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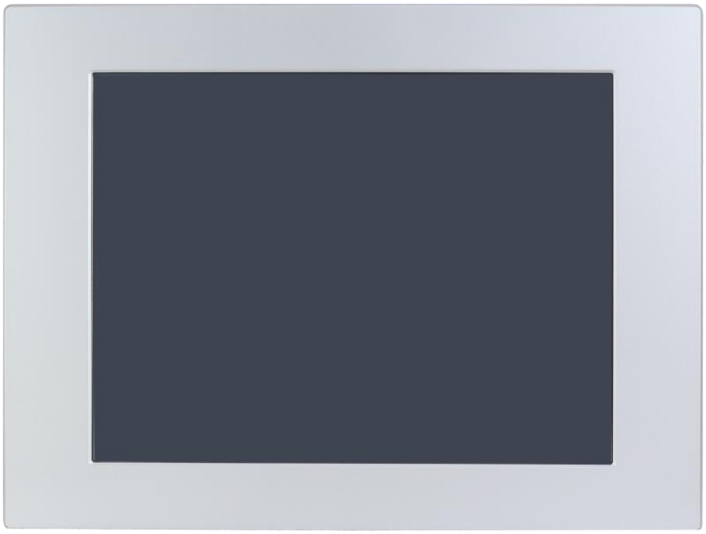

APC-3X14B

15”, 17”, and 19” Intel Bay Trail N2930 Slim Type Panel PC

User Manual

Release Date	Revision
Sep. 2015	V1.0

Aplex Technology, Inc.
15F-1, No.186, Jian Yi Road, Zhonghe District, New Taipei City 235, Taiwan
Tel: 886-2-82262881 Fax: 886-2-82262883 E-mail: aplex@aplex.com.tw URL: www.aplextec.com

Revision History

Reversion	Date	Description
1.0	2015/09/02	Official Version

Warning!_____

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, it may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Electric Shock Hazard – Do not operate the machine with its back cover removed. There are dangerous high voltages inside.

Caution
Risk of explosion if the battery is replaced with an incorrect type.
Batteries should be recycled where possible. Disposal of used batteries must be in accordance with local environmental regulations.

Packing List

Accessories (as ticked) included in this package are:
☐ Adaptor ☐ Driver & manual CD disc ☐ Other._____(please specify)

Safety Precautions

Follow the messages below to prevent your systems from damage:

- Avoid your system from static electricity on all occasions.
- Prevent electric shock. Don‘t touch any components of this card when the card is power-on. Always disconnect power when the system is not in use.
- Disconnect power when you change any hardware devices. For instance, when you connect a jumper or install any cards, a surge of power may damage the electronic components or the whole system.

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1.1 Features

- 15”/17”/19” TFT LED Backlight LCD
- Intel Bay Trail N2930 Processor
- 2 x SO-DIMM DDR3 1333MHz up to 8G
- 1 x 2.5” HDD Space
- Resistive Touch Screen
- IP65 Compliant Front Bezel
- DC 11~32V Wide-ranging Power Input

1.2 Specifications

System	**APC-3514B**	**APC-3714B**	**APC-3914B**
Processor	Intel® Bay Trail N2930 (2M Cache, 1.83GHz) Processor		
System Chipset	SoC		
System Memory	2 x SO-DIMM DDR3 1333MHz, up to 8G		
Graphics	Integrated Intel® HD Graphics		
Storage	1 x 2.5” SATA HDD Space (Easy Accessible Designed)		
LVDS	1 x LVDS 24-bit Dual Channel		
OS Support	Windows 7 Professional for Embedded Systems, Windows 7 Ultimate for Embedded Systems, Windows Embedded 8.1 Pro, Windows Embedded 8.1 Industry Pro		
I/O Ports			
USB	2 x USB 2.0 type A Connector 2 x USB 3.0 type A Connector		
Serial/Parallel	3 x RS-232/422/485 DB-9, COM1/COM2/COM3, Default RS-232		
Audio	1 x Line out, MIC in		
LAN	2 x GbE LAN RJ-45 Connector		
VGA	1 x VGA		
Power	1 x 3-pin DC Power Input 1 x Power Switch on/off		
Digital I/O	1 x 8-pin 3in/3out/VCC/GND terminal block connector for option		
Others	1 x PS2 for KB/Mouse 2 x LED Light for Power and HDD Indication		
Expansion Slots			
Expansion Slots	1 x PCIe x 1 slot 1 x Mini PCIe full size slot onboard for Wifi/BT/3G/GPS option 1 x mSATA slot onboard (shared with m-PCIe)		

Power			
Power Input	DC 11~32V		
Power Consumption	MAX: 27.5W	MAX: 24.1W	MAX: 23.1W
LCD			
Display Type	15” TFT LCD	17” TFT LCD	19” TFT LCD
Max. Resolution	1024 x 768	1280 x 1024	1280 x 1024
Max. Color	16.7M	16.7M	16.7M
Contrast Ratio	800 : 1	1000 : 1	1000: 1
Luminance (cd/m2)	400	350	350
Viewing Angle	160 (H) / 140 (V)	170 (H) / 160 (V)	170 (H) / 160 (V)
Backlight Lifetime	50,000 hrs	30,000 hrs	50,000 hrs
Touch Screen			
Type	Resistive Touch		
Interface	USB Default, RS-232 for option		
Light Transmission	80%		
Mechanical			
Construction	Steel Front Bezel and Chassis		
Chassis Color	Silver		
Mounting	Panel Mount/VESA Mount 75 x 75		Panel Mount/VESA Mount 100 x 100
IP Rating	IP65 Compliant Front Bezel		
Dimension	410 x 310 x 86.5mm	439 x 348 x 83mm	484 x 400 x 83mm
Net Weight	7.1Kg	8.1Kg	9.8Kg
Environmental			
Operating Temperature	0~50 °C		
Storage Temperature	-30~70 °C		
Storage Humidity	10%~90%@ 40℃, non-condensing		
Certificate	Meet CE / FCC Class A		

1.3 Dimentions

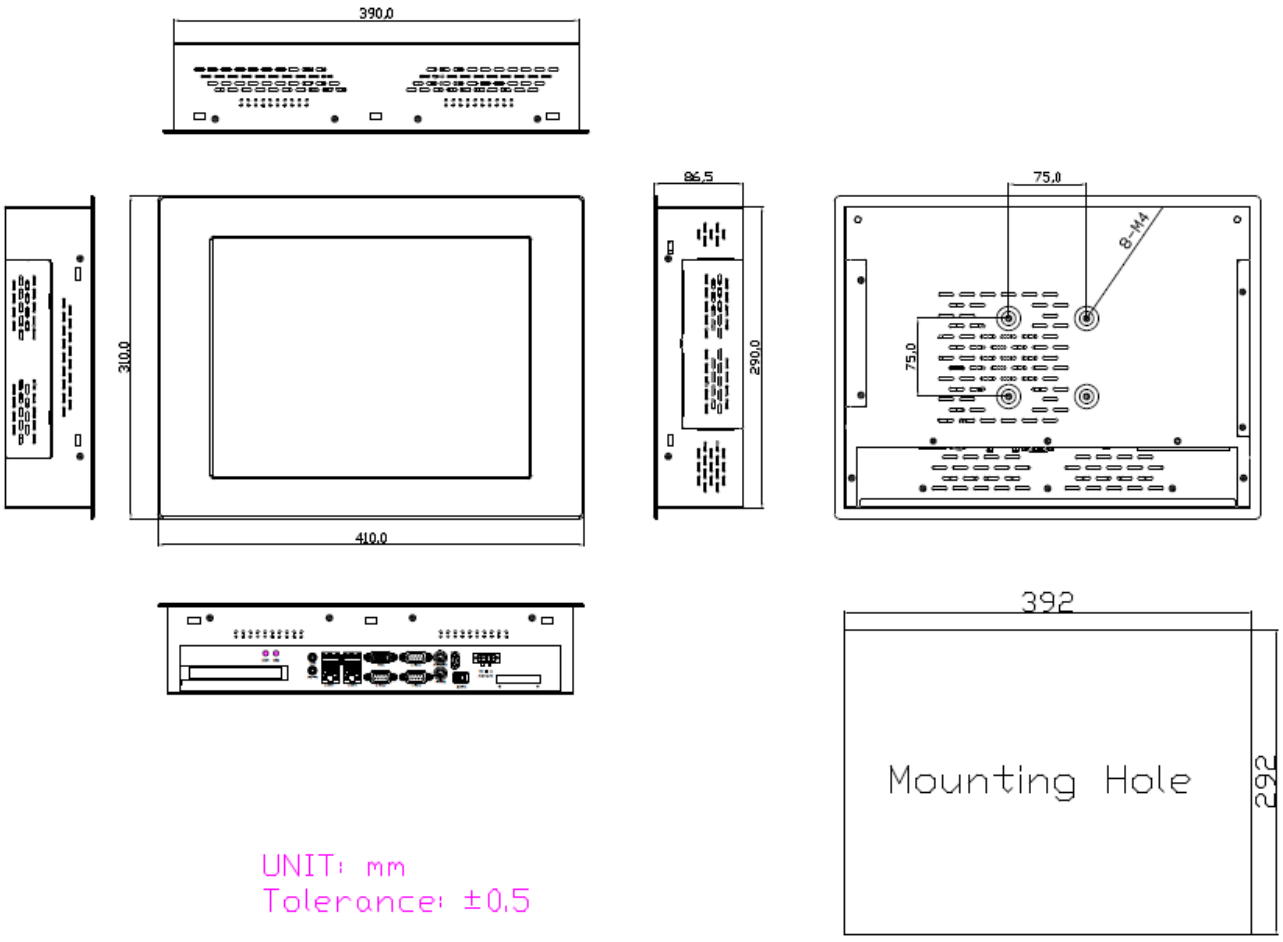


Figure 1.1: Dimensions of APC-3514B

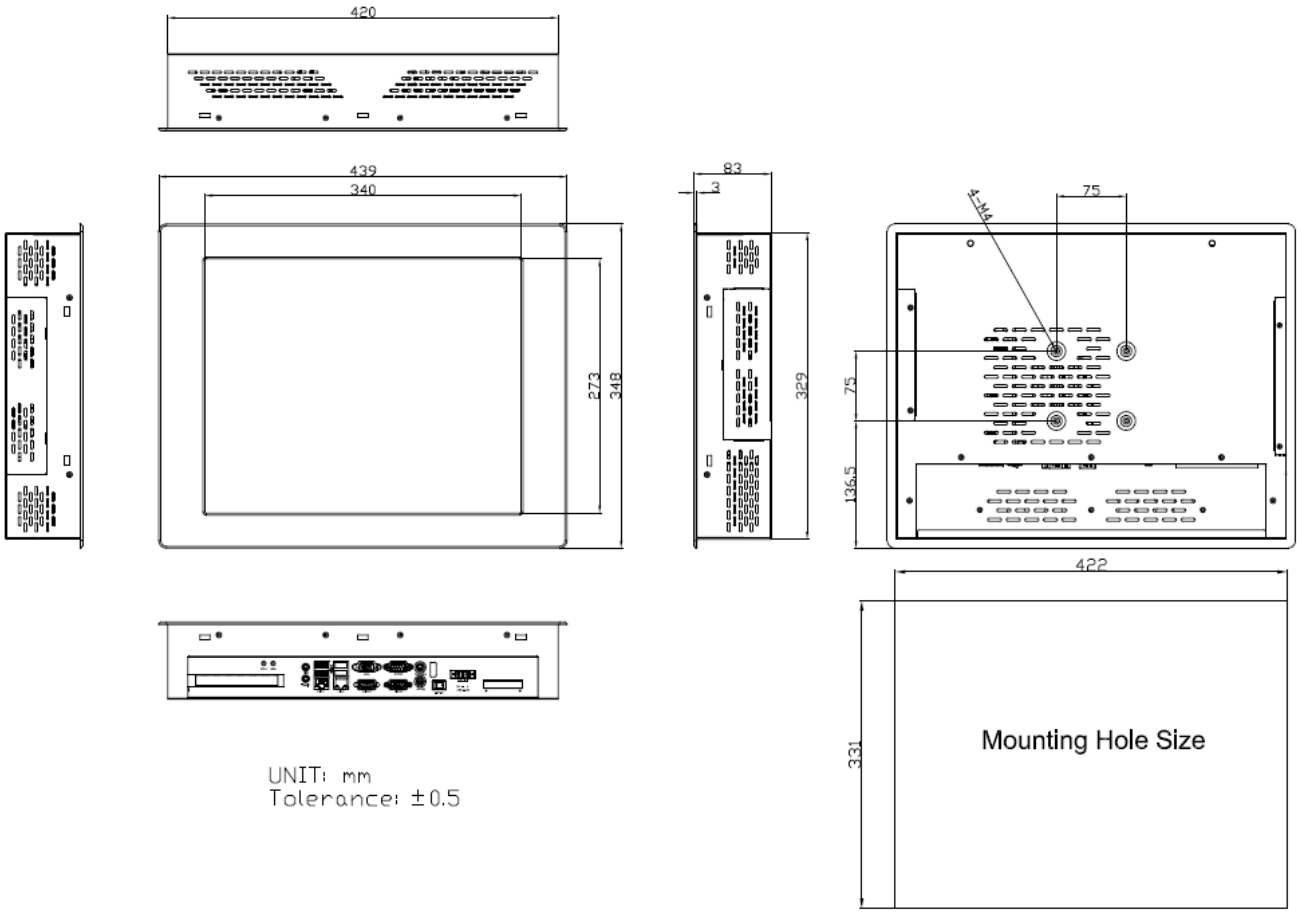


Figure 1.2: Dimensions of APC-3714B

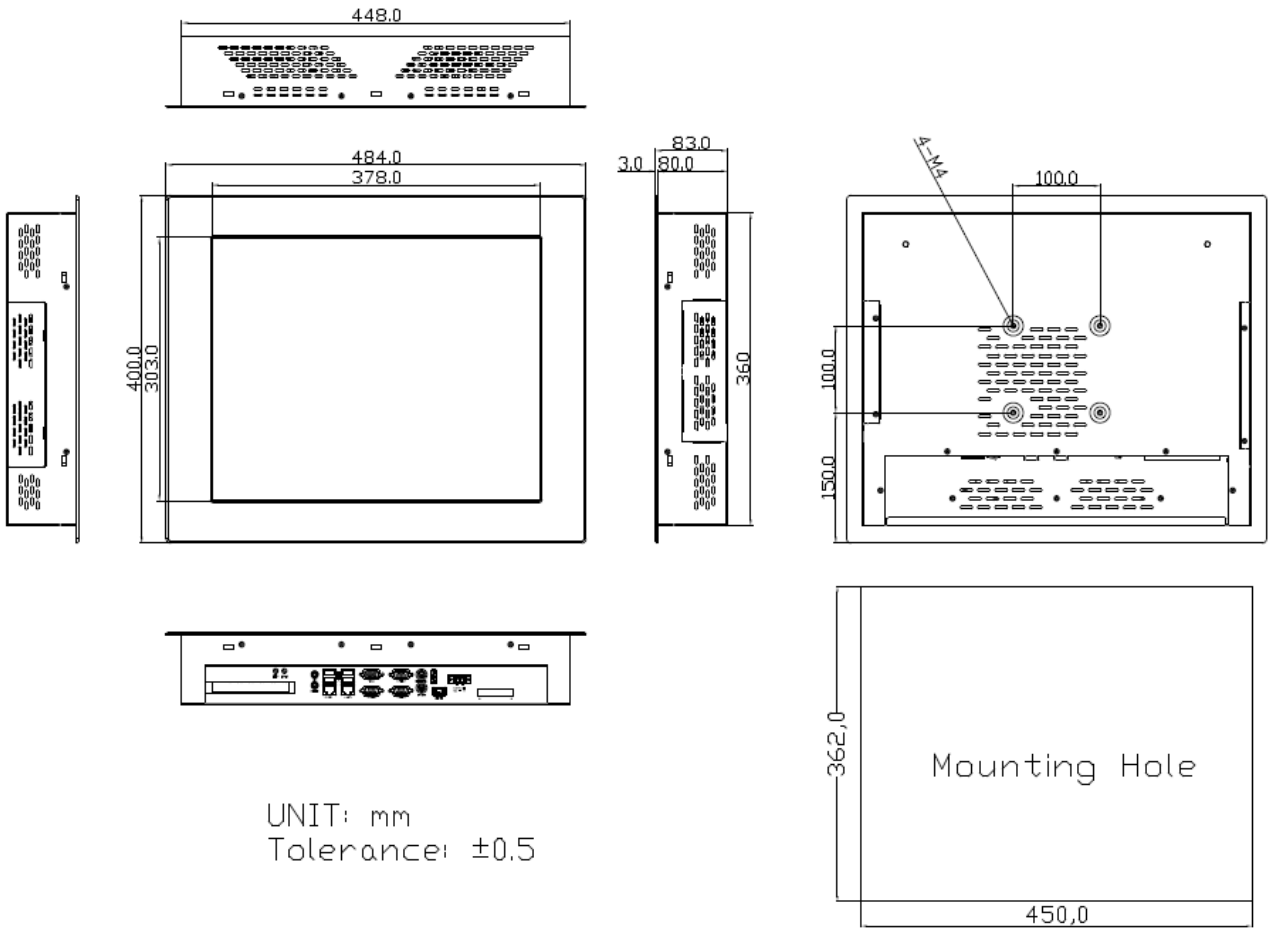


Figure 1.3: Dimensions of APC-3914B

1.4 Brief Description of APC-3X14B

APC-3X14B series come with 15”, 17”, and 19” TFT LED Backlight LCD, IP65 compliant front bezel, and are powered by Intel Bay Trail N2930 (2M Cache, 1.83GHz) processor. The model supports 2 x SO-DIMM DDR3 1333MHz up to 8G memory, and comes with DC 11~32V wide-ranging power input, 1 x 2.5” HDD space, 2 x USB 2.0, 2 x USB 3.0, 3 x RS-232 COM Port. 1 x Line out, 2 x LAN, 1 x PS2 for KB/Mouse, 2 x LED light, and 1 x 8-pin 3in/3out/VCC/GND terminal block connector for option. APC-3X14B is silver steel front bezel and chassis designed, and can be VESA 75 x 75 mounted for 15” and 17”, VESA 100 x 100 mounted for 19”. The panel PC has a variety of functions and peripherals. Regarding the storage capability, APC-3X14B provides 1 x 2.5” SATA HDD space, allowing customers to easily access/backup the data.

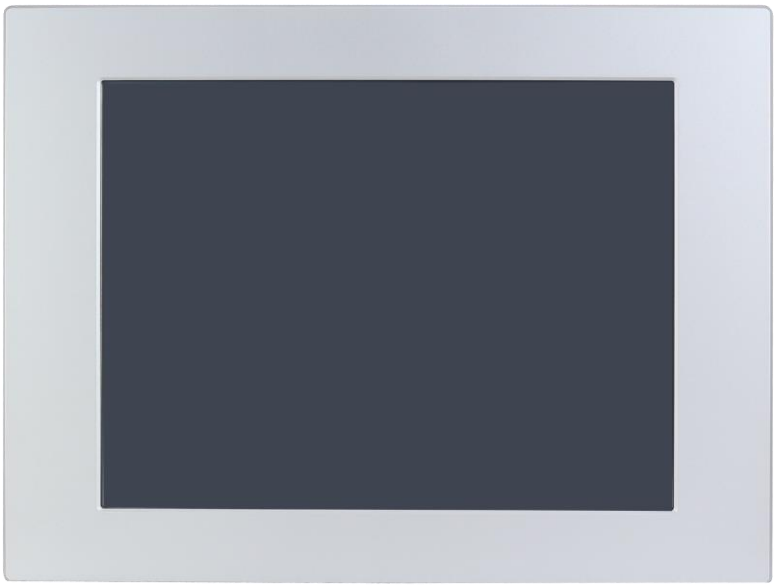


Figure 1.4 Front View of APC-3514B

Figure 1.5: Rear View of APC-3514B

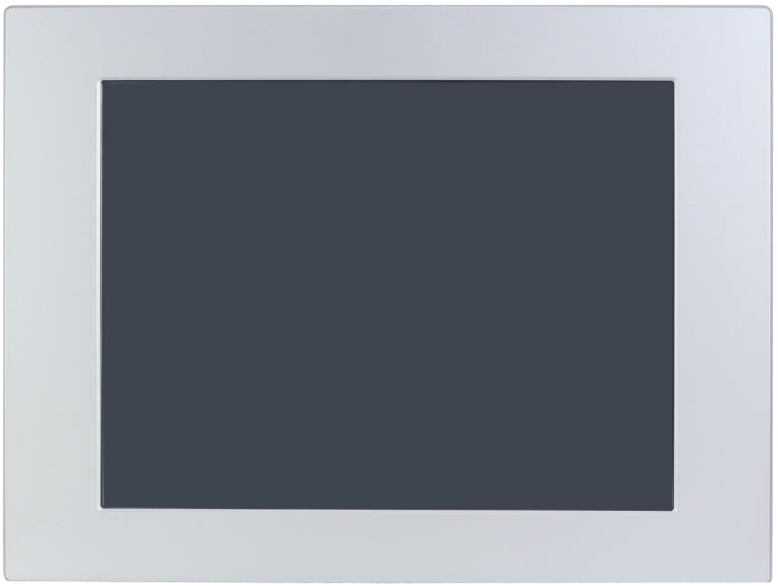


Figure 1.6: Front View of APC-3714B

Figure 1.7: Rear View of APC-3714B

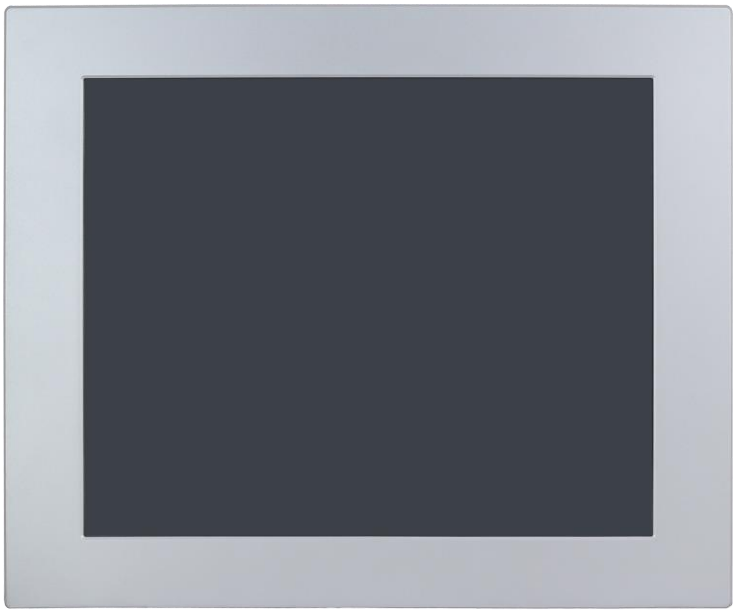
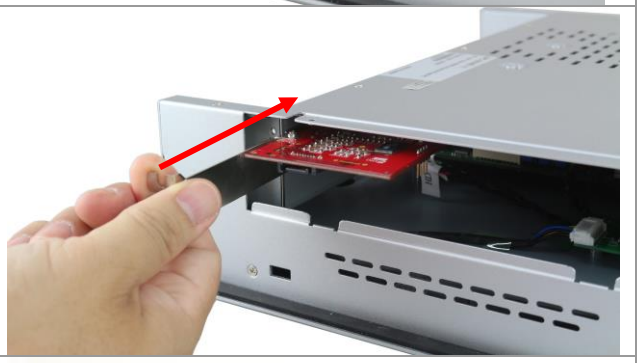


Figure 1.8: Front View of APC-3914B

Figure 1.9: Rear View of APC-3914B

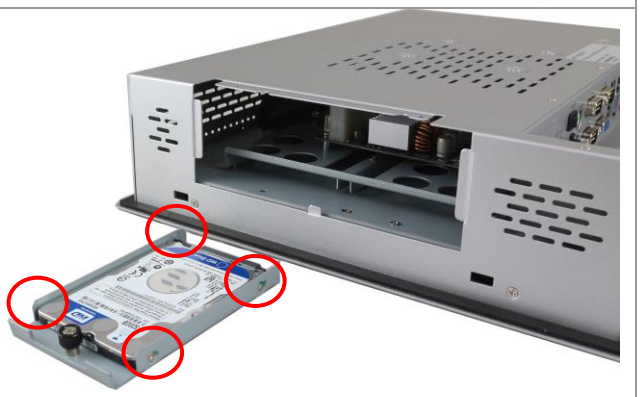
1.5 Installation of Riser Card

Step 1 There are two screws to deal with when enclosing or removing the chassis. Gently remove two screws.	
Step 2 In the picture, it shows there is one screw to deal with. Gently remove the screw.	
Step 3 Pull out the iron sheet, and you can replace the riser card. After replacing the riser card, put it into the chassis.	
Step 4 This is how it looks inside the chassis. The riser card should be aligned with it.	

Step 5 This is how it looks after riser card is installed correctly.	

1.6 Installation of HDD/SSD

Step 1 There are two screws to deal with when enclosing or removing the chassis. Gently remove two screws.	
Step 2 Take off the chassis cover and take it beside the Panel PC.	
Step 3 Unscrew the screw.	

Step 4 Pull the bracket out carefully.	
Step 5 You can replace HDD or SSD by unscrewing four screws as shown in the picture.	

1.7 Panel Mounting of APC-3X14B

The APC-3X14B panel PC is designed to be panel-mounted as shown in Figure 1.10 just carefully place the unit through the hole and tighten the given screws from the rear to secure the mounting.

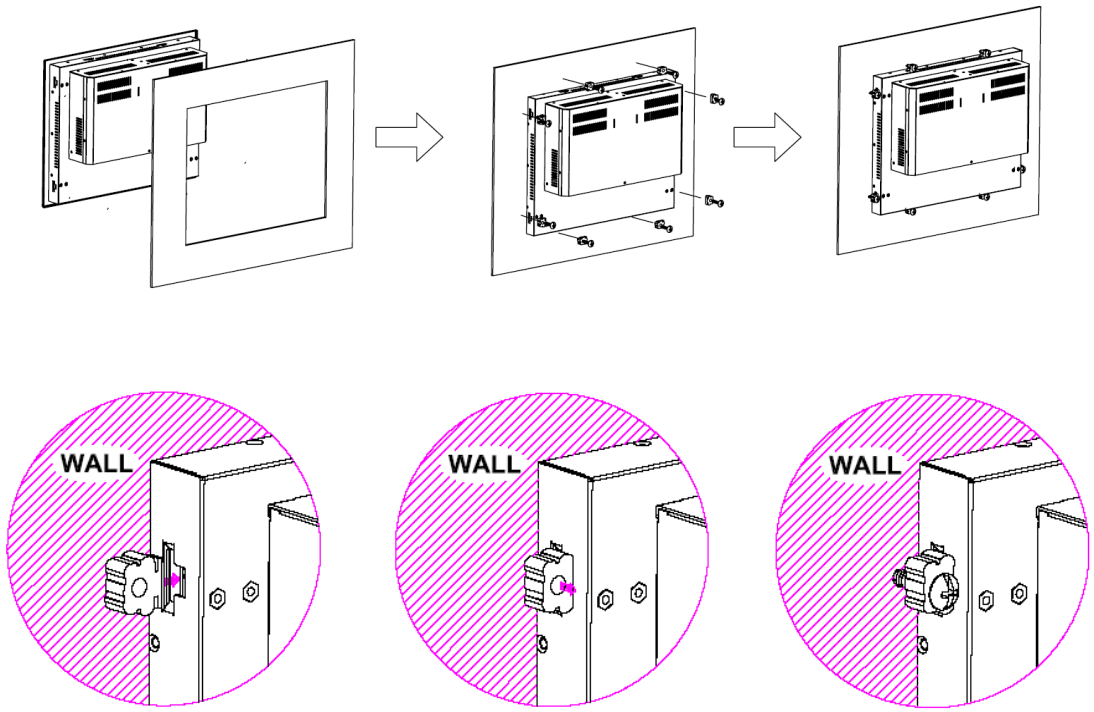


Figure 1.10: Panel mounting of APC-3x14B

Chapter 2 Motherboard

2.1 Motherboard Specifications

	Specifications	
Form Factor	**Dimensions**	Mini-ITX (6.7 –in x 6.7-in)
Processor System	**CPU**	Intel® AtomTM Baytrail-M/D Processor Supports Hyper-Threading technology
	Core Number	4
	Max Speed	(By CPU)
	Cache	2MB
	Chipset	N/A
	BIOS	UEFI
Expansion Slot	**PCI**	0
	Mini-PCIe	1 (Half Size)
	mSATA	1
	PCIe	1
	CFast Card Socket	0
Memory	**Technology**	Dual Channel DDR3L 1333 MHz SDRAM
	Max.	8GB
	Socket	2 x SO-DIMM
Graphics	**Controller**	Intel® Gen. 7 Intel® Graphics DX 11, OGL3.2
	VRAM	Shared Memory
	VGA	Supports Max. resolution 1920 x 1200
	LVDS	Dual Channel 24-bit, max resolution
	HDMI	Supports HDMI 1.4a, max resolution 1920 x 1200
	DVI	No
	DisplayPort	No
	Multi Display	Yes (Dual Display)
Ethernet	**Ethernet**	10/100/1000 Mbps
	Controller	GbE LAN: 2 x Realtek RTL8111G-CG
	Connector	2 x RJ-45

SATA	**Max Data Transfer Rate**	SATA2 (3.0Gb/s)
Rear I/O	**VGA**	1
	DVI	0
	HDMI	1
	DisplayPort	0
	Ethernet	2
	USB	4 (2 x USB 3.0, 2 x USB 2.0)
	Audio	2 (Mic-in, Line0out)
	Serial	3 (RS232/422/485)
	PS/2	2 (1 x keyboard, 1 x mouse)
Internal Connector	**USB**	6 (2 x USB 3.0, 4 x USB 2.0)
	LVDS/Inverter	1/1
	VGA	0
	Serial	2 (RS232)
	SATA	2 x SATA2 (3.0Gb/s)
	mPCIe	1
	Parallel	1
	mSATA	1 (shared)
	IrDA	0
	GPIO 8-bit	4 x GPI + 4 x GPO
	SATA PWO Output Con	1
	Speaker Header	1
Watchdog Timer	**Output**	Output from super I/O to drag RESETCON#
	Interval	256 Segments, 0, 1, 2, …….255 Sec/Min
Power Requirements	**Power On**	AT/ATX Supported -AT : Directly PWR on as power input ready -ATX: Press button to PWR on after power input ready
Environment	**Temperature**	0°C - 60°C

2.2 Motherboard Layout

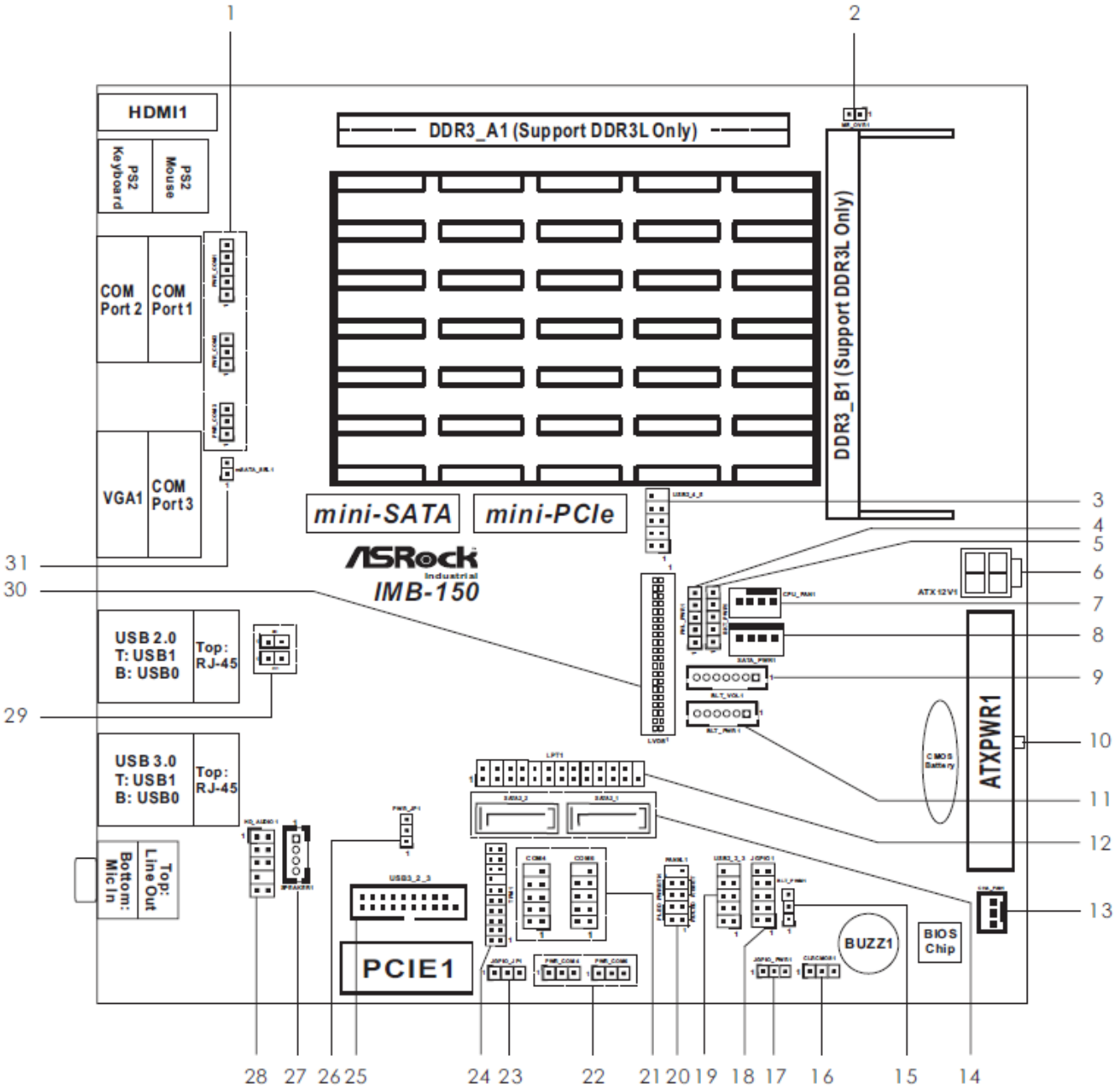
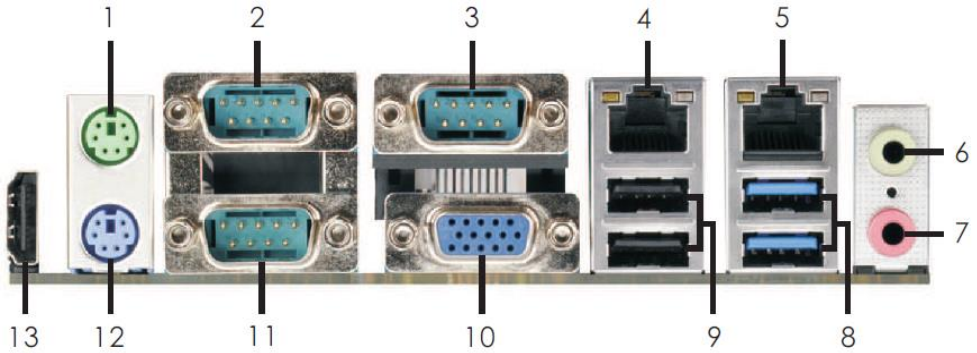


Figure 2.1: Motherboard Layout

1: COM Port PWR Setting Jumpers (PWR_COM1, PWR_COM2, PWR_COM3)
2: ME Override (Security Flash Descriptors)
3: USB 2.0 Connector (USB2_4_5)
4: Panel Power Selection (LCD_VCC) (PNL_PWR1)
5: Backlight Power Selection (LCD_BLT_VCC) (BKT_PWR1)
6: ATX Power Connector
7: 4-pin CPU FAN Connector (+12V)
8: SATA Power Output Connector
9: Backlight Volume Control (BLT_VOL1)
10: 20-pin ATX Power Input Connector
11: Backlight Power Connector (BLT_PWR1)
12: Printer Port Header
13: 3-pin Chassis FAN Connector (+12V)
14: SATA2 Connectors (SATA2_1, SATA2_2)
15: BLT_PWM1 Jumper
16: Clear CMOS Header
17: Digital Input / Output Power Select
18: Digital Input / Output Pin Header
19: USB 2.0 Connector (USB2_2_3)
20: System Panel Header
21: COM4, 6 Headers (RS232)
22: COM Port PWR Setting Jumpers (PWR_COM4, PWR_COM6)
23: JGPIO_JP1 Jumper
24: TPM Header
25: USB 3.0 Connector (USB3_2_3)
26: ATX/AT Mode Selection
27: 3W Audio AMP Output Wafer
28: Front Panel Audio Header
29: Chassis Intrusion Headers (CI1, Cl2)
30: LVDS: Panel Connector
31: mSATA Select

2.3 I/O Panel



1. **PS/2 Mouse Port**
2. **COM Port 1 (COM1)***
3. **COM Port 3 (COM3)***
4. **LAN RJ-45 Port****
5. **LAN RJ-45 Port****
6. **Line out (Green)**
7. **Microphone (Pink)**
8. **USB 3.0 Ports (USB3_0_1)**
9. **USB 2.0 Ports (USB_0_1)**
10. **VGA Port (VGA1)**
11. **COM Port 2 (COM2)***
12. **PS/2 Keyboard Port**
13. **HDMI Port (HDMI1)**

* This motherboard supports RS232/422/485 on COM1~3 ports. Please refer to below table for the pin definition. In addition, COM1~3 ports (RS232/422/485) can be adjusted in BIOS setup utility > Advanced Screen > Super IO Configuration. You may refer to page 31 for details.

COM1~3 Port Pin Definition

PIN	RS232	RS422	RS485
1	DCD	TX-	RTX-
2	RXD	RX+	N/A
3	TXD	TX+	RTX+
4	DTR	RX-	N/A
5	GND	GND	GND
6	DSR	N/A	N/A
7	RTS	N/A	N/A
8	CTS	N/A	N/A
9	COM1: +5V/+12V/+5VSB COM2, 3: +5V/+12V	COM1: +5V/+12V/+5VSB COM2, 3: +5V/+12V	COM1: +5V/+12V/+5VSB COM2, 3: +5V/+12V

**There are two LED next to the LAN port. Please refer to the table below for the LAN port LED indications.

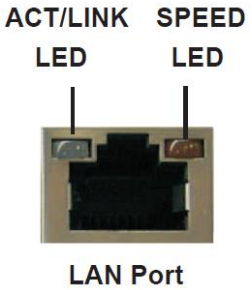
LAN Port LED indications

Activity/Link LED

Status	Description
Off	No Link
Blinking	Data Activity
On	Link

SPEED LED

Status	Description
Off	10Mbps connection
Orange	100Mbps connection
Green	1Gbps connection



2.4 Installation

This is a Mini-ITX form factor (6.7"x6.7", 17.0x17.0 cm) motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard its into it.

Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries to you and damages to motherboard components.

2.4.1 Screw Holes

Place screws into the holes to secure the motherboard to the chassis.

Do not over-tighten the screws! Doing so may damage the motherboard.

2.4.2 Pre-installation Precautions

Take note of the following precautions before you install motherboard components or change any motherboard settings.

1. Unplug the power cord from the wall socket before touching any component.
2. To avoid damaging the motherboard components due to static electricity, NEVER place your motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that comes with the component.

Before you install or remove any component, ensure that the power is switched off or the power cord is detached from the power supply.
Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

2.4.3 Installation of Memory Modules (SO-DIMM)

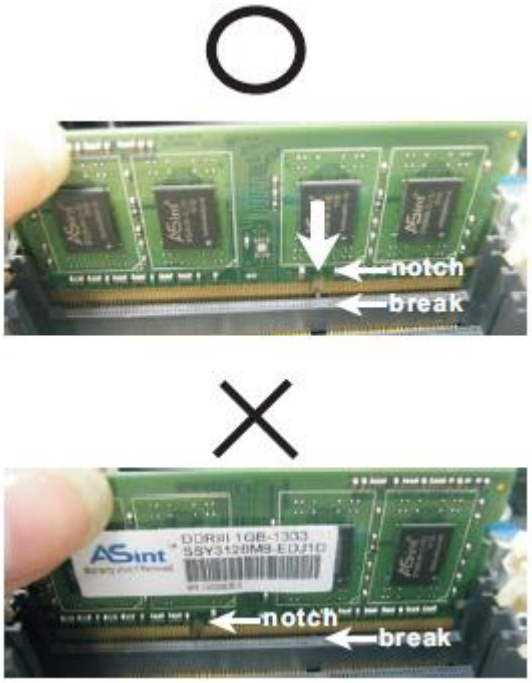
IMB-150 motherboard provides two 204-pin DDR3 (Double Data Rate 3) SO-DIMM slots, which support Dual Channel DDR3L (low voltage).

1. If you install one memory module only, please install it on DDR3_A1.
2. It is not allowed to install a DDR or DDR2 memory module into a DDR3 slot; otherwise, this motherboard and SO-DIMM may be damaged.
2. Please make sure to disconnect the power supply before adding or removing SO-DIMMs or the system components.
3. The SO-DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the SO-DIMM if you force the SO-DIMM into the slot at incorrect orientation.

- **Installing a SO-DIMM (for DDR3_A1)**

Step 1. Unlock a SO-DIMM slot by pressing the retaining clips outward.

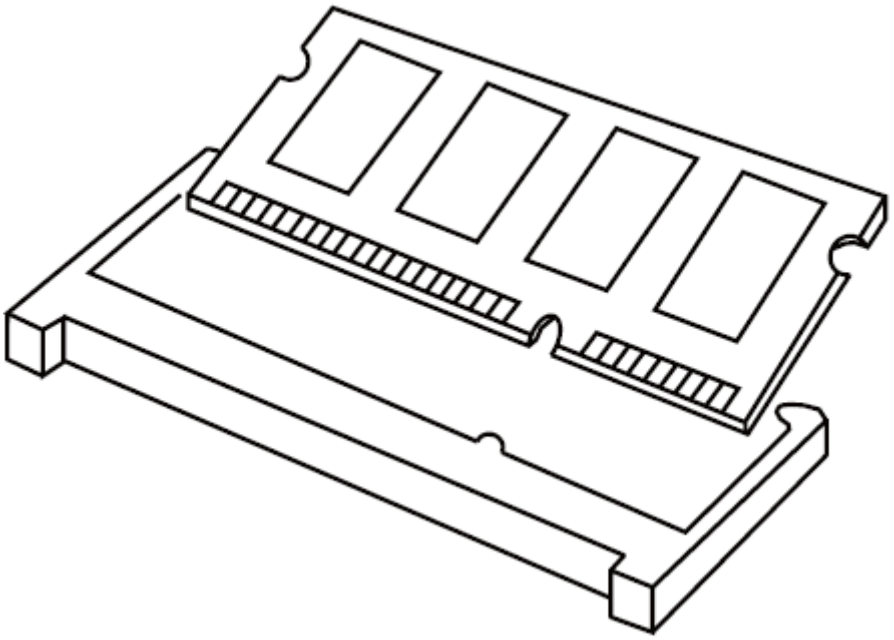
Step 2. Align a SO-DIMM on the slot such that the notch on the SO-DIMM matches the break on the slot.



Step 3. Firmly insert the SO-DIMM into the slot until the retaining clips at both ends fully snap back in place and the SO-DIMM is properly seated.

- **Installing a SO-DIMM (for DDR3_B1)**

Step 1. Align a SO-DIMM on the slot such that the notch on the SO-DIMM matches the break on the slot.



Step 2. Firmly insert the SO-DIMM into the slot until the retaining clips at both ends fully snap back in place and the SO-DIMM is properly seated.

2.4.4 Expansion Slots (mini-PCIe, mini-SATA and PCI Express Slots)

There is 1 mini-PCIe slot, 1 mini-SATA slot and 1 PCI Express slot on the motherboard.

mini-PCIe slot:

MINI_PCIE1 (mini-PCIe slot; half size) is used for PCI Express mini cards.

mini-SATA slot:

MINI_SATA1 (mini-SATA slot; full size) is used for mSATA cards. This mini-SATA slot is shared with the SATA2_2 connector.

PCIE slot:

PCIE1 (PCIE x 1 slot) is used for PCI Express x 1 lane width cards.

- **Installing an expansion card**

Step 1. Before installing the expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.

Step 2. Remove the system unit cover (if your motherboard is already installed in a chassis).

Step 3. Remove the bracket facing the slot that you intend to use. Keep the screws for later use.

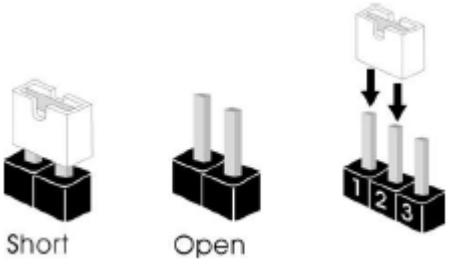
Step 4. Align the card connector with the slot and press irmly until the card Is completely seated on the slot.

Step 5. Fasten the card to the chassis with screws.

Step 6. Replace the system cover.

2.5 Jumpers Setup

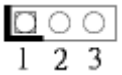
The illustration shows how jumpers are setup. When the jumper cap is placed on pins, the jumper is “Short”. If no jumper cap is placed on pins, the jumper is “Open”. The illustration shows a 3-pin jumper whose pin1 and pin2 are “Short” when jumper cap is placed on these 2 pins.



Clear CMOS Jumper
(CLRCMOS1)
(see p.8, No. 16)

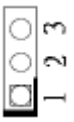
Note: CLRCMOS1 allows you to clear the data in CMOS. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short pin2 and pin3 on CLRCMOS1 for 5 seconds. However, please do not clear the CMOS right after you update the BIOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action. Please be noted that the password, date, time, user default profile and MAC address will be cleared only if the CMOS battery is removed.

Digital Input / Output Power Select
(3-pin JGPIO_PWR1)
(see P.8, No. 17)



1-2: +12V
2-3: +5V

ATX/AT Mode Selection
(3-pin PWR_JP1)
(see p.8, No. 26)



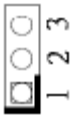
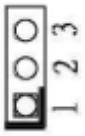
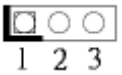
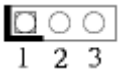
1-2: AT Mode
2-3: ATX Mode

Panel Power Selection (LCD_VCC)
(5-pin PNL_PWR1)
(see p.8, No. 4)

Use this to set up the VDD power of the LVDS connector.
1-2: LVDD: +3V
2-3: LVDD: +5V
4-5: LVDD: +12V

Backlight Power Selection (LCD_BLT_VCC)
(5-pin BKT_PWR1)
(see p.8, No. 5)

Use this to setup the backlight power of the LVDS connector and the panel backlight power of BLT_PWM1.
1-2: LCD_BLT_VCC: +5V
2-3: LCD_BLT_VCC: +12V
4-5: LCD_BLT_VCC: DC_IN

Backlight Control Level (CON_LBKLT_CTL) (3-pin BLT_PWM1) (see p.8, No. 15)		1-2: +3V Level 2-3: +5V Level
COM Port PWR Setting Jumpers (5-pin PWR_COM1, for COM Port1) (see p.8, No. 1)		1-2: +5V 2-3: +12V 3-4: +12V 4-5: +5VSB
(3-pin PWR_COM2, for COM Port2) (3-pin PWR_COM3, for COM Port3) (see p.8, No. 1)		1-2: +5V 2-3: +12V
(3-pin PWR_COM4, for COM Port4) (3-pin PWR_COM6, for COM Port6) (see p.8, No. 22)		1-2: +5V 2-3: +12V
ME Override (Security Flash Descriptors) (2-pin ME_OVR1) (see p.8, No.2)		Short: Override Open: Normal Operation
JGPIO_JP Jumper (3-pin JGPIO_JP1) (see p.8, No. 23)		1-2: High 2-3: Low
mSATA Select (2-pin mSATA_SEL1) (see p.8, No. 31)		Open: For SATA2_2 Close: For m-SATA

2.6 Onboard Headers and Connectors

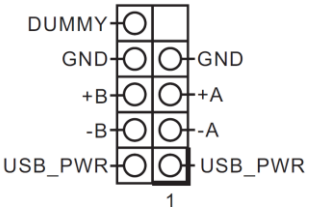
Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage of the motherboard!

SATA2 Connectors
(SATA2_1, SATA2_2: see p.8, No. 14)

These two Serial ATA2 (SATA2) connectors support SATA data cables for internal storage devices. The current SATA2 interface allows up to 3.0 Gb/s data transfer rate.

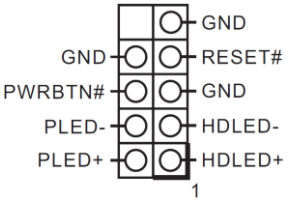
USB 2.0 Connectors
(9-pin USB2_2_3)
(see p.8 No. 19)

(9-pin USB2_4_5)
(see p.8 No. 3)



Besides two default USB 2.0 ports on the I/O panel, there are two USB 2.0 connectors on this motherboard. Each USB 2.0 connector can support two USB ports.

System Panel Header
(9-pin PANEL1)
(see p.8 No. 20)



This header accommodates several system front panel functions.

Connect the power switch, reset switch and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.

PWRBTN (Power Switch):
Connect to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch.

RESET (Reset Switch):
Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.

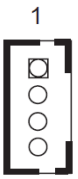
PLED (System Power LED):
Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED keeps blinking when the system is in S1 sleep state. The LED is off when the system is in S3/S4 sleep state or powered off (S5).

HDLED (Hard Drive Activity LED):
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assign-ments are matched correctly.

3W Audio AMP Output Wafer

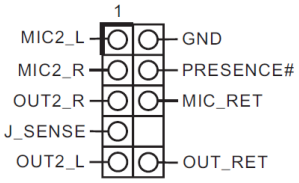
(4-pin SPEAKER1)
(see p.8 No. 27)



PIN	Signal Name
1	OUTLN
2	OUTLP
3	OUTRP
4	OUTRN

Front Panel Audio Header

(9-pin HD_AUDIO1)
(see p.8 No. 28)

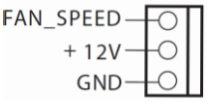


This is an interface for front panel audio cable that allows convenient connection and control of audio devices.

1. High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly. Please follow the instruction in our manual and chassis manual to install your system.
2. If you use AC'97 audio panel, please install it to the front panel audio header as below:
   A. Connect Mic_IN (MIC) to MIC2_L.
   B. Connect Audio_R (RIN) to OUT2_R and Audio_L (LIN) to OUT2_L.
   C. Connect Ground (GND) to Ground (GND).
   D. MIC_RET and OUT_RET are for HD audio panel only. You don't need to connect them for AC'97 audio panel.
   E. To activate the front mic.
   Go to the "FrontMic" Tab in the Realtek Control panel. Adjust "Recording Volume".

Chassis Fan Connector

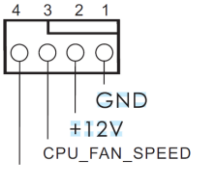
(3-pin CHA_FAN1)
(see p.8 No. 13)



Please connect the fan cable to the fan connector and match the black wire to the ground pin.

CPU Fan Connector

(4-pin CPU_FAN1)
(see p.8 No. 7)



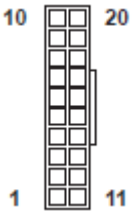
Please connect the CPU fan cable to the connector and match the black wire to the ground pin.

Though this motherboard provides 4-Pin CPU fan (Quiet Fan) support, the 3-Pin CPU fan still can work successfully even without the fan speed control function. If you plan to connect the 3-Pin CPU fan to the CPU fan connector on this motherboard, please connect it to Pin 1-3.

Pin 1-3 Connected

3-Pin Fan Installation

ATX Power Connector
(20-pin ATXPWR1)
(see p.8 No. 10)

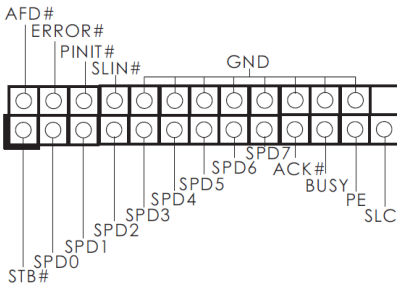


Please connect an ATX power supply to this connector.

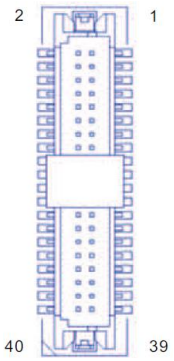
ATX Power Connector
(Input 9V-19V)
(4-pin ATX12V1)
(see p.8 No. 6)

Please connect a DC 9V-12V power supply to this connector.
1-2: GND
3-4: DC Input

Printer Port Header
(25-pin LPT1)
(see p.8 No. 12)

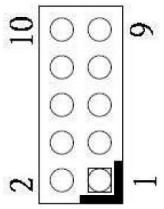


LVDS Connector
(40-pin LVDS1)
(see P.8 No. 30)



PIN	Signal Name	PIN	Signal Name
2	LCD_VCC	1	LCD_VCC
4	LDDC_CLK	3	+3.3V
6	LVDS_A_DATA0#	5	LDDC_DATA
8	GND	7	LVDS_A_DATA0
10	LVDS_A_DATA1	9	LVDS_A_DATA1#
12	LVDS_A_DATA2#	11	GND
14	GND	13	LVDS_A_DATA2
16	LVDS_A_DATA3	15	LVDS_A_DATA3#
18	LVDS_A_CLK#	17	GND
20	GND	19	LVDS_A_CLK
22	LVDS_B_DATA0	21	LVDS_B_DATA0#
24	LVDS_B_DATA1#	23	GND
26	GND	25	LVDS_B_DATA1
28	LVDS_B_DATA2	27	LVDS_B_DATA2#
30	LVDS_B_DATA3#	29	DPLVDD_EN
32	GND	31	LVDS_B_DATA3
34	LVDS_B_BLK	33	LVDS_B_CLK#
36	CON_LBKLT_EN	35	GND
38	LCD_BLT_VCC	37	CON_LBKLT_CTL
40	LCD_BLT_VCC	39	LCD_BLT_VCC

Digital Input / Output Pin Header
(10-pin JGPIO1)
(see p.8 No. 18)



PIN	Signal Name	PIN	Signal Name
10	GND	9	JGPIO_PWR
8	SIO_GP23	7	SIO_GP27
6	SIO_GP22	5	SIO_GP26
4	SIO_GP21	3	SIO_GP25
2	SIO_GP20	1	SIO_GP24

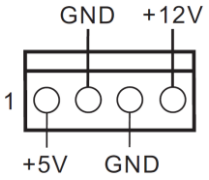
Backlight Volume Control
(7-pin BLT_VOL1)
(see p.8 No. 9)

PIN	Signal Name
1	GPIO_VOL_UP
2	GPIO_VOL_DW
3	PWRDN
4	LVDS1 BLUP
5	LVDS1 BLDW
6	GND
7	GND

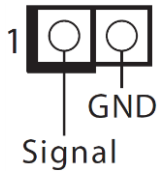
Backlight Power Connector
(6-pin BLT_PWR1)
(see p.8 No. 11)

PIN	Signal Name
1	GND
2	GND
3	BL CTL
4	BL EN
5	LCD_BLT_VCC
6	LCD_BLT_VCC

SATA Power Output Connector
(4-pin SATA_PWR1)
(see p.8 No. 8)

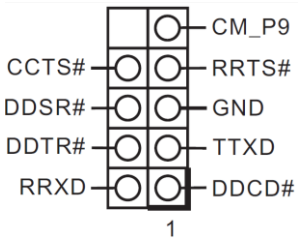


Chassis Intrusion Headers
(2-pin Cl1, Cl2: see p.8, No. 29)

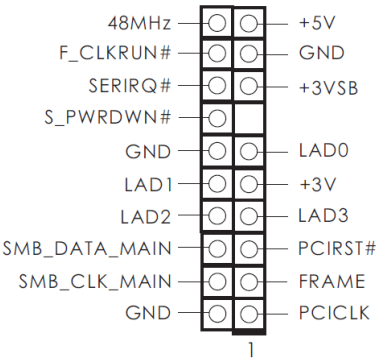


This motherboard supports CASE OPEN detection feature that detects if the chassis cover has been removed. This feature requires a chassis with chassis intrusion detection design.

COM4, 6 Headers (RS232)
(9-pin COM4/COM6: see p.8, No. 21)

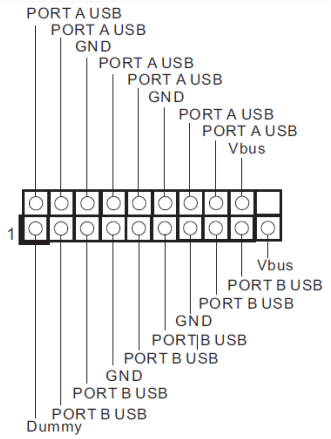


TPM Header
(19-pin TPM1)
(see p.8, No. 24)



This connector supports a Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

USB 3.0 Connector
(19-pin USB3_2_3)
(see p.8 No. 25)



Besides two default USB 3.0 ports on the I/O panel, there is one USB 3.0 connector on this motherboard. This USB 3.0 connector can support two USB ports.

Chapter 3 UEFI SETUP UTILITY

3.1 Introduction

This section explains how to use the UEFI SETUP UTILITY to configure your system. The UEFI chip on the motherboard stores the UEFI SETUP UTILITY. You may run the UEFI SETUP UTILITY when you start up the computer. Please press <F2> or <Del> during the Power-On-Self-Test (POST) to enter the UEFI SETUP UTILITY, otherwise, POST will continue with its test routines. If you wish to enter the UEFI SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.

Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.

3.1.1 UEFI Menu Bar

The top of the screen has a menu bar with the following selections:

Main	To set up the system time/date information
Advanced	To set up the advanced UEFI features
H/W Monitor	To display current hardware status
Security	To set up the security features
Boot	To set up the default system device to locate and load the Operating System
Exit	To exit the current screen or the UEFI SETUP UTILITY

Use <←> key or <→> key to choose among the selections on the menu bar, and then press <Enter> to get into the sub screen. You can also use the mouse to click your required item.

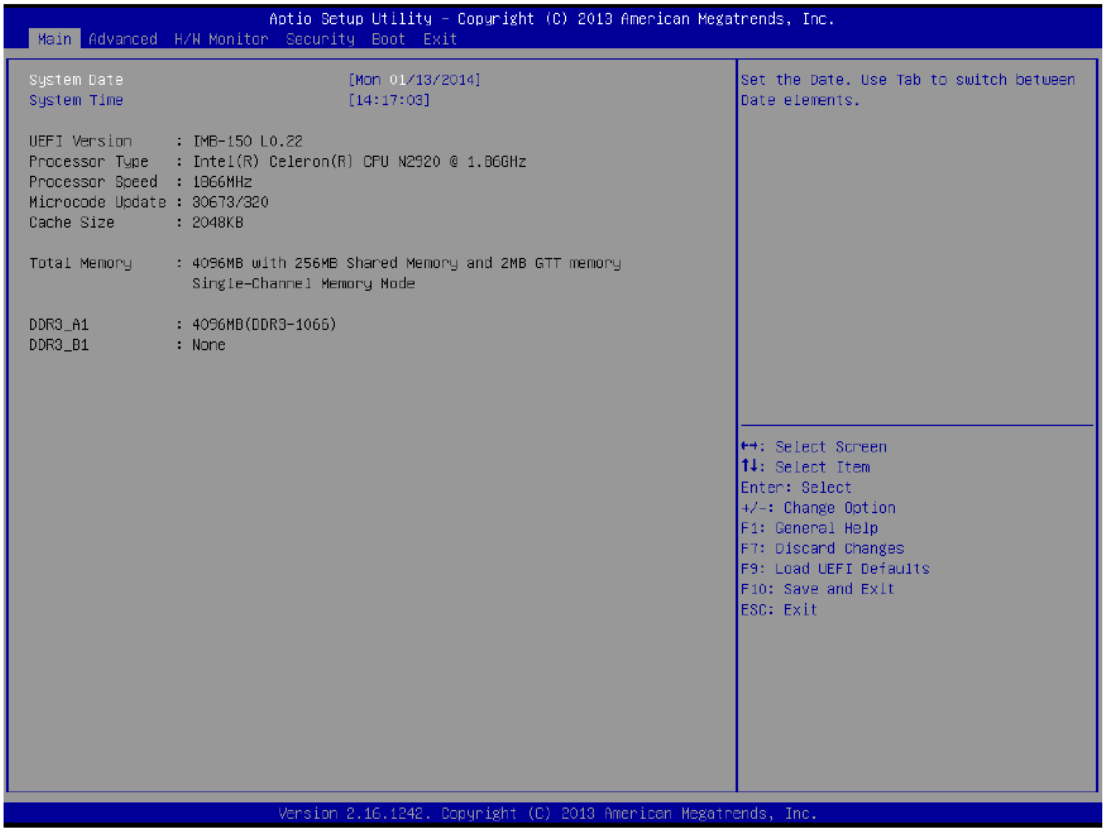
3.1.2 Navigation Keys

Please check the following table for the function description of each navigation key.

Navigation Key(s)	Function Description
←/→	Moves cursor left or right to select Screens
↑ / ↓	Moves cursor up or sown to select items
+/-	To change option for the selected items
<Enter>	To bring up the selected screen
<F1>	To display the General Help Screen
<F7>	Discard changes
<F9>	To load optimal default values for all the setting
<F10>	To save changes and exit the UEFI SETUP UTILITY
<F12>	Print screen
<ESC>	To jump to the Exit Screen or exit the current screen

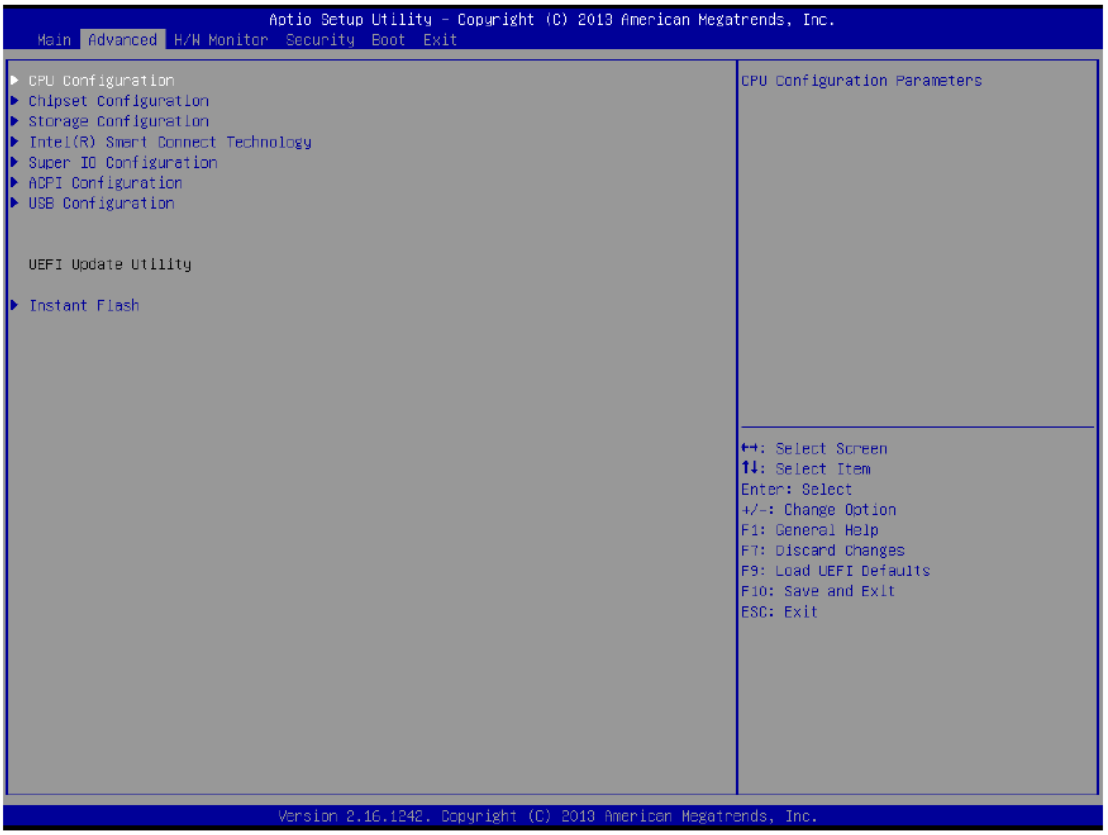
3.2 Main Screen

When you enter the UEFI SETUP UTILITY, the Main screen will appear and display the system overview.



3.3 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Chipset Configuration, Storage Configuration, Intel(R) Smart Connect Technology, Super IO Configuration, ACPI Configuration and USB Configuration.

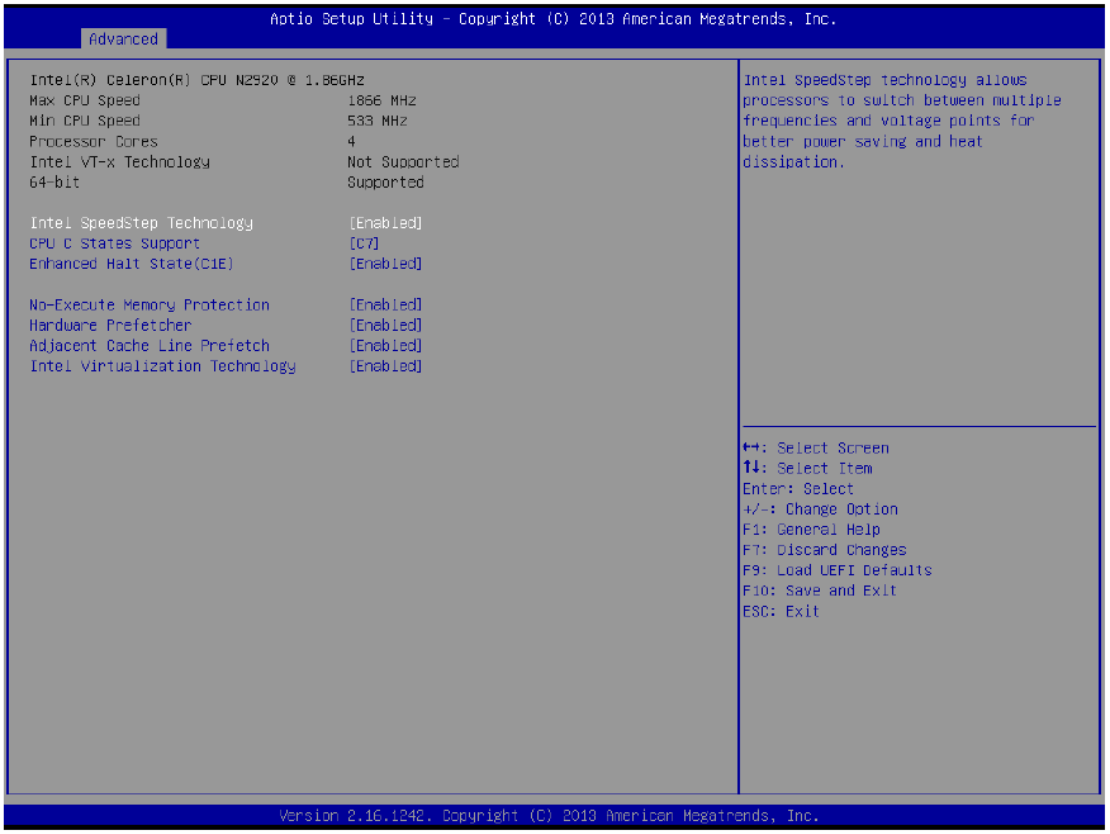


Setting wrong values in this section may cause the system to malfunction.

Instant Flash

Instant Flash is a UEFI flash utility embedded in Flash ROM. This convenient UEFI update tool allows you to update system UEFI without entering operating systems first like MS-DOS or Windows®. Just launch this tool and save the new UEFI file to you USB flash drive, floppy disk or hard drive, then you can update your UEFI only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system. If you execute Instant Flash utility, the utility will show the UEFI files and their respective information. Select the proper UEFI file to update your UEFI, and reboot your system after UEFI update process completes.

3.3.1 CPU Configuration



Intel SpeedStep Technology

Intel SpeedStep technology is Intel's new power saving technology. Processors can switch between multiple frequencies and voltage points to enable power saving. The default value is [Enabled]. Configuration options: [Enabled] and [Disabled]. If you install Windows® 8 / 8.1 and want to enable this function, please set this item to [Enabled]. This item will be hidden if the current CPU does not support Intel SpeedStep technology.

Please note that enabling this function may reduce CPU voltage and lead to system stability or compatibility issues with some power supplies. Please set this item to [Disabled] if above issues occur.

CPU C States Support

Enable CPU C States Support for power saving. It is recommended to keep C3, C6 and C7 all enabled for better power saving.

Enhanced Halt State (C1E)

Enable Enhanced Halt State (C1E) for lower power consumption.

No-Execute Memory Protection

No-Execution (NX) Memory Protection Technology is an enhancement to the IA-32 Intel Architecture. An IA-32 processor with "No Execute (NX) Memory Protection" can prevent data pages from being used by malicious software to execute codes. This option will be hidden if the current CPU does not support No-Excute Memory Protection.

Hardware Prefetcher

Use this item to turn on/off the MLC streamer prefetcher.

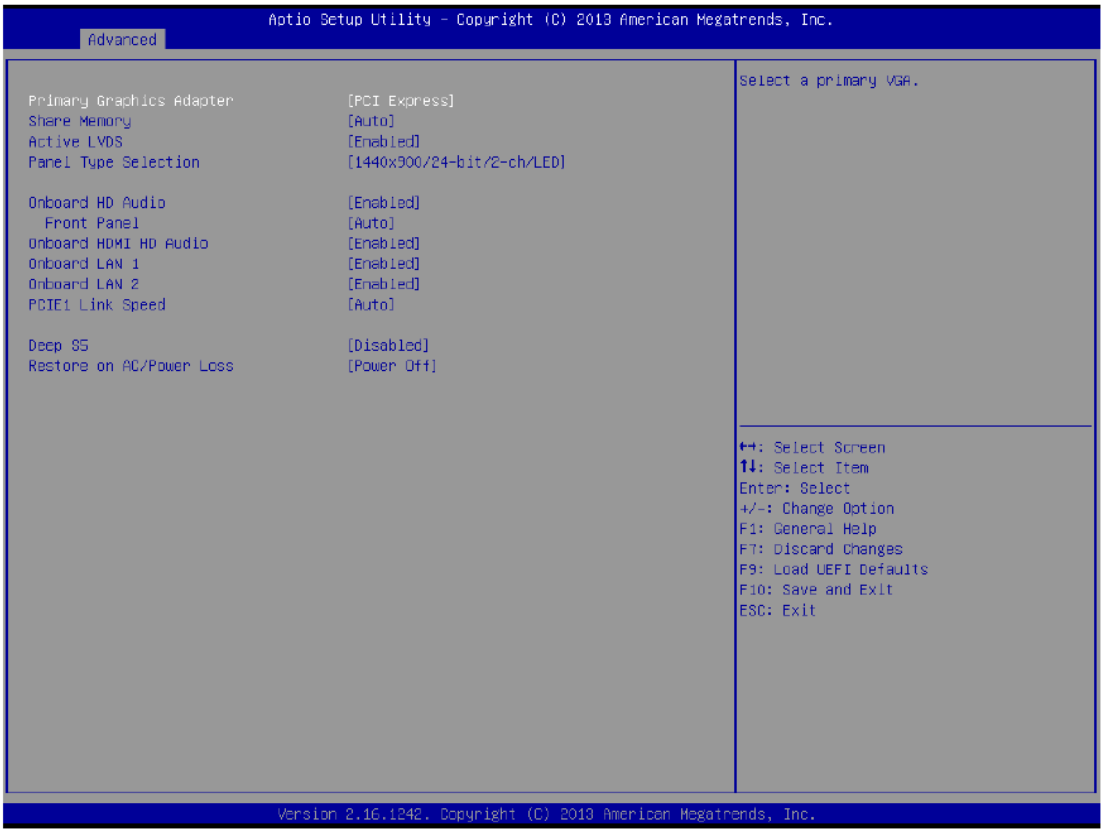
Adjacent Cache Line Prefetch

Use this item to turn on/off prefetching of adjacent cache lines.

Intel Virtualization Technology

When this option is set to [Enabled], a VMM (Virtual Machine Architecture) can utilize the additional hardware capabilities provided by Vanderpool Technology. This option will be hidden if the installed CPU does not support Intel Virtualization Technology.

3.3.2 Chipset Configuration



Primary Graphics Adapter

This allows you to select [Onboard] or [PCI Express] as the boot graphic adapter priority. The default value is [PCI Express].

Share Memory

Configure the size of memory that is allocated to the integrated graphics processor when the system boots up.

Active LVDS

Use this to enable or disable the LVDS. The default value is [Enabled].

Panel Type Selection

Use this to select panel type.

Onboard HD Audio

Select [Auto], [Enabled] or [Disabled] for the onboard HD Audio feature.

Front Panel

Select [Auto] or [Disabled] for the onboard HD Audio Front Panel.

Onboard HDMI HD Audio

This allows you to enable or disable the Onboard HDMI HD Audio feature.

Onboard LAN 1

This allows you to enable or disable the Onboard LAN 1 feature.

Onboard LAN 2

This allows you to enable or disable the Onboard LAN 2 feature.

PCIE1 Link Speed

Select the link speed for PCIE1.

Deep S5

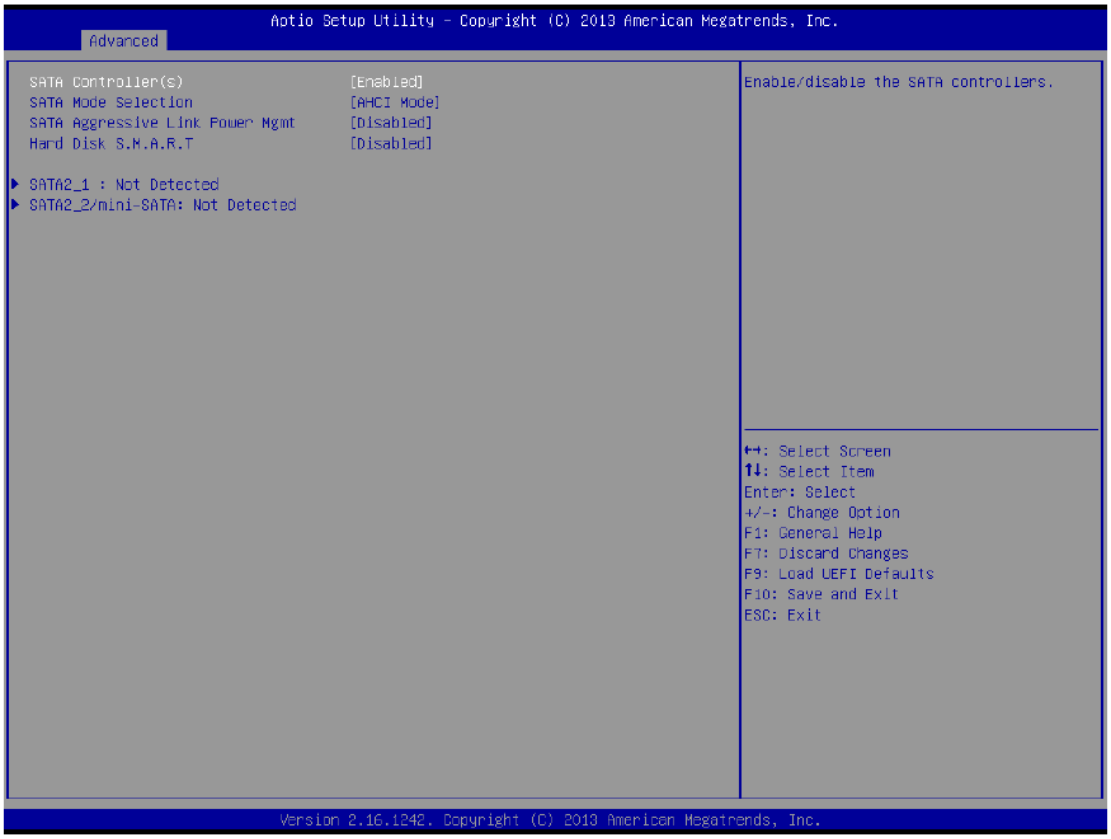
Mobile platforms support Deep S5 in DC only and desktop platforms support Deep S5 in AC only. The default value is [Disabled].

Restore on AC/Power Loss

This allows you to set the power state after an unexpected AC/power loss.

If [Power Off] is selected, the AC/power remains off when the power recovers. If [Power On] is selected, the AC/power resumes and the system starts to boot up when the power recovers. If [LAST STATE] is selected, the AC/power restores to the last power state when the power recovers.

3.3.3 Storage Configuration



SATA Controller(s)

Use this item to enable or disable the SATA Controller feature.

SATA Mode Selection

Use this to select SATA mode. Configuration options: [IDE Mode], [AHCI Mode] and [Disabled]. The default value is [AHCI Mode].

AHCI (Advanced Host Controller Interface) supports NCQ and other new features that will improve SATA disk performance but IDE mode does not have these advantages.

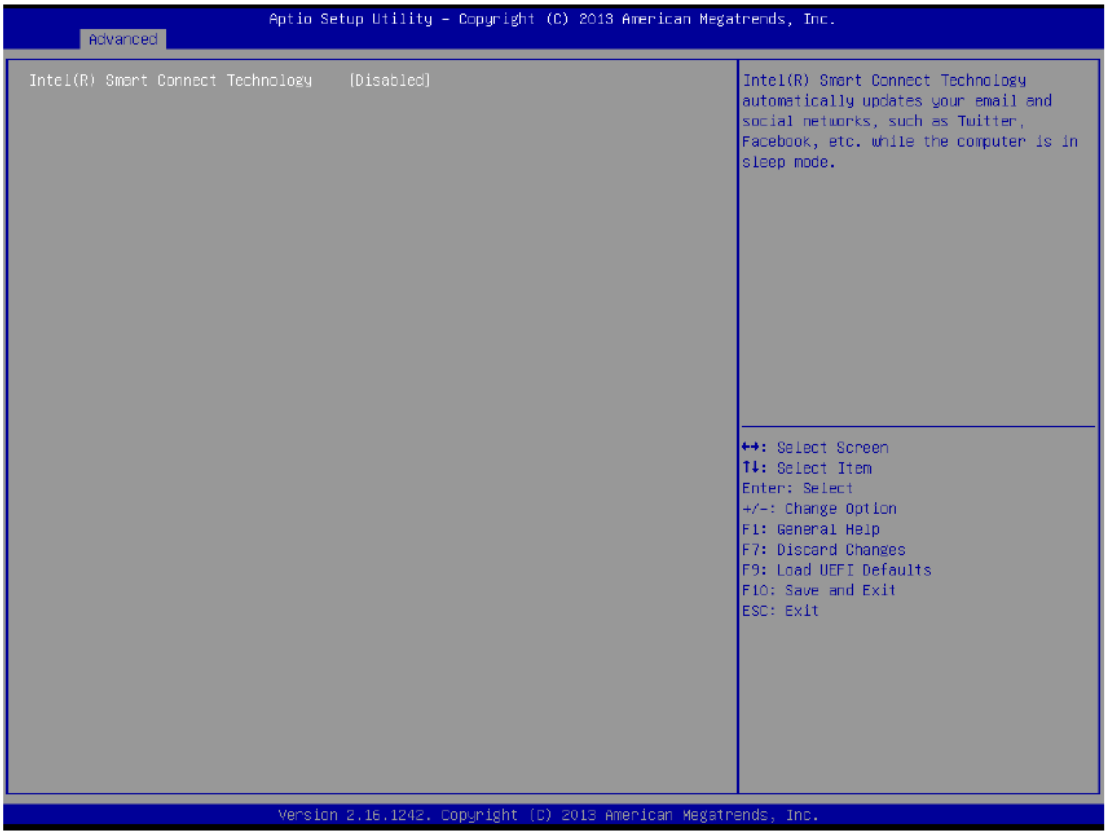
SATA Aggressive Link Power Management

Use this item to conigure SATA Aggressive Link Power Management.

Hard Disk S.M.A.R.T.

Use this item to enable or disable the S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) feature. Coniguration options: [Disabled] and [Enabled].

3.3.4 Intel(R) Smart Connect Technology

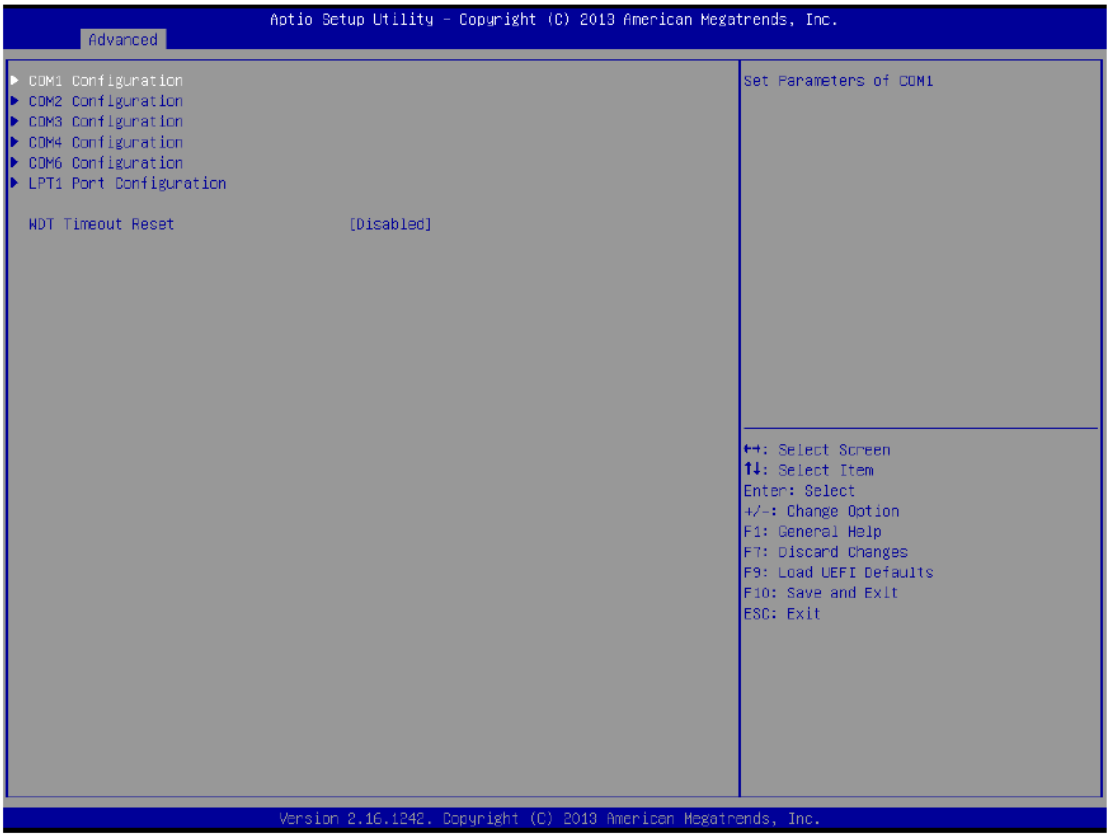


Intel(R) Smart Connect Technology

Use this item to enable or disable Intel(R) Smart Connect Technology.

Intel(R) Smart Connect Technology keeps your e-mail and social networks, such as Twitter, Facebook, etc. updated automatically while the computer is in sleep mode. The default is [Enabled].

3.3.5 Super IO Configuration



COM1 Coniguration

Use this to set parameters of COM1. Select COM1 port type: [RS232], [RS422] or [RS485].

COM2 Coniguration

Use this to set parameters of COM2. Select COM2 port type: [RS232], [RS422] or [RS485].

COM3 Coniguration

Use this to set parameters of COM3. Select COM3 port type: [RS232], [RS422] or [RS485].

COM4 Coniguration

Use this to set parameters of COM4.

COM6 Coniguration

Use this to set parameters of COM6.

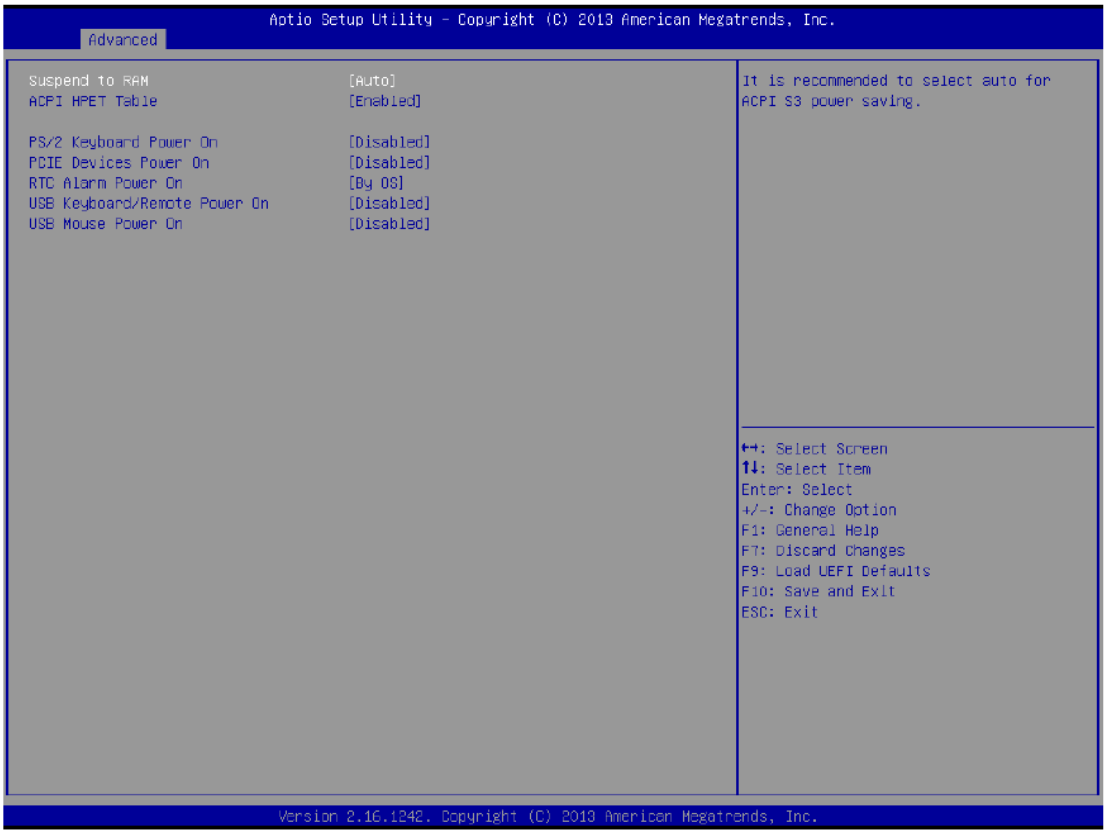
LPT1 Port Coniguration

Use this set parameters of the onboard parallel port.

WDT Timeout Reset

This allows users to enable/disable the Watch Dog Timer timeout to reset system. The default value is [Disabled].

3.3.6 ACPI Configuration



Suspend to RAM

Use this item to select whether to auto-detect or disable the Suspend-to- RAM feature. Select [Auto] will enable this feature if the OS supports it.

ACPI HPET Table

Use this item to enable or disable ACPI HPET Table. The default value is [Enabled]. Please set this option to [Enabled] if you plan to use this motherboard to submit WindowsR certiication.

PS/2 Keyboard Power On

Use this item to enable or disable PS/2 keyboard to turn on the system from the power-soft-off mode.

PCIE Devices Power On

Use this item to enable or disable PCIE devices to turn on the system from the power-soft-off mode.

RTC Alarm Power On

Use this item to enable or disable RTC (Real Time Clock) to power on the system.

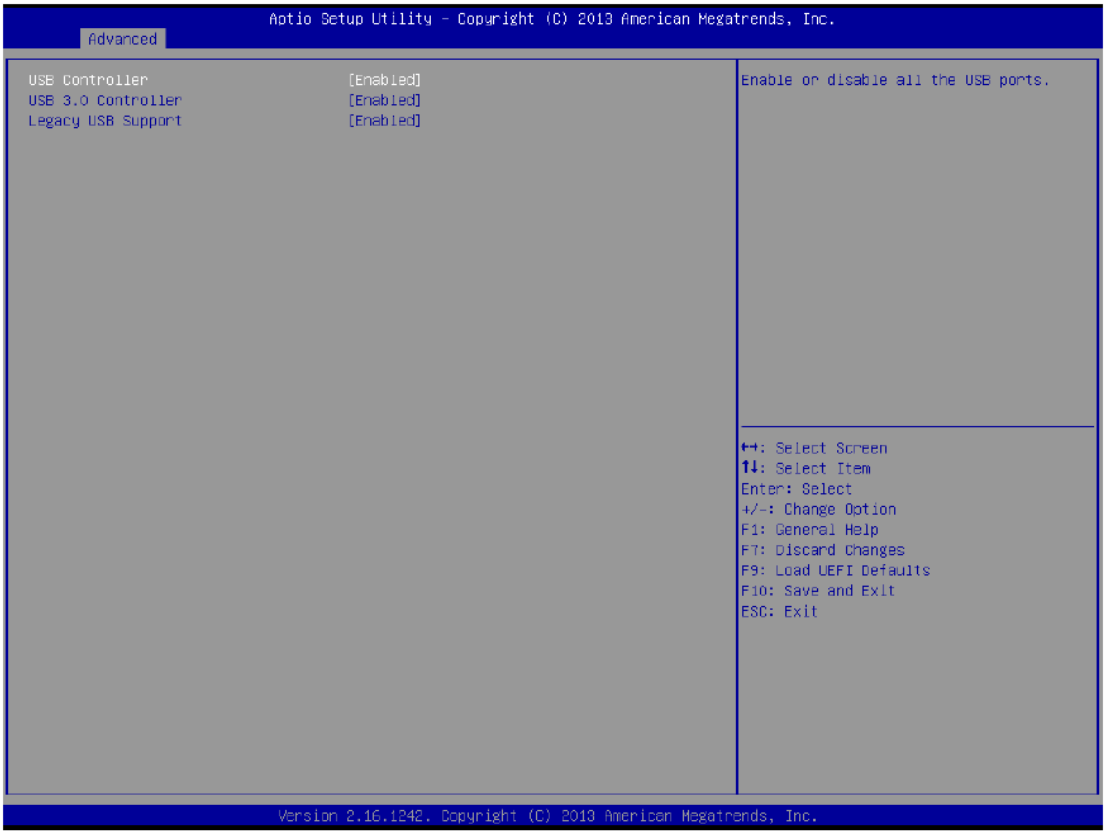
USB Keyboard/Remote Power On

Use this item to enable or disable USB Keyboard/Remote to power on the system.

USB Mouse Power On

Use this item to enable or disable USB Mouse to power on the system.

3.3.7 USB Configuration



USB Controller

Use this item to enable or disable the use of USB controller.

USB 3.0 Controller

Use this item to enable or disable the use of USB 3.0 controller.

Legacy USB Support

Use this option to select legacy support for USB devices. There are four coniguration options: [Enabled], [Auto] and [UEFI Setup Only]. The default value is [Auto]. Please refer to below descriptions for the details of these four options:

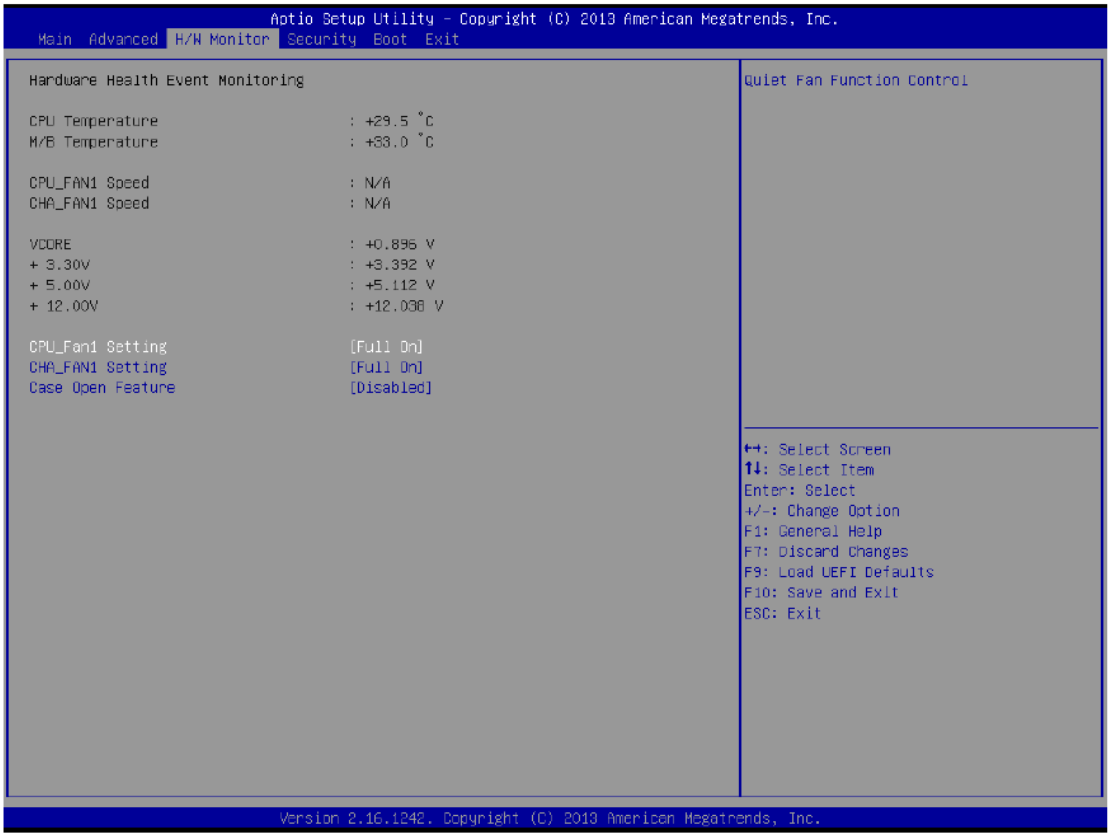
[Enabled] - Enables support for legacy USB.

[Auto] - Enables legacy support if USB devices are connected.

[UEFI Setup Only] - USB devices are allowed to use only under UEFI setup and Windows / Linux OS.

3.4 Hardware Health Event Monitoring Screen

In this section, it allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, CPU fan speed, chassis fan speed, and the critical voltage.



CPU_FAN1 Setting

This allows you to set CPU_FAN1's speed. Configuration options: [Full On] and [Automatic Mode]. The default value is [Full On].

CHA_FAN1 Setting

This allows you to set CHA_FAN1's speed. Configuration options: [Full On] and [Automatic Mode]. The default value is [Full On].

Case Open Feature

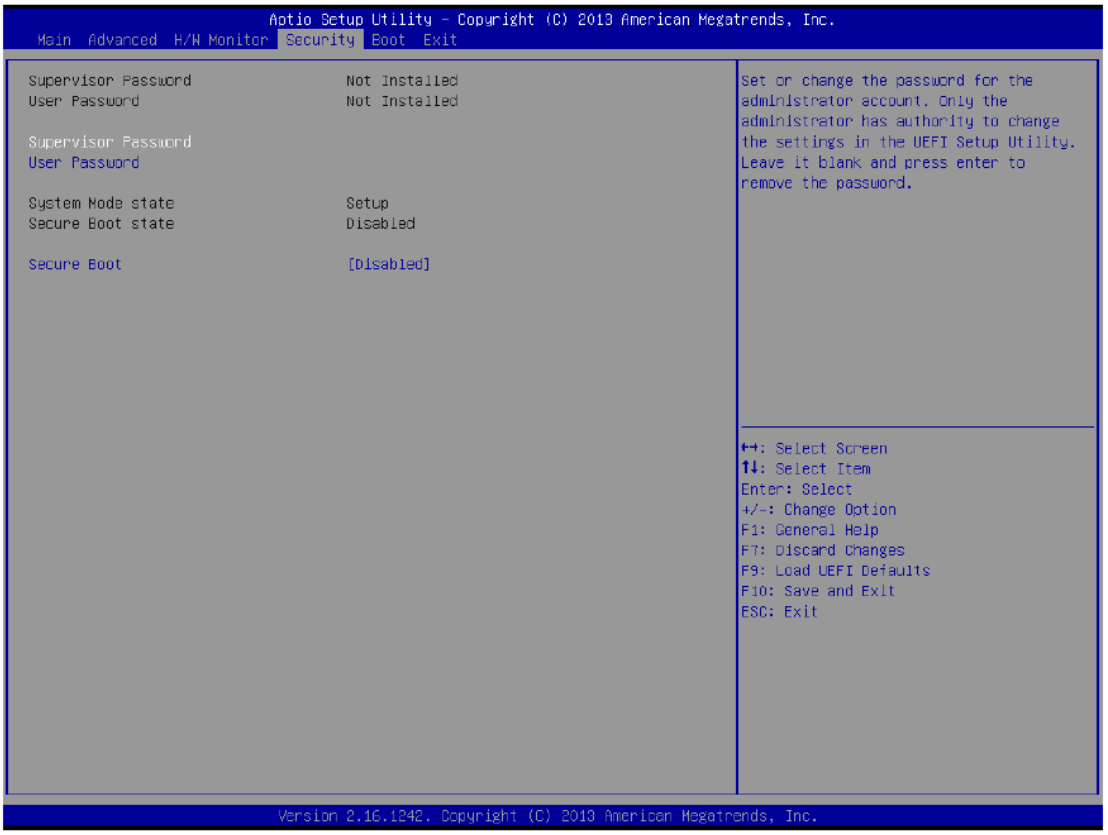
This allows you to enable or disable case open detection feature. The default is value [Disabled].

Clear Status

This option appears only when the case open has been detected. Use this option to keep or clear the record of previous chassis intrusion status.

3.5 Security Screen

In this section, you may set, change or clear the supervisor/user password for the system.



Supervisor Password

Set or change the password for the administrator account. Only the administrator has authority to change the settings in the UEFI Setup Utility.

Leave it blank and press enter to remove the password.

User Password

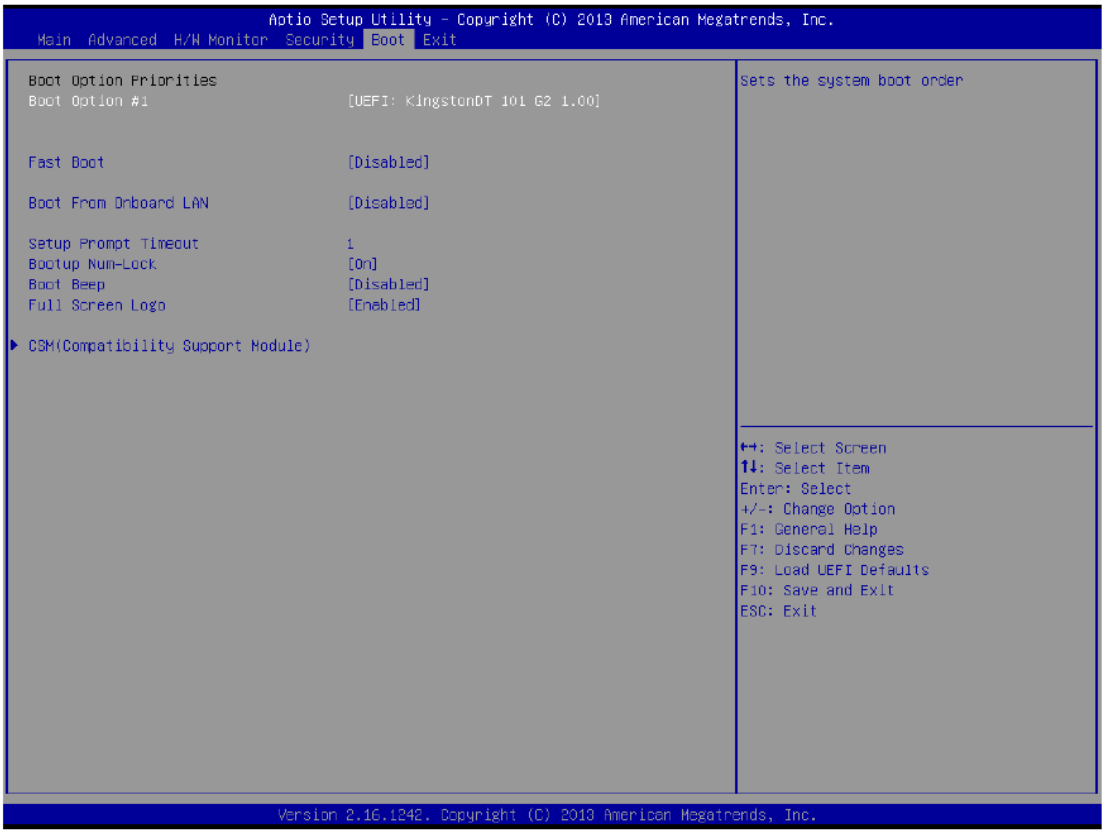
Set or change the password for the user account. Users are unable to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

Secure Boot

Enable to support Windows 8 64-bit Secure Boot.

3.6 Boot Screen

In this section, it will display the available devices on your system for you to configure the boot settings and the boot priority.



Fast Boot

Fast Boot minimizes your computer's boot time. There are three configuration options: [Disabled], [Fast] and [Ultra Fast]. The default value is [Disabled]. Please refer to below descriptions for the details of these three options:

[Disabled] - Disable Fast Boot.

[Fast] - The only restriction is you may not boot by using an USB lash drive.

[Ultra Fast] - There are a few restrictions.

1. Only supports WindowsR 8 64-bit UEFI operating system.
2. You will not be able to enter BIOS Setup (Clear CMOS or run utility in WidowsR to enter BIOS Setup).
3. If you are using an external graphics card, the VBIOS must support UEFI GOP in order to boot.

Boot From Onboard LAN

Use this item to enable or disable the Boot From Onboard LAN feature.

Setup Prompt Timeout

This shows the number of seconds to wait for setup activation key.

Bootup Num-Lock

If this item is set to [On], it will automatically activate the Numeric Lock function after boot-up.

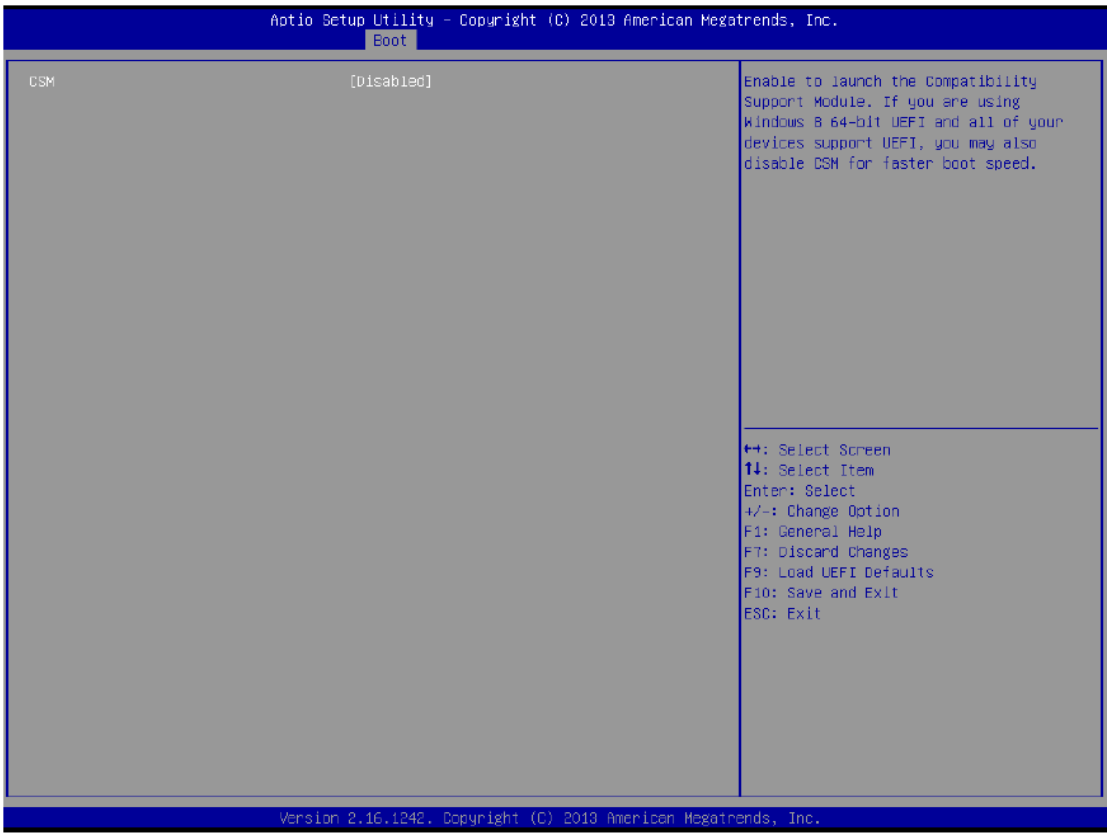
Boot Beep

Select whether the Boot Beep should be turned on or off when the system boots up. Please note that a buzzer is needed.

Full Screen Logo

Use this item to enable or disable OEM Logo. The default value is [Enabled].

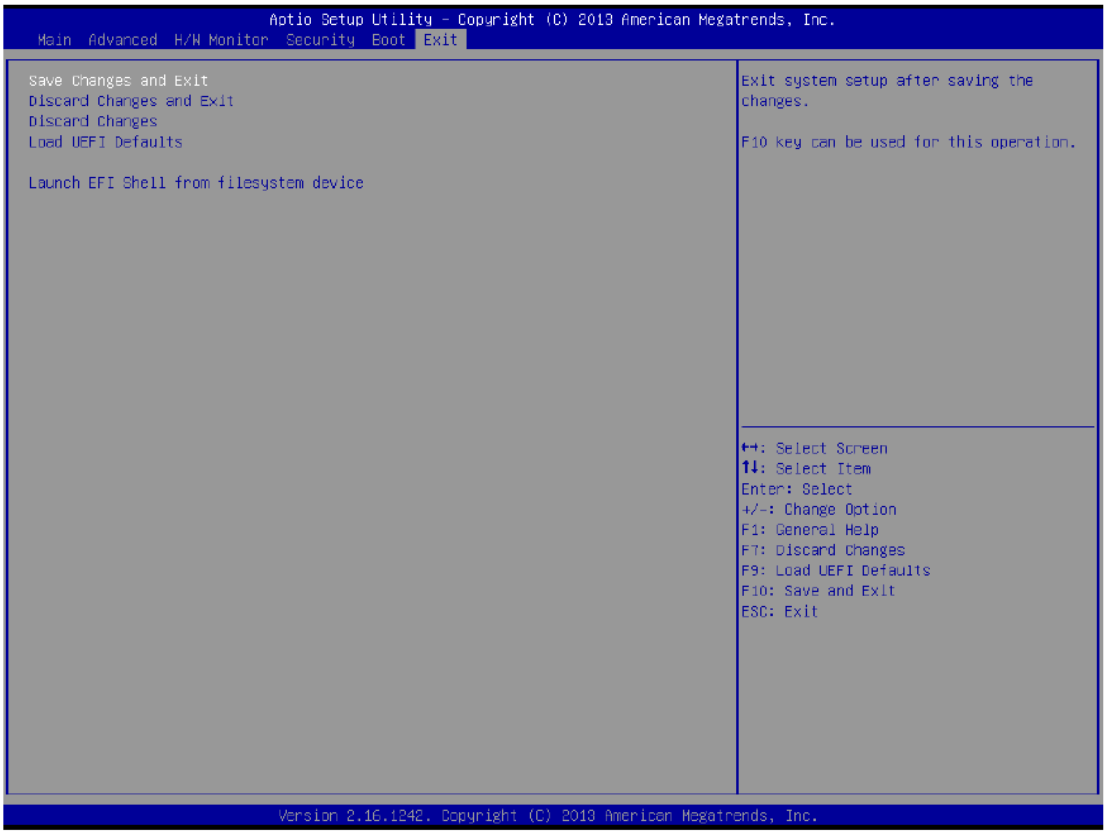
CSM (Compatibility Support Module)



CSM

Enable to launch the Compatibility Support Module. Please do not disable unless you're running a WHCK test. If you are using WindowsR 8 64-bit and all of your devices support UEFI, you may also disable CSM for faster boot speed.

3.7 Exit Screen



Save Changes and Exit

When you select this option, it will pop-out the following message, “Save configuration changes and exit setup?” Select [OK] to save the changes and exit the UEFI SETUP UTILITY.

Discard Changes and Exit

When you select this option, it will pop-out the following message, “Discard changes and exit setup?” Select [OK] to exit the UEFI SETUP UTILITY without saving any changes.

Discard Changes

When you select this option, it will pop-out the following message, “Discard changes?” Select [OK] to discard all changes.

Load UEFI Defaults

Load UEFI default values for all the setup questions. F9 key can be used for this operation.

Launch EFI Shell from filesystem device

Attempts to Launch EFI Shell application (Shell64.efi) from one of the available filesystem devices.

Chapter 4 Installation of Drivers

This chapter describes the installation procedures for software and drivers under the windows 7. The software and drivers are included with the motherboard. The contents include **Intel AtomTM Baytrail Chipset, Intel® VGA Chipset, Realtek RTL8111G-CG LAN Driver, USB 3.0 Driver, Touch Panel Driver, Com Driver, Intel_TXE(Win) Driver Installation instructions are given below.**

Important Note:
After installing your Windows operating system, you must install first the Intel Chipset Software Installation Utility before proceeding with the installation of drivers.

4.1 Intel AtomTM Baytrail Chipset Driver

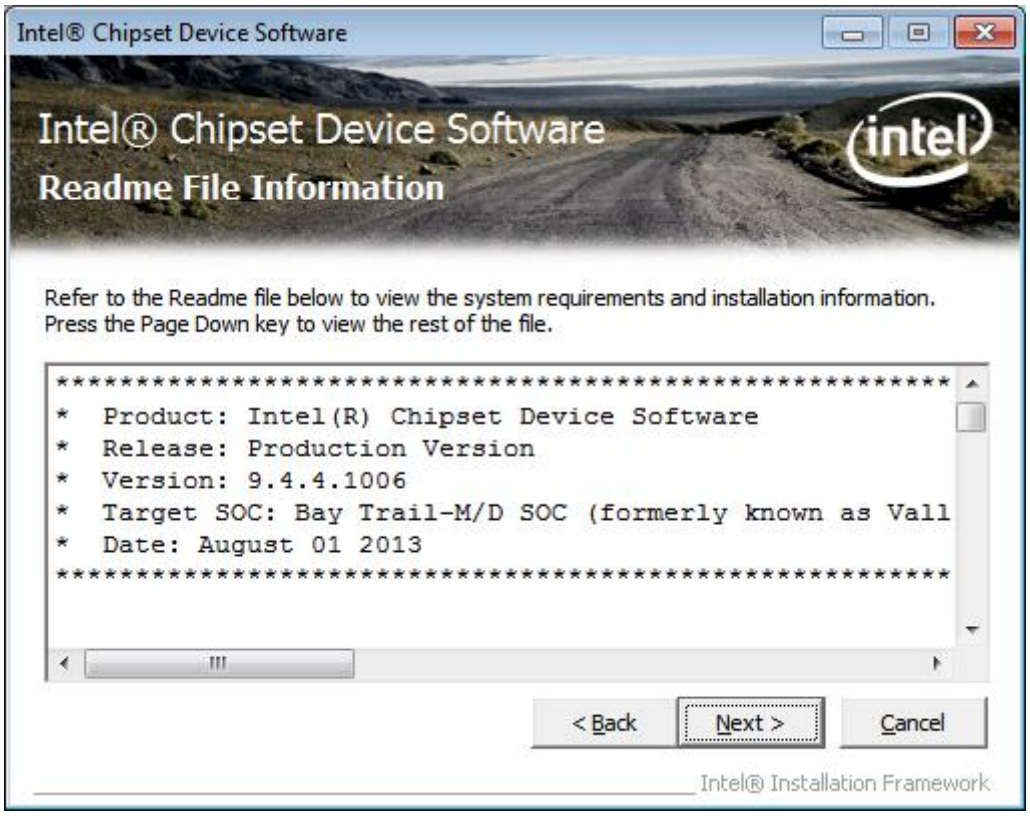
To install the Intel chipset driver, please follow the steps below.

Step 1. Select **Intel AtomTM Baytrail Chipset** from the list

Step 2. Click **Next** to setup program.

Step 3. Read the license agreement. Click **Yes** to accept all of the terms of the license agreement.

Step 4. Click **Next** to continue.



Step 5. Click **Next**.

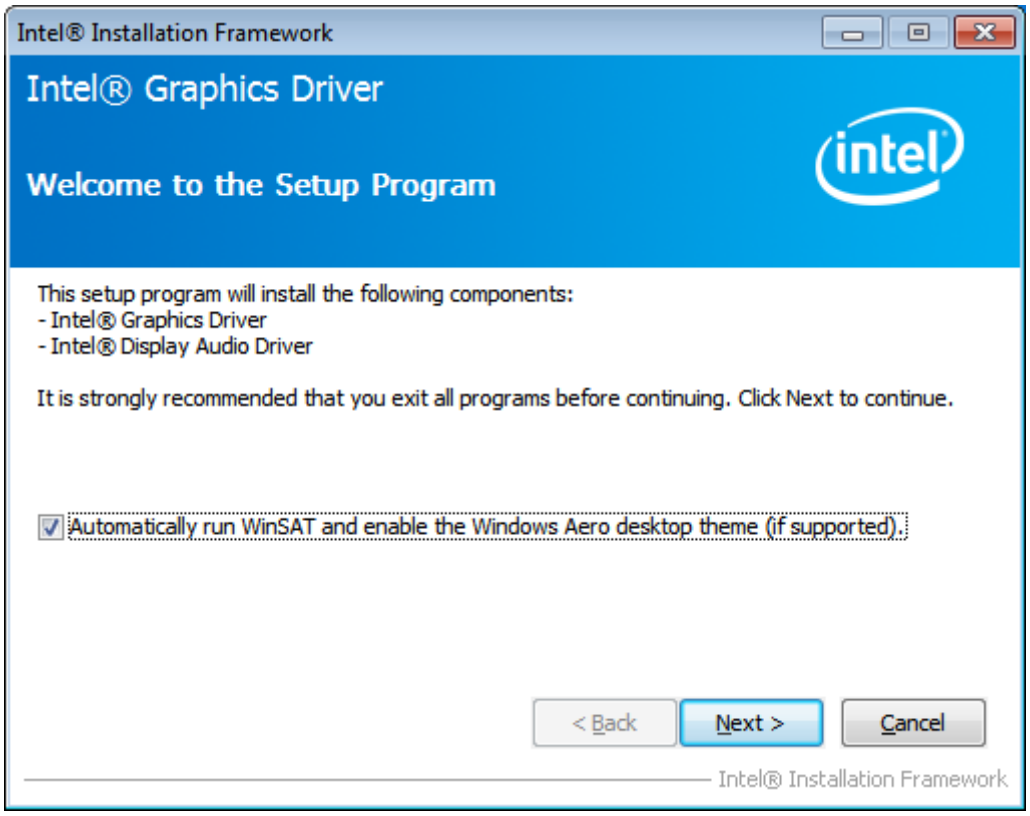
Step 6. Select **Yes, I want to restart this computer now**. Click **Finish**, then remove any installation media from the drives.

4.2 Intel® VGA Chipset Driver

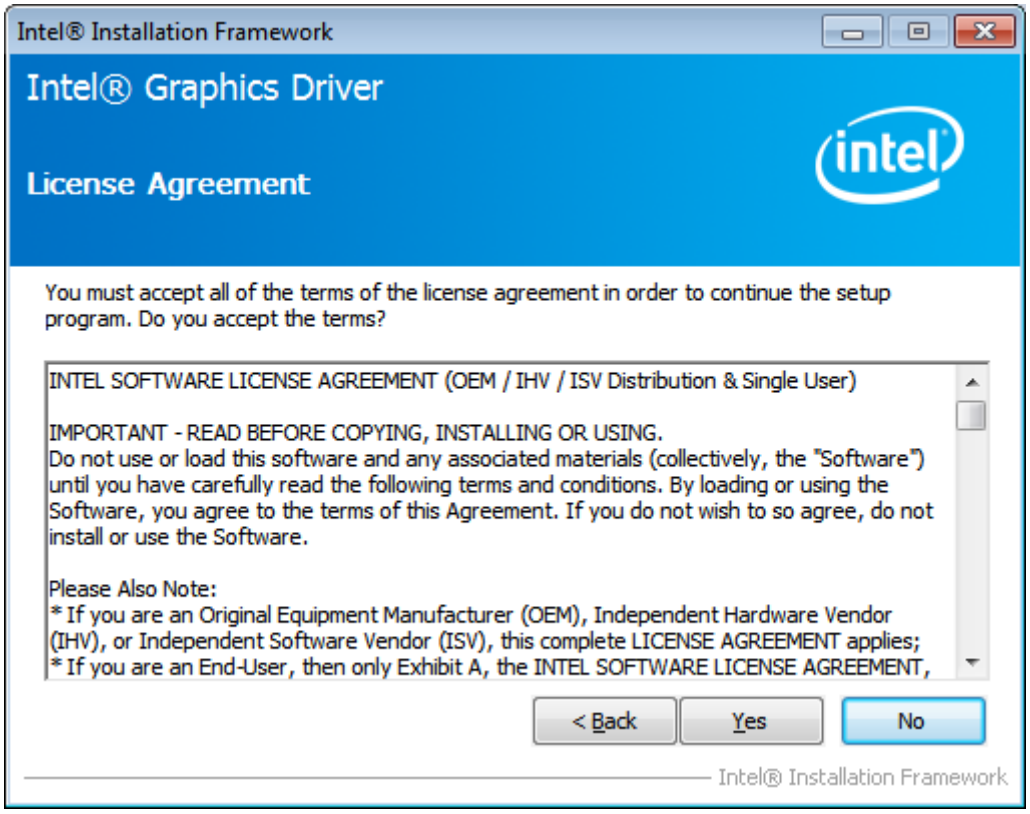
To install the VGA drivers, follow the steps below to proceed with the installation.

Step 1.Select **Intel(R) VGA Chipset Driver.**

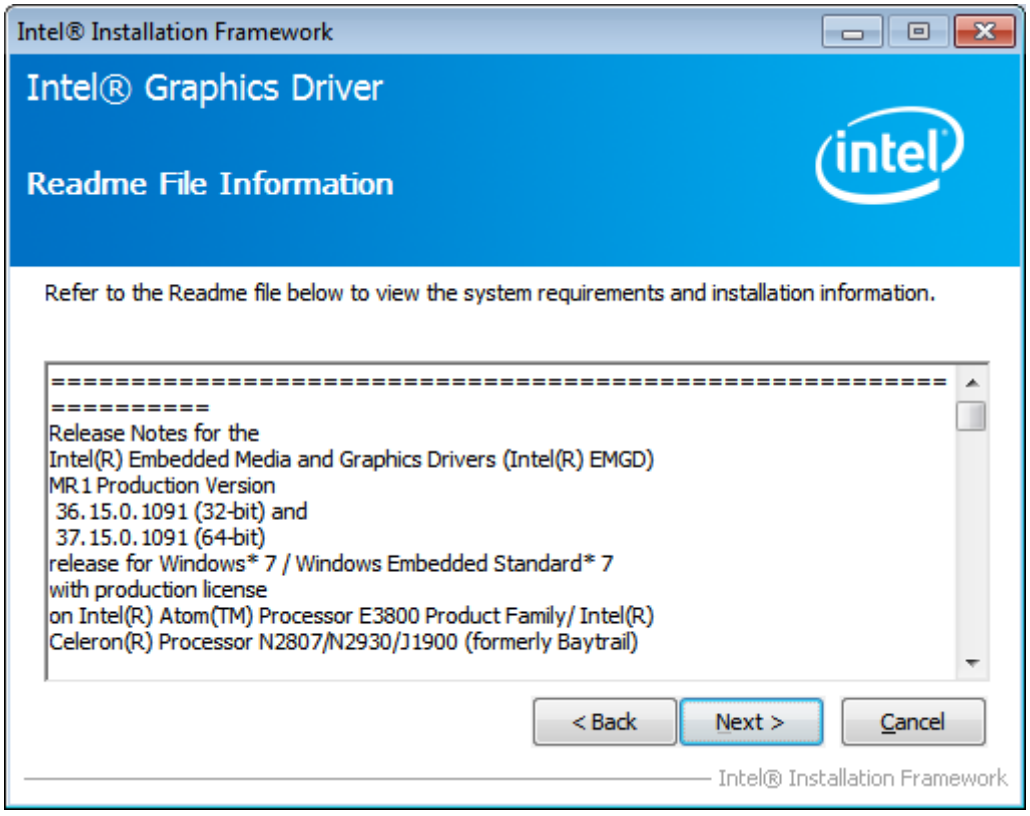
Step 2. Click **Next** to continue.



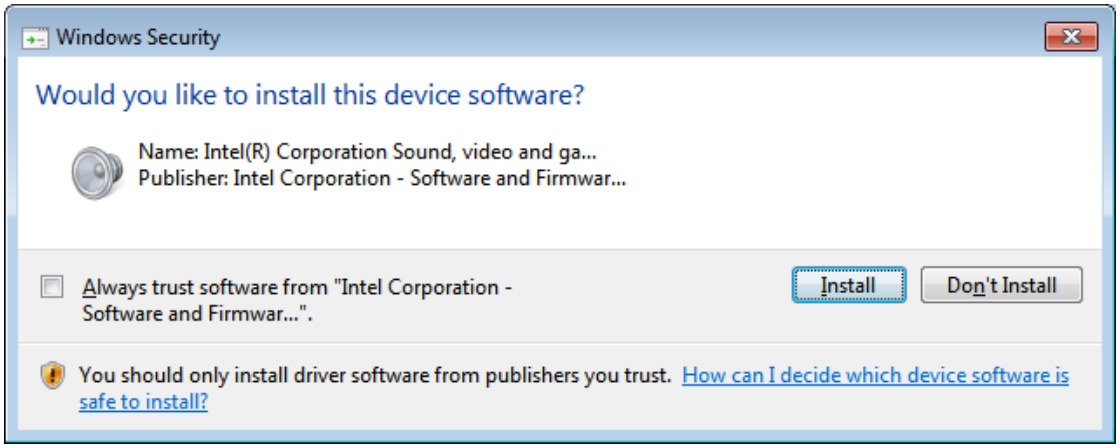
Step 3. Click **Yes.**



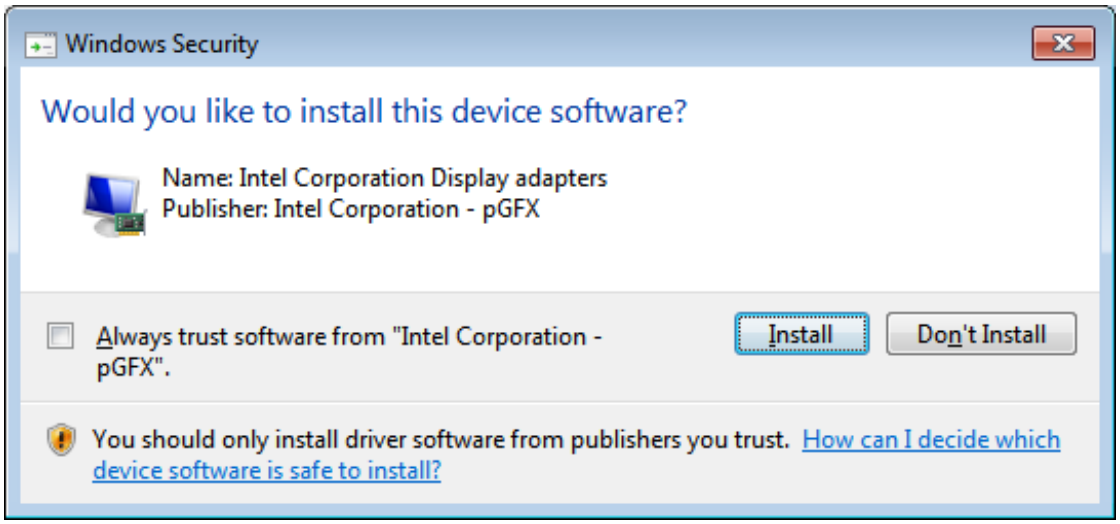
Step 4. Click **Next** to continue.



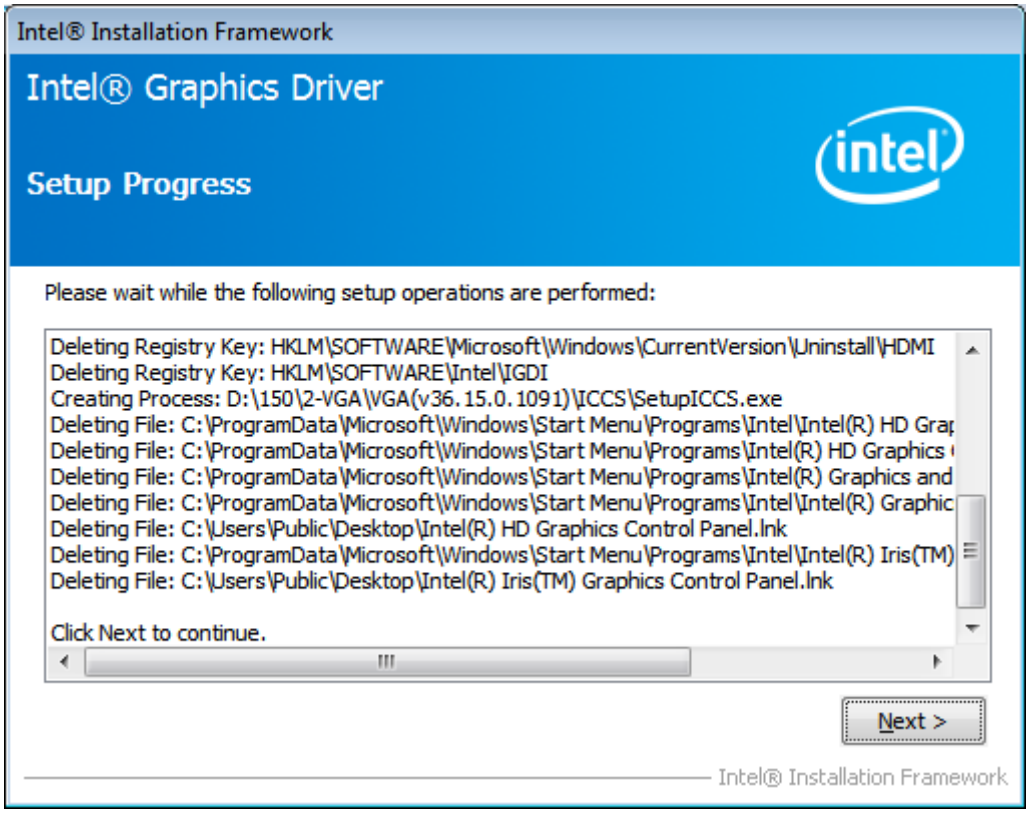
Step 5. Read the License Agreement, then click **Yes**.



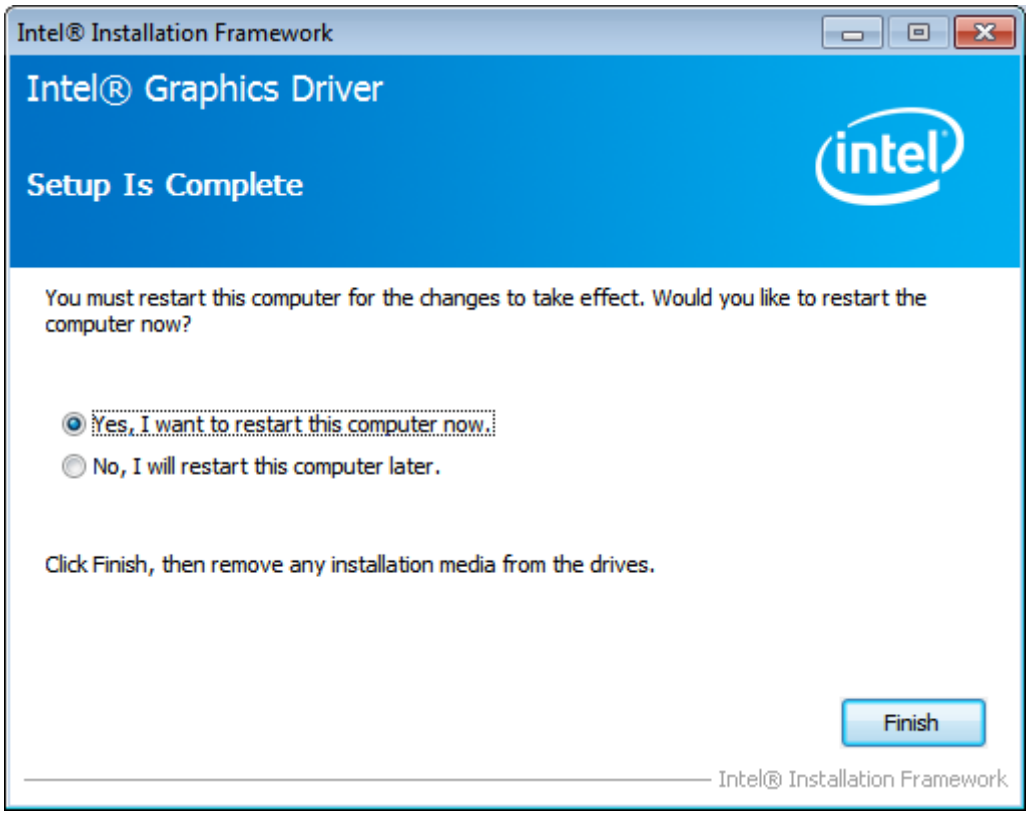
Step 6. Click **Next** to continue.



Step 7. Click **Next** to continue.



Step 8. Select **Yes, I want to restart this computer now.** Then click **Finish** to complete the installation.

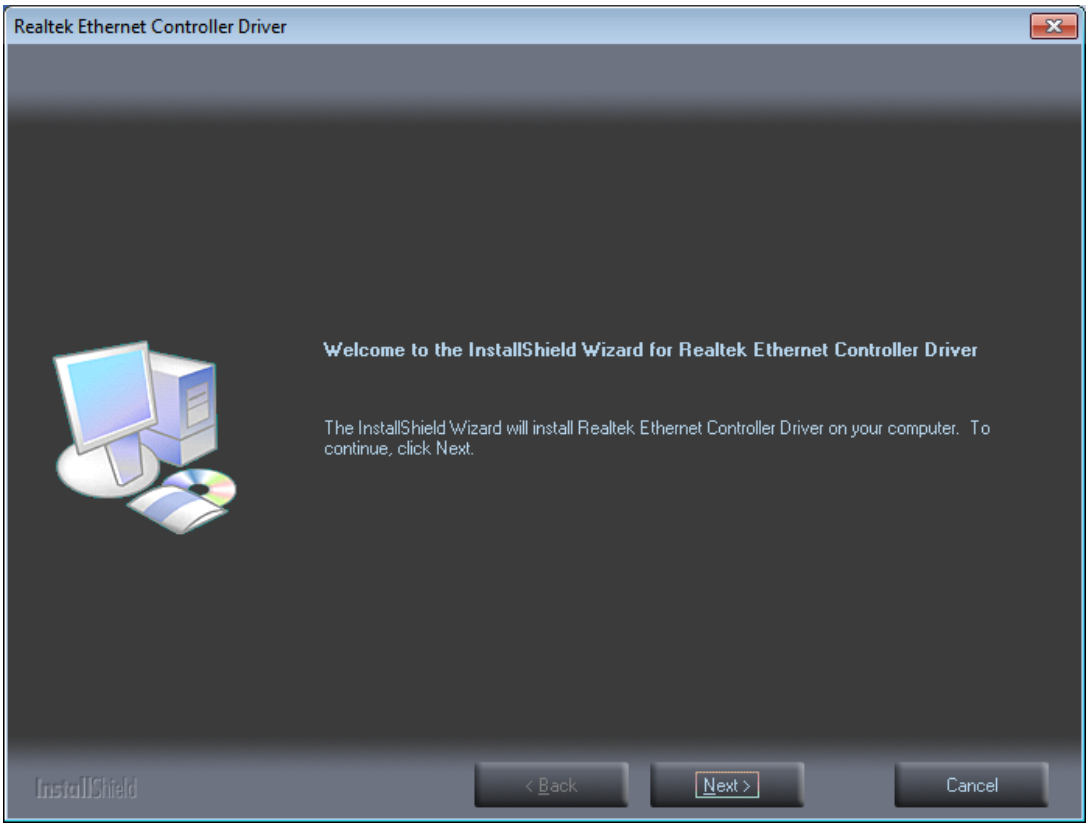


4.3 Realtek RTL8111G-CG LAN Driver

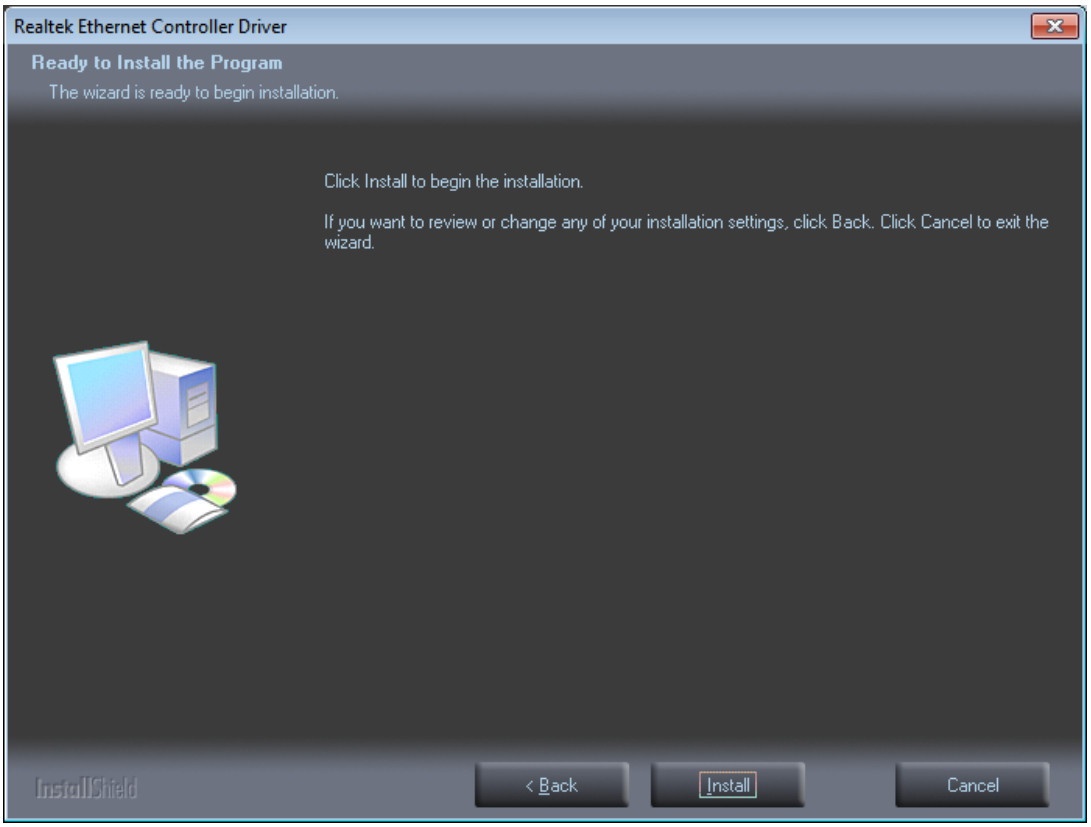
To install the Realtek RTL8111G-CG LAN Driver, please follow the steps below.

Step 1. Select **Realtek RTL8111G-CG LAN Driver** from the list**.**

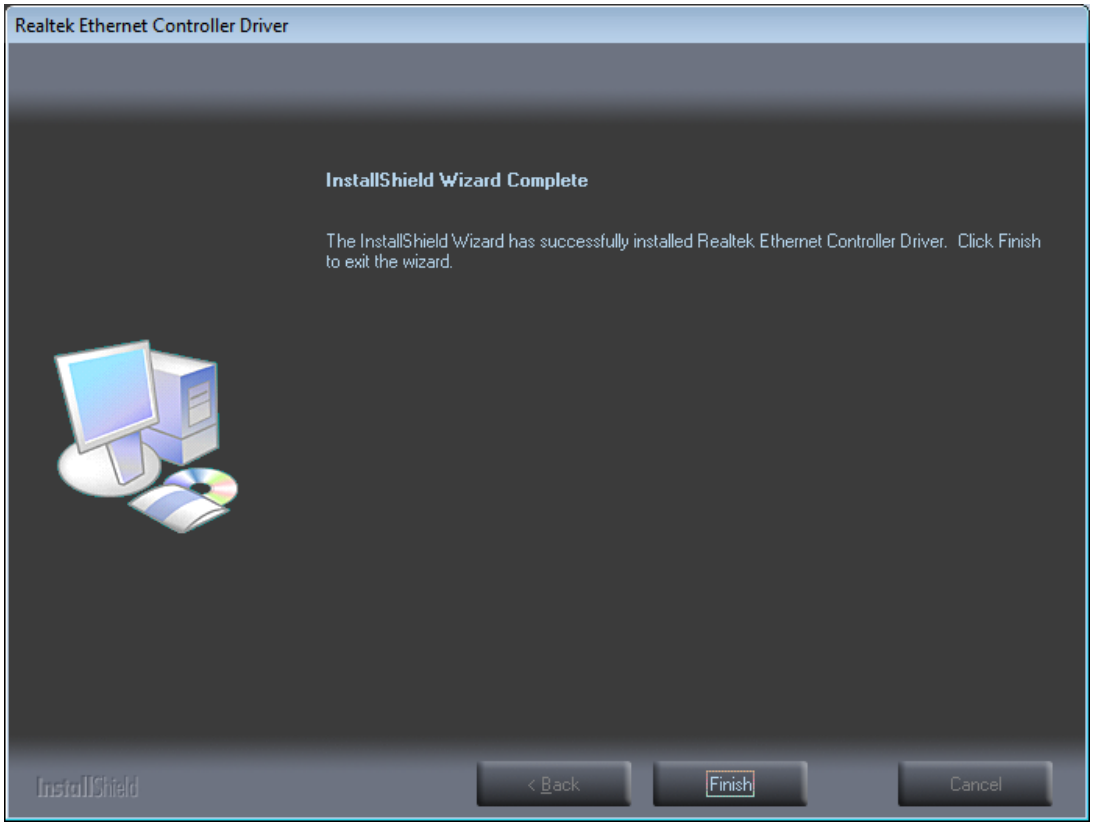
Step 2. Click **Next** to continue.



Step 3. Click **install** to begin the installation.



Step 4. Click **Finish** to complete the installation.

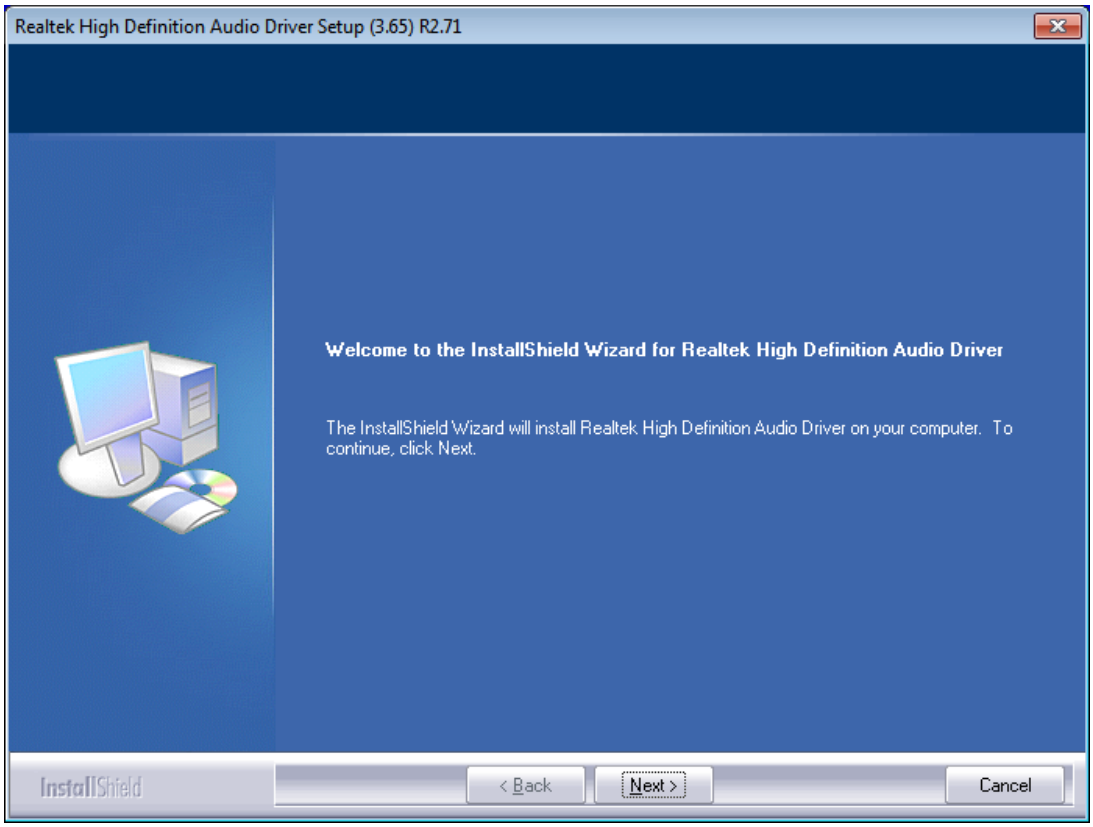


4.4 Realtek_Audio(R271) Driver

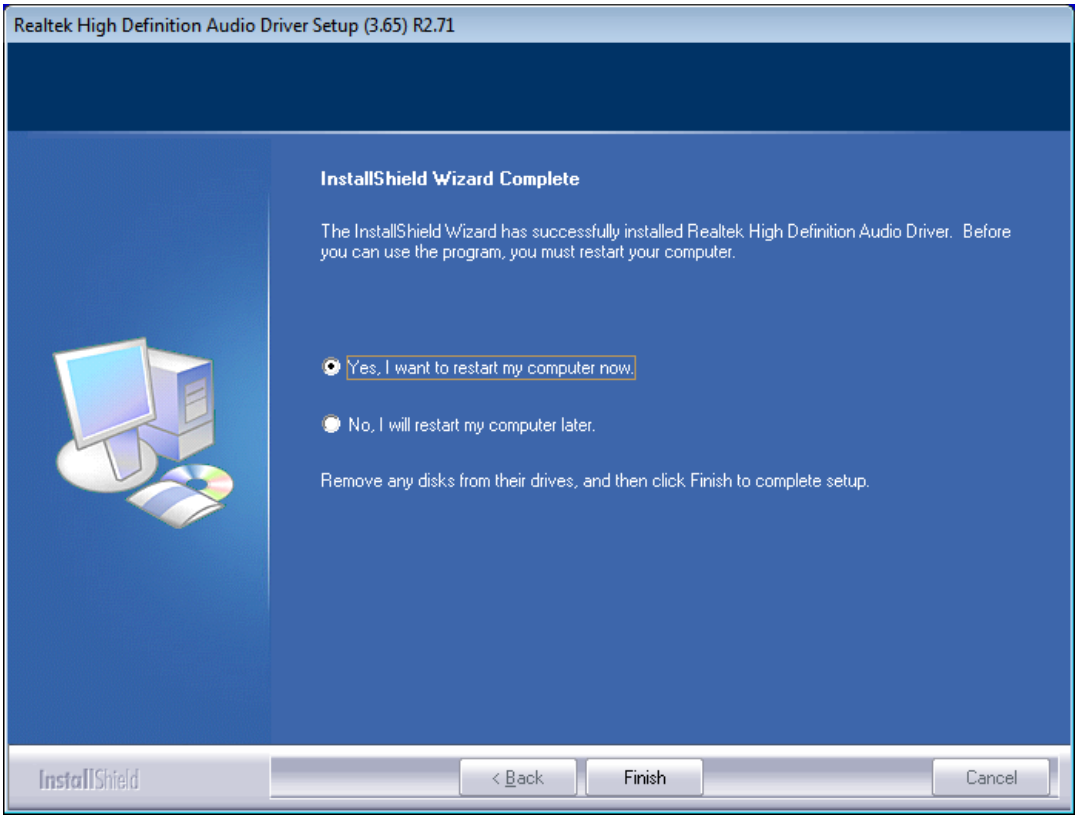
To install the Realtek_Audio(R271) Driver, please follow the steps below.

Step 1. Select **Realtek_Audio(R271) Driver** from the list

Step 2. Click **Next** to continue.



Step 3. Select **Yes, I want to restart my computer now.,** and then click **Finish** to complete installation.

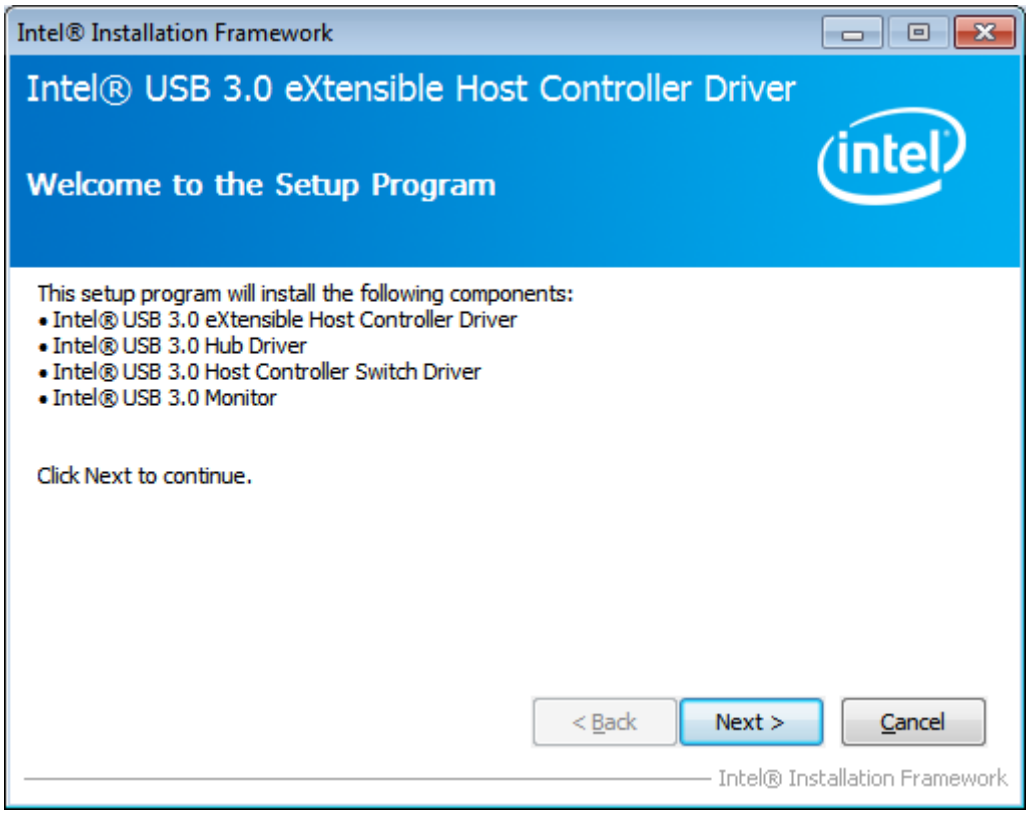


4.5 USB 3.0 Driver

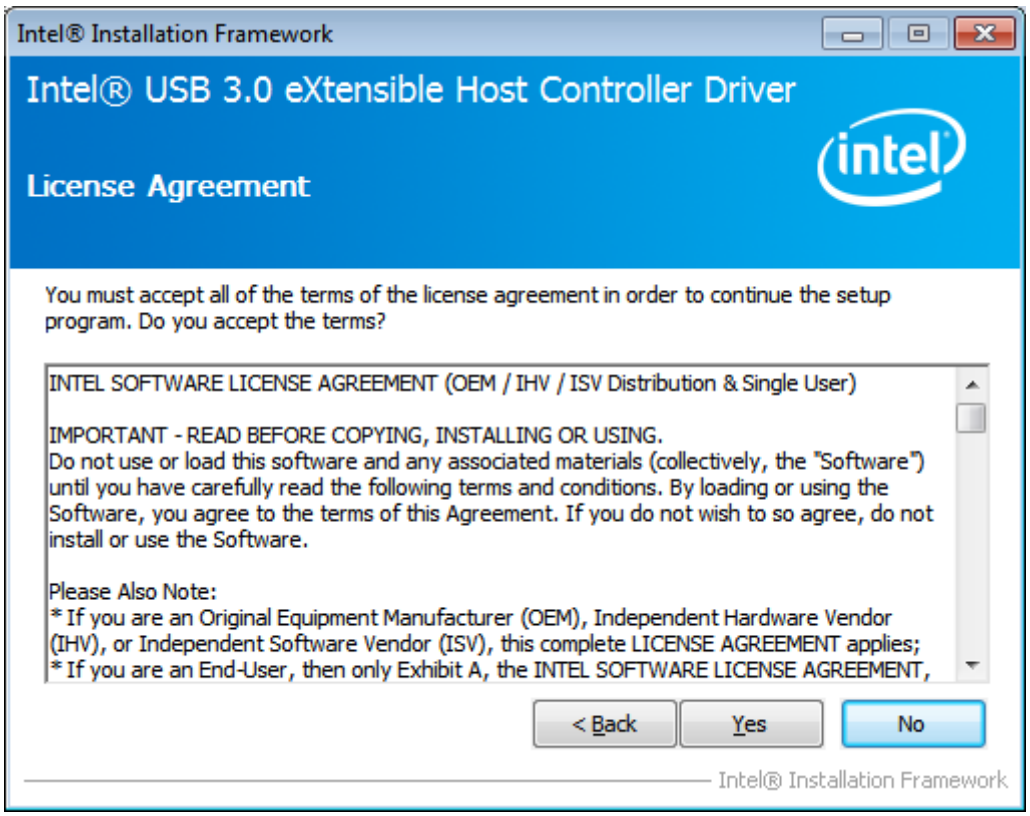
To install the USB 3.0 Driver, please follow the steps below.

Step 1. Select **USB 3.0 Driver** from the list.

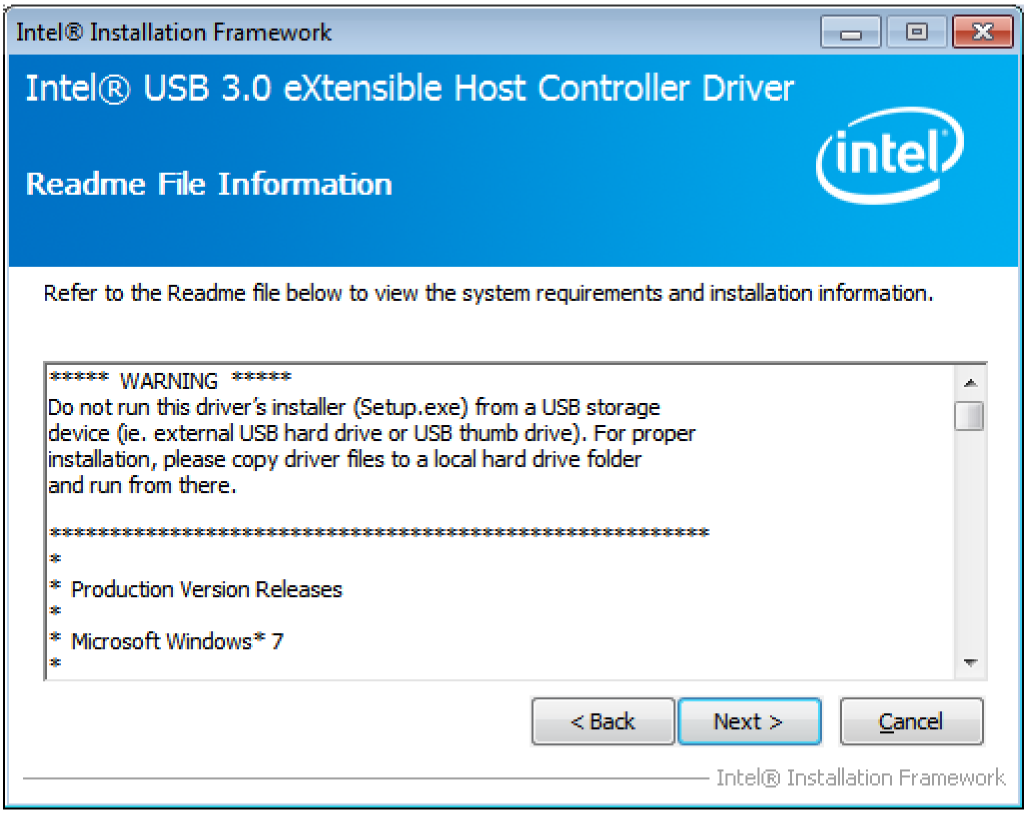
Step 2. Click **Next** to continue.



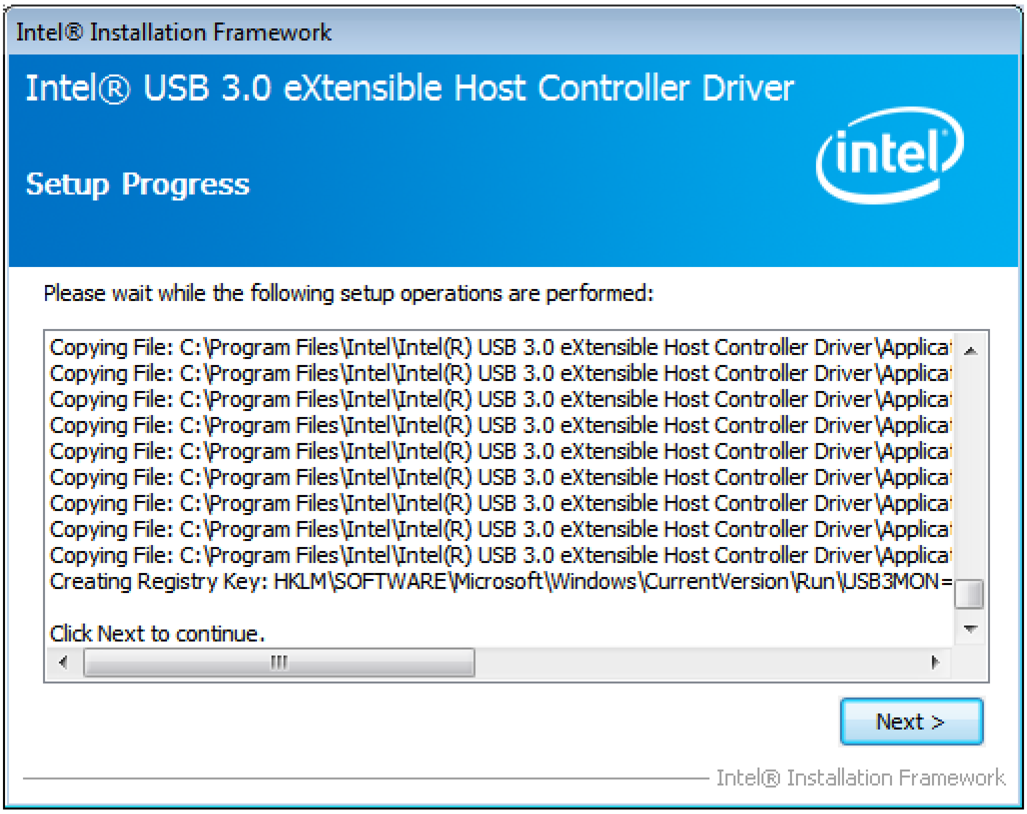
Step 3. Read the license agreement and click **Yes** to continue.



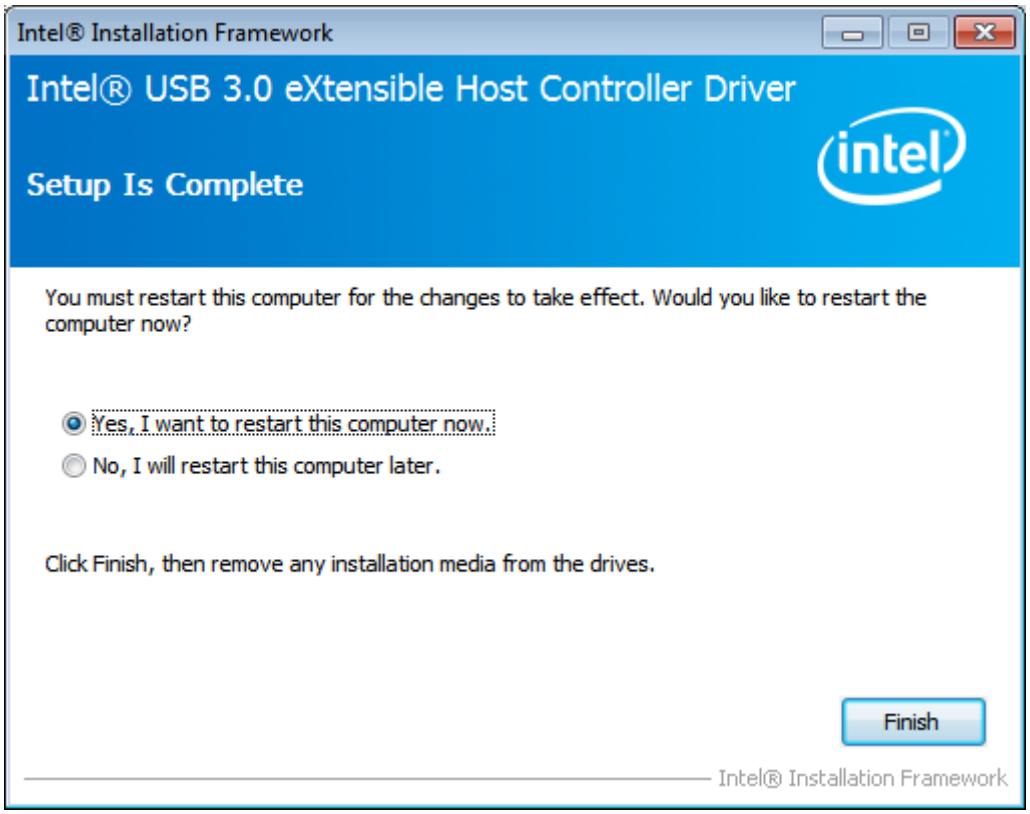
Step 4. Click **Next** to continue.



Step 5. Click **Next** to continue



Step 6. Select **Yes, I want to restart this computer now.**, and then click **Finish** to complete the installation.

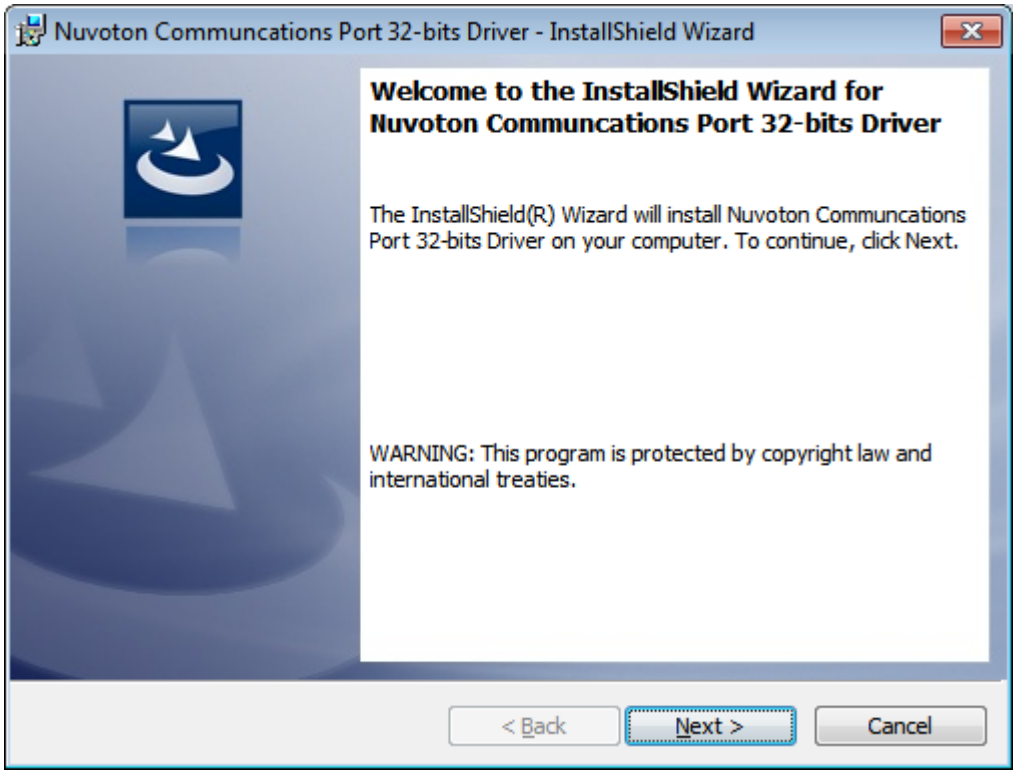


4.6 Com Driver

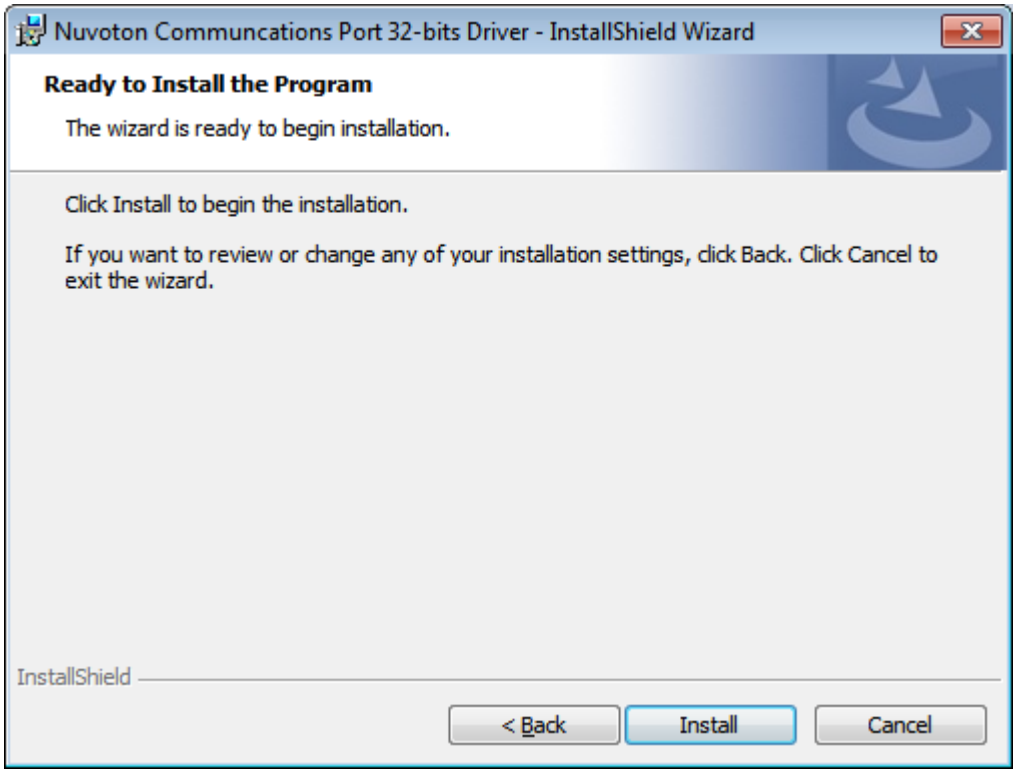
To install the Com Driver, please follow the steps below.

Step 1. Select **Com Driver** from the list.

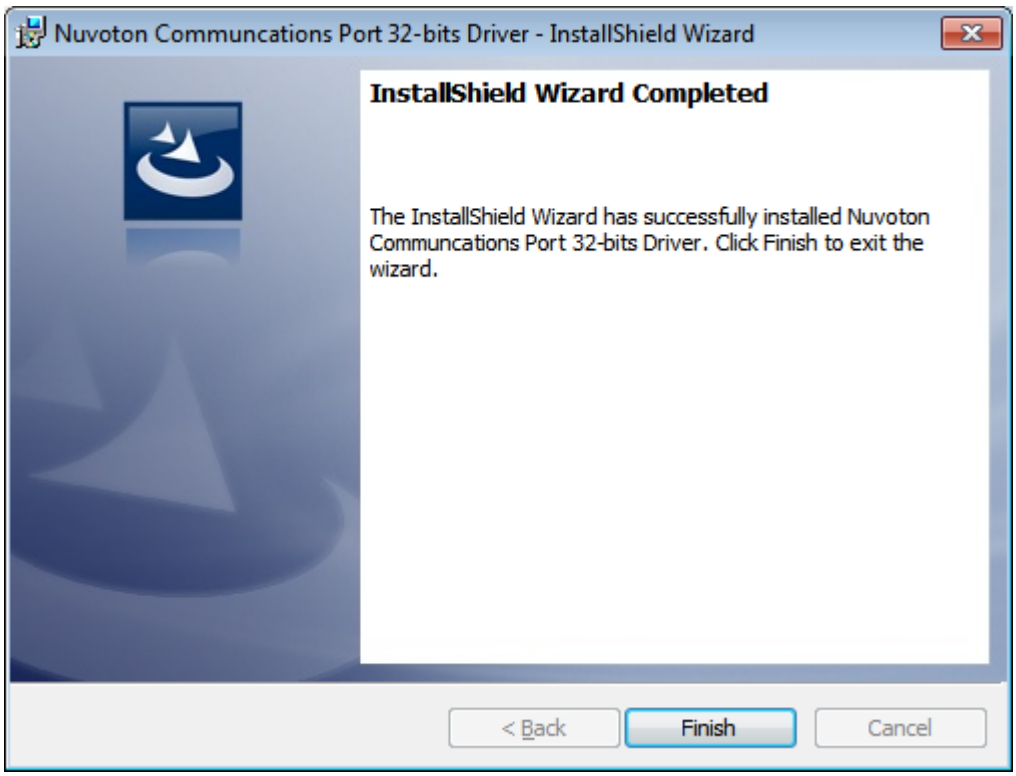
Step 2. Click **Next** to continue.



Step 3. Click **install** to begin the installation.



Step 4. Click **Finish** to complete the installation.



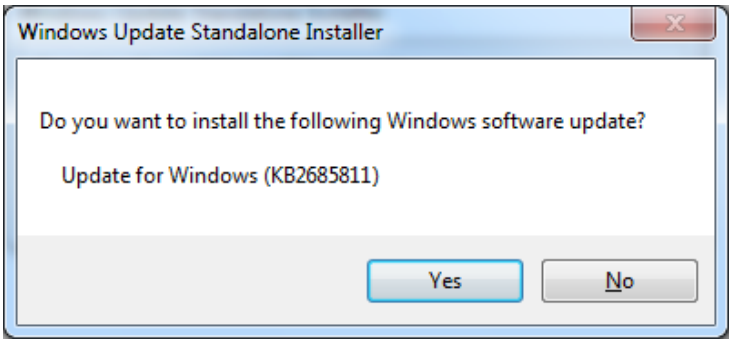
4.7 Intel_TXE(Win) Driver

To install the Intel_TXE(Win) Driver, please follow the steps below.

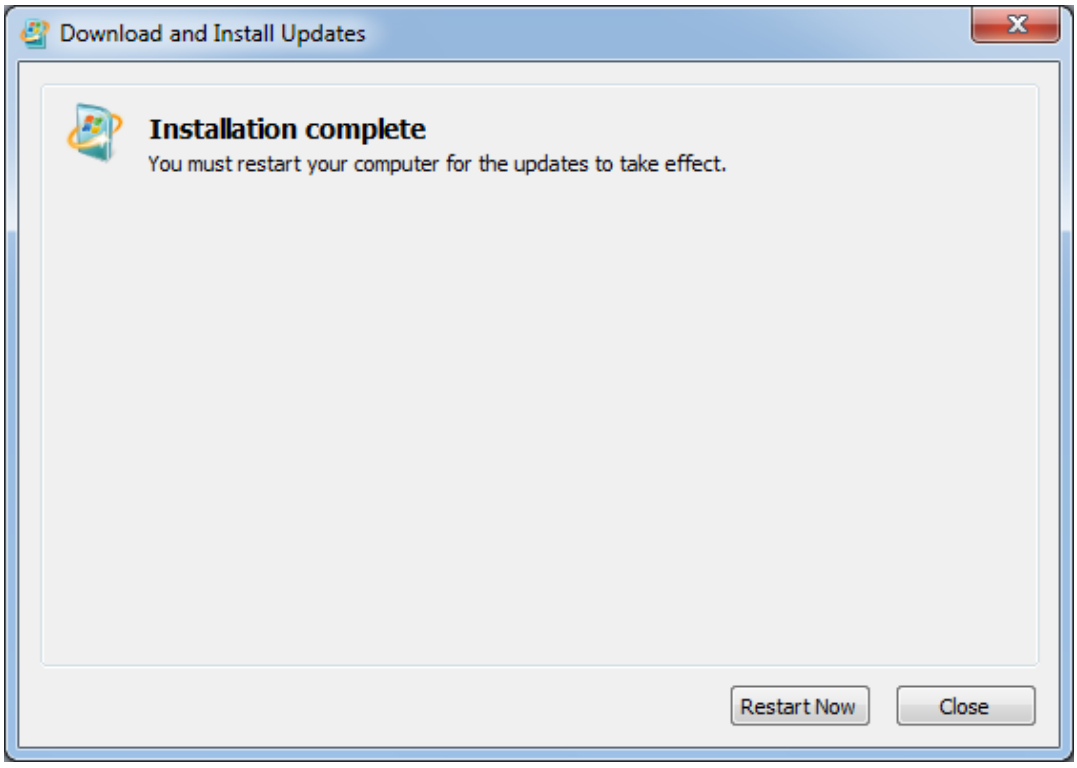
Step 1. Select **Intel_TXE(Win) Driver** from the list.

Step 2. To install the Intel(R) TXE(Win) Driver, you have to install k**mdf-1.11(Win7_32bit).msu** first. Select **kmdf-1.11(Win7_32bit).msu**

Step 3. Click **Yes** to continue.

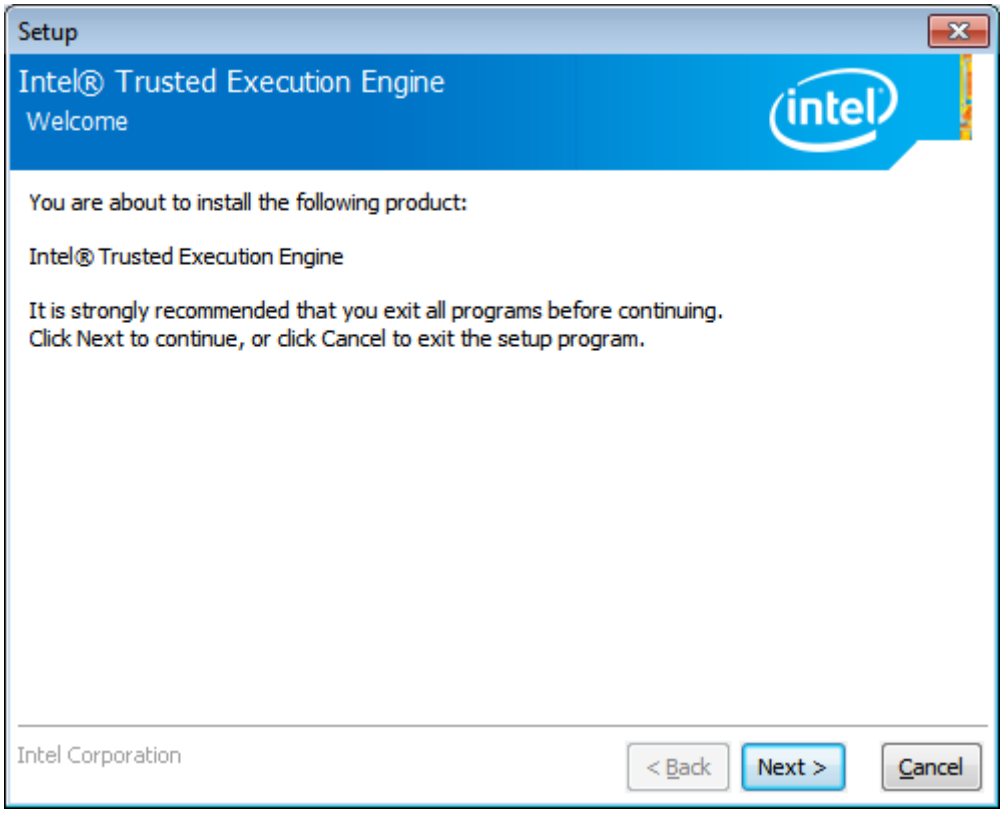


Step 4. Click **Restart Now.**

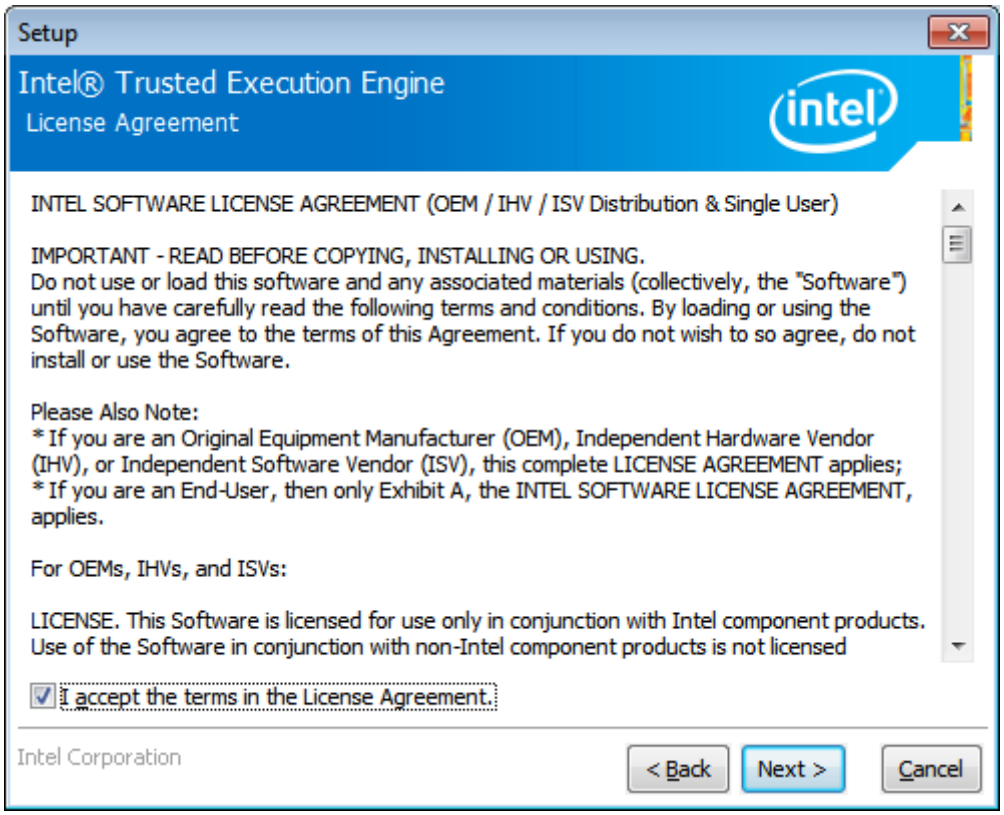


Step 5. Then select **Setup.exe.**

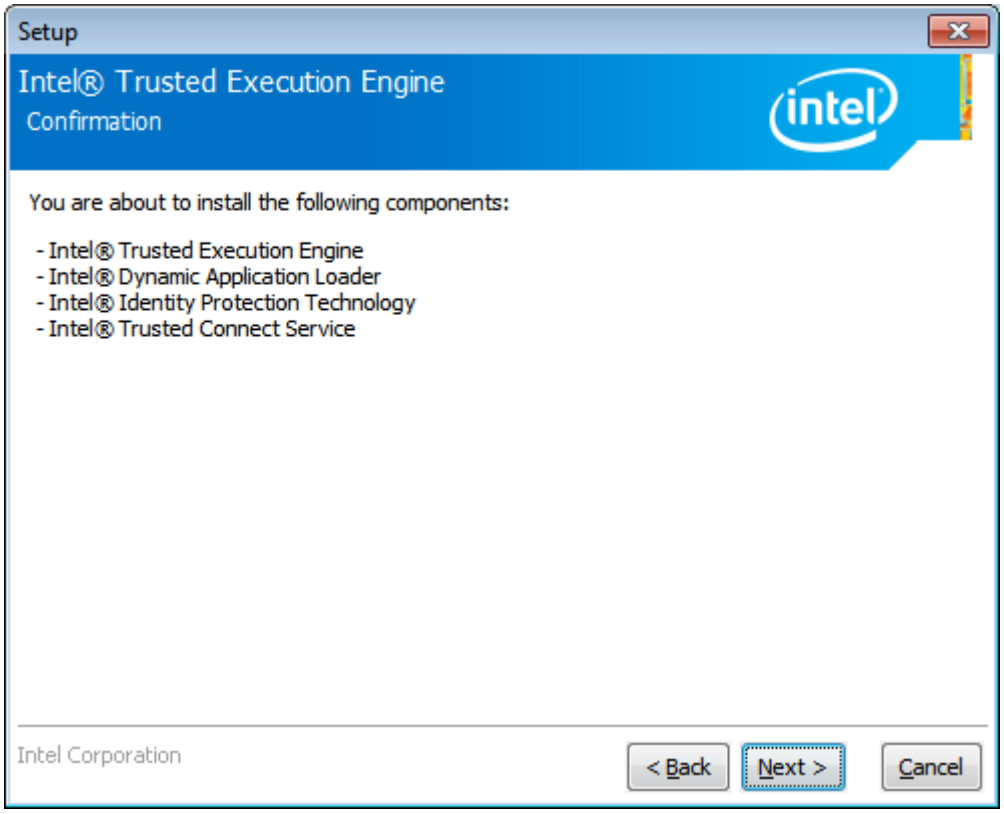
Step 6. Click **Next** to continue.



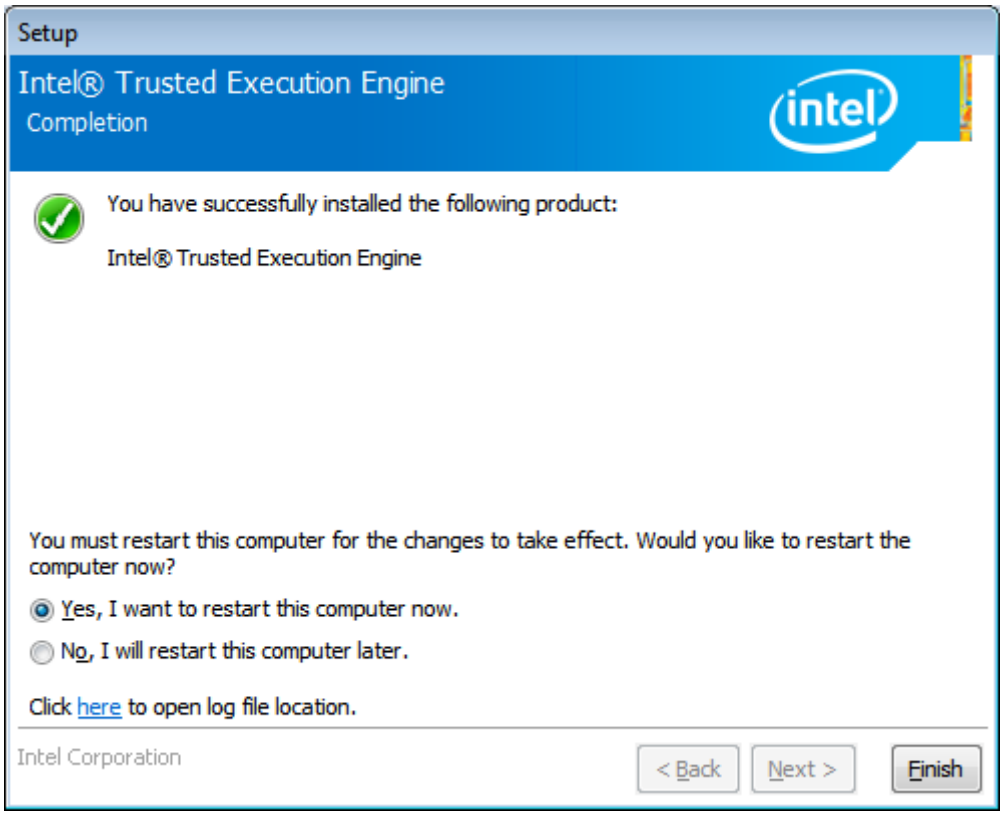
Step 7. Click **I accept the terms in the License Agreement.,** and click **Next** to continue.



Step 8. Click **Next** to continue.



Step 9. Click **Yes, I want to restart this computer now.** and click **Finish** to complete the installation.



Chapter 5 Touch Screen Installation

This chapter describes how to install drivers and other software that will allow your touch screen work with different operating systems.

5.1 Windows XP/2003/Vista/7 Universal Driver Installation for PenMount 6000 Series

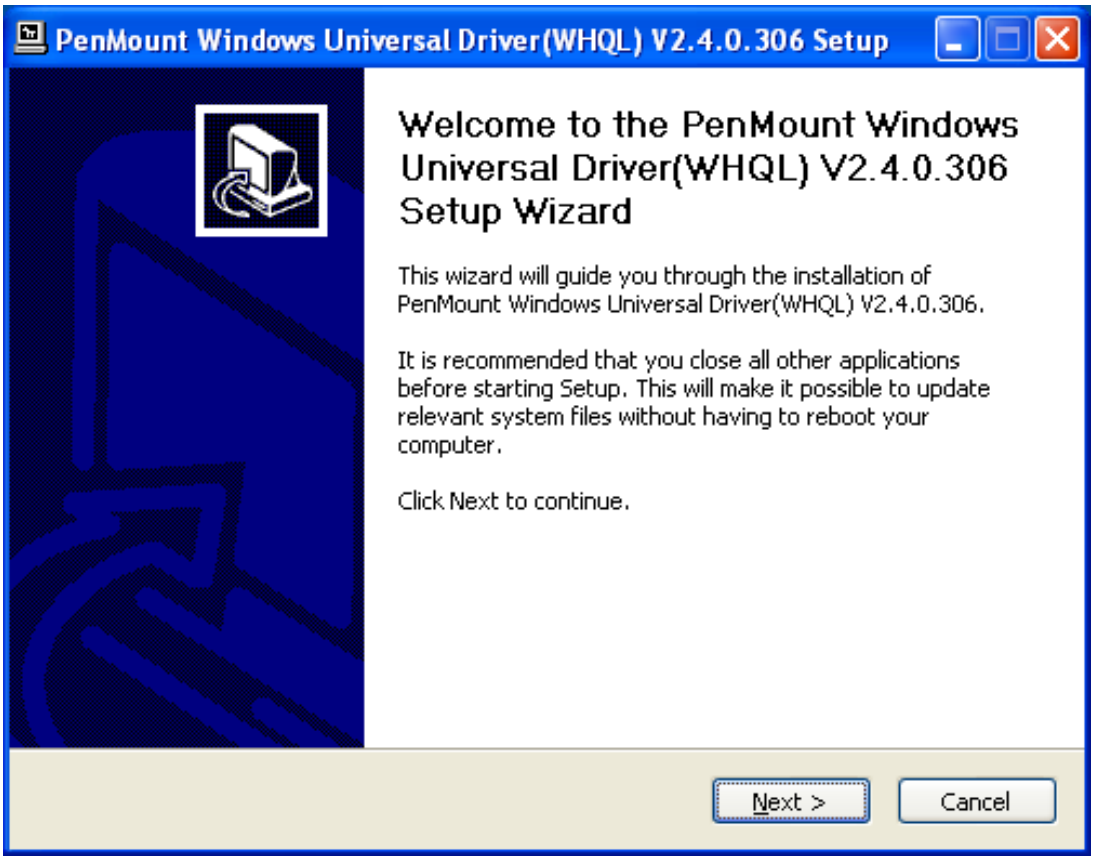
Before installing the Windows XP/2003/Vista/7 driver software, you must have the Windows XP/2003/Vista/7 system installed and running on your computer. You must also have one of the following PenMount 6000 series controller or control boards installed: PM6500, PM6300.

5.1.1 Installing Software

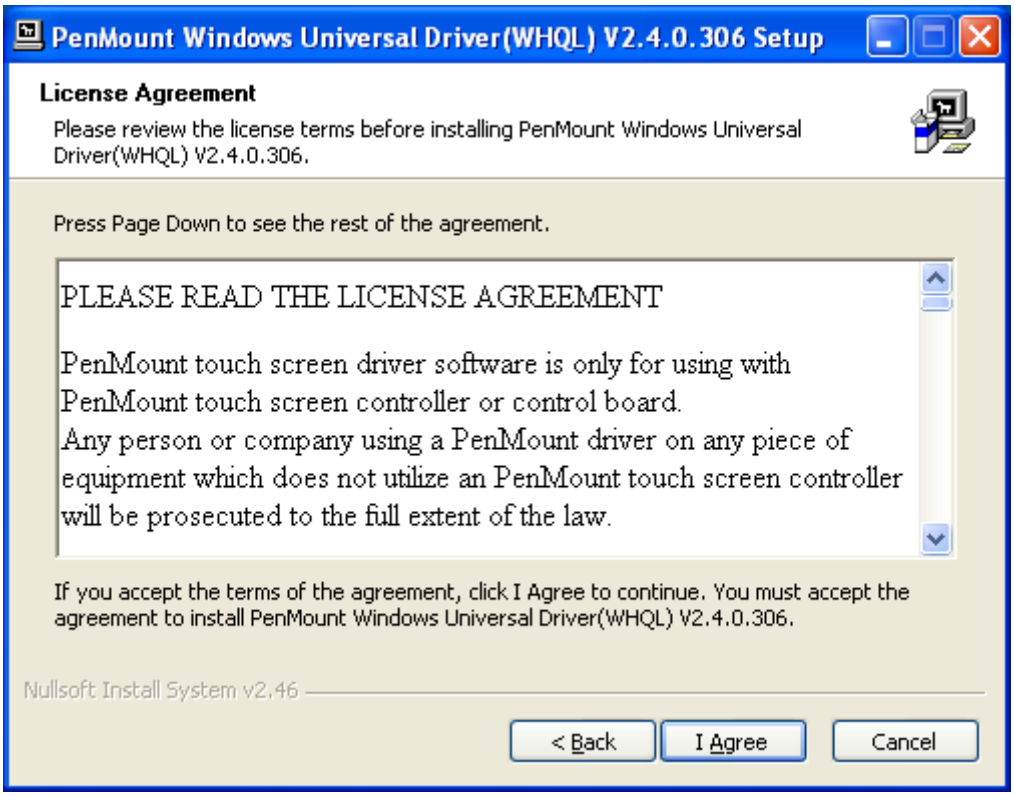
If you have an older version of the PenMount Windows 7 driver installed in your system, please remove it first. Follow the steps below to install the PenMount DMC6000 Windows 7 driver.

Step 1. Insert the product CD, the screen below would appear. Click **Touch Panel Driver** from the list**.**

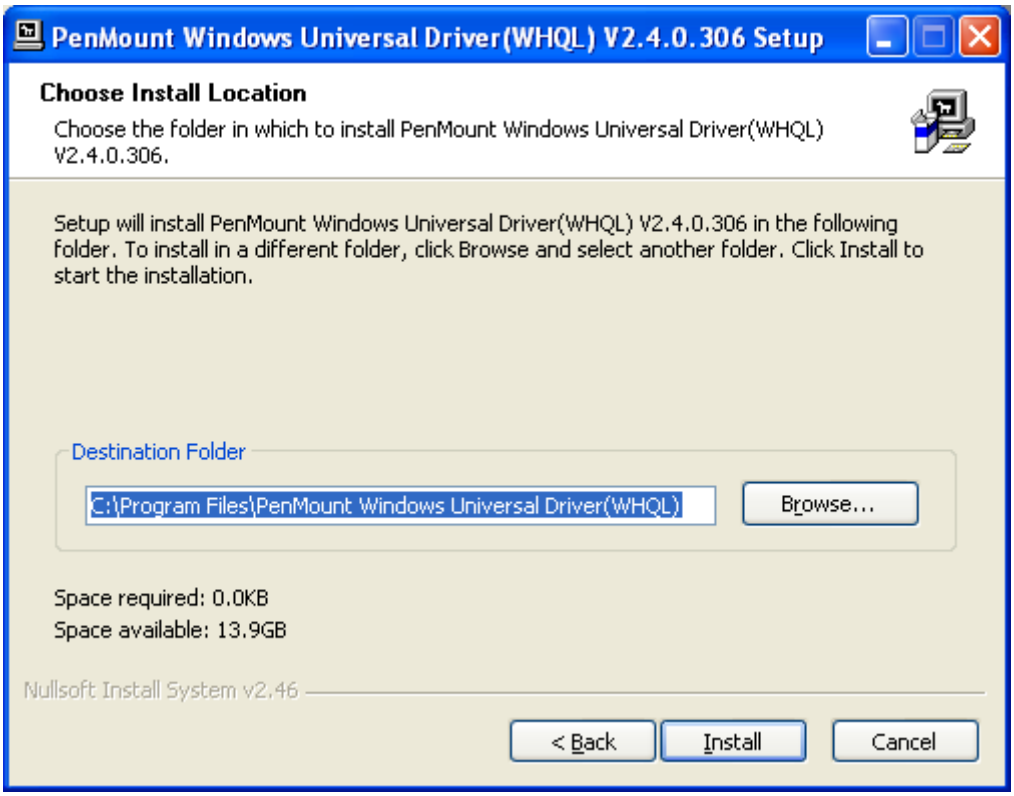
Step 2. Click **Next** to continue.



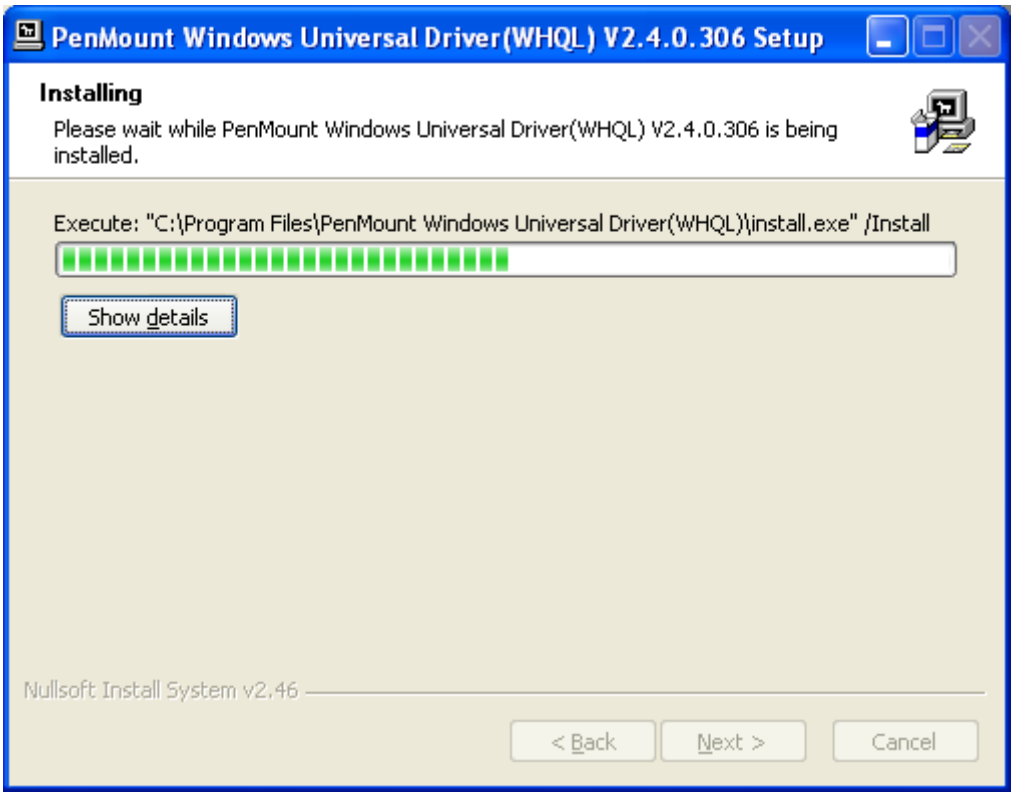
Step 3. Read the license agreement. Click **I Agree** to agree the license agreement.



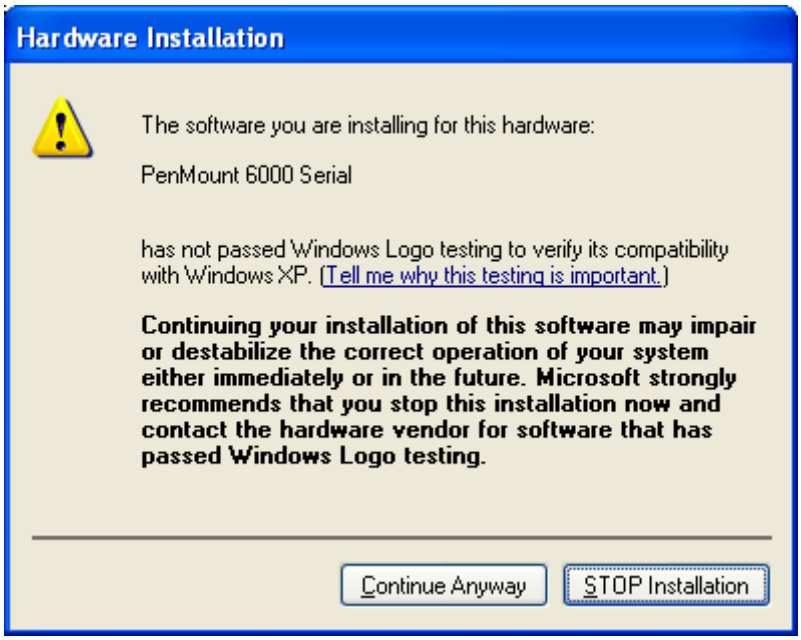
Step 4. Choose the folder in which to install PenMount Windows Universal Driver. Click **Install** to start the installation.



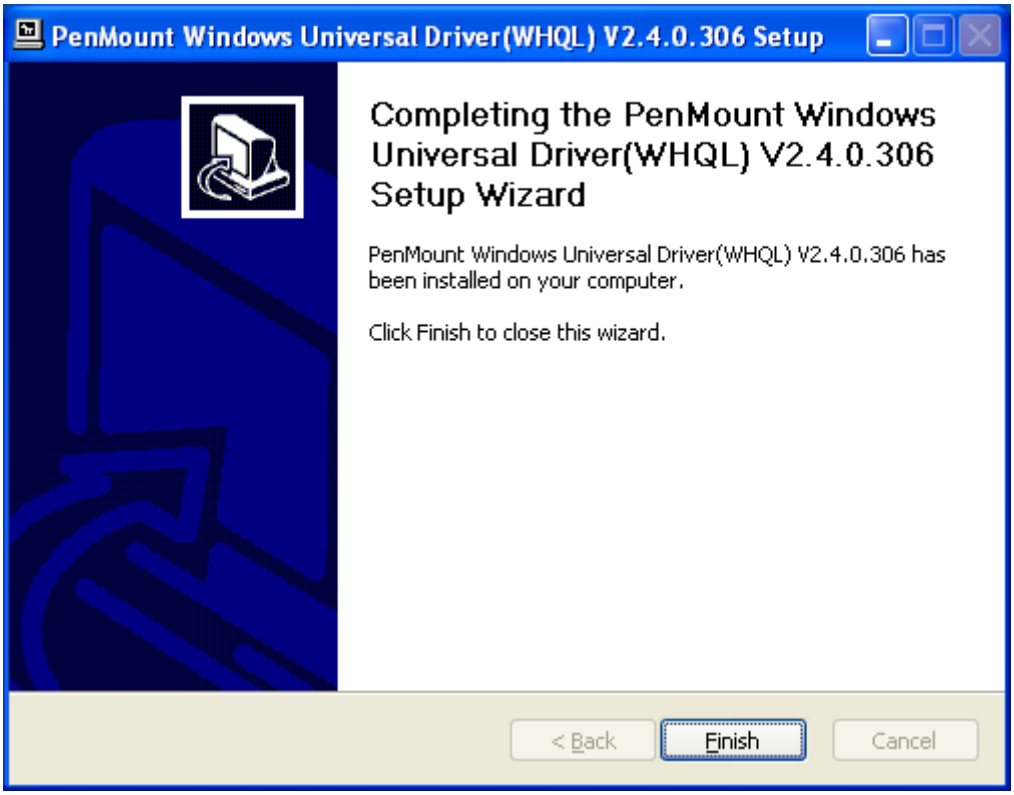
Step 5. Wait for installation. Then click **Next** to continue.



Step 6. Click **Continue Anyway**.



Step 7. Click **Finish** to complete installation.



5.2 Software Functions

Upon rebooting, the computer automatically finds the new 6000 controller board. The touch screen is connected but not calibrated. Follow the procedures below to carry out calibration.

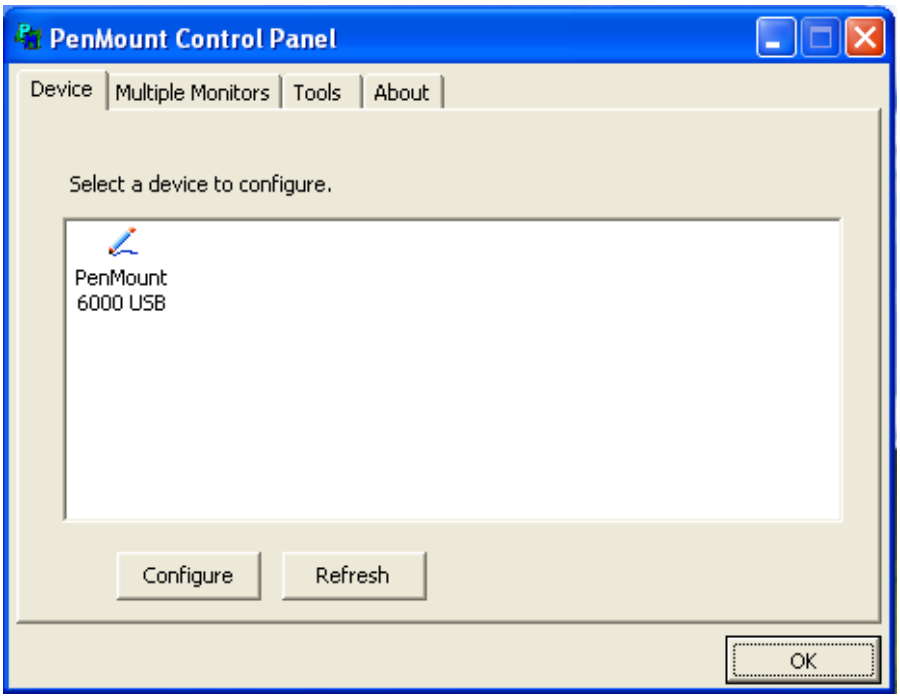
1. After installation, click the PenMount Monitor icon “PM” in the menu bar.
2. When the PenMount Control Panel appears, select a device to “Calibrate.”

PenMount Control Panel

The functions of the PenMount Control Panel are **Device, Multiple Monitors**, **Tools** and **About**, which are explained in the following sections.

Device

In this window, you can find out that how many devices be detected on your system.



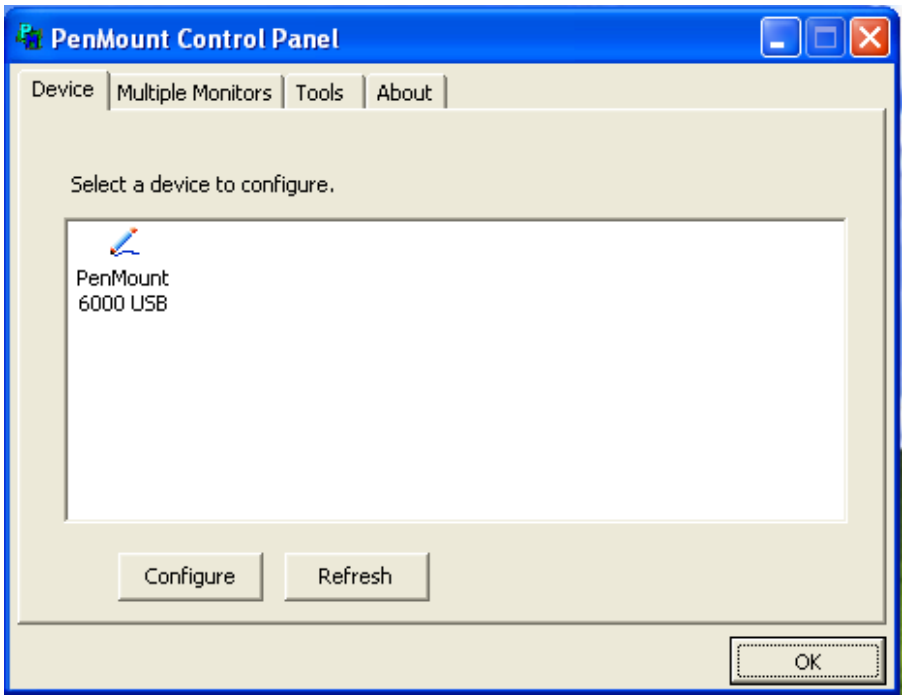
Calibrate

This function offers two ways to calibrate your touch screen. ‘Standard Calibration’ adjusts most touch screens. ‘Advanced Calibration’ adjusts aging touch screens.

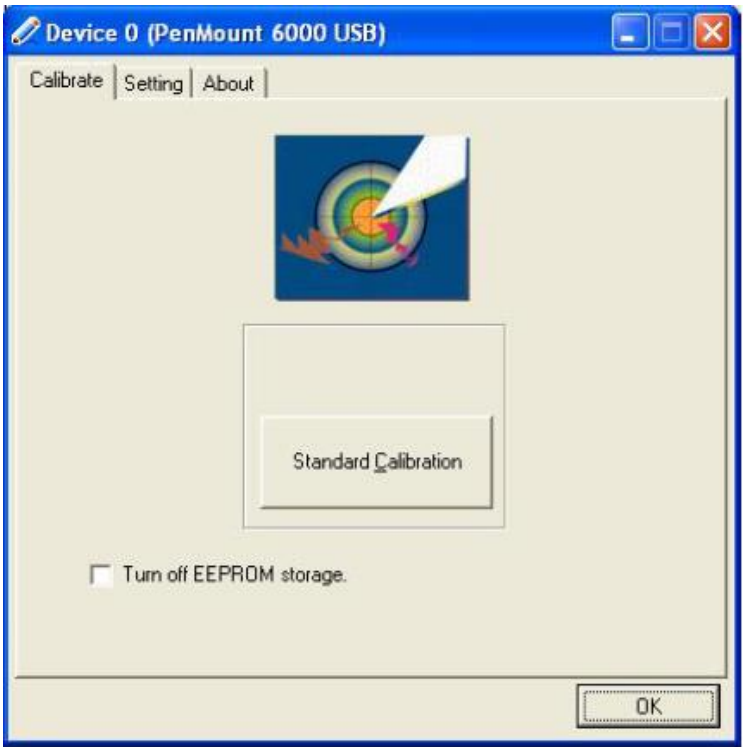
Standard Calibration	**Click this button and arrows appear pointing to red squares. Use your finger or stylus to touch the red squares in sequence. After the fifth red point calibration is complete. To skip, press ‘ESC’.**

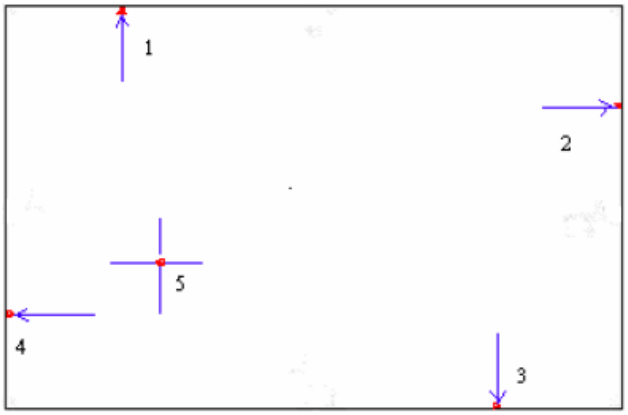
Advanced Calibration	**Advanced Calibration uses 4, 9, 16 or 25 points to effectively calibrate touch panel linearity of aged touch screens. Click this button and touch the red squares in sequence with a stylus. To skip, press ESC'.**

Step 1. Please select a device then click "Configure". You can also double click the device too.



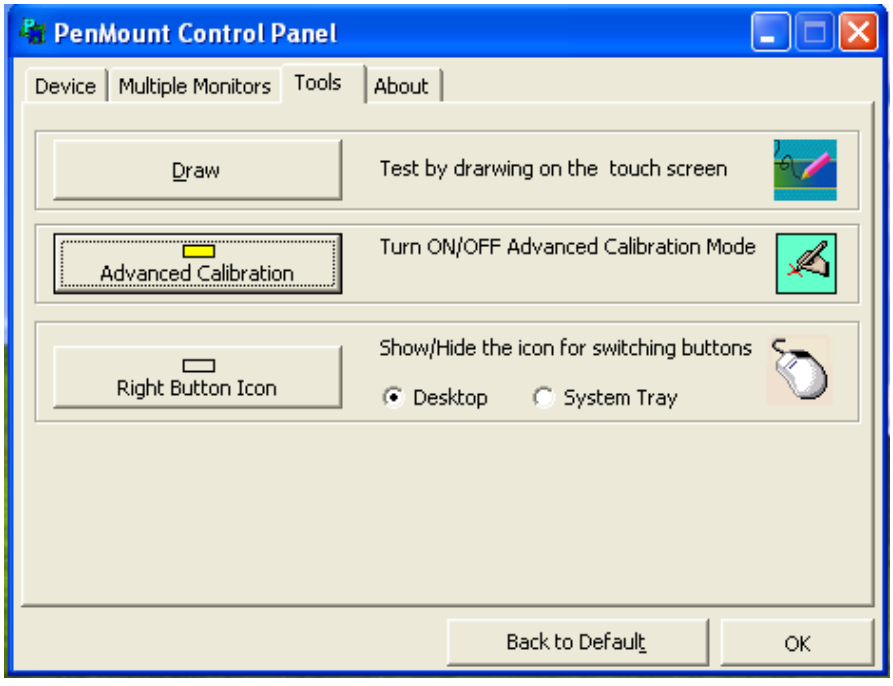
Step 2. Click "**Standard Calibration**" to start calibration procedure



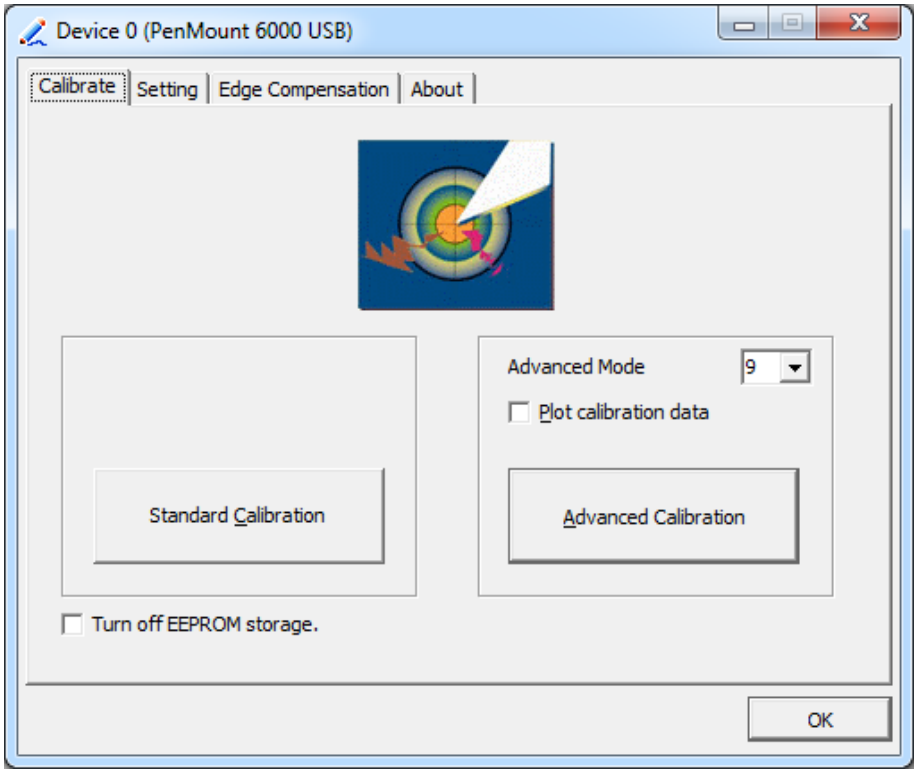


NOTE: The older the touch screen, the more Advanced Mode calibration points you need for an accurate calibration. Use a stylus during Advanced Calibration for greater accuracy. Please follow the step as below:

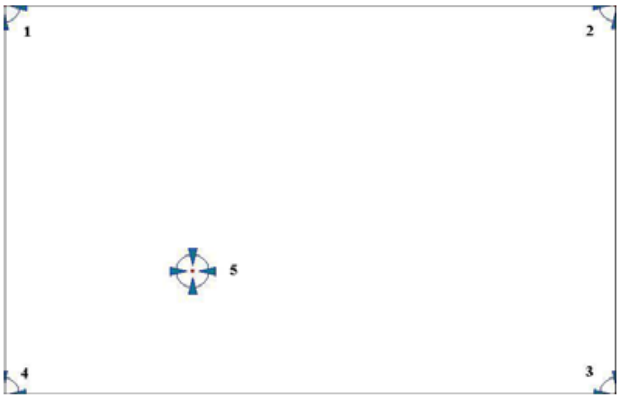
Step 3. Come back to "PenMount Control Panel" and select **Tools** then click **Advanced Calibration**.



Step 4. Select **Device** to calibrate, then you can start to do **Advanced Calibration**.



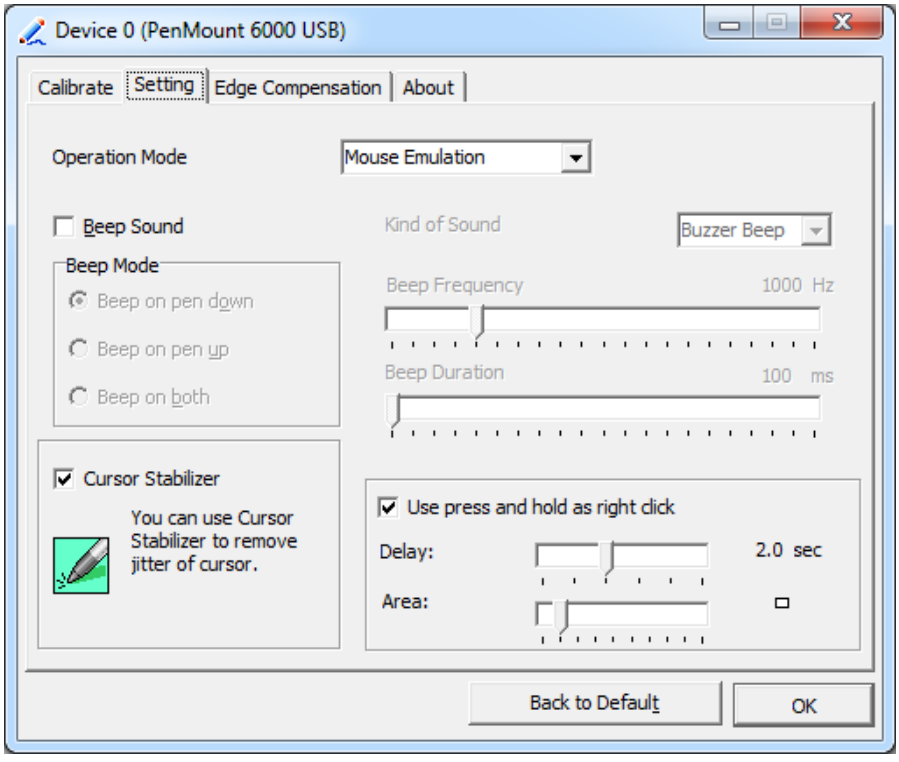
NOTE: Recommend to use a stylus during Advanced Calibration for greater accuracy.



Plot Calibration Data	**Check this function and a touch panel linearity comparison graph appears when you have finished Advanced Calibration. The blue lines show linearity before calibration and black lines show linearity after calibration.**
Turn off EEPROM storage	**The function disable for calibration data to write in Controller. The default setting is Enable.**

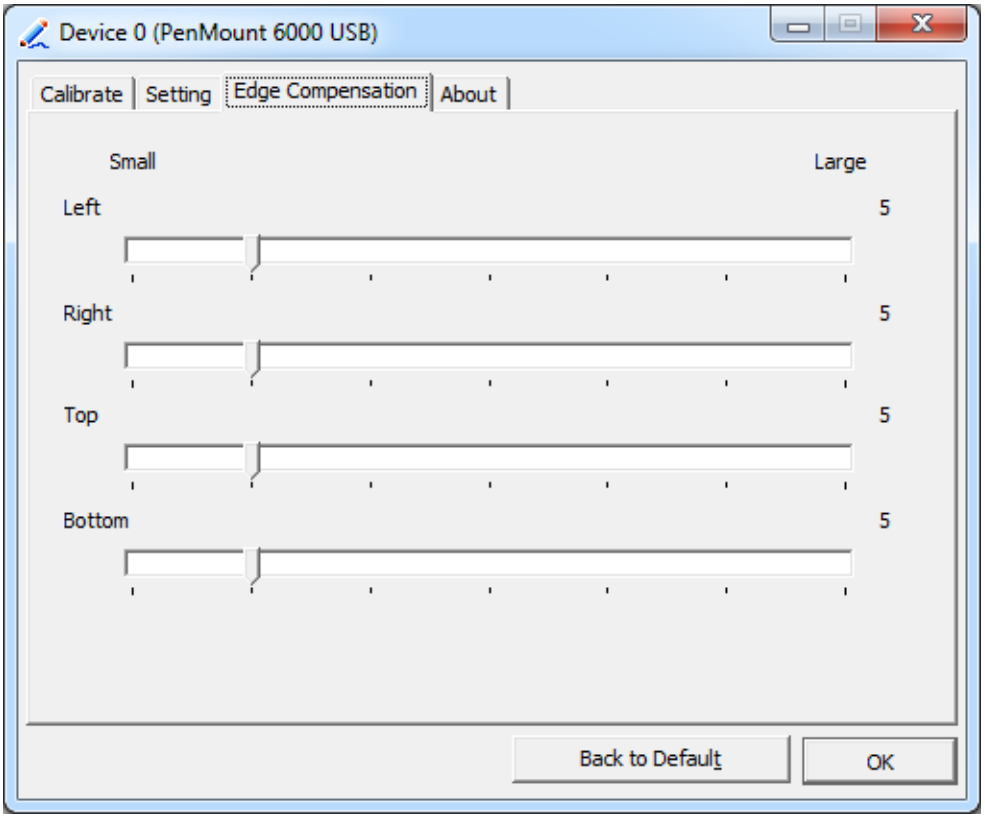
Setting

Touch Mode	**This mode enables and disables the mouse's ability to drag on-screen icons – useful for configuring POS terminals.** **Mouse Emulation – Select this mode and the mouse functions as normal and allows dragging of icons.** **Click on Touch – Select this mode and mouse only provides a click function, and dragging is disables.**
Beep Sound	**Enable Beep Sound – turns beep function on and off** **Beep on Pen Down – beep occurs when pen comes down** **Beep on Pen Up – beep occurs when pen is lifted up** **Beep on both – beep occurs when comes down and lifted up** **Beep Frequency – modifies sound frequency** **Beep Duration – modifies sound duration**
Cursor Stabilizer	**Enable the function support to prevent cursor shake.**
Use press and hold as right click	**You can set the time out and area for you need.**



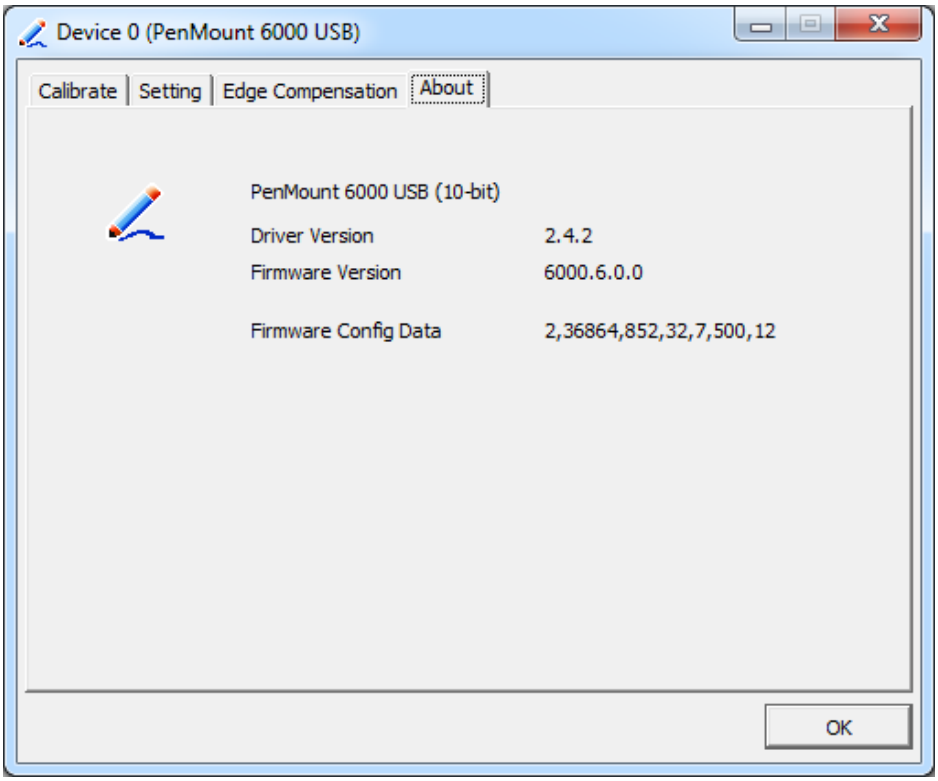
Edge Compensation

You can use Edge Compensation to calibrate more subtly.



About

This panel displays information about the PenMount controller and driver version.



Multiple Monitors

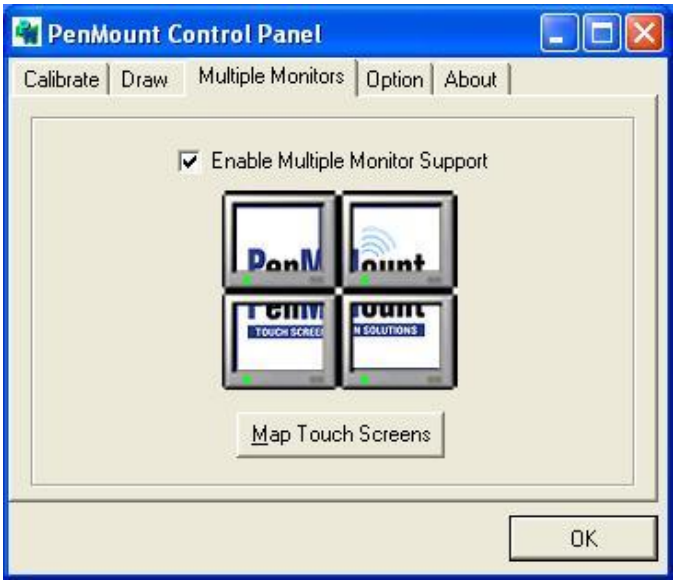
Multiple Monitors support from two to six touch screen displays for one system. The PenMount drivers for Windows XP/2003/Vista/7 support Multiple Monitors. This function supports from two to six touch screen displays for one system. Each monitor requires its own PenMount touch screen control board, either installed inside the display or in a central unit. The PenMount control boards must be connected to the computer COM ports via the USB interface. Driver installation procedures are the same as for a single monitor. Multiple Monitors support the following modes:

Windows Extends Monitor Function
Matrox DualHead Multi-Screen Function
nVidia nView Function

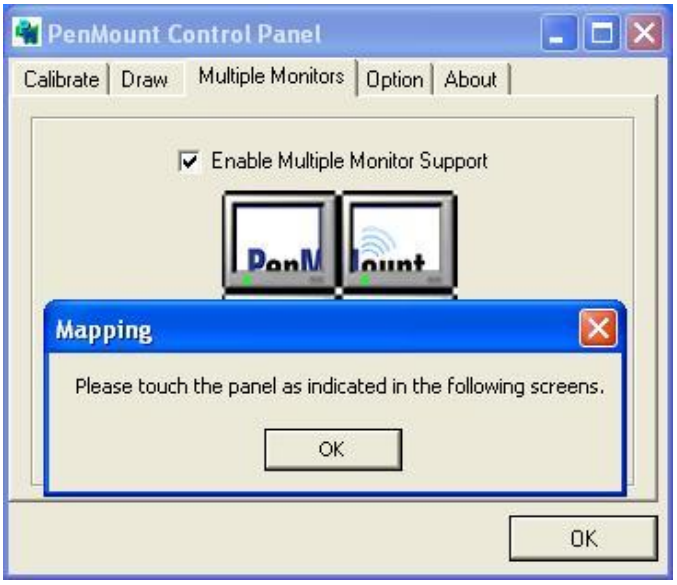
NOTE: The Multiple Monitor function is for use with multiple displays only. Do not use this function if you have only one touch screen display. Please note once you turn on this function the rotating function is disabled.

Enable the multiple display function as follows:

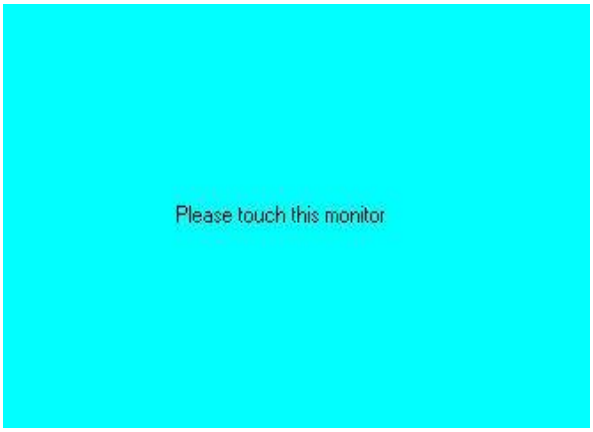
1. Check the **Enable Multiple Monitor Support** box; then click **Map Touch Screens** to assign touch controllers to displays.



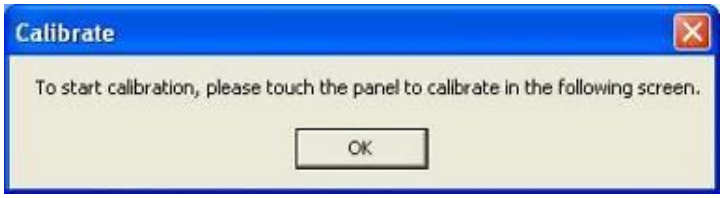
2. When the mapping screen message appears, click **OK.**



3. Touch each screen as it displays “Please touch this monitor”. Following this sequence and touching each screen is called mapping the touch screens.



4. Touching all screens completes the mapping and the desktop reappears on the monitors.
5. Select a display and execute the “Calibration” function. A message to start calibration appears. Click **OK.**



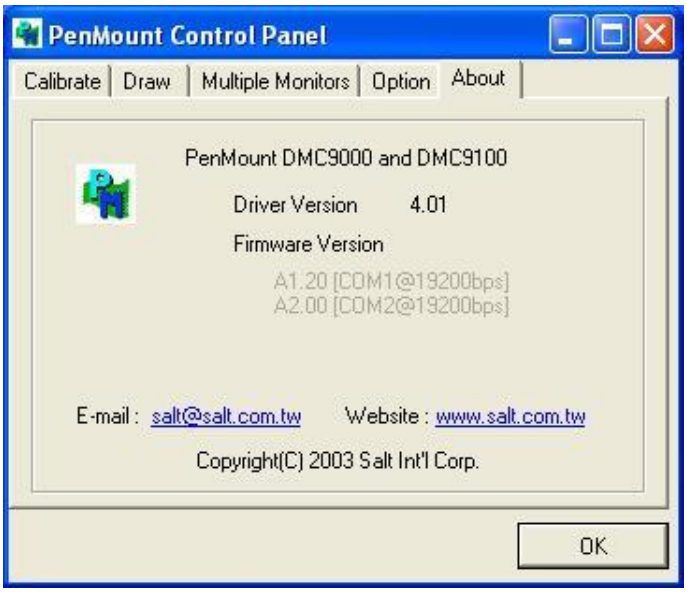
6. “Touch this screen to start its calibration” appears on one of the screens. Touch the screen.
7. “Touch the red square” messages appear. Touch the red squares in sequence.
8. Continue calibration for each monitor by clicking **Standard Calibration** and touching the red squares.

NOTES:

1. If you use a single VGA output for multiple monitors, please do not use the **Multiple Monitor** function. Just follow the regular procedure for calibration on each of your desktop monitors.
2. The Rotating function is disabled if you use the Multiple Monitor function.
3. If you change the resolution of display or screen address, you have to redo **Map Touch Screens,** so the system understands where the displays are.

About

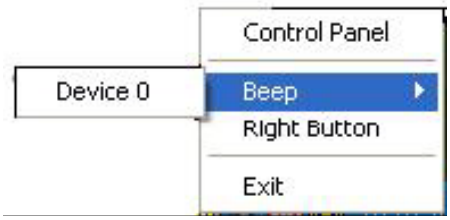
This panel displays information about the PenMount controller and this driver version.



PenMount Monitor Menu Icon

The PenMount monitor icon (PM) appears in the menu bar of Windows XP/2003/Vista/7 system when you turn on PenMount Monitor in PenMount Utilities.

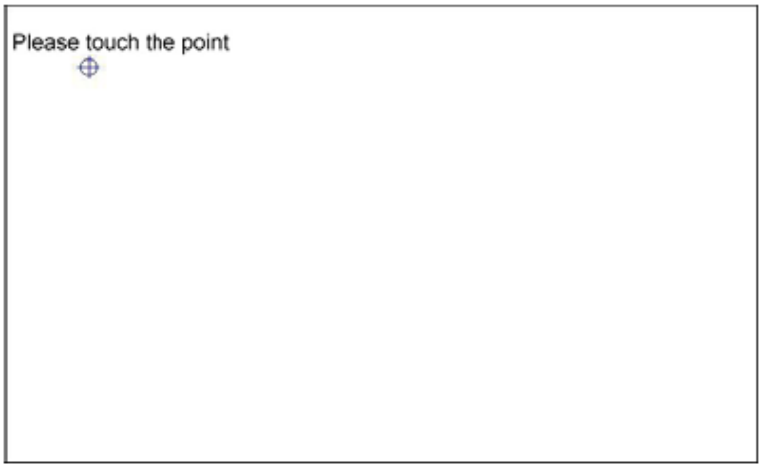
PenMount Monitor has the following function



Control Panel	**Open Control Panel Windows**
Beep	**Setting Beep function for each device**
Right Button	**When you select this function, a mouse icon appears in the right-bottom of the screen.**  **Click this icon to switch between Right and Left Button unctions.**
Exit	**Exits the PenMount Monitor function.**

Configuring the Rotate Function

1. Install the rotation software package.
2. Choose the rotate function (0°, 90°, 180°, 270°) in the 3rd party software. The calibration screen appears automatically. Touch this point and rotation is mapped.



NOTE: The Rotate function is disabled if you use Monitor Mapping