AXIOMTEK

P1157E-871

**All-in-One
15" XGA TFT Expandable
PANEL PC**

User's Manual

RoHS

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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.

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 P1157 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 theP1157 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 P1157E-871. Chapter 1 includes the following sections:

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

1.1   General Description

The P1157E-871 adopts a 15-inch XGA TFT LCD with 250-nits brightness and Intel® 3rd&2nd Core™ i7/i5/i3 series, Pentium® and Celeron® processors and Intel® C216/Q77 chipset to provide excellent and powerful computing performance. Furthermore, P1157E-871 adopts built-in speaker and option WLAN module for wireless connectivity.

Industrial-grade front bezel

P1157E-871 adopts industrial-grade material front bezel which incorporates the advantages of light weight, high degree of hardness better heat releasing, easy-to-shape and anti-corrosion ability. Therefore, P1157E-871 is especially suitable for most rugged industrial environments.

Expandable for 2 PCIe (2 PCI optional)

P1157E-871 has 2 PCIe (2 PCI optional) for expansion purpose. User can easily plug in standard half-size PCI or PCIe card for any requirement.

Speaker and WLAN Antenna Supported

P1157E-871 features built-in speakers for kiosk application to display multimedia content program. It also supports WLAN module (optional) antenna for wireless network connectivity.

Powerful computing: Intel® 3rd Generation Core i7/i5/i3/Celeron processors

P1157E-871 features Intel® 3rd&2nd Core™ i7/i5/i3 series, Pentium® and Celeron® processors and Intel® C216/Q77 chipset which deliver high computing performance capability. Ivy Bridge CPU offers reliable and stable performance and rugged environment.

1.2 Specifications

Main CPU Board

- **CPU**
  - Intel® 3rd&2nd Core™ i7/i5/i3 series, Pentium® and Celeron® processors

- **System Chipset**
  - Intel® C216/Q77 Express Chipset

- **System Memory**
  - 2 x 204-pin DDR3 1600/1333 MHz SO-DIMM socket
  - Supporting 8GB per DIMM, maximum memory size up to 16GB

- **BIOS**
  - America Megatrends BIOS (AMI UEFI BIOS)

I/O System

- **Standard I/O**
  - 1 x RS-232/422/485 with 5V&12V, 1 x RS-232 with 5V/12V, 2 x RS-232
  - 4 x USB 3.0
  - 2 x USB 2.0
  - 1 x HDMI
  - 1 x DVI-I

- **Ethernet**
  - 2 x RJ45 for Giga Ethernet

- **Audio**
  - 1 x Line-out
  - 1 x Mic-in

- **Expansion**
  - 1 x Wireless Module(optional)
  - 2 x PCIe x 8 slots Riser card (2 x PCI slots Riser card optional)

- **Storage**
  - 2 x 2.5" or 1 x 3.5" SATA HDD

- **Power connector**
  - 1 x AC plug

System Specification

- **15" XGA(1024 X 768)LCD**

- **5 wired resistive Touch**

- **IP65/NEMA4 aluminum front bezel**

- **IP65 aluminum front bezel**

- **Net Weight**
  - 6.2 Kgs (13.67 lb)

- **Dimension (Main Body Size)**
  - 378 x 125 x 309mm

- **Operation Temperature**
  - 0℃ to 45℃

- **Relative Humidity**
  - 10% to 95% @ 40℃, Non-Condensing

- **Power Input**
  - 100~240VAC power connector

NOTE 1. All specifications and images are subject to change without notice.
2. Combo key: Pressing Brightness+ & Brightness- means System ON/OFF.
Pressing VOL+ & VOL- means Audio mute.
3. The speed of expansion card will depend on your CPU.

1.3　Dimensions and Outlines

The following diagrams show the dimensions and outlines of P1157E-871.

CUTOUT Dim.

368.00

297.00
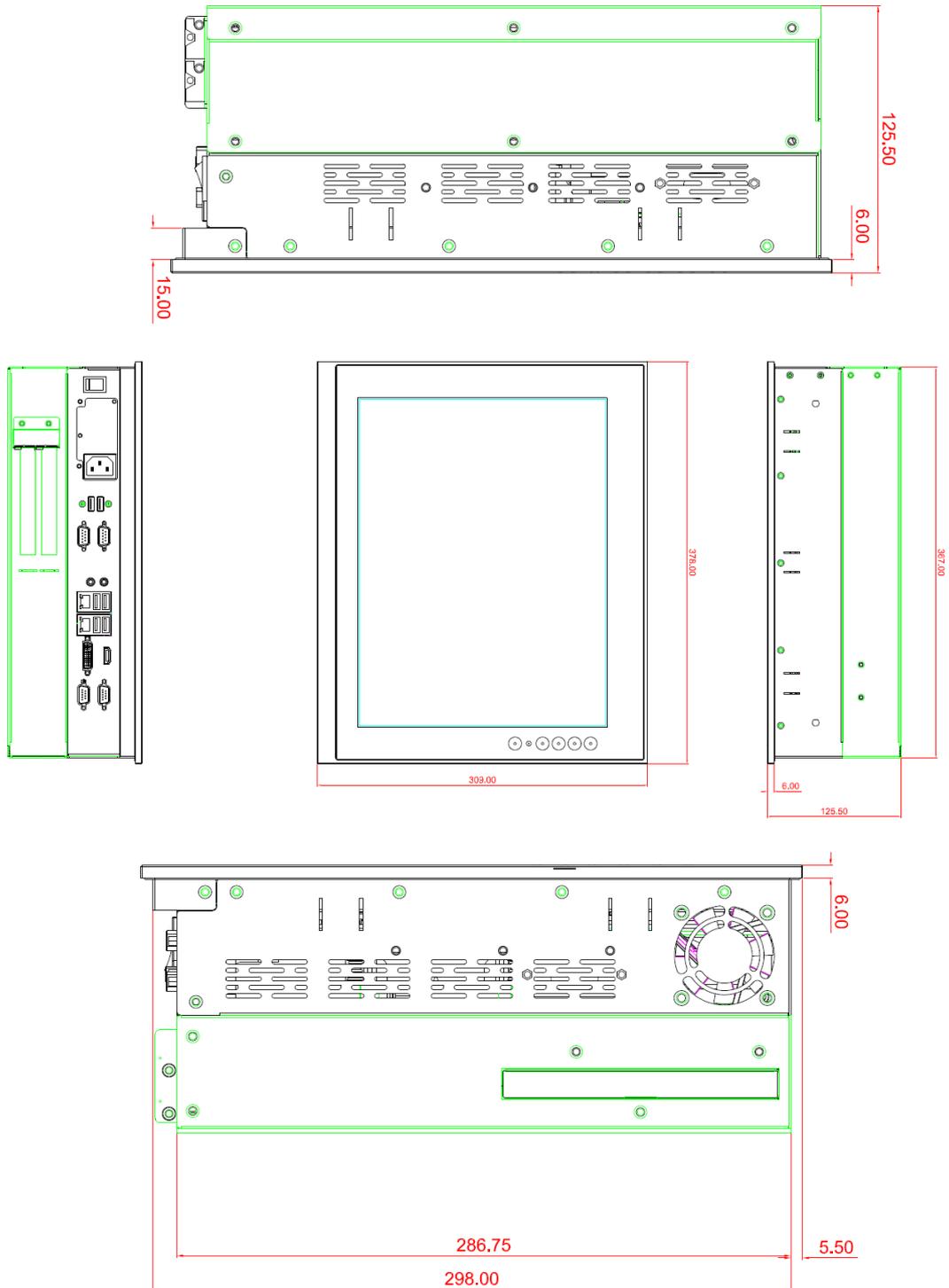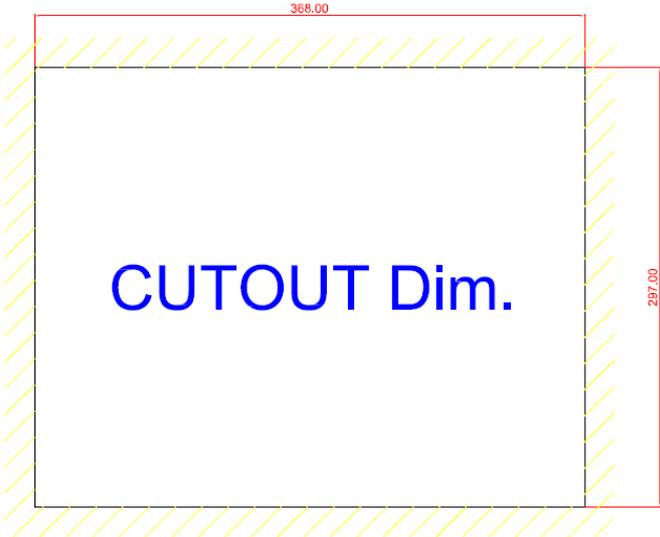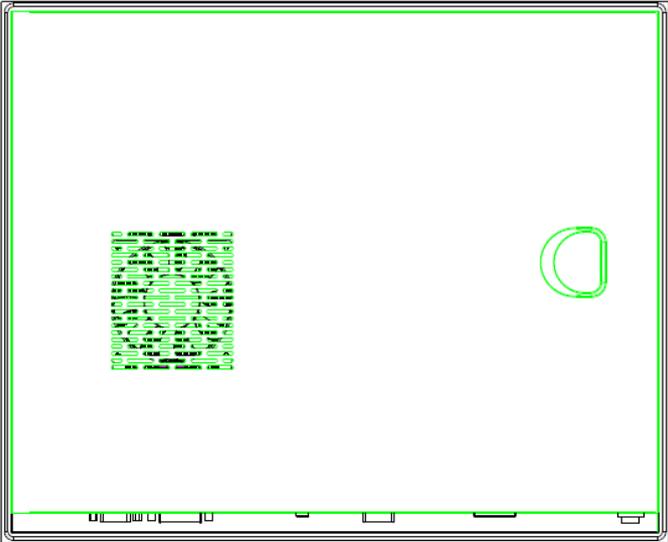
1.4   I/O Outlets

Please refer to the following illustration for I/O locations of the P1157E-871.
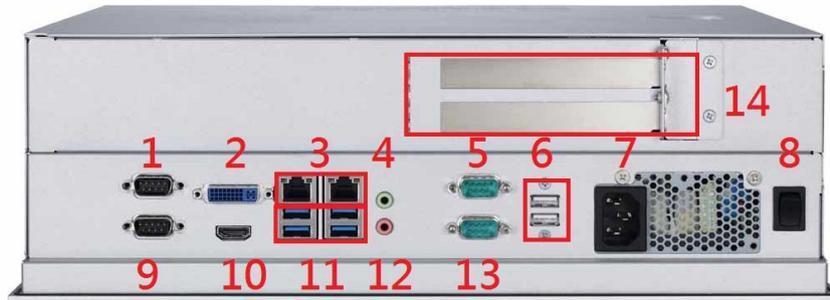
No	Function
1	1 x RS-232/422/485 with 5V&12V (COM1)
2	1 x DVI-I
3	2 x RJ45 for GIGA Ethernet
4	1 x Line-out
5	1 x RS-232 with 5V&12V (COM3)
6	2 x USB2.0
7	1 x AC Plug
8	1 x switch for power on/off
9	1 x RS-232 (COM2)
10	1 x HDMI
11	4 x USB3.0
12	1 x MIC-in
13	1 x RS-232 (COM4)
14	2 x PCIe x 8 or 2 x PCI

1.5   Packing List

When you receive the P1157E-871, the bundled package should contain the following items:

- **P1157E-871 unit x 1**
- **Driver CD x1**
- **Panel mount kit x 6**
- **Wall/VESA mount kit x 1 (optional)**
- **Rack mount kit x 1 (optional)**
- **Power cord x 1**
- **DVI to VGA adaptor**

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

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Chapter 2
Hardware and Installation

The P1157E-871 provides rich I/O ports and flexible expansions for you to meet different demand. The chapter will show you how to install the hardware. It includes:

- **Open back cover**
- **Serial Port Interface**
- **Ethernet**
- **Mounting Methods**
- **Hard disk**
- **DRAM**
- **CPU**
- **CPU Cooler**
- **Wireless LAN Module(optional)**
- **Add-on card**
- **Optical Drive(optional)**

2.1   Open back cover

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

Step 1   Unscrew 3 screws on the back cover and push to the right side. Please refer the photo below.
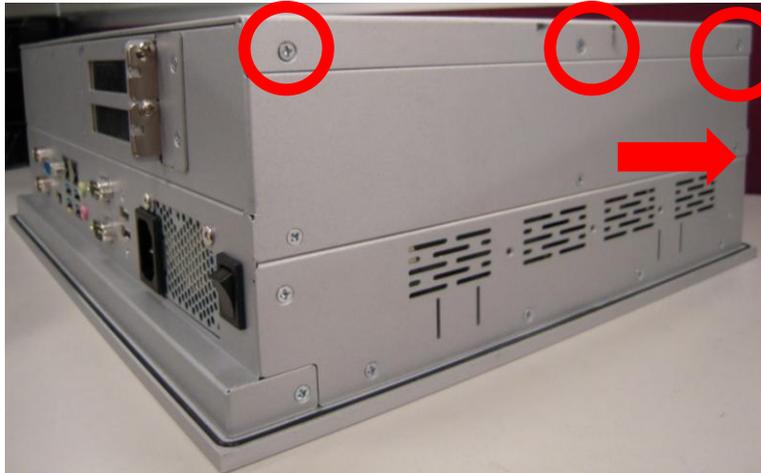
Step 2   Remove the back cover and unscrew 2 screws.
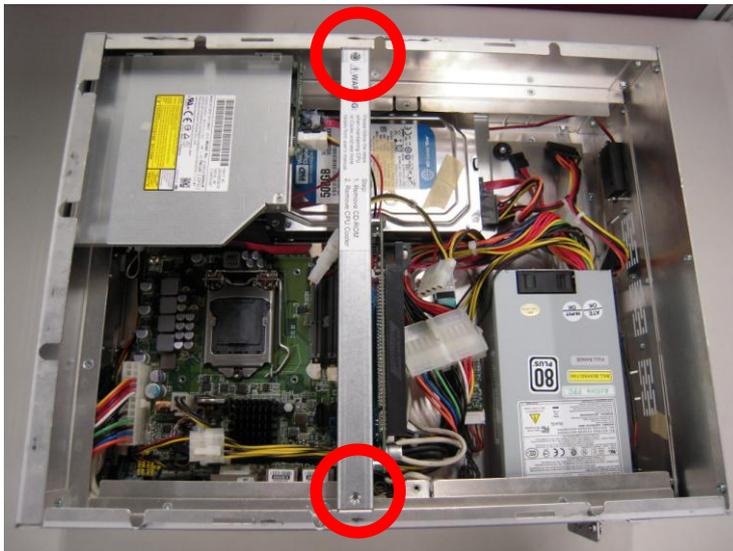
2.2 Serial Ports Interface

The P1157E-871 has four serial ports. COM1 is RS-232/422/485, while COM2, COM3 and COM4 are RS-232.

The following table shows you the pin assignments of this connector:

2.2.1 COM1 Data/Power Selection (JP10)

The COM1 port has +5V level power capability on DCD and +12V level on RI by setting this jumper. When COM1 is set to +5V or +12V level, please make sure the communication mode is RS-232 (see section 2.2.2).

Description	Jumper Setting
Power: Set CN15A pin 1 to +5V level	1-3 close
Data: Set CN15A pin 1 to DCD (Default)	3-5 close
Power: Set CN15A pin 9 to +12V level	2-4 close
Data: Set CN15A pin 9 to RI (Default)	4-6 close
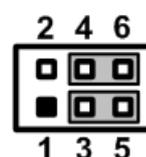
2.2.2 COM1 RS-232/422/485 Mode Setting (JP11, JP12, JP14)

Use these jumpers to set COM1 port to operate as RS-232, RS-422 or RS-485 communication mode.

Description	Jumper Setting
RS-232 mode (Default)	JP11 3-5, 4-6 close JP12 1-2 close JP14 3-5, 4-6 close
RS-422 mode	JP11 1-3, 2-4 close JP12 3-4 close JP14 1-3, 2-4 close
RS-485 mode	JP11 1-3, 2-4 close JP12 5-6 close JP14 1-3, 2-4 close
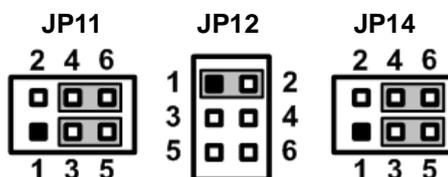
2.2.3 COM3 Data/Power Selection (JP13)

The COM3 port has +5V level power capability on DCD and +12V level on RI by setting this jumper.

Description	Jumper Setting
Power: Set CN13 pin 1 to +5V level	1-3 close
Data: Set CN13 pin 1 to DCD (Default)	3-5 close
Power: Set CN13 pin 8 to +12V level	2-4 close
Data: Set CN13 pin 8 to RI (Default)	4-6 close
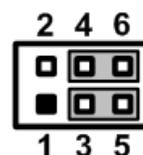
2.2.4   COM1&COM2 Connector

The CN15 is a double-deck DB-9 connector. The upper connector (CN15A) is for COM1 and the lower connector (CN15B) is for COM2. Note that the connectors (CN13 and CN15A) come with power capability on DCD and RI pins by setting jumpers (see section 2.2.1).

CN15A (COM1)

CN15B (COM2)

Pin	Pin	Signal
1	10	Data Carrier Detect (DCD)
2	11	Receive Data (RXD)
3	12	Transmit Data (TXD)
4	13	Data Terminal Ready (DTR)
5	14	Ground (GND)
6	15	Data Set Ready (DSR)
7	16	Request to Send (RTS)
8	17	Clear to Send (CTS)
9	18	Ring Indicator (RI)
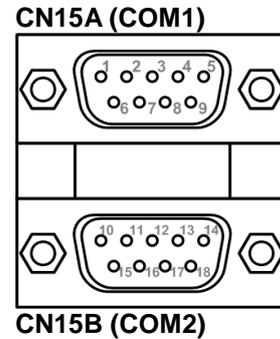
2.2.5   COM3 & COM4 Connectors

The COM3 and COM4 interfaces are available through CN13 and CN14, respectively. Each of these connectors is a 2x5 pin 2.0 pitch box header, see table below for its pin assignments.

CN13/CN14

Pin	Signal
1	Data Carrier Detect (DCD)
2	Data Set Ready (DSR)
3	Receive Data (RXD)
4	Request to Send (RTS)
5	Transmit Data (TXD)
6	Clear to Send (CTS)
7	Data Terminal Ready (DTR)
8	Ring Indicator (RI)
9	Ground (GND)
10	NC
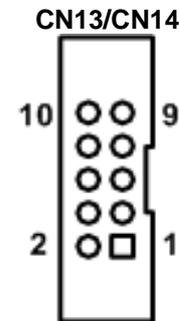
2.3   Ethernet

The P1157E-871 is equipped with two high performance plug and play Ethernet interfaces (RJ-45) which are fully compliant with the IEEE 802.3 standard. Connection can be established by plugging one end of the Ethernet cable into this RJ-45 connector and the other end to a 1000/100/10-Base-T hub.

The Universal Serial Bus (compliant with USB 3.0 (5Gb/s)) connectors on the rear I/O are for installing USB peripherals such as keyboard, mouse, scanner, etc. Note that the CN10 carries LAN1, USB 3.0 port 2 and 3 signals while CN11 carries LAN2, USB 3.0 port 0 and 1 signals

Pin	LAN1 Signal (WG82579LM)/ LAN2 Signal (WG82583V)	Pin	LAN1 Signal (WG82579LM)/ LAN2 Signal (WG82583V)
L1	MDI0+	L5	MDI2+
L2	MDI0-	L6	MDI2-
L3	MDI1+	L7	MDI3+
L4	MDI1-	L8	MDI3-
A	100 LAN LED (Green)/ 1000 LAN LED (Orange)		
B	Active LED		
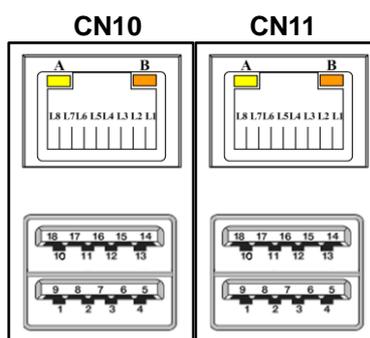
Pin	USB Signal	Pin	USB Signal
1	USB_VCC(+5V level standby power)	10	USB_VCC (+5V level standby power)
2	USB_Data2-	11	USB_Data3-
3	USB_Data2+	12	USB_Data3+
4	GND	13	GND
5	SSRX2-	14	SSRX3-
6	SSRX2+	15	SSRX3+
7	GND	16	GND
8	SSTX2-	17	SSTX3-
9	SSTX2+	18	SSTX3+

2.4 Mountings: Panel / Wall / Rack / Desktop / VESA

There are 5 application options for the P1157E-871, including Panel/Wall/Rack/ Desktop/VESA mounting ways.

2.4.1 VESA-ARM / Wall-Mount / Desktop-mount

The P1157E-871 provides VESA mount: 75x75 mm or 100x100mm. Screw six screws to fix the kit in the back chassis.

▲VESA/ Wall mount bracket

▲Putting the bracket on the back of system

▲Fixing the bracket by six screws on the left and right side.

2.4.2 Panel-mount Kit Assembly

The P1157E-871 is designed for panel mount application. To mount the P1157E-871, the standard set of mounting kit (included in the system packaging) is needed.
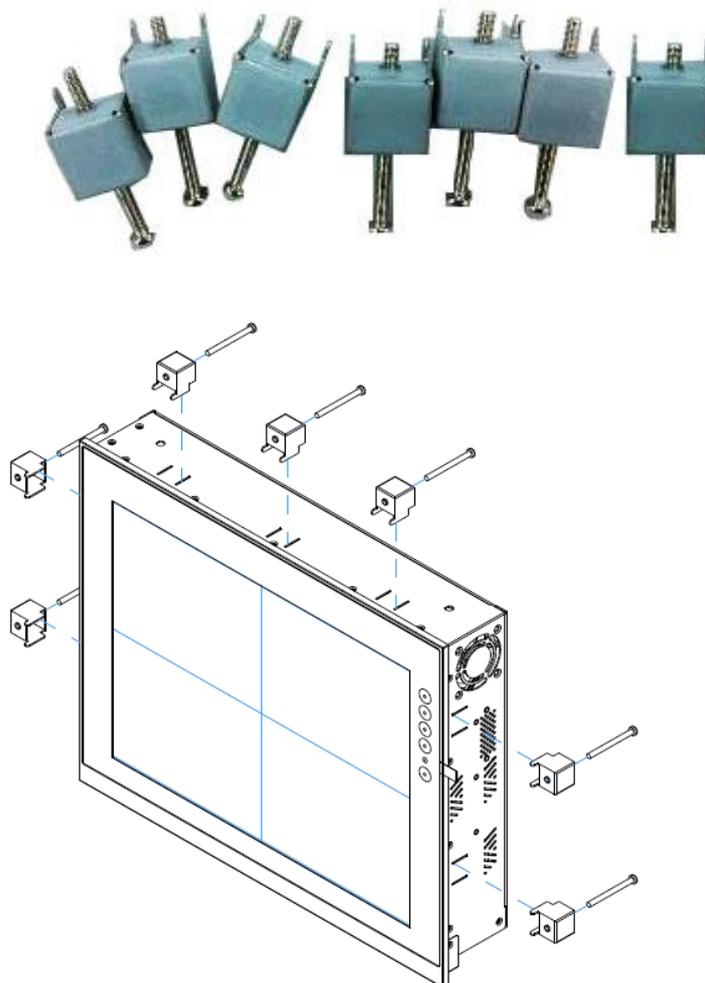
2.4.3   Rack-mount Kit Assembly

The P1157E-871 is designed for rack mount application. To mount the P1177S-871, the standard set of mounting kit (included in the system packaging) is needed.

Step 1   Unscrew the four screws from the left and right side of the system.

Step 2   Fixing the rack-mount bracket to the left and right of the system.
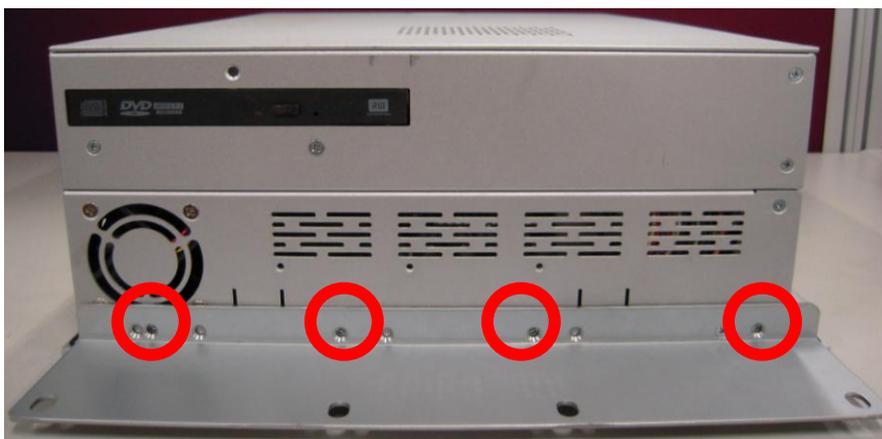
2.5   HDD Installation

The P1157E-871 provides a convenient Hard Disk Drive (HDD) bracket for users to install 2 x 2.5" or 1 x 3.5" 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 the screws.

▲1 x 3.5" or 1 x2.5" SATA HDD Kit   ▲ 2 x 2.5" SATA HDD Kit
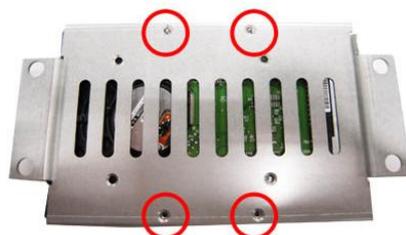
▲Fix the 3.5" HDD on the back   ▲Fix the 2.5" HDD on the right and left side

of bracket   bracket

Step 4   Fix the HDD bracket into the main base.

Step 5   Plug the power and SATA cables to connectors. Installation completes.

2.6   DRAM Installation

The P1157E-871 provides two 204-pin DDR3 SO-DIMM socket that support system memory up to 16GB. 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 mainboard (MANO871).

Step 2   Push the latches on each side of the SO-DIMM slot down.

Step 3   **Install the SO-DIMM module into the slot and press it firmly down until it seats correctly.**

Step 4   **The slot latches are levered upwards and latch on to the edges of the SO-DIMM.**

2.7   CPU Installation

The P1157E-871 has an LGA1155 socket supporting Intel® 3rd&2nd Core™ i7/i5/i3 series, Pentium® and Celeron® processors and provides high computing performance for users.

Note: Before maintaining CPU, please remove the CD-ROM and cooler first.

① Remove CD-ROM

② Remove Cooler
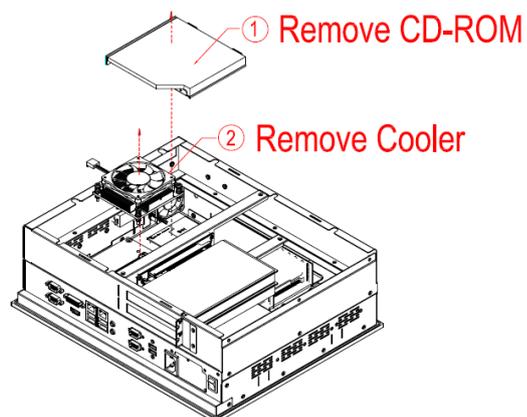
Step 1   Press the hook of lever down with your thumb and pull it to the right side to release it from retention tab.

Step 2   Lift the tail of the load lever and rotate the load plate to fully open position. And, remove the protective plastic cover.
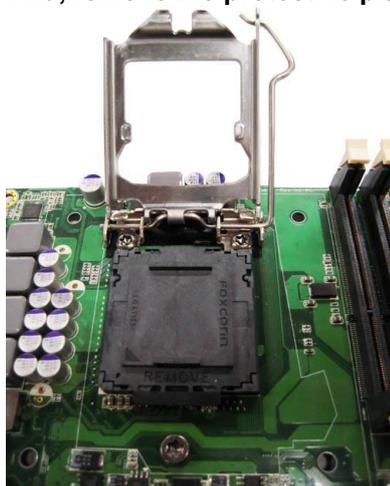
Step 3   **CPU aims at the socket and places the package carefully into the socket by purely vertical motion.**
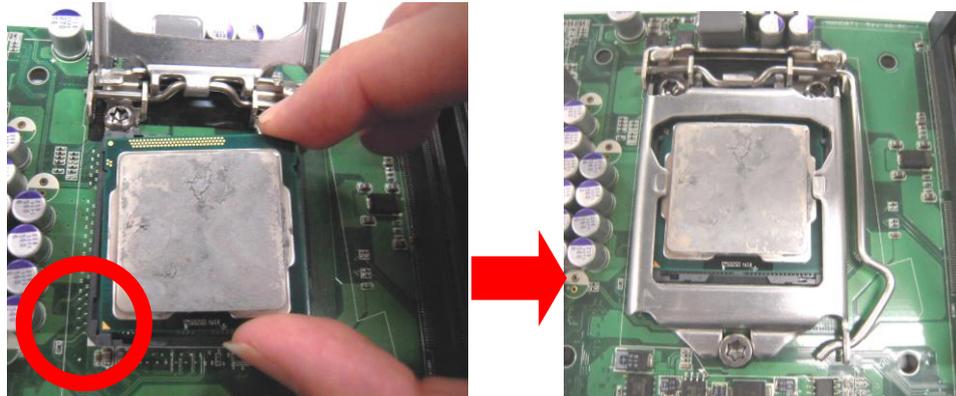
NOTE *Never touch fragile socket contacts to avoid damage and do not touch processor sensitive contacts at any time during installation.*

2.8   CPU Cooler Installation

Note: *Before maintaining CPU cooler, please remove the CD-ROM and cooler first.*
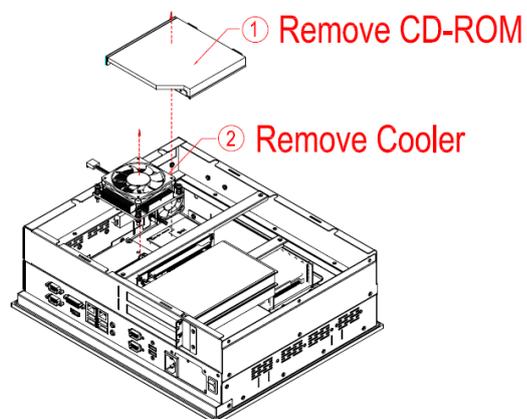
Step 1   **Making sure your CPU settled correctly on the socket.**

Step 2   **Screw the cooling fan supporting base onto the CPU socket on the Motherboard and make sure the CPU fan is plugged to the CPU fan connector. And, Connect the CPU cooler power connector to the FAN1 connector**
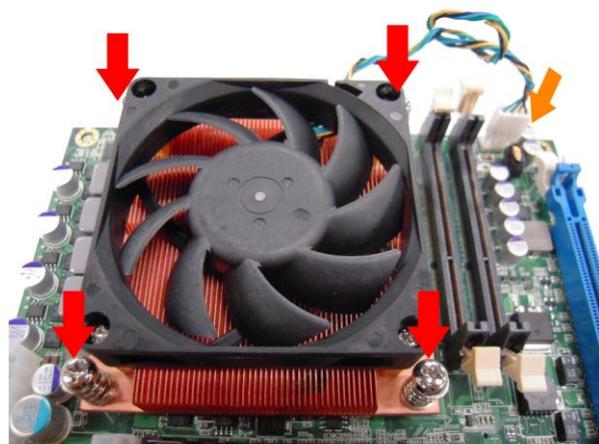
2.9   Wireless LAN Module Installation (optional)

The P1157E-871 provides one wireless LAN module to install. When installing the wireless LAN module, refer to the following instructions and illustration:

Step 1   Refer to section 2.1 to open the back cover and find out the wireless LAN module located.

Step 2   Fixing the wireless LAN module by 2 screws.

Step 3   Plug in USB cable to the connector of WIFI module. And, find the built-in Antenna cable and connect it wireless LAN card.

Step 4   Lift the rubber stopper from the top of back cover.
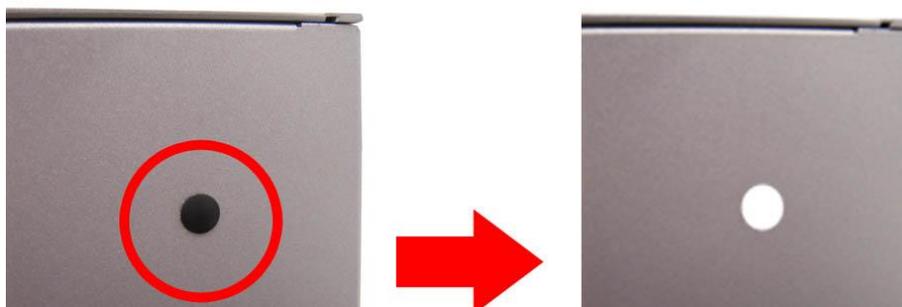
Step 5   Install the antenna on the antenna connector.

2.10   Add-on Card Installation

The P1157E-871 provides a riser card (PCIex16 interface) for 2 x PCIe x 8 or 2 x PCI slots expansion. The riser card assembly can accommodate both half-size expansion cards. To install the riser card, refer to the following figure and instructions below:

Step 1   Refer section 2.1 to open the back cover.
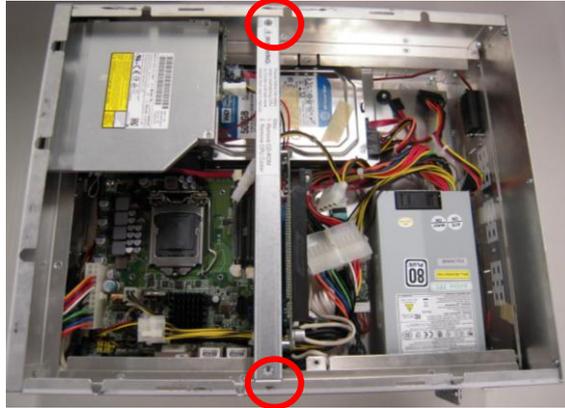
Step 2   Remove the riser card fix kit and plates.
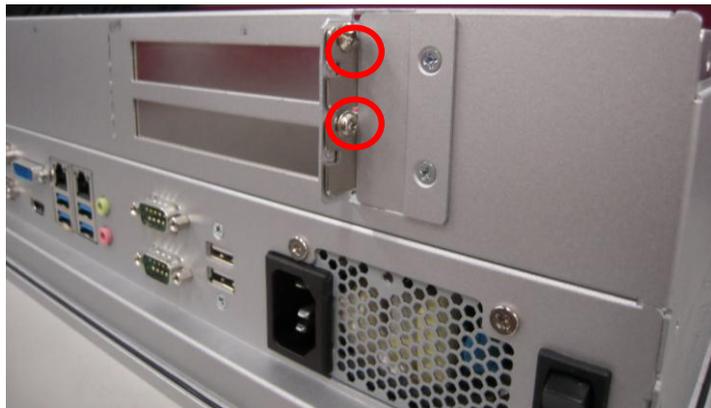
Step 3   Insert the riser card in the socket firmly until it is completely seated. And, insert the add-on card you need to the socket of riser card.
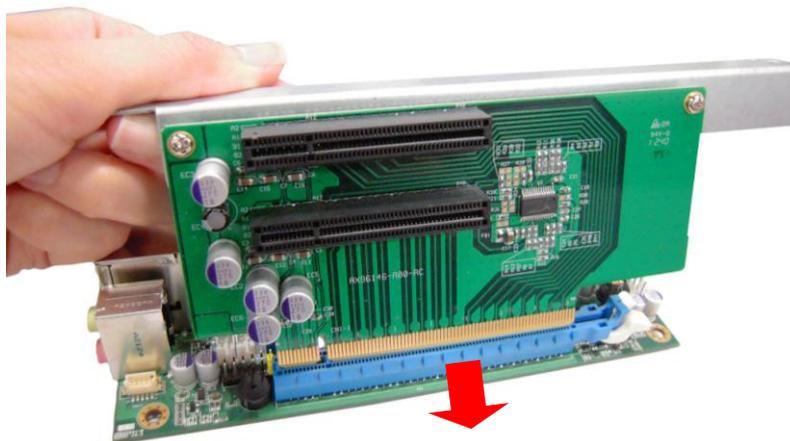
Step 4   Secure the metal bracket of the card to the system case with four screws. Installations complete.
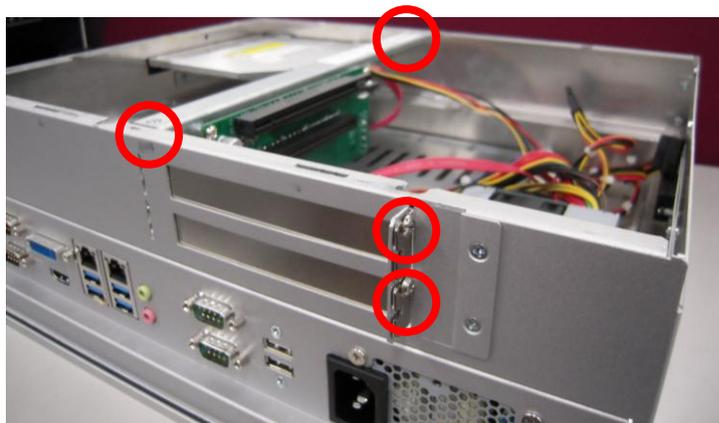
Note: Please use the standard size of add-on card to avoid conflicting the mechanism.

2.11 Optical Drive Installation(optional)

The P1157E-871 offers a convenient drive bay module for users to install optical drive. When installing the optical drive, refer to the following instructions and illustration:

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

Step 2 **Unscrew three screws to remove the plate from the right side.**

Step 3 **Fixing the optical drive on the bracket.**

▲optical drive Kit

▲Fixing optical drive by 4 screws.

Step 4   **Fixing the optical drive kit on the chassis by 4 screws.**

Step 5   **Plug the power and SATA cables to connectors. Installation completes.**

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Chapter 3
AMI BIOS Setup Utility

The AMI UEFI BIOS provides users with a built-in setup program to modify basic system configuration. All configured parameters are stored in a flash chip to save the setup information whenever the power is turned off. This chapter provides users with detailed description about how to set up basic system configuration through the AMI BIOS setup utility.

3.1   Starting

To enter the setup screens, follow the steps below:

1.   Turn on the computer and press the <Del> key immediately.
2.   After you press the <Del> key, the main BIOS setup menu displays. You can access the other setup screens from the main BIOS setup menu, such as the Advanced and Chipset menus.

It is strongly recommended that you should avoid changing the chipset's defaults. Both AMI and your system manufacturer have carefully set up these defaults that provide the best performance and reliability

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

```
               Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
   Main   Advanced   Chipset   Boot   Security   Save & Exit

 BIOS Version                    MANO871v.100              Set the Date. Use Tab to
 Build Date                      06/05/2012                switch between Date elements.

 System Date                     [Thu 07/19/2012]
 System Time                     [16:12:39]

 Access Level                    Administrator



                                                          →←: Select Screen
                                                          ↑↓: Select Item
                                                          Enter: Select
                                                          +/-: Change Opt.
                                                          F1: General Help
                                                          F2: Previous Values
                                                          F3: Optimized Defaults
                                                          F4: Save & Exit
                                                          ESC: Exit


               Version 2.15.1226. Copyright (C) 2012 American Megatrends, Inc.
```

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

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
- ► Trusted Computing
- ► CPU Configuration
- ► SATA Configuration
- ► PCH-FW Configuration
- ► AMT Configuration
- ► USB Configuration
- ► NCT6627UD Super IO Configuration
- ► NCT6627UD HW Monitor

For items marked with "►", please press <Enter> for more options.

```
         Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
    Main   Advanced   Chipset   Boot   Security   Save & Exit
 ┌────────────────────────────────────────────┬──────────────────────────────┐
 │ ► ACPI Settings                              │ System ACPI Parameters.      │
 │ ► Trusted Computing                          │                              │
 │ ► CPU Configuration                          │                              │
 │ ► SATA Configuration                         │                              │
 │ ► PCH-FW Configuration                       │                              │
 │ ► AMT Configuration                          │                              │
 │ ► USB Configurantion                         │                              │
 │ ► NCT6627UD Super IO Configuration           │                              │
 │ ► NCT6627UD HW Monitor                       │                              │
 │                                              │                              │
 │                                              ├──────────────────────────────┤
 │                                              │ ►←: Select Screen            │
 │                                              │ ↑↓: Select Item              │
 │                                              │ Enter: Select                │
 │                                              │ +/-: Change Opt.             │
 │                                              │ F1: General Help             │
 │                                              │ F2: Previous Values          │
 │                                              │ F3: Optimized Defaults       │
 │                                              │ F4: Save & Exit              │
 │                                              │ ESC: Exit                    │
 │                                              │                              │
 └────────────────────────────────────────────┴──────────────────────────────┘
          Version 2.15.1226. Copyright (C) 2012 American Megatrends, Inc.
```

- **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.

```
            Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
     Advanced

 ACPI Settings                                          Select ACPI sleep state the
                                                        system will enter when the
 ACPI Sleep State                 [S3 only(Suspend to ...]   SUSPEND button is pressed.








                                                        →←: Select Screen
                                                        ↑↓: Select Item
                                                        Enter: Select
                                                        +/-: Change Opt.
                                                        F1: General Help
                                                        F2: Previous Values
                                                        F3: Optimized Defaults
                                                        F4: Save & Exit
                                                        ESC: Exit



            Version 2.15.1226. Copyright (C) 2012 American Megatrends, Inc.
```
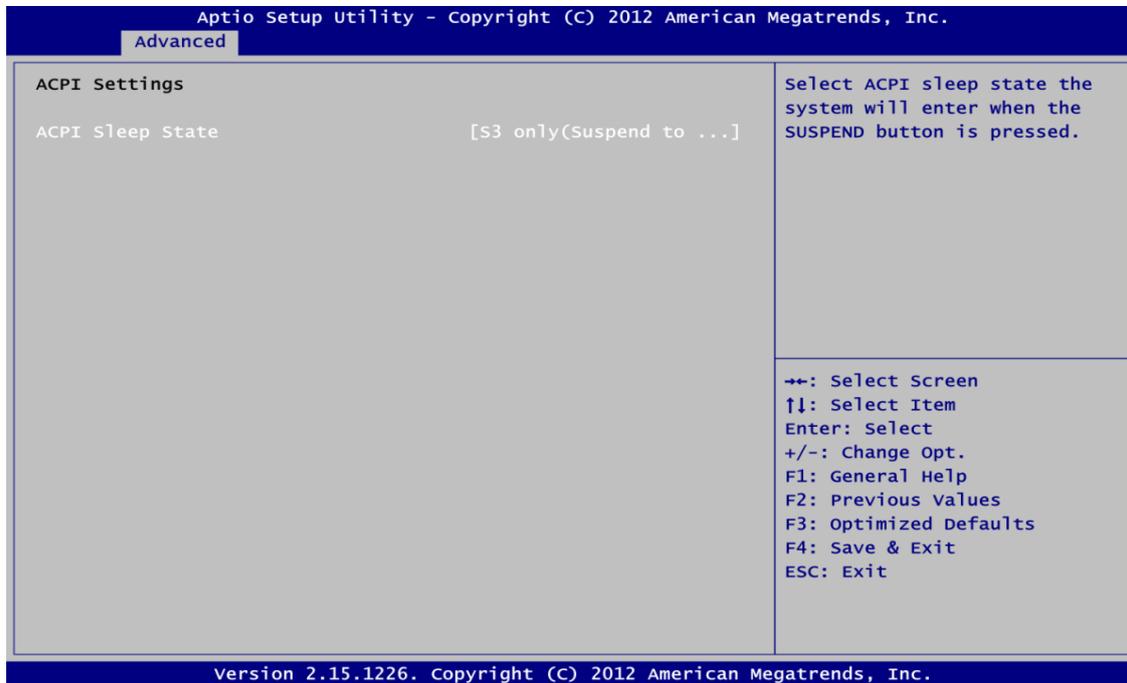
ACPI Sleep State

Select the highest ACPI sleep state the system will enter when the suspend button is pressed. Configuration options are Suspend Disabled, S1 only (CPU Stop Clock), and S3 only (Suspend to RAM).

To correctly support wake by use of USB from the S3 system power state, please refer to the following Microsoft's link:

http://support.microsoft.com/kb/841858/en-us

● **Trusted Computing**

This screen provides function for specifying the TPM settings.

```
                 Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
         Advanced

 Configuration                                              Enables or Disables BIOS
   Security Device Support            [Disable]             support for security device.
                                                            O.S. will not show Security
 Current Status Information                                 Device. TCG EFI protocol and
   SUPPORT TURNED OFF                                       INT1A interface will not be
                                                            available.



                                                            →←: Select Screen
                                                            ↑↓: Select Item
                                                            Enter: Select
                                                            +/-: Change Opt.
                                                            F1: General Help
                                                            F2: Previous Values
                                                            F3: Optimized Defaults
                                                            F4: Save & Exit
                                                            ESC: Exit



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```

Security Device Support
Use this item to enable or disable BIOS support for security device. If you enable BIOS support
for security device, please install the driver as well.

Please use Clear CMOS if you want to cancel "enable BIOS support"

Security Device Support
Display current TPM status information.

● **CPU Configuration**
This screen shows the CPU information.

```
            Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
    Advanced

  CPU Configuration                                          Enable/Disable Intel SpeedStep

  Intel(R) Core(TM) i7-3770 CPU @ 3.40GHz
  CPU Signature                    306a8
  Microcode Patch                  10
  Max CPU Speed                    3400 MHz
  Min CPU Speed                    1600 MHz
  CPU Speed                        3400 MHz
  Processor Cores                  4
  Intel HT Technology              Supported
  Intel VT-x Technology            Supported
  Intel SMX Technology             Supported
  64-bit                           Supported
                                                             →←: Select Screen
  EIST                             [Enabled]                 ↑↓: Select Item
  Turbo Mode                       [Enabled]                 Enter: Select
  Intel Virtualization Technology  [Enabled]                 +/-: Change Opt.
  Hyper-threading                  [Enabled]                 F1: General Help
                                                             F2: Previous Values
                                                             F3: Optimized Defaults
                                                             F4: Save & Exit
                                                             ESC: Exit

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```

EIST
Enable or disable Intel® Speed Step. When enabled, CPU speed is controlled by the operating system. When disabled, CPU runs at its default speed.

Turbo Mode
This item is for enabling or disabling turbo mode. When enabled, it allows processor cores to run faster than marked frequency under certain conditions.

Intel Virtualization Technology
This item allows a hardware platform to run multiple operating systems separately and simultaneously, enabling one system to virtually function as several systems.

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.

● **SATA Configuration**.

In this Configuration menu, you can see the currently installed hardware in the SATA ports. During system boot up, the BIOS automatically detects the presence of SATA devices.

```
          Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
      Advanced

  SATA Controller(s)                 [Enabled]            Enable or disable SATA Device.
  SATA Mode Selection                [IDE]

  Serial ATA Port 0                  INTEL SSDSC2MH (120.0GB)
    Software Preserve                SUPPORTED
  Serial ATA Port 1                  Empty
    Software Preserve                Unknown
  Serial ATA Port 2                  ASUS    DRW-24 ATAPI
    Software Preserve                 N/A
  Serial ATA Port 3                  Empty
    Software Preserve                Unknown

                                                          →←: Select Screen
                                                          ↑↓: Select Item
                                                          Enter: Select
                                                          +/-: Change Opt.
                                                          F1: General Help
                                                          F2: Previous Values
                                                          F3: Optimized Defaults
                                                          F4: Save & Exit
                                                          ESC: Exit

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```

SATA Controller(s)
Enable or disable SATA device.

SATA Mode Selection
Determine how SATA controller(s) operate. Operation mode options are: IDE Mode, AHCI Mode and RAID Mode.

● **PCH-FW Configuration**

This screen displays Management Engine (ME) Firmware information.

```
        Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
     Advanced

  ME FW Version                    8.1.0.1265
  ME Firmware Mode                 Normal Mode
  ME Firmware Type                 Full Sku Firmware
  ME Firmware SKU                  5MB



                                                        →←: Select Screen
                                                        ↑↓: Select Item
                                                        Enter: Select
                                                        +/-: Change Opt.
                                                        F1: General Help
                                                        F2: Previous Values
                                                        F3: Optimized Defaults
                                                        F4: Save & Exit
                                                        ESC: Exit




        Version 2.15.1226. Copyright (C) 2012 American Megatrends, Inc.
```
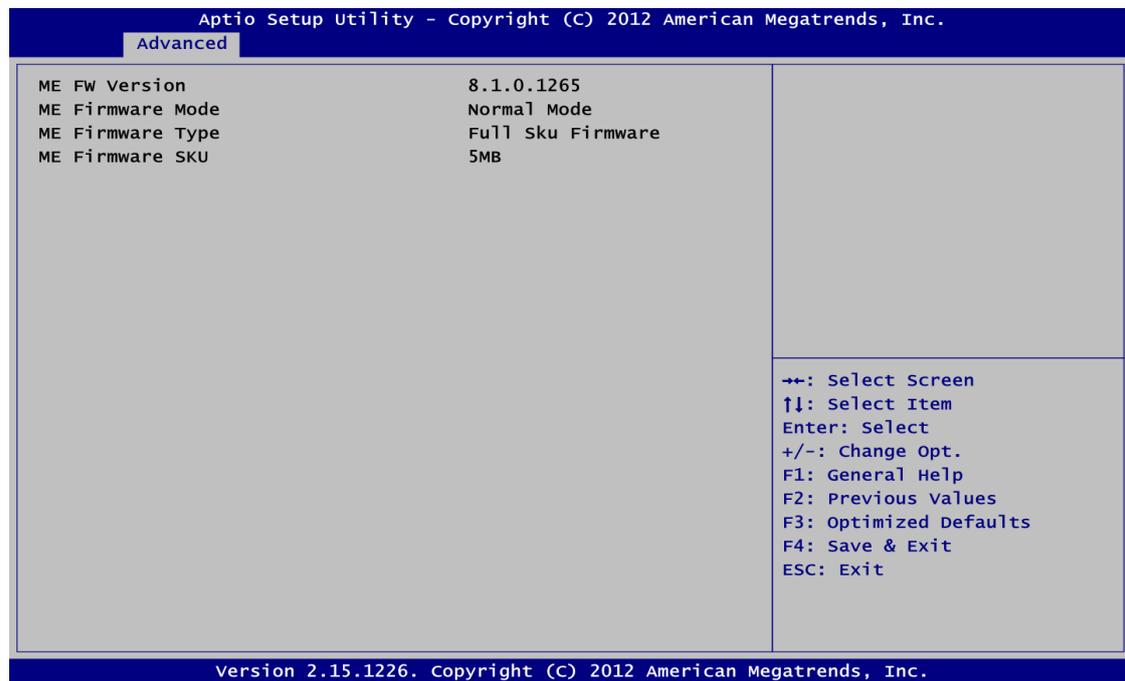
● **AMT Configuration**

Use this screen to configure AMT parameters.

```
              Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
      Advanced

  Intel AMT                           [Enabled]              Enable/Disable Intel (R)
  Disable ME                          [Disabled]             Active Management Technology
                                                             BIOS Extension.
                                                             Note : iAMT H/W is always
                                                             enabled.
                                                             This option just controls the
                                                             BIOS extension execution.
                                                             If enabled, this requires
                                                             additional firmware in the SPI
                                                             device.


                                                             →←: Select Screen
                                                             ↑↓: Select Item
                                                             Enter: Select
                                                             +/-: Change Opt.
                                                             F1: General Help
                                                             F2: Previous Values
                                                             F3: Optimized Defaults
                                                             F4: Save & Exit
                                                             ESC: Exit



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```

Intel AMT
Enable or disable Intel® Active Management Technology BIOS Extension.

Disable ME
Enable or disable ME functionality.

● **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.
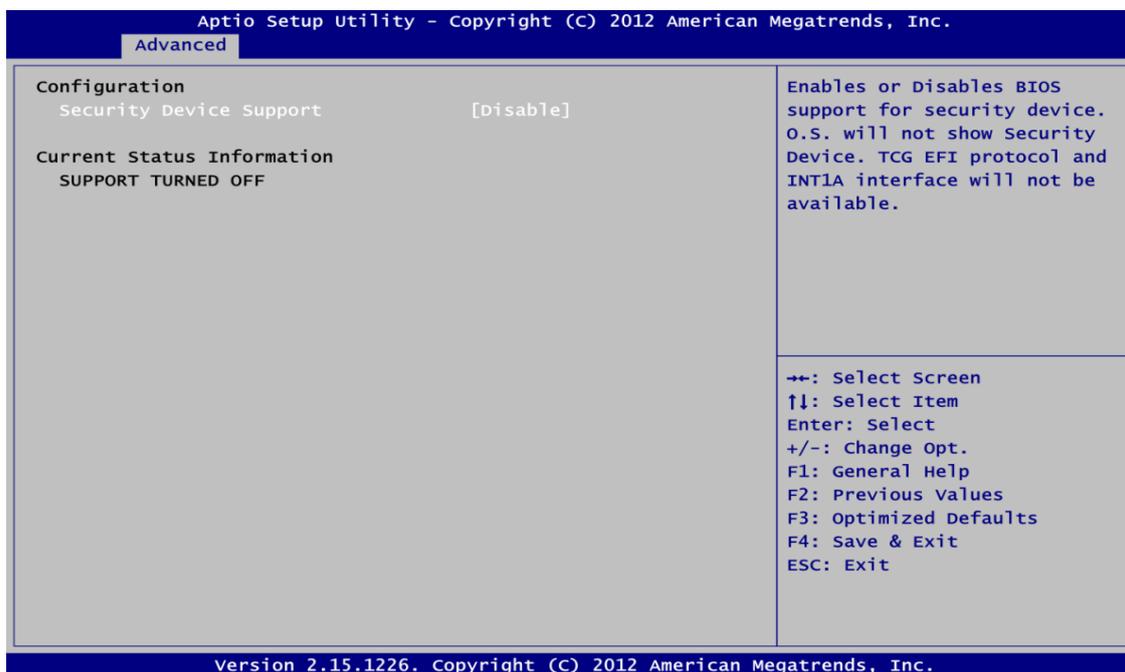
```
            Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
    Advanced

    USB Configuration                              Enables Legacy USB support.
                                                   AUTO option disables legacy
    USB Devices:                                   support if no USB devices are
          1 Keyboard, 1 Mouse, 2 Hubs             connected. DISABLE option will
                                                   keep USB devices available
    Legacy USB Support              [Enabled]      only for EFI applications.




                                                   →←: Select Screen
                                                   ↑↓: Select Item
                                                   Enter: Select
                                                   +/-: Change Opt.
                                                   F1: General Help
                                                   F2: Previous Values
                                                   F3: Optimized Defaults
                                                   F4: Save & Exit
                                                   ESC: Exit



            Version 2.15.1226. Copyright (C) 2012 American Megatrends, Inc.
```

USB Devices
Display all detected USB devices.

Legacy USB Support
Use this item to enable or disable support for USB device on legacy operating system. The default setting is Eenabled. Auto option disables legacy support if no USB devices are connected. Disable option will keep USB devices available only for EFI applications.

● **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. For items marked with "▶", please press <Enter> for more options.

```
          Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
      Advanced

   NCT6627UD Super IO Configuration                             Set Parameters of Serial Port
                                                                1 (COMA)
   NCT6627UD Super IO Chip                    NCT6627UD
  ▶ Serial Port 1 Configuration
  ▶ Serial Port 2 Configuration
  ▶ Serial Port 3 Configuration
  ▶ Serial Port 4 Configuration



                                                                →←: Select Screen
                                                                ↑↓: Select Item
                                                                Enter: Select
                                                                +/-: Change Opt.
                                                                F1: General Help
                                                                F2: Previous Values
                                                                F3: Optimized Defaults
                                                                F4: Save & Exit
                                                                ESC: Exit



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```

Serial Port 1~4 Configuration
Use this item to set parameters of serial port 1 to 4.

● **NCT6627UD HW Monitor**

Use this screen for Smart Fan configuration and hardware health status monitoring.
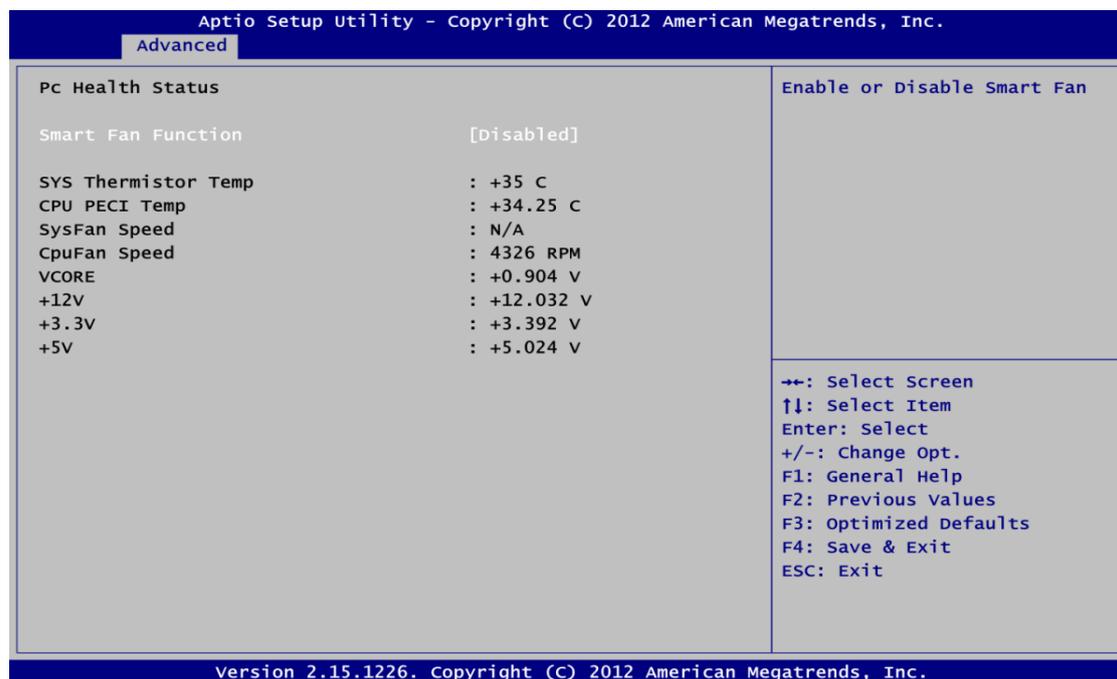
This screen displays the temperature of system and CPU, cooling fan speed in RPM and system voltages (VCORE, +12V, +3.3V and +5V).

Smart Fan Function
Enable or disable Smart Fan function.

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:

>   ►   **PCH-IO Configuration**
>   ►   **System Agent (SA) Configuration**

For items marked with "►", please press <Enter> for more options.

```
         Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
    Main    Advanced   Chipset    Boot    Security    Save & Exit
 ────────────────────────────────────────────────────────────────────────────
 ► PCH-IO Configuration                              PCH Parameters
 ► System Agent (SA) Configuration




                                               →←: Select Screen
                                               ↑↓: Select Item
                                               Enter: Select
                                               +/-: Change Opt.
                                               F1: General Help
                                               F2: Previous Values
                                               F3: Optimized Defaults
                                               F4: Save & Exit
                                               ESC: Exit


         Version 2.15.1226. Copyright (C) 2012 American Megatrends, Inc.
```
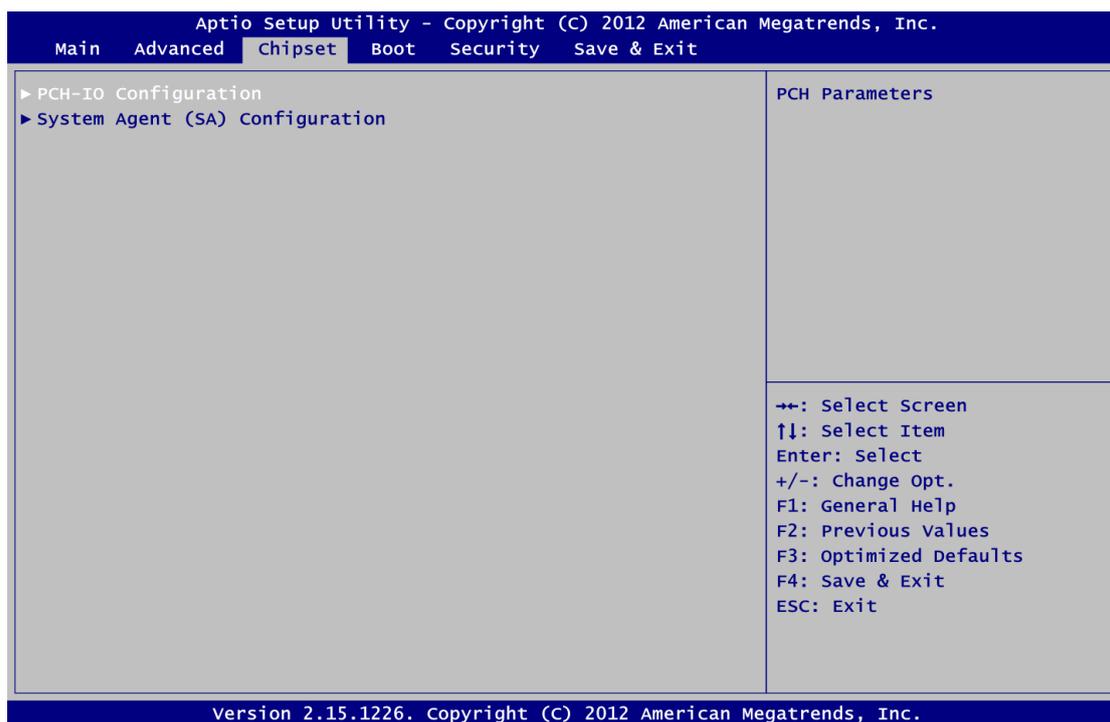
● **PCH-IO Configuration**

This screen allows you to set PCH parameters.

```
           Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
    Main   Advanced   Chipset   Boot   Security   Save & Exit

    Intel PCH RC Version              Q77                  USB Configuration settings.

  ▶ USB Configuration
  ▶ PCH Azalia Configuration

    Launch PXE OpROM policy           [Do not Launch]
    PCH LAN Controller                [Enabled]
      Wake on LAN                     [Enabled]

                                                           →←: Select Screen
                                                           ↑↓: Select Item
                                                           Enter: Select
                                                           +/-: Change Opt.
                                                           F1: General Help
                                                           F2: Previous Values
                                                           F3: Optimized Defaults
                                                           F4: Save & Exit
                                                           ESC: Exit

           Version 2.15.1226. Copyright (C) 2012 American Megatrends, Inc.
```

USB Configuration
Use this item for USB configuration settings.

PCH Azalia Configuration
Use this item for PCH Azalia configuration settings.

Launch PXE OpROM policy
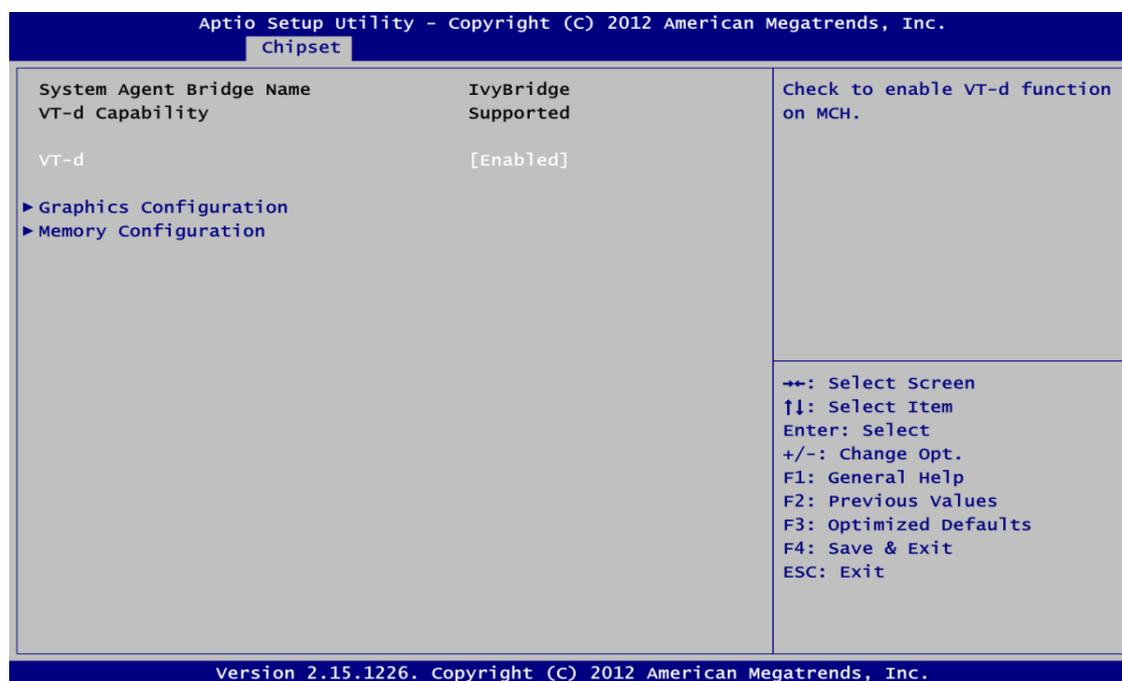Control the execution of UEFI and Legacy PXE OpROM.

PCH LAN Controller
Enable or disable PCH LAN controller.

Wake on LAN
Enable or disable Wake on LAN functionality.

● **System Agent (SA) Configuration**

This screen shows System Agent information and provides function for specifying related parameters. For items marked with "►", please press <Enter> for more options.

```
            Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
               Chipset

   System Agent Bridge Name          IvyBridge             Check to enable VT-d function
   VT-d Capability                   Supported             on MCH.

   VT-d                              [Enabled]

  ► Graphics Configuration
  ► Memory Configuration


                                                           ➜◄: Select Screen
                                                           ↑↓: Select Item
                                                           Enter: Select
                                                           +/-: Change Opt.
                                                           F1: General Help
                                                           F2: Previous Values
                                                           F3: Optimized Defaults
                                                           F4: Save & Exit
                                                           ESC: Exit



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```

VT-d
Enable or disable Intel® chipset virtualization technology for directed I/O. VT-d can help end users improve security and reliability of the systems and also improve performance of I/O devices in virtualized environment.
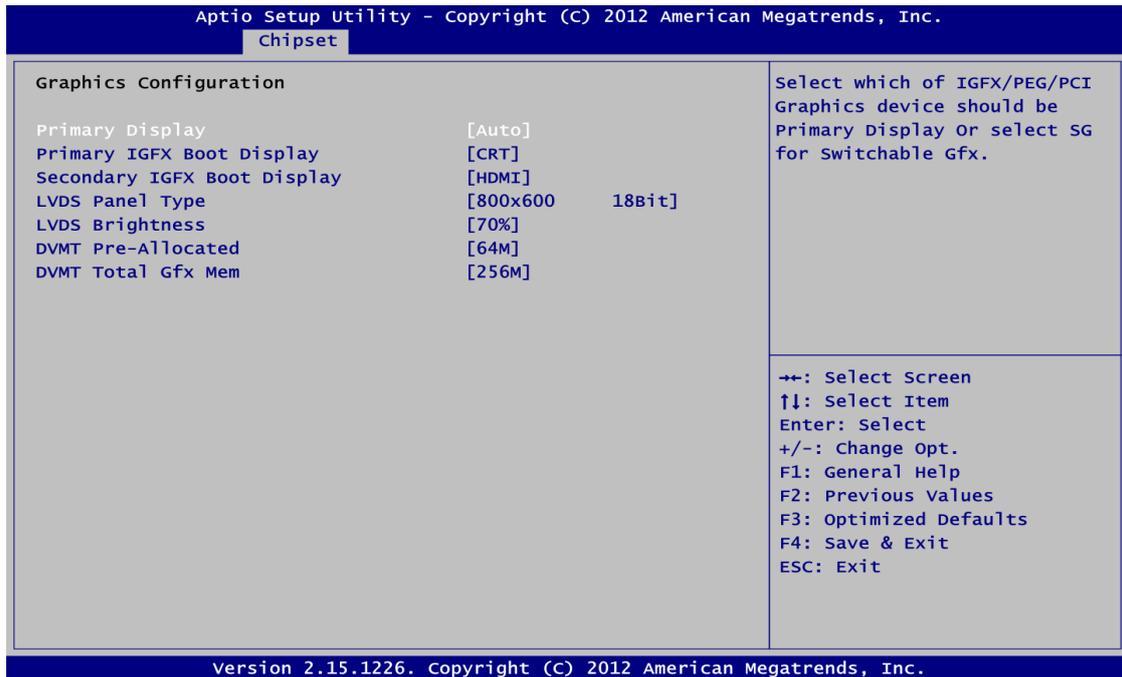
Graphics Configuration
Use this item for graphics configuration settings.

Memory Configuration
Use this item for memory configuration settings.

● **Graphics Configuration**

```
         Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
                  Chipset

 Graphics Configuration                                          Select which of IGFX/PEG/PCI
                                                                 Graphics device should be
 Primary Display                        [Auto]                   Primary Display Or select SG
 Primary IGFX Boot Display              [CRT]                    for Switchable Gfx.
 Secondary IGFX Boot Display            [HDMI]
 LVDS Panel Type                        [800x600      18Bit]
 LVDS Brightness                        [70%]
 DVMT Pre-Allocated                     [64M]
 DVMT Total Gfx Mem                     [256M]

                                                                →←: Select Screen
                                                                ↑↓: Select Item
                                                                Enter: Select
                                                                +/-: Change Opt.
                                                                F1: General Help
                                                                F2: Previous Values
                                                                F3: Optimized Defaults
                                                                F4: Save & Exit
                                                                ESC: Exit

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```

Primary Display
Allow you to select which graphics controller to use as the primary boot device.

Primary IGFX Boot Display
Allow you to select the display device which will be activated during POST. This has no effect if external graphics present. Secondary boot display selection will appear based on your selection. Primary IGFX boot display options are: CRT, DVI, LVDS and HDMI.

Secondary IGFX Boot Display
Use this item to select secondary display device. Secondary IGFX boot display options are: CRT, DVI, LVDS and HDMI.

LVDS Panel Type
Use this item to select LVDS panel used by internal graphics controller by selecting the appropriate setup item.

LVDS Brightness
Select LVDS brightness that ranges from 30% to 100%. The default setting is 70%.

DVMT Pre-Allocated
Select DVMT pre-allocated memory size.
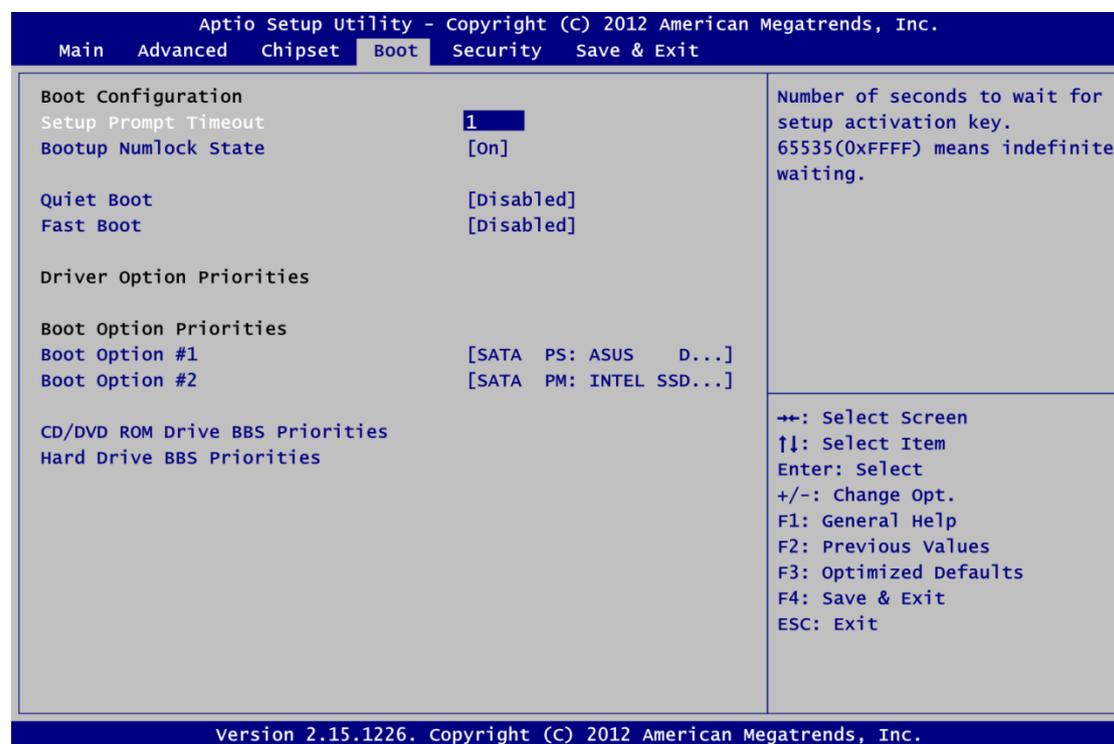
DVMT Total Gfx Mem
Select DVMT total memory size.

Note: BIOS will default LVDS & CRT display.

3.6   Boot Menu

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

```
        Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
   Main    Advanced    Chipset    Boot   Security   Save & Exit

  Boot Configuration                                      Number of seconds to wait for
  Setup Prompt Timeout                  1                 setup activation key.
  Bootup Numlock State                 [On]               65535(0xFFFF) means indefinite
                                                          waiting.
  Quiet Boot                           [Disabled]
  Fast Boot                            [Disabled]

  Driver Option Priorities

  Boot Option Priorities
  Boot Option #1                       [SATA  PS: ASUS    D...]
  Boot Option #2                       [SATA  PM: INTEL SSD...]

  CD/DVD ROM Drive BBS Priorities                        →←: Select Screen
  Hard Drive BBS Priorities                              ↑↓: Select Item
                                                         Enter: Select
                                                         +/-: Change Opt.
                                                         F1: General Help
                                                         F2: Previous Values
                                                         F3: Optimized Defaults
                                                         F4: Save & Exit
                                                         ESC: Exit



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```

Setup Prompt Timeout
Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.

Bootup NumLock State
Use this item to select the power-on state for the keyboard NumLock.

Quiet Boot
Select to display either POST output messages or a splash screen during boot-up.

Fast Boot
Enable or disable boot with initialization of minimal set of devices required to launch active boot option. Has no effect for BBS boot options.

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

Boot Option #1..#2
These items are used to form the boot order and are dynamically generated. They represent either a legacy BBS (BIOS Boot Specification) class of devices or a native EFI boot entry. Press <Return> on each option to select the BBS class / EFI boot entry desired

CD/DVD ROM Drive BBS/Hard Drive BBS Priorities
These items are for configuring the boot order for a specific device class. These options are only visible if at least one device for this class is detected.

3.7   Security Menu

The Security menu allows users to change the security settings for the system.
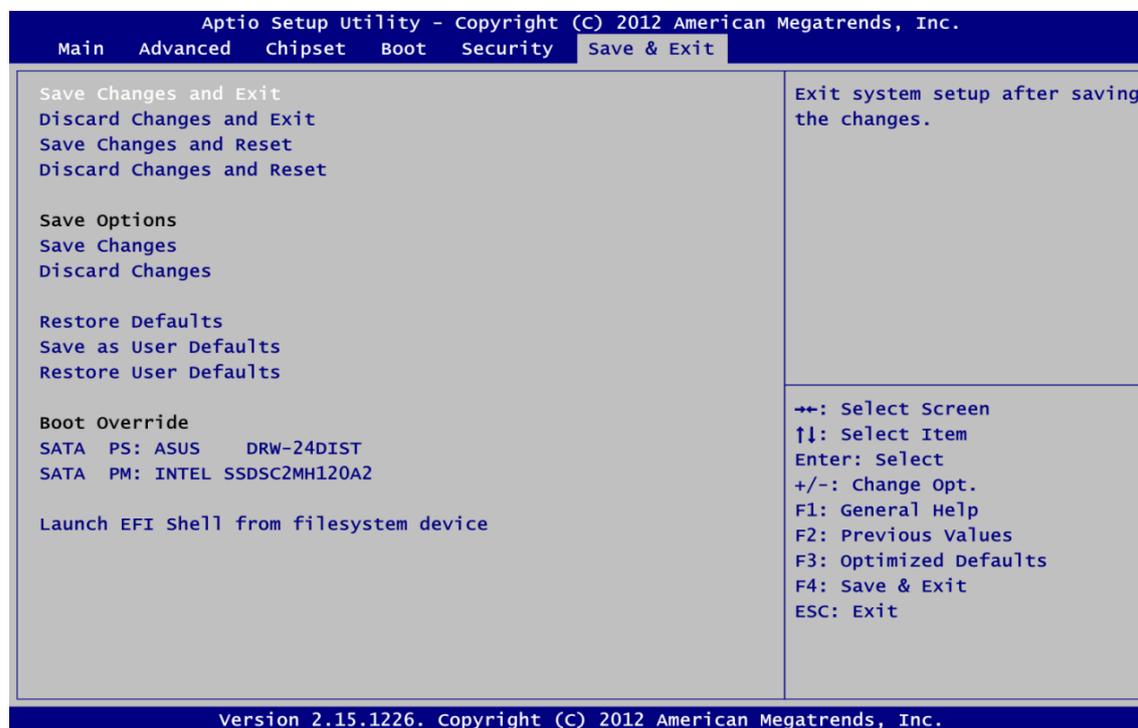
```
            Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
   Main   Advanced   Chipset   Boot   Security   Save & Exit

 Password Description                                   Set Administrator Password

 If ONLY the Administrator's password is set,
 then this only limits access to Setup and is
 only asked for when entering Setup.
 If ONLY the User's password is set, then this
 is a power on password and must be entered to
 boot or enter Setup. In Setup the User will
 have Administrator rights.
 The password length must be
 in the following range:
 Minimum length              3
 Maximum length              20                         →←: Select Screen
                                                        ↑↓: Select Item
                                                        Enter: Select
                                                        +/-: Change Opt.
 Administrator Password                                 F1: General Help
 User Password                                          F2: Previous Values
                                                        F3: Optimized Defaults
                                                        F4: Save & Exit
                                                        ESC: Exit


            Version 2.15.1226. Copyright (C) 2012 American Megatrends, Inc.
```

Administrator Password
This item indicates whether an administrator password has been set (installed or uninstalled).

User Password
This item indicates whether an user password has been set (installed or uninstalled).

3.8   Save & Exit Menu

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

```
             Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
   Main    Advanced   Chipset    Boot    Security   Save & Exit

  Save Changes and Exit                              Exit system setup after saving
  Discard Changes and Exit                           the changes.
  Save Changes and Reset
  Discard Changes and Reset

  Save Options
  Save Changes
  Discard Changes

  Restore Defaults
  Save as User Defaults
  Restore User Defaults

  Boot Override
  SATA  PS: ASUS     DRW-24DIST              →←: Select Screen
  SATA  PM: INTEL SSDSC2MH120A2              ↑↓: Select Item
                                             Enter: Select
  Launch EFI Shell from filesystem device    +/-: Change Opt.
                                             F1: General Help
                                             F2: Previous Values
                                             F3: Optimized Defaults
                                             F4: Save & Exit
                                             ESC: Exit


             Version 2.15.1226. Copyright (C) 2012 American Megatrends, Inc.
```

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>.

Launch EFI Shell from filesystem device
Attempt to launch EFI Shell application (Shellx64.efi) from one of the available filesystem devices.

Chapter 4
Drivers Installation

4.1   System

P1157E-871 supports Windows 7 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 "\Drivers".
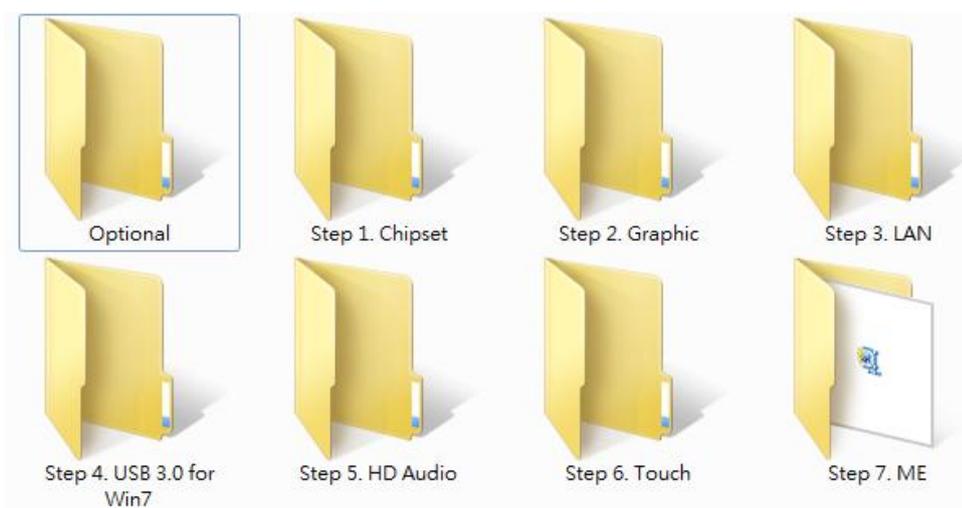
Step 2   Select all files and follow the installing procedure.

4.2   Touch Screen

The P1157E-871 uses the 5-wire analog resistive. There are the specification and driver installation which are listed below.

●   **Specification**

Touch Screen	5-wire Analog Resistive type
Touch Screen Controller	PenMount 6500 USB Touch Screen Controller IC
Communications	USB interface
Baud Rate	19200 baud rate fixed
Resolution	1280 X 1024

● **Driver Installation- Windows 7**

The P1157E-871 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 "\Drivers\Step 6. Touch".
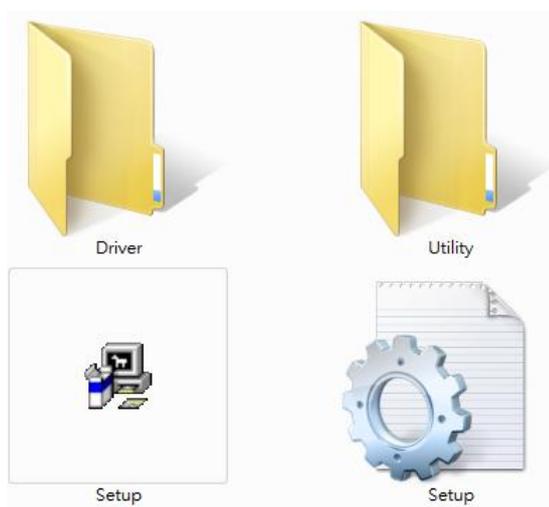
Step 2   Follow the installing procedure and press OK.

Step 3   Click Start menu and select "PenMount Utilities"; and then, a "PenMount Control Panel" pops out.
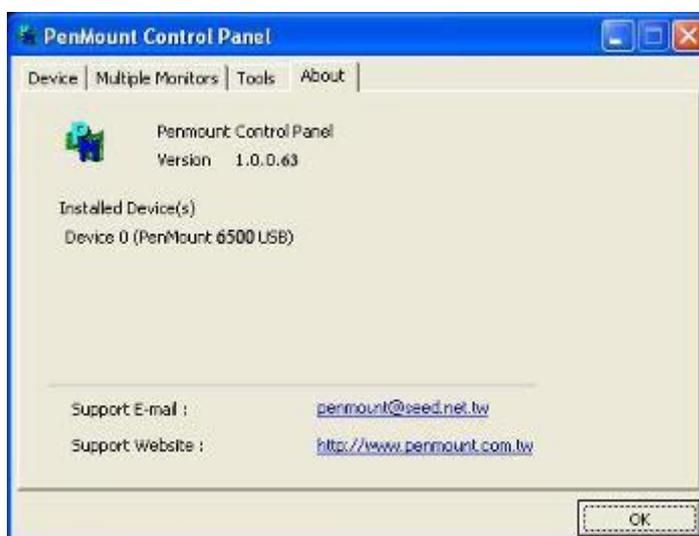
Step 4   Select the "Standard Calibrate" tab.

Step 5   Calibrations:
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.
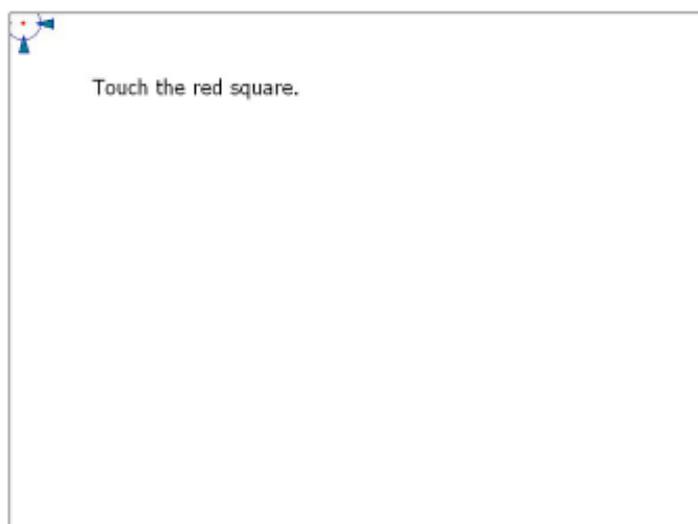
Step 6   Press OK.

4.3   Embedded O.S.

The P1157E-871 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
- PS2 Keyboard and mouse
- CRT/LCD display
- 10/100/1000 base-T Ethernet
- 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 the go on the calibration.
3. Restart the computer.

APPENDIX A
WATCHDOG TIMER

About Watchdog Timer

After the system stops working for a while, it can be auto-reset by the watchdog timer. The integrated watchdog timer can be set up in the system reset mode by program.

How to Use Watchdog Timer

Start
↓
Un-Lock WDT:
        O 2E 87   ; Un-lock super I/O
        O 2E 87   ; Un-lock super I/O
↓
Select Logic device:
        O 2E 07
        O 2F 08
↓
Activate WDT:
        O 2E 30
        O 2F 01
↓
Set Second or Minute:
        O 2E F5
        O 2F N   ; N=00 or 08 (See _Note_ below)
↓
Set base timer:
        O 2E F6
        O 2F M   ; M=00,01,02,…FF(Hex) ,Value=0 to 255
↓
WDT counting re-set timer:
        O 2E F6
        O 2F M   ; M=00,01,02,…FF

;IF to disable WDT:
        O 2E 30
        O 2F 00   ; Can be disabled at any time

●   **Timeout Value Range**
    ■   1 to 255
    ■   Minute / Second

● **Program Example**

2E, 87	
2E, 87	
2E, 07	
2F, 08	Logical Device 8
2E, 30	Activate
2F, 01	
2E, F5	
2F, N	Set Minute or Second; N=08 (Min), 00(Sec)
2E, F6	
2F, M	Set Value; M=00~FF

✎ *Note:*

*If **N**=00h, the time base is set to second.*
M = time value
00h: Time-out Disable
01h: Time-out occurs after 1 second
02h: Time-out occurs after 2 seconds
03h: Time-out occurs after 3 seconds
.
.
FFh: Time-out occurs after 255 seconds

*If **N**=08h, the time base is set to minute.*
M = time value
00h: Time-out Disable
01h: Time-out occurs after 1 minute
02h: Time-out occurs after 2 minutes
03h: Time-out occurs after 3 minutes
.
.
FFh: Time-out occurs after 255 minutes

APPENDIX B
INTEL® IAMT SETTINGS

The Intel® Active Management Technology (Intel® iAMT) has decreased a major barrier to IT efficiency that uses built-in platform capabilities and popular third-party management and security applications to allow IT a better discovering, healing, and protection their networked computing assets.

In order to utilize Intel® iAMT you must enter the ME BIOS (<Ctrl + P> during system startup), change the ME BIOS password, and then select "Intel® iAMT" as the manageability feature.

Intel AMT is a feature of 3rd generation Intel® Core™ processors with Intel® vPro™ technology1,2 and workstation platforms based on select Intel® Xeon® processors.

Entering MEBx

1.   You must go to BIOS to enable Intel® iAMT function.
2.   Exit from BIOS after starting Intel® iAMT, and press <Ctrl + P> to enter MEBx Setting.

Note: *t is better to press <Ctrl + P> before the screen popping out.*

Set and Change Password

1. You will be asked to set a password when first log in. The default password is "admin".
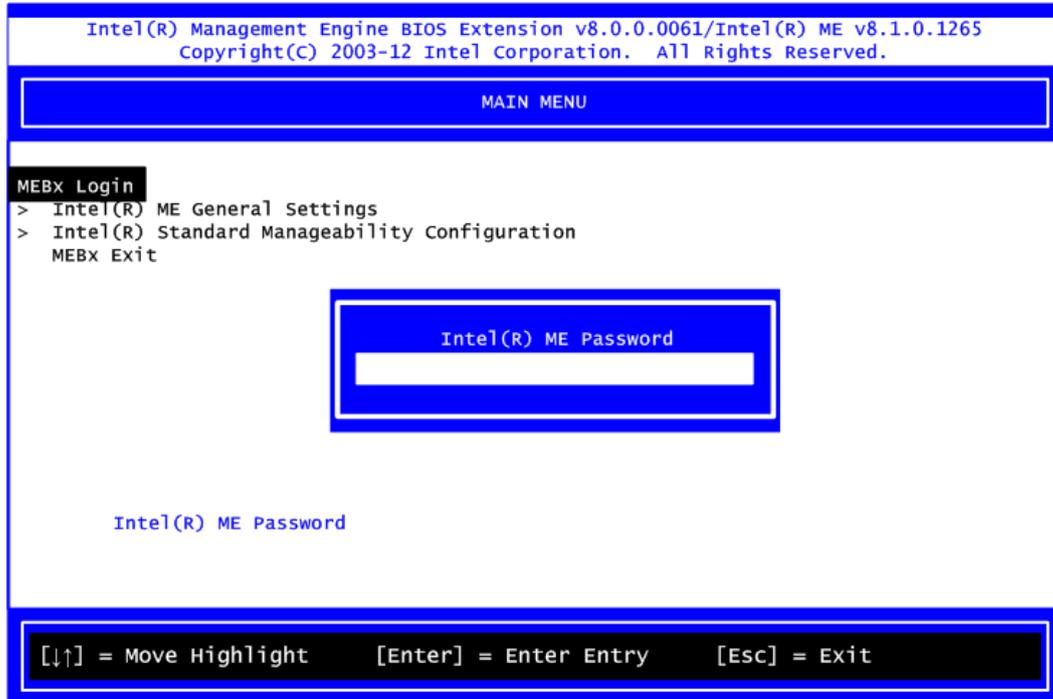
2. You will be asked to change the password before setting ME.
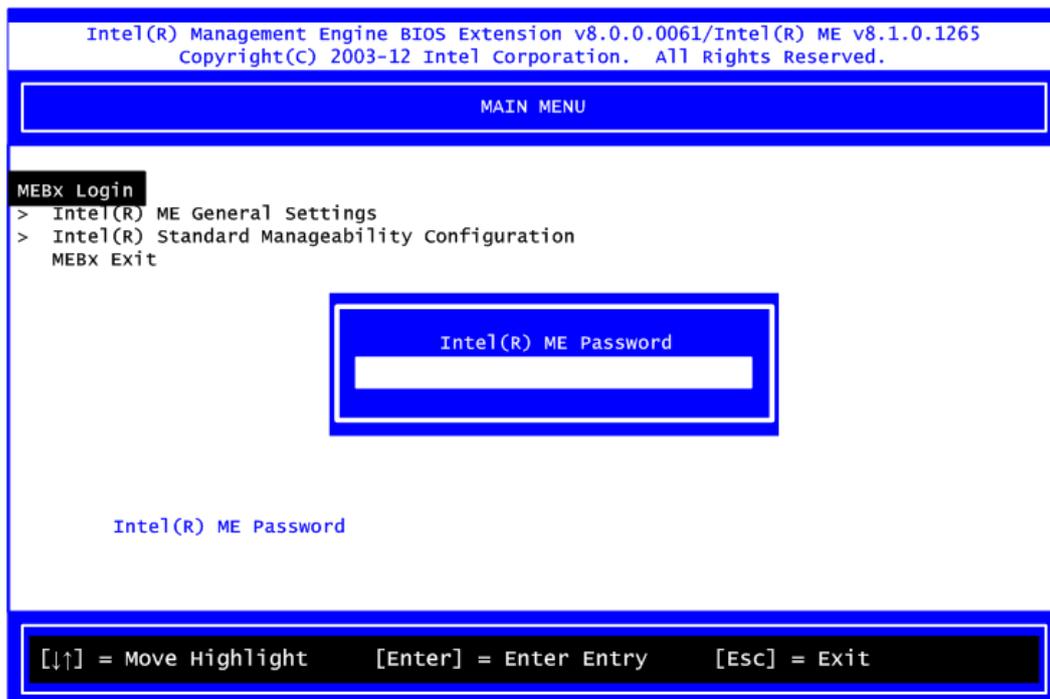
3. You must confirm your new password while revising. The new password must contain:
    (example: **!!11qqQQ**) (default value).

    ● Eight characters
    ● One upper case
    ● One lower case
    ● One number
    ● One special symbol, such as ! 、 $ or ; ， (、 " ， excepted)

    Underline (_) and space are valid characters for password, but they won't make higher
    complexity.

Intel® iAMT Web Console

1. From a web browser, please type http://(IP ADDRESS):16992, which connects to Intel®
    iAMT Web.

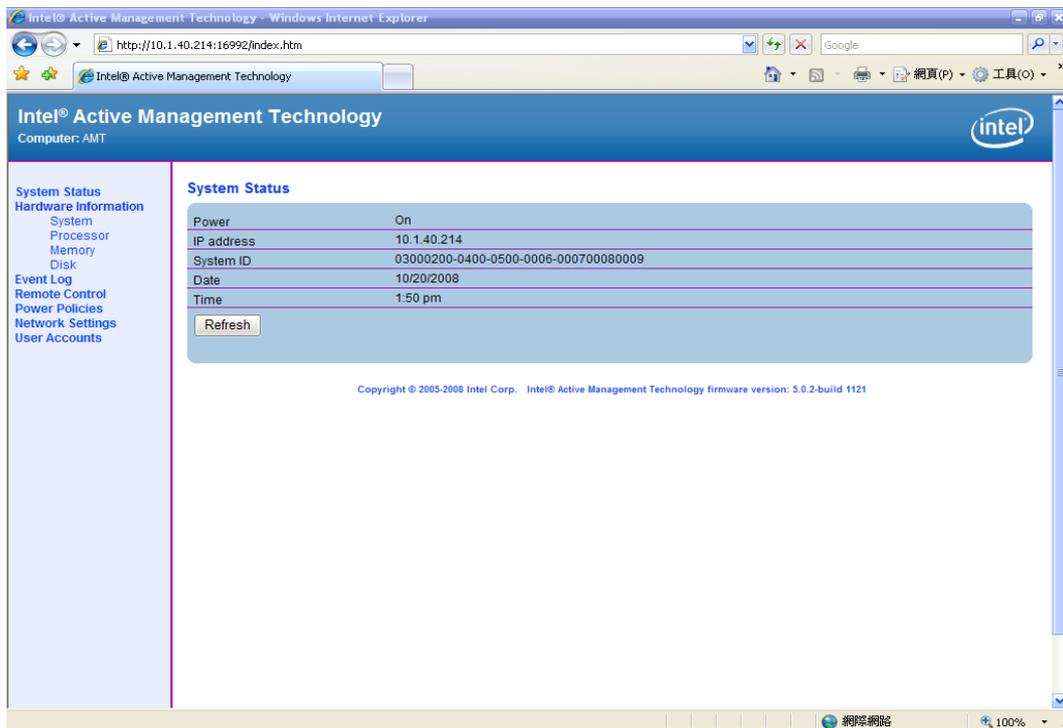   Example: http://10.1.40.214:16992
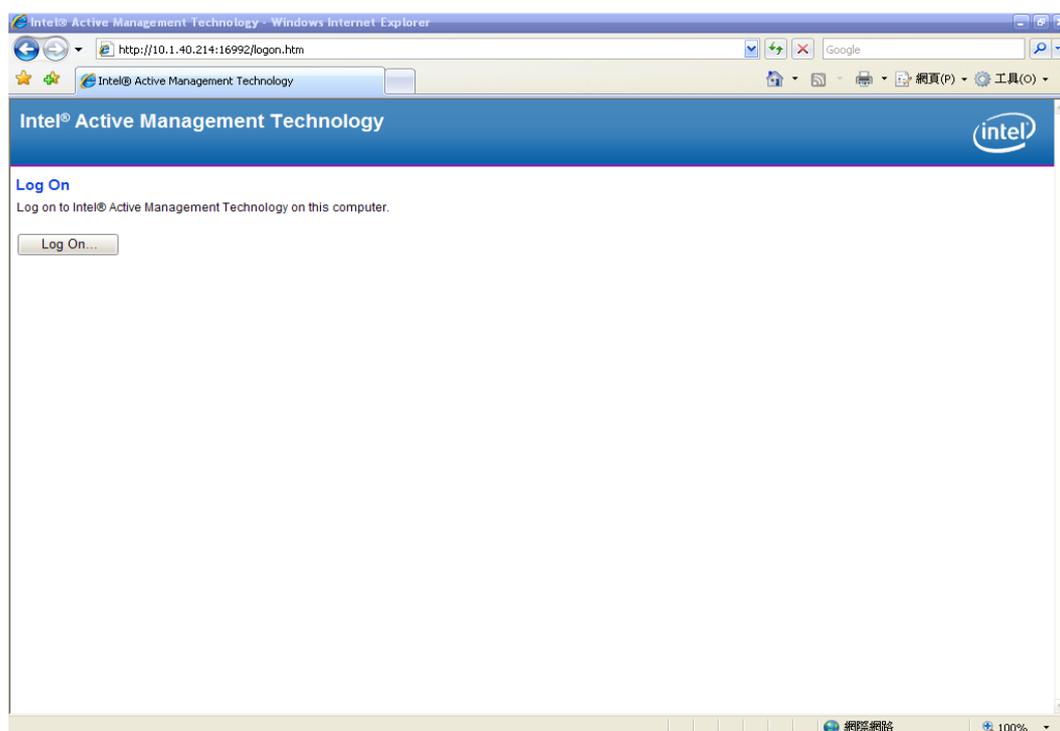
2. To log on, you will be required to type in username and password for access to the Web.
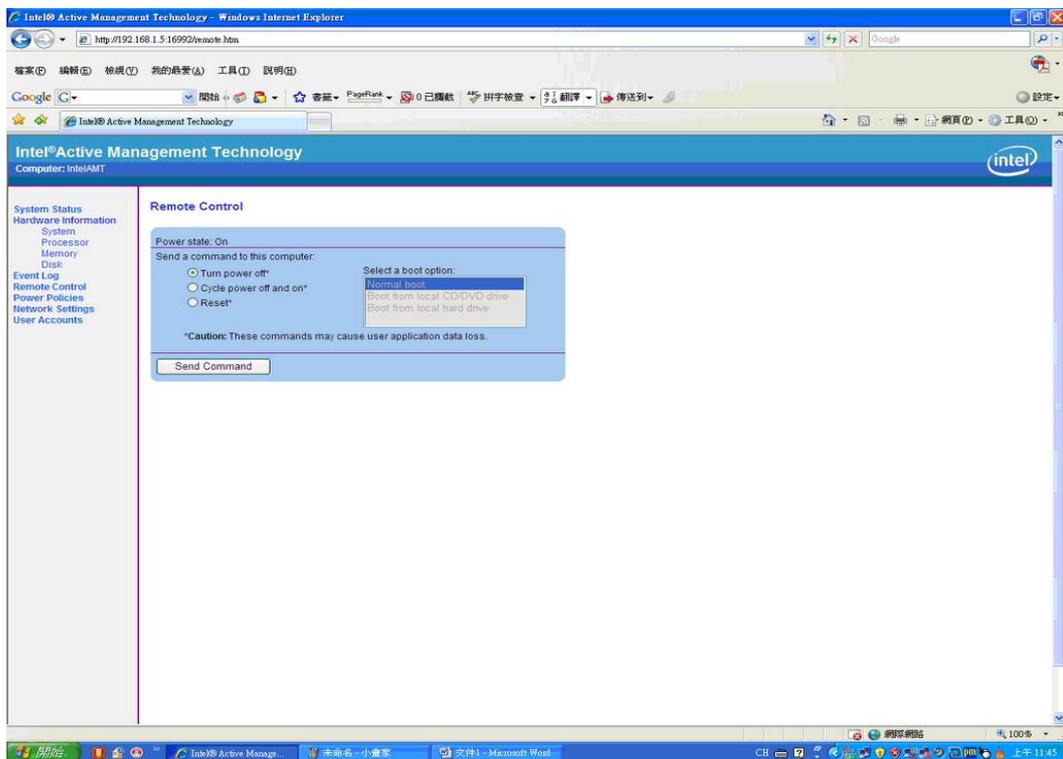
    USER: admin (default value)
    PASS: (MEBx password)

3. Enter the iAMT Web.

4. Click Remote Control, and select commands on the right side.

5. When you have finished using the iAMT Web console, close the Web browser.