GOT110-316

All-in-One
10.4” XGA TFT Fanless Touch Panel Computer with Intel® Celeron® Processor N3350 onboard or Intel® Pentium® Quad Core Processor N4200

User’s Manual

Disclaimers

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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, read the following important precautions.

1. 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.

2. Disconnect the power cords from the GOT110-316 Series 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 GOT110-316 series is properly grounded.

3. Do not open the top cover of the system. 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 grounding wrist strap, available from most electronic component stores.

Trademark Acknowledgments

Table of Contents

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Chapter 1 Introduction

This chapter contains general information and detailed specifications of the GOT110-316, including the following sections:

- General Description
- Specifications
- Dimensions
- I/O Outlets
- Package List

1.1 General Description

The GOT110-316 is a fanless and compact-size medical touch panel computer, equipped with a 10.4" TFT LCD display and low power consumption Intel® Celeron® Processor N3350 (with 2M cache, up to 2.4 GHz) or Intel® Pentium® Dual Core Processor N4200(with 2M Cache, up to 2.5 GHz). It is compatible with Windows 10. This panel computer can house an mSATA and 2.5" SATA HDD for storage and two Mini card slots for wireless connection. Its excellent ID and friendly user interface make it a professional yet easy-to-use panel computer. The GOT110-316 is ideal for applications with limited spaces in factory automation, building automation and more.

GOT110-316: 10.4" TFT XGA Fanless Touch Panel Computer

- Reliable and stable design
  The GOT110-316 adopts a fanless cooling system which makes it suitable for environments prone to vibration.
- Embedded O.S. supported
  The GOT110-316 supports not only Windows 10, but also embedded O.S. In terms of storage device, the GOT110-316 supports an mSATA and a 2.5" SATA HDD.
- Industrial-grade product design
  The GOT110-316 was adaptively designed to be used in different industrial environments.

The GOT110-316 comes with an IP65-rated front panel and its whole enclosure meets the IPX1 standard.

For connecting other devices, the GOT110-316 also features several interfaces: USB, Ethernet, and RS-232/422/485.

1.2 GOT110-316 Specifications

1.2.1 Main CPU Board

- **CPU**
  - Intel® Celeron® Dual Core Processor N3350 (2M Cache, up to 2.4 GHz) onboard.
  - Intel® Pentium® Quad Core Processor N4200 (2M Cache, up to 2.5 GHz) onboard.
- **System memory**
  - One 204-pin DDR3L-1600 SO-DIMM socket
  - Maximum memory up to 8 BG
- **BIOS**
  - America Megatrends BIOS

1.2.2 I/O System

- **Standard I/O**
  - One RS-232/422/485 port
  - One RS-232 port
  - Four USB 3.0 ports
  - One remote power switch
  - One HDMI (Support up to 1920 x 1080 resolution)
- **Ethernet**
  - Two RJ45 Giga Ethernet ports
- **Audio**
  - One Line out
- **Expansion**
  - One Mini-card slot (with SIM slot)
  - One Mini-card slot (mSATA supported as an option)
- **Storage**
  - One mSATA
  - One 2.5" SATA HDD
- **Power connector**
  - GOT110-316-J: 12 VDC with an external 60W AC adapter and a screw type connector;

1.2.3 System Specifications

- **10.4" XGA (1024 x 768) LCD with LED backlight**
- **5-wire flat resistive**
- **Fanless heat dispensing design**
- **Disk drive housing:**
  - 2.5" SATA HDD
  - mSATA
- **Net weight**
  - 1.8 kg (3.97 lb)
- **Dimension (size of main body)**
  - 234.2 mm x 232.7 mm x 43.5 mm
- **Operation temperature**
  - 0℃ to 50℃
- **Relative humidity**
  - 10% to 90% @ 40℃, -non-condensing
- **Vibration**
  - 2.0 G, 5 to 500 Hz, random for SSD
- **Power input**
  - External 12V 60W AC adapter
    - Power input: 100 to 240 VAC
    - Power output: 12 VDC, Max. 5.42 A
  - Cable for AC screw type connector to DC for 12V/19~24V DC

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

1.3 GOT110-316 PoE PD Specifications

1.2.1 Main CPU Board

- **CPU**
  - Intel® Celeron® Dual Core Processor N3350 (1.10 GHz) onboard.(Turbo Boost Disable)

- **System memory**
  - One 204-pin DDR3L-1600 SO-DIMM socket
  - Maximum memory up to 8 BG

- **BIOS**
  - America Megatrends BIOS

1.2.2 I/O System

- **Standard I/O**
  - One RS-232/422/485 port
  - One RS-232 port
  - Four USB 3.0 ports
  - One remote power switch
  - One HDMI (Support up to 1920 x 1080 resolution)

- **Ethernet**
  - Two RJ45 Giga Ethernet ports (one for PoE PD Function)

- **Audio**
  - One Line out

- **Expansion**
  - One Mini-card slot (with SIM slot)
  - One Mini-card slot (mSATA supported as an option)

- **Storage**
  - One mSATA
  - One 2.5" SATA HDD

***NOTE* : SATA Storage and mSATA can only be selected one among this two type storage due to power consumption limitation**

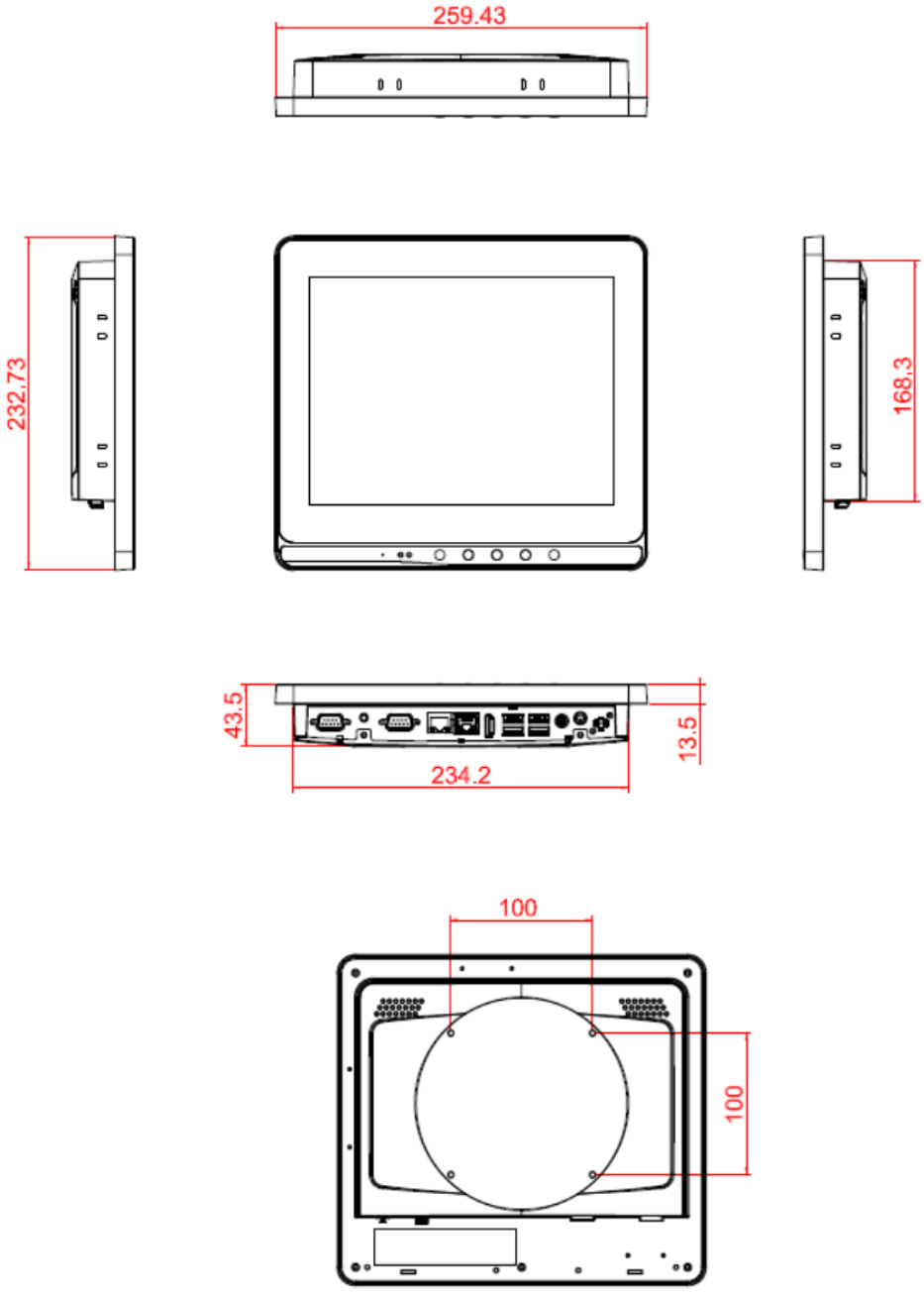
1.2.3 System Specifications

- **10.4" XGA (1024 x 768) LCD with LED backlight**
- **5-wire flat resistive or Projected capacitive multi-touch**
- **Fanless heat dispensing design**
- **Disk drive housing:**
  - 2.5" SATA HDD
  - mSATA
- **Net weight**
  - 1.8 kg (3.97 lb)
- **Dimension (size of main body)**
  - 234.2 mm x 232.7 mm x 43.5 mm
- **Operation temperature**
  - 0℃ to 50℃
- **Relative humidity**
  - 10% to 90% @ 40℃, -non-condensing
- **Vibration**
  - 2.0 G, 5 to 500 Hz, random for SSD
- **Power over Ethernet**
  - Power Device (PD): follows IEEE 802.3at (25.5 W)

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

1.3 Dimensions

This diagram shows you dimensions and outlines of the GOT110-316.



This diagram shows you dimensions and outlines of the GOT110-316 PD I/O outlet.

1.4 I/O Outlets

Please refer to Figures 1-1 and Table 1-1 for I/O locations at the bottom of the GOT110-316.

Figure 1-1 Front view of the GOT110-316

Figure 1-1 Bottom view and back view of the GOT110-316

Table 1-1 Descriptions of I/O functions at the bottom of the GOT110-316

No	Function	No	Function
1	Power remote switch (ATX)	7	AT/ATX switch
2	Power button	8	COM 1 (RS-232/422/485)
3	Power input connector	9	Audio (Line-out)
4	four USB 3.0 ports	10	COM 2
5	HDMI	11	Cable cover (optional)
6	Ethernet (RJ-45) x2	12	Speaker x 2

Please refer to Figures 1-2 and Table 1-2 for I/O locations at the bottom of the GOT110-316-PoE-PD.

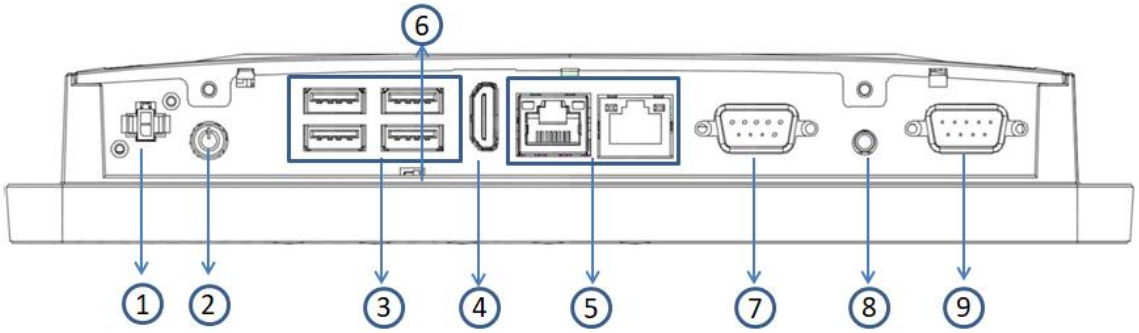


Figure 1-2 Bottom view of the GOT110-316 PD

Table 1-2 Descriptions of I/O functions at the bottom of the GOT110-316-PoE-PD

No	Function	No	Function
1	Power remote switch (ATX)	7	COM 1 (RS-232/422/485)
2	Power button	8	Audio (Line-out)
3	Four USB 3.0 ports	9	COM 2
4	HDMI		
5	Ethernet (RJ-45) x2 (One is for PD)		
6	AT/ATX switch		

1.5 Packing List

A complete bundled package of the GOT110-316 should contain the following items:

- **GOT110-316 x 1**
- **Driver CD x1**
- **Power adapter & power cord (GOT110-316-J)**
- **AC to DC cable (GOT110-316-DC)**

A complete bundled package of the GOT110-316-PoE-PD should contain the following items:

- **GOT110-316-PoE-PD x 1**
- **Driver CD x1**

Please contact an Axiomtek distributor immediately if you cannot find the package or any of the above-mentioned items is missing.

Chapter 2
Hardware and Installation

The GOT110-316 provides rich I/O ports and flexible expansions for users to meet different demands. The section is describing hardware installation, including the following subsections:

- Jumper and Connector Settings
- Port Definitions
- Hardware Installation
- Mounting Methods
- Connecting the Power Input

2.1 Jumper and Connector Settings

Diagram 2-1 Component side of the board

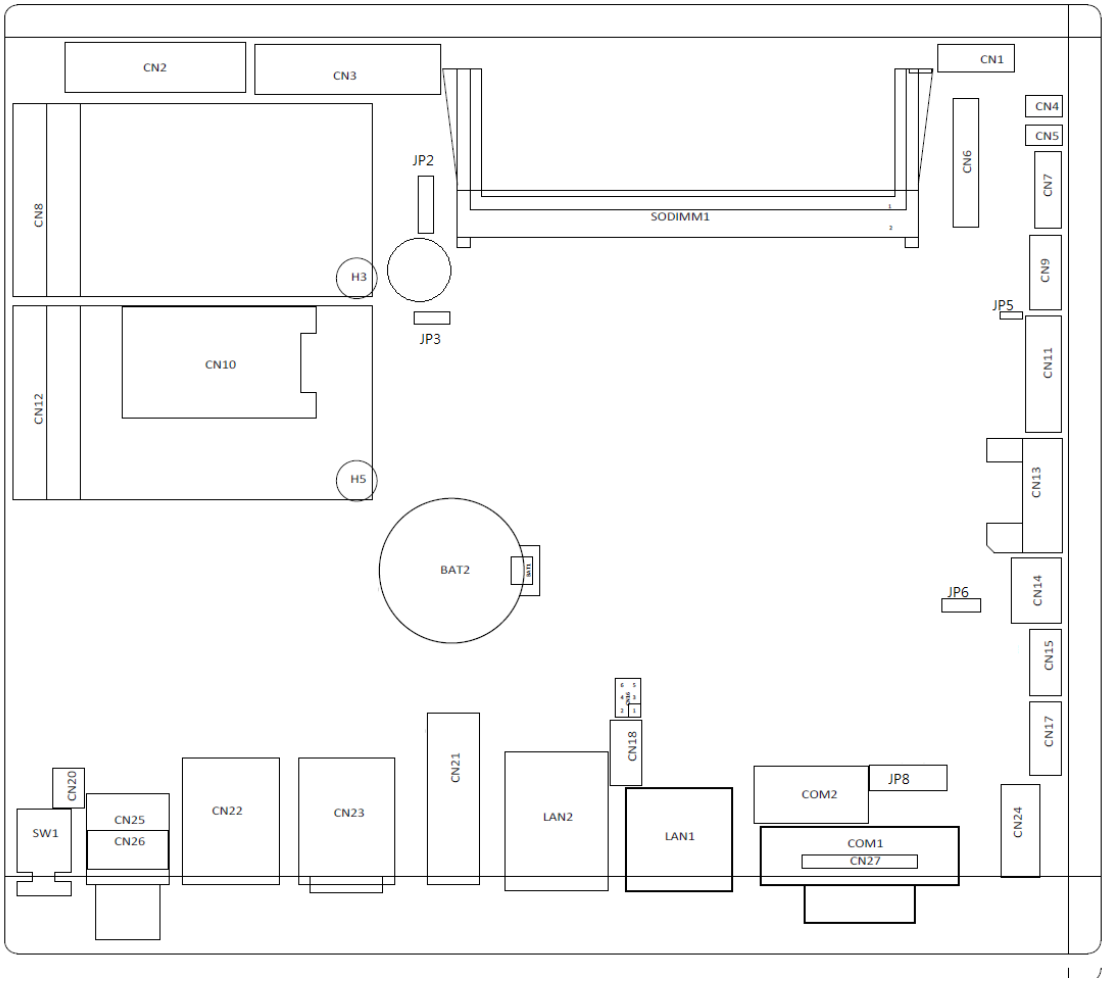
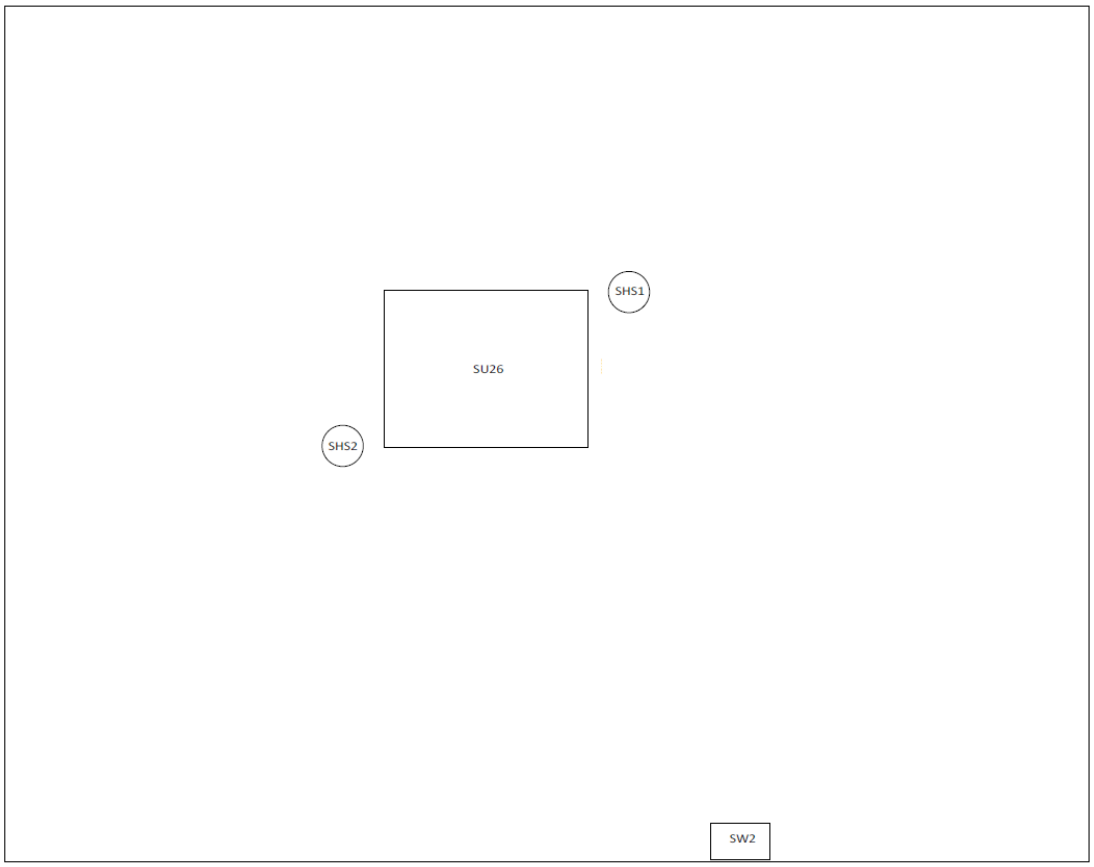


Diagram 2-2 Solder side of the board



2.1.1 Jumper Settings

By making proper jumper settings, users can configure the board **SBC87316** to suit the needs of their applications.

Table 2-1 shows the default jumper settings for the GOT110-316.

Table 2-1 Default jumper settings

Jumper	★ Default Setting	Jumper Setting
JP2	★ LVDS panel power : 3.3V	Short 1-2
	LVDS panel power : 5V	Short 2-3
JP3	★ Internal buzzer enable	Short 1-2
	Internal buzzer disable	Open 1-2
	External buzzer	Connect 2-3
JP5	★ OSD function: LCD ON/OFF	Short 1-2
	OSD function: Touch ON/OFF	Short 2-3
JP6	★ Normal	Short 1-2
	Clear CMOS	Short 2-3
JP8	★ COM1 normal mode	Short 3-5,4-6
	★ COM2 normal mode	Short 9-11,10-12
	COM1 pin1 with power :+5V	Short 1-3
	COM1 pin9 with power :+12V	Short 2-4
	COM2 pin1 with power :+5V	Short 9-7
	COM2 pin9 with power :+12V	Short 10-8

NOTE: Items marked with ★ are for default settings.

2.1.2 Connector Settings

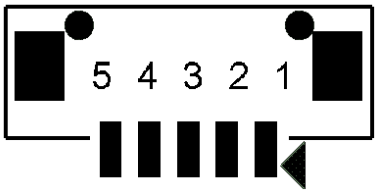
The connectors on the CPU Board allow the CPU Board to connect with other parts of the system. Ensure that all connectors are in place and firmly attached. Table 2-2 lists the function of each connector on the Board SBC87316.

Table 2-2 Connector Settings

Label	Connectors
CN1	USB2.0 connector
CN2	LVDS connector
CN3	eDP connector (optional with CN2)
CN4	Fan connector
CN5	SMBUS connector
CN6	DIO connector
CN7	USB2.0 connector (optional with touch controller)
CN8,CN12	Mini PCI-Express Card Socket
CN9	Touch screen connector
CN10	SIM Socket
CN11	OSD connector
CN13	SATA connector
CN14	SATA Power connector
CN15	MIC In & Line in connector
CN17	Speaker connector
CN18	For AX93637 POE module
CN20	Power Button connector
CN21	HDMI connector
CN22, CN23	USB3.0 connector
CN24	Audio Line out connector
CN25	Power DC in jack
CN26	Power DC in connector (optional with CN25)
CN27,COM1	RS232/422/485 port connector
COM2	RS232 port connector
SW1	Power Button
SW2	AT/ATX switch

USB2.0 connector: CN1, CN7

Pin Assignment



Pin	Description
1	USB Power
2	D-
3	D+
4	GND
5	GND

LVDS connector: CN2

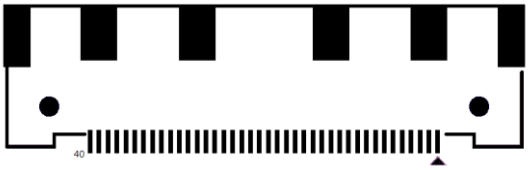
Pin Assignment

Pin	Description	Pin	Description
1	+12V_inverter power	2	+12V_inverter power
3	+12V_inverter power	4	+12V_inverter power
5	GND	6	GND
7	GND	8	GND
9	Backlight control	10	Backlight enable
11	LVDS_ID0	12	LVDS_ID1
13	LVDS_ID2	14	LVDS_ID3
15	LVDS Panel Power	16	LVDS Panel Power
17	LVDS Panel Power	18	LVDS Panel Power
19		20	
21		22	
23	GND	24	GND
25	LVDS_B0-	26	LVDS_B3-
27	LVDS_B0+	28	LVDS_B3+
29	LVDS_B1-	30	GND
31	LVDS_B1+	32	LVDS_CLK_B-
33	LVDS_B2-	34	LVDS_CLK_B+
35	LVDS_B2+	36	GND
37	GND	38	LVDS_A0-

Pin	Description	Pin	Description
39	LVDS_A3-	40	LVDS_A0+
41	LVDS_A3+	42	LVDS_A1-
43	GND	44	LVDS_A1+
45	LVDS_CLK_A-	46	LVDS_A2-
47	LVDS_CLK_A+	48	LVDS_A2+
49	GND	50	Cable detect

eDP connector (optional with CN2): CN3

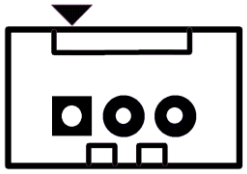
Pin Assignment



Pin	Description	Pin	Description
1	LVDS Panel Power	2	LVDS Panel Power
3	LVDS Panel Power	4	LVDS Panel Power
5	NC	6	GND
7	GND	8	GND
9	GND	10	HPD
11	GND	12	eDP_TXN3
13	eDP_TXP3	14	GND
15	eDP_TXN2	16	eDP_TXP2
17	GND	18	eDP_TXN1
19	eDP_TXP1	20	GND
21	eDP_TXN0	22	eDP_TXP0
23	GND	24	eDP_AUXP
25	eDP_AUXN	26	GND
27	GND	28	GND
29	GND	30	GND
31	NC	32	Backlight control
33	Backlight enable	34	NC
35	NC	36	+12V_inverter power
37	+12V_inverter power	38	+12V_inverter power
39	+12V_inverter power	40	NC

SMBus connector: CN5

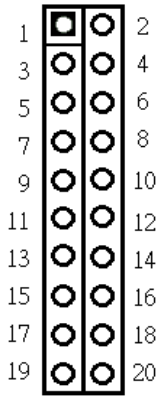
Pin Assignment



Pin	Description
1	DATA
2	CLOCK
3	GND

DIO connector: CN6

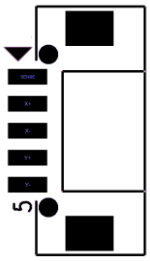
Pin Assignment



Pin	Description	Pin	Description
1	+5V	2	+5V
3	GPIO0	4	GPIO1
5	GPIO2	6	GPIO3
7	GPIO4	8	GPIO5
9	GPIO6	10	GPIO7
11	GPIO8	12	GPIO9
13	GPIO10	14	GPIO11
15	GPIO12	16	GPIO13
17	GPIO14	18	GPIO15
19	GND	20	GND

Touch screen connector: CN9

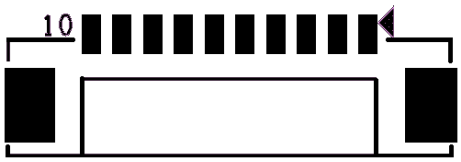
Pin Assignment



Pin	Description
1	SENSE
2	X+
3	X-
4	Y+
5	Y-

OSD connector: CN11

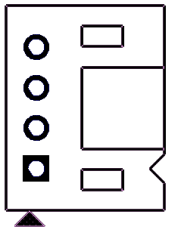
Pin Assignment



Pin	Description
1	Brightness+
2	Brightness-
3	volume+
4	Volume-
5	Touch or LCD ON/OFF
6	POWER LED
7	SATA LED
8	Touch LED
9	Backlight LED
10	GND

SATA Power connector: CN14

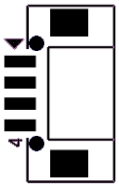
Pin Assignment



Pin	Description
1	+12V
2	GND
3	GND
4	+5V

MIC In & Line in connector: CN15

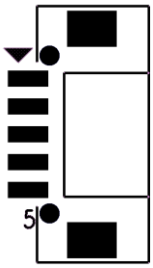
Pin Assignment



Pin	Description
1	MIC IN
2	GND
3	LINE IN _L
4	LINE IN _R

Speaker out connector: CN17

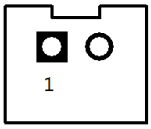
Pin Assignment



Pin	Description
1	SPKOUT_L+
2	SPKOUT_L-
3	SPKOUT_R+
4	SPKOUT_R-
5	GND

Power button connector: CN20

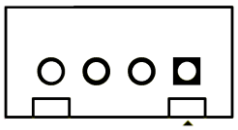
Pin Assignment



Pin	Description	Pin	Description
1	GND	2	PWBTN

Power DC in connector (optional with CN25): CN26

Pin Assignment

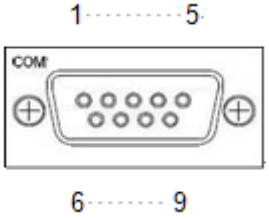


Pin	Description
1	DCIN
2	DCIN
3	GND
4	GND

COM Port connector: COM1

Pin Assignment

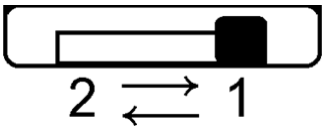
■ COM1 support RS-232/422/485 which can be selected by BIOS.



Pin	RS-232	RS-422	RS-485
1	DCD	TX-	Data-
2	RXD	TX+	Data+
3	TXD	RX+	--
4	DTR	RX-	--
5	GND	GND	GND
6	DSR	--	--
7	RTS	--	--
8	CTS	--	--
9	RI	--	--

AT/ATX switch: SW2

Pin Assignment



Pin	Description
1	Disable auto power on (Default)
2	Enable auto power on

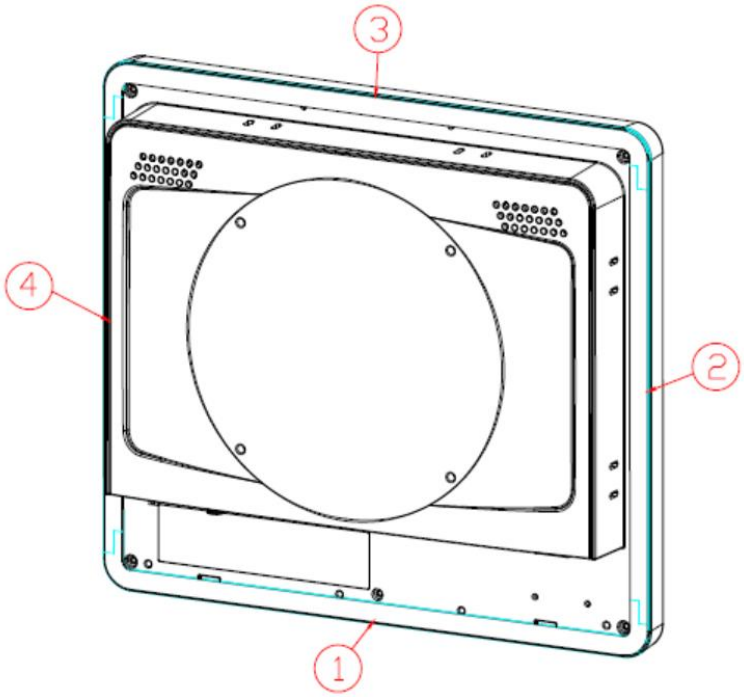
2.2 Mountings – Panel/Wall/Desktop/VESA

There are several mounting ways for the GOT110-316: Wall, desktop, VESA and panel mountings.

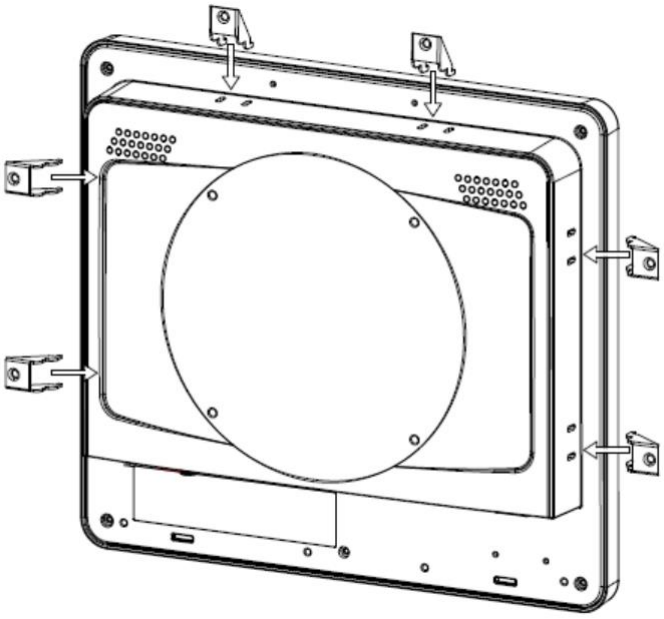
2.2.1 Panel-Mounting (optional)

The GOT110-316 is designed for panel mount application.

Step1 Sticks 4 sealing pads on the edges of chassis



Step2 Assemble the panel kit to the chassis and fix the six screws



2.2.2 Wall-Mount Bracket

The GOT110-316 provides VESA mount: 100 x 100 mm. Screw four screws to fix the kit in the back chassis.

Step 1 Find out the holes as marked on the back side of chassis.

Step 2 Assemble the wall mount bracket to the back side of the chassis, and fix the screws.

2.3 Storage Installation

2.3.1 2.5" SSD/HDD Installation

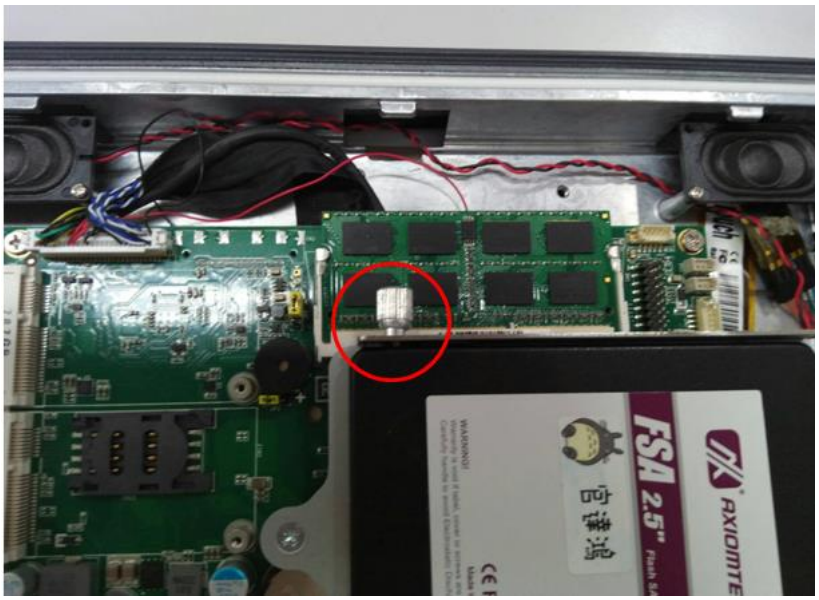
The GOT110-316 provides an optional 2.5" SSD for users to install. Please refer to the following instructions for installation:

Step 1 **Turn off the system, and unplug the power cord.**

Step 2 **Remove the back cover.**

Step 3 **Install the 2.5" SSD storage into the red marked bracket.**

Step 4 Screw the 2.5" SSD/HDD to fix SSD/HDD.

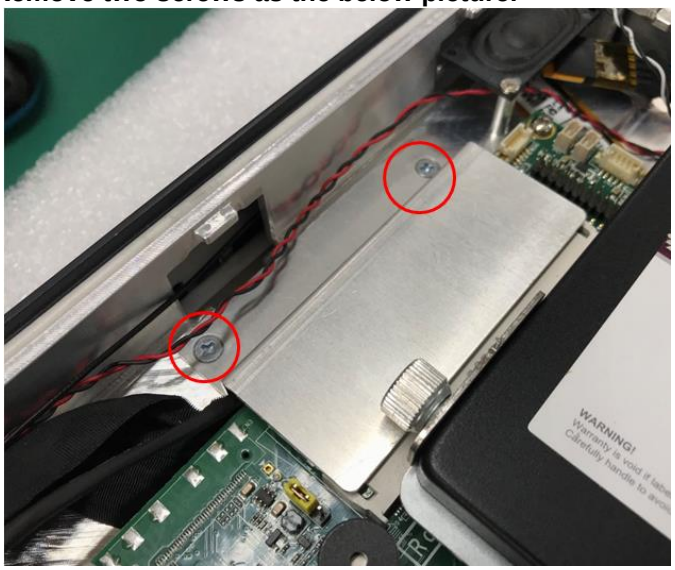


2.4 DRAM Installation

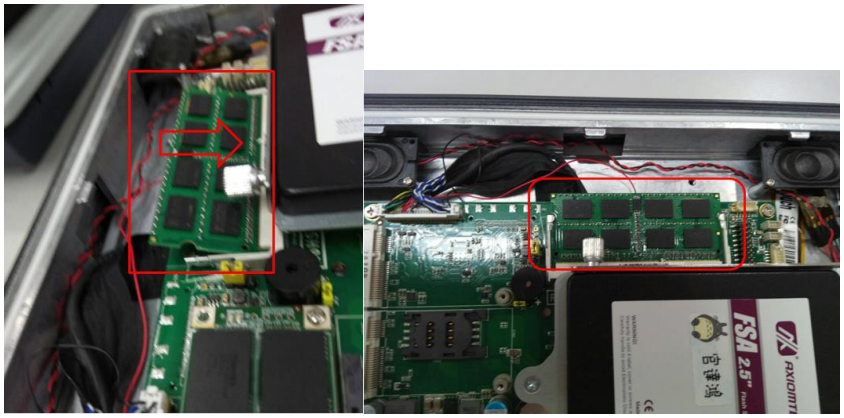
The GOT110-316 provides one 204-pin DDR3L SODIMM socket that supports system memory up to 8GB. Please follow steps below to install the memory modules:

Step 1 Open the back cover and find out the DIMM socket on the main board (SBC87316).

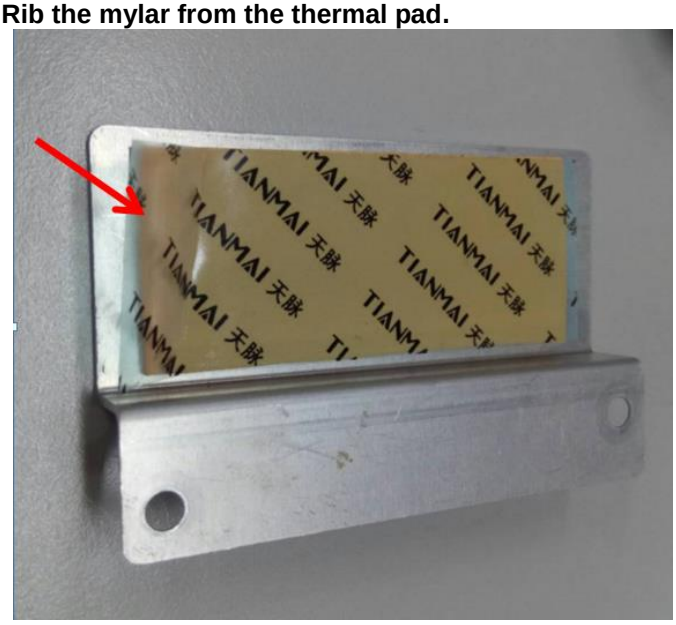
Step 2 Remove two screws as the below picture.



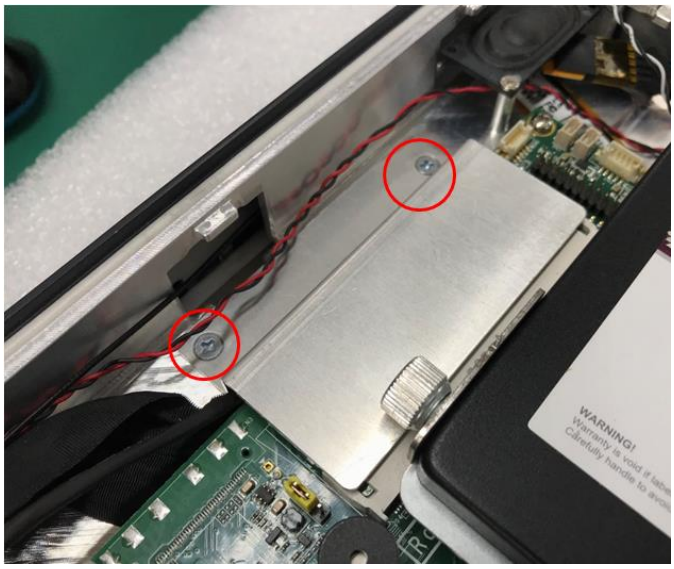
Step 3 **Insert the DRAM into the DIMM socket, and then push it down firmly until it is clipped by the socket.**



Step 4 **Rib the mylar from the thermal pad.**



Step 5 **assemble the RAM heatsink with two screws.**

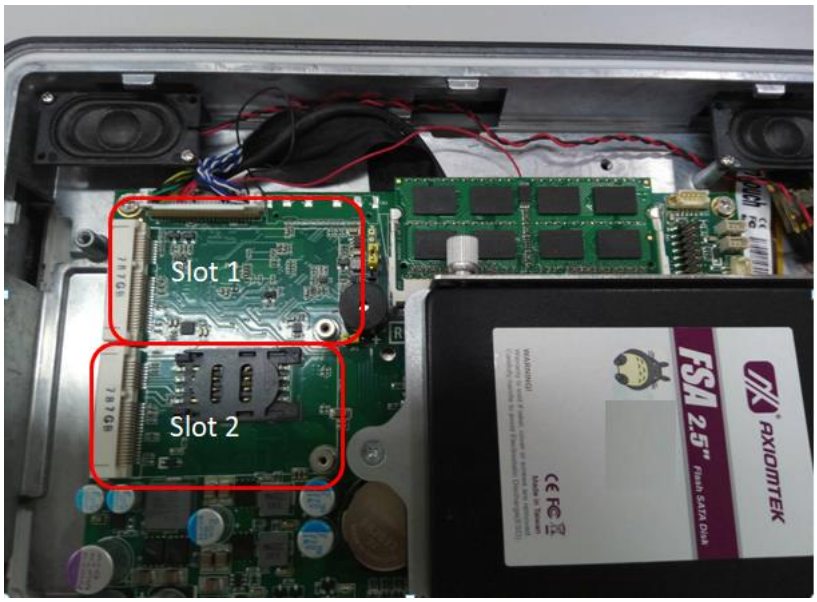


2.5 Mini Card Installation

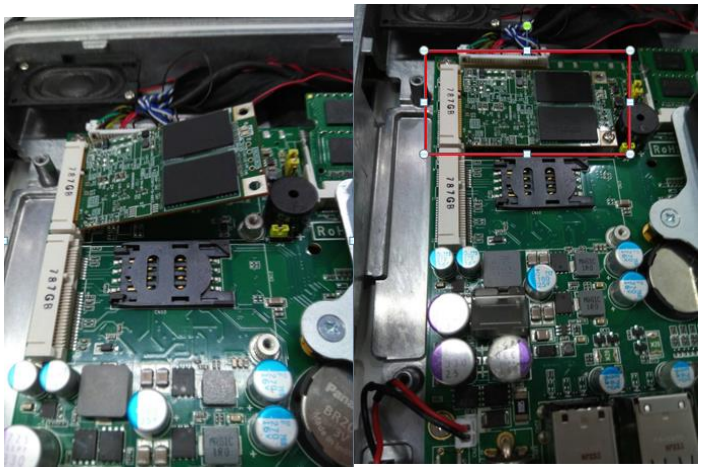
2.5.1 mSATA Card Installation

The GOT110-316 provides one Mini card slot for users to install mSATA. Please choose slot 1 when installing an mSATA card and refer to the following instructions and illustrations:

Step 1 Open the back cover and locate the mini-card slot on the main board.



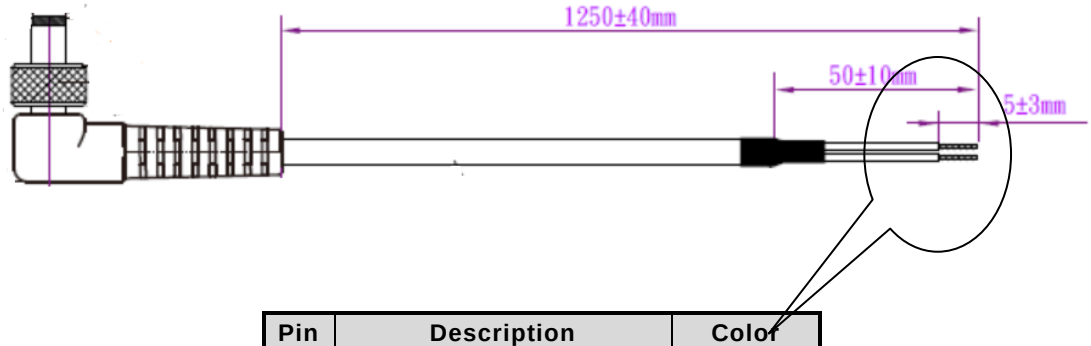
Step 2 Insert the mSATA card into the slot 1. Screw it firmly on the slot.



NOTE The type of screws used for the Mini Card slots is M12.

2.6 Power Input (AC to DC cable)

Axiomtek provides an optional cable for the DC jack connector to connect to DC source. It adopts 12V/19~24VDC. Please follow the signs on the power connector to connect DC power source.



Pin	Description	Color
1	+: Power positive	White
2	—:Power negative	Black

NOTE ***The safety ground must be connected to ensure proper operation of the unit.***

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Chapter 3
AMI BIOS Setup Utility

This section provides users with detailed descriptions about how to set up basic system configuration 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 BIOS setup utility hot keys can be used at any time during the setup navigation process.
These keys include <F1>, <F2>, <F3>, <F4>, <Enter>, <ESC>, arrow keys, etc. (as listed in Table 3-1).

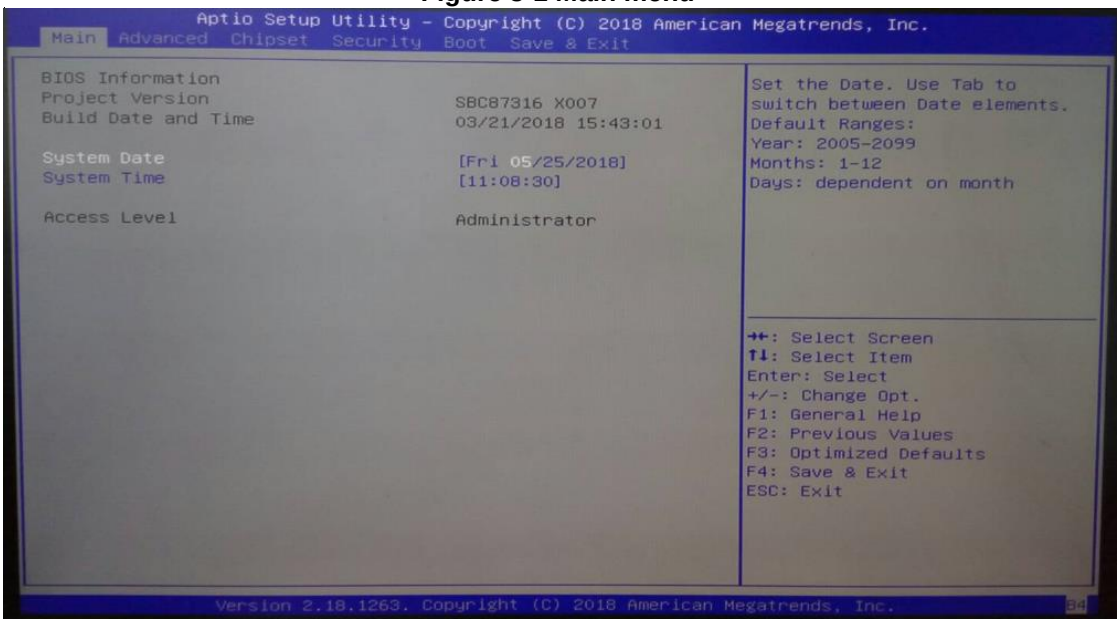
 ***NOTE: Some of the navigation keys may differ from one screen to another.***

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

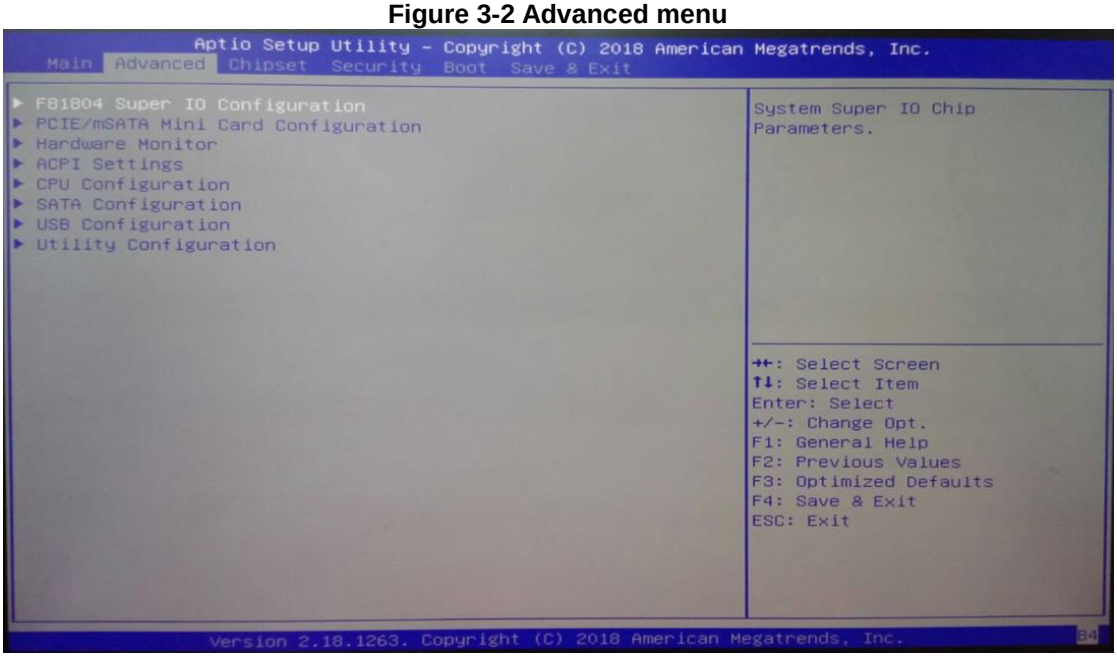


System Time/Date

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 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).

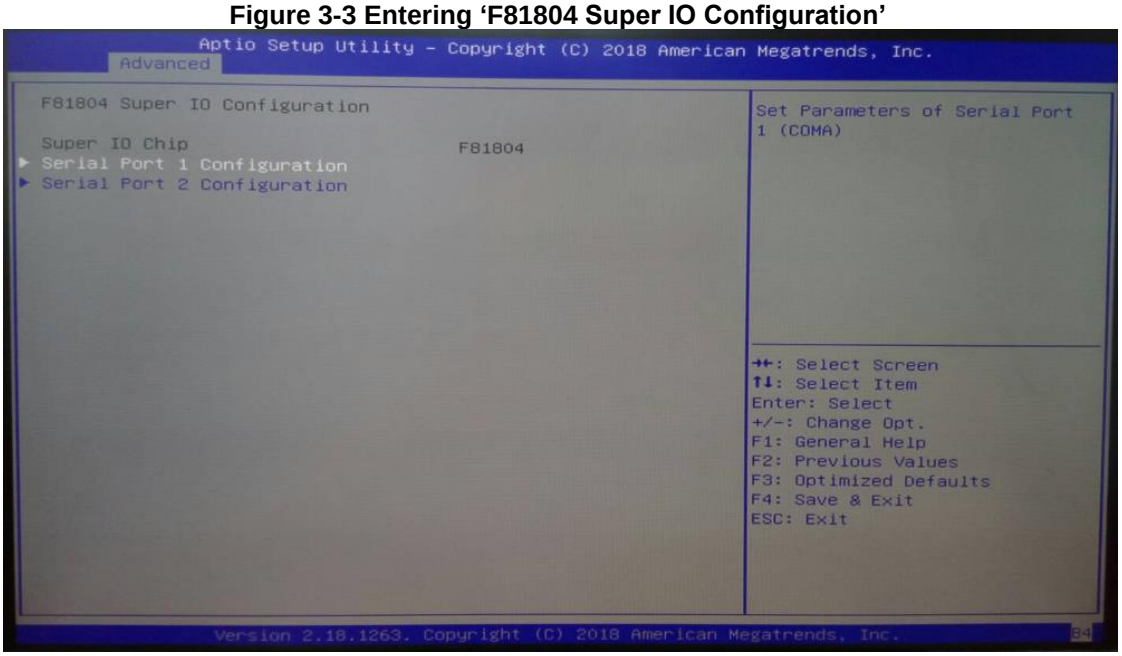
- ► *F81804 Super IO Configuration*
- ► *PCIe/mSATA Mini Card Configuration*
- ► *Hardware Monitor*
- ► *ACPI Settings*
- ► *CPU Configuration*
- ► *SATA Configuration*
- ► *USB Configuration*
- ► *Utility Configuration*

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

3.3.1 F81804 Super IO Configuration

The 'F81804 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 'F81804 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.

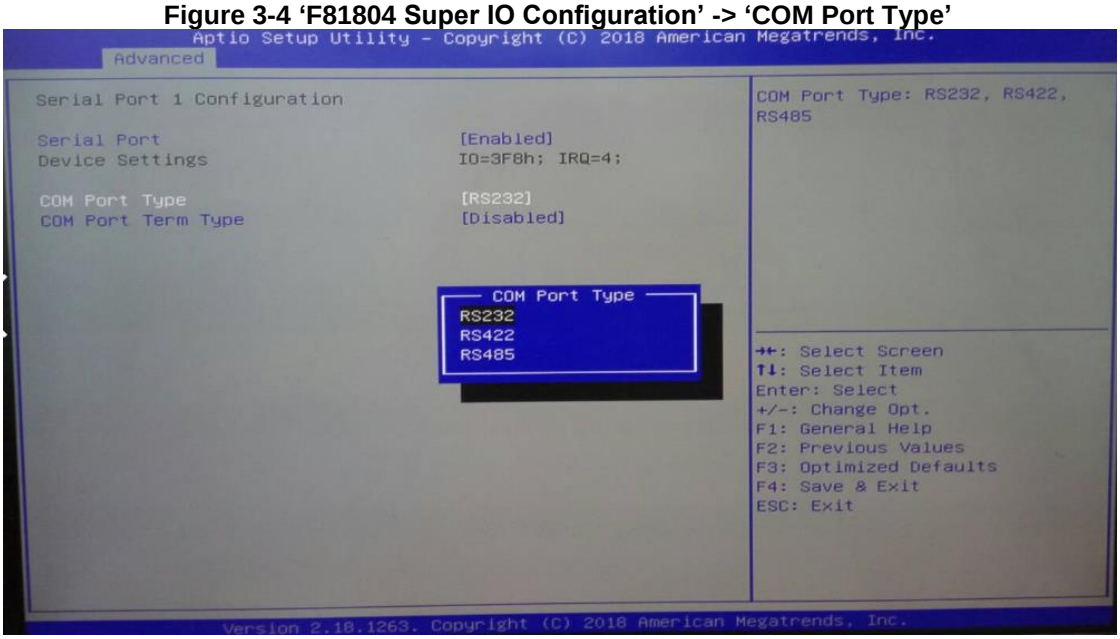
Device Setting

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

COM Port Type

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

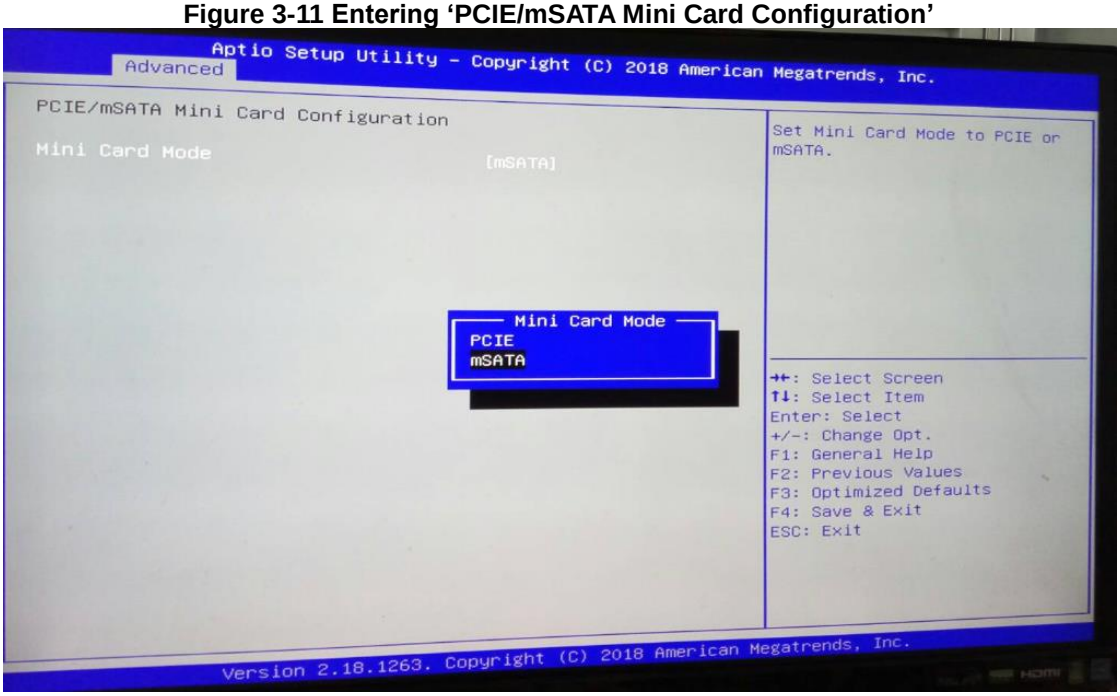
Figure 3-4 'F81804 Super IO Configuration' -> 'COM Port Type'



3.3.2 PCIE/mSATA Mini Card Configuration

Figure 3-11 shows the page once entering *PCIE/mSATA Mini Card Configuration.* There are two options to choose from: [PCIE] and [mSATA].

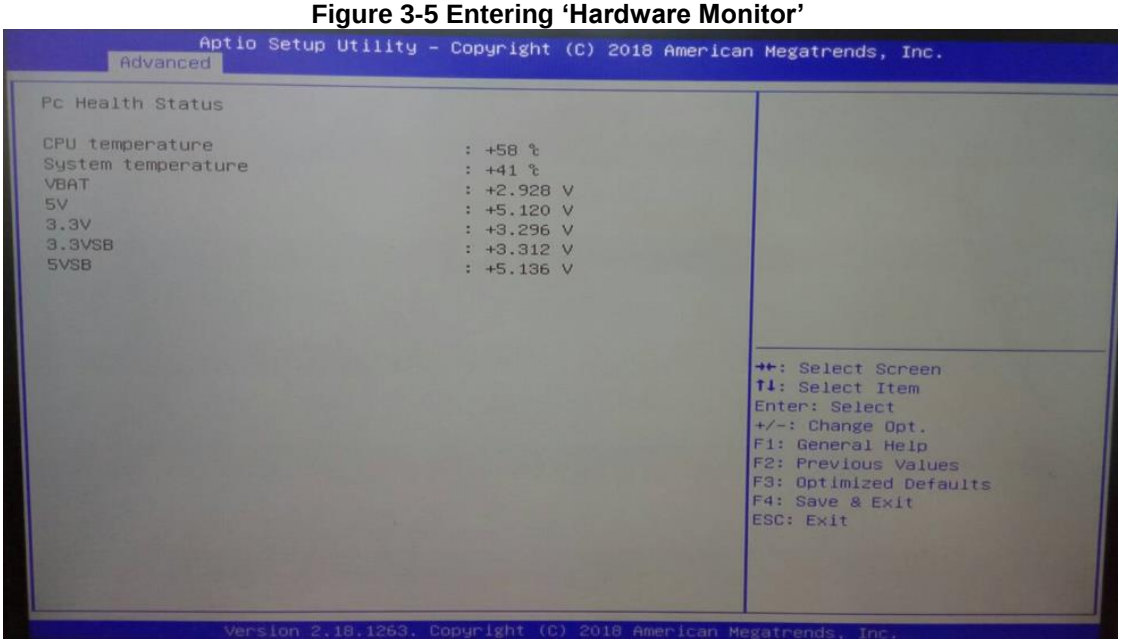
Figure 3-11 Entering 'PCIE/mSATA Mini Card Configuration'



3.3.3 Hardware Monitor

Figure 3-5 shows a screen reflecting the 'PC Health Status' of the hardware in real time.

Figure 3-5 Entering 'Hardware Monitor'

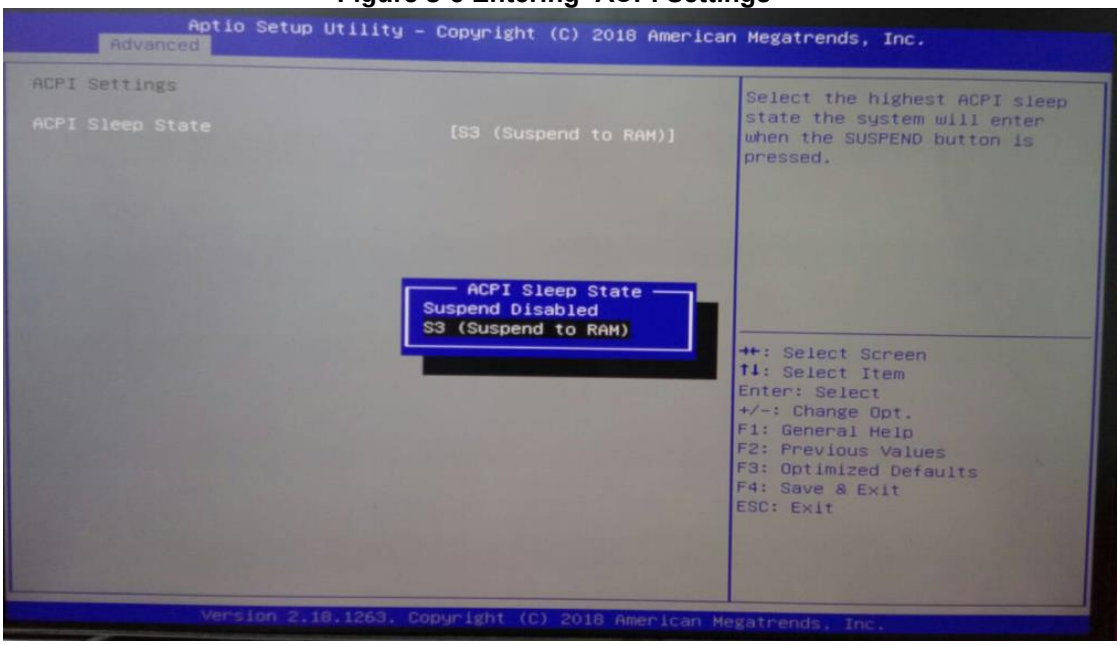


3.3.4 ACPI Settings

This screen is used to select options of the ACPI Configuration, and then 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] or [S3 (Suspend to RAM)] (as shown in Figure 3-6).

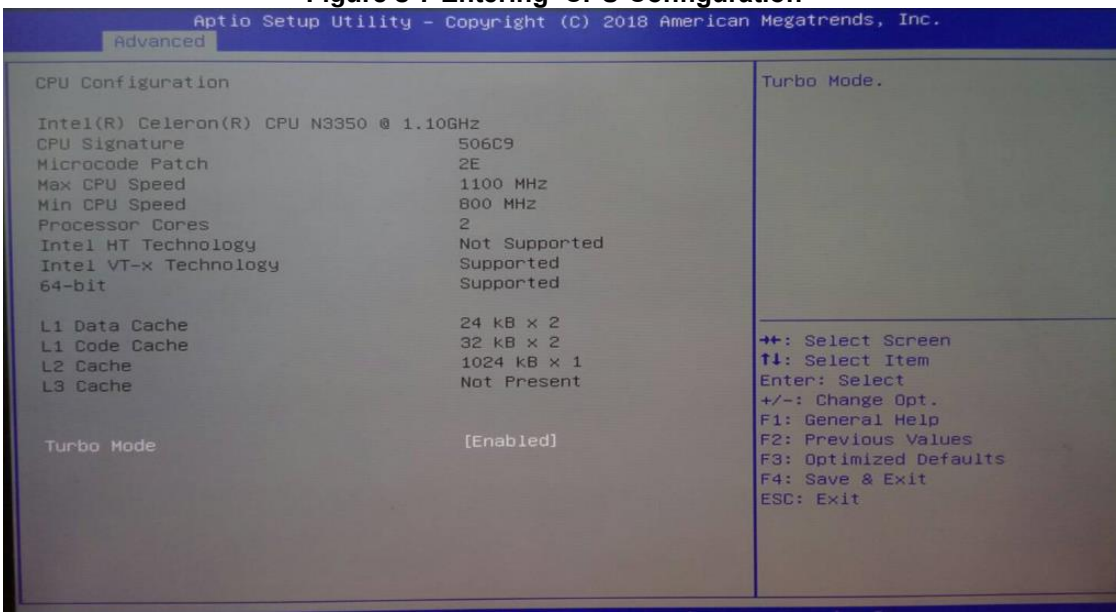
Figure 3-6 Entering 'ACPI Settings'



3.3.5 CPU Configuration

Figure 3-7 shows a page of CPU configuration with the item *Intel Virtualization Technology* highlighted for [Enabled] or [Disabled].

Figure 3-7 Entering 'CPU Configuration'

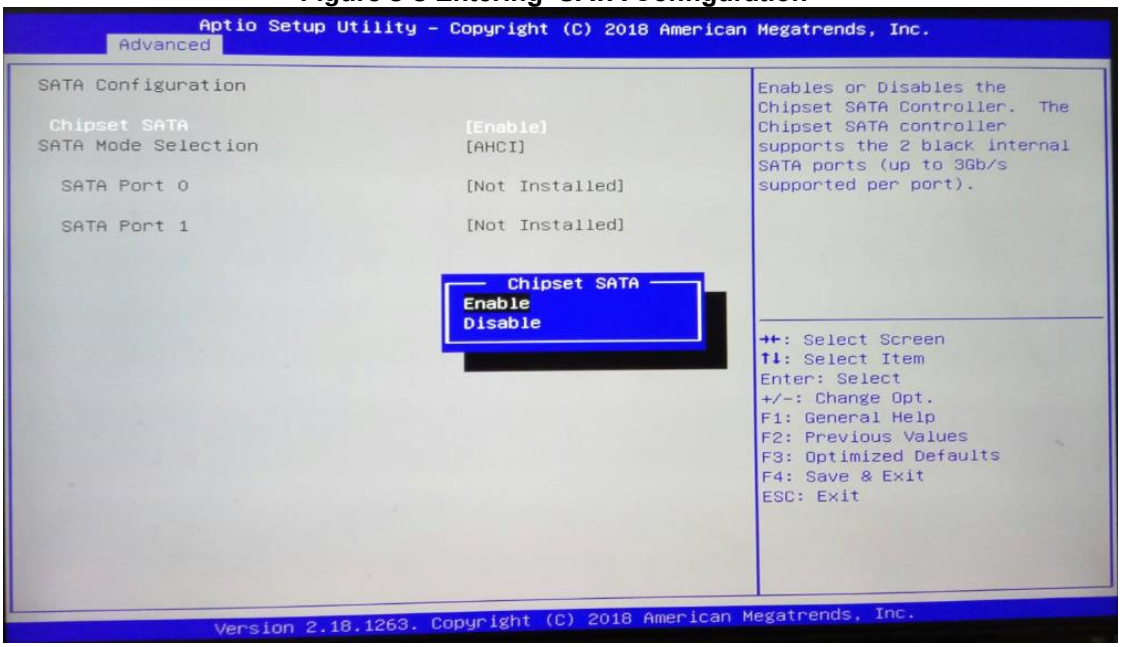


3.3.6 SATA Configuration

This screen allows users to select options for SATA Configuration, and then 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].

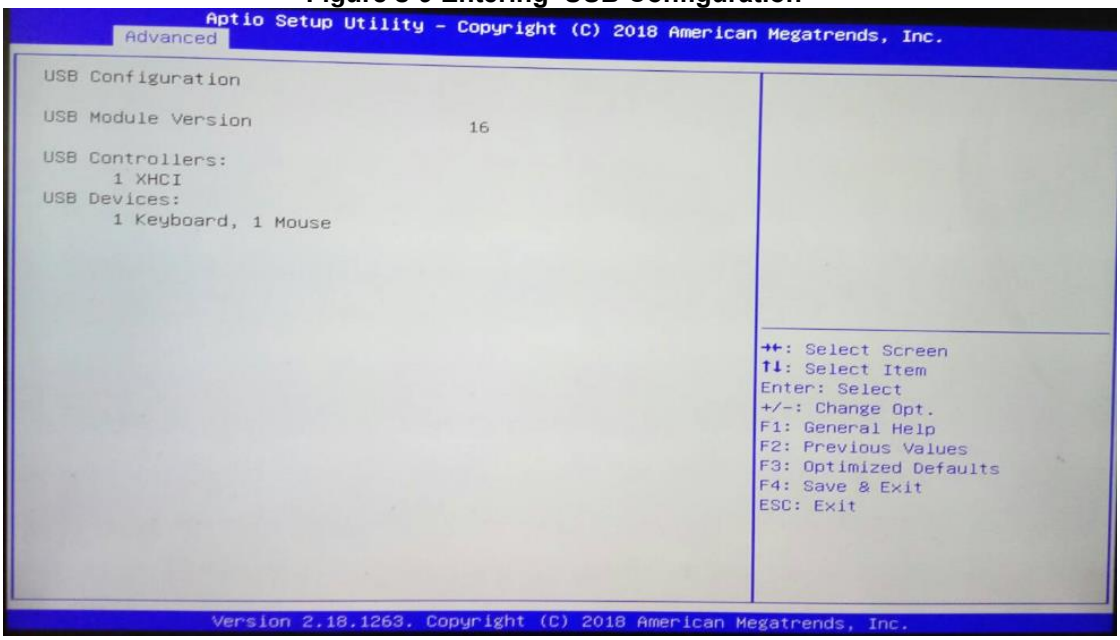
Figure 3-8 Entering 'SATA Configuration'



3.3.7 USB Configuration

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

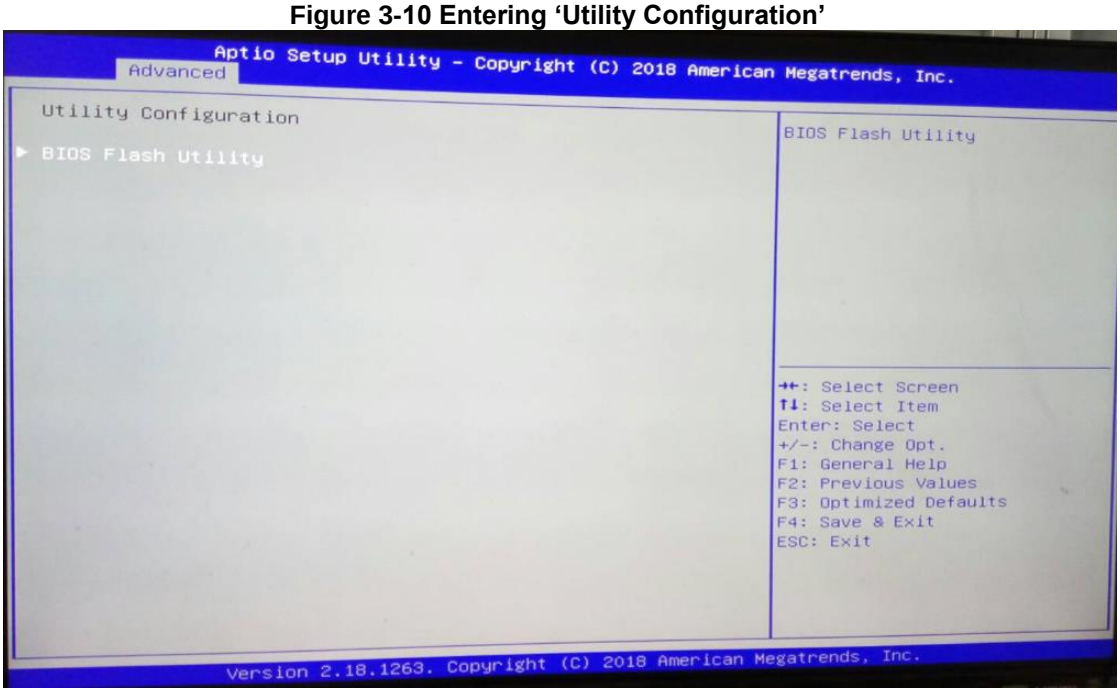
Figure 3-9 Entering 'USB Configuration'



3.3.8 Utility Configuration

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

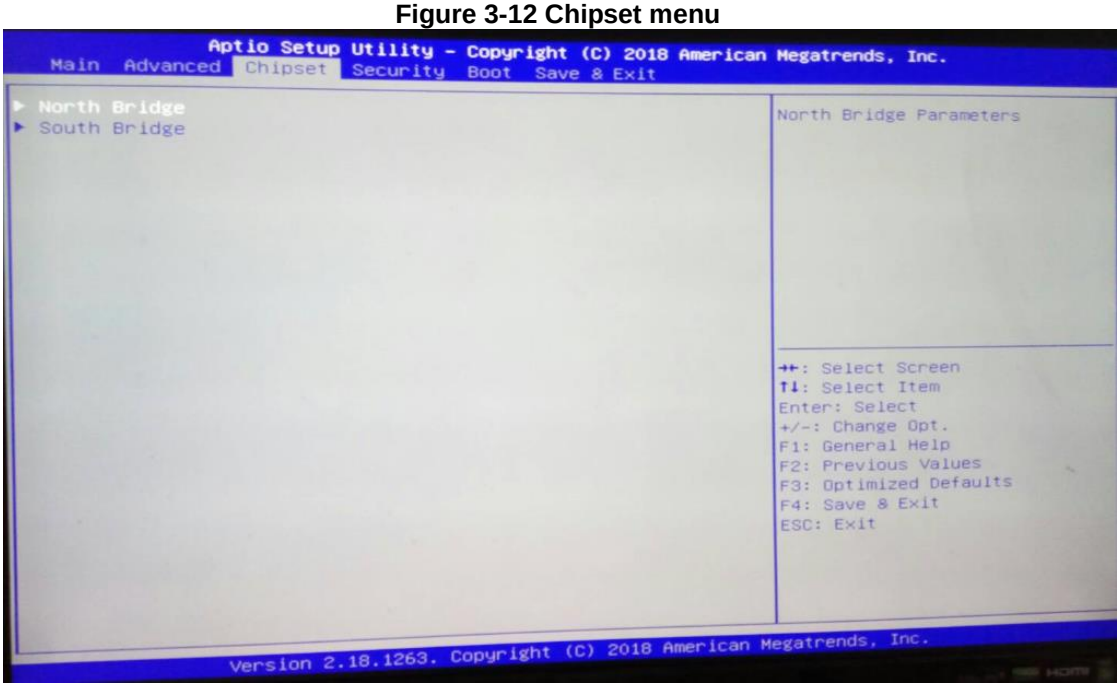
Figure 3-10 Entering 'Utility Configuration'



3.4 Chipset Menu

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

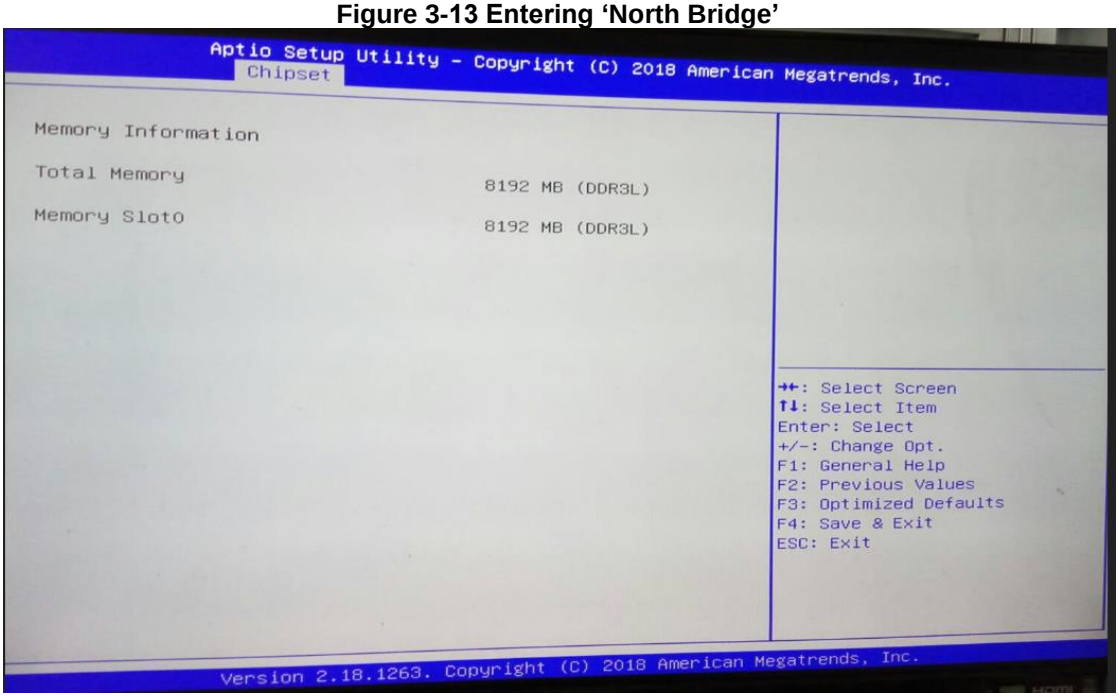
Figure 3-12 Chipset menu



3.4.1 North Bridge

North Bridge memory information is shown in Figure 3-13.

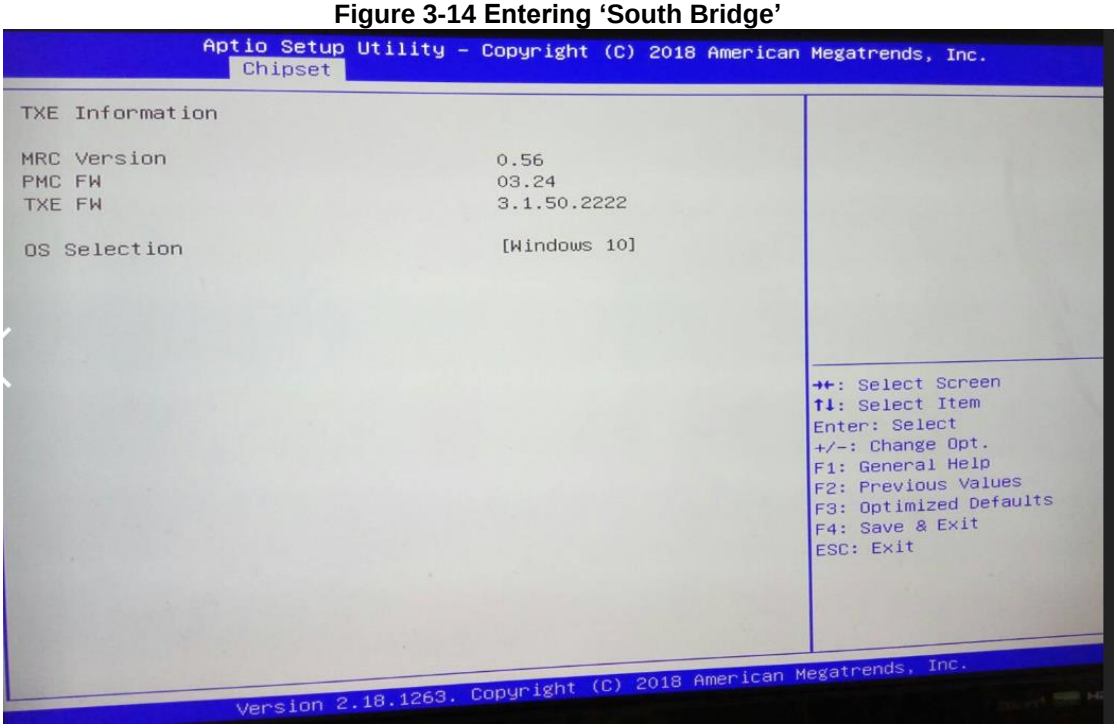
Figure 3-13 Entering 'North Bridge'



3.4.2 South Bridge

South Bridge TXE information is shown in Figure 3-14.

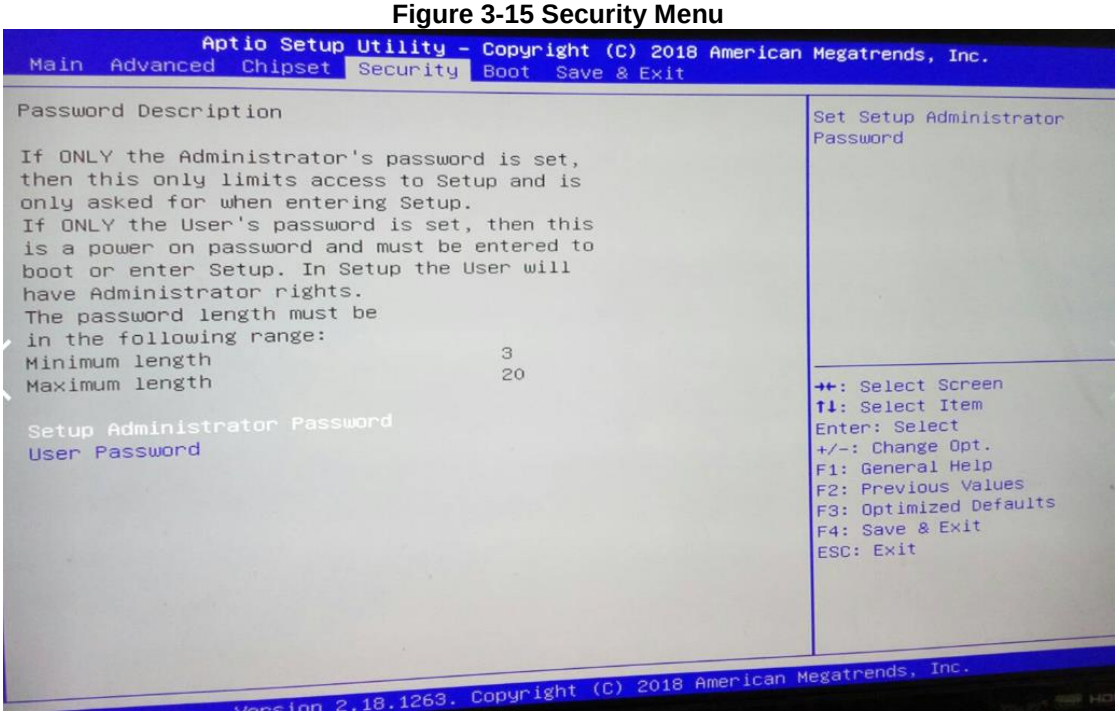
Figure 3-14 Entering 'South Bridge'



3.5 Security Menu

You may set the administrator/user password for the system.

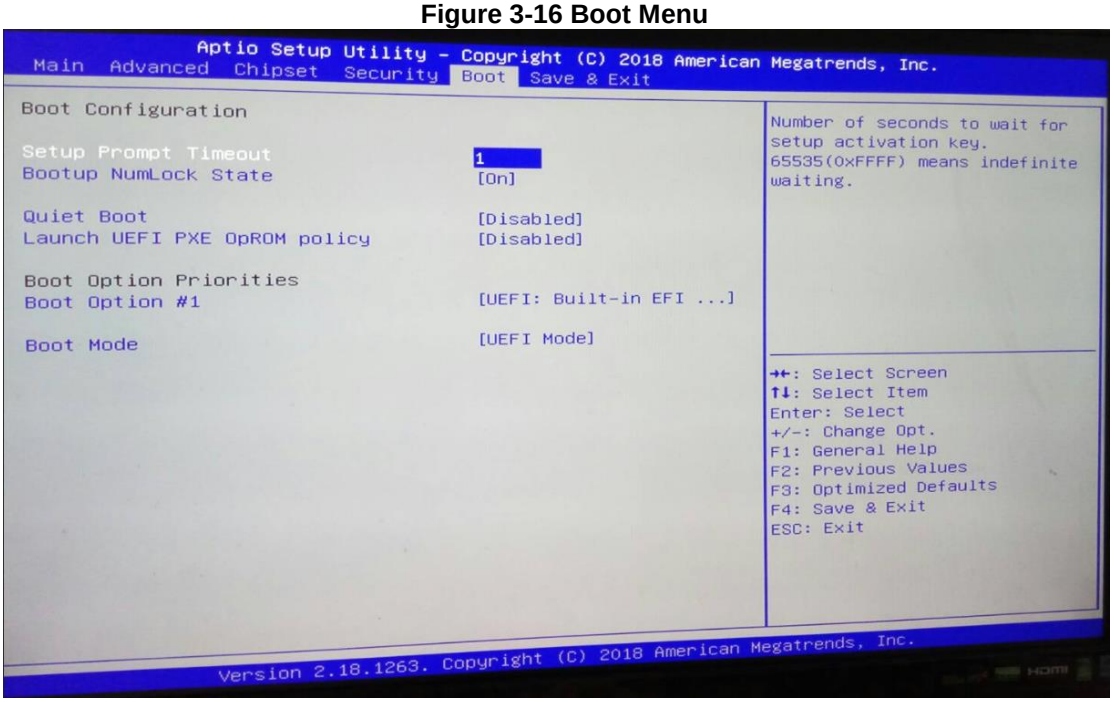
Figure 3-15 Security Menu



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 the NumLock. The default setting is [On].

Quiet Boot

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

Launch UEFI PXE OpROM policy

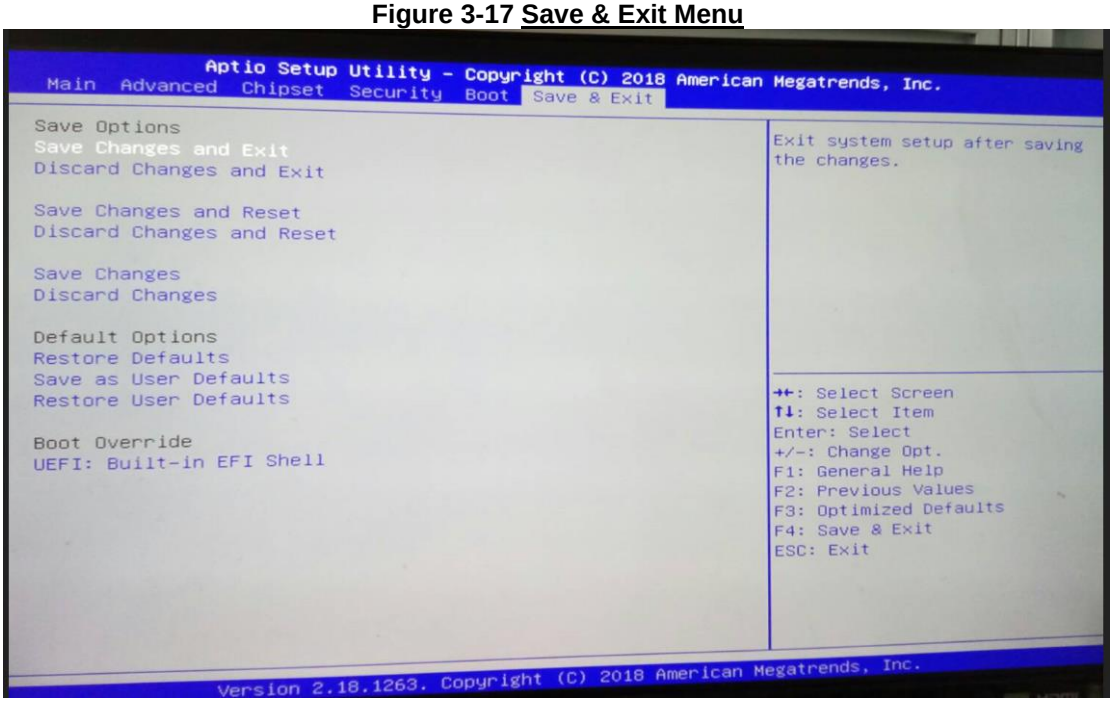
Use this item to enable or disable the Pre-boot Execution Environment (PXE) under UEFI mode. The default setting is [Disabled].

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



Chapter 4
Drivers Installation

4.1 System

The GOT110-316 supports Windows 10 pro and Windows 10 IoT Enterprise. To facilitate the installation of system driver, please carefully read the instructions in this chapter before installation.

4.1.1 Windows 10

1. Insert the driver CD and select the "\Drivers".
2. Select all files and follow the installing procedure.

4.2 Touch Screen

The GOT110-316 adopts a 5-wire analog resistive touch screen. The specification and driver installation are listed below.

4.2.1 Specification

Touch Screen	5-wire analog resistive type
Touch Screen Controller	PenMount 6000 USB Touch Screen Controller IC
Communications	USB interface
Resolution	1024 x 1024
Power Input	5V
Power Consumption	Active: 24.6mA / Idle Mode: 13.4mA

4.2.2 Driver Installation- Windows 10

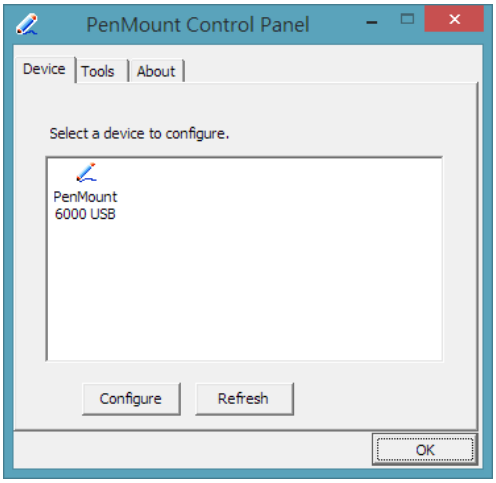
The GOT110-316 (resistive touch model) provides a touch screen driver that users can install under the operating system Windows 10. To facilitate installation of the touch screen driver, you should read the instructions in this chapter carefully before you start installation.

1. Insert the driver CD and follow the path to select "\Drivers\06 Touch driver".

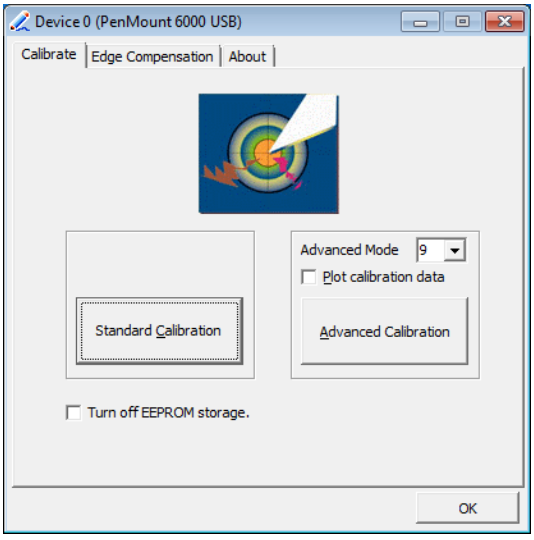
NOTE On Apollo Lake platform, both Windows 10 pro and Windows 10 IoT can support 64 bit.

2. Follow the installing procedure and press OK.

3. Click Start menu and select "PenMount Utilities". Then a "PenMount Control Panel" pops out.

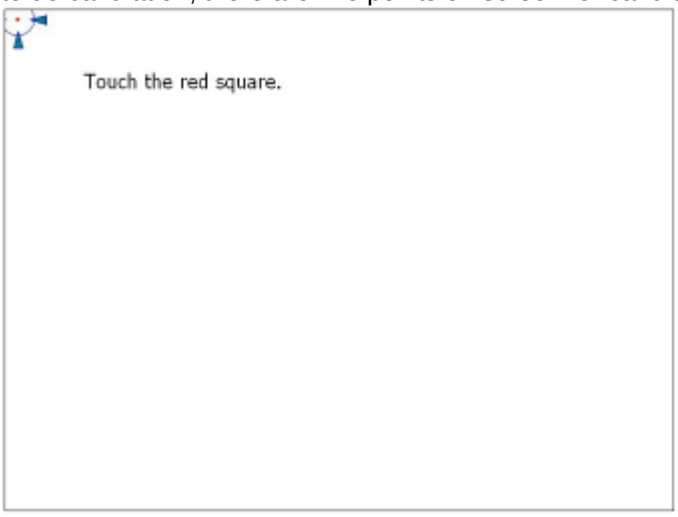


4. Select the "Standard Calibrate" tab.



5. Calibration:

   To adjust the display of the touch panel, click "Calibration" and follow the calibrating point to do calibration; there are five points on screen for calibration.



6. Press OK.

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Appendix A Watchdog Timer & DIO Programming

About Watchdog Timer

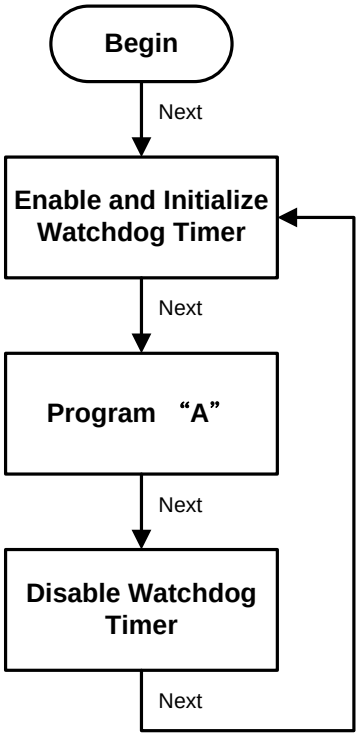
Software stability is a major issue in most applications. Some embedded systems are not watched by humans for 24 hours. It is usually too slow to wait for someone to reboot when a computer hangs. The system needs to be able to reset automatically when things go wrong. The watchdog timer gives us that solution.

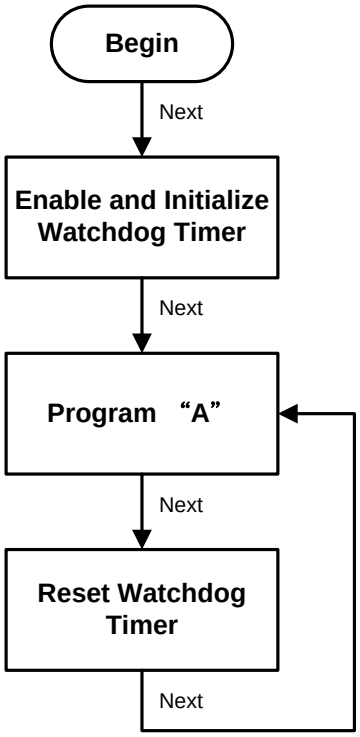
The watchdog timer is a counter that triggers a system reset when it counts down to zero from a preset value. The software starts the counter with an initial value and must reset it periodically. If the counter ever reaches zero which means the software has crashed, the system will reboot.

How to Use Watchdog Timer

The I/O port base addresses of the watchdog timer are 2E (hex) and 2F (hex). The 2E (hex) and 2F (hex) are address and data port respectively.

Assume that program A is put in a loop that must execute at least once every 10ms. Initialize the watchdog timer with a value bigger than 10ms. If the software has no problems, the watchdog timer will never expire because software will always restart the counter before it reaches zero.


Begin
Next
Enable and Initialize Watchdog Timer
Next
Program "A"
Next
Disable Watchdog Timer
Next


Begin
Next
Enable and Initialize Watchdog Timer
Next
Program "A"
Next
Reset Watchdog Timer
Next

WDT Sample Program

Enable WDT

1.Enable configuration:
-O 2E 87
-O 2E 87

2. Select Logic device:
-O 2E 07
-O 2F 07

3. WDT device enable:
-O 2E FA
-O 2F 01

4. Set base timer:
-O 2E F6
-O 2F 0A ➔Set reset time (Ex.0A:10 Sec/Minute)

5. Set timer unit (bit[3]=0: Sec; bit[3]=1: Minute):
Enable watchdog time counting (bit5=1)
-O 2E F5
-O 2F 20 (Set timer unit to sec and enable counting)

How to Use DIO Software Programming

Digital I/O Software Programming

- I2C to GPIO PCA9535PW GPIO
- I2C address: 0b01000100.

Command byte

The command byte is the first byte to follow the address byte during a write transmission. It is used as a pointer to determine which of the following registers will be written or read.

Table 4. Command byte

Command	Register
0	Input port 0
1	Input port 1
2	Output port 0
3	Output port 1
4	Polarity Inversion port 0
5	Polarity Inversion port 1
6	Configuration port 0
7	Configuration port 1

Registers 0 and 1: Input port registers

This register is an input-only port. It reflects the incoming logic levels of the pins, regardless of whether the pin is defined as an input or an output by Register 3. Writes to this register have no effect.

The default value 'X' is determined by the externally applied logic level.

Table 5. Input port 0 Register

Bit	7	6	5	4	3	2	1	0
Symbol	I0.7	I0.6	I0.5	I0.4	I0.3	I0.2	I0.1	I0.0
Default	X	X	X	X	X	X	X	X

Table 6. Input port 1 register

Bit	7	6	5	4	3	2	1	0
Symbol	I1.7	I1.6	I1.5	I1.4	I1.3	I1.2	I1.1	I1.0
Default	X	X	X	X	X	X	X	X

Registers 2 and 3: Output port registers

This register is an output-only port. It reflects the outgoing logic levels of the pins defined as outputs by Registers 6 and 7. Bit values in this register have no effect on pins defined as inputs. In turn, reads from this register reflect the value that is in the flip-flop controlling the output selection, **not** the actual pin value.

Table 7. Output port 0 register

Bit	7	6	5	4	3	2	1	0
Symbol	O0.7	O0.6	O0.5	O0.4	O0.3	O0.2	O0.1	O0.0
Default	1	1	1	1	1	1	1	1

Table 8. Output port 1 register

Bit	7	6	5	4	3	2	1	0
Symbol	O1.7	O1.6	O1.5	O1.4	O1.3	O1.2	O1.1	O1.0
Default	1	1	1	1	1	1	1	1

Registers 4 and 5: Polarity Inversion registers

This register allows the user to invert the polarity of the Input port register data. If a bit in this register is set (written with '1'), the Input port data polarity is inverted. If a bit in this register is cleared (written with a '0'), the Input port data polarity is retained.

Table 9. Polarity Inversion port 0 register

Bit	7	6	5	4	3	2	1	0
Symbol	N0.7	N0.6	N0.5	N0.4	N0.3	N0.2	N0.1	N0.0
Default	0	0	0	0	0	0	0	0

Table 10. Polarity Inversion port 1 register

Bit	7	6	5	4	3	2	1	0
Symbol	N1.7	N1.6	N1.5	N1.4	N1.3	N1.2	N1.1	N1.0
Default	0	0	0	0	0	0	0	0

Registers 6 and 7: Configuration registers

This register configures the directions of the I/O pins. If a bit in this register is set (written with '1'), the corresponding port pin is enabled as an input with high-impedance output driver. If a bit in this register is cleared (written with '0'), the corresponding port pin is enabled as an output. At reset, the device's ports are inputs.

Table 11. Configuration port 0 register

Bit	7	6	5	4	3	2	1	0
Symbol	C0.7	C0.6	C0.5	C0.4	C0.3	C0.2	C0.1	C0.0
Default	1	1	1	1	1	1	1	1

Table 12. Configuration port 1 register

Bit	7	6	5	4	3	2	1	0
Symbol	C1.7	C1.6	C1.5	C1.4	C1.3	C1.2	C1.1	C1.0
Default	1	1	1	1	1	1	1	1

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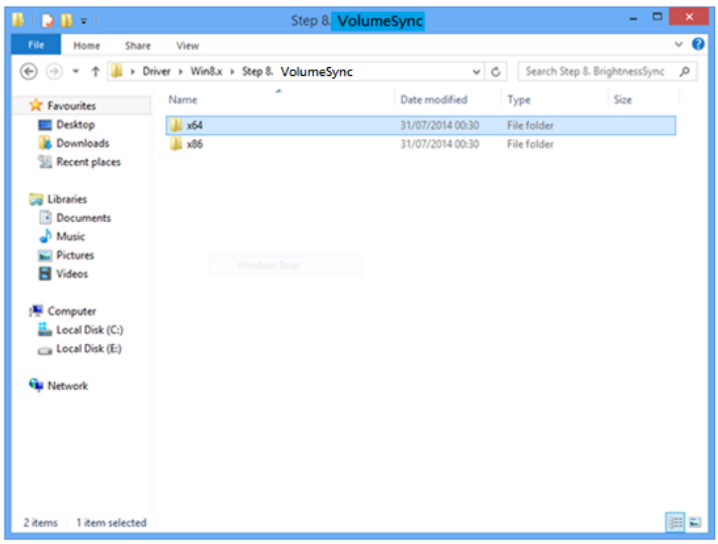
Appendix B
Volume Control

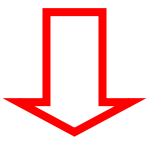
About Volume Control

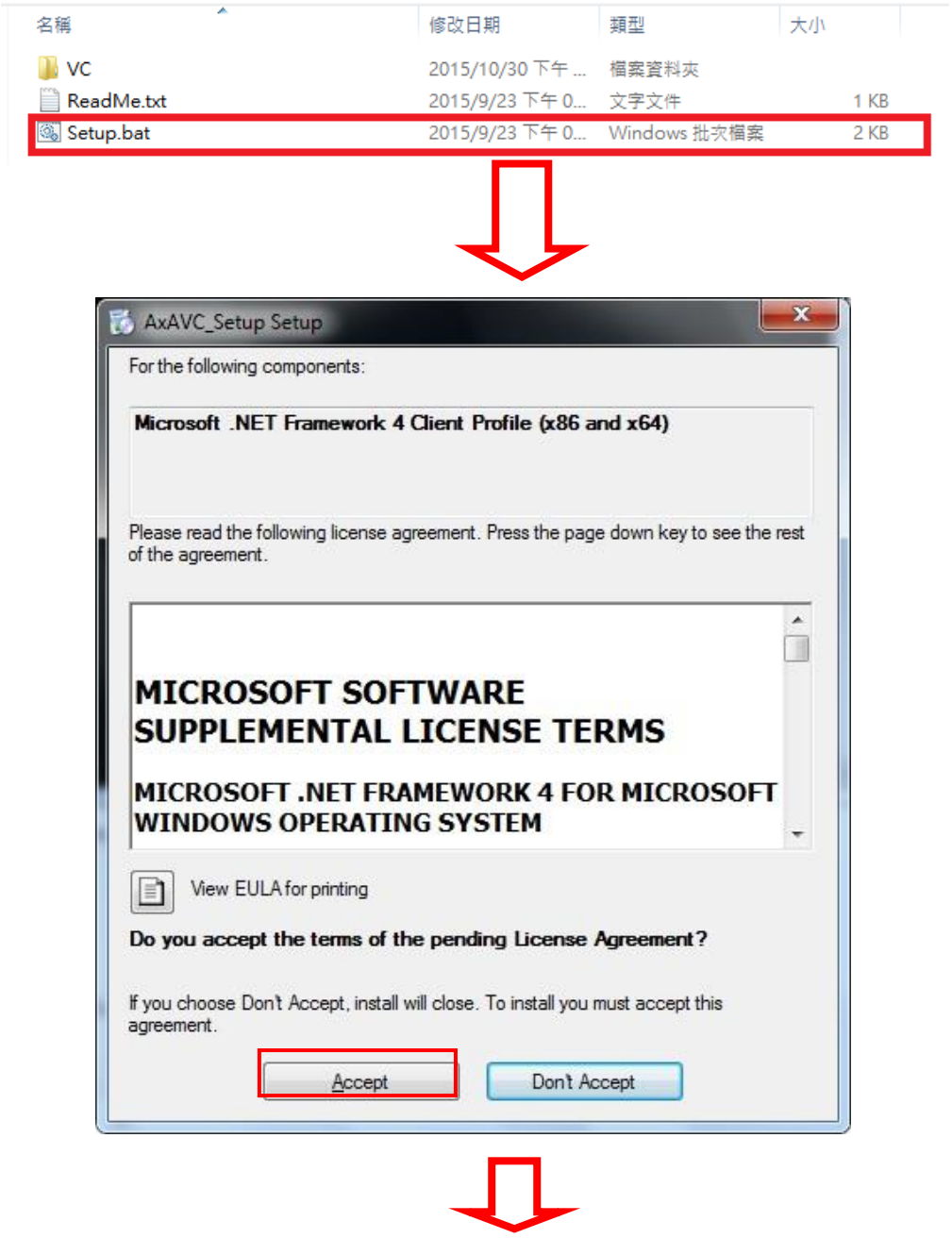
Axiomtek offers the volume control tool under Windows 7, Windows 8 and Windows 10. After installing the volume control tool, users can adjust the system volume depending on their personal needs and the amount of ambient volume in their locations.

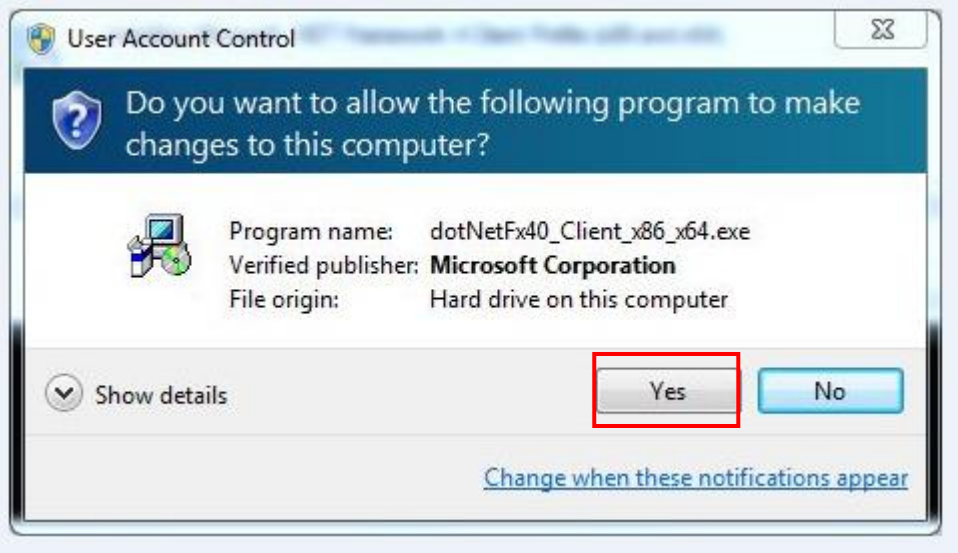
How to Use Volume Control

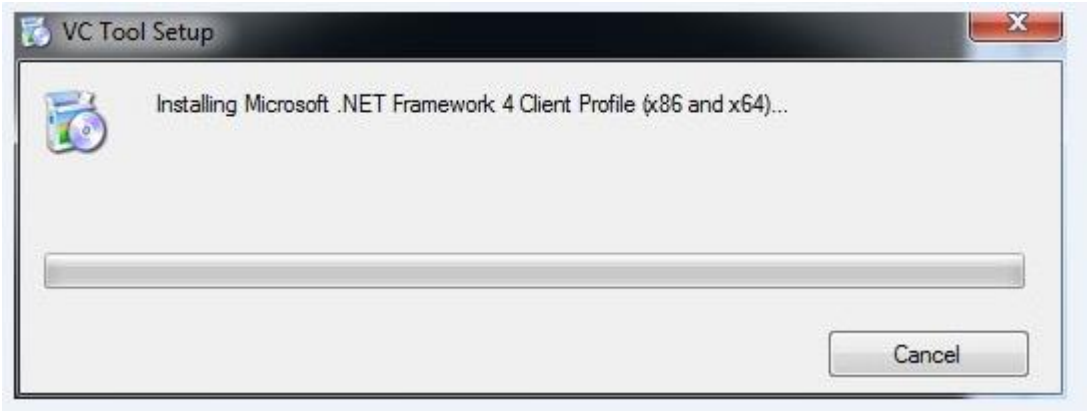
Step 1 According to the OS version, please insert the driver CD and follow the path to select the proper driver: "Driver\Step 7 – VolumeSync".

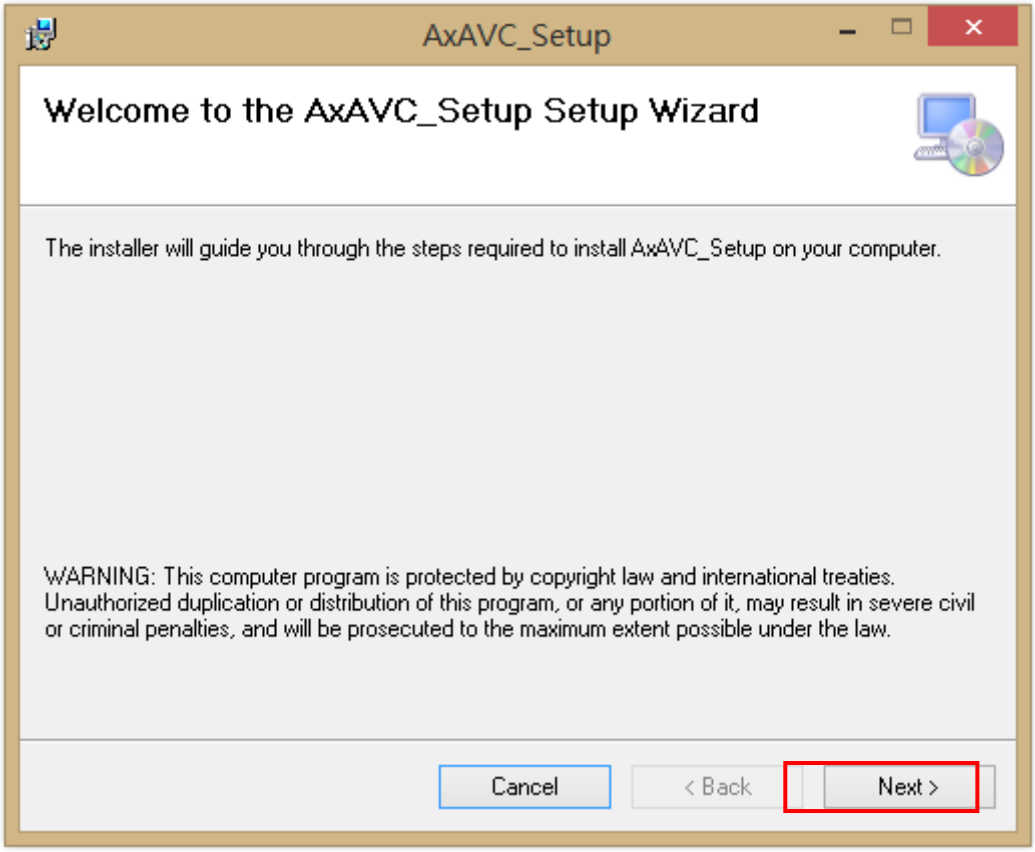


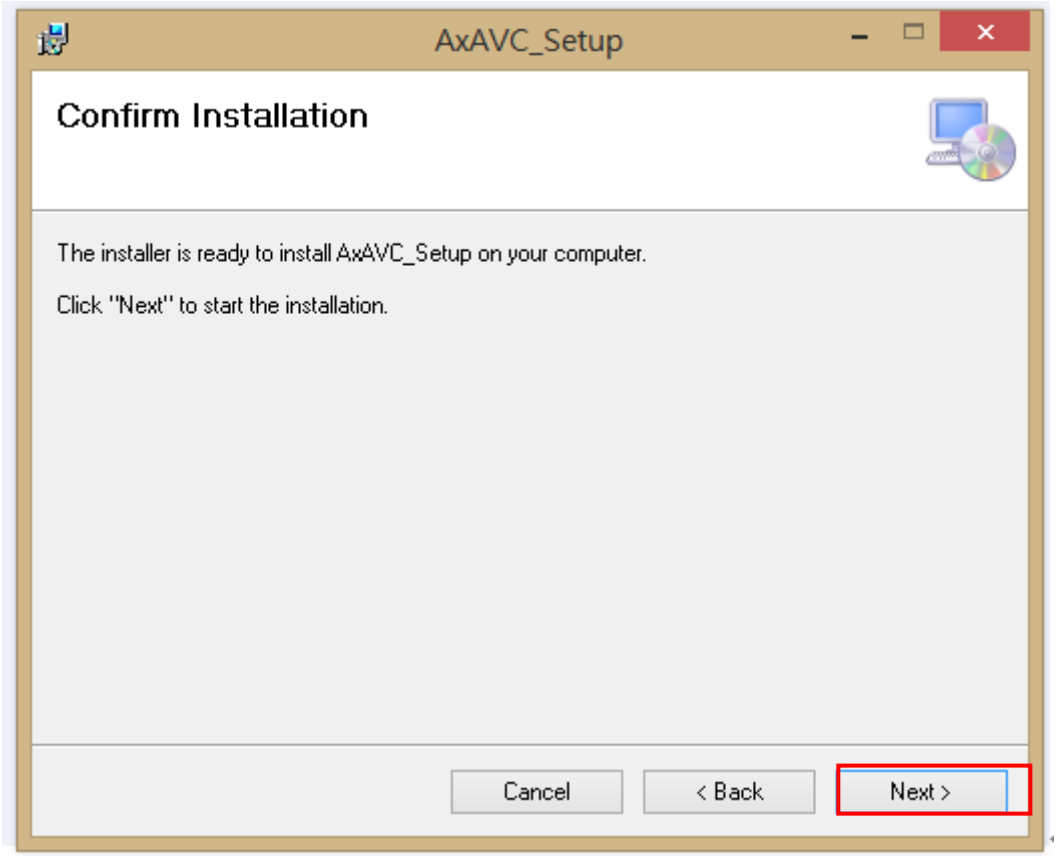


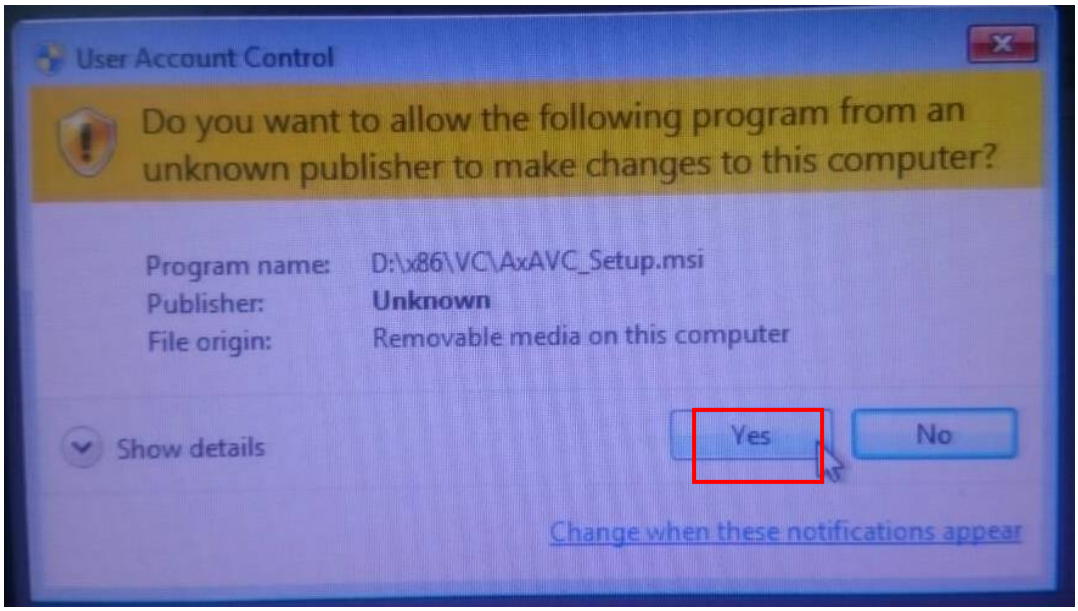

名稱
修改日期
類型
大小
VC
2015/10/30 下午 ...
檔案資料夾
ReadMe.txt
2015/9/23 下午 0...
文字文件
1 KB
Setup.bat
2015/9/23 下午 0...
Windows 批次檔案
2 KB
AxAVC_Setup Setup
For the following components:
Microsoft .NET Framework 4 Client Profile (x86 and x64)
Please read the following license agreement. Press the page down key to see the rest of the agreement.
MICROSOFT SOFTWARE SUPPLEMENTAL LICENSE TERMS
MICROSOFT .NET FRAMEWORK 4 FOR MICROSOFT WINDOWS OPERATING SYSTEM
View EULA for printing
Do you accept the terms of the pending License Agreement?
If you choose Don't Accept, install will close. To install you must accept this agreement.
Accept
Don't Accept

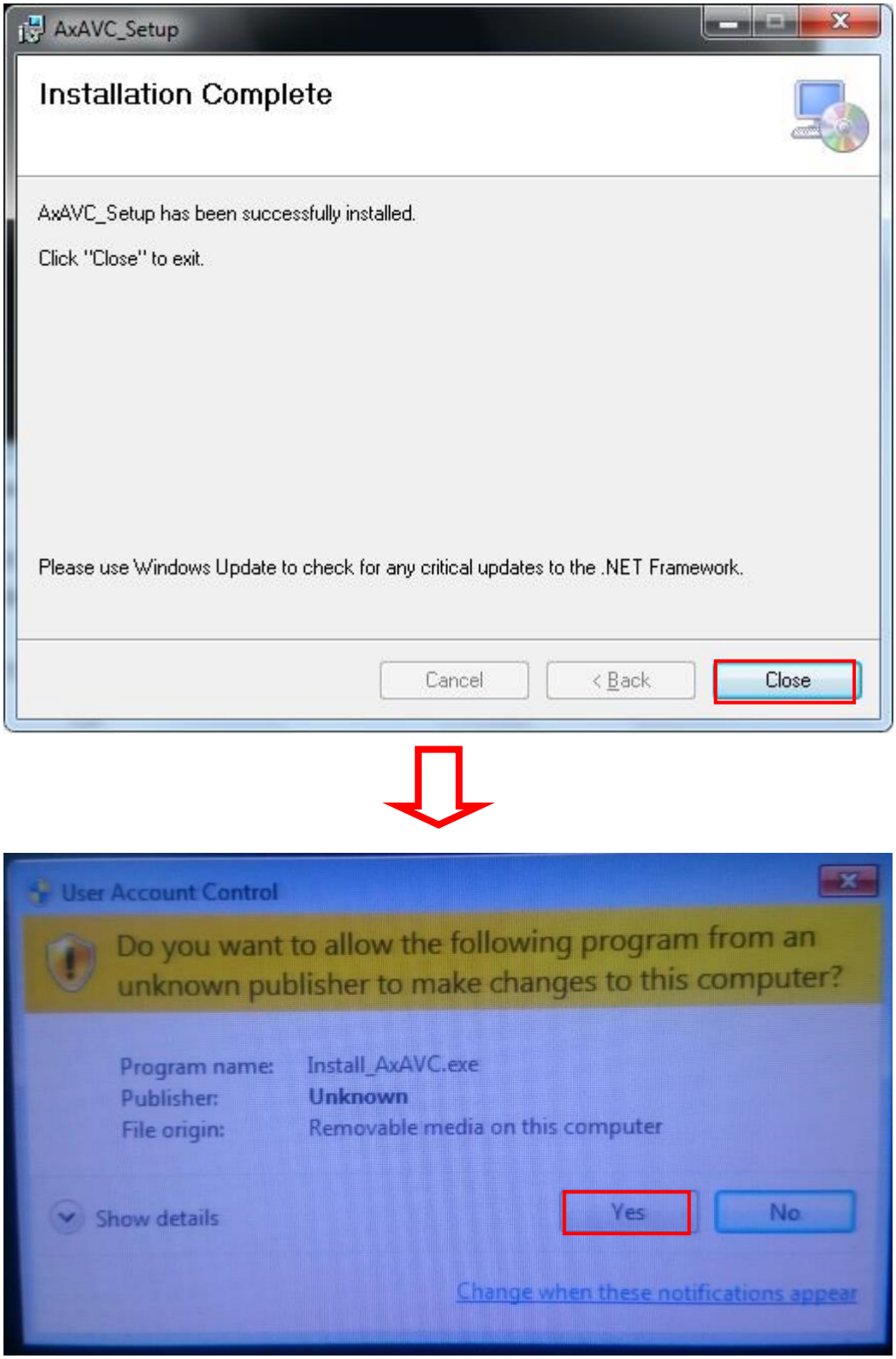

User Account Control
Do you want to allow the following program to make changes to this computer?
Program name: dotNetFx40_Client_x86_x64.exe
Verified publisher: Microsoft Corporation
File origin: Hard drive on this computer
Show details
Yes
No
Change when these notifications appear


VC Tool Setup
Installing Microsoft .NET Framework 4 Client Profile (x86 and x64)...
Cancel


AxAVC_Setup
Welcome to the AxAVC_Setup Setup Wizard
The installer will guide you through the steps required to install AxAVC_Setup on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
< Back
Next >

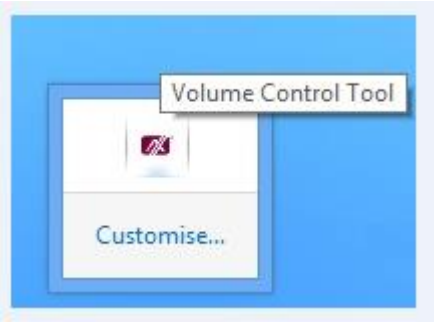

AxAVC_Setup
Confirm Installation
The installer is ready to install AxAVC_Setup on your computer.
Click "Next" to start the installation.
Cancel
< Back
Next >


User Account Control
Do you want to allow the following program from an unknown publisher to make changes to this computer?
Program name: D:\x86\VC\AxAVC_Setup.msi
Publisher: Unknown
File origin: Removable media on this computer
Show details
Yes
No
Change when these notifications appear



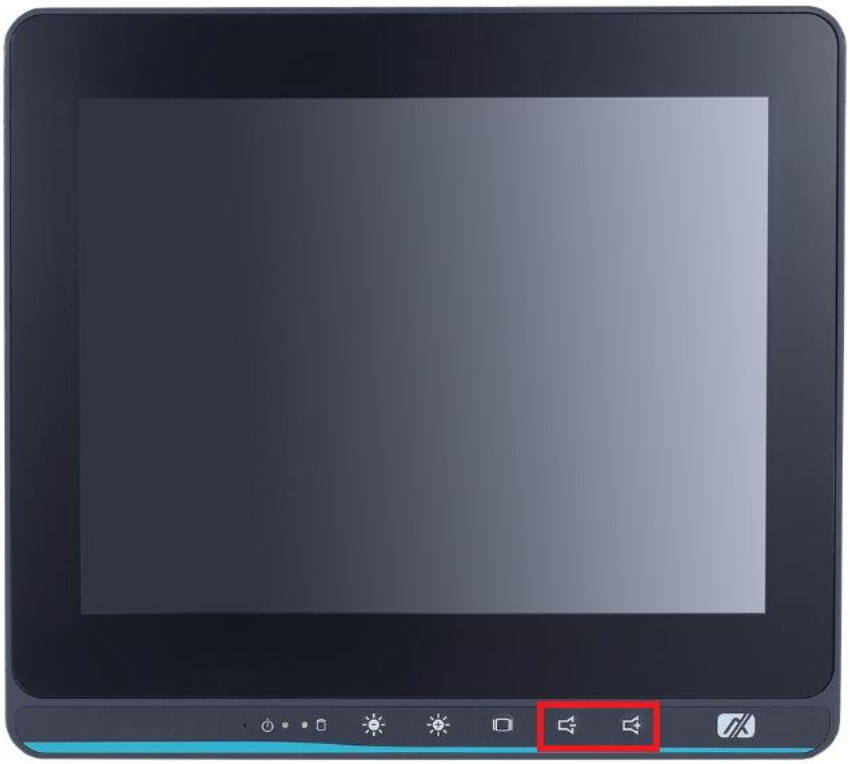
Step 2 The system auto reboots when installation is complete.

Step 3 **Select the "△" icon and then find the "Axiomtek" to ensure the volume driver is installed successfully.**



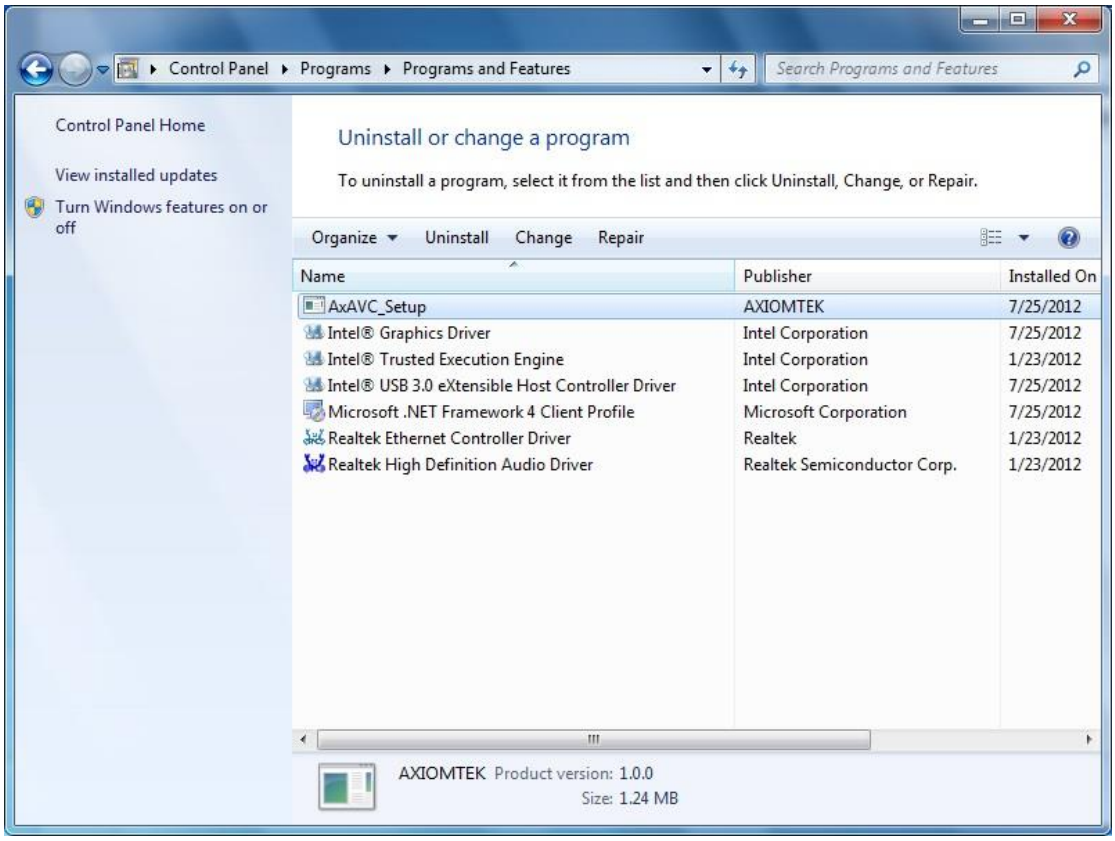
Step 4 **How to use the Volume Control:**

Select volume +- to adjust the system volume.

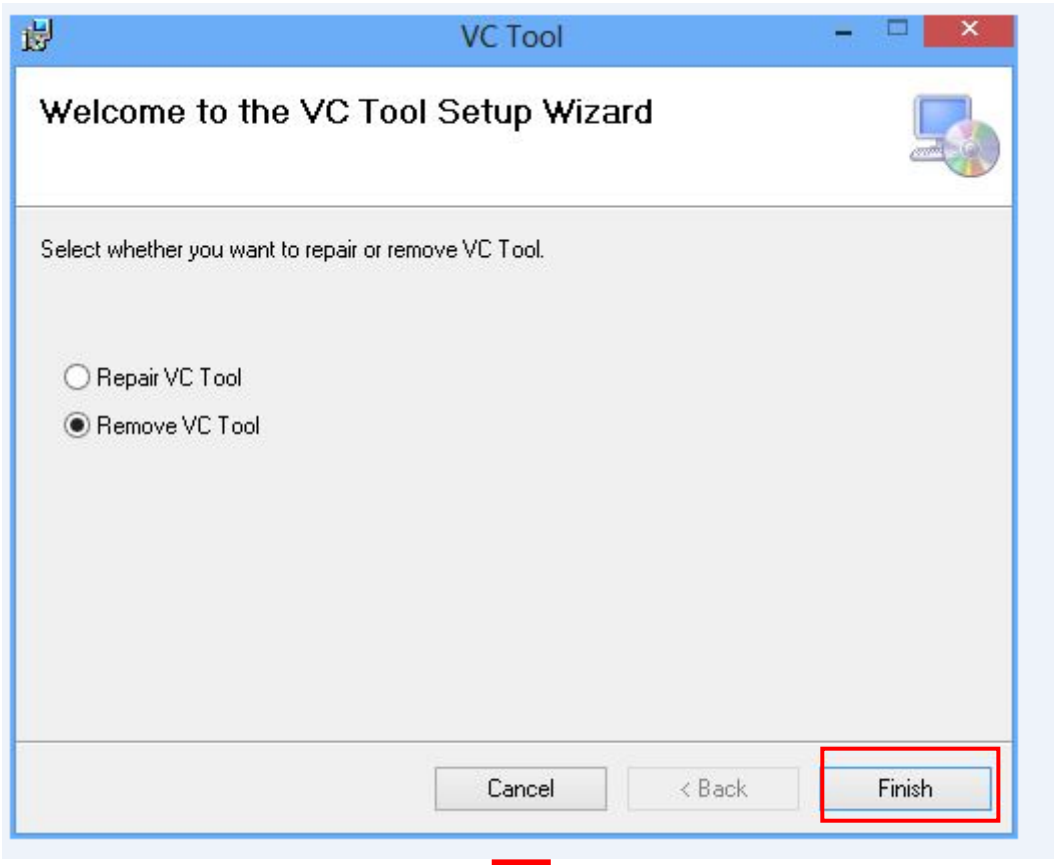


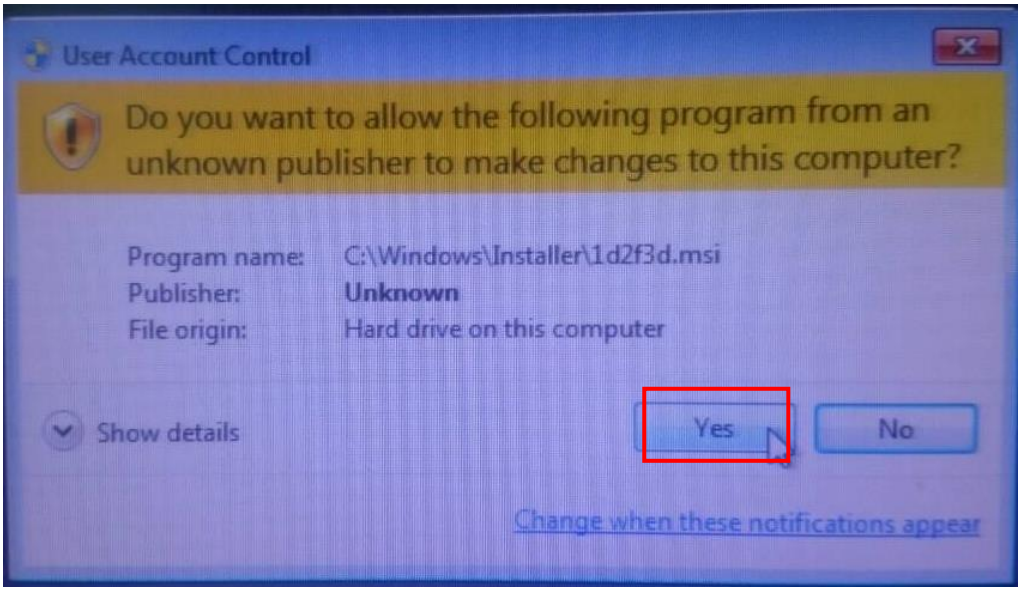
Removing the Volume Control Tool

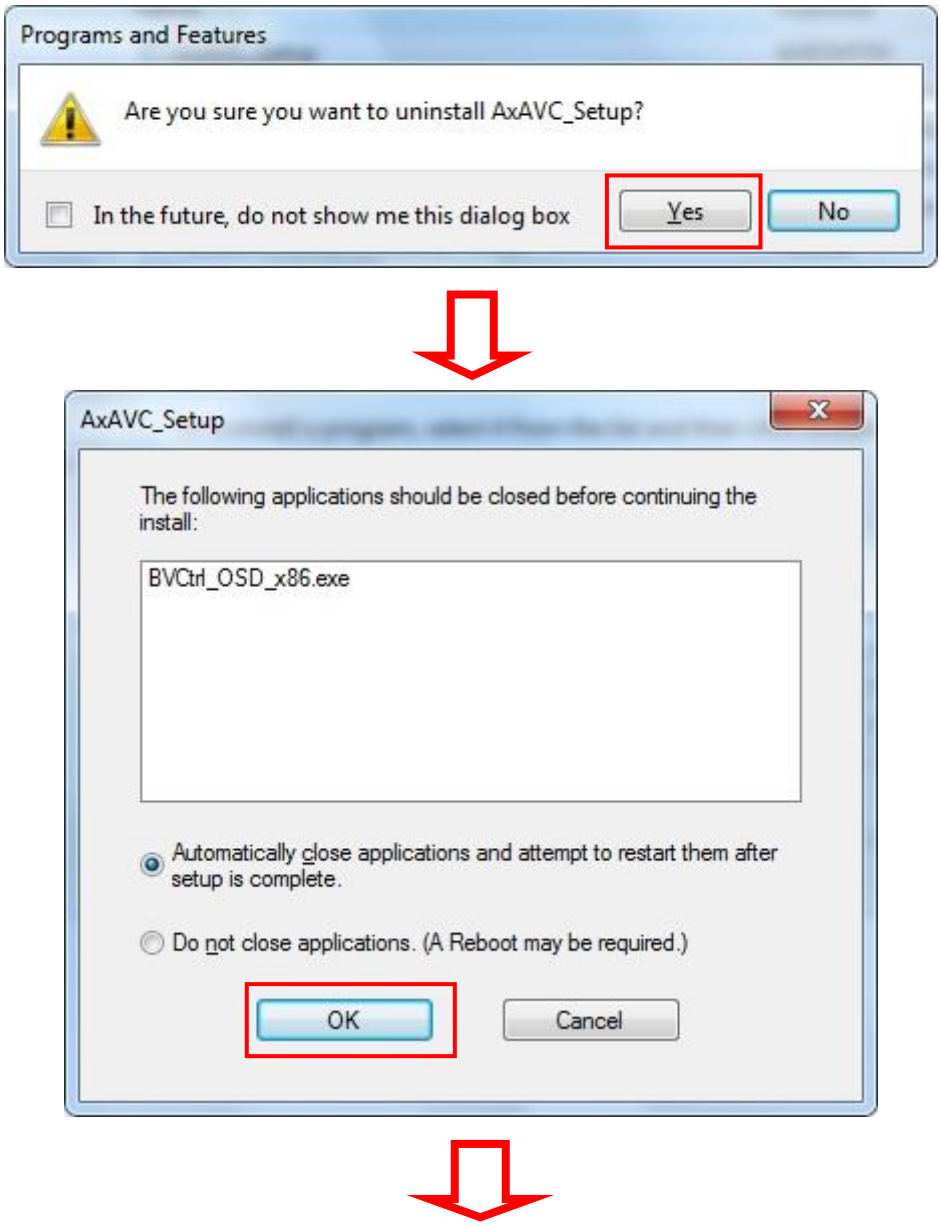
Step 1 Go to Control Panel -> Programs -> Programs and Features. Select Uninstall on AxAVC_Setup.



Step 2 Follow the procedure and press "Close".







Step 3 The system auto reboots when uninstallation is complete.