Supermicro X9DAI-O

Supermicro X9DAI-O Server Motherboard User Manual

Model: X9DAI-O | **Brand:** Supermicro

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the Supermicro X9DAI-O EATX Server Motherboard. Designed for high-performance server and workstation applications, this motherboard supports dual Intel Xeon E5-2600 series processors and offers extensive connectivity and expansion options. Please read this manual thoroughly before proceeding with installation or operation.

2. Product Features

The Supermicro X9DAI-O motherboard is engineered with advanced features to deliver robust performance and reliability:

- **CPU Support:** Dual LGA2011 sockets supporting Intel Xeon E5-2600 Series Processors with up to 20MB cache and QPI up to 8 GT/s.
- **Chipset:** Intel C602.
- **Memory:** 16x 240-pin DDR3 DIMM slots, supporting up to 512 GB ECC/Registered Memory or up to 128 GB ECC/Unbuffered Memory at speeds of 1600/1333/1066/800 MHz.
- **Expansion Slots:** 3x PCI-Express 3.0 x16 slots and 3x PCI-Express 3.0 x8 slots (one operating at x4).
- **Storage:** 8x SATA2 ports and 2x SATA3 ports, supporting RAID 0, 1, 5, 10.
- **Audio:** Realtek ALC889 7.1-Channel High Definition Audio CODEC.
- **Networking:** Dual Gigabit Ethernet ports.

3. Setup and Installation

Proper installation is crucial for the stable operation of your motherboard. Follow these steps carefully:

3.1. Package Contents

Verify that all components are present in the package:

- Supermicro X9DAI-O Motherboard
- I/O Shield
- SATA Cables
- USB 3.0 Header Cable (if included)
- Documentation

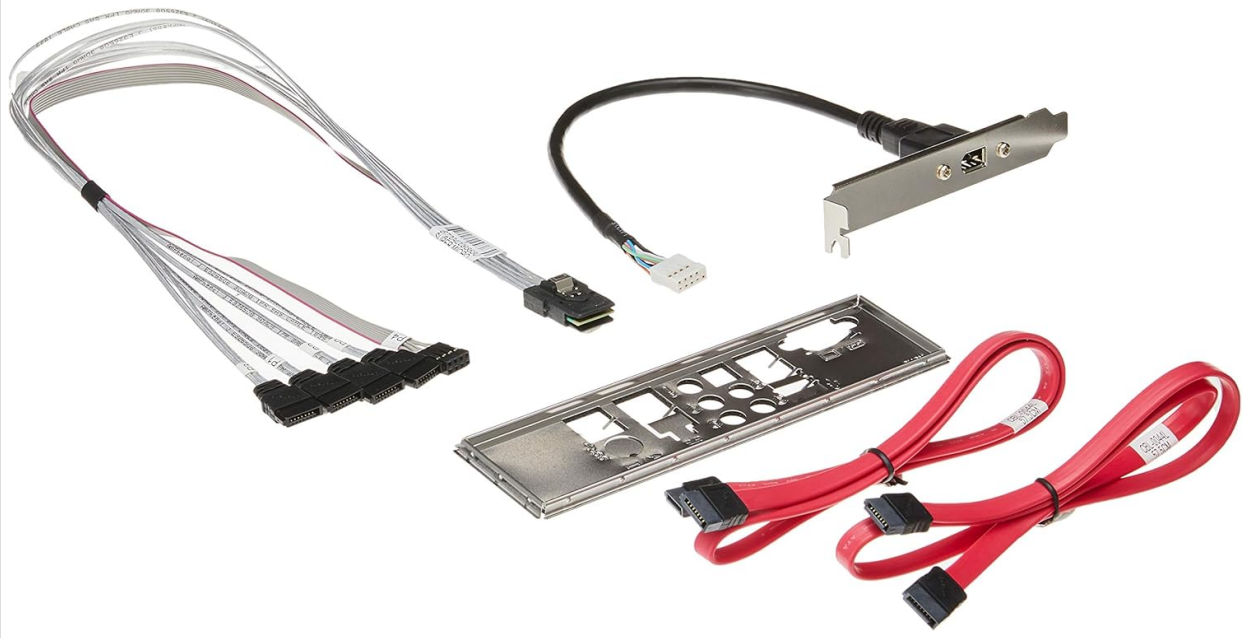

Image 1: Included accessories for the Supermicro X9DAI-O motherboard, featuring various SATA data cables, an I/O shield for the rear panel, and a USB 3.0 header cable for front panel connectivity.

3.2. Motherboard Mounting

The X9DAI-O is an EATX form factor motherboard. Ensure your chassis supports this size. Note that some EATX cases may not have all mounting holes aligned perfectly; you may need to use standoffs for the aligned holes and ensure proper support for the board to prevent bending during component installation.

3.3. CPU Installation (LGA2011)

1. Open the CPU socket retention mechanism.
2. Carefully align the Intel Xeon E5-2600 series processor with the LGA2011 socket, ensuring the gold triangle on the CPU matches the indicator on the socket.
3. Gently place the CPU into the socket without forcing it.
4. Close the retention mechanism to secure the CPU.
5. Install the appropriate CPU cooler for LGA2011 sockets.

3.4. Memory Installation

The motherboard features 16 DDR3 DIMM slots. Refer to the motherboard's silkscreen or a more detailed manual for specific memory population guidelines to optimize performance.

1. Open the retention clips on the DIMM slots.
2. Align the memory module's notch with the key in the DIMM slot.
3. Press down firmly on both ends of the memory module until the retention clips snap into place.

3.5. Expansion Card Installation

Install PCI-Express cards (e.g., graphics cards, network cards) into the available PCIe 3.0 x16 and x8 slots.

1. Remove the corresponding slot cover from your chassis.
2. Align the expansion card with the PCIe slot.
3. Press down firmly until the card is fully seated.
4. Secure the card with a screw or retention clip.

3.6. Storage Device Connection

Connect your SATA storage devices (HDDs, SSDs) to the SATA2 (8 ports) or SATA3 (2 ports) connectors using the provided SATA cables.

3.7. Power Connections

Connect the 24-pin ATX main power connector and the 8-pin EPS 12V CPU power connectors from your power supply to the motherboard. Ensure your power supply meets the power requirements for all installed components.

4. Operating Instructions

4.1. Initial Power On

After all components are installed and connected, ensure all cables are secure. Connect your monitor, keyboard, and mouse. Press the power button on your chassis. The system should initiate the Power-On Self-Test (POST).

4.2. BIOS/UEFI Access

During the POST sequence, press the designated key (commonly `DEL` or `F2`) to enter the BIOS/UEFI setup utility. Here you can configure boot order, system settings, and monitor hardware status.

4.3. Operating System Installation

Insert your operating system installation media (e.g., USB drive, DVD). Configure the boot order in the BIOS/UEFI to boot from the installation media. Follow the on-screen prompts to install your preferred operating system, such as Linux, which is a supported platform for this motherboard.

5. Maintenance

Regular maintenance helps ensure the longevity and optimal performance of your motherboard:

- **Dust Removal:** Periodically clean dust from the motherboard and cooling components using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **BIOS Updates:** Check the Supermicro website for the latest BIOS/firmware updates. Updating the BIOS can improve compatibility, stability, and performance. Follow Supermicro's instructions carefully when performing a BIOS update.
- **Environmental Control:** Operate the motherboard in a clean, dry, and well-ventilated environment. Avoid extreme temperatures and humidity.

6. Troubleshooting

If you encounter issues, consider the following troubleshooting steps:

- **No Power/No POST:**

- Verify all power cables (24-pin ATX, 8-pin EPS) are securely connected.
- Ensure the power supply is functional and adequately rated for your components. Some users have reported the motherboard being particular about power supply compatibility.
- Reseat CPU(s) and memory modules.
- Clear CMOS by removing the CMOS battery for a few minutes or using the designated jumper.

- **System Instability/Crashes:**
  - Check memory modules for proper seating and test them individually if possible.
  - Ensure CPU cooler is properly installed and making good contact. Monitor CPU temperatures.
  - Update BIOS to the latest version. Early BIOS versions may have stability issues or limited compatibility.
- **Peripheral Detection Issues:**
  - Verify cables for SATA devices, USB devices, and expansion cards are correctly connected.
  - Ensure necessary drivers are installed for your operating system.
- **BIOS Configuration Issues:** Some users have noted that the BIOS can be sensitive to certain settings, potentially leading to hangs. If the system hangs in BIOS, try clearing CMOS.

7. Specifications

Detailed technical specifications for the Supermicro X9DAI-O Motherboard:

Feature	Specification
Brand	Supermicro
Model Name	X9DAI-O
CPU Socket	LGA 2011 (Dual)
Compatible Processors	Intel Xeon E5-2600 Series
Chipset Type	Intel C602
RAM Memory Technology	DDR3 1600/1333/1066/800
Memory Slots Available	16
Ram Memory Maximum Size	512 GB (ECC/REG), 128 GB (ECC/Unbuffered)
Graphics Card Interface	PCI Express
Total PCIe Ports	6 (3x PCIe 3.0 x16, 3x PCIe 3.0 x8)
Total SATA Ports	10 (8x SATA2, 2x SATA3)
USB 2.0 Ports	7 (via headers)
Total USB Ports	13 (including headers)
Number of Ethernet Ports	2
Main Power Connector Type	24-Pin ATX

Feature	Specification
Platform	Linux (Compatible with Windows Server OS)
Item Weight	4 Pounds
Manufacturer	Supermicro
UPC	807320215875, 672042093557, 803983003293, 373385333644

8. Warranty and Support

For warranty information, technical support, and driver downloads, please visit the official Supermicro website or contact Supermicro customer service directly. Keep your purchase receipt for warranty claims.
Supermicro Official Website: www.supermicro.com