



AXIOMTEK

GOT3156T-832

**All-in-One
15" XGA TFT Fanless
Compact-Size PANEL PC**

User's Manual



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CAUTION

If you replace wrong batteries, it causes the danger of explosion. It is recommended by the manufacturer that you follow the manufacturer's instructions to only replace the same or equivalent type of battery, and dispose of used ones.

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Safety Precautions

Before getting started, read the following important cautions.

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 GOT3156T-832 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 GOT3156T-832 Series is properly grounded.
3. Do not open the system's top cover. If opening the cover for maintenance is a must, only a trained technician is allowed to do so. Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:
 - Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This will help to discharge any static electricity on your body.
 - When handling boards and components, wear a wrist-grounding strap, available from most electronic component stores.

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Chapter 1

Introduction

This chapter contains general information and detailed specifications of the GOT3156T-832. Chapter 1 includes the following sections:



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

1.1 General Description

The GOT3156T-832 adopts a 15-inch XGA TFT LCD with 450-nit brightness and an Intel® Atom™ processor N2600 1.6 GHz to provide excellent computing performance and thermal resistance. This fanless platform is especially designed for operating under heavy-duty environment including steel refinery, oil pipe, ship, machine maker operating systems and many more. Having below abilities makes GOT3156T-832 surely a most robust and cost-effective solution.

Wide Operating Temperature Range

GOT3156T-832 features a technology of wide operating temperature range which allows it to work between -20°C to +55°C. It incorporates compact ID and fanless cooling system with a low power Intel® Atom™ processor N2600 1.6 GHz, making the platform a power-efficient solution.

Reliable and Stable Design

The GOT3156T-832 adopts a fan-less cooling system and a CompactFlash™ card, which makes it especially suitable for vibration-heavy environments, best for the transportation, ship, and industrial machinery markets. For high capacity storage requirement, GOT3156T-832 can work under 1.3G (10 ~ 500Hz, random for 2.5” HDD) in operation mode with a patent of anti-vibration design. The patent improves the system reliability and sustainability.

WLAN Antenna Supported (optional)

GOT3156T-832 has a PCI Express Mini Card slot for optional add-ons such as wireless LAN card for 802.11 b/g connections & 3G/GPRS application, graphics-enhanced video card, universal analog TV/FM tuner/AV capture card, and more. It also provides an optional fixed rotational WLAN antenna for wireless network connection.

More Features

GOT3156T-832 utilizes one 204-pin DDR3 SODIMM system memory max. up to 2GB, one SATA HDD and one CompactFlash™ slot. It provides over-current protection-fuse and a full set of I/O including 3 RS-232, 1 RS-232/422/485, 4 USB 2.0, 1 audio (line-out), 2 Gigabit Ethernet and 1 VGA. Additionally, this slim unit supports panel mount, wall mount (optional), VESA mount (optional) and desktop stand (optional).

1.2 Specifications

Main CPU Board

- **CPU**
 - Intel® Atom™ N2600 1.6GHz processor onboard
- **System Chipset**
 - Intel® NM10 Express
- **System Memory**
 - One 204-pin DDR3 SO-DIMM socket
 - Maximum memory up to 2GB
- **BIOS**
 - America Megatrends BIOS

I/O System

- **Standard I/O**
 - Three RS-232 and one RS-232/422/485
 - Four USB 2.0

- **Ethernet**
 - Two Gigabit Ethernet
- **Audio**
 - One Line-out
- **Expansion**
 - One Mini card
- **Storage**
 - One slot for CF card
 - One SATA
- **Power connector**
 - Phoenix power connector

System Specification

- **15" XGA(1024x768) LCD with LED backlight**
- **5 wired resistive Touch**
- **Fanless Heat Dispensing Design**
- **IP65 aluminum front bezel**
- **Disk drive housing:**
 - One 2.5" SATA drive
- **Net Weight**
 - 7.4 Kgs (16.44 lb)
- **Dimension (Main Body Size)**
 - 378mm x 60.7mm x 309mm
- **Operation Temperature**
 - -20°C to 55°C
- **Relative Humidity**
 - 20% to 90% @ 40°C, Non-Condensing
- **Power input**
 - DC power 10~30V (phoenix type)



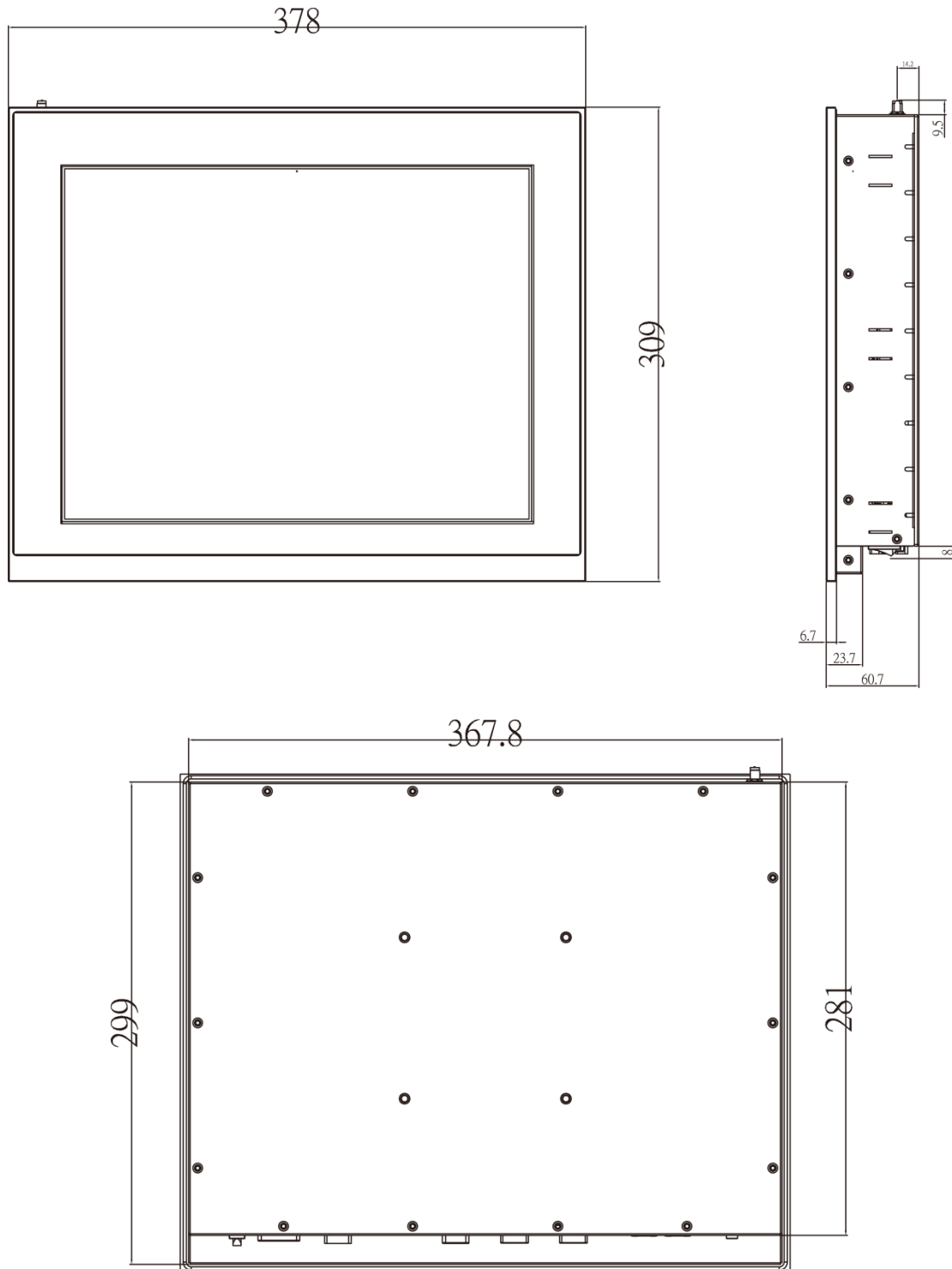
Note: All specifications and images are subject to change without notice.



Note: If the operation temperature is higher than 40°C, the wide temperature HDD is recommended to be used on the device, and it is higher than 45°C, the wide temperature CF or SSD is recommended to be used on the device.

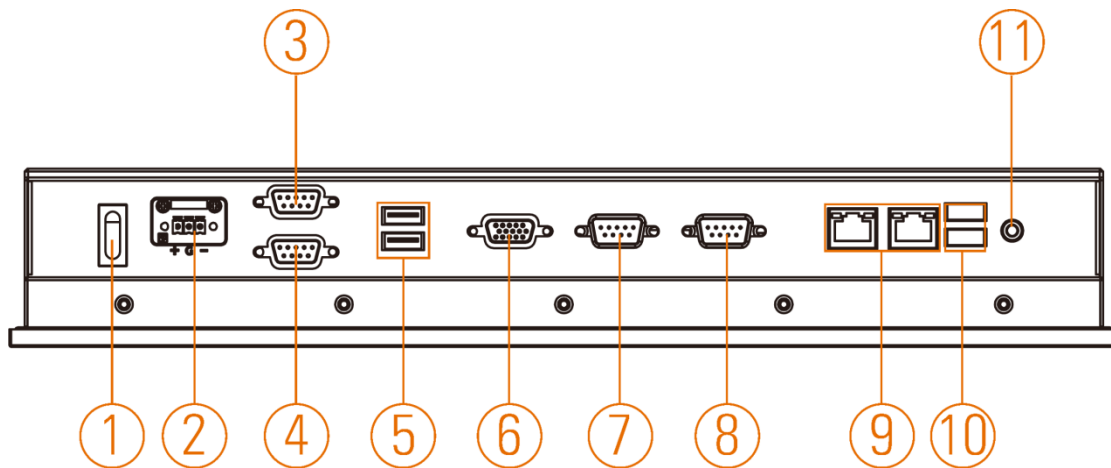
1.3 Dimensions and Outlines

The following diagrams show the dimensions and outlines of GOT3156T-832.



1.4 I/O Outlets

Please refer to the following illustration for I/O locations of the GOT3156T-832.



No	Function	No	Function
1	POWER SWITCH (ATX)	7	COM 1 (RS-232/422/485)
2	Power Input connector (phoenix)	8	COM 2 (RS-232)
3	COM 4 (RS-232)	9	Ethernet (RJ-45)
4	COM 3 (RS-232)	10	Dual USB 2.0 ports
5	Dual USB 2.0 ports	11	AUDIO (LINE-OUT)
6	VGA		

1.5 Packing List

When you receive the GOT3156T-832, the bundled package should contain the following items:

- **GOT3156T-832 unit** x 1
- **Driver CD** x 1
- **Phoenix connector** x 1
- **Panel mount kit** x 9
- **Screws for HDD** x 4

If you cannot find the package or any items are missing, please contact Axiomtek distributors immediately.

Chapter 2

Hardware and Installation

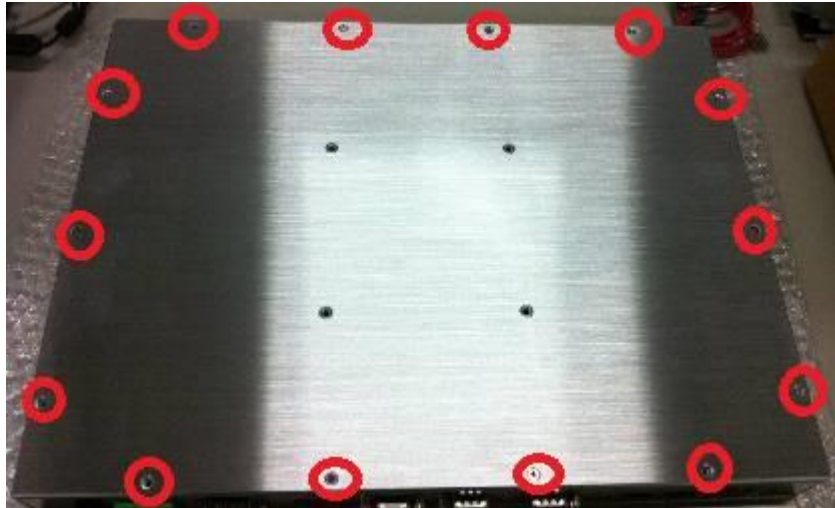
The GOT3156T-832 provides rich I/O ports and flexible expansions for you to meet different demand, for example CF card. The chapter will show you how to install the hardware. It includes:

- **Open back cover**
- **CompactFlash™ Card**
- **Serial Port**
- **Ethernet**
- **Mounting Method**
- **Hard disk**
- **DRAM**
- **Wireless LAN Card**
- **Power**

2.1 Open back cover

This section tells users how to open back cover. Please follow the steps below.

Step 1 Unscrew 14 screws on the back cover. Please refer the photo below.



Step 2 Remove the back cover.



2.2 CF card Installation

The GOT3156T-832 provides one CF slot for users to install CompactFlash™ card. Please refer to the following instructions for installation:

Step 1 Unscrew a screw on the cover of CF card slot on left side of GOT.



Step 2 Stick mylar on the CF card.



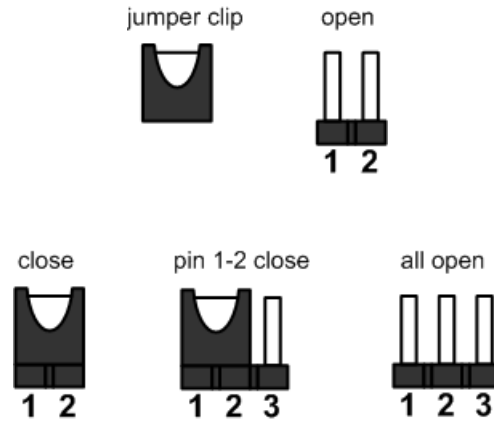
Step 3 Insert the card into the socket.



Step 4 Close the cover of CF card slot and fix it. Installation completes.

2.3 Jumper and Switch Settings

Jumper is a small component consisting of jumper clip and jumper pins. Install jumper clip on 2 jumper pins to close. And remove jumper clip from 2 jumper pins to open. The following illustration shows how to set up jumper.

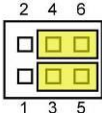
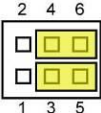
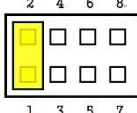
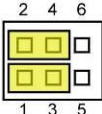
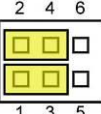
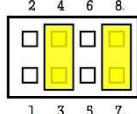
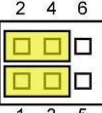
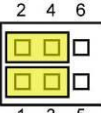
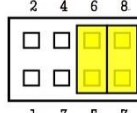


Before applying power to GOT3156T-832, please make sure all of the jumpers and switch are in factory default position. Below you can find a summary table and onboard default settings.

Jumper	Description		Setting
JP4	Auto Power On Default: Disable		2-3 close
JP5	CF Voltage Selection Default: +3.3V		1-2 close
JP6	Restore BIOS Optimal Defaults (Clear CMOS) Default: Normal Operation		1-2 close
JP7	COM1 RS-232/422/485 Mode Setting Default: RS-232		3-5, 4-6 close
JP8			3-5, 4-6 close
JP9			1-2 close
JP10	COM1 Data/Power Selection Default: RS-232 Data	Pin 1: DCD	3-5 close
		Pin 9: RI	4-6 close
JP11	COM2 Data/Power Selection Default: RS-232 Data	Pin 1: DCD	3-5 close
		Pin 9: RI	4-6 close
JP12	COM3 Data/Power Selection Default: RS-232 Data	Pin 1: DCD	3-5 close
		Pin 9: RI	4-6 close
JP13	COM4 Data/Power Selection Default: RS-232 Data	Pin 1: DCD	3-5 close
		Pin 9: RI	4-6 close

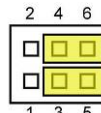
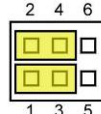
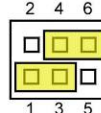
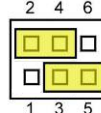
2.3.1 COM1 Configuration

The COM1~4 are a standard DB-9 connector. Those connectors are equipped with
The GOT3156T-832 has four serial ports. COM1 is RS-232/422/485, while COM2 to COM4 are RS-232. The following table shows you set COM1 port mode:

Description	Jumper Setting		
RS-232 (Default)	JP7 	JP8 	JP9 
	JP8 	JP7 	JP9 
	JP8 	JP7 	JP9 

2.3.2 COM port Power Configuration

All of the serial ports can output data or power through jumper setting.
The following table shows you how to do that.

Description	JP10~JP13
Pin1: DCD Pin9: RI (Default)	
Pin1: +5V Pin9: +12V	
Pin1: +5V Pin9: RI	
Pin1: DCD Pin9: +12V	



Note: Each port +5V Maximum: 2A, +12V Maximum: 1A.

2.3.3 Auto Power On (JP4)

If JP4 is enabled for power input, the system will be automatically power on without pressing soft power button. If JP4 is disabled for power input, it is necessary to manually press soft power button to power on the system.

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



2.3.4 Restore BIOS Optimal Defaults (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.

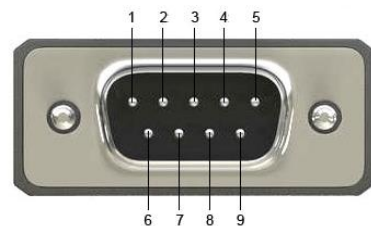
Function	Setting
Normal operation (Default)	1-2 close
Restore BIOS optimal defaults	2-3 close



2.4 COM port Connector

The pin assignment of RS-232/RS-422/RS-485 is listed on the following table. If you need COM1 port to support RS-422 or RS-485 mode, please refer to Jumper Settings

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

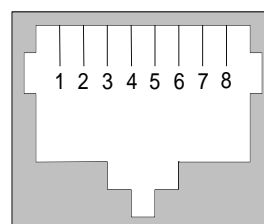


2.5 Ethernet

The GOT3156T-832 is equipped with a high performance Plug and Play Ethernet interface, full compliant with IEEE 802.3 standard, and can be connected with a RJ-45 LAN connector.

Please refer to detailed pin assignment list below:

Pin	100Base-T	1000Base-T
1	TX+	BI-DA+
2	TX-	BI-DA-
3	RX+	BI-DB+
4	NC	BI-DB-
5	NC	BI-DC+
6	RX-	BI-DC-
7	NC	BI-DD+
8	NC	BI-DD-



RJ-45

2.6 Mountings: Panel / Wall / VESA

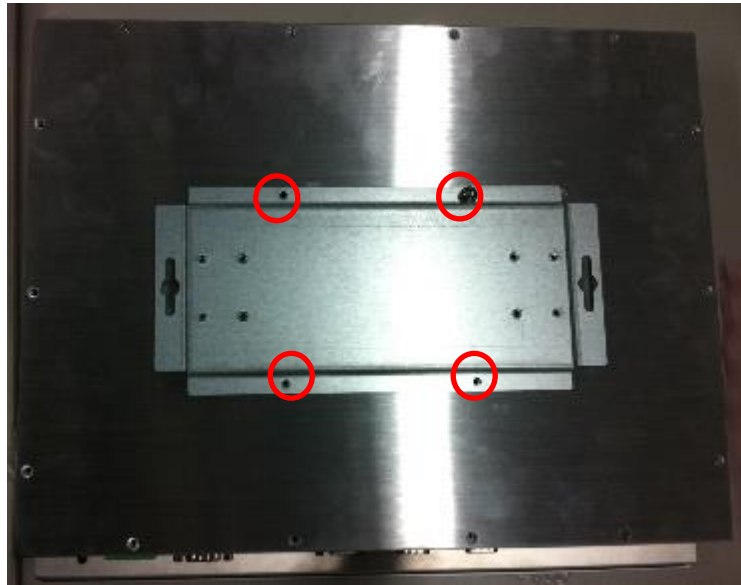
There are 4 application options for the GOT3156T-832, Panel/Wall/Desktop/VESA mountings.

2.6.1 VESA-ARM/Wall-Mount

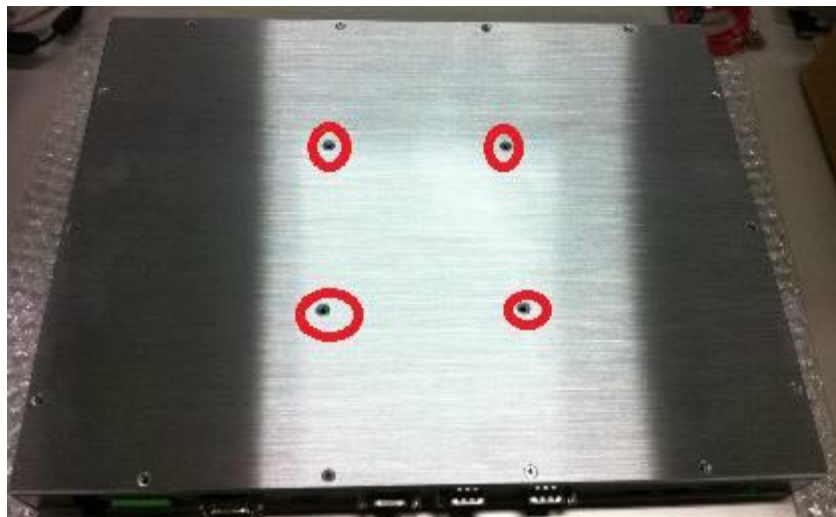
The GOT3156T-832 provides two ways for VESA mount: 100x100 mm. Screw four screws to fix the kit (option) in the back chassis.

Wall mount:



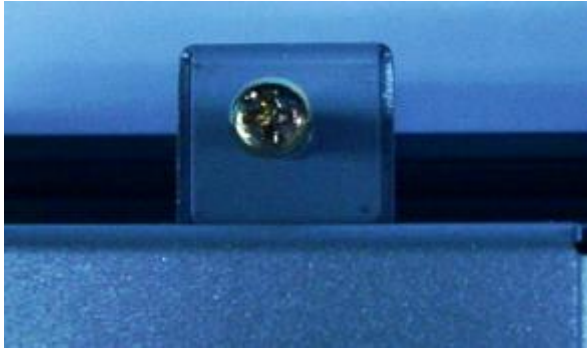


VESA mount:



2.6.2 Panel-mount Kit Assembly

The GOT3156T-832 is designed for panel mount application. To mount the GOT3156T-832, the standard set of mounting kit (included in the system packaging) is needed.

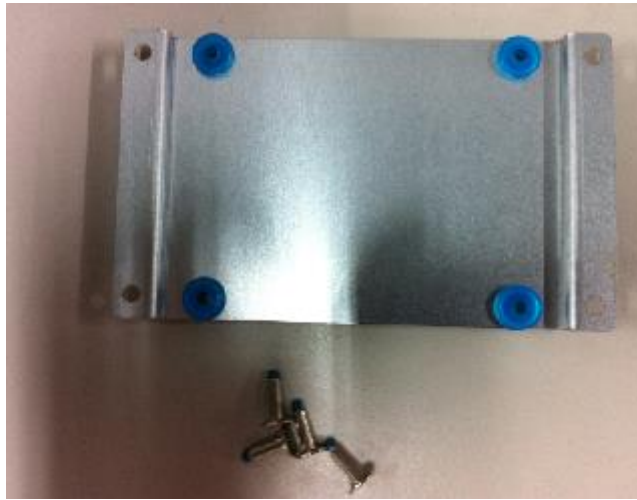


2.7 HDD Installation

The GOT3156T-832 provides a convenient Hard Disk Drive (HDD) bracket for users to install 2.5" SATA HDD. Please follow the steps:

- Step 1** Refer section 2.1 to open the back cover.
- Step 2** Unscrew 4 screws to take off the HDD bracket.



Step 3 Fix the HDD on bracket by 4 screws.

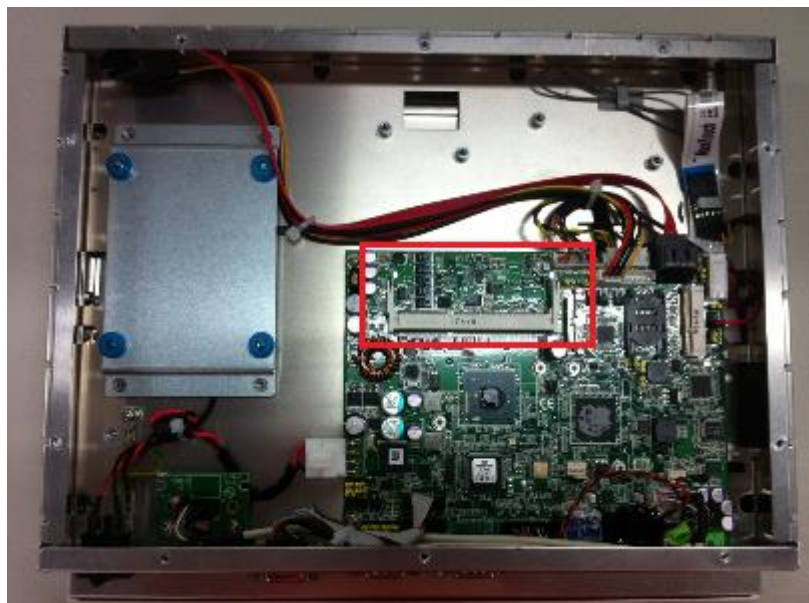
- Step 4** Fix the HDD bracket into the system, and plug the data and power cable to HDD. Installation completes.



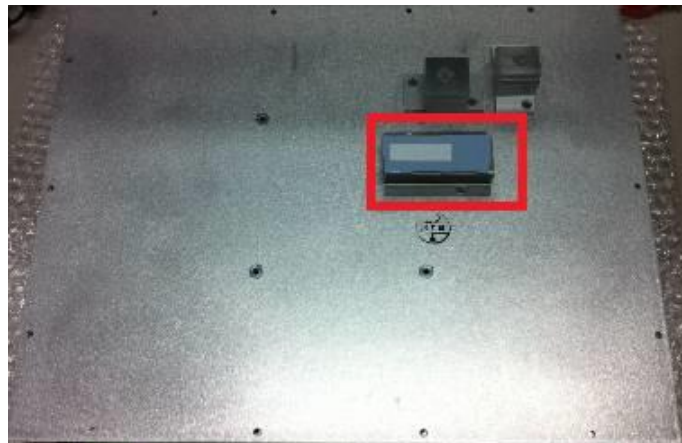
2.8 DRAM Installation

The GOT3156T-832 provides one 204-pin DDR3 SODIMM socket that support system memory up to 2GB. Please follow steps below to install the memory modules:

- Step 1** Refer to section 2.1 to open the back cover and find out DIMM socket on main board (SBC87832).



Step 2 Stick the thermal pad on the back cover and rip the red mylar from it.



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



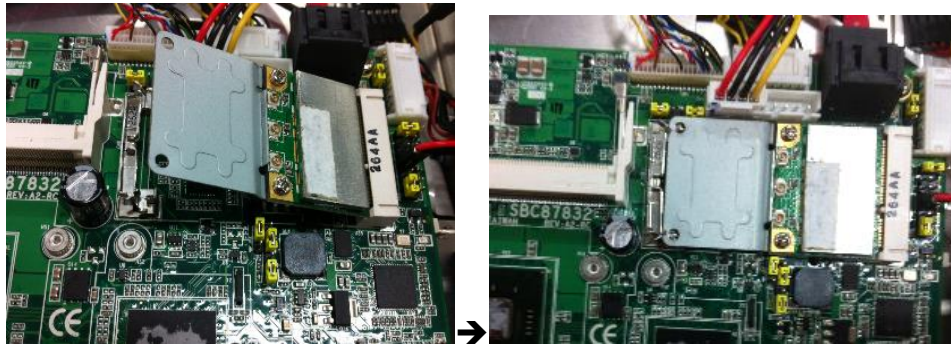
Step 4 Installation completes.

2.9 Wireless LAN Card Installation

The GOT3156T-832 provides one Mini card slot for user to install one wireless LAN card. When installing the wireless LAN card, refer to the following instructions and illustration:

Step 1 Refer to section 2.1 to open the back cover and find out mini-card slot on main board.

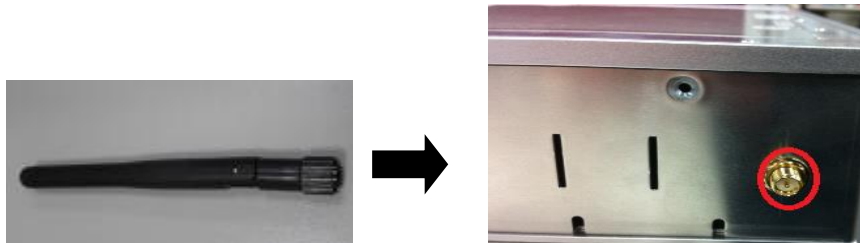
- Step 2** Insert the wireless LAN card to the slot. Push it down firmly until it is clipped by the slot.



- Step 3** Find the Antenna cable and connect it wireless LAN card.



- Step 4** Remove the antenna plug from the top of back cover, and then install the antenna on the antenna connector



2.10 Power Input

GOT3156T-832 equips with a phoenix type power connector. It adopts 10VDC to 30VDC. Please follow the signs on power connector to connect DC power source.

+: Power positive G: Safety ground -: Power negative



Note: The safety ground must be connected to ensure the unit working appropriately.

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Chapter 3

AMI BIOS Setup Utility

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

3.1 Starting

To enter the setup screens, follow the steps below:

Turn on the computer and press the key immediately.

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

3.2 Navigation Keys

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>, <Enter>, <ESC>, <Arrow> keys, and so on.



Note: Some of the navigation keys differ from one screen to another.

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

3.3 Main Menu

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



- **System Date/Time**

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

3.4 Advanced Menu

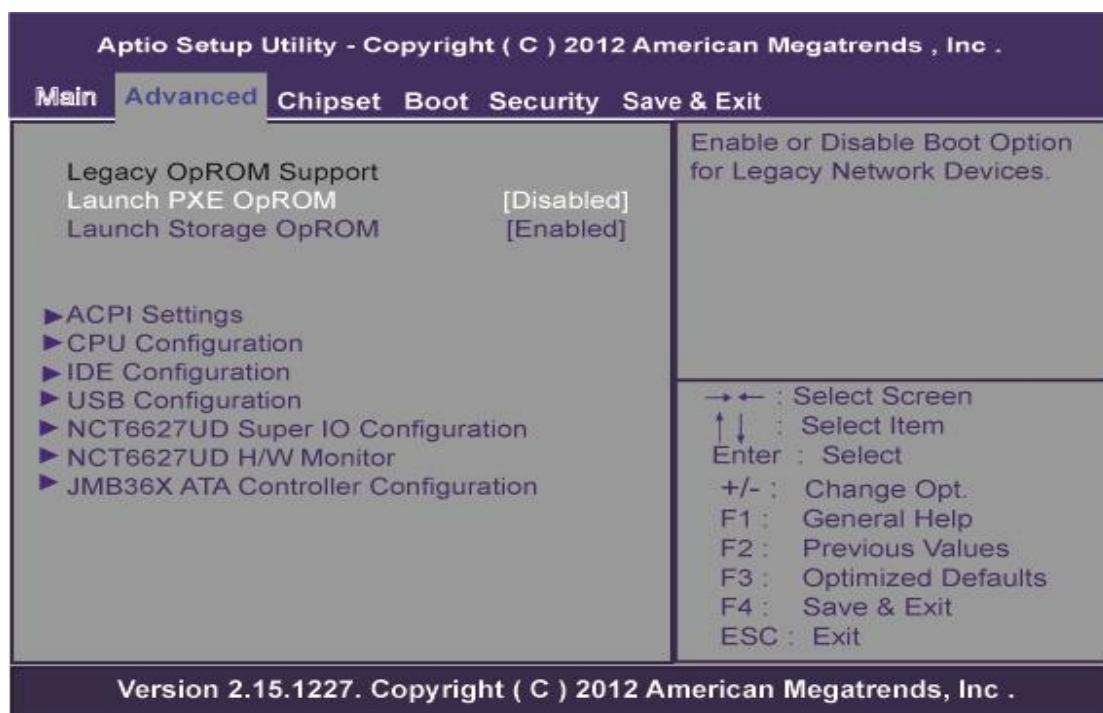
- **Launch Storage OpROM**

This item can enable or disable boot option for legacy mass storage devices with option ROM.

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

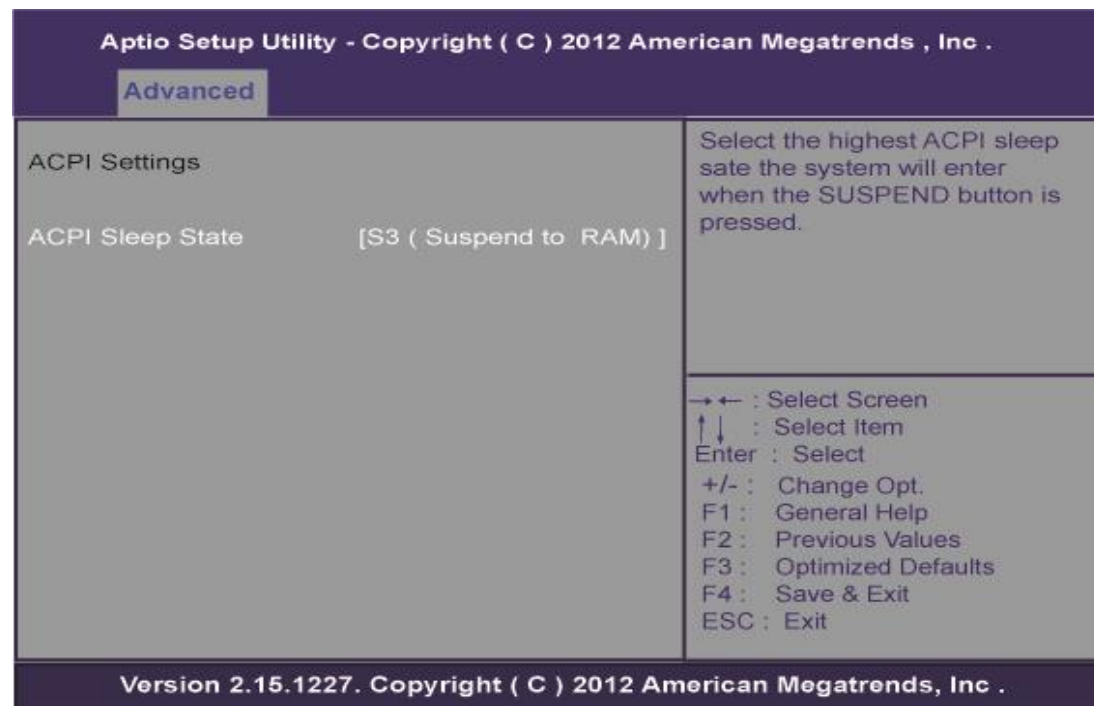
- ▶ ACPI Settings
- ▶ CPU Configuration
- ▶ IDE Configuration
- ▶ USB Configuration
- ▶ NCT6627UD Superior IO Configuration
- ▶ NCT6627UD HW Monitor
- ▶ JMB36X ATA Controller Configuration

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



- **ACPI Settings**

You can use this screen to select options for 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.

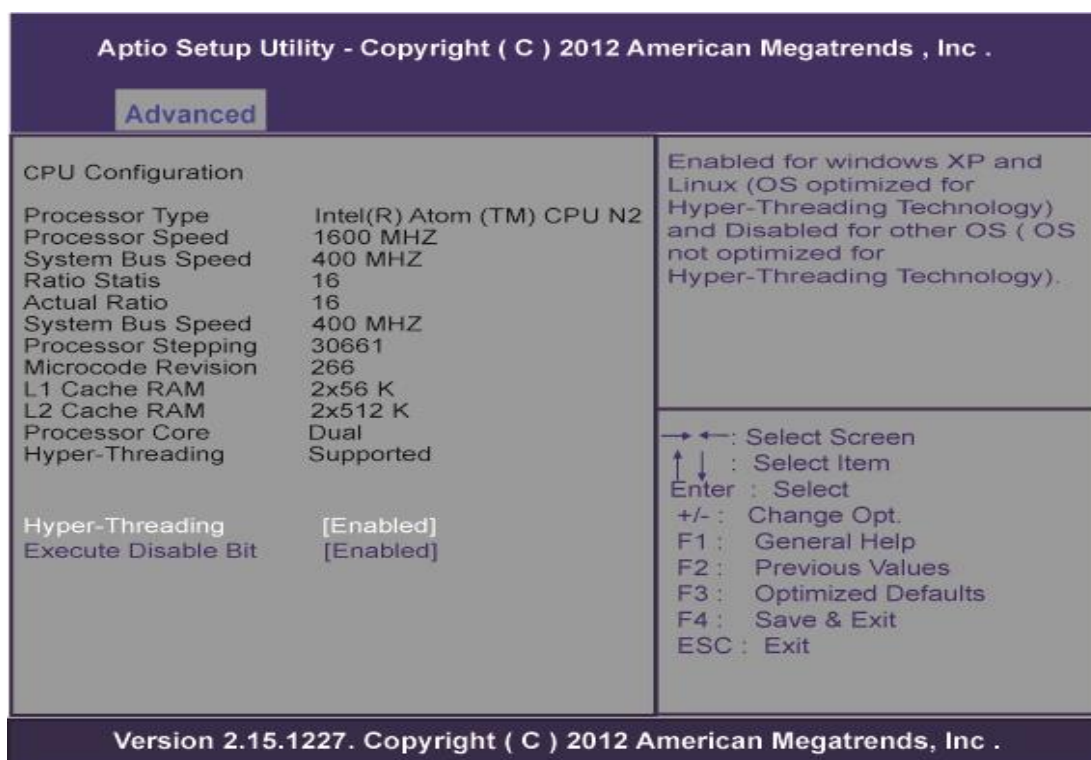


ACPI Sleep State

Use this item to select the highest ACPI sleep state the system will enter.

- **CPU Configuration**

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



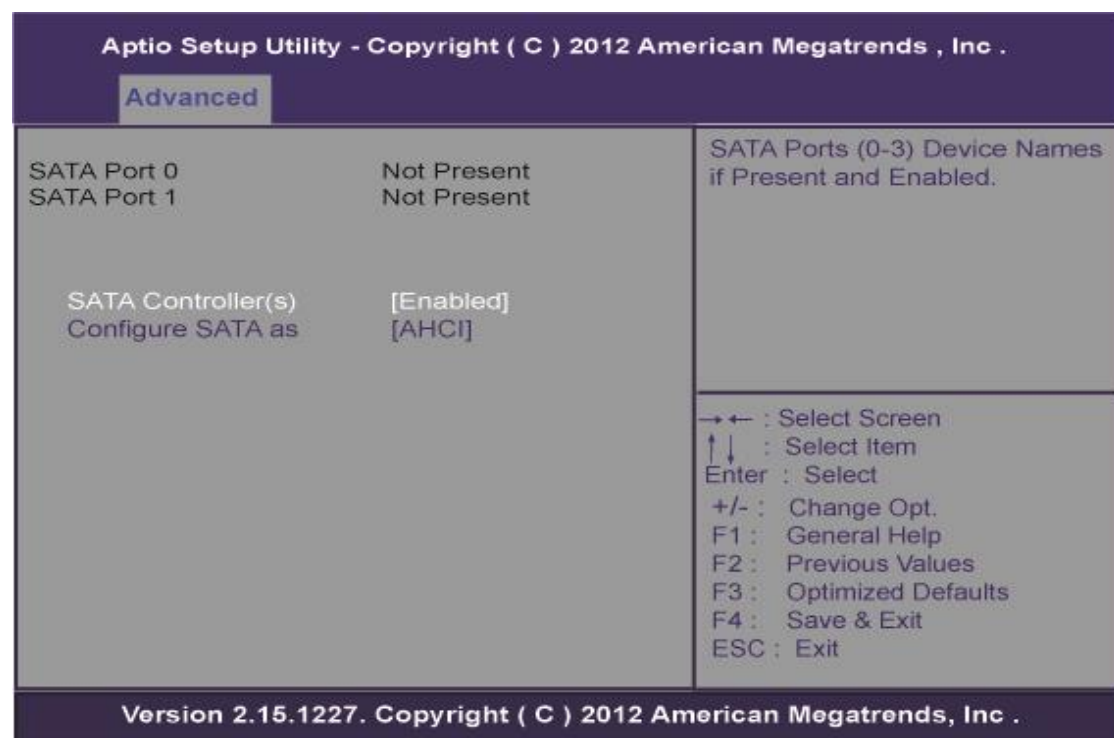
Hyper-Threading

Use this item to enable or disable Hyper-Threading Technology, which makes a single physical processor perform multi-tasking function as two logical ones.

Execute Disable Bit

XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS (Windows Server 2003 SP1, Windows XP SP2, SuSE Linux 9.2, RedHat Enterprise 3 Update 3).

- IDE Configuration

**SATA Controller(s)**

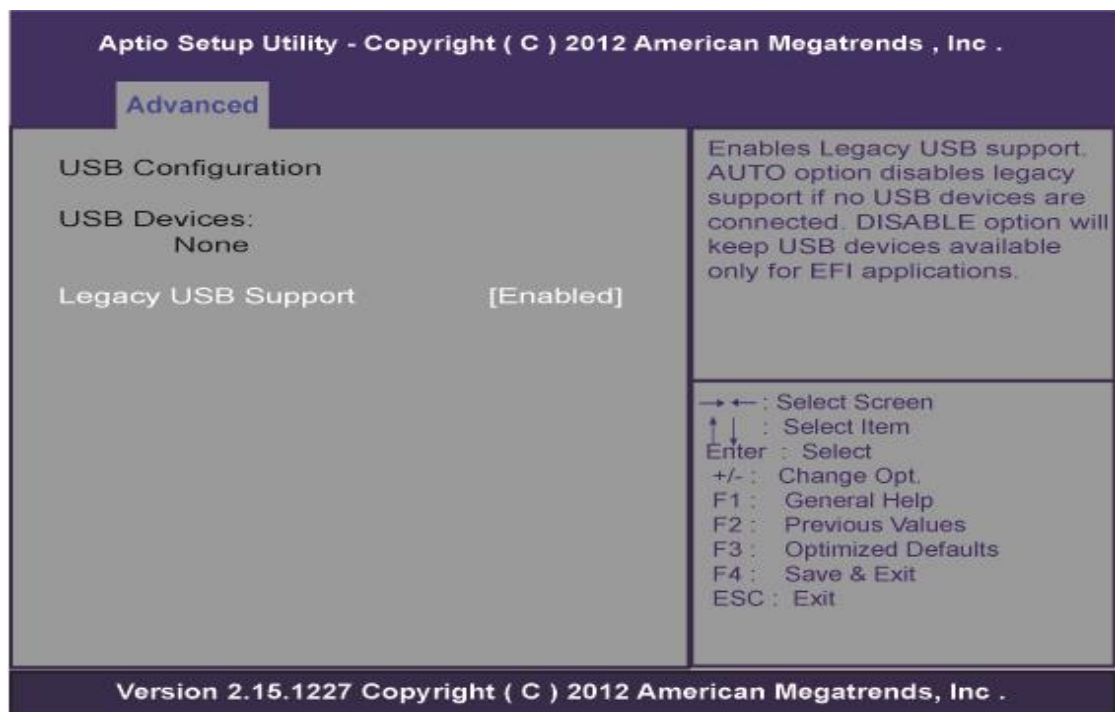
The optional settings are: [Disabled]; [Enabled].

Configure SATA as

The optional settings are: [IDE]; [AHCI].

- **USB Configuration**

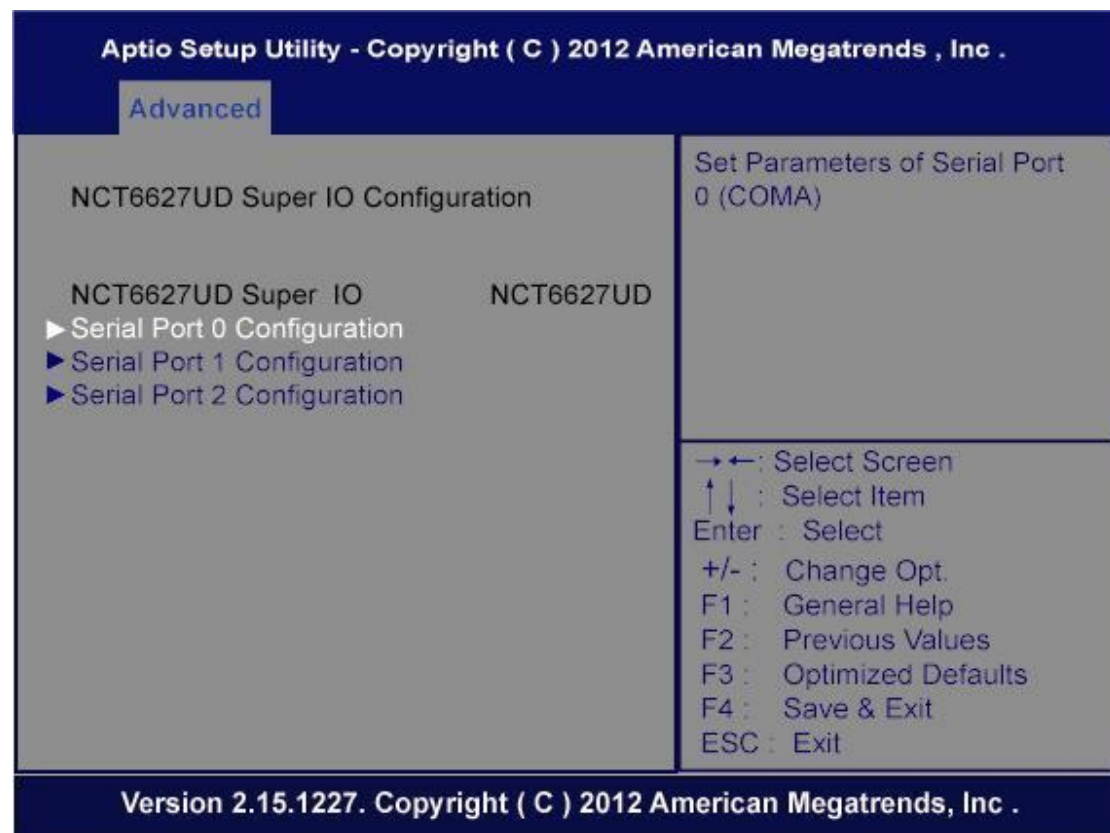
You can use this screen to select options for the USB Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen.

**Legacy USB Support**

The optional settings are: [Auto]; [Disabled]; [Enabled].

• NCT6627UD Super IO Configuration

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

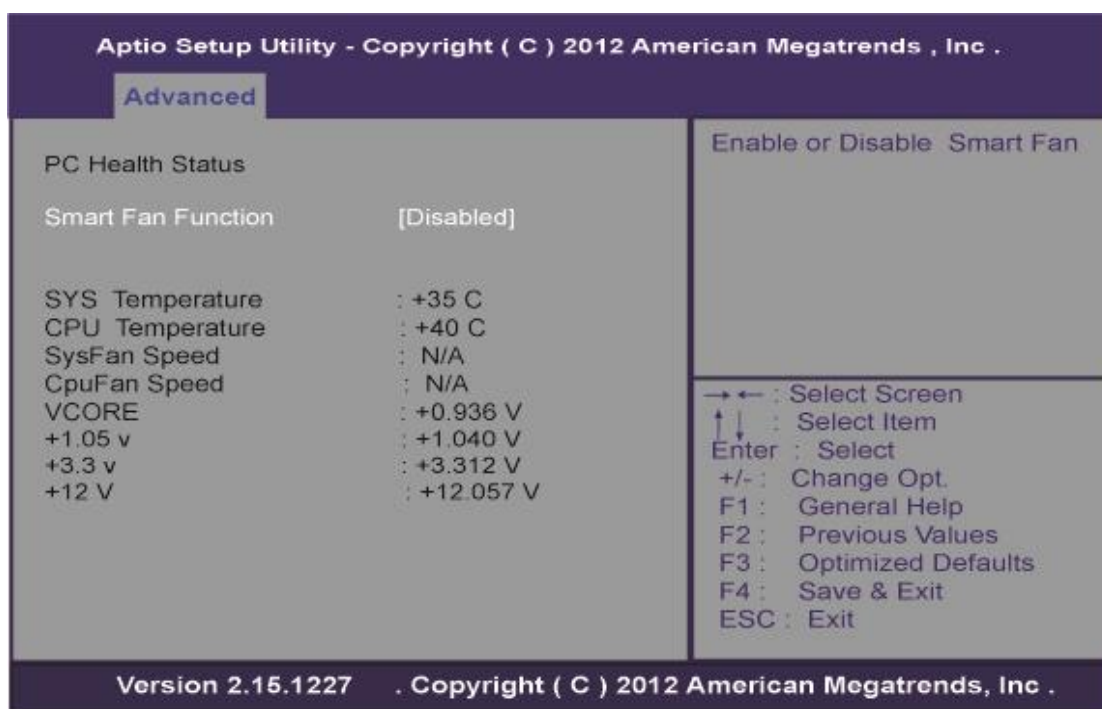


Serial Port Configuration

Use this item to set parameters of serial port 0~1

- PC Health Status

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



3.5 Chipset Menu

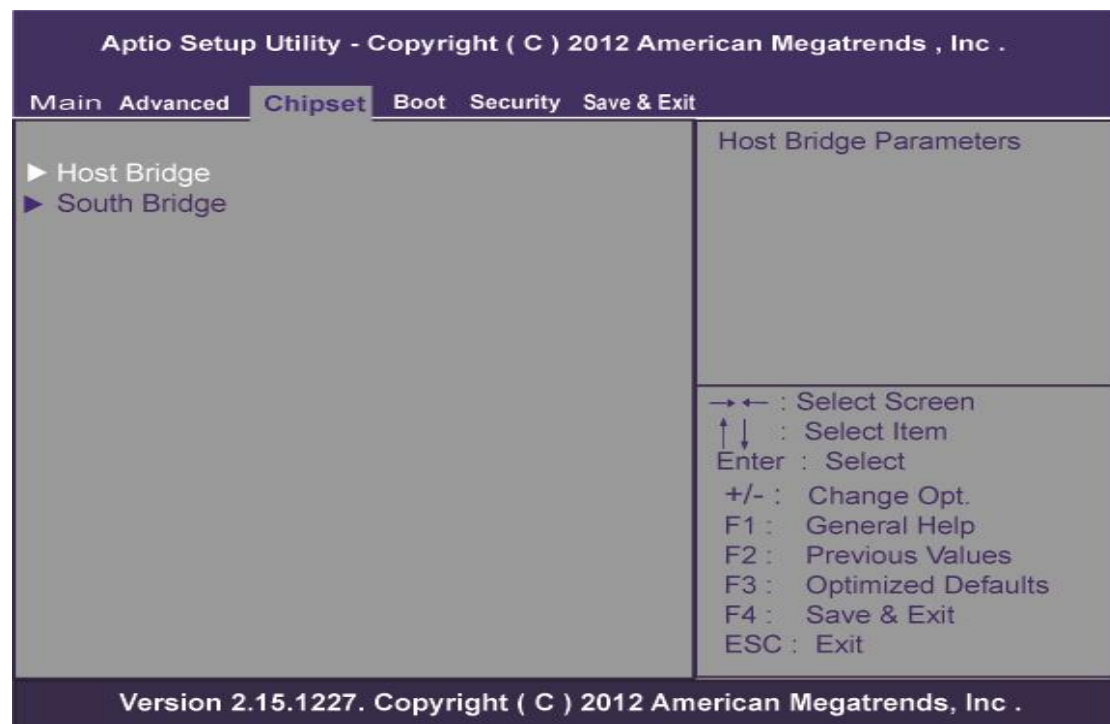
The Chipset menu allows users to change the advanced chipset settings. You can select any of the items in the left frame of the screen to go to the sub menus:

► **Host Bridge**

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

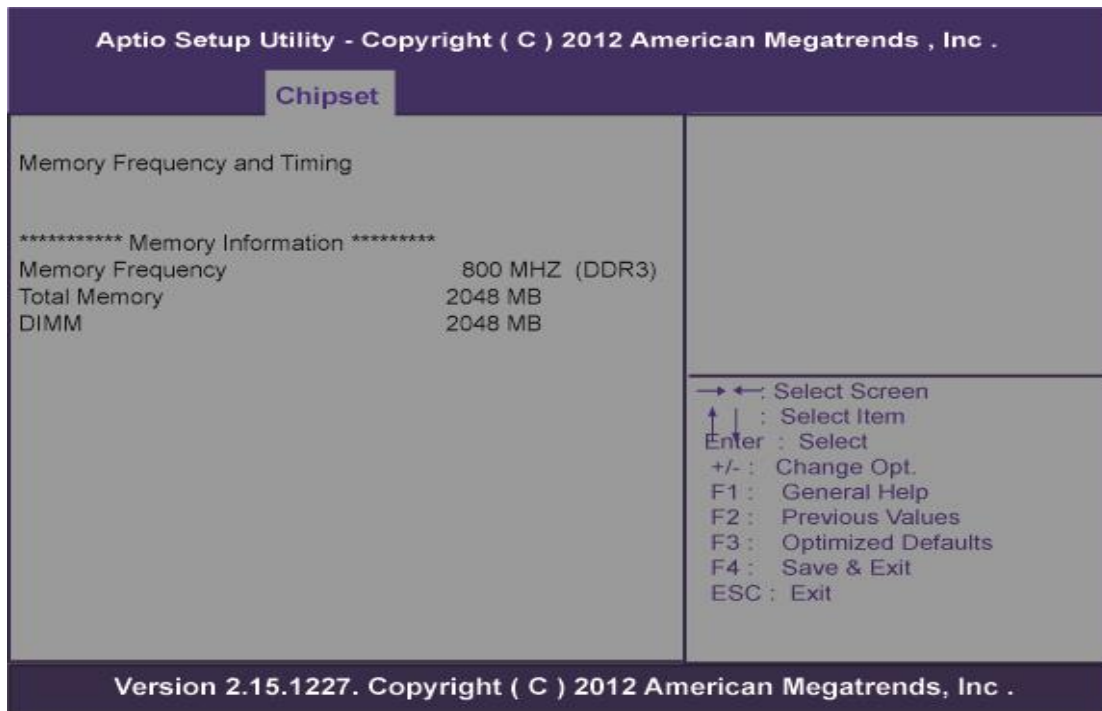
► **South Bridge**

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



- **Memory Information**

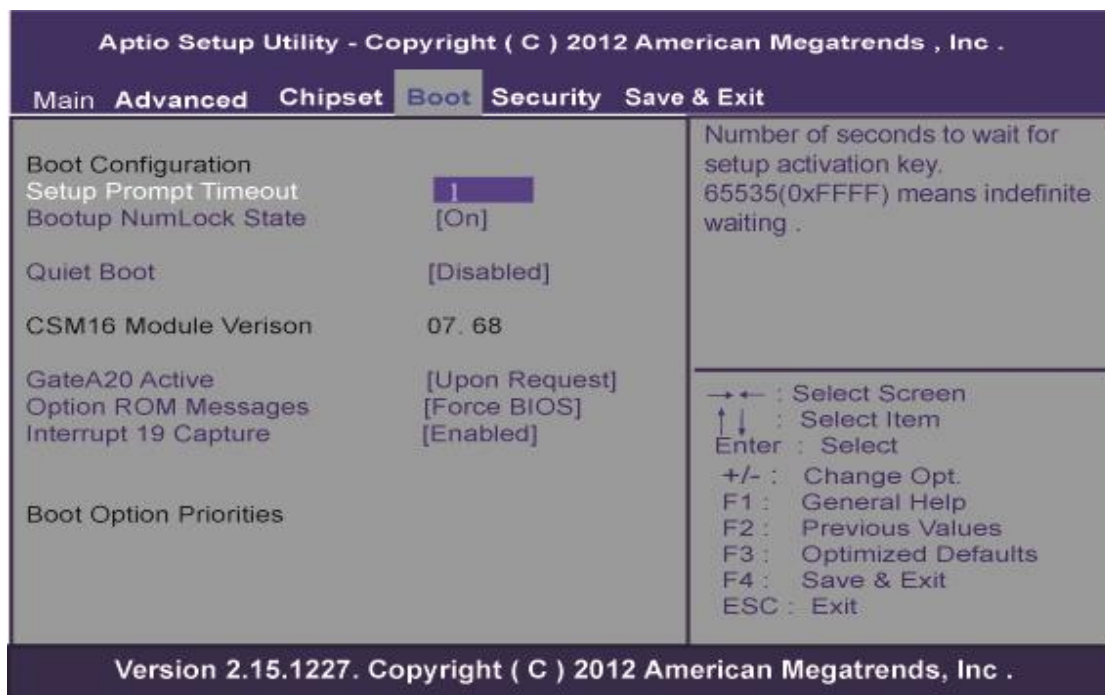
This item is for memory frequency and timing settings. Press <Enter> to go to the sub menu.



3.6 Boot Menu

The Boot menu allows users to change boot options of the system.

- **Boot Settings Configuration**



Setup Prompt Timeout

Use this item to set number of seconds to wait for setup activation key.

Bootup NumLock State

Use this item to select the power-on state for the NumLock.. The optional settings are: [On]; [Off].

GateA20 Active

If Upon Request is selected, GA20 can be disabled using BIOS services. If Always is selected, disabling G20 is not allowed; this option is useful when any RT code is executed above 1MB.

Option ROM Messages

Set display mode for option ROM. Configuration options are Force BIOS and Keep Current.

Interrupt 19 Capture

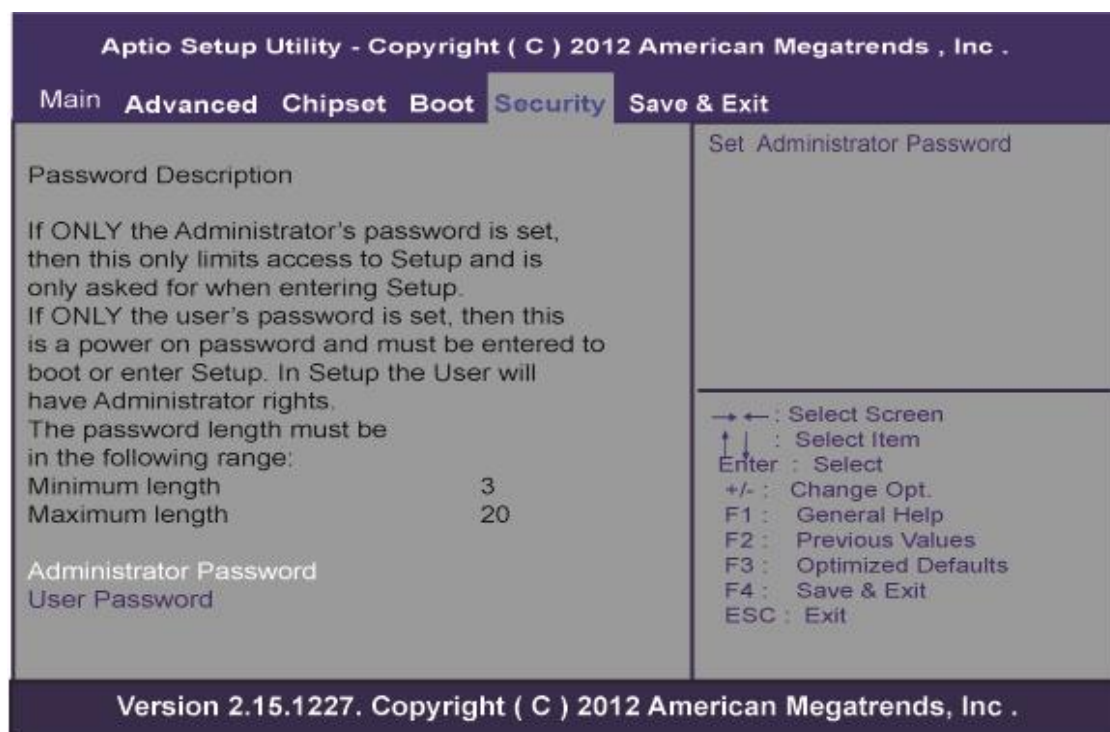
If this item is enabled, this function makes the option ROM to trap Interrupt 19.

Boot Option Priorities

These are settings for boot priority. Specify the boot device priority sequence from the available devices.

3.7 Security Menu

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



Administrator Password

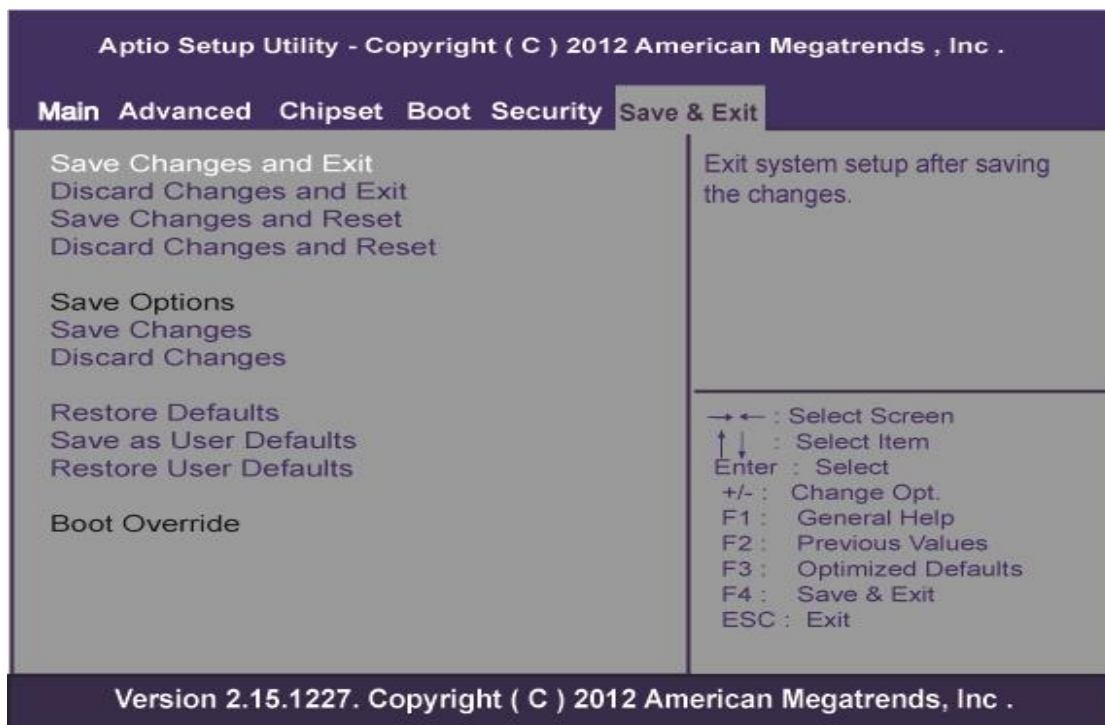
This item indicates whether an administrator password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.

User Password

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

3.8 Save & Exit Menu

The Save & Exit menu allows users to load your system configuration with optimal or fail-safe default values.



Save Changes and Exit

When you have completed the system configuration changes, select this option to leave Setup and reboot the computer so the new system configuration parameters can take effect. Select Save Changes and Exit from the Exit menu and press <Enter>. Select Ok to save changes and exit.

Discard Changes and Exit

Select this option to quit Setup without making any permanent changes to the system configuration. Select Discard Changes and Exit from the Exit menu and press <Enter>. Select Ok to discard changes and exit.

Save Changes and Reset

When you have completed the system configuration changes, select this option to leave Setup and reboot the computer so the new system configuration parameters can take effect. Select Save Changes and Reset from the Save & Exit menu and press <Enter>. Select Yes to save changes and reset.

Discard Changes and Reset

Select this option to quit Setup without making any permanent changes to the system configuration and reboot the computer. Select Discard Changes and Reset from the Save & Exit menu and press <Enter>. Select Yes to discard changes and reset.

Save Changes

When you have completed the system configuration changes, select this option to save changes. Select Save Changes from the Save & Exit menu and press <Enter>. Select yes to save changes.

Discard Changes

Select this option to quit Setup without making any permanent changes to the system configuration. Select Discard Changes from the Save & Exit menu and press <Enter>. Select Yes to discard changes.

Restore Defaults

It automatically sets all Setup options to a complete set of default settings when you select this option. Select Restore Defaults from the Save & Exit menu and press <Enter>.

Save as User Defaults

Select this option to save system configuration changes done so far as User Defaults. Select Save as User Defaults from the Save & Exit menu and press <Enter>.

Restore User Defaults

It automatically sets all Setup options to a complete set of User Defaults when you select this option. Select Restore User Defaults from the Save & Exit menu and press <Enter>.

Boot Override

Select a drive to immediately boot that device regardless of the current boot order.



Note: If you want to use a CF card that capacity is less than 2GB (such as 1GB, 512MB), we recommend you may switch "AHCI mode" to "IDE mode" with "Configure SATA as" of the BIOS setting.
And please make sure your Operating System (Ex: Windows Embedded) is installed with "IDE" driver.

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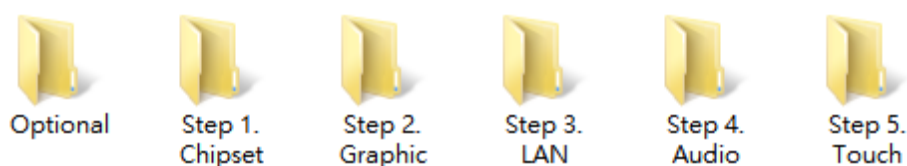
Chapter 4

Drivers Installation

4.1 System

GOT3156T-832 supports Windows 7 32-bit and WES 7. To facilitate the installation of system driver, please carefully read the instructions in this chapter before start installing.

Step 1 Insert Driver CD and select the “\Driver”.



Step 2 Select all files and follow the installing procedure.

4.2 Touch Screen

The GOT3156T-832 uses the 5-wire analog resistive touch panel. There are the specification and driver installation which are listed below.

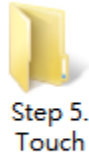
- **Specification**

Touch Screen	5-wire Analog Resistive type
Touch Screen Controller	PenMount 6000 USB Touch Screen Controller IC
Communications	USB interface
Resolution	10bit AD (1024 x 1024)
Power Input	5V
Power Consumption	Active: 24.6mA / Idle Mode: 13.4mA

- **Driver Installation- Windows 7**

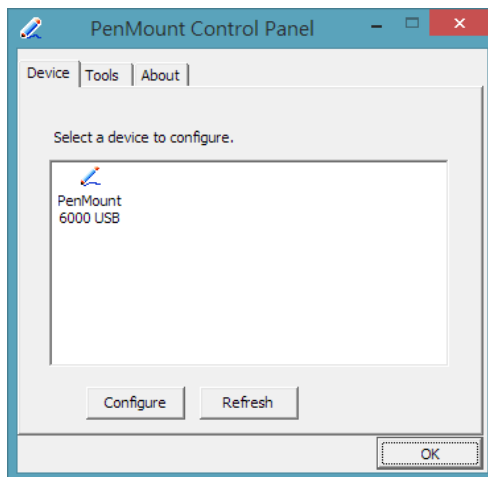
The GOT3156T-832 provides a touch screen driver that users can install it under the operating system Windows 7. To facilitate installation of the touch screen driver, you should read the instructions in this chapter carefully before you attempt installation.

Step 1 Insert Driver CD and follow the path to select the “\Driver\Step 5 - Touch”.

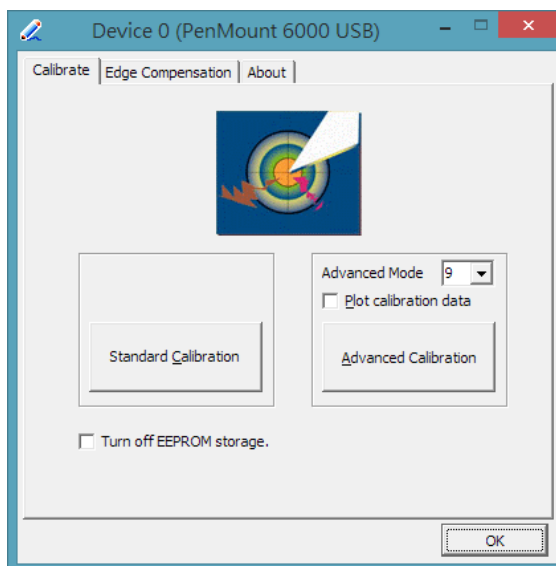


Step 2 Follow the installing procedure and press OK.

Step 3 Click Start menu and select “PenMount Utilities”; and then, a “PenMount Control Panel” pops out.

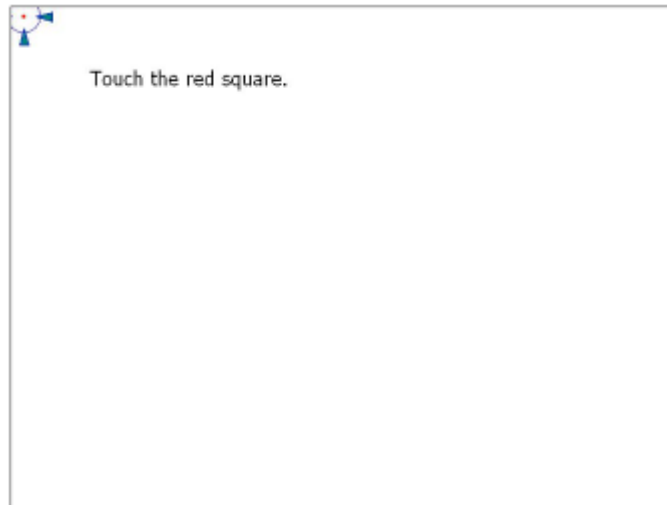


Step 4 Select the “Standard Calibrate” tab.



Step 5 Calibration:

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

**Step 6 Press OK.**

Note: For the better system performance, please close the Windows AERO or change to Windows Basic mode.

4.3 Embedded O.S.

The GOT3156T-832 provides the Windows 7 Embedded. The O.S. is supported devices which are listed below.

- **WES 7**

Here are supported onboard devices:

- Onboard Multi I/O
- SATA HDD
- USB
- CRT/LCD display
- 10/100/1000 base-T Ethernet
- Compact Flash
- Onboard Audio
- Touch Screen

PenMount Touch screen

Before you can use and calibrate it, here is what you should do:

1. Set up Penmount touch device driver by executing C:\Penmount\ Windows 2000-XP V5.0\setup.exe. When the installation is finished, an icon "PM" appears on the Taskbar.
2. Calibrate Penmount touch by clicking on the "PM" icon, and then go on the calibration.
3. Restart the computer.

Please be informed if you use the Windows XP OS, the graphic driver supported by Intel is EMGD, there are three known issues as below:



Note: *The Intel EMGD package does not include Intel HD audio driver, there will be an unknown device under device manager.*



Note: *3D Graphic render function is not supported.*



Note: *User cannot disable LVDS and VGA output at the same time.*