



# ..MX3150B# ..AL' %\* \$N

Mini-ITX Motherboard

User Manual

Version 1.2

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Version 1.2

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

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# Chapter 1: Introduction

Thank you for purchasing **MX3150B#AL' % \$N** motherboard, a reliable motherboard produced under our consistently stringent quality control. It delivers excellent performance with robust design conforming to our 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 contains the configuration guide to BIOS setup.



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 our website without further notice.

If you require technical support related to this motherboard, please visit our website for specific information about the model you are using.

## 1.1 Package Contents

**MX3150B#AL' % \$N** Motherboard (Mini-ITX Form Factor: 6.7-in x 6.7-in, 17.0 cm x 17.0 cm)

1 x Regular I/O Shield

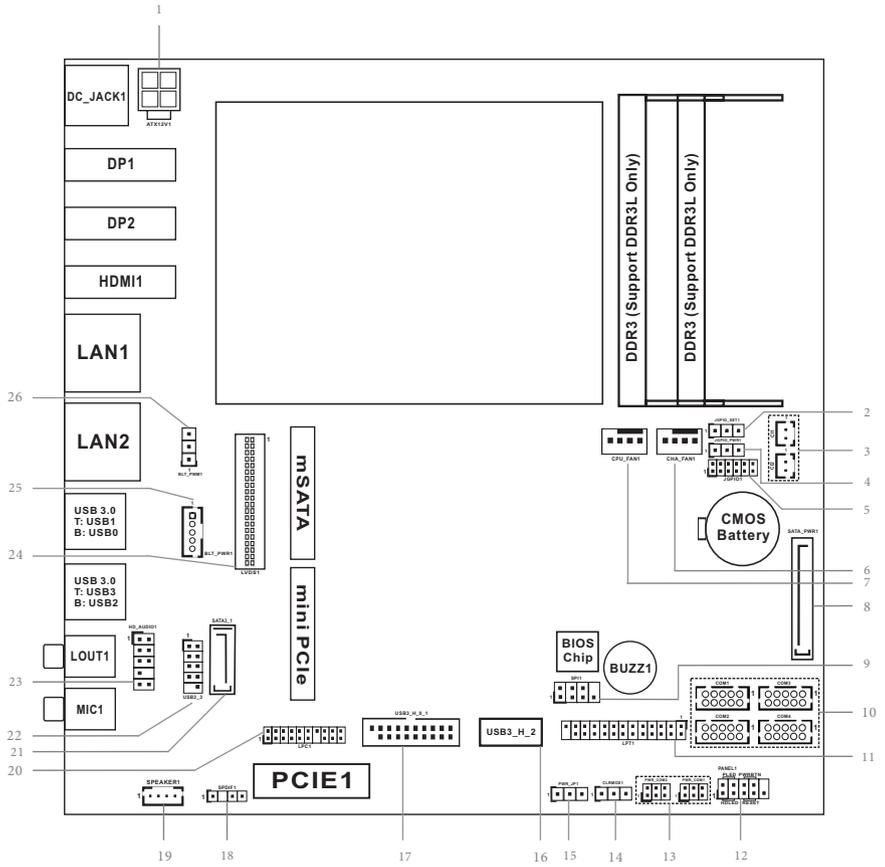
1 x Low Profile I/O Shield

## 1.2 Specifications

<b>Form Factor</b>	Dimensions	Mini-ITX (6.7-in x 6.7-in)
<b>Processor System</b>	CPU	Intel®Celeron®N3150/60 SoC 6W TDP processor
	Core Number	4
	Max Speed	2.08 GHz (N3150) / 2.24 GHz (N3160)
	L2 Cache	2MB
	Chipset	SoC
	BIOS	AMI® 64Mb SPI BIOS
<b>Expansion Slot</b>	PCI	1 x PCIe x1 slot
	Mini-PCIe	1 (full/half size)
	mSATA	1
<b>Memory</b>	Technology	Dual Channel DDR3L 1333/1600 MHz SDRAM
	Max.	8GB
	Socket	2 x SO-DIMM
<b>Graphics</b>	Controller	Intel® Gen8 Intel® Graphics DX 11.1, OGL4.2
	VRAM	Shared Memory up to 512MB
	LVDS	Dual channel 24-bit, max resolution 1920 x 1200@60Hz
	HDMI	Supports HDMI 1.4b
	Multi Display	3 independant
<b>Ethernet</b>	Ethernet	10/100/1000 Mbps
	Controller	2 x Intel® i211-AT
	Connector	2 x RJ-45
<b>SATA</b>	Max Data Transfer Rate	SATA3 (6.0Gb/s)
<b>Rear I/O</b>	VGA	0
	DVI	0
	HDMI	1
	DisplayPort	2
	Ethernet	2
	USB	4 x USB 3.0
	Audio	2 (Mic-in, Line-out)
	Serial	0
PS/2	0	

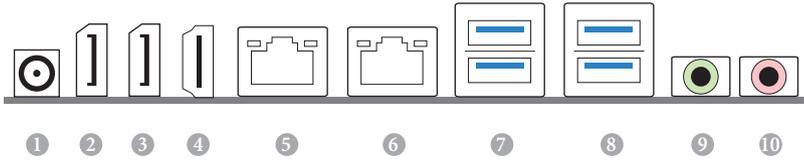
<b>Internal Connector</b>	USB	3 x USB 3.0 (1 x 2.00 pitch header, 1 x Vertical Type A) 2 x USB 2.0 (1 x 2.54 pitch header)
	LVDS/ Inverter	1/1
	VGA	0
	Serial	1 x RS-232/422/485, 3 x RS-232 (4 x 2.00 pitch header)
	SATA	1 x SATA3 (6.0Gb/s)
	mPCIe	1
	Parallel	1
	mSATA	1
	IrDA	0
	GPIO	4 x GPI + 4 x GPO
	SATA PWR Output Con	1
	Speaker Header	0
	<b>Watchdog Timer</b>	Interval
<b>Power Requirements</b>	Input PWR	12V DC-in (DC Jack / 4-pin ATX PWR Con)
	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 Motherboard Layout



- 
- 1 : 4-pin ATX Power Input/Output Connector
  - 2 : GPIO Default Setting
  - 3 : Chassis Intrusion Headers
  - 4 : Digital Input/Output Power Select
  - 5 : Digital Input/Output Pin Header
  - 6 : 4-Pin Chassis FAN Connector (+12V)
  - 7 : 4-Pin CPU FAN Connector (+12V)
  - 8 : SATA Power Connector
  - 9 : SPI Connector
  - 10 : COM1, 2, 3, 4 Headers
  - 11 : Printer Port Header
  - 12 : System Panel Header
  - 13 : COM Port Pin9 PWR Setting Jumpers
    - PWR\_COM1 (For COM Port1)
    - PWR\_COM2 (For COM Port2)
  - 14 : Clear CMOS Header
  - 15 : ATX/AT Mode Select
  - 16 : Vertical Type A USB3.0 Port
  - 17 : USB3.0 Header
  - 18 : SPDIF Header
  - 19 : 3W Audio AMP Output Wafer
  - 20 : LPC Header
  - 21 : SATA3 Connector
  - 22 : USB2.0 Header
  - 23 : Front Panel Audio Header
  - 24 : LVDS Panel Connector
  - 25 : Inverter Power Control Wafer (BLT\_PWR1)
  - 26 : Backlight Control Level (BLT\_PWM1)

## 1.4 I/O Panel



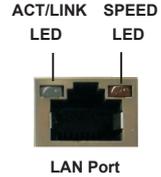
- |                          |                            |
|--------------------------|----------------------------|
| 1 DC Jack                | 6 LAN RJ-45 Port (LAN2)*   |
| 2 DisplayPort (DP1)      | 7 USB 3.0 Ports (USB3_0_1) |
| 3 DisplayPort (DP2)      | 8 USB 3.0 Ports (USB3_2_3) |
| 4 HDMI Port (HDMI1)      | 9 Line out (Green)         |
| 5 LAN RJ-45 Port (LAN1)* | 10 Microphone (Pink)       |

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

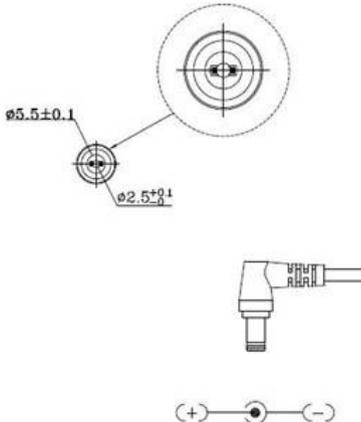
### LAN Port LED Indications

Activity/Link LED	
Status	Description
Off	No Link
Blinking	Data Activity
On	Link

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



The outside diameter for the DC plug needs to be 5.5mm, with the polarity shown below:



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## 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.

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## 2.3 Installation of Memory Modules (SO-DIMM)

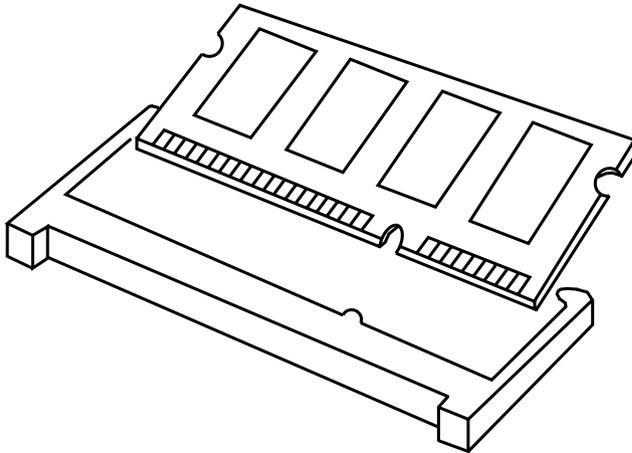
**MX3150N/MX3160N** motherboard provides two 204-pin DDR3 (Double Data Rate 3) SO-DIMM slots, which support Dual Channel DDR3L (low voltage).



1. If you install one memory module only, please install it on DDR3\_A1.
2. 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 make sure to disconnect the power supply before adding or removing SO-DIMMs or the system components.
3. 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 at incorrect orientation.

### Installing a SO-DIMM

Step 1. Align a SO-DIMM on the slot such that the notch on the SO-DIMM matches the break on the slot.



Step 2. 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.

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

There is 1 mini-PCIe slot, 1 mini-SATA slot and 1 PCI Express slot on this motherboard.

### **mini-PCIe slot:**

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

### **mini-SATA slot:**

MINI\_SATA1 (mini-SATA slot; full size) is used for mSATA cards.

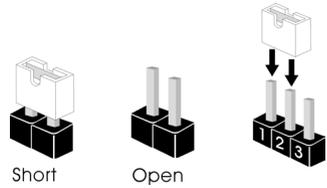
**PCIe slot:** PCIe1 (PCIe x1 slot) is used for PCI Express x1 lane width cards.

## **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.



**Clear CMOS Jumper**  
(CLRCMOS1)  
(see p.8, No. 14)



**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, and time will be cleared only if the CMOS battery is removed.

**Digital Input / Output Power Select**  
(3-pin JGPIO\_PWR1)  
(see p.8 No. 4)



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

**ATX/AT Mode Select**  
(3-pin PWR\_JP1)  
(see p.8 No. 15)



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

**Backlight Control Level (CON\_LBKLT\_CTL)**  
(3-pin BLT\_PWM1)  
(see p.8, No. 26)



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

**COM Port Pin9 PWR Setting Jumpers**  
(6-pin PWR\_COM1, for COM Port1)  
(6-pin PWR\_COM2, for COM Port2)  
(see p.8, No. 13)



1-2: +12V  
3-4: RI#  
5-6: +5V

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**GPIO Default Setting**

(3-pin JGPIO\_SET1)

(see p.8 No. 2)



1-2: Pull-High

2-3: Pull-Low

## 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!

### SATA3 Connector

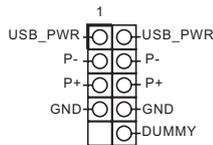
(SATA3\_1: see p.8, No. 21)



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

### USB 2.0 Connector

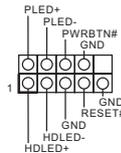
(9-pin USB2\_3)  
(see p.8 No. 22)



There is one USB 2.0 connector on this motherboard. This USB 2.0 connector can support two USB ports.

### System Panel Header

(9-pin PANEL1)  
(see p.8 No. 12)



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 assignments are matched correctly.

### 3W Audio AMP Output Wafer

(4-pin SPEAKER1)

(see p.8 No. 19)

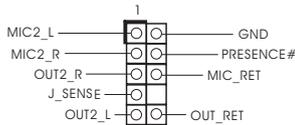


PIN	Signal Name						
1	SPK L-	2	SPK L+	3	SPK R+	4	SPK R-

### Front Panel Audio Header

(9-pin HD\_AUDIO1)

(see p.8 No. 23)



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:

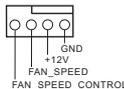
- A. Connect Mic\_IN (MIC) to MIC2\_L.
- B. Connect Audio\_R (RIN) to OUT2\_R and Audio\_L (LIN) to OUT2\_L.
- C. Connect Ground (GND) to Ground (GND).
- D. MIC\_RET and OUT\_RET are for HD audio panel only. You don't need to connect them for AC'97 audio panel.
- E. To activate the front mic.

Go to the "FrontMic" Tab in the Realtek Control panel. Adjust "Recording Volume".

### Chassis Fan Connector

(4-pin CHA\_FAN1)

(see p.8 No. 6)

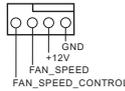


Please connect the fan cable to the fan connector and match the black wire to the ground pin.

### CPU Fan Connector

(4-pin CPU\_FAN1)

(see p.8 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

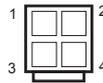


### ATX Power Input/Output Connector

(Input 12V)

(4-pin ATX12V1)

(see p.8 No. 1)



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

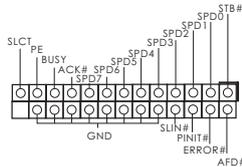
1-2: GND

3-4: DC Input

### Printer Port Header

(25-pin LPT1)

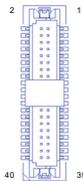
(see p.8 No. 11)



### LVDS Connector

(40-pin LVDS1)

(see p.8 No. 24)

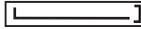


PIN	Signal Name	PIN	Signal Name
2	VDD_+5V	1	VDD_+3.3V
4	VDD_+5V	3	VDD_+3.3V
6	DDC_DATA	5	DDC_CLK
8	GND	7	GND
10	LVDS_A0+	9	LVDS_A1+
12	LVDS_A0-	11	LVDS_A1-
14	GND	13	GND
16	LVDS_A2+	15	LVDS_A3+
18	LVDS_A2-	17	LVDS_A3-
20	GND	19	GND
22	LVDS_B0+	21	LVDS_B1+
24	LVDS_B0-	23	LVDS_B1-
26	GND	25	GND
28	LVDS_B2+	27	LVDS_B3+
30	LVDS_B2-	29	LVDS_B3-
32	GND	31	GND
34	LVDS_A_CLK+	33	LVDS_B_CLK+
36	LVDS_A_CLK-	35	LVDS_B_CLK-
38	GND	37	GND
40	VDD_+12V	39	VDD_+12V

## SATA Power Connector

(SATA\_PWR1)

(see p.8 No. 8)



## Chassis Intrusion Headers

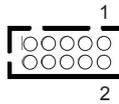
(2-pin CI1, CI2: see p.8, No. 3)



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.

## COM1, 2, 3, 4 Headers

(9-pin COM1/COM2/COM3/COM4: see p.8, No. 10)



PIN	Signal Name								
9	RI#	7	RRTS#	5	GND	3	TTXD	1	DDCD#
10	DUMMY	8	CCTS#	6	DDSR#	4	DDTR#	2	RRXD

\* 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 27 for details.

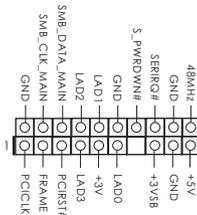
### COM1 Port Pin Definition

PIN	RS232	RS422	RS485
1	DCD	TX-	RTX-
2	RXD	RX+	N/A
3	TXD	TX+	RTX+
4	DTR	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

## LPC Header

(19-pin LPC1)

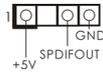
(see p.8, No. 20)



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.

### SPDIF Header

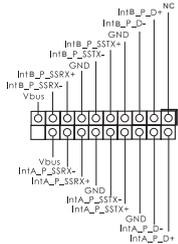
(3-pin SPDIF1: see p.8, No. 18)



### USB 3.0 Connector

(9-pin USB3\_H\_0\_1)

(see p.8 No. 17)



There is one USB 3.0 connector on this motherboard. This USB 3.0 connector can support two USB ports.

### Vertical Type A USB3.0 Port

(USB3\_H\_2)

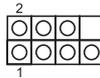
(see p.8 No. 16)



There is one Vertical Type A USB 3.0 port on this motherboard.

### SPI Connector

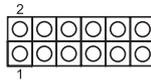
(7-pin SPI1: see p.8, No. 9)



PIN	Signal Name						
2	GND	4	CLK	6	SPI_MOSI	8	NC
1	+1.8V	3	SPI_CS0#	5	SPI_MISO	7	SPI_HOLD#

### Digital Input/Output Pin Header

(12-pin JGPIO1: see p.8, No. 5)



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	SMB_CLK	10	SMB_DATA
11	JGPIO_PWR	12	GND

### Inverter Power Control Wafer

(5-pin BLT\_PWR1: see p.8, No. 25)



PIN	Signal Name
1	+12_BL
2	GND
3	CON_LBKLT_EN
4	CON_LBKLT_CTL
5	+5V_BL

---

## 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.



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
- Advanced**            To set up the advanced UEFI features
- H/W Monitor**        To display current hardware status
- Security**             To set up the security features
- Boot**                 To set up the default system device to locate and load the Operating System
- 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.

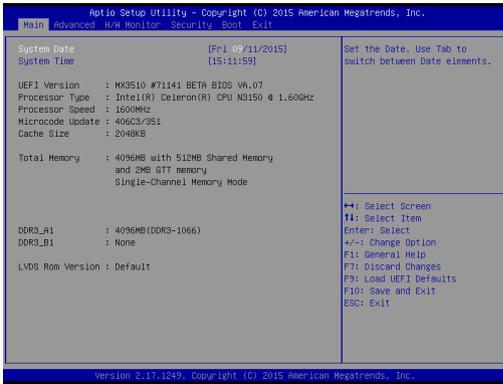
### 3.1.2 Navigation Keys

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 Trusted Computing.



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

---

### 3.3.1 CPU Configuration



#### 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® 8 / 8.1 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.

#### 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)

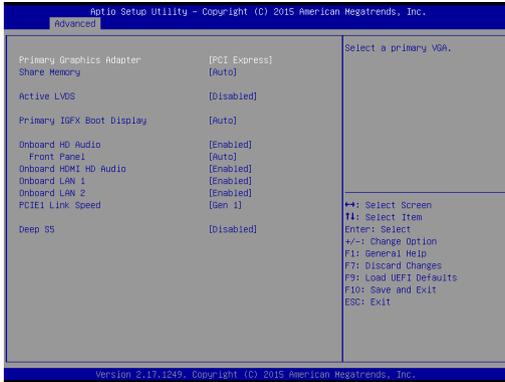
Enable Enhanced Halt State (C1E) for lower power consumption.

#### 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.

---

## 3.3.2 Chipset Configuration



### Primary Graphics Adapter

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

### Share Memory

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

### Active LVDS

Use this to enable or disable the LVDS.

### Primary IGFX Boot Display

Select a primary output display.

### Onboard HD Audio

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

#### Front Panel

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

### Onboard HDMI HD Audio

This allows you to enable or disable the Onboard HDMI HD Audio feature.

### Onboard LAN 1

This allows you to enable or disable the Onboard LAN 1 feature.

### Onboard LAN 2

This allows you to enable or disable the Onboard LAN 2 feature.

### PCIe1 Link Speed

Select the link speed for PCIe1.

### Deep S5

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

---

### 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 [Disabled]. 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.

#### Aggressive Link Power Management

Use this item to configure 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 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.

#### 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.

#### **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.

#### **PCIE Devices Power On**

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

#### **Ring-In Power On**

Allow the system to be waked up by onboard COM port modem Ring-In signals.

#### **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



#### 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 Trusted Computing



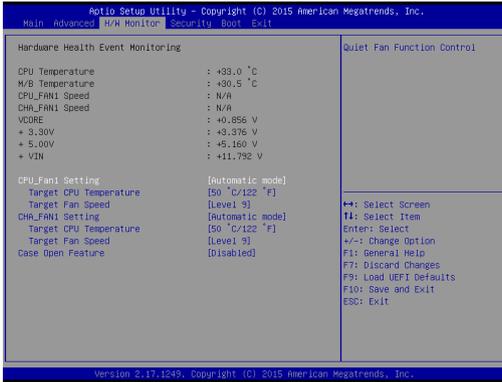
#### Security Device Support

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\_FAN1's speed. Configuration options: [Full On] and [Automatic Mode].

### CHA\_FAN1 Setting

This allows you to set CHA\_FAN1's speed. Configuration options: [Full On] and [Automatic Mode].

### 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.



### Supervisor Password

Set or change the password for the administrator account. Only the administrator has authority to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

### User Password

Set or change the password for the user account. Users are unable to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

### Secure Boot

Enable to support Windows 8 64-bit Secure Boot.

---

## 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.



### Fast Boot

Fast Boot minimizes your computer's boot time. There are three configuration options: [Disabled], [Fast] and [Ultra Fast]. The default value is [Disabled]. Please refer to below descriptions for the details of these three options:

[Disabled] - Disable Fast Boot.

[Fast] - The only restriction is you may not boot by using an USB flash drive.

[Ultra Fast] - There are a few restrictions.

1. Only supports Windows® 8 64-bit UEFI operating system.
2. You will not be able to enter BIOS Setup (Clear CMOS or run utility in Windows® to enter BIOS Setup).
3. If you are using an external graphics card, the VBIOS must support UEFI GOP in order to boot.

### 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.

### Bootstrap 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.

---

## CSM (Compatibility Support Module)



### CSM

Enable to launch the Compatibility Support Module. Please do not disable unless you're running a WHCK test. If you are using Windows® 8 64-bit and all of your devices support UEFI, you may also disable CSM for faster boot speed.

---

## 3.7 Exit Screen



### **Reset System with ME disable Mode**

ME will run into the temporary disable mode. Ignore it if ME Ignition FW.

### **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.