

Chapter 1

Getting Started

Thank you for choosing the 7797 v1.X series Micro-ATX mainboard. The Series mainboards are based on **Intel® B75** chipset for optimal system efficiency. Designed to fit the advanced **Intel® LGA1155** processor, the Series mainboards deliver a high performance and professional desktop platform solution.

Assembly Precautions

- The components included in this package are prone to damage from electrostatic discharge (ESD). Please adhere to the following instructions to ensure successful computer assembly.
- Always turn off the power supply and unplug the power cord from the power outlet before installing or removing any computer component.
- Ensure that all components are securely connected. Loose connections may cause the computer to not recognize a component or fail to start.
- Hold the mainboard by the edges to avoid touching sensitive components.
- It is recommended to wear an electrostatic discharge (ESD) wrist strap when handling the mainboard to prevent electrostatic damage. If an ESD wrist strap is not available, discharge yourself of static electricity by touching another metal object before handling the mainboard.
- Store the mainboard in an electrostatic shielding container or on an antistatic pad whenever the mainboard is not installed.
- Before turning on the computer, ensure that there are no loose screws or metal components on the mainboard or anywhere within the computer case.
- Do not use the computer in a high-temperature environment.
- Do not boot the computer before installation is completed. This could cause permanent damage to the components as well as injury to the user.
- If you need help during any installation step, please consult a certified computer technician.



Important

A screwdriver (not included) may be required for computer assembly.

Mainboard Specifications

Processor Support

- Support 3rd Generation Intel® Core™ i7/ Core™ i5/ Core™ i3/ Pentium®/ Celeron® Processors for LGA 1155 socket

Chipset

- Intel® B75 chipset
 - Supports Intel® SBA

Memory Support

- 2x DDR3 DIMMs support DDR3 1600/ 1333/ 1066 DRAM (16GB Max.)
- Supports Dual-Channel mode

LAN

- Supports LAN 10/100/1000 Fast Ethernet by Realtek® RTL8111E

Audio

- Integrated HD audio codec by Realtek® ALC887
- 6-channel audio with jack sensing

SATA

- 1x SATA 6Gb/s port (SATA1) by Intel® B75
- 3x SATA 3Gb/s ports (SATA2~4) by Intel® B75

USB 3.0

- 4x USB 3.0 ports by Intel® B75

Connectors

- Back panel
 - 1x PS/2 mouse port
 - 1x PS/2 keyboard port
 - 4x USB 2.0 ports
 - 2x USB 3.0 ports
 - 1x LAN port
 - 1x HDMI port
 - 1x VGA port
 - 3x audio ports
- On-Board
 - 2x USB 2.0 connectors
 - 2x USB 3.0 ports
 - 1x Front Panel Audio connector

Slots

- 1x PCIe 3.0 x16 slot
- 2x PCIe 2.0 x1 slots

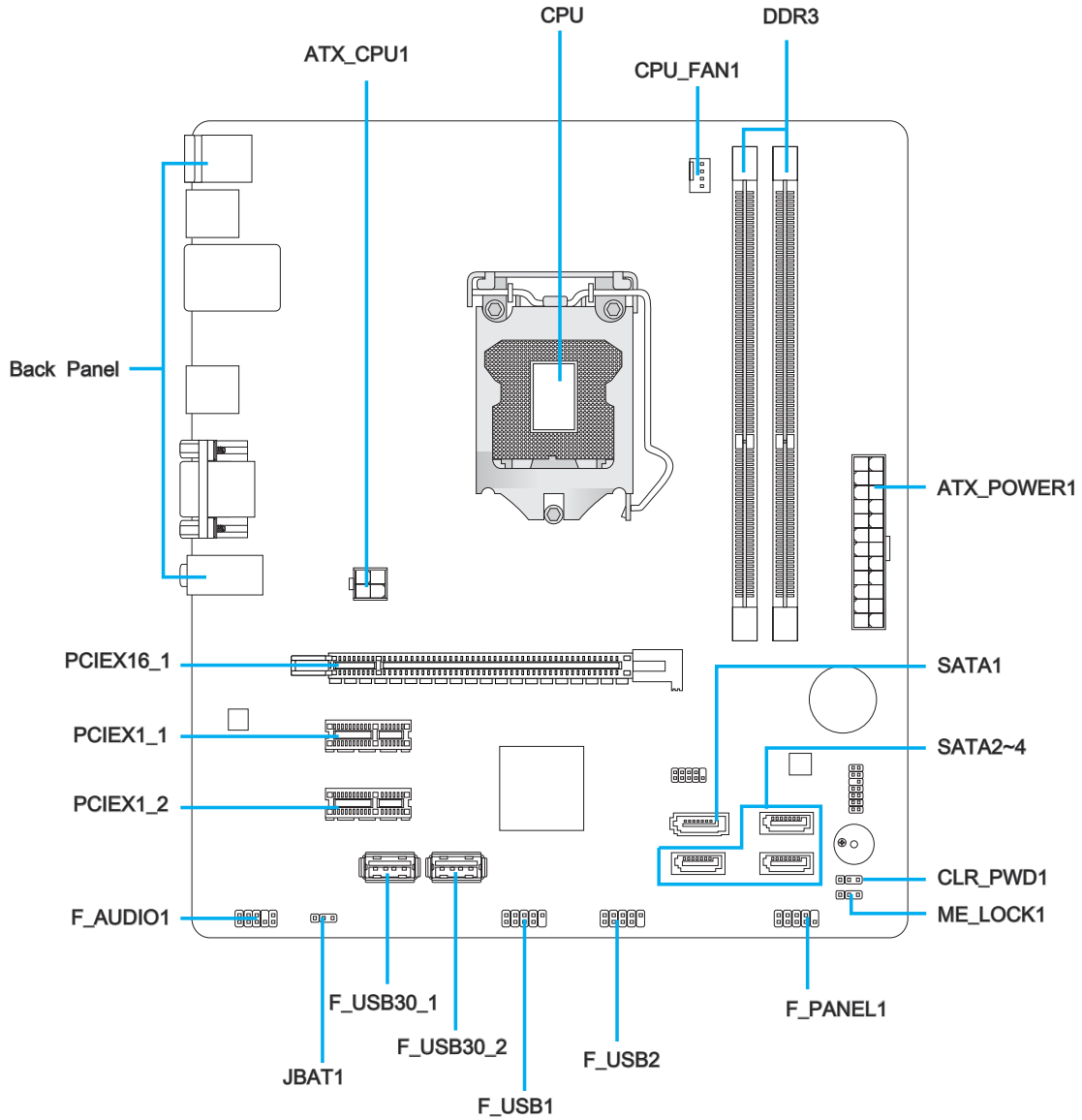
Form Factor

- Micro-ATX (24.4 cm X 21.4 cm)

Mounting Screw Holes

- 6x mounting holes

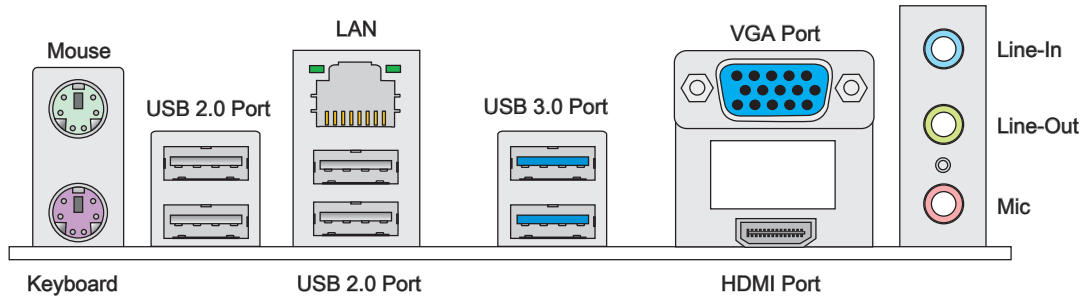
Connectors Quick Guide



Connectors Reference Guide

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Back Panel Quick Guide

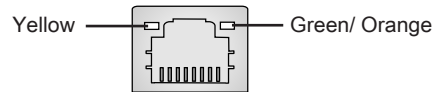


► Mouse/Keyboard

A combination PS/2® mouse/keyboard DIN connector for a PS/2® mouse/keyboard.

► LAN

The standard RJ-45 LAN jack is for connecting to a Local Area Network (LAN).



LED	Color	LED State	Condition
Left	Yellow	Off	LAN link is not established.
		On(Steady)	LAN link is established.
		On(flashing)	The computer is communicating with another computer on the network.
Right	Green	Off	10 Mbits/sec data rate
		On	100 Mbits/sec data rate
	Orange	On	1000 Mbits/sec data rate

► USB 2.0 Port

The USB 2.0 port is for attaching USB 2.0 devices such as keyboard, mouse, or other USB 2.0-compatible devices.

► USB 3.0 Port

USB 3.0 port is backward-compatible with USB 2.0 devices. It supports data transfer rate up to 5 Gbit/s (SuperSpeed).



In order to use USB 3.0 devices, you must connect to a USB 3.0 port. If a USB cable is used, it must be USB 3.0 compliant.

▶ **HDMI Port**  HIGH-DEFINITION MULTIMEDIA INTERFACE

The High-Definition Multimedia Interface (HDMI) is an all-digital audio-video interface that is capable of transmitting uncompressed streams. HDMI supports all types of TV formats, including standard, enhanced, or high-definition video, plus multi-channel digital audio on a single cable.

▶ **VGA Port**

The DB15-pin female connector is provided for monitor.

▶ **Audio Ports**

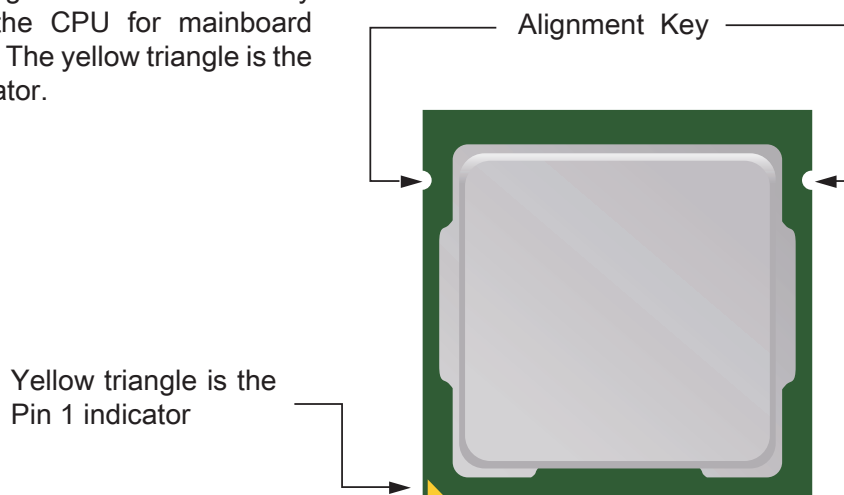
These connectors are used for audio devices. The color of the jack refers to the function of the connector.

- Blue-Line in: Used for connecting external audio outputting devices.
- Green- Line out: Used as a connector for speakers or headphone.
- Pink- Mic: Used as a connector for a microphone.

CPU (Central Processing Unit)

Introduction to the LGA 1155 CPU

The surface of the LGA 1155 CPU has two alignment keys and a yellow triangle to assist in correctly lining up the CPU for mainboard placement. The yellow triangle is the Pin 1 indicator.



Important

Overheating

Overheating can seriously damage the CPU and mainboard. Always make sure the cooling fans work properly to protect the CPU from overheating. Be sure to apply an even layer of thermal paste (or thermal tape) between the CPU and the heatsink to enhance heat dissipation.

Replacing the CPU

When replacing the CPU, always turn off the system's power supply and unplug the power supply's power cord to ensure the safety of the CPU.

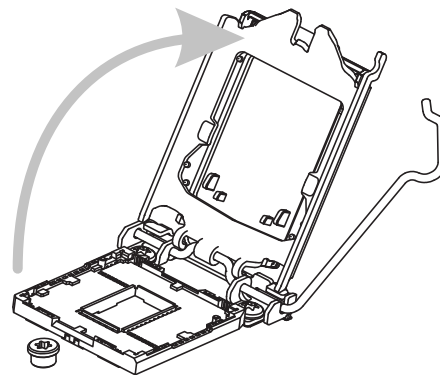
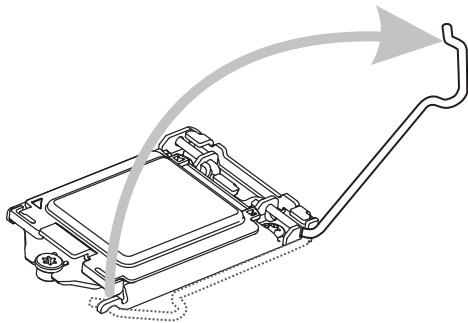
Overclocking

This mainboard is designed to support overclocking. Before attempting to overclock, please make sure that all other system components can tolerate overclocking. Any attempt to operate beyond product specifications is not recommend. MSI does not guarantee the damages or risks caused by inadequate operation beyond product specifications.

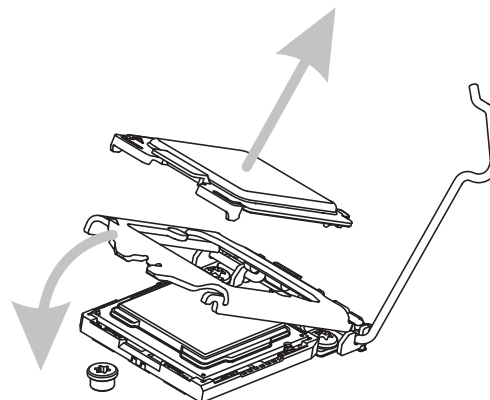
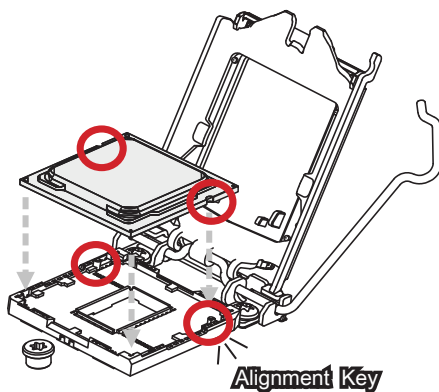
CPU & Cooler Installation

When installing a CPU, always remember to install a CPU cooler. A CPU cooler is necessary to prevent overheating and maintain system stability. Follow the steps below to ensure correct CPU and CPU cooler installation. Wrong installation can damage both the CPU and the mainboard.

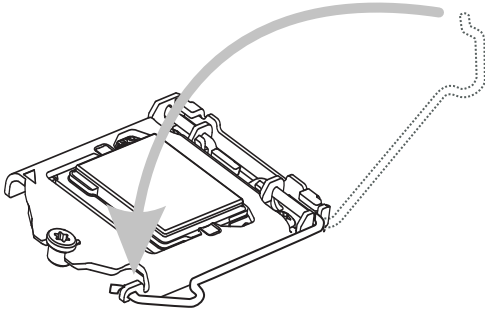
1. Unhook and lift the loading lever to the fully open position.
2. The loading plate should automatically lift up as the loading lever is pushed to the fully open position. **Do not touch any of the CPU socket pins.**



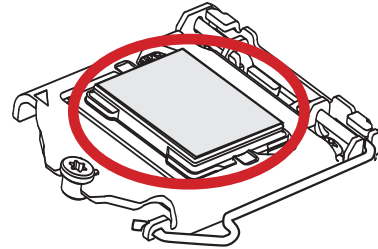
3. Line up the CPU to fit the CPU socket. Be sure to hold the CPU by the base with the metal contacts facing downward. The alignment keys on the CPU will line up with the edges of the CPU socket to ensure a correct fit.
4. Close the loading plate and remove the plastic protective cap.



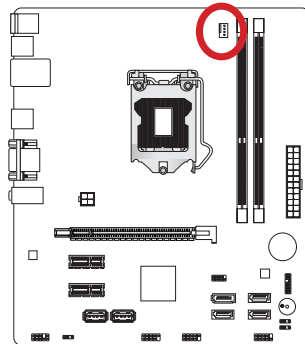
5. Inspect the CPU to check if it is properly seated in the socket. Press the loading lever down and lock it under the retention tab.



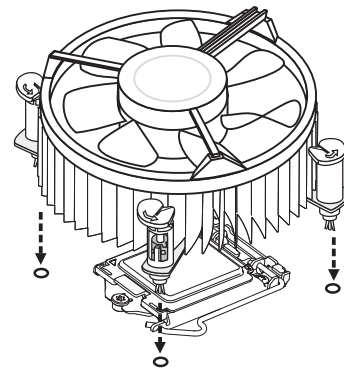
6. Evenly spread a thin layer of thermal paste (or thermal tape) on the top of the CPU. This will help in heat dissipation and prevent CPU overheating.



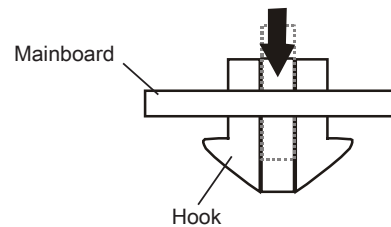
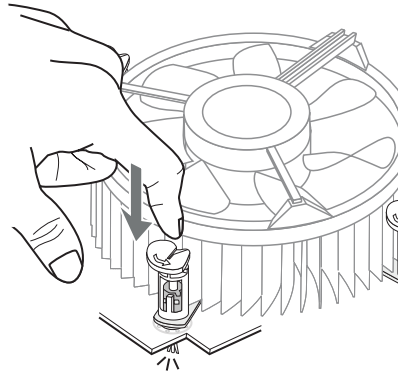
7. Locate the CPU fan connector on the mainboard.



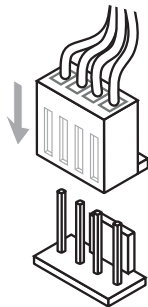
8. Place the heatsink on the mainboard with the fan's wires facing towards the fan connector and the hooks matching the holes on the mainboard.



9. Push down on the heatsink until the four clips get wedged into the holes on the mainboard. Press the four hooks down to fasten the cooler. As each hook locks into position a click should be heard.
10. Inspect the mainboard to ensure that the clip-ends have been properly locked in place.



11. Finally, attach the CPU fan cable to the CPU fan connector on the mainboard.

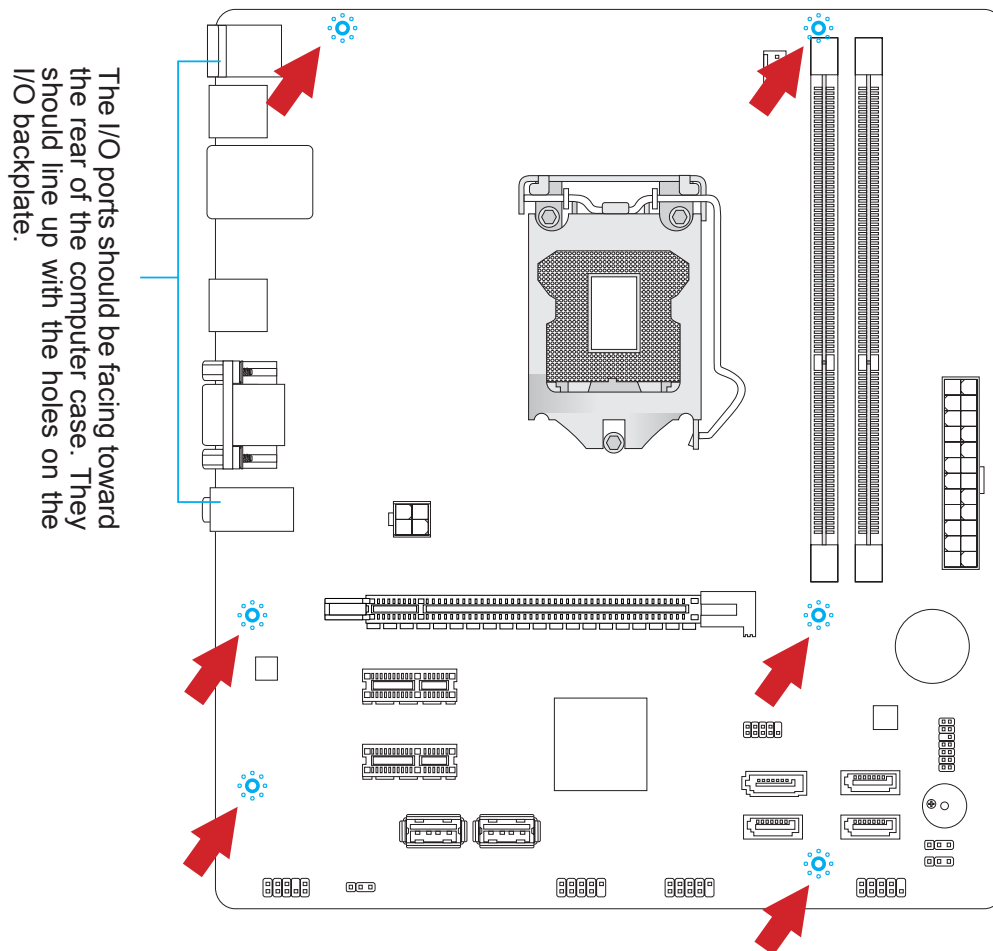


Important

- Do not touch the CPU socket pins.
- Confirm that the CPU cooler has formed a tight seal with the CPU before booting your system.
- Whenever the CPU is not installed, always protect the CPU socket pins by covering the socket with the plastic cap.
- Please refer to the documentation in the CPU cooler package for more details about CPU cooler installation.

Mounting Screw Holes

When installing the mainboard, first install the necessary mounting stands required for a mainboard on the mounting plate in your computer case. If there is an I/O back plate that came with the computer case, please replace it with the I/O backplate that came with the mainboard package. The I/O backplate should snap easily into the computer case without the need for any screws. Align the mounting plate's mounting stands with the screw holes on the mainboard and secure the mainboard with the screws provided with your computer case. The locations of the screw holes on the mainboard are shown below. For more information, please refer to the manual that came with the computer case.



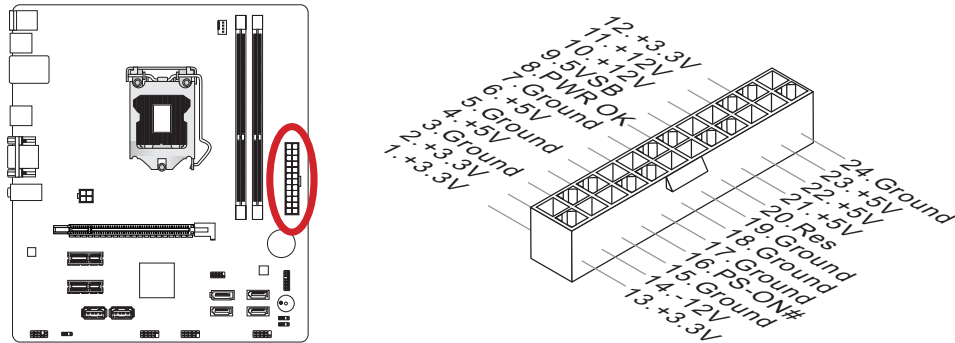
Important

- Install the mainboard on a flat surface free from unnecessary debris.
- To prevent damage to the mainboard, any contact between the mainboard circuitry and the computer case, except for the mounting stands, is prohibited.
- Please make sure there are no loose metal components on the mainboard or within the computer case that may cause a short circuit of the mainboard.

Power Supply

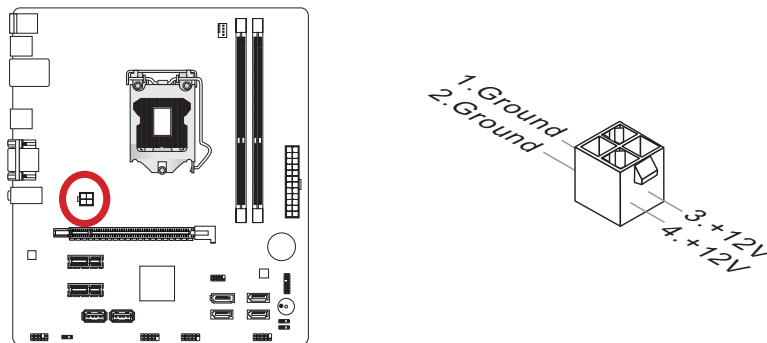
ATX_POWER1: ATX 24-pin Power Connector

This connector allows you to connect an ATX 24-pin power supply. To connect the ATX 24-pin power supply, align the power supply cable with the connector and firmly press the cable into the connector. If done correctly, the clip on the power cable should be hooked on the mainboard's power connector.



ATX_CPU1: ATX 4-pin Power Connector

This connector is used to provide power to the CPU.

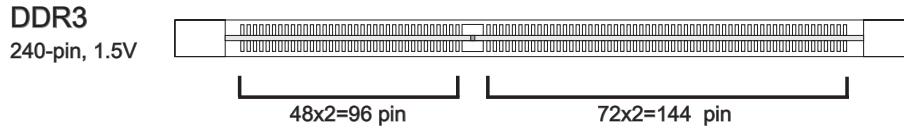


Important

Make sure that all the power cables are securely connected to a proper ATX power supply to ensure stable operation of the mainboard.

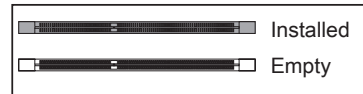
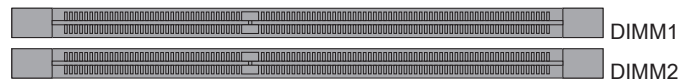
Memory

These DIMM slots are used for installing memory modules. For more information on compatible components, please visit <http://www.msi.com/service/test-report>



Dual-Channel mode Population Rule

In Dual-Channel mode, the memory modules can transmit and receive data with two data bus channels simultaneously. Enabling Dual-Channel mode can enhance system performance. The following illustrations explain the population rules for Dual-Channel mode.

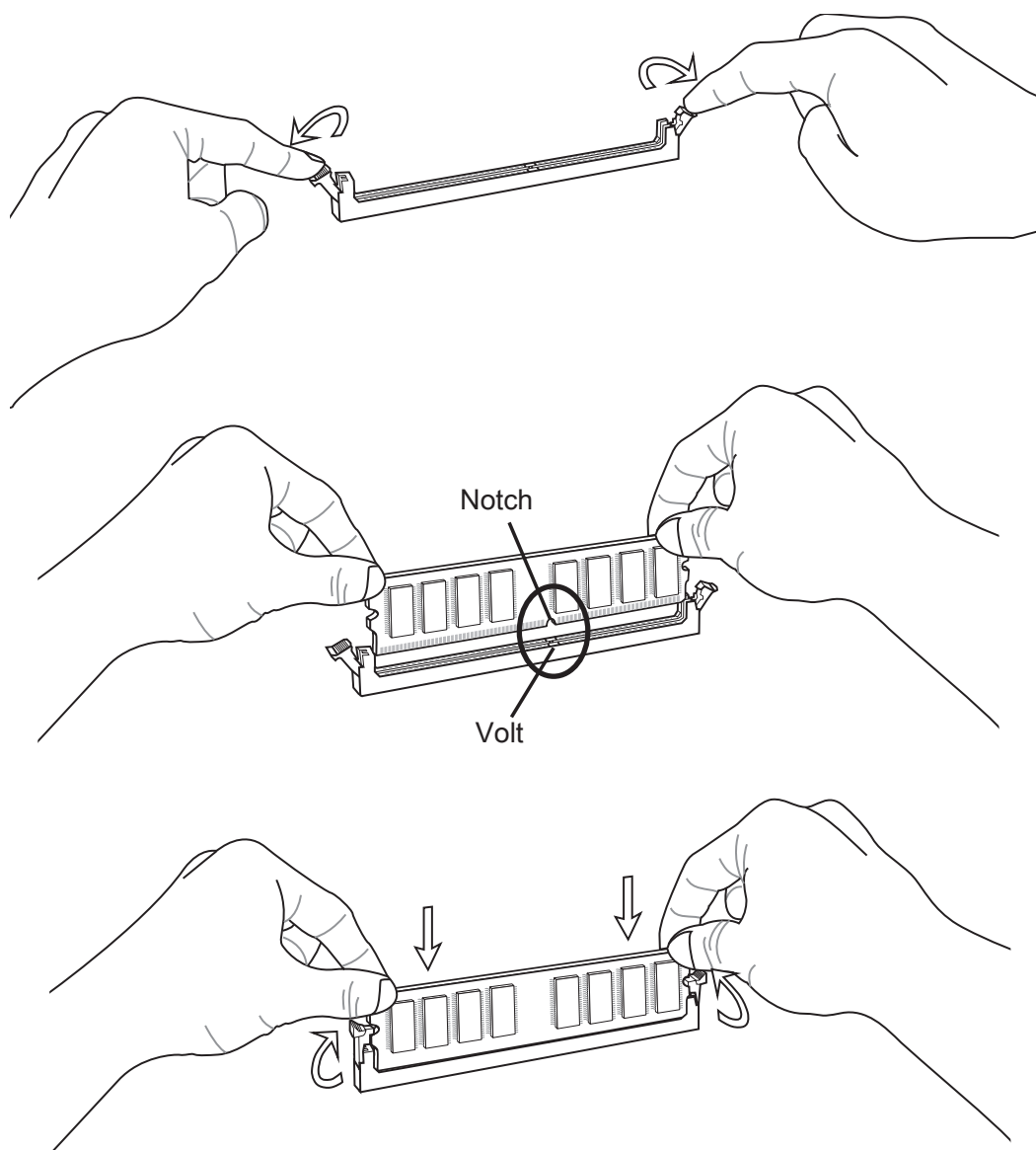


Important

- *DDR3 memory modules are not interchangeable with DDR2, and the DDR3 standard is not backward compatible. Always install DDR3 memory modules in DDR3 DIMM slots.*
- *To ensure system stability, memory modules must be of the same type and density in Dual-Channel mode.*
- *Due to chipset resource usage, the system will only detect up to 15+ GB of memory (not full 16 GB) when all DIMM slots have 8GB memory modules installed.*

Installing Memory Modules

1. Unlock the DIMM slot by pushing the mounting clips to the side. Vertically insert the memory module into the DIMM slot. The memory module has an off-center notch on the bottom that will only allow it to fit one way into the DIMM slot.
2. Push the memory module deep into the DIMM slot. The plastic clips at each side of the DIMM slot will automatically close when the memory module is properly seat and an audible click should be heard.
3. Manually check if the memory module has been locked in place by the DIMM slot's side clips.

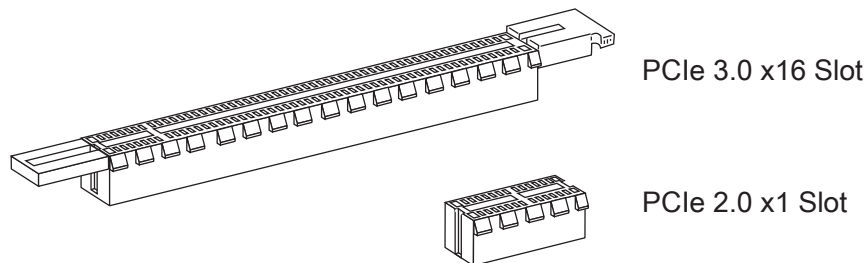


Expansion Slots

This mainboard contains numerous ports for expansion cards, such as discrete graphics or audio cards.

PCIe (Peripheral Component Interconnect Express) Slot

The PCIe slot supports the PCIe interface expansion card.



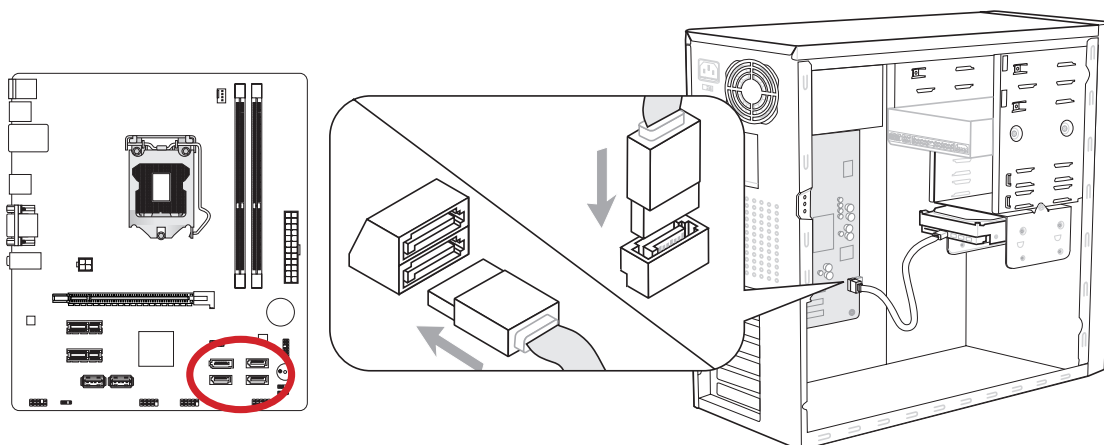
Important

When adding or removing expansion cards, always turn off the power supply and unplug the power supply power cable from the power outlet. Read the expansion card's documentation to check for any necessary additional hardware or software changes.

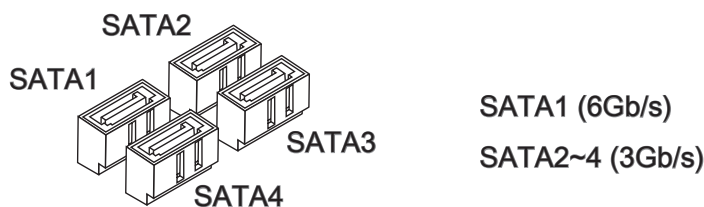
Internal Connectors

SATA1~4: SATA Connector

This connector is a high-speed SATA interface port. Each connector can connect to one SATA device. SATA devices include disk drives (HDD), solid state drives (SSD), and optical drives (CD/ DVD/ Blu-Ray).



* The MB layout in this figure is for reference only.

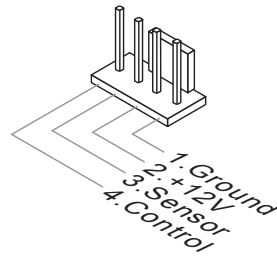
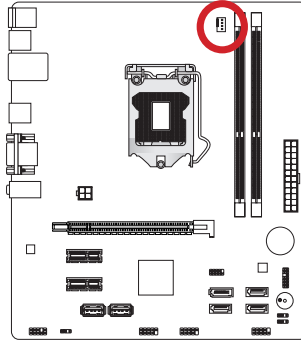


Important

- Many SATA devices also need a power cable from the power supply. Such devices include disk drives (HDD), solid state drives (SSD), and optical drives (CD / DVD / Blu-Ray). Please refer to the device's manual for further information.
- Many computer cases also require that large SATA devices, such as HDDs, SSDs, and optical drives, be screwed down into the case. Refer to the manual that came with your computer case or your SATA device for further installation instructions.
- Please do not fold the SATA cable at a 90-degree angle. Data loss may result during transmission otherwise.
- SATA cables have identical plugs on either sides of the cable. However, it is recommended that the flat connector be connected to the mainboard for space saving purposes.

CPU_FAN1: Fan Power Connector

The fan power connectors support system cooling fans with +12V. If the mainboard has a System Hardware Monitor chipset on-board, you must use a specially designed fan with a speed sensor to take advantage of the CPU fan control. Remember to connect all system fans. Some system fans may not connect to the mainboard and will instead connect to the power supply directly. A system fan can be plugged into any available system fan connector.

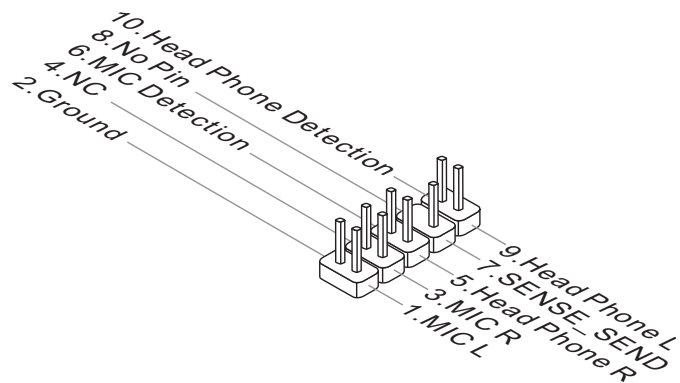
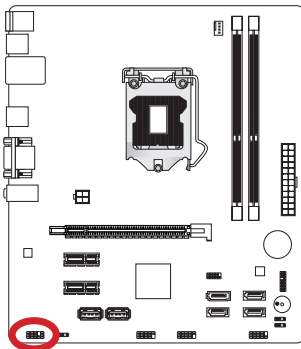


Important

- Please refer to your processor's official website or consult your vendor to find recommended CPU cooling fans.
- If there are not enough ports on the mainboard to connect all system fans, adapters are available to connect a fan directly to a power supply.
- Before first boot up, ensure that there are no cables impeding any fan blades.

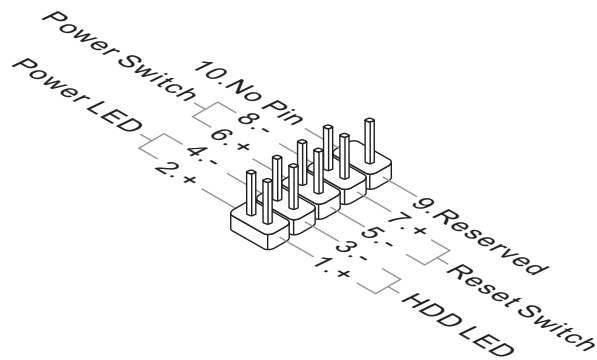
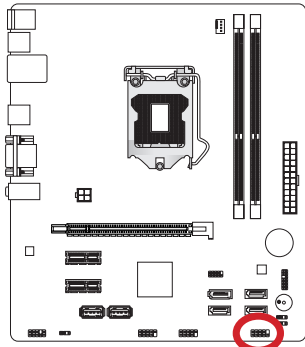
F_AUDIO1: Front Panel Audio Connector

This connector allows you to connect the front audio panel located on your computer case. This connector is compliant with the Intel® Front Panel I/O Connectivity Design Guide.



F_PANEL1: Front Panel Connector

This connector connects to the front panel switches and LEDs. It is compliant with the Intel® Front Panel I/O Connectivity Design Guide.

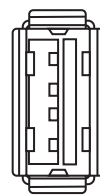
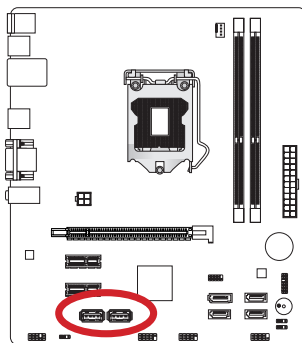


Important

On the connectors coming from the case, pins marked by small triangles are positive wires.

JUSB3: USB 3.0 Ports

USB 3.0 port is backward-compatible with USB 2.0 devices. Supports data transfer rate up to 5 Gbit/s (SuperSpeed).



USB 3.0 connector

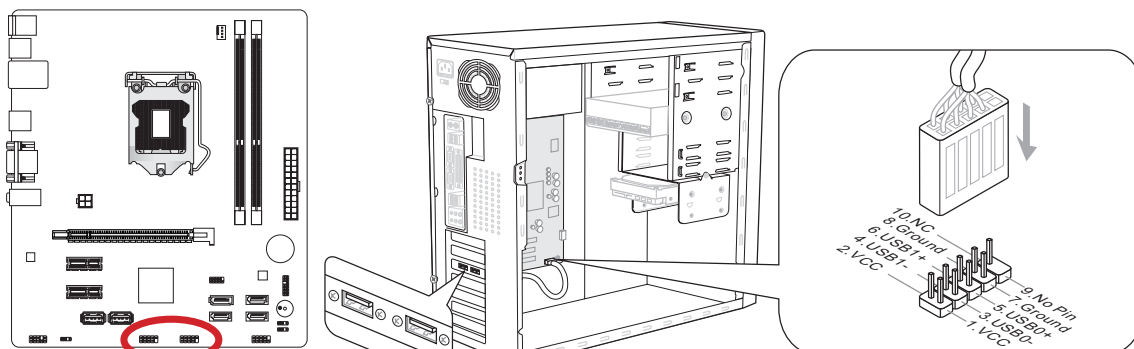


Important

If you want to use a USB 3.0 device, you must use the USB 3.0 cable to connect to the USB 3.0 port.

F_USB1~2: USB 2.0 Expansion Connector

This connector is designed for connecting high-speed USB peripherals such as USB HDDs, digital cameras, MP3 players, printers, modems, and many others.



* The MB layout in this figure is for reference only.

USB 2.0 Bracket (optional)

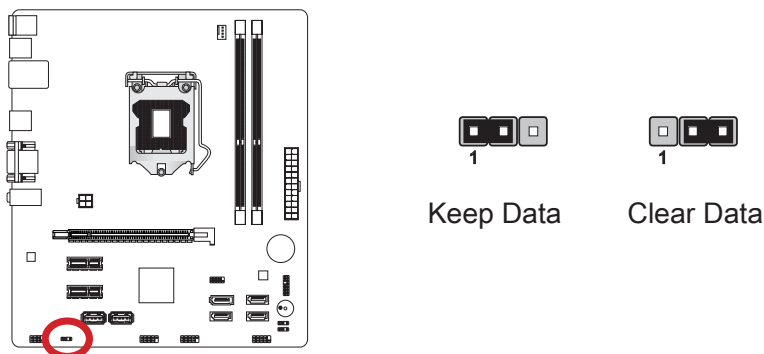
Important

Note that the VCC and GND pins must be connected correctly to avoid possible damage.

Jumper

JBAT1: Clear CMOS Jumper

There is CMOS RAM onboard that is external powered from a battery located on the mainboard to save system configuration data. With the CMOS RAM, the system can automatically boot into the operating system (OS) every time it is turned on. If you want to clear the system configuration, set the jumpers to clear the CMOS RAM.

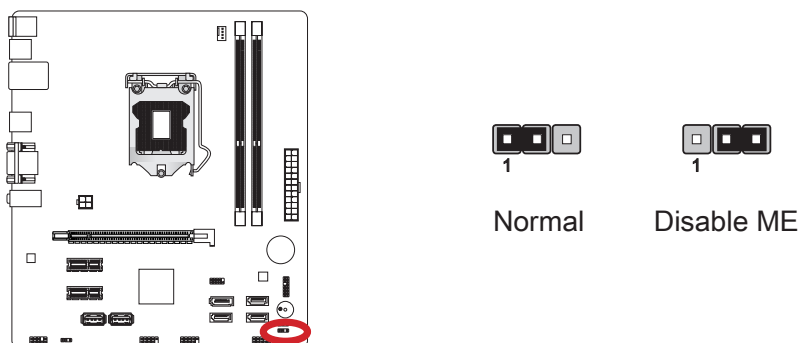


Important

You can clear the CMOS RAM by shorting this jumper while the system is off. Afterwards, open the jumper. Do not clear the CMOS RAM while the system is on because it will damage the mainboard.

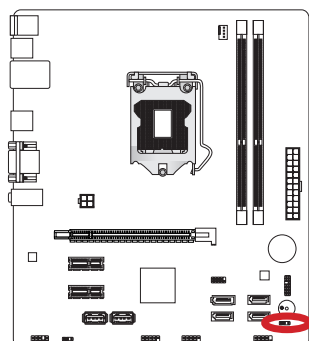
ME_LOCK1: Disable ME Jumper

Intel® Management Engine (ME) is an embedded microcontroller located in Intel chipset. It provides Intel® AMT, ASF for IT management. If you want to disable the Intel ME feature, set the jumper to disable it.



CLR_PWD1: Clear BIOS Password Jumper

The jumper is used to clear the BIOS password. If you want to clear the BIOS password, set the jumper to clear password.



Normal



Clear Password



Important

Please refer to the below steps to clear the password:

1. Power off the system.
2. Short pins 2-3.
3. Turn on the system to POST screen.
4. Shut down the system.
5. Short pins 1-2.
6. Boot up the system.