Memory Mezzanine Assembly Installation Guide for the SPARC® Enterprise T5240 Server

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Contents

Installing the Memory Mezzanine Assembly

This installation guide describes procedures for installing the memory mezzanine assembly in the SPARC® Enterprise T5240 server.

The memory mezzanine assembly provides additional memory capacity for the server.

This guide contains the following sections:

Contents of Memory Mezzanine Assembly Kit

The memory mezzanine kit contains the following components:

- Memory mezzanine assembly
- Eight FB-DIMM filler panels (installed on the memory mezzanine assembly)
- Mezzanine air duct (installed on the memory mezzanine assembly)

- Auxiliary air baffle
- Antistatic wrist strap
- Shipping bracket (used for possible future shipment of the server when the memory mezzanine is installed)

Note – The memory mezzanine assembly kit does not contain any FB-DIMMs. You must obtain the FB-DIMMs separately. FB-DIMM upgrade kits are available under a different part number. See your sales representative for more information.

Tools Required

The following tools are required for this procedure:

- Antistatic wrist strap
- No. 2 Phillips screwdriver

Electrostatic Discharge Safety Measures

Devices sensitive to electrostatic discharge (ESD), such as the motherboards, PCI cards, hard drives, and memory cards, require special handling.

Caution – Circuit boards and hard drives contain electronic components that are extremely sensitive to static electricity. Ordinary amounts of static electricity from clothing or the work environment can destroy the components located on these boards. Do not touch the components along their connector edges.

Caution – You must disconnect both power supplies before servicing any of the components documented in this guide.

Using an Antistatic Wrist Strap

Wear an antistatic wrist strap and use an antistatic mat when handling components such as hard drive assemblies, circuit boards, or PCI cards. When servicing or removing server components, attach an antistatic strap to your wrist and then to a metal area on the chassis. Following this practice equalizes the electrical potentials between you and the server.

Using an Antistatic Mat

Place ESD-sensitive components such as motherboards, memory, and other PCBs on an antistatic mat.

Preparing the System

Caution – This procedure requires that you handle components that are sensitive to static discharge. Static discharges can cause the component failures. To avoid this problem, ensure that you follow antistatic practices as described in "Electrostatic Discharge Safety Measures" on page 2.

Perform the following tasks, as described in the *SPARC Enterprise T5140 and T5240 Servers Service Manual*:

1. **Power off the server.**
2. **Extend the server into the maintenance position.**
3. **Remove the top cover.**

Installing the Memory Mezzanine Assembly

1. **Remove the motherboard air duct from the system as follows:**
   a. **Open the motherboard air duct.**

b. **Press the air duct tabs toward the center of the system to disengage the tabs from the chassis bulkhead.**

c. **Lift the air duct up and out of the system.**

   The motherboard air duct will be replaced with the auxiliary air baffle that shipped with the memory mezzanine assembly. The motherboard air duct will no longer be needed.

2. **Install any additional FB-DIMMs on the motherboard.**

   The motherboard FB-DIMM slots must be fully populated before you add any additional FB-DIMMs with the memory mezzanine assembly. See "FB-DIMM Configuration Reference" on page 7.

3. **Remove four plastic fillers from the connectors on the motherboard to which the mezzanine assembly will connect.**

4. **Install the auxiliary air baffle into the system.**

   Press the air baffle tabs toward the center of the system to fit the tabs to the brackets in the chassis bulkhead.

5. **Remove the memory mezzanine assembly from its packaging and place the memory mezzanine assembly on an antistatic surface.**

6. **Remove the mezzanine air duct from the memory mezzanine assembly.**

7. **Open the memory mezzanine assembly latches.**

   Rotate the levers toward each other, above the mezzanine assembly.

8. **Install FB-DIMMs on the memory mezzanine assembly.**

   See "FB-DIMM Configuration Reference" on page 7.

   If you are installing 16 FB-DIMMs, remove all 8 FB-DIMM filler panels. If you are installing 8 FB-DIMMs, leave the filler panels in place, and install the FB-DIMMs in the 8 empty connectors.

9. **Install the memory mezzanine assembly into the chassis as follows:**

   a. **Ensure that the memory mezzanine assembly latches are open (FIGURE 1, part 1).**

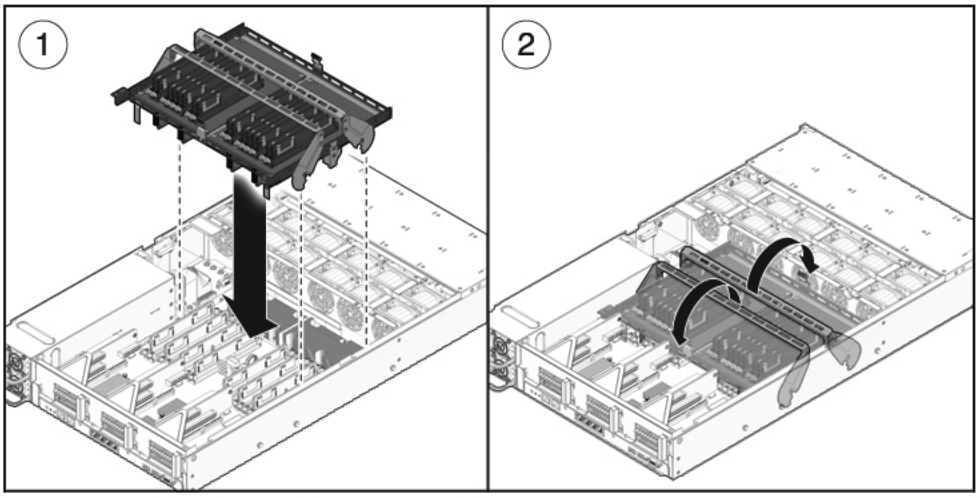
      Rotate the levers toward each other, above the mezzanine assembly.

   b. **Lower the mezzanine assembly onto the motherboard while ensuring that the connectors between the mezzanine assembly and the motherboard are aligned correctly (FIGURE 1, part 1).**

   c. **Close the memory mezzanine assembly latches to lock the memory mezzanine assembly into the system (FIGURE 1, part 2).**

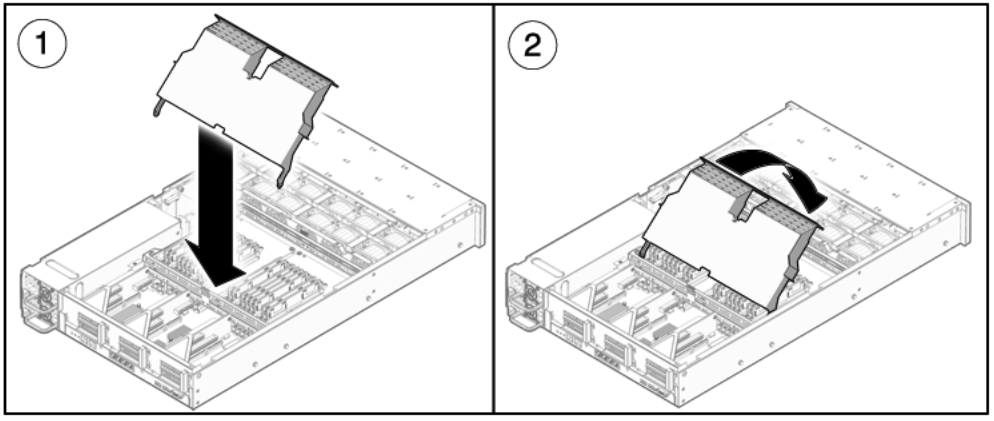
      Rotate the levers away from each other until they snap into place in the chassis.

FIGURE 1 Installing the Memory Mezzanine Assembly



10. **Install the memory mezzanine air duct as shown in** FIGURE 2**.**

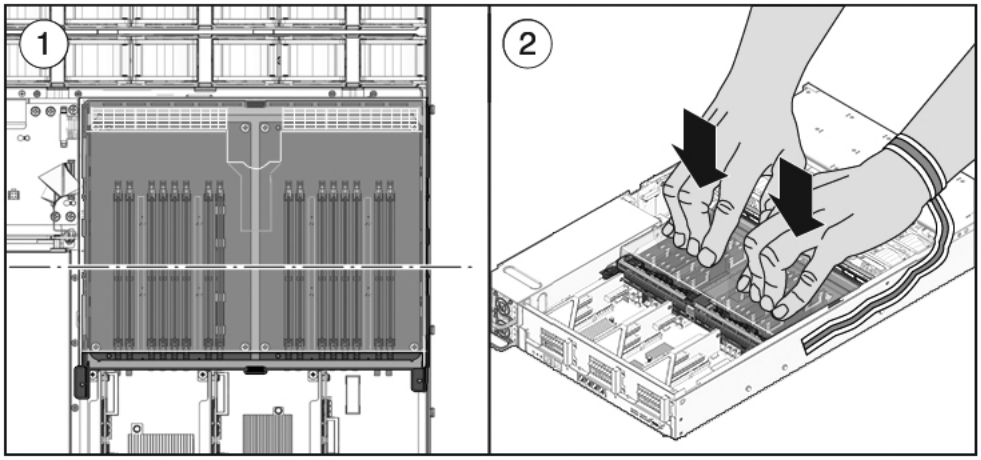
FIGURE 2 Installing the Memory Mezzanine Air Duct



11. **Ensure that the mezzanine assembly is fully and evenly seated across the width of the assembly.**

    Place the fingertips of both hands across the midsection of the flat part of the air duct and press down firmly and evenly with as shown in FIGURE 3**.**

FIGURE 3 Ensuring That the Memory Mezzanine Assembly is Fully and Evenly Seated



12. **(Optional) Install the shipping bracket.**

    The shipping bracket is secured with two captive No. 2 Phillips screws.

    The shipping bracket must be installed if you ship the server with the mezzanine assembly installed. The server will operate with or without the shipping bracket installed.

Returning the System to Service

Perform the following steps, as described in the *SPARC Enterprise T5140 and T5240 Servers Service Manual*:

1. **Install the top cover.**
2. **Slide the system back into the rack.**
3. **Attach the power cables.**
4. **Power on the server.**

Verifying Proper Installation

1. **Verify that there are no Fault LEDs lit when the system is powered on.**
2. **Access the system console using the ILOM interface.**

   See the *SPARC Enterprise T5140 and T5240 Servers Service Manual* for additional instructions.
3. **Use the ILOM `show faulty` command to verify that there are no memory faults.**

```
-> show faulty
Target               | Property                | Value
---------------------+-------------------------+--------------------------------
```

FB-DIMM Configuration Reference

Observe the following FB-DIMM configuration rules:

- 16 slots hold industry-standard FB-DIMM memory modules on the motherboard.
- An additional 16 slots are available through a memory mezzanine assembly.
- All FB-DIMMs in the system must be the same density (same type).
- FB-DIMM slots must be fully populated on the motherboard before adding additional memory with the memory mezzanine assembly.

Use these FB-DIMM configuration rules, FIGURE 4, and TABLE 1 to help you plan the memory configuration of your server.

The memory mezzanine assembly supports the following configurations:

- 24 FB-DIMMs (Groups 1, 2, 3, and 4) (fully populated motherboard + 8 FB-DIMM slots in the memory mezzanine assembly)
- 32 FB-DIMMs (Groups 1, 2, 3, 4, and 5) (fully populated motherboard + fully populated memory mezzanine assembly)

FIGURE 4 FB-DIMM Configuration (Memory Mezzanine Assembly)

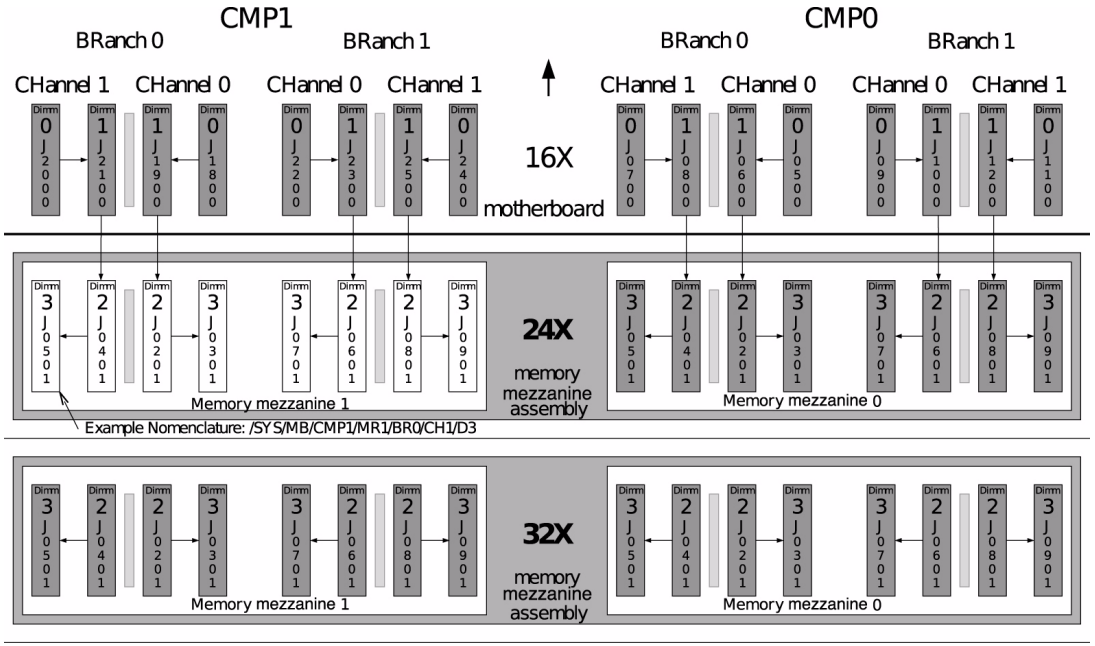


TABLE 1 describes the FB-DIMM FRU names and installation order. Memory mezzanine assembly FB-DIMMs are shaded.

TABLE 1 FB-DIMM Configuration (SPARC Enterprise T5240)

Branch Name	Channel Name	FRU Name	FB-DIMM Connector	FB-DIMM Installation Order*
CMP 0, Branch 0	Channel 0	/SYS/MB/CMP0/BR0/CH0/D0	J0500	1
		/SYS/MB/CMP0/BR0/CH0/D1	J0600	2
	Channel 1	/SYS/MB/CMP0/BR0/CH1/D0	J0700	1
		/SYS/MB/CMP0/BR0/CH1/D1	J0800	2
CMP 0, Branch 1	Channel 0	/SYS/MB/CMP0/BR1/CH0/D0	J0900	1
		/SYS/MB/CMP0/BR1/CH0/D1	J1000	2
	Channel 1	/SYS/MB/CMP0/BR1/CH1/D0	J1100	1
		/SYS/MB/CMP0/BR1/CH1/D1	J1200	2

TABLE 1 FB-DIMM Configuration (SPARC Enterprise T5240) *(Continued)*

Branch Name	Channel Name	FRU Name	FB-DIMM Connector	FB-DIMM Installation Order*
CMP 1, Branch 0	Channel 0	/SYS/MB/CMP1/BR0/CH0/D0	J1800	1
		/SYS/MB/CMP1/BR0/CH0/D1	J1900	3
	Channel 1	/SYS/MB/CMP1/BR0/CH1/D0	J2000	1
		/SYS/MB/CMP1/BR0/CH1/D1	J2100	3
CMP 1, Branch 1	Channel 0	/SYS/MB/CMP1/BR1/CH0/D0	J2200	1
		/SYS/MB/CMP1/BR1/CH0/D1	J2300	3
	Channel 1	/SYS/MB/CMP1/BR1/CH1/D0	J2400	1
		/SYS/MB/CMP1/BR1/CH1/D1	J2500	3
CMP 0, Branch 0	Channel 0	/SYS/MB/CMP0/MR0/BR0/CH0/D2	J0201	4
		/SYS/MB/CMP0/MR0/BR0/CH0/D3	J0301	4
	Channel 1	/SYS/MB/CMP0/MR0/BR0/CH1/D2	J0401	4
		/SYS/MB/CMP0/MR0/BR0/CH1/D3	J0501	4
CMP 0, Branch 1	Channel 0	/SYS/MB/CMP0/MR0/BR1/CH0/D2	J0601	4
		/SYS/MB/CMP0/MR0/BR1/CH0/D3	J0701	4
	Channel 1	/SYS/MB/CMP0/MR0/BR1/CH1/D2	J0801	4
		/SYS/MB/CMP0/MR0/BR1/CH1/D3	J0901	4
CMP 1, Branch 0	Channel 0	/SYS/MB/CMP1/MR1/BR0/CH0/D2	J0201	5
		/SYS/MB/CMP1/MR1/BR0/CH0/D3	J0301	5
	Channel 1	/SYS/MB/CMP1/MR1/BR0/CH1/D2	J0401	5
		/SYS/MB/CMP1/MR1/BR0/CH1/D3	J0501	5
CMP 1, Branch 1	Channel 0	/SYS/MB/CMP1/MR1/BR1/CH0/D2	J0601	5
		/SYS/MB/CMP1/MR1/BR1/CH0/D3	J0701	5
	Channel 1	/SYS/MB/CMP1/MR1/BR1/CH1/D2	J0801	5
		/SYS/MB/CMP1/MR1/BR1/CH1/D3	J0901	5

* Upgrade path: DIMMs should be added with each group populated in the order shown.