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msi
S2301 Server System

msi S2301 Server System User Guide

Contents

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msi S2301 Server System

Product Specifications

- **CPU:** Dual AMD EPYCTM 9004 and 9005 series processors, TDP up to 500W
- **Memory:** 24 DDR5 DIMM slots supporting RDIMMs and 3DS-RDIMMs, max capacity of 256GB per DIMM
- **Max Memory Frequency:**
  - AMD EPYCTM 9004: 4800 MT/s (1DPC)
  - AMD EPYCTM 9005: 6000 MT/s (1DPC)

Product Usage Instructions

CPU & Heatsink Installation:

1. Ensure the system is powered off and unplugged.
2. Locate the CPU socket on the motherboard.
3. Carefully align the CPU with the socket ensuring correct orientation.
4. Gently place the CPU into the socket and secure it in place according to the motherboard instructions.
5. Install the heatsink/fan on top of the CPU, ensuring proper thermal paste application.
6. Connect the heatsink fan to the designated header on the motherboard.

Front Panel Connector Installation:

1. Identify the front panel connectors labeled on the motherboard.
2. Refer to the user manual for the specific pin layout of each connector.
3. Connect the power LED, HDD activity LED, power button, reset button, and other front panel connectors accordingly.
4. Ensure a secure connection for each connector to avoid any malfunctions.

Memory Installation:

1. Power off the system and unplug all cables.
2. Locate the DDR5 DIMM slots on the motherboard.
3. If populating multiple DIMMs, refer to the motherboard manual for the optimal configuration.
4. Carefully insert the DDR5 DIMMs into the slots, ensuring they are fully seated.
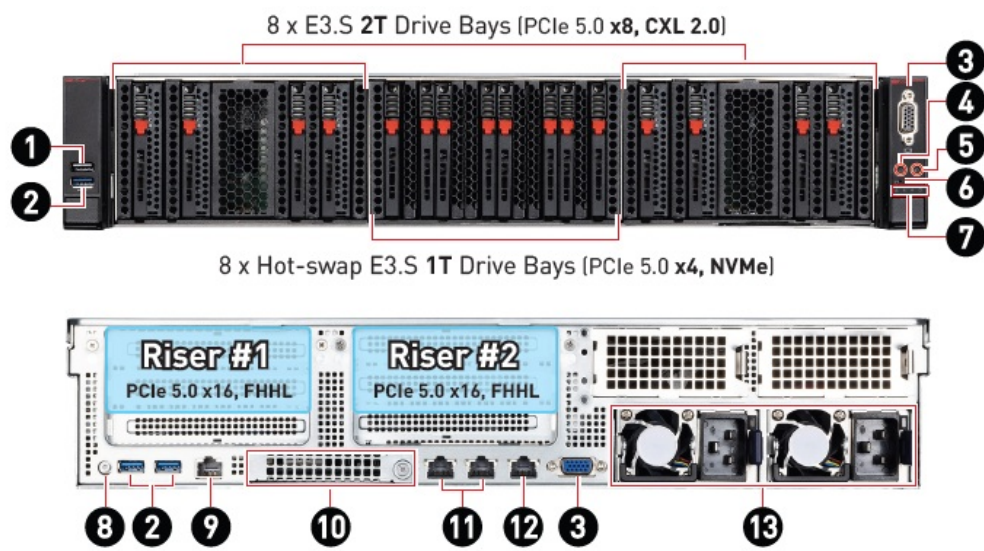5. Apply equal pressure on both ends of the DIMM to secure it in place.

FAQ

- **What should I do if the system fails to boot after installing new memory?**
  If the system fails to boot after installing new memory, try reseating the DIMMs or using only one DIMM at a time to identify any faulty modules. Ensure the memory modules are compatible with the motherboard specifications.
- **How can I configure the UID LED button as a BMC reset button?**
  To configure the UID LED button as a BMC reset button, use jumper JUID_SEL1 as directed in the manual. Change the jumper position to enable this functionality.

OVERVIEW

8 x E3.S **2T** Drive Bays (PCIe 5.0 **x8**, CXL 2.0)

8 x Hot-swap E3.S **1T** Drive Bays (PCIe 5.0 **x4**, NVMe)

Riser #1
PCIe 5.0 x16, FHHL

Riser #2
PCIe 5.0 x16, FHHL

|			
1	USB 2.0 Type-A Port	8	UID LED Button (default)/ BMC Reset Button*
2	USB 3.2 Gen 1 Type-A Ports	9	COM RJ45 Port
3	VGA D-Sub Port	10	OCP 3.0 Mezzanine Card Slot
4	⏻ System Power Button/ LED	11	1000Base-T Ethernet Ports
5	Ⓘ UID Button/ LED	12	1000Base-T Dedicated Server Mgmt. Port
6	↪ System Reset Button	13	Power Supply Units
7	⚠ System Alarm LED LAN1, LAN2 Activity LEDs HDD Activity LED		**Note:** * The UID LED button can also function as a BMC reset button, configured using jumper **JUID_SEL1**.

Front Panel FPC Connector

JFP1

1 [▯▯▯▯▯▯▯▯▯▯▯▯▯] 26

1	P3V3_AUX	2	P3V3_AUX	3	NA	4	UID_LED+
5	FP_PWR_LED-	6	FP_ID_LED_B_R-	7	P3V3	8	SYS_FLT_LED#-
9	SYS_ERR_LED#-	10	LED_HDD_ACT_LED-	11	FP_PWR_BTN-	12	NIC1_LED+
13	GND	14	NIC1_LED-	15	SYS_RST_BTN	16	BMC_SMB_FP_DAT
17	BMC_SMB_FP_CLK	18	GND	19	FP_ID_BTN-	20	NA
21	NA	22	NA	23	NIC2_LED+	24	NIC2_LED-
25	GND	26	GND				

CPU

Dual AMD EPYC™ 9004 and 9005 series processors, TDP up to 500W.

CPU & Heatsink Installation
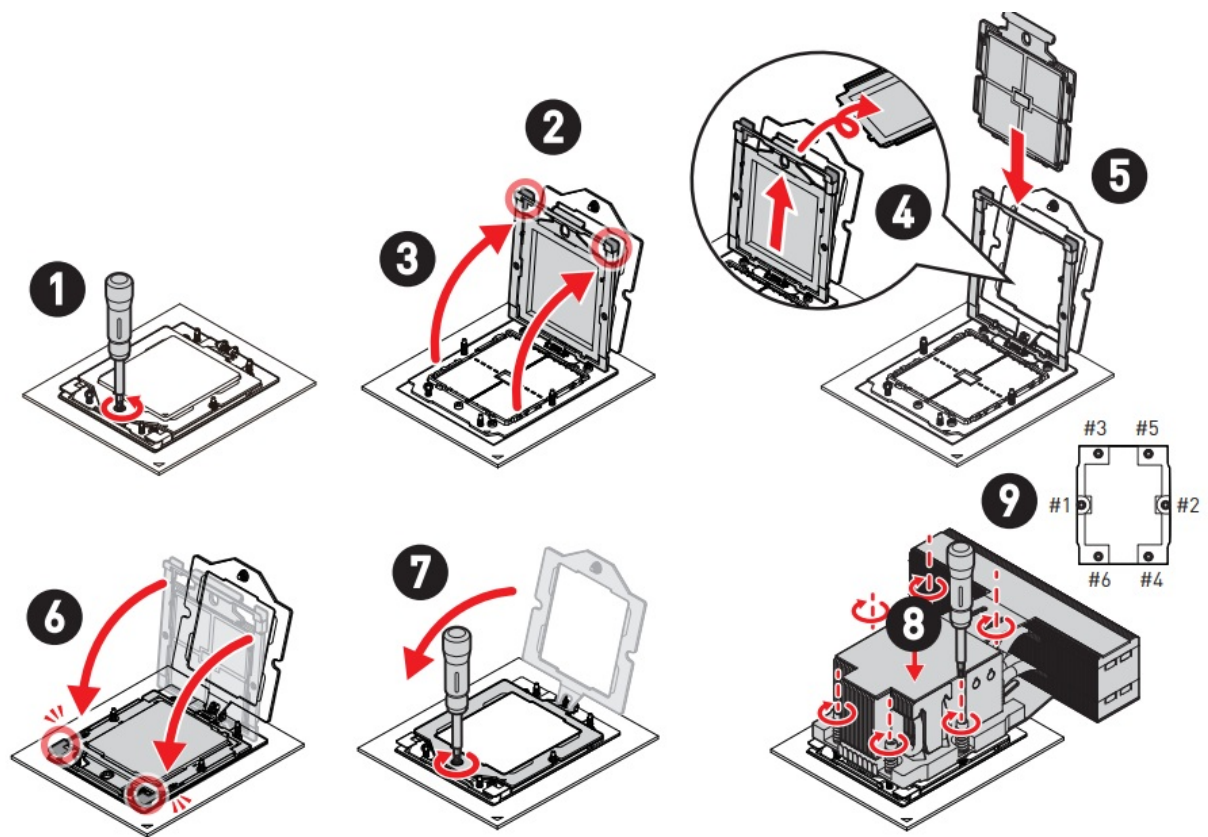
Connectors, Jumpers and LED Indicators

| Name	Description
PSU_PWR1~2	CRPS power connectors
GPU_PWR1~2	8-pin GPU power connectors
HDD_PWR1~3	8-pin HDD BP power connectors
RISER_PWR1~2	4-pin PCIe riser power connector
JMCIO1~8	MCIO 8i connectors (for HDD BP **MS-S362M**)
JMCIO11~14	MCIO 8i connectors (for HDD BP **MS-S362N**)
JMCIO_SLOT**1**-1~2	MCIO 8i connectors (for PCIe riser cable)
JMCIO_SLOT**2**-1~2	
Riser Cable Slot #1	PCIe 5.0 x 16 slot (from CPU0)
Riser Cable Slot #2	PCIe 5.0 x 16 slot (from CPU1)
OCP1	OCP 3.0 LAN mezzanine slot (supports OCP NIC 3.0 SFF, PCIe 5.0 x16 from CPU0)
M2_1~2	M.2 slots (M Key, PCIe 3.0 x2, 2280)
MSD1	Micro SD card slot
CPU_FAN1~2	4-pin CPU fan connectors
F2U-1~6	10-pin 2U system fan connectors
JUSB1	USB 3.2 Gen 1 Type-A port
JUSB2	USB 3.2 Gen 1/ USB 2.0 FPC connector (for front USB, USB 3.2 Gen 1 Type-A + USB 2.0 Type-A)
JFP1	Front panel FPC connector
JFP_VGA1	Front VGA header
JTPM1	SPI TPM header
FBP_I2C_1~3	I2C headers
JIPMB1	IPMB header
JCHASSIS1	Chassis intrusion header
JSPI_MUX1	BIOS select jumper (default pin 1-2, SYS BIOS ROM & control by BMC)
JSEL_BMC1	BMC select jumper (default pin 1-2, BMC1)
JRTC_CLR1	CMOS clear jumper (default pin 1-2, normal)
JUID_SEL1	UID/ BMC select jumper (default pin 1-2, UID button)

JCXL_NVME_SW1	HDD BP CXL/ NVMe select jumper (default pin 1-2, 8 x CXL, 8 x NVMe)
SEG_LED1~4	Port 80 debug LEDs
BMC_HB_LED	BMC heartbeat LED

Memory

The system is equipped with 24 DDR5 DIMM slots, supporting both RDIMMs and 3DS-RDIMMs. Each DIMM has a maximum capacity of 256GB.

Max Frequency

- AMD EPYC™ 9004: 4800 MT/s (1DPC)
- AMD EPYC™ 9005: 6000 MT/s (1DPC)
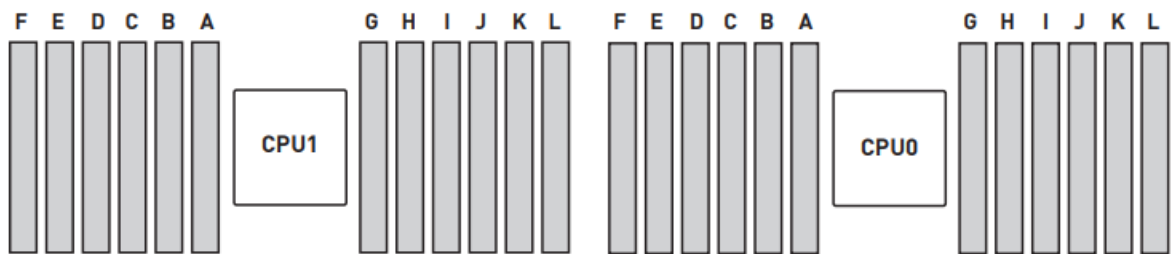
1 CPU

Qty. of DDR5	F	E	D	C	B	A	CPU	G	H	I	J	K	L
12	V	V	V	V	V	V		V	V	V	V	V	V
10		V	V	V	V	V		V	V	V	V	V	
8	V			V	V	V		V	V	V		V	
6				V	V	V		V	V	V			
4				V		V		V		V			
2						V		V					
1						V							

2 CPUs

Qty. of DDR5		F	E	D	C	B	A	CPU	G	H	I	J	K	L
24	CPU1	V	V	V	V	V	V		V	V	V	V	V	V
	CPU0	V	V	V	V	V	V		V	V	V	V	V	V
20	CPU1		V	V	V	V	V		V	V	V	V	V	
	CPU0		V	V	V	V	V		V	V	V	V	V	
16	CPU1		V		V	V	V		V	V	V		V	
	CPU0		V		V	V	V		V	V	V		V	
12	CPU1				V	V	V		V	V	V			
	CPU0				V	V	V		V	V	V			
8	CPU1				V		V		V		V			
	CPU0				V		V		V		V			
4	CPU1						V		V					
	CPU0						V		V					
2	CPU1						V							
	CPU0						V							
1	CPU1													
	CPU0						V							

"**V**" indicates DIMMs are populated with **DDR5**.

Important

There should be at least one DDR5 DIMM populated.

Documents / Resources
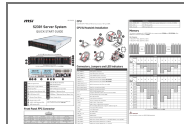
msi S2301 Server System [pdf] User Guide
S362-S2301-v1.0-QG, G52-S3622X1, S2301 Server System, S2301, Server System, System

References

- **User Manual**