ASRock

IMB-147

User Manual

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FC

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.

CALIFORNIA, USA ONLY

The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.

"Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate"

ASRock Website: http://www.asrock.com

Contents

1. Introduction

Thank you for purchasing ASRock *IMB-147* motherboard, a reliable motherboard produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance.

In this manual, chapter 1 contains the introduction of the motherboard. Chapter 2 provides step by step installation instructions. Chapter 3 includes information about the UEFI.

> Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock's website. You may find the latest VGA cards and CPU support list on ASRock's website as well.   http://www.asrock.com
> If you require technical support related to this motherboard, please visit our website for specific information about the model you are using.   www.asrock.com/support/index.asp

1.1 Package Contents

ASRock *IMB-147* Motherboard
   (Mini-ITX Form Factor: 6.7-in x 6.7-in, 17.0 cm x 17.0 cm)
ASRock *IMB-147* Quick Installation Guide
ASRock *IMB-147* Support CD
2 x Serial ATA (SATA) Data Cables (Optional)
1 x Serial ATA (SATA) HDD Power Cable (Optional)
2 x COM Port Cables (Optional)
1 x I/O Panel Shield

1.2 Specifications

Form Factor	Dimensions	Mini-ITX (6.7-in x 6.7-in)
Processor System	CPU	Intel® Dual-Core Atom™ CedarView Processor D2550/N2600/N2800
	Core Number	2
	Max Speed	D2550/N2800: 1.86 GHz, N2600:1.6GHz
	L3 Cache	N/A
	Chipset	NM10
	BIOS	UEFI
Expansion Slot	PCI	0
	Mini-PCIE	1 (Half Size)
	mSATA	0
	PCIe x16 (Gen2)	0
	CF Card Socket	0
Memory	Technology	Single Channel DDR3 800/1066 MHz SDRAM
	Max.	D2550/N2800: 4GB, N2600:2GB
	Socket	D2550/N2800: 2 x SO-DIMM, N2600: 1 x SO-DIMM
Graphics	Controller	Intel® PowerVR SGX545, Support Directx9 compliant Pixel Shader v3.0 and OGL 3.0
	VRAM	Shared Memory
	VGA	Yes, supports max. resolution 1920 x 1200
	LVDS	Single Channel 18bits, max resolution 1440 x 900 (optional) 2-ch 24bits, up to 1920 x 1200
	HDMI	No
	DVI	No
	Display Port	0
	Multi Display	Yes
Ethernet	Interface	10/100/1000 Mbps
	Controller	GbE LAN: 1 x Realtek RTL8111E-VL
	Controller	2 x RJ-45
SATA	Max Data Transfer Rate	SATA2 (3.0Gb/s)

Rear I/O	VGA	1 x D-Sub
	HDMI	0
	DVI-I/D	0
	Display Port	0
	Ethernet	2
	USB	4 (USB 2.0 compliant)
	Audio	0
	Serial	1 (RS-232/422/485) + 2 (RS-232)
	PS/2	2
Internal Connector	USB	4 (USB 2.0 compliant)
	LVDS/ Inverter	1/1
	VGA	1 (shared with rear I/O VGA COM)
	Serial	3 (RS-232)
	SATA	2 x SATA2 (3.0Gb/s)
	m-SATA	0
	Mini-PCIE	1
	Parallel	1
	IrDA	0
	GPIO	2 x GPI + 2 x GPO
	SATA PWR Output Con	1
	Speaker Header	1
Watchdog Timer	Output	From Super I/O to drag RESETCON#
	Interval	256 segments, 0,1,2…255sec/min
Power Requirements	Input PWR	12V DC-In (4-pin ATX PWR Con) & DC-IN Jack
	Power On	AT/ATX Supported -AT : Directly PWR on as Power input ready -ATX: Press Button to PWR on after Power input ready
Environment	Temperature	0ºC – 60ºC

* For detailed product information, please visit our website:
   http://www.asrock.com

1.3 Unique Features

ASRock Instant Flash

ASRock Instant Flash is a BIOS flash utility embedded in Flash ROM. This convenient BIOS update tool allows you to update system BIOS without entering operating systems first like MS-DOS or Windows®. With this utility, you can press the <F6> key during the POST or the <F2> key to enter into the BIOS setup menu to access ASRock Instant Flash. Just launch this tool and save the new BIOS file to your USB flash drive, floppy disk or hard drive, then you can update your BIOS only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system.

ASRock Crashless BIOS

ASRock Crashless BIOS allows users to update their BIOS without fear of failing. If power loss occurs during the BIOS update process, ASRock Crashless BIOS will automatically finish the BIOS update procedure after regaining power. Please note that BIOS files need to be placed in the root directory of your USB disk. Only USB2.0 ports support this feature.

1.4 Motherboard Layout
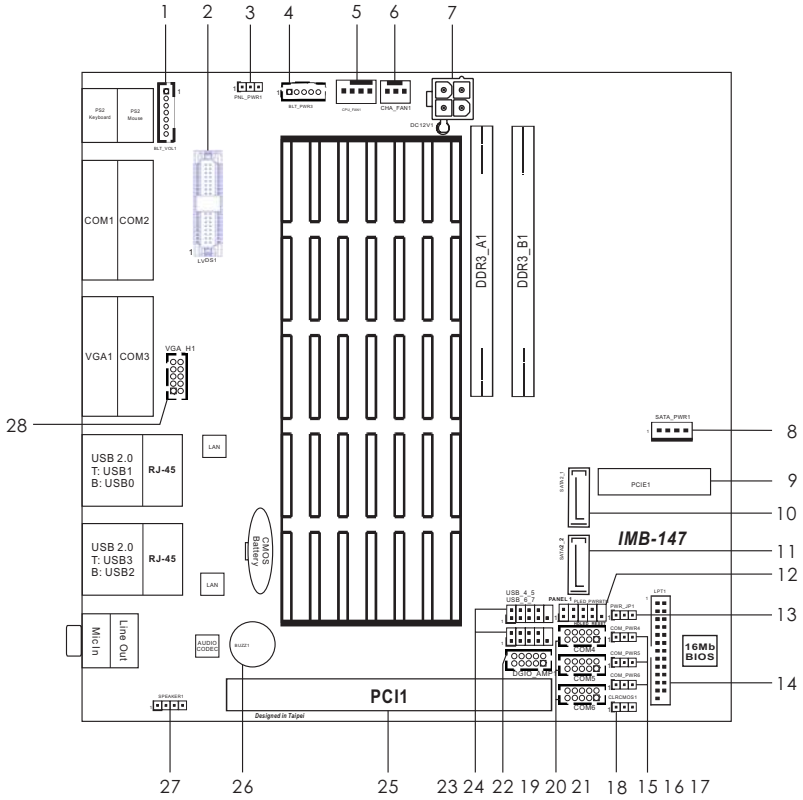
1	Backlight & Amp Volume Control Header (BLT_VOL1)
2	LVDS Panel Connector (LVDS1)
3	Panel Power Jumper (PNL_PWR1)
4	Inverter Power Control Header (BLT_PWR3)
5	CPU FAN Connector (CPU_FAN1)
6	Chassis FAN Connector (CHA_FAN1)
7	ATX 12V Power Connector (DC12V1)
8	SATA Power Connector (SATA_PWR1)
9	Half-size mini PCIE Connector (PCIE1)
10	SATA2 Connector (SATA2_1)
11	SATA2 Connector (SATA2_2)
12	System Panel Header (PANEL1)
13	ATX/AT Mode Jumper (PWR_JP1)
14	Printer Port Header (LPT1)
15	COM Port Power Setting Jumper (COM_PWR4)
16	COM Port Power Setting Jumper (COM_PWR5)
17	COM Port Power Setting Jumper (COM_PWR6)
18	Clear CMOS Header (CLRCMOS1)
19	COM Port Header (COM4)
20	COM Port Header (COM5)
21	COM Port Header (COM6)
22	GPIO&AMP Header (DGIO_AMP1)
23	USB2.0 Connector (USB_4_5)
24	USB2.0 Connector (USB_6_7)
25	PCI Slot (PCI1)
26	Buzzer (BUZZ1)
27	Internal Speaker Header (SPEAKER1)
28	VGA Header (VGA_H1)

1.5 I/O Panel
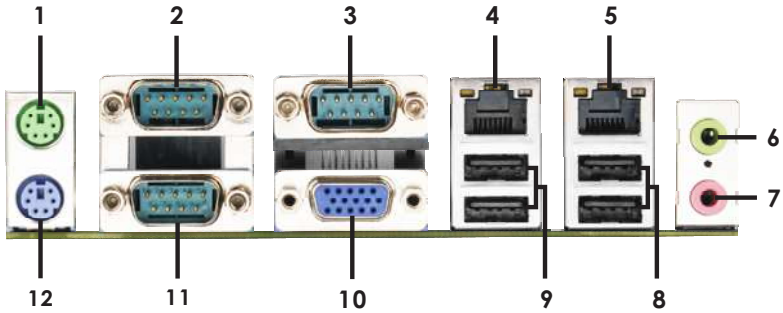
1	**PS2 Mouse Port (Green)**
2	**COM Port (COM2)**
3	**COM Port (COM3)**
4*	**LAN RJ-45 Port**
5*	**LAN RJ-45 Port**
6	**Front Speaker (Lime)**
7	**Microphone (Pink)**
8	**USB 2.0 Ports (USB23)**
9	**USB 2.0 Ports (USB01)**
10	**VGA Port (VGA1)**
11	**COM Port (COM1)**
12	**PS2 Keyboard Port (Purple)**

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

LAN Port LED Indications			
Activity/Link LED		**SPEED LED**	
Status	Description	Status	Description
Off	No Link	Off	10Mbps connection
Blinking	Data Activity	Orange	100Mbps connection
On	100Mbps connection	Green	1Gbps connection

ACT/LINK LED   SPEED LED

LAN Port
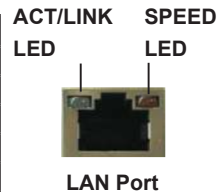
Chapter 2: Installation

This is a Mini-ITX form factor motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

Pre-installation Precautions

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

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

2. In order to avoid damage from static electricity to the motherboard's components, NEVER place your motherboard directly on a carpet. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle the components.

3. Hold components by the edges and do not touch the ICs.

4. Whenever you uninstall any components, place them on a grounded anti-static pad or in the bag that comes with the components.

5. When placing screws to secure the motherboard to the chassis, please do not over-tighten the screws! Doing so may damage the motherboard.

2.1 Installing Memory Modules (DIMM)

This motherboard provides two 204-pin DDR3 (Double Data Rate 3) SO-DIMM slots.

Step 1. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot.
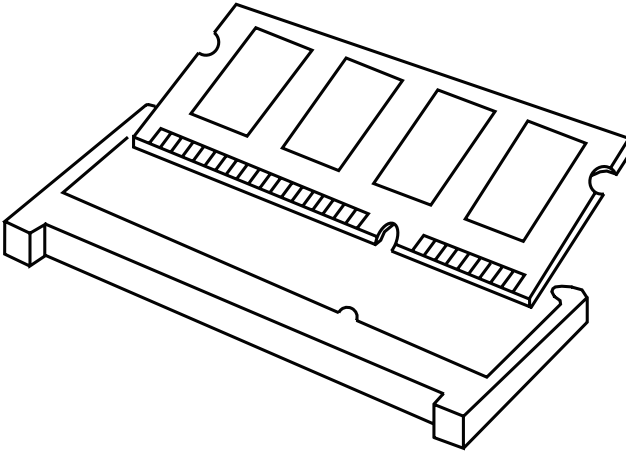
The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

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

2.2 Expansion Slots (PCI and PCI Express Slots)

There is 1 PCI slot and 1 mini PCI Express slot on this motherboard.

PCI Slot: PCI slot is used to install expansion cards that have the 32-bit
PCI interface.

**mini-PCIE Slot:** mini_PCIE1 is used for mini PCIE cards.

Installing an Expansion Card

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

Step 2.   Align the card connector with the slot and press firmly until the
card is completely seated on the slot.

2.3 Installing Serial SATA / SATA2 Hard Disks

STEP 1: Connect the SATA power cable to the hard disk.

STEP 2: Connect one end of the SATA data cable to the hard disk.
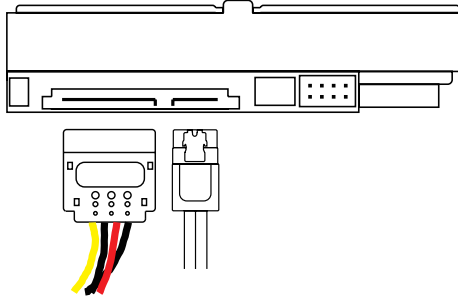
STEP 3: Connect the other end of the SATA data cable to the mother-
board's SATA2 connectors.

Serial ATA2 Connectors
(SATA2_1: see p.10, No. 10)
(SATA2_2: see p.10, No. 11)

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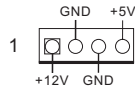The current SATA2 interface allows up to 3.0 Gb/s data
transfer rate.

2.4 Power Connectors

ATX 12V Power Connector   Please connect a power
(4-pin ATX12V1)   supply to this connector.
(see p.10, No. 7)

SATA Power Connector   Please connect a SATA
(4-pin SATA_PWR1)   power cable.
(see p.10, No. 8)

GND   +5V

+12V   GND

2.5 Installing the System Panel

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

PWRBTN (Power Switch):
Connect to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch.
RESET (Reset Switch):
Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.
PLED (System Power LED):
Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED keeps blinking when the system is in S1/S3 sleep state. The LED is off when the system is in S4 sleep state or powered off (S5).
**HDLED (Hard Drive Activity LED):**
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

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

> The white wires are negative (Connect to - or GND pins), while the colored ones are positive.

System Panel Header
(9-pin PANEL1)
(see p.10, No. 12)
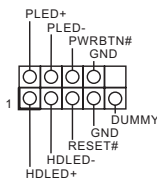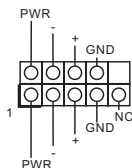
2.6 Onboard Headers and Connectors

Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage to the motherboard!
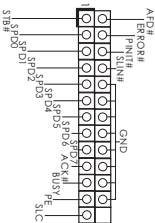
USB 2.0 Headers
(8-pin USB_4_5)
(see p.10, No. 23)

(8-pin USB_6_7)
(see p.10, No. 24)

Besides four default USB 2.0 ports on the I/O panel, there are two USB 2.0 headers on this motherboard. Each USB 2.0 header can support two USB 2.0 ports.
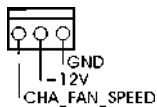
Print Port Header
(25-pin LPT1)
(see p.10, No. 14)

This is an interface for print port cable that allows convenient connection of printer devices.
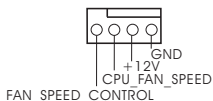
Chassis Fan Connector
(3-pin CHA_FAN1)
(see p.10, No. 6)

Please connect a fan cable to the fan connector and match the black wire to the ground pin.
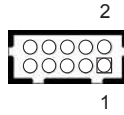
CPU Fan Connector
(4-pin CPU_FAN1)
(see p.10, No. 5)

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

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Serial Port Header
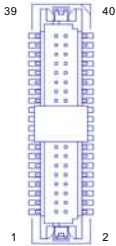
(10-pin COM4)
(see p.10, No. 19)

(10-pin COM5)
(see p.10, No. 20)

(10-pin COM6)
(see p.10, No. 21)

PIN	Signal Name	PIN	Signal Name
2	NC	1	COM VOLT
4	CTS	3	RTS
6	DSR	5	GND
8	DTR	7	TXD
10	RXD	9	DCD

PIN	RS232	RS422	RS485
1	DCD, Data carrier detect	TX+	RTX+
2	RXD, Receive data	RX-	N/A
3	TXD, Transmit data	TX-	RTX-
4	DTR, Data terminal ready	RX+	N/A
5	GND	GND	GND

LVDS Connector

(40-pin LVDS1)
(see p.10, No. 2)

PIN	Signal Name	PIN	Signal Name
39	GND	40	GND
37	LVDS2 D3(-)	38	LVDS2 D3(+)
35	LVDS2 CLK(-)	36	LVDS2 CLK(+)
33	LVDS2 D2(-)	34	LVDS2 D2(+)
31	LVDS2 D1(-)	32	LVDS2 D1(+)
29	LVDS2 D0(-)	30	LVDS2 D0(+)
27	GND	28	GND
25	LVDS1 D3(-)	26	LVDS1 D3(+)
23	LVDS1 CLK(-)	24	LVDS1 CLK(+)
21	LVDS1 D2(-)	22	LVDS1 D2(+)
19	LVDS1 D1(-)	20	LVDS1 D1(+)
17	LVDS1 D0(-)	18	LVDS1 D0(+)
15	B/L ENABLE	16	GND
13	B/L ADJUST	14	LVDS PWR EN
11	DDC CLK	12	DDC DATA
9	LVDS PWR	10	LVDS PWR
7	VCC 3.3V	8	GND
5	+12V	6	GND
3	+12V	4	+12V
1	+12V	2	+12V

Inverter Power Control
Connector
(5-pin BLT_PWR3)
(see p.10, No. 4)

PIN	Signal Name
1	+12V
2	GND
3	B/L ENABLE
4	B/L ADJUST
5	+5V

Backlight & Amp
Volume Control
Header
(7-pin BLT_VOL1)
(see p.10, No. 1)

PIN	Signal Name
1	VOL_UP
2	VOL_DW
3	BKT_OFF
4	BKT_UP
5	BKT_DW
6	GND
7	GND

GPIO&AMP Header
(10-pin DGIO_AMP1)
(see p.10, No. 22)
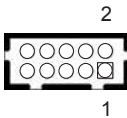
PIN	Signal Name	PIN	Signal Name
2	SMB_DATA	1	SMB_CLK
4	GPO[1]	3	GPI[1]
6	GPO[0]	5	GPI[0]
8	AMP R(-)	7	AMP L(-)
10	AMP R(+)	9	AMP L(+)

Internal Speaker Header
(4-pin SPEAKER1)
(see p.10, No. 27)

SPK_R-
SPK_R+
SPK_L-
SPK_L+
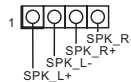
VGA Header
(10-pin VGA_H1)
(see p.10, No. 28)
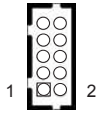
PIN	Signal Name	PIN	Signal Name
9	RED	10	GND
7	GRN	8	GND
5	BLUE	6	GND
3	HSYNC	4	VSYNC
1	DDC_CLK	2	DDC_DAT

2.7 Jumpers Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on the pins, the jumper is "Short". If no jumper cap is placed on the pins, the jumper is "Open". The illustration shows a 3-pin jumper whose pin1 and pin2 are "Short" when a jumper cap is placed on these 2 pins.
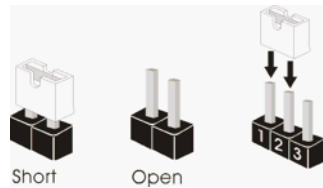
Clear CMOS Jumper
(3-pin CLRCMOS1)
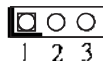(see p.10, No. 18)

Default   Clear CMOS

CLRCMOS1 allows you to clear the data in CMOS. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short pin2 and pin3 on CLRCMOS1 for 5 seconds. However, please do not clear the CMOS right after you update the BIOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action. Please be noted that the password, date, time, user default profile, 1394 GUID and MAC address will be cleared only if the CMOS battery is removed.

COM Port Power Setting
Jumpers
(3-pin COM4)
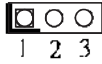(see p.10, No. 15)

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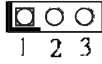2-3 : +12V

(3-pin COM5)
(see p.10, No. 16)

(3-pin COM6)
(see p.10, No. 17)

Panel Power Jumper   1-2 : +3V
(3-pin PNL_PWR1)   2-3 : +5V
(see p.10, No. 3)   1 2 3

ATX/AT Mode Jumper   1-2 : AT Mode
(3-pin PWR_JP1)   2-3 : ATX Mode
(see p.10, No. 13)   1 2 3

2.8 Operating System Setup

This motherboard supports Microsoft® Windows® 7. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer your OS documentation for more information.

2.8.1 Installing Windows® 7 without RAID

Using AHCI Mode

STEP 1: Set Up UEFI.
Press <F2> or <Delete> at system POST. Set **AHCI Mode** in UEFI Setup Utility > Advanced > Storage Configuration > SATA Mode.

STEP 2: Install Windows® 7 on your system.

Using IDE Mode

STEP 1: Set Up UEFI.
Press <F2> or <Delete> at system POST. Set **IDE Mode** in UEFI Setup Utility > Advanced > Storage Configuration > SATA Mode.

STEP 2: Install Windows® 7 on your system.

2.9 Installing Drivers

The Support CD that comes with the motherboard contains necessary drivers and useful utilities that enhance the motherboard's features.

2.9.1 Running The Support CD

To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu does not appear automatically, locate and double click on the file "ASRSETUP.EXE" in the Support CD to display the menu.

2.9.2 Drivers Menu

The drivers compatible to your system will be auto-detected and listed on the support CD driver page. Please follow the order from top to bottom to install those required drivers. Therefore, the drivers you install can work properly.

2.9.3 Utilities Menu

The Utilities Menu shows the application softwares that the motherboard supports. Click on a specific item then follow the installation wizard to install it.

2.9.4 Contact Information

If you need to contact ASRock or want to know more about ASRock, you're welcome to visit ASRock's website at http://www.asrock.com; or you may contact your dealer for further information.

2.10 Hot Plug for Hard Disk Drives

This motherboard supports Hot Plug for SATA2 in AHCI mode.

What is Hot Plug?

If the HDDs are NOT set for RAID, it is called "Hot Plug" for the action to insert and remove the HDDs while the system is still powered on and in working condition. However, please note that it cannot perform Hot Plug if the OS has been installed into the HDD.
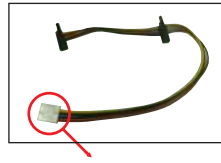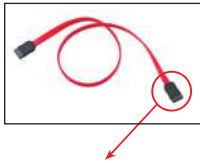
Hot Plug Operation Guide

Please read the operation guide of Hot Plug below carefully. Before you process Hot Plug, please check the cable accessories from the motherboard gift box pack below.

A. 7-pin SATA data cable

B. SATA power cable with SATA 15-pin power connector interface

A. SATA data cable (Red)   B. SATA power cable

SATA 7-pin connector	The SATA 15-pin power connector (Black) should be connected to your SATA3 HDD	The 1x4-pin conventional power connector (White) should be connected to a power supply

**Points for attention, before you process Hot Plug:**

1. Without the SATA 15-pin power connector interface, Hot Plug cannot be processed.

2. Even though some HDDs provide both SATA 15-pin power connectors and IDE 1x4-pin conventional power connectors, IDE 1x4-pin conventional power connector's interface is definitely unable to support Hot Plug and will cause the HDD damage and data loss.

3. The operation procedure below is designed only for our motherboard which supports Hot Plug.

   * Hot Plug might not be supported by the chipset because of its limitation. The support information of our motherboards are indicated in the product spec on our website: www.asrock.com

4. Make sure your HDDs can support Hot Plug from your dealer or HDD user manual. HDDs that do not support Hot Plug will be damaged.

5. Please make sure that the required SATA drivers are installed properly. The latest SATA drivers are available on our support website: www.asrock.com

6. Make sure to use the SATA power cable & data cable from our motherboard package.

7. Please follow the instructions below step by step to reduce the risk of HDD crash or data loss.

How to Hot Plug an HDD:

Please follow the instructions below to process Hot Plug. Improper procedures will cause the HDD damage and data loss.

Step 1 Please connect the SATA power cable's 1x4-pin end (White) to the power supply's 1x4-pin cable.

Step 2 Connect the SATA data cable to the motherboard's SATA connector.

SATA power cable 1x4-pin power connector (White)
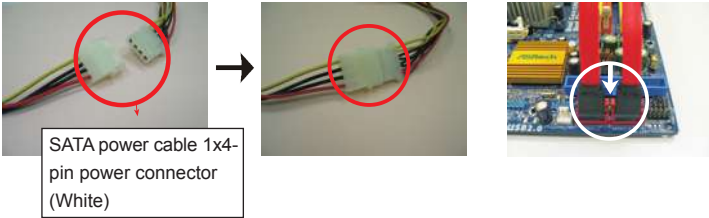
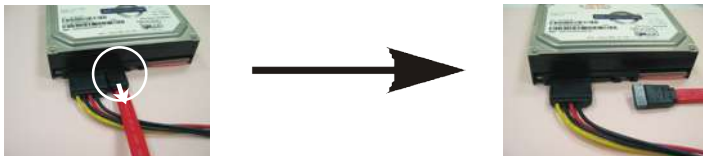**Step 3** Connect the SATA 15-pin power cable connector's (Black) end to the HDD.

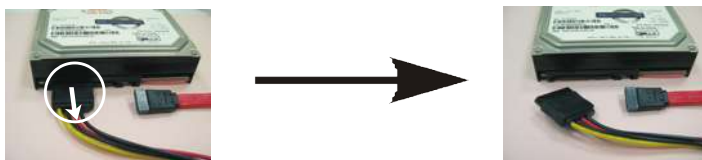**Step 4** Connect the SATA data cable to the HDD.

How to Hot Unplug an HDD:

Please follow the instructions below to process Hot Unplug. Improper procedures will cause the HDD damage and data loss.

Step *1* Unplug the SATA data cable from the HDD's side.

Step *2* Unplug the SATA 15-pin power cable connector (Black) from the HDD's side.

Chapter 3: UEFI SETUP UTILITY

3.1 Introduction

This section explains how to use the UEFI SETUP UTILITY to configure your system. The UEFI chip on the motherboard stores the UEFI SETUP UTILITY. You may run the UEFI SETUP UTILITY when you start up the computer. Please press <F2> or <Del> during the Power-On-Self-Test (POST) to enter the UEFI SETUP UTILITY, otherawise, POST will continue with its test routines.

If you wish to enter the UEFI SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.

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

3.1.1 UEFI Menu Bar

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

Main	For setting system time/date information
Advanced	For advanced system configurations
H/W Monitor	Displays current hardware status
Boot	For configuring boot settings and boot priority
Security	For security settings
Exit	Exit the current screen or the UEFI Setup Utility

3.1.2 Navigation Keys

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

Please check the following table for the descriptions of each navigation key.

Navigation Key(s)	Description
+ / -	To change option for the selected items
<F1>	To display the General Help Screen
<F7>	Discard changes and exit the SETUP UTILITY
<F9>	Load optimal default values for all the settings
<F10>	Save changes and exit the SETUP UTILITY
<F12>	Print screen
<ESC>	Jump to the Exit Screen or exit the current screen

3.2 Main Screen

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

3.3 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Chipset Configuration, Storage Configuration, Super IO Configuration, ACPI Configuration and USB Configuration.
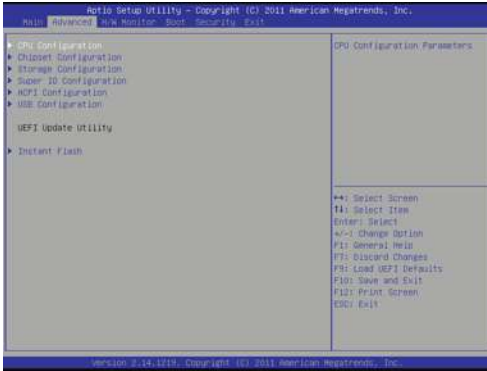

Setting wrong values in this section may cause the system to malfunction.

Instant Flash

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

3.3.1 CPU Configuration
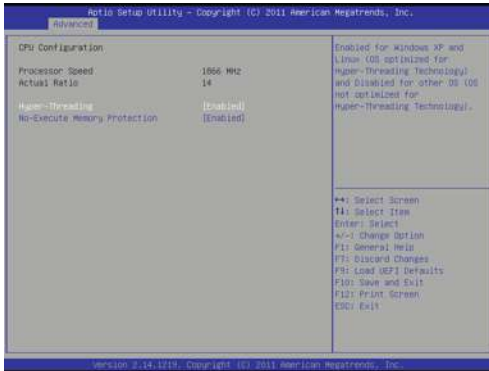
Hyper-Threading

> To enable this feature, a computer system with an Intel processor that supports Hyper-Threading technology and an operating system that includes optimization for this technology such as Microsoft® Windows® XP / Vista™ / 7 / 8 is required. Set to [Enabled] if using Microsoft® Windows® XP / Vista™ / 7 / 8 or Linux kernel version 2.4.18 or higher. This option will be hidden if the installed CPU does not support Hyper-Threading technology.

No-Execute Memory Protection

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

3.3.2 Chipset Configuration
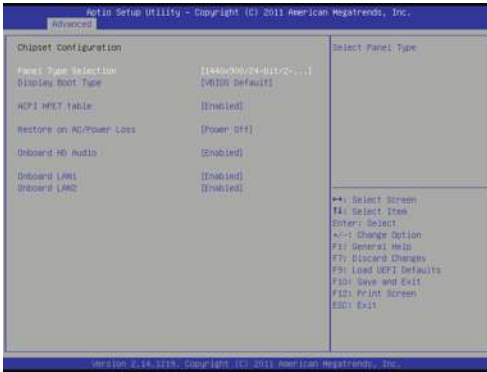
Panel Type Selection

Use this to select a panel type.

Display Boot Type

Use this to select the video device which will be activated during POST.

ACPI HPET Table

Use this to enable or disable the ACPI HPET Table.

Restore on AC/Power Loss

This allows you to set the power state after an unexpected AC/power loss. If [Power Off] is selected, the AC/power remains off when the power recovers. If [Power On] is selected, the AC/power resumes and the system starts to boot up when the power recovers.

Onboard HD Audio

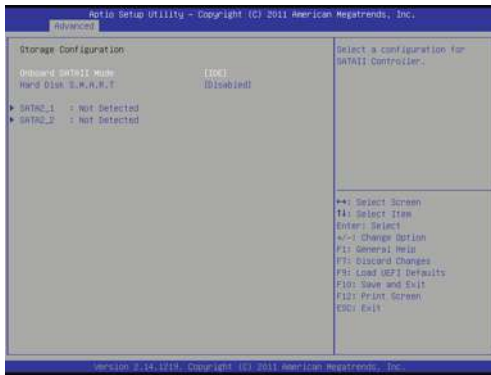Select [Auto], [Enabled] or [Disabled] for the onboard HD Audio.

Onboard LAN1

This allows you to enable or disable the Onboard LAN1.

Onboard LAN2

This allows you to enable or disable the Onboard LAN2.

3.3.3 Storage Configuration

Onboard SATAII Mode

Use this to select the SATA mode for SATA2_1 and SATA2_2 ports.
Configuration options: [IDE Mode] and [AHCI Mode].

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

Use this to enable or disable S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology).

3.3.4 Super IO Configuration

COM1 Port

    Use this to enable or disable COM1 port.

    COM1 Port Address

    Use this to set the address for COM1 port.

COM2 Port

    Use this to enable or disable COM2 port.

    COM2 Port Address

    Use this to set the address for COM2 port.

COM3 Port

    Use this to enable or disable COM1 port.

    COM3 Port Address

    Use this to set the address for COM1 port.

COM4 Port

    Use this to enable or disable COM1 port.

    COM4 Port Address

    Use this to set the address for COM1 port.

COM5 Port

    Use this to enable or disable COM1 port.

    COM5 Port Address

    Use this to set the address for COM1 port.

COM6 Port

    Use this to enable or disable COM1 port.

    COM6 Port Address

    Use this to set the address for COM1 port.

LPT1 Port

Use this to enable or disable LPT1 port.

LPT1 Port Mode

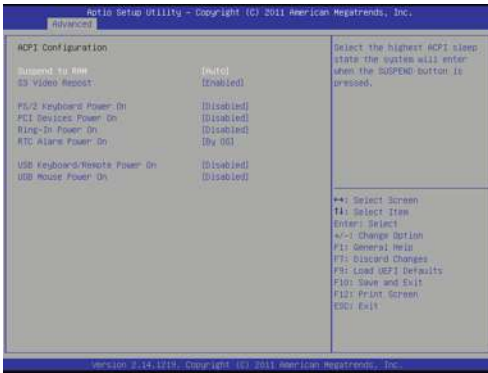Use this to set the mode for LPT1 port.

LPT1 Port Address

Use this to set the address for LPT1 port.

WDT Timeout Reset

This allows users to enable or disable the Watch Dog Timer timeout to reset the system.

3.3.5 ACPI Configuration

Suspend to RAM

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

S3 Video Repost

Use this to enable/disable S3 Video Repost.

PS/2 Keyboard Power On

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

PCI Devices Power On

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

Ring-In Power On

Use this to enable or disable the Ring-In signals to turn on the system from power-soft-off mode.

RTC Alarm Power On

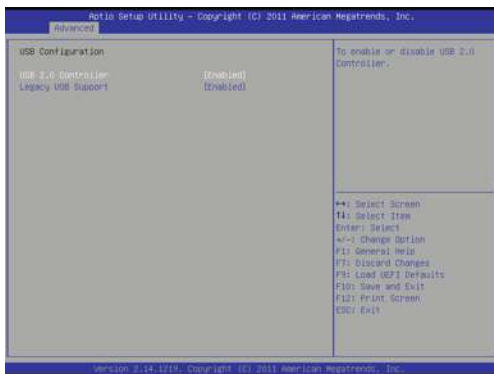Use this to enable or disable the RTC (Real Time Clock) to power on the system.

USB Keyboard/Remote Power On

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

USB Mouse Power On

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

3.3.6 USB Configuration

USB 2.0 Controller

Use this to enable or disable the USB 2.0 controller.

Legacy USB Support

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

[Enabled] - Enables support for legacy USB.

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

[Disabled] - USB devices are not allowed to be used under legacy OS and UEFI setup when [Disabled] is selected. If you have USB compatibility issues, it is recommended to select [Disabled] to enter the OS.

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

3.4 Hardware Health Event Monitoring Screen

This section allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, fan speed and voltage.

CPU FAN1 Setting

This allows you to set CPU FAN1's speed. Configuration options: [Full On] and [Automatic Mode].

3.5 Boot Screen

This section displays the available devices on your system for you to configure the boot settings and the boot priority.

Setup Prompt Timeout

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

Bootup Num-Lock

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

Boot From Onboard LAN

Use this to enable or disable Boot From Onboard LAN.

3.6 Security Screen

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

3.7 Exit Screen

Save Changes and Exit

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

Discard Changes and Exit

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

Discard Changes

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

Load UEFI Defaults

Load UEFI default values for all options. The F9 key can be used for this operation.

Launch EFI Shell from filesystem device

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