EMX-H61

Mini ITX Motherboard with Intel® H61 Express Chipset

User's Manual

2nd Ed – 29 October 2012

Part No. E2047XH6101R

FCC Statement

THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

Copyright Notice

Disclaimer

Avalue Technology Inc. reserves the right to make changes, without notice, to any product, including circuits and/or software described or contained in this manual in order to improve design and/or performance. Avalue Technology assumes no responsibility or liability for the use of the described product(s), conveys no license or title under any patent, copyright, or masks work rights to these products, and makes no representations or warranties that these products are free from patent, copyright, or mask work right infringement, unless otherwise specified. Applications that are described in this manual are for illustration purposes only. Avalue Technology Inc. makes no representation or warranty that such application will be suitable for the specified use without further testing or modification.

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

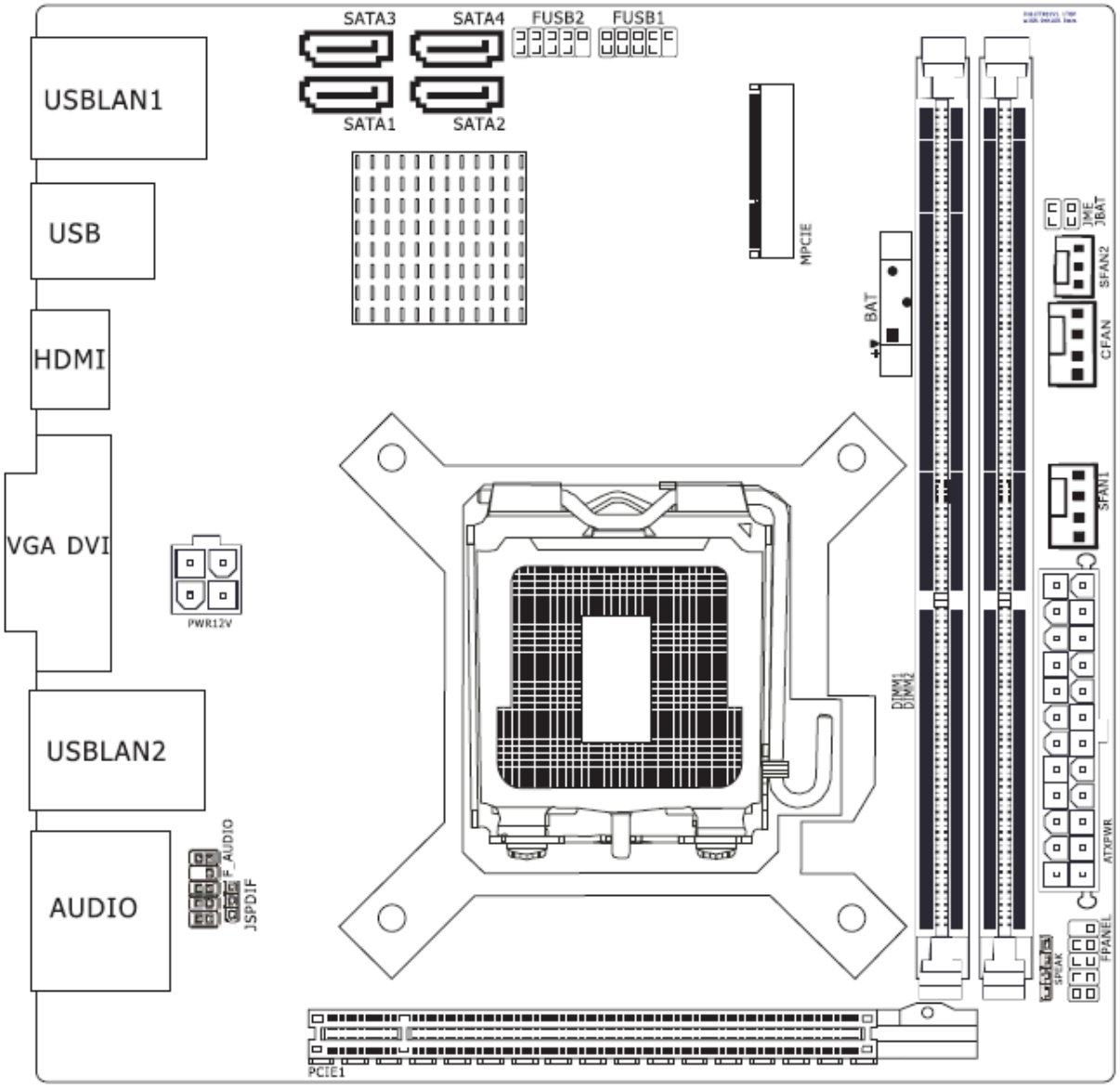
Title	EMX-H61 Intel® Core™ i7, Core™ i5, Core™ i3, Pentium® /Celeron® Mini ITX Montherboard with Intel® H61 Express Chipset
Features	Intel® LGA1155 socket Supports Core™ i7, Core™ i5, Core™ i3, Pentium® and Celeron® processors
	Intel® H61 Express Chipset
	Two 240-pin DIMM sockets up to 8GB Dual Channel unbuffered DDR3 1066/1333MHz SDRAM
	VGA , DVI -D, HDMI
	Realtek® ALC892 7.1-Channel High-Definition Audio codec
	Dual Broadcom® 57788 PCI-Express Gigabit Ethernet
	1 x PCIex16 , 1 x Mini PCIe
	4 SATA II 3.0Gb/s , 2 x USB 3.0 Ports , 8 x USB 2.0 Ports
	8 Channel Audio I/O jacks with S/PDIF Out connector
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 , 1 x Mini PCIe
I/O	
MIO	4 SATA II 3.0Gb/s 1 x S/PDIF Out header 2 x 4-pin fan connectors, 1 x 3-pin fan connectors 1 x Front panel high definition audio header 1 x Front System Panel connector 1 x Speaker header

USB	2 x USB 3.0 Ports , rear I/O connectors 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	NA
DIO	NA
Display	
Chipset	Intel® HD Graphics Media Accelerator 2000/3000 (Based on CPU type) Support for DX10.1 and OpenGL3.0
Resolution	VGA 2048X1536 @ 75 Hz HDMI 1920 x 1200 @ 60 Hz DVI –D 1920 x 1200 @ 60 Hz (The DVI-D port does not support D-Sub connection by adapter)
Dual Display	CRT+DVI, CRT+HDMI, DVI+HDMI
Audio	
Audio Codec	Realtek® ALC892 7.1-Channel High-Definition Audio codec
Audio Interface	Mic-in , Line-in,Line out , Center/Subwoofer, Rear R/L ,S/PDIF out
Ethernet	
LAN Chip	Dual Broadcom® 57788 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)	6.69" x 6.6" (170mm x 170mm)
Weight	0.88lbs (0.4kg)
Others	Ordering Information: EMX—H61-A1R Intel® Core™ i7, Core™ i5, Core™ i3, Pentium® /Celeron® Mini ITX Montherboard with Intel® H61 Express Chipset and VGA ,DVI-D ,HDMI, Audio ,2GbE , 1 PCIex16 , 1 Mini PCIe,4 SATA II, 2 x USB 3.0 , 8 x USB 2.0 , W/SATA Cable , Bracket / CD driver

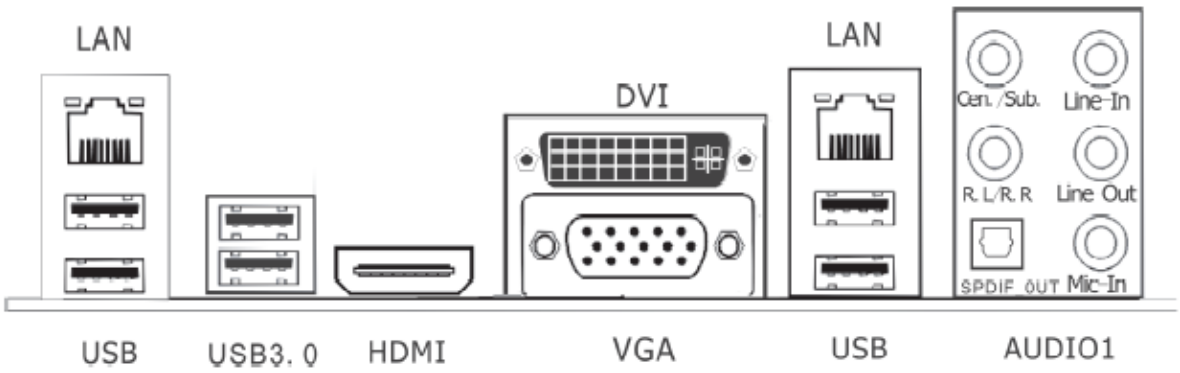
2 Hardware Configuration

2.1 Product Overview

2.1.1 Main board layout



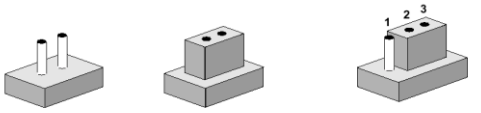
2.1.2 Connecting Rear Panel I/O Devices



2.2 Jumper and Connector List

You can configure your board to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch.

It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To "close" a jumper you connect the pins with the clip. To "open" a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2, and 3. In this case, you would connect either two pins.



Open Closed Closed 2-3

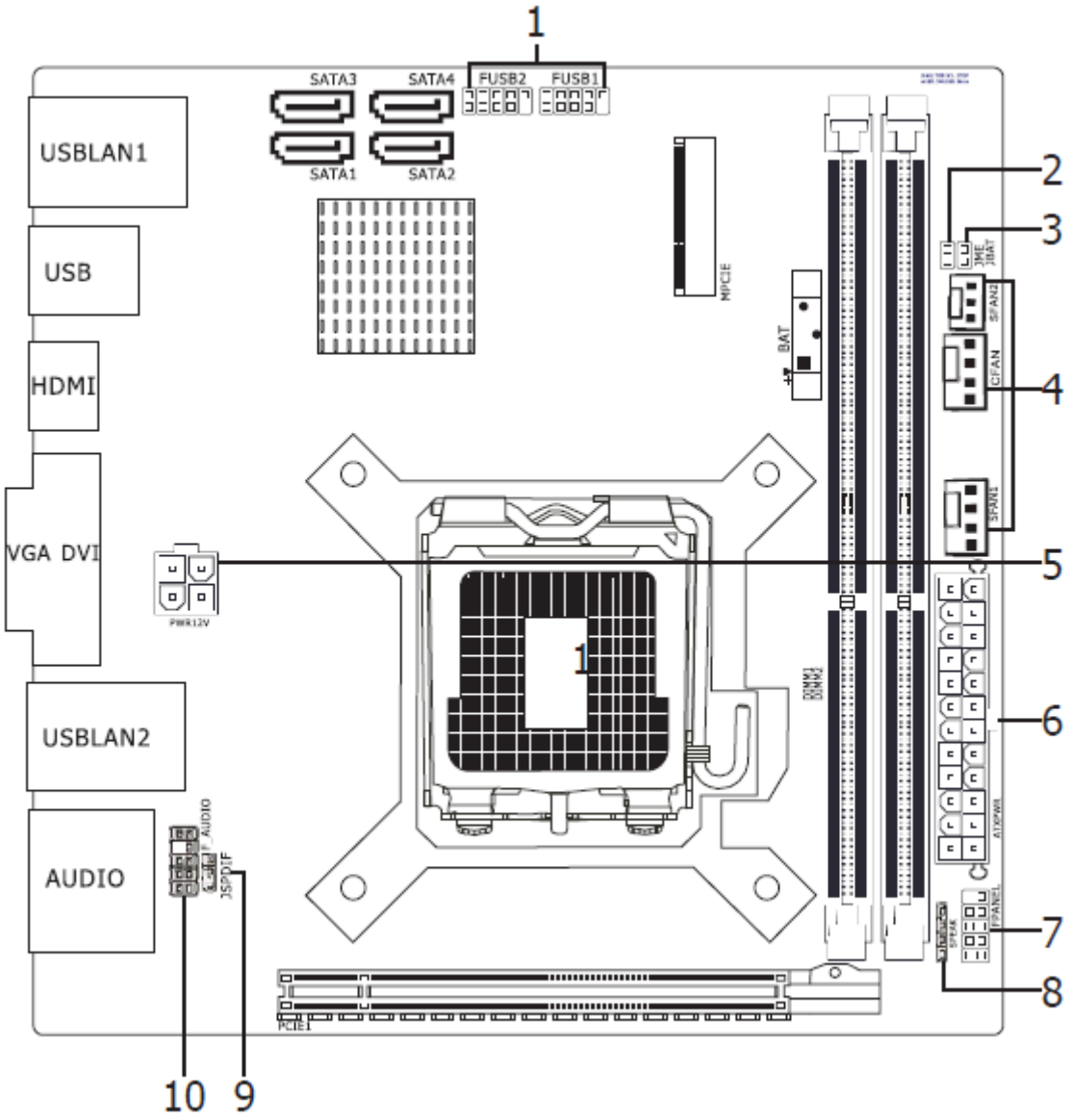
The jumper settings are schematically depicted in this manual as follows:

Open Closed Closed 2-3

A pair of needle-nose pliers may be helpful when working with jumpers.

Connectors on the board are linked to external devices such as hard disk drives, a keyboard, or floppy drives. In addition, the board has a number of jumpers that allow you to configure your system to suit your application.

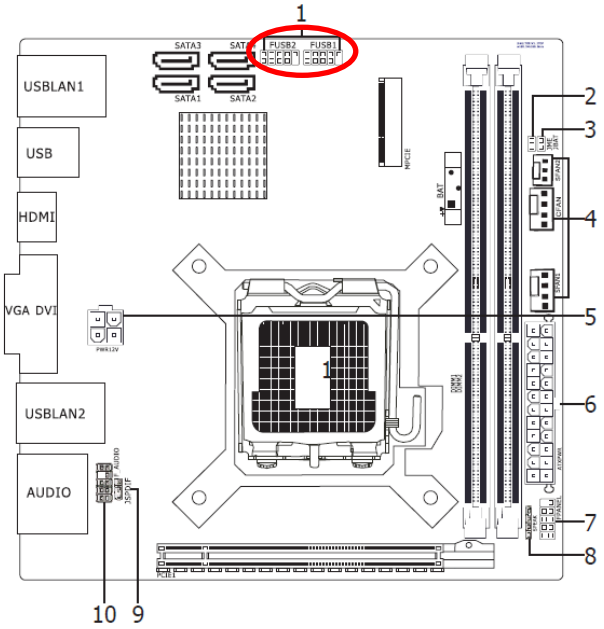
If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.



NO.	Layout	No.	Layout
1	FUSB1/FUSB2	6	ATXPWR
2	JME	7	FPANEL
3	JBAT	8	SPEAK
4	CFAN/SFAN1/SFAN2	9	JSPDIF
5	PWR12V	10	F_AUDIO

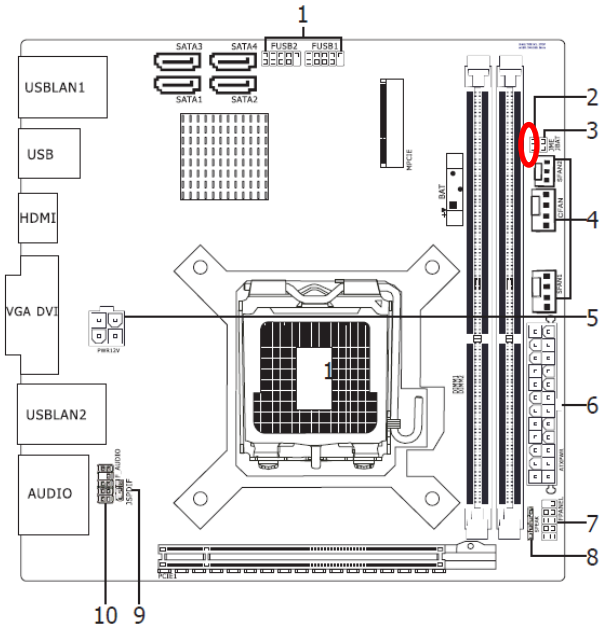
2.3 Setting Jumpers & Connectors

2.3.1 Additional USB Port Headers (FUSB1/FUSB2)

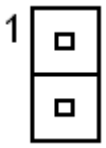


Pin No.	Definition	Pin No.	Definition
1	VCC	2	VCC
3	Data 0-	4	Data 1-
5	Data 0+	6	Data 1+
7	Ground	8	Ground
		10	NC

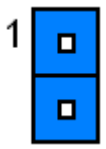
2.3.2 JME



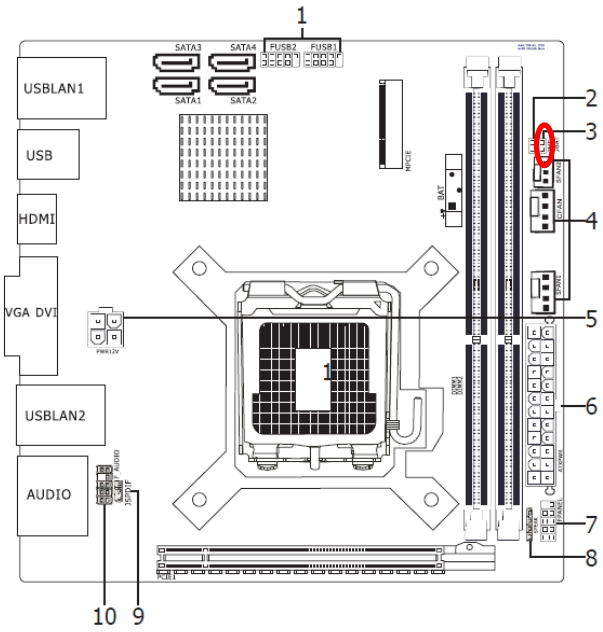
Can't refresh the ME



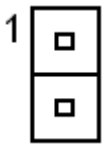
Refresh the ME



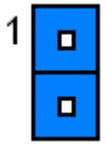
2.3.3 CMOS Memory Clearing Header (JBAT)



Normal*

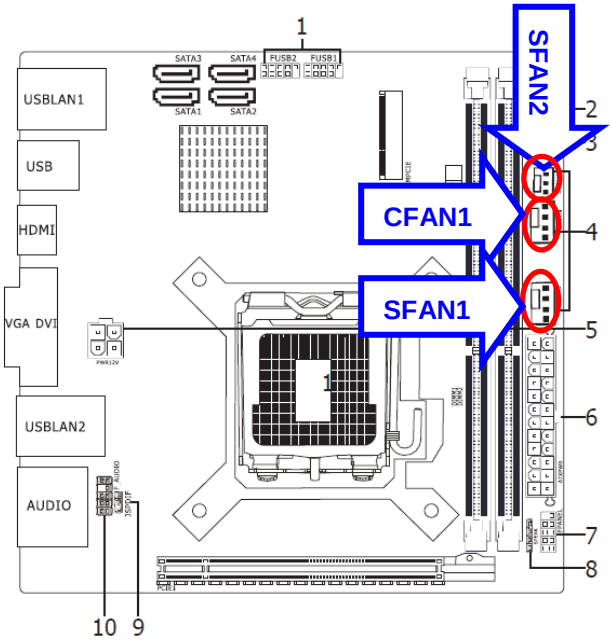


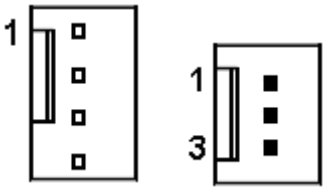
Clear CMOS



*** Default**

2.3.4 CPU/System Fan Power Connectors Header (CFAN/SFAN1/SFAN2)





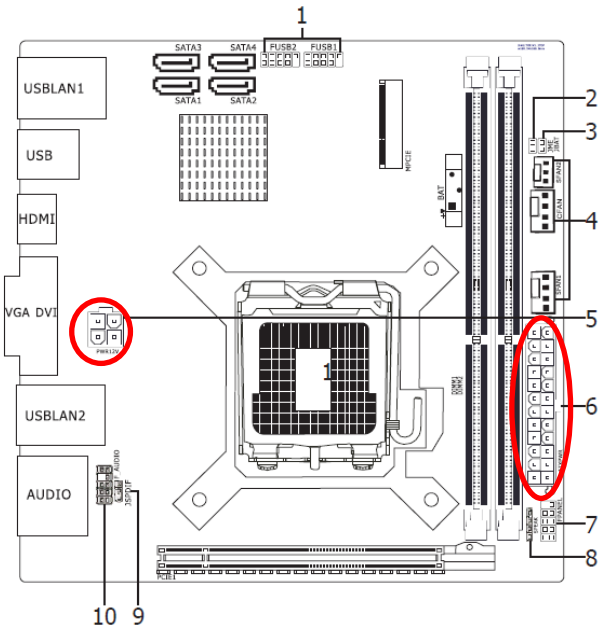
CFAN/SFAN1:

Pin No.	Definition
1	GND
2	+12V
3	RPM
4	Control

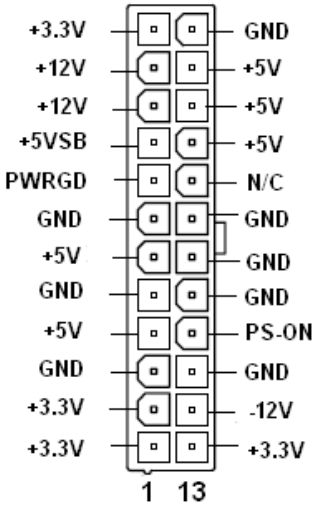
SFAN2:

Pin No.	Definition
1	GND
2	+12V
3	RPM

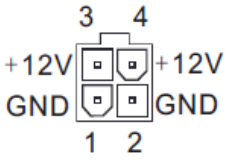
2.3.5 ATX Power Input Connectors (PWR12V/ATXPWR)



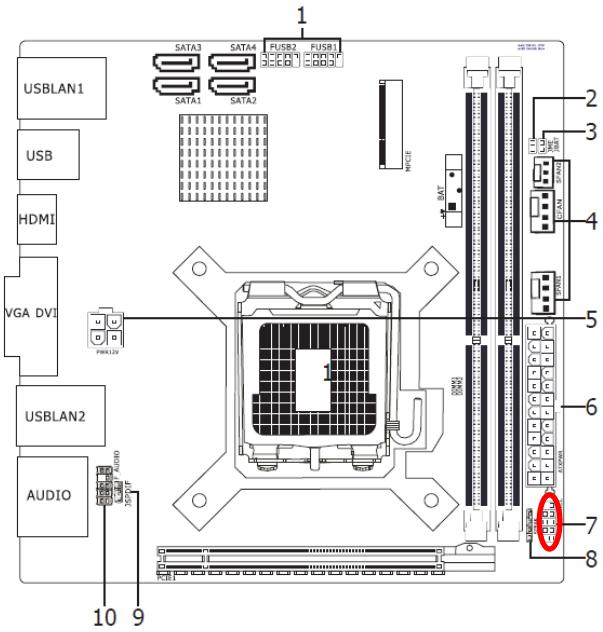
ATXPWR (ATX Power) connector

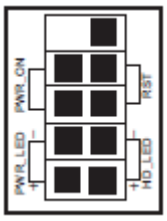


PWR12V (+12V Power) connector



2.3.6 Front Panel Switches (FPANEL)





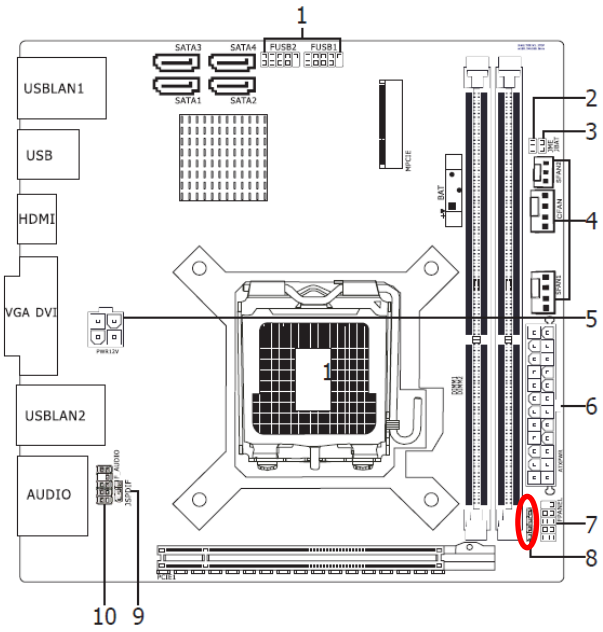
HD_LED (Red): Hard Drive LED connector

RST (Blue): Reset Switch

PWR_ON (Black): Power Switch

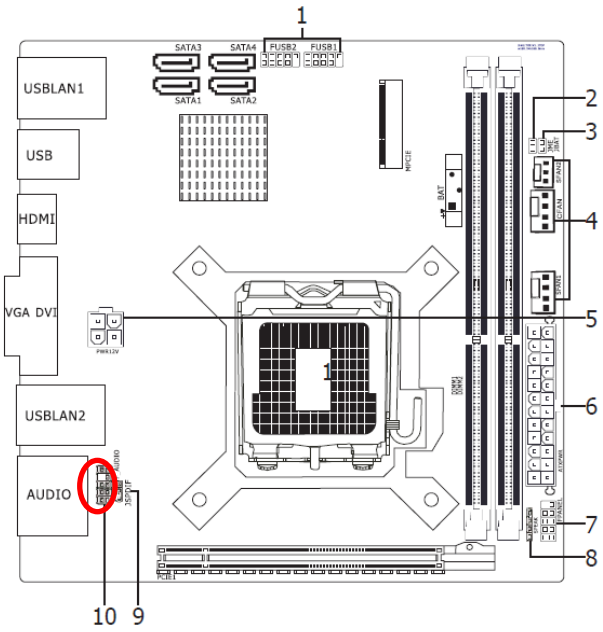
PWR_LED (Green): Power/Standby LED

2.3.7 Speaker Headers (SPEAK)



Pin No.	Definition
1	SPK +
2	NC
3	NC
4	SPK -

2.3.8 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

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, F11 to popup

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	Reserved
F9 key	Optimized Defaults
F10 key	Save all the CMOS changes, only for Main Menu

- **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 AMI BIOS supports an override to the NVRAM settings which resets your system to its defaults.

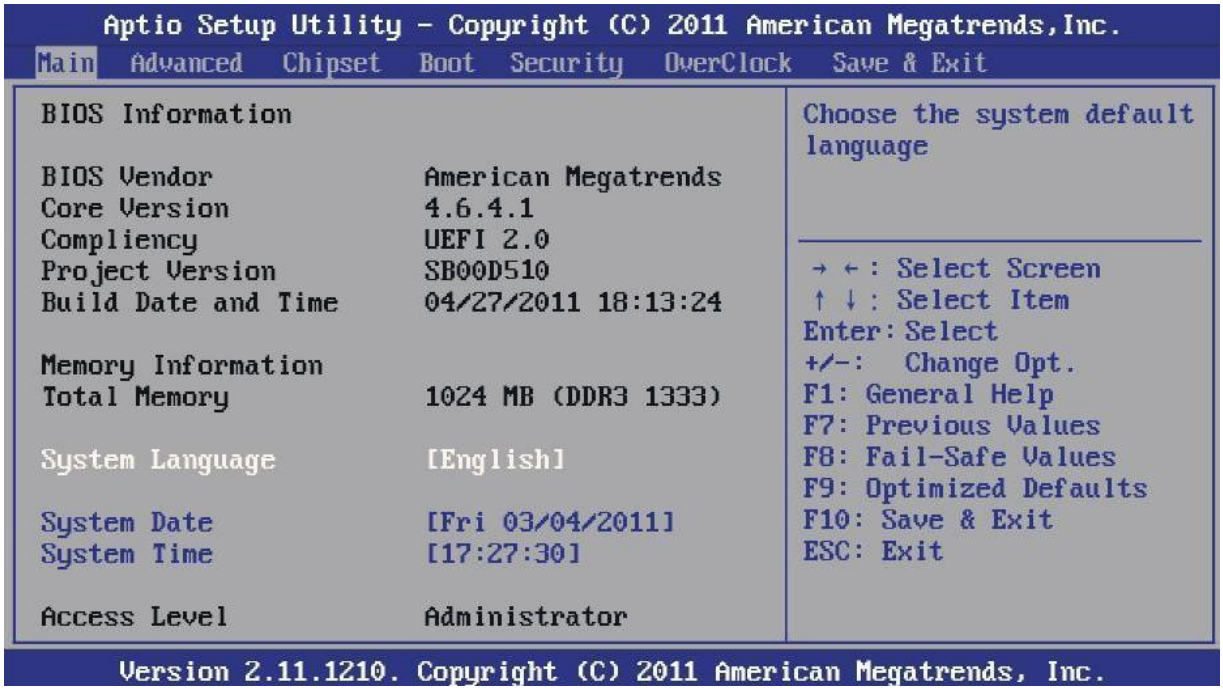
The best advice is to only alter settings which you thoroughly understand. To this end, we strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both Award and your systems manufacturer to provide the absolute maximum performance and 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 CMOS 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.



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.

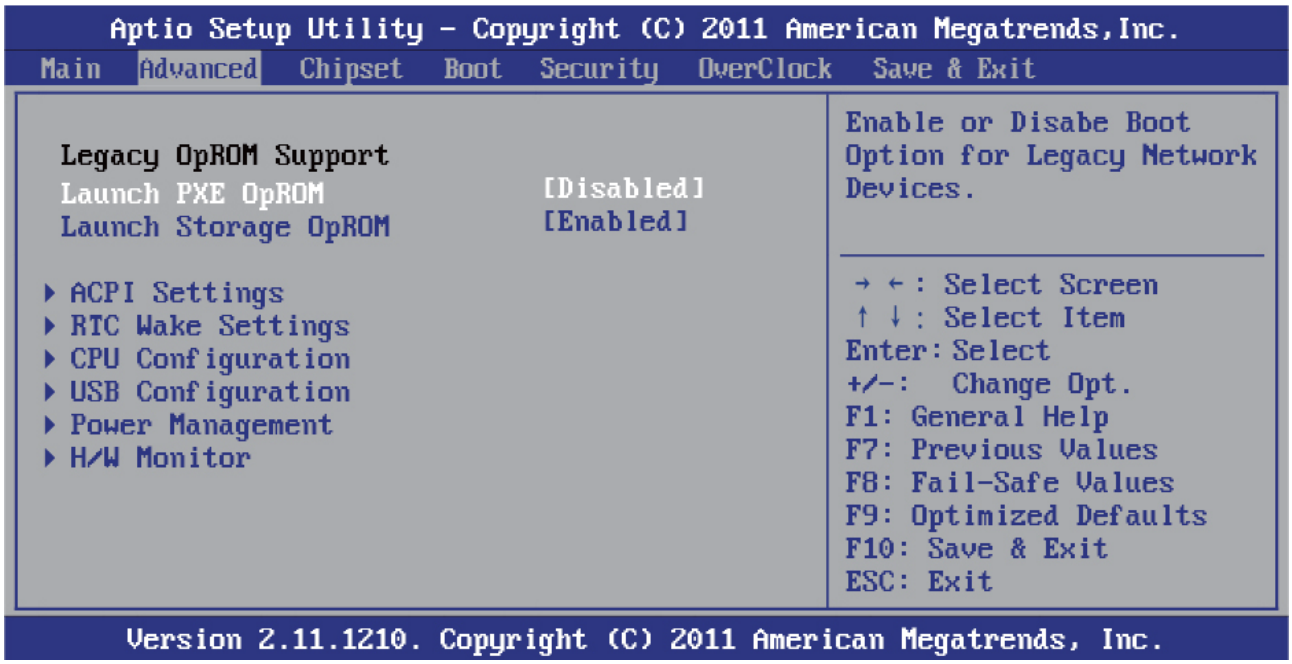
- **System Date**

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



• Launch PXE OpROMOnboard Lan BootROM Control

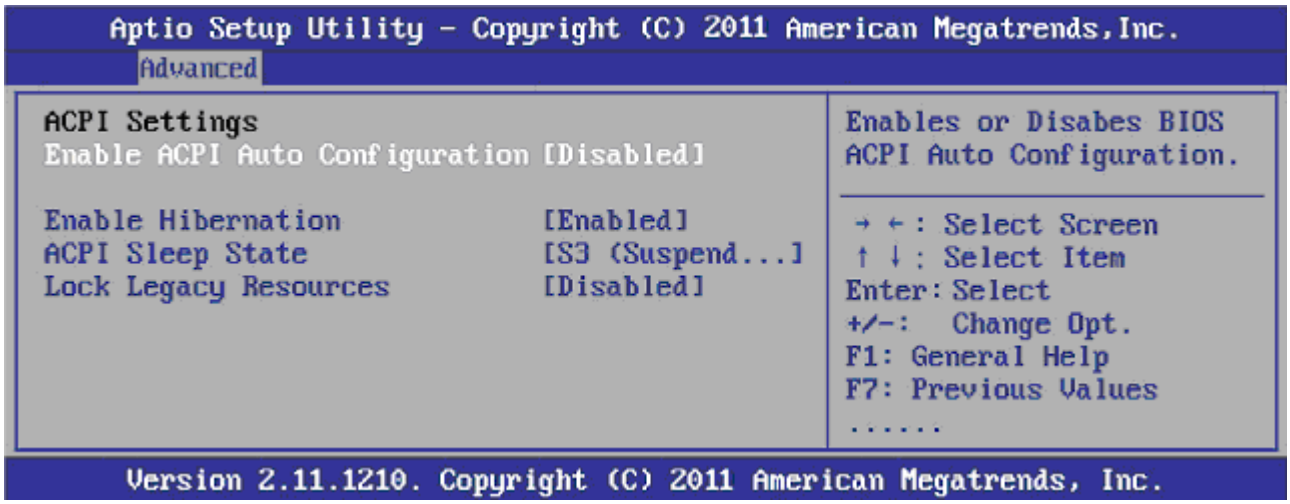
These items can change Boot ROM of the LAN chipset.

• Launch Storage OpROM Policy

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

► ACPI Settings

Click <Enter> key to enter its submenu.



• 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).

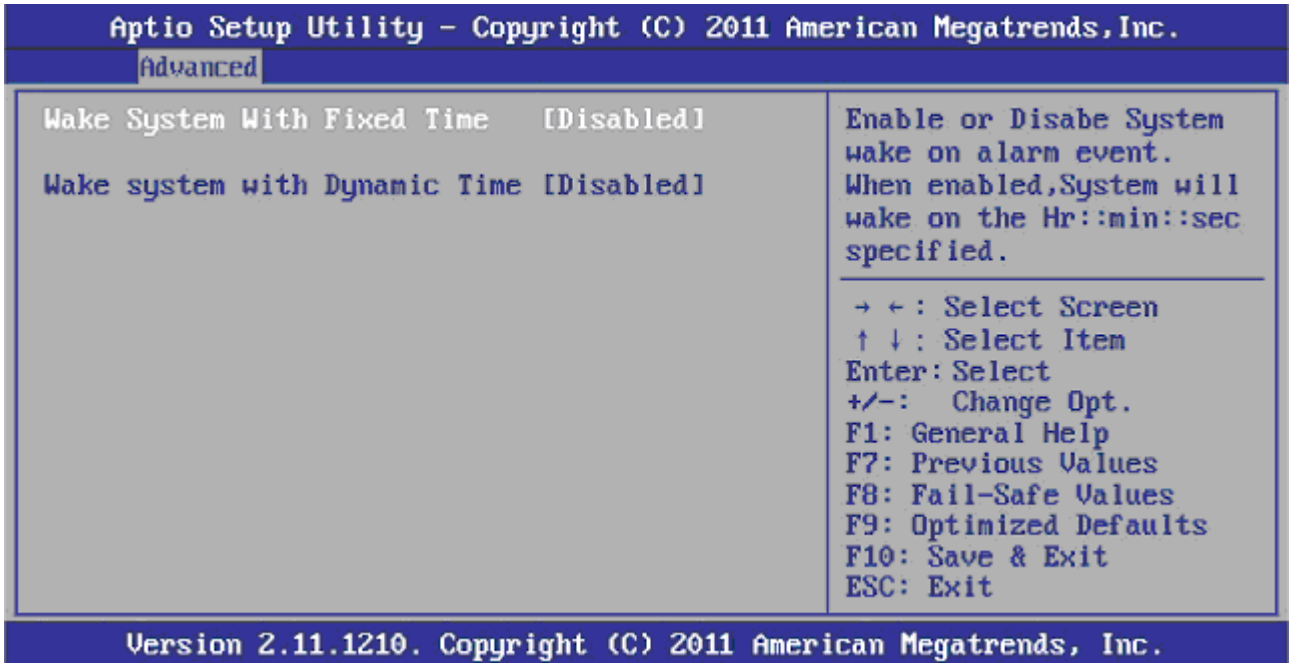
• Lock legacy Resources

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.



- **Wake System With Fixed Time**

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

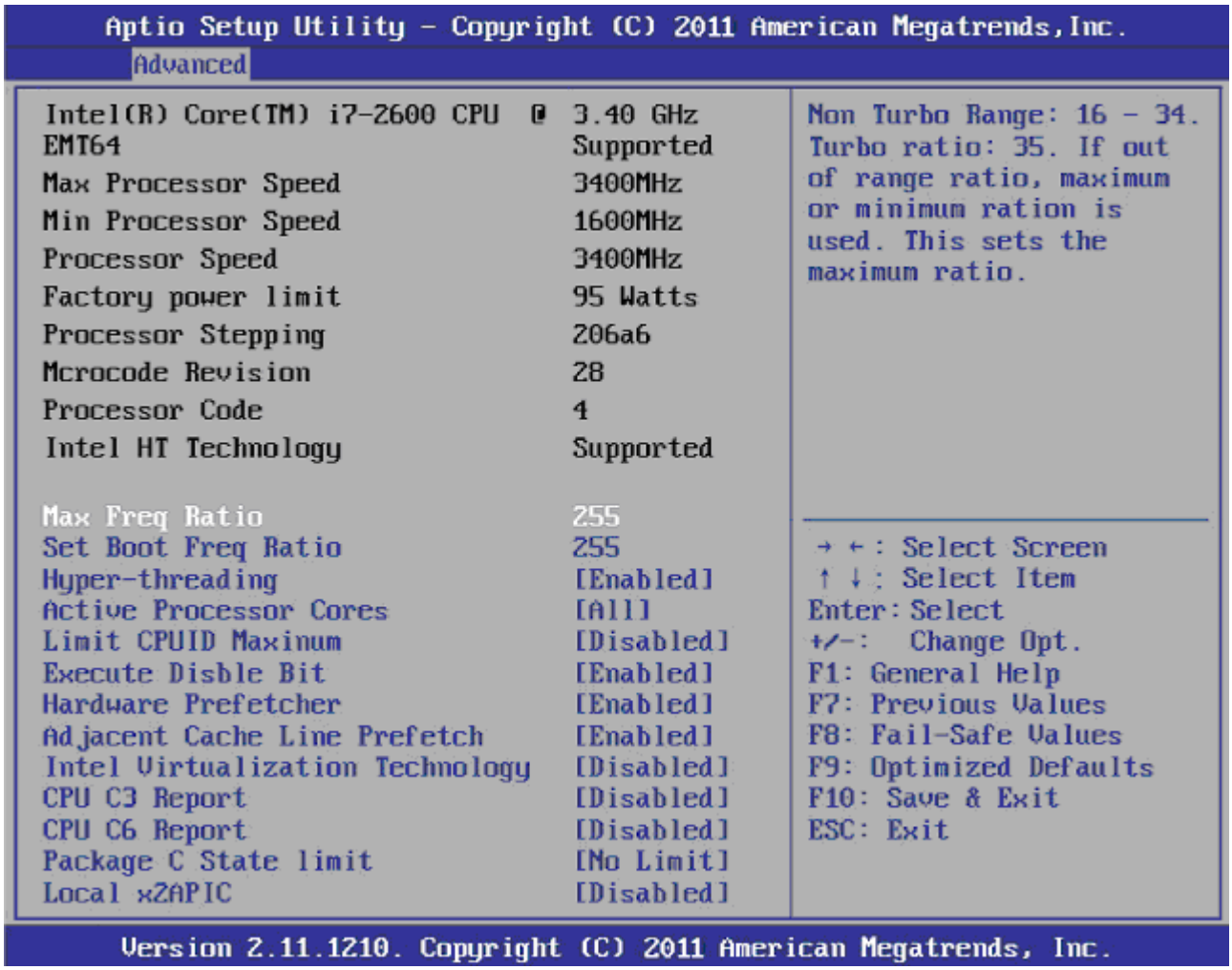
- **Wake system with Dynamic Time**

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.



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.

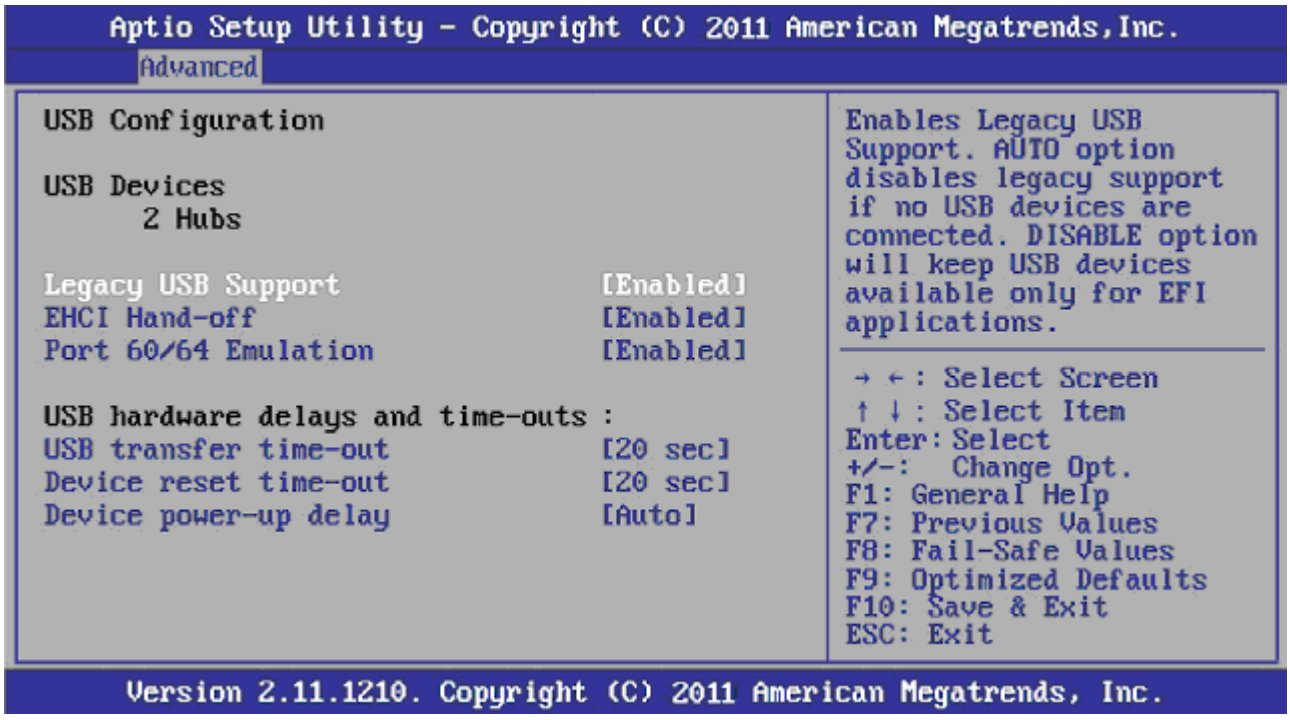
- **Local x2APIC**

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.



• 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.

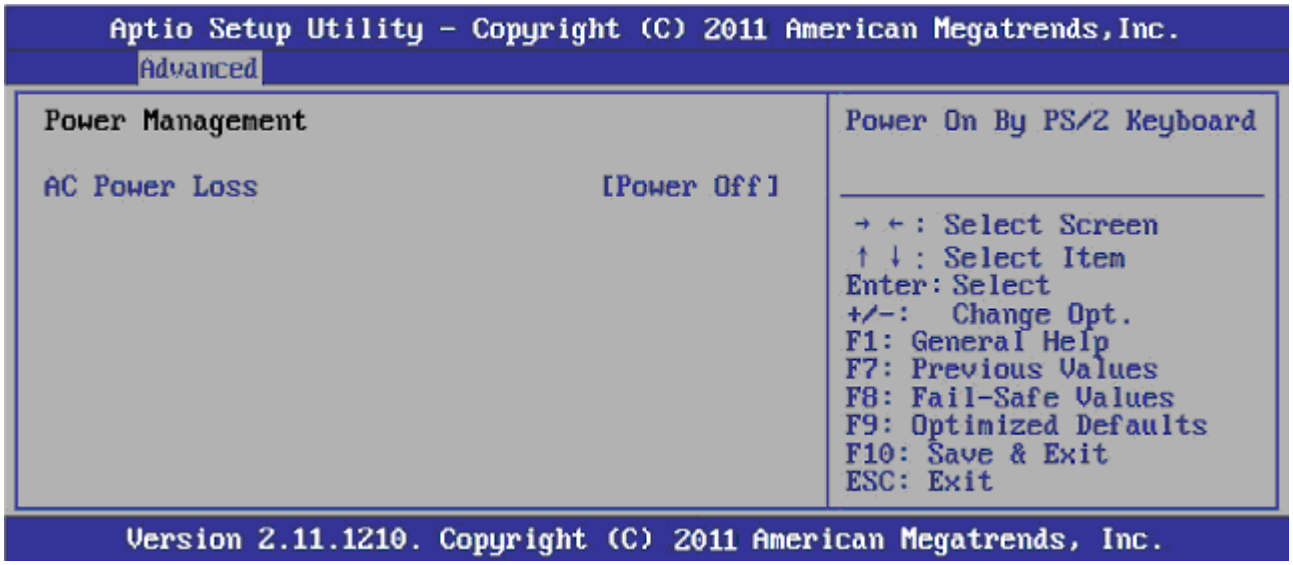
• Device power-up delay

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.



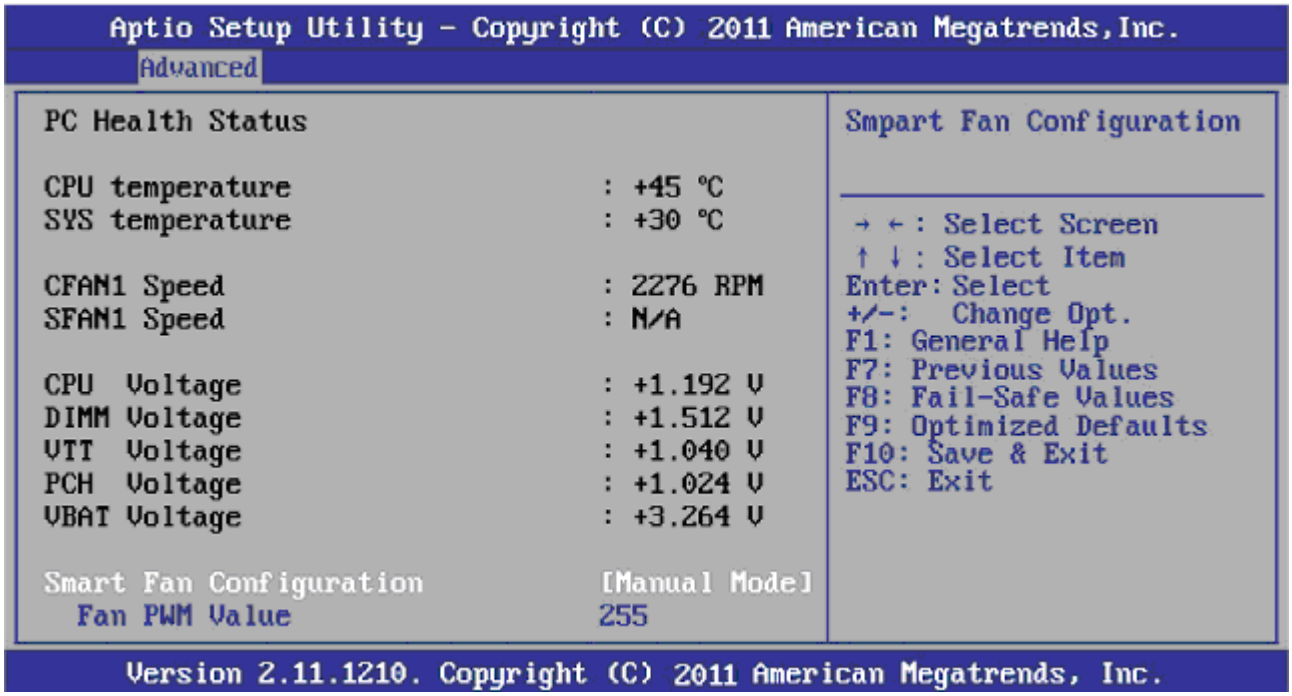
• AC Power Loss

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.



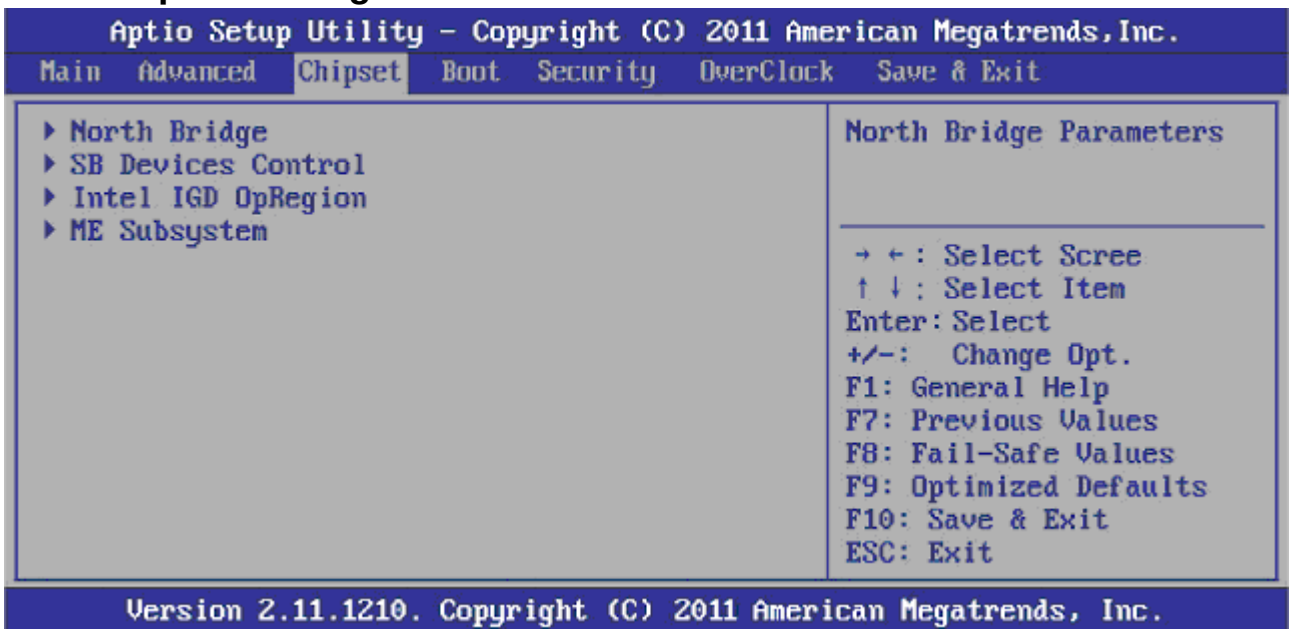
• Smart Fan Configuration

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

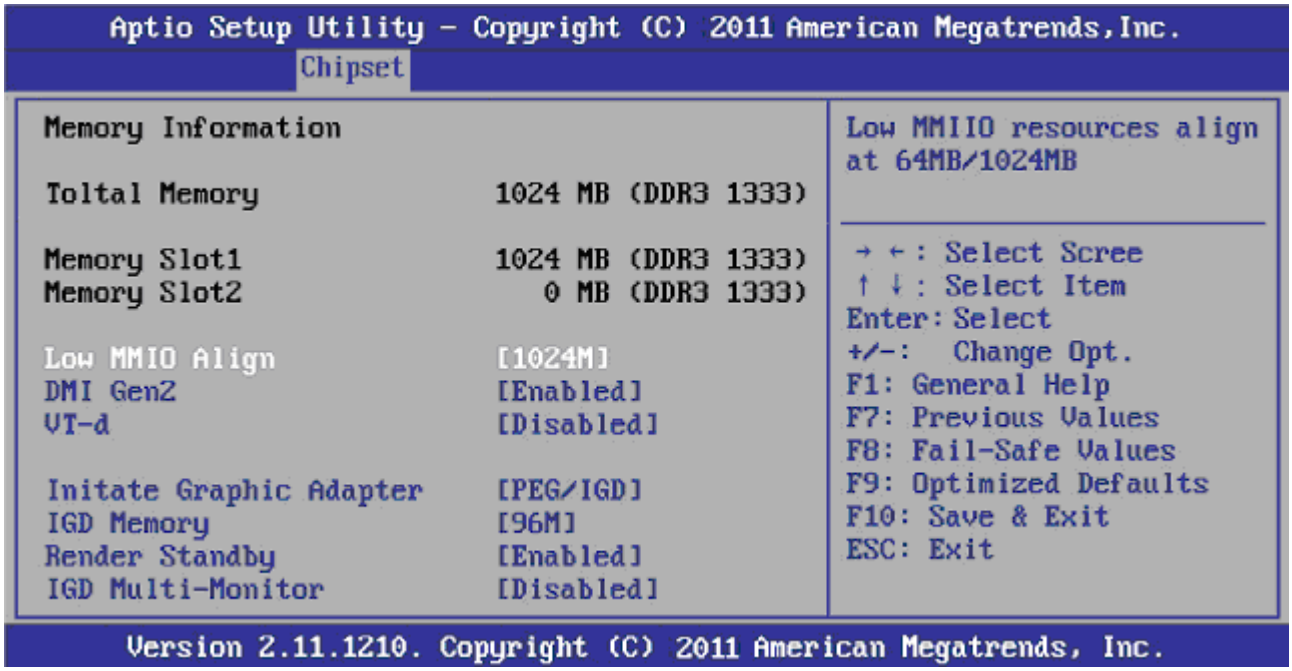
Available options: 0 – 255

3.5.3 Chipset Setting



►North Bridge

Click <Enter> key to enter its submenu



• 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

IGD share memory size.

• Render Standby

Enable/Disable Render Standby by Internal Graphics Device.

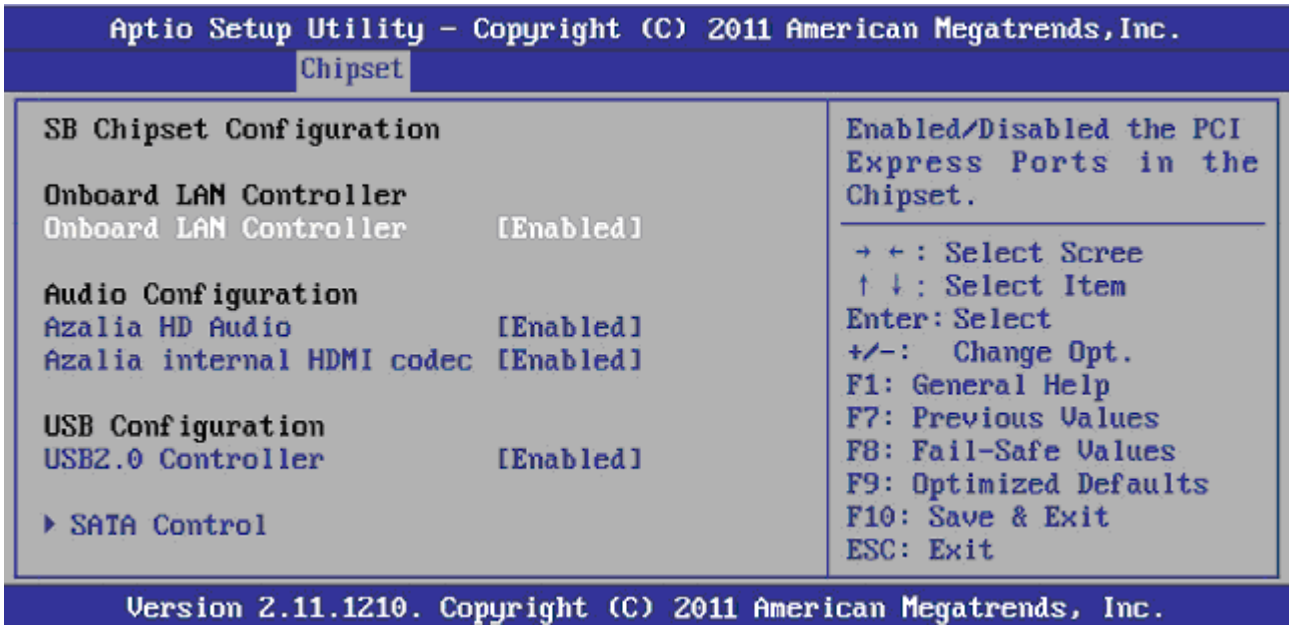
• IGD Multi-Monitor

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.



• 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

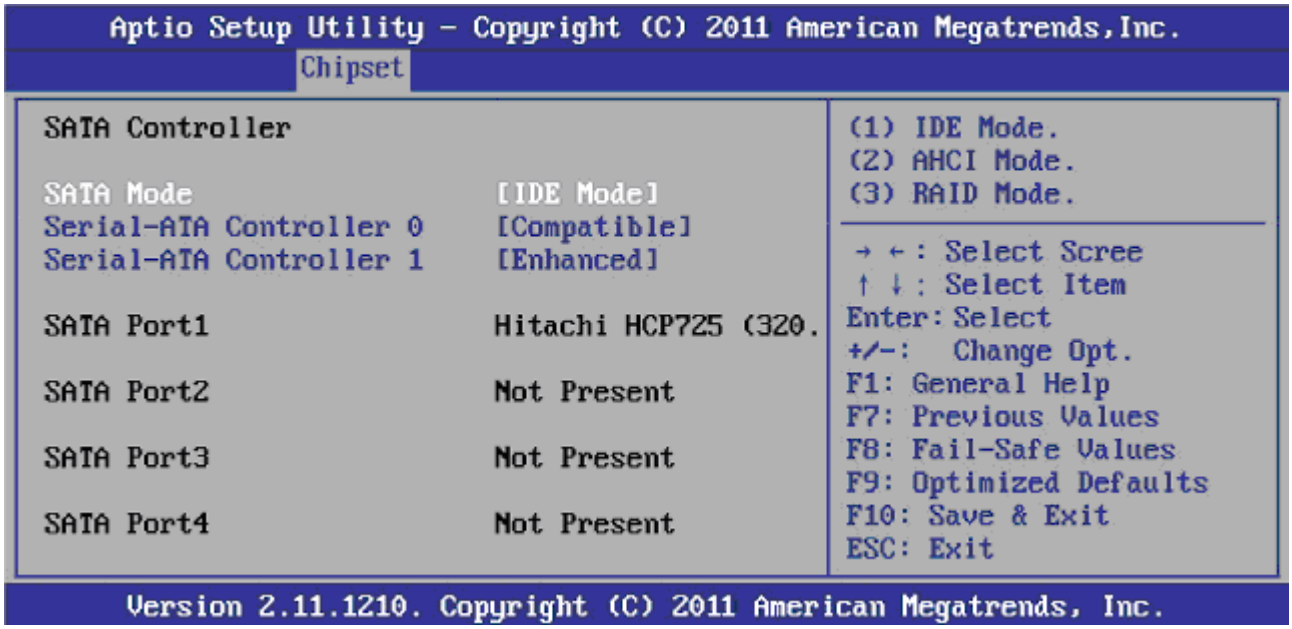
Enabled/Disabled internal HDMI codec for Azalia.

• USB2.0 Controller

Enabled/Disabled All USB Devices.

► SATA Control

Click <Enter> key to enter its submenu.



• 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

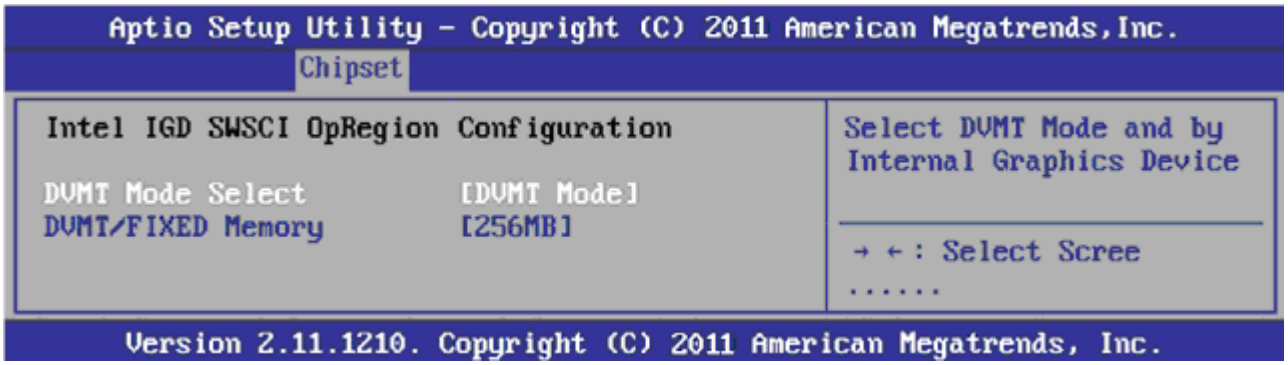
• SATA Port 1 /2/3/4

Display SATA devices.

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

► Intel IGD OpRegion

Click <Enter> key to enter its submenu.



• DVMT Mode Select

Select DVMT Mode used by Internal Graphics Device.

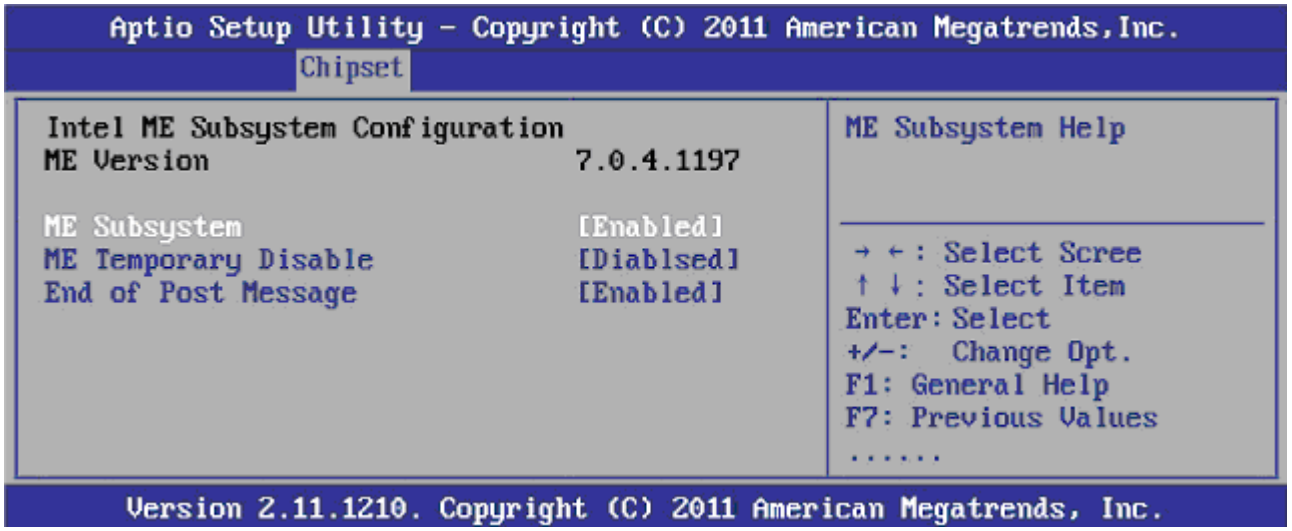
• DVMT/FIXED Memory

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.



• ME Subsystem

Available options: Disabled，Enabled

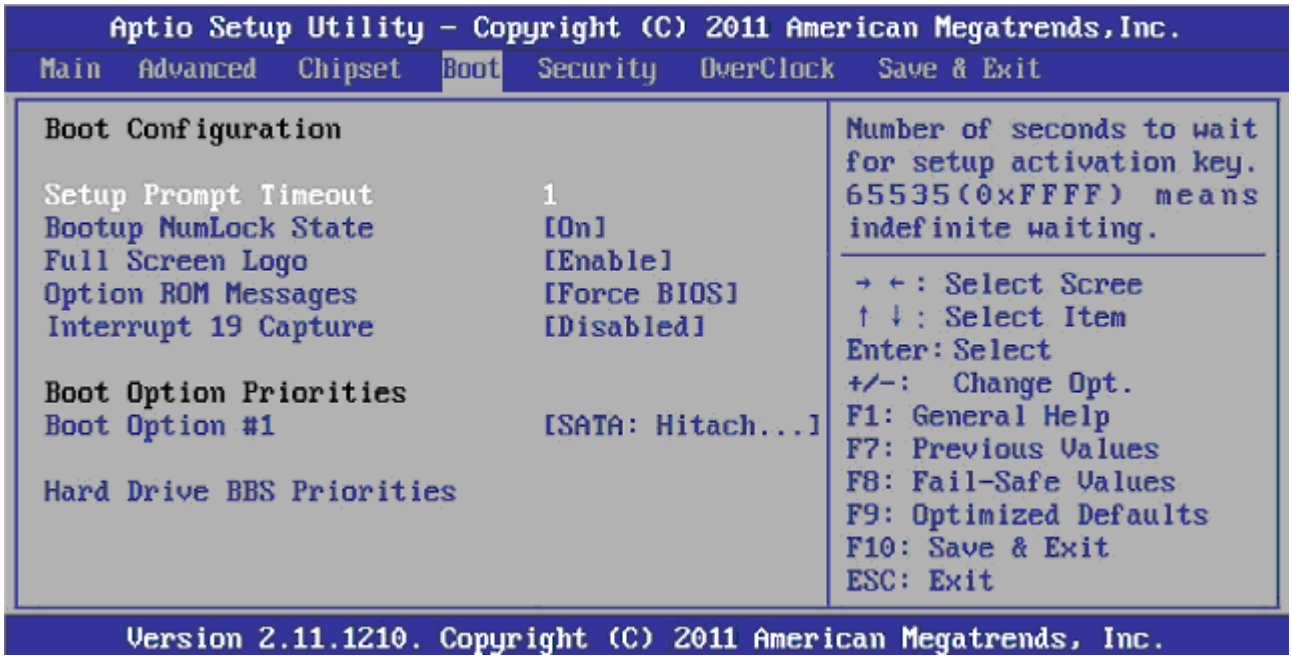
• ME Temporary Disable

Available options: Disabled，Enabled

• End of Post Message

Available options: Disabled，Enabled

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.

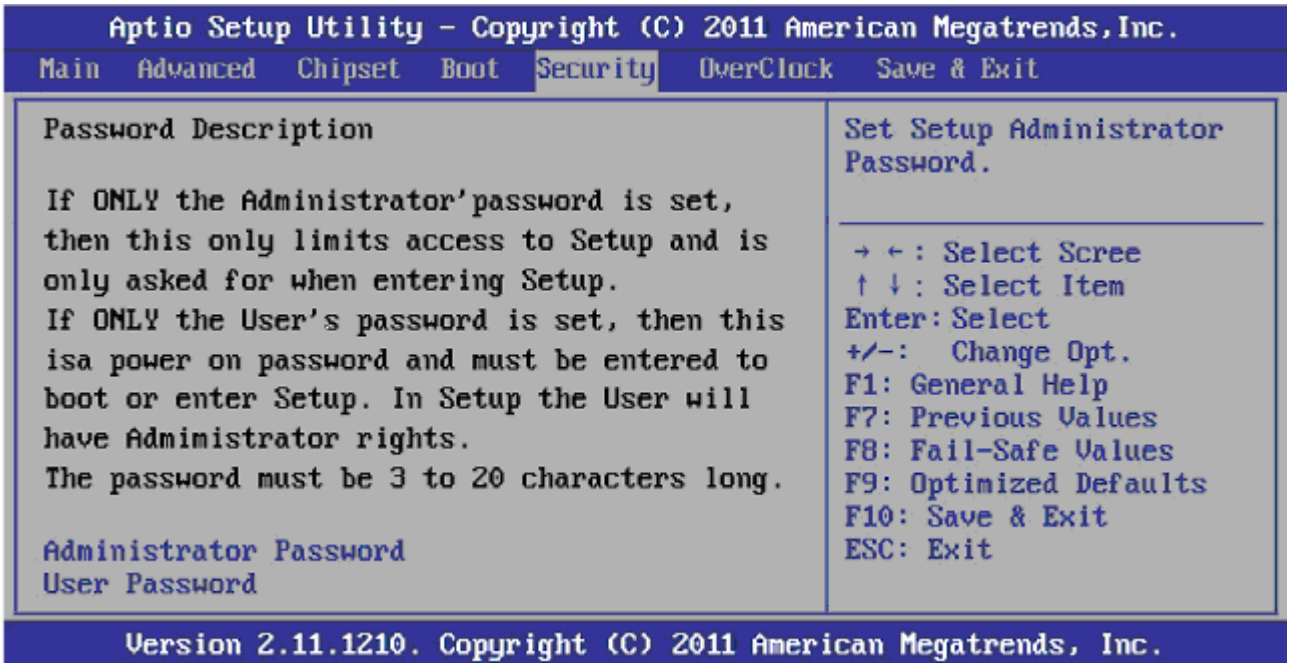
• Boot Option #1

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



• Administrator Password

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

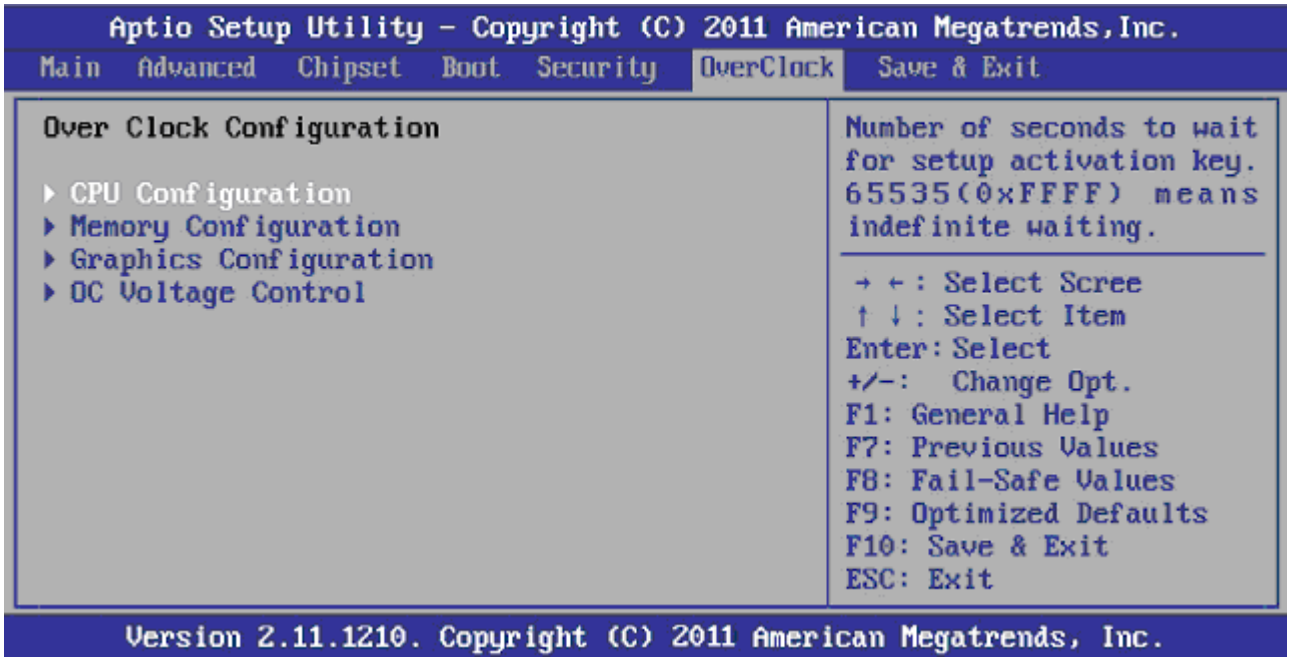
1. Move the cursor to the Administrator Password item, press <Enter>.
2. In the "Create New Password" dialog box, enter 3 to 20 characters or numbers to be setted, press <Enter>, and enter again in the "Confirm Password" dialog box to confirm the password is correct. If the prompt "Invalid Password!" , 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.

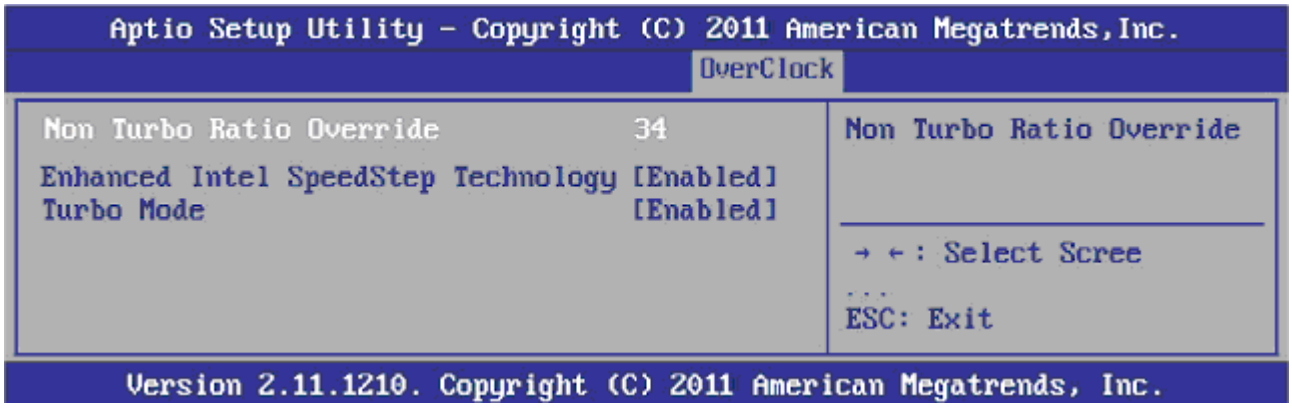
Note: Don't forget your password. If you forget the password, you will have to open the computer case and clear all information in the CMOS before you can start up the system. But by doing this, you will have to reset all previously set options.

3.5.6 OverClock Setting



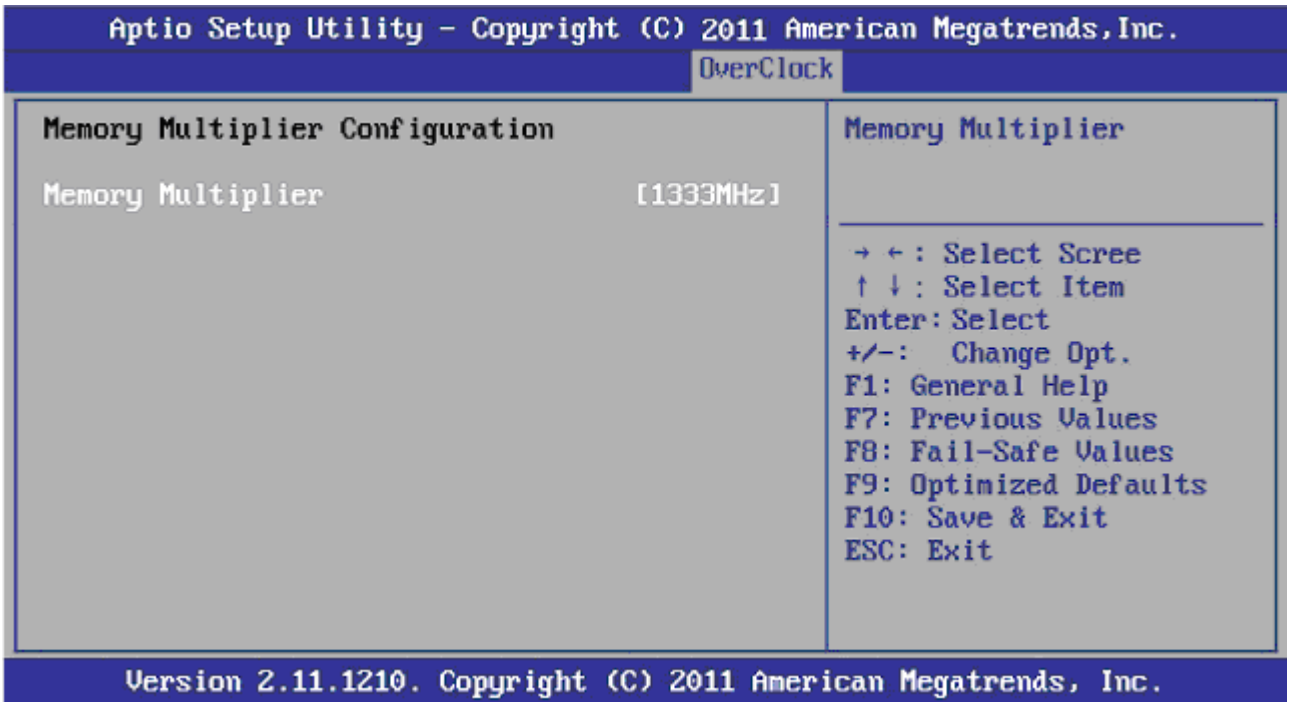
► CPU Configuration

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



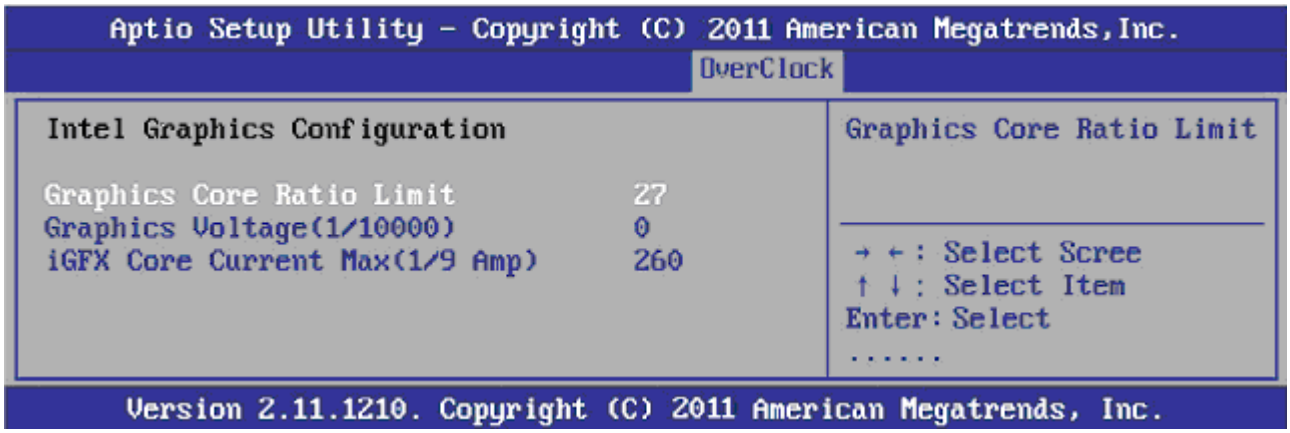
► Memory Configuration

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



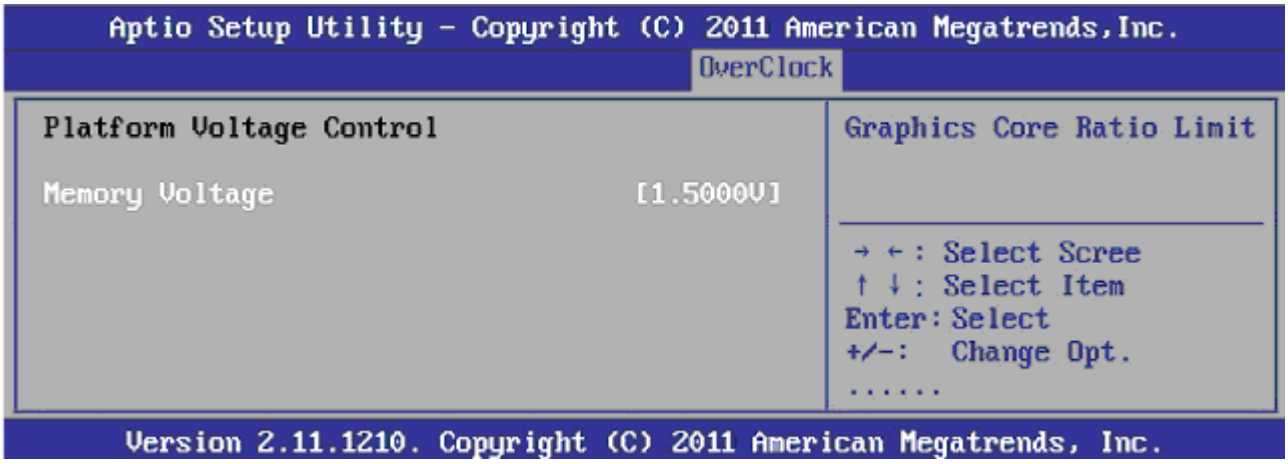
► Graphics Configuration

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

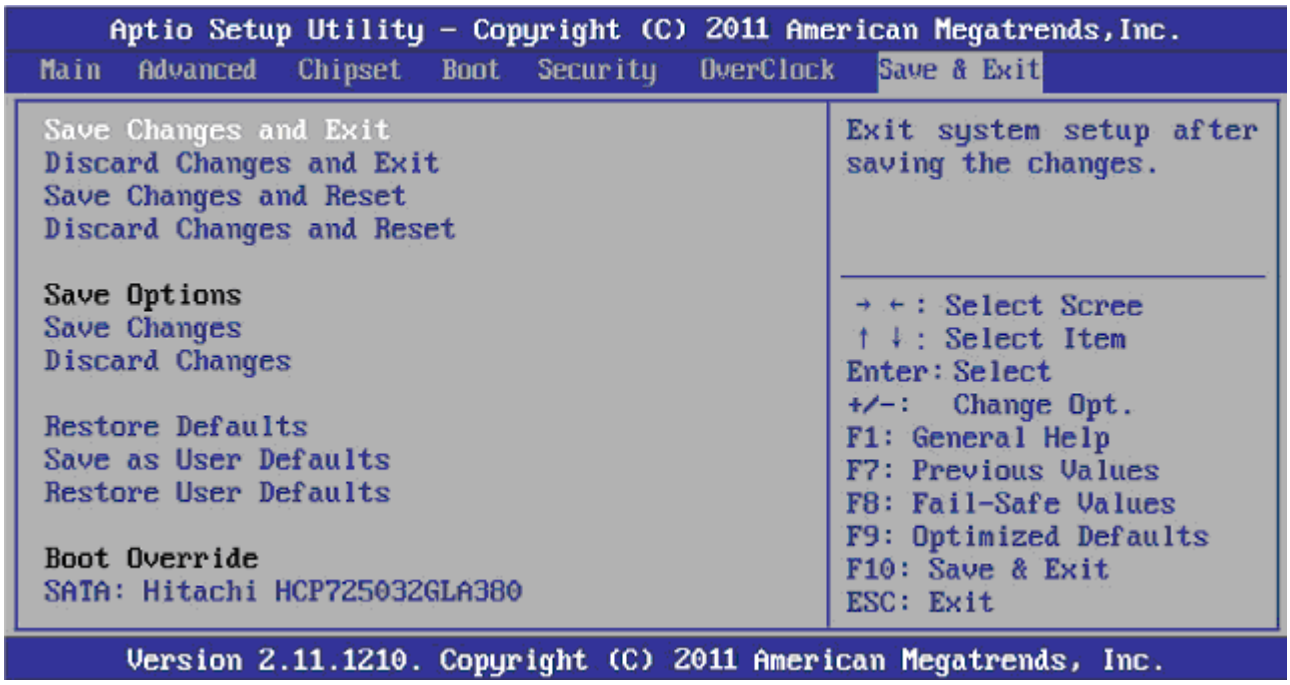


► OC Voltage Control

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



3.5.7 Save & Exit Setting



- **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 CMOS RAM 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

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.

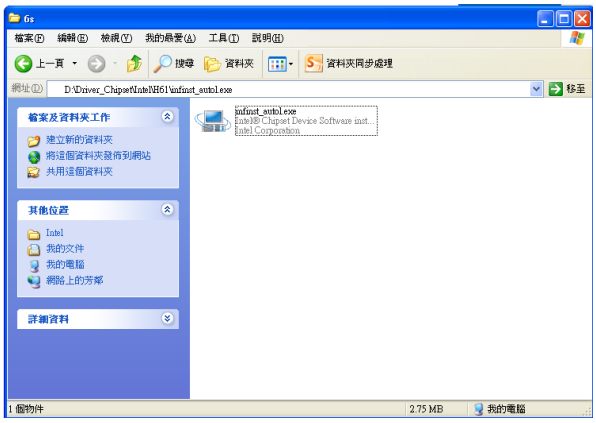
4. Drivers Installation

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**.

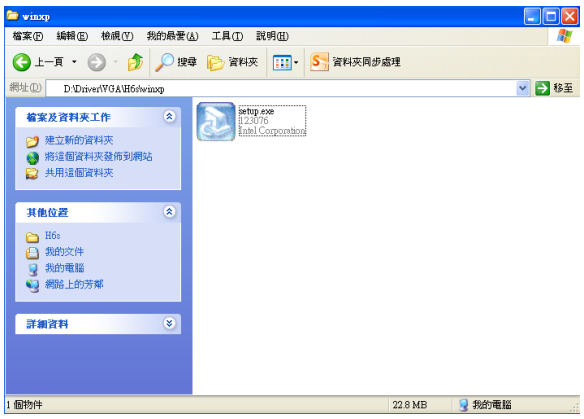
Step 3. Click **Next**.

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

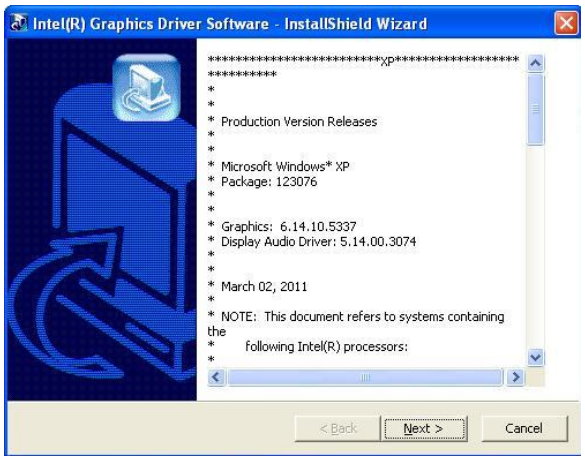
4.2 Install Display Driver (For Intel H61 Express)

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.



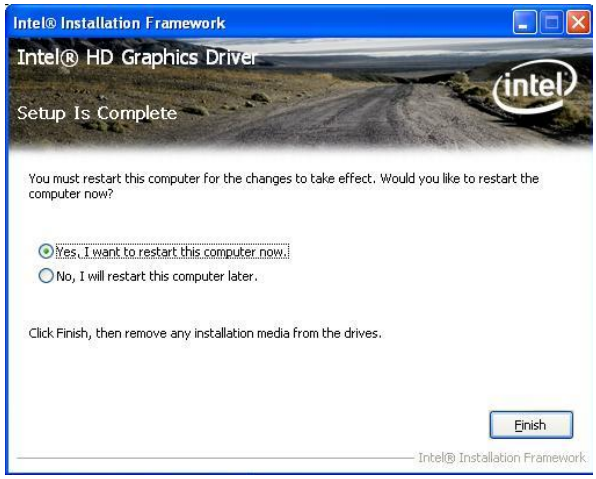
Step 1. Locate 「Driver/VGA\H6s\win_xp\setup.exe」.



Step 2. Click **Next**.

Step 3. Click **Next**.

Step 4. Click **Yes**.

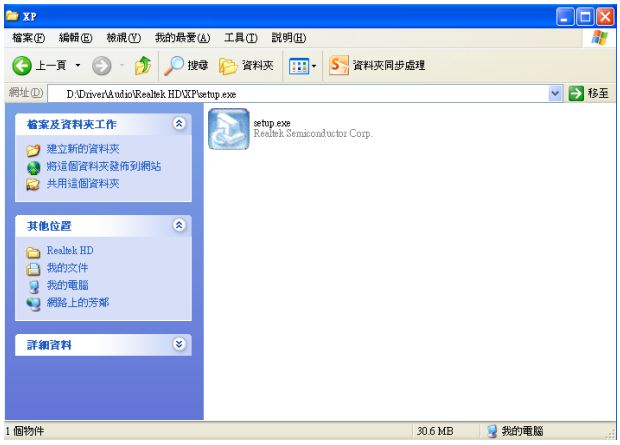


Step 5. Click **Finish** to complete setup.

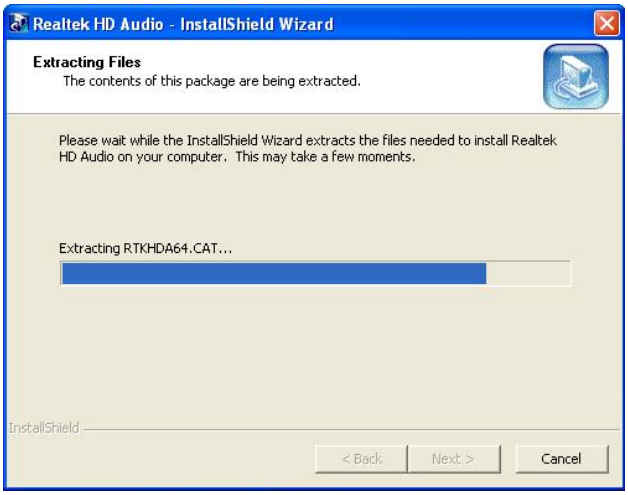
4.3 Install Audio Driver (For Realtek)

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.**

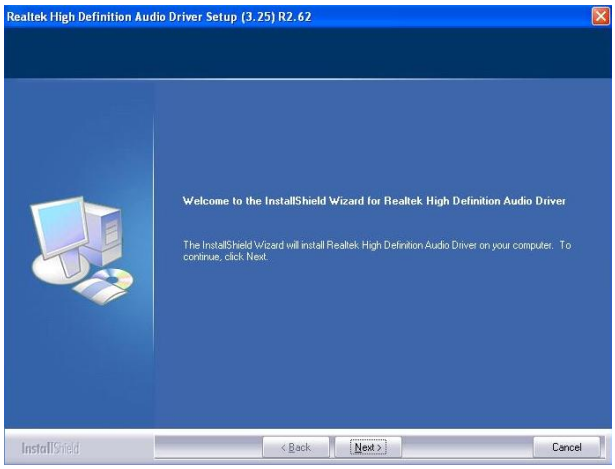
Note: The installation procedures and screen shots in this section are based on Windows XP operation system.



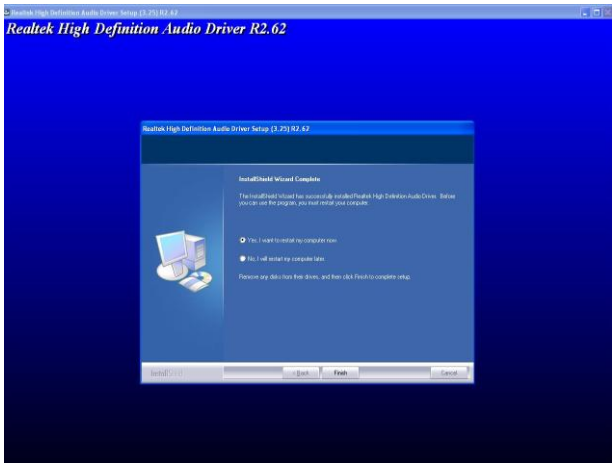
Step 1. Locate 「\Driver\Audio\Realtek HD\XP\setup.exe」.



Step 2. The program executes the Setup automatically.



Step 3. Select **Next** to the next step.



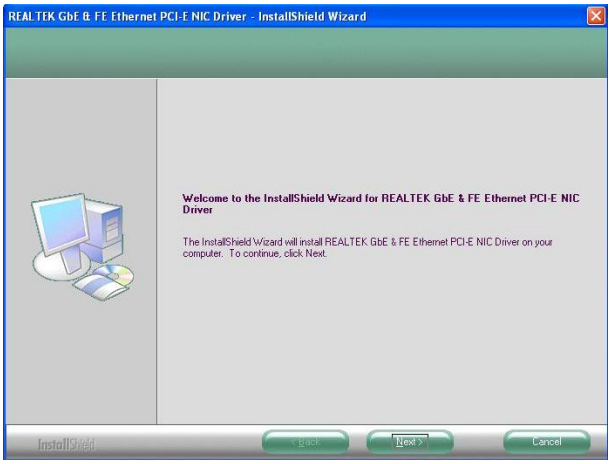
Step 4. Click **Finish** to complete the setup.

4.4 Install Ethernet Driver (For Realtek PCIE)

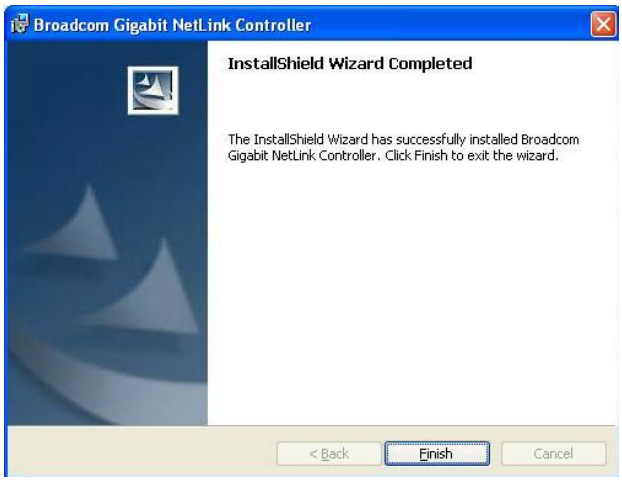
Insert the Supporting CD-ROM to CD-ROM drive, and it should show the index page of Avalue's products automatically. If not, locate Index.htm and choose the product from the menu left, or link to \Driver_Network\Broadcom.

Note: The installation procedures and screen shots in this section are based on Windows XP operation system.

Step 1. Locate 「\Driver\LAN\Realtek PCIE\XP\setup.exe」.



Step 2. Setup executing.

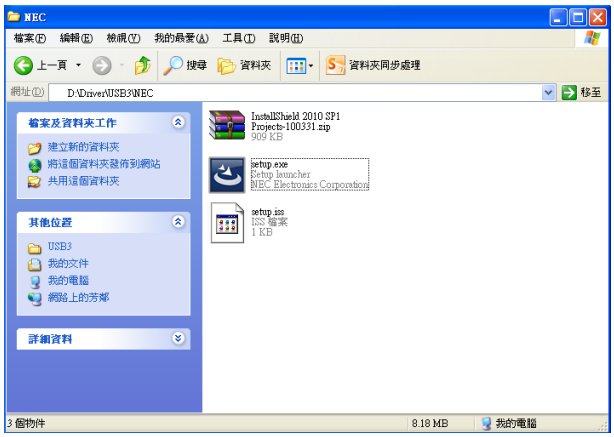


Step 3. Click **Finish** to complete the setup.

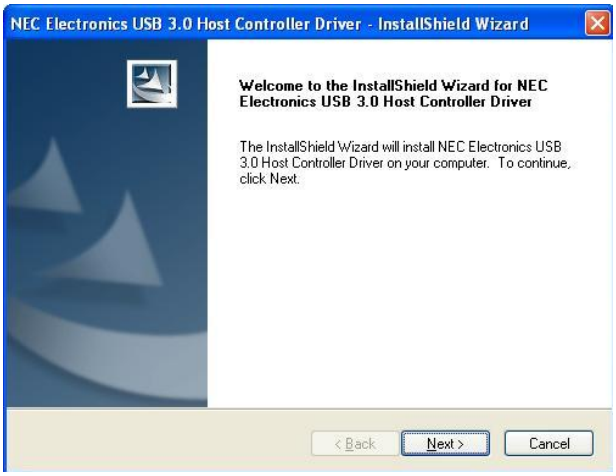
4.5 Install USB3.0 Driver (For USB3)

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 \Utility\USB3.

Note: The installation procedures and screen shots in this section are based on Windows XP operation system.



Step 1. Locate 「\ Driver\ USB3\NEC\ setup.exe」.



Step 2. Setup executing.

Step 3. Click **Finish** to complete the setup.