

# MX110HD

User's Manual

Ver 1.0

Intel® H110 Mini ITX Motherboard supports 14nm Intel® i7/i5/i3  
6<sup>th</sup> / 7<sup>th</sup> generation Desktop Processors (Skylake / Kabylake Platform)



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# Safety Information

## Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

## Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.



The symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

## Safety Declaration

This device complies with the requirements in Part 15 of the FCC rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

## About this guide

This user guide contains the information you need when installing and configuring the motherboard.

## How this guide is organized

This manual contains the following parts:

- **Section 1: Product introduction**  
This chapter describes the features of the motherboard and the new technology it supports. This chapter also lists the hardware setup procedures that you have to perform when installing system components. It includes description of the jumpers and connectors on the motherboard.
- **Section 2: BIOS setup**  
This chapter tells how to change system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

## Where to find more information

Refer to the following sources for additional information and for product and software updates.

### 1. Motherboard User's Manual and Device Drivers

Motherboard User's Manual and Device Drivers can be downloaded at BCM Advanced Research website: [http://www.bcmcom.com/bcm\\_support\\_drivers.htm](http://www.bcmcom.com/bcm_support_drivers.htm)

### 2. Technical Support

If a problem arises with your system and no solution can be obtained from the user's manual, please contact your place of purchase or local distributor. Alternatively, please try the following help resources for further guidance. Visit the BCM Advanced Research website:

<http://www.BCMCOM.com>

## Revision History

Revision	Revision History	Date
V1.0	First release version	2018/05

# 1. MX110HD Motherboard Features

This chapter briefly describes the Specifications of MX110HD board.

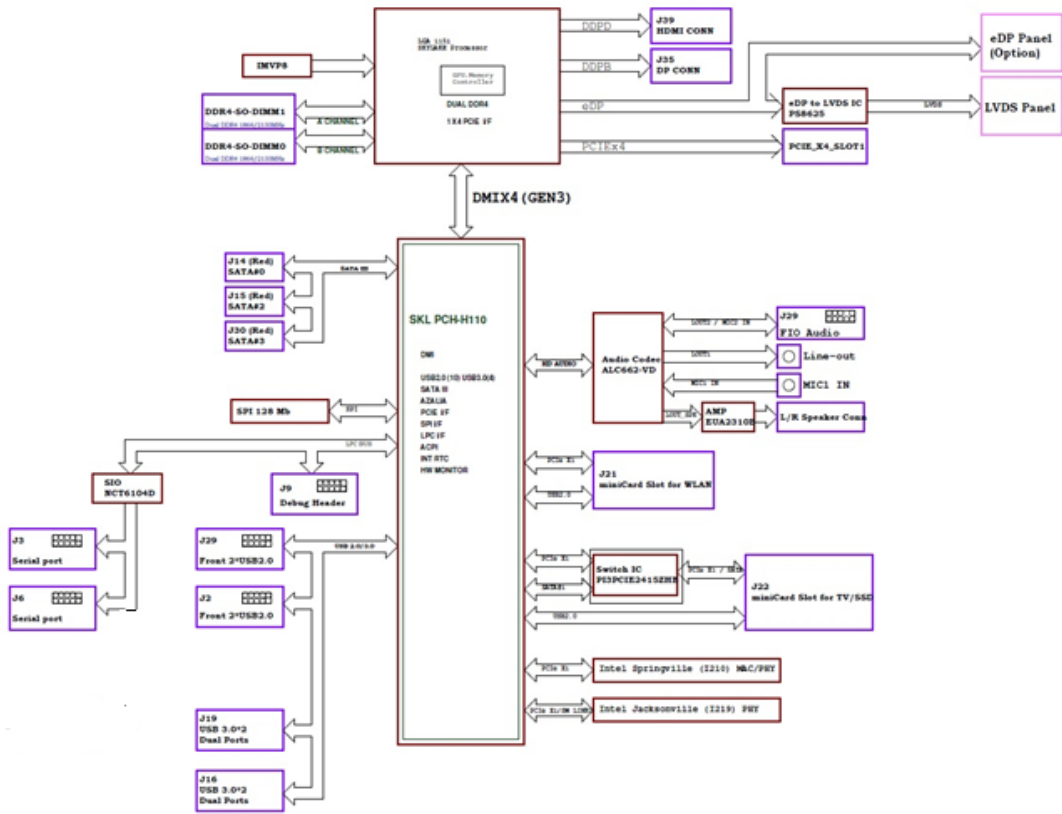
Table 1 summarizes the major features of the Board.

## 1. 1 Specifications Summary

<b>Form Factor</b>	Low-profile Mini-ITX (20 millimeters [0.79 inches] x 170.18 millimeters [6.7 inches] x 170.18 millimeters [6.7 inches])	
<b>Processor</b>	CPU Type : Intel Skylake/Kabylake Desktop CPU Core : Dual Core / Quad Core Socket : Socket LGA1151 TDP : Support up to 65W CPU types	
<b>Chipset</b>	Chipset Series : Intel® H110 Chipset	
<b>Memory</b>	Memory Type: DDR4 @ 1.2V, 2133MHz (Unbuffered Non-ECC) Memory Channel: Dual Channel Memory Capacity : Support total up to 32 GB ECC Support : No	
	Memory Socket: 260-pin So-DIMM socket	2
<b>Display</b>	DP & HD-out connector 40P Embedded LVDS / eDP connector (eDP optional)	
<b>Audio</b>	Codec: HD audio codec, Realtek ALC662 1 x front audio Header (Mic/HP) 1 x audio header to support system stereo speaker	
<b>Expansion Capability</b>	PCIe 3.0 x 4 slot	1
	PCI Express Full-/Half-Mini Card slot	1
	PCI Express Half-Mini Card slot	1
<b>Peripheral Interfaces</b>	USB 2.0 2x5 header	2
	Serial port header	2
	SATA 3.0 Gb/s	3
<b>Legacy I/O</b>	Nuvoton NCT6104D	
<b>LAN Support</b>	Intel® I219 Gigabit (10/100/1000 Mb/s) LAN Intel® I210 Gigabit (10/100/1000 Mb/s) LAN	
<b>BIOS</b>	Support for Advanced Configuration and Power Interface (ACPI) setting	
<b>Instantly Available PC Technology</b>	Suspend to RAM support Wake on PCI Express, LAN, front panel, and USB ports	
<b>Hardware Monitor Subsystem</b>	Hardware monitoring through the Nuvoton6104D legacy I/O controller, including: Remote thermal sensor, Speed control for 4-pin system fan header and 4-pin CPU fan header	
<b>Power Requirement</b>	1x Rear IO Barrel DC-input 12V~24V 1x ATX 4pin DC-input 12V~24V (Absolute Min: 11.6V, Absolute Max: 26.4V)	
<b>Environment</b>	Operating Temperature: 0 °C to +60 °C (32~140°F) Note: In environment of 45C or above, it requires active system fan cooling	
<b>Safety</b>	CE FCC	

TABLE 1. MX110HD FEATURES

## 2. Block Diagram



## 3. Processor

The board supports 6<sup>th</sup> / 7<sup>th</sup> generation Intel Core processors. Other processors may be supported in the future. This board supports processors with a maximum wattage of 65 W Thermal Design Power (TDP).

### NOTE

*This board has specific requirements for providing power to the processor. Additional power required will depend on configurations chosen by the integrator.*

The motherboard comes with a surface mount LGA1151 socket designed for the Intel® Core™ i7/ i5/ i3 processor in the 1151-land package.





- 
- Your boxed Intel® Core™ i7/ i5/ i3 LGA1151 processor package should come with installation instructions for the CPU, fan and heatsink assembly. If the instructions in this section do not match the CPU documentation, follow the latter.
  - Upon purchase of the motherboard, make sure that the PnP cap is on the socket and the socket pins are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket pins/motherboard components. BCM will shoulder the cost of repair only if the damage is shipment/transit-related.
  - Keep the cap after installing the motherboard. BCM will process Return Merchandise Authorization (RMA) requests only if the motherboard comes with the cap on the LGA1151 socket.
  - The product warranty does not cover damage to the socket pins resulting from incorrect CPU installation/removal, or misplacement/loss/incorrect removal of the PnP cap.
  - Install the CPU fan and heatsink assembly before you install motherboard to the chassis.
- 



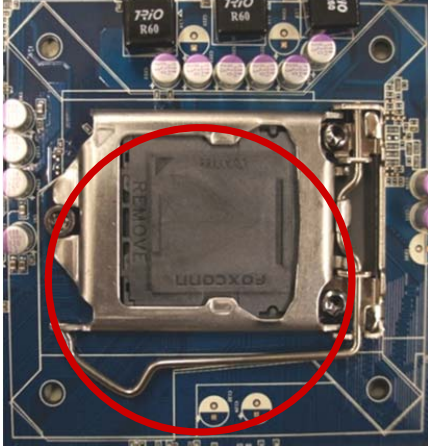
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If you purchased a separate CPU heatsink and fan assembly, make sure that you have properly applied Thermal Interface Material to the CPU heatsink or CPU before you install the heatsink and fan assembly.

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### 3.1 Installing the CPU

1. Locate the CPU socket on the motherboard.



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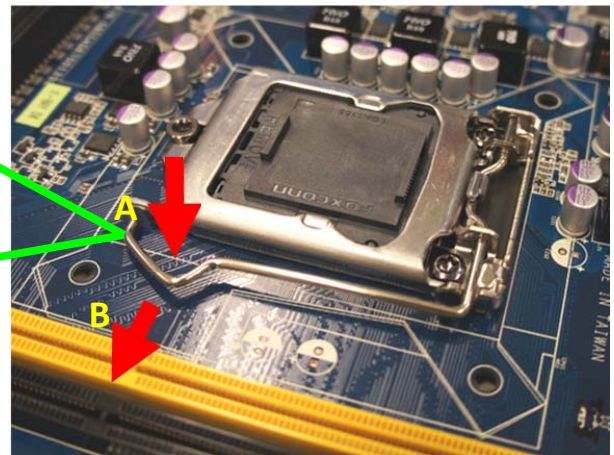
Before installing the CPU, make sure that the socket box is facing towards you and the load lever is on your left.

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2. Remove the PnP cap.
3. Press the load lever with your thumb (A), then move it to the left (B) until it is released from the retention tab.

**Retention tab**

**Load lever**

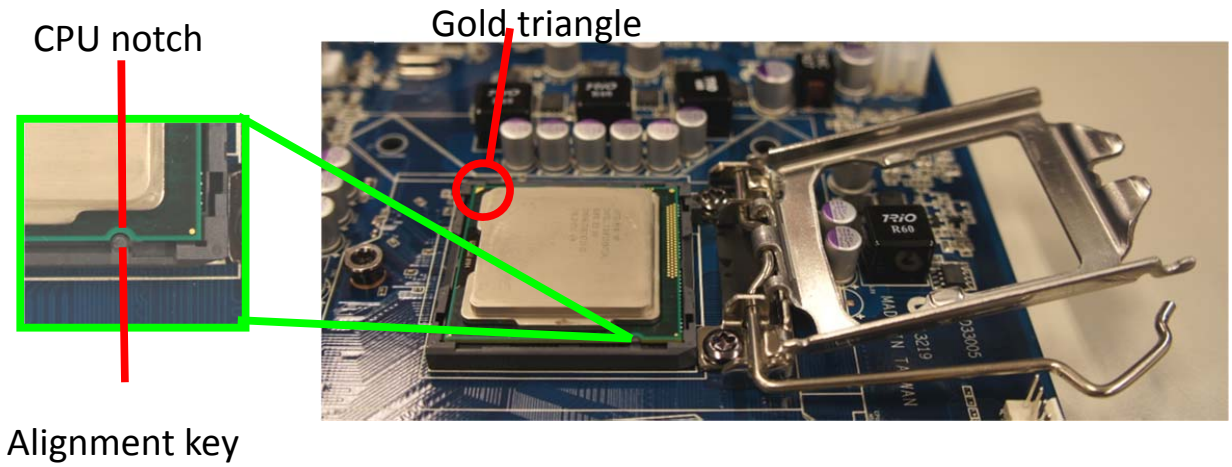


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To prevent damage to the socket pins, do not remove the PnP cap unless you are installing a CPU.

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4. Position the CPU over the socket, making sure that the gold triangle is on the top-left corner of the socket then fit the socket alignment key into the CPU notch.



5. Pull back the load lever, then push the load lever (A) until it snaps into the retention tab.



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The CPU fits in only one correct orientation. DO NOT force the CPU into the socket to prevent bending the connectors on the socket and damaging the CPU!

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### 3. 2 Installing the CPU Heatsink and Fan

Intel® Core™ i7/ i5/ i3 LGA1151 processor requires a specially designed heatsink and fan assembly to ensure optimum thermal condition and performance.



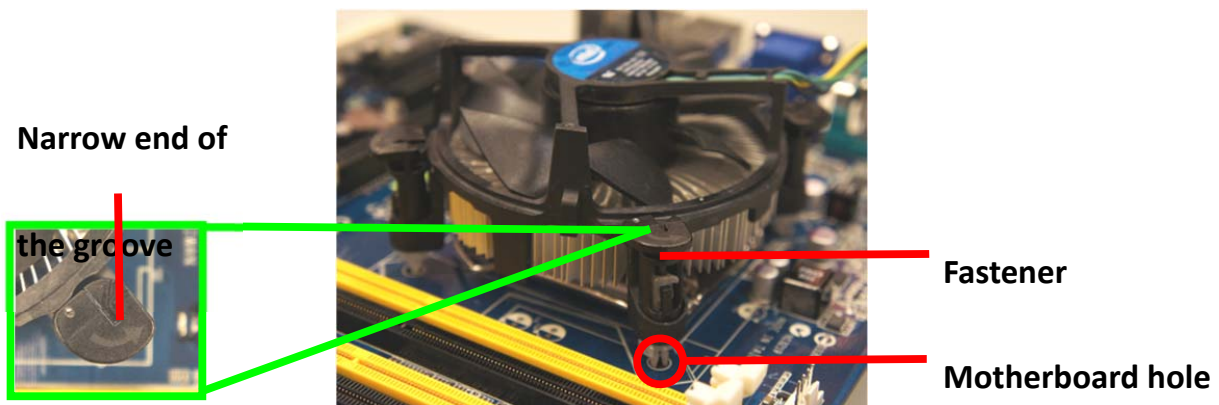
- Install the motherboard to the chassis before you install the CPU fan and heatsink assembly.
- When you buy a boxed Intel® Core™ i7/ i5/ i3 LGA1151 processor, the package includes the CPU fan and heatsink assembly. If you buy a CPU separately, make sure that you use only Intel® certified multi-directional heatsink and fan.
- Your Intel® Core™ i7/ i5/ i3 LGA1151 processor heatsink and fan assembly comes in a push-pin design and requires no tool to install.



If you purchased a separate CPU heatsink and fan assembly, make sure that you have properly applied Thermal Interface Material to the CPU heatsink or CPU before you install the heatsink and fan assembly.

To install the CPU heatsink and fan:

1. Place the heatsink on top of the installed CPU, making sure that the four fasteners match the holes on the motherboard.

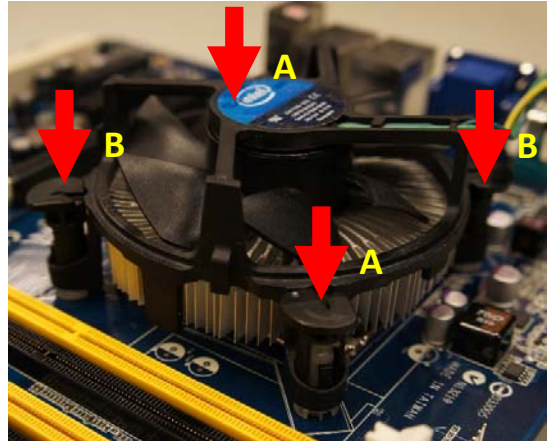
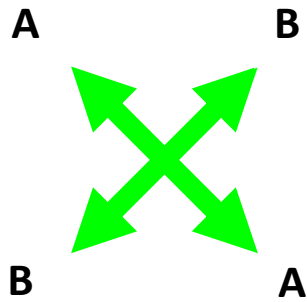


Orient the heatsink and fan assembly such that the CPU fan cable is closest to the CPU fan connector.

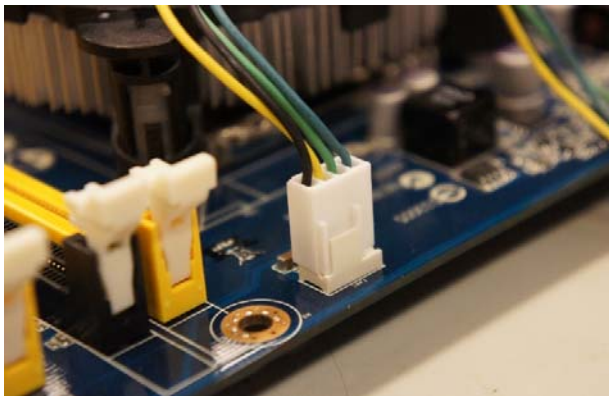


- 
- Make sure each fastener is oriented as shown, with the narrow groove directed outward.
- 

2. Push down two fasteners at a time in a diagonal sequence to secure the heatsink and fan assembly in place.



3. Connect the CPU fan cable to the connector on the motherboard labeled CPU\_FAN.



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Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components.

These are not jumpers! DO NOT place jumper caps on the fan connectors.

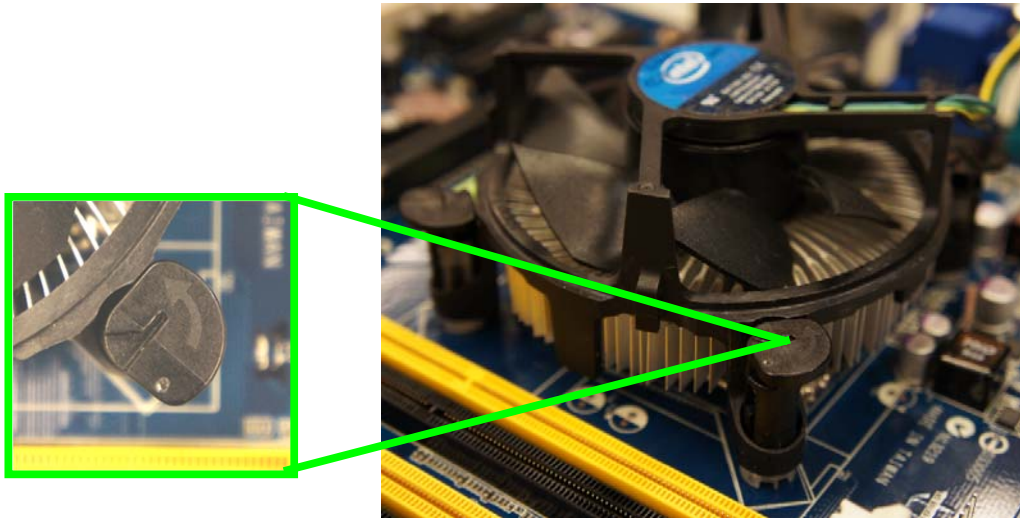
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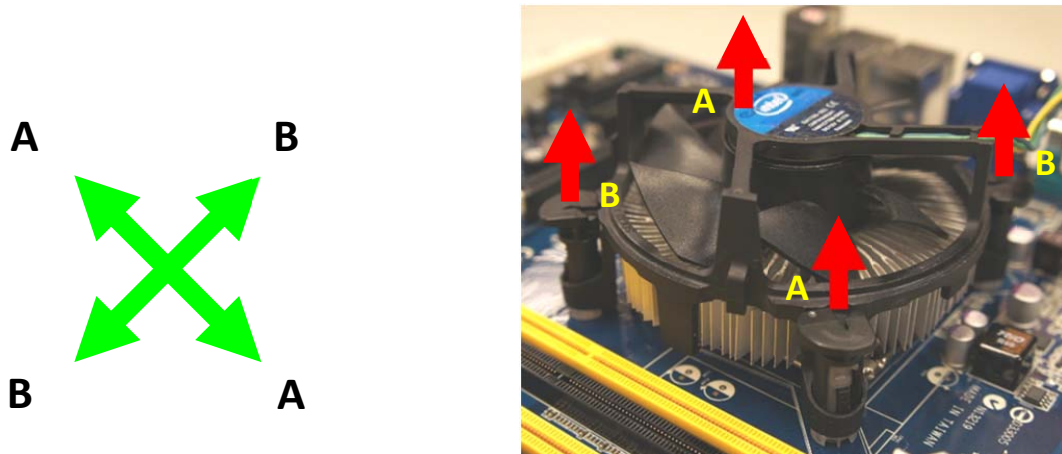
### 3.3 Uninstalling the CPU Heatsink and Fan

To uninstall the CPU heatsink and fan:

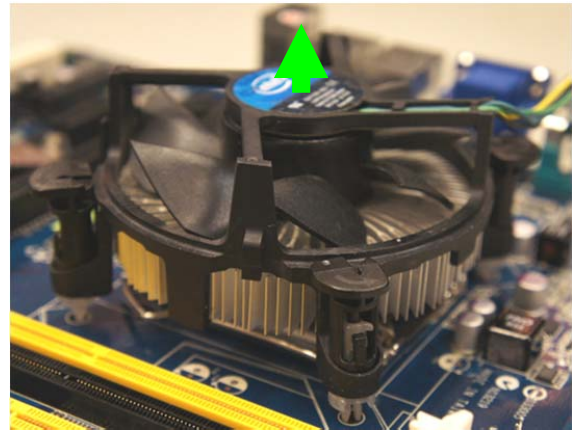
1. Disconnect the CPU fan cable from the connector on the motherboard.
2. Rotate each fastener counterclockwise



3. Pull up two fasteners at a time in a diagonal sequence to disengage the heatsink and fan assembly from the motherboard.



4. Carefully remove the heatsink and fan assembly from the motherboard.



5. Rotate each fastener clockwise to ensure correct orientation when reinstalling.



## 4. System Memory

The Desktop Board has two 260-pin DDR4 SO-DIMM sockets with gold-plated contacts.

### NOTE

*To be fully compliant with all applicable DDR SDRAM memory specifications, the board should be populated with DIMMs that support the Serial Presence Detect (SPD) data structure. This allows the BIOS to read the SPD data and program the chipset to accurately configure memory settings for optimum performance. If non-SPD memory is installed, the BIOS will attempt to correctly configure the memory settings, but performance and reliability may be impacted or the DIMMs may not function under the determined frequency.*

A DDR4 SODIMM module has the same physical dimensions as a DDR3 SODIMM but has a 260-pin footprint compared to the 204-pin DDR3 DIMM. DDR4 SODIMMs are notched differently to prevent installation on a DDR3 SODIMM socket.

### 4.1 Memory Configurations

You may install 4 GB, 8 GB, and 16 GB unbuffered non-ECC DDR4 SODIMMs into the SODIMM sockets using the memory configurations in this section.



- 
- If you installed one 4GB memory modules, the system may detect less than 4GB of total memory because of address space allocation for other critical functions. This limitation applies to Windows OS 32-bit version operating system since it does not support PAE (Physical Address Extension) mode.
  - For dual-channel configuration, the total size of memory module(s) installed per channel must be the same for better performance (ChannelA = ChannelB).
  - Always install SODIMMs with the same CAS latency. For optimum compatibility, it is recommended that you obtain memory modules from the same vendor.
-



## 4.2 Installing a DDR4 SODIMM

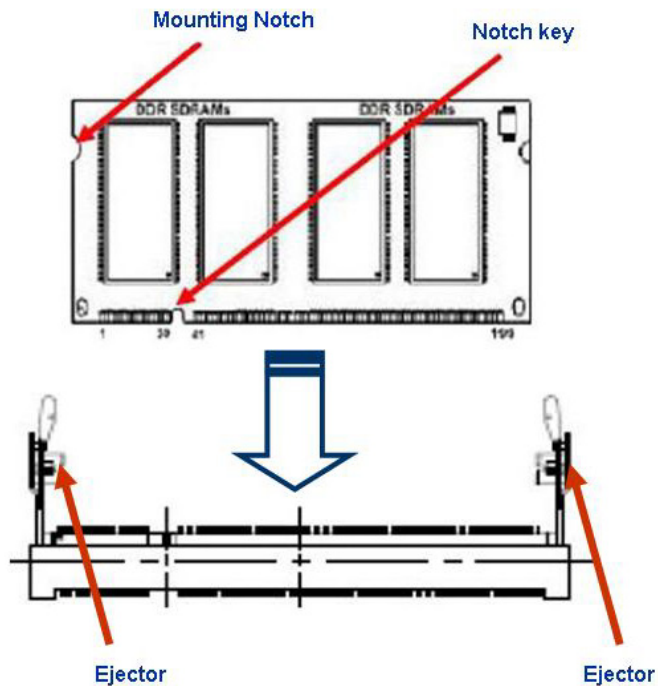


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Make sure to unplug the power supply before adding or removing DIMMs or other system components. Failure to do so may cause severe damage to both the motherboard and the components.

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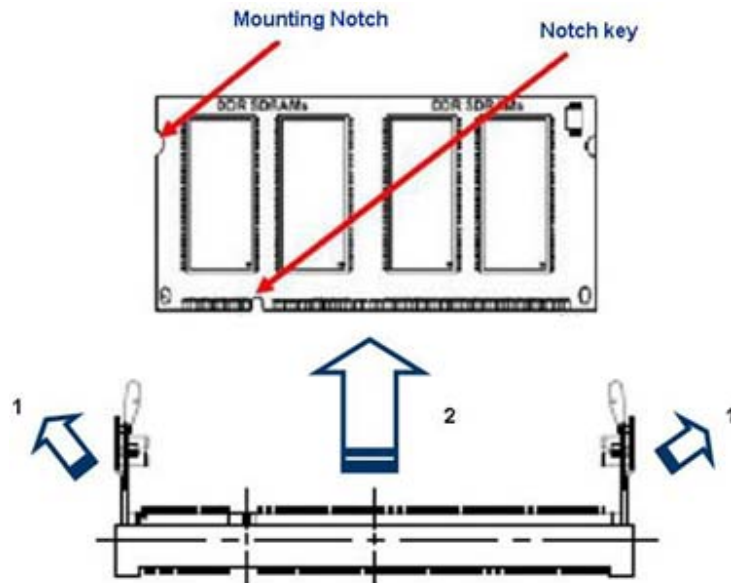
1. Locate the SODIMM socket on the board.
2. Hold two edges of the SODIMM module carefully, and keep away of touching its connectors.
3. Align the notch key on the module with the rib on the slot.
4. Firmly press the modules into the socket which will automatically snap into the mounting notch. Do not force the SODIMM module in with extra force as the DIMM module only fits in one direction.
5. Press down until SODIMM module Mounting Notch clicks in.



- 
- A DDR4 SODIMM is keyed with a notch so that it fits in only one direction. DO NOT force a SODIMM into a socket to avoid damaging the DIMM.
  - The DDR4 SODIMM sockets do not support DDR3 SODIMMs. DO NOT install DDR3 SODIMMs to the DDR4 SODIMM socket.
-

## 4.3 Removing a DDR4 SODIMM

1. Press the two ejector tabs on the slot outward simultaneously, and then pull out the DIMM module.

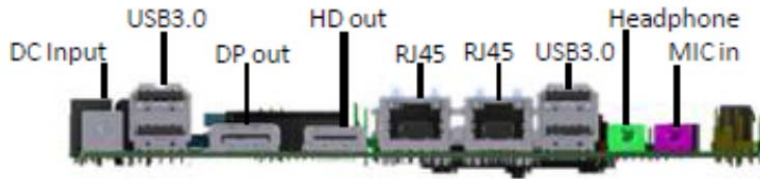


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Support the DIMM lightly with your fingers when pressing the ejector tabs. The DIMM might get damaged when it flips out with extra force.

---

## 5. Rear Panel connector Placement



Item	Function	Description
DC Input	DC power IN	12V ~ 24V only
USB 3.0	USB 3.0	USB 3.0 function and compatible with USB 2.0
DP out	Display port	Display port 20P connector
HD out	HDMI connector	High Definition Media Interface 19P connector
RJ45	LAN connector	This port allows Gigabit connection to a Local Area Network (LAN) through a network hub. Refer to 5.1 section for the LAN port LED indications.
Headphone	Headphone connector	This port connects a headphone or a speaker
MIC IN	Microphone port	This port connects a microphone

### 5.1 LAN

Board must implement a LAN solution supporting 10/100/1000 Mb/s with the following features:

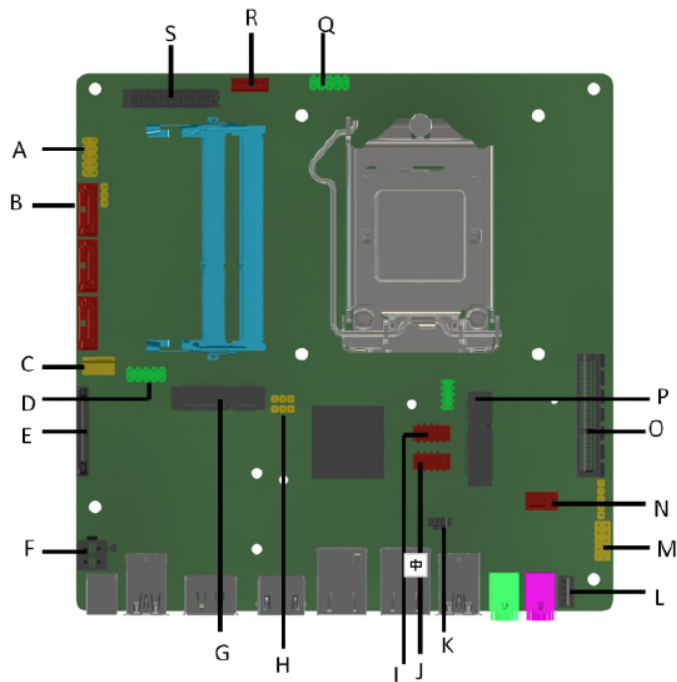
Onboard RJ45 connectors must have integrated magnetics and support dual status LEDs per port, as shown in Table

Diagram	LED	Color	State	Condition
<p>The diagram shows a close-up of an RJ45 connector on a PCB. Two LEDs are visible: a yellow one labeled 'Link/Activity' and a green one labeled 'Speed'. Arrows point from the labels to the respective LEDs.</p>	Link	N/A	Off	LAN link is not established
		Yellow	ON	LAN link is established
			Blinking	LAN activity occurring
	Speed	N/A	Off	10 Mb/S data rate
		Green	ON	100 Mb/S data rate
		Orange	ON	1000 Mb/S data rate

Table 2: RJ45 LED behavior

**Note:** LAN subsystem must be tested for IEEE802.3 conformance on each port.

## 6 On-Board I/O placement



Item	Description
A	Front panel connector
B	SATA III signal connector
C	CPU fan header
D	Dual USB2.0 header
E	SATA power connector
F	DC Power header(12~24V)
G	mSATA/ Mini PCIE slot
H	CMOS jumper
I	Serial header
J	Serial header
K	AT/ATX jumper
L	AMP SPK connector
M	Front Audio
N	System fan header
O	PCI Express X4 slot
P	Mini PCIE slot (Half Length)
Q	Dual USB2.0 header
R	Backlight (Brightness control)
S	LVDS connector

## 7 Internal Headers

### 7.1 Front IO

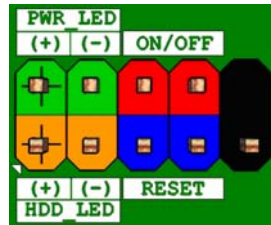


Figure 1 : Front SW/LEDs header pin-out

Signal	Pin	Pin	Signal
HD_LED+	1	2	PWR_LED+
HD_LED`	2	4	PWR_LED-
GND	5	6	PWR_BTN
RESET	7	8	GND
NC	9	10	[KEY]

Table 3: Front SW/LEDs header signals

### 7.2 LVDS Header

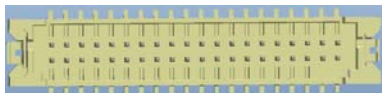


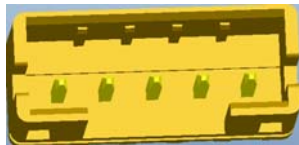
Figure 2: LVDS Connector

Signal	Pin	Pin	Signal
+3.3V	1	2	+5V
+3.3V	3	4	+5V
DDC_SCL	5	6	DDC_SDA
GND	7	8	GND
LVDS_A1+	9	10	LVDS_A0+
LVDS_A1-	11	12	LVDS_A0-
GND	13	14	GND

LVDS_A3+	15	16	LVDS_A2+
LVDS_A3-	17	18	LVDS_A2-
GND	19	20	GND
LVDS_B1+	21	22	LVDS_B0+
LVDS_B1-	23	24	LVDS_B0-
GND	25	26	GND
LVDS_B3+	27	28	LVDS_B2+
LVDS_B3-	29	30	LVDS_B2-
GND	31	32	GND
LVDS_B_CLK+	33	34	LVDS_A_CLK+
LVDS_B_CLK-	35	36	LVDS_A_CLK-
GND	37	38	GND
+12V	39	40	+12V

**Table 4: 40-pin LVDS data header pin-out reference**

## 7.3 LVDS Inverter power Header



**Figure 3: LVDS inverter power header pin-out**

Pin	Signal Name	Description
1	BKLT_PWR_12V	Inverter power
2	GND	Ground
3	BKLT_EN	Backlight enable
4	BRIGHT_CTRL	Backlight PWM control
5	LCD_5V	LCD power

**Table 5: 5-pin LVDS inverter power header signals**

## 7.4 USB 2.0 Header

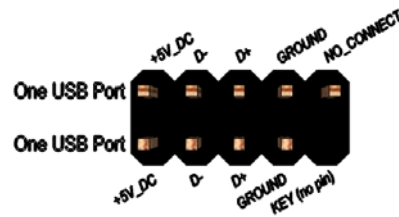


Figure 4: Dual USB2.0 pin-out

Pin	Signal	Pin	Signal
1	5V_USB	2	5V_USB
3	Data (negative)	4	Data (negative)
5	Data (positive)	6	Data (positive)
7	Ground	8	Ground
9	Key (no pin)	10	No Connect

Table 6 Dual USB 2.0 Header

## 7.5 Front panel Audio Header

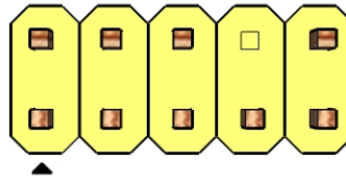


Figure 5: FP Audio pin-out

Pin	Signal Name	Description
1	FP_MIC_L	MIC Left channel
2	AGND	GND
3	FP_MIC_R	MIC Right channel
4	F_AUDIO_DET_N	Audio insertion detection
5	FP_HPOUT_R	HP out Right channel
6	AUD_SENSE_MIC_FP	MIC insertion detection
7	FIO_SENSE	FIO detection
8	Key	No pin
9	FP_HPOUT_L	HPOUT left channel
10	AUD_SENSE_HP	HP detection

Table 7: FP Audio Header

## 7.6 Internal speaker Header

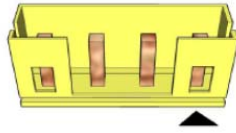


Figure 6: Internal speaker pin-out

Pin	Signal Name
1	Front_L-
2	Front_L+
3	Front_R+
4	Front_R-

Table 8: Internal header signals

## 7.7 Serial Port Header



Figure 7: Serial port header pin-out

Pin	Signal Name
1	DCD
2	RXD#
3	TXD#
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI
10	Key

Table 9: Serial port header pin-out



## 7.8 Fan Header

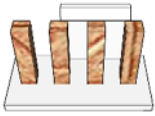


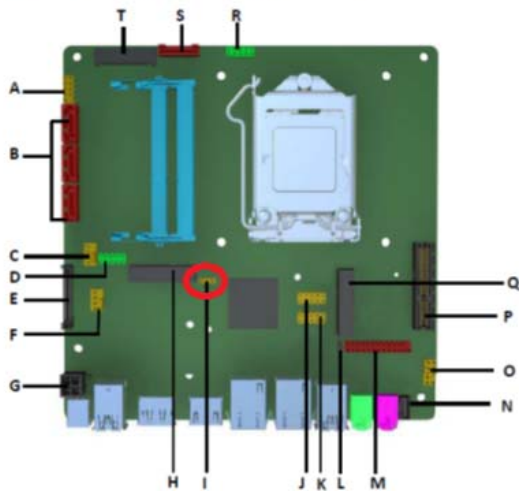
Figure 8 Processor fan header pin-out

Pin	Signal
1	Ground
2	+12V
3	CPU_FAN_TACH
4	CPU_FAN_CTRL

Table 10 fan header signals

## 7.9 Clear CMOS Header

### ■ On-board I/O Placement



### Normal (Default)



### Clear CMOS



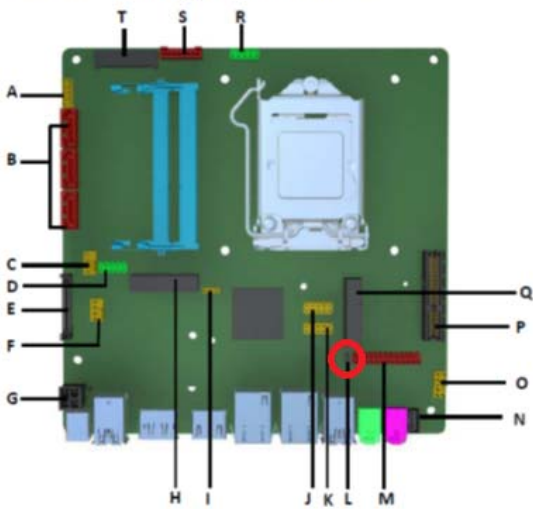
Figure 9: CMOS Clear

1-2	Clear CMOS	
2-3	Normal	

## 7.10 AT/ATX Power ON Mode Select Header

This jumper allows you to select ATX Mode or AT Mode

## ■ On-board I/O Placement



ATX MODE (Default)

AT MODE



AT Mode: When DC-In power is applied, system will power on automatically.

ATX Mode: Power button is required to power on system.

## 7.11 Half length Mini PCIe connector



Figure 10: MiniPCIe slot For WLAN pin-out

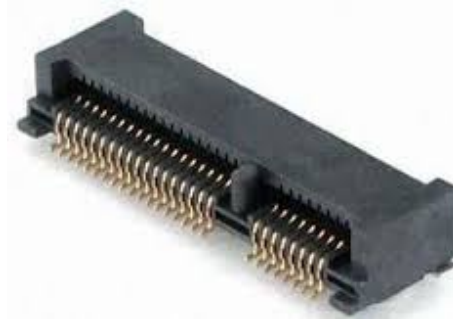
Pin	Signal Name	Description
1	WAKE-	Wake up
2	3VSB	Power
3	NC	NC
4	Ground	Ground
5	NC	NC
6	V_1P5	Power

7	CLKREQ_WLAN-	CLKREQ
8	NC	NC
9	Ground	Ground
10	NC	NC
11	PCH_100M_WIRELESS-	CLOCK(negative)
12	NC	NC
13	PCH_100M_WIRELESS	CLOCK(positive)
14	NC	NC
15	Ground	Ground
16	NC	NC
17	NC	NC
18	Ground	Ground
19	NC	NC
20	WLAN_DISABLE-	DAC output
21	Ground	Ground
22	PCIE_RST-	Reset
23	PCle_WIRELESS_RX-	Receive(negative)
24	3VSB	Power
25	PCle_WIRELESS_RX+	Receive(positive)
26	Ground	Ground
27	Ground	Ground
28	V_1P5	Power
29	Ground	Ground
30	SMB_CLK_RESUME	SMbus CLOCK
31	PCle_WIRELESS_TX-	Transmit(negative)
32	SMB_DATA_RESUME	SMbus DATA
33	PCle_WIRELESS_TX+	Transmit(positive)
34	Ground	Ground
35	Ground	Ground
36	USB_PCH_DN10	DATA(negative)
37	Ground	Ground
38	USB_PCH_DP10	DATA(Positive)
39	3VSB	Power
40	Ground	Ground
41	3VSB	Power
42	NC	NC
43	Ground	Ground
44	3VSB	Power
45	NC	NC
46	NC	NC
47	NC	NC
48	V_1P5	Power
49	NC	NC
50	Ground	Ground

51	NC	NC
52	3VSB	Power
GND1	Ground	Ground
GND2	Ground	Ground

**Table 11: MiniPCle slot For WLAN signals**

## 7.12 Full length Mini PCIe connector



**Figure 11: MiniPCle slot for mSATA/ WLAN card pin-out**

Pin	Signal Name	Description
1	NC	NC
2	3VSB	Power
3	NC	NC
4	Ground	Ground
5	NC	NC
6	V_1P5	Power
7	CLKREQ_TV-	CLKREQ
8	NC	NC
9	Ground	Ground
10	NC	NC
11	PCH_100M_TVBD-	CLOCK(negative)
12	NC	NC
13	PCH_100M_TVBD	CLOCK(positive)
14	NC	NC
15	Ground	Ground
16	NC	NC
17	NC	NC
18	Ground	Ground
19	NC	NC
20	NC	NC
21	Ground	Ground
22	PCIE_RST-	Reset

23	PCle_TVBD_RX-_R	Receive(negative)
24	3VSB	Power
25	PCle_TVBD_RX+_R	Receive(positive)
26	Ground	Ground
27	Ground	Ground
28	V_1P5	Power
29	Ground	Ground
30	SMB_CLK_MAIN	SMbus CLOCK
31	PCle_TVBD_TX-_R	Transmit(negative)
32	SMB_DATA_MAIN	SMbus DATA
33	PCle_TVBD_TX+_R	Transmit(positive)
34	Ground	Ground
35	Ground	Ground
36	USB_PCH_DN9	DATA(negative)
37	Ground	Ground
38	USB_PCH_DP9	DATA(Positive)
39	3VSB	Power
40	Ground	Ground
41	3VSB	Power
42	NC	NC
43	Ground	Ground
44	3VSB	Power
45	NC	NC
46	NC	NC
47	NC	NC
48	V_1P5	Power
49	NC	NC
50	Ground	Ground
51	NC	NC
52	3VSB	Power
GND1	Ground	Ground
GND2	Ground	Ground

**Table 12: MiniPCle mSATA/ WLAN card pin-out signals**

## 7.13 SATA power Header



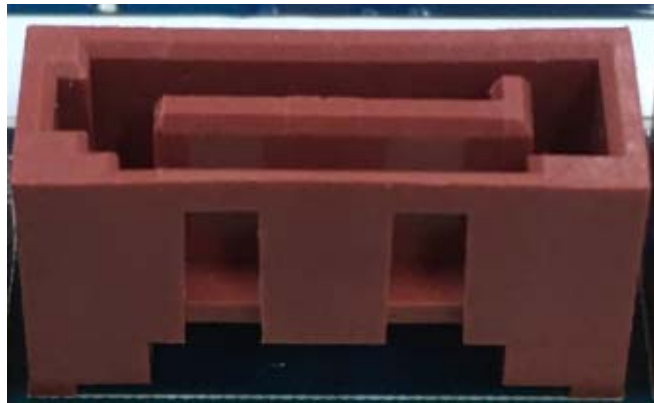
**Figure 12: SATA Power Cable pin-out**

Pin	Signal Name	Description
-----	-------------	-------------

1	VCC3	Power
2	VCC3	Power
3	VCC3	Power
4	GND	Ground
5	GND	Ground
6	GND	Ground
7	VCC	Power
8	VCC	Power
9	VCC	Power
10	GND	Ground
11	RES	NC
12	GND	Ground
13	+12V	Power
14	+12V	Power
15	+12V	Power

**Table 13: SATA Power Cable signals**

## 7.14 SATA Header



**Figure 13: SATA Header pin-out**

Pin	Signal Name	Description
1	GND	Ground
2	SATAHDR_TXP0_C	SATA DATA Transmit(positive)
3	SATAHDR_TXN0_C	SATA DATA Transmit(negative)
4	GND	Ground
5	SATAHDR_RXN0_C	SATA DATA Receive(negative)
6	SATAHDR_RXP0_C	SATA DATA Receive(positive)

7	GND	Ground
8	G1	NC
9	G2	NC

**Table 14: SATA Header signals**

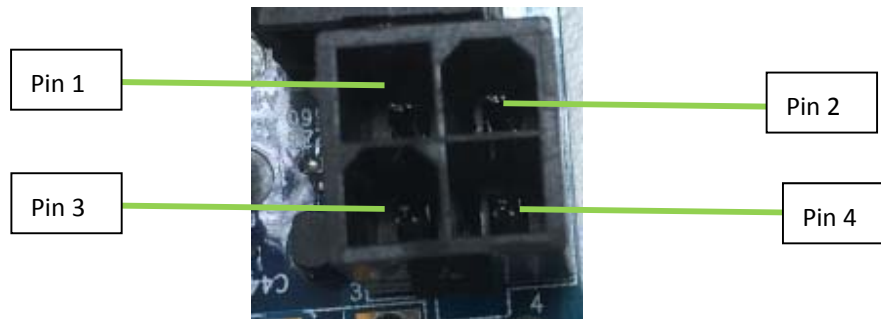
## 7.15 PCI Express Expansion Slots

PCI Express x4 slot must be compatible with PCI Express x4 and x1 add-on cards. Slot power capability must comply with 25W requirement as defined in the PCI Express Card Electromechanical 2.0 Specification. Routing WAKE# to support ACPI wake event.



**Figure 14 PCIE X4 slot**

## 7.16 ATX 4-pin DC Input power Header



**Figure 15: DC Input Power Header**

Pin	Signal Name	Description
1	GND	Ground
2	GND	Ground
3	Power_Input	DC-IN Power: 12V ~24V IN
4	Power_Input	DC-IN Power: 12V ~24V IN

**Table 15: DC power Header signals**

## 1. BIOS Setup

This motherboard supports a programmable firmware chip that you can update using the provided utility. Use the BIOS Setup program when you are installing a motherboard, reconfiguring your system, or prompted to “Run Setup.” This section explains how to configure your system using this utility.

Even if you are not prompted to use the Setup program, you can change the configuration of your computer in the future. For example, you can enable the security password feature or change the power management settings. This requires you to reconfigure your system using the BIOS Setup program so that the computer can recognize these changes and record them in the CMOS RAM of the firmware hub.

The firmware hub on the motherboard stores the Setup utility. When you start up the computer, the system provides you with the opportunity to run this program. Press <Del> during the Power-On-Self-Test (POST) to enter the Setup utility; otherwise, POST continues with its test routines.

If you wish to enter Setup after POST, restart the system by pressing <Ctrl+Alt+Delete>, or by pressing the reset button on the system chassis. You can also restart by turning the system off and then back on. Do this last option only if the first two failed.

The Setup program is designed to make it as easy to use as possible. Being a menu-driven program, it lets you scroll through the various sub-menus and make your selections from the available options using the navigation keys.



- The default BIOS settings for this motherboard apply for most conditions to ensure optimum performance. If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Select the **Load Optimized Defaults** from the BIOS menu screen.
- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.
- Visit the system builder’s website to download the latest BIOS file for this motherboard



## 1.1. Legend Box


The keys in the legend bar allow you to navigate through the various setup menus

Key(s)	Function Description
→←	Select Screen
↑↓	Select Item
Enter	Select
+/-	Change Opt.
F1	General Help
F2	Previous Values
F3	Optimal Defaults
F4	Save and Exit
ESC	Exit

## 1.2 List Box

This box appears only in the opening screen. The box displays an initial list of configurable items in the menu you selected.

## 1.3 Sub-menu

Note that a right pointer symbol  appears to the left of certain fields. This pointer indicates that you can display a sub-menu from this field. A sub-menu contains additional options for a field parameter. To display a sub-menu, move the highlight to the field and press <Enter>. The sub-menu appears. Use the legend keys to enter values and move from field to field within a sub-menu as you would within a menu. Use the <Esc> key to return to the main menu.

Take some time to familiarize yourself with the legend keys and their corresponding functions. Practice navigating through the various menus and submenus. If you accidentally make unwanted changes to any of the fields, press <F9> to load the optimal default values. While moving around through the Setup program, note that explanations appear in the Item Specific Help window located to the right of each menu. This window displays the help text for the currently highlighted field.

## 2. Main Page

Main	Advanced	Chipset	Security	Boot	Save & Exit
<b>BIOS Information</b> BIOS Vender                    American Megatrends Core Version                    5.11 Compliancy                    UEFI 2.4 ; PI 1.3 BIOS Version                    MX110HD (71591) VX.XX Build Date                    XX/XX/XXXX					<b>Item help</b>
<b>Processor Information</b> Intel(R) CORE(TM) i5-6600 CPU @ 3.30GHZ					→←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt. F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
<b>Memory Information</b> Total Memory                    8192 MB Memory Frequency                2133 MHz					
System Date                    [Mon mm/dd/yyyy] System Time                    [hh:mm:ss]					
Version 2.17.1254. Copyright (C) 2015 American Megatrends, Inc.					

Field Name	<b>BIOS Vender</b>
Default Value	AMI Megatrends
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Core Version</b>
Default Value	5.11
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Compliancy</b>
Default Value	UEFI 2.4 ; PI 1.3
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>BIOS Version</b>
Default Value	Display the version of the BIOS
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Build Date</b>
Default Value	Display build date of the BIOS
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Processor Information</b>
Value	Display the installed CPU brand.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Total Memory</b>
Value	Display the installed memory size.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Memory Frequency</b>
Value	Display the installed memory frequency.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>System Date</b>
Default Value	[xxx, mm dd yyyy]
Possible Value	[xxx, xx:xx:xxxx]
Help	Set the Date. Use Tab to switch between Date elements.

Field Name	<b>System Time</b>
Default Value	[hh :mm :ss]
Possible Value	[xx :xx :xx]
Help	Set the Time. Use Tab to switch between Time elements.

### 3. **Advanced Page**

Main	Advanced	Chipset	Security	Boot	Save & Exit
<ul style="list-style-type: none"> <li>▶ CPU Configuration</li> <li>▶ Power &amp; Performance</li> <li>▶ Trust Computing</li> <li>▶ ACPI Settings</li> <li>▶ SIO Configuration</li> <li>▶ Hardware Monitor</li> <li>▶ S5 RTC Wake Settings</li> <li>▶ AMI Graphic Output Protocol Policy</li> <li>▶ Network Stack Configuration</li> <li>▶ CSM Configuration</li> <li>▶ USB Configuration</li> </ul>					<b>Item help</b>  →←: Select Screen ↑↓: Select Item  <b>Enter:Select</b> +/- : Change Opt <b>F1: General Help</b> <b>F2: Previous Values</b> <b>F3: Restore Legacy Defaults</b> <b>F4: Save &amp; Reset</b> <b>ESC: Exit</b>
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Field Name	<b>CPU Configuration</b>
Help	CPU Configuration Parameters
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>Power &amp; Performance</b>
Help	CPU Configuration Parameters
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>TPM Computing</b>
Help	CPU Configuration Parameters
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>ACPI Settings</b>
Help	System ACPI Parameters.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>SMART Settings</b>
Help	System SMART Settings.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>Hardware Monitor</b>
Help	Monitor hardware status.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>SIO Configuration</b>
Help	System Super IO Chip Parameters.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>S5 RTC Wake Settings</b>
Help	Enable system to wake from S5 using RTC alarm
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>SATA Configuration</b>
Help	SATA Devices Options Settings.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>AMI Graphic Output Protocol Policy (Hidden if “Launch CSM” = Enabled)</b>
Help	User Select Monitor Output by Graphic Output Protocol
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>Network Stack Configuration</b>
Help	Network Stack Settings.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>CSM Configuration</b>
Help	CSM configuration: Enable/Disable, Option Rom execution setting, etc
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>USB Configuration</b>
Help	USB Configuration Parameters.
Comment	Press Enter when selected to go into the associated Sub-Menu.

### 3.1 TPM Settings

Main	Advanced	Chipset	Security	Boot	Save & Exit
<b>TPM Settings</b>					<b>Item help</b>
Security Device Support [Disabled]					→←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
Pending operation [None]					
TPM2.0 UEFI Spec Version [TCG_2]					
Version 2.17.1254. Copyright (C) 2015 American Megatrends, Inc.					

Field Name	<b>Security Device Support</b>
Default Value	[Disabled]
Possible Value	Enabled Disabled

Field Name	<b>Pending operation</b>
Default Value	[None]
Possible Value	None TPM Clear

Field Name	<b>TPM2.0 UEFI Spec Version</b>
Default Value	[TCG_2]
Possible Value	TCG_1_2 TCG_2

### 3.2 ACPI Settings

Main	Advanced	Chipset	Security	Boot	Save & Exit
<b>ACPI Settings</b>					<b>Item help</b>
Enable ACPI Auto Configuration [Disabled]					→←: Select Screen ↑↓: Select Item

Enable Hibernation ACPI Sleep State	[Enabled] [S3 (Suspend to RAM)]	<b>Enter: Select</b> <b>+/- : Change Opt</b> <b>F1: General Help</b> <b>F2: Previous Values</b> <b>F3: Restore Legacy Defaults</b> <b>F4: Save &amp; Reset</b> <b>ESC: Exit</b>
<b>Version 2.17.1254. Copyright (C) 2015 American Megatrends, Inc.</b>		

Field Name	<b>Enable ACPI Auto Configuration</b>
Default Value	[Disabled]
Possible Value	Enabled Disabled
Help	Enables or Disables BIOS ACPI Auto Configuration.

Field Name	<b>Enable Hibernation</b>
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.

Field Name	<b>ACPI Sleep State</b>
Default Value	[S3 (Suspend to RAM)]
Possible Value	Suspend Disabled S3 (Suspend to RAM)
Help	Select ACPI sleep state the system will enter when the SUSPEND button is pressed.

### 3.3 SMART Settings

<b>Main</b>	<b>Advanced</b>	<b>Chipset</b>	<b>Security</b>	<b>Boot</b>	<b>Save &amp; Exit</b>
SMART Settings					<b>Item help</b>
SMART Self Test					[Disabled]
					<b>→←: Select Screen</b> <b>↑↓: Select Item</b> <b>Enter: Select</b> <b>+/- : Change Opt</b> <b>F1: General Help</b> <b>F2: Previous Values</b> <b>F3: Restore Legacy Defaults</b> <b>F4: Save &amp; Reset</b> <b>ESC: Exit</b>

Field Name	<b>SMART Self Test</b>
Default Value	[Disabled]
Possible Value	Disabled Enabled
Help	Run SMART Self Test on all HDDs during POST.

### 3.4 Super IO Configuration

Main	Advanced	Chipset	Security	Boot	Save & Exit
<b>Super IO Configuration</b>					<b>Item help</b>
Super IO Chip <span style="float: right;">NCT6104D</span> ▶ Serial Port 1 Configuration ▶ Serial Port 2 Configuration					→←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
Version 2.17.1254. Copyright (C) 2015 American Megatrends, Inc.					

Field Name	<b>Serial Port 1 Configuration</b>
Help	Set Parameters of Port 1 (COMA)
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>Serial Port 2 Configuration</b>
Help	Set Parameters of Port 2 (COMB)
Comment	Press Enter when selected to go into the associated Sub-Menu.

### 3.4.1 Serial Port 1 Configuration

Main	Advanced	Chipset	Security	Boot	Save & Exit
<b>Serial Port 1 Configuration</b>					<b>Item help</b>
Serial Port				[Enabled]	→←: Select Screen ↑ ↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
Device Settings				IO=3F8h; IRQ=4;	
Change Settings				[Auto]	
Version 2.17.1254. Copyright (C) 2015 American Megatrends, Inc.					

Field Name	<b>Serial Port</b>
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable or Disable Serial Port(COM)

Field Name	<b>Device Settings</b>
Default Value	Device Super IO COM1 Address and IRQ.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Change Settings</b>
Default Value	[Auto]
Possible Value	Auto IO=3F8h; IRQ=4; IO=3F8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2F8h; IRQ=3,4,5,6,7,9,10,11,12; IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12;
Help	Select an optimal settings for Super IO Device



### 3.4.2 Serial Port 2 Configuration

Main	Advanced	Chipset	Security	Boot	Save & Exit
<b>Serial Port 2 Configuration</b>					<b>Item help</b>
Serial Port				[Enabled]	→←: Select Screen ↑ ↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
Device Settings				IO=2F8h; IRQ=3;	
Change Settings				[Auto]	
Version 2.17.1254. Copyright (C) 2015 American Megatrends, Inc.					

Field Name	<b>Serial Port</b>
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable or Disable Serial Port(COM)

Field Name	<b>Device Settings</b>
Default Value	Device Super IO COM2 Address and IRQ.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Change Settings</b>
Default Value	[Auto]
Possible Value	Auto IO=2F8h; IRQ=3; IO=3F8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2F8h; IRQ=3,4,5,6,7,9,10,11,12; IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12;
Help	Select an optimal settings for Super IO Device

### 3.5 Hardware Monitor

Main	Advanced	Chipset	Security	Boot	Save & Exit
<b>Pc Health Status</b>					<b>Item help</b>
CPU VR temperature : C					
Memory temperature : C					
CPU temperature : C					
System Fan Speed : N/A					
CPU Fan Speed : N/A					
CPU Fan Control [Manual Mode]					→←: Select Screen
Target Fan Output 255					↑↓: Select Item
Target temperature [45 C/113 F]					Enter: Select
Target Min. Fan Output [Level 1]					+/- : Change Opt
System Fan Control [Manual Mode]					F1: General Help
Target Fan Output 255					F2: Previous Values
Target temperature [45 C/113 F]					F3: Restore Legacy Defaults
Target Min. Fan Output [Level 1]					F4: Save & Reset
					ESC: Exit
Version 2.17.1254. Copyright (C) 2015 American Megatrends, Inc.					

Field Name	<b>CPU/System Fan Control</b>
Default Value	[Manual Mode]
Possible Value	Manual Mode SMART FAN
Help	Select Fan Control Mode

Field Name	<b>Target Fan Output</b>
Default Value	[255]
Possible Value	0~255
Help	Select Target Fan Output.0-255 steps

Field Name	<b>Target Temperature</b>
Default Value	[45 C/113 F]
Possible Value	45~65 C/ 113~149 F
Help	Select Target Temperature

Field Name	<b>Target MIN. Fan Output</b>
Default Value	[Level 1]
Possible Value	Level1 ~ Level 10
Help	Select Target MIN. Fan Output

### 3.6 S5 RTC Wake Settings

Main	Advanced	Chipset	Boot	Security	Save & Exit
Wake system with Fixed Time				[Disable]	<b>Item help</b>
Wake up hour				0	→←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
Wake up minute				0	
Wake up second				0	
Version 2.17.1254. Copyright (C) 2012 American Megatrends, Inc.					

Field Name	<b>Wake system with Fixed Time</b>
Default Value	[Disabled]
Possible Value	Enabled Disabled
Help	Enable or Disable System wake on alarm event. When enabled, System will wake on the hr::min::sec specified.

Field Name	<b>Wake up hour</b>
Default Value	[0]
Possible Value	0-23
Help	Select 0-23 For example enter 3 for 3am and 15 for 3pm

Field Name	<b>Wake up minute</b>
Default Value	[0]
Possible Value	0-59
Help	0 - 59

Field Name	<b>Wake up second</b>
Default Value	[0]
Possible Value	0 - 59
Help	0 - 59

### 3.7 CPU Configuration

Main	Advanced	Chipset	Security	Boot	Save & Exit
<b>CPU Configuration</b>					<b>Item help</b>
Intel(R) Core(TM) CPU [CPU NAME] @ [CPU Freq.] GHz					
CPU Signature					506E3
Microcode Patch					33
Max CPU Speed					3300 MHz
Min CPU Speed					800 MHz
CPU Speed					3600 MHz
Processor Cores					4
Hyper Threading Technology					Supported
Intel VT-x Technology					Supported
Intel SMX Technology					Supported
64-bit					Supported
EIST Technology					Supported
L1 Data Cache					32 KB x 4
L1 Code Cache					32 KB x 4
L2 Cache					256 KB x 4
L3 Cache					6MB
L4 Cache					Not Present
Hyper-threading					[Enabled]
Active Processor Cores					[All]
Intel Virtualization Technology					[Enabled]
Hardware Prefetcher					[Enabled]
Adjacent Cache Line Prefetch					[Enabled]
Intel(R) SpeedStep(tm)					[Enabled]
Turbo Mode					[Enabled]
CPU C states					[Enabled]
Enhanced C-states					[Enabled]
Package C State limit					[C3]
					→←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
Version 2.17.1254. Copyright (C) 2015 American Megatrends, Inc.					

Field Name	<b>CPU Configuration</b>
Default Value	[Intel CPU Brand String]
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>CPU Signature</b>
Default Value	Displays CPU Signature
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Microcode Patch</b>
Default Value	CPU Microcode Patch Revision

Comment	This field is not selectable. There is no help text associated with it.
---------	---

Field Name	<b>Max CPU Speed</b>
Default Value	Displays the Max CPU Speed
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Min CPU Speed</b>
Default Value	Displays the Min CPU Speed
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>CPU Speed</b>
Default Value	Displays the CPU Speed
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Processor Cores</b>
Default Value	Displays number of cores.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Intel HT Technology</b>
Default Value	When Hyper-threading is enabled, 2 logical CPUs per core is present.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Intel VT-x Technology</b>
Default Value	CPU VMX hardware support for virtual machines.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Intel SMX Technology</b>
Default Value	Secure Mode extensions support.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>64-bit</b>
Default Value	Displays if 64-bit supported
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>EIST Technology</b>
Default Value	Displays if EIST Technology supported
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>L1 Data Cache</b>
Default Value	L1 Data Cache Size
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>L1 Code Cache</b>
Default Value	L1 Code Cache Size
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>L2 Cache</b>
Default Value	L2 Cache Size
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>L3 Cache</b>
Default Value	L3 Cache Size
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>L4 Cache</b>
Default Value	L4 Cache Size

Comment	This field is not selectable. There is no help text associated with it.
---------	---

Field Name	<b>Hyper-threading (Hided if HT not Supported)</b>
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and Disabled for other OS (OS not optimized for Hyper-Threading Technology). When Disable only one thread per enable core is enabled.

Field Name	<b>Active Processor Cores</b>
Default Value	[All]
Possible Value	All 1/2/3/4/5/6/7/8
Help	Number of cores to enable in each processor package.

Field Name	<b>Intel Virtualization Technology</b>
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology

Field Name	<b>Hardware Prefetcher</b>
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	To turn on/off the Mid Level Cache (L2) streamer prefetcher.

Field Name	<b>Adjacent Cache Line Prefetch</b>
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	To turn on/off the prefetching of adjacent cache lines.

Field Name	<b>Intel(R) SpeedStep(tm)</b>
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Allows more than two frequency ranges to be supported.

Field Name	<b>Turbo Mode</b>
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Turbo Mode

Field Name	<b>CPU C states</b>
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Enable or disable CPU C states.

Field Name	<b>Enhanced C-states</b>
Default Value	[Enabled]

Possible Value	Enabled Disabled
Help	Enable/Disable C1E. When enabled, CPU will switch to minimum speed when all cores enter C-State.

Field Name	<b>Package C state limit</b>
Default Value	[C3]
Possible Value	C0/C1 C2 C3 C6 C7 C7s C8 AUTO
Help	Package C State limit

### 3.8 SATA Configuration

Main	Advanced	Chipset	Security	Boot	Save & Exit
					<b>Item help</b>
SATA Mode Selection					[AHCI]
Serial ATA Port 0					Empty
mSATA					Empty
Serial ATA Port 2					Empty
Serial ATA Port 3					Empty
					→←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
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Field Name	<b>SATA Mode Selection</b>
Default Value	[AHCI]
Possible Value	AHCI
Help	Determines how SATA controller(s) operate.

Field Name	<b>Serial ATA Port [0][2:3], mSATA</b>
Default Value	Empty
Possible Value	SATA Device Model Name

### 3.9 Network Stack Configuration

Main	Advanced	Chipset	Security	Boot	Save & Exit
Network stack [Disabled] Ipv4 PXE Support [Enabled] Ipv6 PXE Support [Enabled]					<b>Item help</b>  →←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
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Field Name	<b>Network stack</b>
Default Value	[Disabled] (Restore Legacy Default)
Possible Value	Disabled Enabled
Help	Enable/Disable UEFI Network stack.

Field Name	<b>Ipv4 PXE Support(Hided when Network stack is "Disabled")</b>
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable Ipv4 PXE Boot Support. If disabled IPV4 PXE boot option will not be created.

Field Name	<b>Ipv6 PXE Support(Hided when Network stack is "Disabled")</b>
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable Ipv6 PXE Boot Support. If disabled IPV6 PXE boot option will not be created.



### 3.10 CSM Configuration

Main	Advanced	Chipset	Security	Boot	Save & Exit
<b>Compatibility Support Module Configuration</b>					<b>Item help</b>
CSM Support				[Enabled]	
CSM16 Module Version				07.79	
<b>Option Rom execution</b>					→←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
Network				[DO not launch]	
Storage				[Legacy]	
Video				[Legacy]	
Other PCI devices				[Legacy]	
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Field Name	<b>CSM support</b>
Default Value	[Enabled] (Restore Legacy Default) [Disabled] (Restore UEFI Default)
Possible Value	Disabled Enabled
Help	Enable/Disable CSM Support.
Comment	This option controls if CSM will be launched. (It can't be selected, it only shows the status of the PXE OpROM's status , it can be changed by Restore UEFI defaults & Restore Legacy defaults.)

Field Name	<b>CSM16 Module Version</b>
Default Value	07.79
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Network</b>
Default Value	[DO not launch]
Possible Value	DO not launch UEFI Legacy
Help	Controls the execution of UEFI and Legacy PXE OpROM.

Field Name	<b>Storage</b>
Default Value	[Legacy] (Restore Legacy Default) [UEFI] (Restore UEFI Default)
Possible Value	DO not launch UEFI Legacy
Help	Controls the execution of UEFI and Legacy Storage OpROM.

Field Name	<b>Video</b>
Default Value	[Legacy] (Restore Legacy Default) [UEFI] (Restore UEFI Default)
Possible Value	UEFI Legacy
Help	Controls the execution of UEFI and Legacy Video OpROM.

Field Name	<b>Other PCI devices</b>
Default Value	[Legacy] (Restore Legacy Default) [UEFI] (Restore UEFI Default)
Possible Value	DO not launch UEFI Legacy
Help	Determines OpROM execution policy for devices other than Network, Storage, or Video.

### 3.11 USB Configuration

Main	Advanced	Chipset	Security	Boot	Save & Exit
<b>USB Configuration</b>					<b>Item help</b>
<b>USB Devices:</b> 1 Keyboard, 1 Mouse, 2 Hubs					
Legacy USB Support [Enabled] XHCI Hand-off [Disabled] USB Mass Storage Driver Support [Enabled] Port 60/64 Emulation [Disabled]					→←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
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Field Name	<b>USB Devices:</b>
Default Value	Connected USB devices
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Legacy USB Support</b>
Default Value	[Enabled]
Possible Value	Disabled Enabled Auto
Help	Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB device available only for EFI applications.

Field Name	<b>XHCI Hand-off</b>
Default Value	[Disabled]
Possible Value	Disabled Enabled
Help	This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.

Field Name	<b>USB Mass Storage Driver Support</b>
Default Value	[Enabled]
Possible Value	Disabled Enabled
Help	Enable/Disable USB Mass Storage Driver Support.

Field Name	<b>Port 60/64 Emulation</b>
Default Value	[Disabled]
Possible Value	Disabled Enabled
Help	Enables I/O port 60h/64h emulation support. This should be enabled for the complete USB keyboard legacy support for non-USB aware OSes.

#### 4. Chipset Page

Main	Advanced	Chipset	Security	Boot	Save & Exit
▶ System Agent (SA) Configuration					<b>Item help</b> →←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
▶ PCH-IO Configuration					
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Field Name	<b>System Agent (SA) Configuration</b>
Help	System Agent (SA) Parameters
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>PCH-IO Configuration</b>
Help	PCH Parameters
Comment	Press Enter when selected to go into the associated Sub-Menu.

## 4.1 System Agent (SA) Configuration

Main	Advanced	Chipset	Security	Boot	Save & Exit
<ul style="list-style-type: none"> <li>▶ Graphics Configuration</li> <li>▶ PEG Port Configuration</li> <li>▶ Memory Configuration</li> </ul>					<p style="text-align: center;"><b>Item help</b></p> <p>→←: Select Screen            ↑↓: Select Item            Enter: Select            +/- : Change Opt            F1: General Help            F2: Previous Values            F3: Restore Legacy Defaults            F4: Save &amp; Reset            ESC: Exit</p>
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Field Name	<b>Graphics Configuration</b>
Help	Config Graphics Settings.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>PEG Port Configuration</b>
Help	PEG Port Parameters
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>Memory Configuration</b>
Help	Memory Configuration Parameters
Comment	Press Enter when selected to go into the associated Sub-Menu.

## 4.1.1 Graphics Configuration

Main	Advanced	Chipset	Security	Boot	Save & Exit
<b>Graphics Configuration</b>					<b>Item help</b>
Primary Display				[Auto]	→←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
Internal Graphics				[Auto]	
GTT Size				[8MB]	
Aperture Size				[256MB]	
DVMT Pre-Allocated				[32M]	
DVMT Total Gfx Mem				[256M]	
▶ LCD Control					
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Field Name	<b>Primary Display</b>
Default Value	[Auto]
Possible Value	AUTO/IGFX/PEG/PCI/SG
Help	Select which of IGFX/PEG/PCI Graphics device should be Primary Display Or select SG for Switchable Gfx.

Field Name	<b>Internal Graphics</b>
Default Value	[AUTO]
Possible Value	AUTO/Disabled/Enabled
Help	Keep IGFX enabled based on the setup options.

Field Name	<b>GTT Size</b>
Default Value	[8MB]
Possible Value	2MB/4MB/8MB
Help	Select the GTT Size

Field Name	<b>Aperture Size</b>
Default Value	[256M]
Possible Value	128MB/256MB/512MB/1024MB/2048MB
Help	Select the Aperture Size Note : Above 4GB MMIO BIOS assignment is automatically enabled when selecting 2048MB aperture. To use this feature, please disable CSM Support.

Field Name	<b>DVMT Pre-Allocated</b>
Default Value	[32M]
Possible Value	32M / 64M / 96M / 128M / 160M / 192M / 224M / 256M / 288M / 320M / 352M / 384M / 416M / 448M / 480M / 512M/ 16M/ 20M/ 24M/ 28M/ (32M/F7)/ 36M/ 40M/ 44M/ 48M/ 52M/ 56M/ 60M
Help	Select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the Internal Graphics Device.

Field Name	<b>DVMT Total Gfx Mem</b>
Default Value	[128M]
Possible Value	128MB / 256MB / MAX
Help	Select DVMT5.0 Total Graphic Memory size used by the Internal Graphics Device.

Field Name	<b>LCD Control</b>
Help	LCD Control
Comment	Press Enter when selected to go into the associated Sub-Menu.

#### 4.1.1.1 LCD Control

Main	Advanced	Chipset	Security	Boot	Save & Exit
<b>LCD Control</b>					<b>Item help</b>
Primary IGFX Boot Display [VBIOS Default] Secondary IGFX Boot Display [Disabled] LCD Panel Type [1024x768 18bit Dual Channel] Active LFP [Enable LFP] Backlight Brightness [100%]					→←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy defaults F4: Save & Reset ESC: Exit
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Field Name	<b>Primary IGFX Boot Display</b>
Default Value	[VBIOS Default]
Possible Value	VBIOS Default/DP /LVDS /HDMI
Help	Select the Video Device which will be activated during POST. This has no effect if external graphics present.

Field Name	<b>Secondary IGFX Boot Display</b>
Default Value	[Disabled]
Possible Value	Disabled /DP /LVDS /HDMI
Help	Select Secondary Display Device.

Field Name	<b>LCD Panel Type</b>
Default Value	1024x768 18bit Dual Channel
Possible Value	640x480 18bit Single Channel 800x600 18bit Single Channel 1024x768 18bit Single Channel 1280x1024 18bit Single Channel 1400x1050 18bit Single Channel 1400x1050 24bit Dual Channel 1600x1200 24bit Dual Channel 1366x768 18bit Single Channel

	1680x1050 24bit Dual Channel 1920x1200 24bit Dual Channel 1440x900 24bit Dual Channel 1600x900 24bit Dual Channel 1024x768 24bit Single Channel 1280x800 18bit Single Channel 1920x1080 24bit Dual Channel 2048x1536 24bit Dual Channel
Help	Select LCD panel used by Internal Graphics Device by selecting the appropriate setup item.

Field Name	<b>Active LFP</b>
Default Value	[Enable LFP]
Possible Value	Enable LFP Disable LFP
Help	Select Secondary Display Device.

Field Name	<b>Backlight Brightness</b>
Default Value	[100%]
Possible Value	100% / 90% / 80% / 70% / 60% / 50% / 40% / 30% / 20% / 10% / 0%
Help	Set VBIOS Brightness

#### 4.1.2 PEG Port Configuration

Field Name	<b>Max Link Speed</b>
Default Value	[Auto]
Possible Value	Auto Gen1 Gen2 Gen3
Help	Select PEG Port Speed



### 4.1.3 Memory Configuration

Main	Advanced	Chipset	Boot	Security	Save & Exit
<b>Memory Information</b>					<b>Item help</b>
Memory Frequency		2133 Mhz			→←: Select Screen
Total Memory		8192 MB			↑↓: Select Item
DIMM#0		8192 MB			Enter: Select
DIMM#1		Not Present			+/- : Change Opt
					F1: General Help
					F2: Previous Values
					F3: Restore Legacy Defaults
					F4: Save & Reset
					ESC: Exit
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Field Name	<b>Memory Frequency</b>
Help	Show Memory Frequency.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>Total Memory</b>
Help	Total Memory in the System.
Comment	This field is not selectable. There is no help text associated with it.

Field Name	<b>DIMM#[0:1]</b>
Help	Memory in the DIMM.
Comment	This field is not selectable. There is no help text associated with it.

## 4.2 PCH-IO Configuration

Main	Advanced	Chipset	Security	Boot	Save & Exit
<p>▶ HD Audio Configuration</p> <p>PCH LAN Controller [Enabled]</p> <p>DeepSx Power Policies [Disabled]</p> <p>Wake on LAN [Enabled]</p> <p>State After G3 [S5 State]</p>					<p><b>Item help</b></p> <p>→←: Select Screen</p> <p>↑↓: Select Item</p> <p>Enter: Select</p> <p>+/- : Change Opt</p> <p>F1: General Help</p> <p>F2: Previous Values</p> <p>F3: Restore Legacy Defaults</p> <p>F4: Save &amp; Reset</p> <p>ESC: Exit</p>
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Field Name	<b>HD Audio Configuration</b>
Help	HD Audio Subsystem Configuration Settings
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>PCH LAN Controller</b>
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Enable or disable onboard NICs.

Field Name	<b>DeepSx Power Policies</b>
Default Value	[Disabled]
Possible Value	Disabled Enabled in S4-S5
Help	Configure the DeepSx Mode configuration.

Field Name	<b>Wake on LAN</b>
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Enable or disable integrated LAN to wake the system. (The Wake On LAN cannot be disabled if ME is on at Sx state.)

Field Name	<b>State After G3</b>
Default Value	[S5 State]
Possible Value	S0 State S5 State Last State
Help	Specify what state to go to when power is re-applied after a power failure (G3 state).

## 4.2.1 HD Audio Configuration

Main	Advanced	Chipset	Boot	Security	Save & Exit
<b>HD Audio Configuration</b>					<b>Item help</b>
HD Audio [Auto]					→←: Select Screen ↑↓: Select Item <b>Enter</b> : Select <b>+/-</b> : Change Opt <b>F1</b> : General Help <b>F2</b> : Previous Values <b>F3</b> : Restore Legacy Defaults <b>F4</b> : Save & Reset <b>ESC</b> : Exit
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Field Name	<b>HD Audio</b>
Value	[Auto]
Possible Value	Auto / Enable / Disable
Help	Control Detection of HD-Audio device. Disabled = HDA will be unconditionally disabled Enable = HDA will be unconditionally enabled Auto = HDA will be enabled if present, disabled otherwise.



Comment	Press Enter when selected to go into the associated Sub-Menu.
---------	---

Field Name	<b>Secure Boot menu</b>
Help	Customizable Secure Boot settings
Comment	Press Enter when selected to go into the associated Sub-Menu.

## 5.1 HDD Security

Main	Advanced	Chipset	Security	Boot	Save & Exit
<p>HDD Password Description :</p> <p>Allows Access to Set, Modify and Clear HardDisk User and Master Passwords. User Password need to be installed for Enabling Security. Master Password can be Modified only when successfully unlocked with Master Password in POST. If the 'Set HDD Password' option is grayed out, do power cycle to enable the option again.</p> <p>HDD PASSWORD CONFIGURATION:</p> <p>Security Supported : Yes            Security Enabled : No            Security Locked : No            Security Frozen : No            HDD User Pwd Status : NOT INSTALLED</p> <p><a href="#">Set User Password</a></p>					<p><b>Item help</b></p>
					<p>→←: Select Screen            ↑↓: Select Item            Enter: Select            +/- : Change Opt            F1: General Help            F2: Previous Values            F3: Restore Legacy defaults            F4: Save &amp; Reset            ESC: Exit</p>
Version 2.17.1249. Copyright (C) 2015 American Megatrends, Inc.					

Field Name	<b>Set User Password</b>
Help	Set User Password
Comment	Set HDD User Password. *** Advisable to Power Cycle System after Setting Hard Disk Passwords ***.Discard or Save changes option in setup does not have any impact on HDD when password is set or removed. If the 'Set HDD User Password' option is grayed out, do power cycle to enable the option again

## 5.2 Secure Boot Mode

Main	Advanced	Chipset	Security	Boot	Save & Exit
					<b>Item help</b>
System Mode					Setup
Secure Boot					Not Active
Vendor Keys					Not Active
Secure Boot					[Enabled]
Secure Boot Mode					[Standard]
▶ Key Management					
					→←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
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Field Name	<b>Secure Boot</b>
Default Value	[Enabled]
Possible Value	Enabled Disabled
Help	Secure Boot can be enabled if 1.System running in User mode with enrolled Platform Key (PK) 2. CSM function is disabled.

Field Name	<b>Secure Boot Mode</b>
Default Value	[Standard]
Possible Value	Standard Custom
Help	Secure Boot mode selector. 'Custom' Mode enables users to change Image Execution policy and manage Secure Boot Keys..

Field Name	<b>Key Management</b>
Help	Enables experienced users to modify Secure Boot variables
Comment	Press Enter when selected to go into the associated Sub-Menu.

### 5.3 Key Management

Main	Advanced	Chipset	Security	Boot	Save & Exit																							
Provision Factory Default keys [Disabled]					Item help																							
<ul style="list-style-type: none"> <li>▶ Enroll All Factory Default Keys</li> <li>▶ Save All Secure Boot Variables</li> </ul>					→←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit																							
<table border="1"> <thead> <tr> <th>Secure Boot variable</th> <th>Size</th> <th>Key#</th> <th>Key source</th> </tr> </thead> <tbody> <tr> <td>▶ Platform Key(PK)</td> <td>0</td> <td>0</td> <td></td> </tr> <tr> <td>▶ Key Exchange Key</td> <td>0</td> <td>0</td> <td></td> </tr> <tr> <td>▶ Authorized Signatures</td> <td>0</td> <td>0</td> <td></td> </tr> <tr> <td>▶ Forbidden Signatures</td> <td>0</td> <td>0</td> <td></td> </tr> <tr> <td>▶ Authorized TimeStamps</td> <td>0</td> <td>0</td> <td></td> </tr> </tbody> </table>						Secure Boot variable	Size	Key#	Key source	▶ Platform Key(PK)	0	0		▶ Key Exchange Key	0	0		▶ Authorized Signatures	0	0		▶ Forbidden Signatures	0	0		▶ Authorized TimeStamps	0	0
Secure Boot variable	Size	Key#	Key source																									
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▶ Authorized TimeStamps	0	0																										
Version 2.17.1249. Copyright (C) 2015 American Megatrends, Inc.																												

Field Name	<b>Provision Factory Default Keys</b>
Default Value	[Disabled]
Possible Value	Enabled Disabled
Help	Install Factory default Secure Boot Keys when System is in Setup Mode.

Field Name	<b>Enroll All Factory Default Key</b>
Help	Force System to User Mode - install all Factory Default keys(PK, KEK, db, dbx, dbt). Change takes effect after reboot
Comment	

Field Name	<b>Save All Secure Boot Variables</b>
Help	Save NVRAM content of all Secure Boot variables to the files (EFI_SIGNATURE_LIST data format) in root folder on a target files system device.
Comment	

Field Name	<b>Platform Key (PK)</b>
Default Value	Size:0, Key#:0, Key source: *
Help	Insert Factory Default Keys or load from a file formatted as: 1.Public Key Certificate in: a)EFI_SIGNATURE_LIST, b)EFI_CERT_X509 (DER encoded), c)EFI_CERT_RSA2048 (bin), d)EFI_CERT_SHA256 (bin) 2.Authenticated UEFI Variable  Key source: Default, Custom, Mixed (*) modified through Setup menu
comment	Press Enter when selected to go into the associated Sub-Menu "Key Management".

Field Name	<b>Key Exchange Key</b>
Default Value	Size:0, Key#:0, Key source: *
Help	Enroll Factory Default Keys or load from a file formatted as: 1.Public Key Certificate in:



	a)EFI_SIGNATURE_LIST, b)EFI_CERT_X509 (DER encoded), c)EFI_CERT_RSA2048 (bin), d)EFI_CERT_SHA256 (bin) 2.Authenticated UEFI Variable  Key source: Default, Custom, Mixed (*) modified through Setup menu
comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>Authorized Signature</b>
Default Value	Size:0, Key#:0, Key source: *
Help	Enroll Factory Default Keys or load from a file formatted as: 1.Public Key Certificate in: a)EFI_SIGNATURE_LIST, b)EFI_CERT_X509 (DER encoded), c)EFI_CERT_RSA2048 (bin), d)EFI_CERT_SHA256 (bin) 2.Authenticated UEFI Variable  Key source: Default, Custom, Mixed (*) modified through Setup menu
comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>Forbidden Signature</b>
Default Value	Size:0, Key#:0, Key source: *
Help	Enroll Factory Default Keys or load from a file formatted as: 1.Public Key Certificate in: a)EFI_SIGNATURE_LIST, b)EFI_CERT_X509 (DER encoded), c)EFI_CERT_RSA2048 (bin), d)EFI_CERT_SHA256 (bin) 2.Authenticated UEFI Variable  Key source: Default, Custom, Mixed (*) modified through Setup menu
comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>Authorized TimeStamps</b>
Default Value	Size:0, Key#:0, Key source: *
Help	Enroll Factory Default Keys or load from a file formatted as: 1.Public Key Certificate in: a)EFI_SIGNATURE_LIST, b)EFI_CERT_X509 (DER encoded), c)EFI_CERT_RSA2048 (bin), d)EFI_CERT_SHA256 (bin) 2.Authenticated UEFI Variable  Key source: Default, Custom, Mixed (*) modified through Setup menu
comment	Press Enter when selected to go into the associated Sub-Menu.

## 6. Boot Page

Main	Advanced	Chipset	Security	Boot	Save & Exit
<b>Boot Configuration</b> Setup Prompt Timeout 1 Bootup NumLock State [On] Quiet Boot [Disabled] Custom Logo [Disabled]					<b>Item help</b>
<b>Driver Option Priorities</b> Boot mode select [LEGACY]					
<b>FIXED BOOT ORDER Priorities</b> Boot Option #1 [Hard Disk] Boot Option #2 [CD/DVD] Boot Option #3 [USB Hard Disk] Boot Option #4 [USB CD/DVD] Boot Option #5 [USB Key] Boot Option #6 [USB Floppy] Boot Option #7 [USB Lan] Boot Option #8 [Network]					→←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
▶ CD/DVD ROM Drive BBS Priorities ▶ Hard Disk Drive BBS Priorities ▶ NETWORK Drive BBS Priorities ▶ USB CD/DVD ROM Drive BBS Priorities ▶ USB Hard Disk Drive BBS Priorities ▶ USB KEY Drive BBS Priorities					
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Field Name	<b>Setup Prompt Timeout</b>
Default Value	1
Possible Value	1~65535
Help	Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.

Field Name	<b>Boot NumLock State</b>
Default Value	[On]
Possible Value	On Off
Help	Select the keyboard NumLock state

Field Name	<b>Quiet Boot</b>
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Default Value	[Disabled]
Possible Value	Enabled Disabled
Help	Enables or Disables Quiet Boot option

Field Name	<b>Custom Logo</b>
Default Value	[Disabled]
Possible Value	Enabled Disabled
Help	Enables or Disables Custom Logo option

Field Name	<b>Boot mode select</b>
Default Value	[LEGACY] (Restore Legacy Default) [UEFI] (Restore UEFI Default)
Possible Value	LEGACY UEFI
Help	Select boot mode LEGACY/UEFI.

Field Name	<b>Boot Option #1</b>
Default Value	[Hard Disk]
Possible Value	Hard Disk, CD/DVD, USB Hard Disk, USB CD/DVD, USB Key, USB Floppy , USB Lan, Network, Disabled
Help	Sets the system boot order

Field Name	<b>Boot Option #2</b>
Default Value	[CD/DVD]
Possible Value	Hard Disk, CD/DVD, USB Hard Disk, USB CD/DVD, USB Key, USB Floppy , USB Lan, Network, Disabled
Help	Sets the system boot order

Field Name	<b>Boot Option #3</b>
Default Value	[USB Hard Disk]
Possible Value	Hard Disk, CD/DVD, USB Hard Disk, USB CD/DVD, USB Key, USB Floppy , USB Lan, Network, Disabled
Help	Sets the system boot order

Field Name	<b>Boot Option #4</b>
Default Value	[USB CD/DVD]
Possible Value	Hard Disk, CD/DVD, USB Hard Disk, USB CD/DVD, USB Key, USB Floppy , USB Lan, Network, Disabled
Help	Sets the system boot order

Field Name	<b>Boot Option #5</b>
Default Value	[USB Key]
Possible Value	Hard Disk, CD/DVD, USB Hard Disk, USB CD/DVD, USB Key, USB Floppy , USB Lan, Network, Disabled
Help	Sets the system boot order

Field Name	<b>Boot Option #6</b>
Default Value	[USB Floppy]
Possible Value	Hard Disk, CD/DVD, USB Hard Disk, USB CD/DVD, USB Key, USB Floppy , USB Lan, Network, Disabled
Help	Sets the system boot order

Field Name	<b>Boot Option #7</b>
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Default Value	[USB Lan]
Possible Value	Hard Disk, CD/DVD, USB Hard Disk, USB CD/DVD, USB Key, USB Floppy , USB Lan, Network, Disabled
Help	Sets the system boot order

Field Name	<b>Boot Option #8</b>
Default Value	[Network]
Possible Value	Hard Disk, CD/DVD, USB Hard Disk, USB CD/DVD, USB Key, USB Floppy , USB Lan, Network, Disabled
Help	Sets the system boot order

Field Name	<b>(UEFI) CD/DVD ROM Drive BBS Priorities</b>
Help	Specifies the Boot Device Priority sequence from available CDROM/DVD Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>(UEFI) Hard Disk Drive BBS Priorities</b>
Help	Specifies the Boot Device Priority sequence from available Hard Disk Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>(UEFI) NETWORK Drive BBS Priorities</b>
Help	Specifies the Boot Device Priority sequence from available NETWORK Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>(UEFI) USB CD/DVD ROM Drive BBS Priorities</b>
Help	Specifies the Boot Device Priority sequence from available USB CDROM/DVD Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>(UEFI) USB Hard Disk Drive BBS Priorities</b>
Help	Specifies the Boot Device Priority sequence from available USB Hard Disk Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>(UEFI) USB KEY Drive BBS Priorities</b>
Help	Specifies the Boot Device Priority sequence from available USB Key Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

Field Name	<b>USB Floppy Drive BBS Priorities (UEFI Boot Mode Not Support)</b>
Help	Specifies the Boot Device Priority sequence from available USB Floppy Drives.
Comment	Press Enter when selected to go into the associated Sub-Menu.

## 6.1 (List Boot Device Type) Drive BBS Priorities

Main	Advanced	Chipset	Security	Boot	Save & Exit
Boot Option #1				[Boot Device Name 1]	<p style="text-align: center;"><b>Item help</b></p> <p>→←: Select Screen            ↑↓: Select Item</p> <hr/> <p>Enter: Select            +/- : Change Opt  <b>F1: General Help</b>  <b>F2: Previous Values</b>  <b>F3: Restore Legacy Defaults</b>  <b>F4: Save &amp; Reset</b>  <b>ESC: Exit</b></p>
Boot Option #2				[Boot Device Name 2]	
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Field Name	<b>Boot Option #1</b>
Default Value	
Possible Value	Boot Device Name 1 of this type
Help	Sets the system boot order

Field Name	<b>Boot Option #2</b>
Default Value	
Possible Value	Boot Device Name 2 of this type
Help	Sets the system boot order

## 7. Save & Exit Page

Main	Advanced	Chipset	Security	Boot	Save & Exit	
Save Options  Discard Changes and Exit Save Changes and Reset Discard Changes and Reset  Default Options Restore Legacy Defaults Restore UEFI Defaults Save as user Defaults Restore user Defaults  Boot Override Launch EFI Shell from filesystem device						<b>Item help</b>  →←: Select Screen ↑↓: Select Item Enter: Select +/- : Change Opt F1: General Help F2: Previous Values F3: Restore Legacy Defaults F4: Save & Reset ESC: Exit
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Field Name	<b>Discard Changes and Exit</b>
Help	Exit system setup with without saving any changes.
Comment	

Field Name	<b>Save Changes and Reset</b>
Help	Reset the system after saving the changes.
Comment	

Field Name	<b>Discard Changes and Reset</b>
Help	Reset system setup without saving any changes.
Comment	

Field Name	<b>Restore Legacy Defaults (Clear CMOS Defaults)</b>
Help	Restore/Load Legacy (such as Windows 7/ Linux.) Default values for all the setup options.
Comment	

Field Name	<b>Restore UEFI Defaults</b>
Help	Restore/Load UEFI (such as Windows 8.1/10 64BIT.) Default values for all the setup options.
Comment	

Field Name	<b>Save as User Defaults</b>
Help	Save the changes done so far as User Defaults.
Comment	

Field Name	<b>Restore User Defaults</b>
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Help	Restore the User Defaults to all the setup options.
Comment	

Field Name	<b>Launch EFI Shell from filesystem device</b>
Help	Attempts to launch EFI Shell application (Shell.efi) from one of the available filesystem devices
Comment	