



ACS-2695A Box PC User Manual

Socket G2, 3rd Generation Intel Core i7/i5/i3 BOX PC



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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.

Disclaimer

This information in this document is subject to change without notice. In no event shall Apex Technology Inc. be liable for damages of any kind, whether incidental or consequential, arising from either the use or misuse of information in this document or in any related materials.

Packing List

| Accessories (as ticked) included in this package are: |
|--|
| <input type="checkbox"/> Adaptor |
| <input type="checkbox"/> Driver & manual CD disc |
| <input type="checkbox"/> Other. _____ (please specify) |

Safety Precautions

Follow the messages below to avoid 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 Specifications

| Specs | ACS-2695A |
|--|---|
| System | |
| CPU | Support Socket G2, 3rd Generation Intel Core i7/i5/i3 |
| System Chipset | Intel HM77 PCH |
| System Memory | 2 x 204 Pin DDR3 SO-DIMM, default 4GB (one slot), up to 16GB 1066/1333MHz |
| External I/O Port | 2 x DB9 RS-232 (COM1.2) 1 x DVI-I 1 x HDMI 2 x RJ45 GbE LAN 4 x USB 2.0 1 x Mic-in, Line-Out 1 x DC Power 3 Pin terminal block connector 1 x 2 pin power switch connector 2X LED indication |
| OS Support | Windows XP embedded, Windows embedded standard 7, Windows 7 Pro for embedded |
| Expansion I/O By a new daughter board | By TB-523 1X Power button switch 1X CF Slot by USB 1X COM RS-422/485 (COM3, default:RS-485) 1X COM RS-232 (COM4) 1X10 pins terminal block for 1 Ground/VCC/ 4 in & out DIDO |
| Wi-Fi | 2 optional Antenna holes at front side (conserved) |
| CD/DVD-R Device | Optional |
| Optional Fan | Two 40X40mm System Fan space, rear and front (080401030540) |
| Expansion Slots | 1 x PCIe x16 and 1 x PCI slot By TB-526P1E161 |
| Storage | 2x 2.5" SATA HDD |
| Power | |
| Power Input | DC 9~32V |
| Power Consumption | Max:29.75W |
| Mechanical Specifications | |
| Construction / Color | Steel and Aluminum Heatsink |
| Dimensions(WxHxD) | 211.2(W)x203.5(H)x177(D) mm |
| Net Weight | 5.5KG |
| Environmental | |
| Operating Temperature | 0~50 °C |
| Storage Temperature | -20~60 °C |
| Storage Humidity | 10%~90% @ 40°C, non-condensing |
| Vibration | 5G, 5-500MHz, 3 Axes(with CF or SSD) 0.5G 5-500MHz, 3 Axes(with HDD) |
| Shock | 50G Half sine (11 msec. duration)/operation with SSD |
| Drop | 92cm (1 Corner, 3 Edge, 6 Surface) |
| Certificate | CE / FCC Class A |

1.2 Dimensions

ACS-2695A
DC IN
DVD

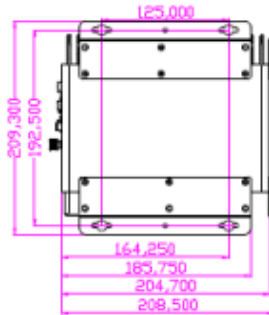
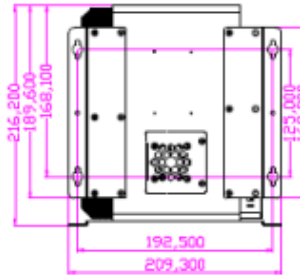
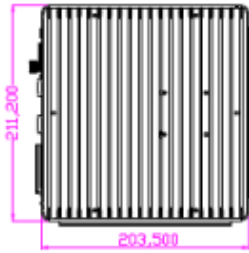
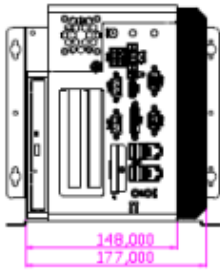
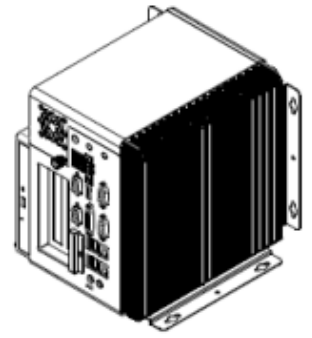
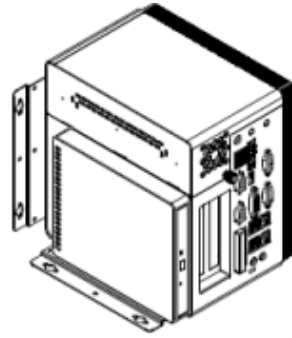
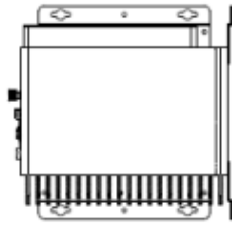


Figure 1.1: Dimensions of the ACS-2695A

1.3 Brief Description of the ACS-2695A

The ACS-2695A is a fan-less high-efficiency thermal solution Box PC, powered by Socket G2, 3rd Generation Intel Core i7/i5/i3 processor and supporting 4 x USB 2.0 ports, 2 x COM Ports, 1 x DVI-I, support 2 x SATA HDD space, 1 x external CF slot, 9~32V wide-ranging power input etc. It is ideal for Industrial Automation, Factory Automation, Machine Vision, Process Control, Data Terminal, TI, Surveillance, etc. and running factory operations from small visual interface and maintenance applications to large control process applications. The ACS-2695A works very well along with any of our Display series and it absolutely can provide an easy way to perform control and field maintenance.

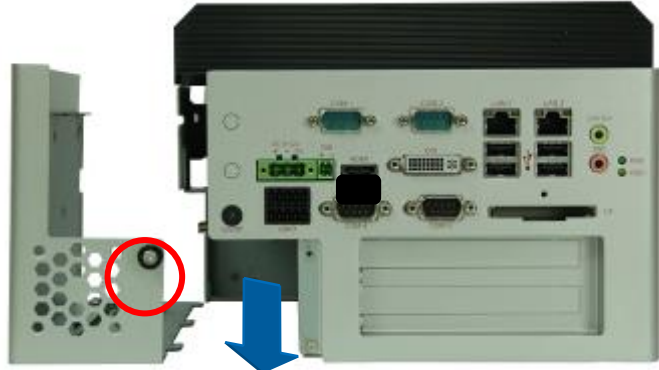
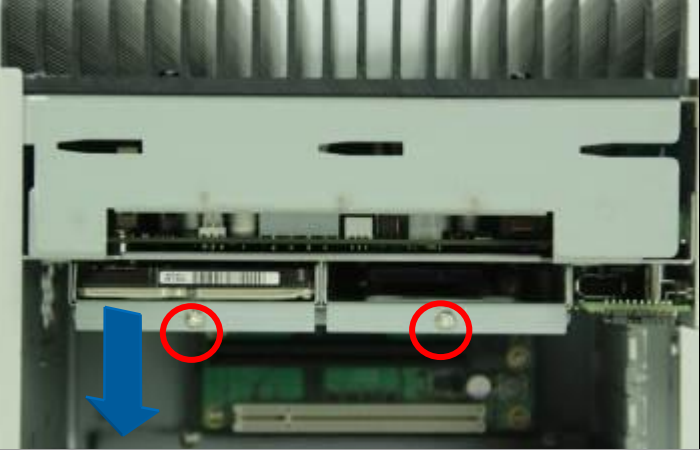
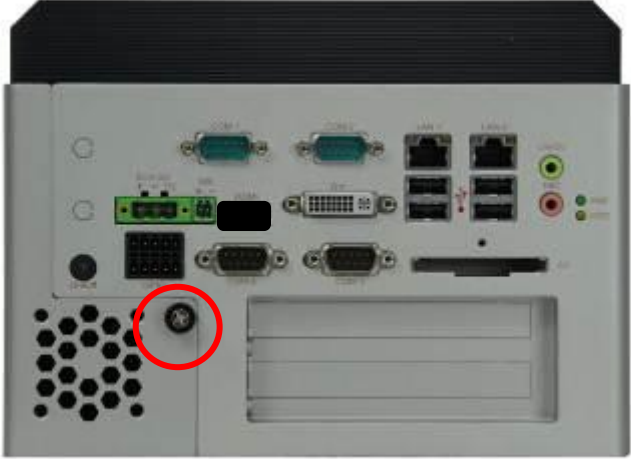


Figure 1.2: Left-front View of ACS-2695A



Figure 1.3: Right-front View of ACS-2695A

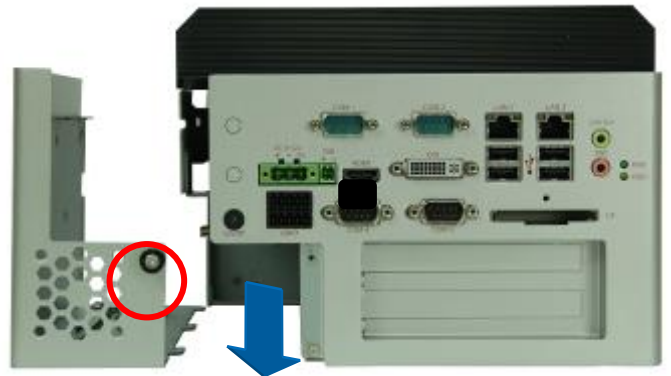
1.4 Installation of HDD

| | |
|--|--|
| <p>Step 1 There is one screw which connects to the chassis. Pull out the chassis towards the I/O side after unscrewing as shown in the picture ACS-2695A</p> |  A photograph of the rear panel of the ACS-2695A chassis. A single screw on the left side is circled in red. A blue arrow points downwards from the circled screw, indicating the direction to pull the chassis out. |
| <p>Step 2 There are 2 screws to deal with when enclosing or removing the HDD bracket as shown in the picture ACS-2695A</p> <p>Loosen screw and draw the HDD bracket out as shown in the picture ACS-2695A</p> |  An internal view of the ACS-2695A chassis showing the HDD bracket. Two screws on the bracket are circled in red. A blue arrow points downwards from the left side of the bracket, indicating the direction to pull it out. |
| <p>Step 3 Tighten the 1 screw as shown in the picture. That's how it should look after it has been installed.</p> |  A photograph of the rear panel of the ACS-2695A chassis after the HDD bracket has been installed. The screw on the left side is circled in red, indicating it should be tightened. |

1.5 Installation of PCI Add-on

Step 1

There is one screw which connects to the chassis. Pull out the chassis towards the I/O side after unscrewing as shown in the picture ACS-2695A

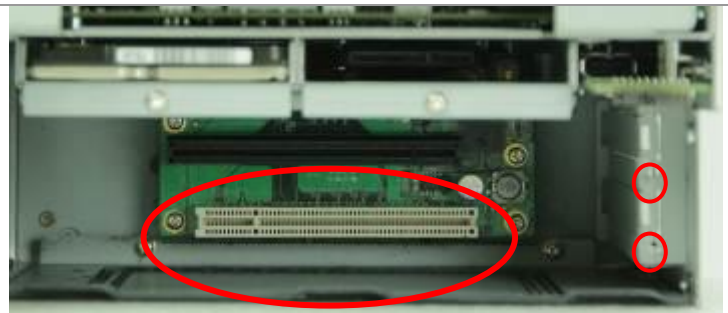


Step 2

Now slide the add on into the PCI slot, making sure the golden part faces the slot. When the part that is interfaced together come into the right contact, slightly push the add on into the rail of the slot.

After sliding the add on into the PCI expansion slot, get the one screw as circled tightened to finish the connection.

**** Half Expansion-card limit to be not more than 175mm length**



Step 3

Tighten the 1 screw as shown in the picture. That's how it should look after it has been installed.



Chapter 2 Hardware Installation

2.1 Mainboard Specifications

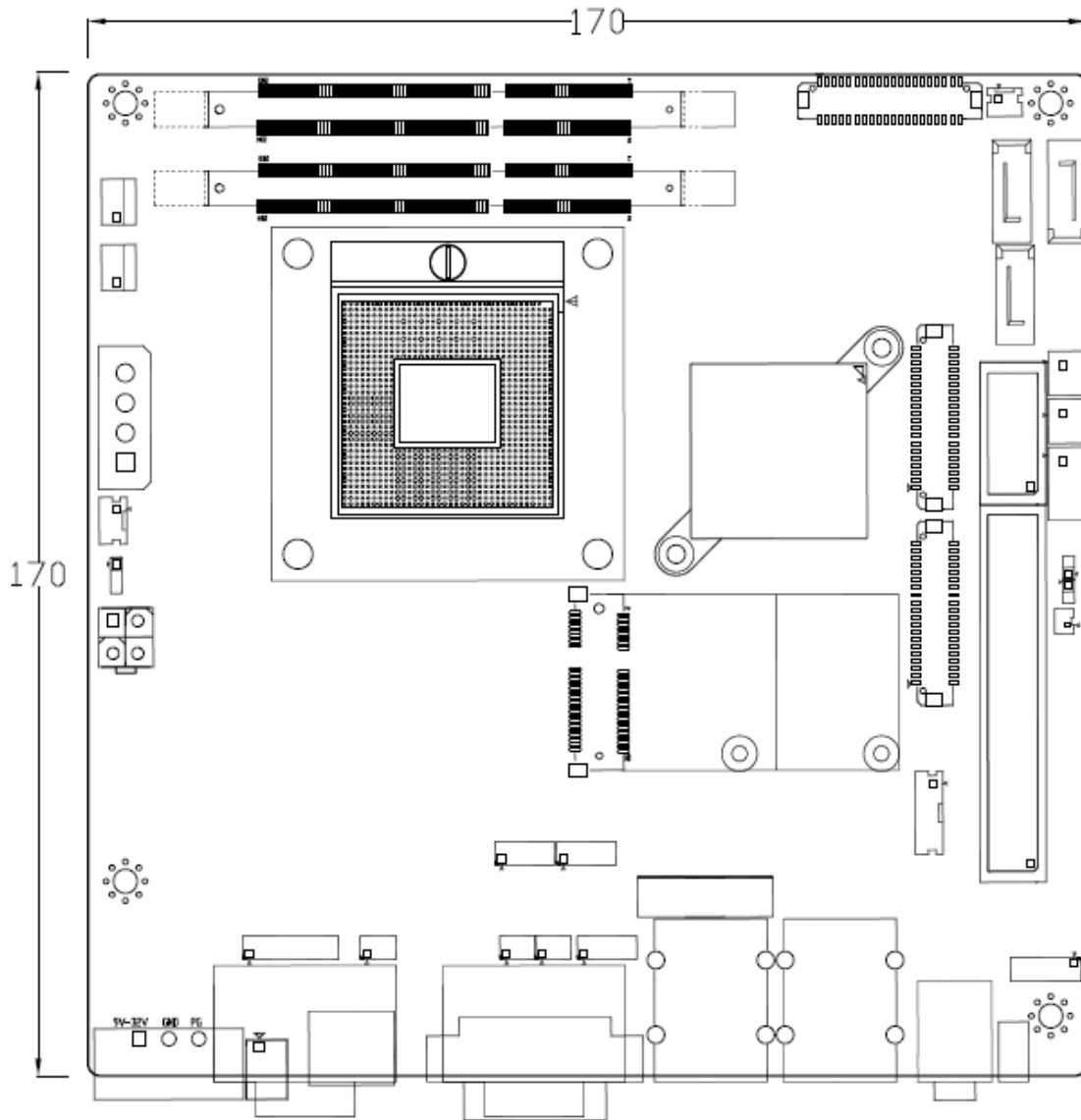


Figure 2.1: Mainboard Dimensions

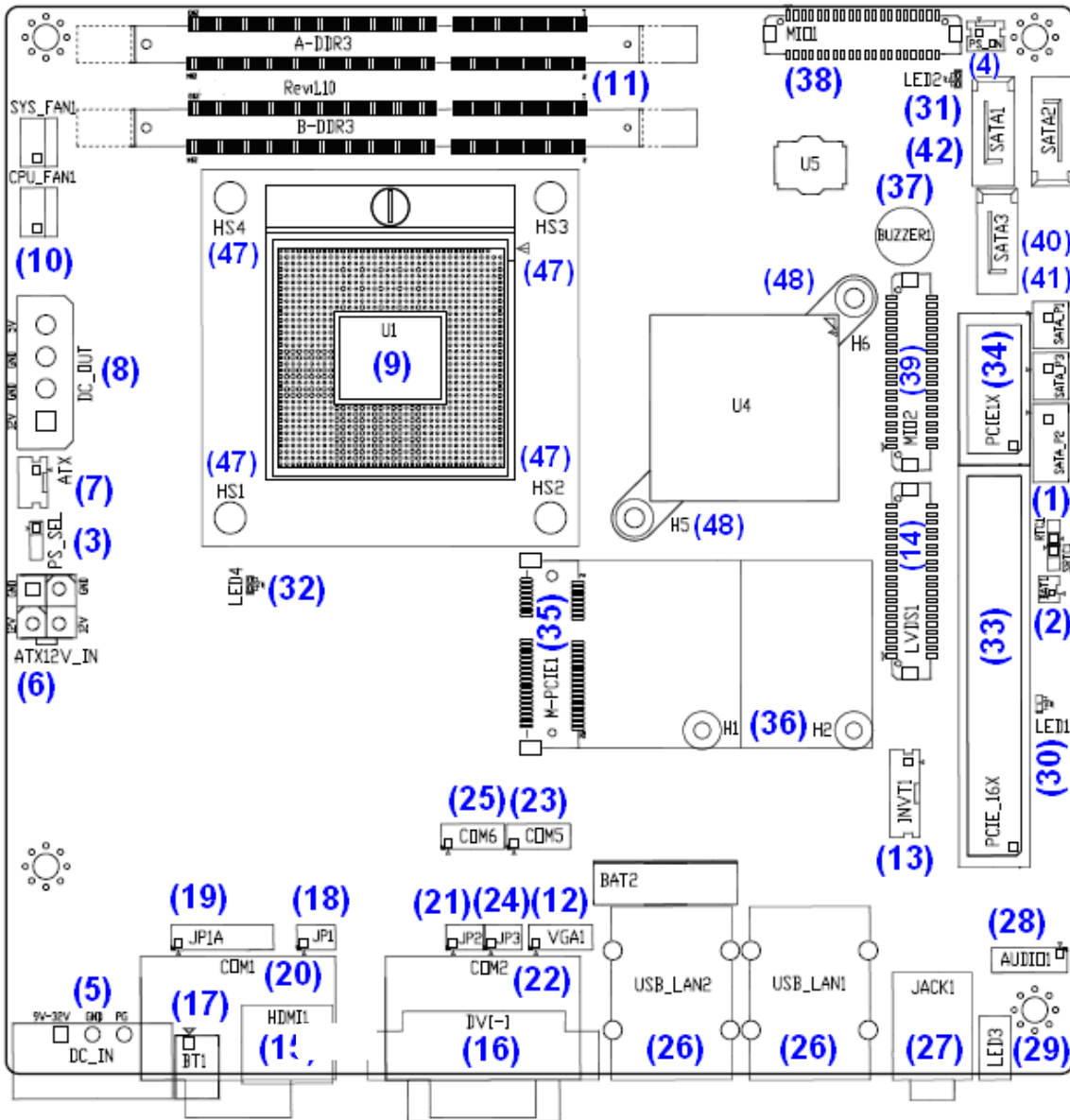


Figure 2.2: Jumpers and Connectors Location-TOP

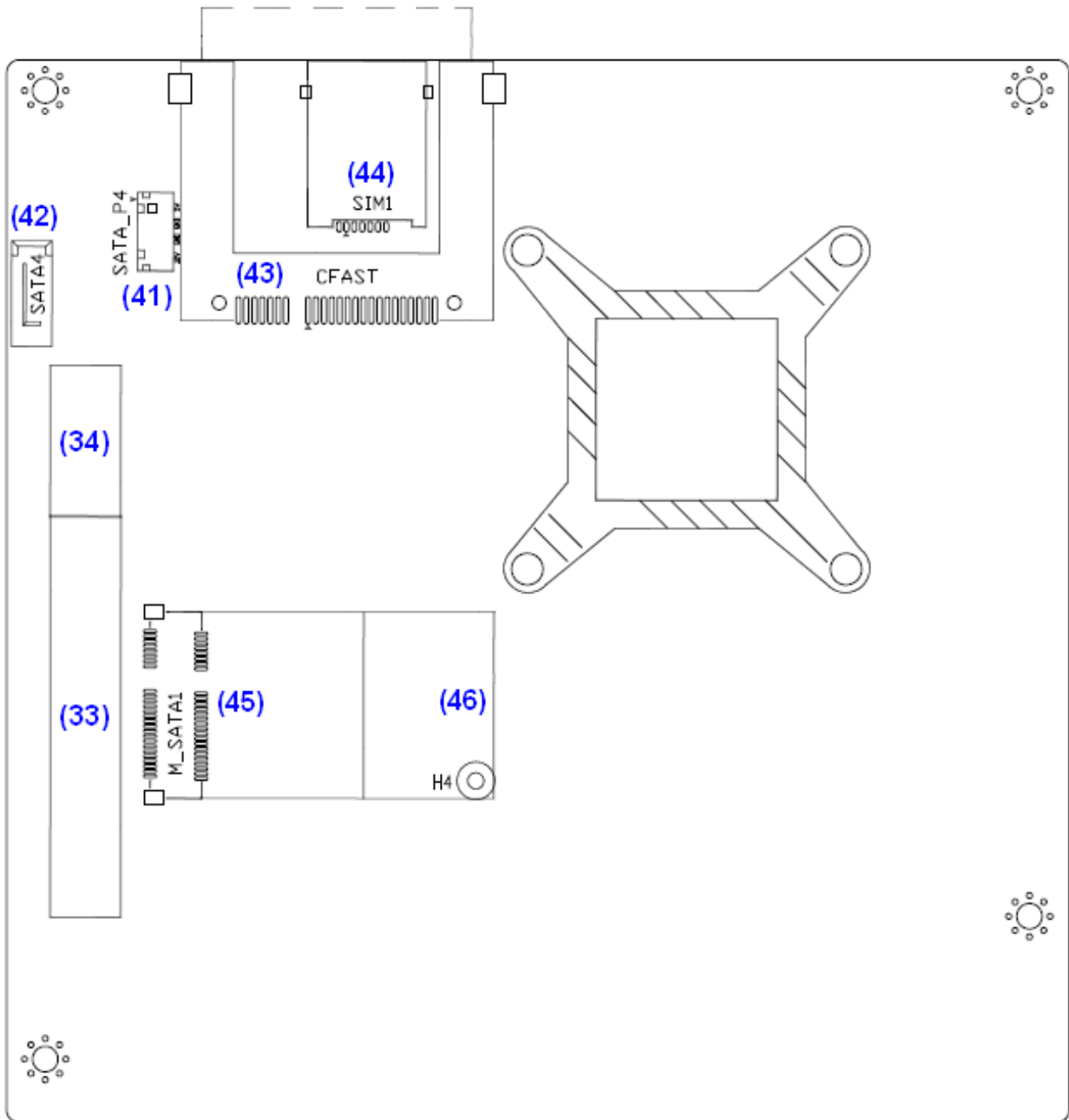


Figure 2.3: Jumpers and Connectors Location- Bottom

Specifications

| Specifications | |
|-----------------------|--|
| Board Size | 170mm x 170mm |
| CPU Support | Support Socket G2, 2nd/3rd Gen Intel Core i3/i5/i7 Processors |
| Chipset | Intel HM77 (ASB-M8771HB) |
| Memory Support | 2 x SO-DIMM (204pins), up to 16GB DDRIII 1066/1333/1600MHz FSB |
| Graphics | Intel HD Graphics 4000 |
| Super I/O | Winbond W83627UHG |
| BIOS | AMIBIOS 16M |
| Storage | 1 x SATA2.0 Connector (SATA3) 1 x SATA2.0 Connector (SATA4 option) 2 x SATA3.0 Connector (SATA1/SATA2) 1 x MSATA Connector (option) |
| Ethernet | 2 x PCIe GbE LAN by Intel 82574L |
| USB | 4 x USB 2.0 stack ports for external 3 x USB 2.0 box Pin header for MIO1 4 x USB 2.0 box Pin header for MIO2 1 x USB 2.0 internal for mini PCIe |
| Serial | 1 x RS232/422/485 port, DB9 connector for external (COM1) pin 9 w/5V/12V/Ring select 1 x RS232 port, DB9 connector for external (COM2) pin 9 w/5V/12V/Ring select 1 x RS232 header for internal (COM5) 1 x RS232 header for internal (COM6), pin 9 w/5V/12V select I/O Card TB-522 (option): 1 x 422/485 select header for internal MIO1 (COM3) 1 x RS232 header for internal MIO1 (COM4) I/O Card TB-523 (option): 1 x 422/485 select header for internal MIO1 (COM3) 1 x RS232/422/485 select header for internal MIO1 (COM4) |
| Digital I/O | 8-bit digital I/O by Pin header by MIO2 4-bit digital Input 4-bit digital Output |

| | |
|------------------------------------|--|
| Battery | Support CR2477 Li battery by 2-pin header Support CR2032 Li battery (BAT2,option) |
| Audio | Support Audio via Realtek ALC662 HD audio codec Support Line-out, MIC by JACK1 Support Line-in, Line-out, MIC by 2x6-pin header |
| Keyboard /Mouse | PS2 K/B and Mouse by MIO2 1 x PS/2 keyboard 1 x PS/2 mouse |
| Expansion | 1 x PCI-express x16 extend by 4x30 pin socket 2 x PCI-express x1 extend by 4x10 pin socket 1 x mini-PCI-express slot 1 x CRT 2x5 Pin Header |
| Power Management | 1 x 3-pin power input connector (Wide range DC+9V~32V) 1 x ATX Power Input (2x2Pin and 3Pin, option) DC5V/12V output by 1x4 pin Connectors |
| Switches and LED Indicators | Power on/off switch by TB-522 or TB-523 Reset switch by MIO2 Power LED status by MIO2 HDD LED status by MIO2 |
| External I/O port | 2 x COM Ports (COM1/COM2) 4 x USB 2.0 Ports (stack) 2 x RJ45 GbE LAN Ports 1 x DVI-I Port 1 x HDMI Port 1 x Audio Ports (Mic, Line out) |
| Watchdog Timer | Software programmable 1–255 second by Super I/O |
| Temperature | Operating: -20°C to 70°C Storage: -40°C to 85°C |
| Humidity | 10% - 90%, non-condensing, operating |
| Power Consumption | 12V/3.80A (Intel i5-2430M 2.4GHz Processor with 4GB DDR3) 19V/2.0A (Intel i5-2540 2.6GHz Processor with 8GB DDR3) 19V/2.2A(Intel i7-2620 2.7GHz Processor with 8GB DDR3) |
| EMI/EMS | Meet CE/FCC class A |

2.2 Jumpers Setting and Connectors

1. RTC1/SRTC1:

(2.0mm Pitch 1X2 Pin Header) CMOS clear jumper, CMOS clear operation will permanently reset old BIOS settings to factory defaults.

| RTC1/SRTC1 | CMOS |
|---------------------------------------|------------------|
| Open or (RTC1Pin1-SRTC1 Pin close) | NORMAL (Default) |
| Close 1-2 | Clear CMOS |



Procedures of CMOS clear:

- Turn off the system and unplug the power cord from the power outlet.
- To clear the CMOS settings, use the jumper cap to close pins1 and 2 for about 3 seconds then reinstall the jumper clip back to pins open.
- Power on the system again.
- When entering the POST screen, press the key to enter CMOS Setup Utility to load optimal defaults.
- After the above operations, save changes and exit BIOS Setup.

2. BAT1 :

(1.25mm Pitch 1X2 box Pin Header) 3.0V Li battery is embedded to provide power for CMOS.

| Pin# | Signal Name |
|------|-------------|
| Pin1 | VBAT |
| Pin2 | Ground |

3. PS_SEL:

(2.0mm Pitch 1X3 Pin Header),DC in Power and ATX 12V_IN Power jumper setting.

| PS_SEL | Mode |
|------------------|------------------------------|
| Close 1-2 | DC in Power (Default) |
| Close 2-3 | ATX 12V_IN Power |

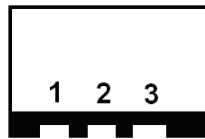
4. PS_ON:

(2.0mm Pitch 1X2 Pin Header),ATX Power and Auto Power on jumper setting.

| PS_ON | Mode |
|------------------|--------------------------------|
| Close 1-2 | Auto Power on (Default) |
| Open 1-2 | ATX Power |

5. DCIN:

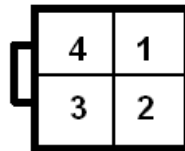
(5.08mm Pitch 1x3 Pin Connector),DC9V ~ DC32V System power input connector.



| Pin# | Power Input |
|------|-------------|
| Pin1 | DC+9V~32V |
| Pin2 | Ground |
| Pin3 | PG |

6. ATX12V_IN (ATX Power option):

(2x2 Pin Connector), DC12V System power **input** connector.



| Pin# | Power input |
|------|-------------|
| Pin1 | Ground |
| Pin2 | Ground |
| Pin3 | DC+12V |
| Pin4 | DC+12V |

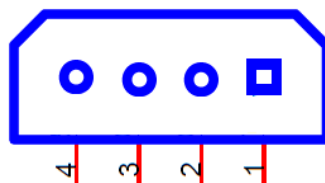
7. ATX (ATX Power option):

(2.0mm Pitch 1X3 box Pin Header), connect PSON and 5VSB and Ground signal,support ATX Power model. **Reserved.**

| Pin# | Signal Name |
|------|-------------|
| Pin1 | ATX PSON |
| Pin2 | ATX Ground |
| Pin3 | ATX 5VSB |

8. DC_OUT:

(2x2 Pin Connector),DC12V and DC5V System power **output** connector.



| Pin# | Power output |
|------|--------------|
|------|--------------|

| | |
|------|--------|
| Pin1 | DC+12V |
| Pin2 | Ground |
| Pin3 | Ground |
| Pin4 | DC+5V |

9. U1:

(Socket G2), installing the 2nd GEN intel Core i3/i5/i7CPU Socket.

10. CPU_FAN1/SYS_FAN1:

(2.54mm Pitch 1x3 Pin Header), Fan connector, cooling fans can be connected directly for use. You may set the rotation condition of cooling fan in menu of BIOS CMOS Setup.



| Pin# | Signal Name |
|------|--------------------|
| 1 | Ground |
| 2 | VCC |
| 3 | Rotation detection |



Note:

Output power of cooling fan must be limited under 5W.

11. A-DDR3/B-DDR3:

(SO-DIMM 204Pin socket), DDRIII memory socket, the socket is located at the top of the board and supports 204Pin 1.5V DDRIII 1066/1333/1600MHz FSB SO-DIMM memory module up to 16GB.

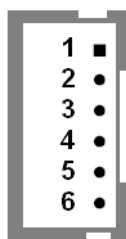
12. VGA1:

(CRT 2.0mm Pitch 2X5 Pin Header), Video Graphic Array Port, Provide 2x5Pin cable to VGA Port.

| Signal Name | Pin# | Pin# | Signal Name |
|-------------|------|------|--------------|
| CRT_RED | 1 | 2 | Ground |
| CRT_GREEN | 3 | 4 | Ground |
| CRT_BLUE | 5 | 6 | Ground |
| CRT_H_SYNC | 7 | 8 | CRT_DDCCDATA |
| CRT_V_SYNC | 9 | 10 | CRT_DDCCCLK |

13. INVT1:

(2.0mm Pitch 1x6 box Pin Header), Backlight control connector for LVDS1.



| Pin# | Signal Name |
|------|-------------|
| 1 | +DC12V |
| 2 | +DC12V |
| 3 | Ground |
| 4 | Ground |
| 5 | BKLT_EN |
| 6 | BKLT_CTRL |



Note:

Pin6 is backlight control signal, support DC or PWM mode, mode select at BIOS CMOS menu.

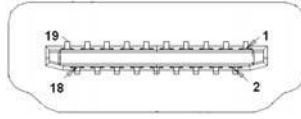
14. LVDS1:

(1.25mm Pitch 2x20 Connector), For 18/24-bit LVDS output connector, Fully supported by Intel HM77 chipset, the interface features dual channel 18/24-bit output.

| Signal Name | Pin# | Pin# | Signal Name |
|-----------------|------|------|--------------|
| VDD5 | 2 | 1 | VDD5 |
| Ground | 4 | 3 | Ground |
| VDD33 | 6 | 5 | VDD33 |
| LB_D0_N | 8 | 7 | LA_D0_N |
| LB_D0_P | 10 | 9 | LA_D0_P |
| Ground | 12 | 11 | Ground |
| LB_D1_N | 14 | 13 | LA_D1_N |
| LB_D1_P | 16 | 15 | LA_D1_P |
| Ground | 18 | 17 | Ground |
| LB_D2_N | 20 | 19 | LA_D2_N |
| LB_D2_P | 22 | 21 | LA_D2_P |
| Ground | 24 | 23 | Ground |
| LB_CLK_N | 26 | 25 | LA_CLK_N |
| LB_CLK_P | 28 | 27 | LA_CLK_P |
| Ground | 30 | 29 | Ground |
| LVLVDS_DDC_DATA | 32 | 31 | LVDS_DOC_CLK |
| Ground | 34 | 33 | Ground |
| LB_D3_N | 36 | 35 | LA_D3_N |
| LB_D3_P | 38 | 37 | LA_D3_P |
| NC | 40 | 39 | NC |

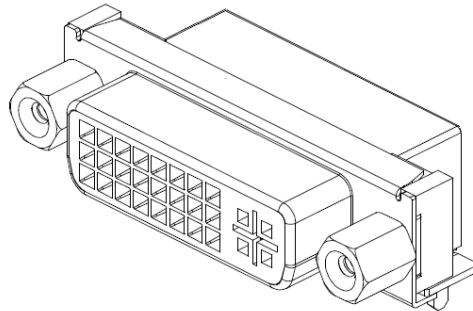
15. HDMI1:

(HDMI 19P Connector), High Definition Multimedia Interface connector.



16. DVI-I:

(DVI-I Connector), Digital Visual Interface-Integrated connector.



17. BT1:

POWER on/off Button, They are used to connect power switch button. The two pins are disconnected under normal condition. You may short them temporarily to realize system startup & shutdown or awaken the system from sleep state.

18. JP1:

(2.0mm Pitch 2x3 Pin Header), COM1 jumper setting, pin 1~6 are used to select signal out of pin 9 of COM1 port.

| JP1 Pin# | Function |
|------------------|--|
| Close 1-2 | COM1 Pin9 RI (Ring Indicator) (default) |
| Close 3-4 | COM1 Pin9 = +5V (option) |
| Close 5-6 | COM1 Pin9 = +12V (option) |

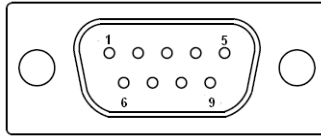
19. JP1A:

(2.0mm Pitch 2x8 Pin Header), COM1 jumper setting, it provides selectable RS232 or RS422 or RS485 serial signal output.

| Function | JP1A Pin# |
|------------------------|---|
| RS232 (Default) | Close: Pin1-3, Pin2-4, Pin7-9, Pin8-10, Pin13-14 |
| RS422 (option) | Close: Pin3-5, Pin4-6, Pin9-11, Pin10-12, Pin17-18 |
| RS485 (option) | Close: Pin3-5, Pin4-6, Pin9-11, Pin10-12, Pin15-16 |

20. COM1:

(Type DB9),Rear serial port, standard DB9 Male serial port is provided to make a direct connection to serial devices.



| RS232 (Default): | |
|-------------------------|---------------------------------------|
| Pin# | Signal Name |
| 1 | DCD# (Data Carrier Detect) |
| 2 | RXD (Received Data) |
| 3 | TXD (Transmit Data) |
| 4 | DTR (Data Terminal Ready) |
| 5 | Ground |
| 6 | DSR (Data Set Ready) |
| 7 | RTS (Request To Send) |
| 8 | CTS (Clear To Send) |
| 9 | JP1 select Setting (RI/5V/12V) |

| RS422 (option): | |
|------------------------|-------------|
| Pin# | Signal Name |
| 1 | 422_R+ |
| 2 | 422_R- |
| 3 | 422_T- |
| 4 | 422_T+ |
| 5 | Ground |
| 6 | NC |
| 7 | NC |
| 8 | NC |
| 9 | NC |

| RS485 (option): | |
|------------------------|-------------|
| Pin# | Signal Name |
| 1 | NC |
| 2 | NC |
| 3 | 485- |
| 4 | 485+ |
| 5 | Ground |
| 6 | NC |
| 7 | NC |
| 8 | NC |
| 9 | NC |

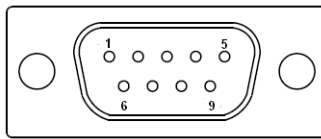
21. JP2:

(2.0mm Pitch 2x3 Pin Header),COM2 jumper setting, pin 1~6 are used to select signal out of pin 9 of COM2 port.

| JP2 Pin# | Function |
|------------------|--|
| Close 1-2 | COM2 Pin9 RI (Ring Indicator) (default) |
| Close 3-4 | COM2 Pin9=+5V (option) |
| Close 5-6 | COM2 Pin9=+12V (option) |

22. COM2:

(Type DB9),Rear serial port, standard DB9 Male serial port is provided to make a direct connection to serial devices.



| Pin# | Signal Name |
|------|---------------------------------------|
| 1 | DCD# (Data Carrier Detect) |
| 2 | RXD (Received Data) |
| 3 | TXD (Transmit Data) |
| 4 | DTR (Data Terminal Ready) |
| 5 | Ground |
| 6 | DSR (Data Set Ready) |
| 7 | RTS (Request To Send) |
| 8 | CTS (Clear To Send) |
| 9 | JP2 select Setting (RI/5V/12V) |

23. COM5:

(2.0mm Pitch 2X5 Pin Header),COM5 Port, standard RS232 ports are provided. They can be used directly via COM cable connection.

| Signal Name | Pin# | Pin# | Signal Name |
|-------------|------|------|-------------|
| DCD | 1 | 2 | RXD |
| TXD | 3 | 4 | DTR |
| Ground | 5 | 6 | DSR |
| RTS | 7 | 8 | CTS |
| RI | 9 | 10 | NC |

24. JP3:

(2.0mm Pitch 1x3 Pin Header) COM6 setting jumper, pin 1~6 are used to select signal out of pin 9 of COM6 port.

| JP3 Pin# | Function |
|----------|----------|
|----------|----------|

| | | |
|------------------|--|----------|
| Close 1-2 | COM6 Pin9 RI (Ring Indicator) (default) | |
| Close 3-4 | COM6 Pin9=+5V | (option) |
| Close 5-6 | COM6 Pin9=+12V | (option) |

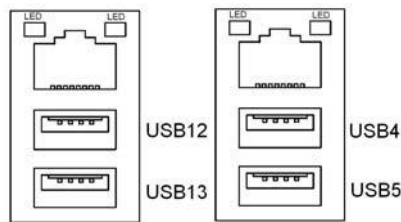
25. COM6:

(2.0mm Pitch 2x5 Pin Header), COM6 Port, standard RS232 ports are provided. They can be used directly via COM cable connection. COM6 port is controlled by pins No.1~6 of JP3,select output Signal 5V or 12v, For details, please refer to description of **JP3**.

| Signal Name | Pin# | Pin# | Signal Name |
|---|------|------|-------------|
| DCD | 1 | 2 | RXD |
| TXD | 3 | 4 | DTR |
| Ground | 5 | 6 | DSR |
| RTS | 7 | 8 | CTS |
| JP3 select Setting (RI/5V/12V) | 9 | 10 | NC |

26. USB_LAN1/USB_LAN2:

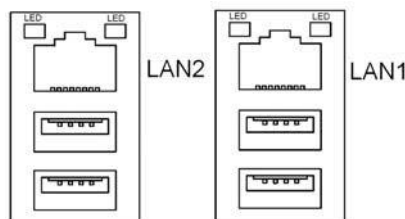
USB4/USB5/USB12/USB13: (Double stack USB type A), Rear USB connector, it provides up to 4 USB2.0 ports, speed up to 480Mb/s.



Each USB Type A Receptacle (2 Ports) Current limited value is 1.5A.

If the external USB device current exceeds 1.5A, please separate connectors into different Receptacle.

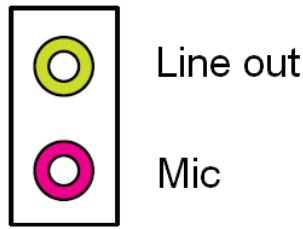
LAN1/LAN2: (RJ45 Connector), Rear LAN port, Two standard 10/100/1000M RJ-45 Ethernet ports are provided. Used Intel 82574L chipset, LINK LED (green) and ACTIVE LED (yellow) respectively located at the left-hand and right-hand side of the Ethernet port indicate the activity and transmission state of LAN.



27. JACK1:

(Diameter 3.5mm Double stack Jack), HD Audio port, An onboard Realtek ALC662 codec is used to provide high quality audio I/O ports. Line Out can be connected to a headphone

or amplifier, MIC is the port for microphone input audio.



28. AUDIO1:

(2.0mm Pitch 2X6 Pin Header), Front Audio, An onboard Realtek ALC662 codec is used to provide high-quality audio I/O ports. Line Out can be connected to a headphone or amplifier. Line In is used for the connection of external audio source via a Line in cable. MIC is the port for microphone input audio.

| Signal Name | Pin# | Pin# | Signal Name |
|-------------|------|------|-------------|
| SPK_OUTL_P | 1 | 2 | SPK_OUTR_P |
| SPK_OUTL_N | 3 | 4 | SPK_OUTR_N |
| FRONT_JD | 5 | 6 | LINE1_JD |
| LINE_IN_L | 7 | 8 | LINE-IN-R |
| MIC2_IN_L | 9 | 10 | MIC2-IN-R |
| Ground_AUD | 11 | 12 | MIC2_JD |

29. LED3:

LED STATUS. Green LED for Motherboard Standby Power Good status, Yellow LED for HDD status.

30. LED1:

LED STATUS. Green LED for Motherboard Power status.

31. LED2:

LED STATUS. Green LED for Motherboard Standby Power Good status.

32. LED4:

LED STATUS. Green LED for Motherboard Power status.

33. PCIE_16X (option):

(4x30 Pin), Riser Card expansion connector. Can expand support one PCIeX16 or two PCIeX8 Signal.

ASB-M8771T: PCIE_16X connector in the top.

ASB-M8771B: PCIE_16X connector in the Bottom.

34. PCIE1X (option):

(4x10 Pin), Riser Card expansion connector. Can expand support two PCIe Signal.

ASB-M8771T: PCIE1X connector in the top.

ASB-M8771B: PCIE1X connector in the Bottom.

| | |
|------------|------------------|
| MODEL | PC1E16X / PCIE1X |
| ASB-M8771T | Top |
| ASB-M8771B | Bottom |

35. M-PCIE1:

(Socket 52Pin),mini PCIe socket, it is located at the top, it supports mini PCIe devices with USB2.0,SIM,SMBUS and PCIe signal. MPCle card size is 30x30mm or 30 x 50.95mm.

36. H2/H1(option):

MPCIE1 SCREW HOLES, H1 for mini PCIE card (30mmx30mm) assemble. H2 for mini PCIE card (30mmx50.95mm) assemble.

37. BUZZER1:

Onboard buzzer.

38. MIO1:

(DF13-40P Connector),For expand output connector, It provides two RS232 ports or one RS485 port, three USB ports, one power led, one power button, via a dedicated cable connected to **TB-522 R1.1 MIO1**or **TB-523 R1.1 MIO1**.

| Function | Signal Name | Pin# | Pin# | Signal Name | Function |
|------------------------------|---------------|------|------|-------------|----------|
| COM3 RS422 or RS485 | 485+ / 422TX+ | 2 | 1 | 422RX+ | COM3 |
| | 485- / 422TX- | 4 | 3 | 422RX- | |
| | 3P3V_S0 | 6 | 5 | Ground | |
| | WAN_LED- | 8 | 7 | NC | |
| | 5V_S5 | 10 | 9 | 5V_S5 | |
| COM4 | RXD4 | 12 | 11 | DCD4- | COM4 |
| | DTR4- | 14 | 13 | TXD4 | |
| | DSR4- | 16 | 15 | Ground | |
| | CTS4- | 18 | 17 | RTS4- | |
| | 5V_S5 | 20 | 19 | RI4- | |
| USB10 | 5V_USB1011 | 22 | 21 | 5V_S5 | USB9 |
| | USB10_N | 24 | 23 | USB9_N | |
| | USB10_P | 26 | 25 | USB9_P | |
| | Ground | 28 | 27 | Ground | |
| | Ground | 30 | 29 | Ground | |
| Power LED | PWR_LED+ | 32 | 31 | 5V_USB1011 | USB11 |
| | PWR_LED- | 34 | 33 | USB11_N | |
| Power Button | MIO_PSON | 36 | 35 | USB11_P | |
| | Ground | 38 | 37 | Ground | |
| Power Auto on | AUTO_PSON- | 40 | 39 | NC | |

39. MIO2:

(DF13-40P Connector), Front panel connector.

| Function | Signal Name | Pin# | Pin# | Signal Name | Function |
|-----------|-------------|------|------|-------------|----------|
| P_LED+ | PWR-LED | 2 | 1 | HDD_LED | H_LED+ |
| P_LED- | Ground | 4 | 3 | USB01_OC- | |
| PSON+ | MIO_PSON- | 6 | 5 | USB23_OC- | |
| PSON- | Ground | 8 | 7 | RESET- | RESET |
| BUZZER- | BUZZER- | 10 | 9 | BUZZER+ | BUZZER |
| GPIO_OUT1 | PCH_GPIO68 | 12 | 11 | PCH_GPIO12 | GPIO_IN1 |
| GPIO_OUT2 | PCH_GPIO69 | 14 | 13 | PCH_GPIO15 | GPIO_IN2 |
| GPIO_OUT3 | PCH_GPIO70 | 16 | 15 | PCH_GPIO58 | GPIO_IN3 |
| GPIO_OUT4 | PCH_GPIO71 | 18 | 17 | PCH_GPIO75 | GPIO_IN4 |
| PS2_Mouse | 5V_S5_USB | 20 | 19 | Ground | PS2_K/B |
| | PS2_MSDATA | 22 | 21 | PS2_KBDATA | |
| | PS2_MSCLK | 24 | 23 | PS2_KBCLK | |
| USB3 | 5V_S5_USB | 26 | 25 | 5V_S5_USB | USB2 |
| | USB3_N | 28 | 27 | USB2_N | |
| | USB3_P | 30 | 29 | USB2_P | |
| | Ground | 32 | 31 | Ground | |
| USB1 | 5V_S5_USB | 34 | 33 | 5V_S5_USB | USB0 |
| | USB1_N | 36 | 35 | USB0_N | |
| | USB1_P | 38 | 37 | USB0_P | |
| | Ground | 40 | 39 | Ground | |

Pin1- Ground: **HDD LED**, They are used to connect hard disk activity LED. The LED blinks when the hard disk is reading or writing data.

Pin2- Pin4: **POWER LED**, They are used to connect power LED. When the system is powered on or under S0/S1 state, the LED is normally on, when the system is under S4/S5 state, the LED is off.

Pin3: **USB01 OC-**, "USB01_OC-" Signal.

Pin5: **USB23 OC-**, "USB23_OC-" Signal.

Pin7- Ground: **RESET Button**, They are used to connect reset button. The two pins are disconnected under normal condition. You may short them temporarily to realize system reset.

Pin6- Pin8: **POWER on/off Button**, They are used to connect power switch button. The two pins are disconnected under normal condition. You may short them temporarily to realize system startup & shutdown or awaken the system from sleep state.

Pin9- Pin10: **BUZZER**, They are used to connect an external buzzer.

Pin11~Pin18: **GPIO IN/GPIO OUT**, General-purpose input/output port, it provides a group of self-programming interfaces to customers for flexible use.

Pin19~Pin24: **PS2 KB/MS**, PS/2 keyboard and mouse port, the port can be connected to PS/2 keyboard and mouse via a dedicated cable for direct used.

Pin25~40: **USB0/USB1/USB2/USB3**, Front USB connector, it provides 4 USB ports via a dedicated USB cable, speed up to 480Mb/s.



Note:

When connecting LEDs and buzzer and GPIO and USB, pay special attention to the signal polarity. Make sure that the connector pins have a one-to-one correspondence with chassis wiring, or it may cause boot up failure.

40. **SATA_P1/SATA_P3:**

(2.5mm Pitch 1x2 box Pin Header), Two onboard 5V output connectors are reserved to provide power for SATA devices.

| Pin# | Signal Name |
|------|-------------|
| 1 | +DC5V |
| 2 | Ground |



Note:

Output current of the connector must not be above 1A.

41. **SATA_P2/SATA_P4:**

(2.5mm Pitch 1x4 box Pin Header), Two onboard 5V and 12V output connectors are reserved to provide power for SATA devices.

| SATA_P2 (2Pin or 4Pin) | |
|------------------------|-------------|
| Pin# | Signal Name |
| 1 | +DC5V |
| 2 | Ground |
| 3 | Ground (NC) |
| 4 | +DC12V (NC) |
| SATA_P4 (option): | |
| Pin# | Signal Name |
| 1 | +DC5V (NC) |
| 2 | Ground (NC) |
| 3 | Ground (NC) |
| 4 | +DC12V (NC) |



Note:

Output current of the connector must not be above 1A.

42. SATA1/SATA2/SATA3/SATA4:

(SATA 7P), SATA Connectors, Four SATA connectors are provided, SATA3 and SATA4 transfer speed up to 3.0Gb/s, SATA1 and SATA2 transfer speed up to 6.0Gb/s. RAID controller supporting RAID 0/1/5/10.

| Position | Function | Color |
|----------|----------|---------------|
| SATA1 | SATA3.0 | White or Blue |
| SATA2 | SATA3.0 | White or Blue |
| SATA3 | SATA2.0 | black |
| SATA4 | SATA2.0 | black (NC) |

43. N/A

44. N/A

45. M_SATA1 (option):

(50.95mmx30mm Socket 52Pin), mSATA socket, it is located at the top, it supports mini PCI-e devices with LPC bus, **B2 mSATA bus** for flash disk signal.

46. H3/H4 (option):

M_SATA1 SCREW HOLES.

H3 and H4 for mini MSATA card (50.95mmx30mm Socket 52 Pin) assemble.

47. HS1/HS2/HS3/HS4(CPU SCREW HOLES):

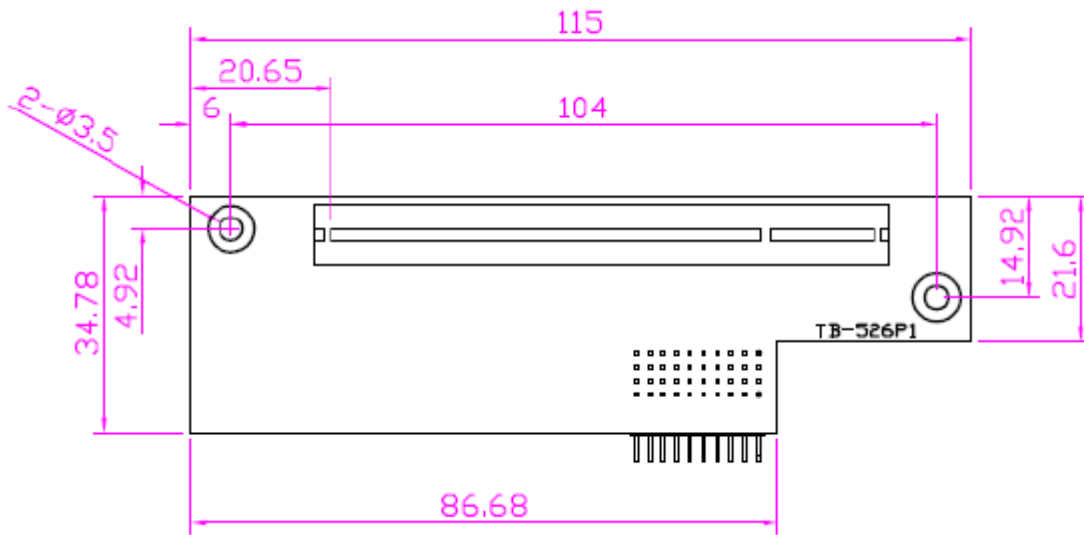
CPU FAN SCREW HOLES, Four screw holes for fixed CPU Cooler assemble.

48. H5/H6:

U4 SCREW HOLES.

49. TB-526P1:

TB-526P1 connect to ASB-M8771B PCIE1X connector, PCIE1X is located at the Bottom, It provides one PCI slot.



3.1 Operations after POST Screen

After CMOS discharge or BIOS flashing operation, Press [Delete] key to enter CMOS Setup.



After optimizing and exiting CMOS Setup, the POST screen displayed for the first time is as follows and includes basic information on BIOS, CPU, memory, and storage devices.

3.2 BIOS Setup Utility

Press [Delete] key to enter BIOS Setup utility during POST, and then a main menu containing system summary information will appear.

| Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. | | | | | |
|--|----------------------------|----------|------|----------|--|
| Main | Advanced | Chipset | Boot | Security | Save & Exit |
| System Language | [English] | | | | Choose the system Default language |
| System Date | [Tue 01/01/2009] | | | | |
| System Time | [00:00:08] | | | | |
| Access Level | Administrator | | | | |
| BIOS Information | | | | | →←: Select Screen ↑↓ : Select Item Enter: Select +/- : Change Opt. F1 : General Help F2: Previous Values F3:Optimized Defaults F4:Save and Exit ESC Exit |
| Project Version | L8771V07 | X64 | | | |
| Build Date and Time | 04/03/2013 | 01:51:14 | | | |
| Processor Information | | | | | |
| Processor Code Name | Ivy Bridge | | | | |
| Brand String | Intel (R) core (TM) I3-311 | | | | |
| Frequency | 2400 MHz | | | | |
| Number of Processors | 2Core(S) / 4Thread(S) | | | | |
| Total Memory | 2048 MB (DDR3) | | | | |
| Memory Frequency | 1067 Mhz | | | | |
| PCH information | | | | | |
| PCH Code Name | Panther Point | | | | |
| Stepping | 04/C1 | | | | |
| Version 2.15.1227. Copyright (C) 2012 American Megatrends , Inc. | | | | | |

3.3 Main Settings

System Time:

Set the system time, the time format is:

Hour : 0 to 23

Minute : 0 to 59

Second : 0 to 59

System Date:

Set the system date, the date format is:

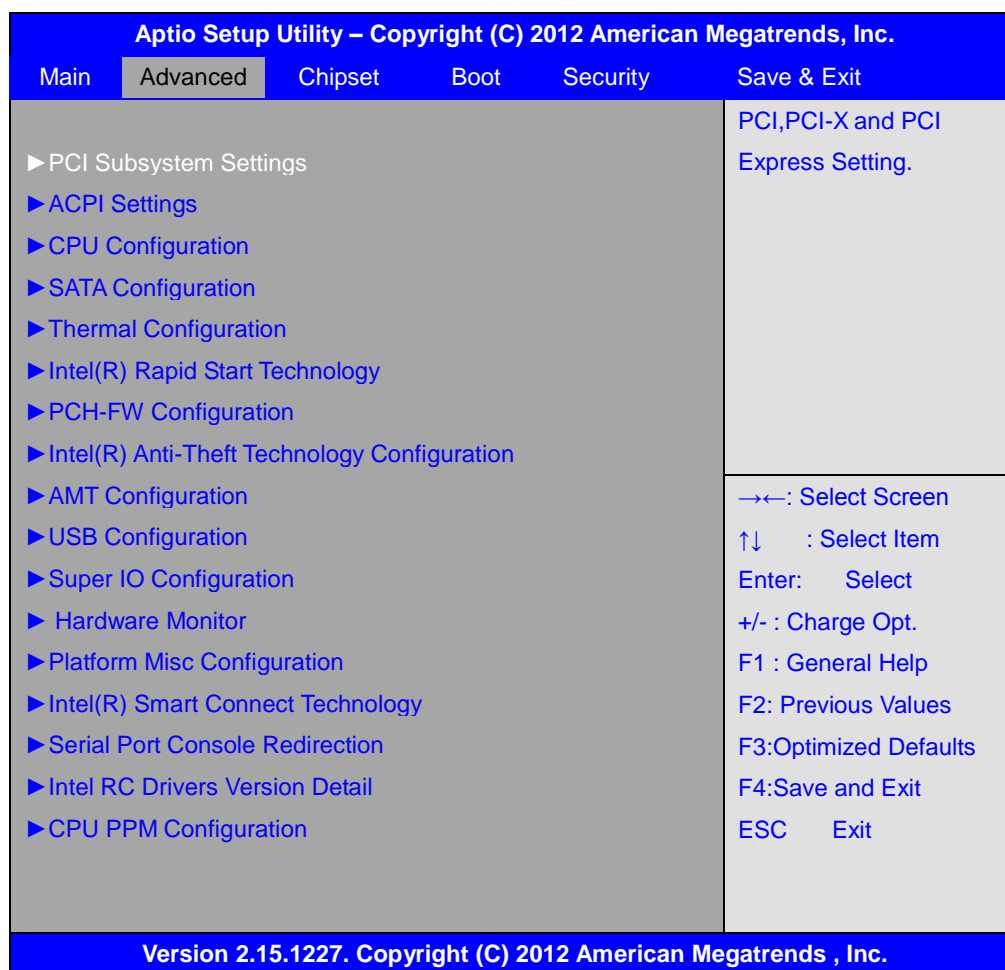
Day: Note that the 'Day' automatically changes when you set the date.

Month: 01 to 12

Date: 01 to 31

Year: 1998 to 2099

3.4 Advanced Settings



3.4.1 PCI Subsystem Settings

PCI Bus Driver Versio V2.05.02

**PCI 64bit Resources Handling:
Above 4G Decoding**

[Disabled]
[Enabled]

**PCI Common Settings:
PCI Latency Timer:**

[32 PCI Bus Clocks]
[64 PCI Bus Clocks]
[96 PCI Bus Clocks]
[128 PCI Bus Clocks]
[160 PCI Bus Clocks]
[192 PCI Bus Clocks]
[224 PCI Bus Clocks]
[248 PCI Bus Clocks]

VGA Palette snoop:

PERR# Generation: [Disabled]
[Enabled]

SERR# Generation: [Disabled]
[Enabled]

SERR# Generation: [Disabled]
[Enabled]

PCI Express Device Settings:

3.4.2 ACPI Settings

Enable ACPI Auto Configuration:

[Disabled]
[Enabled]

Enable Hibernation:

[Enabled]
[Disabled]

ACPI Sleep State:

[Both S1 and S3 available]
[Suspend Disabled]
[S1 only (CPU Stop clock)]
[S3 only (Suspend to RAM)]

Lock Legacy Resources:

[Disabled]
[Enabled]

S3 Video Repost:

[Disabled]
[Enabled]

3.4.3 CPU Configuration

Socket 0 CPU Information:

Intel(R) Core(TM) i3-3110M CPU @2.40GHz
 CPU Signature 306a9
 Microcode Patch 13
 Max CPU Speed 2400 MHz
 Min CPU Speed 1200Mhz
 CPU Speed 2400 MHz
 Processor Cores 2
 Intel HT Technology Supported
 Intel VT-x Technology Supported
 Intel SMX Technology Not Supported
 64-bit Supported

| | |
|--|----------------------------------|
| Hyper-threading | [Enabled] [Disabled] |
| Active Processor Cores | [All] [1] |
| Limit CPUID Maximum: | [Disabled] [Enabled] |
| Execute Disable Bit: | [Enabled] [Disabled] |
| Intel Virtualization Technology | [Enabled] [Disabled] |
| Hardware Prefetcher | [Enabled] [Disabled] |
| Adjacent Cache Line Prefetch | [Enabled] [Disabled] |
| 3.4.4 SATA Configuration | |
| SATA Controller(S): | [Enabled] [Disabled] |
| SATA Mode Selection: | [IDE] [AHCI] [RAID] |
| SATA Test Mode: | [Disabled] [Enabled] |
| ISRT Support | [Enabled] [Disabled] |

IDE legacy / Native Mode Selection
 [Native]
 [Legacy]

Serial ATA Port 0 Empty
 Software Preserve Unknown

Serial ATA Port 1 Empty
 Software Preserve Unknown

Serial ATA Port 2 Empty
 Software Preserve Unknown

Serial ATA Port 3 Empty
 Software Preserve Unknown

Serial ATA Port 4 Empty
 Software Preserve Unknown

Serial ATA Port 5 Empty
 Software Preserve Unknown

3.4.5 Thermal Configuration

Platform Thermal Configuration

3.4.6 Intel(R) Rapid Start Technology

Intel(R) Rapid Start Technology [Disabled]

3.4.7 PCH-FW Configuration

ME FW Version N/A
 ME Firmware Mode N/A
 ME Firmware Type Full Sku Firmware
 ME Firmware SKU N/A
 MDES BIOS Status Code

[Disabled]
[Enabled]

Firmware Update Configuration

3.4.8 Intel(R) Anti-Theft Technology Configuration

3.4.9 AMT Configuration

3.4.10 USB Configuration

USB Configuration
 USB Devices:

1 keyboard, 2 Hubs

Legacy USB Support: [Enabled]
[Disabled]

EHCI Hand-off: [Disabled]
[Enabled]

Port 60/64 Emulation [Enabled]
[Disabled]

USB hardware delays and time-outs:
USB transfer time-out: [20 sec]
[10 sec]
[5 sec]
[1 sec]

Device reset time-out: [20 sec]
[10 sec]
[30 sec]
[40 sec]

Device power-up delay [Auto]
[Manual]

3.4.11 Super IO Configuration

Super IO Configuration

Serial Port 1 Configuration
Serial Port 2 Configuration
Serial Port 3 Configuration
Serial Port 4 Configuration
Serial Port 5 Configuration
Serial Port 6 Configuration

3.4.12 Hardware Monitor

PC Health Status

System temperature :
+43 C CPU
temperature : +60
C System Fan Speed :
N/A
CPU Fan Speed : 6490 RPM
VCORE : +0.816V

| | | |
|-------|---|-----------|
| +12V | : | +12.160 V |
| +3.3V | : | +3.296 V |
| +1.5V | : | +1.520 V |
| AVCC | : | +5.158 V |

3.4.13 Platform Misc Configuration

3.4.14 Intel(R) Smart Connect Technology

3.4.15 Serial Port Console Redirection

3.4.16 Intel RC Drivers Version Detail

3.4.17 CPU PPM Configuration

CPU PPM Configuration

EIST

[Enabled]
[Disabled]

CPU C3 Report

[Enabled]
[Disabled]

CPU C6 report

[Enabled]
[Disabled]

CPU C7 report

[Enabled]
[Disabled]

Long duration power limit 0

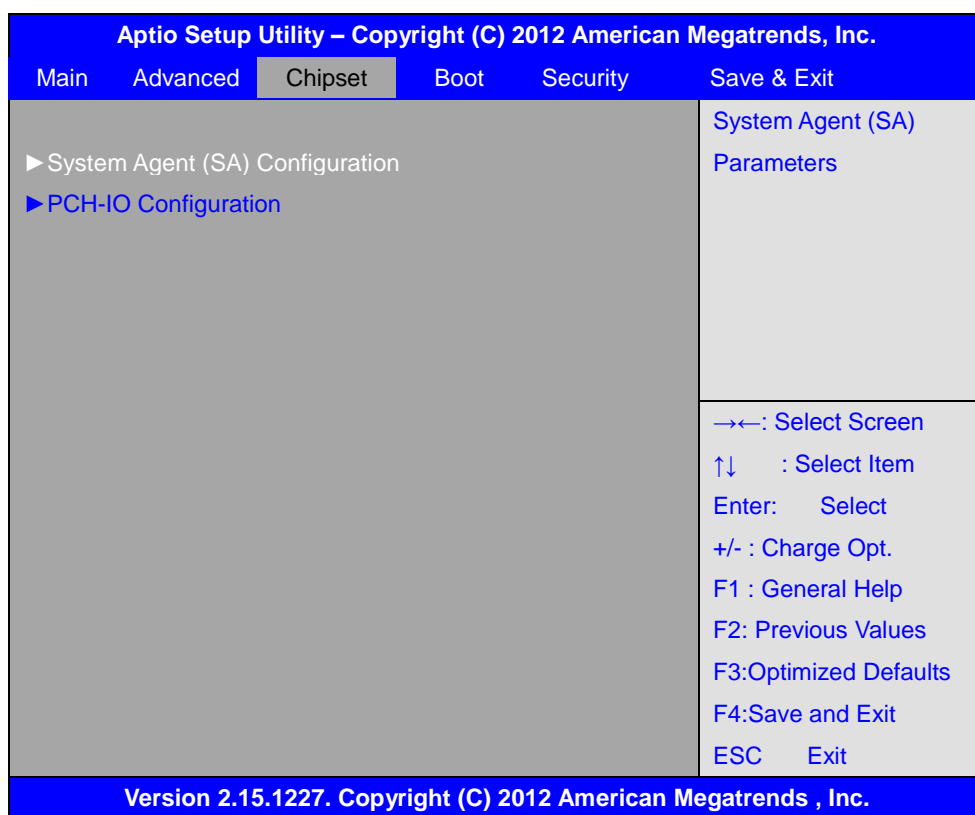
Long duration maintained 0

Short duration power limit 0

ACPI T State

[Disabled]
[Enabled]

3.5 Chipset Settings



3.5.1 ► System Agent (SA) Configuration ► PCH-IO Configuration

System Agent (SA) Configuration

| | |
|--------------------------|-------------|
| System Agent Bridge Name | IvyBridge |
| System Agent RC Version | 1.6.0.0 |
| VT-d Capability | Unsupported |

► Graphics Configuration

| | |
|--------------------|---------|
| IGFX VBIOS Version | 2158 |
| IGFX Frequency | 350 MHz |

Primary Display

[Auto]
[IGFX]
[PEG]
[PCI]

Internal Graphics

[Auto]
[Disabled]

| | |
|---------------------------|--------------------------------|
| GTT Size | [Enabled] |
| | [2MB] |
| | [1MB] |
| Aperture Size | [256MB] |
| | [128MB] |
| | [512MB] |
| DVMT Pre-allocated | [64MB] |
| | [32MB] |
| | [96MB] |
| | [128MB] |
| | [160MB] |
| | [192MB] |
| | [224MB] |
| | [256MB] |
| | [288MB] |
| | [320MB] |
| | [352MB] |
| | [384MB] |
| | [416MB] |
| | [448MB] |
| | [480MB] |
| | [512MB] |
| | [1024MB] |
| Dvmt Total Gfx Mem | [256MB] |
| | [128MB] |
| | [MAX] |
| GFX Low Power Mode | [Enabled] |
| | [Disabled] |
| Primary IGFX Boot Display | [VBIOS Default] |
| | [VGA] |
| | [DVI] |
| | [LVDS] |
| LCD Panel Type | [1280 X 1024 24bit 2ch] |
| | [640 X 480 18bit 1ch] |
| | [800 X 480 18bit 1ch] |
| | [800 X 600 18bit 1ch] |

[800 X 600 24bit 1ch]
[1024 X 768 18bit 1ch]
[1024 X 768 24bit 1ch]
[1280 X 800 18bit 1ch]
[1366 X 768 18bit 1ch]
[1440 X 900 24bit 2ch]
[1600 X 900 24bit 2ch]
[1600 X 1200 24bit 2ch]
[1680 X 1050 24bit 2ch]
[16800 X 1050 24bit 2ch]
[1920 X 1080 24bit 2ch]
[2048 X 1536 24bit 2ch]

Panel Scaling

[Auto]
[Off]
[Force Scaling]

Backlight Control

[DC]
[PWM]

Backlight Logic

[Positive]
[Negaive]

Backlight Control Control Level

[Level 8]
[Level 0]
[Level 1]
[Level 2]
[Level 3]
[Level 4]
[Level 5]
[Level 6]
[Level 7]
[Level 9]
[Level 10]
[Level 11]
[Level 12]
[Level 13]
[Level 14]
[Level 15]

- ▶ DMI Configuration
- ▶ NB PCIe Configuration

PEG0 [Not Present]
 PEG0 – Gen X [Auto]
 [Gen1]
 [Gen2]
 [Gen3]

PEG ASPM
 [Auto]
 [Disabled]
 [Auto]
 [ASPM LOs]
 [ASPM L1]
 [ASPM LOsL1]

De-emphasis Control
 [-3.5 dB]
 [-6 dB]

► Memory Configuration

| | | |
|------------------------------|---------|---------------|
| Memory | RC | Version |
| 1.6.6.0 | | |
| Memory | | Frequency |
| 1067 Mhz | | |
| Total | | Memory |
| 2048 | MB | (DDR3) DIMM#0 |
| 2048 | MB | (DDR3) DIMM#2 |
| Not Present | | |
| CAS | Latency | (tCL) |
| 7 | | |
| Minimum delay time | | |
| CAS to RAS (tRPmin) | | 7 |
| Row Precharge (tRPmin) | | 7 |
| Active to Precharge (tRPmin) | | 20 |

► GT-Power Management Control

GT Info GT2 (0X116)
 RC6 (Render Standby)
 [Enabled]
 [Disabled]
 GT overClocking Support
 [Disabled]
 [Enabled]

► PCH-IO Configuration

Intel PCH RC Version 1.6.6.0
 Intel PCH SKU Name QM77
 Intel PCH Rev ID 04/C1

PCH LAN Controller
 [Disabled]

| | |
|--------------------------------------|------------------|
| Work on LAN | [Enabled] |
| | [Enabled] |
| | [Disabled] |
| Board Capability | [SUS_PWR_DN_ACK] |
| | [Deepsx] |
| SLP_S4 Assertion Width | [4-5 Seconds] |
| | [1-2 Seconds] |
| | [2-3 Seconds] |
| | [3-4 Seconds] |
| Restore AC Power Loss | [Power off] |
| Set NAND Management Override | [Enabled] |
| | [Disabled] |
| ► PCI Express Configuration | |
| PCI Express Clock Gating | [Enabled] |
| | [Disabled] |
| DMI Link ASPM Control | [LOSL1] |
| | [LOS] |
| | [Disabled] |
| DMI Link Extended Synch Control | [Disabled] |
| | [Enabled] |
| Subtractive Decode | [Disabled] |
| | [Enabled] |
| ► PCI Express Root Port 1 | |
| ► PCI Express Root Port 2 | |
| ► PCI Express Root Port 3 | |
| ► PCI Express Root Port 4 | |
| ► PCI Express Root Port 5 | |
| ► PCI Express Root Port 6 | |
| ► PCI Express Root Port 7 | |
| ► PCI Express Root Port 8 | |
| ► USB Configuration | |
| ► PCH Azalia Configuration | |
| ► BIOS Security Configuration | |

3.6 Boot Settings

| Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. | | | | | |
|--|----------|----------------|------|-------------------------------------|--|
| Main | Advanced | Chipset | Boot | Security | Save & Exit |
| Boot Configuration | | | | Number of seconds to Wait for setup | |
| Setup Prompt Timeout | | 1 | | | Activation key. |
| Bootup Numlock State | | [On] | | | 65535(0xFFFF)means Indefinite waiting. |
| Quiet Boot | | [Disabled] | | | |
| Fast Boot | | [Disabled] | | | |
| CSM16 Module Version | | 07.69 | | | |
| Gatea20 Active | | [Upon Request] | | | |
| Option ROM Messages | | [Force BIOS] | | | →←: Select Screen |
| INT19 Trap Response | | [Immediate] | | | ↑↓ : Select Item |
| Boot Option Priorities | | | | | Enter: Select |
| ▶ CSM parameters | | | | | +/- : Change Opt. |
| | | | | | F1 : General Help |
| | | | | | F2: Previous Values |
| | | | | | F3:Optimized Defaults |
| | | | | | F4:Save and Exit |
| | | | | | ESC Exit |

| | |
|----------------------|----------------------------|
| Setup Prompt Timeout | [1] |
| Bootup Numlock State | [On] [off] |
| Quiet Boot | [Disabled] [Enabled] |
| Fast Boot | [Disabled] [Enabled] |
| CSM16 Module Verison | 07.69 |
| Gatea20 Active | [Upon Request] [Always] |

Option ROM Messages

[Force BIOS]
[Keep Current]

Interrupt 19 Capture

[Immediate]
[Postponed]

Boot Option Priorities

► **CSM parameters**

3.7 Security Settings

| Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc. | | | | | |
|---|----------|---------|------|-------------------------------|-------------|
| Main | Advanced | Chipset | Boot | Security | Save & Exit |
| Password Description If ONLY the Administrator's password is set, Then this only limits access to Setup and is Only asked for when entering Setup. If ONLY the User's password is set, then this Is a power on password and must be entered to Is a power on password and must be entered to Boot or enter Setup. In Setup the User will Have Administrator rights. | | | | Set Administrator Password | |
| Minimum Length | 3 | | | →←: Select Screen | |
| Maximum Length | 20 | | | ↑↓ : Select Item | |
| Administrator Password | | | | Enter: Select | |
| User Password | | | | +/- : Change Opt. | |
| | | | | F1 : General Help | |
| | | | | F2: Previous Values | |
| | | | | F3:Optimized Defaults | |
| | | | | F4:Save and Exit | |
| | | | | ESC Exit | |
| Version 2.15.1227. Copyright (C) 2012 American Megatrends , Inc. | | | | | |

3.7.1 Administrator Password



3.7.2 User Password



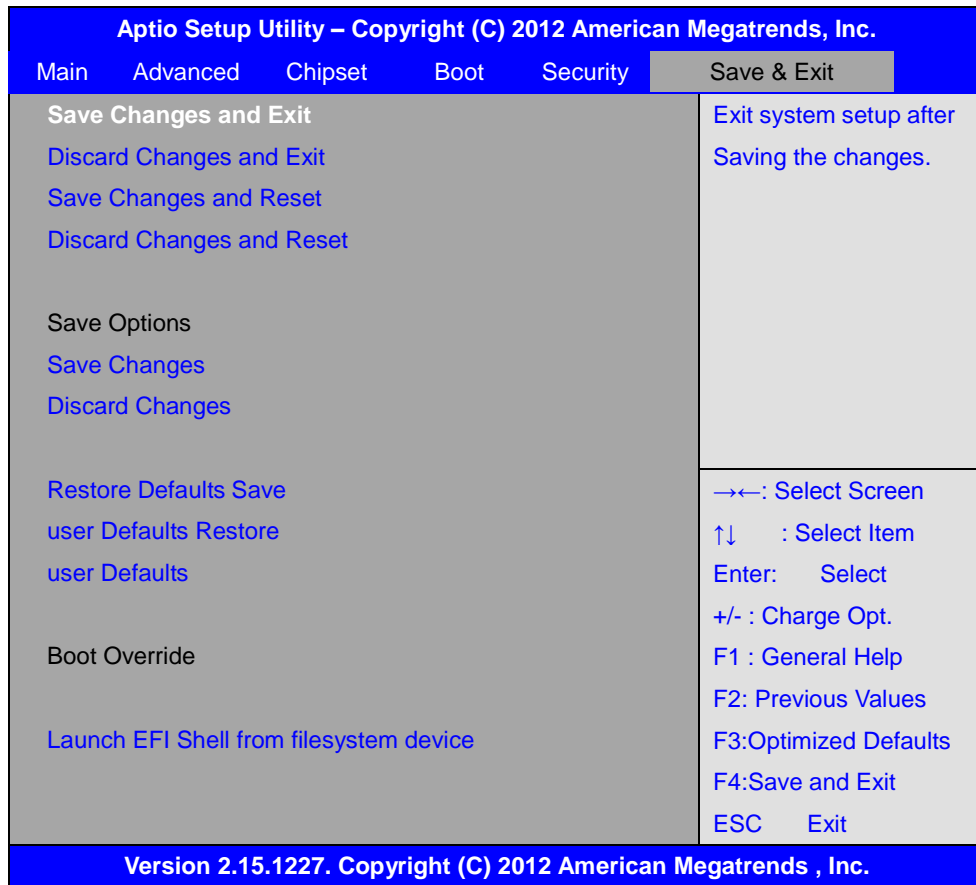
Type the password with up to 20 characters and then press <Enter> key. This will clear all previously typed CMOS passwords. You will be requested to confirm the password. Type the password again and press <Enter> key. You may press <Esc> key to abandon password entry operation.

To clear the password, just press <Enter> key when password input window pops up. A confirmation message will be shown on the screen as to whether the password will be disabled. You will have direct access to BIOS setup without typing any password after system reboot once the password is disabled.

Once the password feature is used, you will be requested to type the password each time you enter BIOS setup. This will prevent unauthorized persons from changing your system configurations.

Also, the feature is capable of requesting users to enter the password prior to system boot to control unauthorized access to your computer. Users may enable the feature in Security Option of Advanced BIOS Features. If Security Option is set to System, you will be requested to enter the password before system boot and when entering BIOS setup; if Security Option is set to Setup, you will be requested for password for entering BIOS setup.

3.8 Save & Exit Settings



Save Changes and Exit

Save & Exit Setup save Configuration and exit ?

[Yes]

[No]

Discard Changes and Ext

Exit Without Saving Quit without saving?

[Yes]

[No]

Save Changes and Reset
Save & reset Save Configuration and reset?
[Yes]
[No]

Discard Changes and Reset
Reset Without Saving Reset without saving?
[Yes]
[No]

Save Changes
Save Setup Values Save configuration?
[Yes]
[No]

Discard Changes
Load Previous Values Load Previous Values?
[Yes]
[No]

Restore Defaults
Load Optimized Defaults Load optimized Defaults?
[Yes]
[No]

Save user Defaults
Save Values as User Defaults Save configuration?
[Yes]
[No]

Restore user Defaults
Restore User Defaults Restore User Defaults?
[Yes]
[No]

Launch EFI Shell from filesystem device
WARNING Not Found
[ok]

Chapter 4 Installation of Drivers

This chapter describes the installation procedures for software and drivers under the windows XP. The software and drivers are included with the motherboard. The contents include Intel **chipset driver**, **VGA driver**, **Network Adapter**, **Audio driver**, **.USB 3.0 driver**, **AMT driver**. **Installation instructions are given below.**

Important Note:

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



4.1 Intel Chipset Driver

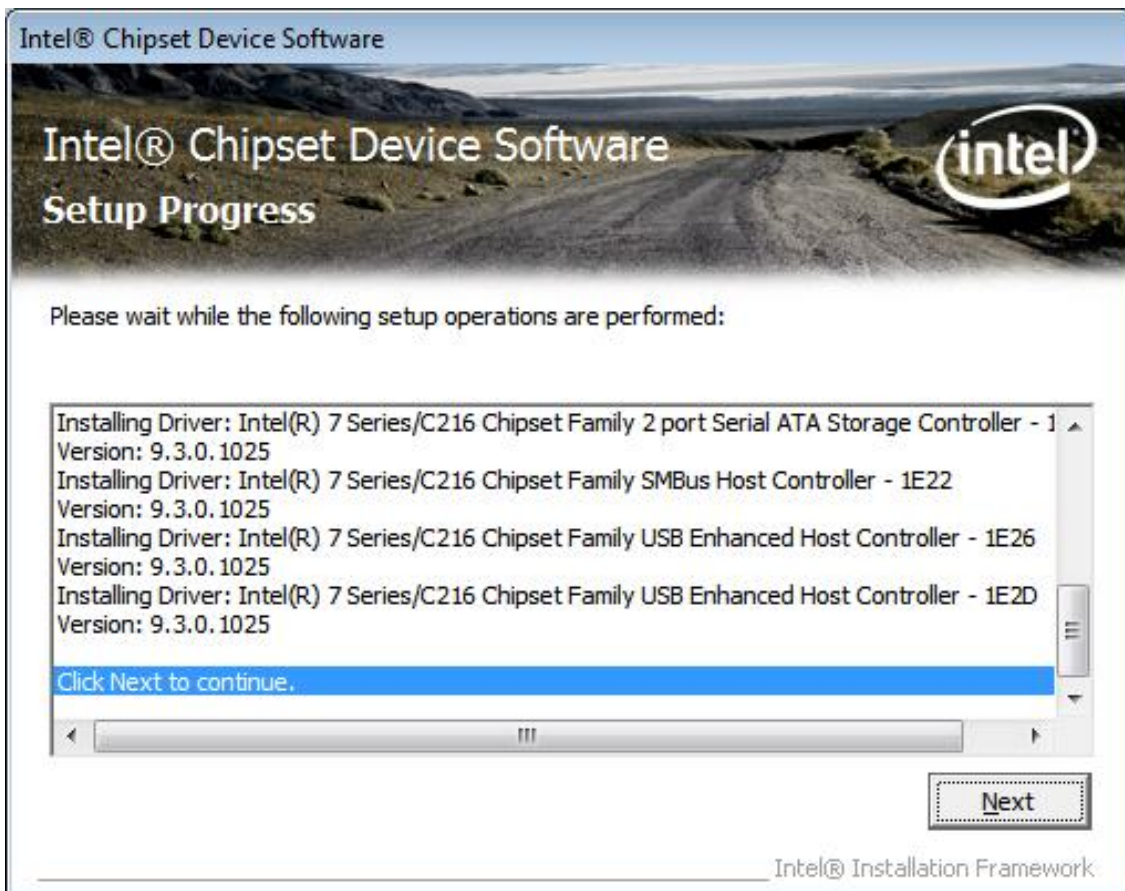
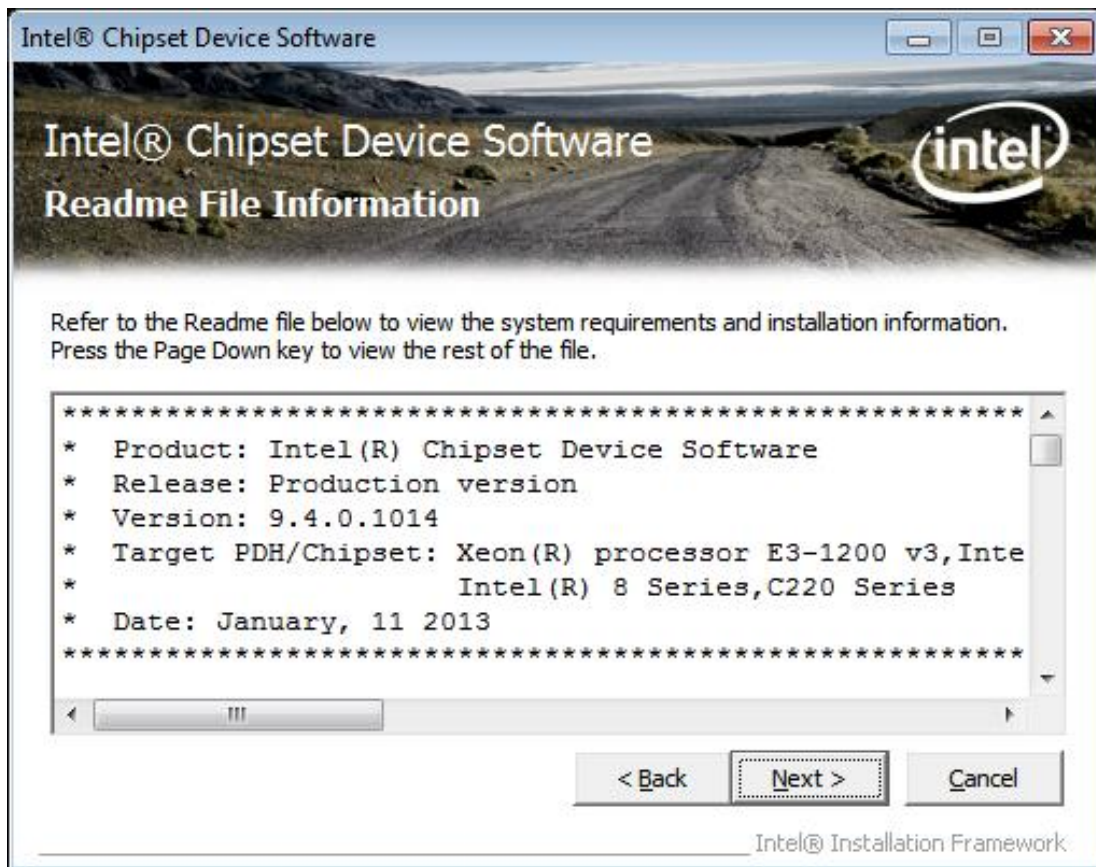
To install the Intel chipset driver, please follow the steps below.

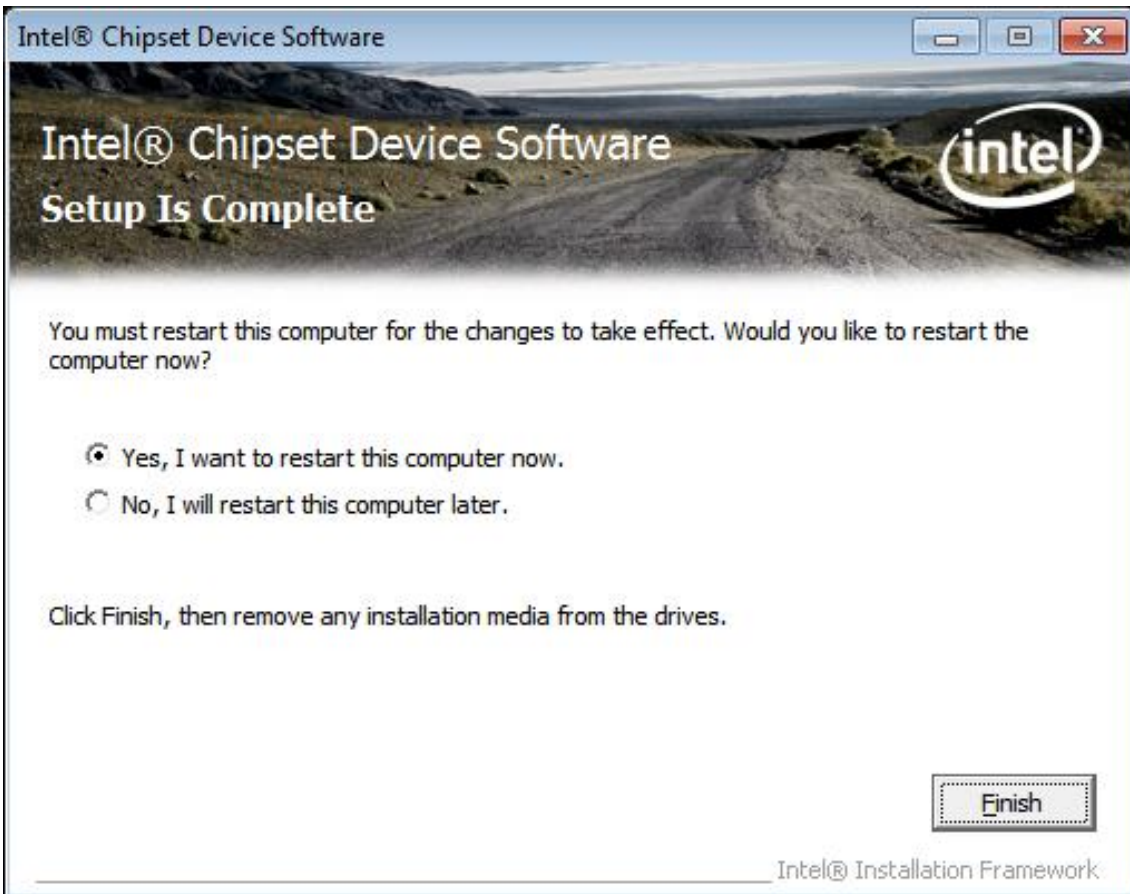
Step 1: Select Chipset from the list



Follow the step-by-step installation process to install the driver.







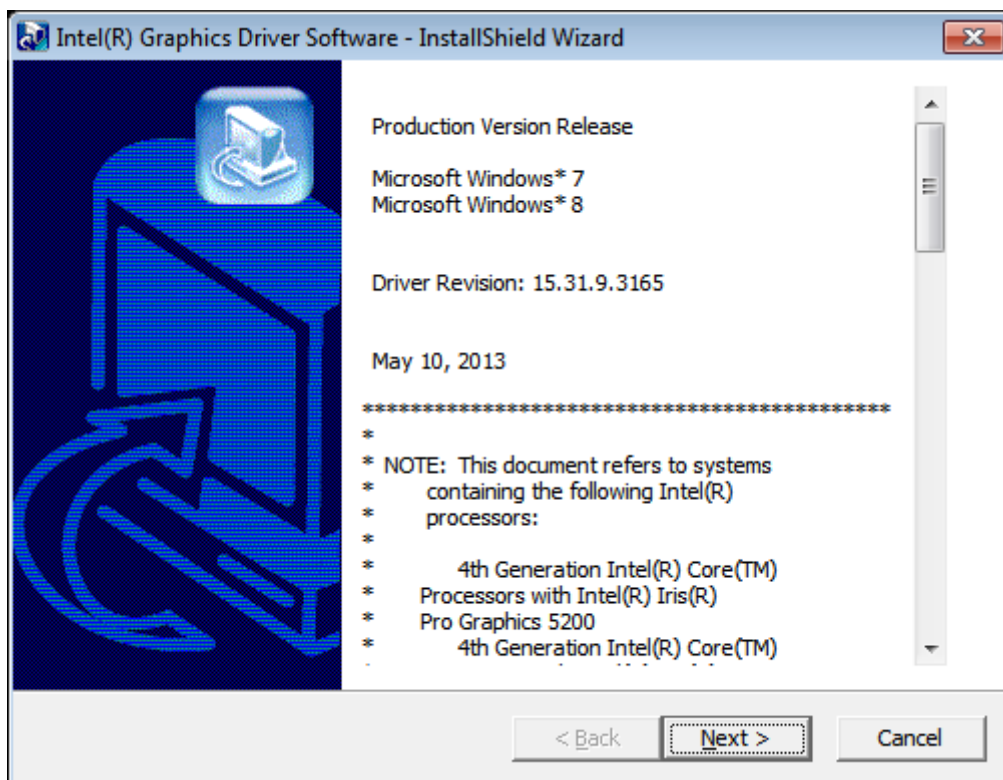
4.2 Intel VGA Chipset Driver

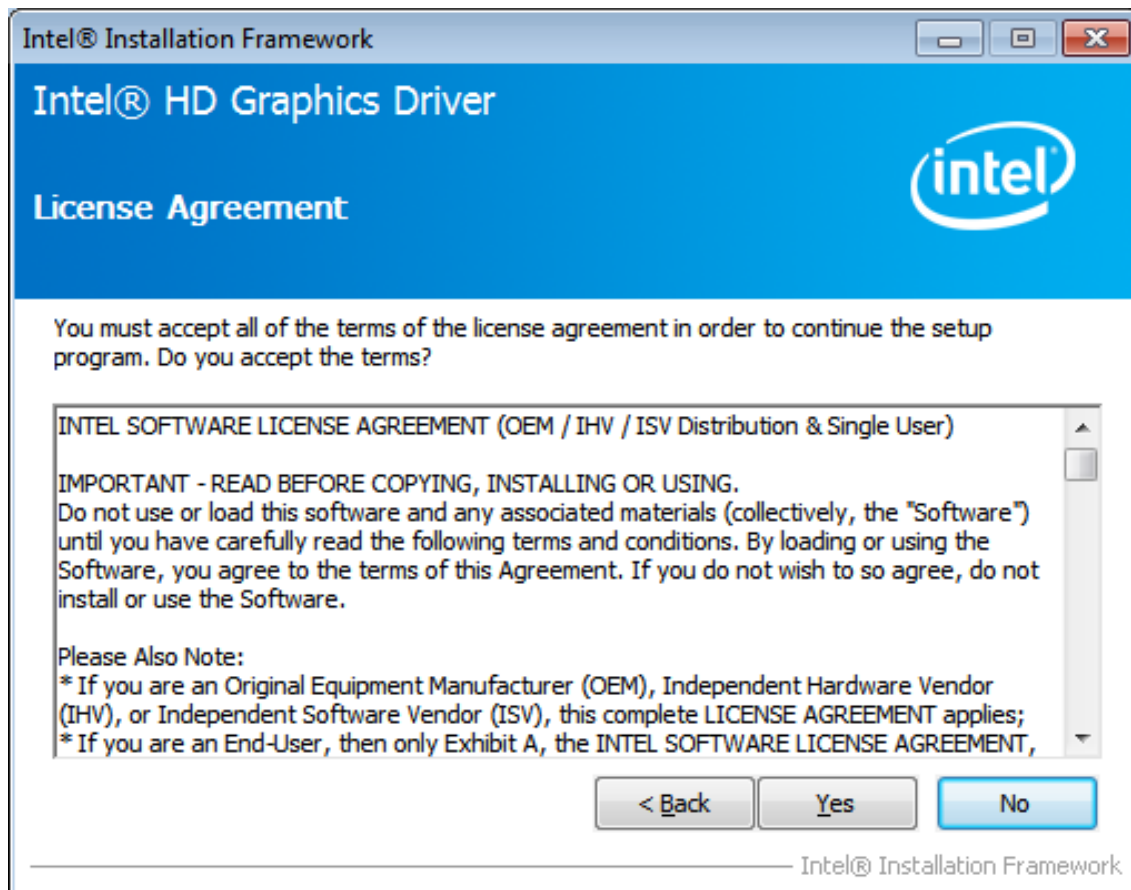
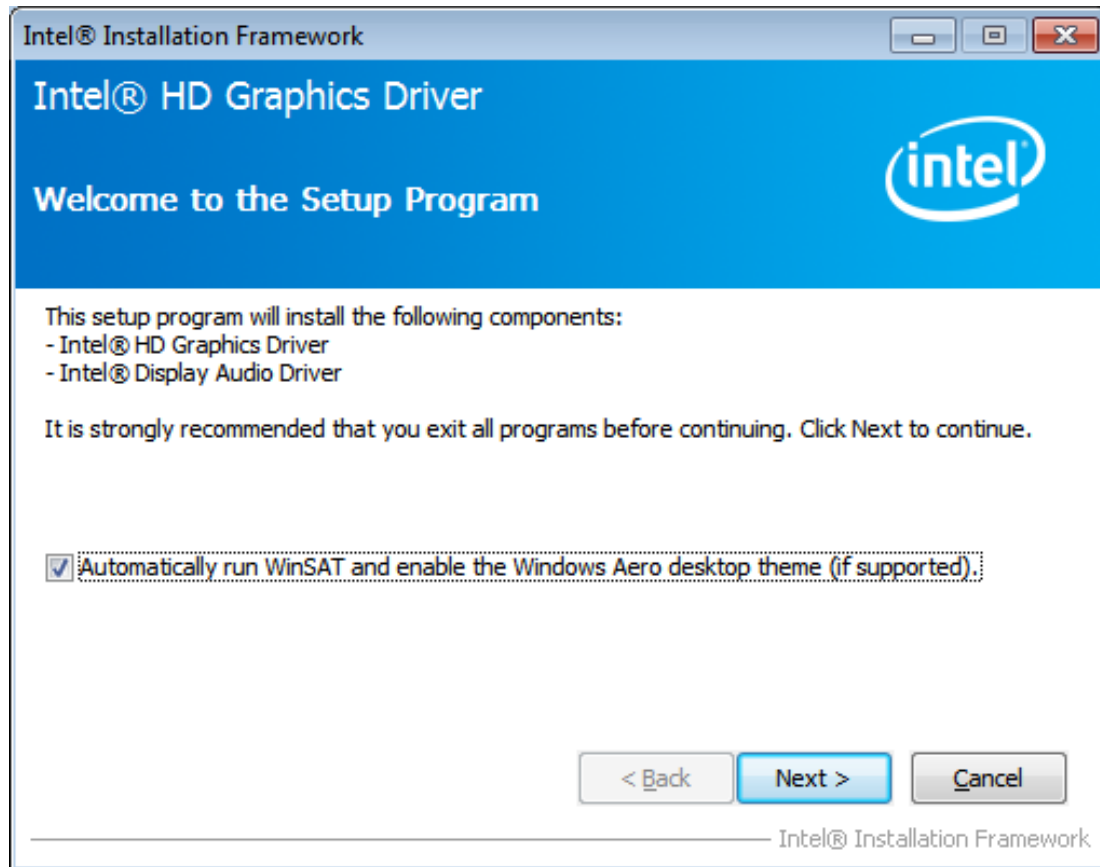
To install the VGA drivers, follow the steps below to proceed with the installation.

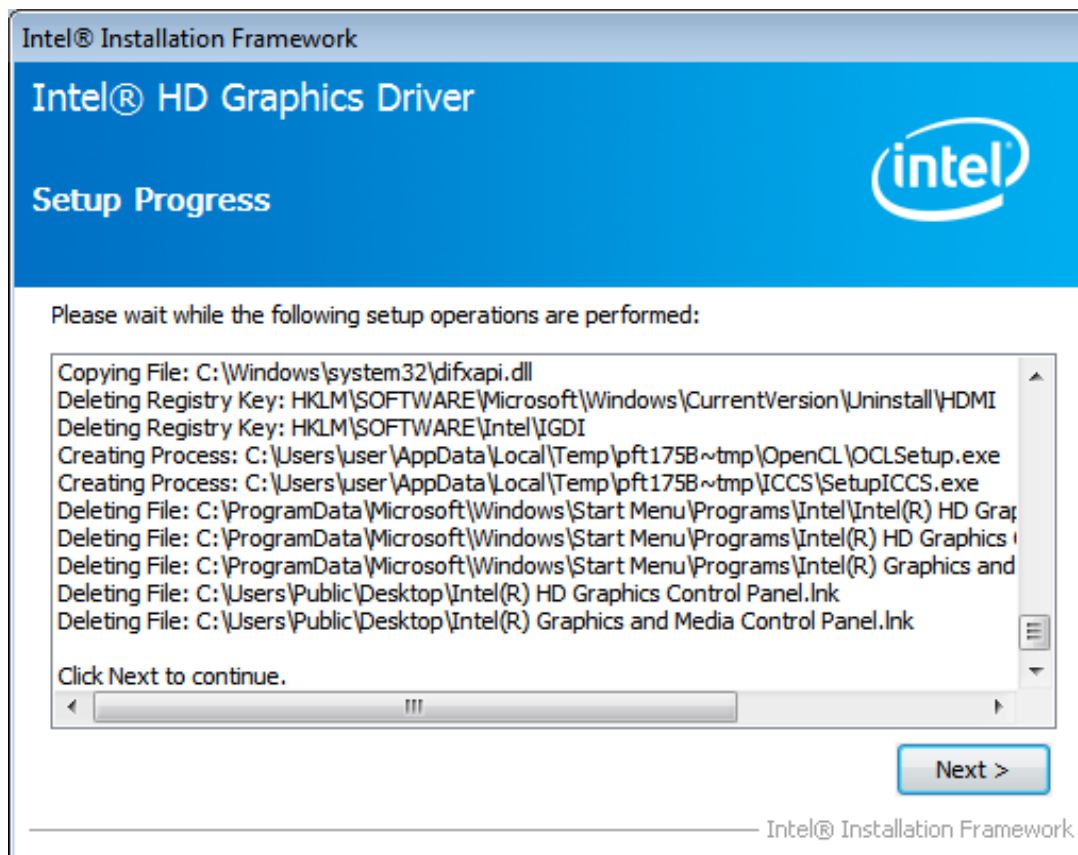
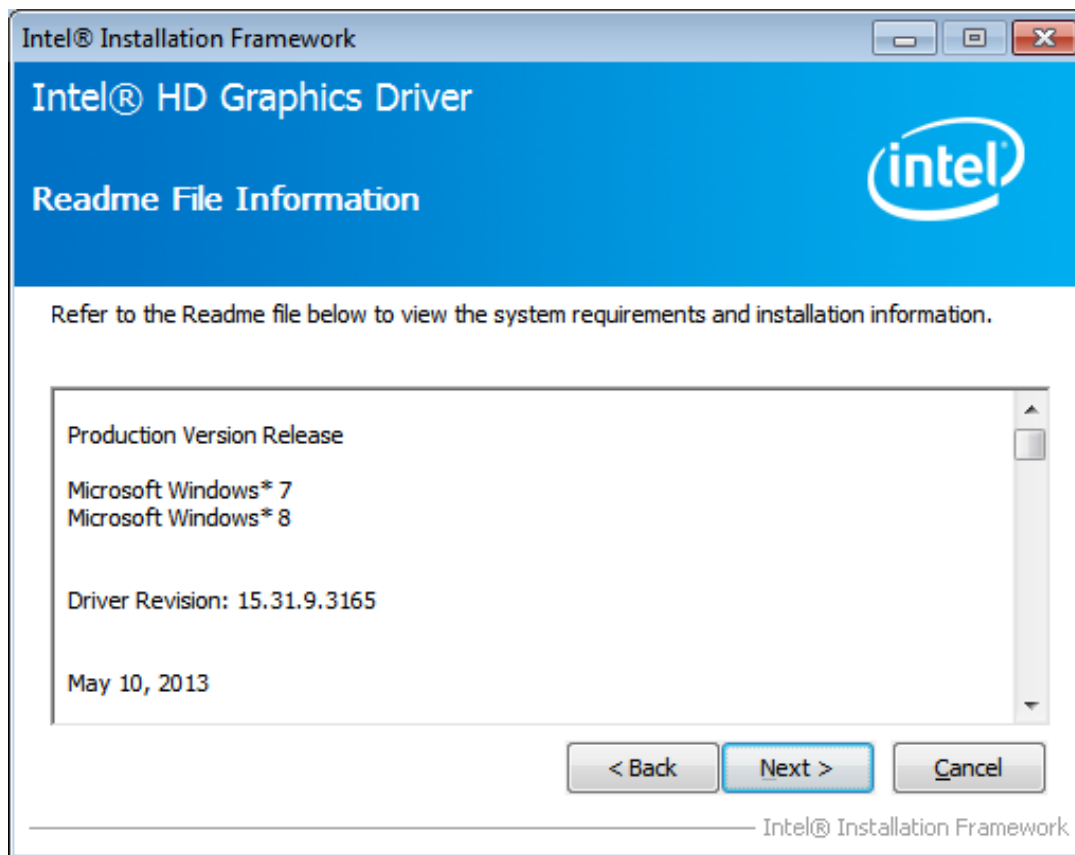
1. Click Intel VGA Chipset Driver.

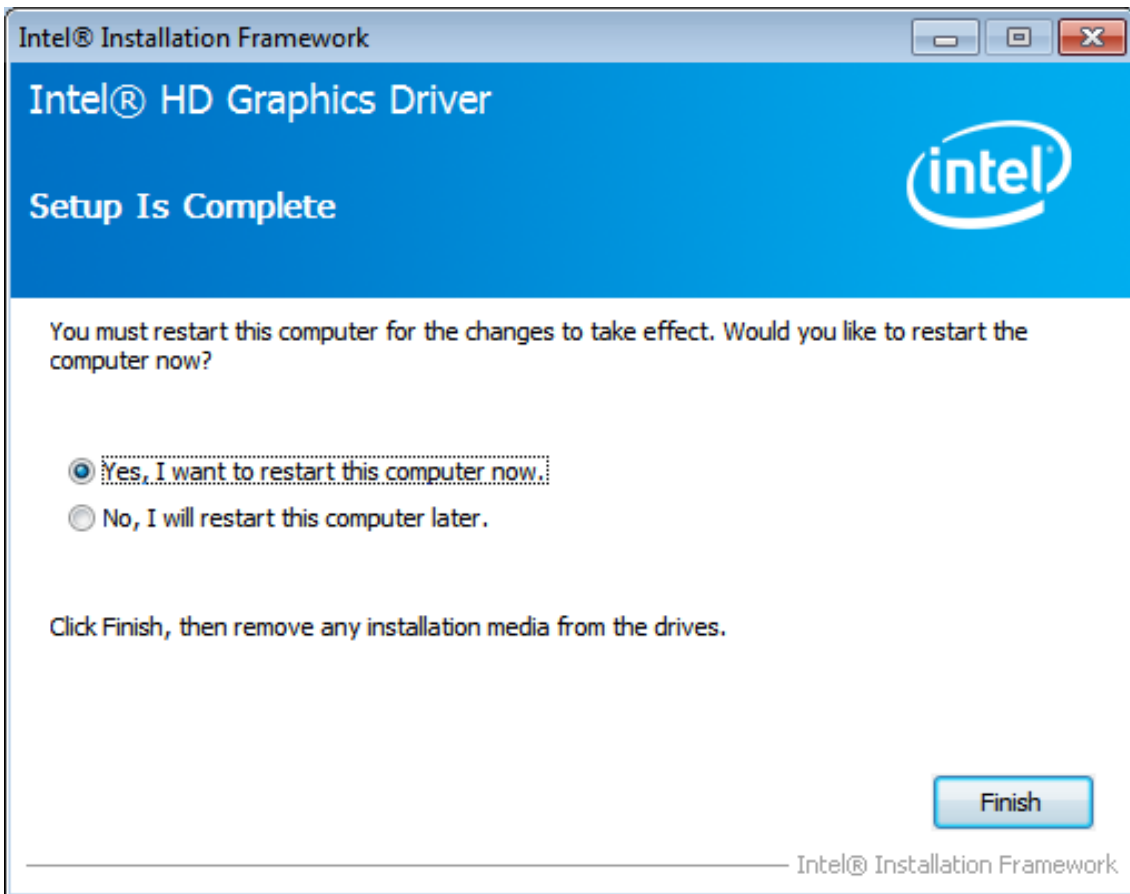


Follow the step-by-step installation process to install the Graphics Media Accelerator driver.









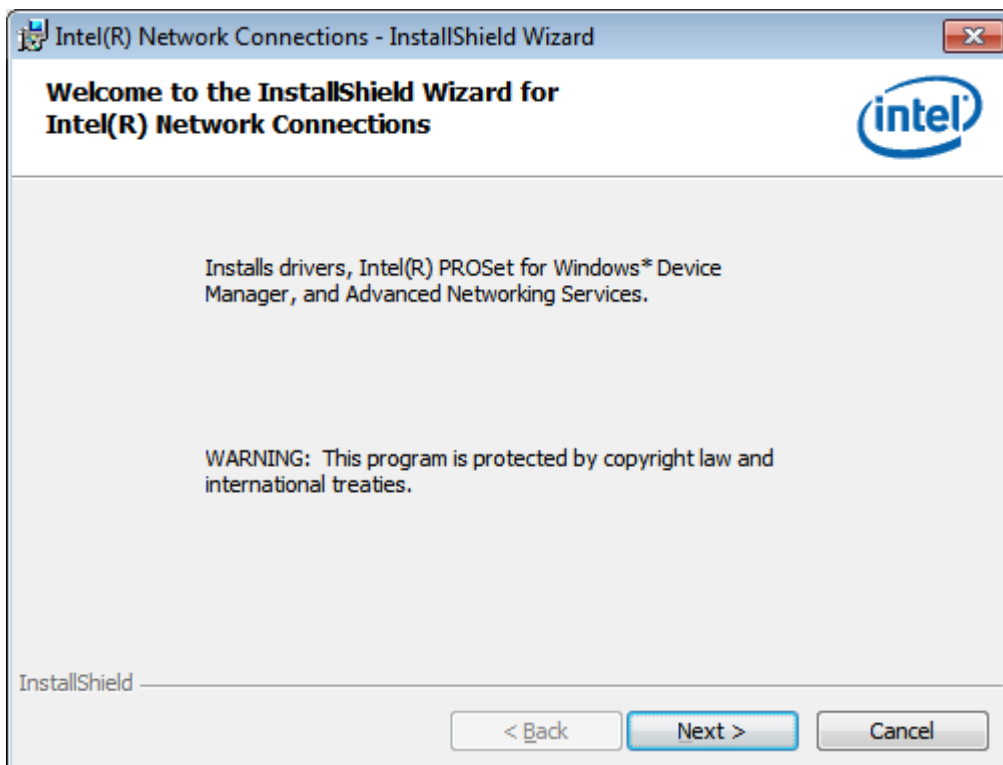
Click FINISH; A Driver Installation Complete.

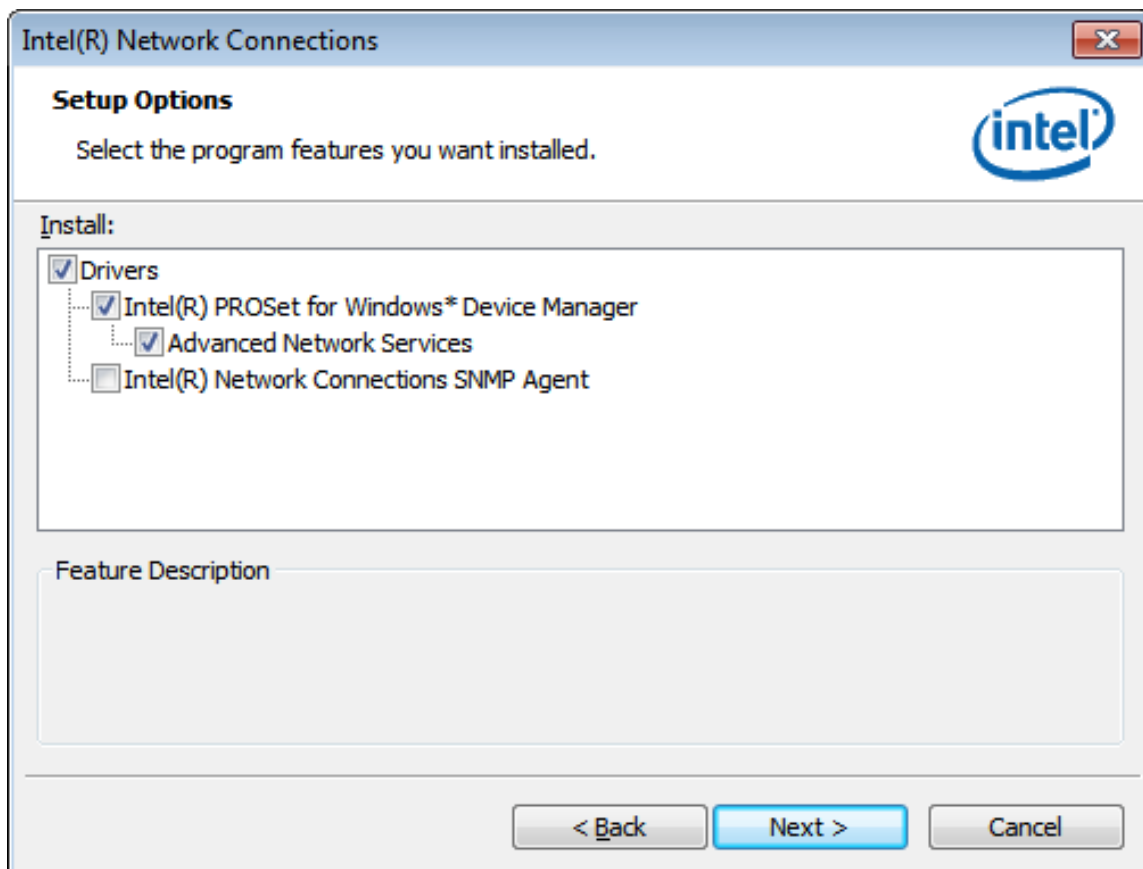
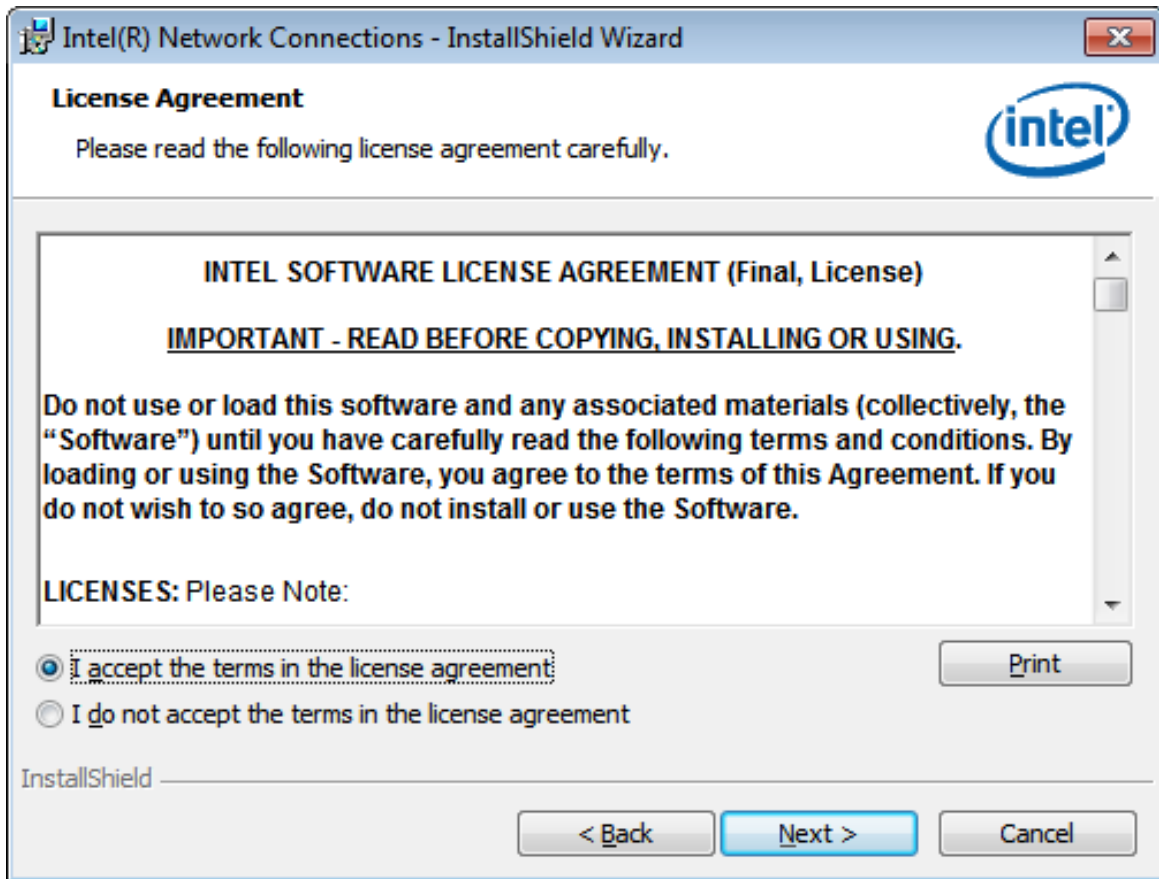
4.3 Intel(R) Network Adapter Driver

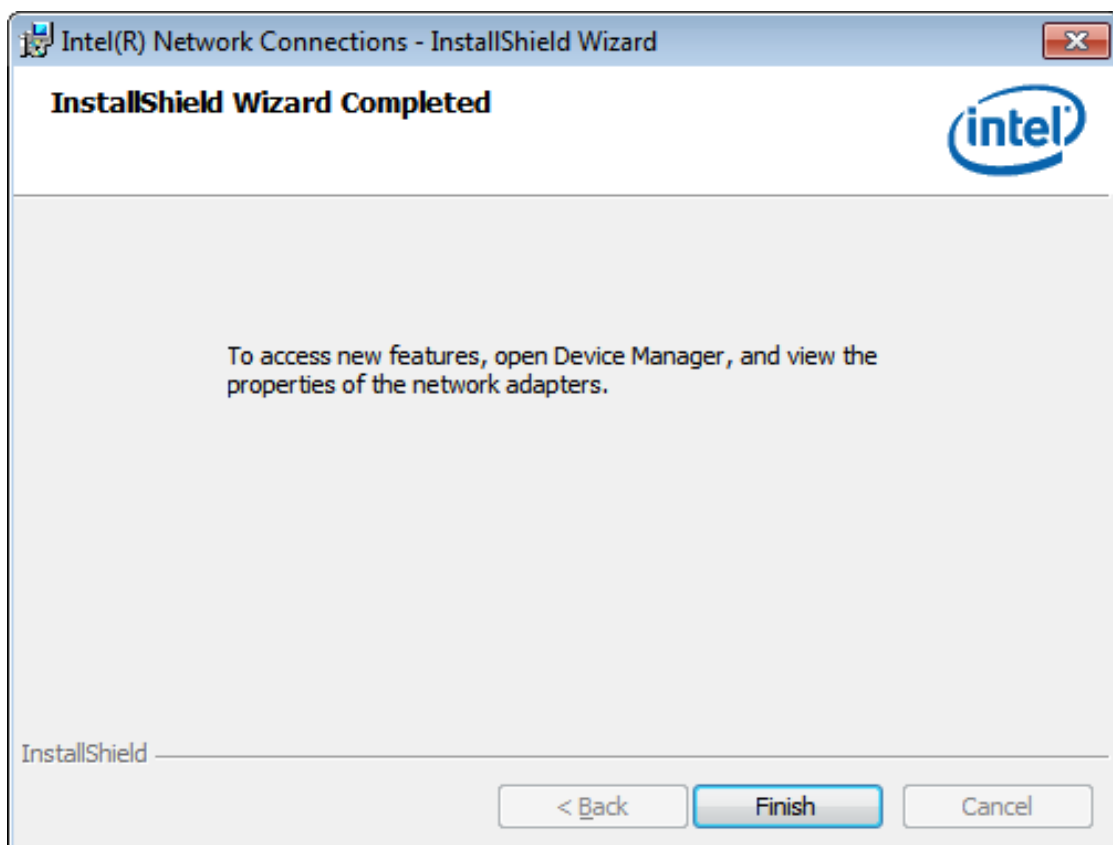
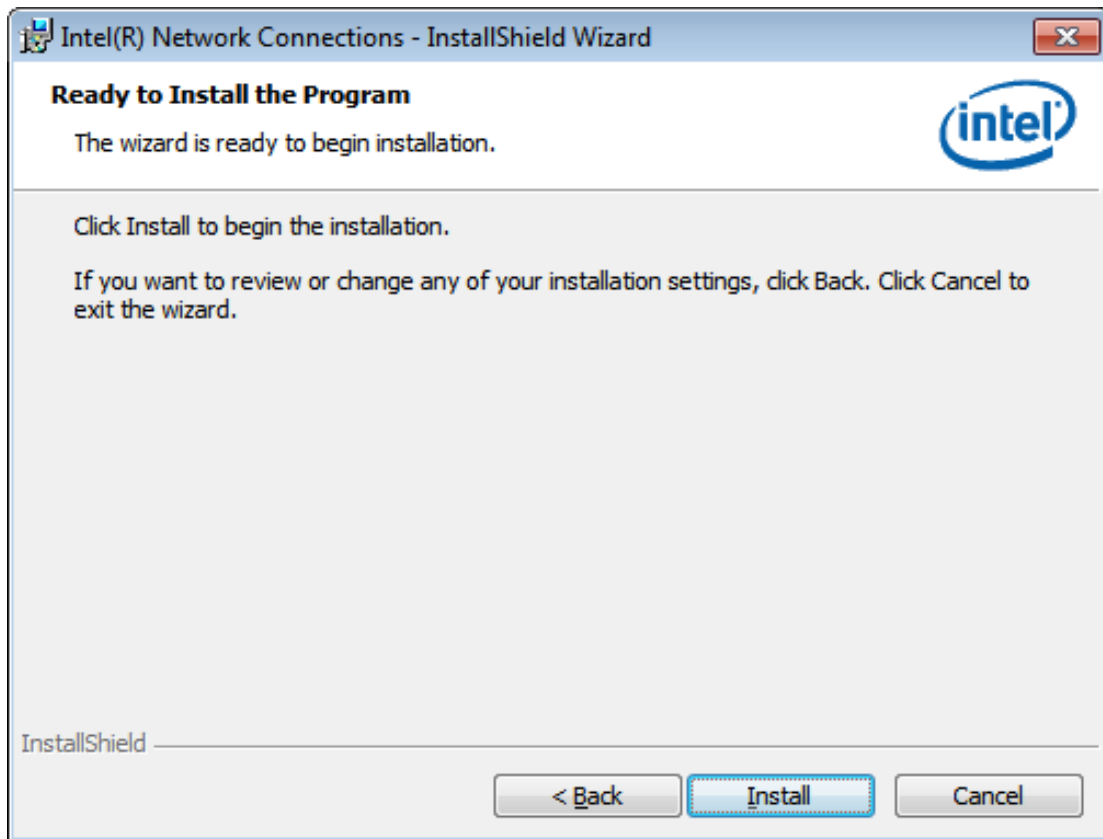
To install the Intel(R) Network Adapter Driver, please follow the steps below.
Select LAN from the list



Follow the step-by-step installation process to install the LAN driver.







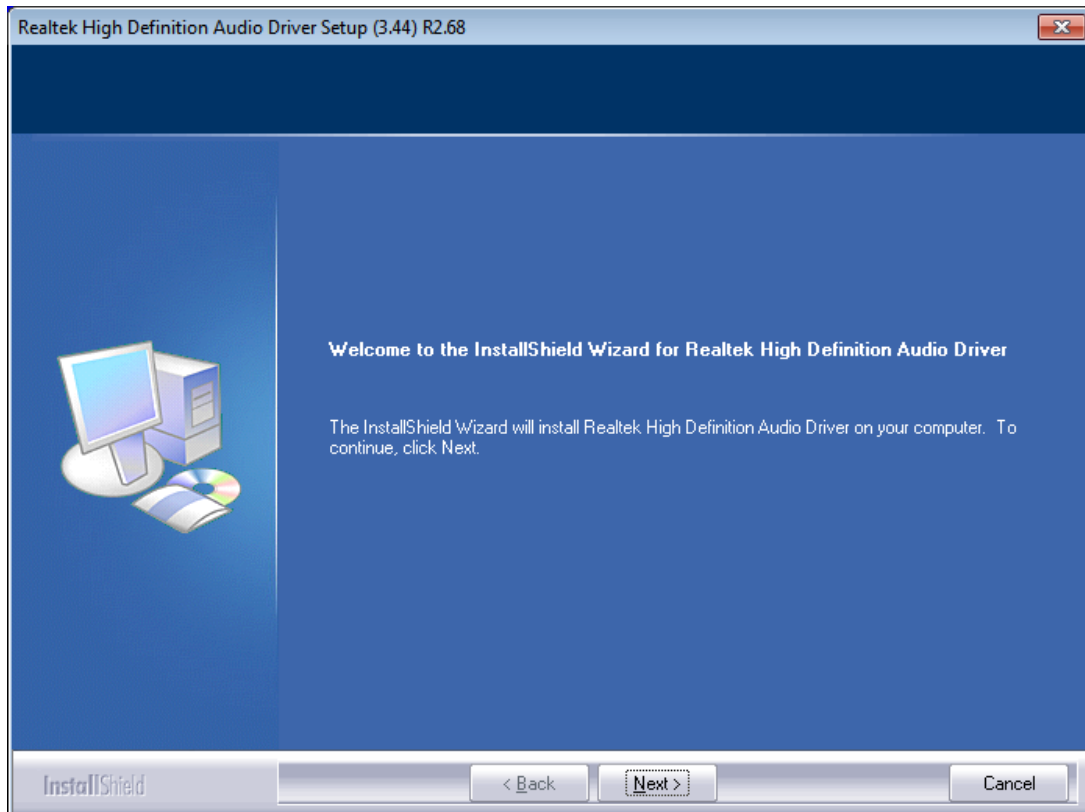
Click FINISH; A Driver Installation Complete.

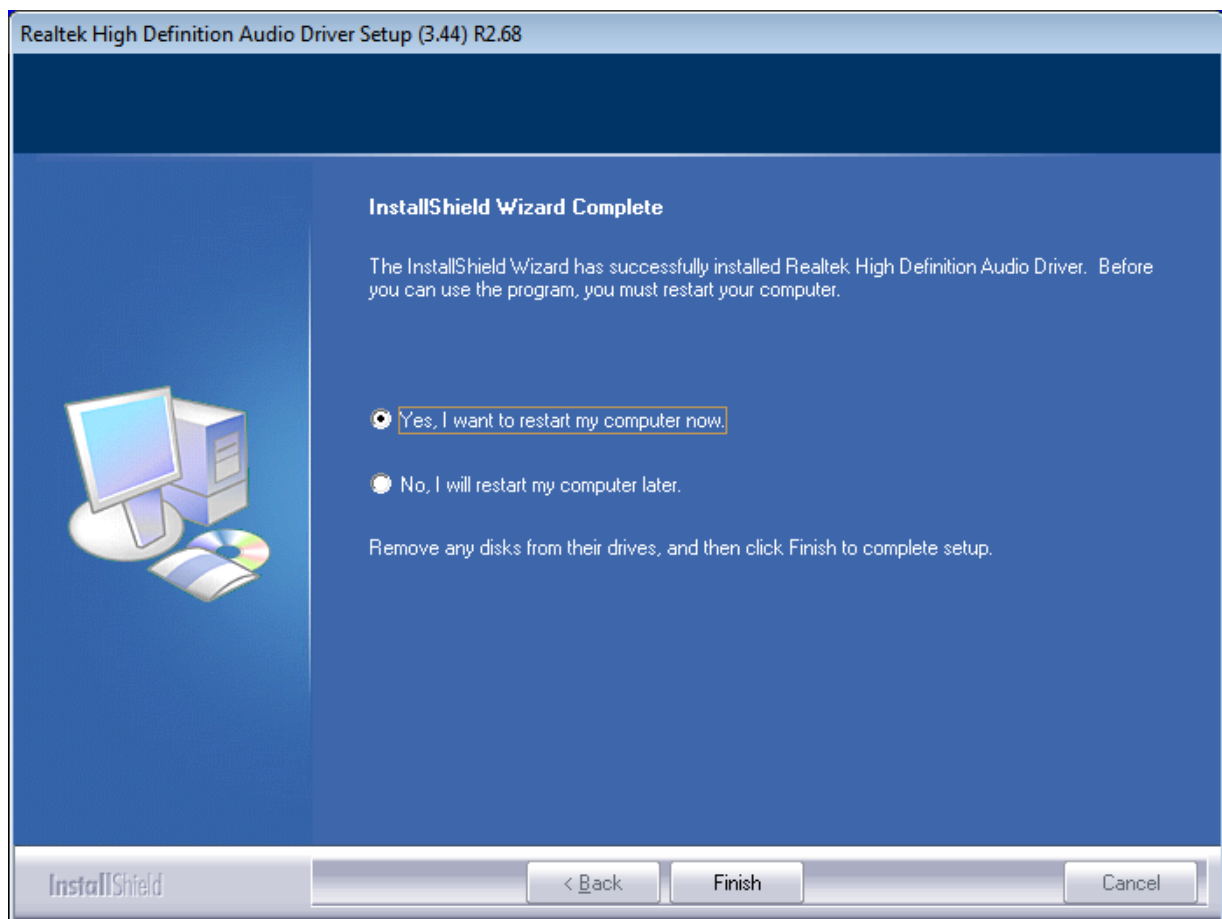
4.4 Realtek Audio Driver Installation

To install the Realtek High Definition (HD) Audio driver, please follow the steps below.
Select Audio from the list



Follow the step-by-step installation process to install the Realtek HD Audio driver.

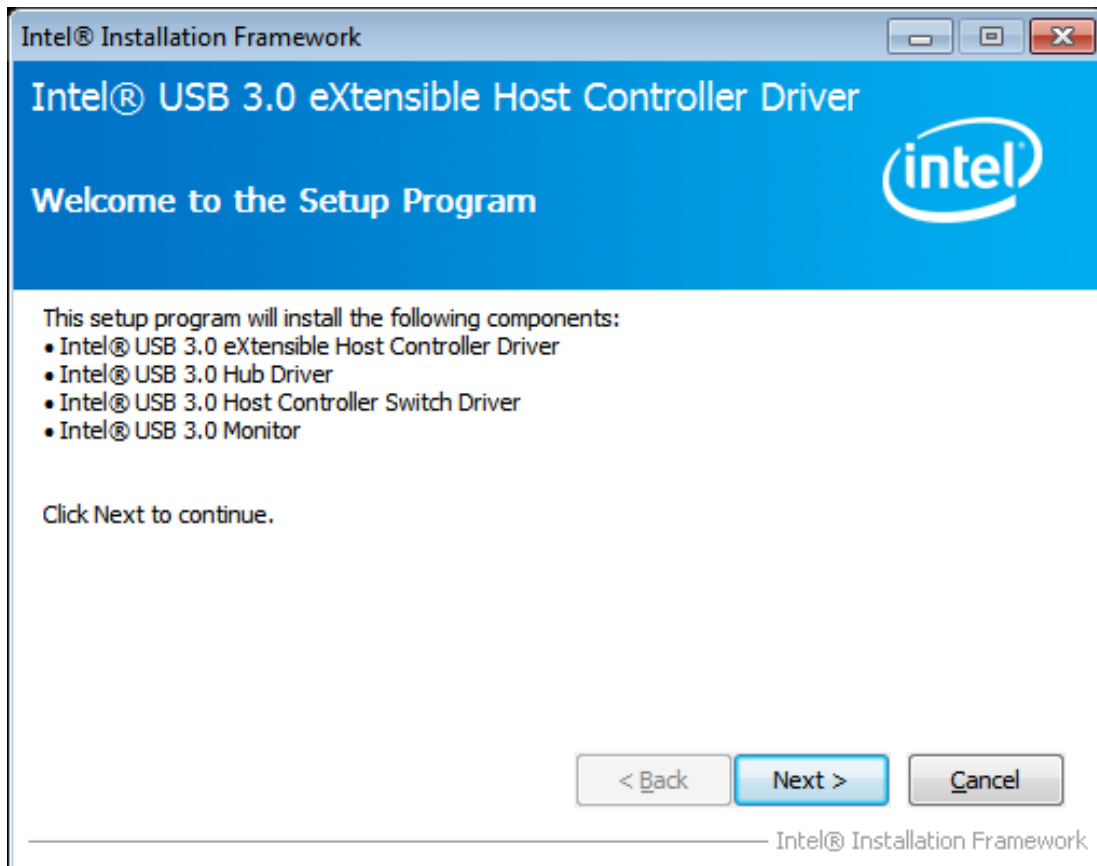


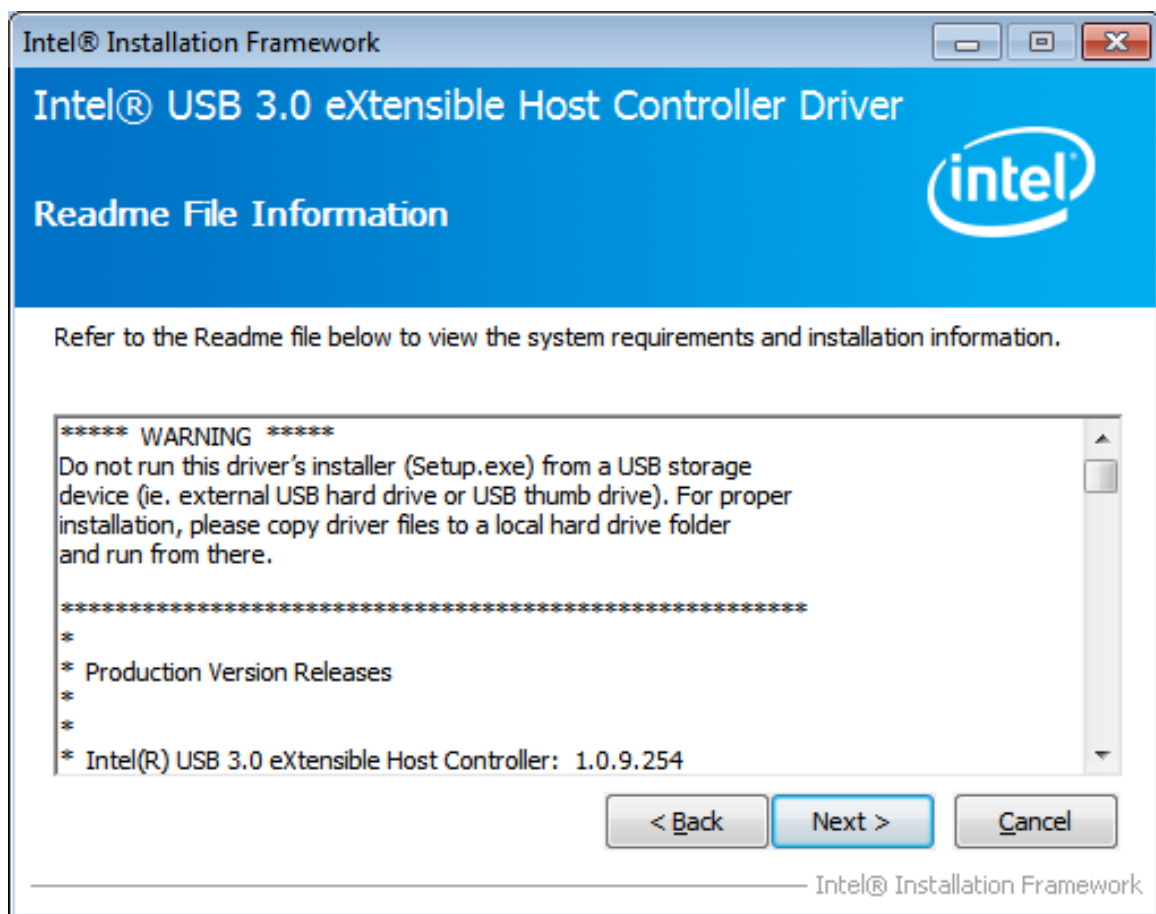
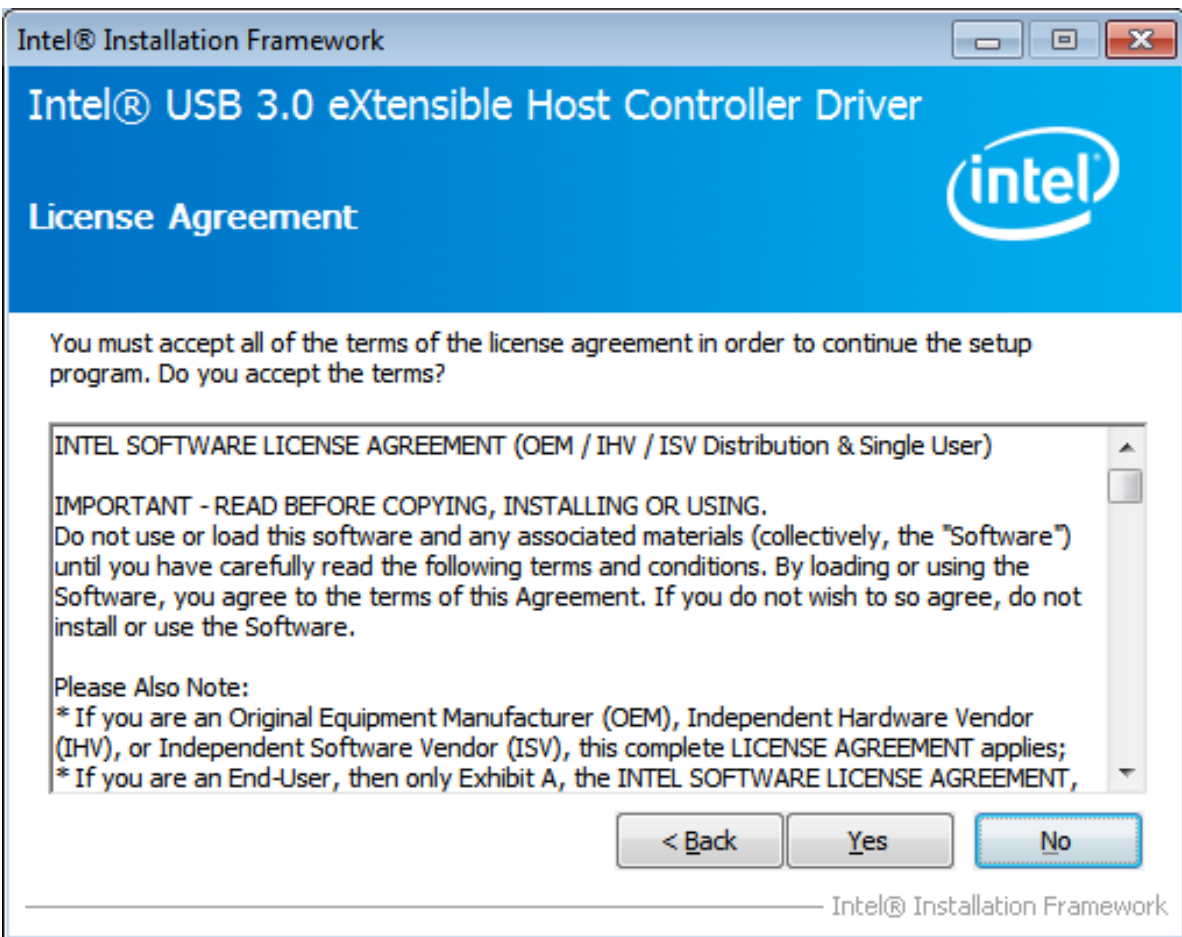


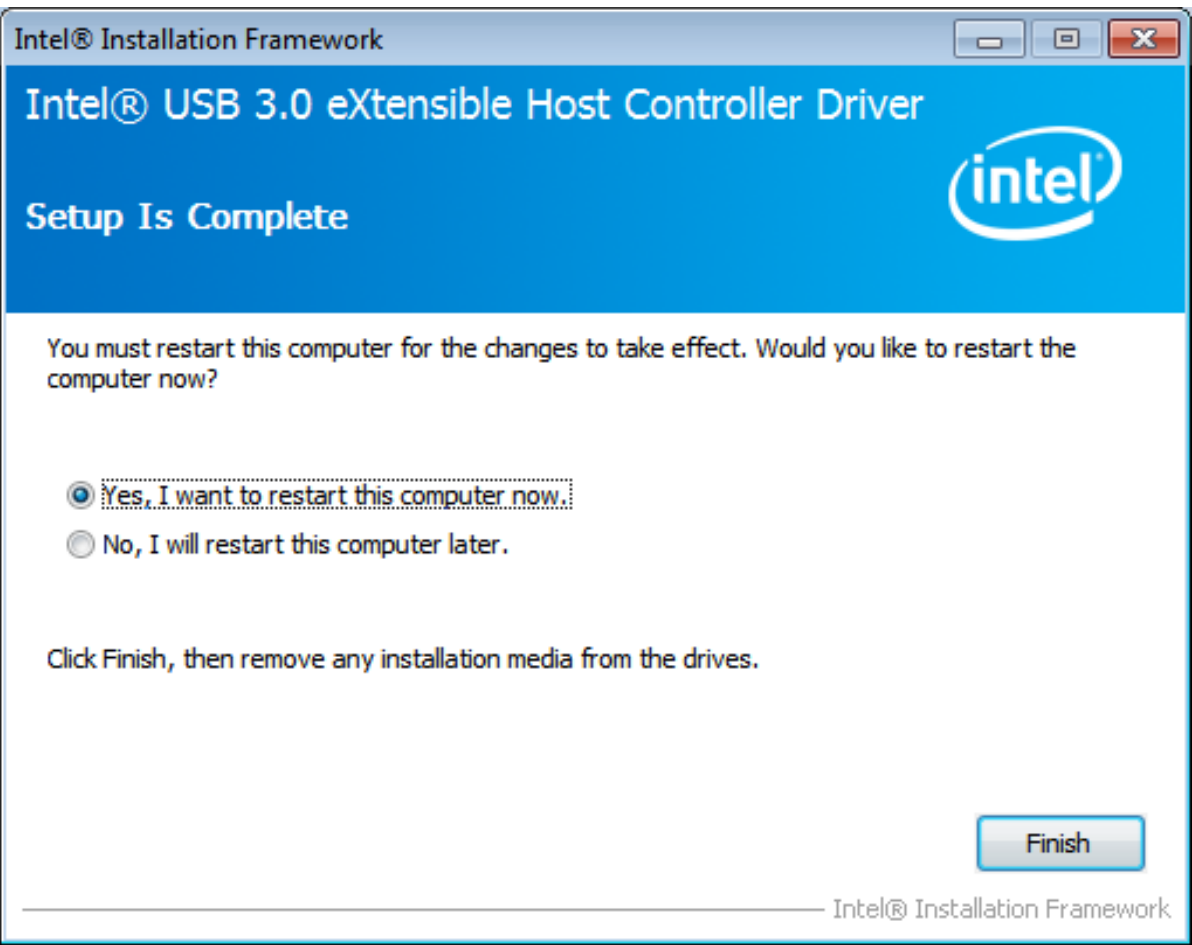
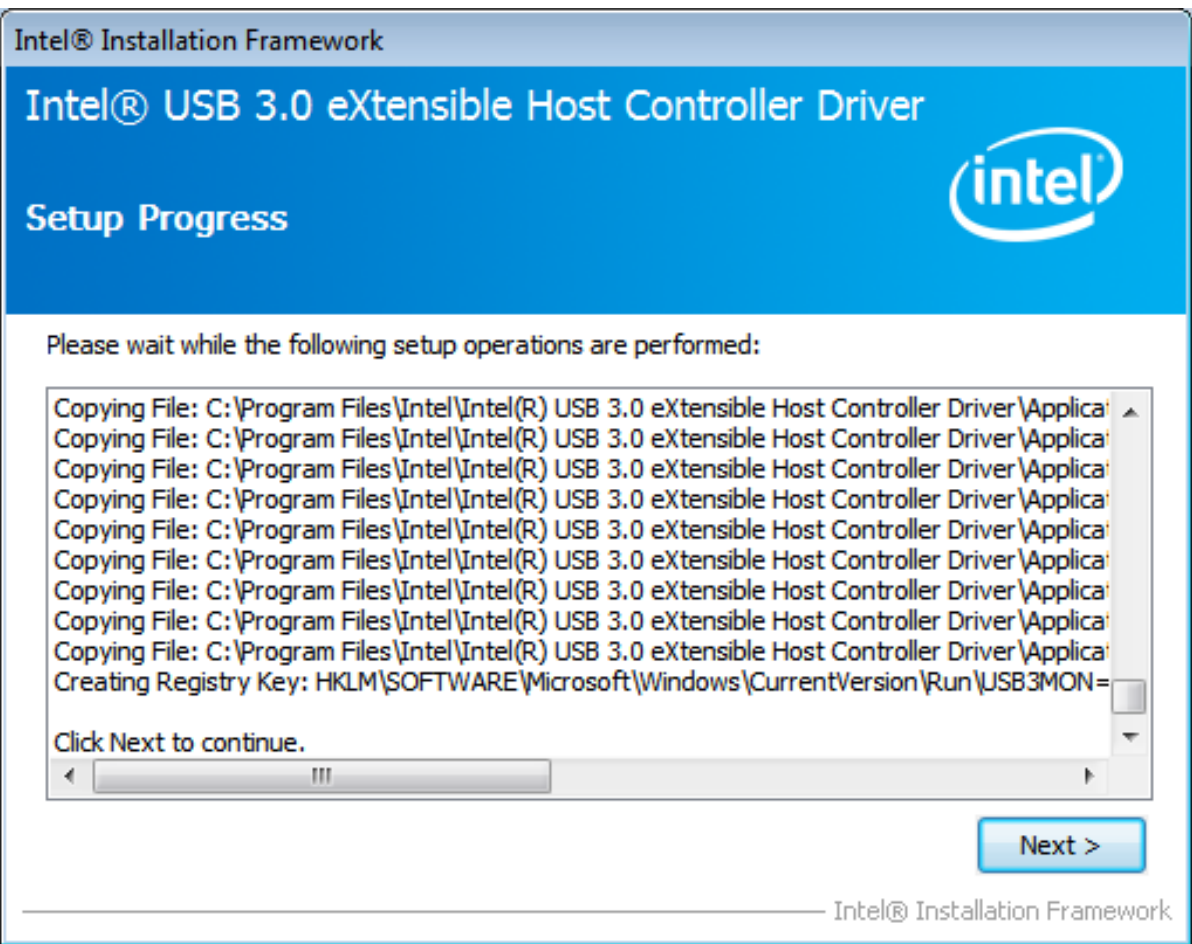
Click FINISH; A Driver Installation Complete.

4.5 Intel(R) USB 3.0 Driver Installation

To install the Intel(R) USB 3.0 Driver Service, please follow the steps below.

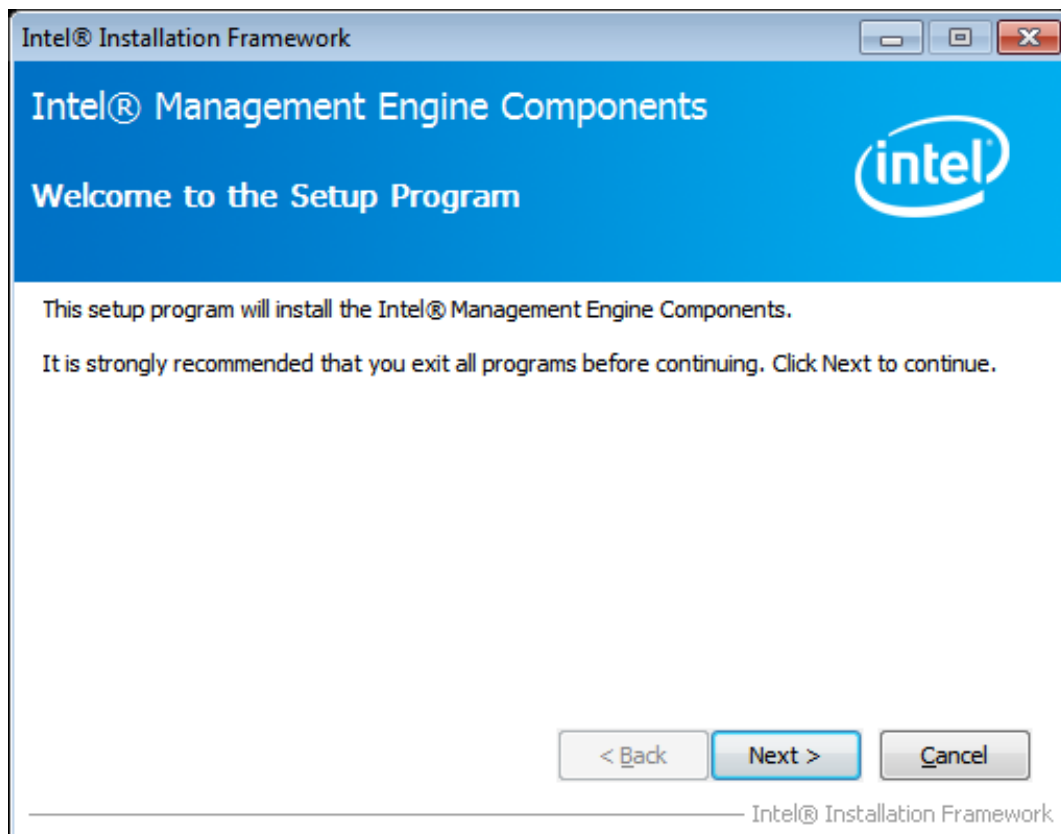


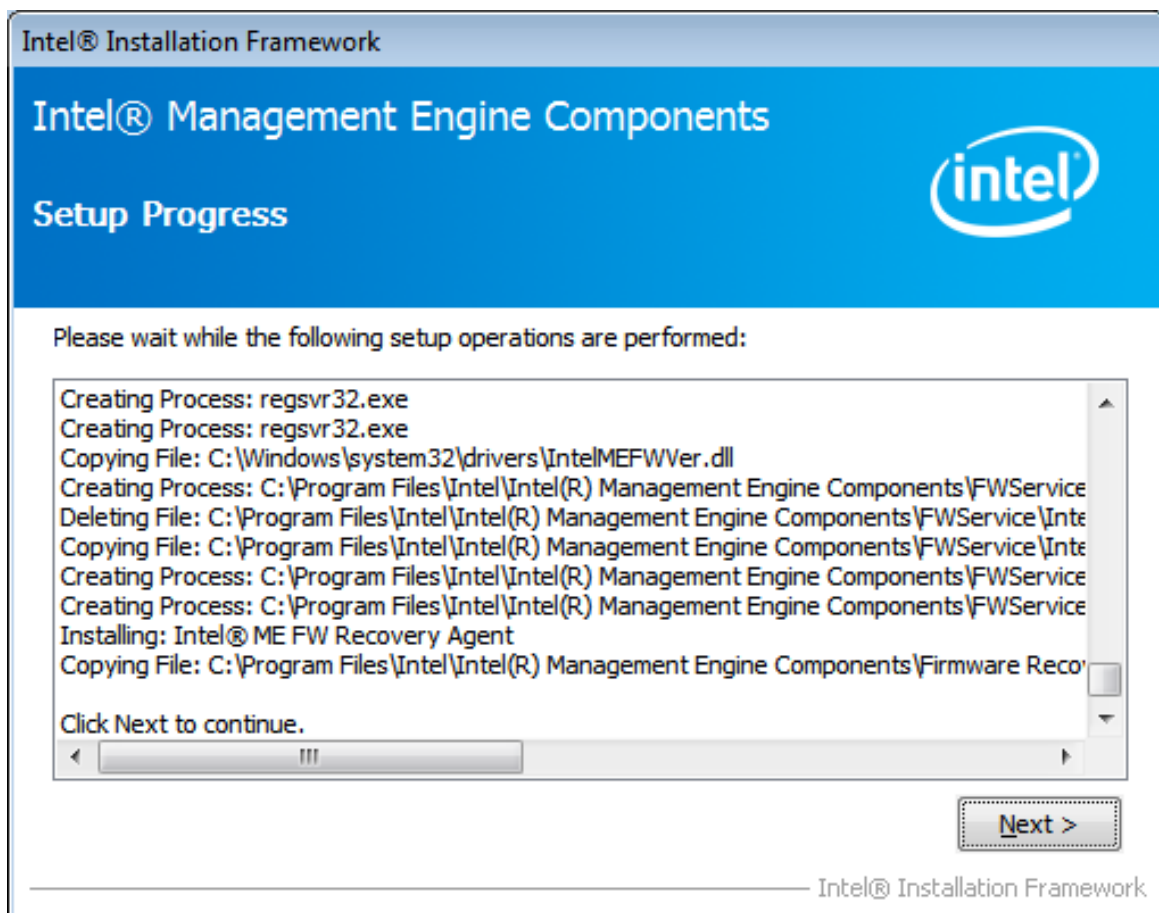
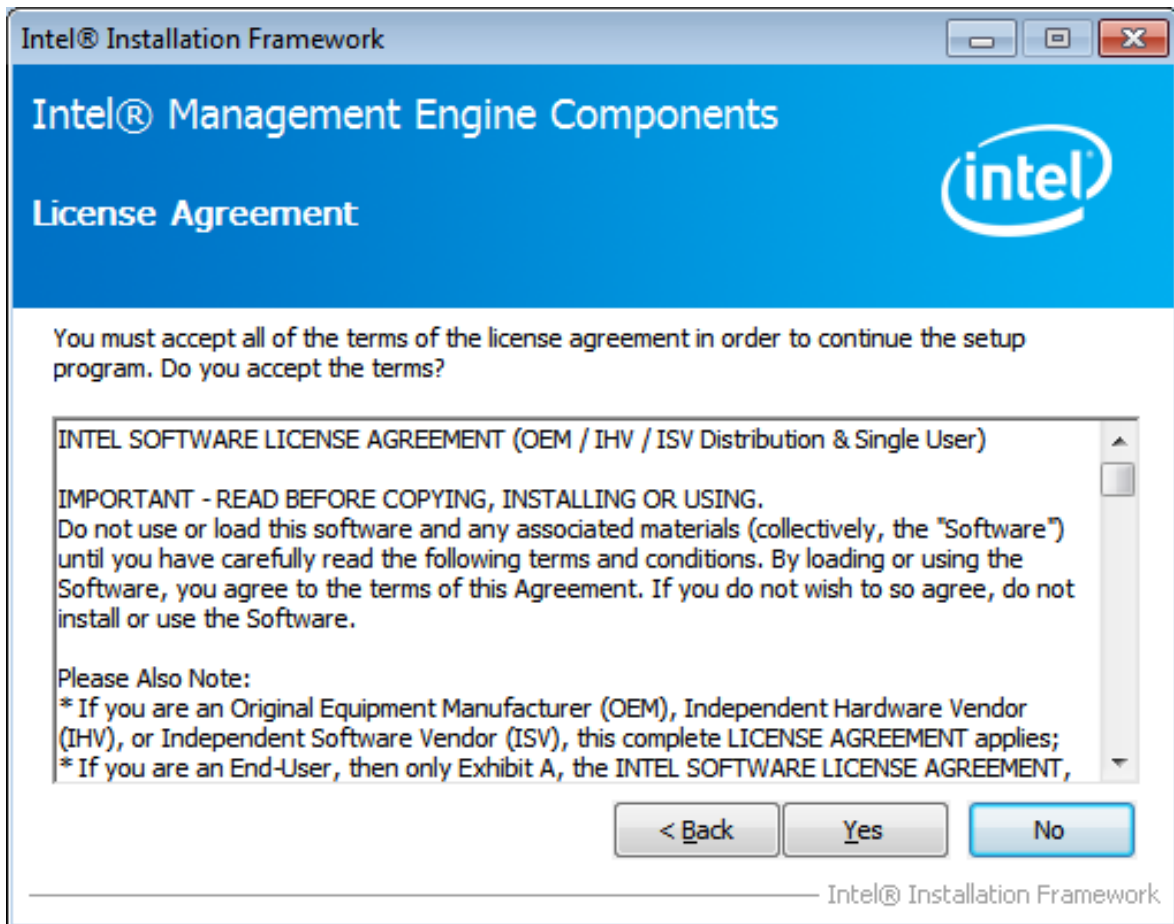


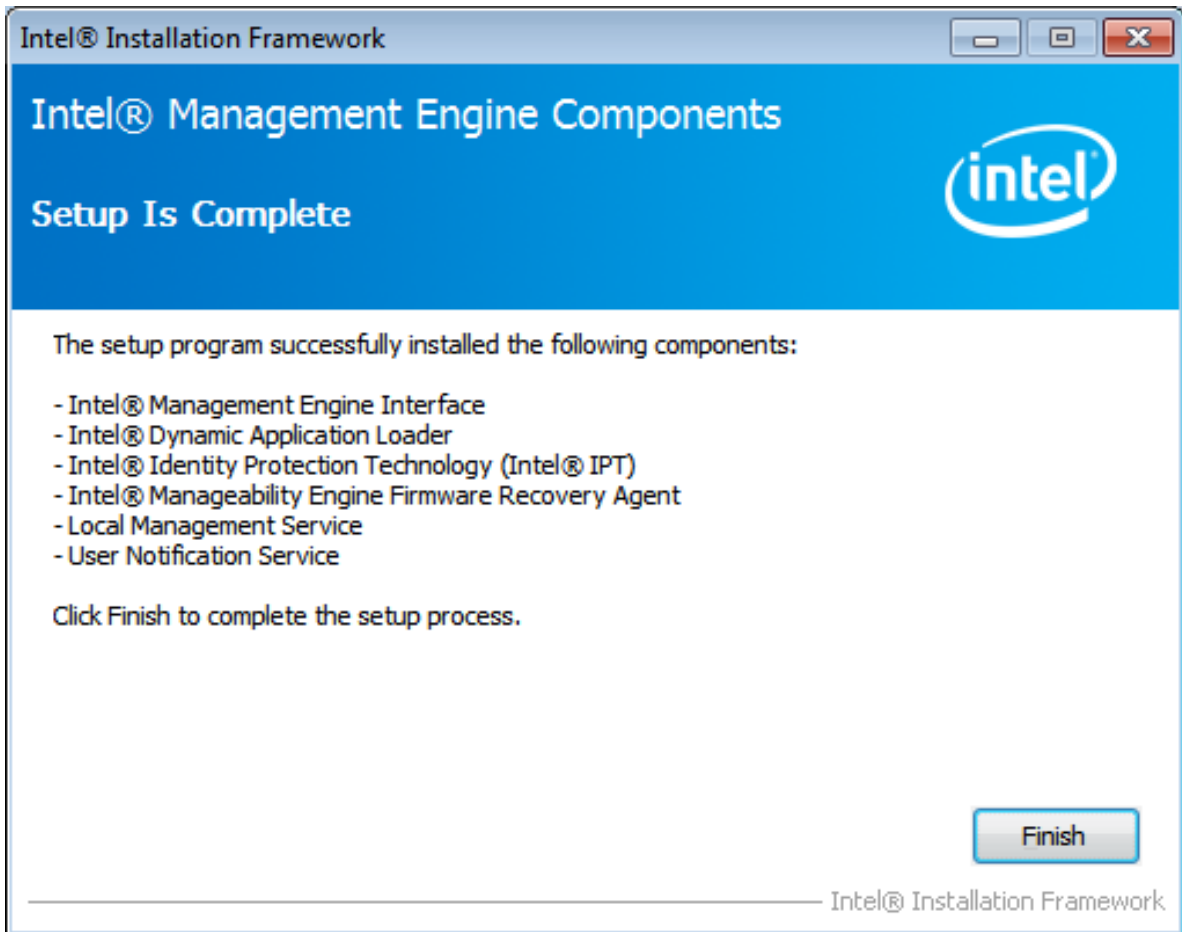


4.6 Intel(R) AMT Installation

To install the Intel(R) AMT Service, please follow the steps below.
Select AMT Service.







Click FINISH; A Driver Installation Complete.