AHD1S Series

Motherboard

User's Manual

Statement:

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Trademark:

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Version:

User's Manual V1.0 for AHD1S Series motherboard.

Symbol description:

Caution : refers to important information that can help you to use motherboard better, and tells you how to avoid problems.

Warning : indicating a potential risk of hardware damage or physical injury may exist.

WEEE:

The use of this symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased this product.

More information:

If you want more information about our products, please visit Foxconn's website: http://www.foxconnchannel.com

Declaration of conformity

$$C\epsilon$$

HON HAI PRECISION INDUSTRY COMPANY LTD
66 , CHUNG SHAN RD., TU-CHENG INDUSTRIAL DISTRICT,
TAIPEI HSIEN, TAIWAN, R.O.C.

declares that the product
Motherboard AHD1S/AHD1S-K
is in conformity with
(reference to the specification under which conformity is declared in
accordance with 89/336 EEC-EMC Directive)

■ EN 55022:1998/A2: 2003 Limits and methods of measurements of radio
disturbance characteristics of information technology
equipment
■ EN 61000-3-2/:2000 Electromagnetic compatibility (EMC)
Part 3: Limits
Section 2: Limits for harmonic current emissions
(equipment input current <= 16A per phase)
■ EN 61000-3-3/A1:2001 Electromagnetic compatibility (EMC)
Part 3: Limits
Section 2: Limits of voltage fluctuations and flicker in low
voltage supply systems for equipment with rated current
<= 16A
■ EN 55024/A2:2003 Information technology equipment-Immunity
characteristics limits and methods of measurement

Signature :   Place / Date : TAIPEI/2011

Printed Name : James Liang

Declaration of conformity

FC

Trade Name:	FOXCONN
Model Name:	AHD1S/AHD1S-K
Responsible Party:	PCE Industry Inc.
Address:	458 E. Lambert Rd.
	Fullerton, CA 92835
Telephone:	714-738-8868
Facsimile:	714-738-8838
Equipment Classification:	FCC Class B Subassembly
Type of Product:	Motherboard
Manufacturer:	HON HAI PRECISION INDUSTRY
	COMPANY LTD
Address:	66 , CHUNG SHAN RD., TU-CHENG
	INDUSTRIAL DISTRICT, TAIPEI HSIEN,
	TAIWAN, R.O.C.

Supplementary Information:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Tested to comply with FCC standards.

Signature :   *James Liang*   Date :   2011

Installation Precautions

WARNING!

- Electrostatic discharge (ESD) is the sudden and momentary electric current that flows between two objects at different electrical potentials. Normally it comes out as a spark which will quickly damage your electronic equipment. Please wear an electrostatic discharge (ESD) wrist strap when handling components such as a motherboard, CPU or memory.
- Ensure that the DC power supply is turned off before installing or removing CPU, memory, expansion cards or other peripherals. It is recommended to unplug the AC power cord from the power supply outlet. Failure to unplug the power supply cord may result in serious damage to your system.

CAUTION

Please carefully read the following procedures to install your computer :
- It is suggested to select high-quality, certified fans in order to avoid damage to the motherboard and CPU due to high temperature. Never turn on the computer if the CPU fan is not properly installed.
- We cannot guarantee that your system can operate normally when your CPU/Memory is overclocked. Normal operation depends on the overclocking capacity of your device.
- If there is any, when connecting USB, audio, 1394a, RS232 COM, IrDA or S/PDIF cables to the internal connectors on the motherboard, make sure their pinouts are matching with the connectors on the motherboard. Incorrect connections might damage the motherboard.
- When handling the motherboard, avoid touching any metal leads or connectors.
- If there is a PCI Express x16 graphics card installed in your system, we recommend using a 24-pin ATX power supply to get the best performance.
- Before turning on the power, please make sure the power supply AC input voltage setting has been configured to the local standard.
- To prevent damage to the motherboard, do not allow screws to come in contact with the motherboard circuit or its components. Also, make sure there are no leftover screws or metal components placed on the motherboard or within the computer casing.
- If you are uncertain about any installation steps or have a problem related to the use of the product, please consult a certified computer technician.

TABLE OF CONTENTS

Technical Support :

Support

Website :
http://www.foxconnchannel.com

Support Website :
http://www.foxconnsupport.com

Worldwide online contact Support :
http://www.foxconnsupport.com/inquiry.aspx

CPU Support List :
http://www.foxconnsupport.com/cpusupportlist.aspx

Memory, VGA Compatibility List :
http://www.foxconnsupport.com/complist.aspx

Thank you for buying Foxconn AHD1S Series motherboard. Foxconn products are engineered to maximize computing power, providing only what you need for break-through performance.

With advanced overclocking capability and a range of connectivity features for today multi-media computing requirements, AHD1S/AHD1S-K enables you to unleash more power from your computer.

This chapter includes the following information:

■ Product Specifications
■ Layout
■ Back Panel Connectors

1-1 Product Specifications

CPU	Zacate Dual Core APU, Max processor power up to 18W
	For the latest CPU information, please visit:
	http://www.foxconnsupport.com/cpusupportlist.aspx
Chipset	Hudson D1
Memory	2 x 240-pin DDR3 DIMMs
	Support up to 8GB of system memory
	Dual Channel DDR3 1066MHz architecture
Expansion Slots	1 x PCI Express x16 slot (only support PCIE x 4 card)
VGA	AMD Radeon HD 6310 Graphics
	support Direct X11 compliant
Storage	Hudson D1 chipset:
	- 2 x SATA 2.0 connectors 300MB/s data transfer rate
	- Support hot plug and NCQ (Native Command Queuing)
LAN	Realtek RTL8111E Gigabit LAN chip
	(co-lay Realtek RTL8105E 10/100Mb/s LAN chip)
Audio	Realtek ALC662 audio chip:
	- High Definition Audio
	- 2/4/5.1-channel
	- Support for S/PDIF Out
	- Support Jack-Sensing function
USB	Hudson D1 chipset:
	- Support up to 10 x USB 2.0 ports (6 rear panel ports, 2 onboard USB headers supporting 4 extra ports)
Internal Connectors	1 x 24-pin ATX main power connector
	1 x 4-pin ATX 12V power connector
	2 x SATA 2.0 connectors
	2 x USB 2.0 connectors (supporting 4 x USB devices)
	1 x CPU fan header (4-pin)
	1 x System fan header (4-pin)
	1 x Front panel connector
	1 x Front Audio connector
	1 x S/PDIF_OUT connector
	1 x Speaker connector
	1 x Chassis intrusion alarm header
	1 x COM connector
	1 x TPM connector
	1 x CIR connector

(Continued on the next page)

Back Panel Connectors	1 x PS/2 Keyboard port
	1 x VGA port
	1 x DVI-D port
	1 x HDMI port
	6 x USB 2.0 ports
	1 x RJ-45 LAN port
	6-channel Audio ports
Hardware Monitor	System voltage detection
	CPU/System temperature detection
	CPU/System fan speed detection
	CPU overheating warning
	CPU/System fan speed control
PCI Express x16	Transfer rate per lane are 2.5GT/s for PCIe Gen 1 and 5GT/s for PCIe Gen 2. Low power consumption and power management features
Green Function	Support ACPI (Advanced Configuration and Power Interface)
	Support S0 (normal), S1 (power on suspend), S3 (suspend to RAM), S4 (suspend to disk), S5 (soft - off)
	Support EuP function
Bundled Software	FOX ONE
	FOX LiveUpdate
	FOX LOGO
	FOX DMI
Operating System	Support for Microsoft® Windows® 7/Vista/XP
Form Factor	Mini-ITX Form Factor, 6.7 inches x 6.7inches (17cm x17cm)

1-2 Layout

1. COM Connector
2. TPM Connector
3. Clear CMOS Jumper
4. Front USB Connectors
5. Front Audio Connector
6. System Fan Header
7. SPDIF_OUT Connector
8. Chassis Intrusion Alarm Header
9. PCI Express x16 Slot
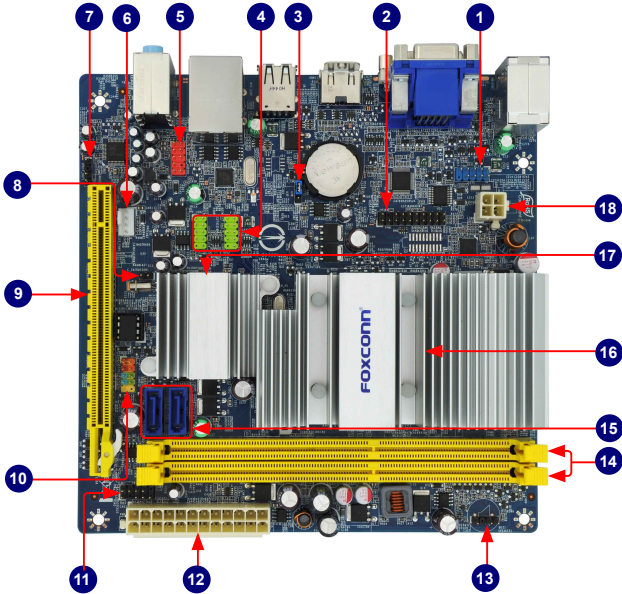
10. Front Panel Connector
11. CIR Connector
12. 24-pin ATX Power Connector
13. Speaker Connector
14. DDR3 DIMM Slots
15. SATA Connectors
16. Zacate Dual Core APU
17. Chipset: Hudson D1
18. 4-pin ATX 12V Power Connector

Note : The above motherboard layout is for reference only, please refer to the physical
motherboard for detail.

1-3 Back Panel Connectors

PS/2 Keyboard Port   VGA Port   LAN Port

①   ③   ⑥

Line In

Line Out

Microphone In

②   ④   ⑤   ②   ⑦

USB Ports   DVI-D Port   HDMI Port   USB Ports   Audio Ports
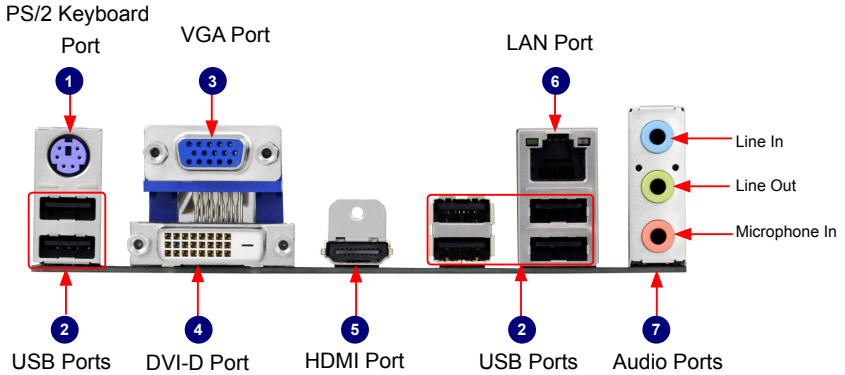
1. PS/2 Keyboard Port

Use the lower port (purple) to connect a PS/2 keyboard.

2. USB Ports

The USB port supports the USB 2.0/1.1 specification. Use this port for USB devices such as an USB keyboard/mouse, USB printer, USB flash drive and etc.

3. VGA Port

To connect with external display devices, such as monitor or LCD display.

4. DVI-D Port

The DVI-D port supports DVI-D specification. Connect a monitor that supports DVI-D connection to this port.

5. HDMI Port

The HDMI (High-Definition Multimedia Interface) provides an all-digital audio/video interface to transmit the uncompressed audio/video signals and is HDCP compliant. Connect the HDMI audio/video device to this port. The HDMI Technology can support a maximum resolution of 1920x1080p but the actual resolutions supported depend on the monitor being used.

6. RJ-45 LAN Port

The Ethernet LAN port provides Internet connection at up to 10/100/1000Mb/s data rate.

LAN Type	Left: Active		Right: Link	
	Status	Description	Status	Description
1000M	Off	No Link	Off	No Link
	Green Blinking	Data Activity	Off	10Mb/s Connection
			Green	100Mb/s Connection
			Orange	1000Mb/s Connection

Active LED   Link LED
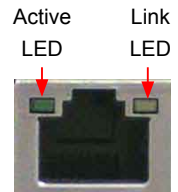
7. Audio Ports

For the definition of each audio port, please refer to the table below :

Port	2-channel	4-channel	5.1-channel
Blue	Line In	Rear Speaker Out	Rear Speaker Out
Green	Line Out	Front Speaker Out	Front Speaker Out
Pink	Microphone In	Microphone In	Center/Subwoofer Speaker Out

 * : Please refer to Chapter 4, and install the Realtek audio driver (in CD) to assign the audio output ports for different applications of 2/4/5.1 channels. The fundamental audio outputs are depicted in the table above.

This chapter introduces the hardware and software installation process, including the installation of the CPU, memory, power supply, slots, pin headers and the mounting of jumpers. Caution should be exercised during the installation of these modules. Please refer to the motherboard layout prior to any installation and read the contents in this chapter carefully.

This chapter includes the following information :
- Install the Memory
- Install other Internal Connectors
- Jumpers
- Install Driver and Utility

Please visit the following website for more supporting information about your motherboard.
CPU Support List:
http://www.foxconnsupport.com/cpusupportlist.aspx
Memory, VGA Compatibility List:
http://www.foxconnsupport.com/complist.aspx

2-1 Install the Memory

2

Read the following guidelines before you begin to install the memory :

■   Make sure that the motherboard supports the memory. It is recommended that memory of the same capacity, brand, speed, and chips be used.

■   Always turn off the computer and unplug the power cord from the power outlet before installing the memory to prevent hardware damage.

■   Memory modules have a foolproof design. A memory module can be installed in only one direction. If you are unable to insert the memory, switch the direction.

■   Be sure to install DDR3 DIMMs on this motherboard.

144-Pin

96-Pin
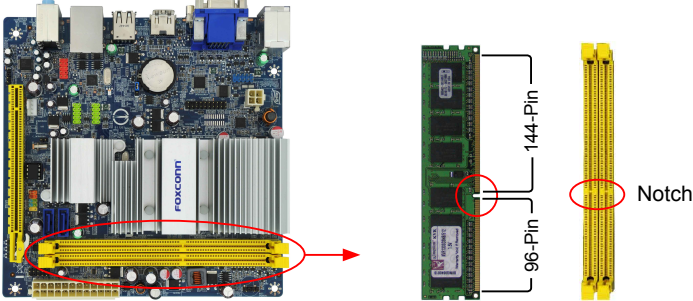
Notch

If you take a look at front side of memory module, it has asymmetric pin counts on both sides separated by a notch in the middle, so it can only fit in one direction. Follow the steps below to correctly install your memory modules into the sockets.

Step 1:
Spread the clips at both ends of the memory socket. Place the memory module onto the socket, then put your fingers on top edge of the module, and push it down firmly and seat it vertically into the memory socket.

Step 2:
The clips at both ends of the socket will snap into place when the memory module is securely inserted.

2-2 Install an Expansion Card

- ■ Make sure the motherboard supports the expansion card. Carefully read the manual that came with your expansion card.
- ■ Always turn off the computer and unplug the power cord from the power outlet before installing an expansion card to prevent hardware damage.
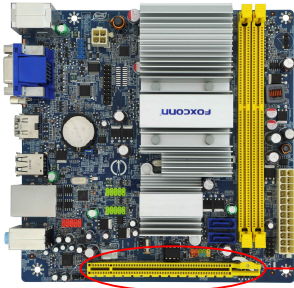
PCI Express x16
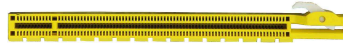
Follow the steps below to correctly install your expansion card in the expansion slot.

1. Locate an expansion slot that supports your card. Remove the metal slot cover from the chassis back panel.
2. Align the card with the slot, and press down on the card until it is fully seated in the slot.
3. Make sure the metal contacts on the card are completely inserted into the slot.
4. Secure the card's metal bracket to the chassis back panel with a screw.
5. After installing all expansion cards, replace the chassis cover.
6. Turn on your computer. If necessary, go to BIOS Setup to make any required BIOS changes for your expansion card(s).
7. Install the driver provided with the expansion card in your operating system.

Installing and Removing a PCI Express x16 Graphics Card :

• Installing a Graphics Card:
Gently insert the graphics card into the PCI Express x16 slot. Make sure the graphics card is locked by the latch at the end of the PCI Express x16 slot.

• Removing the Card:
Push the latch at the end of the PCI Express x16 slot to release the card and then pull the card straight up from the slot.

2-3 Install other Internal Connectors

Power Connectors

This motherboard uses an ATX power supply. In order not to damage any device, make sure all the devices have been installed properly before applying the power supply.

2

24-pin ATX power connector : PWR2

PWR2 is the ATX power supply connector. Make sure that the power supply cable and pins are properly aligned with the connector on the motherboard. Firmly plug the power supply cable into the connector and make sure it is secure.
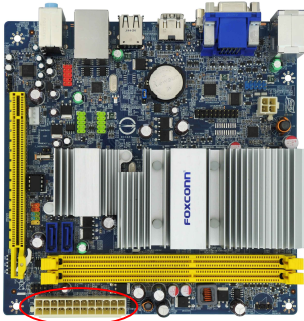
Pin #	Definition	Pin #	Definition
1	3.3V	13	3.3V
2	3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS_ON(Soft On/Off)
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	Power Good	20	NC
9	+5V SB(Stand by +5V)	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	3.3V	24	GND

24   13

12   PWR2   1

Pin No. 24

CAUTION

!

We recommend you using a 24-pin power supply. If you are using a 20-pin power supply, you need to align the ATX power connector according to the picture.
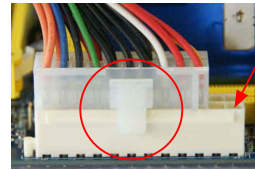
20-Pin Power

4-pin ATX 12 V Power Connector : PWR1

Connect the 4-pin ATX 12V power supply to PWR1 and provides power to the CPU.

3   1

+12V   GND

4   2

PWR1
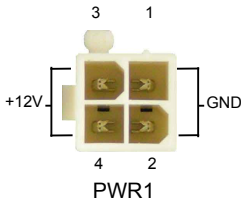
Pin #	Definition
1	GND
2	GND
3	+12V
4	+12V

S/PDIF OUT Connector : SPDIF_OUT1

The connector is used for S/PDIF output.

```
+5V ─────┐ 1
EMPTY ───┤ 2
SPDIF_OUT ┤ 3
GND ─────┘ 4
```
SPDIF_OUT1

2

```
        1   2
VCC ───────── VCC
D- ────────── D-
D+ ────────── D+
GND ───────── GND
EMPTY ─────── GND
        9  10
```
F_USB 1/2
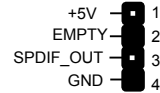
USB Connectors : F_USB1/2

In addition to the four USB ports on the rear panel, this product also provides two 10-pin USB headers on its motherboard. By connecting through USB cables with them, user can quickly expand another four USB ports on the front panel.
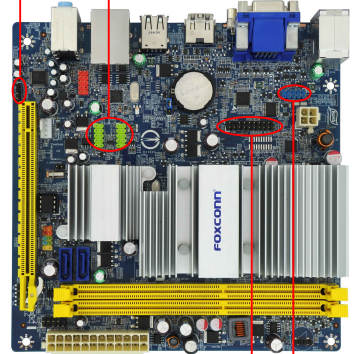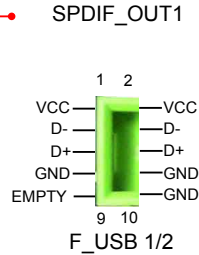
TPM Connector : TPM1

The TPM (Trusted Platform Module) provides the ability to the PC to run applications more secure and to make transactions and communication more trustworthy. To utilize this function, you should purchase additional device and install it.

```
          1  2
LCLK# ──────── GND
LFRAME# ────── EMPTY
LRESET# ────── NC
LAD3 ───────── LAD2
VDD ────────── LAD1
LAD0 ───────── GND
NC ─────────── NC
SB3V ───────── SERIRQ
GND ────────── CLKRUN#
LPCPD# ─────── NC
         19 20
```
TPM1
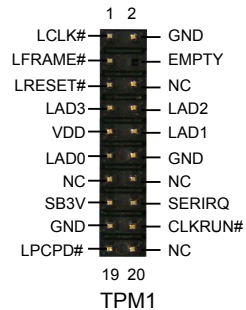
COM Connector : COM1

This motherboard supports one serial RS232 COM port for legacy compatibility. User must purchase another RS232 cable with a 9-pin D-sub connector at one end to connect with the external RS232 device and another end with 10-pin female connector to connect with COM1 connector in the motherboard.

```
        1  2
RLSD ──────── SIN
SOUT ──────── DTR
GND ───────── DSR
RTS ───────── CTS
RI ────────── EMPTY
        9  10
```
COM1

11
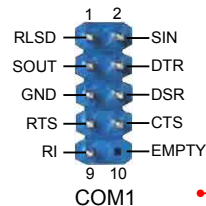
IrDA Connector : CIR

This connector supports infrared wireless transmitting and receiving device.

	1	2	
+5V			+5VSB
EMPTY			CIRRX
NC			GND
GND			CIRTX
NC			EMPTY
	9	10	

CIR
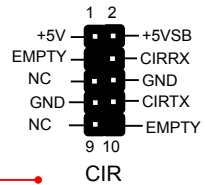
Front Panel Connector : FP1

This motherboard includes one connector for connecting the front panel switch and LED Indicators.

Hard Disk LED Connector (HDD-LED)

Connect to the chassis front panel IDE indicator LED. It indicates the active status of the hard disks. This 2-pin connector is directional with +/- sign.

Reset Switch (RESET-SW)

Attach the connector to the Reset switch on the front panel of the case; the system will restart when the switch is pressed.

Power LED Connector (PWR-LED)

Connect to the power LED indicator on the front panel of the chassis. The Power LED indicates the system's status. When the system is in operation (S0 status), the LED is on. When the system gets into sleep mode (S1) , the LED is blinking; When the system is in S3/S4 sleep state or power off mode (S5), the LED is off. This 2-pin connector is directional with +/- sign.

Power Switch Connector (PWR-SW)

Connect to the power button on the front panel of the chassis. Push this switch allows the system to be turned on and off rather than using the power supply button.

	1	2	
HDD-LED	+	+	PWR-LED
	-		
RESET-SW	-		PWR-SW
NC			EMPTY
	9	10	

FP1
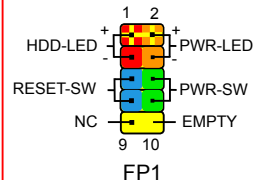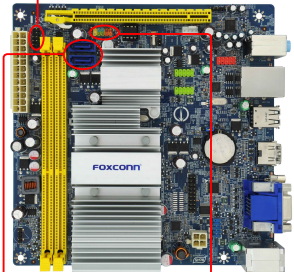
Serial ATA Connectors : SATA_1/2

The Serial ATA connector is used to connect with SATA Hard Disk or CD devices which supporting this feature. The current Serial ATA II interface allows up to 300MB/s data transfer rate.

1
GND
TX+
TX-
GND
RX-
RX+
GND

SATA _1/2
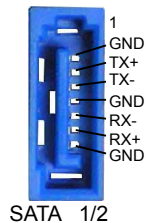
Audio Connector : F_AUDIO1

The audio connector supports HD Audio standard.
It provides the Front Audio output choice.
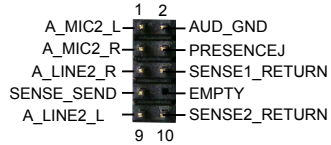
```
                1  2
A_MIC2_L ——         —— AUD_GND
A_MIC2_R ——         —— PRESENCEJ
A_LINE2_R ——        —— SENSE1_RETURN
SENSE_SEND ——       —— EMPTY
A_LINE2_L ——        —— SENSE2_RETURN
                9  10
```
F_AUDIO1

Fan Headers : CPU_FAN1, SYS_FAN1

There are two main fan headers on this motherboard. The fan
speed can be controlled and monitored in "PC Health Status"
section of the BIOS Setup. These fans can be automatically
turned off after the system enters S3, S4 and S5 sleeping
states.
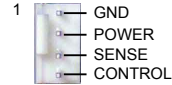
```
1    —— GND
     —— POWER
     —— SENSE
     —— CONTROL
```
CPU_FAN1/SYS_FAN1

Chassis Intrusion Alarm Header : C_INTRUSION1

The connector can be connected to a security switch on the
chassis. The system can detect the chassis intrusion through
the function of this connector. If eventually the chassis is
closed, the system will send a message out.

```
              1
INTRUDERJ ——[   ]—— GND
```
C_INTRUSION1

Speaker Connector : SPEAKER1

The speaker connector is used to connect speaker of the
chassis.

```
PWR ——[ ] 1
EMPTY ——[ ] 2
NC ——[ ] 3
SPKJ ——[ ] 4
```
SPEAKER1
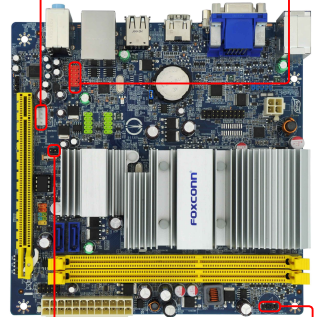
2-4 Jumpers

For some features needed, users can change the jumper settings on this motherboard to modify them. This section explains how to use the various functions of this motherboard by changing the jumper settings. Users should read the following content carefully prior to modifying any jumper setting.

Description of Jumpers

1. For any jumper on this motherboard, Pin 1 can be identified by the bold silkscreen next to it. However, in this manual, Pin 1 is simply labeled as "1".
2. The following table explains different types of the jumper settings. "Closed" means placing a jumper cap on the two pins to temporarily short them. The shorting can also be done by touching two pins by a screwdriver for a few seconds, but using jumper cap is recommended. It can prevent hazardous ESD (Electrical Static Discharge) problem.

Jumper	Diagram	Definition	Description
1 ▢▢▢	1 ██ ▢	1-2	Set Pin 1 and Pin 2 closed
	1 ▢ ██	2-3	Set Pin 2 and Pin 3 closed

Clear CMOS Jumper: CLR_CMOS

The motherboard uses CMOS RAM to store the basic hardware information (such as BIOS data, date, time information, hardware password...etc.). Clear CMOS data is the fast way to go back to factory default when the BIOS settings were mistakenly modified.

The steps to clear CMOS data are :

1. Turn off the computer, unplug the power cord from the power outlet.
2. Remove jumper cap from pins 2-3, put it onto pins 1-2 to short them. This will clear CMOS data.
3. Return the setting to its original with pins 2-3 closed.
4. Plug in the power cord to your computer and turn it on.
5. Go to BIOS Setup to configure new system as described in next chapter.

Normal
(Default)

Clear

CLR_CMOS

WARNING!
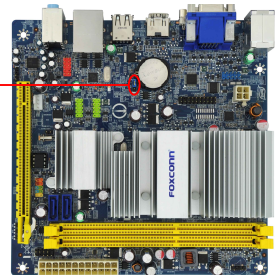
- Disconnect the power cable before adjusting the jumper settings.
- Do not clear the CMOS while the system is turned on.

2-5 Install Driver and Utility

Utility CD Content

This motherboard comes with one Utility CD. You can simply put it into your CD/DVD-ROM drive, and the main menu will be displayed on your PC screen to guide you how to install.

1. Driver
Use these options to install all the drivers for your system. You should install the drivers in order, and you need to restart your computer after all the drivers have been installed.

Items for Windows XP/Vista:
  A. AMD Chipset Driver   B. Realtek HDA Audio Driver
  C. Realtek LAN Driver   D. CIR Device Driver
Items for Windows 7:
  A. AMD Chipset Driver   B. Realtek HDA Audio Driver
  C. Realtek LAN Driver   D. CIR Device Driver

2. Utility
Use these options to install additional software programs. FOX ONE is a very powerful user interface program which allows you to change your system setting without going to BIOS. Some auto features help user to improve (or overclock) your system without being a computer literate.

Items for Windows XP/Vista:
  A. FOX ONE   B. FOX LiveUpdate
  C. FOX LOGO   D. FOX DMI
  E. Microsoft DirectX 9.0   F. Adobe Acrobat Reader
  G. Norton Internet Security   H. Browser Configuration Utility
Items for Windows 7:
  A. FOX ONE   B. FOX LiveUpdate
  C. FOX LOGO   D. FOX DMI
  E. Adobe Acrobat Reader   F. Norton Internet Security
  G. SmartView [For IE8]

Install Driver and Utility

This motherboard comes with one DVD, after installing the Operating System, you can simply put it into your DVD-ROM drive, and the main menu will be displayed on your PC screen to guide you how to install.

1. Install Driver

Use these options to install all the drivers for your system. You must click "AMD Chipset Driver" to install it first. After that, you can click "One Click Setup" and then choose the items you want to install, or you can click on each individual driver to install it manually.

Manual Installation Step by Step

Automatic Installation by One Click

Drop to System Tray

Exit the program

Visit Foxconn's Website

Show Utilities

Show Drivers

Browse CD

View the User's Manual

Choose the items you want to Install
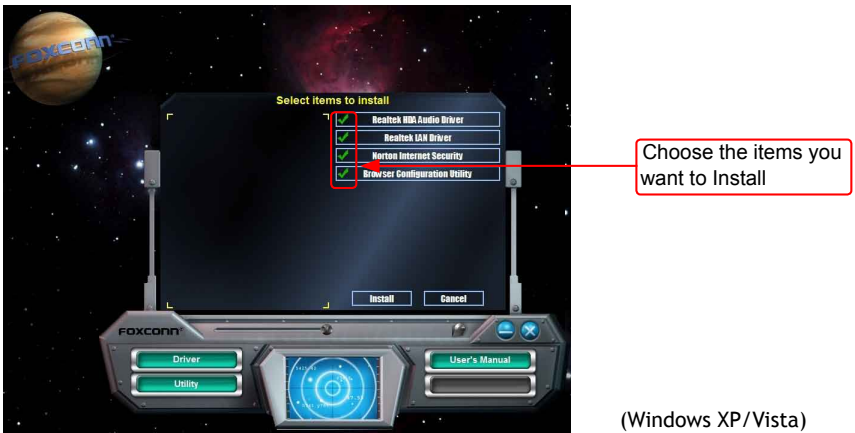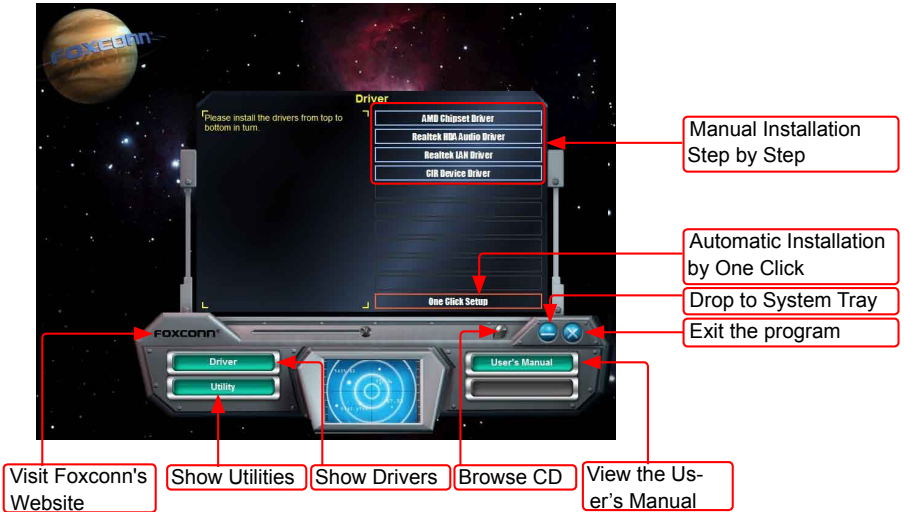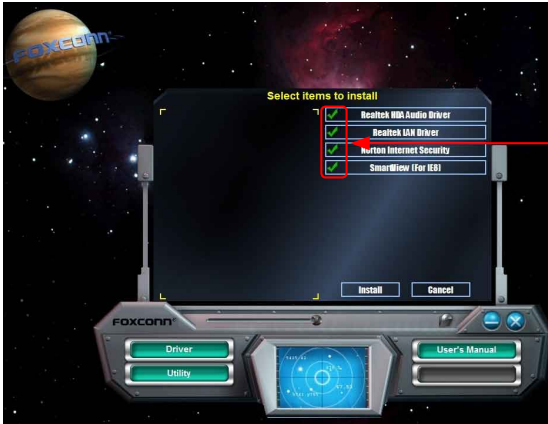
(Windows XP/Vista)

Choose the items you want to Install

(Windows 7)

2. Install Utility

Use these options to install additional software programs. And click "Use's Manual" button to view the utility help manual.

(Windows XP/Vista)

(Windows 7)

3

This chapter tells how to change system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

You have to run the Setup Program when the following cases occur :

1. An error message appears on the screen during the system Power On Self Test (POST) process.
2. You want to change the default CMOS settings.

This chapter includes the following information :

- ■ Enter BIOS Setup
- ■ Main
- ■ Advanced
- ■ Chipset
- ■ Boot
- ■ Power
- ■ Health
- ■ Security
- ■ Save & Exit

Since BIOS could be updated some other times, the BIOS information described in this manual is for reference only. We do not guarantee the content of this manual will remain consistent with the newly released BIOS at any given time in the future. Please visit our website for updated manual if it is available.

Enter BIOS Setup

The BIOS is the communication bridge between hardware and software, correctly setting up the BIOS parameters is critical to maintain optimal system performance. Power on the computer, when the message "**Press <DEL> to enter Setup, <F7> to Boot Menu**" appears at the bottom of the screen, you can press <DEL> key to enter Setup.

⚠ CAUTION

We do not suggest that you change the default values in the BIOS Setup, and we shall not be responsible for any damage which resulted from the change you made.

Use the arrow right/left keys to select a specific function and go to the submenu. Each function is explained below:

Main
It displays the basic system configuration, such as CPU Name, memory size, system date, time and so on. They all can be viewed or set up through this menu.

Advanced
The advanced system features can be set up through this menu.

Chipset
The values for the chipset can be changed through this menu, and the system performance can be optimized.

Boot
Boot features can be set up through this menu. You can set the boot device priority and enable "Quiet Boot" feature here.

Power
All the items related with Green function features can be setup through this menu.

Health
This setup enables you to read/change fan speeds, and displays temperatures and voltages of your CPU/System.

Security
The Administrator/User password can be set up through this menu to prevent unauthorized use of your computer. If you set a password, the system will ask you to key in correct password before boot or access to Setup.

Save&Exit
The optimal performance settings can be loaded through this menu. However, it may offer better performance in some ways (such as less I/O cards, less memory ...etc.), still, it may cause problem if you have more memory or I/O cards installed. It means, if your system loading is heavy, set to optimal default may sometimes come out an unstable system. What you need now is to adjust BIOS setting one by one, trial and error, to find out the best setting for your current system. You also can save or discard the changes and exit BIOS setup here.

Main

```
                 Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
  Main  Advanced  Chipset  Boot  Power  Health  Security  Save & Exit

  System Date                     [Thu 12/30/2010]          Set the Date. Use Tab to
  System Time                     [09:44:21]                switch between Date elements.

  Access Level                    Administrator
  Model Name                      AHD1S
  BIOS Version                    A93F1B15
  Build Date and Time             12/25/2010 14:27:07
  Halt On                         [All, but keyboard]

  CPU Brand Name:
  AMD E-350 Processor
  Total Memory                    1024 MB (DDR3 1066)
  MAC Address                     00-E0-4C-68-00-02
                                                            →←: Select Screen
                                                            ↑↓: Select Item
                                                            Enter: Select
                                                            +/-: Change Opt.
                                                            F1: General Help
                                                            F2: Previous Values
                                                            F3: Optimized Defaults
                                                            F4: Save & Exit
                                                            ESC: Exit


                 Version 2.10.1208. Copyright (C) 2010 American Megatrends, Inc.
```

► **System Date**

<weekday><month><date> <year> format.

Day—weekday from Sun. to Sat., this message is automatically displayed by BIOS (Read Only).

Month—month from 1 to 12.

Date—date from 1 to 31.

Year—year, set up by users.

Use [ENTER], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to input the value.

► **System Time**

This item allows you to configure the desired time. Use [ENTER], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to input the value.

The three fields of the setting are <hour> : <minute> : <second> respectively.

► **Access Level**

It displays your current access level. If you enter system with a user password, it will dispaly "User". If no password is set or you enter system with administrator password, this item will dispaly "Administrator".

► **Model Name**

This item shows the model name of this product.

► **BIOS Version**

It displays the current BIOS version. User can check this information and discuss with the field service people if a BIOS upgrade is needed.

► **Build Date and Time**

This item shows the BIOS building date and time.

► **Halt On**

This category determines whether or not the computer will stop if an error is detected during

powering up.

[All Errors]: All errors can result in system halt.

[No Errors]: No error can result in system halt.

[All, but keyboard]: All errors but keyboard can result in system halt.

► **CPU Brand Name**

It displays the current CPU name.

► **Total Memory**

This item displays the total memory size. The size is depending on how many memory modules are installed in your system before powering on.

► **MAC Address**

This item displays the onboard LAN MAC address.

Advanced

```
          Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
   Main  Advanced  Chipset  Boot  Power  Health  Security  Save & Exit

  ► Trusted Computing                          Trusted Computing (TPM)
  ► CPU Configuration                          settings
  ► SATA Configuration
  ► USB Configuration
  ► Super IO Configuration
  ► Onboard Device Configuration
  ► Over Clocking Configuration




                                               →←: Select Screen
                                               ↑↓: Select Item
                                               Enter: Select
                                               +/-: Change Opt.
                                               F1: General Help
                                               F2: Previous Values
                                               F3: Optimized Defaults
                                               F4: Save & Exit
                                               ESC: Exit


          Version 2.10.1208. Copyright (C) 2010 American Megatrends, Inc.
```

►Trusted Computing/CPU Configuration/SATA Configuration/USB Configuration//Super IO Configuration/Onboard Device Configuration/Over Clocking Configuration

Press <Enter> to go to relative submenu.

Trusted Computing

```
          Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
            Advanced

   TPM Configuration                           Enable or Disable TPM
     TPM SUPPORT                  [Disabled]   support. O.S. will not show
                                               TPM. Reset of platform is
                                               required.
   Current TPM Status Information
       NO TPM Hardware




                                               →←: Select Screen
                                               ↑↓: Select Item
                                               Enter: Select
                                               +/-: Change Opt.
                                               F1: General Help
                                               F2: Previous Values
                                               F3: Optimized Defaults
                                               F4: Save & Exit
                                               ESC: Exit



          Version 2.02.1205. Copyright (C) 2010 American Megatrends, Inc.
```

► TPM SUPPORT

This item is used to decide whether to support TPM (Trusted Platform Module) device function. Default option is [Disabled]. If you want to support TPM, first you need to install a TPM device on the motherboard and set this item to [Enabled], then save changing and reset your computer, otherwise the operation system can not show the relative information.

CPU Configuration

```
          Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
   Advanced

 CPU Configuration                                        Disabled for Windowa XP

 CPU Brand Name:AMD E-350 Processor
 CPU Speed:1600 MHZ                    3000 MHz

 Limit CPUID Maximum                   [Disabled]
 PSS Support                           [Enabled]
 PSTATE Adjustment                     [PState 0]
 PPC Adjustment                        [PState 0]
 NX Mode                               [Enabled]
 SVM Mode                              [Enabled]

                                                          →←: Select Screen
                                                          ↑↓: Select Item
                                                          Enter: Select
                                                          +/-: Change Opt.
                                                          F1: General Help
                                                          F2: Previous Values
                                                          F3: Optimized Defaults
                                                          F4: Save & Exit
                                                          ESC: Exit



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```

► **Limit CPUID Maximum**

This item is used to enable or disable CPUID limited. when enable, the processor will limit the maximum CPUID. It is recommend that you leave it at the default setting of [Disable].

► **PSS Support**

This item is used to enable or disable the generation of ACPI _PPC, _PSS and _PCT objects.

► **PSTATE Adjustment**

This item is used to adjust startup P-state level, you could select PState 0-7.

► **PPC Adjustment**

This item is used to adjust _PPC object.

► **NX Mode**

This item is used to enable or disable No-execute page protection function.

► **SVM Mode**

This item is used to enable or disable CPU Virtualization.

SATA Configuration

```
                    Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
          Advanced

       SATA Configuration

       SATA Port0                        Not Present

       SATA Port1                        Not Present




                                                              →←: Select Screen
                                                              ↑↓: Select Item
                                                              Enter: Select
                                                              +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit



                    Version 2.10.1208. Copyright (C) 2010 American Megatrends, Inc.
```
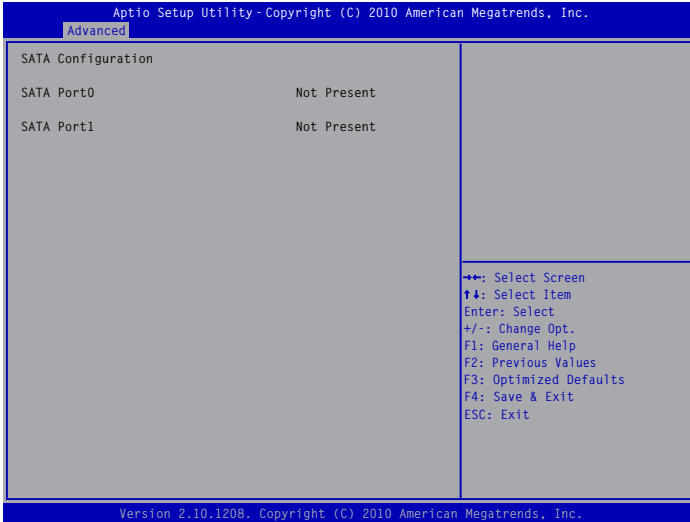
► **SATA Port0/1**

This item is used to display the information of the SATA Port.

USB Configuration

```
                    Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
          Advanced

       USB Configuration                                      Enables Legacy USB support,
                                                              AUTO option disables legacy
       USB Devices:                                           support if no USB devices are
          None                                                connected. DISABLE option will
                                                              keep USB devices available only
       Legacy USB Support              [Enabled]              for EFI applications.




                                                              →←: Select Screen
                                                              ↑↓: Select Item
                                                              Enter: Select
                                                              +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit



                    Version 2.10.1208. Copyright (C) 2010 American Megatrends, Inc.
```

► **Legacy USB Support**

This item is used to enable the support for USB devices on legacy OS. If you have a USB keyboard or mouse, set to enabled.

[Enabled]: This option will enable the legacy USB support.

[Disabled]: This option will keep USB devices available only for EFI applications.

[Auto]: This option will disable the legacy support if no USB devices are connected.

Super IO Configuration

```
          Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
     Advanced

     Super IO Configuration

       Super IO Chip                    NCT5573D
     ▶ Serial Port 0 Configuration
     ▶ CIR Controller Configuration




                                                →←: Select Screen
                                                ↑↓: Select Item
                                                Enter: Select
                                                +/-: Change Opt.
                                                F1: General Help
                                                F2: Previous Values
                                                F3: Optimized Defaults
                                                F4: Save & Exit
                                                ESC: Exit


          Version 2.02.1205. Copyright (C) 2010 American Megatrends, Inc.
```
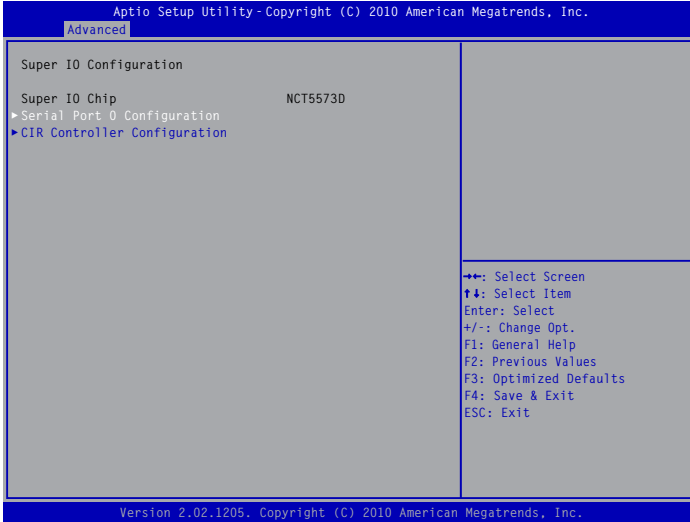
►**Series Port 0 Configuration/CIR Controller Configuration/**

Press <Enter> to go to relative submenu.

Series Port 0 Configuration

```
          Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
     Advanced

     Serial Port 0 Configuration               Enable or Disable Serial Port
                                                (COM)
     Serial Port                    [Enabled]
     Device Settings                IO=3F8h; IRQ=4;

     Change Settings                [Auto]
     Device Mode                    [Standard Serial Po...]




                                                →←: Select Screen
                                                ↑↓: Select Item
                                                Enter: Select
                                                +/-: Change Opt.
                                                F1: General Help
                                                F2: Previous Values
                                                F3: Optimized Defaults
                                                F4: Save & Exit
                                                ESC: Exit


          Version 2.10.1208. Copyright (C) 2010 American Megatrends, Inc.
```

► **Serial Port**

This item is used to enable or disable the serial port (COM).

► **Device Settings**

This item shows the resource assigned to the serial port.

► **Change Settings**

This item is used to select an optimal settings for the serial port.

► **Device Mode**

This item is used to change the serial port mode.

CIR Controller Configuration

```
                Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
          Advanced

     CIR Controller Configuration                                Enable or Disable CIR Control-
                                                                 ler
     CIR Conroller                    [Enabled]




                                                                 →←: Select Screen
                                                                 ↑↓: Select Item
                                                                 Enter: Select
                                                                 +/-: Change Opt.
                                                                 F1: General Help
                                                                 F2: Previous Values
                                                                 F3: Optimized Defaults
                                                                 F4: Save & Exit
                                                                 ESC: Exit



                Version 2.10.1208. Copyright (C) 2010 American Megatrends, Inc.
```
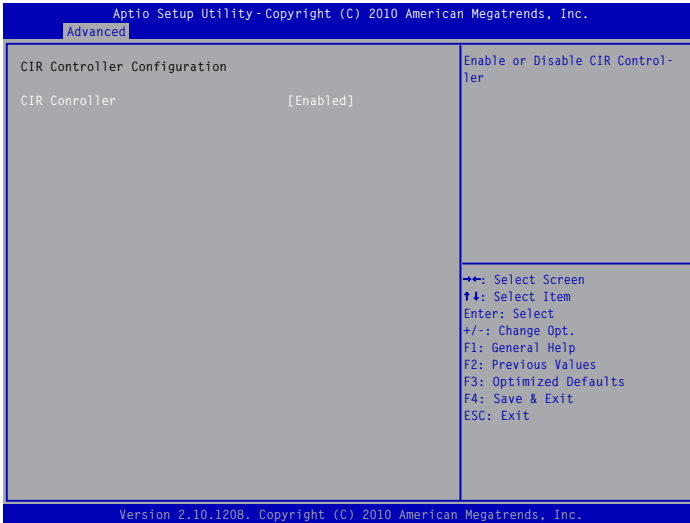
► **CIR Controller**

This item is used to enable or disable the onboard CIR controller.

Onboard Device Configuration

```
              Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
       Advanced

  Onboard Device Configuration                        Onboard SATA Controller

  Onboard SATA Controller         [Enabled]
  Onboard SATA Mode               [Native IDE]
  Onboard LAN Controller          [Enabled]
  Onboard LAN PXE OpROM           [Disabled]
  Onboard USB Controller          [Enabled]
  Azalia HD Audio Controller      [Enabled]



                                                      →←: Select Screen
                                                      ↑↓: Select Item
                                                      Enter: Select
                                                      +/-: Change Opt.
                                                      F1: General Help
                                                      F2: Previous Values
                                                      F3: Optimized Defaults
                                                      F4: Save & Exit
                                                      ESC: Exit




              Version 2.10.1208. Copyright (C) 2010 American Megatrends, Inc.
```

► **Onboard SATA Controller**

This item is used to enable or disable the onboard SATA controller.

► **Onboard SATA Mode**

This item allows you to set the operation mode of the SATA ports. Setting values are: [Native IDE], [AHCI].

► **Onboard LAN Controller**

This item is used to enable or disable the onboard LAN controller.

► **Onboard LAN PXE OpROM**

This item is used to enable or disable onboard LAN boot option ROM.

► **Onboard USB Controller**

This item is used to enable or disable the USB controller.

► **Azalia HD Audio Controller**

This item is enable oe disable the Azalia HD audio.

Over Clocking Configuration

```
                Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
        Advanced

  Over Clocking Configuration                            Memory Voltage Settings

  Memory Voltage                    [Disabled]




                                                         →←: Select Screen
                                                         ↑↓: Select Item
                                                         Enter: Select
                                                         +/-: Change Opt.
                                                         F1: General Help
                                                         F2: Previous Values
                                                         F3: Optimized Defaults
                                                         F4: Save & Exit
                                                         ESC: Exit



                Version 2.10.1208. Copyright (C) 2010 American Megatrends, Inc.
```
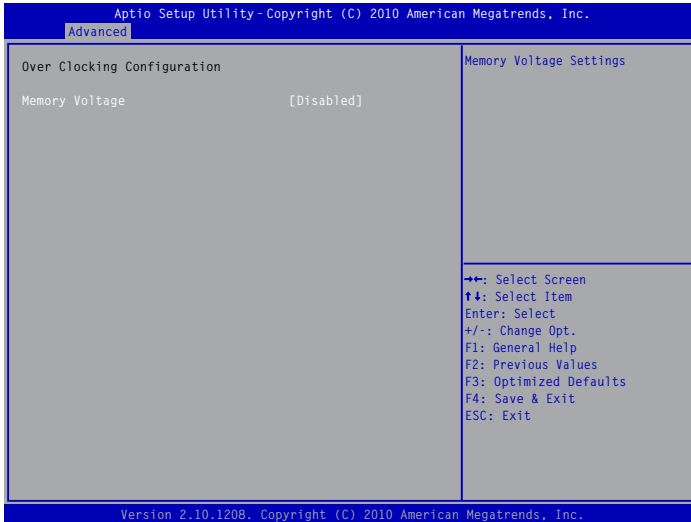
► Memory Voltage

This item is used to change the memeory voltage.

Chipset

```
              Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
        Main  Advanced  Chipset  Boot  Power  Health  Security  Save & Exit

      ▶North Bridge                                     North Bridge Parameters




                                                        →←: Select Screen
                                                        ↑↓: Select Item
                                                        Enter: Select
                                                        +/-: Change Opt.
                                                        F1: General Help
                                                        F2: Previous Values
                                                        F3: Optimized Defaults
                                                        F4: Save & Exit
                                                        ESC: Exit



                  Version 2.02.1205. Copyright (C) 2010 American Megatrends, Inc.
```
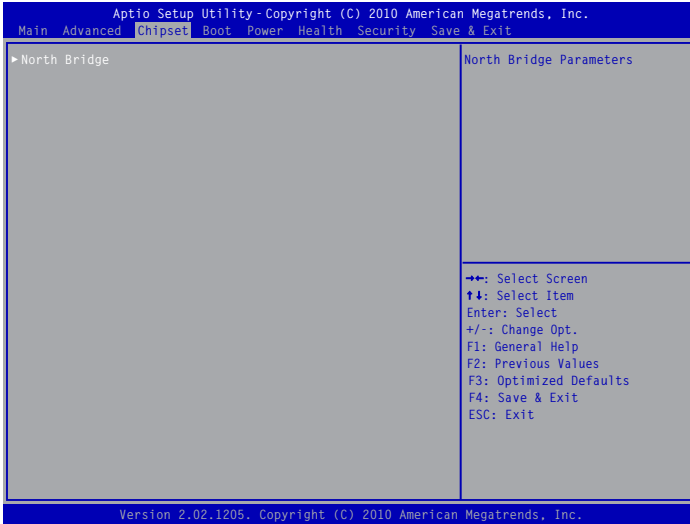
► **North Bridge**
   Press <Enter> to go to its submenu.

North Bridge

```
              Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
                           Chipset

        North Bridge Configuration                      Integrated Graphics controller

        Memory Information
        Total Memory                    1024 MB (DDR3 1066)
        Memory Slot1                    Not Present
        Memory Slot2                    1024 MB (DDR3 1066)

        Memory Configuration
        Integrated Graphics             [Auto]


                                                        →←: Select Screen
                                                        ↑↓: Select Item
                                                        Enter: Select
                                                        +/-: Change Opt.
                                                        F1: General Help
                                                        F2: Previous Values
                                                        F3: Optimized Defaults
                                                        F4: Save & Exit
                                                        ESC: Exit



                  Version 2.10.1208. Copyright (C) 2010 American Megatrends, Inc.
```

► **Total Memory**

This item displays the current using memory information.

► **Memory Slot 1/2**

These items display the memory size installed on each slot.

► **Integrated Graphics**

This item is used to select which graphics controller is used as the primary boot device.

Boot

```
                 Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
         Main  Advanced  Chipset  Boot  Power  Health  Security  Save & Exit

         Boot Configuration                                    Select the keyboard NumLock
         Bootup Numlock State              [On]                state

         Quiet Boot                        [Enabled]

         CSM16 Module Version              07.63

         Boot Option Priorities



                                                               →←: Select Screen
                                                               ↑↓: Select Item
                                                               Enter: Select
                                                               +/-: Change Opt.
                                                               F1: General Help
                                                               F2: Previous Values
                                                               F3: Optimized Defaults
                                                               F4: Save & Exit
                                                               ESC: Exit



                   Version 2.02.1205. Copyright (C) 2010 American Megatrends, Inc.
```

► **Bootup Numlock State**

This item is used to select the keyboard numlock state. The defaulte setting is [On].

► **Quiet Boot**

This item is used to enable/disable the quiet boot.

[Disabled] : Displays the normal POST messages.

[Enabled] : Displays OEM customer logo instead of POST messages.

► **Boot Option Priorities**

BIOS auto detect the presence of boot devices, you can configure the priority for boot devices.

Power

```
                Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
     Main   Advanced   Chipset   Boot   Power   Health   Security   Save & Exit

     ACPI Power Management                                    Enable/Disable PS2 Keyboard
                                                              resume system
     ACPI Sleep State                    [S3]

     Resume By PS2 Keyboard              [Enabled]
     Resume By USB Device(s)             [Enabled]
     Resume By PCIE PME                  [Disabled]
     Resume By Modem Ring                [Disabled]
     Resume By RTC                       [Disabled]
     Energy-using Products               [Enabled]
     Restore AC Power Loss               [Power Off]

                                                              →←: Select Screen
                                                              ↑↓: Select Item
                                                              Enter: Select
                                                              +/-: Change Opt.
                                                              F1: General Help
                                                              F2: Previous Values
                                                              F3: Optimized Defaults
                                                              F4: Save & Exit
                                                              ESC: Exit

                  Version 2.10.1208. Copyright (C) 2010 American Megatrends, Inc.
```
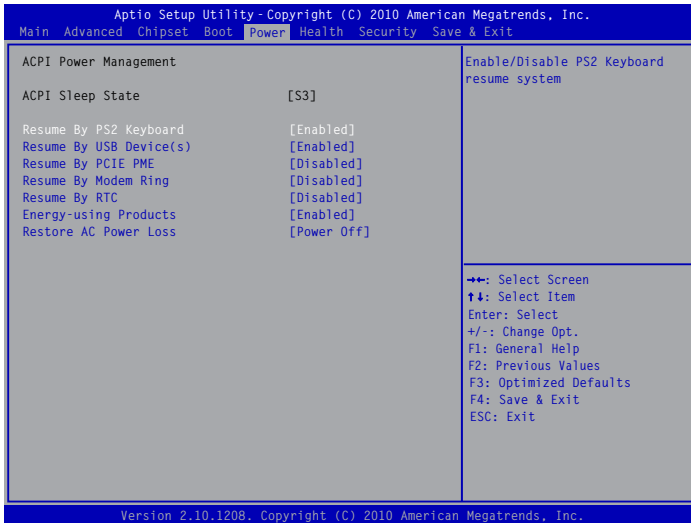
► **ACPI Sleep State**

This motherboard only support "S3 (STR)" mode, the power will be down after a period of time. The status of the computer before it entering STR will be saved in memory, and the computer can quickly return to previous state when the STR function wakes.

► **Resume by PS2 Keyboard**

This item is used to enable/disable the PS2 keyboard to generate a wake up.

► **Resume by USB Device(s)**

This item is used to wake up the system by a USB device when it is staying at S3 state.

► **Resume by Modem Ring**

This item is used to enable/disable the Modem Ring to generate a wake up.

► **Resume by RTC**

This item is used to enable/disable RTC alarm event to generate a wake up.

RTC is system real time clock.

► **Energy-using Products**

This item is used to enable/disable the EuP(Energy-using Products) feature. When enable, the suspend power of the chipset will be cut off in S5 suspend mode in order to reduce the power consumption of motherboard.

Enabled: S1/S3/S4 is normal, S5 wake up only by pressing the power button.

Disabled: Normal ACPI function.

► **Restore AC Power Loss**

This item is used to set which state the PC will take with when it resumes after an AC power loss.

Health

```
                    Aptio Setup Utility-Copyright (C) 2010 American Megatrends, Inc.
       Main   Advanced  Chipset  Boot  Power  Health  Security  Save & Exit

       PC Health Status                                      Case Open Warning:Set disable
                                                             to clear the status
       Case Open Warning                  [Disabled]

       CPU Temperature                    : +88 C
       System Temperature                 : +42 C

       CPU Fan Speed                      : N/A
       System Fan Speed                   : N/A

       CPUVcore                           : +1.312 V
       +3.3V                              : +3.392 V
       +12V SYS                           : +12.096 V
       +1.1V                              : +1.112 V         →←: Select Screen
       AVCC                               : +3.408 V         ↑↓: Select Item
       3VSB                               : +3.280 V         Enter: Select
       VBAT                               : +3.184 V         +/-: Change Opt.
                                                             F1: General Help
       CPU Warning Temperature            [Disabled]         F2: Previous Values
       CPU Shutdown Temperature           [Disabled]         F3: Optimized Defaults
       Smart Fan Control                  [Disabled]         F4: Save & Exit
                                                             ESC: Exit




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```

► **Case Open Warning**

This item is used to enable or disable case open warning function.

► **CPU Temperature**

These items show the current CPU temperature detected automatically by the system.

► **System Temperature**

These items show the current System temperature detected automatically by the system.

► **CPU Fan Speed**

This item shows the current CPU Fan speed detected automatically by the system.

► **System Fan Speed**

This item shows the current North Bridge Fan speed detected automatically by the system.

► **CPU Vcore/+3.3V/+12V SYS/+1.1V/AVCC/3VSB/VBAT**

These items show the Current CPU Ccore/+3.3V/+12V SYS/+1.1V/AVCC/3VSB/VBAt voltage detected automatically by the system.

► **CPU Warning Temperature**

 This option is used to set the warning temperature for the system. When the temperature of CPU is higher than the set value, the motherboard will send out warning information.

► **CPU Shutdown Temperature**

This item is used to set the system temperature upper limit. When the temperature exceeds the set value, the system will shut down automatically.

This function works only when your operating system is supporting ACPI.

► **Smart Fan Function**

This option is used to enable or disable smart fan function. Default value is [Disabled]. Only when this option is enabled, the CPU/system fan speed will change automatically with the CPU/system temperature. "Smart Fan Automatic Mode" is the principle figure of CPU smart fan function for your reference.

Security

```
                    Aptio Setup Utility - Copyright (C) 2010 American Megatrends, Inc.
      Main  Advanced  Chipset  Boot  Power  Health  Security  Save & Exit

      Password Description                              Set Setup Administrator
                                                        Password
      If ONLY the Administrator's password is set,
      then this only limits access to Setup and is
      only asked for when entering Setup.
      If ONLY the User's password is set, then this
      is a power on password and must be entered to
      boot or enter Setup. In Setup the User will
      have Administrator rights.
      The password must be 3 to 20 characters long.

      Administrator Password                            →←: Select Screen
      User Password                                     ↑↓: Select Item
                                                        Enter: Select
      HDD Security Configuration                        +/-: Change Opt.
      HDD 0:ST3160815AS                                 F1: General Help
                                                        F2: Previous Values
                                                        F3: Optimized Defaults
                                                        F4: Save & Exit
                                                        ESC: Exit


                    Version 2.10.1208. Copyright (C) 2010 American Megatrends, Inc.
```
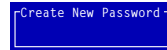
► **Administrator Password**

This item is used to install or change administrator password.
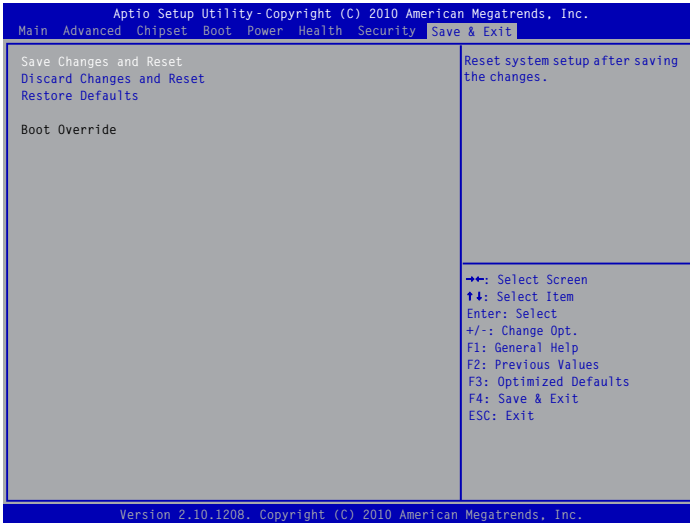After you input administrator password, it then will ask you to
confirm the password.

```
┌Create New Password┐
│                   │
│                   │
└                   ┘
```
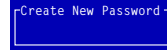
► **User Password**

This item is used to install or change user password.

```
┌Create New Password┐
│                   │
│                   │
└                   ┘
```

► **HDD Security Configuration**

"HDD Security Configuration" appears only when you connect HDD to your system. Press
"Enter" key on the item "HDD 0:ST3160815AS" to enter into the "HDD Password Configura-
tion" interface, then press "Enter" on "Set HDD Password" to set, modify and clear HardDisk
password. HDD Password need to be installed for enabling Security.

Save & Exit

```
                 Aptio Setup Utility-Copyright (C) 2010 American Megatrends, Inc.
  Main  Advanced  Chipset  Boot  Power  Health  Security  Save & Exit

  Save Changes and Reset                            Reset system setup after saving
  Discard Changes and Reset                         the changes.
  Restore Defaults

  Boot Override



                                                    →←: Select Screen
                                                    ↑↓: Select Item
                                                    Enter: Select
                                                    +/-: Change Opt.
                                                    F1: General Help
                                                    F2: Previous Values
                                                    F3: Optimized Defaults
                                                    F4: Save & Exit
                                                    ESC: Exit



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```

► **Save Changes and Reset**

If you select this option and press <Enter>, a message will be displayed in the screen.
Select [Yes] to save your changes and reset computer, select [No] or <ESC> to return to the
main menu.

► **Discard Changes and Reset**

If you select this option and press <Enter>, a message will be displayed in the screen.
Select [Yes] to exit setup utility and reset computer without saving your modifications, select
[No] or <ESC> to return to the main menu.

► **Restore Defaults**

Optimal defaults are the best settings of this motherboard.
Always load the Optimal defaults after updating the BIOS or after clearing the CMOS values.
Select this option and press Enter, it will pop out a dialogue box to let you load the defaults.
Select <Yes> and then press <Enter> to load the defaults. Select <No> and press <Enter>, it
will not load.
By this default, BIOS have set the optimal performance parameters of system to improve the
performances of system components. But if the optimal performance parameters to be set
cannot be supported by your hardware devices (for example, too many expansion cards were
installed), the system might fail to work.