

msi[®]

D1500
MS-S3551

Server Motherboard
User Guide

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Regulatory Notices

WEEE Statement

European Union: This symbol on the product indicates that this product cannot be discarded as municipal waste. Instead, it is your responsibility to dispose of your waste electrical and electronic equipment by handing it over to a designated collection point for recycling. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.



CE Conformity

This product has been tested and found to comply with the harmonized standards for Information Technology Equipment published under Directives of Official Journal of the European Union.



FCC-A Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.



Notice 1

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice 2

Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.

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

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

Chemical Substances Information

In compliance with chemical substances regulations, such as the EU REACH Regulation (Regulation EC No. 1907/2006 of the European Parliament and the Council), MSI provides the information of chemical substances in products at:

<https://csr.msi.com/global/index>

Battery Information

Please take special precautions if this product comes with a battery.

- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.
- Avoid disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, which can result in an explosion.
- Avoid leaving a battery in an extremely high temperature or extremely low air pressure environment that can result in an explosion or the leakage of flammable liquid or gas.
- Do not ingest battery. If the coin/button cell battery is swallowed, it can cause severe internal burns and can lead to death. Keep new and used batteries away from children.

European Union:



Batteries, battery packs, and accumulators should not be disposed of as unsorted household waste. Please use the public collection system to return, recycle, or treat them in compliance with the local regulations.

BSMI:



廢電池請回收

For better environmental protection, waste batteries should be collected separately for recycling or special disposal.

California, USA:



The button cell battery may contain perchlorate material and requires special handling when recycled or disposed of in California.

For further information please visit:

<http://www.dtsc.ca.gov/hazardouswaste/perchlorate/>

Environmental Policy

- The product has been designed to enable proper reuse of parts and recycling and should not be thrown away at its end of life.
- Users should contact the local authorized point of collection for recycling and disposing of their end-of-life products.
- Visit the MSI website <https://csr.msi.com/global/pevn_ewaste> and locate a nearby distributor for further recycling information.
- Please visit <<https://us.msi.com/page/recycling>> for information regarding the recycling of your product in the US.



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Technical Support

If a problem arises with your product and no solution can be obtained from the user's manual, please contact your place of purchase or local distributor. Alternatively, please visit <https://eps.msi.com/support> for further guidance.

Safety Information



Please read and follow these safety instructions carefully before installing, operating or performing maintenance on the server.

General Safety Instructions

- Always read the safety instructions carefully.
- Keep this User Guide for future reference.
- Keep this equipment away from humidity.
- Lay the equipment on a stable, flat surface before setting it up.
- Do not cover the air openings to prevent overheating.
- Avoid spilling liquids into the equipment to prevent damage or electrical shock.
- Do not leave the equipment in an unconditioned environment. Storage temperatures above 60°C (140°F) may cause damage.

Electrical Safety

Power Setup and Protection

- Ensure the power source matches the equipment voltage before connection.
- Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times. Do not disable the power cord grounding plug, as it is an important safety feature.
- Do not use a power adapter other than the one provided.
- Place the power cord to avoid being stepped on or crushed.
- Protect the server from power fluctuations and outages using a regulated uninterruptible power supply (UPS).

Handling Power Connections

- Unplug the power cord before inserting add-on cards or modules.
- Disconnect all power supplies before maintenance to avoid electrical shock. If the unit has more than one power supply, disconnect all of them.
- Unplug the power cord to fully disconnect the system. The front panel Power On/Standby button does not completely shut off system power. Portions of the power supply and some internal circuitry remain active until AC/DC power is removed.

Assembly and Installation

This equipment must be installed in restricted access areas by qualified personnel to comply with safety standards set by the NEC and IEC 62368-1, Third Edition, for Information Technology Equipment.

Lifting and Placement

WARNING: This server is heavy.

- Follow occupational health and safety guidelines for manual material handling.
- A minimum of two people is required to lift or install the server. For installations above chest height, a third person may be needed for alignment.
- Exercise caution when installing or removing the server from the rack, as it may become unstable when not fastened to the rails.

Hot Surfaces

- Allow components like drives and power supplies to cool before touching.

Energy Pack Handling after Removal

To reduce the risk of fire or burns:

- Do not disassemble, crush, or puncture the energy pack.
- Avoid shorting external contacts.
- Do not dispose of the energy pack in fire or water.

Other Components

- Keep away from hazardous moving parts, such as fan blades, to prevent injury.
- Do not drop or jolt the system, as this may damage internal components or compromise safety.

General Precautions During Operation

- Avoid operating the server with the access panel open or removed for extended periods, as this disrupts airflow and may cause overheating.
- Do not insert incorrect connectors into ports to avoid damage to components or the risk of electrical hazards.
- This equipment is not suitable for use in locations where children are likely to be present.

When to Contact Service Personnel

Seek immediate assistance from qualified personnel if any of the following occurs:

- The power cord or plug is damaged.
- Liquid has entered the equipment.
- The equipment has been exposed to moisture.
- The equipment does not function as described in the User Guide.
- The equipment has been dropped or physically damaged.
- The equipment shows visible signs of breakage.

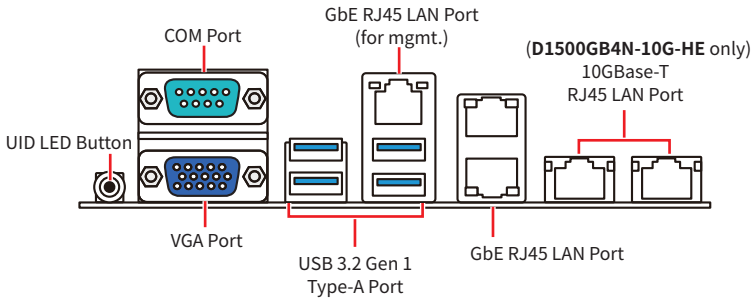
Specifications

SKUs	D1500GB4N-10G-HE	D1500GB2N-1G
Form factor	Micro-ATX	
Dimensions	243.84 mm (9.6") x 243.84 mm (9.6")	
Processor	<ul style="list-style-type: none"> • Single Intel® Xeon® E-2400 Processor, TDP up to 95W - Intel® Pentium® G7400/G7400T Processors, TDP up to 46W 	
Chipset	Intel® C266 Chipset	Intel® C262 Chipset
Networking	<ul style="list-style-type: none"> • 2 x 10GBase-T RJ45 LAN ports <ul style="list-style-type: none"> - Intel® Ethernet controller X710-AT2 - JLAN1~2 supports NCSI* • 2 x GbE RJ45 LAN ports <ul style="list-style-type: none"> - Intel® Ethernet controller 1210-AT - JLANCONN1 (L) supports NCSI* <p>* Only one NCSI LAN port can be enabled at a time, JLAN1, JLAN2, or JLANCONN1 (lower).</p>	<ul style="list-style-type: none"> • 2 x GbE RJ45 LAN ports <ul style="list-style-type: none"> - Intel® Ethernet controller 1210-AT - JLANCONN1 (L) supports NCSI
Server Management	<ul style="list-style-type: none"> • ASPEED AST2600 IPMI 2.0 with iKVM support • 1 x GbE RJ45 Mgmt. (Realtek® RTL8211FD-CG-PHY) 	
RAID	Intel® SATA RAID 0/1/10/5	
Graphics	1 x VGA (from AST2600 BMC)	
Memory	<ul style="list-style-type: none"> • 4 x DDR5 DIMM slots, 2DPC, ECC/non-ECC UDIMM <ul style="list-style-type: none"> - Max Frequency: 4800 MT/s (1DPC) and 3600 MT/s (2DPC) - Max Capacity per DIMM: 32 GB 	
Storage	<ul style="list-style-type: none"> • 2 x M.2 M-Key slots <ul style="list-style-type: none"> - M2_1: PCIe 4.0 x4, 22110/ 2280 - M2_2: PCIe 4.0 x4, 22110/ 2280 (MUX via NVMe) • 4 x Slimline SAS 4i connectors <ul style="list-style-type: none"> - JNVME2: 1 x NVMe (PCIe 4.0 x4), share with M2_2* - JNVME3: 1x NVMe (PCIe 4.0 x4) - JNVME4_SATA1: 4 x SATA 3.0 or 1 x NVMe (PCIe 4.0 x4) - JNVME1_SATA2: 4 x SATA 3.0 or 1 x NVMe (PCIe 3.0 x4) <p>*The M2_2 and JNVME2 slots cannot operate simultaneously.</p>	<ul style="list-style-type: none"> • 1 x M.2 M-Key slot <ul style="list-style-type: none"> - M2_1: PCIe 4.0 x4, 22110/ 2280 • 2 x Slimline SAS 4i connectors <ul style="list-style-type: none"> - JNVME4_SATA1: 4 x SATA 3.0 or 1 x NVMe (PCIe 4.0 x4) - JNVME1_SATA2: 4 x SATA 3.0
Expansion Slots	<ul style="list-style-type: none"> • 1 x PCIe 5.0 x16 slot (PCIE_2: Gen 5.0 x16 from CPU) • 1 x PCIe 4.0 x8 slot (PCIE_1: Gen 4.0 x4 from CPU) 	

Continued on next column

SKUs	D1500GB4N-10G-HE	D1500GB2N-1G
Rear I/O	<ul style="list-style-type: none"> • 4 x USB 3.2 Gen 1 Type-A ports • 2 x 10GBase-T RJ45 LAN ports • 2 x GbE RJ45 LAN ports • 1 x GbE RJ45 LAN port (Mgmt.) • 1 x COM port • 1 x VGA port • 1 x UID LED button 	<ul style="list-style-type: none"> • 4 x USB 3.2 Gen 1 Type-A ports • 2 x GbE RJ45 LAN ports • 1 x GbE RJ45 LAN port (Mgmt.) • 1 x COM port • 1 x VGA port • 1 x UID LED button
Internal USB Connectors	<ul style="list-style-type: none"> • 1 x USB 3.2 Gen 1 header • 1 x USB 3.2 Gen 1 Type-A port 	<ul style="list-style-type: none"> • 1 x USB 3.2 Gen 1 header • 1 x USB 2.0 Type-A port
System Connectors	<ul style="list-style-type: none"> • 1 x Front panel header • 1 x SPI TPM header • 1 x COM port header • 1 x GPIO header • 1 x PMBus header • 3 x I2C headers • 1 x IPMB header • 1 x Chassis intrusion header 	
Cooling Connectors	7 x 4-pin System PWM fan connectors	
Power Connectors	<ul style="list-style-type: none"> • 1 x 24-pin main power connector • 1 x 8-pin 12V power connector • 1 x 4-pin power connector 	
Jumpers	<ul style="list-style-type: none"> • 1 x CPLD power-on jumper • 1 x CMOS clear jumper • 1 x Password clear jumper • 2 x SATA & NVMe select jumpers • 1 x SPI switch jumper 	
LED Features	<ul style="list-style-type: none"> • 2 x BMC heartbeat LEDs • 2 x Port 80 debug LEDs 	
Security	1 x SPI TPM 2.0 header	
Environment	<ul style="list-style-type: none"> • Operating Temperature: 0°C ~ 40°C • Non-operating Temperature: -20°C ~ 70°C • Non-operating Relative Humidity: 5% ~ 85% (non-condensing) 	
Certification	CE, FCC (Class A)	

Rear I/O Panel



UID LED Button

The UID (Unit Identification) button help users identify and locate a system, especially in high-density rack environments.

COM Port

A COM port, also called a serial port or DB9 connector, is a communication interface for transferring data between a computer and external devices such as barcode scanners, printers, and credit card machines. It's commonly used for **initial system configuration and diagnostics** on server boards and for connecting legacy devices that lack modern interfaces. Users can connect a specially configured serial cable to establish a serial connection.

VGA Port

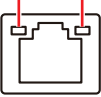
The DB15-pin female connector is provided for monitors.

USB 3.2 Gen 1 Type-A Port

The USB (Universal Serial Bus) port is used for connecting USB devices such as keyboards, mice, or other compatible peripherals. It supports data transfer rates up to **5 Gbps** and is backward-compatible with USB 2.0 devices.

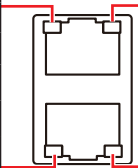
GbE RJ45 LAN Port (for mgmt.)

Connect a specially configured RJ45 console cable to this jack for network routers/switches to communicate with the system through a serial connection.

Link/ Activity LED			Speed LED	
Status	Description		Status	Description
<input type="radio"/> Off	No link		<input type="radio"/> Off	10 Mbps
<input checked="" type="radio"/> Green	Linked		<input checked="" type="radio"/> Orange	100 Mbps
<input checked="" type="radio"/> Blinking	Data activity		<input checked="" type="radio"/> Green	1 Gbps

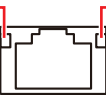
GbE RJ45 LAN Port

The standard RJ-45 LAN jack is for connection to the Local Area Network (LAN). You can connect a network cable to it.

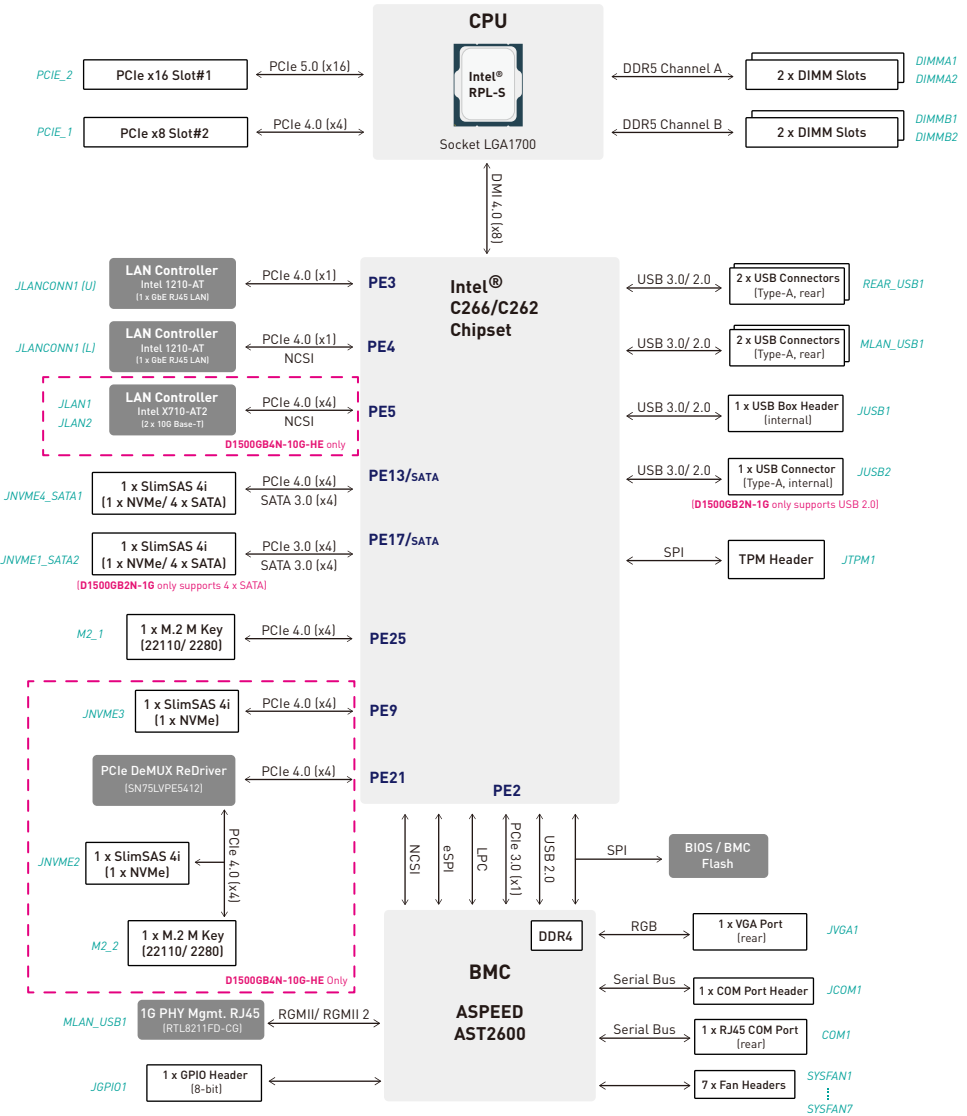
Link/ Activity LED			Speed LED	
Status	Description		Status	Description
<input type="radio"/> Off	No link		<input type="radio"/> Off	10 Mbps
<input checked="" type="radio"/> Green	Linked		<input checked="" type="radio"/> Orange	100 Mbps
<input checked="" type="radio"/> Blinking	Data activity		<input checked="" type="radio"/> Green	1 Gbps

10GBase-T RJ45 LAN Port

The standard RJ-45 LAN jack is for connection to the Local Area Network (LAN). You can connect a network cable to it.

Link/ Activity LED			Speed LED	
Status	Description		Status	Description
<input type="radio"/> Off	No link		<input type="radio"/> Off	100 Mbps
<input checked="" type="radio"/> Green	Linked		<input checked="" type="radio"/> Orange	1 Gbps
<input checked="" type="radio"/> Blinking	Data activity		<input checked="" type="radio"/> Green	10 Gbps

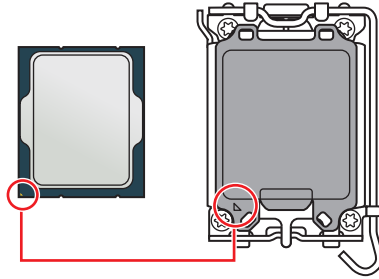
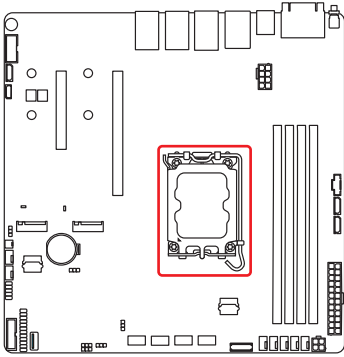
Block Diagram



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LED_H1, LED_L1: Port 80 Debug LEDs	35

CPU Socket



Introduction to the LGA1700 CPU

The surface of the LGA1700 CPU has four notches and a golden triangle to assist in correctly lining up the CPU for motherboard placement. The golden triangle is the Pin 1 indicator.

Important

- **Overheating** will seriously damage the CPU and system. Always make sure the heatsink/ cooler can work properly to protect the CPU from overheating. Make sure that you apply an even layer of thermal paste (or thermal tape) between the CPU and the heatsink/ cooler to enhance heat dissipation.
- While **replacing the CPU**, always turn off the power supply or unplug the power supply's power cord from the grounded outlet first to ensure the safety of CPU.
- Confirm if your CPU heatsink/ cooler is firmly installed before turning on your system.
- If you purchased a separate CPU and heatsink/ cooler, Please refer to the documentation in the heatsink/ cooler package for more details about installation.
- Whenever CPU is not installed, always protect your CPU socket pins with the plastic cap covered.
- Do not touch the CPU socket pins to avoid damage.
- Read the CPU status in BIOS.

CPU & Heatsink Installation

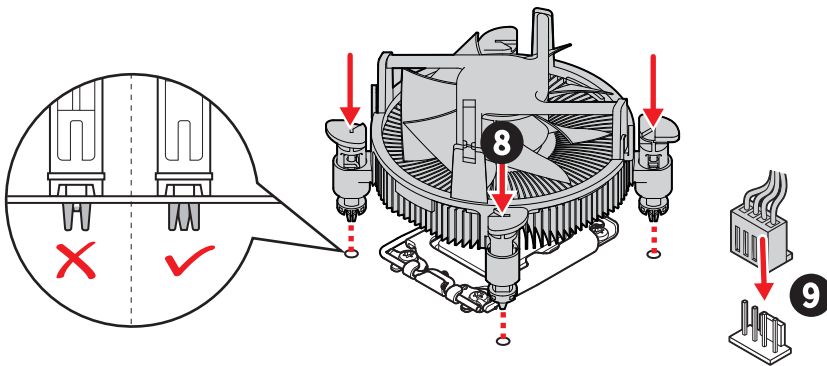
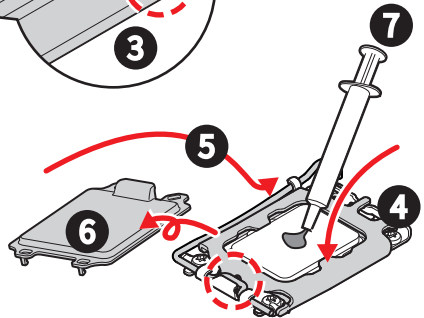
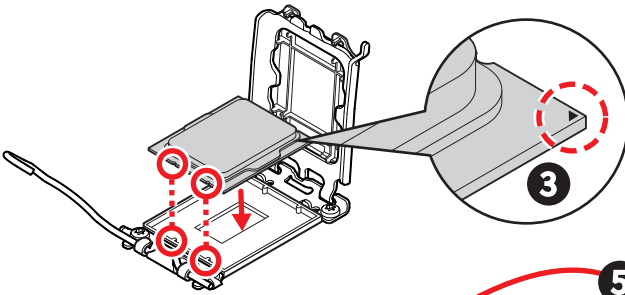
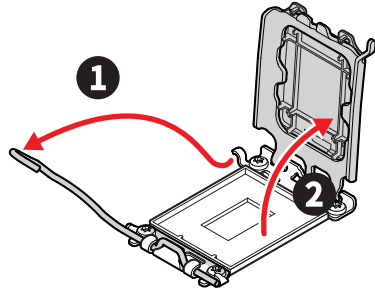
Use appropriate ground straps, gloves and ESD mats to protect yourself from electrostatic discharge (ESD) while installing the processor.

 **Important**

Images are for illustration purposes only; actual parts may vary.

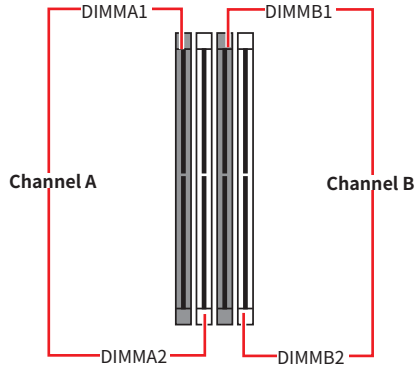
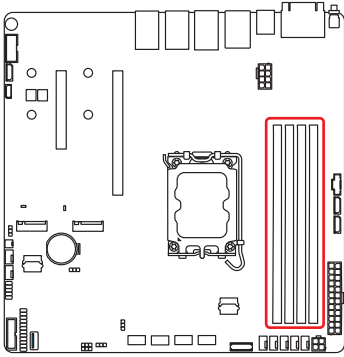


<https://youtu.be/KMf9oIDsGes>



Memory Slots

DIMMA1~2, DIMMB1~2: DDR5 DIMM Slots



Recommended Memory Population

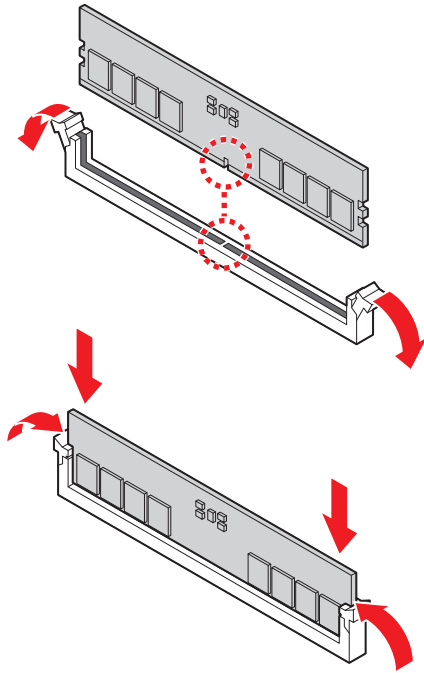
Quantity of DIMMs		1	2	3	4
Channel A	DIMMA1			V	V
	DIMMA2	V	V	V	V
Channel B	DIMMB1		V	V	V
	DIMMB2		V	V	V
“V” indicates a populated DIMM slot.					

Important

- Only support **UDIMM**.
- There should be at least 1 DDR5 DIMM populated.
- Paired memory installation for Max performance.
- If only **1 DIMM** is populated in a channel, then populate it in the **DIMMA2** slot.
- Populate identical DIMM modules in each memory channel, matching speed, capacity, and rank for ensuring system stability.
- We don't suggest other memory installation.

Installing Memory Modules

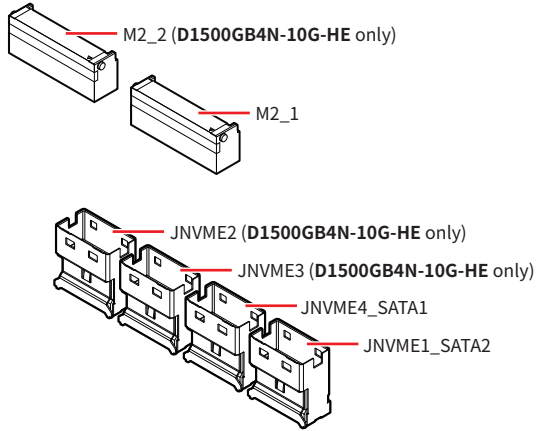
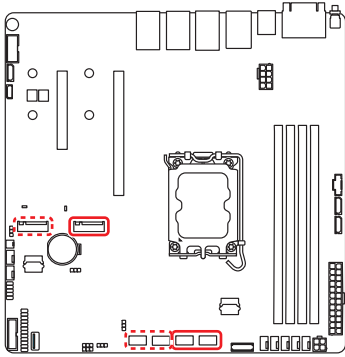
1. Open the side clips to unlock the DIMM slot.
2. Insert the DIMM vertically into the slot, ensuring that the off-center notch at the bottom aligns with the slot.
3. Push the DIMM firmly into the slot until it clicks and the side clips automatically close.
4. Verify that the side clips have securely locked the DIMM in place.



Important

You can barely see the golden finger if the memory module is properly inserted in the DIMM slot.

Storage Connectors



Storage Specifications

Name	D1500GB4N-10G-HE	D1500GB2N-1G
M2_1	PCIe 4.0 x4, 16 GT/s	PCIe 4.0 x4, 16 GT/s
M2_2	PCIe 4.0 x4, 16 GT/s	
JNVME2	PCIe 4.0 x4, 16 GT/s	
JNVME3	PCIe 4.0 x4, 16 GT/s	
JNVME4_SATA1	PCIe 4.0 x4, 16 GT/s	PCIe 4.0 x4, 16 GT/s
	SATA 3.0, 6 Gb/s (default)	SATA 3.0, 6 Gb/s (default)
JNVME1_SATA2	PCIe 3.0 x4, 8 GT/s	SATA 3.0, 6 Gb/s
	SATA 3.0, 6 Gb/s (default)	

M2_1~2: M.2 Slots (M Key, PCIe 4.0 x4, 22110/ 2280)

Please install the M.2 solid-state drive (SSD) into the M.2 slot as shown below.

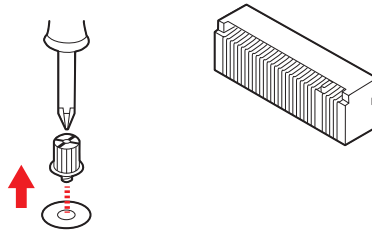
Installing M.2 SSD



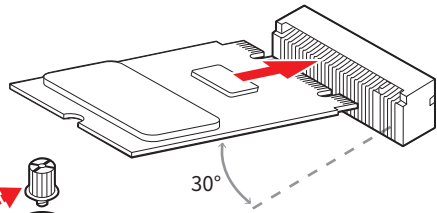
Video Demonstration

Watch the video to learn how to install M.2 SSD.

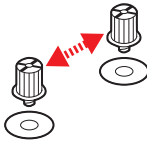
1. Loosen the M.2 riser screw from the motherboard.



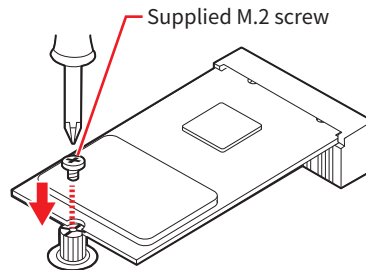
2. Set the M.2 riser screw at the appropriate location based on the length of your M.2 SSD.



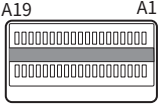
3. Insert your M.2 SSD into the M.2 slot at a 30-degree angle.



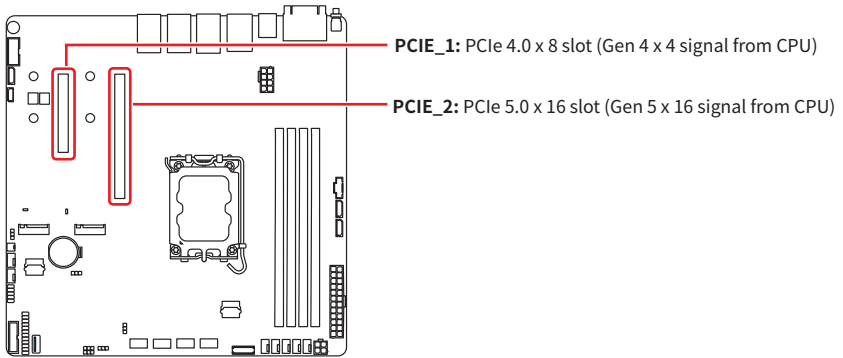
4. Secure the M.2 SSD in place with the supplied M.2 screw.



JNVME2~3, JNVME4_SATA1, JNVME1_SATA2 : Slimline SAS 4i Connectors

<p>JNVME2~3 JNVME4_SATA1 JNVME1_SATA2</p> 	A1	GND-12	B1	GND-1
	A2	RXP0	B2	TX0+
	A3	RXN0	B3	TX0-
	A4	GND-11	B4	GND-2
	A5	RXP1	B5	TX1+
	A6	RXN1	B6	TX1-
	A7	GND-10	B7	GND-3
	A8	SB7	B8	SB0
	A9	SB3	B9	SB1
	A10	SB9	B10	SB8
	A11	SB4	B11	SB2
	A12	SB5	B12	SB6
	A13	GND-9	B13	GND-4
	A14	RX2+	B14	TX2+
	A15	RX2-	B15	TX2-
	A16	GND-8	B16	GND-5
	A17	RX3+	B17	TX3+
	A18	RX3-	B18	TX3-
	A19	GND-7	B19	GND-6

Expansion Slots



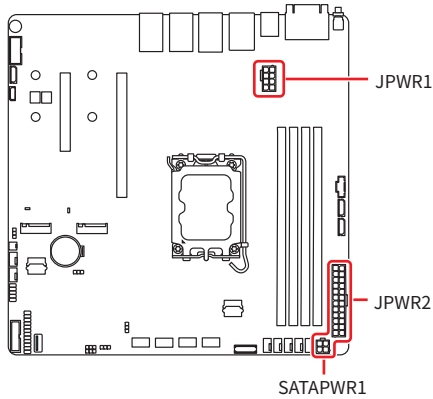
PCIE_1~2: PCIe Expansion Slots

The PCI Express(Peripheral Component Interconnect Express) slots support PCIe interface expansion cards.

Important

When adding or removing expansion cards, make sure that you unplug the power supply first. Meanwhile, read the documentation for the expansion card to configure any necessary hardware or software settings for the expansion card, such as jumpers, switches or BIOS configuration.

Power Connectors



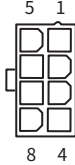
JPWR2: 24-Pin Main Power Connector

This connector allows you to connect an ATX power supply.

	1	+3.3V	13	+3.3V
	2	+3.3V	14	-12V
	3	GND	15	GND
	4	+5V	16	PS-ON#
	5	GND	17	GND
	6	+5V	18	GND
	7	GND	19	GND
	8	PWR OK	20	Res
	9	5VSB	21	+5V
	10	+12V	22	+5V
	11	+12V	23	+5V
	12	+3.3V	24	GND


JPWR1: 8-Pin 12V Power Connector

This connector allows you to connect an ATX power supply.

JPWR1		1	GND	5	P12V
		2	GND	6	P12V
		3	GND	7	P12V
		4	GND	8	P12V

SATAPWR1: 4-Pin Power Connector

This connector is used to provide power to SATA devices.

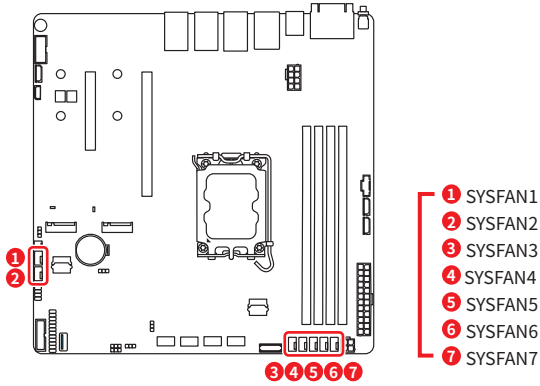
SATAPWR1		1	GND	2	GND
		3	P12V	4	P5V



Important


Make sure that all power connectors are securely connected to the power supply to ensure stable operation of the motherboard.

Cooling Connectors



SYSFAN1~7: Fan Connectors

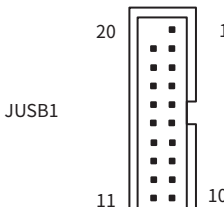
The fan connector supports system cooling fans with +12V. When connecting the wire to the connectors, always note that the red wire is the positive and should be connected to the +12V; the black wire is Ground and should be connected to GND.

SYSFAN1~7 	4	1	GND
		2	P12V
		3	FAN_TACH
	1	4	BMC_PWM

USB Connectors

JUSB1: USB 3.2 Gen 1 Header

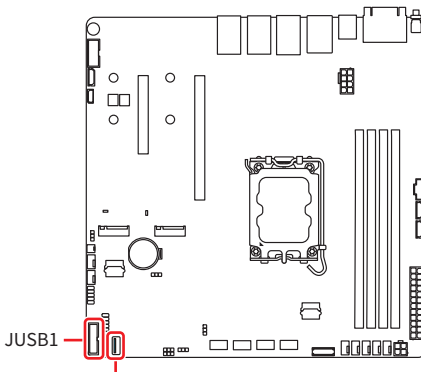
This header is backward-compatible with USB 2.0 devices and supports data transfer rate up to **5 Gbps**.

	1	USB_VCC1	11	D2+
	2	RX1-	12	D2-
	3	RX1+	13	GND
	4	GND	14	TX2+
	5	TX1-	15	TX2-
	6	TX1+	16	GND
	7	GND	17	RX2+
	8	D1-	18	RX2-
	9	D1+	19	USB_VCC2
	10	NC	20	No pin

JUSB2: USB 3.2 Gen 1/ USB 2.0 Type-A Port

The USB (Universal Serial Bus) port is used for connecting USB devices such as keyboards, mice, or other compatible peripherals. USB 3.2 Gen 1 supports data transfer rates up to **5 Gbps** and is backward-compatible with USB 2.0 devices; while USB 2.0 supports data transfer rates up to **480 Mbps**.

JUSB2



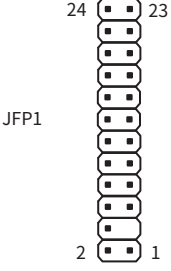
JUSB2 (D1500GB4N-10G-HE): USB 3.2 Gen 1

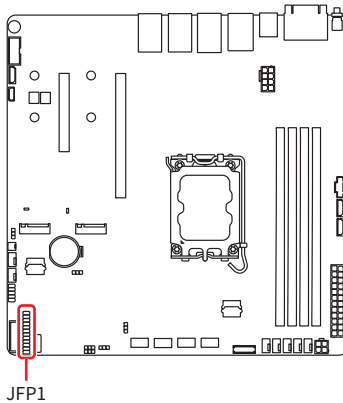
JUSB2 (D1500GB2N-1G): USB 2.0

Other Connectors and Components

JFP1: Front Panel Header

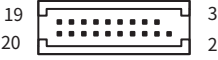
The front panel header is provided for electrical connection to the front panel switches and LEDs.

	1	PWR_LED+	2	FP_PWR
	3	No pin	4	SYS_ID_LED+
	5	PWR_LED-	6	SYS_ID_LED-
	7	HDD_ACT_LED+	8	SYS_FAULT_LED1-
	9	HDD_ACT_LED-	10	SYS_FAULT_LED2-
	11	PWR_BTN-	12	NIC#1_ACT_LED+
	13	PWR_BTN_GND	14	NIC#1_ACT_LED-
	15	RST_BTN-	16	SMB_SDA
	17	RST_BTN_GND	18	SMB_SCL
	19	SYS_ID_BTN-	20	CHASSIS_INTRUSION
	21	WIRE_TEMP_SENSOR	22	NIC#2_ACT_LED+
	23	REAR_ID_BTN-	24	NIC#2_ACT_LED-



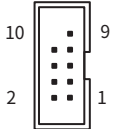
JTPM1: SPI TPM Header

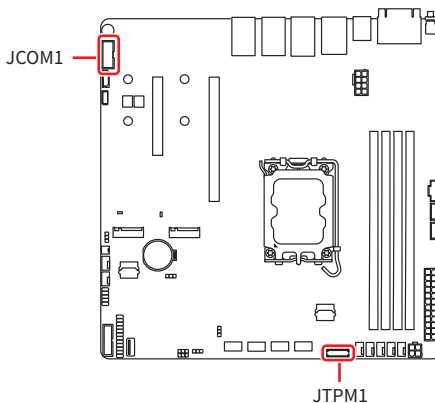
This header connects to a TPM (Trusted Platform Module) (optional). Please refer to the TPM security platform manual for more details.

 <p>JTPM1</p>	1	No Pin	2	SPI_TPM_CS0_N
	3	RST_RSMEST_N	4	SPI_PCH_FLASH_CS1_N
	5	GND	6	P3V3_AUX
	7	SPI_TPM_CLK	8	SPI_PCH_IO2
	9	SPI_PCH_IO3	10	SPI_TPM_MISO
	11	NC	12	SPI_TPM_MOSI
	13	SPI_TPM_CS2_N	14	GND
	15	P3V3_AUX	16	GND
	17	TPM_IRQ_N	18	P3V3_AUX
	19	RST_TPM_N	20	P3V3_AUX

JCOM1: COM Port Header

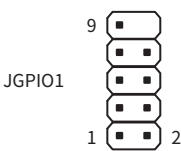
This header is a 16550A high speed communications port that sends/receives 16 bytes FIFOs. You can attach a serial device to it.

 <p>JCOM1</p>	1	NDCD#_B	2	NSIN_B
	3	NSOUT_B	4	NDTR_B
	5	GND	6	NDSR#_B
	7	NRTS_B	8	NCTS#_B
	9	NRI_B	10	No pin




JGPIO1: GPIO Header

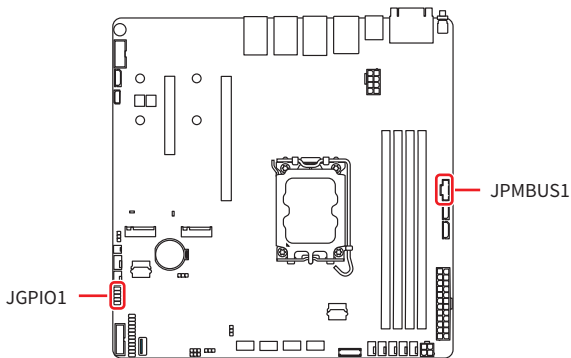
This header is provided for the General-Purpose Input/Output (GPIO) peripheral module.

 <p>JGPIO1</p>	1	USER_GPIO0	2	USER_GPIO1
	3	USER_GPIO2	4	USER_GPIO3
	5	USER_GPIO4	6	USER_GPIO5
	7	USER_GPIO6	8	USER_GPIO7
	9	GND	10	No pin

JPMBUS1: PMBus Header


Power Management Bus (PMBus) is a variant of the System Management Bus (SMBus) which is targeted at digital management of power supplies.

 <p>JPMBUS1</p>	1	JPMBUS1_LVC3_SCL
	2	JPMBUS1_LVC3_SDA
	3	SMB_PMBUS_ALERT_N
	4	GND
	5	P3V3_AUX




FP_I2C_1, RBP_I2C_1~2: I2C Headers

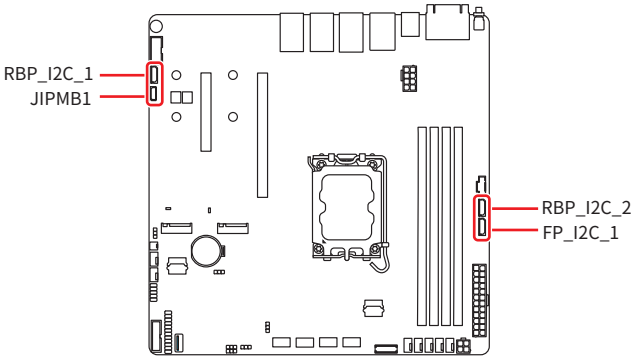
I2C headers are used to connect to the System Management Bus (SMBus). FBP_I2C_1 is for front HDD backplane, and RBP_I2C_1~2 are for rear HDD backplanes.

FP_I2C_1 RBP_I2C_1 RBP_I2C_2		1	NC
		2	I2C_CLK
		3	I2C_DATA
		4	GND

JIPMB1: IPMB Header

Intelligent Platform Management Bus (IPMB) header is used to connect various management components, such as Baseboard Management Controller (BMC).

JIPMB1		1	SMB_IPMB_DAT
		2	GND
		3	SMB_IPMB_CLK



JCI1: Chassis Intrusion Header

This header connects to the chassis intrusion switch cable. If the chassis is opened, the chassis intrusion mechanism will be activated. The system will record this status and show a warning message on the screen. To clear the warning, you must enter the BIOS utility and clear the record.

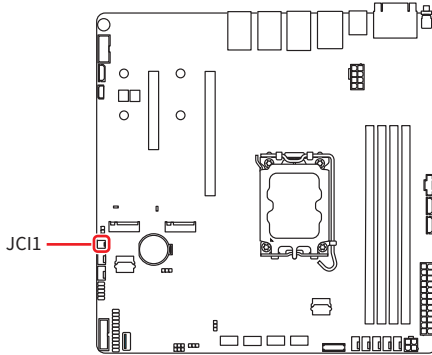
JCI1



Trigger the chassis intrusion event

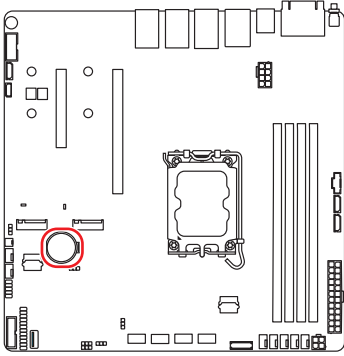


Normal (default)



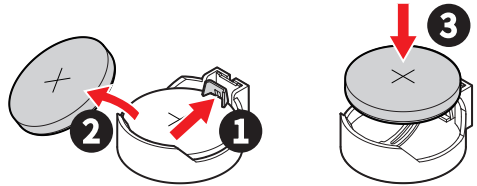
BAT1: CMOS Battery

If the CMOS battery is out of charge, the time in the BIOS will be reset and the data of system configuration will be lost. In this case, you need to replace the CMOS battery.



Replacing CMOS battery

1. Push the retainer clip to free the battery.
2. Remove the battery from the socket.
3. Install the new CR2032 coin-cell battery with the + sign facing up. Ensure that the retainer holds the battery securely.



WARNING

KEEP OUT OF REACH OF CHILDREN

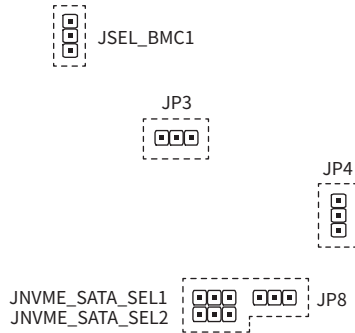
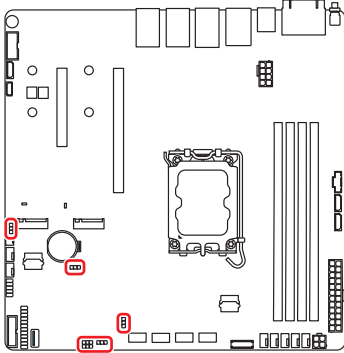
- Swallowing can lead to chemical burns, perforation of soft tissue, can death.
- Severe burns can occur within 2 hours of ingestion.
- If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.

Jumpers



Important

Avoid adjusting jumpers when the system is on; it will damage the motherboard.

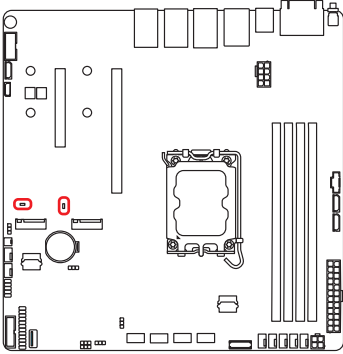


Jumper Name	Default Setting	Description
JP3	1	CPLD Power-on Jumper
		1-2: Disable (Default) 2-3: Enable
JP4		CMOS Clear Jumper
		1-2: Normal (Default) 2-3: Clear RTC registers
JP8		Password Clear Jumper
		1-2: Normal (Default) 2-3: Clear password
JNVME_SATA_SEL1 (for JNVME_SATA1)		SATA & NVMe Select Jumper
		1-2: NVMe 2-3: SATA (Default)
JNVME_SATA_SEL2 (for JNVME_SATA2)		SATA & NVMe Select Jumper
		1-2: NVMe 2-3: SATA (Default)
JSEL_BMC1		SPI Switch Jumper
		1-2: BMC update BIOS mode 2-3: Normal (Default)

Onboard LEDs

BMC_LED1~2: BMC Heartbeat LEDs

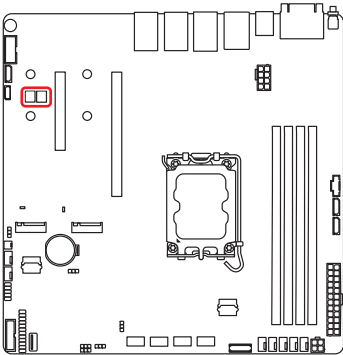
This LED indicates the BMC (Baseboard Management Controller) status.



LED Status	Description
○ Off	BMC is not activated
● Blinking	BMC is functioning normally

LED_H1, LED_L1: Port 80 Debug LEDs

The Port 80 Debug LEDs display progress and error codes during and after POST (Power-On Self Test).



Hexadecimal Character Table

Hexadecimal	0	1	2	3	4	5	6	7
LED display	0	1	2	3	4	5	6	7
Hexadecimal	8	9	A	B	C	D	E	F
LED display	8	9	A	b	C	d	E	F



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