IMB-140 Plus

User Manual

Version 1.0
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(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

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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"

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Chapter 1: Introduction

Thank you for purchasing ASRock ***IMB-140 Plus*** 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 and 2 contain introduction of the motherboard and step-by-step guide to the hardware installation. Chapter 3 and 4 contain the configuration guide to BIOS setup and information of the Support CD.

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 website without further notice. You may find the latest VGA cards and CPU support lists on ASRock website as well. ASRock website 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-140 Plus*** Motherboard
(Mini-ITX Form Factor: 6.7-in x 6.7-in, 17.0 cm x 17.0 cm)
ASRock ***IMB-140 Plus*** Driver CD
ASRock ***IMB-140 Plus*** Jumper setting instruction
1 x I/O Panel Shield
2 x SATA HDD cables
1 x SATA Power cable
3 x Serial port cables
1 x Printer cable
1 x USB cable
1 x RJ45 cable
1 x DC-IN cable

1.2 Specifications

Platform	- Mini-ITX Form Factor: 6.7-in x 6.7-in, 17.0 cm x 17.0 cm - All Solid Capacitor design (100% Japan-made high-quality Conductive Polymer Capacitors)
CPU	- Intel® Dual-Core Atom™ Processor D2550 (1.86 GHz) - 1 + 1 Power Phase Design - Supports Hyper-Threading Technology
Chipset	- Southbridge: Intel® NM10 Express
Memory	- 2 x DDR3 SO-DIMM slots - Supports DDR3 1066/800 non-ECC, un-buffered memory - Max. capacity of system memory: 8GB (see **CAUTION 1**)
Expansion Slot	- 1 x PCI slot - 1 x mSATA/mini-PCI Express slot
Graphics	- Intel® GMA 3600 Series - Pixel Shader 2.0, DirectX 9 - Three VGA Output options: D-Sub, LVDS and HDMI (see **CAUTION 2**) - Supports D-Sub with max. resolution up to 1920x1200 @ 60Hz - Supports LVDS with max. resolution up to 1920x1200 @ 60Hz - Supports HDMI 1.3a Technology with max. resolution up to 1920x1200 @ 60Hz - Supports HDCP function with HDMI port - Supports Full HD 1080p Blu-ray (BD) / HD-DVD playback with HDMI port
Audio	- 2 CH Audio (Realtek ALC662 Audio Codec)
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Realtek RTL8111E - Supports Wake-On-LAN - Supports LAN Cable Detection - Supports Energy Efficient Ethernet 802.3az - Supports Dual LAN - Supports PXE
Rear Panel I/O	I/O Panel - 1 x PS/2 Mouse Port - 1 x PS/2 Keyboard Port - 2 x COM Ports - 1 x RJ-45 COM Port - 1 x D-Sub Port

	- 1 x HDMI Port - 4 x USB 2.0 Ports - 2 x RJ-45 LAN Ports with LED (ACT/LINK LED and SPEED LED) - HD Audio Jack: Line out/Microphone
Connector	- 2 x SATA2 3.0 Gb/s connectors, support NCQ, AHCI and Hot Plug functions - 1 x Print port header - 3 x COM port headers - 1 x LVDS connector - 1 x Digital I/O header - 1 x Panel brightness and speaker volume control connector - 1 x Panel backlight invertor connector - CPU/Chassis FAN connector - 20 pin ATX power connector - 4 pin 12V power connector - 1 x SATA power output connector - Front panel audio connector - 3 x USB 2.0 headers (support 4 USB 2.0 ports)
BIOS Feature	- 16Mb AMI UEFI Legal BIOS with GUI support - Supports “Plug and Play” - ACPI 1.1 Compliance Wake Up Events - Supports jumperfree - SMBIOS 2.3.1 Support
Support CD	- Drivers
Unique Feature	- Hybrid Booster: - ASRock U-COP (see **CAUTION 3**) - Boot Failure Guard (B.F.G.)
Hardware Monitor	- CPU Temperature Sensing - Chassis Temperature Sensing - CPU/Chassis/Power Fan Tachometer - CPU/Chassis Quiet Fan (Allows Chassis Fan Speed Auto-Adjust by CPU Temperature) - CPU/Chassis Fan Multi-Speed Control - Voltage Monitoring: +12V, +5V, +3.3V, CPU Vcore
OS	- Microsoft® Windows® 7 32-bit compliant
Certifications	- FCC, CE, WHQL

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

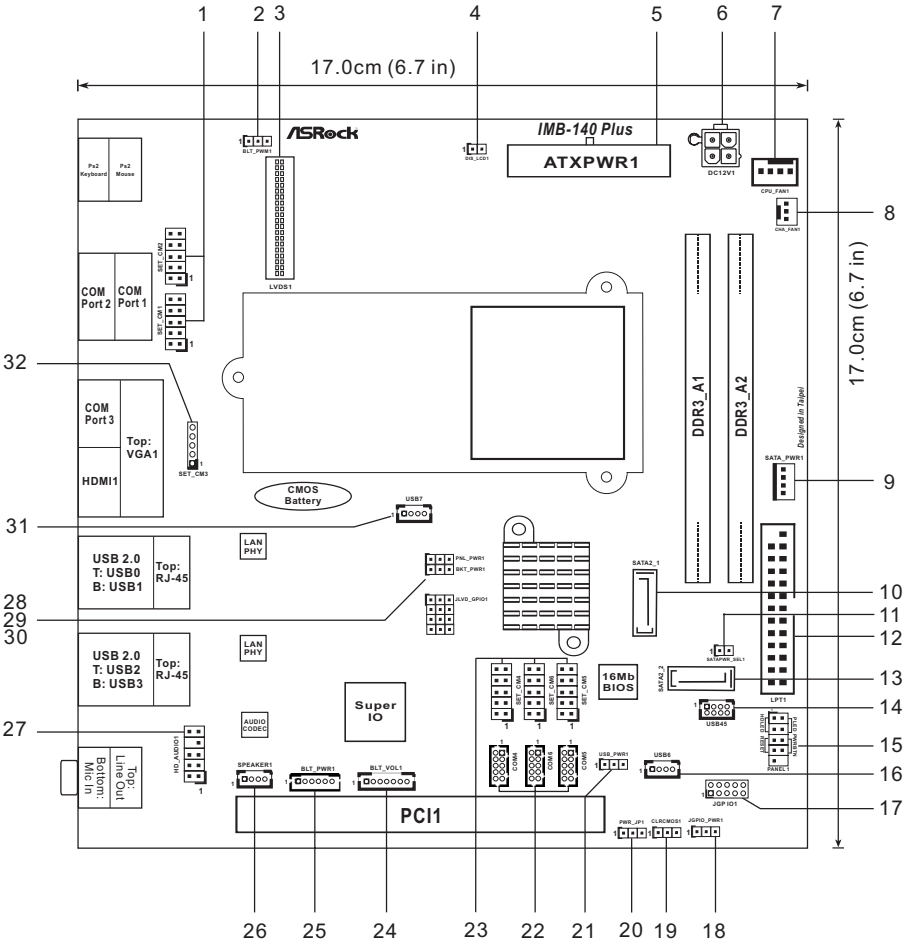
WARNING

Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, applying Untied Overclocking Technology, or using third-party overclocking tools. Overclocking may affect your system's stability, or even cause damage to the components and devices of your system. It should be done at your own risk and expense. We are not responsible for possible damage caused by overclocking.

CAUTION!

1. Due to the operating system limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows® 7 32-bit.
2. You can choose to use two of the three monitors only. D-Sub, LVDS and HDMI monitors cannot be enabled at the same time.
3. While CPU overheat is detected, the system will automatically shutdown. Before you resume the system, please check if the CPU fan on the motherboard functions properly and unplug the power cord, then plug it back again. To improve heat dissipation, remember to spray thermal grease between the CPU and the heatsink when you install the PC system.

1.3 Motherboard Layout



1 : COM Port PWR Setting Header (SET_CM2 (For COM Port2))
1 : COM Port PWR Setting Header (SET_CM1 (For COM Port1))
2 : BLT_PWM1
3 : LVDS Connector
4 : DIS_LCD1
5 : 20-Pin ATX PWR Connector
6 : 4-Pin ATX PWR Connector (+12V)
7 : 4-Pin CPU FAN Connector (+12V)
8 : 3-Pin Chassis FAN Connector (+12V)
9 : SATA Power Output Connector
10 : SATA2 Connector (SATA2_1)
11 : SATAPWR_SEL1
12 : Printer Port Header
13 : SATA2 Connector (SATA2_2)
14 : Internal USB Connectors (USB Port4, 5)
15 : System Panel Control Header
16 : USB Port6
17 : Digital I/O Header
18 : Digital I/O Header PWR Setting
19 : Clear CMOS Header
20 : PWR-On Mode Setting
21 : USB_PWR1
22 : Internal COM Port Connector (COM4 (COM Port4))
22 : Internal COM Port Connector (COM6 (COM Port6))
22 : Internal COM Port Connector (COM5 (COM Port5))
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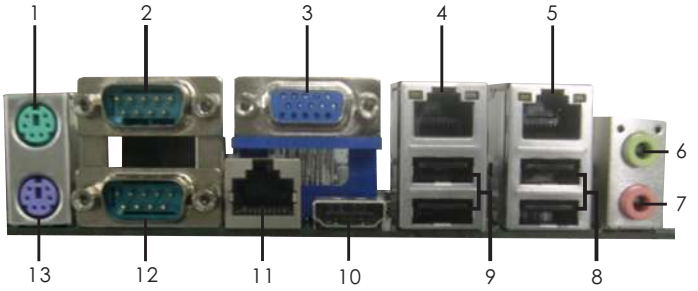
23 : COM Port PWR Setting Header (SET_CM6 (For COM Port6))
23 : COM Port PWR Setting Header (SET_CM5 (For COM Port5))
24 : Panel Brightness and Speaker Volume Control
25 : Panel BackLight Inverter Connector
26 : Speaker Connector
27 : Front Panel Audio Header
28 : Panel VDD PWR Setting
29 : Panel BackLight PWR Setting
30 : Panel Resolution Selection
31 : USB Port7
32 : COM Port PWR Setting Header (SET_CM3 (For COM Port3))

1.4 I/O Panel



1	PS/2 Mouse Port	8	USB 2.0 Ports (USB23)
2	COM Port 1 (COM1)*	9	USB 2.0 Ports (USB01)
3	VGA Port (VGA1)	10	HDMI Port (HDMI1)
4	LAN RJ-45 Port**	11	RJ-45 COM Port 3 (COM3)
5	LAN RJ-45 Port**	12	COM Port 2 (COM2)
6	Line out (Green)	13	PS/2 Keyboard Port
7	Microphone (Pink)		

* This motherboard supports RS232/422/485 on COM1 port. Please refer to below table for the pin definition. In addition, COM1 port (RS232/422/485) can be adjusted in BIOS setup utility > Advanced Screen > Super IO Configuration. You may refer to page 31 for details.

COM1 Port Pin Definition

PIN	RS232	RS422	RS485
1	DCD/+5V/+12V	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
6	DSR	N/A	N/A
7	RTS	N/A	N/A
8	CTS	N/A	N/A
9	RI/+5V/+12V	N/A	N/A

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

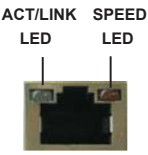
LAN Port LED Indications

Activity/Link LED

Status	Description
Off	No Link
Blinking	Data Activity
On	Link

SPEED LED

Status	Description
Off	10Mbps connection
Orange	100Mbps connection
Green	1Gbps connection



Chapter 2: Installation_

This is a Mini-ITX form factor (6.7" x 6.7", 17.0 x 17.0 cm) motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

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.

2.1 Screw Holes

Place screws into the holes to secure the motherboard to the chassis.

Do not over-tighten the screws! Doing so may damage the motherboard.

2.2 Pre-installation Precautions

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

1. Unplug the power cord from the wall socket before touching any component.
2. To avoid damaging the motherboard components due to static electricity, NEVER place your motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that comes with the component.

Before you install or remove any component, ensure that the power is switched off or the power cord is detached from the power supply.
Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

2.3 Installation of Memory Modules (SO-DIMM)

IMB-140 Plus motherboard provides two 204-pin DDR3 (Double Data Rate 3) SO-DIMM slots.

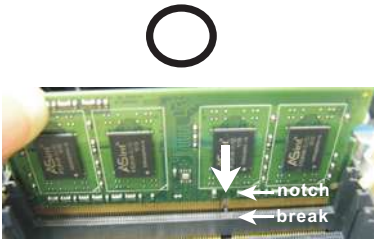
1. It is not allowed to install a DDR or DDR2 memory module into a DDR3 slot; otherwise, this motherboard and SO-DIMM may be damaged.
2. Please install the memory module from DDR3_A2 slot for the first priority.

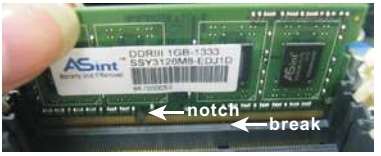
Installing a SO-DIMM

Please make sure to disconnect the power supply before adding or removing SO-DIMMs or the system components.

Step 1. Unlock a SO-DIMM slot by pressing the retaining clips outward.

Step 2. Align a SO-DIMM on the slot such that the notch on the SO-DIMM matches the break on the slot.





The SO-DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the SO-DIMM if you force the SO-DIMM into the slot in the incorrect orientation.

Step 3. Firmly insert the SO-DIMM into the slot until the retaining clips at both ends fully snap back in place and the SO-DIMM is properly seated.

2.4 Expansion Slot (PCI Slot)

There is 1 PCI slot on this motherboard.

PCI slot: The PCI slot is used to install an expansion card that has 32-bit PCI interface.

Installing an expansion card

Step 1. Before installing the 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. Remove the system unit cover (if your motherboard is already installed in a chassis).

Step 3. Remove the bracket facing the slot that you intend to use. Keep the screws for later use.

Step 4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.

Step 5. Fasten the card to the chassis with screws.

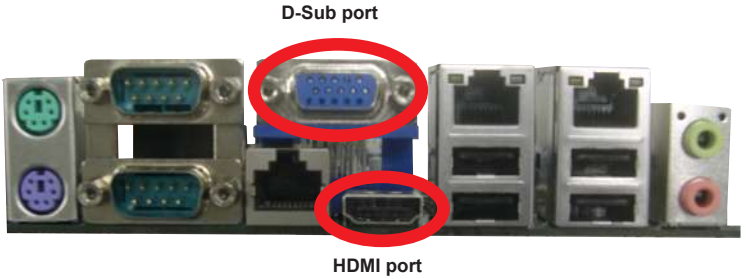
Step 6. Replace the system cover.

2.5 Dual Monitor Feature

This motherboard supports dual monitor feature. With the internal VGA output support (D-Sub, LVDS and HDMI), you can easily enjoy the benefits of dual monitor feature without installing any add-on VGA card to this motherboard. This motherboard also provides independent display controllers for D-Sub, LVDS and HDMI to support dual VGA output so that D-sub, LVDS and HDMI can drive same or different display contents.

To enable dual monitor feature, please follow the steps below:

1. Connect a D-Sub monitor cable to the D-Sub port on the I/O panel, connect a LVDS monitor cable to the LVDS connector on the motherboard, or connect a HDMI monitor cable to the HDMI port on the I/O panel.



2. If you have installed the onboard VGA driver from our support CD to your system already, you can freely enjoy the benefits of dual monitor after your system reboots. If you haven't installed the onboard VGA driver yet, please install the onboard VGA driver from our support CD to your system and restart your computer.

D-Sub, LVDS and HDMI monitors cannot be enabled at the same time. You can only choose the combination: D-Sub + LVDS, D-Sub + HDMI or LVDS + HDMI.

HDCP Function

HDCP function is supported on this motherboard. To use HDCP function with this motherboard, you need to adopt the monitor that supports HDCP function as well. Therefore, you can enjoy the superior display quality with high-definition HDCP encryption contents. Please refer to below instruction for more details about HDCP function.

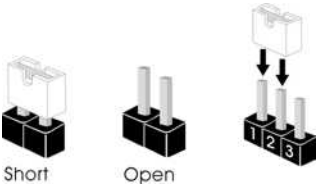
What is HDCP?

HDCP stands for High-Bandwidth Digital Content Protection, a specification developed by Intel® for protecting digital entertainment content that uses the DVI interface. HDCP is a copy protection scheme to eliminate the possibility of intercepting digital data midstream between the video source, or transmitter - such as a computer, DVD player or set-top box - and the digital display, or receiver - such as a monitor, television or projector. In other words, HDCP specification is designed to protect the integrity of content as it is being transmitted.

Products compatible with the HDCP scheme such as DVD players, satellite and cable HDTV set-top-boxes, as well as few entertainment PCs requires a secure connection to a compliant display. Due to the increase in manufacturers employing HDCP in their equipment, it is highly recommended that the HDTV or LCD monitor you purchase is compatible.

2.6 Jumpers Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on pins, the jumper is “Short”. If no jumper cap is placed on pins, the jumper is “Open”. The illustration shows a 3-pin jumper whose pin1 and pin2 are “Short” when jumper cap is placed on these 2 pins.



Clear CMOS Jumper
(CLRCMOS1)
(see p.9, No. 19)

Default Clear CMOS

Note: 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 and MAC address will be cleared only if the CMOS battery is removed.

Digital I/O Header PWR Setting
(3-pin JGPIO_PWR1)
(see p.9 No. 18)

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

PWR-On Mode Setting
(3-pin PWR_JP1)
(see p.9 No. 20)

1-2: AT Mode
2-3: ATX Mode

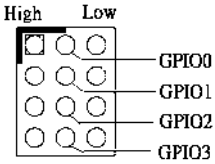
Panel VDD PWR Setting (LCD_VCC)
(3-pin PNL_PWR1)
(see p.9 No. 28)

Use this to set up the VDD power of the LVDS connector.
1-2: +3.3V
2-3: +5V

Panel BackLight PWR Setting
(LCD_BLT_VCC)
(3-pin BKT_PWR1)
(see p.9 No. 29)

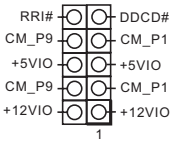
Use this to set up the backlight power of the LVDS connector and the panel backlight power of BLT_PWM1.
1-2: +5V
2-3: +12V

Panel Resolution Selection
(12-pin JLVD_GPIO1)
(see p.9 No. 30)

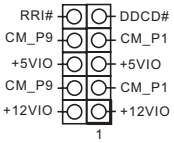


If you want to use BIOS to set Panel type, then set all GPIO[3:0]= “1111”. If you want to use jumpers to set Panel type, select “Set by Jumper” in BIOS.

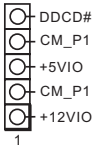
COM Port PWR Setting Headers
(10-pin SET_CM1, For COM Port1)
(10-pin SET_CM2, For COM Port2)
(see p.9 No. 1)



(10-pin SET_CM4, For COM Port4)
(10-pin SET_CM5, For COM Port5)
(10-pin SET_CM6, For COM Port6)
(see p.9 No. 23)



(5-pin SET_CM3, For COM Port3)
(see p.9 No. 32)



SATAPWR_SEL1
(2-pin SATAPWR_SEL1)
(see p.9 No. 11)

Open: SATA2_2 pin7 = NC
Short: SATA2_2 pin7 = +5V

BLT_PWM1 (CON_LBKLT_CTL)
(3-pin BLT_PWM1)
(see p.9 No. 2)

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

USB_PWR1
(3-pin USB_PWR1)
(see p.9 No. 21)

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

DIS_LCD1
(2-pin DIS_LCD1)
(see p.9 No. 4)

Open: Enable LVDS Panel
Short: Disable LVDS Panel

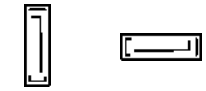
2.7 Onboard Headers and Connectors

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 of the motherboard!

SATA2 Connectors

(SATA2_1: see p.9, No. 10)

(SATA2_2: see p.9, No. 13)



SATA2_1 SATA2_2

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

USB 2.0 Ports

(4-pin USB4,5)

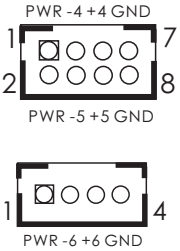
(see p.9 No. 14)

(4-pin USB6)

(see p.9 No. 16)

(4-pin USB7)

(see p.9 No. 31)

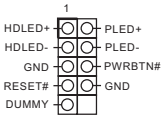


Besides four default USB 2.0 ports on the I/O panel, there are four USB 2.0 ports on this motherboard.

System Panel Header

(9-pin PANEL1)

(see p.9 No. 15)



This header accommodates several system front panel functions.

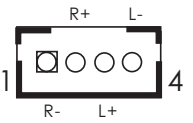
Connect the power switch, reset switch and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.

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 sleep state. The LED is off when the system is in S3/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.

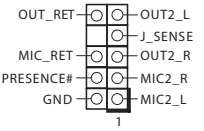
The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assign-ments are matched correctly.

Speaker Connector
(4-pin SPEAKER 1)
(see p.9 No. 26)



1: Speaker R-
2: Speaker R+
3: Speaker L+
4: Speaker L-

Front Panel Audio Header
(9-pin HD_AUDIO1)
(see p.9 No. 27)



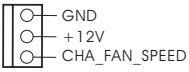
This is an interface for front panel audio cable that allows convenient connection and control of audio devices.

1. High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly. Please follow the instruction in our manual and chassis manual to install your system.
2. If you use AC'97 audio panel, please install it to the front panel audio header as below:
   A. Connect Mic_IN (MIC) to MIC2_L.
   B. Connect Audio_R (RIN) to OUT2_R and Audio_L (LIN) to OUT2_L.
   C. Connect Ground (GND) to Ground (GND).
   D. MIC_RET and OUT_RET are for HD audio panel only. You don't need to connect them for AC'97 audio panel.
   E. To activate the front mic.
      Go to the "FrontMic" Tab in the Realtek Control panel. Adjust "Recording Volume".

Chassis Fan Connector

(3-pin CHA_FAN1)

(see p.9 No. 8)

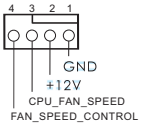


Please connect the fan cable to the fan connector and match the black wire to the ground pin.

CPU Fan Connector

(4-pin CPU_FAN1)

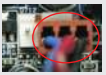
(see p.9 No. 7)



Please connect the CPU fan cable to the connector and match the black wire to the ground pin.

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

Pin 1-3 Connected

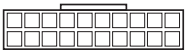


3-Pin Fan Installation

ATX Power Connector

(04-pin ATXPWR1)

(see p.9 No. 5)

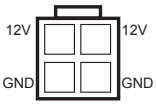


Please connect an ATX power supply to this connector.

DC 12V Power Connector

(4-pin DC12V1)

(see p.9 No. 6)

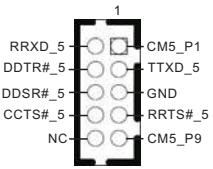


Please connect a DC 12V power supply to this connector.

Internal COM Port Connectors

(10-pin COM4, For COM Port4)
(10-pin COM5, For COM Port5)
(10-pin COM6, For COM Port6)

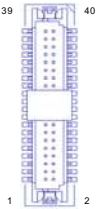
(see p.9 No. 22)



LVDS Connector

(40-pin LVDS1)

(see p.9 No. 3)

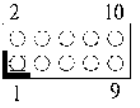


PIN	Signal Name	PIN	Signal Name
39	LCD_BLT_VCC	40	LCD_BLT_VCC
37	CON_LBKLT_CTL	38	LCD_BLT_VCC
35	GND	36	CON_LBKLT_EN
33	LVDS_B_CLK#	34	LVDS_B_CLK
31	LVDS_B_DATA3	32	GND
29	DPLVDD_EN	30	LVDS_B_DATA3#
27	LVDS_B_DATA2#	28	LVDS_B_DATA2
25	LVDS_B_DATA1	26	GND
23	GND	24	LVDS_B_DATA1#
21	LVDS_B_DATA0#	22	LVDS_B_DATA0
19	LVDS_A_CLK	20	GND
17	GND	18	LVDS_A_CLK#
15	LVDS_A_DATA3#	16	LVDS_A_DATA3
13	LVDS_A_DATA2	14	GND
11	GND	12	LVDS_A_DATA2#
9	LVDS_A_DATA1#	10	LVDS_A_DATA1
7	LVDS_A_DATA0	8	GND
5	LDDC_DATA	6	LVDS_A_DATA0#
3	+3V	4	LDDC_CLK
1	LCD_VCC	2	LCD_VCC

Digital I/O Header

(10-pin JGPIO1)

(see p.9 No. 17)

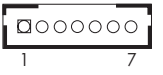


PIN	Signal Name	PIN	Signal Name
1	SIO_GP24	2	SIO_GP20
3	SIO_GP25	4	SIO_GP21
5	SIO_GP26	6	SIO_GP22
7	SIO_GP27	8	SIO_GP23
9	PWR	10	GND

Panel Brightness and Speaker Volume Control

(7-pin BLT_VOL1)

(see p.9 No. 24)



1: Volume_UP
2: Volume_DOWN
3: PANEL PWR Down
4: Panel BackLight UP
5: Panel BackLight Down
6: GND
7: GND

Panel BackLight Inverter Connector

(6-pin BLT_PWR1)

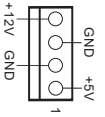
(see p.9 No. 25)

1,2: GND
3: CON_LBKLT_CTL
4: CON_LBKLT_EN
5,6: LCD_BLT_VCC

SATA Power Output Connector

(4-pin SATA_PWR1)

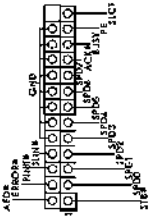
(see p.9 No. 9)



Printer Port Header

(25-pin LPT1)

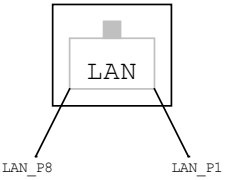
(see p.9 No. 12)



RJ-45 COM Port 3 (RS232 Only)

(8-pin COM Port 3)

(see p.11 No. 11)



1: DDCD#
2: RRXD
3: TTXD
4: DDTR#
5: GND
6: DDSR#
7: RRTS#
8: CCTS#

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, otherwise, 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	To set up the system time/date information
OC Tweaker	To set up overclocking features
Advanced	To set up the advanced UEFI features
H/W Monitor	To display current hardware status
Boot	To set up the default system device to locate and load the Operating System
Security	To set up the security features
Exit	To exit the current screen or the UEFI SETUP UTILITY

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

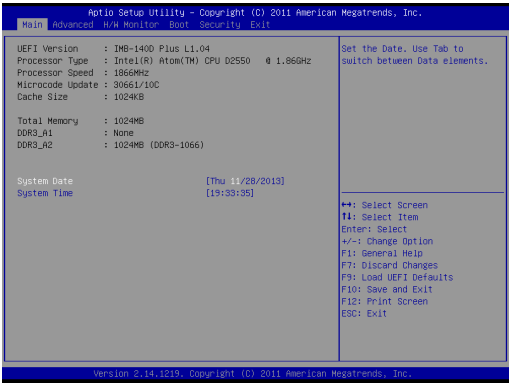
3.1.2 Navigation Keys

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

Navigation Key(s)	Function Description
← / →	Moves cursor left or right to select Screens
↑ / ↓	Moves cursor up or down to select items
+ / -	To change option for the selected items
<Enter>	To bring up the selected screen
<F1>	To display the General Help Screen
<F7>	Discard changes
<F9>	To load optimal default values for all the settings
<F10>	To save changes and exit the UEFI SETUP UTILITY
<F12>	Print screen
<ESC>	To jump to the Exit Screen or exit the current screen

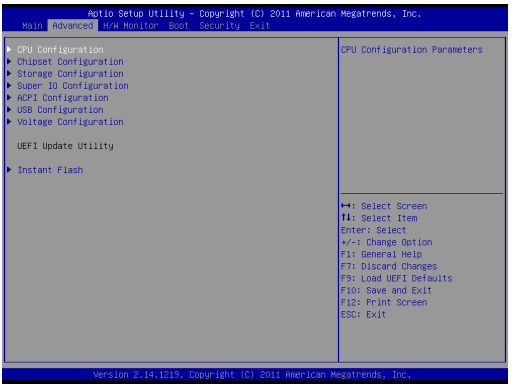
3.2 Main Screen

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, USB Configuration and Voltage 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 system UEFI without entering operating systems first like MS-DOS or Windows®. Just launch this tool and save the new UEFI file to your USB flash drive, floppy disk or hard drive, 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 UEFI update process completes.

3.3.1 CPU Configuration

Intel Hyper Threading Technology

To enable this feature, it requires 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® 7. Set to [Enabled] if using Microsoft® Windows® 7.

No-Excute 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 code.

3.3.2 Chipset Configuration

Display Boot Type

Use this to configure Set Display Boot Type.

Set Panel Type by

Use this to configure Set Panel Type. The default value is [UEFI Setup].

Panel Type Selection

Use this to select panel type. The default value is [1280x1024/24-bit/2-ch/LED].

ACPI HPET Table

Use this item to enable or disable ACPI HPET Table. The default value is [Enabled]. Please set this option to [Enabled] if you plan to use this motherboard to submit Windows® certification.

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. The default value is [Last State].

Onboard HD Audio

Select [Auto], [Enabled] or [Disabled] for the onboard HD Audio feature. If you select [Auto], the onboard HD Audio will be disabled when PCI Sound Card is plugged.

Front Panel

Select [Auto] or [Disabled] for the onboard HD Audio Front Panel.

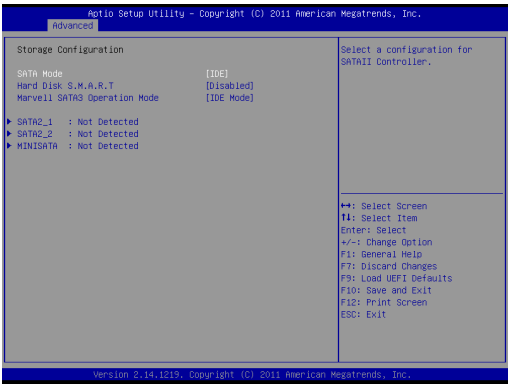
Onboard LAN1

This allows you to enable or disable the “Onboard LAN1” feature.

Onboard LAN2

This allows you to enable or disable the “Onboard LAN2” feature.

3.3.3 Storage Configuration



Onboard SATAII Mode

Use this to select SATA2 mode. Configuration options: [IDE Mode], [AHCI Mode] and [Disabled]. The default value is [IDE Mode].

AHCI (Advanced Host Controller Interface) supports NCQ and other new features that will improve SATA disk performance but IDE mode does not have these advantages.

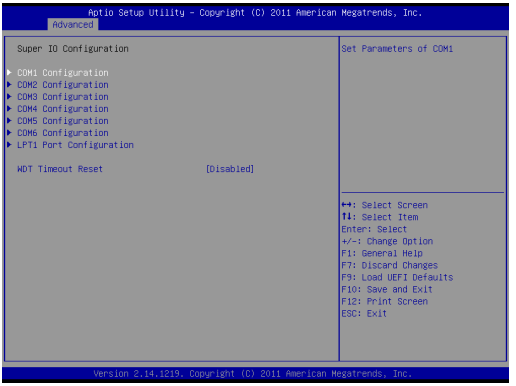
Hard Disk S.M.A.R.T.

Use this item to enable or disable the S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) feature. Configuration options: [Disabled] and [Enabled].

Marvell SATA3 Operation Mode

Use this to select Marvell SATA3 mode. The default value is [IDE Mode].

3.3.4 Super IO Configuration



COM1 Configuration

Use this to set parameters of COM1. Select COM1 port type: [RS232], [RS422] or [RS485].

COM2 Configuration

Use this to set parameters of COM2.

COM3 Configuration

Use this to set parameters of COM3.

COM4 Configuration

Use this to set parameters of COM4.

COM5 Configuration

Use this to set parameters of COM5.

COM6 Configuration

Use this to set parameters of COM6.

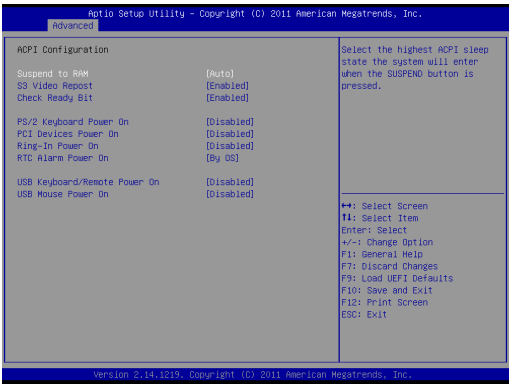
LPT1 Port Configuration

Use this set parameters of the onboard parallel port.

WDT Timeout Reset

This allows users to enable/disable the Watch Dog Timer timeout to reset system. The default value is [Disabled].

3.3.5 ACPI Configuration



Suspend to RAM

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

S3 Video Repost

Use this to enable/disable S3 Video Repost. The default value is [Enabled].

PS/2 Keyboard Power On

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

RTC Alarm Power On

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

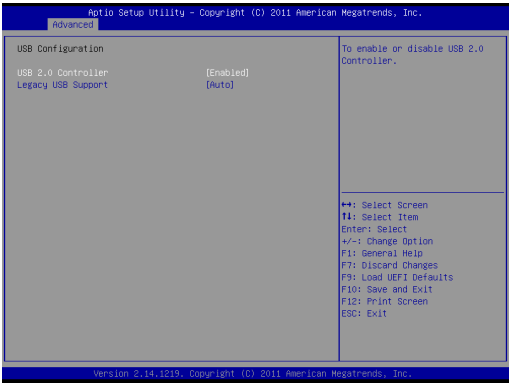
USB Keyboard/Remote Power On

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

USB Mouse Power On

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

3.3.6 USB Configuration



USB 2.0 Controller

Use this item to enable or disable the use of USB 2.0 controller.

Legacy USB Support

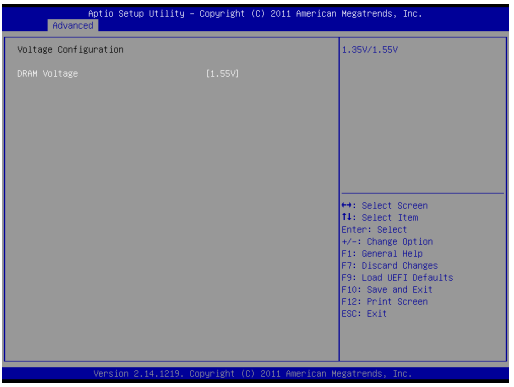
Use this option to select legacy support for USB devices. There are four configuration options: [Enabled], [Auto] and [UEFI Setup Only]. The default value is [Auto]. Please refer to below descriptions for the details of these four options:

[Enabled] - Enables support for legacy USB.

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

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

3.3.7 Voltage Configuration

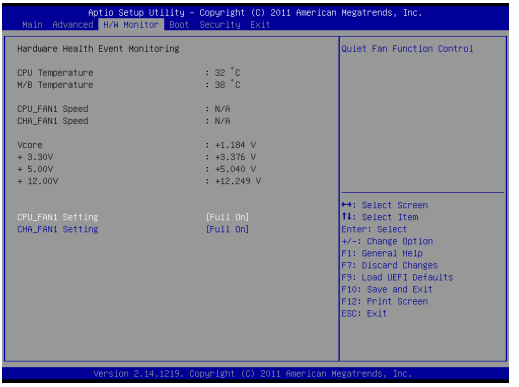


DRAM Voltage

Use this to select DRAM Voltage. The default value is [1.55V].

3.4 Hardware Health Event Monitoring Screen

In this section, it allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, CPU fan speed, chassis fan speed, and the critical voltage.



CPU_FAN1 Setting

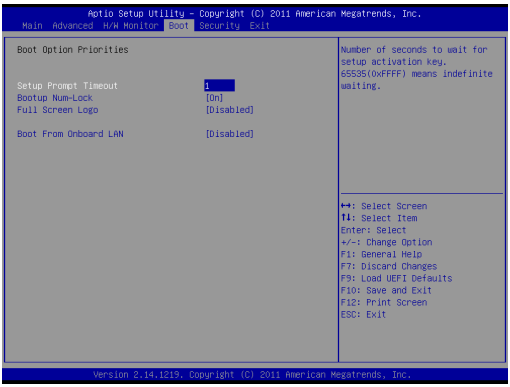
This allows you to set CPU_FAN1's speed. Configuration options: [Full On] and [Automatic Mode]. The default value is [Full On].

CHA_FAN1 Setting

This allows you to set CHA_FAN1's speed. Configuration options: [Full On] and [Automatic Mode]. The default value is [Full On].

3.5 Boot Screen

In this section, it will display 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 setup activation key. 65535(0XFFFF) means indefinite waiting.

Bootup Num-Lock

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

Full Screen Logo

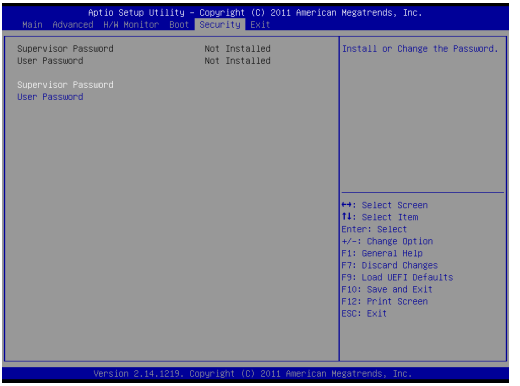
Use this item to enable or disable OEM Logo. The default value is [Enabled].

Boot From Onboard LAN

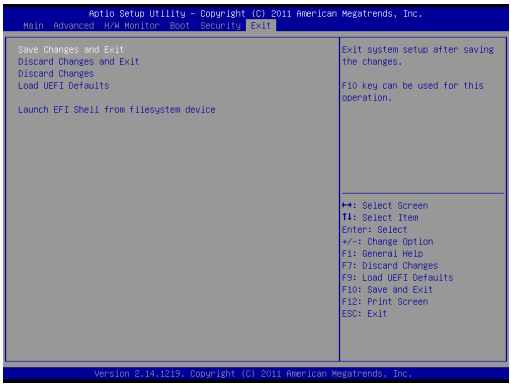
Use this item to enable or disable the Boot From Onboard LAN feature.

3.6 Security Screen

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



3.7 Exit Screen



Save Changes and Exit

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

Discard Changes and Exit

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

Discard Changes

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

Load UEFI Defaults

Load UEFI default values for all the setup questions. F9 key can be used for this operation.

Launch EFI Shell from filesystem device

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

Chapter 4: Software Support

4.1 Install Operating System

This motherboard supports Microsoft® Windows® operating systems: 7 32-bit. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer to your OS documentation for more information.

4.2 Support CD Information

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

4.2.1 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 did not appear automatically, locate and double click on the file "ASRSETUP.EXE" from the BIN folder in the Support CD to display the menus.

4.2.2 Drivers Menu

The Drivers Menu shows the available device's drivers if the system detects installed devices. Please install the necessary drivers to activate the devices.

4.2.3 Utilities Menu

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

4.2.4 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.