GOT3217WL-845-PCT

All-in-One
21.5” FHD Fanless
10-Point Multi-Touch PANEL PC

User’s Manual

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CAUTION

Wrong type of batteries may cause explosion. It is recommended that users only replace with the same or equivalent type of batteries as suggested by the manufacturer once properly disposing of any used ones.

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Safety Precautions

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

1. Be sure to ground yourself to prevent static charge when installing any 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.

2. Disconnect the power cord from the GOT3217WL-845-PCT series prior to any installation. Be sure both the system and all external devices are turned off. Sudden surge of power could ruin sensitive components. Make sure the GOT3217WL-845-PCT Series is properly grounded.

3. 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 human body.

    - When handling boards and components, wear a grounding wrist strap available from most electronic component stores.

Trademark Acknowledgments

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Section 1
Introduction

This Section contains general information and detailed specifications of the GOT3217WL-845-PCT, including the following subsections:

Figure 1-1 Front panel of the GOT3217WL-845-PCT

- General Descriptions
- Specifications
- Dimensions and Outlines
- I/O Outlets
- Packing List

1.1 General Descriptions

The GOT3217WL-845-PCT adopts a 21.5-inch FHD LCD with 250-nit brightness and an Intel® Pentium® Processor N3710 (2M Cache, up to 2.56 GHz), providing excellent computing performance and thermal resistance. This fanless platform is especially designed for operation under a harsh environment including steel refinery, oil pipe, ship, machine maker, and many more. Having abilities below surely makes GOT3217WL-845-PCT a most robust and cost-effective solution.

- **Design for extended operating temperature range and ingress protection**

The GOT3217WL-845-PCT is featured by a technology to sustain extended operating temperature range between 0°C and +45°C by incorporating compact ID and fanless cooling system with a low power Intel® Pentium® Processor N3710 (2M Cache, up to 2.56 GHz). It also adopts an IP65 front bezel to protect itself from liquid and dust. These designs help make the system a power-efficient solution.

- **Reliable and stable design**

The GOT3217WL-845-PCT– is specially designed for vibration-prone environments, best for the transportation (vehicle, railway, marine) and industrial machinery markets. To suit the need of high capacity storage, the GOT3217WL-845-PCT can work in operation mode under 1.0G (i.e. gravitational acceleration) (10 ~ 500Hz, random for HDD™) with a patent of anti-vibration design. The design behind the patent has improved the system reliability and sustainability. (Note: Sometimes heavy-vibration may cause the LCD screen to flash in white color; however, it won't affect the function of the product.)

- **WLAN antenna supported (optional)**

The GOT3217WL-845-PCT comes with 2 PCI Express Mini Card slots as an add-on option to connect s a wireless LAN card under 802.11 a/b/g/n protocols, or with other 3G/GPRS applications, etc. These slots also come with 3 optional fixed rotational WLAN/3G antennas for wireless network connection.

- **Multi- PCAP touch surface of 7H hardness**

The GOT3217WL-845-PCT is designed with a user friendly multi- PCAP touch. Users can operation it with direct touch. The surface hardness is up to 7H, good for applications of anti-scratch purpose.

- **Other features**

The GOT3217WL-845-PCT utilizes one 204-pin DDR3L SODIMM system memory up to 8GB at the maximum, one SATA HDD and one mSATA. It provides an over-current protection-fuse and a full set of I/O including RS-232/422/485, USB 2.0, USB 3.0, audio (line-out), and Gigabit Ethernet. Additionally, this slim unit supports panel mount as the standard installation, as well as optionally wall mount, VESA mount and desktop stand mount.

1.2 Specifications

Main CPU Board

- **CPU**
  - Intel® Pentium® Processor N3710 (2M Cache, up to 2.56 GHz) onboard

- **System Memory**
  - 1 x 204-pin DDR3L SO-DIMM socket
  - Maximum memory up to 8GB

- **BIOS**
  - AMI UEFI BIOS

I/O System

- **Standard I/O**
  - 2 x RS-232/422/485
  - 2 x USB 2.0
  - 2 x USB 3.0

- **Ethernet**
  - 2 x RJ45 for Gigabit Ethernet (Intel i211AT)

- **Audio**
  - 1x Line-out

- **Expansion**
  - 1 x Mini-card slot (w/SIM slot)
  - 1 x Mini-card slot (supports mSATA, optional)

- **Storage**
  - 1 x 2.5" SATA
  - 1 x mSATA

- **Power connector**
  - Phoenix power connector or screw power connector

System Specifications

- 21.5" FHD (1920x1080) LCD with LED backlight
- 10-point Multi- PCAP touch
- A design of fanless heat dispensation
- IP65 aluminum front bezel
- Disk drive housing:
  - One 2.5" SATA drive
- Net weight
  - 7.6 Kgs
- Dimensions (of the main body)
  - 547.6 x 339 x 58.5 mm
- Operating temperatures
  - 0°C to 45°C
- Relative humidity
  - 20% to 90% @ 40°C, Non-condensing
- System power input
  - DC power input : 24VDC with Phoenix power connector
  - AC power input : 12VDC/5A, 60W power adapter

NOTE: ***All specifications and images are subject to change without notice.***
The performance of the system might be adversely affected at an operating temperature above 40°C.

1.3 Dimensions and Outlines

Diagram 1-1 shows the dimensions and outlines of the front panel of the GOT3217WL-845-PCT

Diagram 1-1 Front dimensions and outline of the GOT3217WL-845-PCT

Front dimensions: 547.6 x 339.1 x 57.6 mm

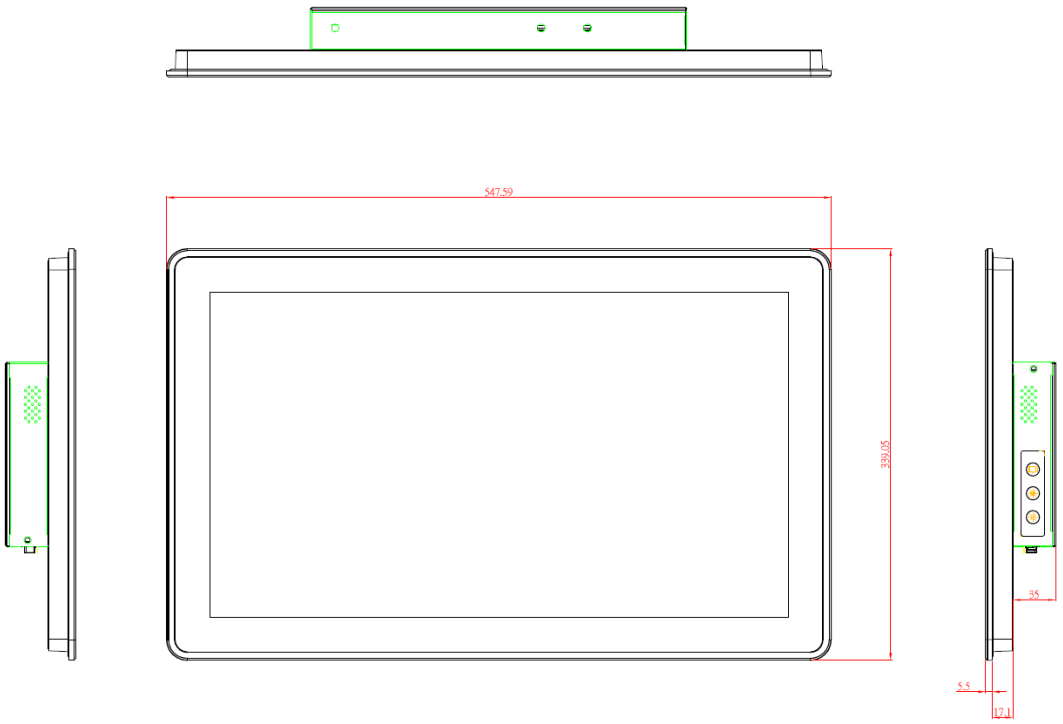


Diagram 1-2 Back outline of the GOT3217WL-845-PCT

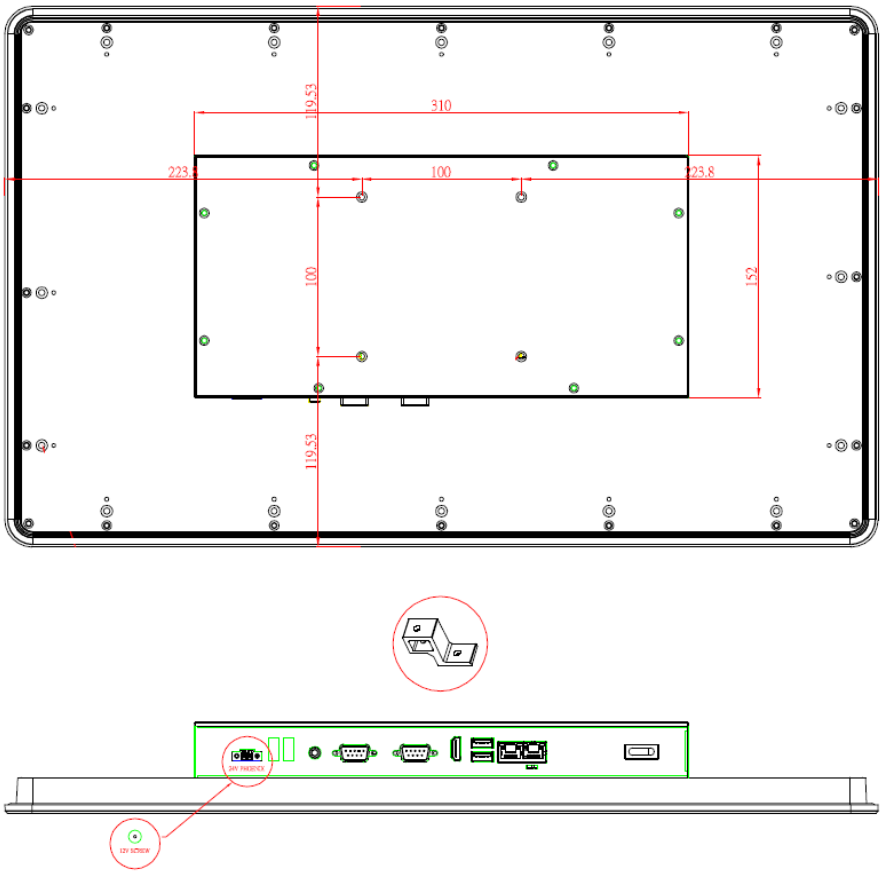


Diagram 1-3 Cutting-out dimensions of the GOT3217WL-845-PCT

Cut out dimensions: 534.69 x 326.15 mm

1.4 I/O Outlets

Please refer to Figures 1-2 and 1-3 for I/O locations of the GOT3217WL-845-PCT.

Figure 1-2 Bottom view of the GOT3217WL-845-PCT

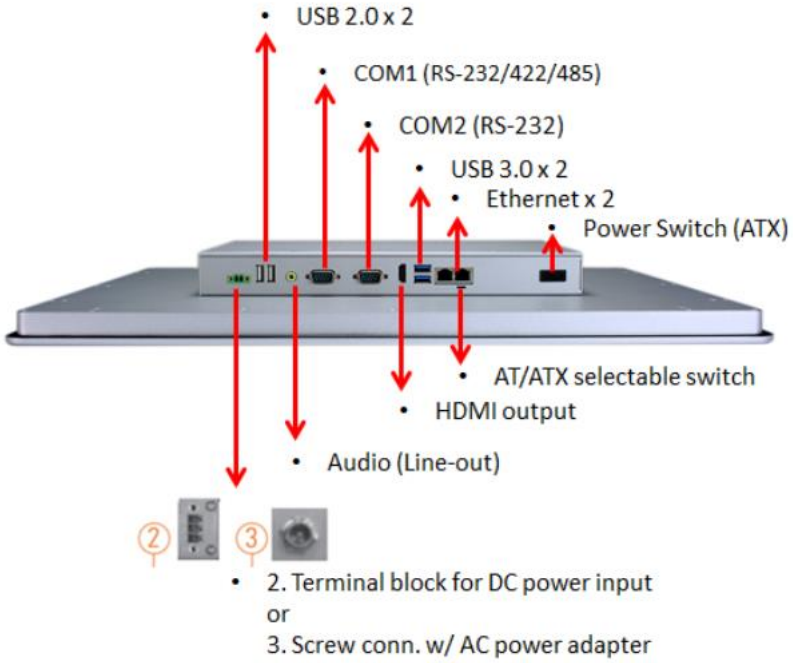
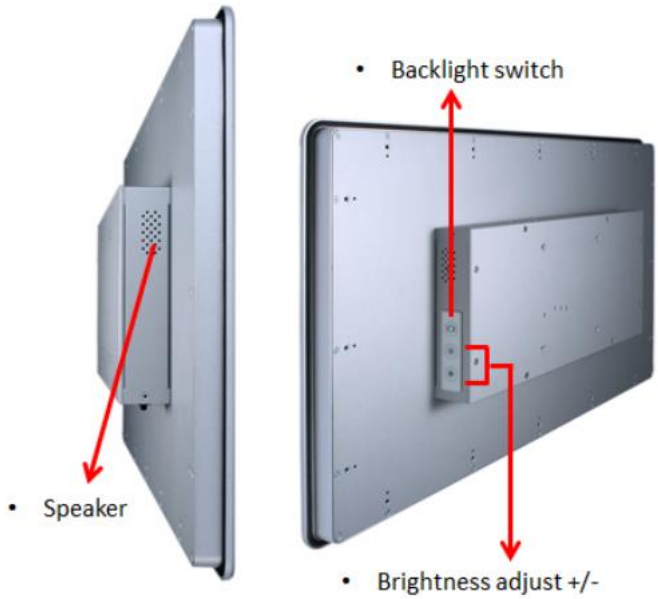


Figure 1-3 Side view of the GOT3217WL-845-PCT



1.5 Packing List

A complete bundled package should contain the following items:

- GOT3217WL-845-PCT unit x 1
- Driver disc x1 (various OS versions and bundles available)
- Phoenix connector x 1 (DC power version only)
- Panel mount kit x 16
- Screws for HDD x 2
- SATA data cable x 1
- SATA power cable x 1

Please contact an Axiomtek distributor immediately if any of the above-mentioned items is missing.

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Section 2
Hardware and Installation

The GOT3217WL-845-PCT provides rich I/O ports and flexible expansion for users to meet different demands; for example, in a case of CF card expansion. This Section describes hardware installation, including the following subsections:

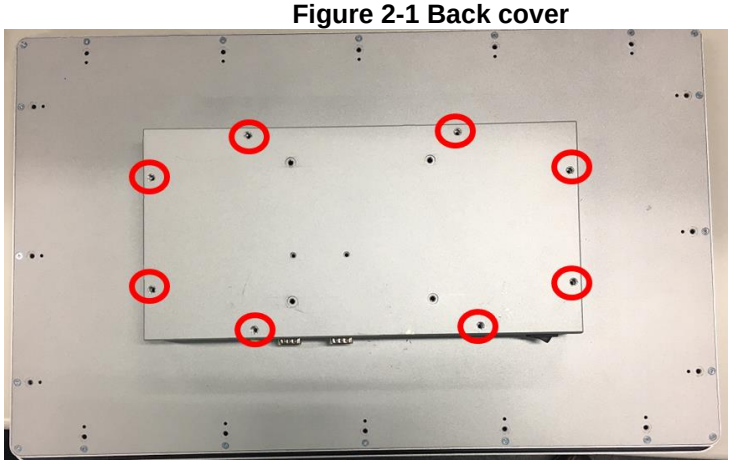
- Board Layout
- Jumper and Connector Setting
- Mounting Methods
- Hardware Installation
- Power Input

2.1 Board Layout

Please follow the steps below to open the GOT3217WL-845-PCT unit.

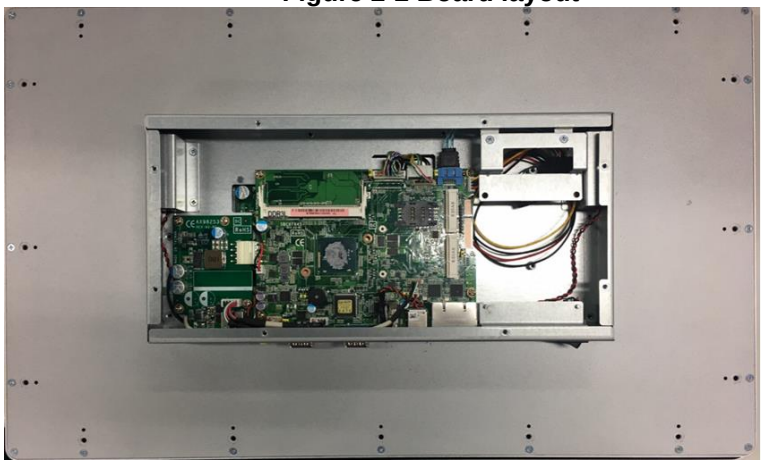
Step 1 Unscrew 8 screws (see red circles in Figure 2-1) on the back cover.

Figure 2-1 Back cover



Step 2 Remove the back cover.

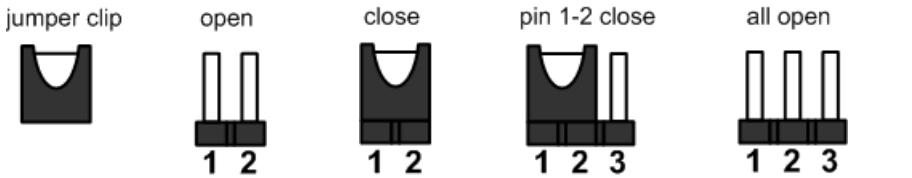
Figure 2-2 Board layout



2.2 Jumper and Connector Settings

Jumper is a small component consisting of jumper clip and jumper pins. Install jumper clip on 2 jumper pins to close the pins. And remove jumper clip from 2 jumper pins to open the pins. Diagram 2-1 illustrates how to set up a jumper.

Diagram 2-1 Definitions of pin settings



Pins 1-2 open Pins 1-2 close Pins 1-2 close All pins open

Before applying power to GOT3217WL-845-PCT, please make sure all of the jumpers and connectors are in default position as listed in Table 2-1.

Table 2-1 Factory mode of jumper settings

Jumper	Descriptions	Setting
JP3	Auto Power On Default: Disable	2-3 close
JP6	Restore BIOS Optimal Defaults (Clear CMOS) Default: Normal Operation	1-2 close

2.2.1 'Auto Power On' Jumper (JP3)

If JP3 is enabled for power input, the system will be automatically power on without pressing soft power button. If JP3 is disabled for power input, it is necessary to manually press soft power button to power on the system (see Table 2-2).

Table 2-2 JP3 setting

Function	Setting
Disable auto power on (Default)	1-2 close
Enable auto power on	2-3 close

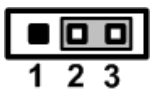
(Default)

2.2.2 'Restore BIOS Optimal Defaults' Jumper (JP6)

Put jumper clip to pin 2-3 for a few seconds then move it back to pin 1-2. Doing this procedure can restore BIOS optimal defaults (see Table 2-3).

Table 2-3 JP6 setting

Function	Setting
Normal operation (Default)	1-2 close
Restore BIOS optimal defaults	2-3 close



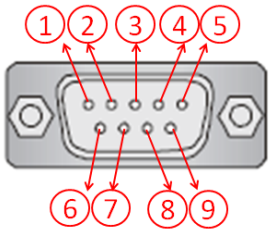
(Default)

2.2.3 COM Port Connector

The pin assignment for RS-232/ 422/ 485 is listed In Table 2-4.

Table 2-4 Pin assignment for RS-232/ 422/ 485

Pin	RS-232	RS-422	RS-485
1	DCD	TX-	Data-
2	RXD	TX+	Data+
3	TXD	RX+	No use
4	DTR	RX-	No use
5	GND	GND	GND
6	DSR	No use	No use
7	RTS	No use	No use
8	CTS	No use	No use
9	RI	No use	No use



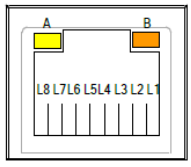
2.3 Ethernet Connector

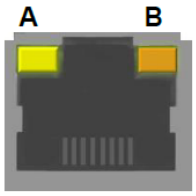
There are two RJ-45 connectors, LAN1 and LAN2, inside the GOT3217WL-845-PCT. Ethernet connection can be established by plugging one end of the Ethernet cable into this RJ-45 connector and the other end (phone jack) to a 1000/100/10-Base-T hub.

Please refer to Table 2-5 for detailed pin assignment for LAN1 and LAN2.

Table 2-5 Pin assignment for LAN1/ LAN2

Pin	Signal	Pin	Signal
L1	MDI0+	L5	MDI2+
L2	MDI0-	L6	MDI2-
L3	MDI1+	L7	MDI3+
L4	MDI1-	L8	MDI3-
A	Active LED (Yellow)		
B	100 LAN LED (Green) / 1000 LAN LED (Orange)		





2.4 Mounting Methods

There are four ways to install the GOT3217WL-845-PCT, namely: panel/ VESA/ wall/ desktop mount.

The GOT3217WL-845-PCT provides a standard panel mount kit. It can be installed by way of panel mount (see Figure 2-1, 2-2).

Figure 2-1 Panel mount (back chassis)

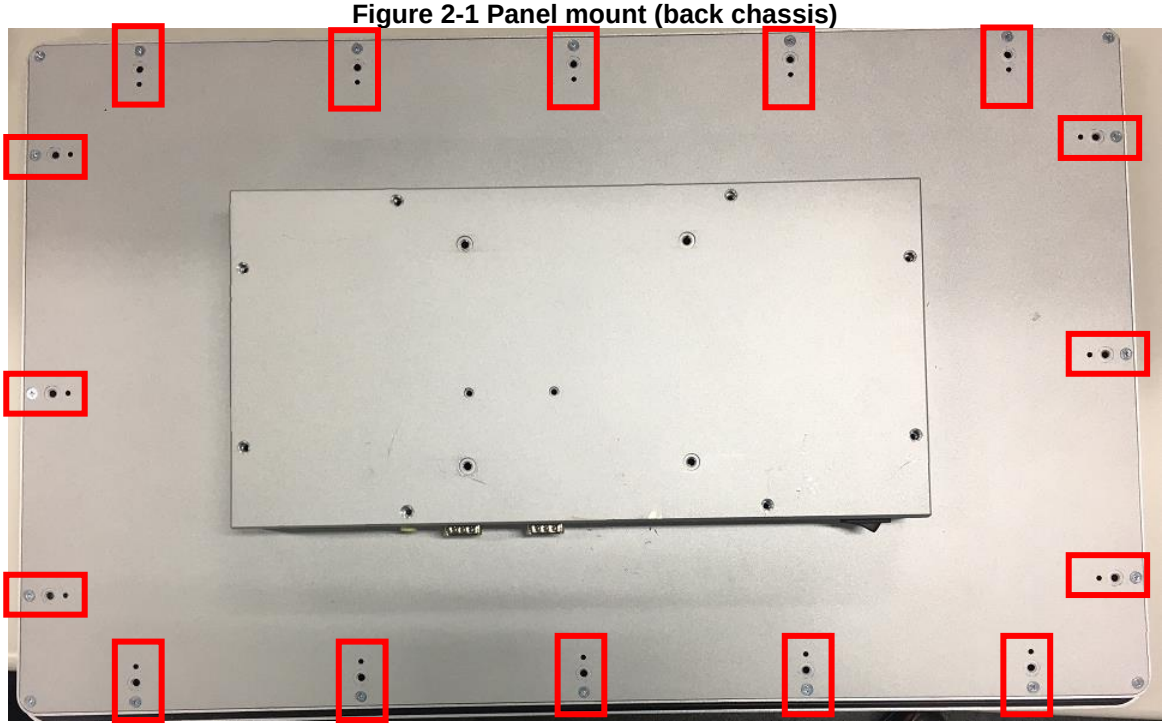
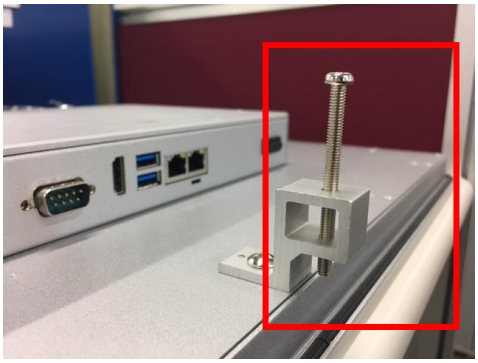


Figure 2-2 Panel mount kit



Alternatively, the GOT3217WL-845-PCT can be installed by way of VESA mount which is in the dimensions of 100x100 mm. Simply fix four screws to fasten the kit from the back chassis, as shown in Diagram 2-3. Additionally, users can otherwise go for wall mount as an option, as shown in Diagram2-4.

Diagram 2-3 VESA mount (back chassis)

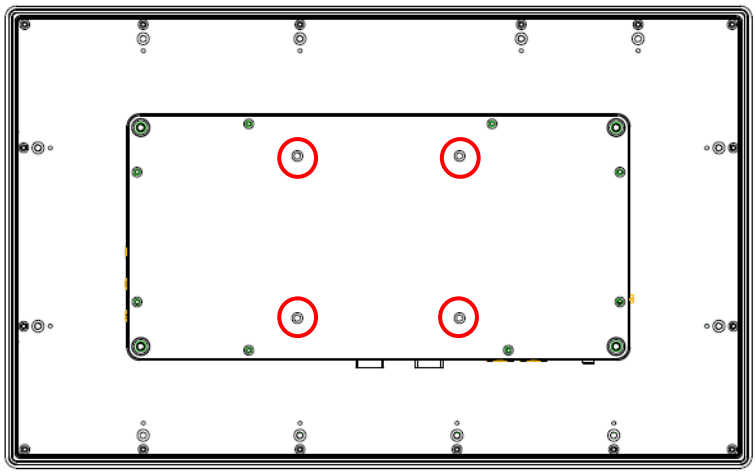
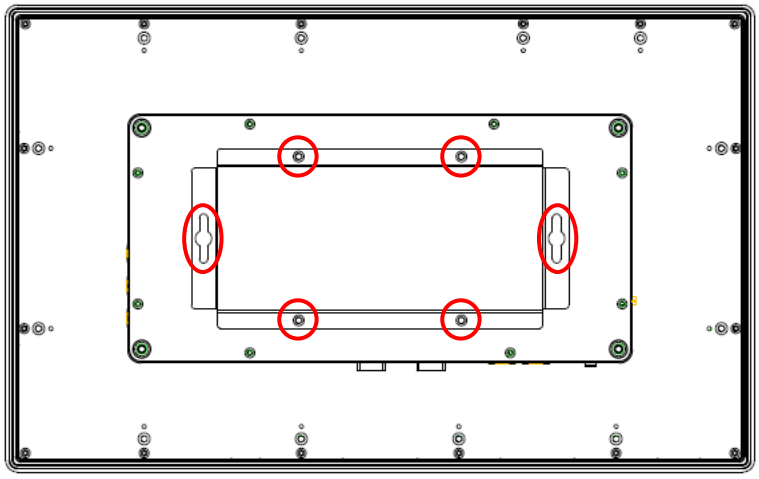


Diagram 2-4 Wall mount (back chassis)



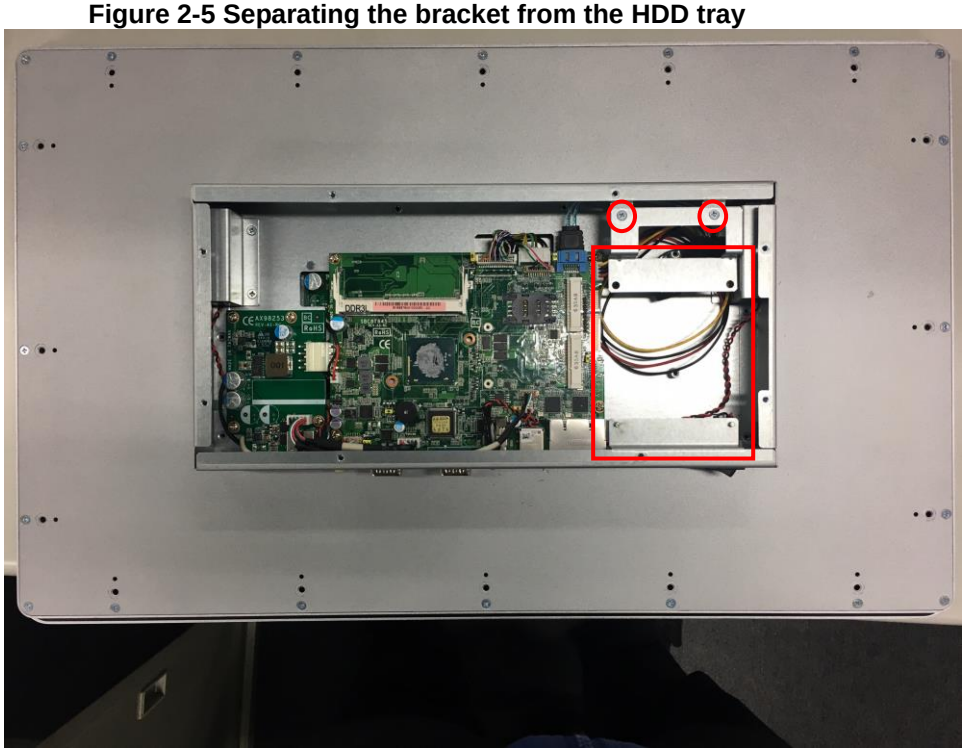
2.5 Hardware Installation

2.5.1 Installing a HDD

The GOT3217WL-845-PCT provides a convenient Hard Disk Drive (HDD) bracket for users to install a 2.5" SATA HDD. Please follow the steps:

Step 1 **Refer to Section 2.1 to open the back cover and dissemble the HDD tray by un-screwing the 2 screws (as shown in the red circles in Figure 2-5).**

Figure 2-5 Separating the bracket from the HDD tray



Step 2 **Fasten a HDD from the back side of the bracket with two screws (see Figure 2-6).**

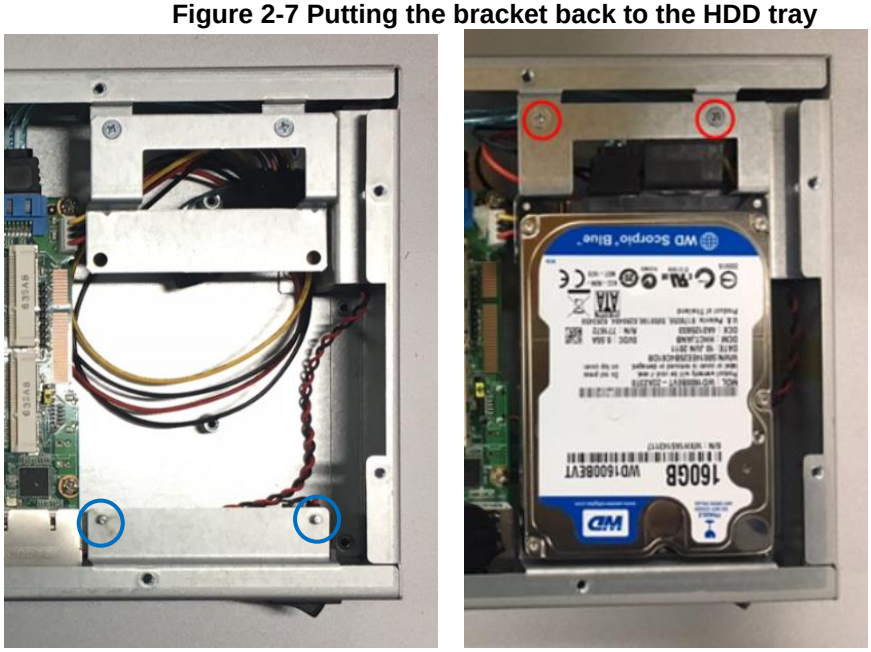
Figure 2-6 Fastening a HDD to the bracket

Front:

Back:

Step 3 **Lodge the two points on to the holes on the HDD tray (see red circles in Figure 2-7) and fix the bracket onto the HDD tray with two screws. Also, please make sure the two holes at the back of the HDD are embedded into the lower two highlight points on the HDD tray (see blue circles in Figure 2-7) to secure the entire bracket and the HDD**

Figure 2-7 Putting the bracket back to the HDD tray



Step 4 **Plug two cables – one for SATA and the other for Power - to two connectors (see Figure 2-8) to complete the installation.**

Figure 2-8 Connecting cables to connectors

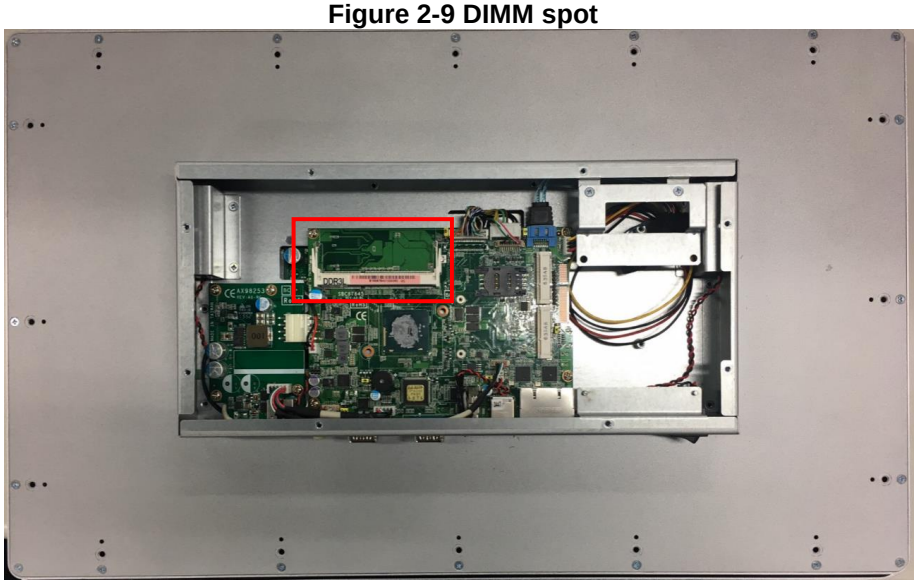
2.5.2 Installing a DRAM

The GOT3217WL-845-PCT provides one 204-pin DDR3L SODIMM socket that supports system memory up to 8GB. Please follow steps below to install a memory module:

Step 1 **Refer to Section 2.1 to open the back cover.**

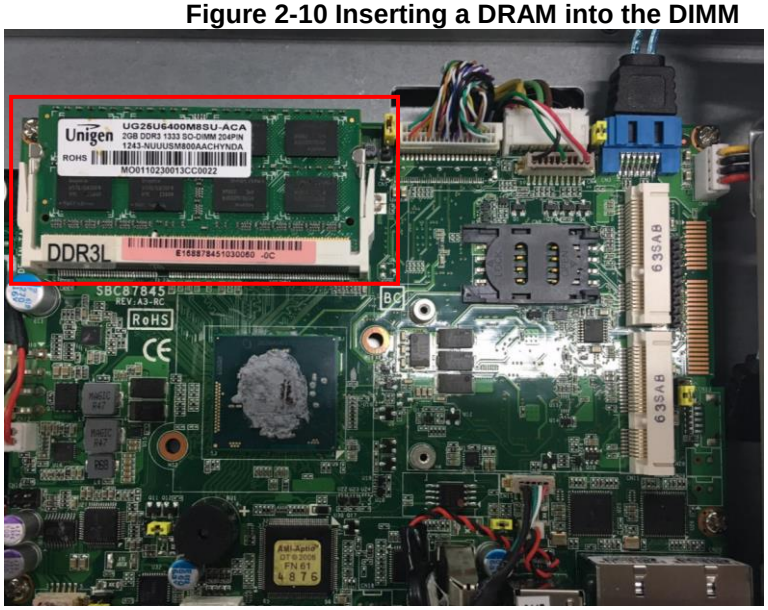
Step 2 **Locate the DIMM socket (as shown in Figure 2-9) on mainboard (Part No. SBC87845).**

Figure 2-9 DIMM spot



Step 3 **Insert a DRAM into the DIMM socket, and then push it down firmly until it is clipped with the socket (as shown in Figure 2-10). Now the installation is completed.**

Figure 2-10 Inserting a DRAM into the DIMM

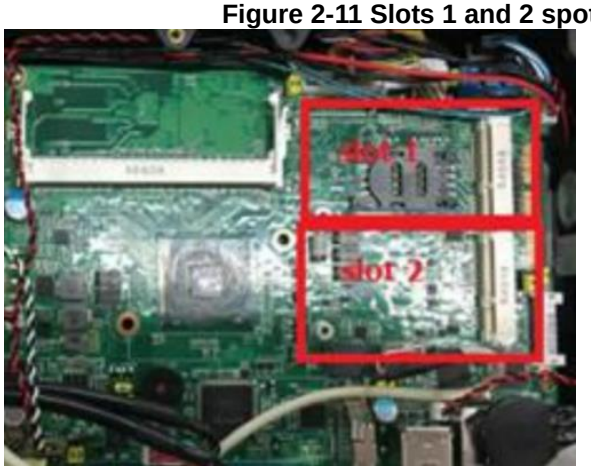


2.5.3 Installing a Wireless LAN Card

The GOT3217WL-845-PCT comes with two Mini card slots for users to install wireless LAN cards. Users can choose either Slot 1 or Slot 2 to install the wireless LAN card. Please refer to the following instructions and illustration for the installation of the wireless LAN card.

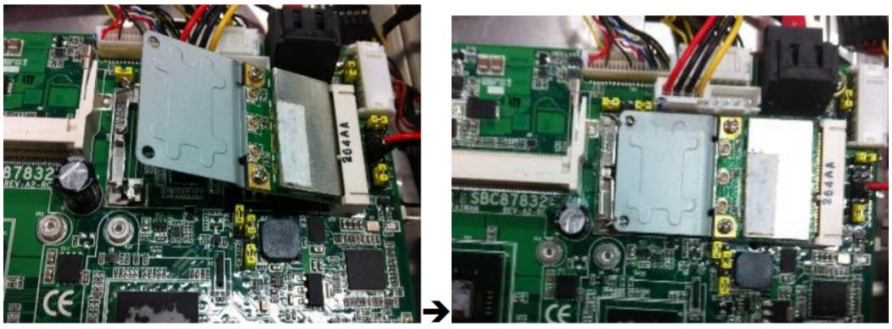
Step 1 **Refer to Section 2.1 to open the back cover; then locate the Mini card slot (as shown in Figure 2-11) on the mainboard.**

Figure 2-11 Slots 1 and 2 spots



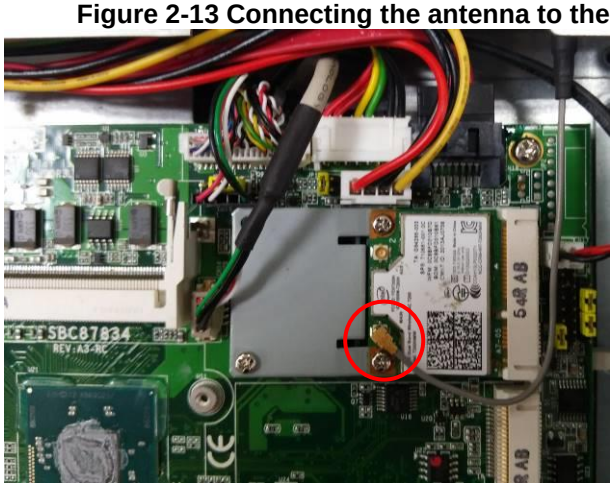
Step 2 **Insert the wireless LAN card to one of the two slots. Push it down firmly。Then screw tightly the card to the mainboard (see Figure 2-12).**

Figure 2-12 Inserting and securing a wireless LAN card



Step 3 **Locate the antenna cable and connect it to the wireless LAN card (see Figure 2-13).**

Figure 2-13 Connecting the antenna to the wireless LAN card



Step 4 **Remove the antenna plug from the top of back cover, and then install the antenna on the antenna connector (see Figures 2-14 and 2-15).**

Figure 2-14 Antenna outlet (internal view)

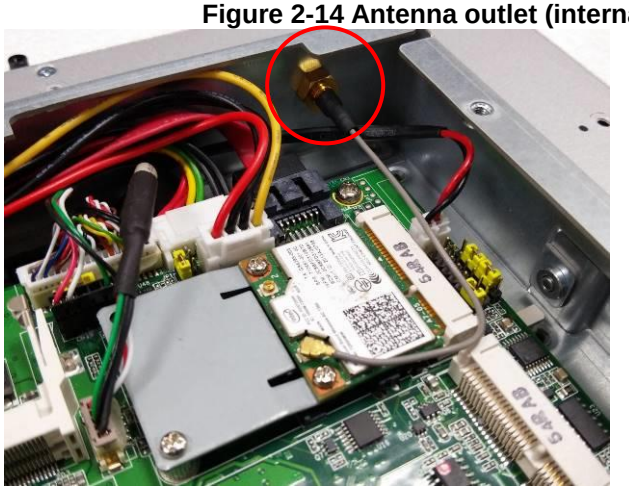
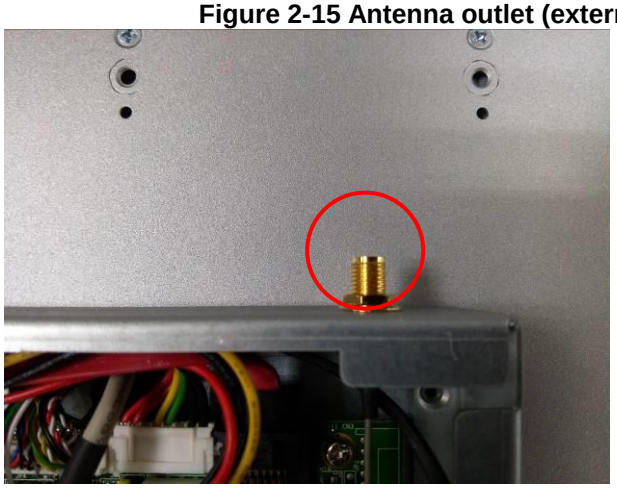


Figure 2-15 Antenna outlet (external view)



NOTE: Please use an extended bracket when using a half-size Mini card.

2.5.4 Connecting the Power Input

The GOT3217WL-845-PCT is equipped with a Phoenix type of power connector which adopts 24VDC. Please follow the signs on the power connector to connect DC power source (see Figure 2-16).

Figure 2-16 Power connector

+: Power positive　　—:Power negative

NOTE: The safety ground must be connected to ensure that the unit works appropriately.

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Section 3
AMI BIOS Setup Utility

This Section provides users with detailed descriptions about how to set up basic system configurations through the AMI BIOS setup utility.

3.1 Navigation Keys

The BIOS setup/utility uses a key-based navigation system called hot keys. Most of the hot keys for the BIOS setup utility can be used at any time during the setup navigation process. These hot keys include <F1>, <F2>, <F3>, <F4>, <Enter>, <ESC>, arrow keys, and so on (as listed in Table 3-1).

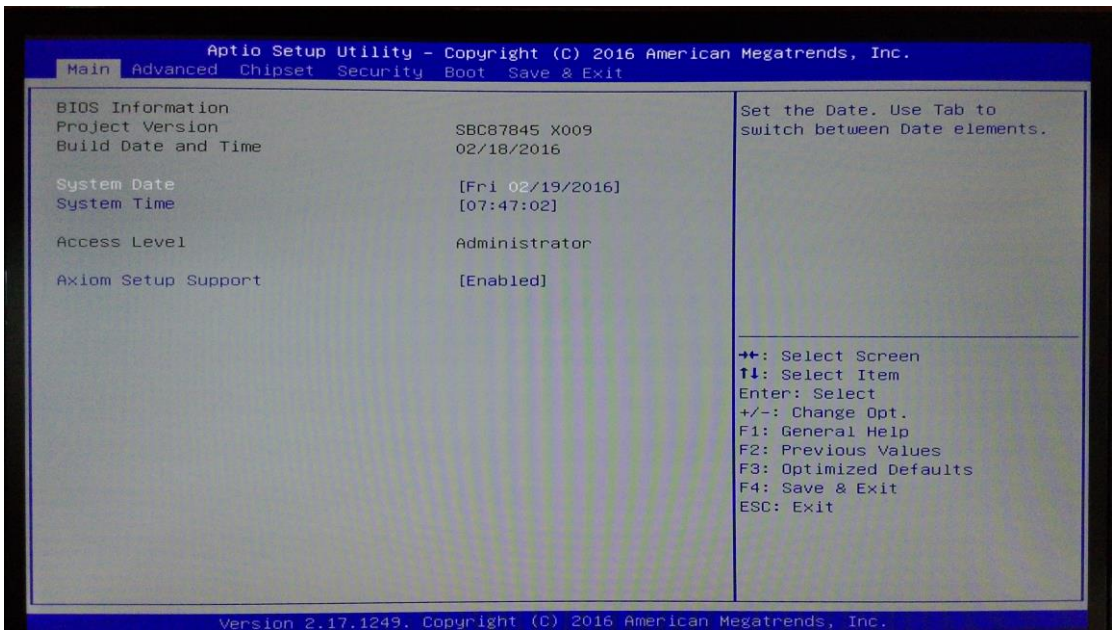
 ***NOTE: Some of navigation keys may differ from one screen to another.***

Table 3-1 Descriptions of hot keys

Hot Keys	Descriptions
<→> and <←> Left/Right	The <→> and <←> keys are used to select a setup screen.
<↑> and <↓> Up/Down	The <↑> and <↓> keys are used to select a setup screen or sub-screen.
<+> and <–> Plus/Minus	The <+> and <–> keys you are used to change the field value of a particular setup item.
<Tab>	The <Tab> key is used to select setup fields.
<F1>	The <F1> key is used to display the general help screen.
<F2>	The <F2> key is used to load previous values.
<F3>	The <F3> key is used to load optimized defaults.
<F4>	The <F4> key is used to save any changes made then exit the setup. Press the <F4> key to save any changes.
<Esc>	The <Esc> key is used to discard any changes made then exit the setup. Press the <Esc> key to exit the setup without saving your changes.
<Enter>	The <Enter> key is used to display or change the setup option listed for a particular setup item. The <Enter> key is also used to display the setup sub- screens.

3.2 Main Menu

Figure 3-1 Main menu

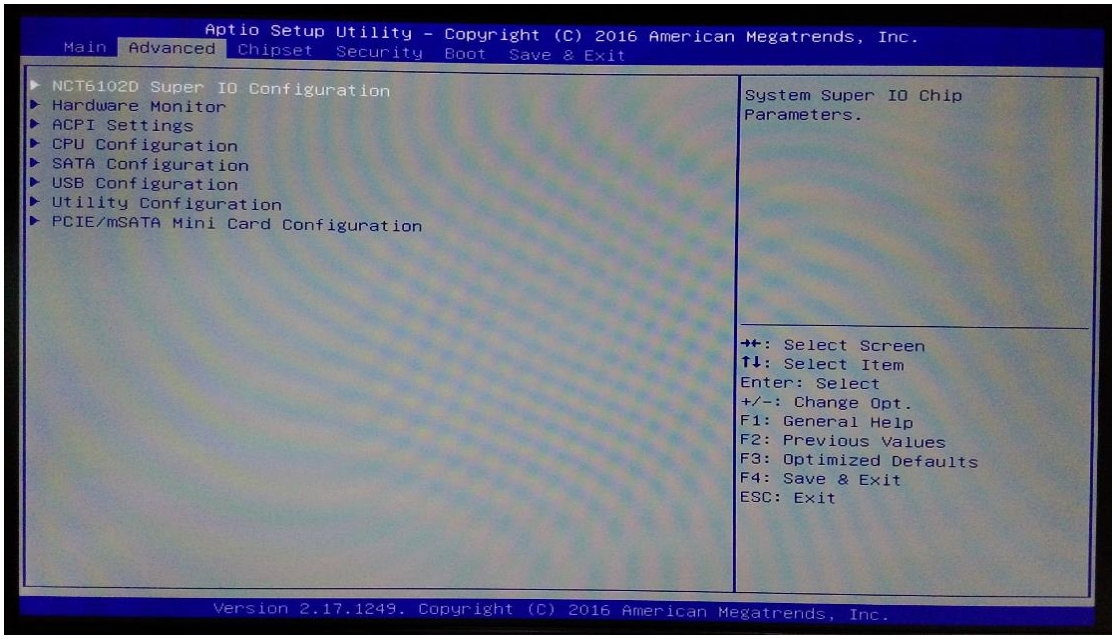


System Date / Time

Use this option to change the system time and date. Highlight *System Time* or *System Date* using the up/ down/ left and right arrow keys (see Figure 3-1). Enter new values through the keyboard. Press the <Tab> key or the arrow keys to move between fields. The date entered must be in the MM/DD/YY format. The time is entered in HH:MM:SS format.

3.3 Advanced Menu

Figure 3-2 Advanced Menu



The Advanced menu allows users to set configurations of the CPU and other system devices. Select any item on the left to go to the sub-menus (as shown in Figure 3-2).

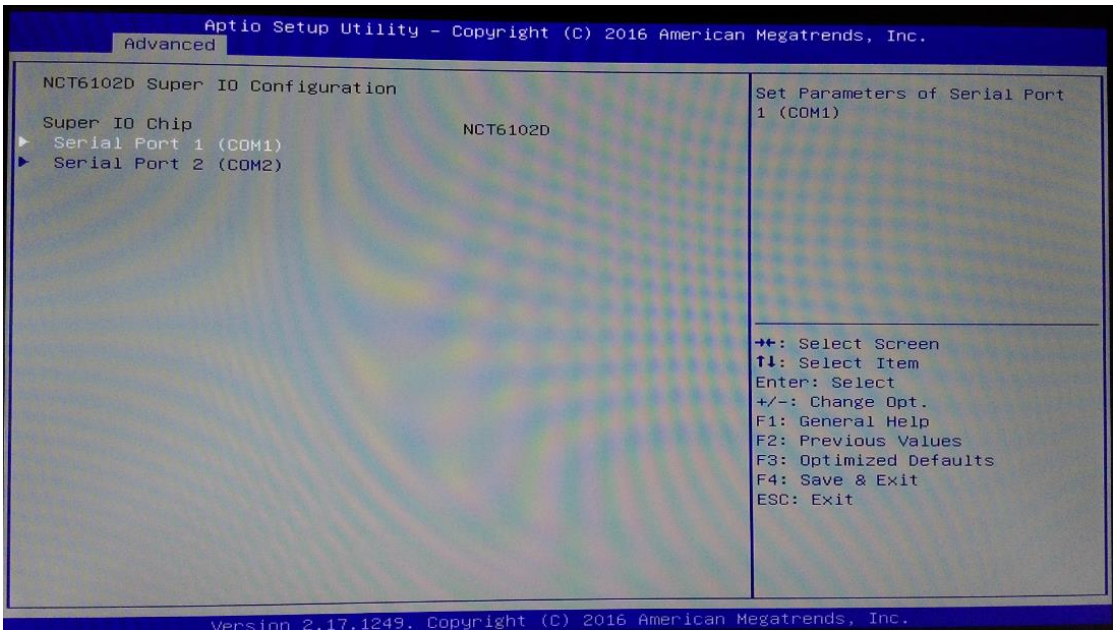
- ► *NCT6106D Super IO Configuration*
- ► *Hardware Monitor*
- ► *ACPI Settings*
- ► *CPU Configuration*
- ► *SATA Configuration*
- ► *USB Configuration*
- ► *Utility Configuration*
- ► *PCIE/mSATA Mini Card Configuration*

Simply highlight the item of choice, then press <Enter> to go to sub-menus for more specific options.

3.3.1 NCT6106D Super IO Configuration

The 'NCT6106D Super IO Configuration' page is to change the value of the Super IO Configuration. The description of the selected item will appear on the right side of the screen (as shown in Figure 3-3). For items marked with "►", please press <Enter> for further options (as shown in Figure 3-4).

Figure 3-3 Entering 'NCT6106D Super IO Configuration'



► **Serial Port 1 (COM1) / Serial Port 2 (COM2)**

Serial port

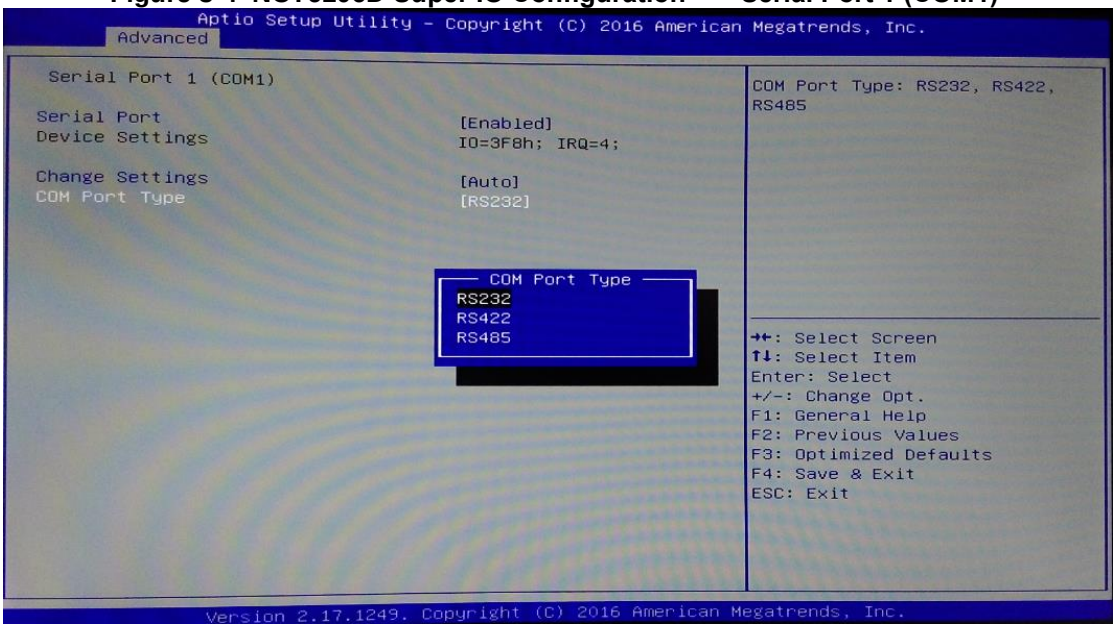
This option is used to enable or disable serial port COM1/COM2.

Device Setting

This item specifies the base I/O port address and the Interrupt Request (IRQ) address of the serial ports.
Optimal setting for Port 1 is *3F8/IRQ4*.
Optimal setting for Port 2 is *2E8/IRQ3*.

COM Port Type
This option is used to select COM Port Type: RS-232/422/ or 485.

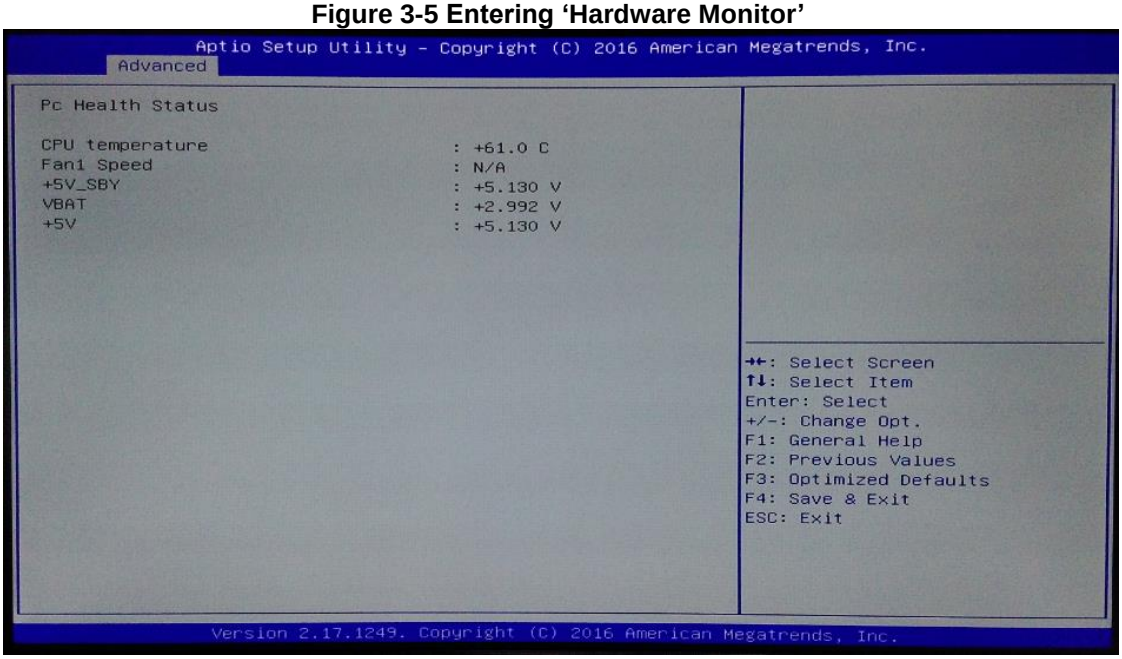
Figure 3-4 'NCT6106D Super IO Configuration' -> 'Serial Port 1 (COM1)'



3.3.2 Hardware Monitor

Figure 3-5 shows a screen reflecting the health status of the hardware in real time.

Figure 3-5 Entering 'Hardware Monitor'

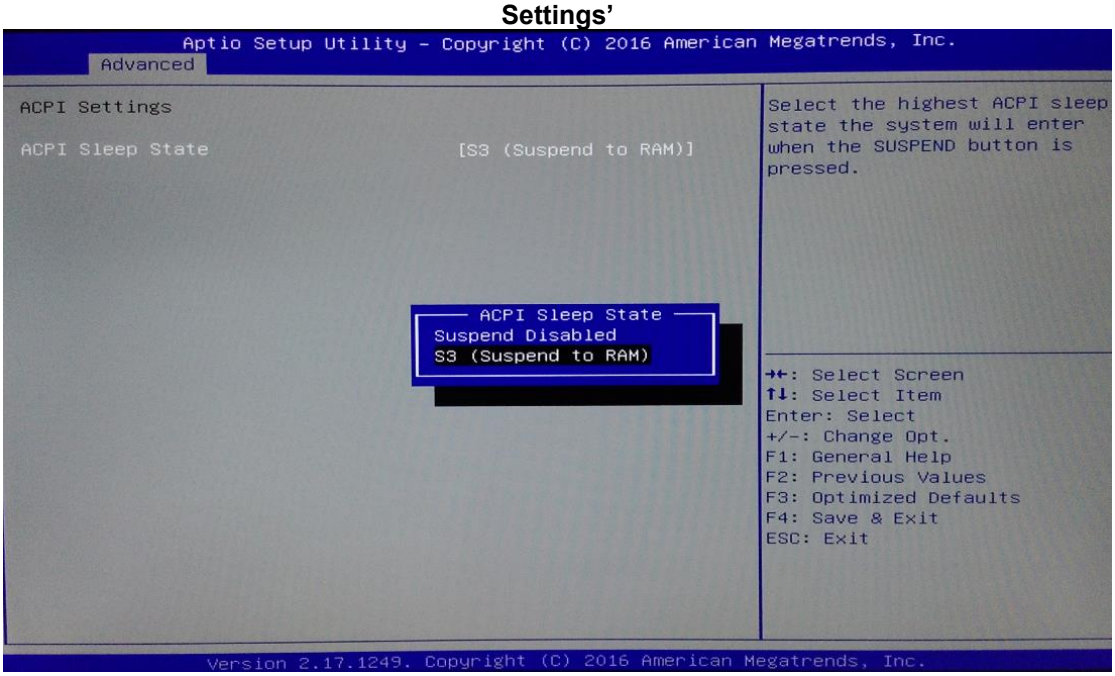


3.3.3 ACPI Settings

This screen is used to select options of the ACPI Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen.

ACPI Sleep State
This item allows users to select the *Advanced Configuration and Power Interface* (ACPI) state to be used for system suspension. There are two choices under this selection: *Suspend Disable* and *S3 (Suspend to RAM)* (as shown in Figure 3-6).

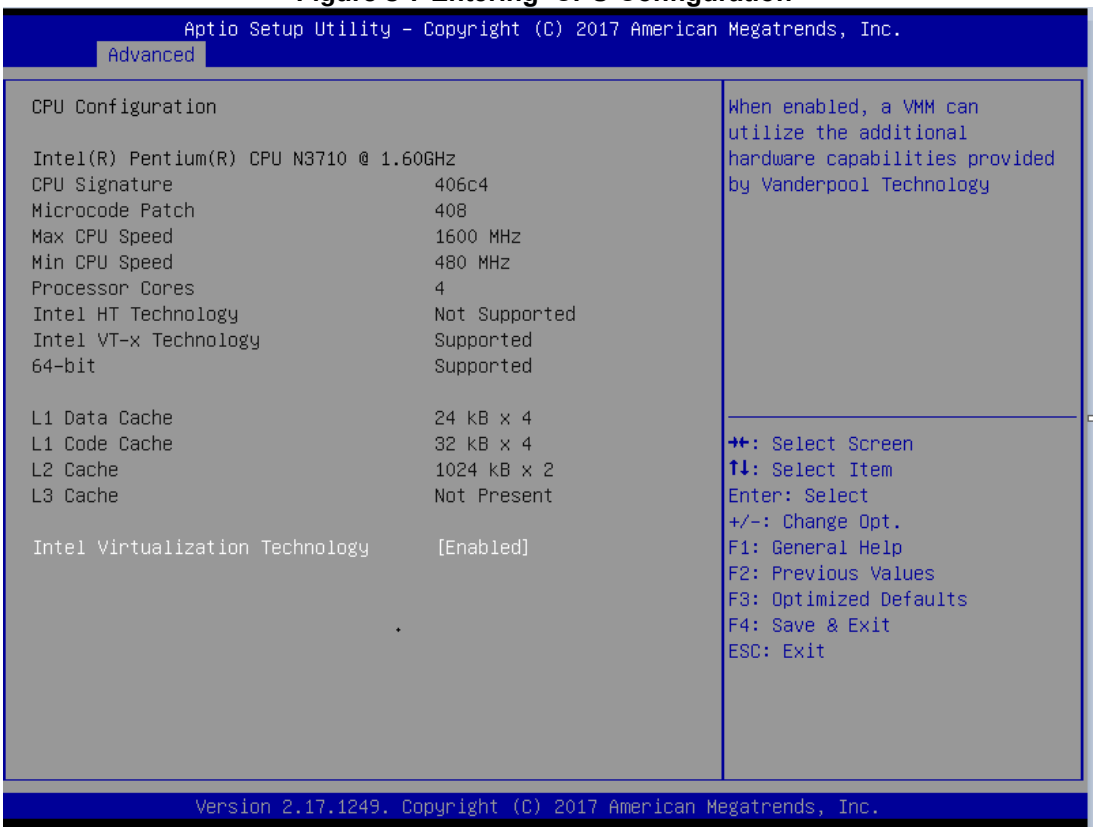
Figure 3-6 Entering 'ACPI Settings'



3.3.4 CPU Configuration

Figure 3-7 shows a page of CPU configuration with item *Intel Virtualization Technology [enable/disable]* highlighted.

Figure 3-7 Entering 'CPU Configuration'



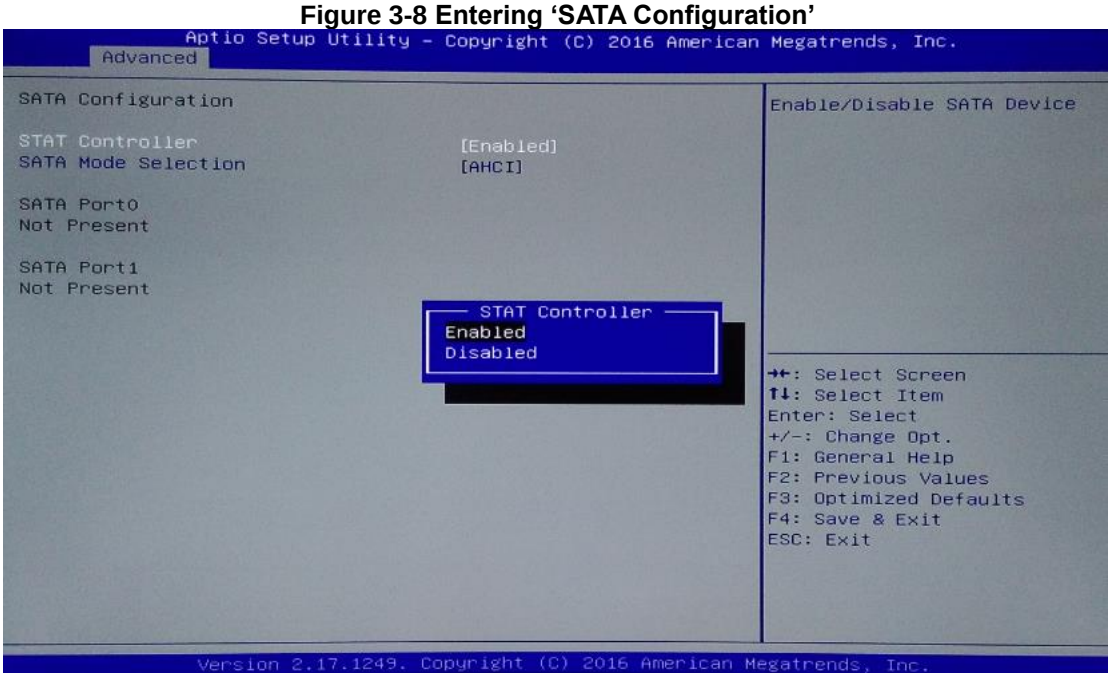
3.3.5 SATA Configuration

This screen allows users to select options for SATA Configuration, and change the value of the selected option (see Figure 3-8).

SATA Controller

Highlight this item to set up SATA Controller to be Enable or Disable.

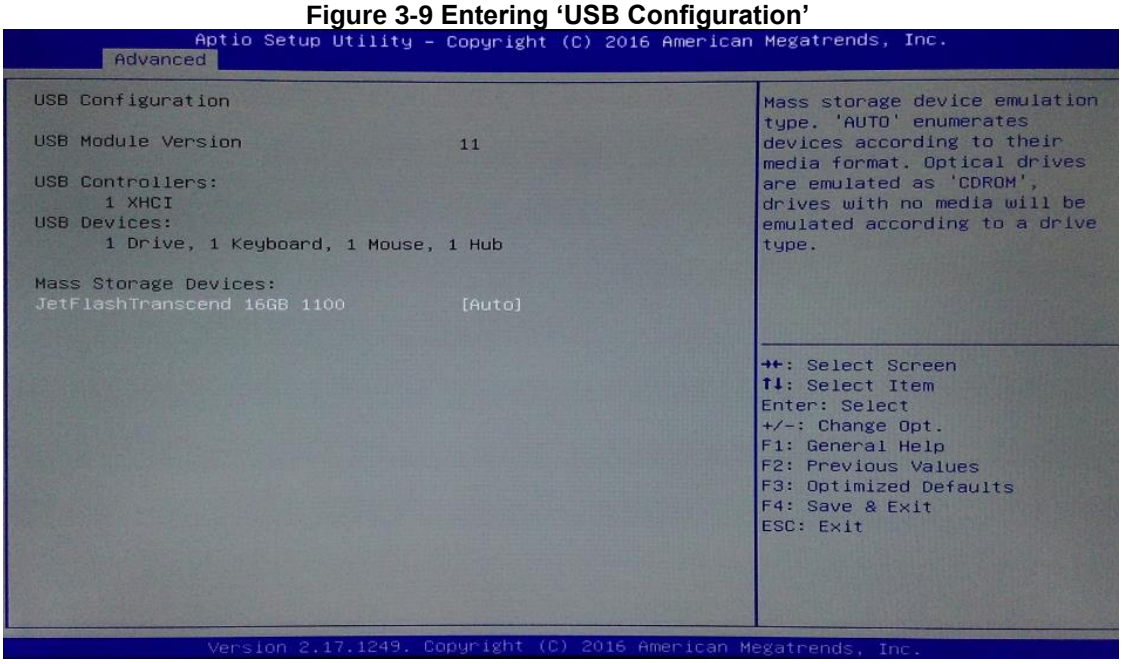
Figure 3-8 Entering 'SATA Configuration'



3.3.6 USB Configuration

Please see Figure 3-9 to see what items can be set up under the page of *USB Configuration*.

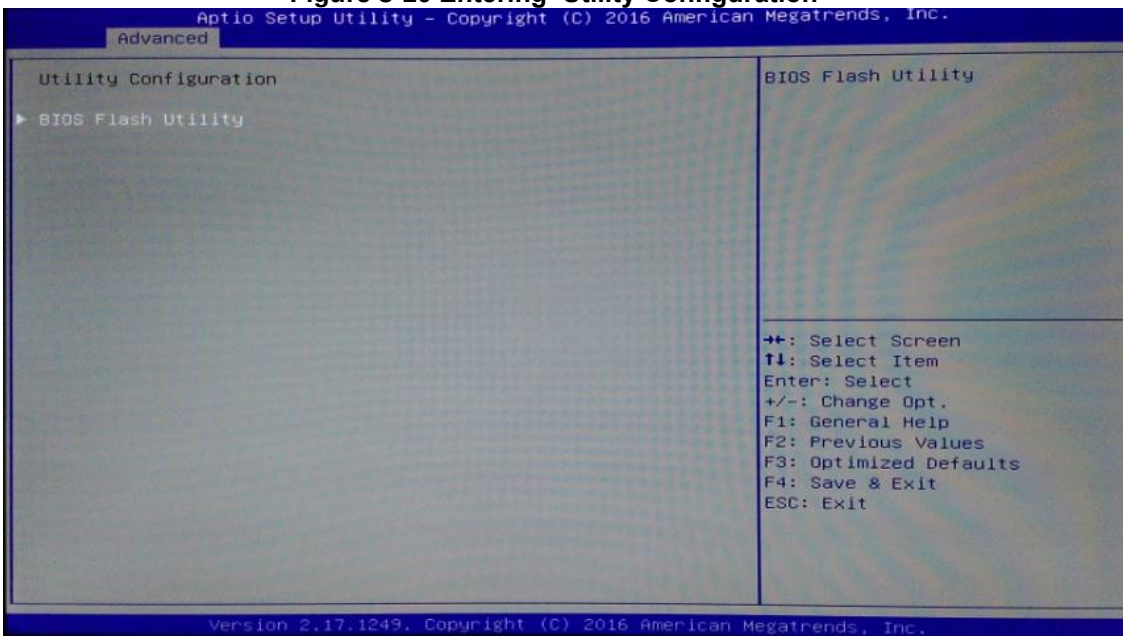
Figure 3-9 Entering 'USB Configuration'



3.3.7 Utility Configuration

Figure 3-10 shows the page once entering *Utility Configuration.*

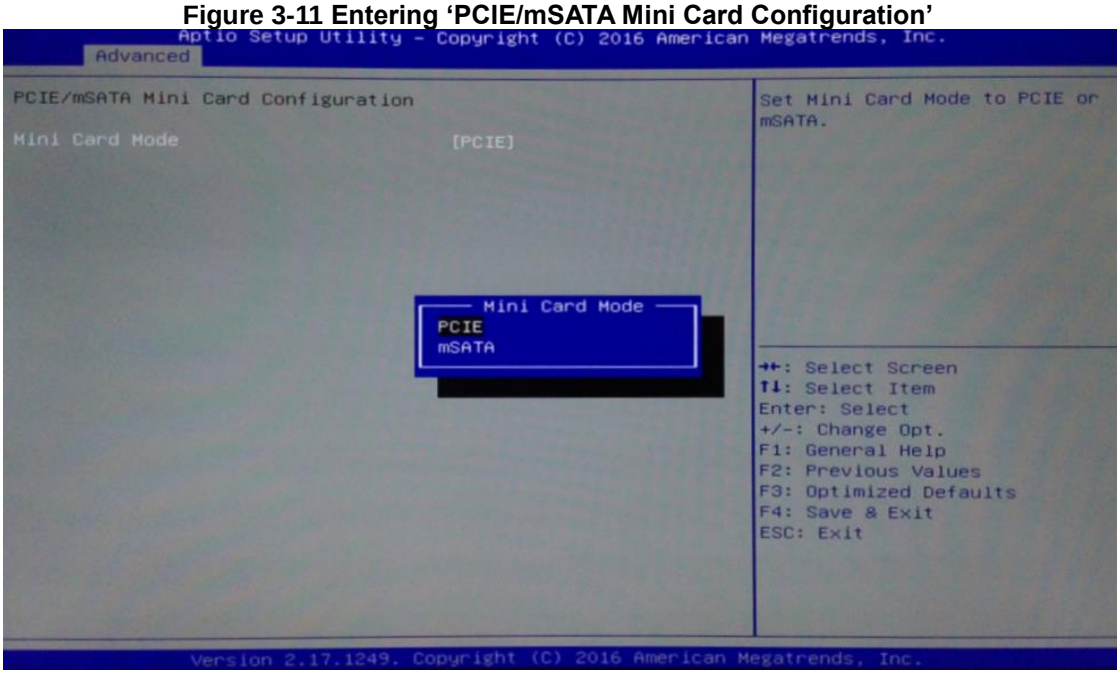
Figure 3-10 Entering 'Utility Configuration'



3.3.8 PCIE/mSATA Mini Card Configuration

Highlighting item *PCIE/mSATA Mini Card Configuration* under the Advanced Menu, hit <Enter> to enter a sub-screen as shown in Figure 3-11. There are two choices for *Mino Card Mode*: PCIE and mSATA.

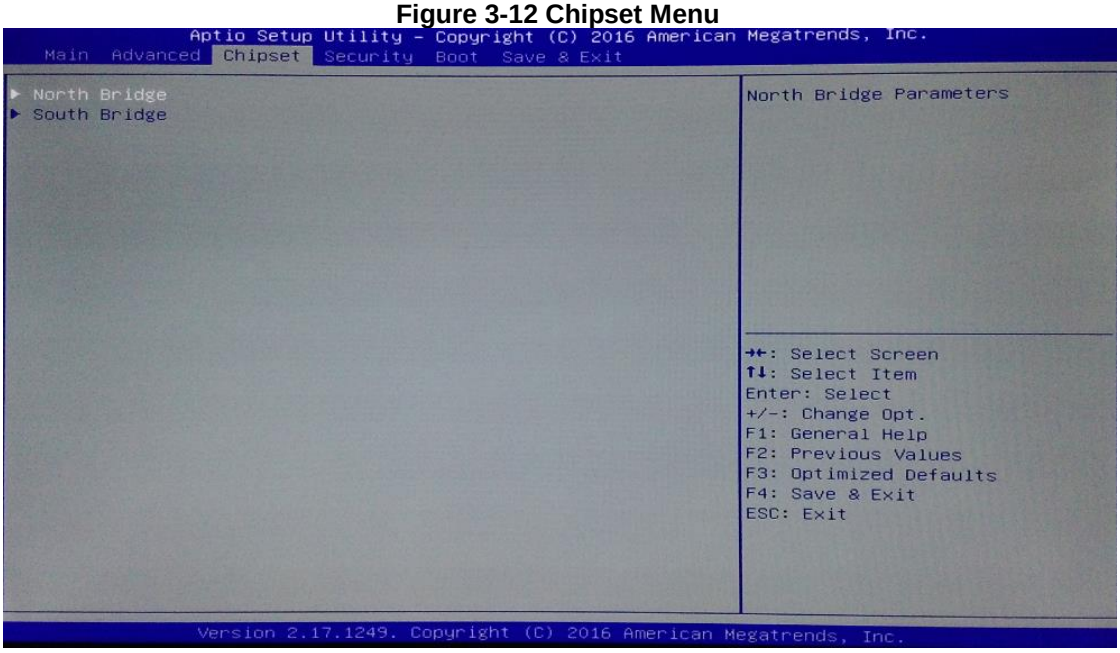
Figure 3-11 Entering 'PCIE/mSATA Mini Card Configuration'



3.4 Chipset Menu

The Chipset menu gives memory information about the *North Bridge* and TXE information about the *South Bridge* (see Figure 3-12).

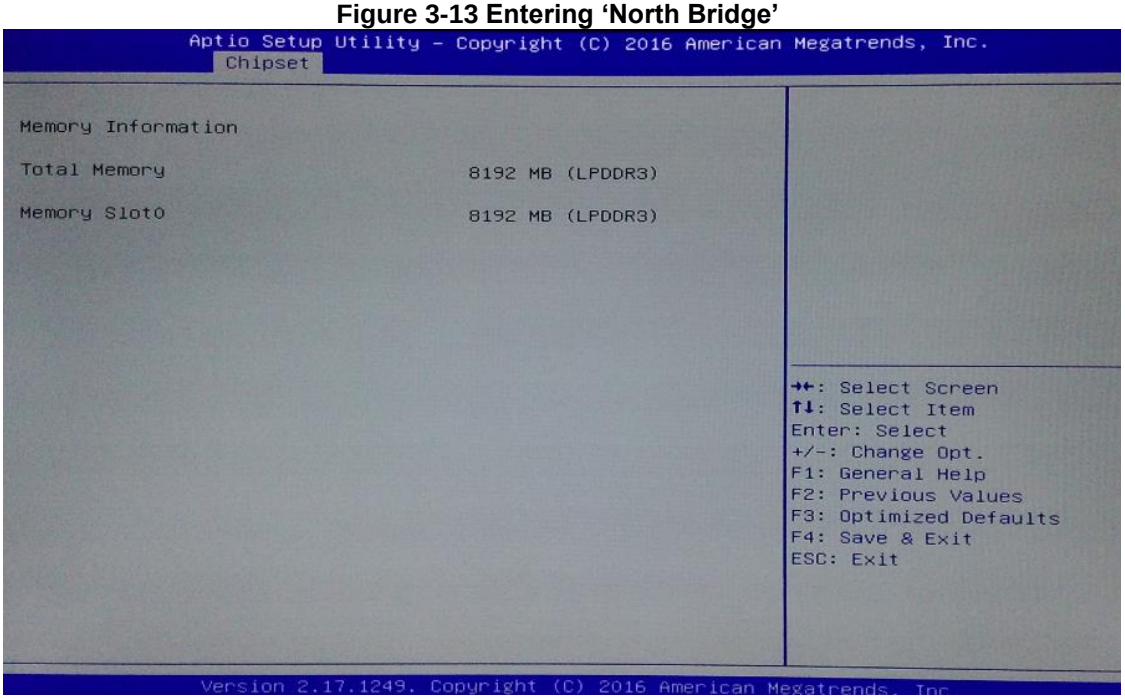
Figure 3-12 Chipset Menu



3.4.1 North Bridge

Memory information about the *North Bridge* is show in Figure 3-13.

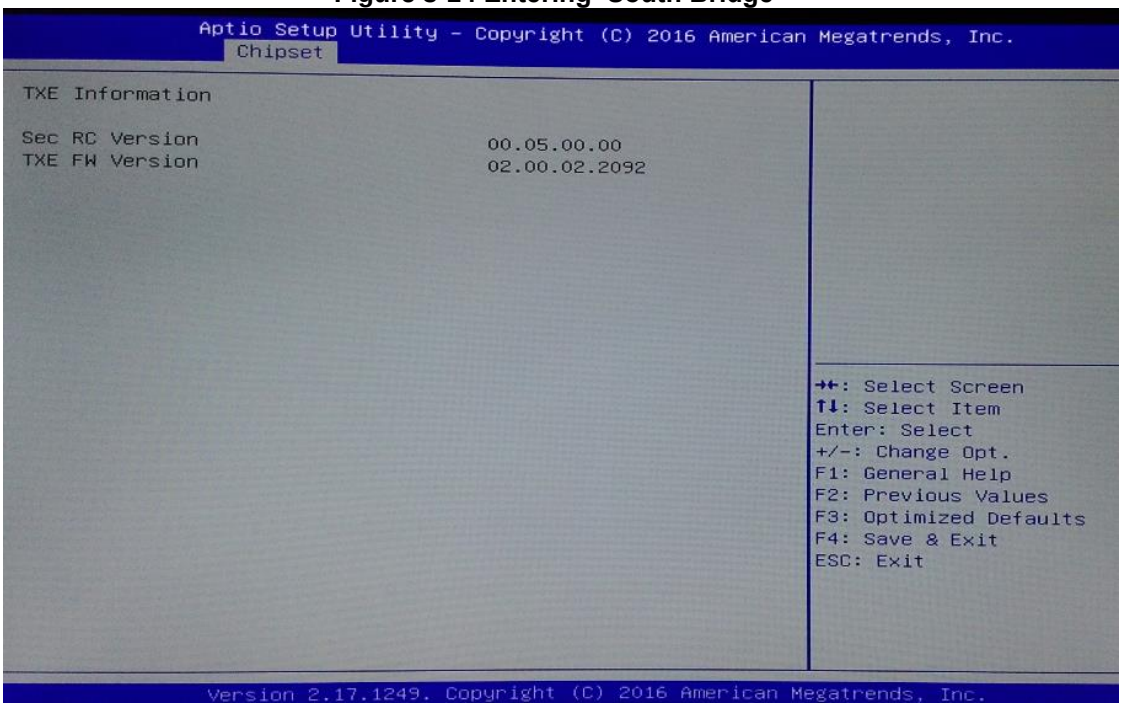
Figure 3-13 Entering 'North Bridge'



3.4.2 South Bridge

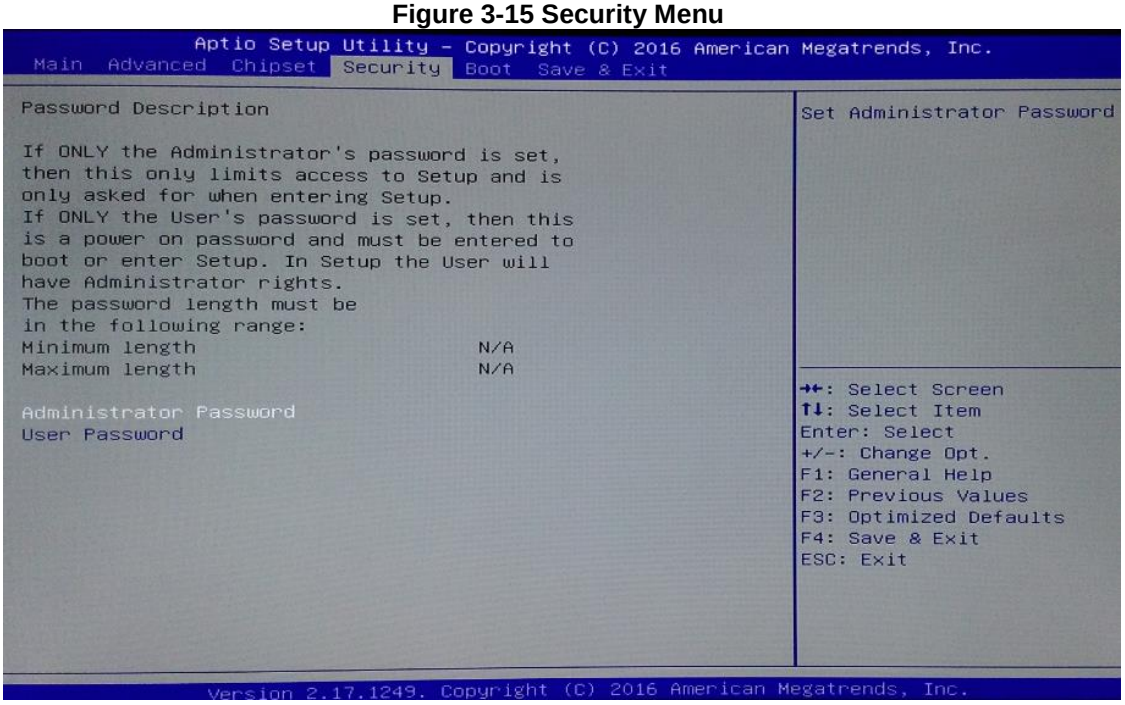
TXE information about the *South Bridge* is show in Figure 3-14.

Figure 3-14 Entering 'South Bridge'



3.5 Security Menu

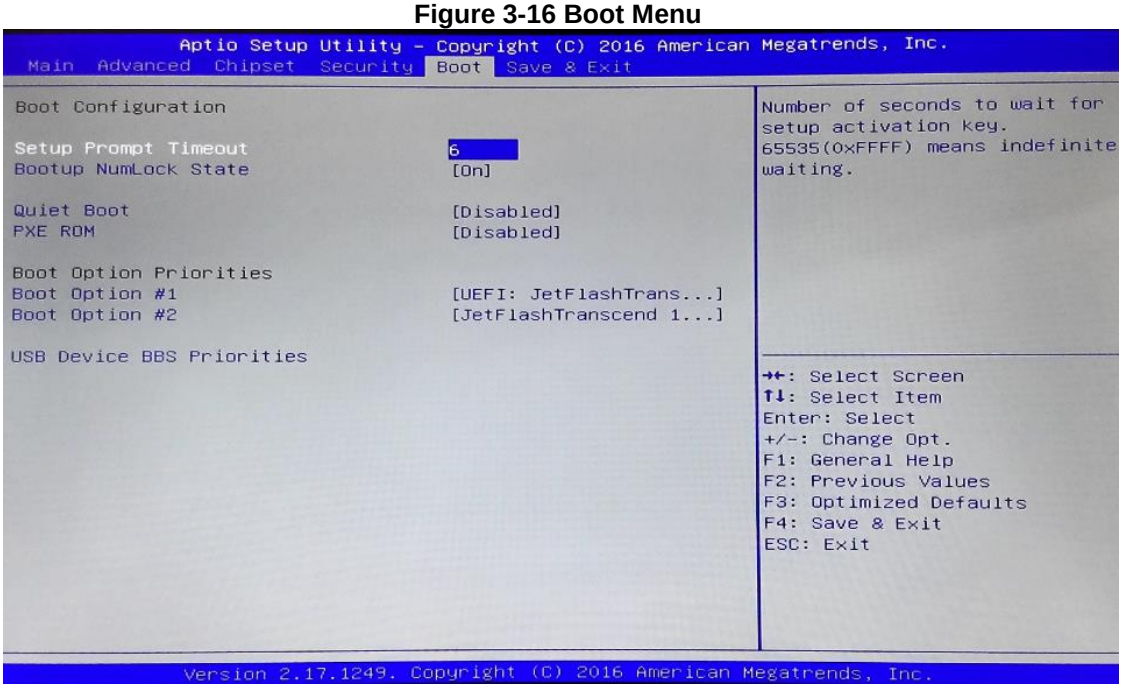
Figure 3-15 Security Menu



3.6 Boot Menu

The Boot menu allows users to change boot options of the system. Users can highlight any of the items on the left frame of the screen to go to any particular sub menus (as shown in Figure 3-16).

Figure 3-16 Boot Menu



Setup Prompt Timeout

Enter a numeric value here as the length for timeout.

Bootup NumLock State

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

Quiet Boot

Use this item to enable or disable the Quite Boot state. The default setting is [Disabled].

PXE ROM

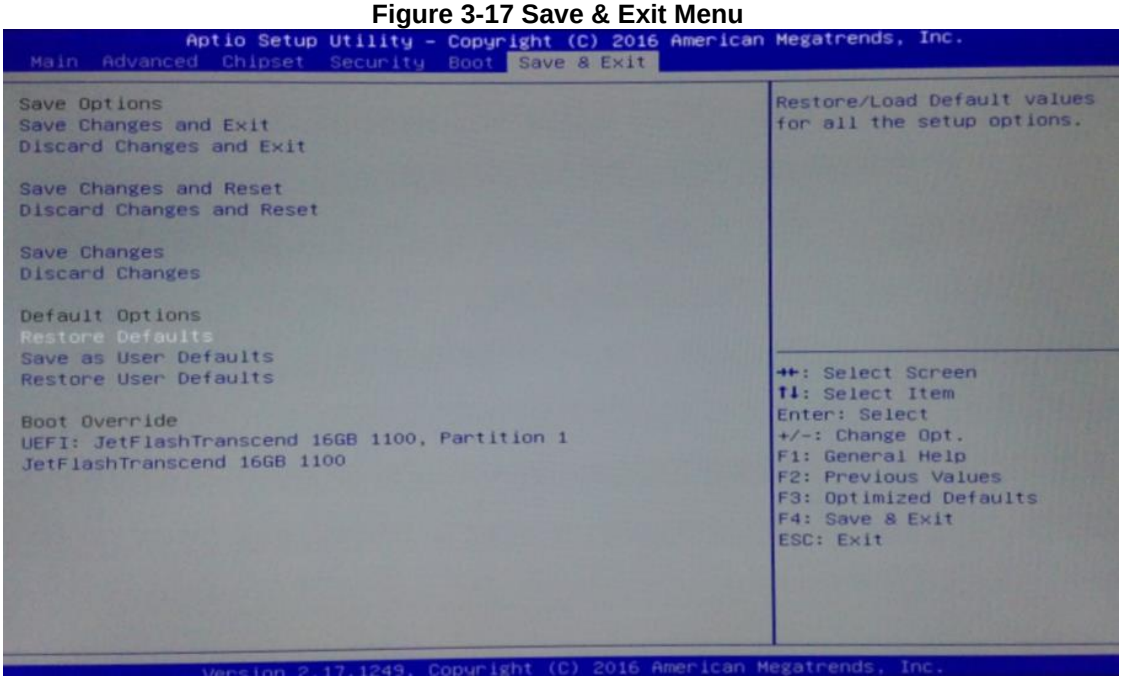
Use this item to enable or disable the Pre-boot Execution Environment (PXE). The default setting is [Disabled].

Boot Option Priorities

Use this item to specify the overall boot order among the available devices.

3.7 Save & Exit Menu

Figure 3-17 Save & Exit Menu



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Section 4
Driver and Installation

4.1 Operating System

The GOT3217WL-845-PCT is compatible with operating systems Windows 10 and Windows 10 IoT Enterprise. To facilitate the installation of system drivers, please carefully read the instructions in this Section before any of such installation.

4.1.1 Installing System Drivers

Step 1 **Insert the Driver disc included in the Packing List and select the "\Drivers". Locate the Win 10 directory first (if Win 10 is user's choice).**

Figure 4-1 Folders of system drivers

Step 2 **Under directory Win 10, there are more file folders as shown below.**

Step 3 **Select all files and follow the installing procedure from Steps 1 to 6. Please don't run Step 7 that is the driver for resistive touch screen.**

NOTE: During the installation of "Graphic" driver, if the GOT3217WL-845-PCT is idle for too long, then the "Power Management" program may turn off the GOT3217WL-845-PCT LCD monitor. If this happens, it will not be possible to wake up the LCD monitor of the GOT3217WL-845-PCT. Rather, users need to reboot the GOT3217WL-845-PCT and install the "Graphic" driver correctly.

NOTE: Windows 10 / Windows 10 IoT support touch mode with 10-point multi-touch function.

4.2 Touch Screen

The GOT3217WL-845-PCT is designed based on the technology of projected capacitive multi-touch screen of which specifications are listed below. The touch driver will be installed automatically and can drive the touch panel to get two fingers touch function that based on the Windows 10 and Windows 10 IoT Enterprise support.

Table 4-1 Touch screen specifications

Touch Screen	Projected capacitive 10 point multi-touch
Touch Screen Controller	Mastouch USB Touch Screen Controller IC
Communications	USB interface
Power Supply	5V
Power Consumption	40mA
Input Method	Finger or Cap.Stylus
Resolution	25ppi (Min.) Note: Base on WIN7 definition, ppi (Pixcel per inch)
Win7 USB Driver	Non-Driver
Calibration	Non-Calibration