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## ASUS SABERTOOTH X58

# ASUS SABERTOOTH X58 Motherboard User Manual

Model: SABERTOOTH X58

## INTRODUCTION

This manual provides detailed instructions for the installation, operation, maintenance, and troubleshooting of your ASUS SABERTOOTH X58 motherboard. Designed for high-performance computing, this ATX motherboard supports Intel Core i7 processors on the LGA1366 socket, features the Intel X58 chipset, and offers advanced connectivity including SATA 6Gb/s and USB 3.0. Please read this manual thoroughly before proceeding with installation to ensure proper setup and functionality.

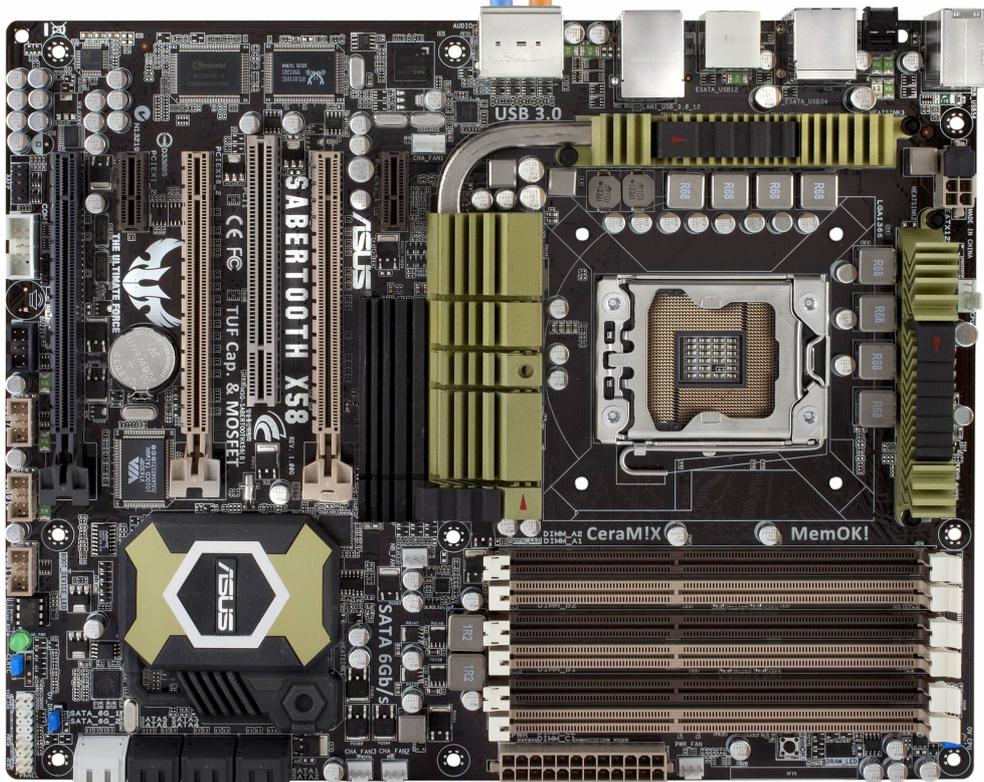


Figure 1: Overview of the ASUS SABERTOOTH X58 Motherboard. This image displays the general layout of the motherboard, including the CPU socket, RAM slots, and various expansion slots.

## 1. SETUP AND INSTALLATION

Follow these steps for proper installation of your motherboard and components.

### 1.1 CPU Installation (LGA1366)

1. **Prepare the Socket:** Gently lift the load lever and open the CPU socket cover.
2. **Align the CPU:** Carefully align the Intel Core i7 processor with the LGA1366 socket, ensuring the triangular mark on the CPU matches the mark on the socket. Do not force the CPU into the socket.
3. **Secure the CPU:** Close the socket cover and press down the load lever until it locks into place.
4. **Apply Thermal Paste:** Apply a thin, even layer of thermal paste to the top of the CPU.
5. **Install CPU Cooler:** Mount the compatible CPU cooler according to its manufacturer's instructions.

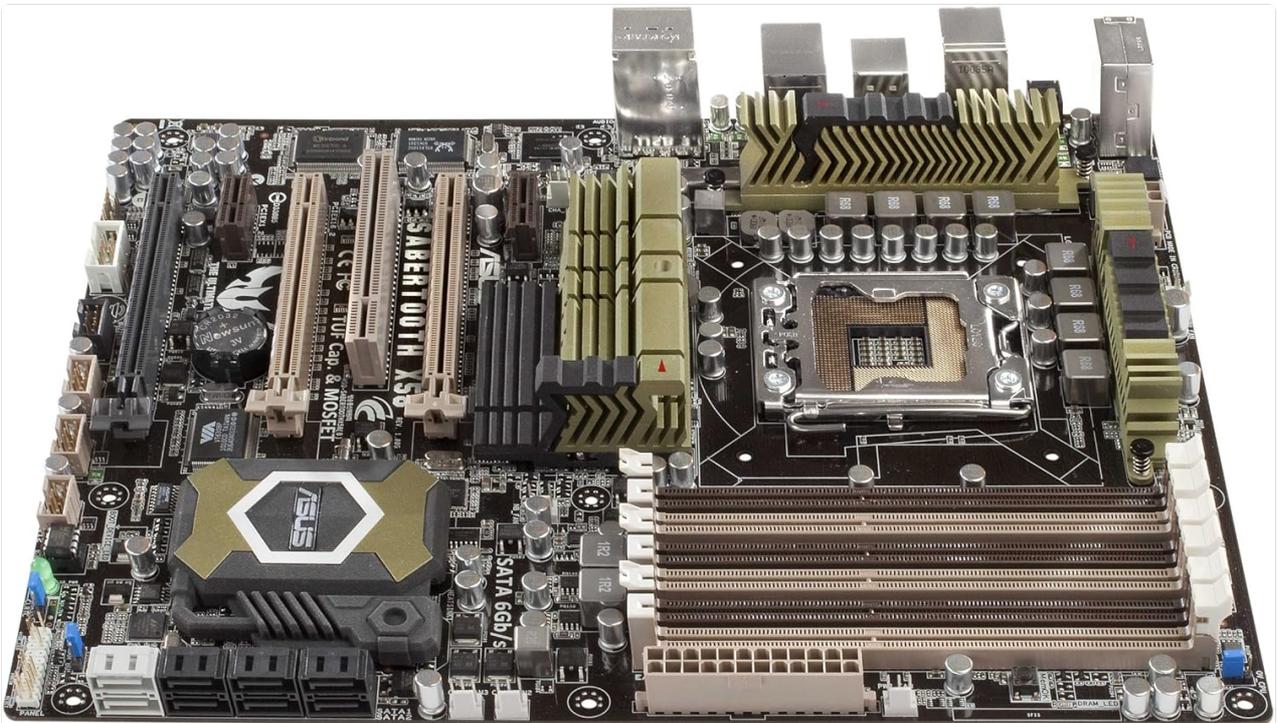


Figure 2: Top-down view of the motherboard, highlighting the LGA1366 CPU socket and surrounding components.

### 1.2 Memory (RAM) Installation

The motherboard supports up to 24GB of DDR3 memory across six 240-pin DIMM slots, configured for triple-channel operation. For optimal performance, install memory modules in matched sets (e.g., three or six modules).

- Open the retention clips on both ends of the DIMM slot.
- Align the memory module with the slot, ensuring the notch on the module matches the key in the slot.
- Press down firmly on both ends of the module until the retention clips snap into place.

### 1.3 Expansion Card Installation

The motherboard features multiple PCI Express 2.0 x16 slots for graphics cards (supporting NVIDIA Quad SLI

and ATI Quad CrossFireX), as well as PCI Express x1 and standard PCI slots for other expansion cards.

- Identify the appropriate expansion slot for your card.
- Remove the corresponding metal bracket from your computer case.
- Align the card with the slot and press down firmly until it is fully seated.
- Secure the card with a screw or retention clip from your case.

## 1.4 Storage Device Connection

Connect your SATA storage devices (HDDs, SSDs, optical drives) to the available SATA ports. The motherboard includes 6x SATA 3Gb/s ports (Intel ICH10R, supporting RAID 0, 1, 5, 10) and 2x SATA 6Gb/s ports (Marvell 9128 PCIe controller).

- Connect one end of a SATA data cable to the SATA port on the motherboard and the other end to your storage device.
- Connect a SATA power cable from your power supply unit (PSU) to the storage device.
- For external SATA devices, use the 2x eSATA2 ports located on the rear I/O panel.

## 1.5 Power Connections

Ensure all necessary power connectors from your PSU are securely attached to the motherboard.

- **24-pin ATX Power Connector:** Connect the main 24-pin power cable.
- **8-pin ATX 12V Power Connector:** Connect the 8-pin (or 4+4 pin) CPU power cable.

## 1.6 Front Panel and I/O Connections

Connect the front panel headers (power button, reset button, HDD LED, power LED, front USB, front audio) to the corresponding pins on the motherboard. Refer to the motherboard diagram for exact pin locations.



Figure 3: Rear I/O panel of the ASUS SABERTOOTH X58 Motherboard, showing various ports including USB, eSATA, LAN, and audio jacks.

## 2. OPERATING INSTRUCTIONS

### 2.1 First Boot and BIOS Setup

- After assembling your system, connect a monitor, keyboard, and mouse.
- Power on the system. During the Power-On Self-Test (POST), press the **DEL** key repeatedly to enter the BIOS/UEFI setup utility.
- In the BIOS, you can configure boot order, system time, and various hardware settings. Save changes and exit to boot into your operating system installation media.

### 2.2 Driver Installation

After installing your operating system, install the necessary drivers for the motherboard components. These typically include chipset drivers, audio drivers, LAN drivers, and USB 3.0/SATA 6Gb/s drivers. Drivers can usually be found on the ASUS support website for your specific motherboard model.

## 2.3 Advanced Features

- **Intel Turbo Boost Technology:** This feature is supported by the motherboard and compatible CPUs, automatically increasing processor speed when operating below power, current, and temperature limits.
- **Multi-GPU Support:** The motherboard supports NVIDIA Quad SLI and ATI Quad CrossFireX technologies for enhanced graphics performance with multiple graphics cards.
- **RAID Configuration:** The Intel ICH10R chipset supports RAID 0, 1, 5, and 10 for SATA 3Gb/s drives. Refer to the BIOS settings and Intel documentation for RAID setup.

## 3. MAINTENANCE

### 3.1 System Cleaning

Regularly clean the interior of your computer case to prevent dust buildup, which can lead to overheating and reduced component lifespan. Use compressed air to remove dust from fans, heatsinks, and motherboard components. Ensure the system is powered off and unplugged before cleaning.

### 3.2 BIOS Updates

Periodically check the ASUS support website for BIOS updates. BIOS updates can provide improved compatibility, stability, and new features. Follow the instructions provided by ASUS carefully when performing a BIOS update to avoid system instability.

## 4. TROUBLESHOOTING

This section addresses common issues you might encounter with your ASUS SABERTOOTH X58 motherboard.

### 4.1 No Power or No Boot

- **Check Power Connections:** Ensure the 24-pin ATX and 8-pin ATX 12V power connectors are securely seated.
- **Verify Components:** Ensure CPU, RAM, and graphics card are correctly installed. Try booting with minimal components (CPU, one RAM stick, graphics card).
- **Clear CMOS:** If the system fails to boot after configuration changes, clear the CMOS by either using the clear CMOS jumper on the motherboard or by removing the CMOS battery for a few minutes.

### 4.2 Memory Issues (MEM-OK)

The ASUS SABERTOOTH X58 features a "MEM-OK" button (or similar functionality) that can help resolve memory compatibility issues during boot. If your system fails to boot due to memory, press the MEM-OK button (refer to your motherboard diagram for location) to allow the system to attempt booting with compatible memory settings.

### 4.3 Audio Not Working

- **Check Connections:** Ensure audio cables are correctly plugged into the rear I/O panel or front panel audio headers.
- **Install Drivers:** Verify that the Realtek ALC892 audio drivers are correctly installed in your operating system.
- **BIOS Settings:** Check BIOS settings to ensure the integrated audio controller is enabled.

### 4.4 Overclocking Instability

If overclocking leads to system instability, the motherboard is designed to detect failed overlocks and reset the BIOS to default settings, allowing the PC to boot. If this occurs, reduce your overclocking parameters or revert to stable settings.

## 5. TECHNICAL SPECIFICATIONS

<b>CPU Socket</b>	LGA 1366
<b>Compatible Processors</b>	Intel Core i7 Extreme Edition / Core i7 Processors
<b>Chipset</b>	Intel X58 / ICH10R
<b>Memory</b>	6x 240-pin DDR3 DIMM slots, Triple Channel, Max 24GB, Supports 1866/1800/1600/1333/1066 MHz (Non-ECC/Un-buffered)
<b>Expansion Slots</b>	2x PCI-Express 2.0 x16 (supports nVidia Quad SLI/Quad ATI CrossFireX), 1x PCI-Express x16 (runs at x4), 2x PCI-Express x1, 1x PCI
<b>Storage (SATA)</b>	6x SATA 3Gb/s (Intel ICH10R, RAID 0, 1, 5, 10), 2x SATA 6Gb/s (Marvell 9128 PCIe), 2x eSATA 3Gb/s
<b>Audio</b>	Realtek ALC892 8-Channel High Definition Audio CODEC
<b>LAN</b>	Realtek 8110SC Gigabit LAN Controller
<b>USB Ports</b>	12x USB 2.0 (6 rear, 6 mid-board), 2x USB 3.0 (rear)
<b>Other Ports</b>	1x PS/2, 2x IEEE 1394a (1 rear, 1 mid-board), 1x Optical S/PDIF-Out, 1x RJ45 LAN
<b>Form Factor</b>	ATX
<b>Dimensions</b>	(Standard ATX dimensions, specific values not provided in JSON)
<b>Platform</b>	Windows 10 (Compatible)

## 6. WARRANTY INFORMATION

The ASUS SABERTOOTH X58 motherboard typically comes with a **5-year limited warranty** from the date of

purchase. This warranty covers defects in materials or workmanship under normal use. Please retain your proof of purchase for warranty claims.

For complete and up-to-date warranty terms and conditions, including specific coverage details, limitations, and the process for making a claim, please visit the official ASUS website or contact ASUS customer support directly.

## 7. CUSTOMER SUPPORT

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If you encounter issues that cannot be resolved using the troubleshooting steps in this manual, or if you require further assistance, please contact ASUS customer support.

- **ASUS Support Website:** Visit [www.asus.com/support/](http://www.asus.com/support/) for drivers, FAQs, and contact information.
- **Technical Support:** Contact details for technical support may vary by region. Please check the ASUS website for local phone numbers or online chat options.
- **RMA Process:** If a hardware defect is identified, ASUS provides a Return Merchandise Authorization (RMA) process. Follow their instructions carefully for advanced replacement or repair services.

When contacting support, have your motherboard model (SABERTOOTH X58) and serial number ready, along with a detailed description of the issue.