ERX-H61

Micro ATX Montherboard with Intel® H61 Express Chipset

User's Manual

2nd Ed – 18 January 2013

Part No. E2047RX6101R

Content

1. Getting Started

1.1 Safety Precautions

Warning!

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution!

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Always note that improper disassembling action could cause damage to the motherboard. We suggest not removing the heatsink without correct instructions in any circumstance. If you really have to do this, please contact us for further support.

1.2 Packing List

Before you begin installing your single board, please make sure that the following materials have been shipped:

- Rear I/O bracket X 1
- Quick Installation Guide X 1
- Driver/Utility CD X 1
- Serial ATA Signal Cable X 2

1.3 Specifications

	ERX-H61
Title	Intel® Core™ i7, Core™ i5, Core™ i3, Pentium® /Celeron® Micro ATX Montherboard with Intel® H61 Express Chipset
Features	Intel® LGA1155 socket Supports Core™ i7, Core™ i5, Core™ i3, Pentium® and Celeron® processors
	Intel® H61 Express Chipset
	Two 240-pin DIMM sockets up to 8GB Dual Channel unbuffered DDR3 1066/1333MHz SDRAM
	VGA , DVI -D, HDMI
	Realtek® ALC 662/661 6-Channel HD Audio Codec
	Realtek® RTL8111E PCI-Express Gigabit Ethernet
	1 x PCIex16 , 2 x PCIex1 , 1 x PCI
	4 STAT II 3.0Gb/s , 8 x USB 2.0 Ports
Specifications	
System	
CPU	Intel® LGA1155 socket Supports Core™ i7, Core™ i5, Core™ i3, Pentium® and Celeron® processors
BIOS	AMI UEFI 1 x 32Mbit Flash ROM BIOS
System Chipset	Intel® H61 Express Chipset
I/O Chip	Nuvoton NCT5577D
System Memory	Two 240-pin DIMM sockets up to 8GB Dual Channel unbuffered DDR3 1066/1333MHz SDRAM
Watchdog Timer	NA
H/W Status Monitor	Monitoring temperature, Voltage, and Fan status.with Auto throttling control
Expansion	1 x PCIex16 , 2 x PCIex1 , 1 x PCI
I/O	
MIO	4 x STAT II 3.0Gb/s 1 x K/B 1 x Mouse 1 x S/PDIF Out header 1 x RS-232 1 x 24-pin ATX power connecto 1 x 8-pin ATX 12V power connector 1 x CPU fan header

	2 x System fan headers 1 x Front panel header 1 x Front panel audio header 1 x Speaker header
USB	8 x USB 2.0 (4 x USB 2.0 Ports ,rear I/O connectors , 4 x USB 2.0 Ports , internal pin-header)
Parallel Port	NA
PS2　KB/MS	1 x PS2 K/B , 1 x PS2 Mouse
DIO	NA
Display	
Chipset	Intel® HD Graphics Media Accelerator 2000/3000 (Based on CPU type) Support for DX10.1 and OpenGL3.0
Resolution	CRT　2048X1536　@ 75 Hz 1 x DVI-D port or 1 x HDMI port　1920 x 1200 @ 60 Hz selection by JUMP 　(The DVI-D port does not support D-Sub connection by adapter)
Dual Display	VGA+DVI, VGA+HDMI
Audio	
Audio Codec	Realtek ALC 662/661 6-Channel HD Audio Codec
Audio Interface	Mic-in , Line-in,Line out
Ethernet	
LAN Chip	1 x Realtek®　RTL8111E PCI-Express Gigabit Ethernet
Ethernet Interface	10/100/1000 Base-Tx Gigabit Ethernet
Mechanical & Environmental	
Power Requirement	+12V/+5V/+5Vsb/+3.3V/-12V
Power Type	ATX
Operating Temp.	0 ~ 50°C (32 ~ 121°F)
Storage Temp	-40 ~ 75°C (-40 ~ 75°F)
Operating Humidity	0 ~ 90% Relative Humidity, Non-condensing
Size (L x W)	Micro ATX 9.6" x 7.28" (244mm x 185mm)
Weight	0.88lbs (0.4kg)

2 Hardware Configuration

2.1 Product Overview

2.1.1   Main board layout
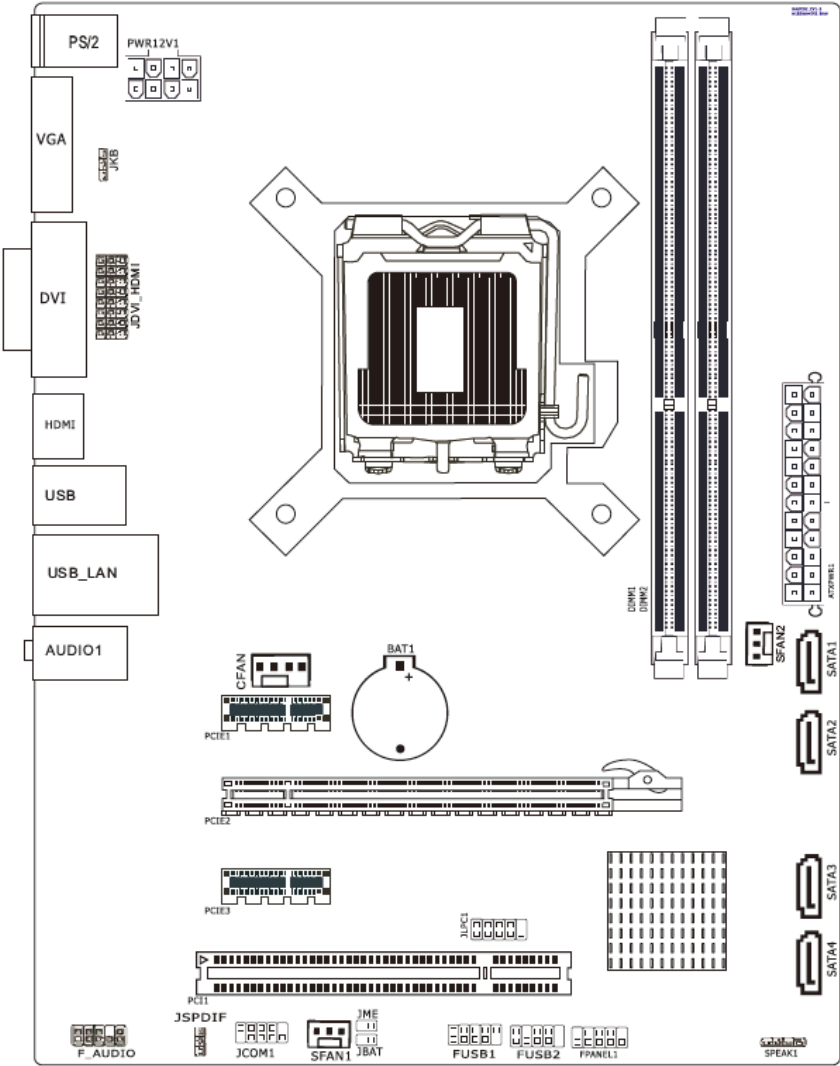
2.1.2   Connecting Rear Panel I/O Devices
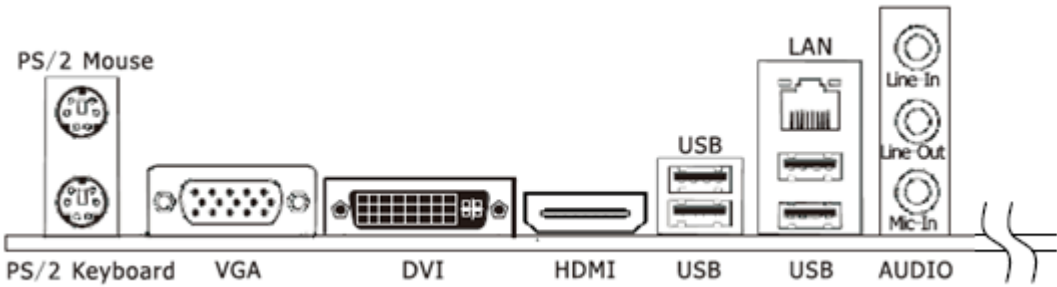
2.2 Setting Jumpers & Connectors

2.2.1 Clear CMOS (JBAT)
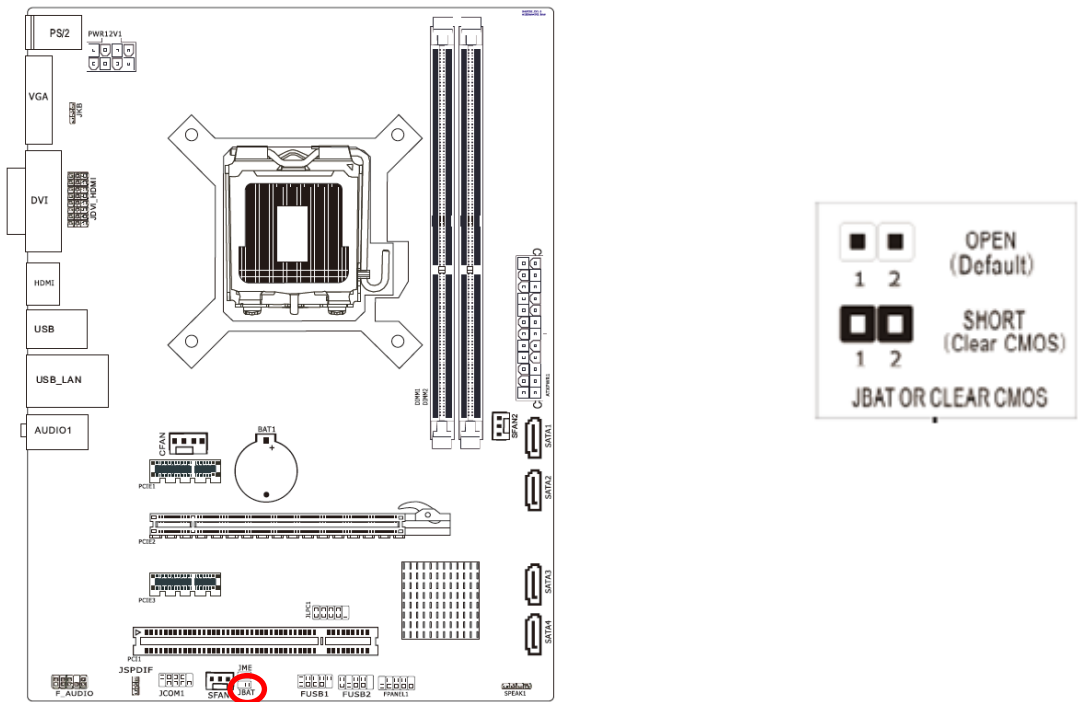
2.2.2 Keyboard Power Function (JKB)
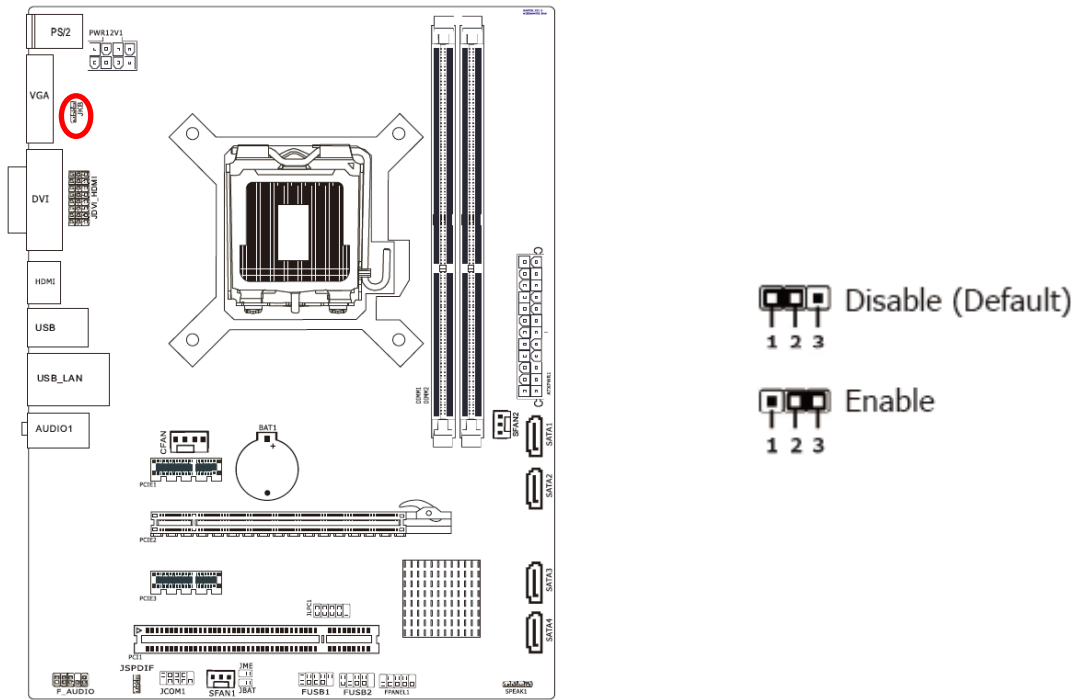
2.2.3   FAN power connectors (CFAN or CFAN1)
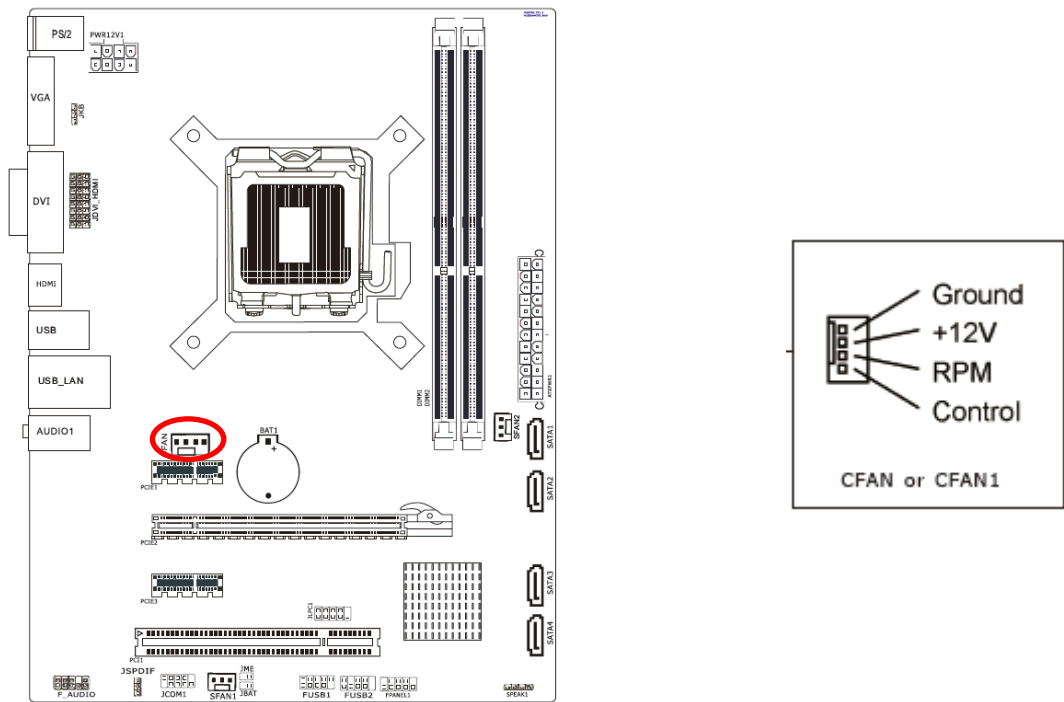
2.2.4   System Fan Power Connector (SFAN1/SFAN2)
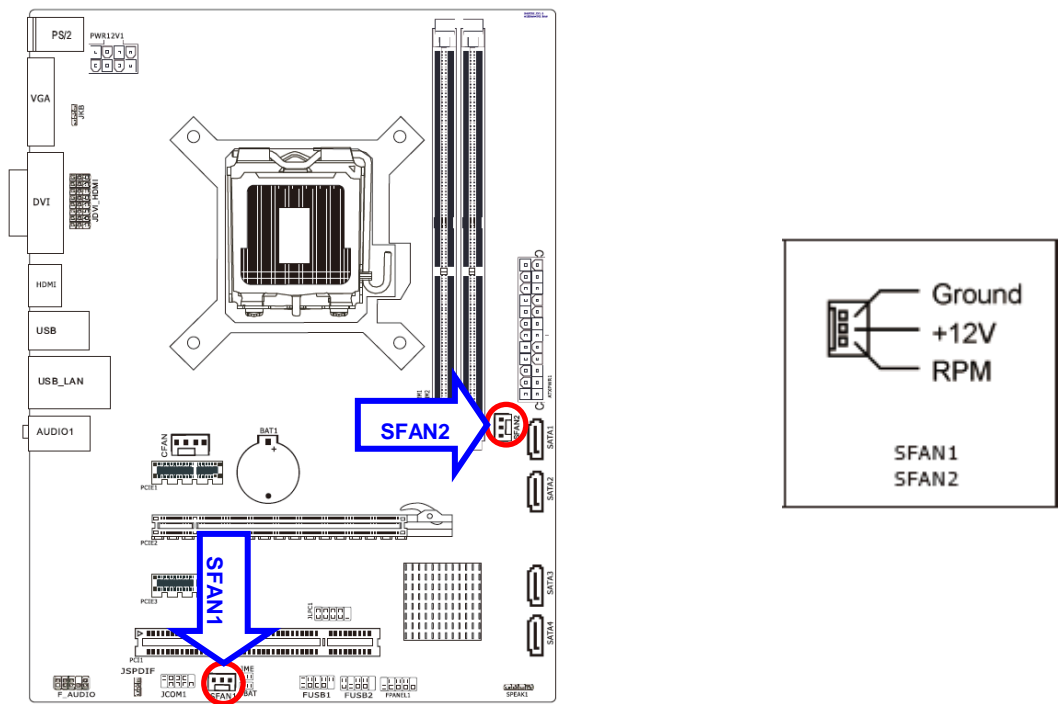
2.2.5   Front Panel Switches (FPANEL1)
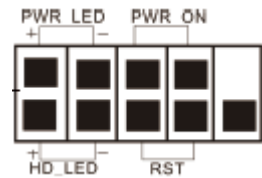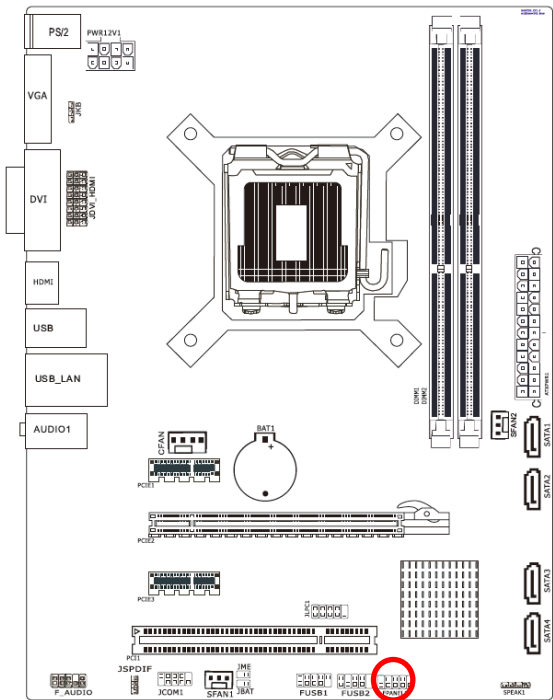
HD_LED (Red): Hard Driver LED connector

RST (Blue): Reset Switch

PWR_ON (Black): Power Switch

PWR_LED (Green): Power/Standby LED

2.2.6   Speaker Headers (SPEAK1)

This 4-pin connector connects to the PC buzzer speaker.
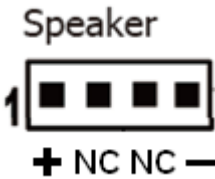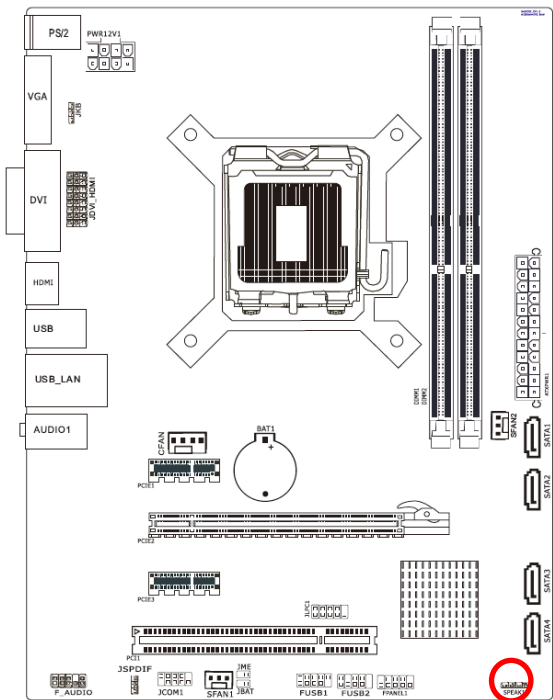
Speaker (Yellow or Black)

Pin No.	1	2	3	4
Pin Define	VCC	NC	NC	GND

2.2.7 Front Panel Audio Connection Header (F_AUDIO)
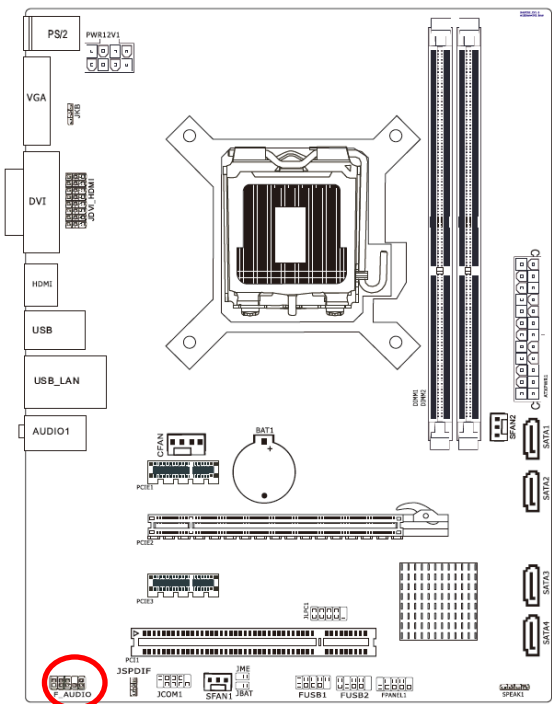
Pin No.	Header	HD Audio Definition	AC97 Audio Definition
1	PORT1L	Microphone_Left	Microphone
2	AGND	Ground	Ground
3	PORT1R	Microphone_Right	MIC Power
4	PRESENCE#	-ACZ_DET	N/A
5	PORT2R	Line2_Right	Line out (R)
6	SENSE1_RETURN	AuD_R_Return	N/A
7	SENSE_SEND	FAUDIO_JD	N/A
8	No Pin	N/A	N/A
9	PORT2L	Line2_Left	Line Out(L)
10	SENSE2_RETURN	AuD_L_Return	N/A

2.2.8 Additional USB Ports (FUSB1/FUSB2)
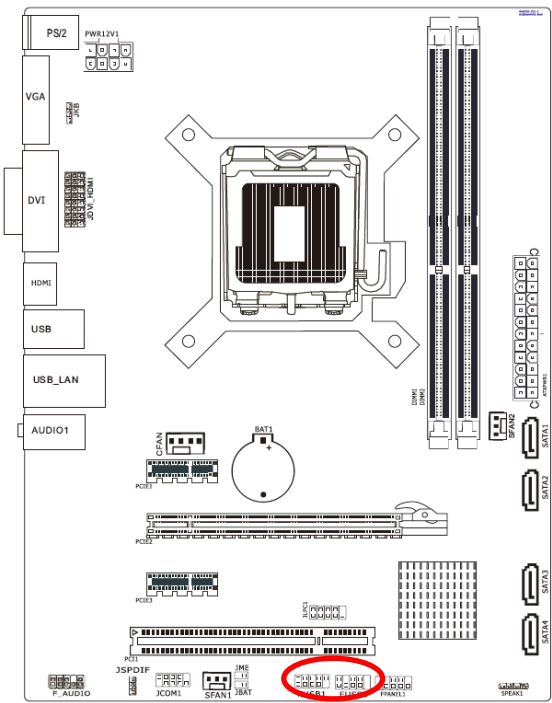
Pin	Pin Assignment	Pin	Pin Assignment
1	VCC	2	VCC
3	Data 0-	4	Data 0-
5	Data 0+	6	Data 0+
7	Ground	8	Ground
9	No Pin	10	NC

2.2.9   JDVI_HDMI and JME connectors (JDVI_HDMI / JME)
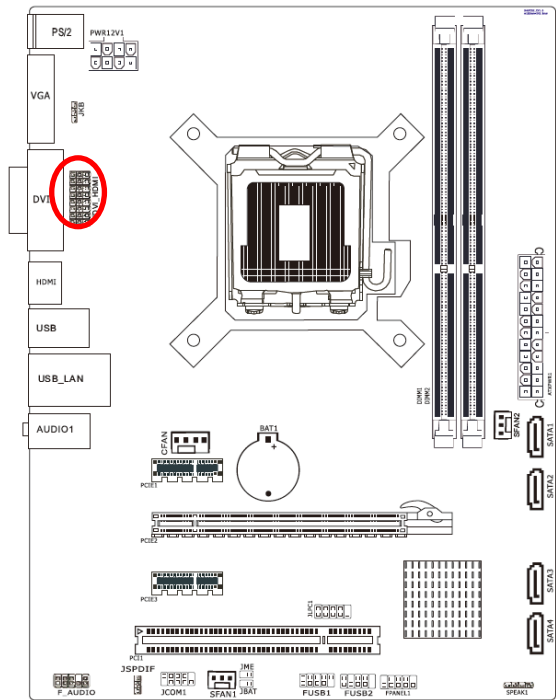
JDVI_HDMI Jumper

Pin No.	Definition
Pin1-2	DVI
Pin2-3	HDMI

Shorten #pin 1-2 to DVI device. If can't be detected, please shorten #pin 2-3 to HDMI.
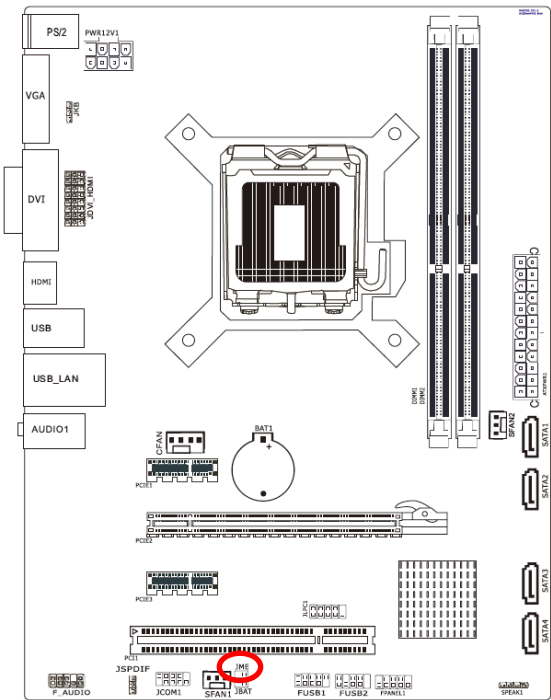
JME: short #pin 1-2 to refresh your ME

2.2.10   S/PDIF Output connector (Optional)
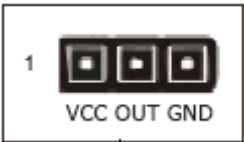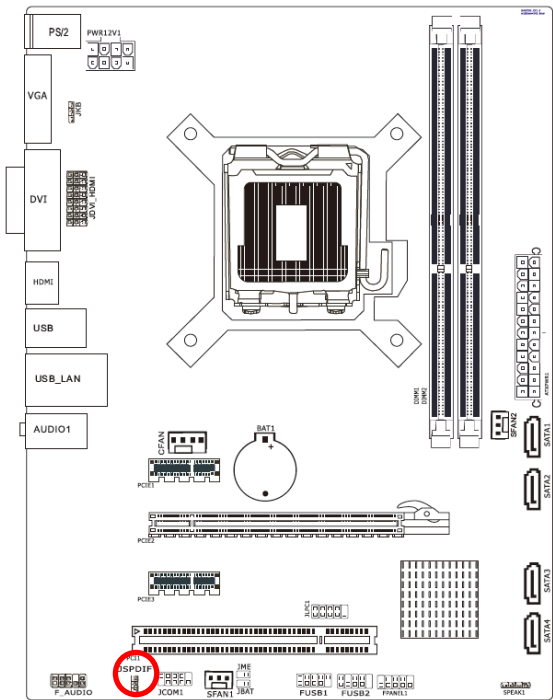
2.2.11   ATX power connector (ATXPWR)
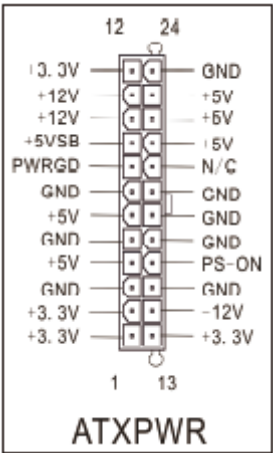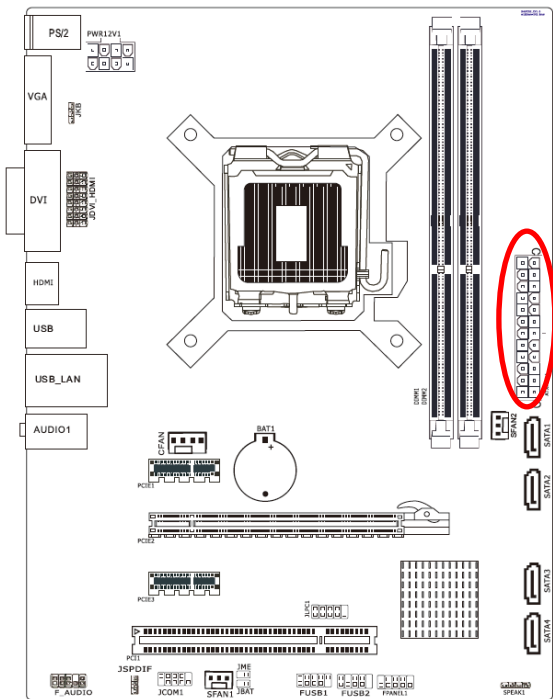
2.2.12 Power connector (PWR12V)

1: Reference for 4 pin PWR12V.   2: Reference for 8 pin PWR12V.
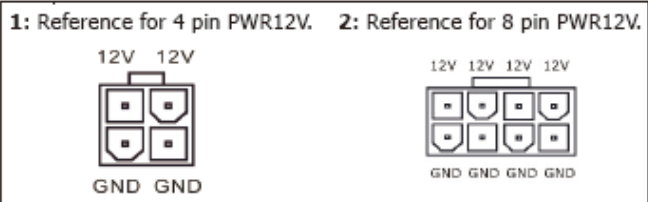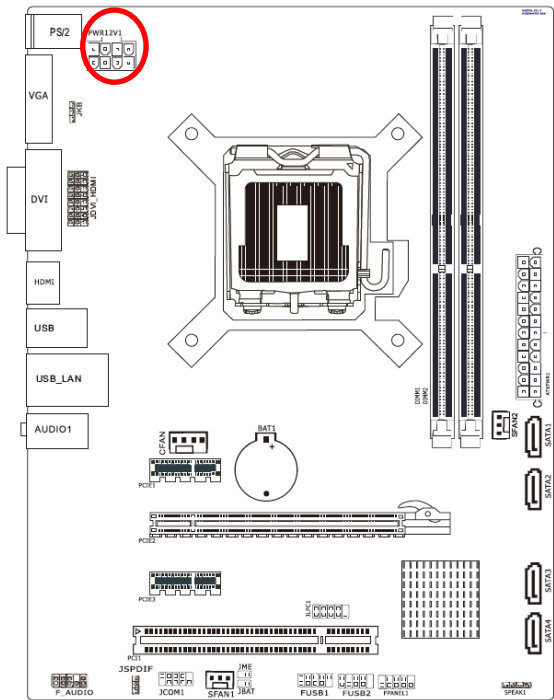
3. BIOS Setup

Note: Installation procedures and screen shots in this section are for your reference and may not be exactly the same as shown on your screen.

3.1 Starting Setup

The BIOS is immediately activated when you first power on the computer. The BIOS reads the system information contained in the NVRAM and begins the process of checking out the system and configuring it. When it finishes, the BIOS will seek an operating system on one of the disks and then launch and turn control over to the operating system.

While the BIOS is in control, the Setup program can be activated in one of two ways:

By pressing <Del> immediately after switching the system on, or

By pressing the <Del> key when the following message appears briefly at the bottom of the screen during the POST (Power On Self Test).

Press DEL to enter SETUP

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to.

Press F1 to Continue, DEL to enter SETUP

3.2 Using Setup

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item.

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

Button	Description
↑	Move to previous item
↓	Move to next item
←	Move to the item in the left hand
→	Move to the item in the right hand
Esc key	Main Menu -- Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu -- Exit current page and return to Main Menu
Enter key	To bring up the selected screen
+ key	Increase the numeric value or make changes
- key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
F7 key	Load the default
F8 key	Fail-Safe Values
F9 key	Optimized Defaults
F10 key	Save & Exit

- **Navigating Through The Menu Bar**

  Use the left and right arrow keys to choose the menu you want to be in.

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

- **To Display a Sub Menu**

  Use the arrow keys to move the cursor to the sub menu you want. Then press <Enter>. A "➢" pointer marks all sub menus.

3.3 Getting Help

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc> or the F1 key again.

3.4 In Case of Problems

If, after making and saving system changes with Setup, you discover that your computer no longer is able to boot, the BIOS support an override to the NVRAM settings which resets your system to its defaults.

The best advice is to only alter settings which you thoroughly understand. To this end, we strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both Award and your systems manufacturer to provide the absolute maximum performance and reliability. Even a seemingly small change to the chipset setup has the potential for causing you to use the override.

3.5 BIOS setting

3.5.1 Main Menu

Once you enter the BIOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

Note that a brief description of each highlighted selection appears at the bottom of the screen.

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
 Main  Advanced  Chipset  Boot  Security  OverClock  Save & Exit

 BIOS Information                                 Choose the system default
                                                  language
 BIOS Vendor           American Megatrends
 Core Version          4.6.4.1
 Compliency            UEFI 2.0
 Project Version       SB00D520                   → ← : Select Screen
 Build Date and Time   04/27/2011 18:13:24        ↑ ↓ : Select Item
                                                  Enter: Select
 Memory Information                               +/-:   Change Opt.
 Total Memory          1024 MB (DDR3 1333)        F1: General Help
                                                  F7: Previous Values
 System Language       [English]                  F8: Fail-Safe Values
                                                  F9: Optimized Defaults
 System Date           [Fri 03/04/2011]           F10: Save & Exit
 System Time           [17:27:30]                 ESC: Exit

 Access Level          Administrator

      Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```

Note: The BIOS setup screens shown in this chapter are for reference purposes only, and may not exactly match what you see on your screen.
Visit the Avalue website (www.avalue.com.tw) to download the latest product and BIOS information.

• **BIOS Information**

This Item mainly introduce the BIOS related information, such as the BIOS version, the BIOS manufacturer, the program code versions, establish dates, memory capacity and frequency, choose the BIOS use of language, the setting of the system date and time, access BIOS user level, etc.

• **Memory Information**

Displays the auto-detected system memory.

• **System Date**

This item sets the date you specify(usually the current date0in the format of [Month],[Date], and [Year].

• **System Time**

This item sets the time you specify(usually the current time)in the format of [Hour],[Minute]and [Second].

3.5.2 Advanced Setting

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
 Main  Advanced  Chipset  Boot  Security  OverClock  Save & Exit

                                                    Enable or Disabe Boot
  Legacy OpROM Support                              Option for Legacy Network
  Launch PXE OpROM            [Disabled]            Devices.
  Launch Storage OpROM        [Enabled]

 ▶ ACPI Settings                                    → ← : Select Screen
 ▶ RTC Wake Settings                                ↑ ↓ : Select Item
 ▶ CPU Configuration                                Enter: Select
 ▶ USB Configuration                                +/-:   Change Opt.
 ▶ Power Management                                 F1: General Help
 ▶ H/W Monitor                                      F7: Previous Values
                                                    F8: Fail-Safe Values
                                                    F9: Optimized Defaults
                                                    F10: Save & Exit
                                                    ESC: Exit

       Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```

• **Onboard Lan BootROM Control**

These items can change Boot ROM of the LAN chipset.

• **Launch Storage OpROM**

Setting old equipment storage ROM open and close, optional for Enalbed, Disbaled.

► ACPI Settings

Click <Enter> key to enter its submenu.

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
 Advanced

 ACPI Settings                                    Enables or Disabes BIOS
 Enable ACPI Auto Configuration [Disabled]        ACPI Auto Configuration.

 Enable Hibernation            [Enabled]          → ← : Select Screen
 ACPI Sleep State              [S3 (Suspend...]   ↑ ↓ : Select Item
 Lock Legacy Resources         [Disabled]         Enter: Select
                                                  +/-:   Change Opt.
                                                  F1: General Help
                                                  F7: Previous Values
                                                  ......

          Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```

• **Enable ACPI Auto Configuration**

Setting the advanced power management configuration, optional for Enalbed, Disbaled.

• **Enable Hibernation**

Enables or disables system ability to hibernate (OS/S4 sleep state). This option may be not effective with some OS. Optional for Enalbed, Disbaled.

• **ACPI Sleep State**

Select the highest ACPI sleep state the system will enter when the suspend button is pressed. Optional for Suspend Disbled、S1(CPU Stop Clock)、S3(Suspend to RAM).

• **Lock legacy Resources**

Enables or disables lock of legacy resources. optional for Enalbed, Disbaled.

・Press <**Esc**> key to return to "**Advanced**" menu.

► RTC Wake Settings

Click <Enter> key to enter its submenu.

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
  Advanced

 Wake System With Fixed Time    [Disabled]         Enable or Disabe System
                                                   wake on alarm event.
 Wake system with Dynamic Time [Disabled]          When enabled,System will
                                                   wake on the Hr::min::sec
                                                   specified.

                                                   → ← : Select Screen
                                                   ↑ ↓ : Select Item
                                                   Enter: Select
                                                   +/-:   Change Opt.
                                                   F1: General Help
                                                   F7: Previous Values
                                                   F8: Fail-Safe Values
                                                   F9: Optimized Defaults
                                                   F10: Save & Exit
                                                   ESC: Exit

        Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```

- **Wake System With Fixed Time**

Enable or Disabe System wake on alarm event. When enabled,System will wake on the Hr::min::sec specified.

- **Wake system with Dynamic Time**

Enable or disable system wake on alarm event. When enabled, system will wake on the current time + Increase minute(s).

・Press <**Esc**> key to return to "**Advanced**" menu.

► CPU Configuration

Click <Enter> key to enter its submenu.

```
Aptio Setup Utility — Copyright (C) 2011 American Megatrends,Inc.
   Advanced

Intel(R) Core(TM) i7-2600 CPU @ 3.40 GHz      Non Turbo Range: 16 – 34.
EMT64                            Supported     Turbo ratio: 35. If out
Max Processor Speed              3400MHz        of range ratio, maximum
Min Processor Speed              1600MHz        or minimum ration is
Processor Speed                  3400MHz        used. This sets the
Factory power limit              95 Watts       maximum ratio.
Processor Stepping               206a6
Mcrocode Revision                28
Processor Code                   4
Intel HT Technology              Supported


                                                → ← : Select Screen
                                                ↑ ↓ : Select Item
Active Processor Cores           [All]          Enter: Select
Limit CPUID Maximum              [Disabled]     +/-:    Change Opt.
Execute Disble Bit               [Enabled]      F1: General Help
Hardware Prefetcher              [Enabled]      F7: Previous Values
Adjacent Cache Line Prefetch     [Enabled]      F8: Fail-Safe Values
Intel Virtualization Technology  [Disabled]     F9: Optimized Defaults
CPU C3 Report                    [Disabled]     F10: Save & Exit
CPU C6 Report                    [Disabled]     ESC: Exit
Package C State limit            [No Limit]
Local xZAPIC                     [Disabled]

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```

This is CPU configuration options, and show processor working states, such as frequency，64-bit support, maximum/min frequency, stepping, microcode version, code number and hyper-threading technology support, etc.

- **Max Freq Ratio**

This sets the maximum ratio.
- **Set Boot Freq Ratio**

This sets the boot ratio.
- **Hyper-threading**

Setting hyper-threading technology open or closed.
- **Active Processor Cores**

Setting processor core number.
- **Limit CPUID Maxinum**

When set to [Enabled], this item limits the CPUID maximum value to 3, which is usually required for older OS like Windows NT4.0.

・Execute Disble Bit

This item appears only for certain processors with the Execute Disable Bit (XD bit) feature. When set to [Enabled], this item allows the processor to prevent data pages from being used by malicious software to execute code and provide memory protection.

・Hardware Prefetcher

To turn on/off the Mid Level Cache (L2) streamer prefetcher.

・Adjacent Cache Line Prefetch

Setting to turn of/off prefectching of adjcent cache lines.

・Intel Virtualization Technology

When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

・CPU C3 Report

Setting CPU C3(ACPI C2) report to OS.

・CPU C6 Report

Setting CPU C6(ACPI C3) report to OS.

・Package C State limit

Setting of CPU C energy-saving depth.

・Local x2APIC

This item enables Local x2APIC. Some OSes do not support this feature.

・Press <Esc> key to return to "Advanced" menu.

► USB Configuration

Click <Enter> key to enter its submenu.

```
Aptio Setup Utility – Copyright (C) 2011 American Megatrends,Inc.
    Advanced

 USB Configuration                                  Enables Legacy USB
                                                    Support. AUTO option
 USB Devices                                        disables legacy support
      2 Hubs                                        if no USB devices are
                                                    connected. DISABLE option
 Legacy USB Support            [Enabled]            will keep USB devices
 EHCI Hand-off                 [Enabled]            available only for EFI
 Port 60/64 Emulation          [Enabled]            applications.

 USB hardware delays and time-outs :
 USB transfer time-out         [20 sec]            → ←: Select Screen
 Device reset time-out         [20 sec]            ↑ ↓: Select Item
 Device power-up delay         [Auto]              Enter: Select
                                                   +/-:   Change Opt.
                                                   F1: General Help
                                                   F7: Previous Values
                                                   F8: Fail-Safe Values
                                                   F9: Optimized Defaults
                                                   F10: Save & Exit
                                                   ESC: Exit

         Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```

• Legacy USB Support

Setting support old input/output devices, such as the mouse, keyboard etc.

• EHCI Hand-off

Setting EHCI Hand-Off function.

• Port 60/64 Emulation

The item is to increase the USB KBC compatibility.

• USB transfer time-out

The time-out value for CONTROL, Bulk, and Interrupt transfers.

• Device reset time-out

USB mass storage device Start Unit command time-out.

• Device power-up delay

Maximum time the device will take before it properly reports itself to the Host Controller.

・Press <**Esc**> key to return to "**Advanced**" menu.

► Power Management

Click <Enter> key to enter its submenu.

```
Aptio Setup Utility – Copyright (C) 2011 American Megatrends,Inc.
 Advanced

Power Management                               Power On By PS/2 Keyboard

Power On By PS/2 Keyboard       [Disabled]
Keyboard Password                              → ← : Select Screen
Power On By PS/2 Mouse          [Disabled]     ↑ ↓ : Select Item
                                               Enter: Select
AC Power Loss                   [Power Off]    +/-:   Change Opt.
                                               F1: General Help
                                               F7: Previous Values
                                               F8: Fail-Safe Values
                                               F9: Optimized Defaults
                                               F10: Save & Exit
                                               ESC: Exit

        Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```

• Power On By PS/2 Keyboard

When setting "Password", system can wake up with Password. When setting "AnyKey", system can wake up with any key of keyboard. When setting "Disabled",system can't allow wake up with Keyboard.

Note: if you set the password boot functions, the mainboard boot button will failure.

Note: Don't forget your password. If you forget the password, you will have to open the computer case and clear all information in the NVRAM before you can start up the system. But by doing this, you will have to reset all previously set options.

• Power On By PS/2 Mouse

Set the mouse boot function.

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• AC Power Loss

Setting the system state choice after powre failure. Setting "Power Off", need to press case panel on the Power switch to boot. Setting "Power On", the supply reply directly boot. Setting "Last State", Power reply recovery system State before power off. The default value as "Power Off".

 • Press <**Esc**> key to return to "**Advanced**" menu.

► H/W Monitor

Click <Enter> key to enter its submenu, it will be display hardware health configuration, including System temperature, CPU temperature, FAN speed and all kinds of voltages.

• Smart Fan Configuration

Allows you to determine whether to enable the CPU fan speed control function and adjust the fan speed. Available options: Manual Mode, Smart Mode

• Fan PWM Value

Available options: 0 – 255

3.5.3 Chipset Setting

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
Main   Advanced   Chipset   Boot   Security   OverClock   Save & Exit

 ▶ North Bridge                          North Bridge Parameters
 ▶ SB Devices Control
 ▶ Intel IGD OpRegion
 ▶ ME Subsystem
                                         → ← : Select Scree
                                         ↑ ↓ : Select Item
                                         Enter: Select
                                         +/-:   Change Opt.
                                         F1: General Help
                                         F7: Previous Values
                                         F8: Fail-Safe Values
                                         F9: Optimized Defaults
                                         F10: Save & Exit
                                         ESC: Exit

      Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```

►**North Bridge**

Click <Enter> key to enter its submenu

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
           Chipset

 Memory Information                              Low MMIIO resources align
                                                 at 64MB/1024MB
 Toltal Memory          1024 MB (DDR3 1333)

 Memory Slot1           1024 MB (DDR3 1333)      → ← : Select Scree
 Memory Slot2              0 MB (DDR3 1333)      ↑ ↓ : Select Item
                                                 Enter: Select
 Low MMIO Align         [1024M]                  +/-:   Change Opt.
 DMI Gen2               [Enabled]                F1: General Help
 VT-d                   [Disabled]               F7: Previous Values
                                                 F8: Fail-Safe Values
 Initate Graphic Adapter [PEG/IGD]               F9: Optimized Defaults
 IGD Memory             [96M]                    F10: Save & Exit
 Render Standby         [Enabled]                ESC: Exit
 IGD Multi-Monitor      [Disabled]

      Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```

• **Low MMIO Align**

Low MMIIO resources align at 64MB/1024MB.

• **DMI Gen2**

DMI Gen2 Enabled/Disabled.

• **VT-d**

Available options: Enabled, Disabled

• **Initate Graphic Adapter**

Select which graphics controller to use as the primary boot device.

• **IGD Memory**

ERX-H61 Use's Manual

IGD share memory size.

• Render Standby

Enable/Disable Render Standby by Internal Graphics Device.

• IGD Multi-Monitor

Enable/Disable IGD Multi-Monitor by Internal Graphics Device.

・Press <**Esc**> key to return to "**Chipset**" menu.

► SB Devices Control

Click <Enter> key to enter its submenu.

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
                   Chipset

 SB Chipset Configuration              Enabled/Disabled the PCI
                                       Express  Ports  in  the
 Onboard LAN Controller                Chipset.
 Onboard LAN Controller    [Enabled]
                                       → ← : Select Scree
 Audio Configuration                   ↑ ↓ : Select Item
 Azalia HD Audio           [Enabled]   Enter: Select
 Azalia internal HDMI codec [Enabled]  +/-:   Change Opt.
                                       F1: General Help
 USB Configuration                     F7: Previous Values
 USB2.0 Controller         [Enabled]   F8: Fail-Safe Values
                                       F9: Optimized Defaults
 ▶ SATA Control                        F10: Save & Exit
                                       ESC: Exit

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```

• Onboard LAN Controller

This option allows you whether enable the onboard LAN.

• Azalia HD Audio

Sets the HD Audio has Enabled or Disabled state.

• Azalia internal HDMI codec

Enabled/Disabled internal HDMI codec for Azalia.

• USB2.0 Controller

Enabled/Disabled All USB Devices.

► SATA Control

Click <Enter> key to enter its submenu.

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
                  Chipset

SATA Controller                              (1) IDE Mode.
                                             (2) AHCI Mode.
SATA Mode                 [IDE Mode]         (3) RAID Mode.
Serial-ATA Controller 0   [Compatible]
Serial-ATA Controller 1   [Enhanced]        → ← : Select Scree
                                            ↑ ↓ : Select Item
SATA Port1                Hitachi HCP725 (320.  Enter: Select
                                            +/-:   Change Opt.
SATA Port2                Not Present       F1: General Help
                                           F7: Previous Values
SATA Port3                Not Present       F8: Fail-Safe Values
                                           F9: Optimized Defaults
SATA Port4                Not Present       F10: Save & Exit
                                           ESC: Exit

        Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```

• SATA Mode

This item allows users to enable or disable the SATA controller.

• Serial-ATA Controller 0

Available options: Disabled，Enhanced, Compatible

• Serial-ATA Controller 1
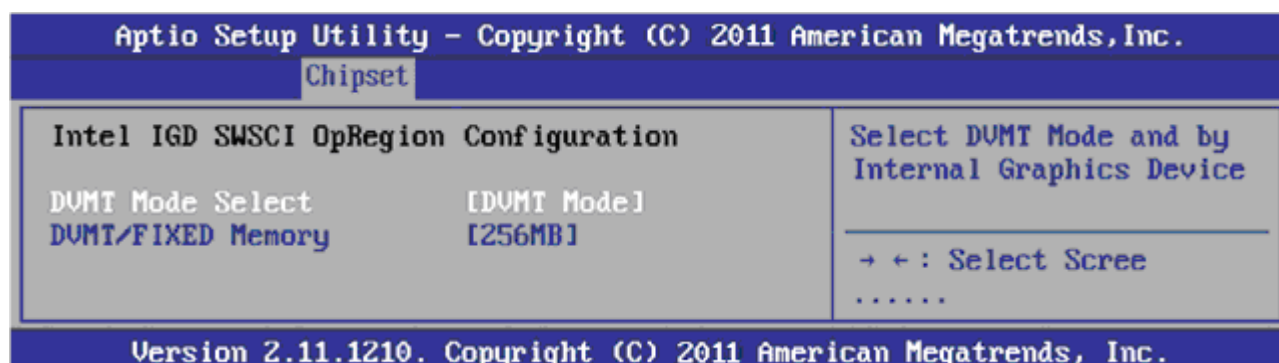
Available options: Disabled，Enhanced, Compatible

• SATA Port 1 /2/3/4

Display SATA devices.

‧Press <**Esc**> key to return to "**Chipset**" menu.

► Intel IGD OpRegion

Click <Enter> key to enter its submenu.

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
                  Chipset

Intel IGD SWSCI OpRegion Configuration      Select DVMT Mode and by
                                            Internal Graphics Device
DVMT Mode Select          [DVMT Mode]
DVMT/FIXED Memory         [256MB]
                                            → ← : Select Scree
                                            ......

        Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```

• DVMT Mode Select

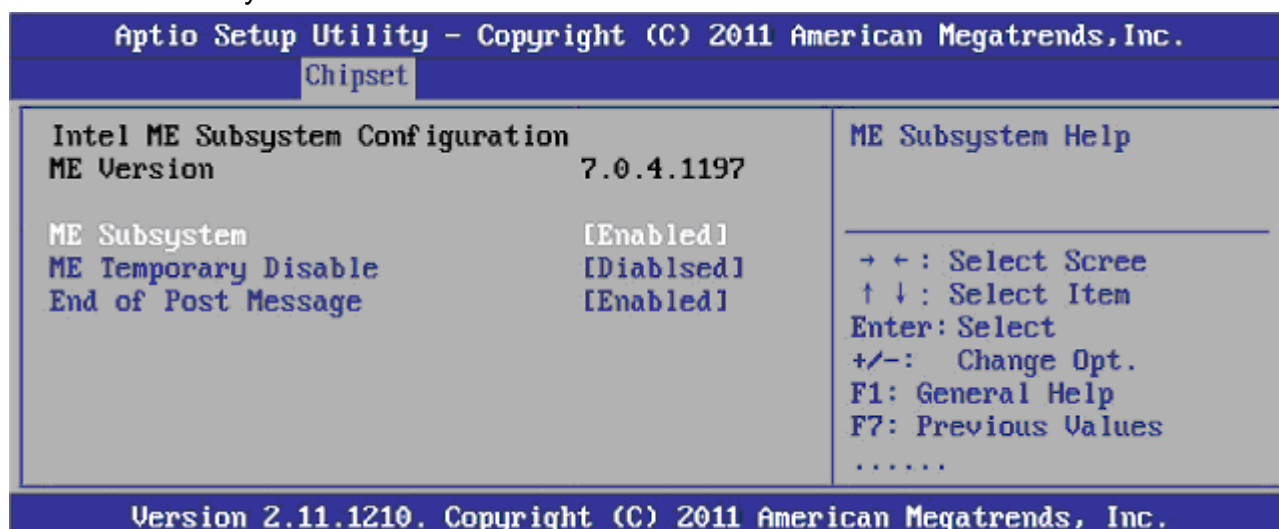Select DVMT Mode used by Internal Graphics Device.

• DVMT/FIXED Memory

Select DVMT/FIXED Mode Memory size used by Internal Graphics Device.

‧Press <Esc> key to return to "Chipset" menu.

► ME Subsystem

Click <Enter> key to enter its submenu.

```
Aptio Setup Utility – Copyright (C) 2011 American Megatrends,Inc.
       Chipset

Intel ME Subsystem Configuration          ME Subsystem Help
ME Version                  7.0.4.1197

ME Subsystem                [Enabled]
ME Temporary Disable        [Diablsed]    → ← : Select Scree
End of Post Message         [Enabled]     ↑ ↓ : Select Item
                                          Enter: Select
                                          +/-:  Change Opt.
                                          F1: General Help
                                          F7: Previous Values
                                          ......

       Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```

• ME Subsystem

Available options: Disabled，Enabled

• ME Temporary Disable
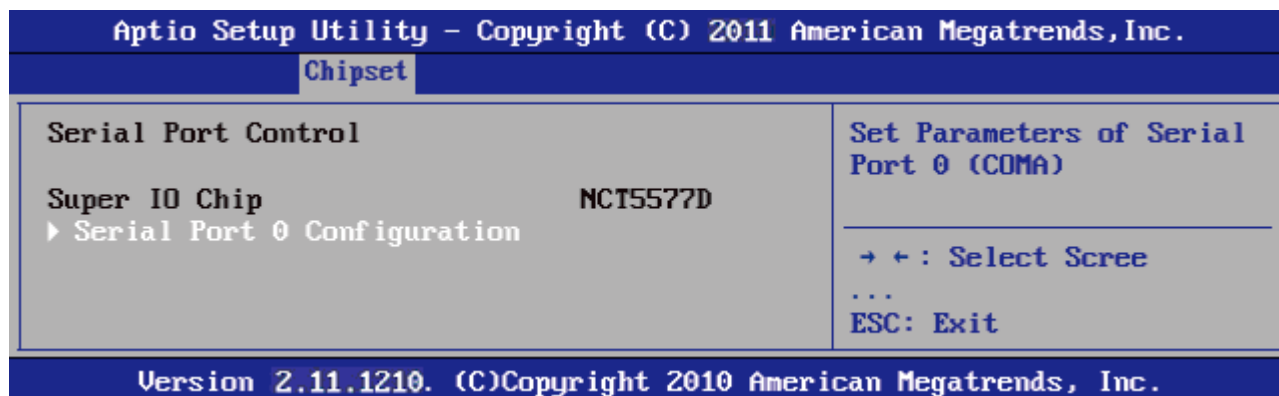
Available options: Disabled，Enabled

• End of Post Message
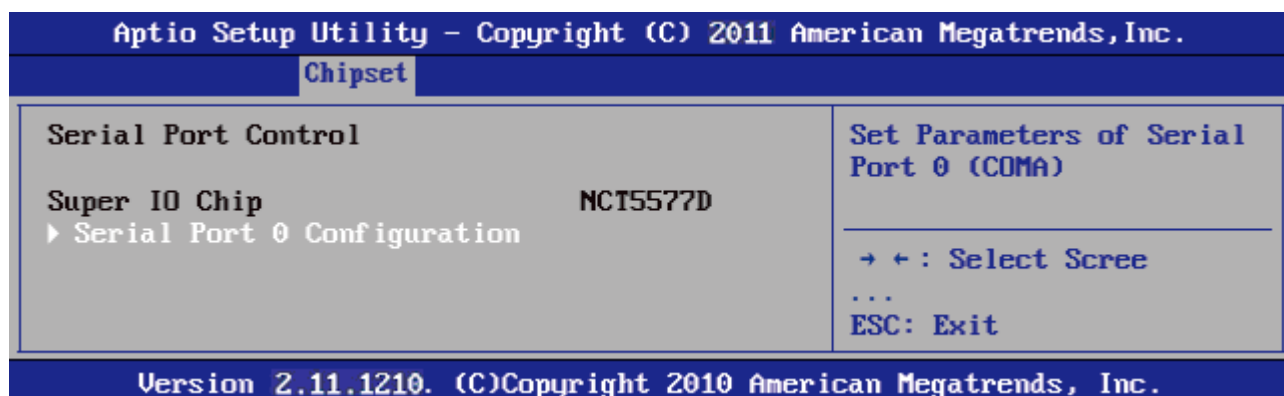
Available options: Disabled，Enabled

► ME Subsystem

Click <Enter> key to enter its submenu.

```
Aptio Setup Utility – Copyright (C) 2011 American Megatrends,Inc.
        Chipset

Serial Port Control                       Set Parameters of Serial
                                          Port 0 (COMA)
Super IO Chip              NCT5577D
▶ Serial Port 0 Configuration
                                          → ← : Select Scree
                                          ...
                                          ESC: Exit

       Version 2.11.1210. (C)Copyright 2010 American Megatrends, Inc.
```

► Serial Port 0 Configuration

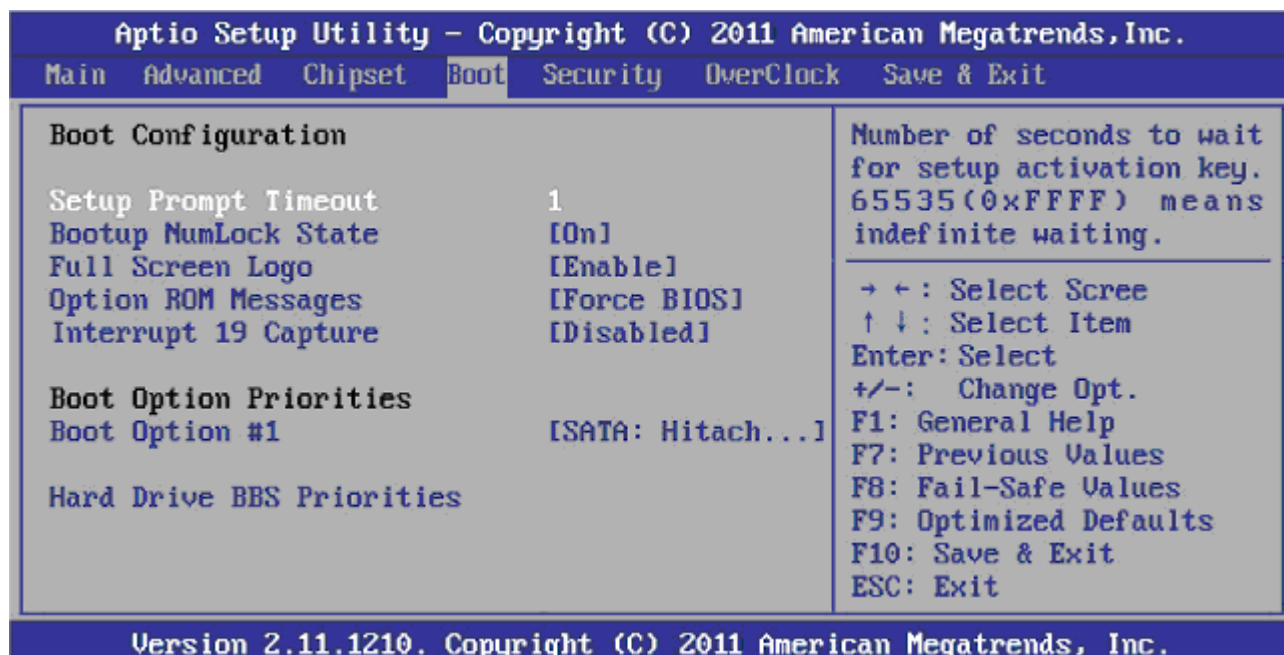Click <Enter> key to enter its submenu.

• Serial Port

Enable or Disable Serial Port (COM).

• Change Settings

Select an optimal setting for Super IO device.

3.5.4 Boot Setting

• Setup Prompt Timeout

Number of seconds to wait for setup activation key.

• Bootup NumLock State

Allows you to select the power-on state for the NumLock.

• Full Screen Logo

This item determines to show the full screen logo when booting.

• Option ROM Messages

Set display mode for option ROM.

• Interrupt 19 Capture

When set to Enabled, this function allows the option ROMs to trap Interrupt 19.
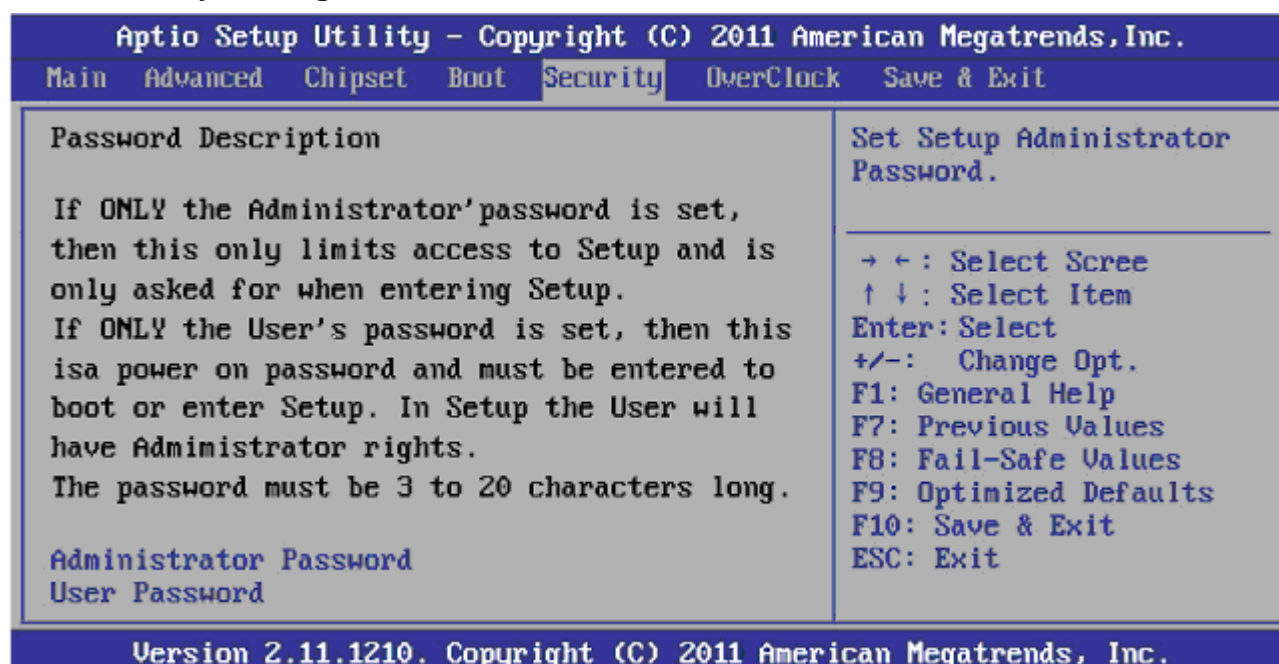
• Boot Option #1

Sets the system boot order.

► Hard Drive BBS Priorities

Click <Enter> key to enter its submenu, it will be display specifies the boot sequence from the available devices.

3.5.5 Security Setting

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
 Main   Advanced   Chipset   Boot   Security   OverClock   Save & Exit
┌─────────────────────────────────────────────┬──────────────────────────┐
│ Password Description                         │ Set Setup Administrator  │
│                                              │ Password.                │
│ If ONLY the Administrator'password is set,   │                          │
│ then this only limits access to Setup and is │                          │
│ only asked for when entering Setup.          │ → ← : Select Scree       │
│ If ONLY the User's password is set, then this│ ↑ ↓ : Select Item        │
│ isa power on password and must be entered to │ Enter: Select            │
│ boot or enter Setup. In Setup the User will  │ +/-:   Change Opt.       │
│ have Administrator rights.                   │ F1: General Help         │
│ The password must be 3 to 20 characters long.│ F7: Previous Values      │
│                                              │ F8: Fail-Safe Values     │
│                                              │ F9: Optimized Defaults   │
│ Administrator Password                       │ F10: Save & Exit         │
│ User Password                                │ ESC: Exit                │
└─────────────────────────────────────────────┴──────────────────────────┘
        Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```

• Administrator Password

This option is used to set an administrator password, as the following steps:

1. Move the cursor to the Administrator Password item, press <Enter>.
2. In the "Create New Password" dialog box, enter 3 to 20 characters or numbers to be setted, press <Enter>, and enter again in the "Confirm Password" dialog box to confirm the password is correct. If the prompt "Invalid Password!" , entering the password does not match, please enter it again.

   To clear the system administrator password, select "Administrator Password", in "Enter Current Password" dialog box enter the old password, and in the "Create New Password "<Enter>, password is cleared.
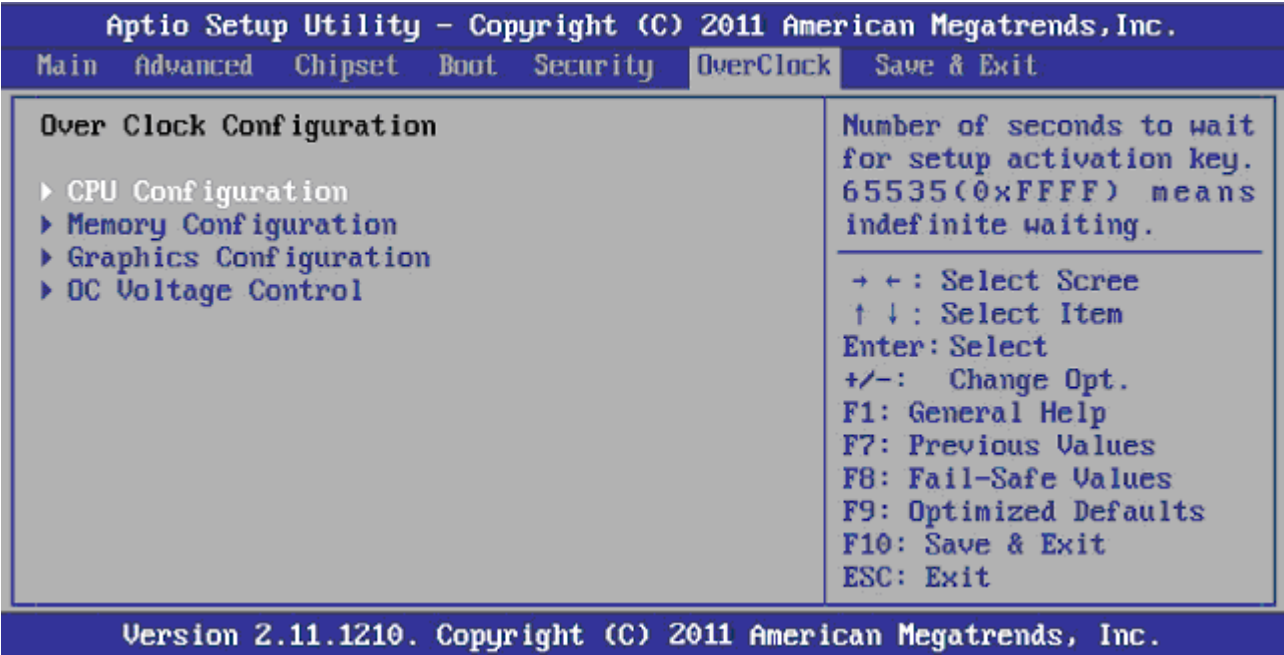
• User Password

The option be used to set the user password, setting steps is same with "Administrator Password" Setting way.

Note: Don't forget your password. If you forget the password, you will have to open the
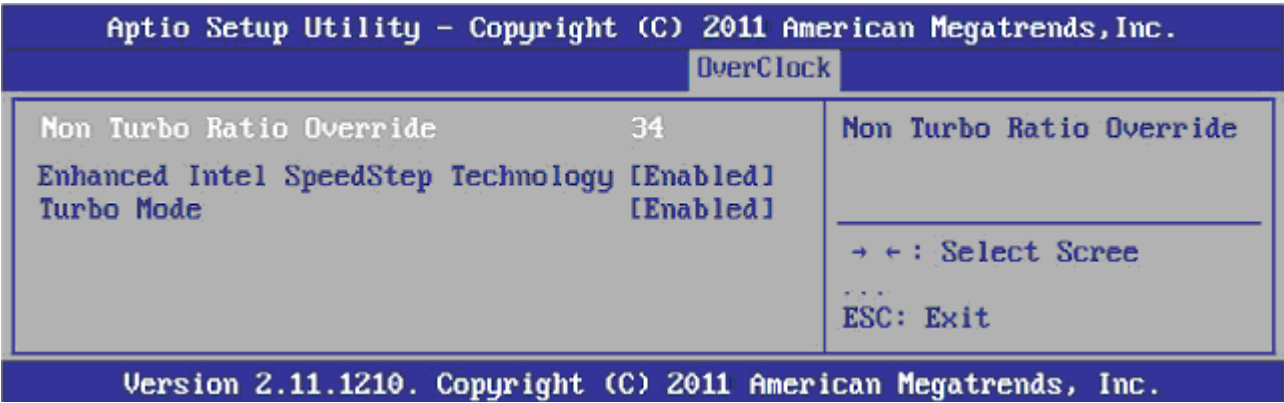30 ERX-H61 User's Manual

computer case and clear all information in the NVRAM before you can start up the system. But by doing this, you will have to reset all previously set options.

3.5.6 OverClock Setting

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
 Main   Advanced   Chipset   Boot   Security   OverClock   Save & Exit

 Over Clock Configuration                     Number of seconds to wait
                                              for setup activation key.
 ▶ CPU Configuration                          65535(0xFFFF)  means
 ▶ Memory Configuration                       indefinite waiting.
 ▶ Graphics Configuration
 ▶ OC Voltage Control                         → ←: Select Scree
                                              ↑ ↓: Select Item
                                              Enter: Select
                                              +/-:   Change Opt.
                                              F1: General Help
                                              F7: Previous Values
                                              F8: Fail-Safe Values
                                              F9: Optimized Defaults
                                              F10: Save & Exit
                                              ESC: Exit

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```

► CPU Configuration

Click <Enter> key to enter its submenu.The following items: setting CPU Multiplier, CPU power consumption limit, power consumption limit, overclocking switch.

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
                                        OverClock

 Non Turbo Ratio Override          34      Non Turbo Ratio Override

 Enhanced Intel SpeedStep Technology [Enabled]
 Turbo Mode                        [Enabled]

                                           → ←: Select Scree
                                           ...
                                           ESC: Exit

         Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```

► Memory Configuration

Click <Enter> key to enter its submenu.The following items: Setting FSB and memory parameters act.

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
                              OverClock

Memory Multiplier Configuration                Memory Multiplier

Memory Multiplier              [1333MHz]

Memory Timing Configuration                    → ← : Select Scree
                                               ↑ ↓ : Select Item
CAS# Latency(tCL)                   9          Enter: Select
Row Precharge Time(tRP)             9          +/-:   Change Opt.
RAS# to CAS# Delay(tRCD)            9          F1: General Help
RAS# Active Time(tRAS)             24          F7: Previous Values
Write Recovery Time(tWR)           10          F8: Fail-Safe Values
Row Refresh Cycle Time(tRFC)       74          F9: Optimized Defaults
Write to Read Delay(tWTR)           5          F10: Save & Exit
Active to Active Delay(tRRD)        5          ESC: Exit
Read CAS# Precharege(tRTP)          5
Four Active Window Delay(tFAW)     25

       Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```

► Graphics Configuration

Click <Enter> key to enter its submenu. The following items: setting graphics core ratio limit, graphics voltage, iGFX core current max.

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
                              OverClock

Intel Graphics Configuration                   Graphics Core Ratio Limit

Graphics Core Ratio Limit          27
Graphics Voltage(1/10000)           0
iGFX Core Current Max(1/9 Amp)    260          → ← : Select Scree
                                               ↑ ↓ : Select Item
                                               Enter: Select
                                               ......

       Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```
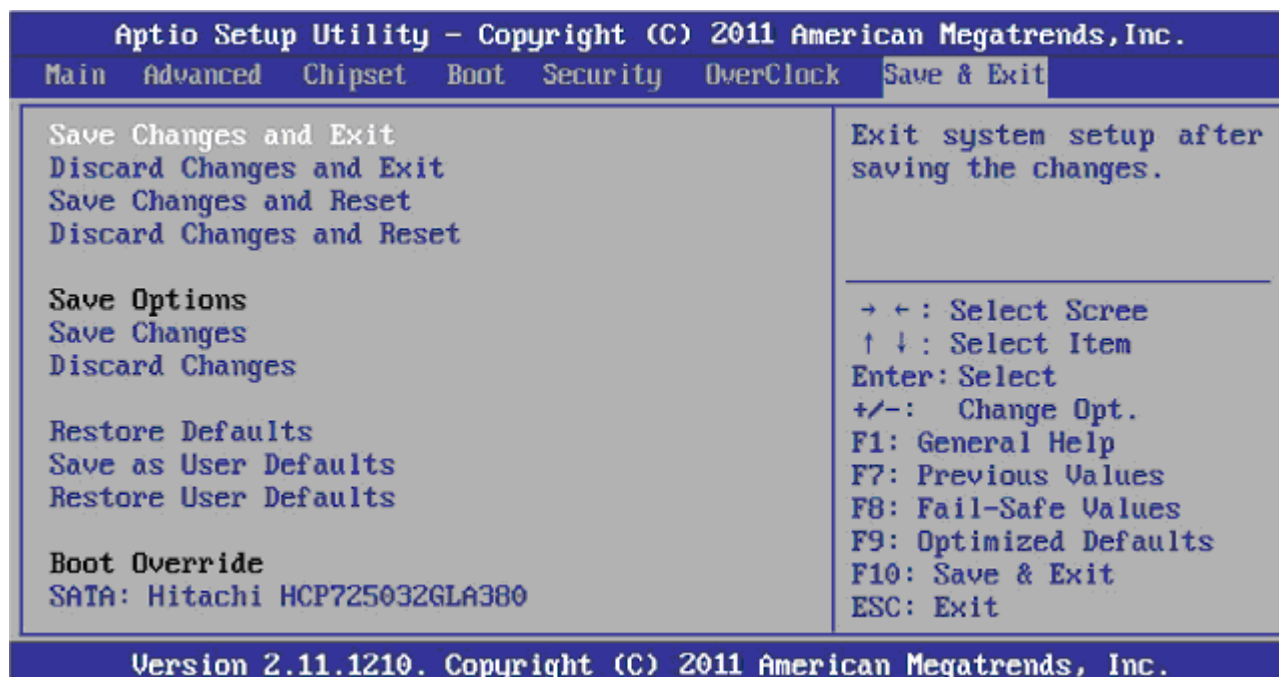
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► OC Voltage Control

Click <Enter> key to enter its submenu. The following items: Setting the memory voltage.

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
                                  OverClock

 Platform Voltage Control            │ Graphics Core Ratio Limit
                                     │
 Memory Voltage        [1.5000V]     │
                                     │ ──────────────────────────
                                     │ → ← : Select Scree
                                     │ ↑ ↓ : Select Item
                                     │ Enter: Select
                                     │ +/-:   Change Opt.
                                     │ ......

       Version 2.11.1210. Copyright (C) 2011 American Megatrends, Inc.
```

3.5.7 Save & Exit Setting

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends,Inc.
 Main  Advanced  Chipset  Boot  Security  OverClock  Save & Exit

 Save Changes and Exit              │ Exit system setup after
 Discard Changes and Exit           │ saving the changes.
 Save Changes and Reset             │
 Discard Changes and Reset          │
                                    │
 Save Options                       │ ──────────────────────────
 Save Changes                       │ → ← : Select Scree
 Discard Changes                    │ ↑ ↓ : Select Item
                                    │ Enter: Select
 Restore Defaults                   │ +/-:   Change Opt.
 Save as User Defaults              │ F1: General Help
 Restore User Defaults              │ F7: Previous Values
                                    │ F8: Fail-Safe Values
 Boot Override                      │ F9: Optimized Defaults
 SATA: Hitachi HCP725032GLA380      │ F10: Save & Exit
                                    │ ESC: Exit

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```

• **Save Changes and Exit**

  Select "Save Changes and Exit", and press the Enter key, and select "Yes" button, so save all settings the results to the NVRAM and exit BIOS setup program. If not stored, then select "No" or Press "ESC" key and return to the "Save & Exit" menu.

• **Discard Changes and Exit**

  Select "Discard changes and exit", select "Yes" and press <Enter> to give up on BIOS program changes and exit BIOS setup program. Select "No" or press "ESC" and return to the main menu.

• **Save Changes and Reset**

  Select "Save Changes and Reset", and select "Yes" and press <Enter> to save the

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changes made to the BIOS and restart. Select "No" or press "ESC" and return to the main menu.

• **Discard Changes and Reset**

Select "Discard Changes and Reset", select "Yes" and press <Enter> to give up to save the BIOS changes and restart. Select "No" or press "ESC" and return to the main menu.

• **Save Changes**

Select "Save Changes", select "Yes" and press <Enter> to save the BIOS changes. Select "No" or press "ESC" key and return to the main menu.

• **Discard Changes**

Select "Discard Changes", select "Yes" and press <Enter> to discard the BIOS changes. Select "No" or press "ESC" key and return to the main menu.

• **Restore Defaults**

Select "Restore Defaults", select "Yes" and press <Enter> allows users to restore all the BIOS options to optimize the value, select "No" or press "ESC" and return to the main menu.

• **Save as User Defaults**

Select "Save as User Defaults", select "Yes" and allows users to save personalized user settings BIOS default values, select "No" or press "ESC" return to the main menu.

• **Restore User Defaults**

Select "Restore User Defaults", select "Yes" and press <Enter> allows the user to restore the user's personality BIOS settings, select "No" or press "ESC" and return to the main menu.

4. Drivers Installation

Note: Installation procedures and screen shots in this section are for your reference and may not be exactly the same as shown on your screen.

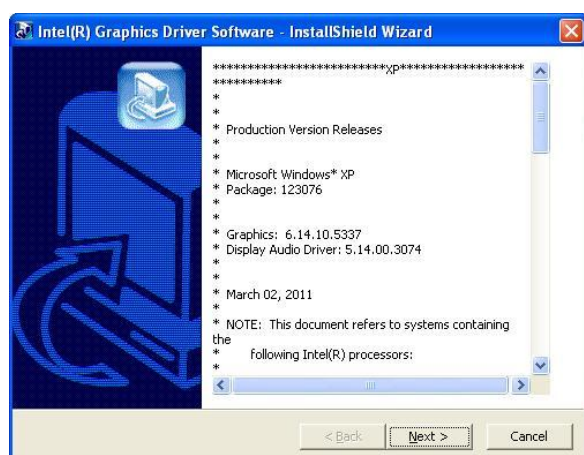## 4.1 Install Chipset Driver (For Intel H61 Express)

Insert the Supporting DVD-ROM to DVD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left, or link to **\Driver_Chipset\Intel.**
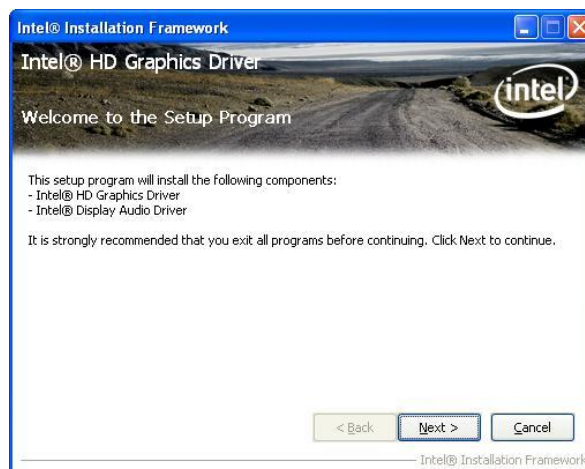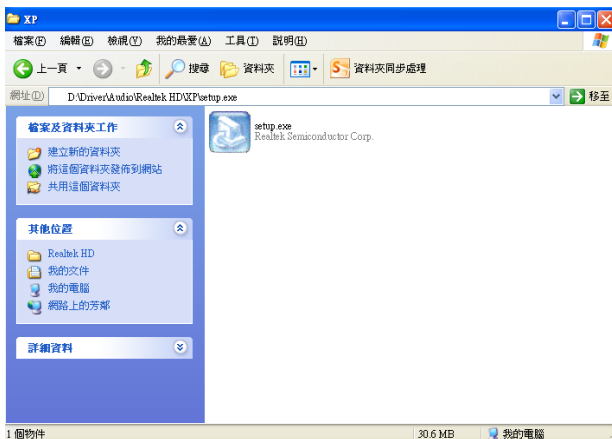
Note: The installation procedures and screen shots in this section are based on Windows XP operation system. If the warning message appears while the installation process, click Continue to go on.
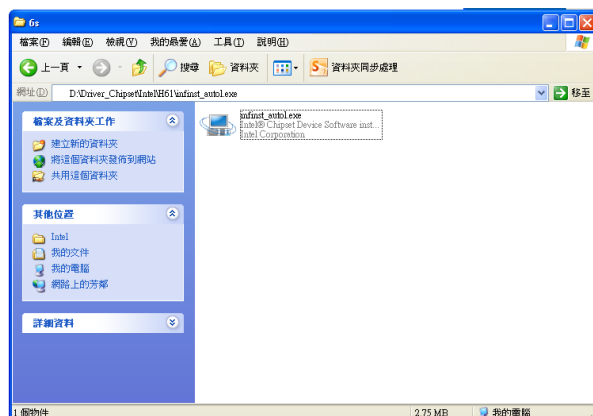
Step1. Locate 「\Driver_Chipset\Intel\ H61\ infinst_autol.exe」.

Step 2. Click **Next**.
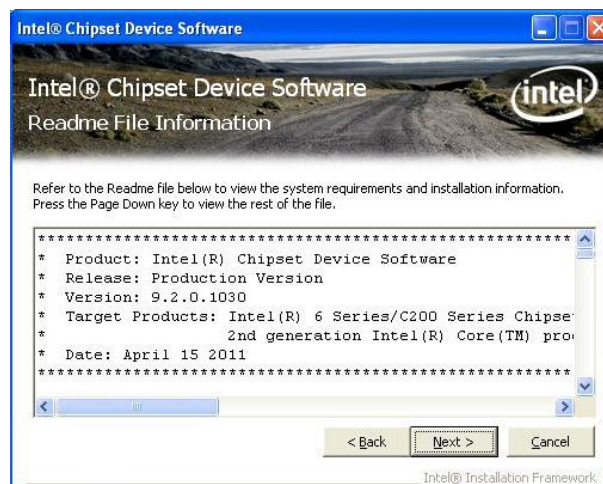
Step 3. Click **Next**.

Step 4. Click **Finish** to complete setup.

4.2 Install Display Driver (For Intel H61 Express)

Insert the Supporting DVD-ROM to DVD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left, or link to **\VGA\H6s**.

Note: The installation procedures and screen shots in this section are based on Windows XP operation system.
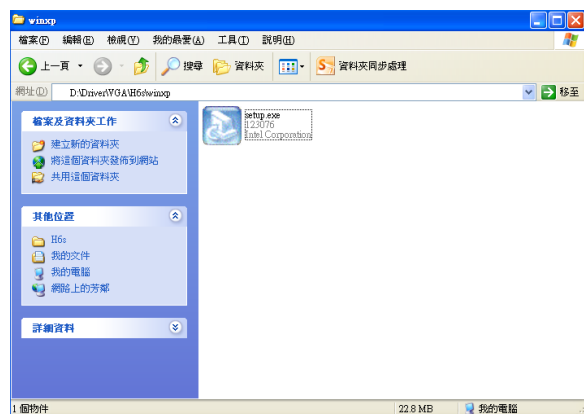
Step 1. Locate 「Driver\VGA\H6s\win_xp \setup.exe」.

Step 2. Click **Next**.

Step 3. Click **Next**.

Step 4. Click **Yes**.
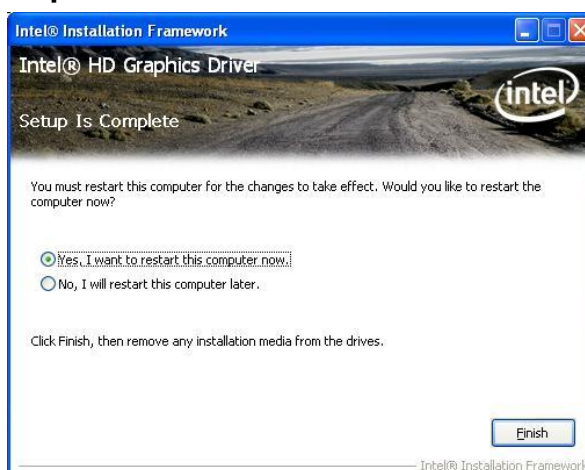
Step 5. Click **Finish** to complete setup.
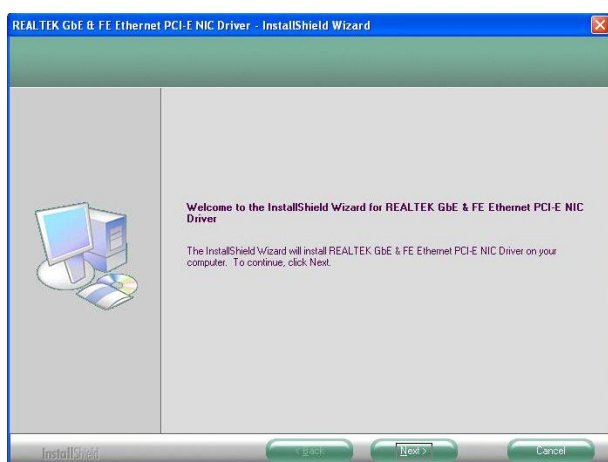
4.3 Install Audio Driver (For Realtek)

Insert the Supporting DVD-ROM to DVD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left, or link to **\Driver_Audio\Realtek HD.**

Note: The installation procedures and screen shots in this section are based on Windows XP operation system.
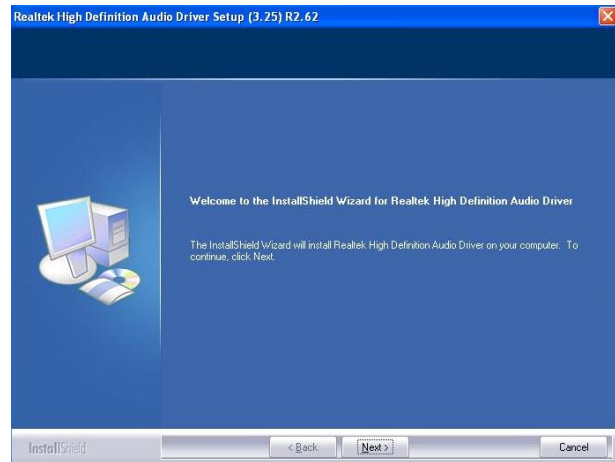
Step 3. Select **Next** to the next step.

Step 1. Locate 「\Driver\Audio\Realtek HD\XP\setup.exe」.

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

Step 2. The program executes the Setup automatically.

4.4 Install Ethernet Driver (For Realtek PCIE)

Insert the Supporting CD-ROM to CD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left, or link to \Driver_Network\Realtek PCIE.
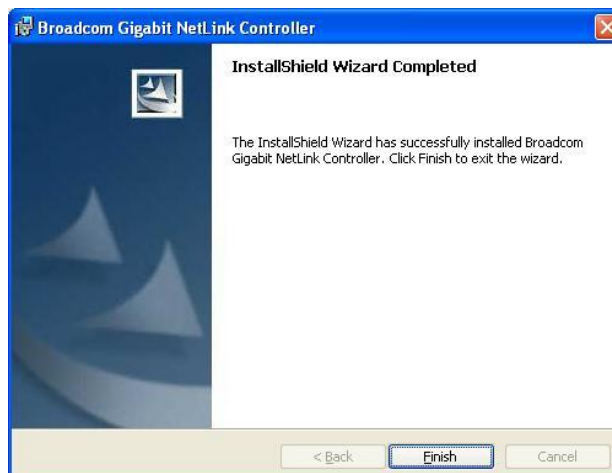
Note: The installation procedures and screen shots in this section are based on Windows XP operation system.

Step 3. Click **Finish** to complete the setup.
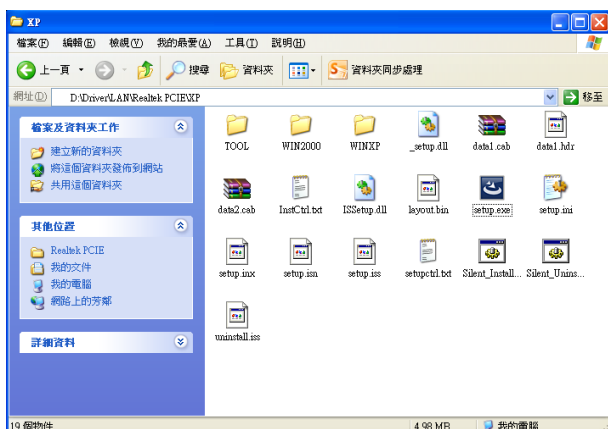
Step 1. Locate 「\Driver\LAN\Realtek PCIE\XP\setup.exe」.

Step 2. Setup executing.