



IMB-391  
IMB-390-D  
IMB-390-L

User Manual

Version 1.0

Published November 2016

Copyright©2016 ASRock INC. All rights reserved.

---

Version 1.0

Published November 2016

Copyright©2016 ASRock INC. All rights reserved.

### Copyright Notice:

No part of this documentation may be reproduced, transcribed, transmitted, or translated in any language, in any form or by any means, except duplication of documentation by the purchaser for backup purpose, without written consent of ASRock Inc.

Products and corporate names appearing in this documentation may or may not be registered trademarks or copyrights of their respective companies, and are used only for identification or explanation and to the owners' benefit, without intent to infringe.

### Disclaimer:

Specifications and information contained in this documentation are furnished for informational use only and subject to change without notice, and should not be constructed as a commitment by ASRock. ASRock assumes no responsibility for any errors or omissions that may appear in this documentation.

With respect to the contents of this documentation, ASRock does not provide warranty of any kind, either expressed or implied, including but not limited to the implied warranties or conditions of merchantability or fitness for a particular purpose.

In no event shall ASRock, its directors, officers, employees, or agents be liable for any indirect, special, incidental, or consequential damages (including damages for loss of profits, loss of business, loss of data, interruption of business and the like), even if ASRock has been advised of the possibility of such damages arising from any defect or error in the documentation or product.



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](http://www.dtsc.ca.gov/hazardouswaste/perchlorate)”

**ASRock Website: <http://www.asrock.com>**

---

The terms HDMI™ and HDMI High-Definition Multimedia Interface, and the HDMI logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.



**CAUTION:**

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.  
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

---

# Contents

<b>1 Introduction .....</b>	<b>6</b>
1.1 Package Contents .....	6
1.2 Specifications (IMB-391).....	7
1.3 Specifications (IMB-390-D).....	9
1.4 Specifications (IMB-390-L) .....	11
1.5 Motherboard Layout (IMB-391).....	13
1.6 Motherboard Layout (IMB-390-D / IMB-390-L).....	15
1.7 I/O Panel (IMB-390-D).....	17
1.8 I/O Panel (IMB-391 / IMB-390-L).....	18
<b>2 Installation .....</b>	<b>19</b>
2.1 Screw Holes.....	19
2.2 Pre-installation Precautions .....	19
2.3 Installation of Memory Modules (DIMM).....	20
2.4 Expansion Slots .....	22
2.5 Jumpers Setup.....	23
2.6 Onboard Headers and Connectors.....	26
2.7 Driver Installation Guide .....	31
<b>3 UEFI SETUP UTILITY.....</b>	<b>32</b>
3.1 Introduction.....	32
3.1.1 UEFI Menu Bar .....	32
3.1.2 Navigation Keys .....	33
3.2 Main Screen.....	33
3.3 Advanced Screen.....	34
3.3.1 CPU Configuration .....	35
3.3.2 Chipset Configuration.....	37
3.3.3 Storage Configuration .....	39
3.3.4 AMT Configuration .....	40
3.3.5 Super IO Configuration .....	42
3.3.6 ACPI Configuration.....	43
3.3.7 USB Configuration .....	44
3.3.8 Trusted Computing.....	45
3.4 Hardware Health Event Monitoring Screen .....	46
3.5 Security Screen .....	47
3.6 Boot Screen.....	48
3.7 Exit Screen .....	50

---

<b>4 Software Support .....</b>	<b>51</b>
4.1 Install Operating System.....	51
4.2 Support CD Information .....	51
4.2.1 Running Support CD .....	51
4.2.2 Drivers Menu.....	51
4.2.3 Utilities Menu.....	51
4.2.4 Contact Information.....	51

---

# Chapter 1: Introduction

Thank you for purchasing ASRock **IMB-391 / IMB-390-D / IMB-390-L** 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](http://www.asrock.com/support/index.asp)

## 1.1 Package Contents

ASRock **IMB-391 / IMB-390-D / IMB-390-L** Motherboard

(Micro ATX Form Factor: 9.6-in x 9.6-in, 24.4 cm x 24.4 cm)

ASRock **IMB-391 / IMB-390-D / IMB-390-L** Driver CD

ASRock **IMB-391 / IMB-390-D / IMB-390-L** Jumper setting instruction

1 x I/O Panel Shield

## 1.2 Specifications (IMB-391)

<b>Form Factor</b>	Dimensions	Micro-ATX (9.6-in x 9.6-in)
<b>Processor System</b>	CPU	Socket LGA1151 for Intel® Core i7/i5/i3/Celeron (Skylake-S)
	Core Number	(By CPU, Max 4)
	Max Speed	(By CPU)
	L2 Cache	(By CPU)
	Chipset	Intel® H110
	BIOS	UEFI
<b>Expansion Slot</b>	Mini-PCIe	0
	mSATA	0
	PCIe	1 x PCIe x16, 2 x PCI, 1 x PCIe x4 slot
<b>Memory</b>	Technology	Dual Channel DDR4 2133MHz
	Max.	32GB
	Socket	2 x Long DIMM
<b>Graphics</b>	Controller	Intel® Gen9 Graphics DX 11/12, OGL4.3/4.4
	VRAM	Shared Memory
	VGA	Supports Max resolution up to 1920 x 1200
	LVDS	Supports Max resolution up to 1920 x 1200@60Hz
	HDMI	Supports HDMI, Max resolution up to 4096 x 2160@60Hz
	DVI	Supports Max resolution up to 1920 x 1200@60Hz
	DisplayPort	Supports DP 1.2, Max resolution up to 4096 x 2160@60Hz
	Multi Display	Yes (Dual Display)
<b>Ethernet</b>	Ethernet	10/100/1000 Mbps
	Controller	1 x Intel® I219V, 1 x Intel® I210
	Connector	2 x RJ-45
<b>SATA</b>	Max Data Transfer Rate	SATA3 (6.0Gb/s)
<b>Rear I/O</b>	VGA	1
	DVI	1
	HDMI	1
	DisplayPort	1
	Ethernet	2

	USB	4 x USB 3.0
	Audio	3 (Mic-in, Line-in, Line-out)
	Serial	1 x COM (RS-232/422/485)
	PS/2	1 x PS/2 combo
<b>Internal Connector</b>	USB	4 x USB 2.0 (2 x 2.54 pitch header)
	LVDS/ Inverter	1/1
	eDP	0
	VGA	0
	Serial	3 x COM (supports RS-232 only)
	SATA	4
	mPCIe	0
	Parallel	1 (shared with GPIO)
	mSATA	0
	IrDA	0
	GPIO 8-bit	8 x GPI + 8 x GPO
	SATA PWR Output Con	0
	Speaker Header	1
	<b>Watchdog Timer</b>	Output
Interval		256 Segments, 0,1,2...255 Sec/Min
<b>Power Requirements</b>	Input PWR	ATX PWR Con (24+8-pin)
	Power On	AT/ATX Supported -AT : Directly PWR on as power input ready -ATX : Press button to PWR on after power input ready
<b>Environment</b>	Temperature	0°C – 60°C



### 1.3 Specifications (IMB-390-D)

<b>Form Factor</b>	Dimensions	Micro-ATX (9.6-in x 9.6-in)
<b>Processor System</b>	CPU	Socket LGA1151 for Intel® Core i7/i5/i3/Celeron (Skylake-S)
	Core Number	(By CPU, Max 4)
	Max Speed	(By CPU)
	L2 Cache	(By CPU)
	Chipset	Intel® Q170
	BIOS	UEFI
<b>Expansion Slot</b>	Mini-PCIe	1 (half/full size, supports PCIe x1 and USB device)
	mSATA	1 (full size, supports SATA and USB device)
	PCIe	1 x PCIe x16, 2 x PCI, 1 x PCIe x4 slot
<b>Memory</b>	Technology	Dual Channel DDR4 2133MHz
	Max.	32GB
	Socket	4 x Long DIMM
<b>Graphics</b>	Controller	Intel® Gen9 Graphics DX 11/12, OGL4.3/4.4
	VRAM	Shared Memory
	VGA	No
	LVDS	No
	HDMI	Supports HDMI, Max resolution up to 4096 x 2160@60Hz
	DVI	Supports Max resolution up to 1920 x 1200@60Hz
	DisplayPort	Supports DP 1.2, Max resolution up to 4096 x 2160@60Hz
	Multi Display	Yes (Triple Display)
<b>Ethernet</b>	Ethernet	10/100/1000 Mbps
	Controller	1 x Intel® I219LM, 1 x Intel® I210
	Connector	2 x RJ-45
<b>SATA</b>	Max Data Transfer Rate	SATA3 (6.0Gb/s)
<b>Rear I/O</b>	VGA	0
	DVI	1
	HDMI	1
	DisplayPort	1
	Ethernet	2

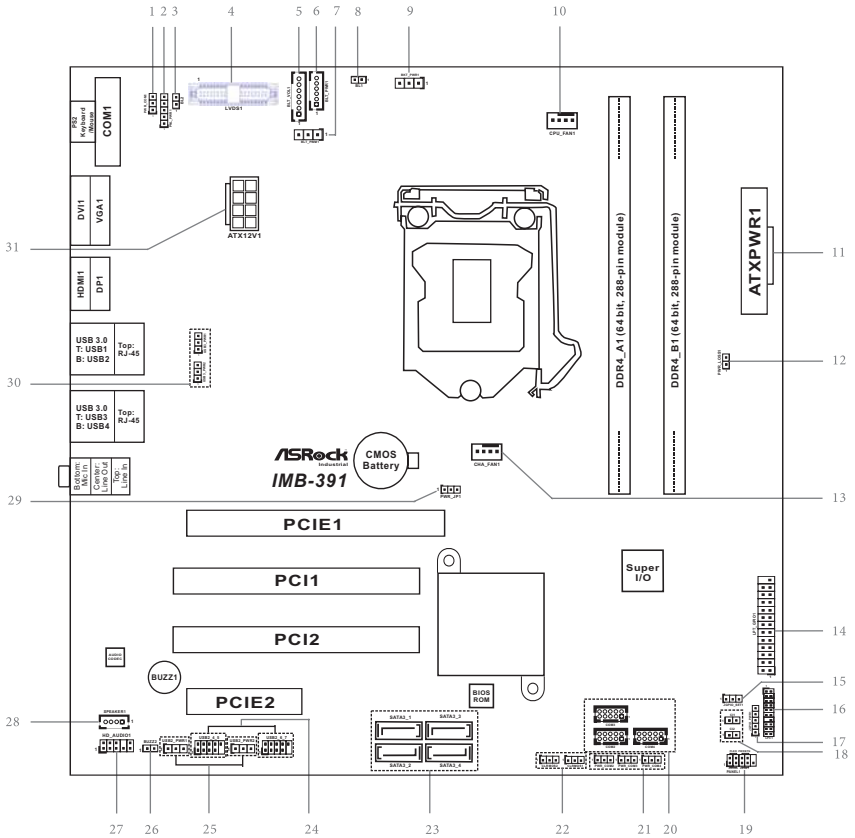
	USB	4 x USB 3.0
	Audio	3 (Mic-in, Line-in, Line-out)
	Serial	1 x COM (RS-232/422/485)
	PS/2	1 x PS/2 combo
<b>Internal Connector</b>	USB	2 x USB 3.0 (1 x USB3.0 header), 6 x USB 2.0 (3 x 2.54 pitch header)
	LVDS/ Inverter	0
	eDP	1 (Optional)
	VGA	0
	Serial	5 x COM (supports RS-232 only)
	SATA	6 (one shared with mSATA)
	mPCIe	1
	Parallel	1 (shared with GPIO)
	mSATA	1
	IrDA	0
	GPIO 8-bit	8 x GPI + 8 x GPO
	SATA PWR Output Con	0
	Speaker Header	1
	<b>Watchdog Timer</b>	Output
Interval		256 Segments, 0,1,2...255 Sec/Min
<b>Power Requirements</b>	Input PWR	ATX PWR Con (24+8-pin)
	Power On	AT/ATX Supported -AT : Directly PWR on as power input ready -ATX : Press button to PWR on after power input ready
<b>Environment</b>	Temperature	0°C – 60°C

## 1.4 Specifications (IMB-390-L)

<b>Form Factor</b>	Dimensions	Micro-ATX (9.6-in x 9.6-in)
<b>Processor System</b>	CPU	Socket LGA1151 for Intel® Core i7/i5/i3/Celeron (Skylake-S)
	Core Number	(By CPU, Max 4)
	Max Speed	(By CPU)
	L2 Cache	(By CPU)
	Chipset	Intel® Q170
	BIOS	UEFI
<b>Expansion Slot</b>	Mini-PCIe	1 (half/full size, supports PCIe x1 and USB device)
	mSATA	1 (full size, supports SATA and USB device)
	PCIe	1 x PCIe x16, 2 x PCI, 1 x PCIe x4 slot
<b>Memory</b>	Technology	Dual Channel DDR4 2133MHz
	Max.	32GB
	Socket	4 x Long DIMM
<b>Graphics</b>	Controller	Intel® Gen9 Graphics DX 11/12, OGL4.3/4.4
	VRAM	Shared Memory
	VGA	Supports max resolution up to 1920 x 1200 (optional)
	LVDS	Supports max resolution up to 1920 x 1200@60Hz
	HDMI	Supports HDMI, Max resolution up to 4096 x 2160@60Hz
	DVI	Supports Max resolution up to 1920 x 1200@60Hz
	DisplayPort	Supports DP 1.2, Max resolution up to 4096 x 2160@60Hz
Multi Display	Yes (Triple Display)	
<b>Ethernet</b>	Ethernet	10/100/1000 Mbps
	Controller	1 x Intel® I219LM, 1 x Intel® I210
	Connector	2 x RJ-45
<b>SATA</b>	Max Data Transfer Rate	SATA3 (6.0Gb/s)
<b>Rear I/O</b>	VGA	1
	DVI	1
	HDMI	1

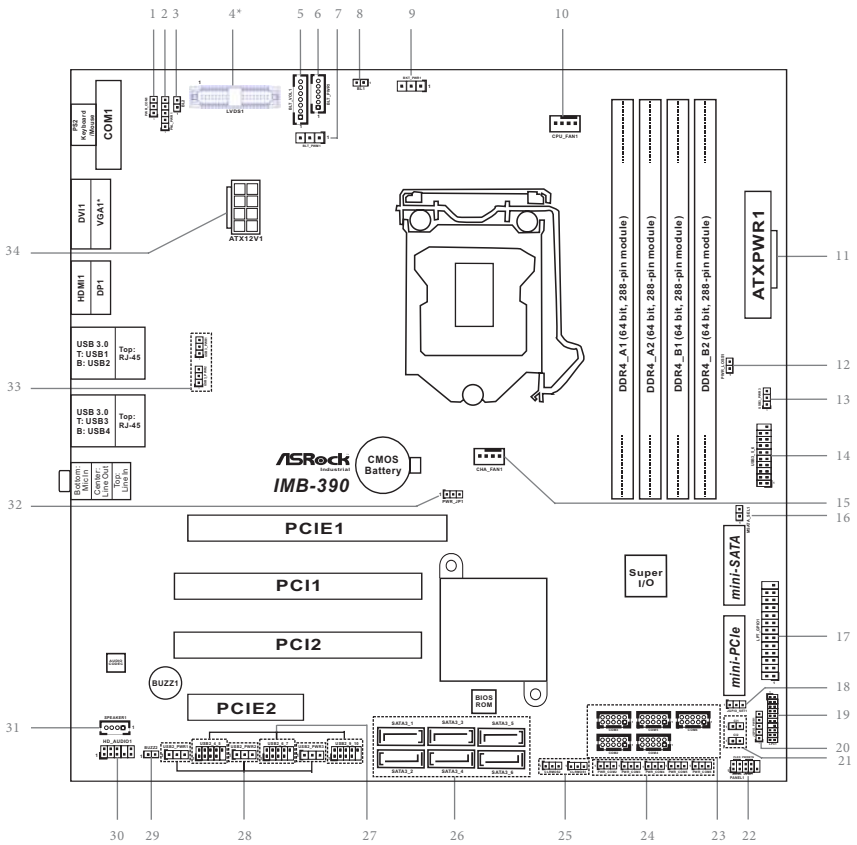
	DisplayPort	1
	Ethernet	2
	USB	4 x USB 3.0
	Audio	3 (Mic-in, Line-in, Line-out)
	Serial	1 x COM (RS-232/422/485)
	PS/2	1 x PS/2 combo
<b>Internal Connector</b>	USB	2 x USB 3.0 (1 x USB3.0 header), 6 x USB 2.0 (3 x 2.54 pitch header)
	LVDS/ Inverter	1/1
	eDP	1 (Optional)
	VGA	0
	Serial	5 x COM (supports RS-232 only)
	SATA	6 (one shared with mSATA)
	mPCIe	1
	Parallel	1 (shared with GPIO)
	mSATA	1
	IrDA	0
	GPIO 8-bit	8 x GPI + 8 x GPO
	SATA PWR Output Con	0
	Speaker Header	1
<b>Watchdog Timer</b>	Output	Output from super I/O to drag RESETCON#
	Interval	256 Segments, 0,1,2...255 Sec/Min
<b>Power Requirements</b>	Input PWR	ATX PWR Con (24+8-pin)
	Power On	AT/ATX Supported -AT : Directly PWR on as power input ready -ATX : Press button to PWR on after power input ready
<b>Environment</b>	Temperature	0°C – 60°C

## 1.5 Motherboard Layout (IMB-391)



- 
- 1 : COM Port Pin9 PWR Setting Jumper  
PWR\_COM1 (For COM Port1)
  - 2 : Panel Power Select (PNL\_PWR1)
  - 3 : BL2
  - 4 : LVDS Panel Connector
  - 5 : Backlight & Amp Volume Control (BLT\_VOL1)
  - 6 : Inverter Power Control Wafer (BLT\_PWR1)
  - 7 : Backlight Control Level (BLT\_PWM1) (CON\_LBKLT\_CTL)
  - 8 : BL1
  - 9 : Backlight Power Select (LCD\_BLT\_VCC) (BKT\_PWR1)
  - 10 : CPU FAN Connector (+12V)
  - 11 : 24-pin ATX Power Input Connector
  - 12 : PWR LOSS Header (PWR\_LOSS1)
  - 13 : Chassis FAN Connector (+12V)
  - 14 : Printer Port / GPIO Header (LPT\_GPIO1)
  - 15 : Digital Input / Output Power Select (JGPIO\_SET1)
  - 16 : LPC Header
  - 17 : Digital Input / Output Power Select (JGPIO\_PWR) (JGPIO\_PWR1)
  - 18 : Chassis Intrusion Headers (CI1, CI2)
  - 19 : System Panel Header
  - 20 : COM Port Headers (COM2, 3, 4) (RS232)
  - 21 : COM Port Pin9 PWR Setting Jumpers  
PWR\_COM2 (For COM Port2)  
PWR\_COM3 (For COM Port3)  
PWR\_COM4 (For COM Port4)
  - 22 : Clear CMOS Headers
  - 23 : SATA3 Connectors (SATA3\_1 ~ SATA3\_4)
  - 24 : USB 2.0 Headers (USB2\_4\_5, USB2\_6\_7)
  - 25 : USB Power Setting Jumpers  
USB2\_PWR1 (For USB2\_4\_5)  
USB2\_PWR2 (For USB2\_6\_7)
  - 26 : Buzzer (BUZZ2)
  - 27 : Front Panel Audio Header
  - 28 : 3W Audio AMP Output Wafer
  - 29 : ATX/AT Mode Jumper (PWR\_JP1)
  - 30 : USB3\_PWR1 (For USB3\_1\_2)  
USB3\_PWR2 (For USB3\_3\_4)
  - 31 : ATX 12V Power Connector

## 1.6 Motherboard Layout (IMB-390-D / IMB-390-L)

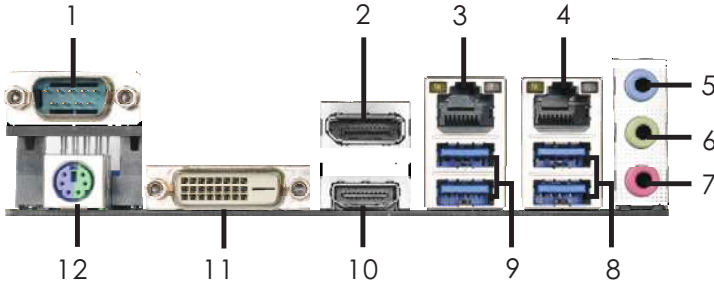


\* The VGA port on the rear I/O is for IMB-390-L only.

- 
- 1 : COM Port Pin9 PWR Setting Jumper  
PWR\_COM1 (For COM Port1)
  - 2 : Panel Power Select (PNL\_PWR1)
  - 3 : BL2
  - 4\* : LVDS Panel Connector (Only for IMB-390-L)  
\* eDP Connector (on the Backside of PCB) (Only for IMB-390-D)
  - 5 : Backlight & Amp Volume Control (BLT\_VOL1)
  - 6 : Inverter Power Control Wafer (BLT\_PWR1)
  - 7 : Backlight Control Level (BLT\_PWM1) (CON\_LBKLT\_CTL)
  - 8 : BL1
  - 9 : Backlight Power Select (LCD\_BLT\_VCC) (BKT\_PWR1)
  - 10 : CPU FAN Connector (+12V)
  - 11 : 24-pin ATX Power Input Connector
  - 12 : PWR LOSS Header (PWR\_LOSS1)
  - 13 : USB Power Setting Jumpers  
USB3\_PWR3 (For USB3\_5\_6)
  - 14 : USB 3.0 Header (USB3\_5\_6)
  - 15 : Chassis FAN Connector (+12V)
  - 16 : MSATA Select (MSATA\_SEL1)
  - 17 : Printer Port / GPIO Header (LPT\_GPIO1)
  - 18 : Digital Input / Output Power Select (JGPIO\_SET1)
  - 19 : LPC Header
  - 20 : Digital Input / Output Power Select (JGIOPWR) (JGPIO\_PWR1)
  - 21 : Chassis Intrusion Headers (CI1, CI2)
  - 22 : System Panel Header
  - 23 : COM Port Headers (COM2, 3, 4, 5, 6) (RS232)
  - 24 : COM Port Pin9 PWR Setting Jumpers  
PWR\_COM2 (For COM Port2)  
PWR\_COM3 (For COM Port3)  
PWR\_COM4 (For COM Port4)  
PWR\_COM5 (For COM Port5)  
PWR\_COM6 (For COM Port6)
  - 25 : Clear CMOS Headers
  - 26 : SATA3 Connectors (SATA3\_1 ~ SATA3\_6)
  - 27 : USB 2.0 Headers (USB2\_4\_5, USB2\_6\_7, USB2\_9\_10)
  - 28 : USB2\_PWR1 (For USB2\_4\_5)  
USB2\_PWR2 (For USB2\_6\_7)  
USB2\_PWR3 (For USB2\_9\_10)
  - 29 : Buzzer (BUZZ2)
  - 30 : Front Panel Audio Header
  - 31 : 3W Audio AMP Output Wafer
  - 32 : ATX/AT Mode Jumper (PWR\_JP1)
  - 33 : USB3\_PWR1 (For USB3\_1\_2)  
USB3\_PWR2 (For USB3\_3\_4)
  - 34 : ATX 12V Power Connector
-



## 1.7 I/O Panel (IMB-390-D)



- |   |                      |    |                          |
|---|----------------------|----|--------------------------|
| 1 | COM Port (COM1)*     | 7  | Microphone (Pink)        |
| 2 | DisplayPort (DP1)    | 8  | USB 3.0 Ports (USB_34)   |
| 3 | LAN RJ-45 Port**     | 9  | USB 3.0 Ports (USB_12)   |
| 4 | LAN RJ-45 Port**     | 10 | HDMI Port (HDMI1)        |
| 5 | Line In (Light Blue) | 11 | DVI Port (DVI1)          |
| 6 | Line out (Lime)      | 12 | PS/2 Mouse/Keyboard Port |

\* 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 42 for details.

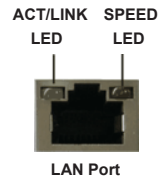
### COM1 Port Pin Definition

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
6	DSR, Data Set Ready	N/A	N/A
7	RTS, Request To Send	N/A	N/A
8	CTS, Clear To Send	N/A	N/A
9	No Power/5V/12V	N/A	N/A

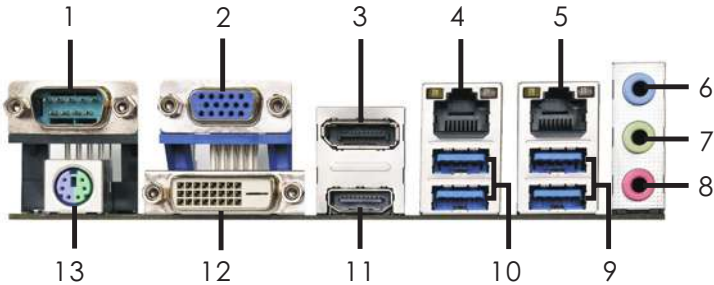
\*\* There are two LED next to the LAN port. Please refer to the table below for the LAN port LED indications.

### LAN Port LED Indications

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



## 1.8 I/O Panel (IMB-391 / IMB-390-L)



- |   |                      |    |                          |
|---|----------------------|----|--------------------------|
| 1 | COM Port (COM1)*     | 8  | Microphone (Pink)        |
| 2 | D-Sub Port (VGA1)    | 9  | USB 3.0 Ports (USB_34)   |
| 3 | DisplayPort (DP1)    | 10 | USB 3.0 Ports (USB_12)   |
| 4 | LAN RJ-45 Port**     | 11 | HDMI Port (HDMI1)        |
| 5 | LAN RJ-45 Port**     | 12 | DVI Port (DVI1)          |
| 6 | Line In (Light Blue) | 13 | PS/2 Mouse/Keyboard Port |
| 7 | Line out (Lime)      |    |                          |

\* 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 42 for details.

### COM1 Port Pin Definition

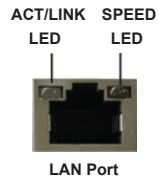
PIN	RS232	RS422	RS485
1	DCD, Data Carrier Detect	TX-	RTX-
2	RXD, Receive Data	RX+	N/A
3	TXD, Transmit Data	TX+	RTX+
4	DTR, Data Terminal Ready	RX-	N/A
5	GND	GND	GND
6	DSR, Data Set Ready	N/A	N/A
7	RTS, Request To Send	N/A	N/A
8	CTS, Clear To Send	N/A	N/A
9	No Power/5V/12V	N/A	N/A

\*\* 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 Micro ATX form factor (9.6" x 9.6", 24.4 x 24.4 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 (DIMM)

This motherboard provides two 288-pin DDR4 (Double Data Rate 4) DIMM slots, and supports Dual Channel Memory Technology.



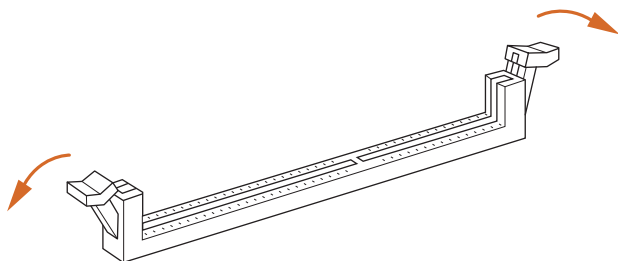
1. For dual channel configuration, you always need to install identical (the same brand, speed, size and chip-type) DDR4 DIMM pairs.
2. It is unable to activate Dual Channel Memory Technology with only one memory module installed.
3. It is not allowed to install a DDR, DDR2 or DDR3 memory module into a DDR4 slot; otherwise, this motherboard and DIMM may be damaged.



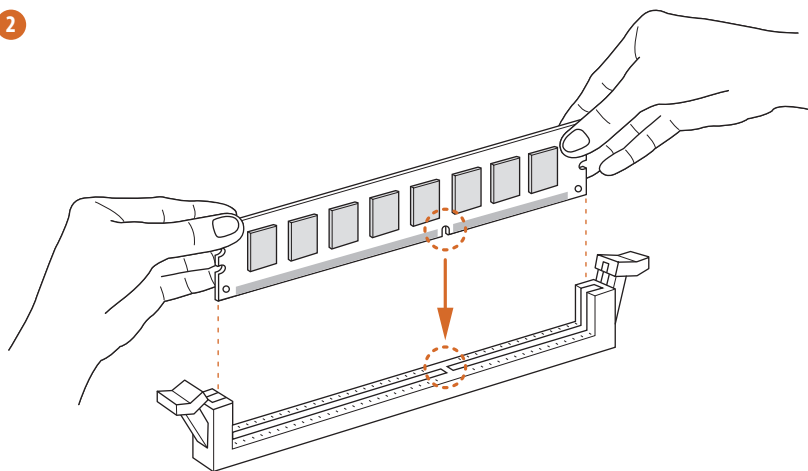
The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

---

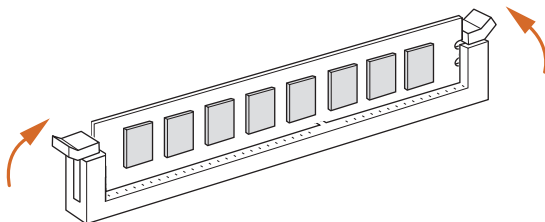
1



2



3



---

## 2.4 Expansion Slots (PCI, PCI Express, mini-PCIe and mini-SATA Slots)

There are 2 PCI slots, 2 PCI Express slots, 1 mini-PCIe slot (for IMB-390-D / IMB-390-L only) and 1 mini-SATA slot (for IMB-390-D / IMB-390-L only) on this motherboard.

**PCI slots:** PCI slots are used to install expansion cards that have the 32-bit PCI interface.

**PCIe slots:**PCIe1 (PCIe x16 slot) is used for PCI Express x16 lane width graphics cards.

PCIe2 (PCIe x4 slot) is used for PCI Express x4 lane width graphics cards.

**mini-PCIe slot (for IMB-390-D / IMB-390-L only):**

MINI\_PCIE1 (mini-PCIe slot) is used for PCI Express mini cards.

**mini-SATA slot (for IMB-390-D / IMB-390-L only):**

MSATA1 (mini-SATA slot) is used for mSATA cards.

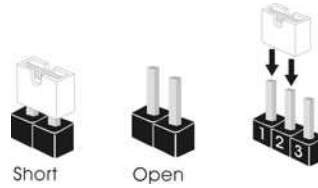
\* mini-SATA slot is shared with SATA3\_6.



### 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 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.




Jumper	Setting	Description
Clear CMOS Jumper (3-pin CLRCMOS1) (see p.15, No. 25 or p.13, No. 22)	 	CLRMOS1 : 1-2 : Normal 2-3 : Clear CMOS CLRMOS2 : 1-2 : +BATT 2-3 : +3VSB_A

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.

Panel Power Select (5-pin PNL_PWR1) (see p.15 or P. 13, No. 2)		1-2 : +3V 2-3 : +5V 4-5 : +12V
--	---	--------------------------------------

Backlight Power Select (LCD_BLT_VCC) (3-pin BKT_PWR1) (see p.15 or P. 13, No. 9)		1-2 : LCD_BLT_VCC : +5V 2-3 : LCD_BLT_VCC : +12V
--	---	---

ATX/AT Mode Select (3-pin PWR_JP1) (see p.15, No. 32 or p.13, No. 29)		1-2 : AT Mode 2-3 : ATX Mode
---	---	---------------------------------

---

### Backlight Control Level (CON\_LBKLT\_CTL)

(3-pin BLT\_PWM1)

(see p.15 or P. 13, No. 7)



1-2 : +3V (eDP)

2-3 : +5V (LVDS)

---

### Digital Input / Output Power Select (JGPIOPWR)

(3-pin JGPIO\_PWR1)

(see p.15, No. 20 or p.13, No. 17)



1-2 : +12V

2-3 : +5V

3-4 : +5V

4-5 : GND

---

### COM Port Pin9 PWR Setting Jumpers

(3-pin PWR\_COM1 (For COM Port1))

(see p.15, No. 1)



(3-pin PWR\_COM2 (For COM Port2))

(3-pin PWR\_COM3 (For COM Port3))

(3-pin PWR\_COM4 (For COM Port4))

(3-pin PWR\_COM5 (For COM Port5)) (For IMB-390-D / IMB-390-L only)

(3-pin PWR\_COM6 (For COM Port6)) (For IMB-390-D / IMB-390-L only)

(see p.15, No. 24 or p.13, No. 21)



### BL Jumpers

(2-pin BL1)

(see p.15 or p.13, No. 8)



Open : Protect LCD\_BLT\_VCC

Short : No Protect LCD\_BLT\_VCC

(2-pin BL2)

(see p.15 or p.13, No. 3)



Open : Protect LCD\_VCC

Short : No Protect LCD\_VCC

---

### USB Power Setting Jumpers

(3-pin USB3\_PWR3 (For USB3\_5\_6))

(For IMB-390-D / IMB-390-L only)

(see p.15, No. 13)



(3-pin USB2\_PWR1 (For USB2\_4\_5))

(3-pin USB2\_PWR2 (For USB2\_6\_7))

(3-pin USB2\_PWR3 (For USB2\_9\_10)) (For IMB-390-D / IMB-390-L only)

(see p.15, No. 28 or p.13, No. 25)



(3-pin USB3\_PWR1 (For USB3\_1\_2))

(3-pin USB3\_PWR2 (For USB3\_3\_4))

(see p.15, No. 33 or p.13, No. 30)



### MSATA Select (Only for IMB-390-D / IMB-390-L)

(2-pin MSATA\_SEL1)

(see p.15, No. 16)



Short : Use mini-SATA

Open : Use SATA3\_6

---



---

Digital Input / Output Power Select

(3-pin JGPIO\_SET1)

(see p.15, No. 18 or P. 13, No. 15)



1-2 : +5V

2-3 : GND

## 2.6 Onboard Headers and Connectors



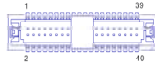
Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage of the motherboard!

### LVDS Panel Connector

(Only for IMB-391 / IMB-390-L)

(40-pin LVDS1)

(see p.15 or p.13, No. 4)



PIN	Signal Name	PIN	Signal Name
2	R_LVDD	1	R_LVDD
4	LD0C_CLK	3	+3V
6	LVDS_A_DATA0#	5	LD0C_DATA
8	GND	7	LVDS_A_DATA0
10	LVDS_A_DATA1	9	LVDS_A_DATA1#
12	LVDS_A_DATA2#	11	GND
14	GND	13	LVDS_A_DATA2
16	LVDS_A_DATA3	15	LVDS_A_DATA3#
18	LVDS_A_CLK#	17	GND
20	GND	19	LVDS_A_CLK
22	LVDS_B_DATA0	21	LVDS_B_DATA0#
24	LVDS_B_DATA1#	23	GND
26	GND	25	LVDS_B_DATA1
28	LVDS_B_DATA2#	27	LVDS_B_DATA2#
30	LVDS_B_DATA3#	29	DPLVDD_EN
32	GND	31	LVDS_B_DATA3
34	CON_LBKLT_EN	33	LVDS_B_CLK#
36	CON_LBKLT_CTL	35	GND
38	LCD_BLT_VCC	37	CON_LBKLT_CTL
40	LCD_BLT_VCC	39	LCD_BLT_VCC

### \* eDP Connector

(on the Backside of PCB)

(Only for IMB-390-D)



PIN	Signal Name
40	NA
39	LCD_BLT_VCC
38	LCD_BLT_VCC
37	LCD_BLT_VCC
36	LCD_BLT_VCC
35	SMC_CLK
34	SMC_DATA
33	CON_LBKLT_CTL
32	CON_LBKLT_EN
31	GND
30	GND
29	GND
28	GND
27	eDP_HPD_CON
26	GND
25	GND
24	GND
23	GND
22	NA
21	LCD_VCC
20	LCD_VCC
19	LCD_VCC
18	LCD_VCC
17	GND
16	eDP_AUX#_CON
15	eDP_AUX#_CON
14	GND
13	eDP_TX0_CON
12	eDP_TX0_CON
11	GND
10	eDP_TX1_CON
9	eDP_TX1_CON
8	GND
7	eDP_TX2_CON
6	eDP_TX2_CON
5	GND
4	eDP_TX3_CON
3	eDP_TX3_CON
2	GND
1	NA

### Backlight & Amp Volume Control

(7-pin BLT\_VOL1)

(see p.15 or p.13, No. 5)



PIN	Signal Name
7	GND
6	GND
5	GPIO_BLT_DW
4	GPIO_BLT_UP
3	PWRDN
2	GPIO_VOL_DW
1	GPIO_VOL_UP

### Inverter Power Control Wafer

(6-pin BLT\_PWR1)

(see p.15 or p.13, No. 6)

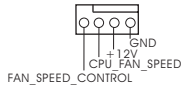


PIN	Signal Name
1	GND
2	GND
3	CON_LBKLT_CTL
4	CON_LBKLT_EN
5	LCD_BLT_VCC
6	LCD_BLT_VCC

### CPU Fan Connector

(4-pin CPU\_FAN1)

(see p.15 or p.13, No. 10)



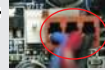
Please connect the CPU fan cable to the connector and match the black wire to the ground pin.



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 ←

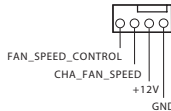
3-Pin Fan Installation



### Chassis Fan Connector

(4-pin CHA\_FAN1)

(see p.15, No. 15 or p.13, No. 13)

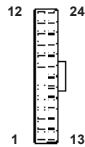


Please connect the fan cable to the fan connector and match the black wire to the ground pin.

### ATX Power Input Connector

(24-pin ATXPWR1)

(see p.15 or P.13, No. 11)

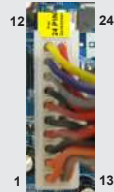


Please connect an ATX power supply to this connector.



Though this motherboard provides 24-pin ATX power connector, it can still work if you adopt a traditional 20-pin ATX power supply. To use the 20-pin ATX power supply, please plug your power supply along with Pin 1 and Pin 13.

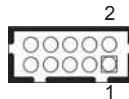
20-Pin ATX Power Supply Installation



### COM Port Headers (RS232)

(10-pin COM2, 3, 4, 5, 6: see p.15, No. 23)

(10-pin COM2, 3, 4: see p.13, No. 20)

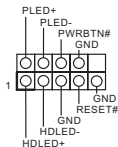


PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
10	N/A	8	CCTS#	6	DDSR#	4	DDTR#	2	RRXD
9	+5V	7	RRTS#	5	GND	3	TTXD	1	DDCD#

## System Panel Header

(9-pin PANEL1)

(see p.15, No. 22 or p.13, No. 19)



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/S3 sleep state. The LED is off when the system is in S4 sleep state or powered off (S5).

### **HDLED (Hard Drive Activity LED):**

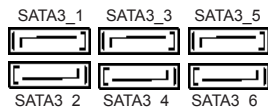
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

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.

## SATA3 Connectors

(SATA3\_1~6: see p.15, No. 26)

(SATA3\_1~4: see p.13, No. 23)



These Serial ATA3 (SATA3) connectors support SATA data cables for internal storage devices. The current SATA3 interface allows up to 6.0 Gb/s data transfer rate.

\* SATA3\_5 and SATA3\_6 are only for IMB-390-D / IMB-390-L.

\* SATA3\_6 is share with mini-SATA port.

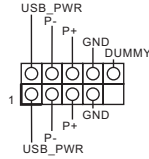
## USB 2.0 Headers

(9-pin USB2\_4\_5, USB2\_6\_7, USB2\_9\_10:

see p.15, No. 27)

(9-pin USB2\_4\_5, USB2\_6\_7:

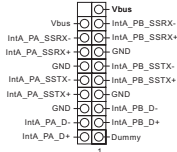
see p.13, No. 24)



Each USB 2.0 header can support two ports.

## USB 3.0 Header (Only for IMB-390-D / IMB-390-L)

(19-pin USB3\_5\_6: see p.15, No. 14)



There is one header on this motherboard. Each USB 3.0 header can support two ports.

## Chassis Intrusion Headers

(2-pin CI1, CI2: see p.15, No. 21 or p.13, No. 18)

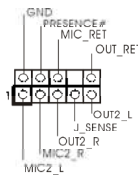


This motherboard supports CASE OPEN detection feature that detects if the chassis cover has been removed. This feature requires a chassis with chassis intrusion detection design.

## Front Panel Audio Header

(9-pin HD\_AUDIO1)

(see p.15 No. 30 or p.13, No. 27)



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

## 3W Audio Amp Output Wafer

(4-pin SPEAKER1)

(see p.15, No. 31 or p.13, No. 28)



PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
4	OUTRN	3	OUTRP	2	OUTLP	1	OUTLN

## ATX 12V Power Input Connector

(8-pin ATX12V1)

(see p.15, No. 34 or p.13, No. 31)



Please connect an ATX 12V power supply to this connector.



Though this motherboard provides 8-pin ATX 12V power connector, it can still work if you adopt a traditional 4-pin ATX 12V power supply. To use the 4-pin ATX power supply, please plug your power supply along with Pin 1 and Pin 5.

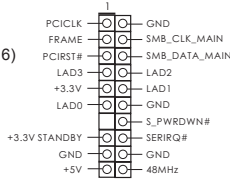
4-Pin ATX 12V Power Supply Installation



## LPC Header

(19-pin LPC1)

(see p.15, No. 19 or p.13, No. 16)



This connector supports a Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

## BUZZER

(2-pin BUZZ2)

(see p.15, No. 29 or p.13, No. 26)



## PWR LOSS Header

(2-pin PWR\_LOSS1)

(see p.15 or P.13, No. 12)



Short : Power Loss  
Close : no Power Loss

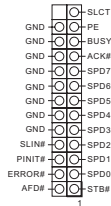
## Print Port / GPIO Header

(25-pin LPT\_GPIO1)

(see p.15, No. 17 or p.13, No. 14)

This is an interface for print port cable that allows convenient connection of printer devices.

### Printer Port:



### GPIO:

PIN	Signal Name	PIN	Signal Name
26	NC	25	NA
24	GND	23	SIO_GP30
22	GND	21	SIO_GP31
20	GND	19	SIO_GP32
18	GND	17	SIO_GP33
16	GND	15	SIO_GP34
14	GND	13	SIO_GP35
12	JGPIOPWR	11	SIO_GP36
10	JGPIOPWR	9	SIO_GP37
8	SIO_GP43	7	SIO_GP40
6	SIO_GP44	5	SIO_GP41
4	SIO_GP45	3	SIO_GP42
2	SIO_GP46	1	SIO_GP47

\* If you want to use the printer port function, please short pin4 and pin5 on Digital Input / Output Power Select (JGPIO\_PWR1).

---

## **2.7 Driver Installation Guide**

To install the drivers to your system, please insert the support CD to your optical drive first. Then, the drivers compatible to your system can 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.

---

## 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:

<b>Main</b>	To set up the system time/date information
<b>Advanced</b>	To set up the advanced UEFI features
<b>H/W Monitor</b>	To display current hardware status
<b>Boot</b>	To set up the default system device to locate and load the Operating System
<b>Security</b>	To set up the security features
<b>Exit</b>	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.



---

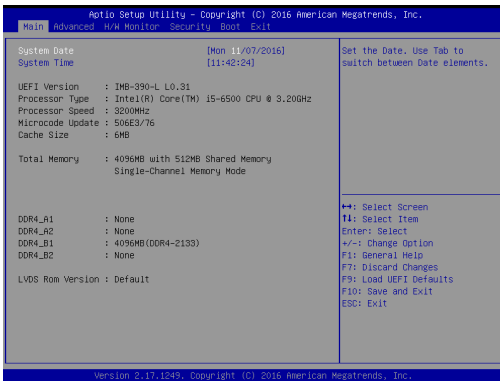
### 3.1.2 Navigation Keys

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

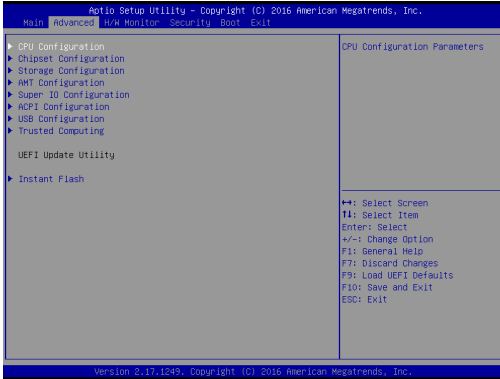
When you enter the UEFI SETUP UTILITY, the Main screen will appear and display the system overview.



---

### 3.3 Advanced Screen

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

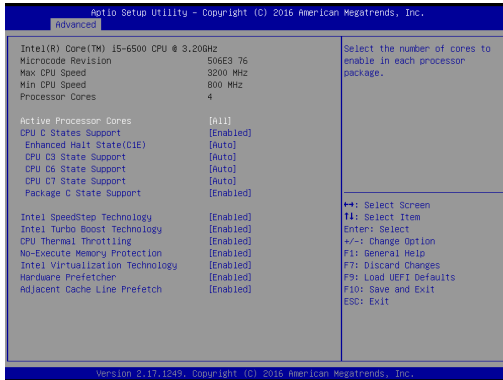


Setting wrong values in this section may cause the system to malfunction.

#### 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



#### Active Processor Cores

Select the number of cores to enable in each processor package.

#### CPU C States Support

Enable CPU C States Support for power saving. It is recommended to keep C3, C6 and C7 all enabled for better power saving.

#### Enhanced Halt State (C1E)

Enable Enhanced Halt State (C1E) for lower power consumption.

#### CPU C3 State Support

Enable C3 sleep state for lower power consumption.

#### CPU C6 State Support

Enable C6 deep sleep state for lower power consumption.

#### CPU C7 State Support

Enable C7 deep sleep state for lower power consumption.

#### Package C State Support

Enable CPU, PCIe, Memory, Graphics C State Support for power saving.

#### Intel SpeedStep Technology

Intel SpeedStep technology is Intel's new power saving technology. Processors can switch between multiple frequencies and voltage points to enable power saving. The default value is [Enabled]. Configuration options: [Enabled] and [Disabled]. If you install Windows® OS and want to enable this function, please set this item to [Enabled]. This item will be hidden if the current CPU does not support Intel SpeedStep technology.



Please note that enabling this function may reduce CPU voltage and lead to system stability or compatibility issues with some power supplies. Please set this item to [Disabled] if above issues occur.

---

**Intel Turbo Boost Technology**

Use this item to enable or disable Intel Turbo Boost Mode Technology. Turbo Boost Mode allows processor cores to run faster than marked frequency in specific conditions. The default value is [Enabled].

**CPU Thermal Throttling**

You may select [Enabled] to enable CPU internal thermal control mechanism to keep the CPU from overheating.

**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-Execute Memory Protection.

**Intel Virtualization Technology**

When this option is set to [Enabled], a VMM (Virtual Machine Architecture) can utilize the additional hardware capabilities provided by Vanderpool Technology. This option will be hidden if the installed CPU does not support Intel Virtualization Technology.

**Hardware Prefetcher**

Use this item to turn on/off the MLC streamer prefetcher.

**Adjacent Cache Line Prefetch**

Use this item to turn on/off prefetching of adjacent cache lines.

---

## 3.3.2 Chipset Configuration



### Primary Graphics Adapter

This allows you to select [Onboard], [PCI] or [PCI Express] as the boot graphic adapter priority. The default value is [PCI Express].

### Top Of Lower Usable Dram

Maximum Value of TOLUD. Dynamic assignment would adjust TOLUD automatically based on largest MMIO length of installed graphic controller.

### VT-d

Use this to enable or disable Intel® VT-d technology (Intel® Virtualization Technology for Directed I/O). The default value of this feature is [Disabled].

### PCIe1 Link Speed

Select the link speed for PCIe1.

### PCIe2 Link Speed

Select the link speed for PCIe2.

### Share Memory

Configure the size of memory that is allocated to the integrated graphics processor when the system boots up.

### IGPU Multi-Monitor

Select disable to disable the integrated graphics when an external graphics card is installed. Select enable to keep the integrated graphics enabled at all times.

### Onboard LAN1

Enable or disable the onboard network interface controller.

### Onboard LAN2

Enable or disable the onboard network interface controller.

---

### **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.

### **Deep Sleep**

Mobile platforms support Deep S4/S5 in DC only and desktop platforms support Deep S4/S5 in AC only. The default value is [Disabled].

### **Active LVDS**

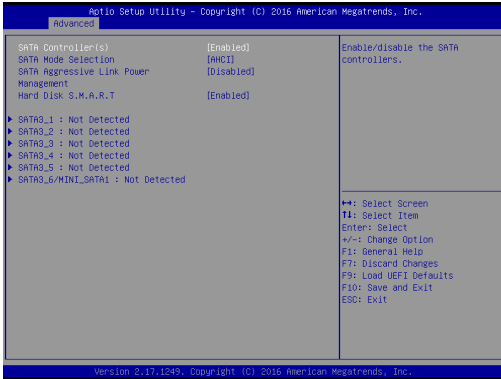
Use this to enable or disable the LVDS. The default value is [Enabled].

### **Primary IGFX Boot Display**

Select the Video Device which will be activated during POST. This has no effect if external graphics present. Secondary boot display selection will appear based on your selection. VGA modes will be supported only on primary display. Configuration options: [VBIOS Default], [CRT], [DVI], [HDMI] and [LVDS]. The default value is [VBIOS Default].

---

### 3.3.3 Storage Configuration



#### SATA Controller(s)

Use this item to enable or disable the SATA Controller feature.

#### SATA Mode Selection

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

#### SATA Aggressive Link Power Management

Use this item to configure SATA Aggressive Link Power Management.

#### 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].

---

### 3.3.4 AMT Technology



#### Intel AMT

Use this to enable or disable Intel(R) Active Management Technology BIOS Extension. The default is [Enabled].

#### BIOS Hotkey Pressed

Use this to enable or disable BIOS hotkey press. The default is [Disabled].

#### MEBx Selection Screen

Use this to enable or disable MEBx Selection Screen. The default is [Disabled].

#### Hide Un-Configure ME Confirmation Prompt

Hide Un-Configure ME without password confirmation prompt. The default is [Disabled].

#### MEBx Debug Message Output

Use this to enable or disable MEBx Debug Message Output. The default is [Disabled].

#### Un-Configure ME

Un-Configure ME without password. The default is [Disabled].

#### ASF

Use this to enable or disable Alert Specification Format. The default is [Enabled].

#### Activate Remote Assistance Process

Trigger CIRA boot. The default is [Disabled].

#### USB Configure

Use this to enable or disable USB Configure function. The default is [Enabled].

#### PET Progress

User can enable or disable PET Events progress to receive PET events or not. The default is [Enabled].



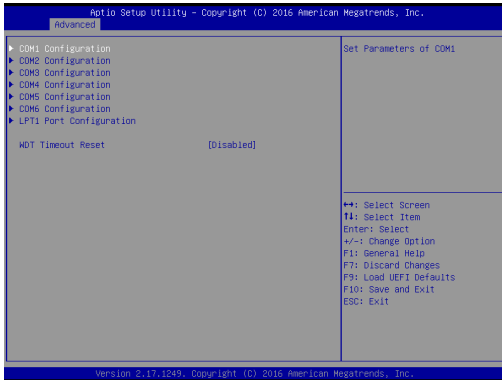
---

**Amt Wait Timer**

Set timer to wait before sending ASF\_GET\_BOOT\_OPTIONS.

---

### 3.3.5 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. Select COM2 port type: [RS232], [RS422] or [RS485].

#### 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

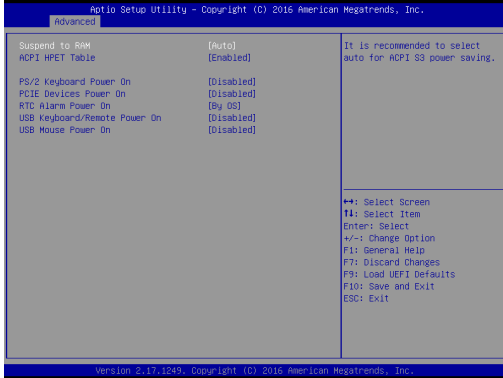
Use this set parameters of the onboard parallel port.

#### WDT Timeout Reset

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

---

### 3.3.6 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.

#### **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.

#### **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.

#### **PCIe Devices Power On**

Use this item to enable or disable PCIe devices 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.

---

### 3.3.7 USB Configuration



#### Legacy USB Support

Enable or disable Legacy OS Support for USB 2.0 devices. If you encounter USB compatibility issues it is recommended to disable legacy USB support. Select UEFI Setup Only to support USB devices under the UEFI setup and Windows/Linux operating systems only.

#### PS/2 Simulator

Enable PS/2 Simulator. This should be enabled for the complete USB keyboard legacy support for non-USB aware OSES.

\* Enable this option if you install Windows 7.

---

### 3.3.8 Trusted Computing



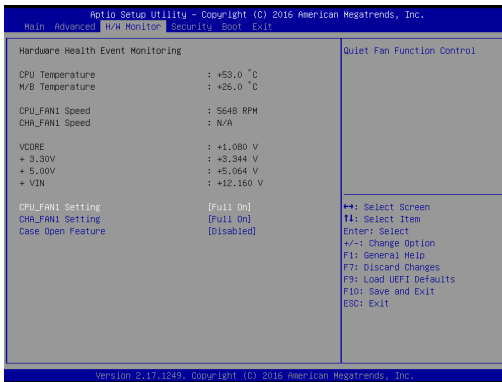
#### Security Device Support

Enable or disable BIOS support for security device.

---

### 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 fan 1's speed. Configuration options: [Full On] and [Automatic Mode]. The default value is [Full On].

#### CHA\_FAN1 Setting

This allows you to set chassis fan 1's speed. Configuration options: [Full On] and [Automatic Mode]. The default value is [Full On].

#### Case Open Feature

This allows you to enable or disable case open detection feature. The default is value [Disabled].

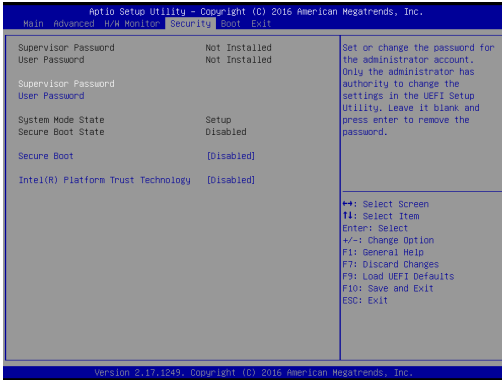
#### Clear Status

This option appears only when the case open has been detected. Use this option to keep or clear the record of previous chassis intrusion status.

---

## 3.5 Security Screen

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



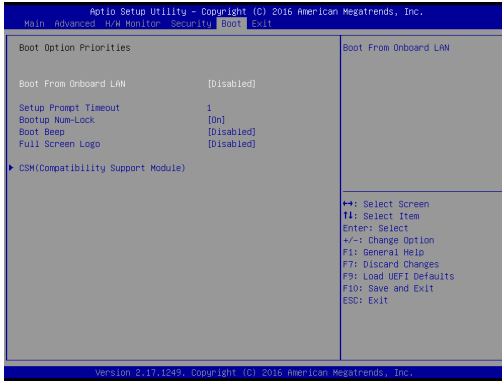
### Secure Boot

Use this to enable or disable Secure Boot. The default value is [Disabled].

---

## 3.6 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.



### Boot From Onboard LAN

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

### 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.

### Boot Beep

Select whether the Boot Beep should be turned on or off when the system boots up. Please note that a buzzer is needed.

### Full Screen Logo

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

### CSM

Please disable CSM when you enable Fast Boot option. The default value is [Enabled].



Auto Setup Utility - Copyright (C) 2016 American Megatrends, Inc.

Boot

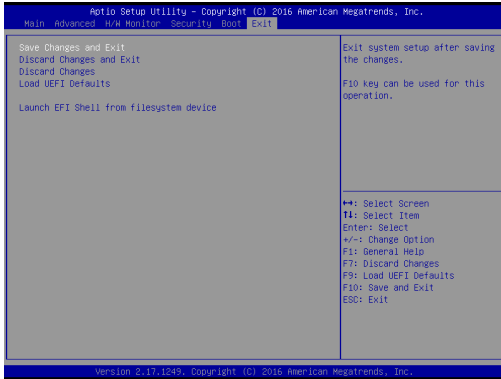
CSM	[Enabled]	Enable to launch the Compatibility Support Module.
Launch PXE OpROM Policy	[Legacy only]	If you are using Windows 8 or later versions 64-bit UEFI and all of your devices support UEFI, you may also disable CSM for faster boot speed.
Launch Storage OpROM Policy	[Legacy only]	
Launch Video OpROM Policy	[Legacy only]	

←: Select screen  
↑: Select Item  
Enter: Select  
+/-: Change Option  
F1: General Help  
F7: Discard Changes  
F9: Load UEFI Defaults  
F10: Save and Exit  
ESC: Exit

Version 2.17.1249. Copyright (C) 2016 American Megatrends, Inc.

---

## 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 various Microsoft® Windows® operating systems: 10 64-bit / 8.1 64-bit / 7 32-bit / 7 64-bit. 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.

### **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.

## Free Manuals Download Website

<http://myh66.com>

<http://usermanuals.us>

<http://www.somanuals.com>

<http://www.4manuals.cc>

<http://www.manual-lib.com>

<http://www.404manual.com>

<http://www.luxmanual.com>

<http://aubethermostatmanual.com>

Golf course search by state

<http://golfingnear.com>

Email search by domain

<http://emailbydomain.com>

Auto manuals search

<http://auto.somanuals.com>

TV manuals search

<http://tv.somanuals.com>