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Supermicro X9SCM-F-O

Supermicro MBD-X9SCM-F-O Server Motherboard User Manual

Model: X9SCM-F-O

INTRODUCTION

This manual provides detailed instructions for the installation, operation, maintenance, and troubleshooting of the Supermicro MBD-X9SCM-F-O server motherboard. Designed for reliable server applications, this Micro ATX board supports Intel Xeon E3-1200 family and 2nd Generation Intel Core i3/Pentium processors with an LGA 1155 socket and Intel C204 PCH chipset. It features ECC unbuffered DDR3 memory support, multiple PCI-Express slots, SATA2 and SATA3 ports with RAID capabilities, and integrated IPMI for remote management.



Image: Supermicro MBD-X9SCM-F-O Server Motherboard. This image displays the top-down view of the motherboard, highlighting the CPU socket, DIMM slots, PCI-Express slots, and various connectors.

SETUP AND INSTALLATION

1. Unpacking and Inspection

Carefully remove the motherboard from its packaging. Inspect for any visible damage during transit. Verify that all accessories, such as the I/O shield, SATA cables, and documentation, are present.

2. Component Installation

- CPU Installation:** Open the CPU socket lever. Align the CPU (Intel Xeon E3-1200 family or 2nd Gen Core i3/Pentium) with the socket, ensuring the gold triangle on the CPU matches the triangle on the socket. Gently place the CPU into the socket without forcing it. Close the lever to secure the CPU.
- CPU Cooler Installation:** Apply thermal paste to the CPU if not pre-applied on the cooler. Mount the CPU cooler according to its manufacturer's instructions, ensuring proper contact and secure fastening. Connect the CPU fan cable to the designated CPU_FAN header on the motherboard.
- Memory (RAM) Installation:** This motherboard supports 4x 240-pin DDR3-1333/1066/800 DIMMs, ECC, Unbuffered, up to 32GB. Ensure you use ECC unbuffered memory modules. Open the clips on the DIMM slots. Align the memory module with the slot key. Press down firmly on both ends of the module until the clips snap into place. For optimal performance, install modules in matched pairs for dual-channel operation.
- Storage Device Installation:** Connect SATA data cables from your storage drives (HDDs/SSDs) to the SATA ports on the motherboard. The board features 4x SATA2 ports (3Gb/s) and 2x SATA3 ports (6Gb/s). Connect SATA power cables from your power supply to the drives.
- Expansion Card Installation:** The motherboard has 4x PCI-Express 2.0 x8 slots (two run at x4). Insert expansion cards (e.g., RAID controllers, network cards) into the appropriate PCI-Express slots and secure them with the chassis screws.

3. Power Connections

- Connect the 24-pin ATX main power connector from your power supply to the corresponding header on the motherboard.
- Connect the 8-pin (or 4-pin) ATX 12V CPU power connector to the CPU power header.

4. Front Panel and Peripheral Connections

- Connect the front panel headers (Power LED, HDD LED, Power Switch, Reset Switch) to their respective pins on the motherboard, referring to the motherboard layout diagram for correct polarity.
- Connect front panel USB 2.0 headers to the motherboard's USB 2.0 headers.
- Connect any other peripherals such as PS/2 keyboard/mouse, serial ports, and VGA to the rear I/O panel.
- Connect network cables to the two RJ45 LAN ports and the dedicated RJ45 IPMI LAN port.

OPERATING INSTRUCTIONS

1. Initial Boot and BIOS/UEFI Configuration

Upon first power-on, the system will perform a Power-On Self-Test (POST). Press the designated key (usually **DEL** or **F2**) during POST to enter the BIOS/UEFI setup utility. Here you can configure:

- System Time and Date:** Set the correct time and date.
- Boot Order:** Prioritize your boot devices (e.g., USB drive, optical drive, SSD/HDD) for operating system installation.
- SATA Configuration:** Configure SATA modes (AHCI, RAID). The motherboard supports RAID 0/1/5/10 for SATA2 and RAID 0/1 for SATA3.
- IPMI Settings:** Configure network settings for the dedicated IPMI port for remote management.

2. Operating System Installation

Insert your operating system installation media (USB drive or DVD) and boot from it. Follow the on-screen

prompts to install your preferred server operating system. Ensure that the necessary drivers are available for your OS version.

3. Driver Installation

After OS installation, install all necessary drivers for the motherboard components, including chipset, LAN, video (Nuvoton WPCM450RA0BX Graphics Controller), and any RAID drivers if applicable. Drivers can typically be found on the Supermicro support website for your specific model.

4. IPMI Remote Management

The Supermicro MBD-X9SCM-F-O features an Integrated Platform Management Interface (IPMI) via a dedicated LAN port. This allows for out-of-band management, including remote power control, virtual media, and KVM-over-IP. Access the IPMI web interface via a web browser using the IP address configured in the BIOS or through the Supermicro IPMIView utility.

MAINTENANCE

1. System Cleaning

Regularly clean the interior of your server chassis to prevent dust buildup, which can lead to overheating and component failure. Use compressed air to remove dust from fans, heatsinks, and other components. Ensure the system is powered off and unplugged before cleaning.

2. Firmware and BIOS Updates

Periodically check the Supermicro website for updated BIOS/UEFI firmware. Firmware updates can improve stability, add support for new hardware, or fix bugs. Follow the provided instructions carefully when performing updates to avoid system damage.

3. System Monitoring

Utilize the IPMI interface for continuous monitoring of system health, including temperatures, fan speeds, and voltage levels. This proactive monitoring helps identify potential issues before they become critical.

TROUBLESHOOTING

This section provides solutions to common issues you might encounter.

1. No Power / No POST (Power-On Self-Test)

- **Check Power Connections:** Ensure the 24-pin ATX and 8-pin CPU power connectors are securely seated.
- **Verify Power Supply:** Test the power supply unit (PSU) to ensure it is functional and providing adequate power.
- **Reseat Components:** Remove and re-install the CPU, RAM modules, and any expansion cards to ensure they are properly seated.
- **Clear CMOS:** Refer to the motherboard manual for instructions on how to clear the CMOS (Complementary Metal-Oxide-Semiconductor) settings, which can resolve boot issues caused by incorrect BIOS configurations.
- **Minimum Configuration:** Attempt to boot with only essential components installed (CPU, one RAM stick, CPU cooler, power supply) to isolate the problem.

2. Memory Errors

- **Use ECC Unbuffered RAM:** This motherboard specifically requires ECC unbuffered DDR3 memory. Non-ECC RAM will not be recognized.
- **Test RAM Modules:** If you have multiple RAM sticks, test them individually in different slots to identify a faulty module or slot.
- **Check Compatibility:** Ensure your RAM modules are compatible with the motherboard's specifications (DDR3-1333/1066/800).

3. Operating System Boot Issues

- **Check Boot Order:** Verify that the correct boot device is prioritized in the BIOS/UEFI settings.
- **Reinstall OS:** If the OS installation is corrupted, a clean reinstallation might be necessary.
- **Driver Issues:** Ensure all critical drivers (chipset, storage controller) are correctly installed.

SPECIFICATIONS

Feature	Detail
Model Name	MBD-X9SCM-F-O
Brand	Supermicro
CPU Socket	LGA 1155
Compatible Processors	Intel Xeon E3-1200 Family, 2nd Generation Intel Core i3 / Pentium Processors
Chipset	Intel C204 PCH Chipset
Memory Slots	4x 240-pin DDR3 DIMM
Memory Type	ECC, Unbuffered DDR3-1333/1066/800
Max Memory Capacity	Up to 32GB
PCI-Express Slots	4x PCI-Express 2.0 x8 (two run at x4)
SATA Ports	4x SATA2 (3Gb/s) with RAID 0/1/5/10 support, 2x SATA3 (6Gb/s) with RAID 0/1 support
Video Controller	Nuvoton WPCM450RA0BX Graphics Controller
USB Ports	9x USB 2.0 (2 rear, 6 via header, 1 Type A)
LAN Ports	2x RJ45 LAN, 1x RJ45 Dedicated IPMI LAN
Other Ports	1x PS/2 Keyboard, 1x PS/2 Mouse, 2x Serial (1 rear, 1 via header), 1x VGA
Form Factor	Micro ATX
Item Weight	2.02 pounds

