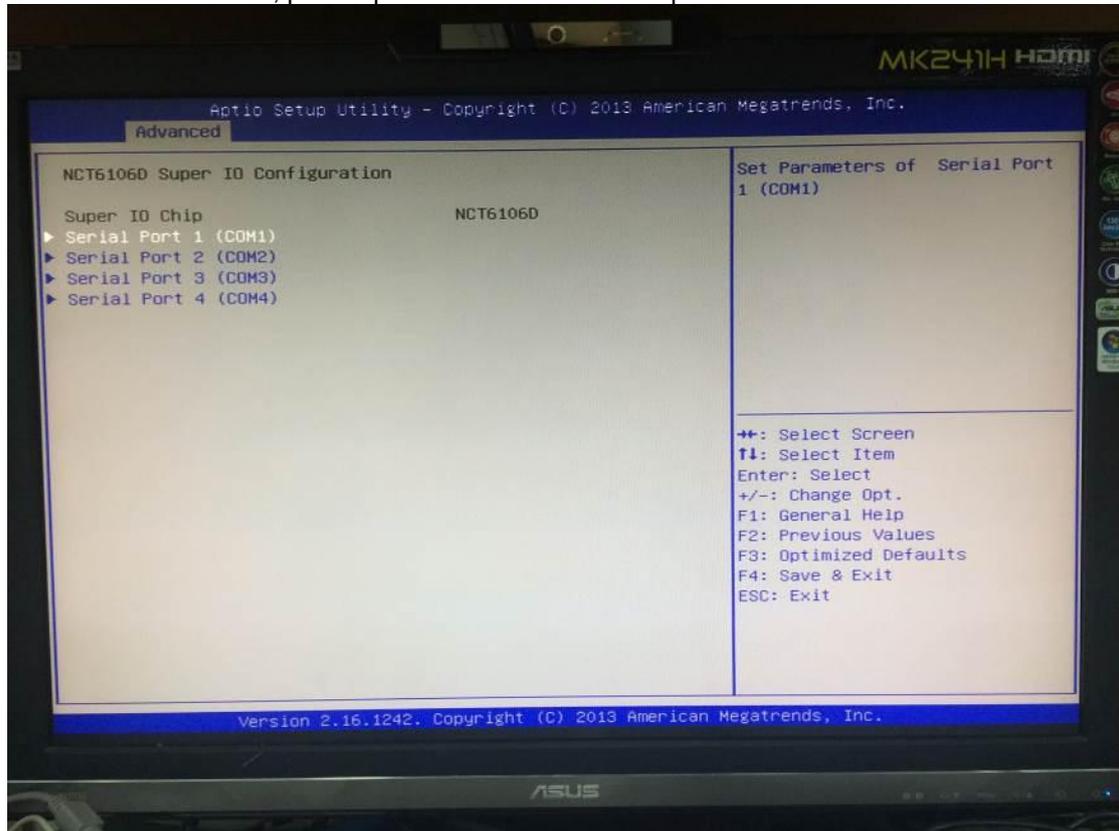
Use this item to specify the integrated ACPI Sleep State.

- **Enable Hibernation**

Use this item to specify the Hibernation.

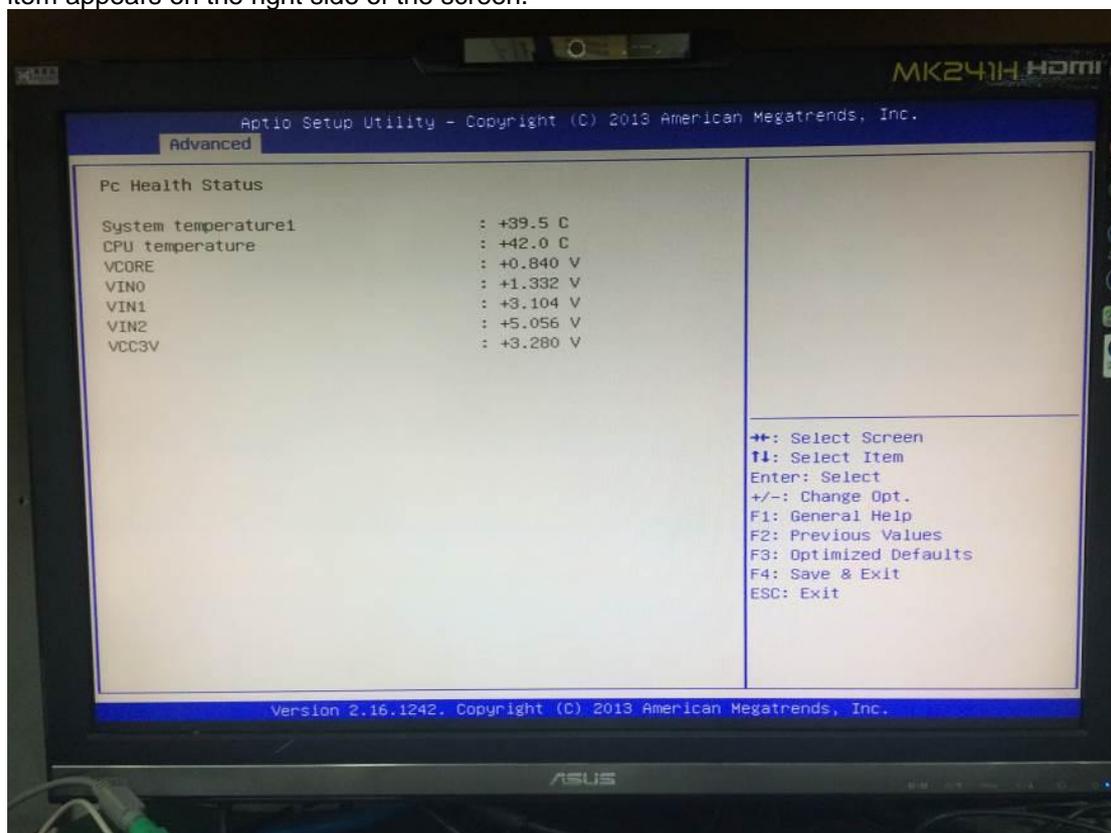
- **NCT6106D Super IO Configuration**

You can use this screen to select options for the Serial port, and change the value of the selected option. A description of the selected item appears on the right side of the screen. For items marked with "▶", please press <Enter> for more options.



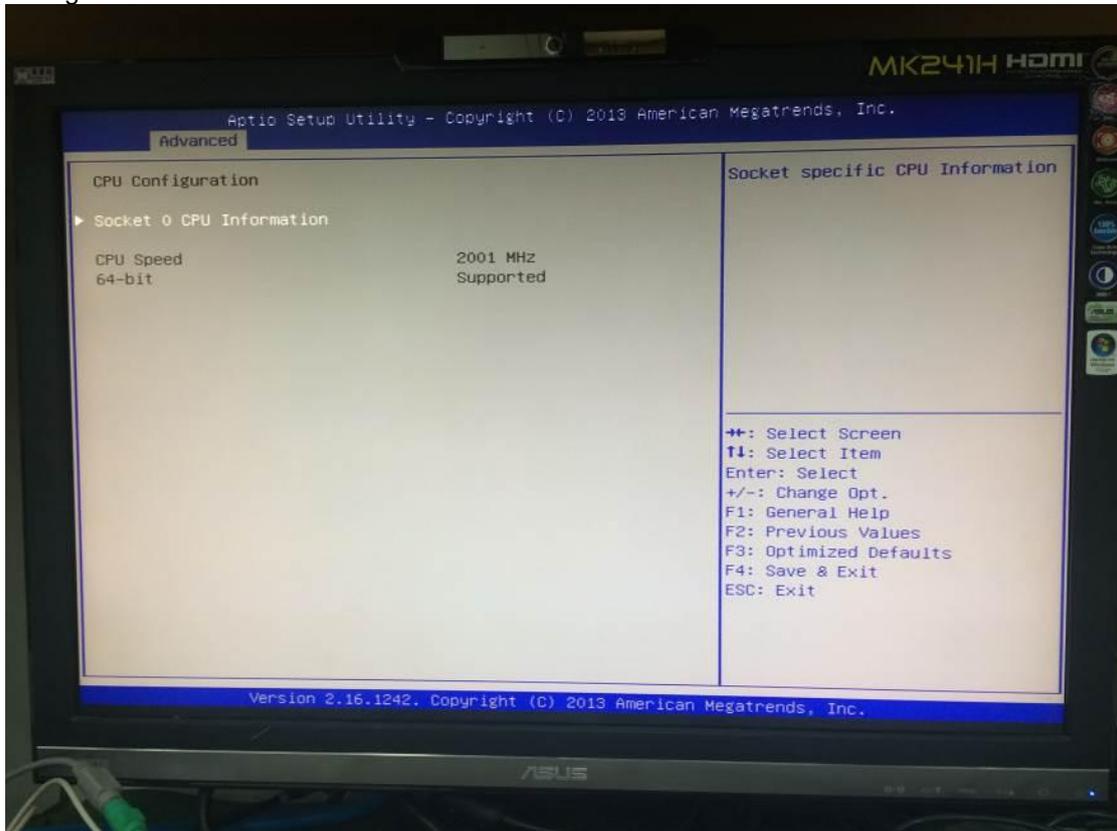
- **NCT6106D HW monitor**

This screen shows the Hardware Health CPU Configuration, and a description of the selected item appears on the right side of the screen.



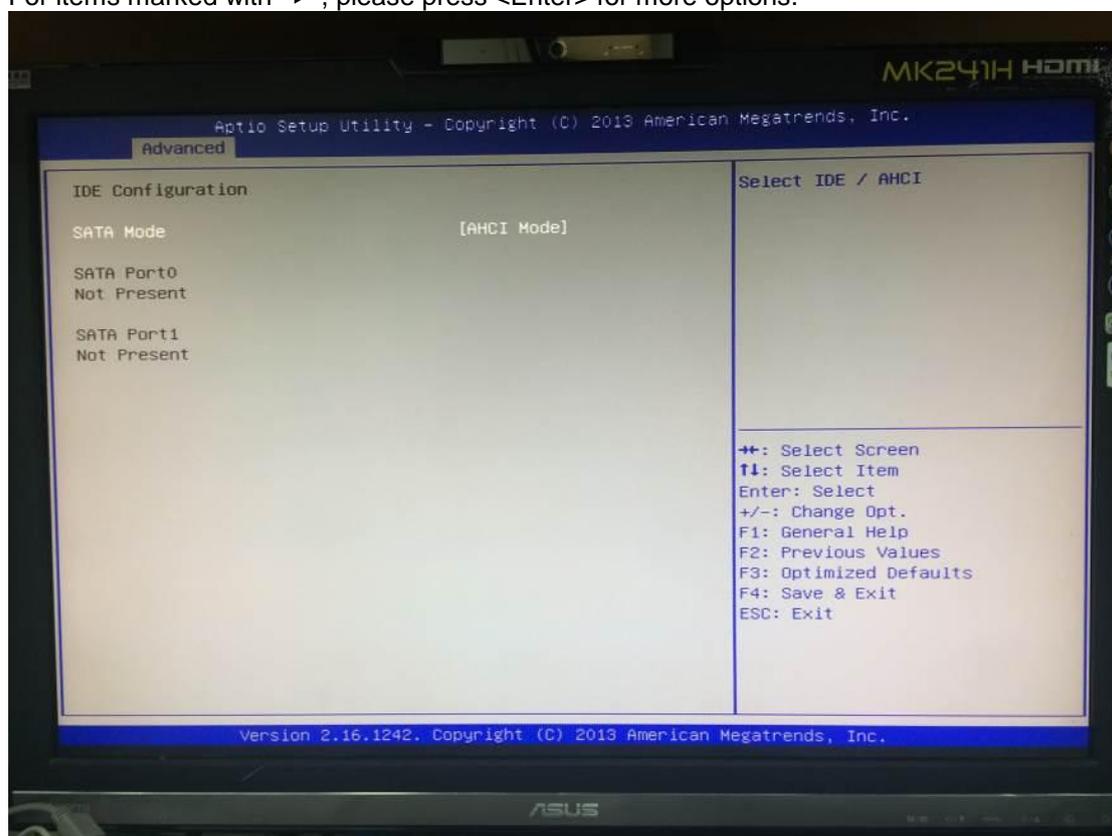
- **CPU Configuration**

This screen shows the CPU Configuration, and a description of the selected item appears on the right side of the screen.



● **IDE Configuration**

You can use this screen to select options for the IDE Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen. For items marked with "►", please press <Enter> for more options.

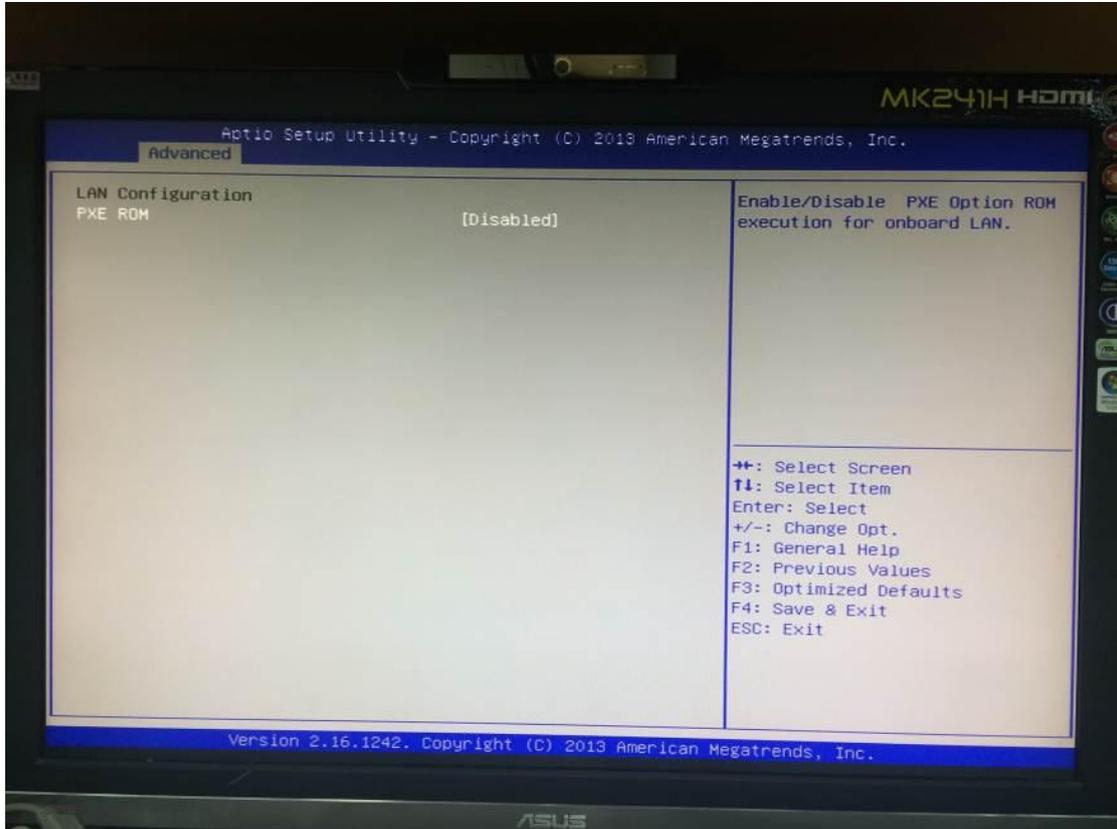


➤ **SATA Mode**

Use this item to specify the integrated SATA Mode.

- **LAN Controller**

You can use this screen to select options for the LAN Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen. For items marked with "►", please press <Enter> for more options.

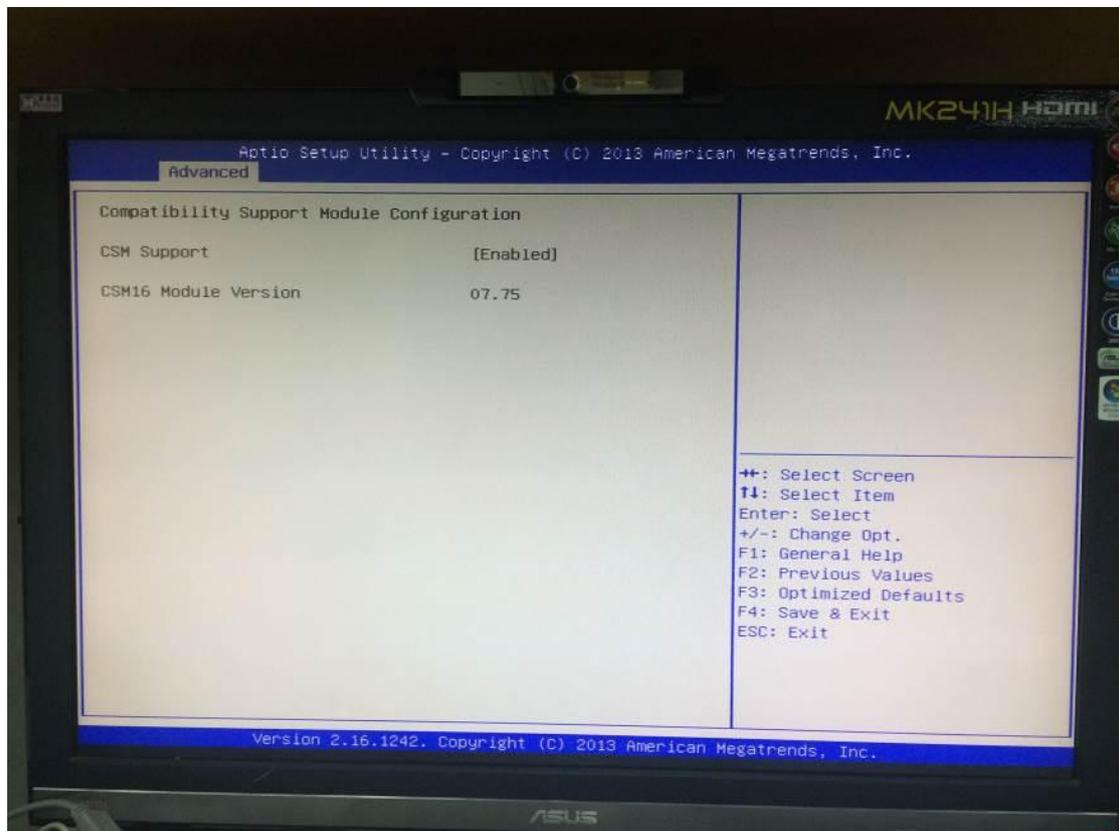


- **PXE ROM**

Use this item to specify the integrated PXE ROM. There are two options for your selection: *Disabled*, and *Enabled*.

- **CSM Configuration**

You can use this screen to select options for the CSM Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen.

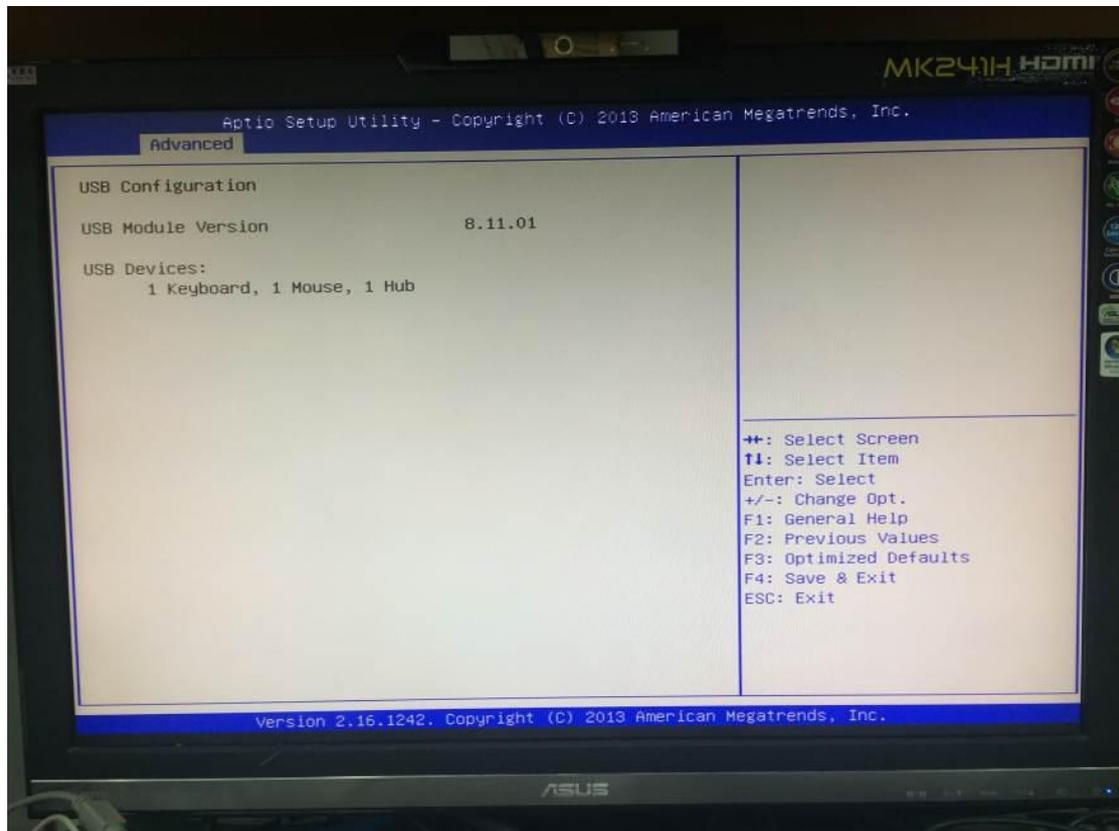


- **CSM Support**

Use this item to specify the integrated CSM Support. There are two options for your selection: *Disabled*, and *Enabled*.

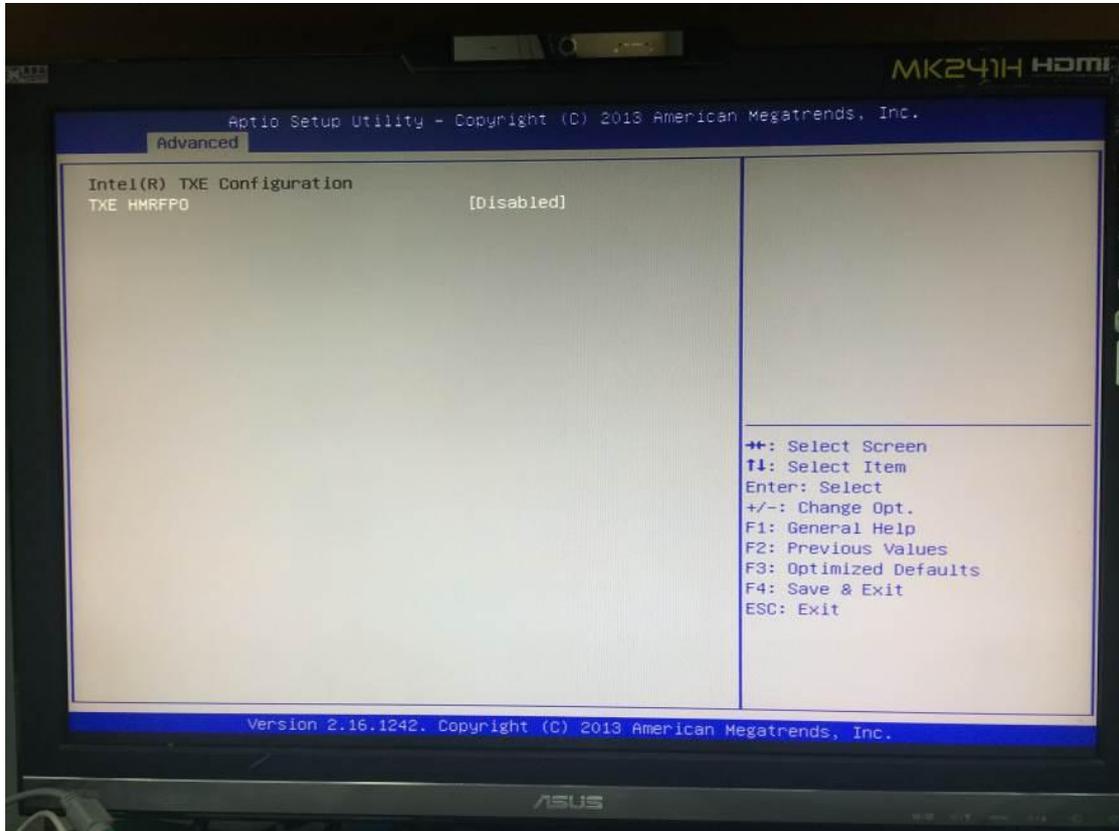
- **USB Configuration**

This screen shows the USB Configuration, and you can change the value of the selected option



- **Security Configuration**

You can use this screen to select options for the Security Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen.



➤ **TXE HMRFP0**

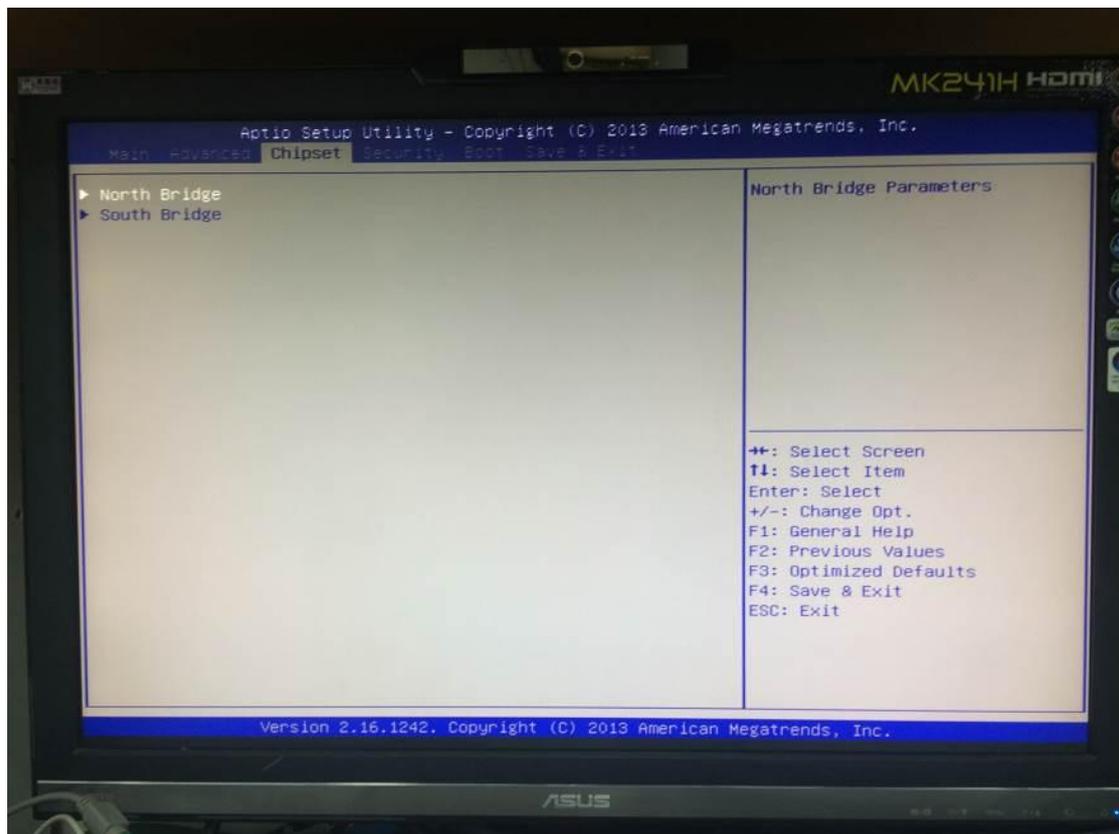
Use this item to specify the integrated TXE HMRFP0. There are two options for your selection: *Disabled*, and *Enabled*.

### 3.5 Chipset Menu

The Chipset menu allows users to change the advanced chipset settings. You can select any of the items in the left frame of the screen to go to the sub menus:

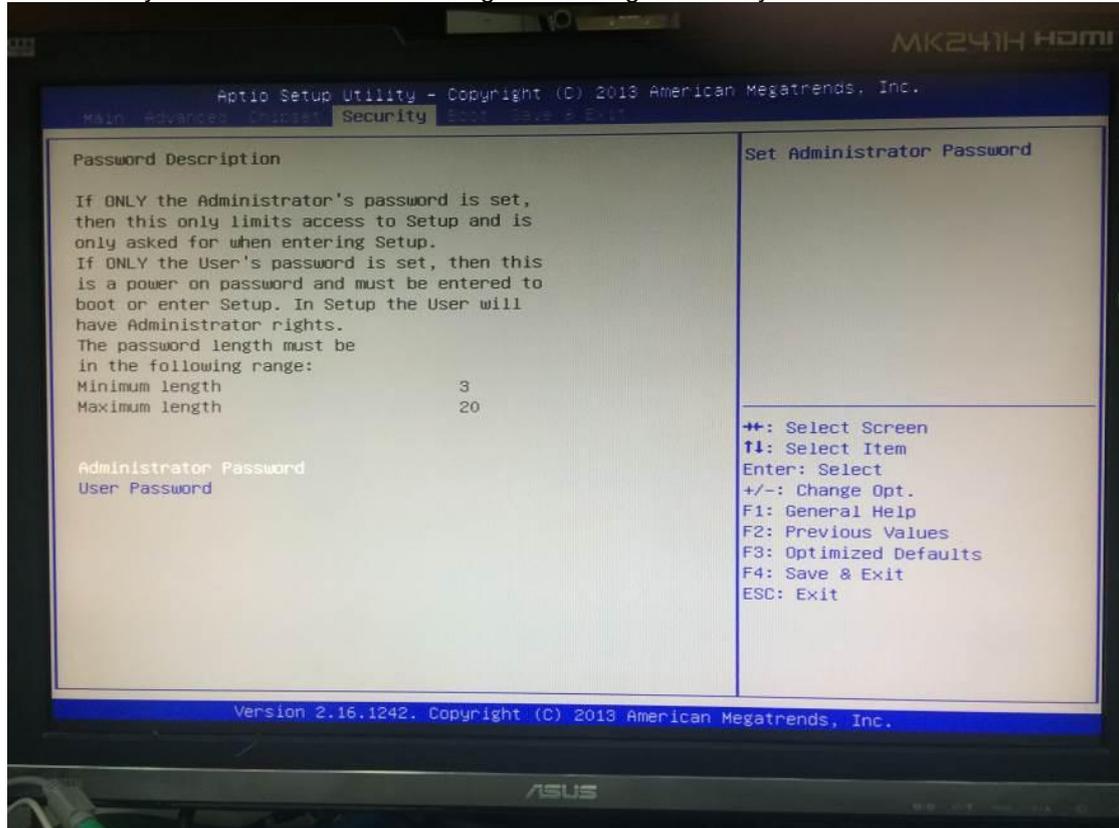
- North Bridge Configuration
- South Bridge Configuration

For items marked with “▶”, please press <Enter> for more options.



## 3.6 Security Menu

The Security menu allows users to change the settings for the system.



### ➤ Administrator Password

This item indicates whether an administrator password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.

### ➤ User Password

This item indicates whether a user password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.

### ➤ Change Administrator Password

Select this option and press <Enter> to access the sub menu. You can use the sub menu to change the administrator password.

### ➤ Change User Password

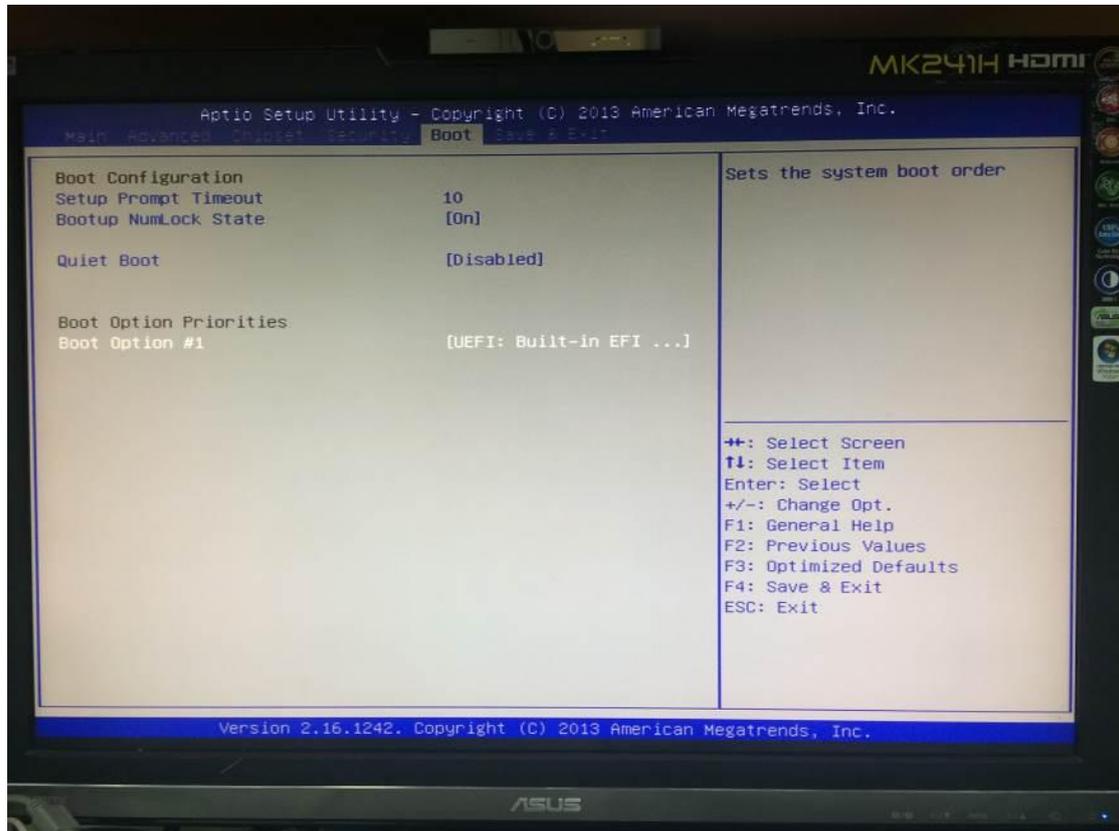
Select this option and press <Enter> to access the sub menu. You can use the sub menu to change the user password.

### 3.7 Boot Menu

The Boot menu allows users to change boot options of the system. You can select any of the items in the left frame of the screen to go to the sub menus:

- Boot Settings Configuration

For items marked with “▶”, please press <Enter> for more options.



➤ **Setup Prompt Timeout**

Use these items to set up the prompt timeout.

➤ **Bootup NumLock State**

Use this item to select the power-on state for the NumLock. The default setting is *On*.

➤ **Quick Boot**

Enabling this item lets the BIOS skip some power on self tests (POST). The default setting is *Enabled*.