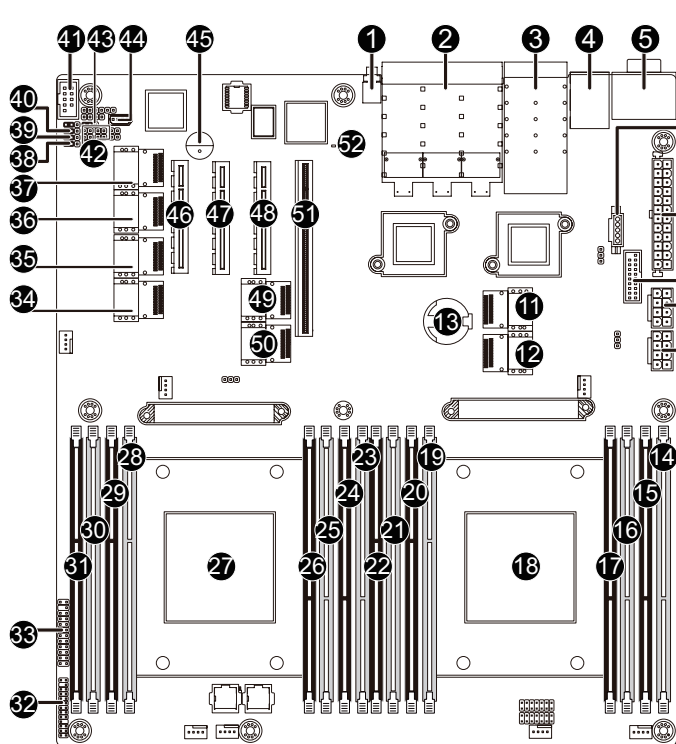


R150-T60/R150-T61 Quick Installation Guide

Motherboard Components/ 主板组件



No.	Code	Description	No.	Code	Description
1	SW_ID	ID switch button w/LED	38	S3_MASK	S3 Power On Select Jumper
2	QSPF_3	QSPF LAN port #3 (left)			1-2 Close: Stop an initial power on when BMC is not ready.
3	QSPF_2	QSPF LAN port #2 (middle)			2-3 Close: Keep initial power on.
4	QSPF_1	QSPF LAN port #1 (right)			(Default setting)
5	SFP+_0_3	SFP+ connectors #0~#3	39	BIOS_PWD	Clearing Supervisor Password jumper
6	USB3_MLAN	BMC Management LAN port (top) / USB 3.0 ports (bottom)			1-2 Close: Normal operation. (Default setting)
7	COM1_VGA	Serial port (top)/VGA port(bottom)	40	BIOS_RCVR	2-3 Close: Skip supervisor password.
8	PMBUS	PMBus connector			BIOS recovery jumper
9	ATX1	24 pin power cponector			1-2 Close: Normal operation. (Default setting)
10	F_USB3	USB 3.0 header	41	COM2	2-3 Close: BIOS recovery mode.
11	P12V_AUX2	8 pin power connector (for secondary CPU)			Serial port cable connector
12	P12V_AUX1	8 pin power connector (for primary CPU)	42	LAN_Active_LEDs	LAN Active LEDs
13	MINI_CN0	Mini-SAS connector#0 supports SATA3 6Gb/s			LAN3_Act
14	MINI_CN1	Mini-SAS connector#1 supports SATA3 6Gb/s			LAN4_Act
15	BAT	Battery socket			LAN5_Act
16	DIMM_P0_B0	Channel 2 slot 0 (for primary CPU)			LAN6_Act
17	DIMM_P0_B1	Channel 2 slot 1 (for primary CPU)			LAN7_Act
18	DIMM_P0_D0	Channel 4 slot 0 (for primary CPU)	43	CLR_CMOS	Clear CMOS jumper
19	DIMM_P0_D1	Channel 4 slot 1 (for primary CPU)			1-2 Close: Normal operation (Default setting)
20	CPU0	Cavium ThunderX CN88xx ARMv8 SoC processor (Primary CPU)			2-3 Close: Clear CMOS data.
21	DIMM_P0_C1	Channel 3 slot 1 (for primary CPU)	44	IPMB	IPMB connector
22	DIMM_P0_C0	Channel 3 slot 0 (for primary CPU)	45	BUZZER	Buzzer
23	DIMM_P0_A1	Channel 1 slot 1 (for primary CPU)	46	PCIE_5	PCI Express x8 slot
24	DIMM_P0_A0	Channel 1 slot 0 (for primary CPU)	47	PCIE_4	PCI Express x8 slot
25	DIMM_P1_F0	Channel 2 slot 0 (for secondary CPU)	48	PCIE_3	PCI Express x8 slot
26	DIMM_P1_F1	Channel 2 slot 1 (for secondary CPU)	49	MINI_CN3	Mini-SAS connector#3 supports SATA3 6Gb/s
27	DIMM_P1_H0	Channel 4 slot 0 (for secondary CPU)	50	MINI_CN2	Mini-SAS connector#2 supports SATA3 6Gb/s
28	DIMM_P1_H1	Channel 4 slot 1 (for secondary CPU)	51	PCIE_2	PCI Express x16 slot
29	CPU1	Cavium ThunderX CN88xx ARMv8 SoC processor (Secondary CPU)	52	LED_BMC	BMC firmware readiness LED
30	DIMM_P1_G0	Channel 3 slot 0 (for secondary CPU)			
31	DIMM_P1_E1	Channel 3 slot 1 (for secondary CPU)			
32	DIMM_P1_E0	Channel 1 slot 0 (for secondary CPU)			
33	BP_1	HDD back plane board header			
34	FP_1	Front panel header			
35	MINI_CN4	Mini-SAS connector#4 supports SATA3 6Gb/s			
36	MINI_CN5	Mini-SAS connector#5 supports SATA3 6Gb/s			
37	MINI_CN6	Mini-SAS connector#6 supports SATA3 6Gb/s			
	MINI_CN7	Mini-SAS connector#7 supports SATA3 6Gb/s			

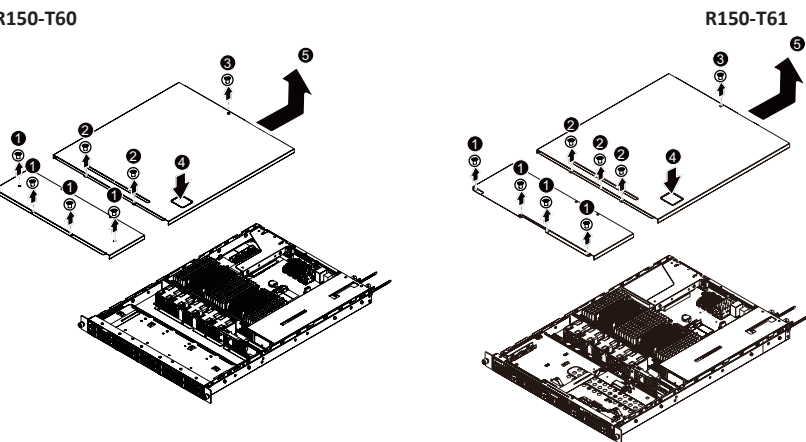
Front Panel Header/ 前面板接头

No.	Pin Define	No.	Pin Define
24 23	1 Power LED+	2	5V Standby
3	No Pin	4	ID LED+
5	Power LED-	6	ID LED-
7	HDD LED+	8	System Status LED+
9	HDD LED-	10	System Status LED-
11	Power Button	12	LAN1 Active LED+
13	GND	14	LAN1 Link LED+
15	Reset Button+	16	SMBus Data
17	GND	18	SMBus Clock
2 1	19 ID Switch+	20	Case Open
21	GND	22	LAN2 Active LED+
23	NMI Switch-	24	LAN2 Link LED-

HDD Back Plane Board Header/ 硬盘驱动器底板接头

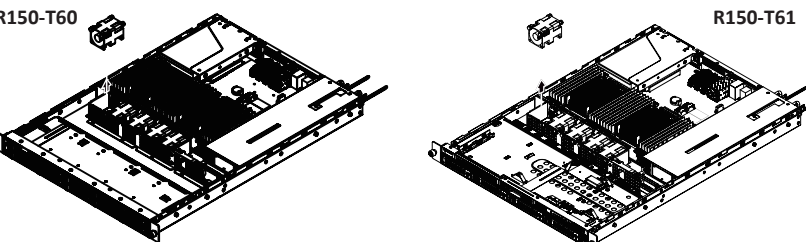
No.	Pin Define	No.	Pin Define
1 2	1 BP_SGP_CLK	2	No Connect
3	BP_SGP_CLK	4	FAN_Gate
5	BP_SGP_DOUT	6	GND
7	Key Pin	8	Reset
9	GND	10	BP_LED_A_N
11	BP_LED_G_N	12	GND
13	BP_SGP_DIN	14	No Connect
15	GND	16	SMB_BP_DATA
17	GND	18	SMB_BP_CLK
19	P_3V3_AUX	20	BMC_ACK
21	P_3V3_AUX	22	BMC_REQ
23	GND	24	Key Pin
25	BP_PRESENSE	26	GND

System Cover/ 机箱盖



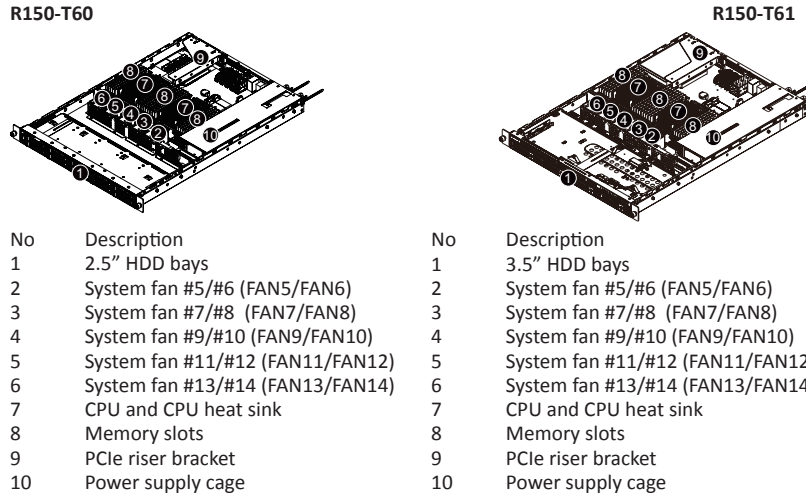
CAUTION!
Before you remove or install the system cover:
Make sure the system is not turned on or connected to AC power.
注意！
在卸下或安装系统机盖之前，请注意下列事项：
确保系统未开启且未连接到交流电源。

System Fan/ 系统风扇



CAUTION!
Before you remove or install the system fan:
● Make sure the system is not turned on or connected to the AC power.
● Disconnect all necessary cable connections. Failure to observe these warnings could result in personal injury or damage to the equipment.
注意！
确保系统未开机且未连接到交流电源。
断开所有必要的线缆连接。若不遵循这些警告，可能造成人员伤亡或设备损坏。

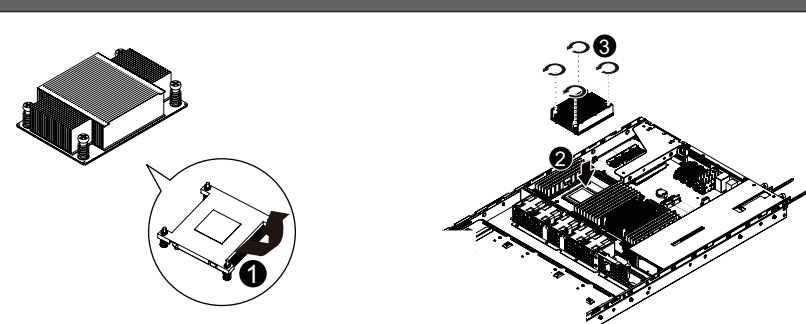
System Components/ 系统组件



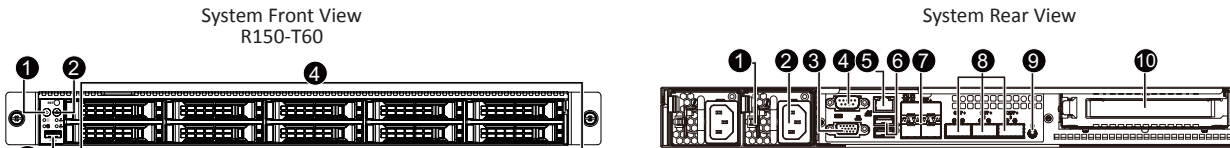
No	Description	No	Description
1	2.5" HDD bays	1	3.5" HDD bays
2	System fan #5/#6 (FAN5/FAN6)	2	System fan #5/#6 (FAN5/FAN6)
3	System fan #7/#8 (FAN7/FAN8)	3	System fan #7/#8 (FAN7/FAN8)
4	System fan #9/#10 (FAN9/FAN10)	4	System fan #9/#10 (FAN9/FAN10)
5	System fan #11/#12 (FAN11/FAN12)	5	System fan #11/#12 (FAN11/FAN12)
6	System fan #13/#14 (FAN13/FAN14)	6	System fan #13/#14 (FAN13/FAN14)
7	CPU and CPU heat sink	7	CPU and CPU heat sink
8	Memory slots	8	Memory slots
9	PCIe riser bracket	9	PCIe riser bracket
10	Power supply cage	10	Power supply cage

CAUTION!
To connect system fan connector, follow the instruction:
● Blue/Red cable connect to odd numbered connector.
● White/Ambler cable connect to even numbered connector.
注意！
蓝/红电缆连接于单数风扇插座。
白/橘电缆连接于双数风扇插座。

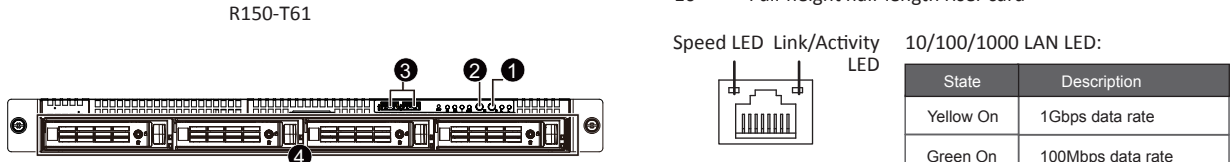
Heat Sink/ 散热装置



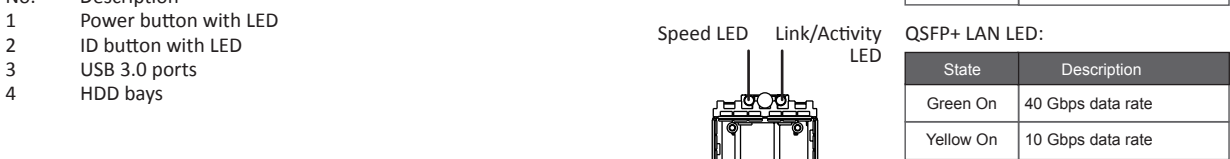
Front & Rear/ 系统前部与后部概览



No.	Description	No	Description
1	Power button	1	Power supply fan
2	ID button	2	Power supply module cord socket
3	USB 3.0 port	3	VGA port
4	HDD bays	4	Serial port
		5	KVM Server Management 10/100/1000 LAN port
		6	USB 3.0 ports
		7	SFP+ LAN ports
		8	QSPF+ LAN ports
		9	ID switch button with LED
		10	Full-height half-length riser card



State	Description
Yellow On	1Gbps data rate
Green On	100Mbps data rate
Off	10Mbps data rate



State	Description
Green On	40 Gbps data rate
Yellow On	10 Gbps data rate

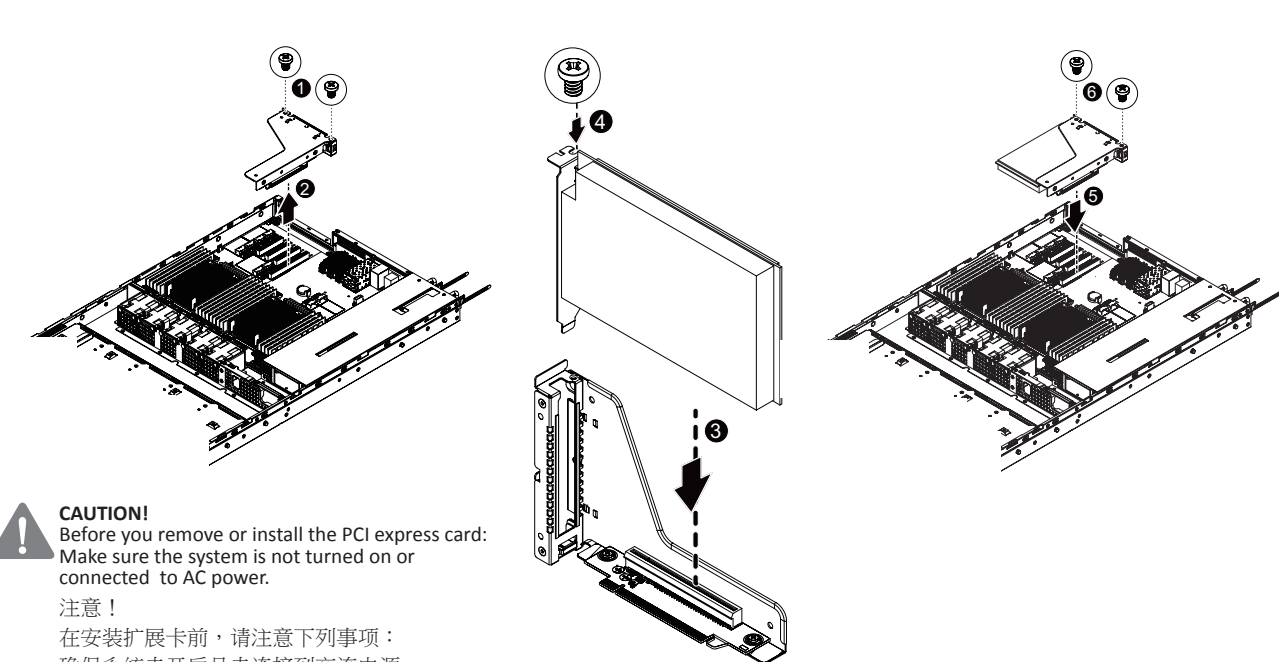


State	Description
Yellow On	1 Gbps data rate
Green On	10 Gbps data rate



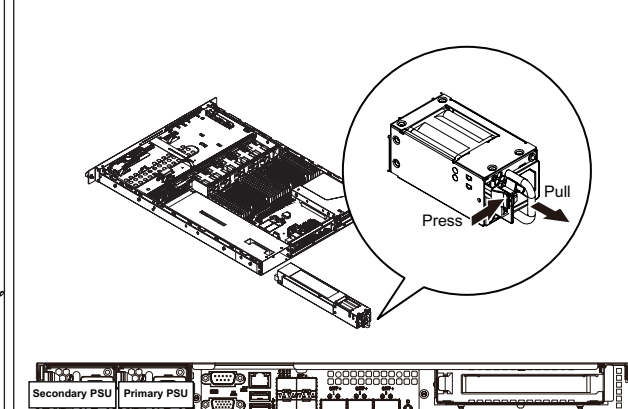
State	Description
Green On	Link between system and network
Blink	LAN is active

PCI Express Card/PCI Express 扩展卡



CAUTION!
Before you remove or install the PCI express card:
Make sure the system is not turned on or connected to AC power.
注意！
在安装扩展卡前，请注意下列事项：
确保系统未开启且未连接到交流电源。

Power Supply/ 电源



CAUTION!
Before you remove or install the power supplies:
Make sure the system is not turned on or connected to AC power.
注意！
在替换或安装电源前，请注意下列事项：
确保系统未开启且未连接到交流电源。

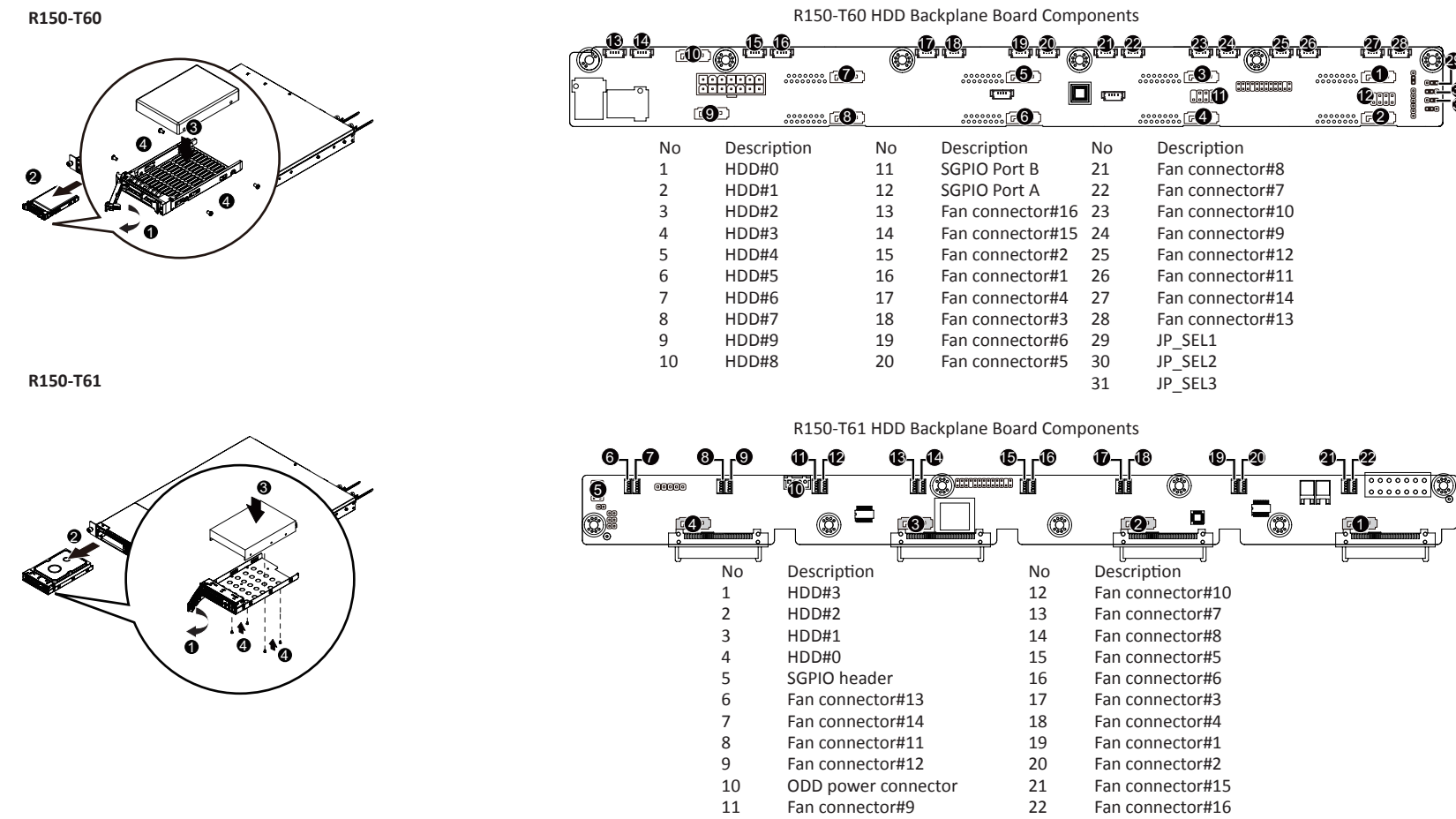
Memory Population Configuration/ 安装内存

DDR4 UDIMM Configuration					
#DIMM per channel	1 DIMM per channel	2 DIMM per channel	1 DIMM per channel	2 DIMM per channel	
Rank(s)	1 Rank	2 Rank	1 Rank	2 Rank	
Data Width	x8,x16	x8,x16	x8,x16	x8,x16	
Per DIMM Capacity (GB)	8	8,16	8	8,16	
1600MTS	✓	✓	✓	✓	
1866MTS	✓	✓	✓	✓	
2133MTS	✓	✓	✓	✓	

● DIMM must be populated starting from DIMM_P0_A0/DIMM_P0_B0 socket and must be installed in matched pairs.
● One CPU only supports the population of 2/4 (1DPC)/8 (2DPC) in the same time.
● System will not boot normally with incorrect populated sequence.
● DIMM必须从DDR3_P0_A0/DIMM_P0_B0插槽开始按顺序安装。DIMM必须成对安装。
● 只能支持一个CPU同时上2/4 (1DPC)/8(2DPC)数量的DIMM。
● 若安装顺序有误，系统将无法正常开机。

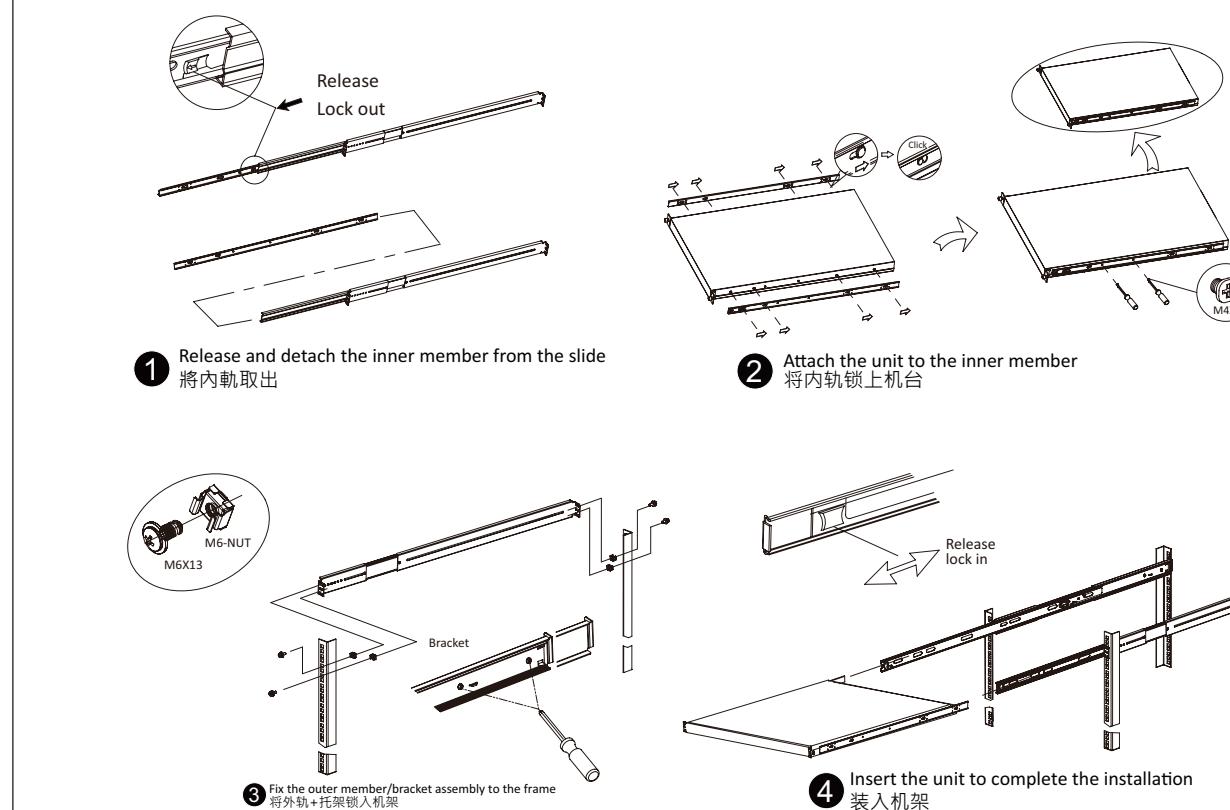
DDR4 RDIMM Configuration							
#DIMM per channel	1 DIMM per channel				2 DIMM per channel		
Rank(s)	1 Rank				1 Rank		
Data Width	x4	x8	x4	x8	x4	x8	x4
Per DIMM Capacity (GB)	8,16	4,8	16,32	8,16	4,8	16,32	8,16
1600MTS	✓	✓	✓	✓	✓	✓	✓
1866MTS	✓	✓	✓	✓	✓	✓	✓
2133MTS	✓	✓	✓	✓	✓	✓	✓

Hard Disk Drive and Back Plane Board/ 硬盘驱动器与硬盘驱动器底板



No	Description	No	Description	No	Description
1	HDD#0	11	SGPIO Port B	21	Fan connector#8
2	HDD#1	12	SGPIO Port A	22	Fan connector#7
3	HDD#2	13	Fan connector#16	23	Fan connector#10
4	HDD#3	14	Fan connector#15	24	Fan connector#9
5	HDD#4	15	Fan connector#2	25	Fan connector#12
6	HDD#5	16	Fan connector#1	26	Fan connector#11
7	HDD#6	17	Fan connector#4	27	Fan connector#14
8	HDD#7	18	Fan connector#3	28	Fan connector#13
9	HDD#9	19	JP_SEL1	29	JP_SEL1
10	HDD#8	20	Fan connector#5	31	JP_SEL2
					JP_SEL3

Rail Kit/ 导轨



Front Panel LED and Buttons/ 前面板 LED 说明



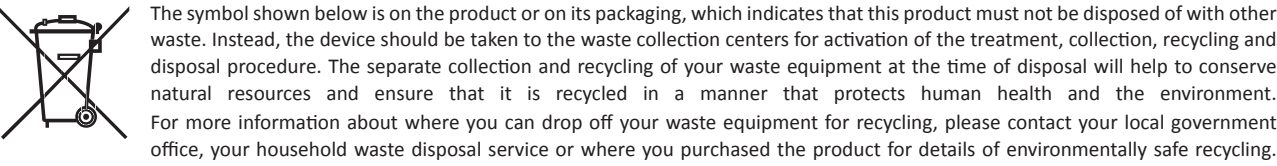
No.	Name	Color	Status	Description
1	Reset Button			Press the button to reset the system.
2	ID Button			Press the button to activate system identification.
3	Power LED	Green	Solid On	System is powered on.
		Green	Blink	System is in ACPI S1 state (sleep mode).
4	HDD Status LED	N/A	Off	System is not powered on or in ACPI S5 state (power off). System is in ACPI S4 state (hibernate mode).
		Green	On	HDD locate
			Blink	HDD access
		Amber	On	HDD access
		Green/Amber	Blink	HDD fault
		N/A	Off	No HDD access or no HDD fault.
5/6	LAN1/2 Active/Link LEDs	Green	Solid On	Link between system and network or no access.
		Green	Blink	Data transmission or receiving is occurring.
		N/A	Off	No data transmission or receiving is occurring.

编号	名称	颜色	状态	说明
1	复位按钮			按此按钮启动系统。
2	ID按钮			按下按钮启动系统识别功能。
3	电源按钮和LED	绿色	恒亮	系统处于开机状态。
		绿色	闪烁	系统处于ACPI S1状态（睡眠模式）。
		无亮灯	不亮	系统未开机或处于ACPI S5状态（关机状态）。系统处于ACPI S4状态（休眠模式）。
4	硬盘驱动器LED	绿色	亮	硬盘驱动器定位
			闪烁	硬盘驱动器访问
		橙色	亮	硬盘驱动器访问
		绿色/橙色	闪烁	硬盘故障
		无亮灯	不亮	无硬盘驱动器访问
5/6	LAN1/LAN2活动LED	绿色	恒亮	系统和网络之间的链接
		绿色	闪烁	网络访问
		无亮灯	不亮	断开连接/待机

No.	Name	Color	Status	Description
1/6	LAN3/LAN4活动LED LAN1/2 Active/Link LEDs	Green	Solid On	Link between system and network or no access.
		Green	Blink	Data transmission or receiving is occurring.
2	Power Button and LED	N/A	Off	No data transmission or receiving is occurring.
		Green	Solid On	System is powered on.
		Green	Blink	System is in ACPI S1 state (sleep mode).
		N/A	Off	System is not powered on or in ACPI S5 state (power off). System is in ACPI S4 state (hibernate mode).
3	ID Button			Press the button to activate system identification.
4	System Status LED	Green	Solid On	System is operating normally.
			Off	Degrade condition, may indicates: CPU failure DIMM killed
		Amber	Solid On	Critical condition, may indicates: Power module failure System fan failure Power supply voltage issue System temperature
			Blink	Non-critical condition, may indicates: Redundant power module failure Temperature and voltage issue Chassis intrusion
		N/A	N/A	System is not ready, may indicates: POST error NMI error Processor or terminator missing
5	HDD Status LED	Green	On	HDD locate
			Blink	HDD access
		Amber	On	HDD access
			Blink	HDD fault
		N/A	Off	No HDD access or no HDD fault.
7	Reset Button			Press the button to reset the system.

编号	名称	颜色	状态	说明
1/6	LAN3/LAN4活动LED LAN1/LAN2活动LED	绿色	恒亮	系统和网络之间的链接
		绿色	闪烁	网络访问
3	电源按钮和LED	无亮灯	不亮	断开连接/待机
		绿色	恒亮	系统处于开机状态。
		绿色	闪烁	系统处于ACPI S1状态（睡眠模式）。
		无亮灯	不亮	系统未开机或处于ACPI S5状态（关机状态）。系统处于ACPI S4状态（休眠模式）。
3	ID按钮			按下按钮启动系统识别功能。
4	系统状态LED	绿色	恒亮	系统正常运行。
			不亮	效能降低情形，可能为下列状况： 处理器问题 内存问题 严重情形，可能为下列状况： 电源模块故障 系统风扇故障 电源电压问题 系统温度/电压问题 机箱侵入
		橙色	恒亮	严重情形，可能为下列状况： 冗余电源模块故障 系统温度/电压问题 机箱侵入
			闪烁	严重情形，可能为下列状况： 冗余电源模块故障 系统温度/电压问题 机箱侵入
		无亮灯	不亮	系统未正常运行，可能为下列状况： POST错误 NMI错误 处理器或终结器缺失
6	硬盘驱动器LED	绿色	亮	硬盘驱动器定位
			闪烁	硬盘驱动器访问
		橙色	亮	硬盘驱动器访问
			闪烁	硬盘故障
		无亮灯	不亮	无硬盘驱动器访问
7	复位按钮			按此按钮启动系统。

WEEE Symbol Statement



The symbol shown below is on the product or on its packaging, which indicates that this product must not be disposed of with other waste. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling and disposal procedure. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local government office, your household waste disposal service or where you purchased the product for details of environmentally safe recycling.

- When your electrical or electronic equipment is no longer useful to you, "take it back" to your local or regional waste collection administration for recycling.
- If you need further assistance in recycling, reusing in your "end of life" product, you may contact us at the Customer Care number listed in your product's user's manual and we will be glad to help you with your effort.

Restriction of Hazardous Substances (RoHS) Directive Statement

GIGABYTE products have not intended to add and safe from hazardous substances (Cd, Pb, Hg, Cr+6, PBDE and PBB). The parts and components have been carefully selected to meet RoHS requirement. Moreover, we at GIGABYTE are continuing our efforts to develop products that do not use internationally banned toxic chemicals.

限制使用有害物质 (RoHS) 指令声明

GIGABYTE产品未故意添加和使用有害物质（Cd、Pb、Hg、Cr+6、PBDE和PBB）。所有部件和元件均经过严格挑选，符合RoHS要求。此外，我们GIGABYTE一直致力于开发不使用国际上禁止的有毒化学品的产品。

California Proposition 65 Warning

WARNING:
This product contains a chemicals , including lead, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, please visit: <http://www.p65warnings.ca.gov/>

Battery Warning:
Incorrectly installing a battery or using incompatible battery may increase the risk of ifre explosion. Replace the battery only with the same or equivalent type.

- Do not disassemble, crush, puncture batteries.
- Do not store or place your battery pack next to or in a heat source such as a fire, heatgenerating appliance, can or exhaust vent. Heating battery cells to temperatures above 65oC (149oF) can cause explosion or fire.
- Do not attempt to open or service batteries. Do not dispose of batteries in a fire or with household waste.

电池警告：
电池安装不当或使用不兼容的电池会增加火灾爆炸风险。更换电池时，只可使用相同或同等类型的电池。

- 请勿拆解、挤压、刺破电池。
- 请勿将电池存放或放置在热源中或旁边，如火源、产生热的设备、罐体或排气口。电池温度升至65oC (149oF)以上可能导致爆炸或火灾。
- 请勿尝试打开或维修电池。电池废弃时，请勿投入火中或者作为家庭废弃物进行处理。

中华人民共和国电子信息产品中有毒有害物质或元素的名称及含量标识格式

依照中华人民共和国的有毒有害物质的限制要求(China RoHS)提供以下的表格：

关于符合中国《电子信息产品污染控制管理办法》的声明
Management Methods on Control of Pollution from Electronic Information Products
(China RoHS Declaration)

产品中有毒有害物质或元素的名称及含量
Hazardous Substances Table

部件名称(Parts)	铅(Pb)	汞(Hg)	镉(Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
PCB板 PCB	○	○	○	○	○	○
结构件及风扇 Mechanical parts and Fan	×	○	○	○	○	○
芯片及其他主动零件 Chip and other Active components	×	○	○	○	○	○
连接器 Connectors	×	○	○	○	○	○
被动电子元件 Passive Components	×	○	○	○	○	○
线材 Cables	○	○	○	○	○	○
焊接金属 Soldering metal	○	○	○	○	○	○
助焊剂、散热膏、标签及其他耗材 Flux,Solder Paste,Label and other Consumable Materials	○	○	○	○	○	○

○:表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006标准规定的限量要求以下。
Indicates that this hazardous substance contained in all homogenous materials of this part is below the limit requirement SJ/T 11363-2006

×:表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006标准规定的限量要求。
Indicates that this hazardous substance contained in at least one of the homogenous materials of this part is above the limit requirement in SJ/T 11363-2006

对销售之目的所发售产品，本表显示我公司供应链的电子信息产品可能包含这些物质。注意：在所售产品中可能会也可能不会含有所有所列的部件。
This table shows where these substances may be found in the supply chain of our electronic information products, as of the date of the sale of the enclosed products. Note that some of the component types listed above may or may not be a part of the enclosed product.

Ambient Operation

This equipment should not be operated above an ambient operation temperature of 35 degrees centigrade.

Restricted Access Location

- This server is intended for installation only in restricted access locations where .
- Access can only be gained by SERVICE PERSONS who have been instructed about the reasons for the restrictions applied to the location and about any precautions that shall be taken.
 - Access is through the use of a TOOL or lock and key, or other means of security, and is controlled by the authority responsible for the location.

The system may have more than one power supply cable. To reduce the risk of electrical shock, a trained service technician may need to disconnect all power supply cables before servicing the system.

Power Supply

CAUTION: The power supplies in your system may produce high voltages and energyhazards, which can cause bodily harms. Unless you are instructed otherwise, only trained service technicians are authorized to remove the covers and access any of the components inside the system.

Reliable Earthing:

CAUTION: Do not connect of disconnect any cables or perform installation, maintenance, or reconfiguration of this server during an electrical storm
CAUTION: Connect all power cords to a properly wired and grounded electrical outlet.

Hazardous FAN

CAUTION: This server contains hazardous moving fan blades, keep fingers and other bodyparts away.
Disconnect all power supply cords before servicing. Connect power supply cord only after all the covers are properly installed.

Hazardous Energy

CAUTION: This server contains hazardous energy over 240VA on the backplane. To prevent accidental short circuit, always insert the HDD trays after servicing.

Rack Mount Instructions

The following or similar rack-mount instructions are included with the installation instructions:

A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips)."

Disconnect 2 power supply cords before servicing

CAUTION: Slider/rail mounted equipment is not to be used as a shelf or a work space.

FCC Statement

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

CAN ICES-3 (A)/NMB-3(A)

声明 本系统功率大于 1300W



CAUTION: Whenever you need to lift the system, get others to assist you.
To avoid injury, do not attempt to lift the system by yourself.

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