

# PowerBrick™ Ultra

User's Manual

Edition 4.0



*Slim and Rugged  
Industrial Computer  
with Intel® Gen4 Core™ i7-4650U*



**Acura Embedded Systems Inc.**

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## 1.0 INTRODUCTION

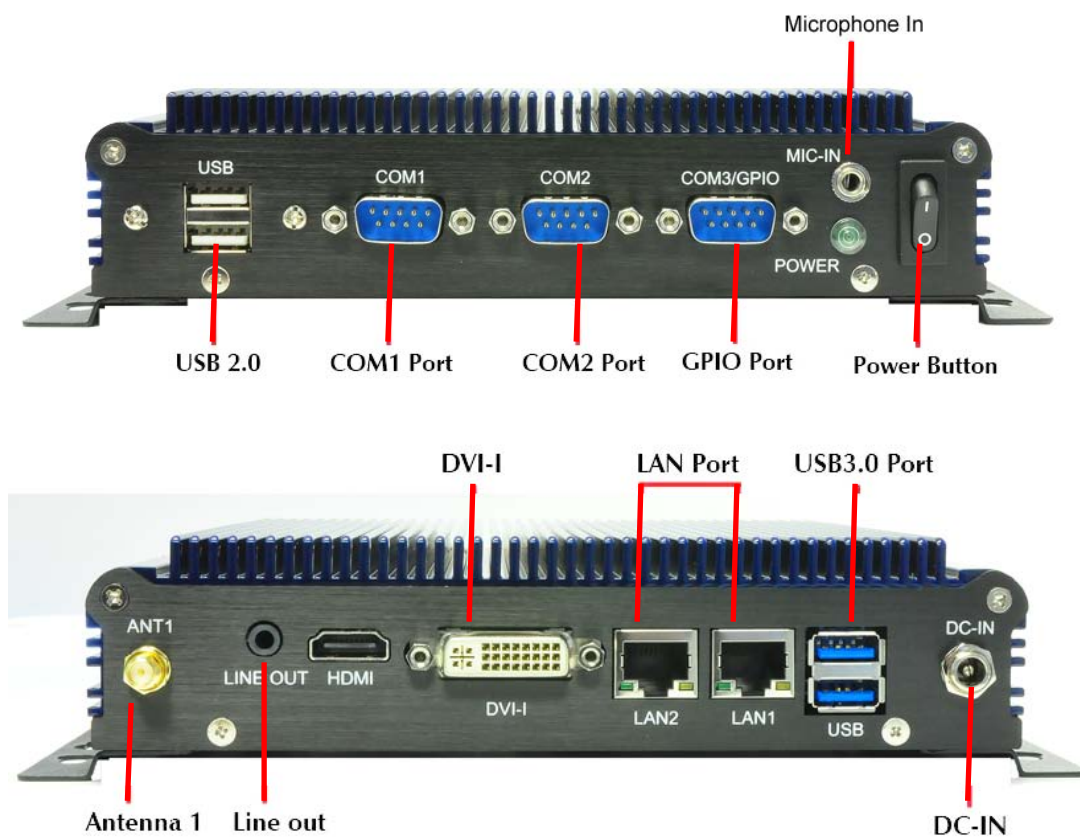
### 1.1 Model Specification



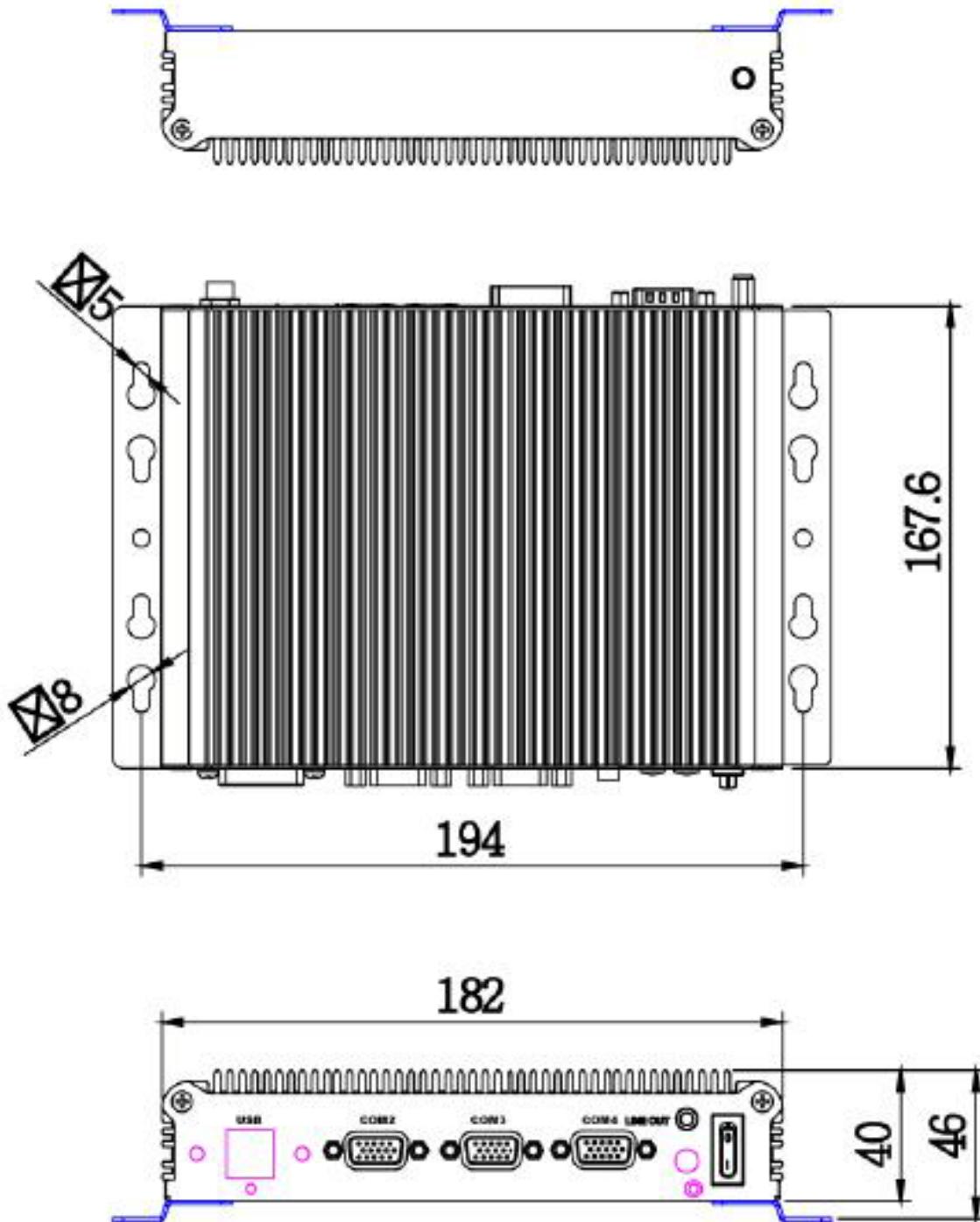
<b>System</b>	
CPU	Intel Gen4 /Core i3 or i7-4650U CPU
Memory	1 x DDR3L-1600 SO-DIMM up to 8GB (Default 4GB)
Graphics	Intel HD Graphics
ATA	2 x Serial ATA ports with 6GB/s HDD Transfer Rate
LAN Chipset	2 x Intel i210-AT Gigabit Ethernet
Watchdog(Optional)	1 ~ 255 level reset
<b>I/O</b>	
Serial Port	Support 3 x RS-232 Ports (2 x RS232/422/485)
USB Port	2 x USB 2.0 Ports and 2 x USB 3.0
LAN	2 x RJ45 Ports for GbE
Wireless (Optional)	1 x WIFI and 1x Bluetooth
Video Port	1 x HDMI and DVI Output
GPIO Port(Optional)	Support 4 In and 4 Out GPIO Ports (5V Level)
Audio	1 x Line-out and 1 x Microphone-in

Storage	
Type	1 x 2.5" drive bay for SATA Type Hard Disk Drive / SSD 1 x SATA DOM
Environment	
Operating Temp.	-30 ~ 60°C, ambient w/ air
Storage Temp.	-40 ~ 85°C
Relative Humidity	10 ~ 95% @ 40°C (non-condensing)
Power Input	DC 12V Input
Mechanical	
Construction	Aluminum alloy
Mounting	Wall-mount
Weight	1.2 Kg / 3 LBs
Dimensions	182 x 167.6 x 40 mm

## 1.2 System's I/O



### 1.3 System's Dimensions (Unit: mm)



## 2.0 BIOS Settings

### 2.1 Enter The BIOS

Power on the computer and the system will start POST (Power On Self Test) process. When the message below appears on the screen, press (DEL) key to enter Setup.

#### Press DEL to enter SETUP

If the message disappears before you respond and you still wish to enter Setup, restart the system by turning it OFF and On or pressing the RESET button. You may also restart the system by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys.

#### Important

- The items under each BIOS category described in this chapter are under continuous update for better system performance. Therefore, the description may be slightly different from the latest BIOS and should be held for reference only.
- Upon boot-up, the 1st line appearing after the memory count is the BIOS version. It is usually in the format.

#### Control Keys

Power on the computer and the system will start POST (Power On Self Test) process. When the message below appears on the screen, press (DEL) key to enter Setup.

<↑>	Move to the previous item
<↓>	Move to the next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
<Enter>	Select the item
<Esc>	Jumps to the Exit menu or returns to the main menu from a submenu
<+/PU>	Increase the numeric value or make changes
<-/PD>	Decrease the numeric value or make changes
<F1>	General Help
<F3>	Load Optimized Defaults
<F4>	Save all the CMOS changes and exit

#### Getting Help

After entering the Setup menu, the first menu you will see is the Main Menu.

#### Main Menu

The main menu lists the setup functions you can make changes to. You can use the arrow keys (↑↓) to select the item. The on-line description of the highlighted setup function is displayed at the bottom of the screen.

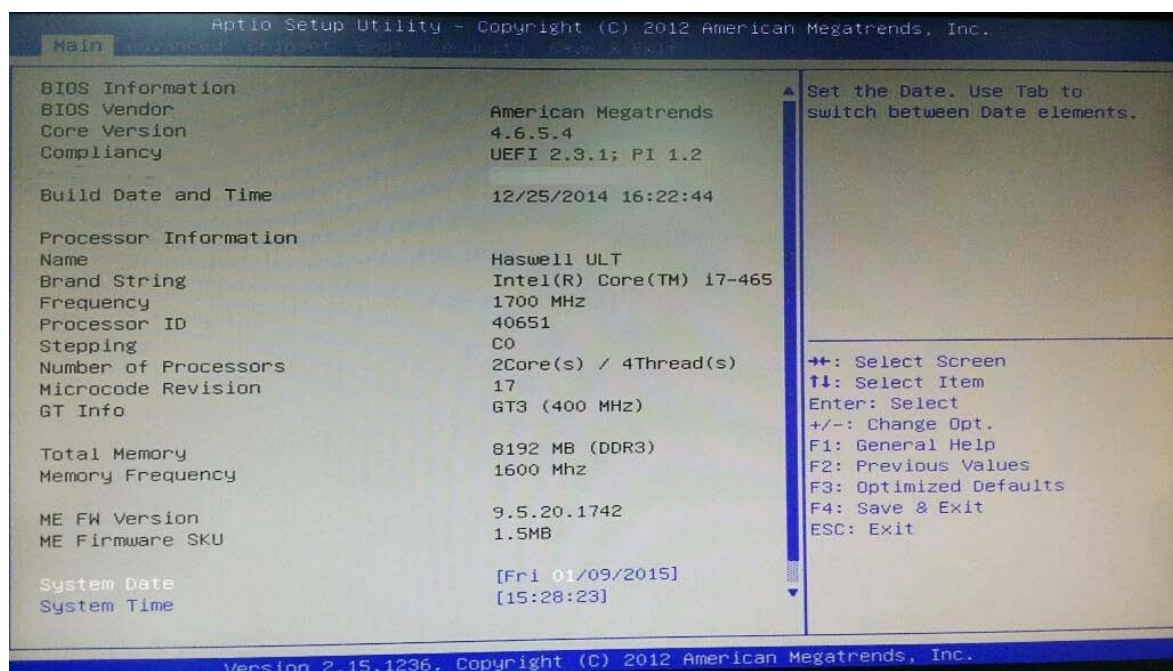
## Sub-Menu

If you find a right pointer symbol (as shown in the right view) appears to the left of certain fields that means a sub-menu can be launched from this field. A sub-menu contains additional options for a field parameter. You can use arrow keys (↑↓) to highlight the field and press <Enter> to call up the sub-menu. Then you can use the control keys to enter values and move from field to field within a sub-menu. If you want to return to the main menu, just press the <Esc >.

## General Help <F1>

The BIOS setup program provides a General Help screen. You can call up this screen from any menu by simply pressing <F1>. The Help screen lists the appropriate keys to use and the possible selections for the highlighted item. Press <Esc> to exit the Help screen.

## 2.2 Main



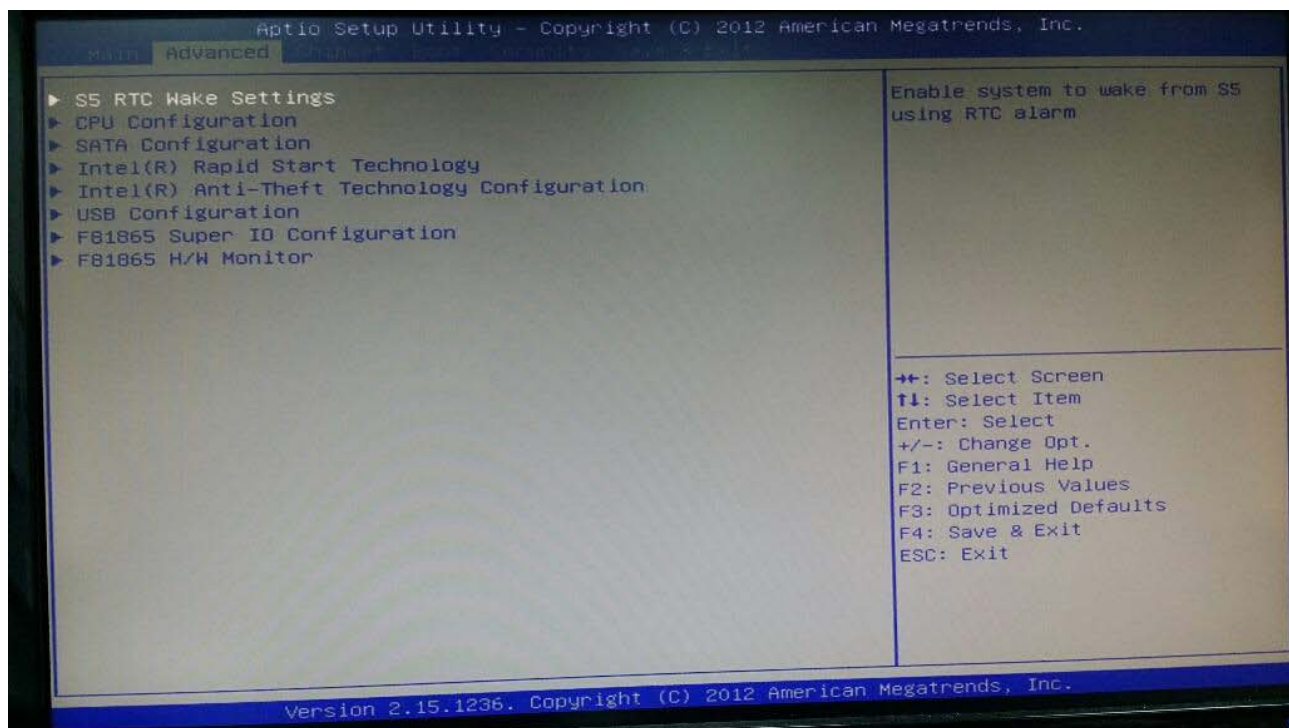
### » System Date

This setting allows you to set the system Date. The time format is <Day> <Month> <Date> <Year>.

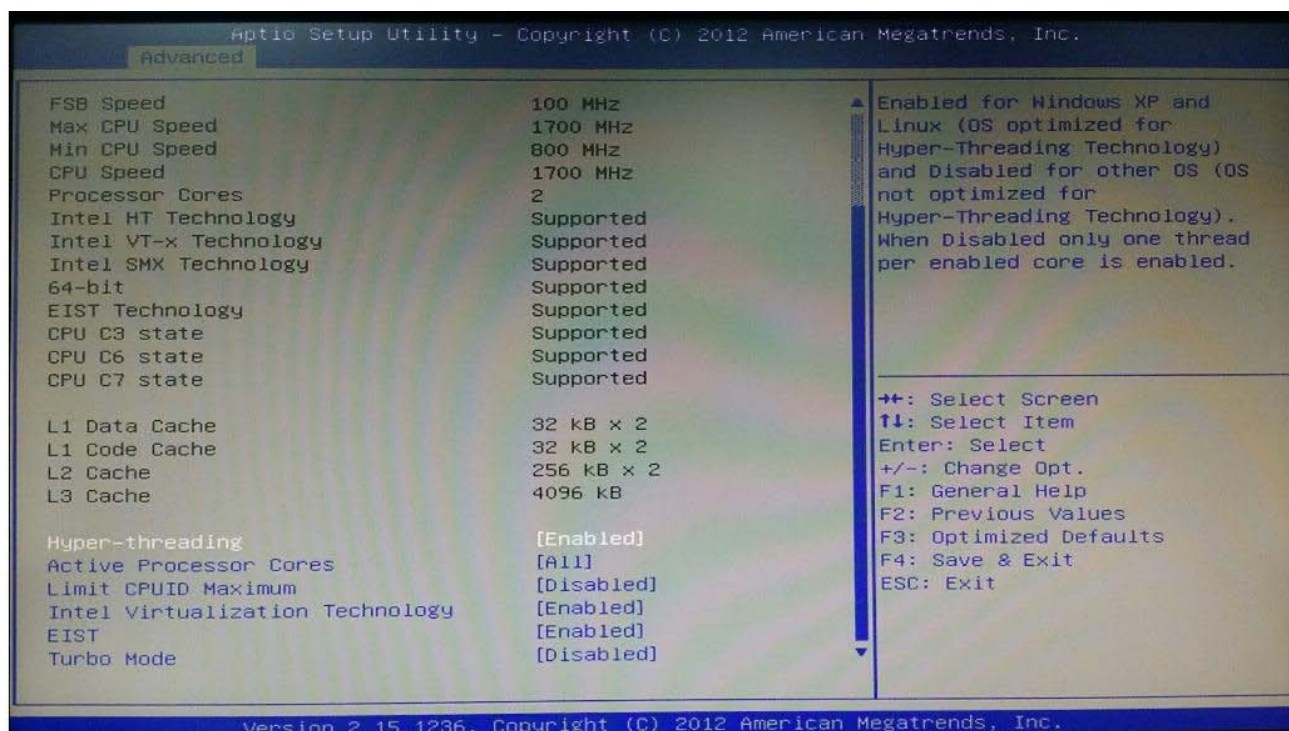
### » System Time

This setting allows you to set the system time. The time format is <Hour> <Minute> <Second>.

## 2.3 Advanced



## 2.4 CPU Configuration





### » **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.

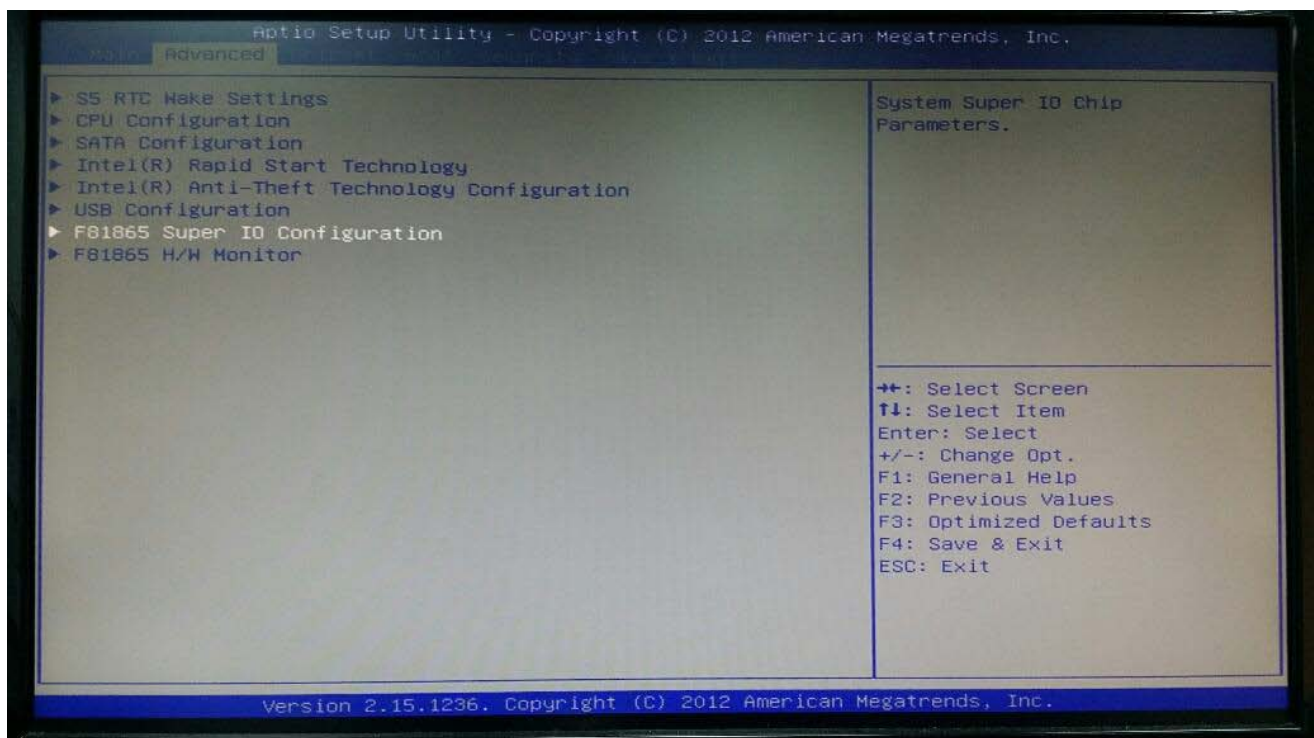
### » **Intel Virtualization Technology**

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

### » **EIST**

This field is used to enable or disable the Intel Enhanced Speed Step Technology

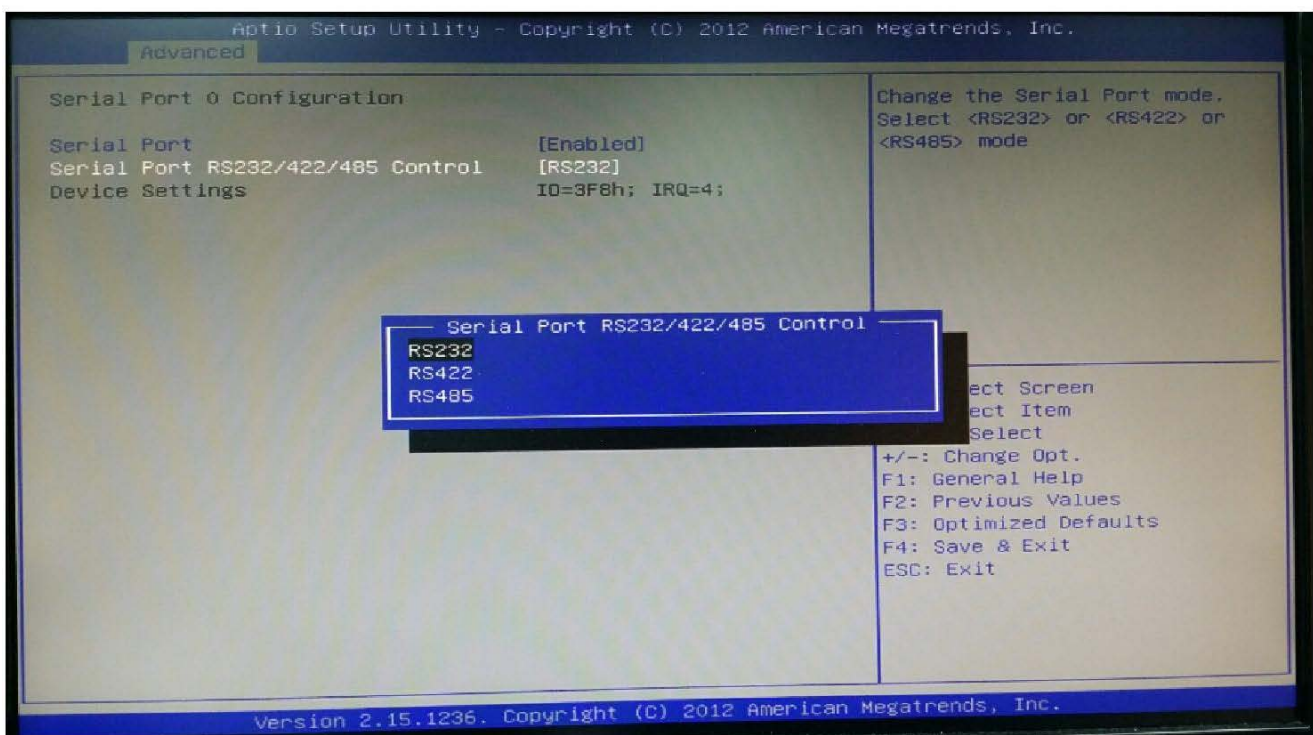
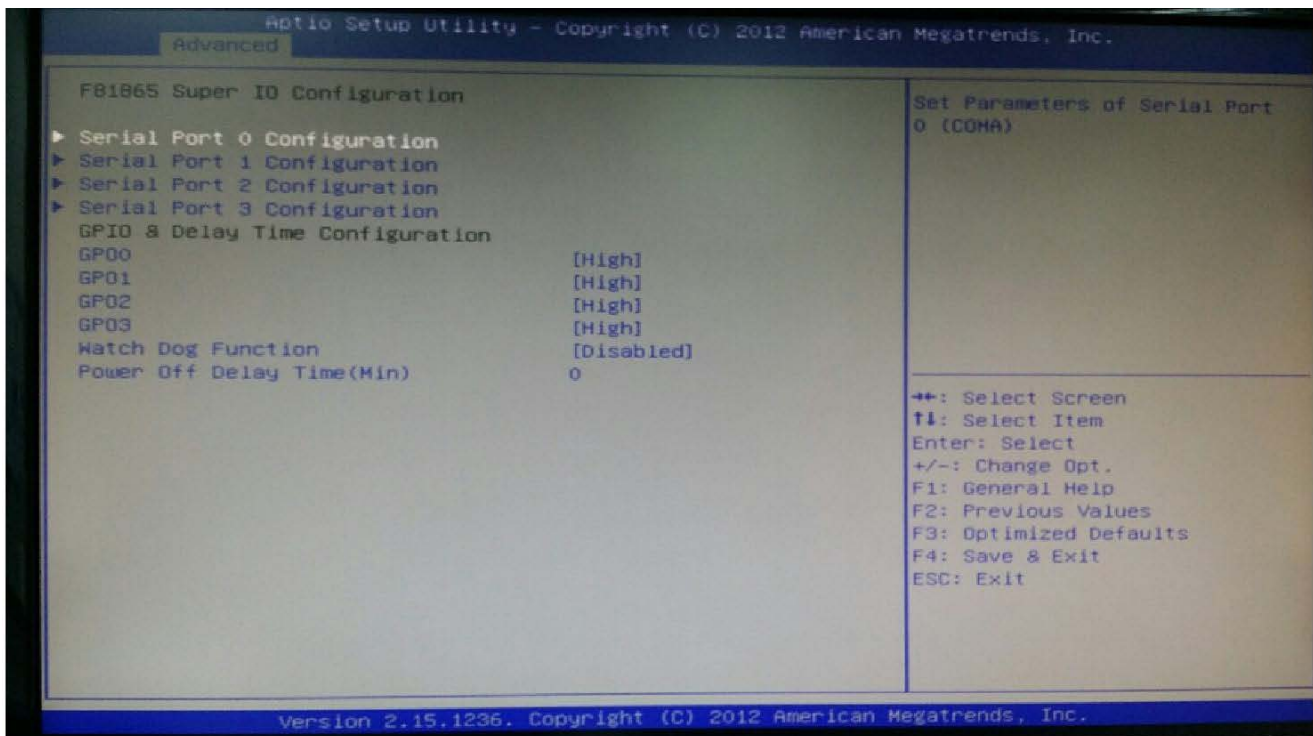
## 2.5 Super IO Configuration



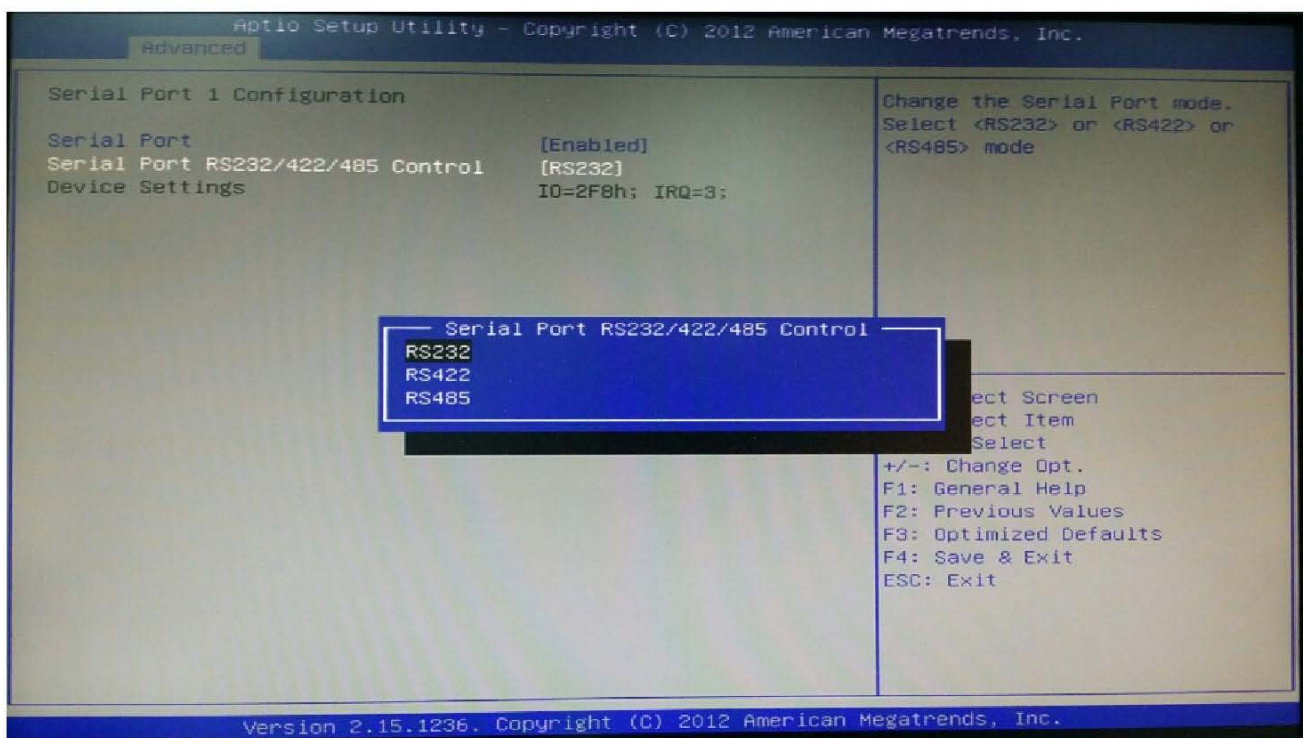
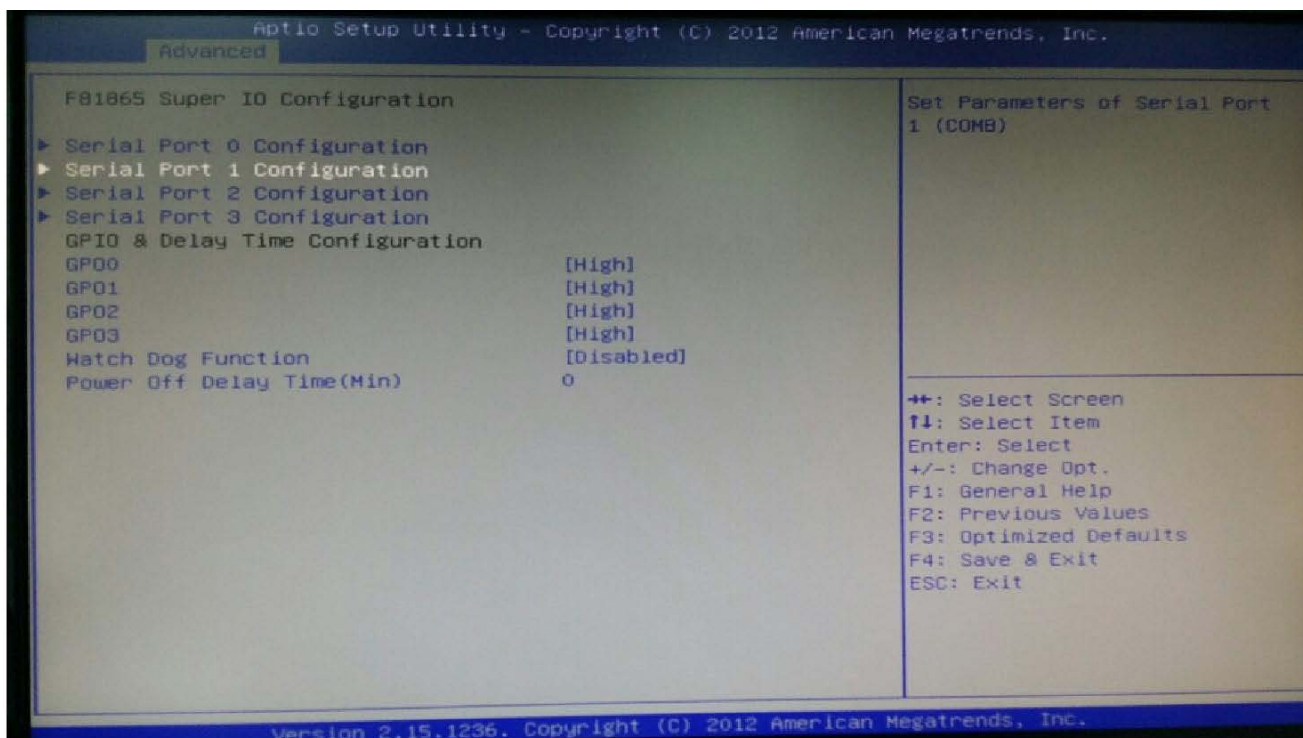
### » **Serial Port 0/1/2/3 Enable or Disable**

Select an Enable or Disable for the specified serial ports.

## » COM1 RS232/422/485 Select

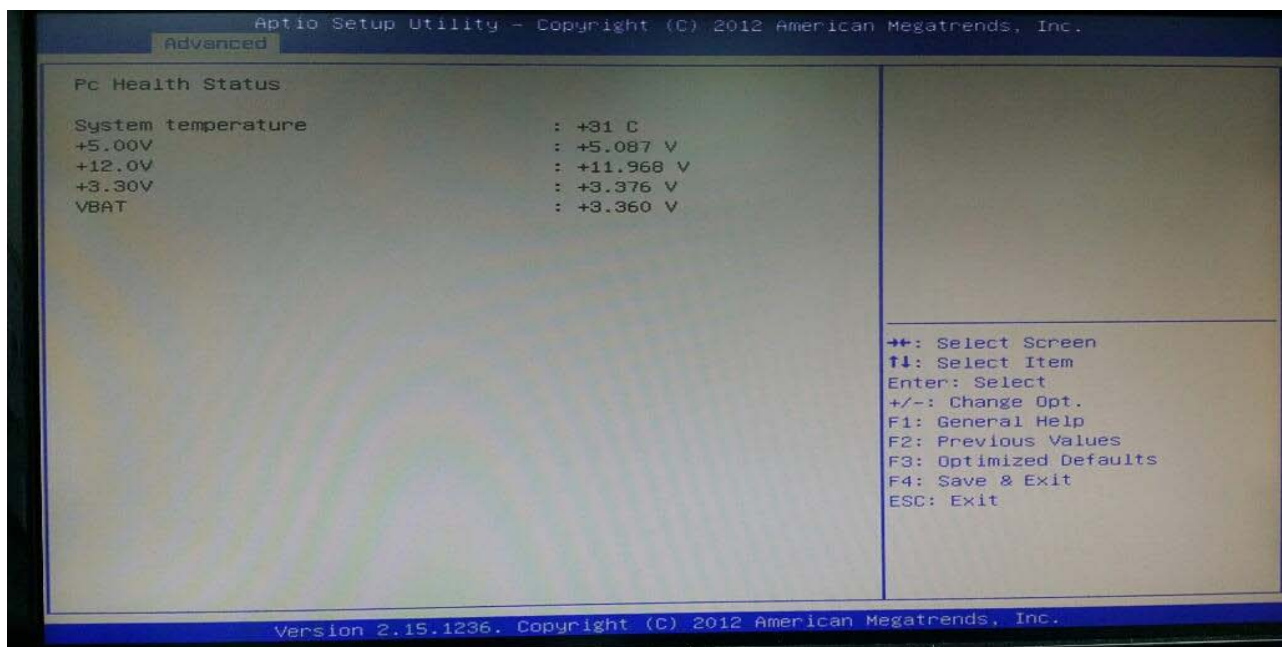


## » COM2 RS232/422/485 Select



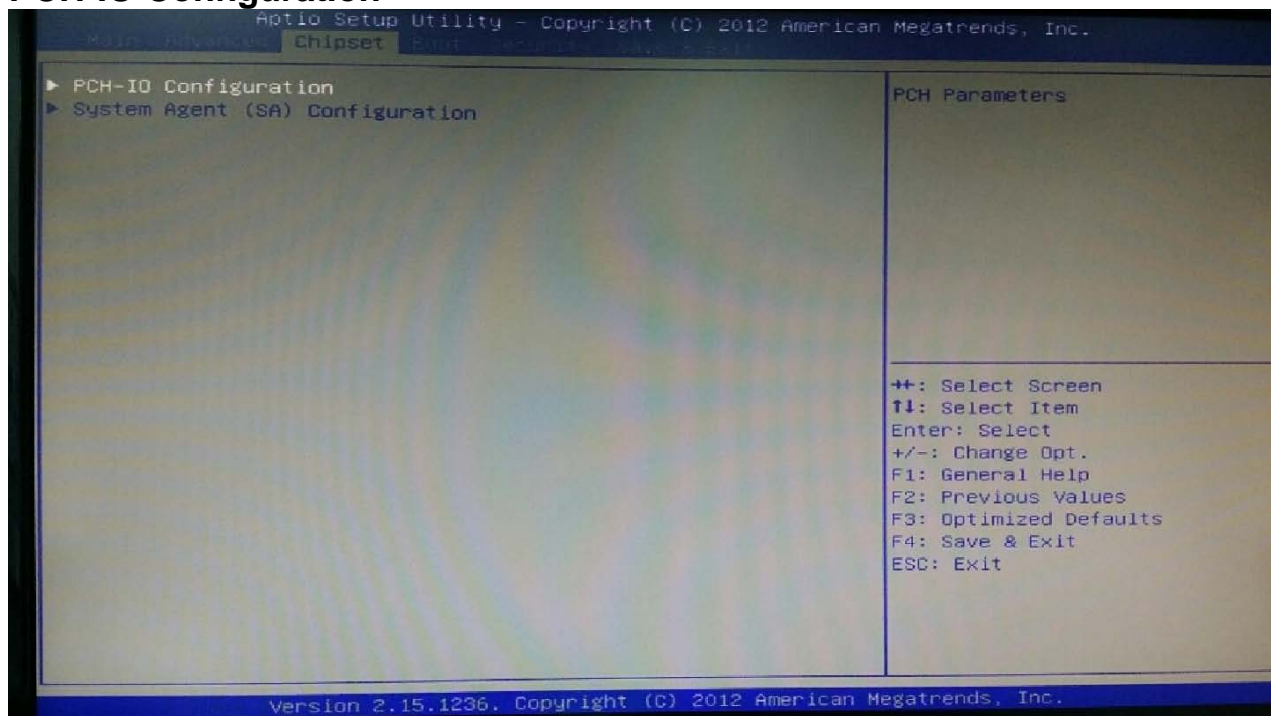
## 2.6 Hardware Health Configuration

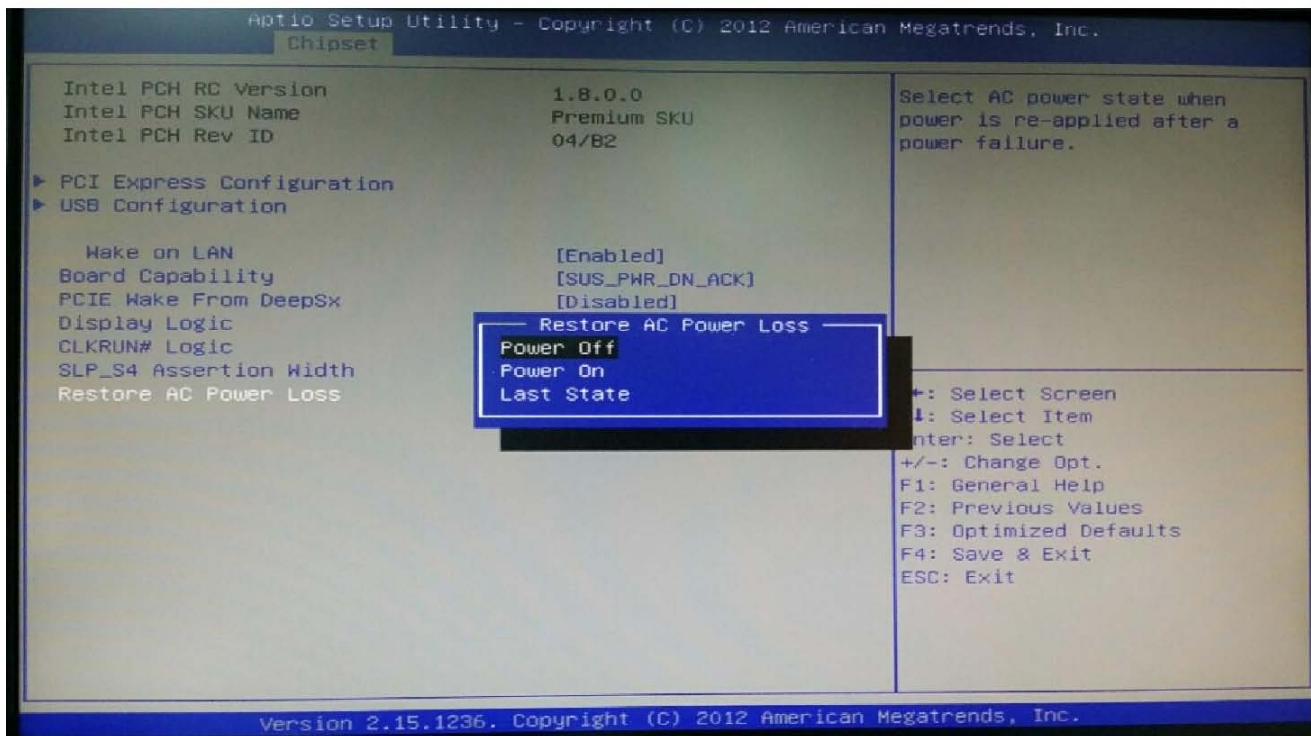
These items display the current status of all monitored hardware devices/components such as voltages, temperatures and all fans' speeds.



## 2.7 Chipset

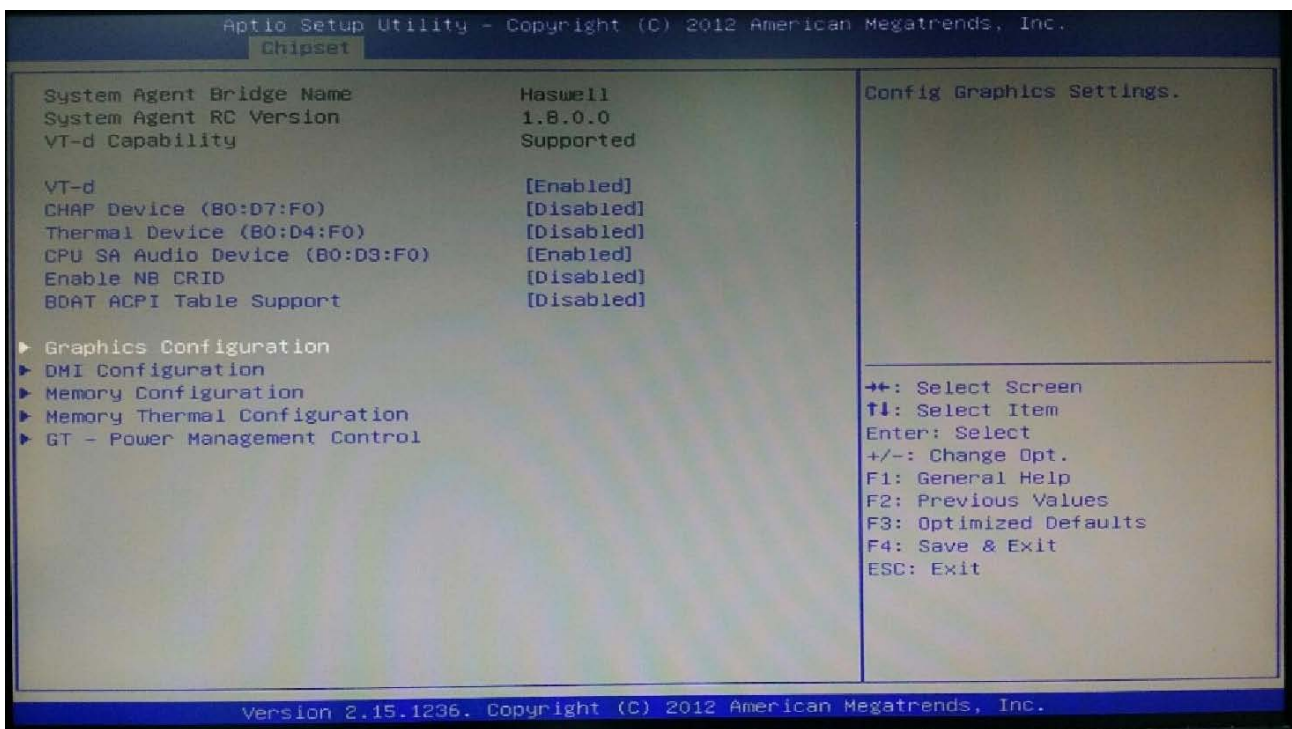
### PCH-IO Configuration

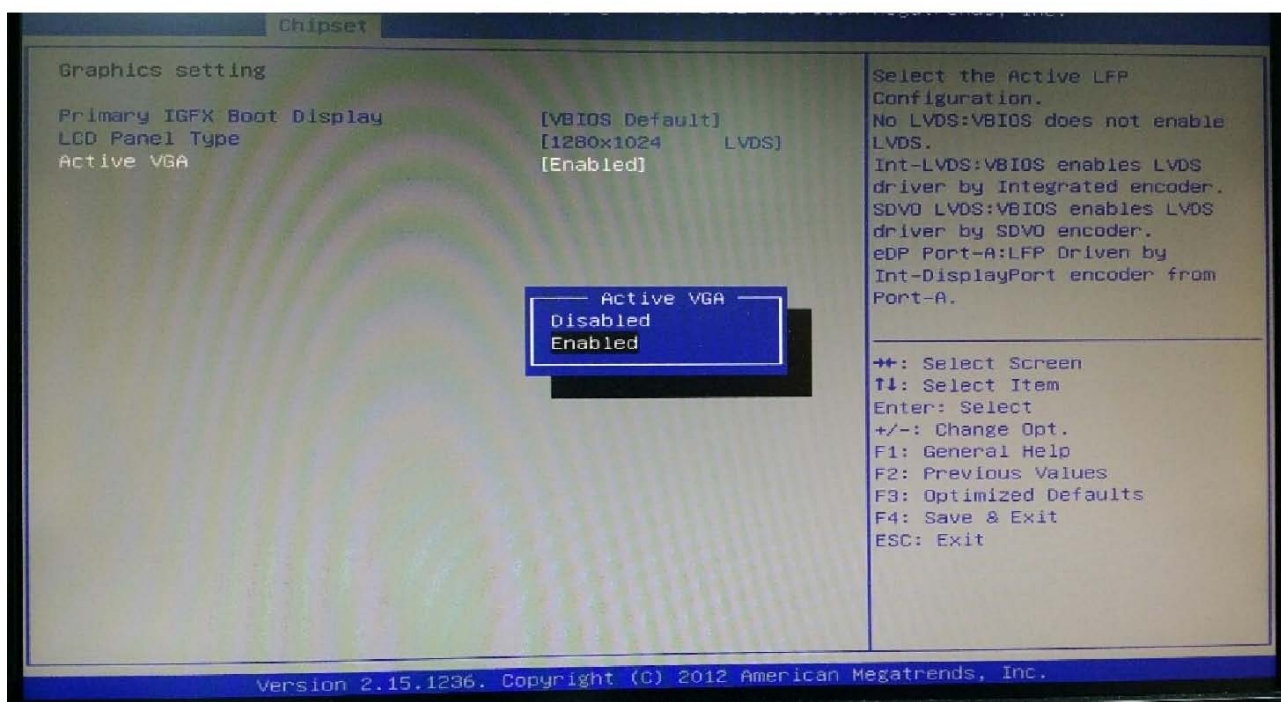
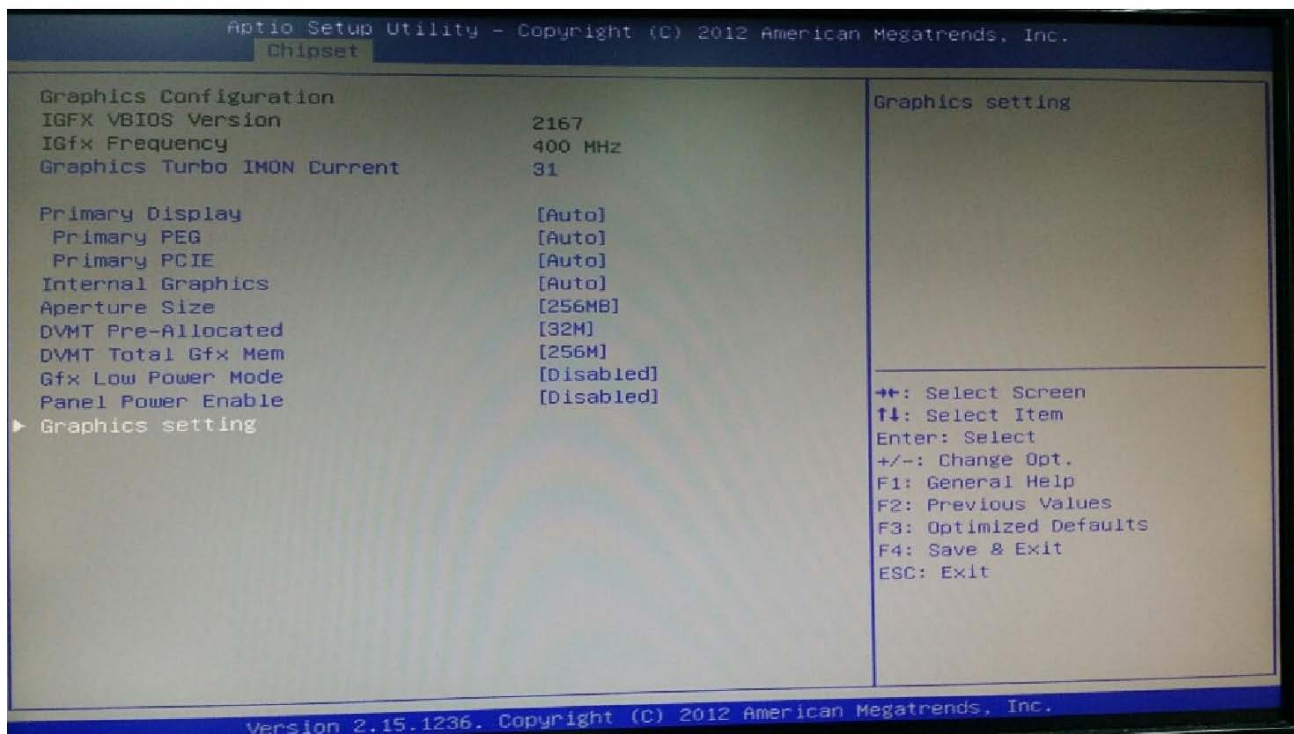




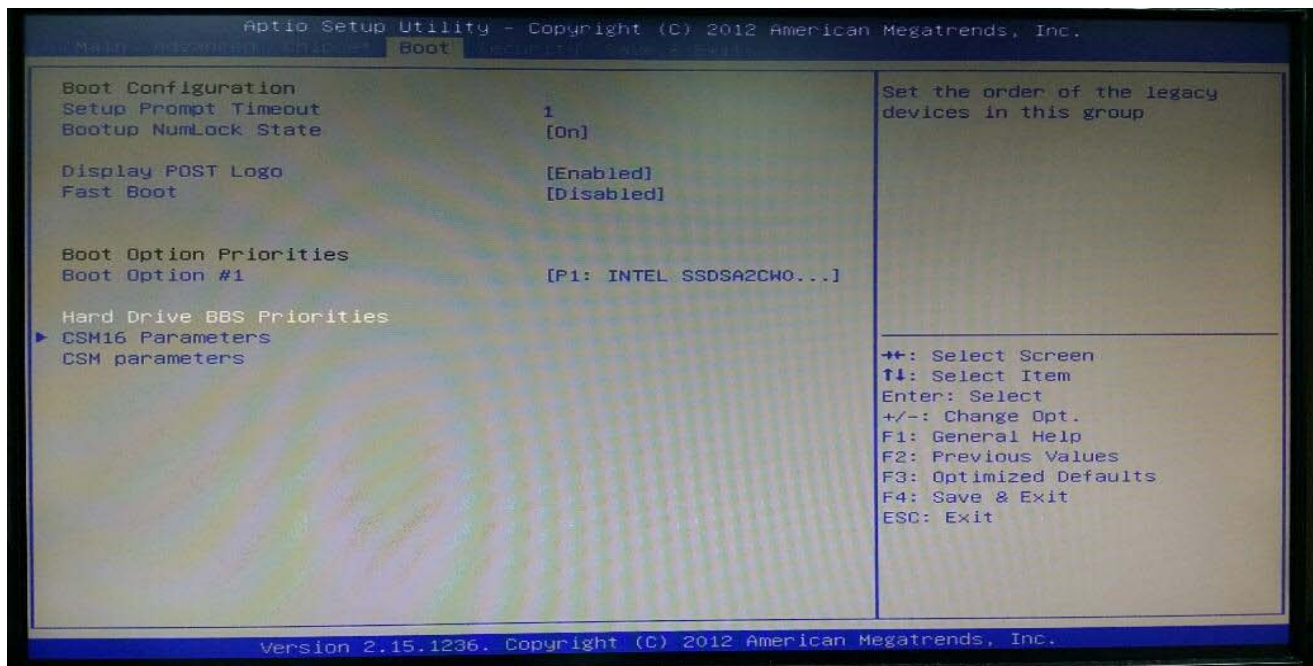
## System Agent (SA) Configuration

### » Graphics Configuration





## 2.8 Boot

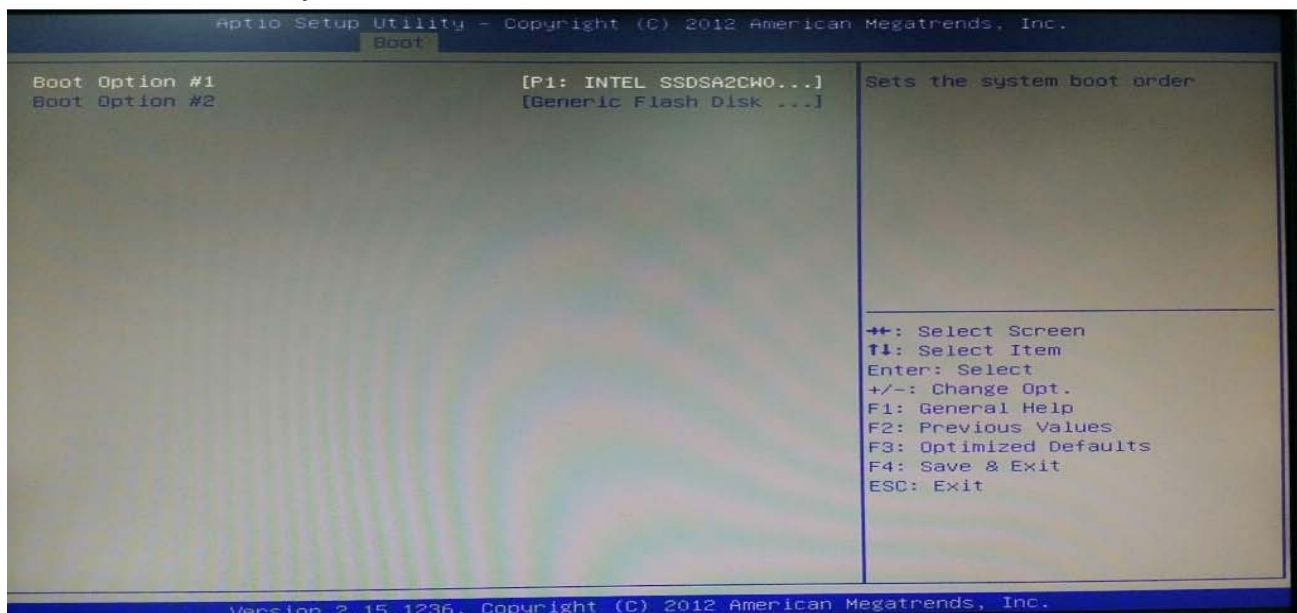


### » 1st/2nd/3rd Boot Device

The items allow you to set the sequence of boot devices where BIOS attempts to load the disk operating system.

### » Try Other Boot Devices

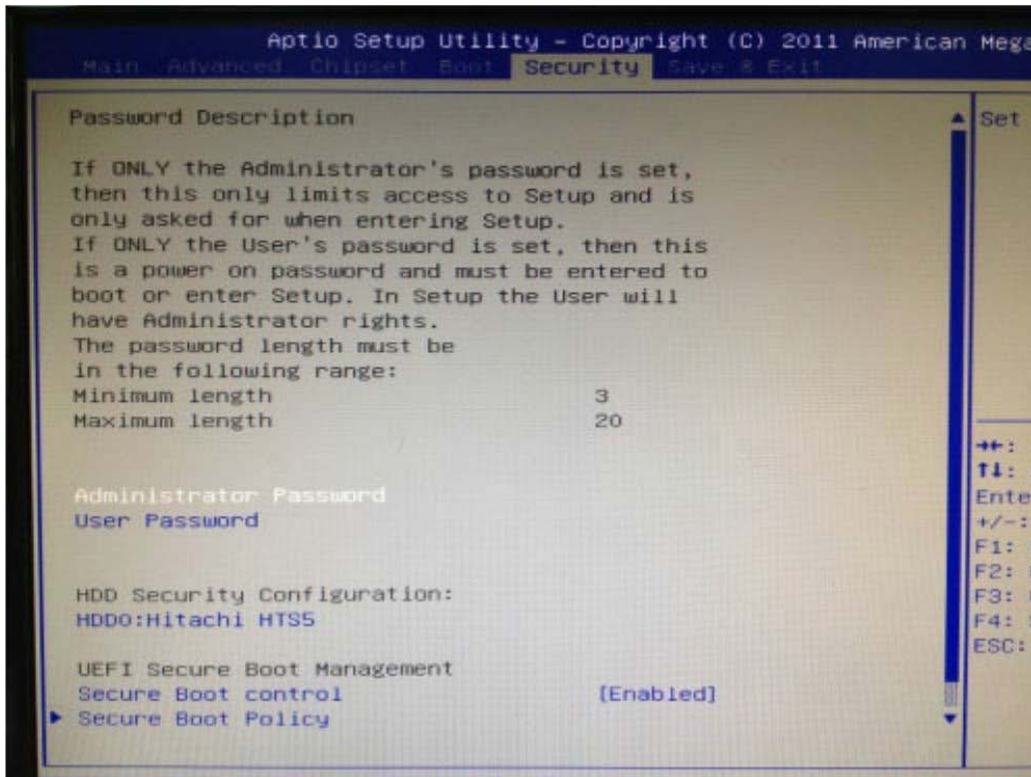
Setting the option to [Enabled] allows the system to try to boot from other device if the system fail to boot from the 1st/2nd/3rd boot device.



### » Hard Disk Drives, CD/DVD Drives, USB Drives

These settings allow you to set the boot sequence of the specified devices.

## 2.9 Security



### » Administrator Password

Administrator Password controls access to the BIOS Setup utility. These settings allow you to set or change the administrator password.

### » User Password

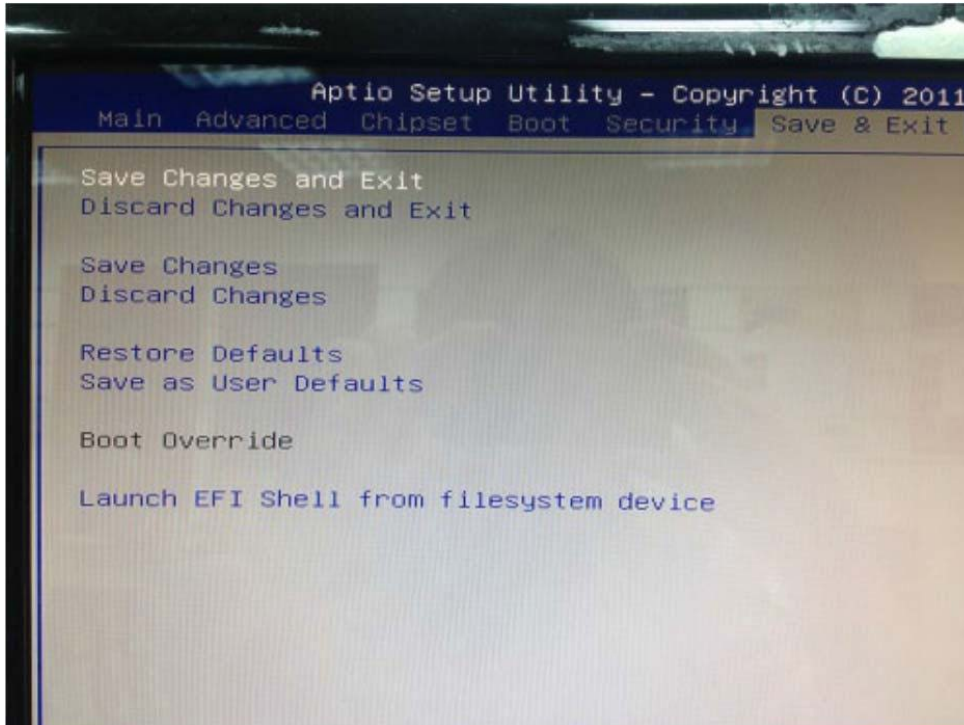
User Password controls access to the system at boot. These settings allow you to set or change the user password.

### » Boot Sector Virus Protection

This function protects the BIOS from accidental corruption by unauthorized users or computer viruses. When enabled, the BIOS data cannot be changed when attempting to update the BIOS with a Flash utility. To successfully update the BIOS, you will need to disable this Flash Protection function.



## 2.10 Exit



### » **Save Changes and Exit**

Save changes to CMOS and exit the Setup Utility.

### » **Discard Changes and Exit**

Abandon all changes and exit the Setup Utility.

### » **Discard Changes**

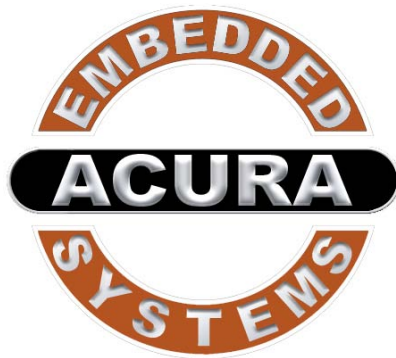
Abandon all changes and continue with the Setup Utility.

### » **Load Optimal Defaults**

Use this menu to load the default values set by the mainboard manufacturer specifically for optimal performance of the mainboard.

### » **Load Failsafe Defaults**

Use this menu to load the default values set by the BIOS vendor for stable system performance.



With the unique set of products, Acura Embedded Systems remains committed to its goal of providing trouble-free and customer-friendly service. A special customer service unit has been set up specifically to cater to our esteemed customers' needs.

## Technical Support:

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