



AXIOMTEK

MANO873 Series

**Intel® Socket 1155 Core™ i7 / Core™
i5 / Core™ i3 / Celeron® Processor
All-In-One Mini ITX Board with DVI-D
/ VGA**

User's Manual



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Computer boards have integrated circuits sensitive to static electricity. To prevent chipsets from electrostatic discharge damage, please take care of the following jobs with precautions:

- Do not remove boards or integrated circuits from their anti-static packaging until you are ready to install them.
- Before holding the board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. It discharges static electricity from your body.
- Wear a wrist-grounding strap, available from most electronic component stores, when handling boards and components.

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Chapter 1

Introduction



The MANO873 is a Mini ITX board with LGA1155 socket for Intel® Core™ i7 / Intel® Core™ i5 / Intel® Core™ i3 / Intel® Celeron® (G6950) desktop processor with 22nm technology. The board integrates Intel® Q77 chipset that delivers outstanding system performance through high-bandwidth interfaces, multiple I/O functions for interactive applications and various embedded computing solutions. There are two 204-pin DDR3 SO-DIMM sockets for dual channel DDR3 1333/1600MHz memory with maximum capacity up to 16GB; assuming dual channel mode of two 8GB double-sided unbuffered, non-ECC SO-DIMM memory configuration. The board also features Gigabit Ethernet, two SATA 3.0 ports (support SATA RAID 0/1/5/10 by Q77) at maximum transfer rate up to 6Gb/s, two SATA 2.0 ports at maximum transfer rate up to 3Gb/s, four USB 3.0 and four USB 2.0 high speed compliant ports that can achieve the best stability and reliability for industrial applications.

1.1 Features

- LGA1155 socket 3rd Generation Intel® Core™ i7 / i5 / i3 / Celeron® processor
- 2 DDR3 1333/1600MHz up to 16GB
- PCI-Express x16 Gen. 3 supported
- 2 SATA 3.0 ports with RAID 0, 1, 5 and 10 supported
- 2 SATA 2.0 ports with 1 SATADOM supported
- 4 USB 3.0 supported
- iAMT 8.0 supported
- TPM 1.2 supported

1.2 Specifications

- **CPU**
 - Intel® Core™ i7 desktop processor.
 - Intel® Core™ i5 desktop processor.
 - Intel® Core™ i3 desktop processor.
 - Intel® Celeron® desktop processor.
- **System Chipset**
 - Intel® Q77.
- **CPU Socket**
 - LGA1155.
- **DRAM Transfer Rate**
 - 1333/1600MHz.
- **BIOS**
 - AMI BIOS via SPI interface with socket.
- **System Memory**
 - Two 204-pin unbuffered DDR3 SO-DIMM sockets.
 - Maximum up to 16GB DDR3 1333/1600MHz memory with two SO-DIMMs using 8GB memory technology.
- **Onboard Multi I/O**
 - Controller: Nuvoton NCT6627UD.
 - Serial ports: Three RS-232 ports (COM2/3/4) and one RS-232/422/485 port (COM1).
- **SATADOM (Optional)**
 - One SATADOM supported; co-layout with a SATA-300 socket (according to SATA 2.0 signal).
- **Serial ATA**
 - Supports SATA 3.0 and SATA 2.0.
 - Two SATA 3.0 ports (6Gb/s performance) with SATA RAID 0/1/5/10 by Q77 and two SATA 2.0 ports (3Gb/s performance).
- **USB Interface**
 - Four USB 3.0 ports with fuse protection (two USB 3.0 ports are from Renesas uPD720202 (CN10); two USB 3.0 ports are from PCH (CN11)).
 - Four USB 2.0 ports with fuse protection.
- **Display**
 - One VGA.
 - One DVI-D.



Note: Due to Intel design limitation and BIOS default option, under DOS only VGA display is supported.
Due to USB3.0 form Renesas Upd720202 (CN10), it is useful during dos mode but only work after driver be installed in OS, otherwise it will be malfunction.

- **Watchdog Timer**
 - 1~255 seconds; up to 256 levels.
- **Expansion Interface**
 - One PCI-Express x16 slot.
- **Ethernet**
 - LAN1 – Intel® 82579LM supports 10/100/1000Mbps.
 - LAN2 – Intel® 82583V supports 10/100/1000Mbps.
- **Audio**
 - HD audio compliant (with line/speaker-out and MIC-in) via ALC662.
 - Internal audio feature for speaker-out via wafer connector.
- **Power Management**
 - ACPI (Advanced Configuration and Power Interface).
- **Form Factor**
 - Mini ITX form factor.



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

1.3 Utilities Supported

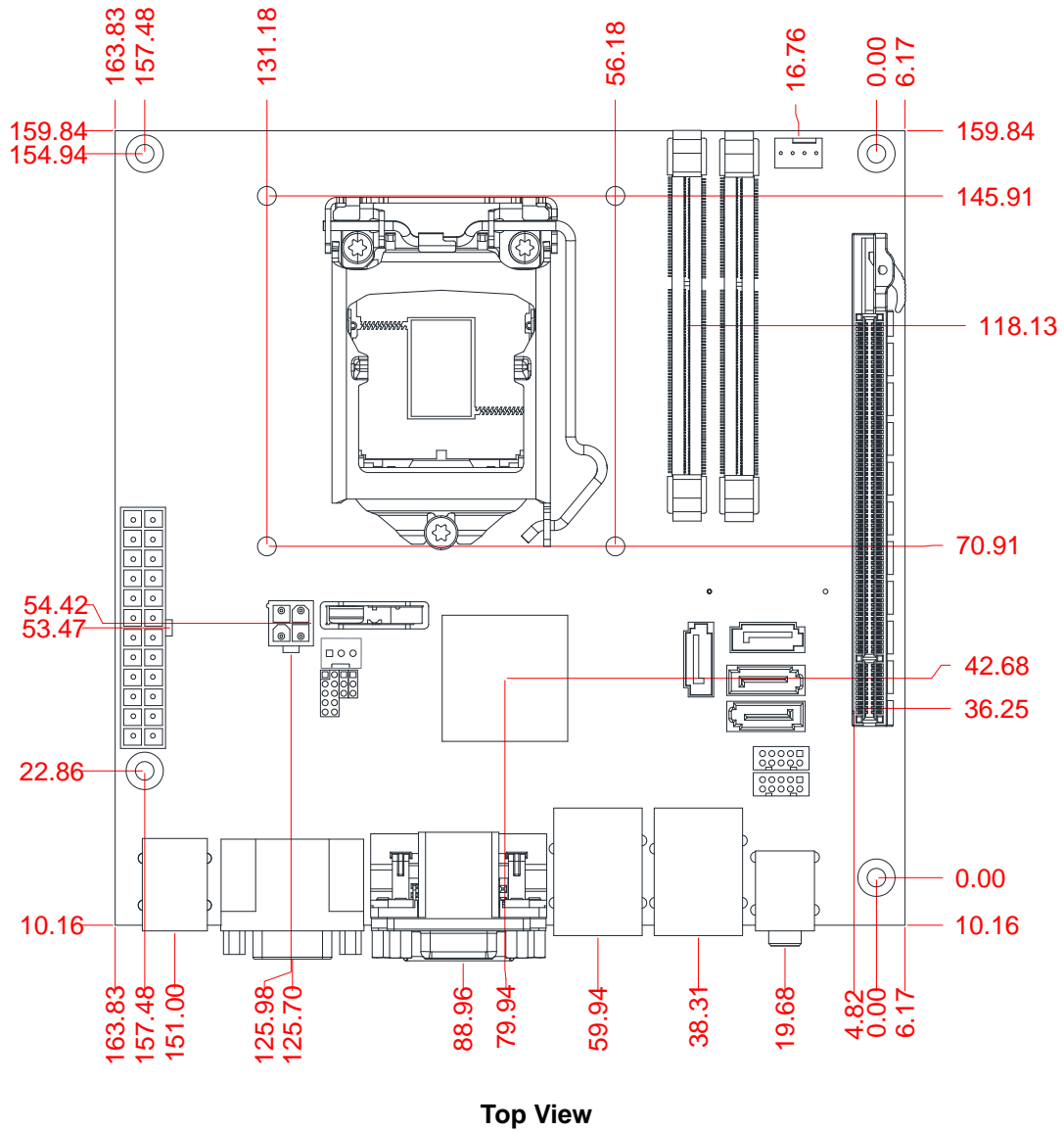
- Chipset driver
- Ethernet driver
- Graphics driver
- Audio driver
- Renesas uPD720202 driver

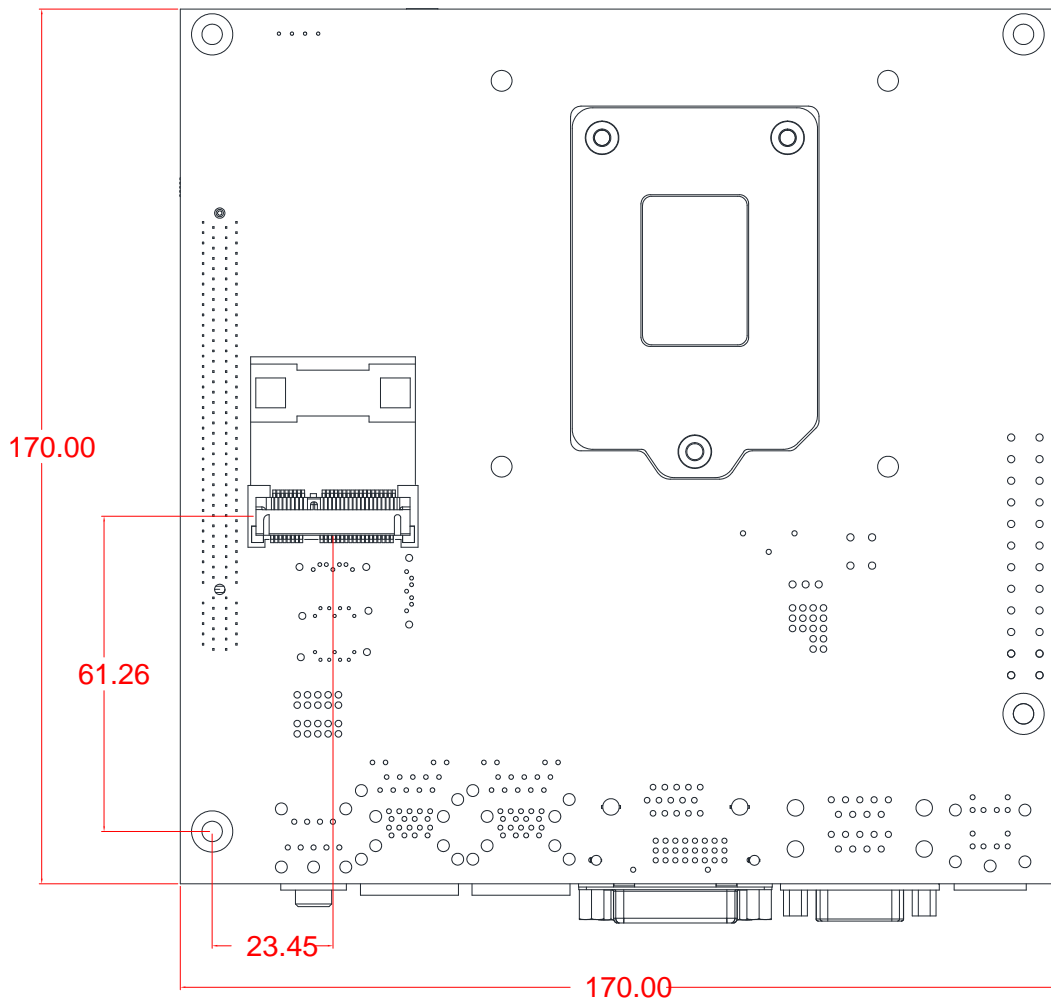
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Chapter 2

Board and Pin Assignments

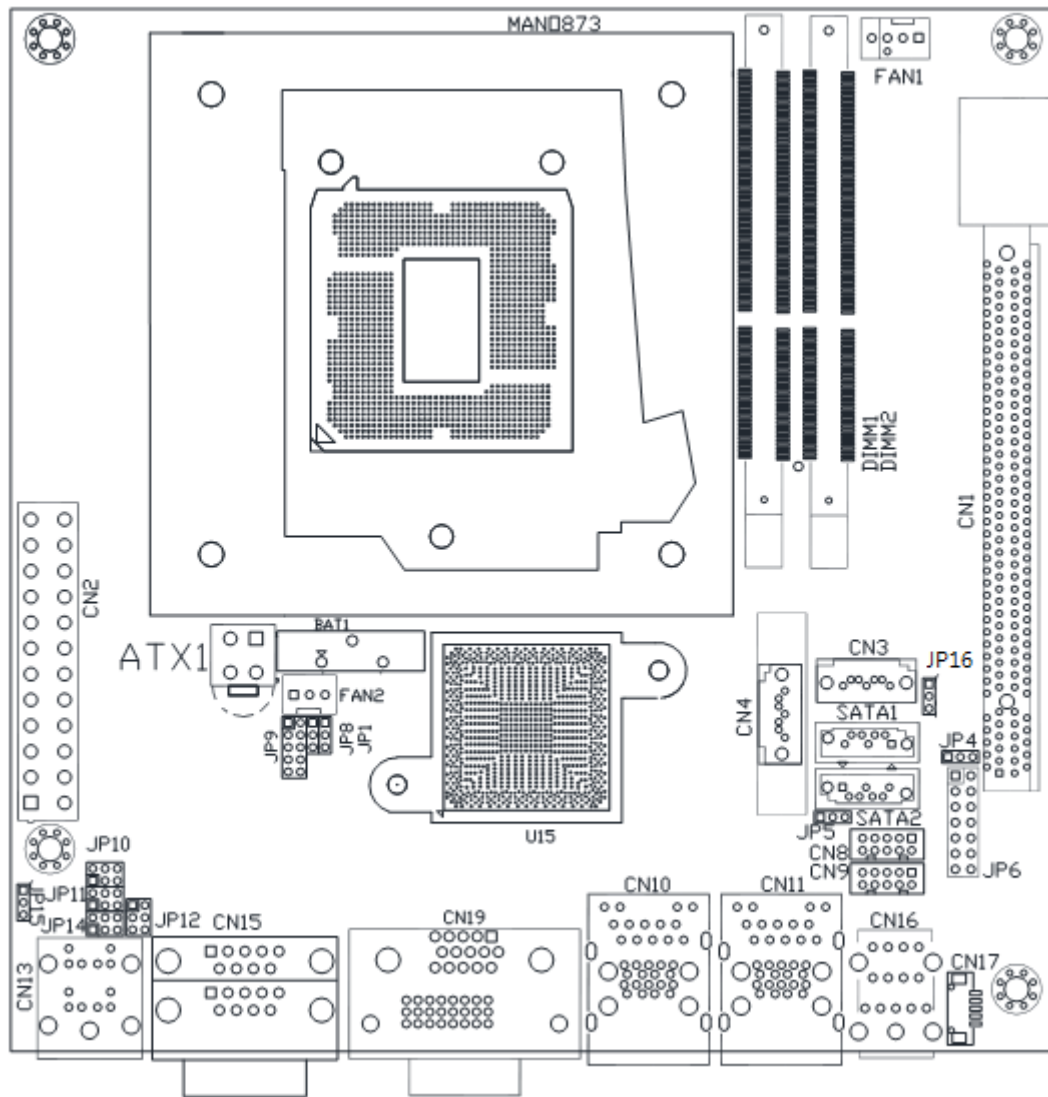
2.1 Board Dimensions and Fixing Holes



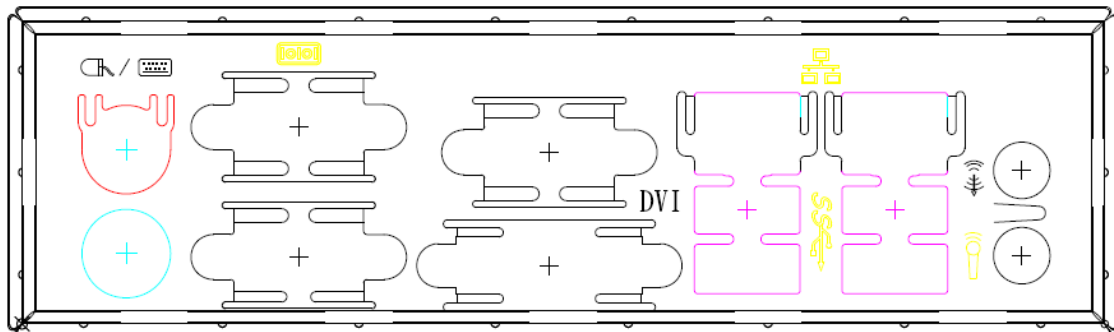


Bottom View

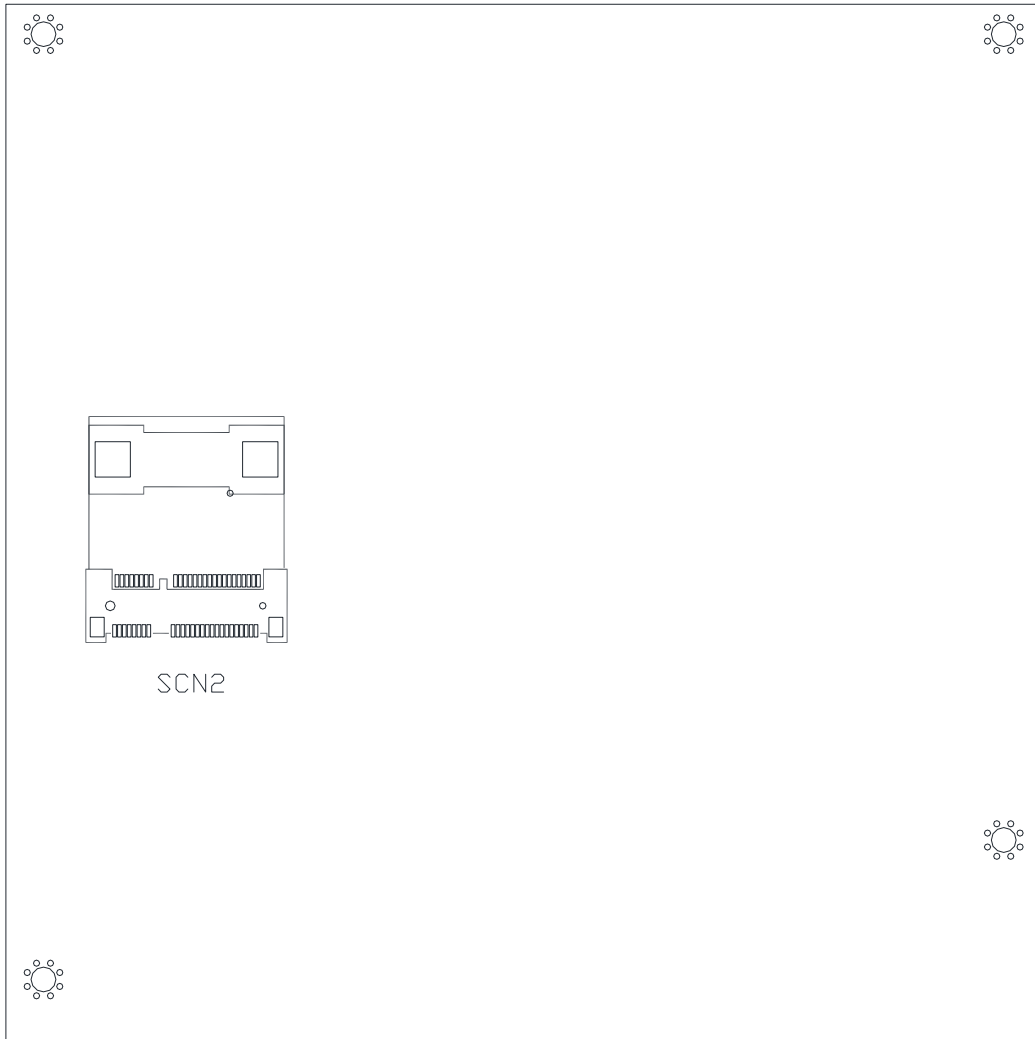
2.2 Board Layout



Top View



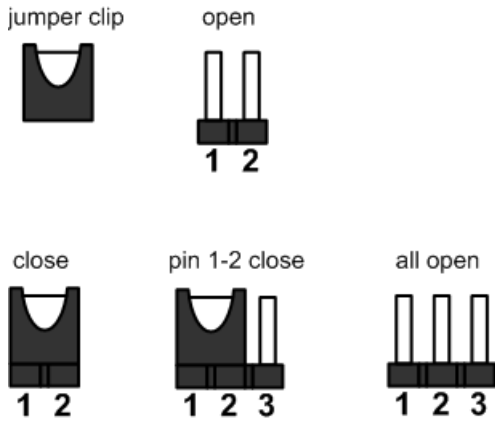
I/O Bracket



Bottom Side

2.3 Jumper 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 MANO873 Series, please make sure all of the jumpers are in factory default position. Below you can find a summary table and onboard default settings.

| Jumper | Description | Setting | |
|--------|---|------------------|-----------|
| JP1 | Restore BIOS Optimal Defaults Default: Normal Operation | 1-2 Close | |
| JP4 | USB Port 4 and 5 Power Selection Default: Standby Power +5V | 1-2 Close | |
| JP5 | SATA/SATADOM Selection Default: SATA | 2-3 Close | |
| JP8 | Auto Power On Default: Disable | 1-2 Close | |
| JP10 | COM1 Data/Power Selection Default: RS-232 Data | CN15A Pin 1: DCD | 3-5 Close |
| | | CN15A Pin 9: RI | 4-6 Close |
| JP11 | COM1 RS-232/422/485 Mode Setting Default: RS-232 | 3-5, 4-6 Close | |
| JP12 | | 1-2 Close | |
| JP14 | | 3-5, 4-6 Close | |
| JP15 | PS/2 Power Selection Default: Standby Power +5V | 1-2 Close | |
| JP16 | Mini Card Interface Selection Default: PCI-Express Interface | 1-2 Close | |

2.3.1 Restore BIOS Optimal Defaults (JP1)

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.

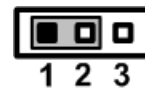
| Function | Setting |
|-------------------------------|-----------|
| Normal operation (Default) | 1-2 close |
| Restore BIOS optimal defaults | 2-3 close |



2.3.2 USB Port 4 and 5 Power Selection (JP4)

Use JP4 for setting USB power signal on connector CN9 to standby or system power.

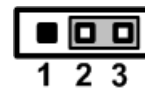
| Function | Setting |
|-----------------------------|-----------|
| Standby power +5V (Default) | 1-2 close |
| System power +5V level | 2-3 close |



2.3.3 SATA/SATADOM Selection (JP5)

Use JP5 for enabling connector CN4 to support SATA or SATADOM.

| Function | Setting |
|----------------|-----------|
| SATADOM | 1-2 close |
| SATA (Default) | 2-3 close |



2.3.4 Auto Power On (JP8)

If JP8 is enabled for AC power input, the system will be automatically power on without pressing soft power button. If JP8 is disabled for AC power input, it is necessary to manually press soft power button to power on the system.

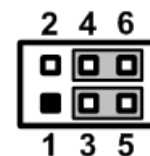
| Function | Setting |
|---------------------------------|-----------|
| Disable auto power on (Default) | 1-2 close |
| Enable auto power on | 2-3 close |



2.3.5 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 2.3.6).

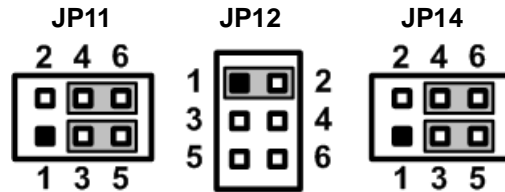
| Function | Setting |
|--|-----------|
| Power: Set CN15A pin 1 to +5V level | 1-3 close |
| Data: Set CN15A pin 1 to DCD (Default) | 3-5 close |
| Power: Set CN15A pin 9 to +12V level | 2-4 close |
| Data: Set CN15A pin 9 to RI (Default) | 4-6 close |



2.3.6 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. When these jumpers are set to operate as RS-422 or RS485 mode, please make sure COM1 is on data mode (see section 2.3.5)

| Function | 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 |



2.3.7 PS/2 Power Selection (JP15)

Use JP15 for setting PS/2 power signal to standby or system power.

| Function | Setting |
|-----------------------------|-----------|
| Standby power +5V (Default) | 1-2 close |
| System power +5V level | 2-3 close |



2.3.8 Mini Card Interface Selection (JP16)

Use JP16 for setting Mini Card to PCI-Express or mSATA .

| Function | Setting |
|---------------------------------|-----------|
| PCI-Express Interface (Default) | 1-2 close |
| mSATA Interface | 2-3 close |



2.4 Connectors

Signals go to other parts of the system through connectors. Loose or improper connection might cause problems, please make sure all connectors are properly and firmly connected. Here is a summary table which shows all connectors on the hardware.

| Connector | Description |
|-----------|---|
| CN1 | PCI-Express x16 Slot |
| CN2 | 24-pin ATX Power Connector |
| CN3 | Serial ATA 2.0 Port 2 Connector |
| CN4 | Serial ATA 2.0 Port 3 Connector (Optional for SATADOM) |
| CN8 | USB 2.0 Port 6 and 7 Connector |
| CN9 | USB 2.0 Port 4 and 5 Connector |
| CN10 | LAN1 (WG82579LM), USB 3.0 (from uPD720202) Port 2 and 3 Connector |
| CN11 | LAN2 (WG82583V), USB 3.0 (from PCH) Port 0 and 1 Connector |
| CN15 | COM1 and COM2 Connector |
| CN16 | HD Audio Jack |
| CN17 | Internal Audio Connector |
| CN19 | VGA and DVI-D Connector |
| CN20 | PS/2 Keyboard and Mouse Connector |
| SCN2 | PCI-Express Mini Card and mSATA Connector |
| ATX1 | 4-pin +12V ATX Power Connector |
| FAN1 | CPU Fan Connector |
| FAN2 | System Fan Connector |
| JP6 | Front Panel Connector |
| JP9 | Digital I/O Connector |
| SATA1~2 | Serial ATA 3.0 Port 0 and 1 Connectors |
| DIMM1~2 | DDR3 SO-DIMM Connectors |

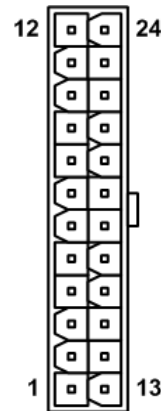
2.4.1 ATX Power Connectors (CN2 and ATX1)

Steady and sufficient power can be supplied to all components on the board by connecting power connector. Please make sure all components and devices are properly installed before connecting the power connector.

External power supply plug fits into this connector in only one orientation. Properly press down power supply plug until it completely and firmly fits into this connector. Loose connection may cause system instability.

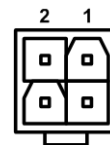
The CN2 is a 24-pin ATX power connector. Its pin assignments are given in table below.

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1 | 3.3V | 13 | 3.3V |
| 2 | 3.3V | 14 | -12V |
| 3 | GND | 15 | GND |
| 4 | +5V | 16 | PS_ON |
| 5 | GND | 17 | GND |
| 6 | +5V | 18 | GND |
| 7 | GND | 19 | GND |
| 8 | PWR OK | 20 | -5V |
| 9 | 5VSB | 21 | +5V |
| 10 | +12V | 22 | +5V |
| 11 | +12V | 23 | +5V |
| 12 | 3.3V | 24 | GND |



The ATX1 is a 4-pin +12V ATX power connector for connecting CPU core voltage, see table below.

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1 | GND | 3 | +12V |
| 2 | GND | 4 | +12V |



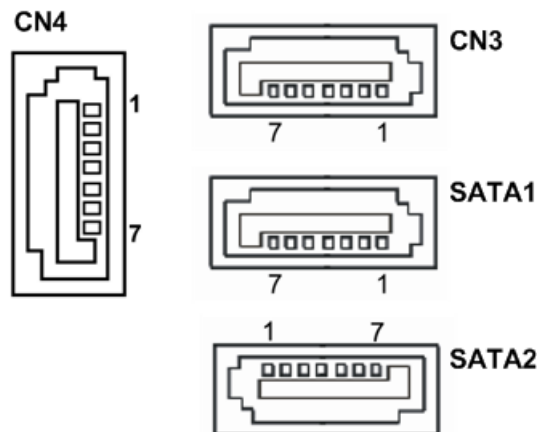
2.4.2 Serial ATA Connectors (CN3, CN4, SATA1 and SATA2)

These Serial Advanced Technology Attachment (Serial ATA or SATA) connectors are for high-speed SATA interfaces. They are computer bus interfaces for connecting to devices such as hard disk drives.

This board has two SATA 2.0 ports (CN3 and CN4) with 3Gb/s performance and two SATA 3.0 ports (SATA1 and SATA2) with 6Gb/s performance. Note that CN4 can be set to support SATADOM by configuring jumper JP5 (see section 2.3.3).

| Pin | CN3/SATA1/SATA2 Signal |
|-----|------------------------|
| 1 | GND |
| 2 | SATA_TX+ |
| 3 | SATA_TX- |
| 4 | GND |
| 5 | SATA_RX- |
| 6 | SATA_RX+ |
| 7 | GND |

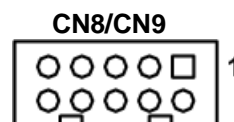
| Pin | CN4 Signal |
|-----|------------------|
| 1 | GND |
| 2 | SATA_TX+ |
| 3 | SATA_TX- |
| 4 | GND |
| 5 | SATA_RX- |
| 6 | SATA_RX+ |
| 7 | GND(DEFAULT)/+5V |



2.4.3 USB Connectors (CN8 and CN9)

The CN8 and CN9 are USB connectors carrying USB port 6 and 7 and USB port 4 and 5, respectively. They are for installing versatile USB 2.0 compliant interface peripherals. These connectors are designed with +5V level standby power which can provide power when system is in suspend mode. Note that the power signal on CN9 can also be set to system power (see section 2.3.2).

| Pin | Signal | Pin | Signal |
|-----|-----------------------------------|-----|-----------------------------------|
| 1 | USB VCC (+5V level standby power) | 2 | USB VCC (+5V level standby power) |
| 3 | USB DX- | 4 | USB DY- |
| 5 | USB DX+ | 6 | USB DY+ |
| 7 | GND | 8 | GND |
| 9 | GND | 10 | GND |

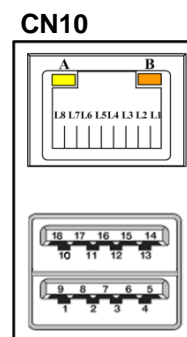


2.4.4 LAN and USB Connectors (CN10 and CN11)

The board comes 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.

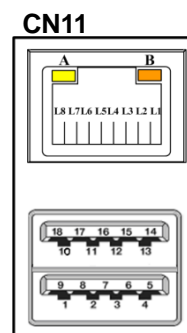
The Universal Serial Bus (compliant with USB 3.0 (5Gb/s)) connectors on the rear I/O are for installing USB peripherals such as keyboard, mouse, scanner, etc. Note that the CN10 carries LAN1, USB 3.0 port 2 and 3 signals while CN11 carries LAN2, USB 3.0 port 0 and 1 signals.

| Pin | LAN1 Signal (WG82579LM) | Pin | LAN1 Signal (WG82579LM) |
|-----|---|-----|-------------------------|
| 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 (from uPD720202) | Pin | USB Signal (from uPD720202) |
|-----|-----------------------------|-----|-----------------------------|
| 1 | USB_VCC (+5V level) | 10 | USB_VCC (+5V level) |
| 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+ |

| Pin | LAN2 Signal (WG82583V) | Pin | 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 | | |

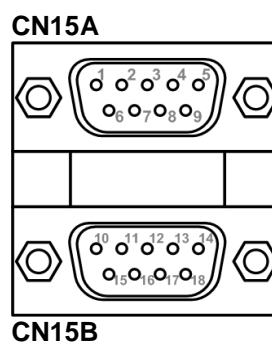


| Pin | USB Signal (from PCH) | Pin | USB Signal (from PCH) |
|-----|-----------------------------------|-----|-----------------------------------|
| 1 | USB_VCC (+5V level standby power) | 10 | USB_VCC (+5V level standby power) |
| 2 | USB_Data0- | 11 | USB_Data1- |
| 3 | USB_Data0+ | 12 | USB_Data1+ |
| 4 | GND | 13 | GND |
| 5 | SSRX0- | 14 | SSRX1- |
| 6 | SSRX0+ | 15 | SSRX1+ |
| 7 | GND | 16 | GND |
| 8 | SSTX0- | 17 | SSTX1- |
| 9 | SSTX0+ | 18 | SSTX1+ |

2.4.5 COM Connectors (CN15)

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 CN15A comes with power capability on DCD and RI pins by setting jumper (see section 2.3.5).

| 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) |



2.4.6 HD Audio Jack (CN16)

The board provides a HD audio jack on the rear I/O. Install audio driver, and then attach audio devices to CN16.

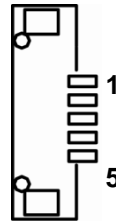
| Pin Color | Signal |
|-----------|----------|
| Green | Line-out |
| Pink | MIC-in |



2.4.7 Internal Audio Connector (CN17)

CN17 is an internal audio connector for line-out and microphone.

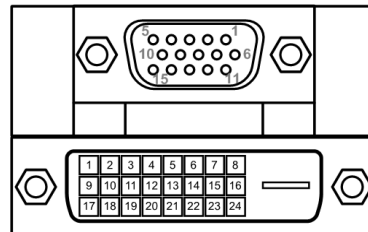
| Pin | Signal |
|-----|-----------|
| 1 | Lineout-L |
| 2 | GND |
| 3 | Lineout-R |
| 4 | GND |
| 5 | MIC-in |



2.4.8 VGA and DVI-D Connector (CN19)

The upper connector is a DB-15 which is commonly used for CRT monitor. The lower connector is a DVI-D interface for digital visual interface display.

| Pin | VGA Signal | Pin | VGA Signal |
|-----|-----------------|-----|---------------|
| 1 | Red | 2 | Green |
| 3 | Blue | 4 | N.C. |
| 5 | GND | 6 | DETECT |
| 7 | GND | 8 | GND |
| 9 | VCC | 10 | GND |
| 11 | N.C. | 12 | DDC DATA |
| 13 | Horizontal Sync | 14 | Vertical Sync |
| 15 | DDC CLK | | |

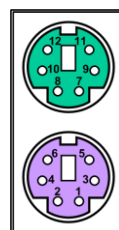


| Pin | DVI-D Signal | Pin | DVI-D Signal |
|-----|--------------------|-----|-------------------|
| 1 | TMDS Data 2- | 2 | TMDS Data 2+ |
| 3 | TMDS Data 2 Shield | 4 | NC |
| 5 | NC | 6 | DDC Clock |
| 7 | DDC Data | 8 | NC |
| 9 | TMDS Data 1- | 10 | TMDS Data 1+ |
| 11 | TMDS Data 1 Shield | 12 | NC |
| 13 | NC | 14 | +5V |
| 15 | Ground | 16 | Hot Plug Detect |
| 17 | TMDS Data 0- | 18 | TMDS Data 0+ |
| 19 | TMDS Data 0 Shield | 20 | NC |
| 21 | NC | 22 | TMDS Clock Shield |
| 23 | TMDS Clock+ | 24 | TMDS Clock- |

2.4.9 PS/2 Keyboard and Mouse Connector (CN20)

The board has two 6-pin mini-DIN PS/2 connectors; green for mouse and purple for keyboard.

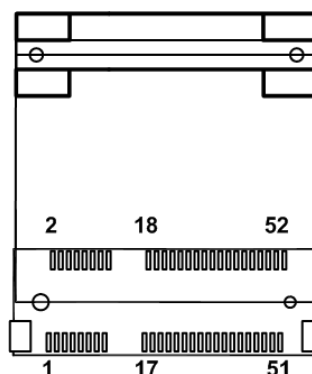
| Pin | Signal | Pin | Signal |
|-----|-------------------|-----|-------------------|
| 1 | K/B Data | 7 | M/S Data |
| 2 | NC | 8 | NC |
| 3 | GND | 9 | GND |
| 4 | Standby power +5V | 10 | Standby power +5V |
| 5 | K/B CLK | 11 | M/S CLK |
| 6 | NC | 12 | NC |



2.4.10 PCI-Express Mini Card and mSATA Connector (SCN2)

SCN2 (soldered on the bottom side) is a PCI-Express Mini Card connector which supports a PCI-Express x1 link, a SATA link and a USB 2.0 link. A PCI-Express Mini Card can be applied to either PCI-Express or USB 2.0 and SATA also. It complies with PCI-Express Mini Card spec v1.2.

| Pin | Signal | Pin | Signal |
|-----|----------------------|-----|------------|
| 1 | WAKE# | 2 | +3.3VSB |
| 3 | No use | 4 | GND |
| 5 | No use | 6 | +1.5V |
| 7 | CLKREQ# | 8 | No use |
| 9 | GND | 10 | No use |
| 11 | REFCLK- | 12 | No use |
| 13 | REFCLK+ | 14 | No use |
| 15 | GND | 16 | No use |
| 17 | No use | 18 | GND |
| 19 | No use | 20 | W_DISABLE# |
| 21 | GND | 22 | PERST# |
| 23 | PE_RXN/ SATA_RXP | 24 | +3.3VSB |
| 25 | PE_RXP/ SATA_RXN | 26 | GND |
| 27 | GND | 28 | +1.5V |
| 29 | GND | 30 | SMB_CLK |
| 31 | PE_TXN3/ SATA_TXN | 32 | SMB_DATA |
| 33 | PE_TXP3/ SATA_TXP | 34 | GND |
| 35 | GND | 36 | USB_D8- |
| 37 | GND | 38 | USB_D8+ |
| 39 | +3.3VSB | 40 | GND |
| 41 | +3.3VSB | 42 | No use |
| 43 | GND | 44 | No use |
| 45 | No use | 46 | No use |
| 47 | No use | 48 | +1.5V |
| 49 | No use | 50 | GND |
| 51 | No use | 52 | +3.3VSB |

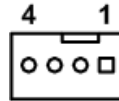


2.4.11 FAN Connectors (FAN1 and FAN2)

Fans are always needed for cooling down CPU and system temperature. The board has two fan connectors. You can find fan speed option(s) at BIOS Setup Utility if either fan is installed. For further information, see BIOS Setup Utility: Advanced\HW Monitor\PC Health Status.

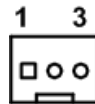
CPU fan interface is available through FAN1, see table below.

| Pin | Signal |
|-----|--------------------|
| 1 | GND |
| 2 | +12V level |
| 3 | Rotation detection |
| 4 | Speed control |



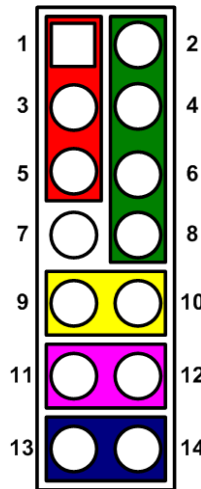
System fan interface is available through FAN2, see table below.

| Pin | Signal |
|-----|--------------------|
| 1 | GND |
| 2 | +12V level |
| 3 | Rotation detection |



2.4.12 Front Panel Connector (JP6)

| Pin | Signal |
|-----|----------|
| 1 | PWRLED+ |
| 2 | EXT SPK- |
| 3 | GND |
| 4 | Buzzer |
| 5 | PWRLED- |
| 6 | N.C. |
| 7 | N.C. |
| 8 | EXT SPK+ |
| 9 | PWRSW- |
| 10 | PWRSW+ |
| 11 | HW RST- |
| 12 | HW RST+ |
| 13 | HDDLED- |
| 14 | HDDLED+ |



Power LED

Pin 1 connects anode(+) of LED and pin 5 connects cathode(-) of LED. The power LED lights up when the system is powered on. The pin 3 is defined as GND.

External Speaker and Internal Buzzer

Pin 2, 4, 6 and 8 connect the case-mounted speaker unit or internal buzzer. While connecting the CPU board to an internal buzzer, please set pin 2 and 4 closed; while connecting to an external speaker, you need to set pins 2 and 4 opened and connect the speaker cable to pin 8(+) and pin 2(-).

Power On/Off Button

Pin 9 and 10 connect the power button on front panel to the CPU board, which allows users to turn on or off power supply.

System Reset Switch

Pin 11 and 12 connect the case-mounted reset switch that reboots your computer without turning off the power switch. It is a better way to reboot your system for a longer life of system power supply.

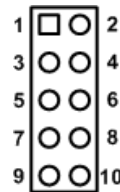
HDD Activity LED

This connection is linked to hard drive activity LED on the control panel. LED flashes when HDD is being accessed. Pin 13 and 14 connect the hard disk drive to the front panel HDD LED, pin 13 is assigned as cathode(-) and pin 14 is assigned as anode(+).

2.4.13 Digital I/O Connector (JP9)

The board is equipped with an 8-channel digital I/O connector that meets requirements for a system customary automation control. The digital I/O can be configured to control cash drawers and sense warning signals from an Uninterrupted Power System (UPS), or perform store security control. You may use software programming to control these digital signals.

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1 | DIO 8 | 2 | DIO 1 |
| 3 | DIO 7 | 4 | DIO 2 |
| 5 | DIO 6 | 6 | DIO 3 |
| 7 | DIO 5 | 8 | DIO 4 |
| 9 | GND | 10 | GND |



Chapter 3

Hardware Installation

Before installing the processor, please access Intel® website for more detail information of Processor Integration Video (LGA1155):

<http://www.intel.com/support/tw/processors/sb/CS-030860.htm> .

3.1 Installing the Processor

The LGA1155 processor socket comes with a cover to protect the processor. Please install the processor into the CPU socket step by step as below:

Step1 Opening the socket:

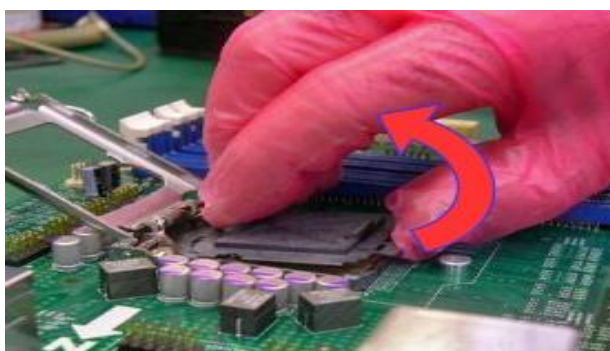
- Disengage load lever by releasing down and out on the hook. This will clear retention tab.
- Rotate load lever to open position at approximately 135°.
- Rotate load plate to open position at approximately 150°.



Note: Apply pressure to corner with right-hand thumb when opening or closing load lever - otherwise lever will bounce back (as a mouse trap) causing bent contacts.

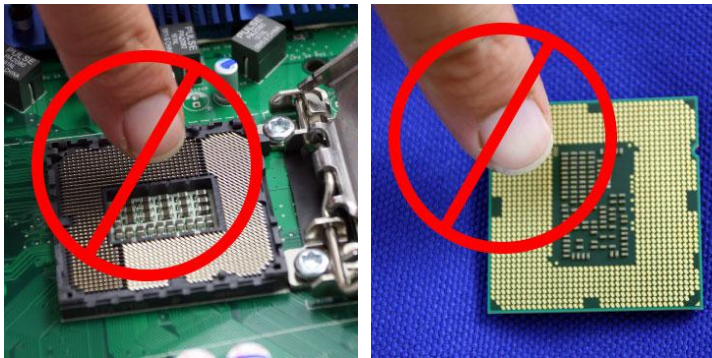
Step2 Removing the socket protective cover:

- Place thumb against the front edge of the protective cover and rest index finger on the rear grip to maintain control of the cover.
- Lift the front edge of the protective cover to disengage from the socket. Keep control of the cover by holding the rear grip with index finger.
- Lift protective cover away from the socket, being careful not to touch the electrical contacts.





Note: Vertical removal is **NOT** recommended, as it requires higher force and can lead to socket contact damage.



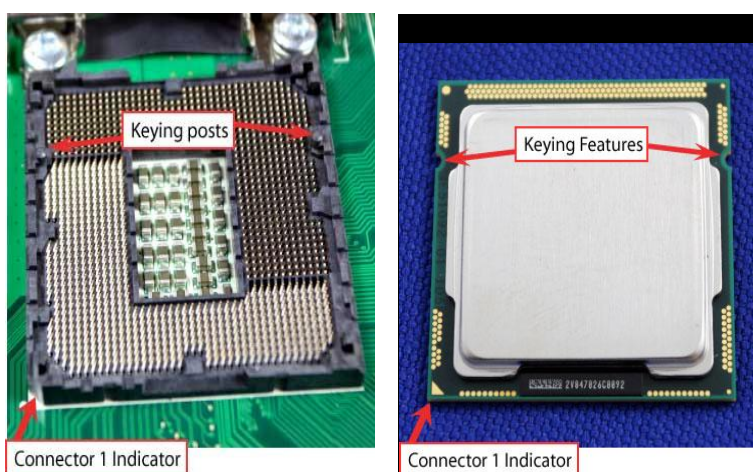
Caution: Never touch fragile socket contacts to avoid damage and do not touch processor sensitive contacts at any time during installation.

Step3 Processor installation:

- Lift processor package from shipping media by grasping the substrate edges.



- Scan the processor package gold pads for any presence of foreign material. If necessary, the gold pads can be wiped clean with a soft lint-free cloth and isopropyl alcohol.
- Locate connection 1 indicator on the processor which aligns with connection 1 indicator chamfer on the socket, and notice processor keying features that line up with posts along socket walls.



- Grasp the processor with thumb and index finger along the top and bottom edges. (Do not touch the orientation notches.) The socket will have cutouts for your fingers to fit into (see image below).
- Carefully place the processor into the socket body vertically (see image below).



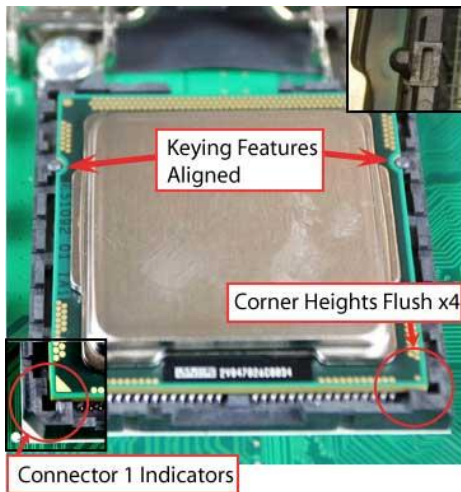
Note: *Tilting or roughly shifting it into place can damage socket contacts.*



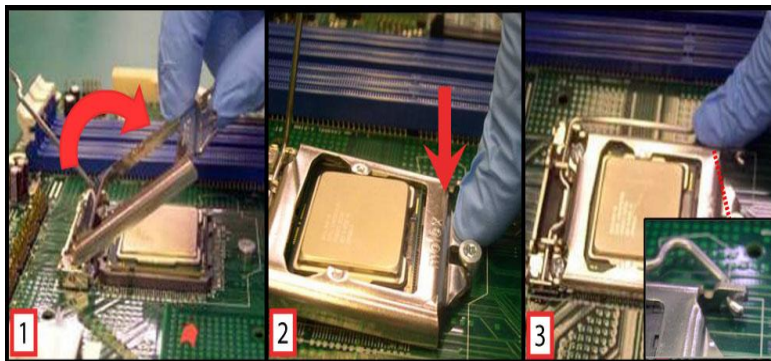
Caution: *Do not use a vacuum pen for installation.*



- Verify that package is within the socket body and properly connected to orientation keys.

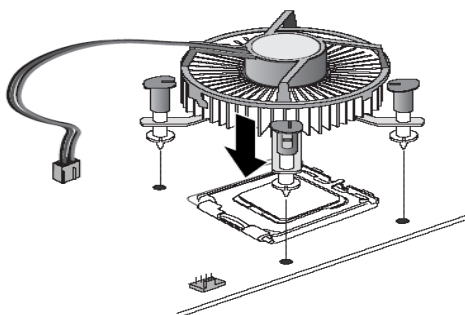


- Close the socket (see image below):
 1. Gently lower the load plate.
 2. Make sure load plate's front edge slides under the shoulder screw cap as the lever is lowered.
 3. Latch the lever under the top plate's corner tab, being cautious not to damage the motherboard with the tip of the lever.

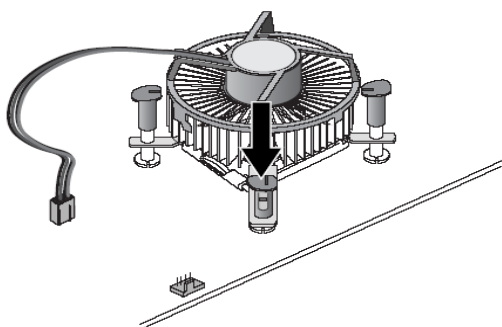


Step4 Fan heatsink handling:

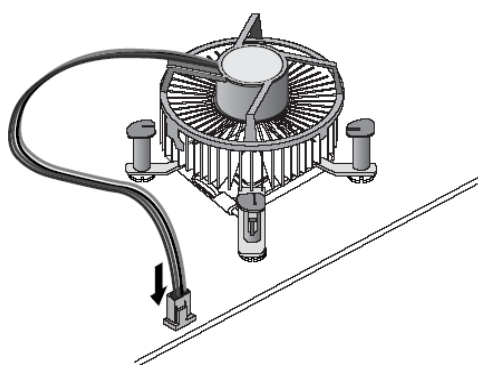
1. Orientate the CPU cooling fan to fixing holes on the board.



2. Screw the CPU cooling fan onto the board.

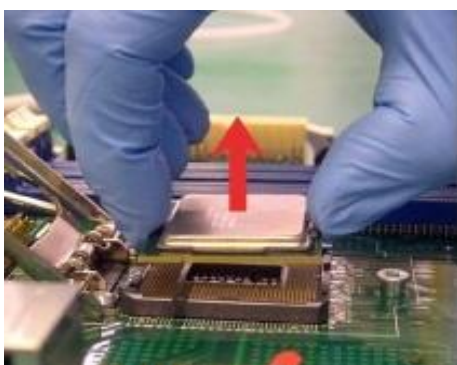


3. Make sure the CPU fan is plugged to the CPU fan connector.



Step5 Removing the processor:

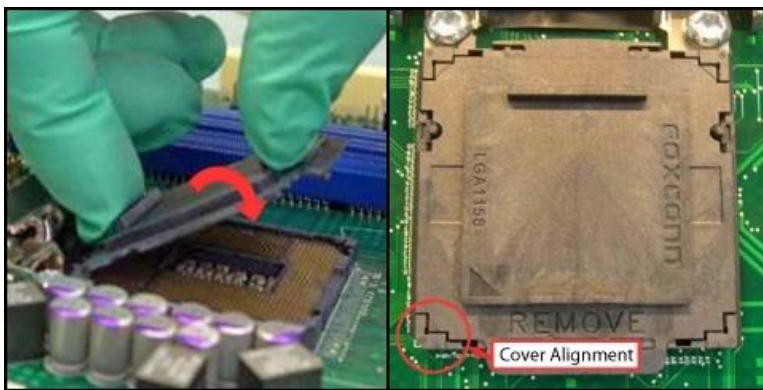
- Open the socket:
 1. Disengage the load lever.
 2. Open the load plate
- Remove the Processor package, holding along the top and bottom edges, or by using a vacuum pen.
- Maintain Processor horizontal and remove Processor with a vertical motion to avoid damaging the socket contacts.



- Place the processor in a specially designed tray or ESD retainer for storage. Do not place directly on table resting on gold lands

- Assemble LGA1155 socket protective cover:
 1. Hold protective cover at 45 degree angle to the LGA1155 Socket.
 2. Carefully lower protective cover on hinge side first, to contact with the outside wall of the LGA1155 Socket:
 3. Engage protective cover retention features to outside of LGA1155 Socket, AND align 2 cover corners to socket corners (This step is critical to avoid Bent Contact Damage!).
 4. Lower protective cover to attach to the LGA1155 Socket on Shoulder screw side.
- Perform Visual and Tactile verification that protective cover is properly seated in the LGA1155 Socket:

Hold cover and move gently “side by side” to feel the play within the cover and the LGA1155 Socket.



- Close the socket load plate and engage the load lever (see image below).



3.2 Installing the Memory

The board supports two 204-pin DDR3 SO-DIMM memory sockets with maximum memory capacity up to 16GB.



Note: *A DDR3 module has the same physical dimensions as a DDR2 SO-DIMM but is notched differently to prevent installation on a DDR2 SO-DIMM socket.*

Please follow steps below to install the memory modules:

- Push down latches on each side of the SO-DIMM socket.
- Align the memory module with the socket that notches of memory module must match the socket keys for a correct installation.
- Install the memory module into the socket and push it firmly down until it is fully seated. The socket latches are levered upwards and clipped on to the edges of the SO-DIMM.
- Install any remaining SO-DIMM modules.

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Chapter 4

Hardware Description

4.1 Microprocessors

The MANO873 Series supports Intel® Core™ i7 / Core™ i5 / Core™ i3 / Celeron® processors, which enable your system to operate under Windows® XP, Windows® 7 and Linux environments. The system performance depends on the microprocessor. Make sure all correct settings are arranged for your installed microprocessor to prevent the CPU from damages.

4.2 BIOS

The MANO873 Series uses AMI Plug and Play BIOS with a single 64Mbit SPI Flash.

4.3 System Memory

The MANO873 Series supports two 204-pin DDR3 SO-DIMM sockets for a maximum memory of 16GB DDR3 SDRAMs. The memory module comes in sizes of 1GB, 2GB and 4GB.

4.4 I/O Port Address Map

The Intel® Core™ i7 / Core™ i5 / Core™ i3 / Celeron® processors communicate via I/O ports. Total 1KB port addresses are available for assigning to other devices via I/O expansion cards.



















































| Input/output (IO) | |
|---------------------------------------|-----------------------------------|
| [0000000000000000 - 000000000000001F] | Direct memory access controller |
| [0000000000000000 - 000000000000CF7] | PCI bus |
| [0000000000000010 - 000000000000001F] | Motherboard resources |
| [0000000000000020 - 0000000000000021] | Programmable interrupt controller |
| [0000000000000022 - 000000000000003F] | Motherboard resources |
| [0000000000000024 - 0000000000000025] | Programmable interrupt controller |
| [0000000000000028 - 0000000000000029] | Programmable interrupt controller |
| [000000000000002C - 000000000000002D] | Programmable interrupt controller |
| [000000000000002E - 000000000000002F] | Motherboard resources |
| [0000000000000030 - 0000000000000031] | Programmable interrupt controller |
| [0000000000000034 - 0000000000000035] | Programmable interrupt controller |
| [0000000000000038 - 0000000000000039] | Programmable interrupt controller |
| [000000000000003C - 000000000000003D] | Programmable interrupt controller |
| [0000000000000040 - 0000000000000043] | System timer |
| [0000000000000044 - 000000000000005F] | Motherboard resources |
| [000000000000004E - 000000000000004F] | Motherboard resources |
| [0000000000000050 - 0000000000000053] | System timer |
| [0000000000000061 - 0000000000000061] | Motherboard resources |
| [0000000000000062 - 0000000000000063] | Motherboard resources |
| [0000000000000063 - 0000000000000063] | Motherboard resources |
| [0000000000000065 - 0000000000000065] | Motherboard resources |
| [0000000000000065 - 000000000000006F] | Motherboard resources |
| [0000000000000067 - 0000000000000067] | Motherboard resources |
| [0000000000000070 - 0000000000000070] | Motherboard resources |
| [0000000000000070 - 0000000000000077] | System CMOS/real time clock |
| [0000000000000072 - 000000000000007F] | Motherboard resources |
| [0000000000000080 - 0000000000000080] | Motherboard resources |
| [0000000000000080 - 0000000000000080] | Motherboard resources |
| [0000000000000081 - 0000000000000091] | Direct memory access controller |
| [0000000000000084 - 0000000000000086] | Motherboard resources |
| [0000000000000088 - 0000000000000088] | Motherboard resources |
| [000000000000008C - 000000000000008E] | Motherboard resources |
| [0000000000000090 - 000000000000009F] | Motherboard resources |
| [0000000000000092 - 0000000000000092] | Motherboard resources |
| [0000000000000093 - 000000000000009F] | Direct memory access controller |
| [00000000000000A0 - 00000000000000A1] | Programmable interrupt controller |
| [00000000000000A2 - 00000000000000BF] | Motherboard resources |
| [00000000000000A4 - 00000000000000A5] | Programmable interrupt controller |
| [00000000000000A8 - 00000000000000A9] | Programmable interrupt controller |
| [00000000000000AC - 00000000000000AD] | Programmable interrupt controller |
| [00000000000000B0 - 00000000000000B1] | Programmable interrupt controller |
| [00000000000000B2 - 00000000000000B3] | Motherboard resources |
| [00000000000000B4 - 00000000000000B5] | Programmable interrupt controller |
| [00000000000000B8 - 00000000000000B9] | Programmable interrupt controller |
| [00000000000000BC - 00000000000000BD] | Programmable interrupt controller |
| [00000000000000C0 - 00000000000000DF] | Direct memory access controller |







































| | |
|---|--|
|  | [0000000000000E0 - 0000000000000EF] Motherboard resources |
|  | [0000000000000F0 - 0000000000000FF] Numeric data processor |
|  | [0000000000000200 - 000000000000020F] Motherboard resources |
|  | [0000000000000290 - 000000000000029F] Motherboard resources |
|  | [00000000000002F8 - 00000000000002FF] Communications Port (COM2) |
|  | [00000000000003B0 - 00000000000003BB] Intel(R) HD Graphics 3000 |
|  | [00000000000003C0 - 00000000000003DF] Intel(R) HD Graphics 3000 |
|  | [00000000000003F8 - 00000000000003FF] Communications Port (COM1) |
|  | [0000000000000400 - 0000000000000453] Motherboard resources |
|  | [0000000000000454 - 0000000000000457] Motherboard resources |
|  | [0000000000000458 - 000000000000047F] Motherboard resources |
|  | [00000000000004D0 - 00000000000004D1] Motherboard resources |
|  | [00000000000004D0 - 00000000000004D1] Programmable interrupt controller |
|  | [0000000000000500 - 000000000000057F] Motherboard resources |
|  | [0000000000000680 - 000000000000069F] Motherboard resources |
|  | [0000000000000D00 - 000000000000FFFF] PCI bus |
|  | [000000000000164E - 000000000000164F] Motherboard resources |
|  | [000000000000E000 - 000000000000EFFF] Intel(R) 7 Series/C216 Chipset Family PCI Express Root Port 7 - 1E1C |
|  | [000000000000F000 - 000000000000F03F] Intel(R) HD Graphics 3000 |
|  | [000000000000F040 - 000000000000F05F] Intel(R) 7 Series/C216 Chipset Family SMBus Host Controller - 1E22 |
|  | [000000000000F060 - 000000000000F07F] Intel(R) 7 Series/C216 Chipset Family SATA AHCI Controller |
|  | [000000000000F0A0 - 000000000000F0A3] Intel(R) 7 Series/C216 Chipset Family SATA AHCI Controller |
|  | [000000000000F0B0 - 000000000000F0B7] Intel(R) 7 Series/C216 Chipset Family SATA AHCI Controller |
|  | [000000000000F0C0 - 000000000000F0C3] Intel(R) 7 Series/C216 Chipset Family SATA AHCI Controller |
|  | [000000000000F0D0 - 000000000000F0D7] Intel(R) 7 Series/C216 Chipset Family SATA AHCI Controller |
|  | [000000000000F0E0 - 000000000000F0E7] Intel(R) Active Management Technology - SOL (COM3) |
|  | [000000000000FFFF - 000000000000FFFF] Motherboard resources |
|  | [000000000000FFFF - 000000000000FFFF] Motherboard resources |

4.5 Interrupt Controller (IRQ) Map

The interrupt controller (IRQ) mapping list is shown as follows:

| Interrupt request (IRQ) | Description |
|-------------------------|---------------------------------|
| (ISA) 0x00000000 (00) | System timer |
| (ISA) 0x00000003 (03) | Communications Port (COM2) |
| (ISA) 0x00000004 (04) | Communications Port (COM1) |
| (ISA) 0x00000008 (08) | System CMOS/real time clock |
| (ISA) 0x0000000D (13) | Numeric data processor |
| (ISA) 0x00000051 (81) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000052 (82) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000053 (83) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000054 (84) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000055 (85) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000056 (86) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000057 (87) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000058 (88) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000059 (89) | Microsoft ACPI-Compliant System |
| (ISA) 0x0000005A (90) | Microsoft ACPI-Compliant System |
| (ISA) 0x0000005B (91) | Microsoft ACPI-Compliant System |
| (ISA) 0x0000005C (92) | Microsoft ACPI-Compliant System |
| (ISA) 0x0000005D (93) | Microsoft ACPI-Compliant System |
| (ISA) 0x0000005E (94) | Microsoft ACPI-Compliant System |
| (ISA) 0x0000005F (95) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000060 (96) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000061 (97) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000062 (98) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000063 (99) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000064 (100) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000065 (101) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000066 (102) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000067 (103) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000068 (104) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000069 (105) | Microsoft ACPI-Compliant System |
| (ISA) 0x0000006A (106) | Microsoft ACPI-Compliant System |
| (ISA) 0x0000006B (107) | Microsoft ACPI-Compliant System |
| (ISA) 0x0000006C (108) | Microsoft ACPI-Compliant System |
| (ISA) 0x0000006D (109) | Microsoft ACPI-Compliant System |
| (ISA) 0x0000006E (110) | Microsoft ACPI-Compliant System |
| (ISA) 0x0000006F (111) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000070 (112) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000071 (113) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000072 (114) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000073 (115) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000074 (116) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000075 (117) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000076 (118) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000077 (119) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000078 (120) | Microsoft ACPI-Compliant System |
| (ISA) 0x00000079 (121) | Microsoft ACPI-Compliant System |
| (ISA) 0x0000007A (122) | Microsoft ACPI-Compliant System |
| (ISA) 0x0000007B (123) | Microsoft ACPI-Compliant System |
| (ISA) 0x0000007C (124) | Microsoft ACPI-Compliant System |

| | | |
|---|------------------------|---------------------------------|
|  | (ISA) 0x0000007D (125) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x0000007E (126) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x0000007F (127) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000080 (128) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000081 (129) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000082 (130) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000083 (131) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000084 (132) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000085 (133) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000086 (134) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000087 (135) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000088 (136) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000089 (137) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x0000008A (138) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x0000008B (139) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x0000008C (140) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x0000008D (141) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x0000008E (142) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x0000008F (143) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000090 (144) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000091 (145) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000092 (146) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000093 (147) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000094 (148) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000095 (149) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000096 (150) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000097 (151) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000098 (152) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x00000099 (153) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x0000009A (154) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x0000009B (155) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x0000009C (156) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x0000009D (157) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x0000009E (158) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x0000009F (159) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000A0 (160) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000A1 (161) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000A2 (162) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000A3 (163) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000A4 (164) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000A5 (165) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000A6 (166) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000A7 (167) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000A8 (168) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000A9 (169) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000AA (170) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000AB (171) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000AC (172) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000AD (173) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000AE (174) | Microsoft ACPI-Compliant System |

| | | |
|---|-------------------------|---|
|  | (ISA) 0x000000AF (175) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000B0 (176) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000B1 (177) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000B2 (178) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000B3 (179) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000B4 (180) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000B5 (181) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000B6 (182) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000B7 (183) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000B8 (184) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000B9 (185) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000BA (186) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000BB (187) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000BC (188) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000BD (189) | Microsoft ACPI-Compliant System |
|  | (ISA) 0x000000BE (190) | Microsoft ACPI-Compliant System |
|  | (PCI) 0x0000000A (10) | Intel(R) 7 Series/C216 Chipset Family SMBus Host Controller - 1E22 |
|  | (PCI) 0x00000010 (16) | Intel(R) 7 Series/C216 Chipset Family USB Enhanced Host Controller - 1E2D |
|  | (PCI) 0x00000010 (16) | Intel(R) 7 Series/C216 Chipset Family PCI Express Root Port 1 - 1E10 |
|  | (PCI) 0x00000010 (16) | Intel(R) Management Engine Interface |
|  | (PCI) 0x00000011 (17) | Intel(R) 7 Series/C216 Chipset Family PCI Express Root Port 2 - 1E12 |
|  | (PCI) 0x00000012 (18) | Intel(R) 7 Series/C216 Chipset Family PCI Express Root Port 7 - 1E1C |
|  | (PCI) 0x00000013 (19) | Intel(R) 7 Series/C216 Chipset Family SATA AHCI Controller |
|  | (PCI) 0x00000013 (19) | Intel(R) Active Management Technology - SOL (COM3) |
|  | (PCI) 0x00000016 (22) | High Definition Audio Controller |
|  | (PCI) 0x00000017 (23) | Intel(R) 7 Series/C216 Chipset Family USB Enhanced Host Controller - 1E26 |
|  | (PCI) 0xFFFFFFFF3 (-13) | Intel(R) 82583V Gigabit Network Connection |
|  | (PCI) 0xFFFFFFFF4 (-12) | Renesas Electronics USB 3.0 Host Controller |
|  | (PCI) 0xFFFFFFFF5 (-11) | Renesas Electronics USB 3.0 Host Controller |
|  | (PCI) 0xFFFFFFFF6 (-10) | Renesas Electronics USB 3.0 Host Controller |
|  | (PCI) 0xFFFFFFFF7 (-9) | Renesas Electronics USB 3.0 Host Controller |
|  | (PCI) 0xFFFFFFFF8 (-8) | Renesas Electronics USB 3.0 Host Controller |
|  | (PCI) 0xFFFFFFFF9 (-7) | Renesas Electronics USB 3.0 Host Controller |
|  | (PCI) 0xFFFFFFFFA (-6) | Renesas Electronics USB 3.0 Host Controller |
|  | (PCI) 0xFFFFFFFFB (-5) | Renesas Electronics USB 3.0 Host Controller |
|  | (PCI) 0xFFFFFFFFC (-4) | Intel(R) 82579LM Gigabit Network Connection |
|  | (PCI) 0xFFFFFFFFD (-3) | Intel(R) USB 3.0 eXtensible Host Controller |
|  | (PCI) 0xFFFFFFFFE (-2) | Intel(R) HD Graphics 3000 |

4.6 Memory Map

The memory mapping list is shown as follows:

| Address Range | Device |
|---------------------------------------|---|
| [0000000000A0000 - 0000000000BFFFF] | Intel(R) HD Graphics |
| [0000000000A0000 - 0000000000BFFFF] | PCI bus |
| [0000000000D0000 - 0000000000D3FFF] | PCI bus |
| [0000000000D4000 - 0000000000D7FFF] | PCI bus |
| [0000000000D8000 - 0000000000DBFFF] | PCI bus |
| [0000000000DC000 - 0000000000DFFFF] | PCI bus |
| [0000000000E0000 - 0000000000E3FFF] | PCI bus |
| [0000000000E4000 - 0000000000E7FFF] | PCI bus |
| [0000000020000000 - 00000000201FFFF] | System board |
| [0000000040000000 - 00000000401FFFF] | System board |
| [000000007DA00000 - 000000007DA0FFF] | Motherboard resources |
| [000000007DA00000 - 00000000FEAFFFF] | PCI bus |
| [00000000E0000000 - 00000000EFFFFFF] | Intel(R) HD Graphics |
| [00000000F7800000 - 00000000F7BFFFF] | Intel(R) HD Graphics |
| [00000000F7C00000 - 00000000F7C1FFF] | Intel(R) 82583V Gigabit Network Connection |
| [00000000F7C00000 - 00000000F7CFFFF] | Intel(R) 7 Series/C216 Chipset Family PCI Express Root Port 7 - 1E1C |
| [00000000F7C20000 - 00000000F7C23FFF] | Intel(R) 82583V Gigabit Network Connection |
| [00000000F7D00000 - 00000000F7D01FFF] | Renesas Electronics USB 3.0 Host Controller |
| [00000000F7D00000 - 00000000F7DFFFF] | Intel(R) 7 Series/C216 Chipset Family PCI Express Root Port 2 - 1E12 |
| [00000000F7E00000 - 00000000F7E1FFF] | Intel(R) 82579LM Gigabit Network Connection |
| [00000000F7E20000 - 00000000F7E2FFFF] | Intel(R) USB 3.0 eXtensible Host Controller |
| [00000000F7E30000 - 00000000F7E33FFF] | High Definition Audio Controller |
| [00000000F7E35000 - 00000000F7E350FF] | Intel(R) 7 Series/C216 Chipset Family SMBus Host Controller - 1E22 |
| [00000000F7E36000 - 00000000F7E363FF] | Intel(R) 7 Series/C216 Chipset Family USB Enhanced Host Controller - 1E26 |
| [00000000F7E37000 - 00000000F7E373FF] | Intel(R) 7 Series/C216 Chipset Family USB Enhanced Host Controller - 1E2D |
| [00000000F7E38000 - 00000000F7E38FFF] | Intel(R) 82579LM Gigabit Network Connection |
| [00000000F7E39000 - 00000000F7E39FFF] | Intel(R) Active Management Technology - SOL (COM3) |
| [00000000F7E3B000 - 00000000F7E3B0FF] | Intel(R) Management Engine Interface |
| [00000000F8000000 - 00000000FBFFFFFF] | Motherboard resources |
| [00000000FED00000 - 00000000FED003FF] | High precision event timer |
| [00000000FED10000 - 00000000FED17FFF] | Motherboard resources |
| [00000000FED18000 - 00000000FED18FFF] | Motherboard resources |
| [00000000FED19000 - 00000000FED19FFF] | Motherboard resources |
| [00000000FED1C000 - 00000000FED1FFFF] | Motherboard resources |
| [00000000FED20000 - 00000000FED3FFFF] | Motherboard resources |
| [00000000FED40000 - 00000000FED44FFF] | System board |
| [00000000FED45000 - 00000000FED8FFFF] | Motherboard resources |
| [00000000FED90000 - 00000000FED93FFF] | Motherboard resources |
| [00000000FEE00000 - 00000000FEEFFFFF] | Motherboard resources |
| [00000000FF000000 - 00000000FFFFFFFF] | Intel(R) 82802 Firmware Hub Device |
| [00000000FF000000 - 00000000FFFFFFFF] | Motherboard resources |

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Chapter 5

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.

5.1 Starting

To enter the setup screens, follow the steps below:

1. Turn on the computer and press the key immediately.
2. After you press the 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.



Note: *If your computer can not boot after making and saving system changes with Setup, you can restore BIOS optimal defaults by setting JP1 (see section 2.3.1).*

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.

5.2 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.

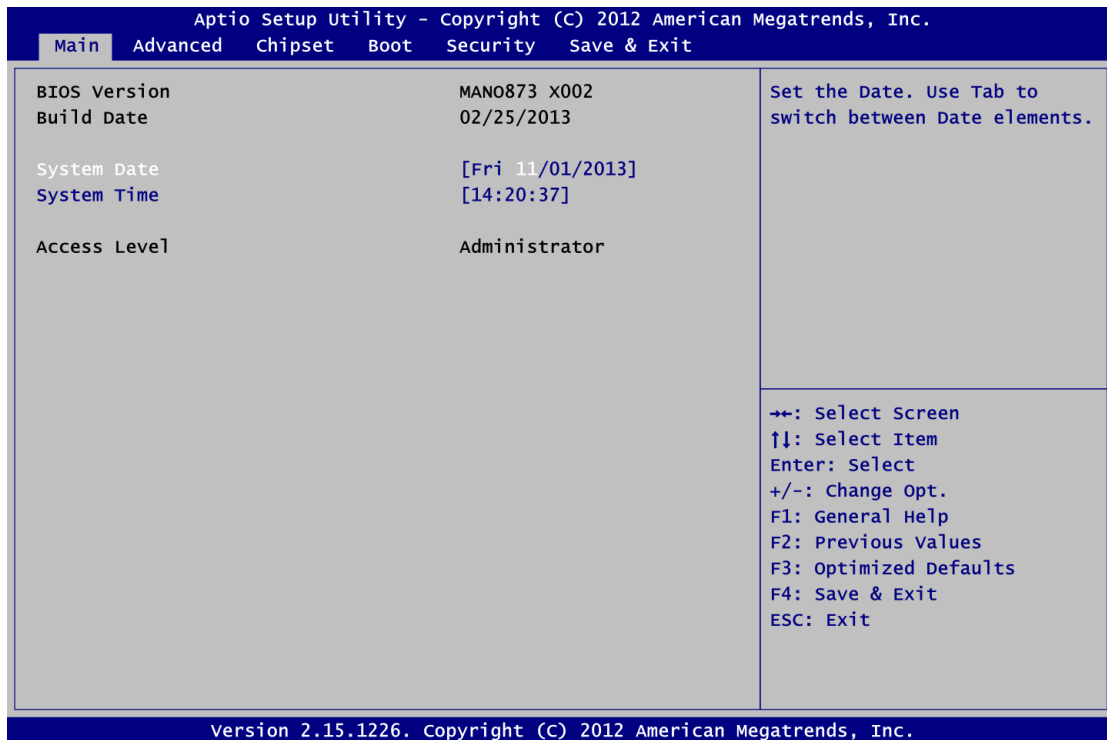


Note: *Some of the navigation keys differ from one screen to another.*

| 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. |

5.3 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. System Time/Date can be set up as described below. 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.

Access Level

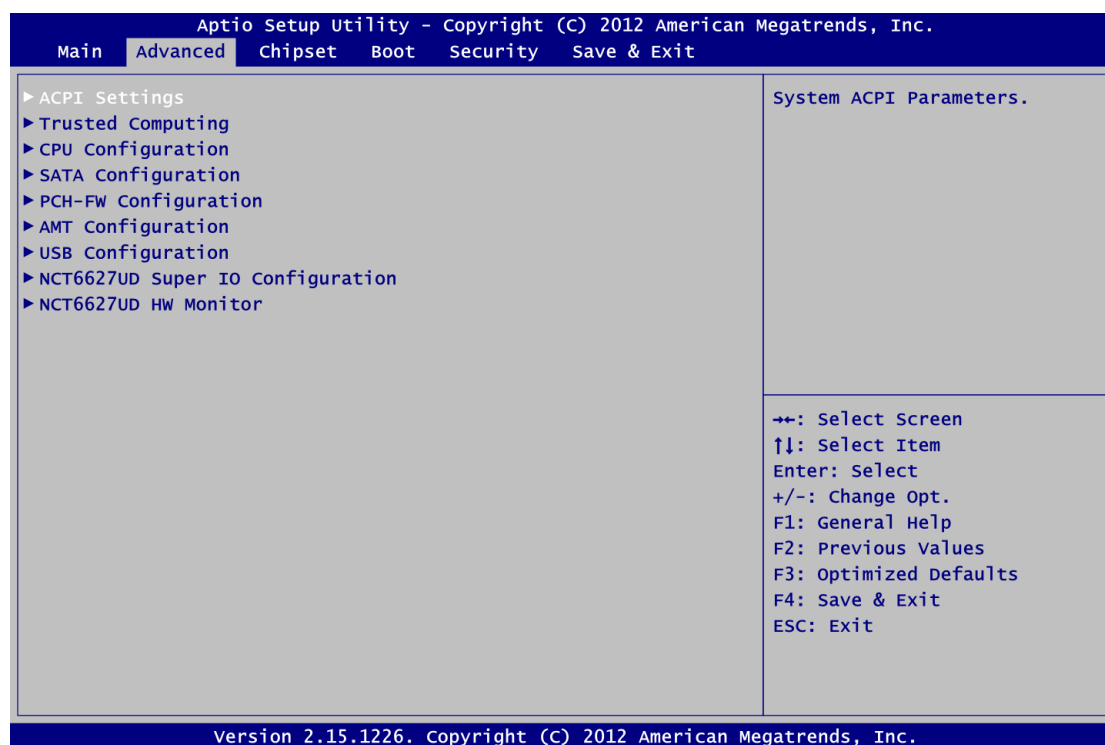
Display the access level of current user.

5.4 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:

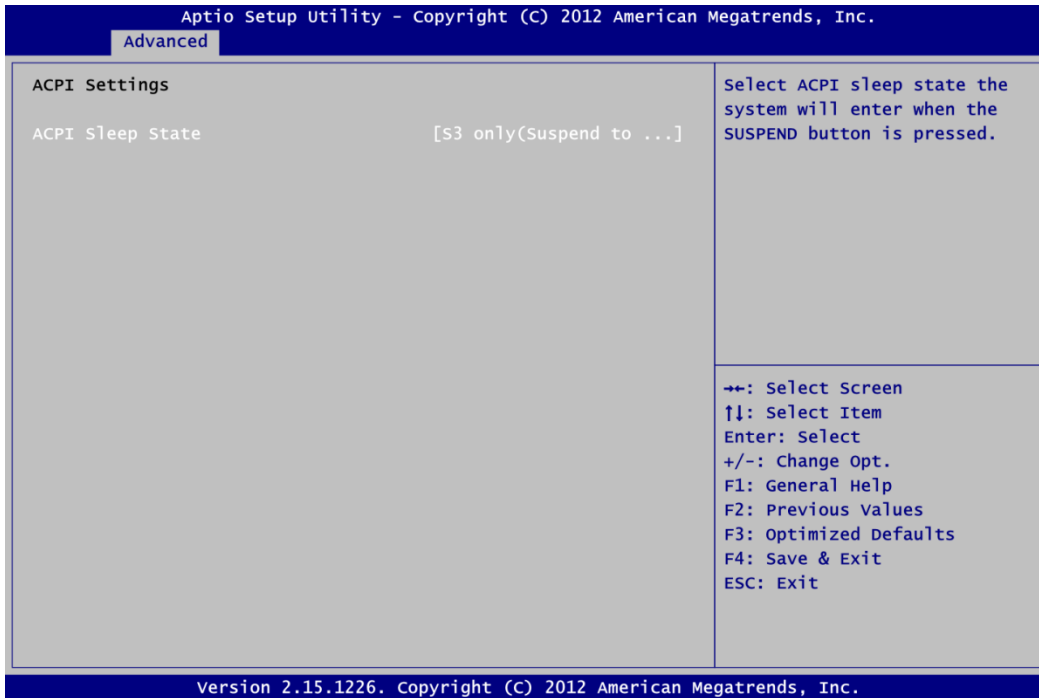
- ▶ ACPI Settings
- ▶ Trusted Computing
- ▶ CPU Configuration
- ▶ SATA Configuration
- ▶ PCH-FW Configuration
- ▶ AMT Configuration
- ▶ USB Configuration
- ▶ NCT6627UD Super IO Configuration
- ▶ NCT6627UD HW Monitor

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



- **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

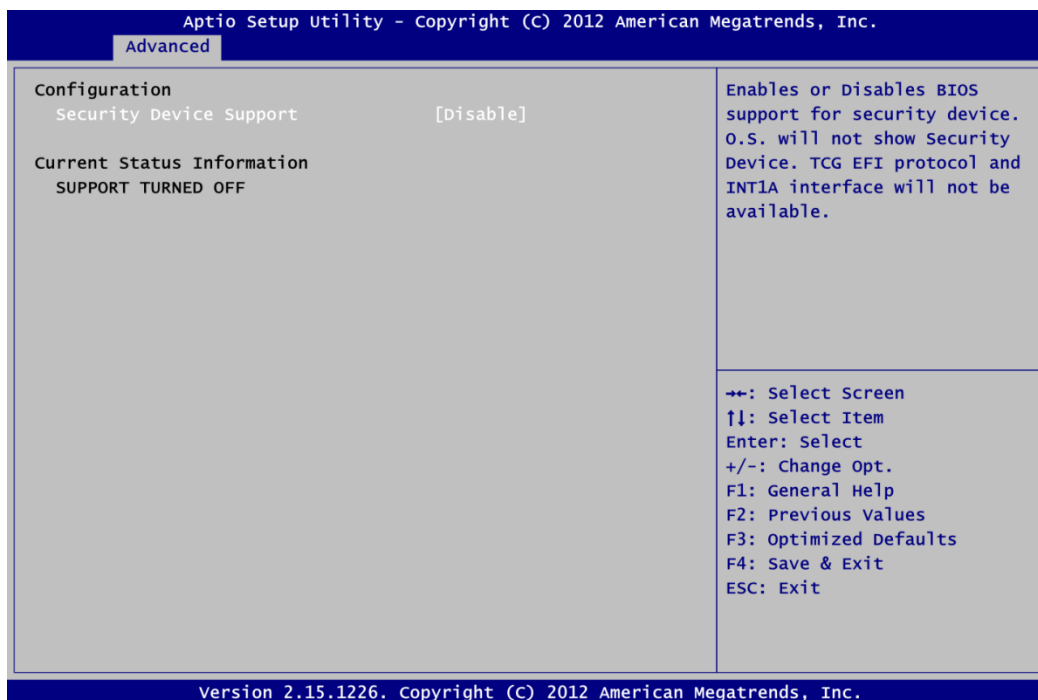
Select the highest ACPI sleep state the system will enter when the suspend button is pressed. Configuration options are Suspend Disabled, S1 only (CPU Stop Clock), and S3 only (Suspend to RAM).

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.



Security Device Support

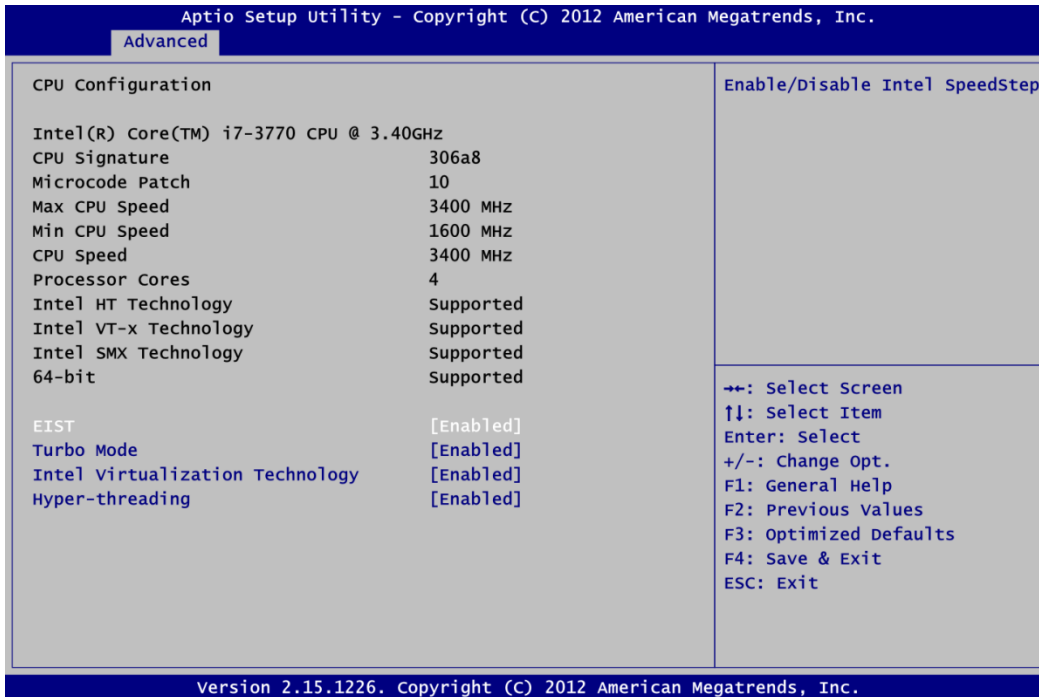
Use this item to enable or disable BIOS support for security device.

Current Status Information

Display current TPM status information

- **CPU Configuration**

This screen shows the CPU information.



EIST

Enable or disable Intel® SpeedStep. 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

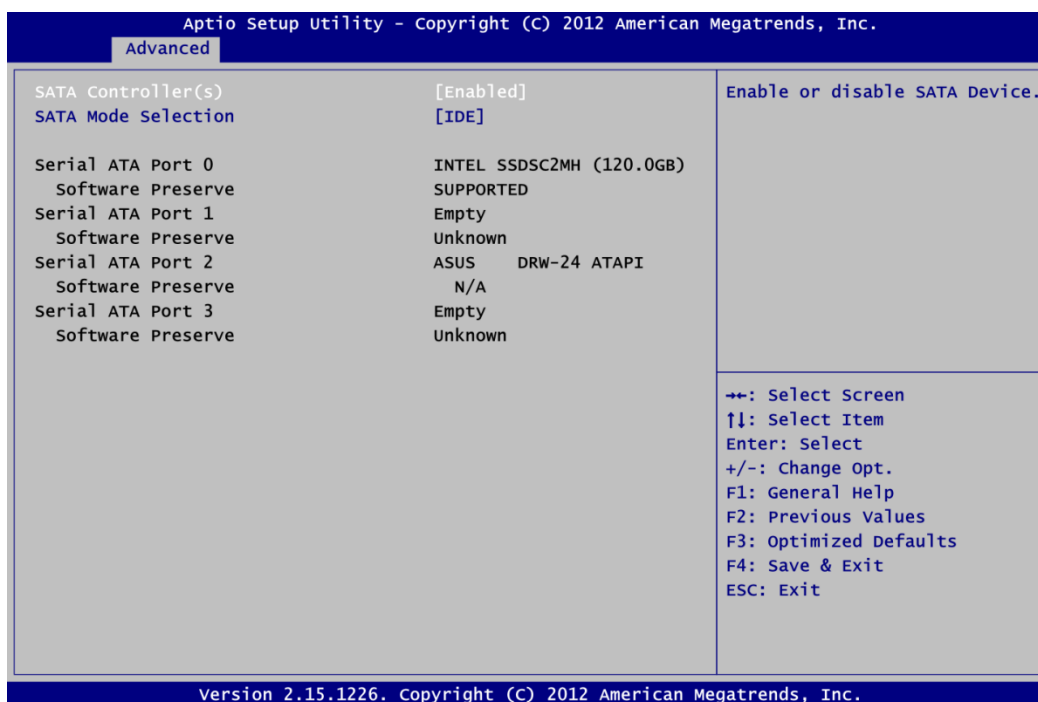
This item allows a hardware platform to run multiple operating systems separately and simultaneously, enabling one system to virtually function as several systems.

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.



SATA Controller(s)

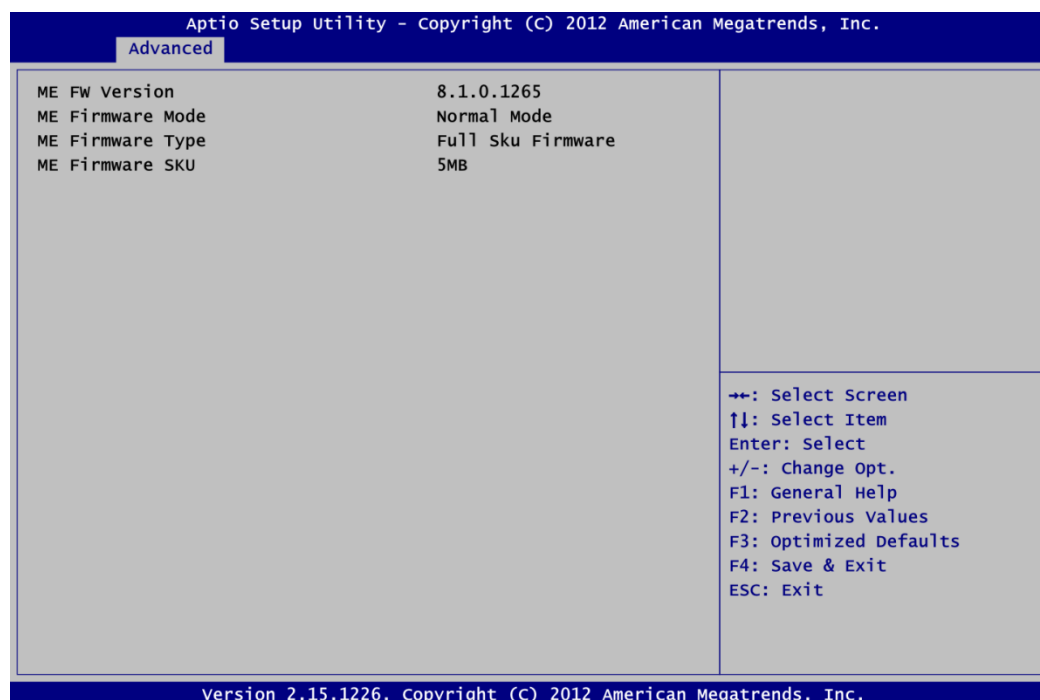
Enable or disable SATA device.

SATA Mode Selection

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

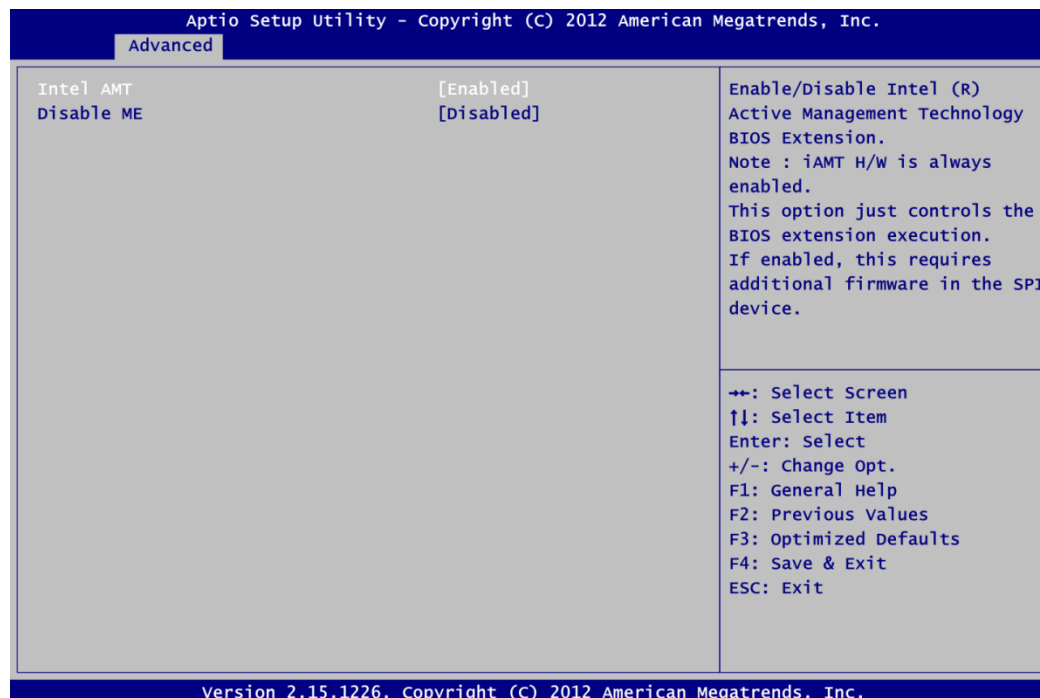
- **PCH-FW Configuration**

This screen displays Management Engine (ME) Firmware information.



- **AMT Configuration**

Use this screen to configure AMT parameters.



Intel AMT

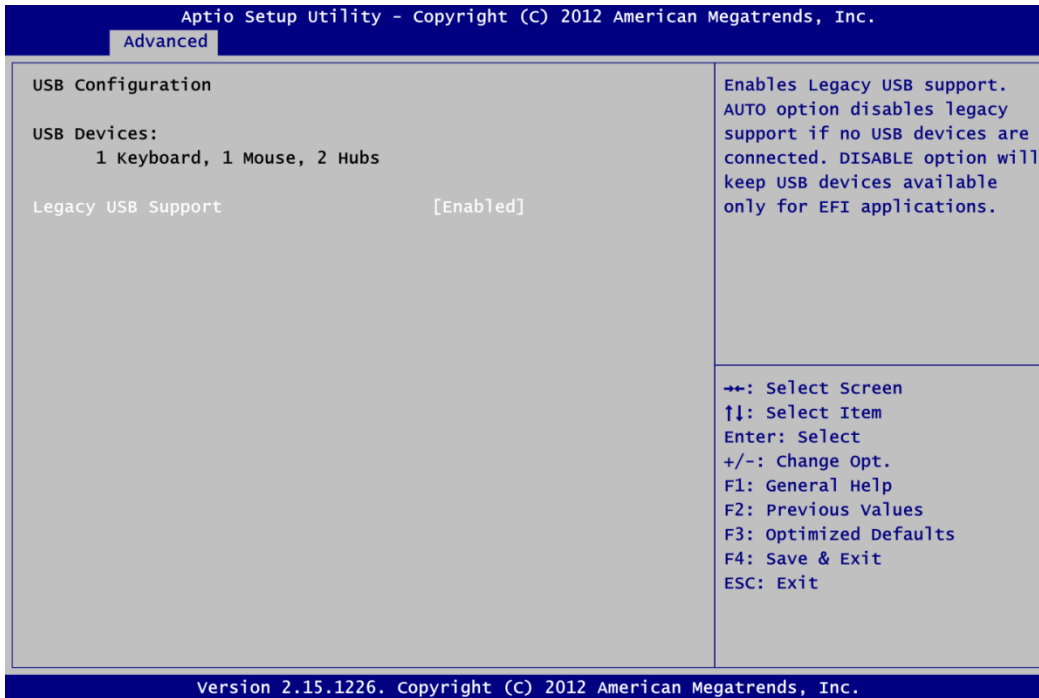
Enable or disable Intel® Active Management Technology BIOS Extension.

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.



USB Devices

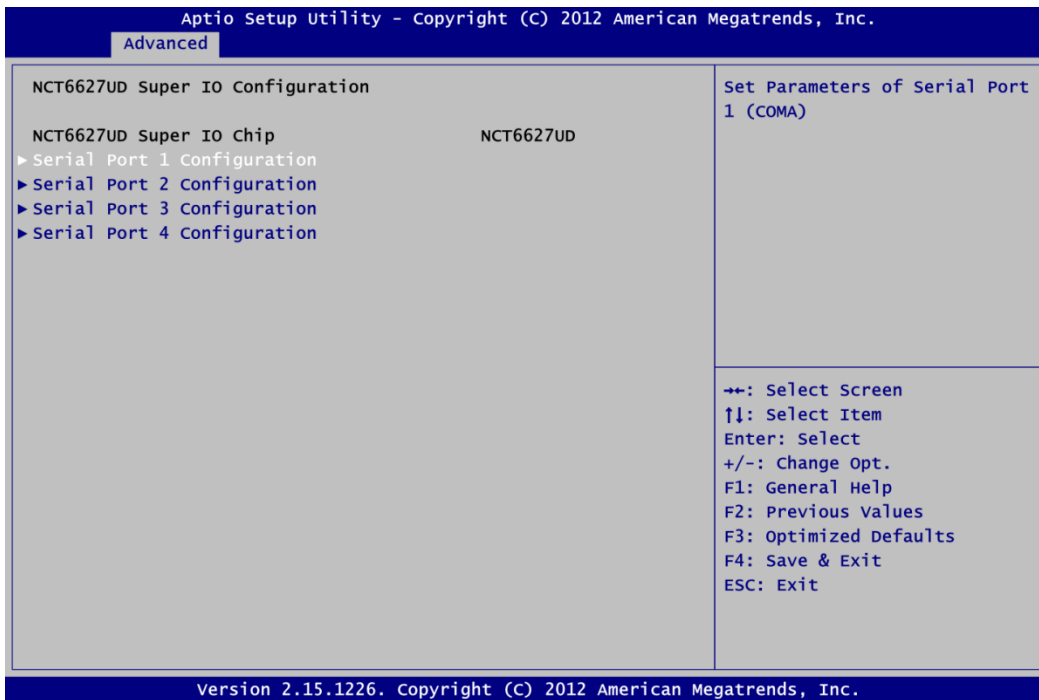
Display all detected USB devices.

Legacy USB Support

Use this item to enable or disable support for USB device on legacy operating system. The default setting is Enabled. 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.

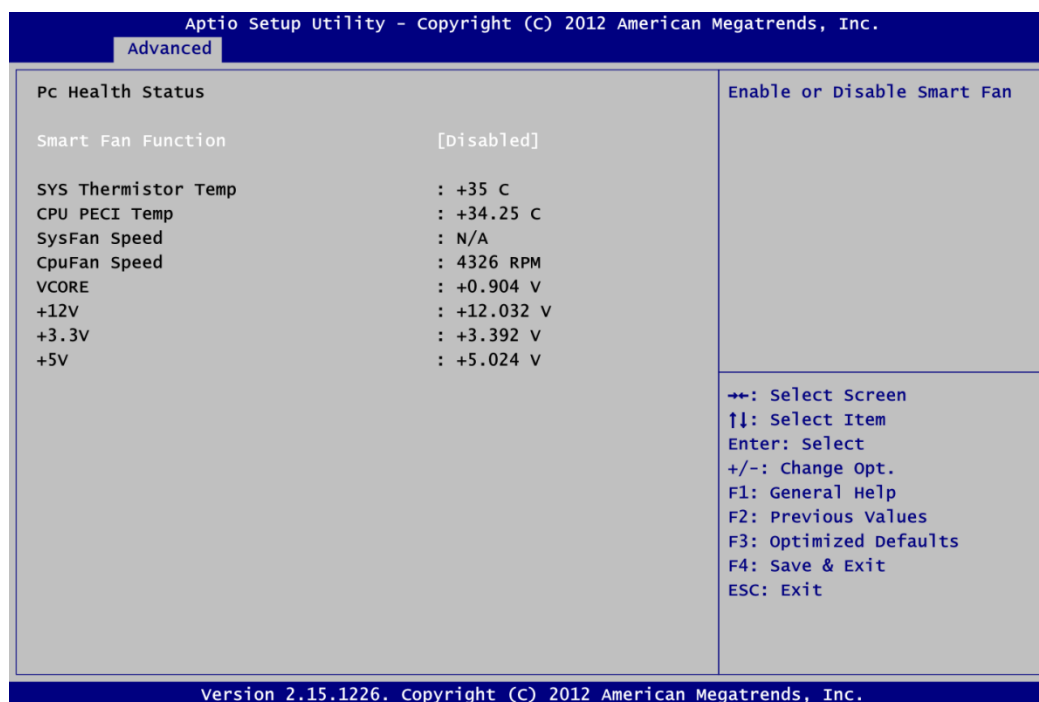


Serial Port 1~4 Configuration

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

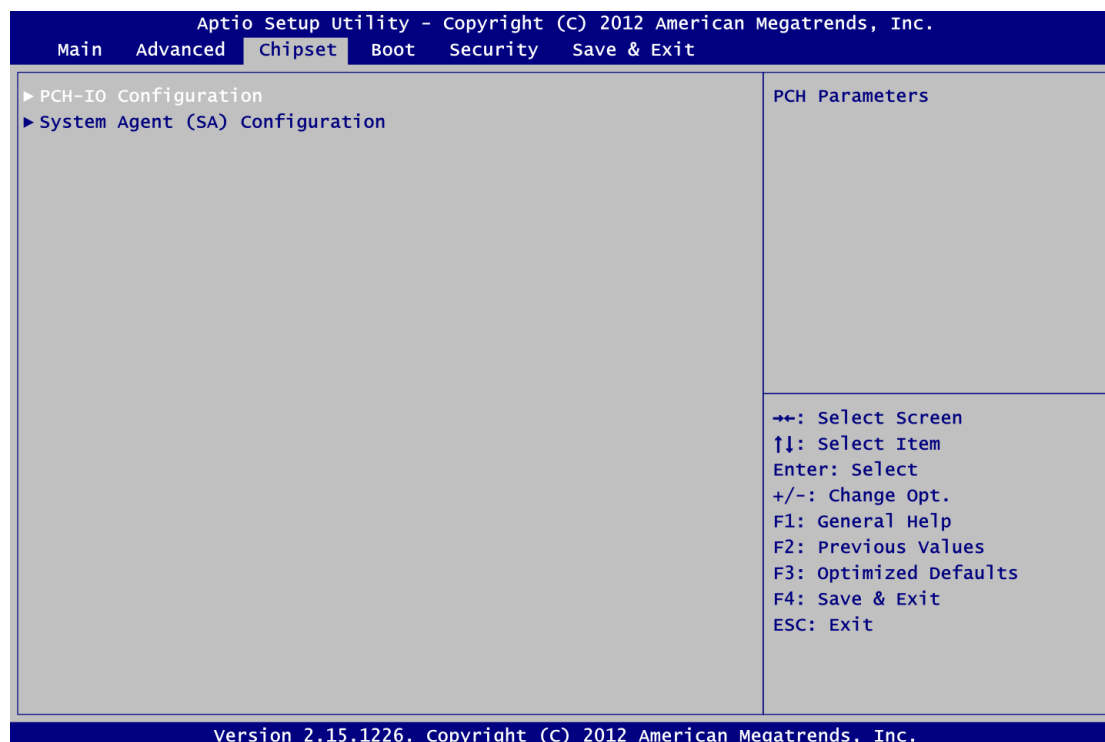
Enable or disable Smart Fan function.

5.5 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:

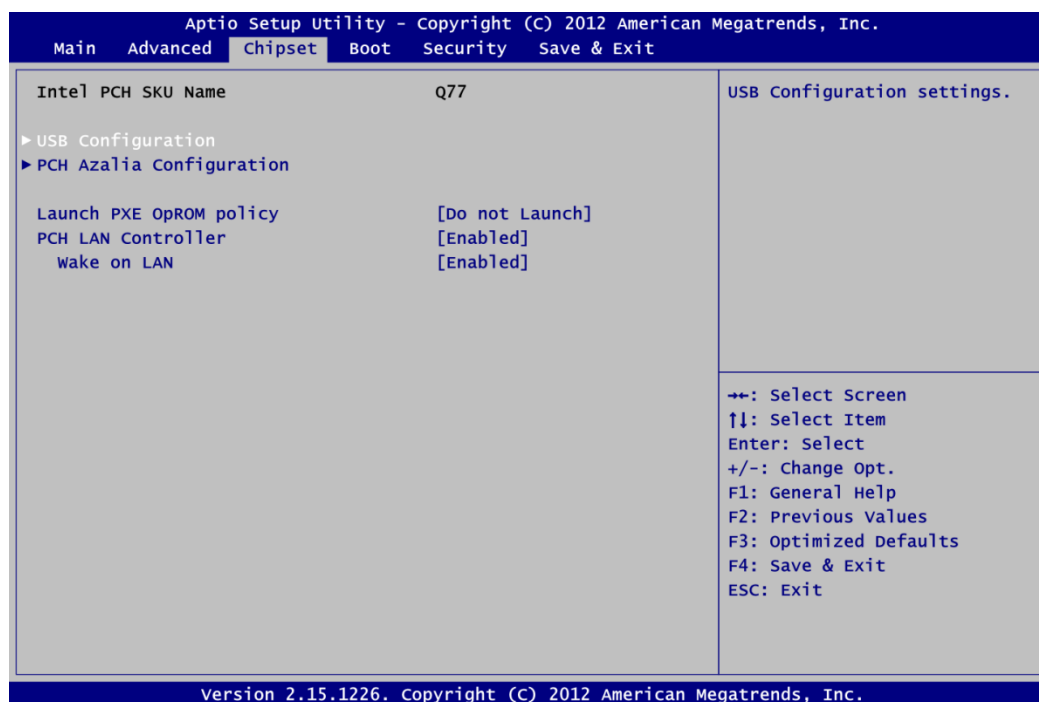
- ▶ PCH-IO Configuration
- ▶ System Agent (SA) Configuration

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



- **PCH-IO Configuration**

This screen allows you to set PCH parameters.



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

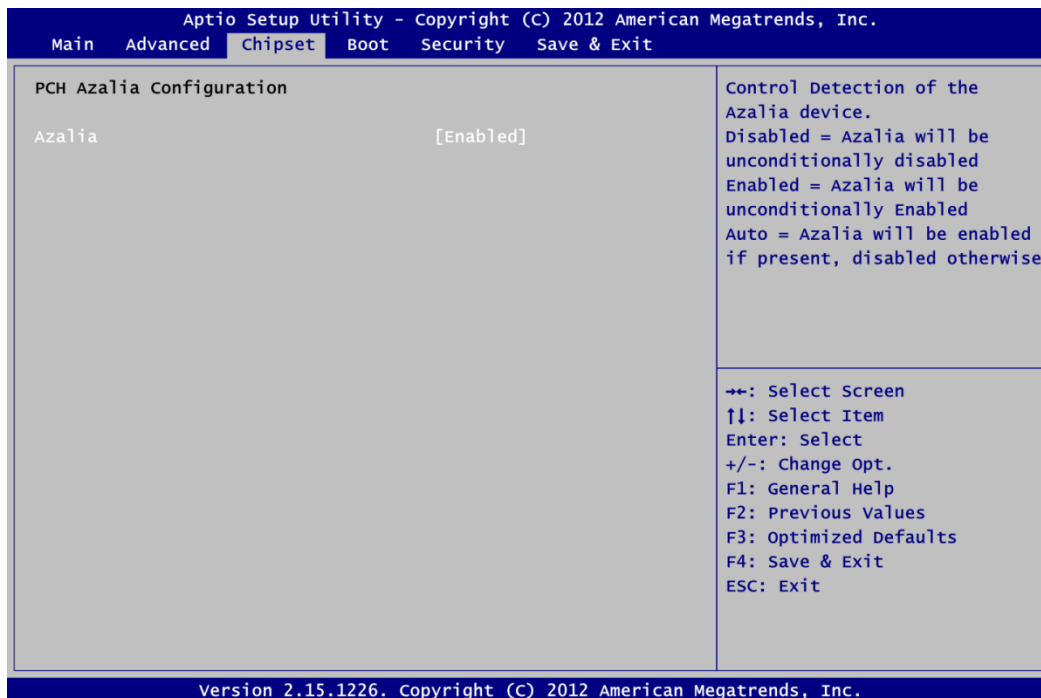
Enable or disable PCH LAN controller.

Wake on LAN

Enable or disable Wake on LAN functionality.

- **PCH Azalia Configuration**

This screen allows you to set PCH Azalia configuration.

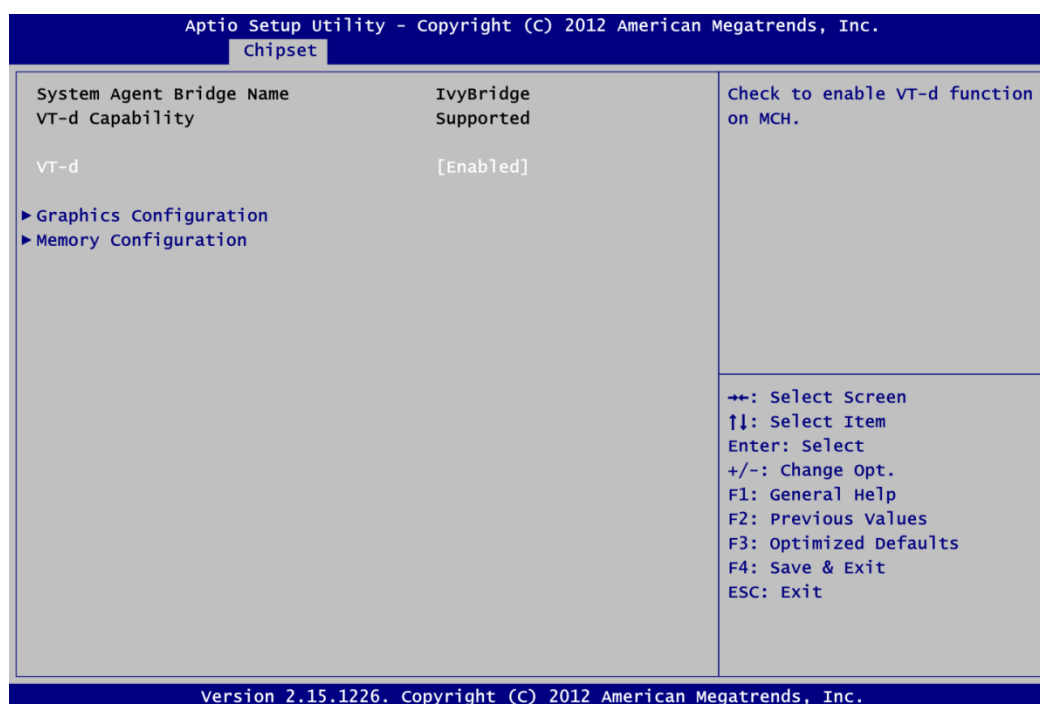


Azalia

Control detection of the Azalia device. Configuration options are Disabled, Enabled and Auto.

- **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.



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.

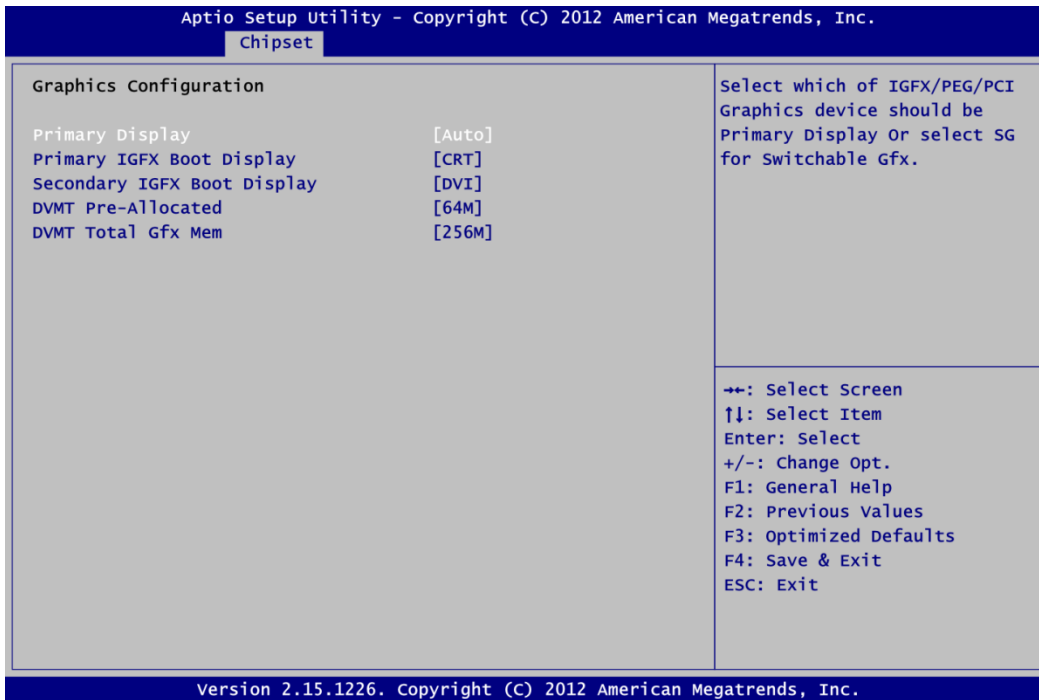
Graphics Configuration

Use this item for graphics configuration settings.

Memory Configuration

Use this item for memory configuration settings.

- **Graphics Configuration**



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 and DVI.

Secondary IGFX Boot Display

Use this item to select secondary display device. Secondary IGFX boot display options are CRT and DVI.

DVMT Pre-Allocated

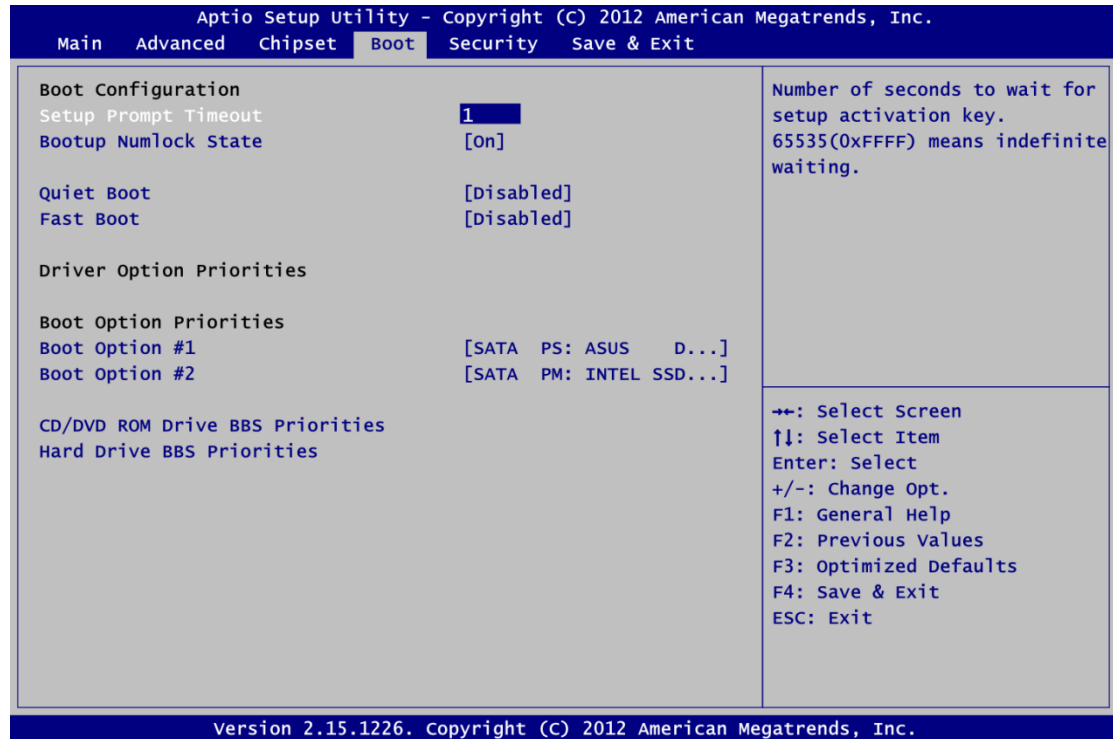
Select DVMT pre-allocated memory size.

DVMT Total Gfx Mem

Select DVMT total memory size.

5.6 Boot Menu

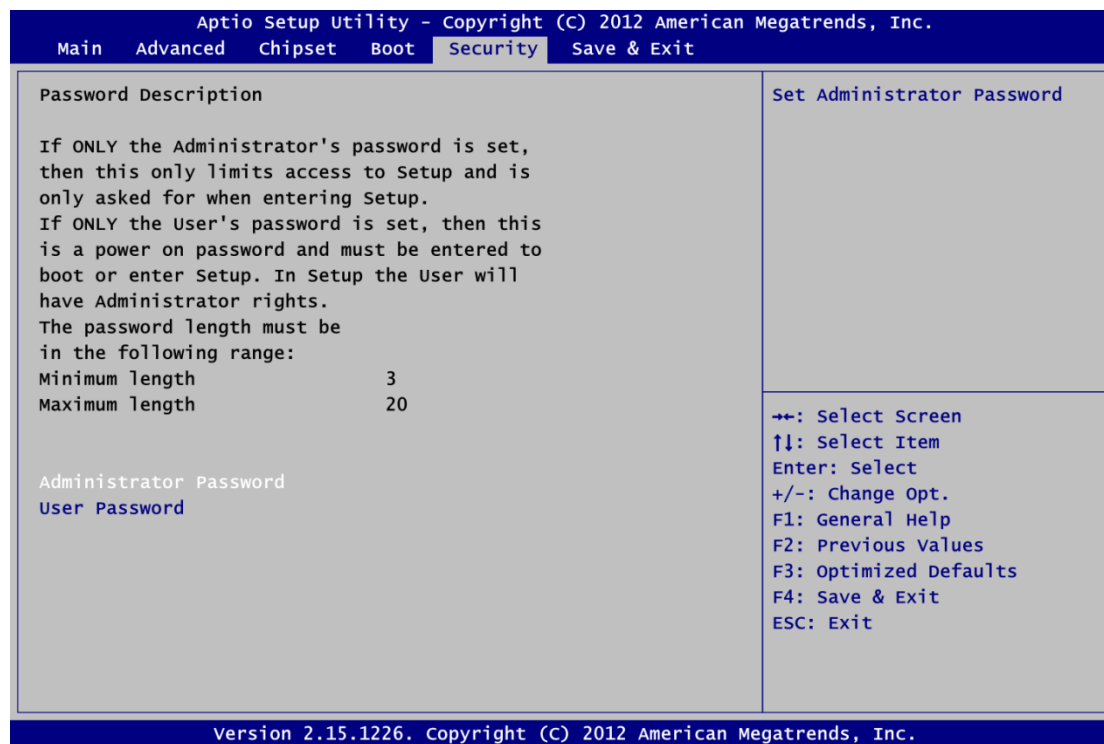
The Boot menu allows users to change boot options of the system.



- 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.

5.7 Security Menu

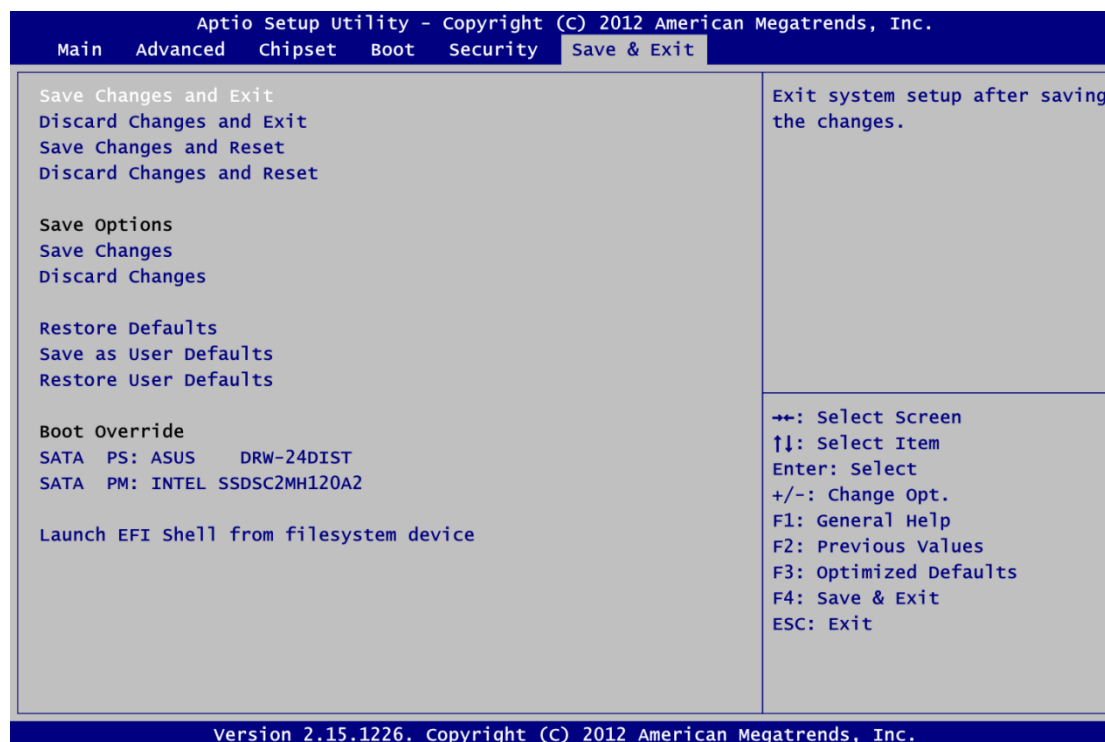
The Security menu allows users to change the security settings for the system.



- **Administrator Password**
This item indicates whether an administrator password has been set (installed or uninstalled).
- **User Password**
This item indicates whether a user password has been set (installed or uninstalled).

5.8 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 return to Main Menu. Select Save Changes and Exit from the Save & Exit menu and press <Enter>. Select Yes to save changes and exit.
- Discard Changes and Exit**
 Select this option to quit Setup without making any permanent changes to the system configuration and return to Main Menu. Select Discard Changes and Exit from the Save & Exit menu and press <Enter>. Select Yes 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.

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

Digital I/O

Using Digital Output Function

O 2E 87

O 2E 87

O 2E 07

O 2F 08

O 2E 30

O 2F 02 Setting DIO is active

O 2E E0

O 2F **00** **00**: The respective DIO is programmed as an output port

O 2E E1

O 2F **NN** **NN**: Setting output value



Note:

NN=01 means output value is "0000001", DIO1 is output high, the rest DIO2~DIO8 are output low.

Using Digital Input Function

O 2E 87

O 2E 87

O 2E 07

O 2F 08

O 2E 30

O 2F 02 Setting DIO is active

O 2E E0

O 2F **FF** **FF**: The respective DIO is programmed as an input port

O 2E E1

I 2F Read Input value

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Appendix C

Configuring SATA for RAID

Configuring SATA Hard Drive(s) for RAID Function

Before you begin the SATA configuration, please prepare:

- Two SATA hard drives (to ensure optimal performance, it is recommended that you use two hard drives with identical model and capacity). If you do not want to create RAID with the SATA controller, you may prepare only one hard drive.
- An empty formatted floppy disk.
- Windows XP setup disk.

Please follow up the steps below to configure SATA hard drive(s):

1. Install SATA hard drive(s) in your system.
2. Enter the BIOS Setup to configure SATA controller mode and boot sequence.
3. Configure RAID by the RAID BIOS.
4. Making a SATA driver disk.
5. Install the SATA controller driver during the OS installation.

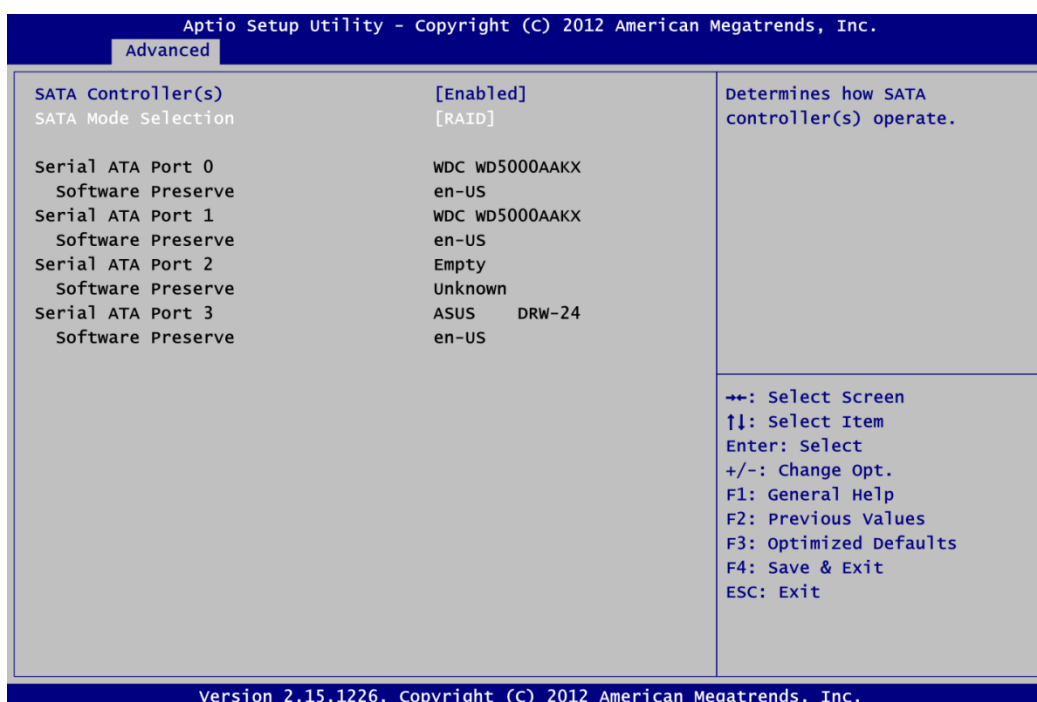
1. Installing SATA hard drive(s) in your system.

Connect one end of the SATA signal cable to the rear of the SATA hard drive, and the other end to available SATA port(s) on the board. Then, connect the power connector of power supply to the hard drive.

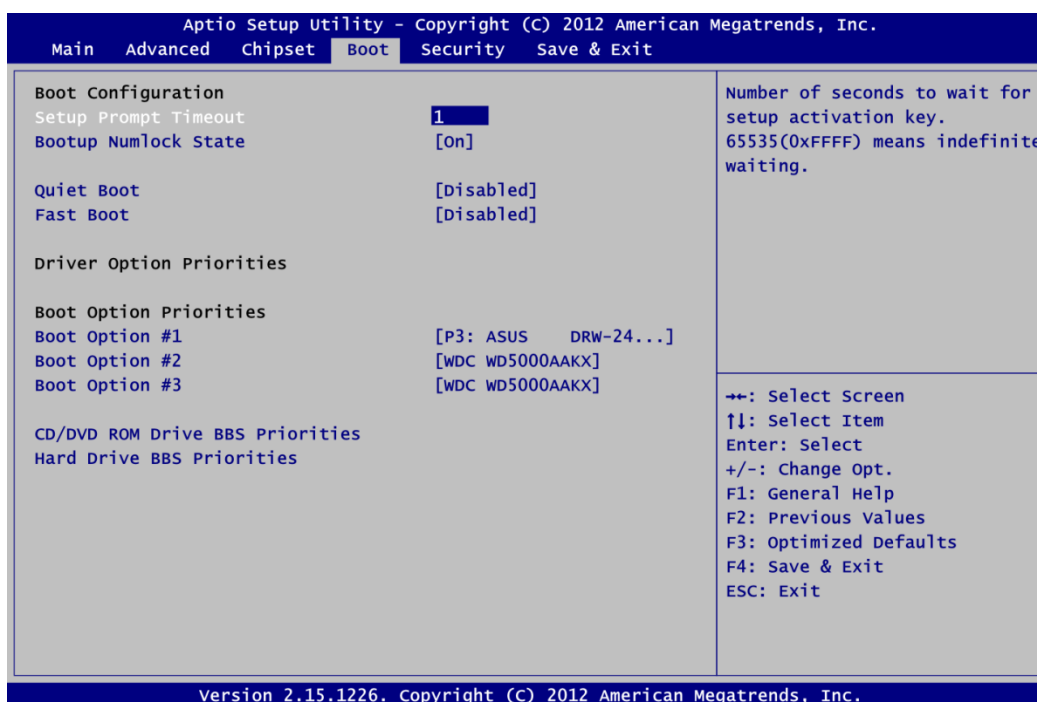
2. Configuring SATA controller mode and boot sequence by the BIOS Setup.

You have to make sure whether the SATA controller is configured correctly by system BIOS Setup and set up BIOS boot sequence for the SATA hard drive(s).

- 2.1. Turn on your system, and then press the button to enter BIOS Setup during running POST (Power-On Self Test). If you want to create RAID, just go to the Advanced Settings menu, select the "SATA Mode Selection", and press <Enter> for more options. A list of options appears, please select "RAID".



- 2.2. Set DVD-ROM for First Boot Option under the Boot Settings menu to boot DVD-ROM after system restarts.

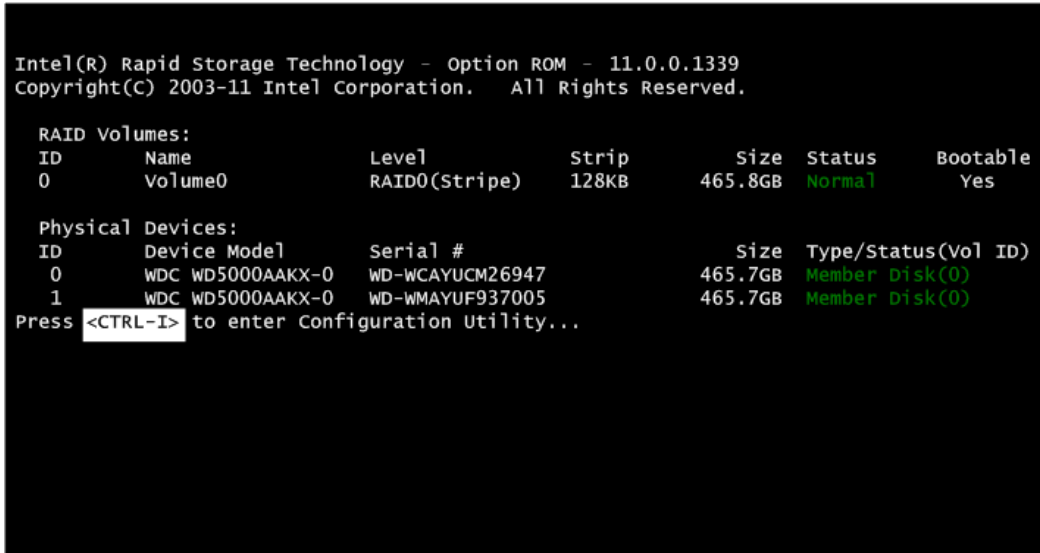


- 2.3. Save and exit the BIOS Setup.

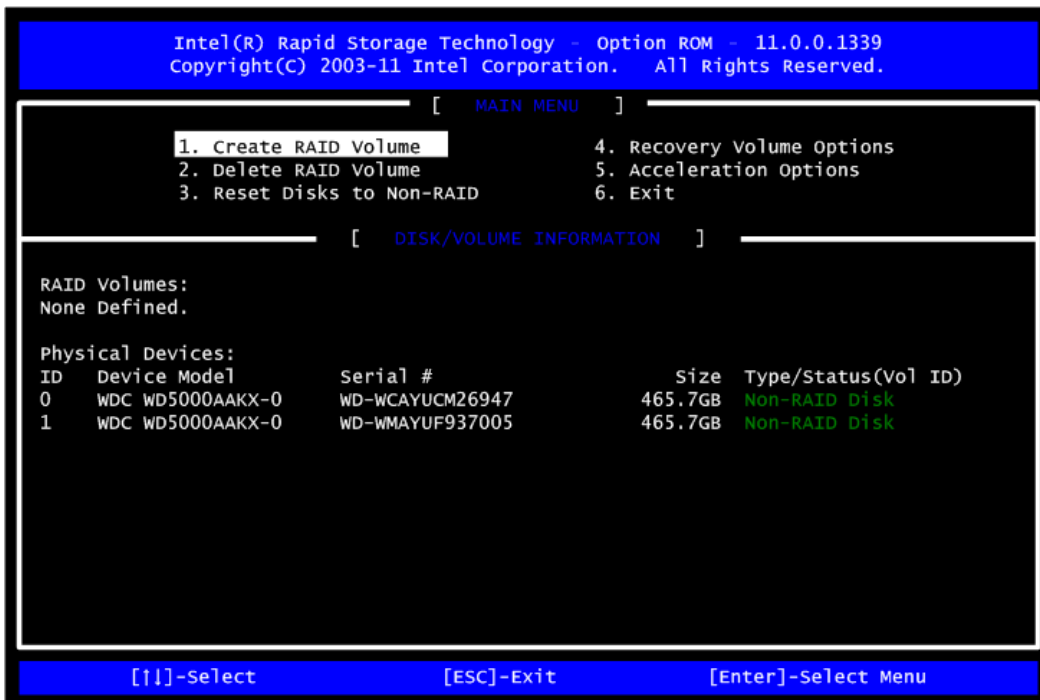
3. Configuring RAID by the RAID BIOS.

Enter the RAID BIOS setup utility to configure a RAID array. Skip this step and proceed if you do not want to create a RAID.

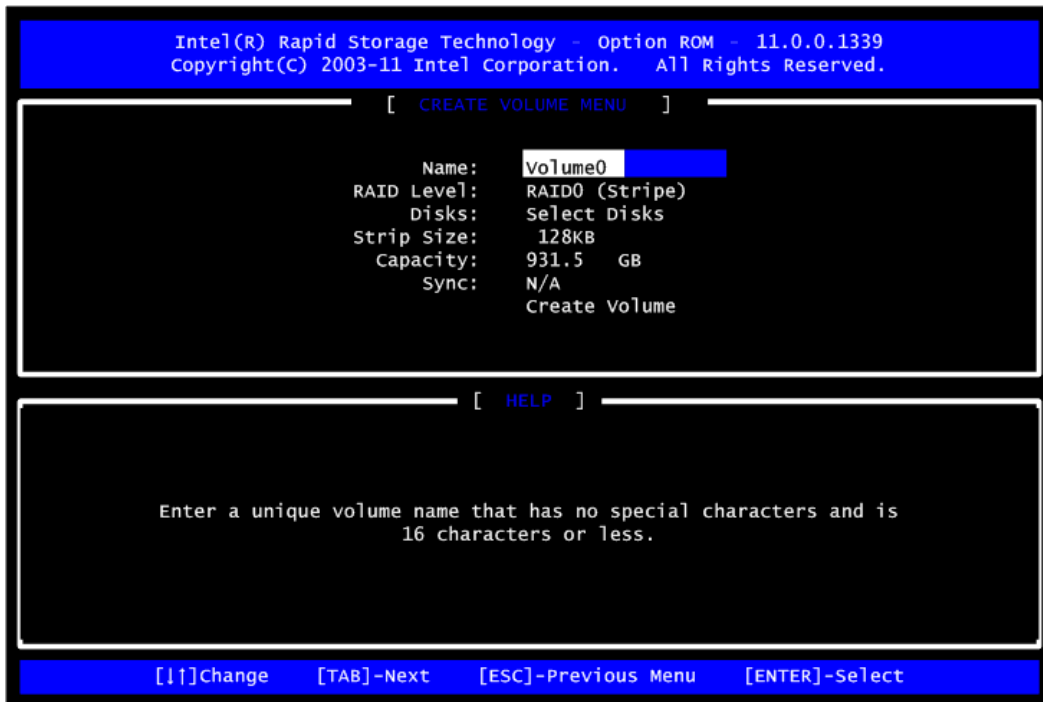
- 3.1. After the POST memory testing and before the operating system booting, a message "Press <Ctrl-I> to enter Configuration Utility" shows up, accordingly, press <Ctrl + I> to enter the RAID BIOS setup utility.



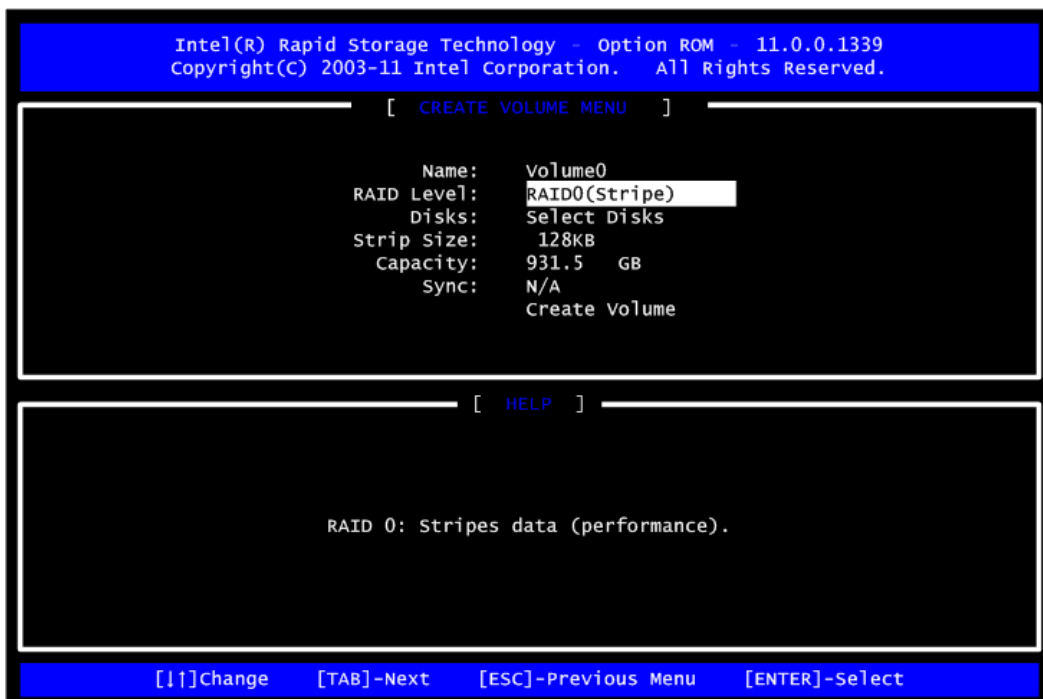
- 3.2. After you press <Ctrl + I>, the Create RAID Volume screen will appear. If you want to create a RAID array, select the Create RAID Volume option in the Main Menu and press <Enter>.



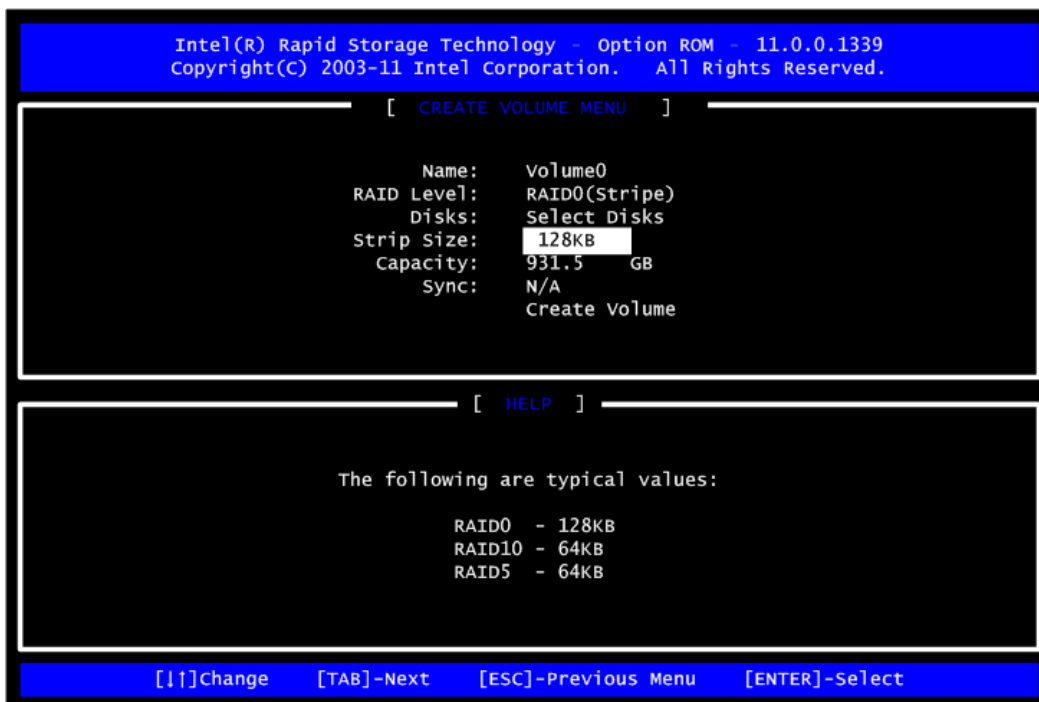
- 3.3. After entering the Create Volume Menu screen, you can type the disk array name with 1~16 letters (letters cannot be special characters) in the item "Name".



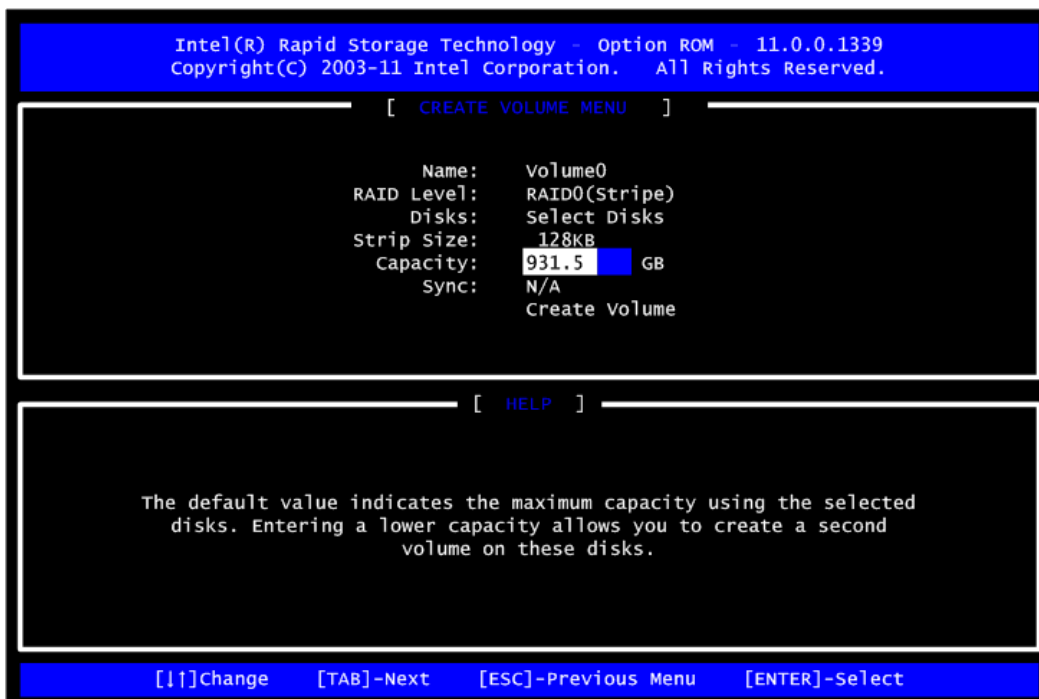
- 3.4. When finished, press <Enter> to select a RAID level. There are three RAID levels: RAID0, RAID1 and RAID5 & RAID10. Select a RAID level and press <Enter>.



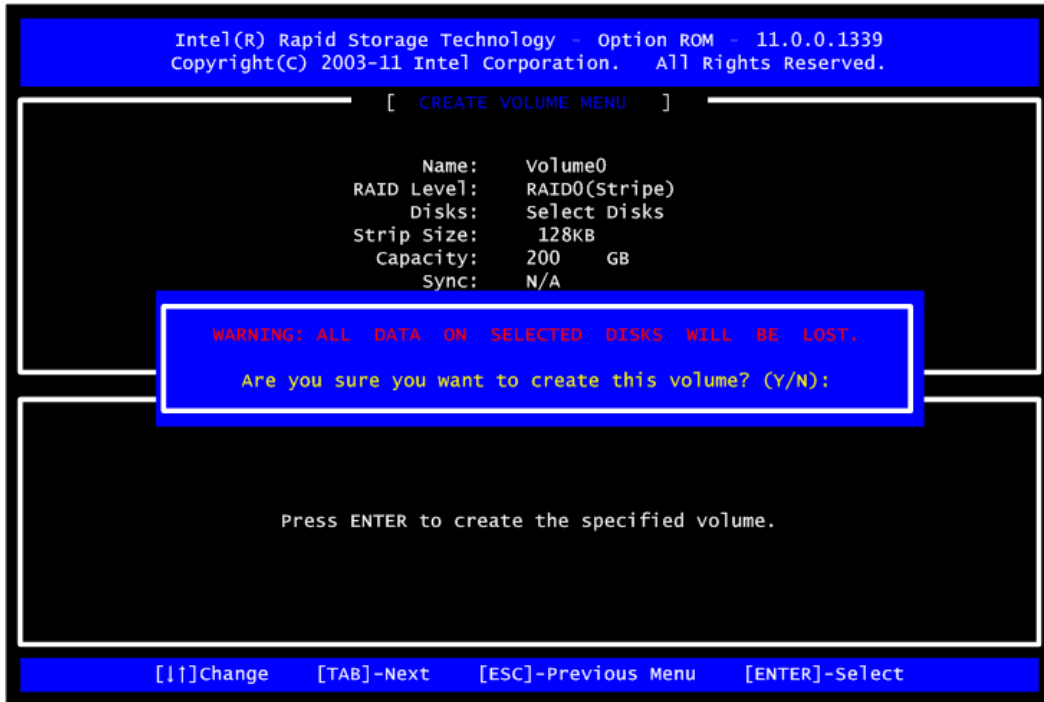
- 3.5. Set the stripe block size. The KB is the standard unit of stripe block size. The stripe block size can be 4KB to 128KB. After the setting, press <Enter> for the array capacity.



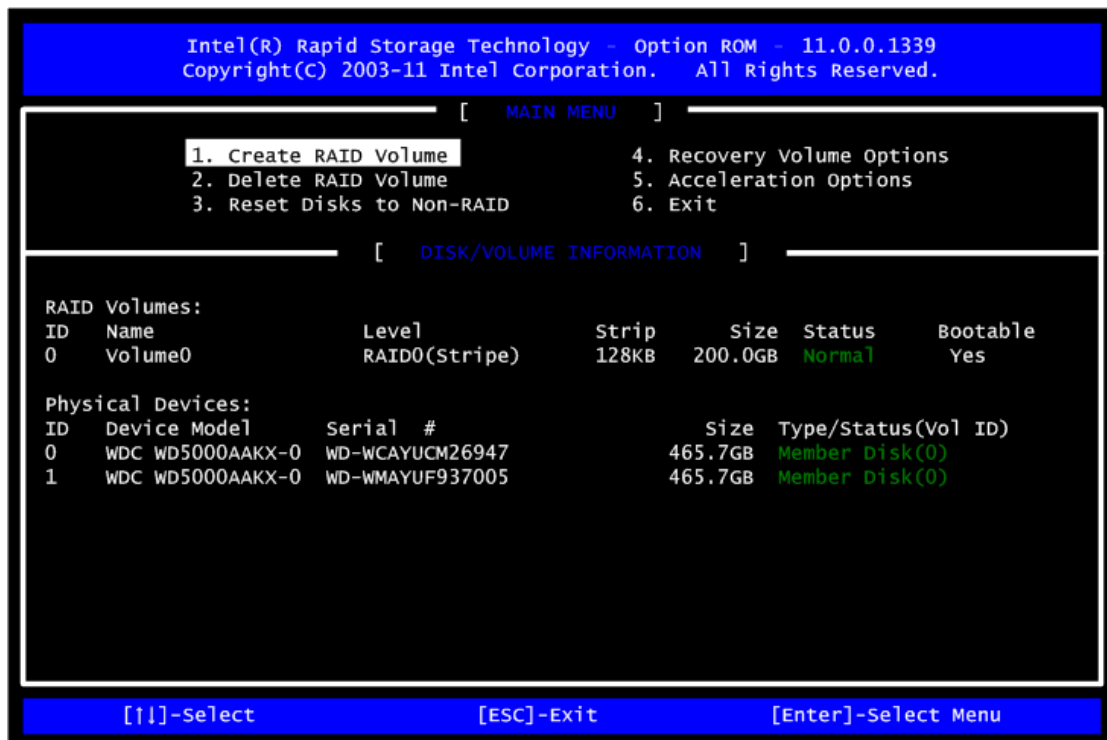
- 3.6. After setting all the items on the menu, select Create Volume and press <Enter> to start creating the RAID array.



3.7. When prompting the confirmation, press <Y> to create this volume, or <N> to cancel the creation.

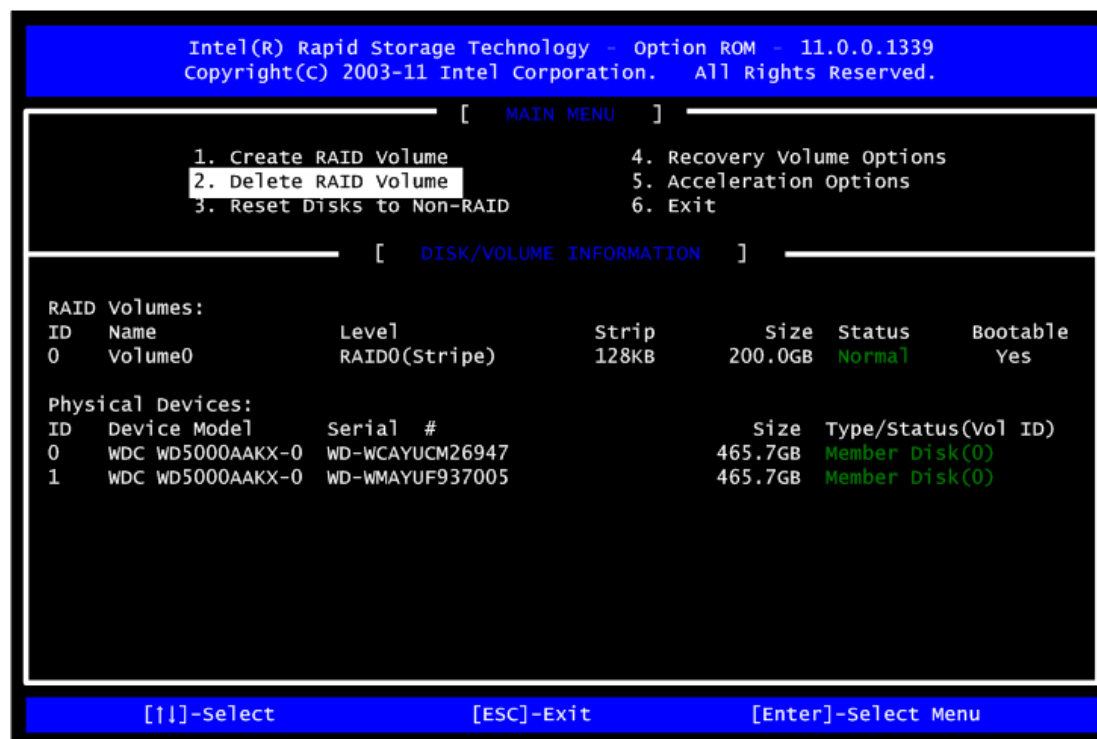


After the creation is completed, you can see detailed information about the RAID Array in the Disk/Volume Information section, including RAID mode, disk block size, disk name, and disk capacity, etc.



Delete RAID volume

If you want to delete a RAID volume, select the Delete RAID Volume option in Main Menu. Press <Enter> and follow on-screen instructions.



Please press <Esc> to exit the RAID BIOS utility. Now, you can proceed to install a SATA driver controller and the operating system.

4. Making a SATA driver disk.

To install the operating system onto a serial ATA hard disk successfully, you need to install the SATA controller driver during the OS installation. Without the driver, the hard disk may not be recognized during the Windows setup process. First of all, please format a blank floppy disk. Secondly, follow up these steps below to produce a SATA driver disk.

Users can insert the driver DVD and the formatted blank floppy disk in another system. And then, please copy all of file of the "f6flpy-x32" folder in the driver DVD to a floppy disk.



Note: Please copy all of file of the "f6flpy-x64" folder, if installing 64-bit Windows Operating System.

5. Installing the SATA controller driver during the OS installation

Now, the SATA driver disk is ready, and BIOS settings configured, you can proceed to install Windows 2000/XP onto your SATA hard drive using the SATA driver. Here is an example for Windows XP installation.

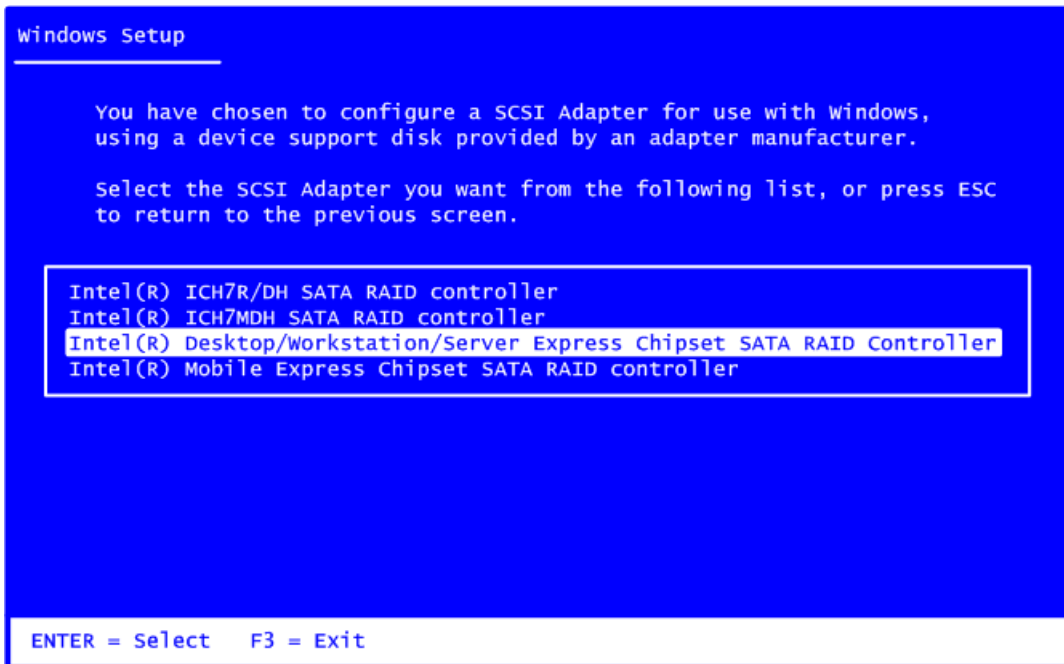
- 5.1. Restart your system to boot the Windows 2000/XP Setup disk, and press <F6> button as soon as you see the message "Press F6 if you need to install a 3rd party SCSI or RAID driver". After pressing the <F6> button, there will be a few moments for some files being loaded before next screen appears.




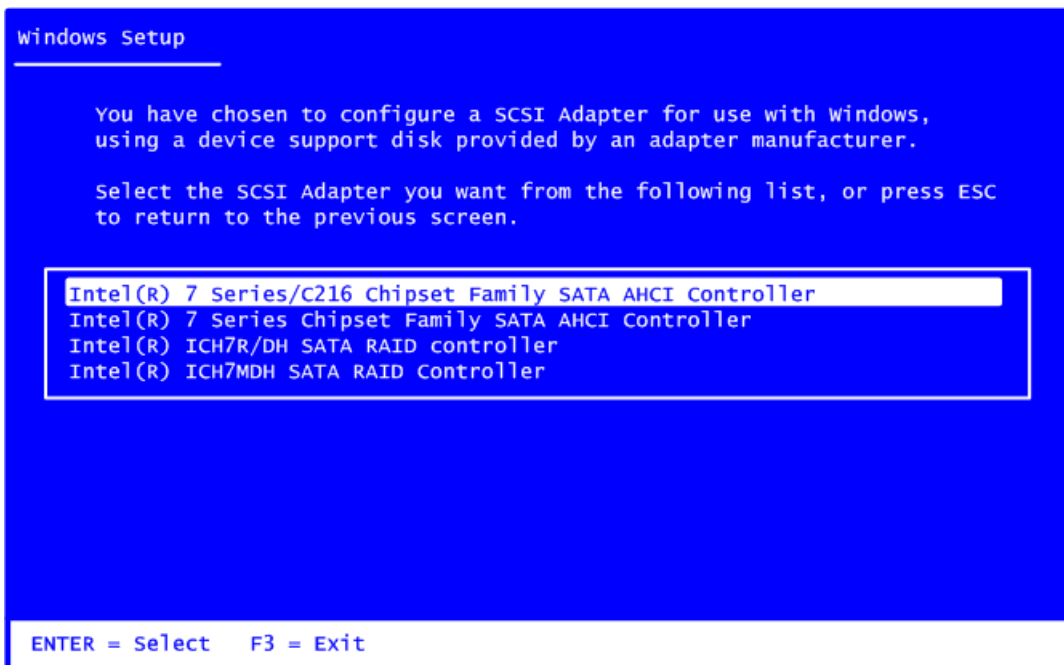
- 5.2. When you see the screen below, insert the floppy disk containing the SATA driver and press <S>.




- 5.3. If the Setup correctly recognizes the driver of the floppy disk, a controller menu will appear below. Use the <Arrow> keys to select “Intel(R) Desktop/Workstation/Server Express Chipset SATA RAID Controller” and press <Enter>. Then it will begin to load the SATA driver from the floppy disk.



 **Note:** If a message on the screen saying that one or some file(s) cannot be found, please check the floppy disk or copy the correct SATA driver again from the driver DVD.



 **Note:** If you are installing AHCI, please select “Intel 7 Series/C216 Chipset Family SATA AHCI Controller”.

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Appendix D

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.

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.

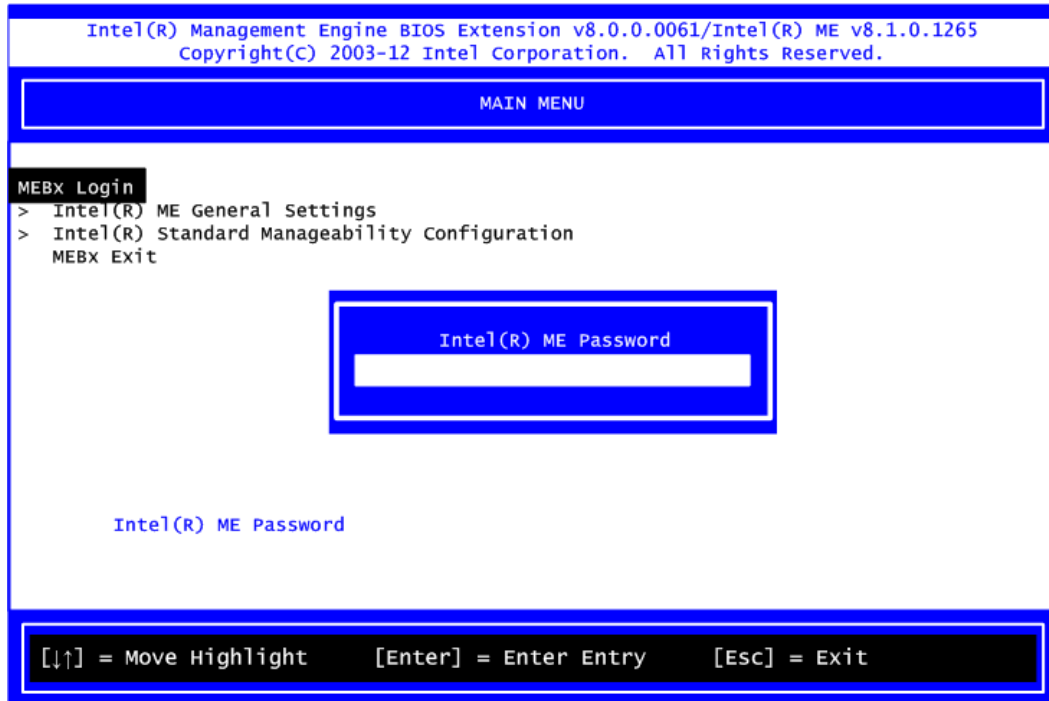


Note: *It is better to press <Ctrl + P> before the screen popping out.*

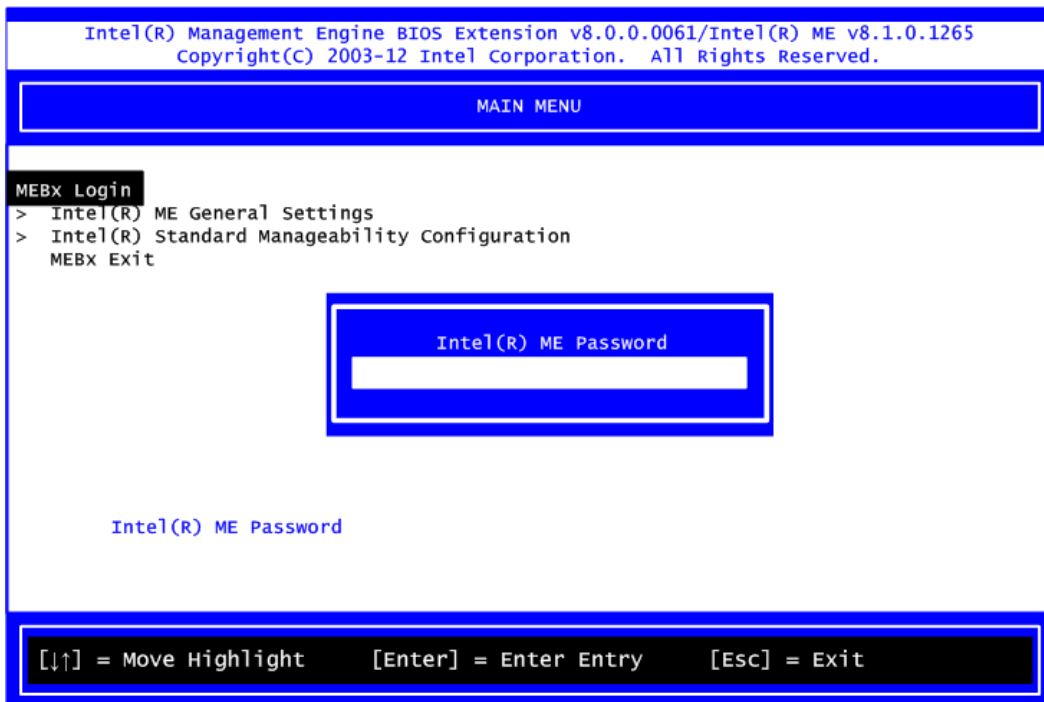


Set and Change Password

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).

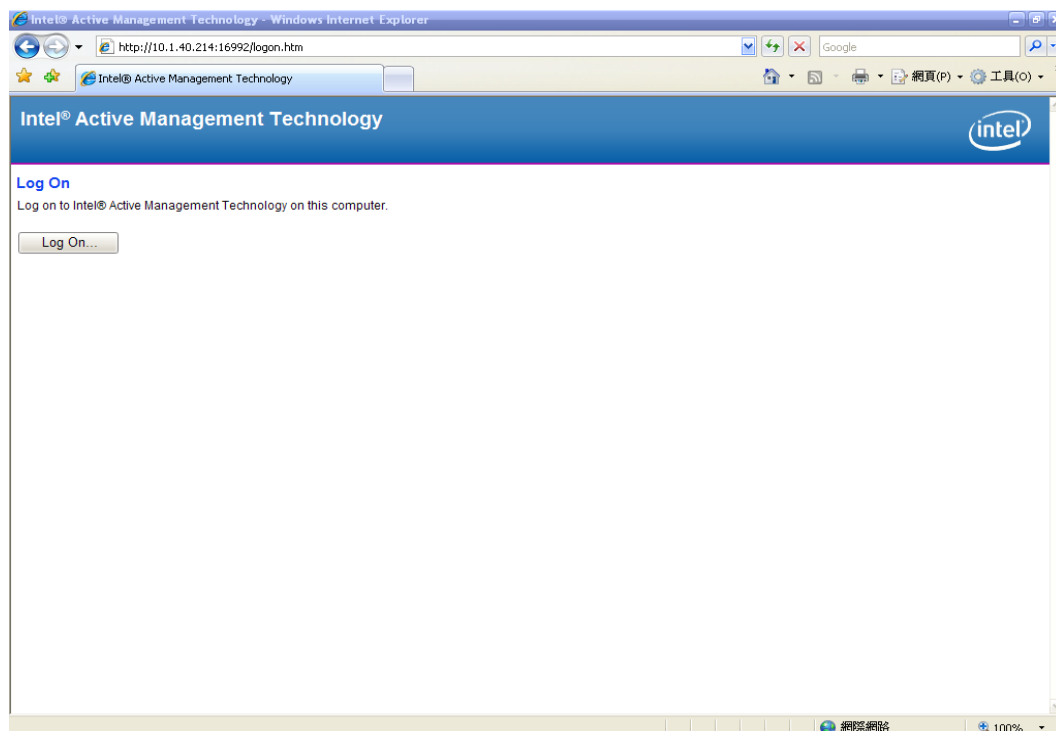
- Eight characters
- One upper case
- One lower case
- One number
- One special symbol, such as ! , \$ or ; , (, " , , excepted)

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](http://(IP ADDRESS):16992), which connects to Intel® iAMT Web.

Example: <http://10.1.40.214:16992>

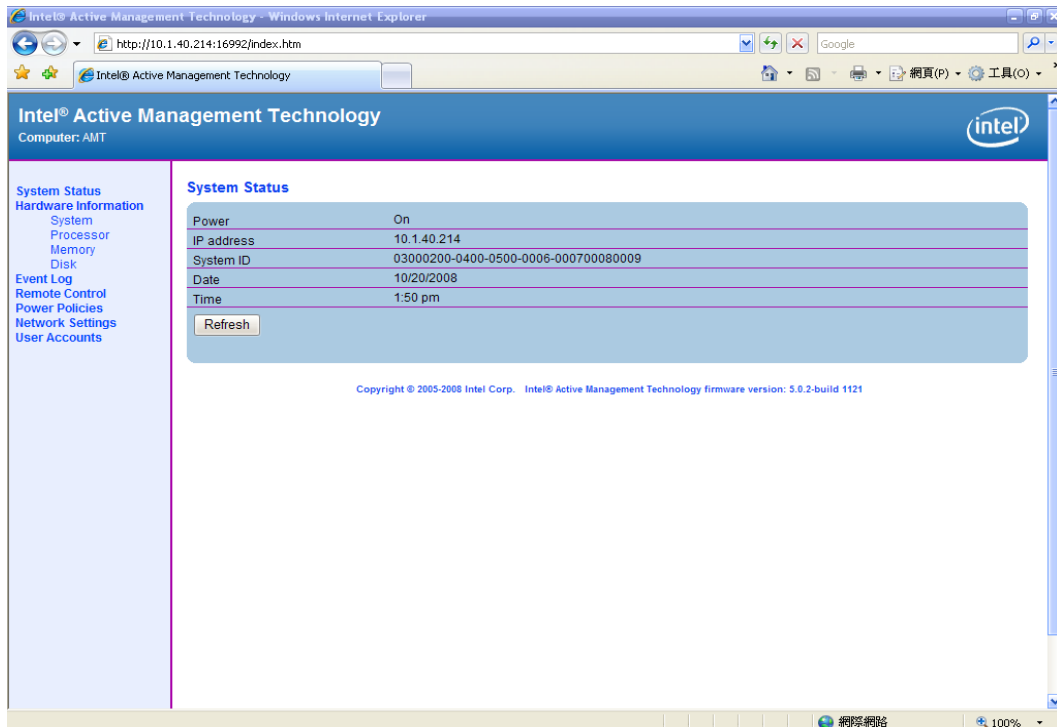


2. To log on, you will be required to type in username and password for access to the Web.

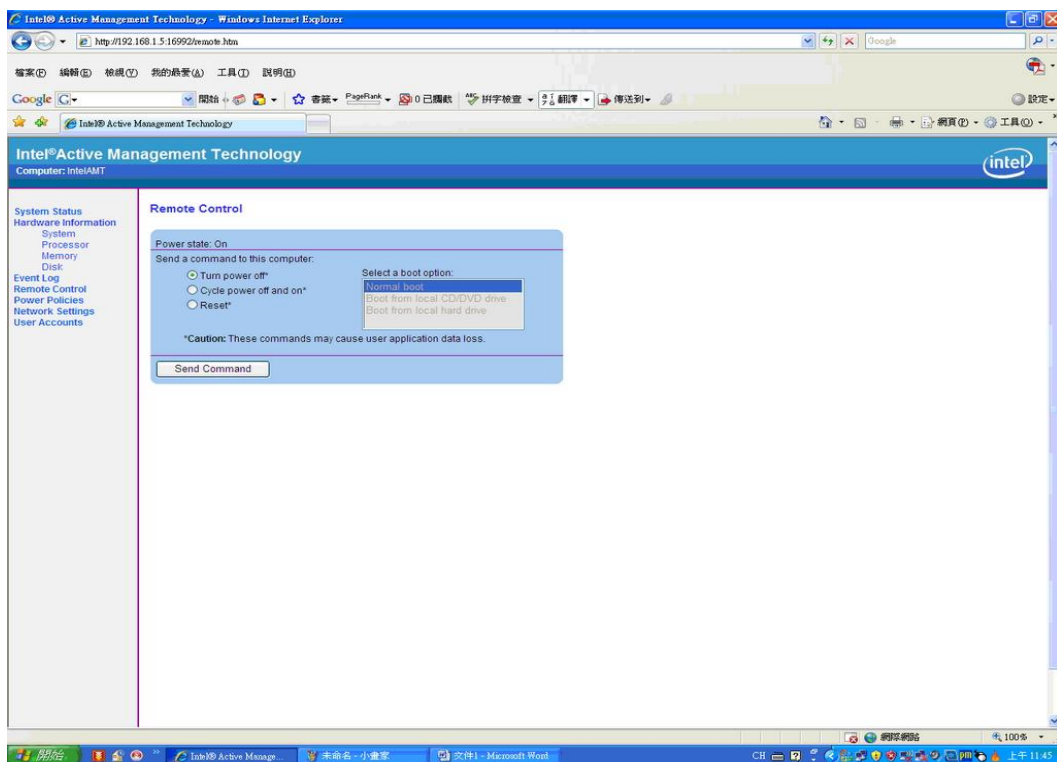
USER: admin (default value)

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.

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