

msi Z97A GAMING 6

MSI Z97A Gaming 6 Motherboard Instruction Manual

Model: Z97A GAMING 6

1. INTRODUCTION

This manual provides detailed instructions for the installation, configuration, and operation of your MSI Z97A Gaming 6 motherboard. This ATX motherboard is designed for Intel 4th and 5th Generation Core/Pentium/Celeron processors using the LGA 1150 socket and features the Intel Z97 chipset. It supports DDR3 memory, multiple PCI-E 3.0 x16 slots, a USB 3.1 Type-C port, and a Killer E2205 Gigabit LAN for enhanced network performance.

2. SAFETY INFORMATION

Always observe the following safety precautions when handling or installing the motherboard:

- Disconnect the power cord from the wall outlet before touching any component.
- Wear an electrostatic discharge (ESD) wrist strap or frequently touch a grounded metal object to prevent static damage.
- Handle the motherboard by its edges to avoid touching sensitive components.
- Ensure proper ventilation within the computer case to prevent overheating.
- Keep the motherboard away from moisture and extreme temperatures.

3. PACKAGE CONTENTS

The retail package for the MSI Z97A Gaming 6 motherboard typically includes the motherboard itself, an I/O shield, SATA cables, a user manual, and a driver/utility DVD. Please refer to your product packaging for a complete and accurate list of included accessories.

4. PRODUCT OVERVIEW

Familiarize yourself with the layout and key components of the MSI Z97A Gaming 6 motherboard.



Figure 4.1: Angled view of the MSI Z97A Gaming 6 motherboard, highlighting the CPU socket, RAM slots, and heatsinks.

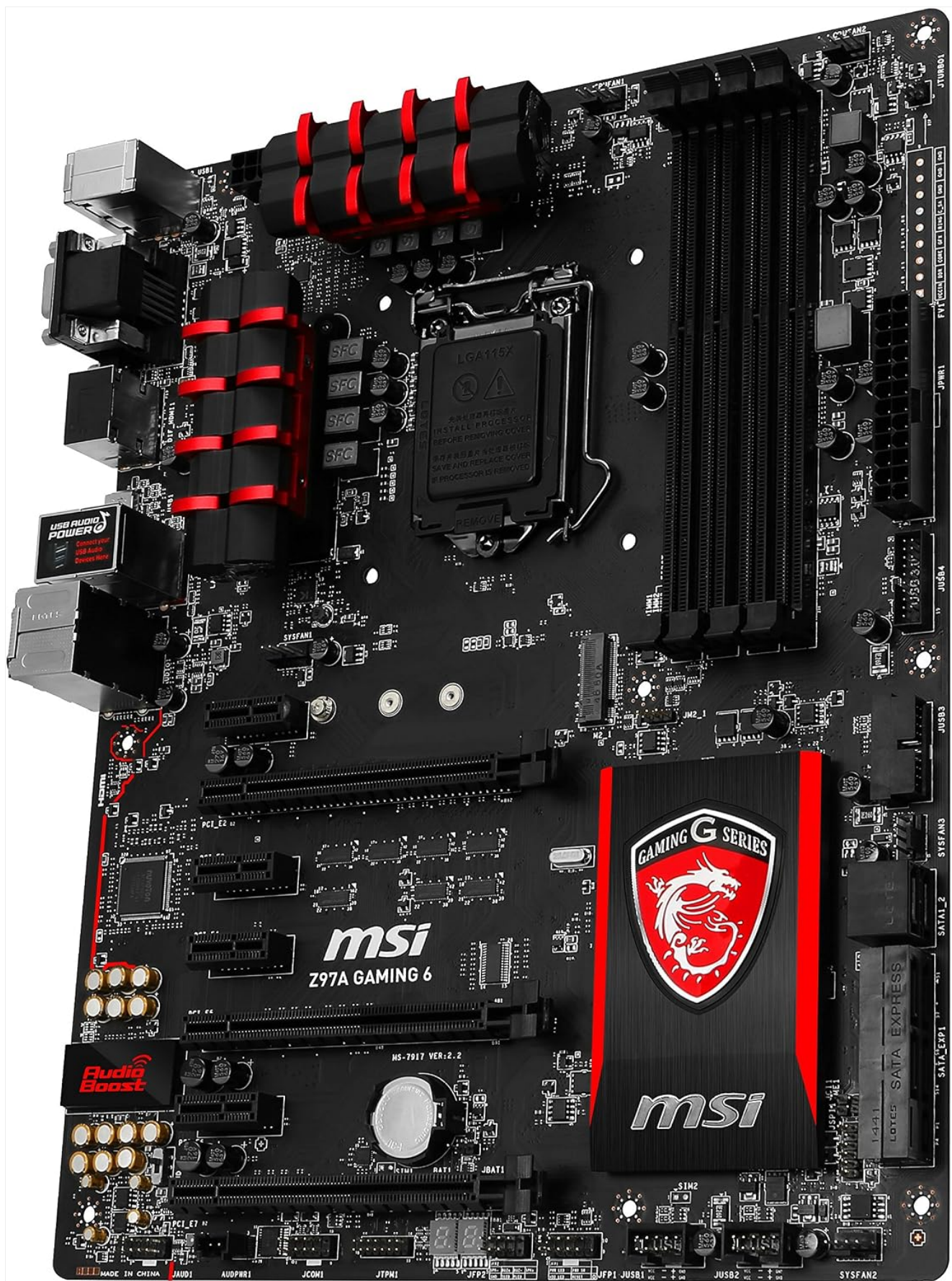


Figure 4.2: Top-down view of the MSI Z97A Gaming 6 motherboard, showing the placement of various connectors and slots.

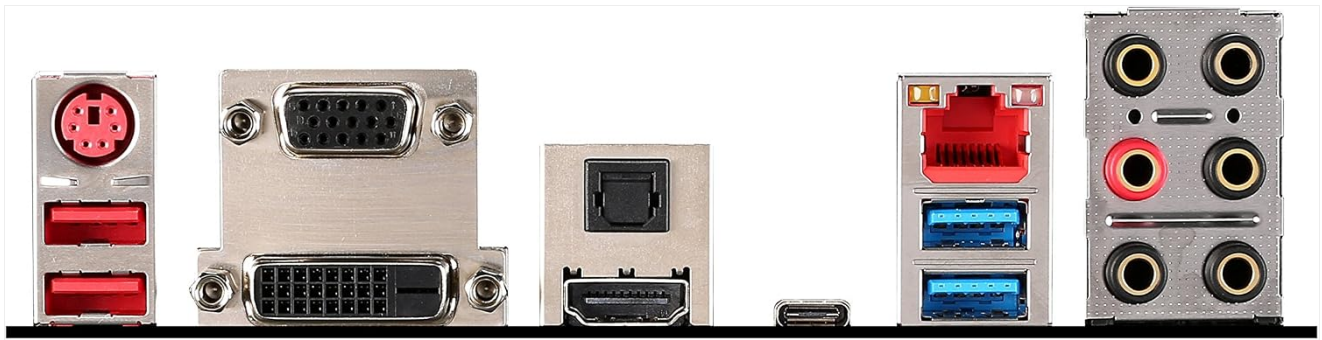


Figure 4.3: Rear I/O panel of the MSI Z97A Gaming 6 motherboard, featuring USB ports, video outputs (VGA, DVI, HDMI), LAN, and audio jacks.

Key Components:

- **CPU Socket (LGA 1150):** Supports Intel 4th and 5th Generation Core/Pentium/Celeron processors.
- **DDR3 DIMM Slots:** Four slots supporting up to 32GB of DDR3 memory.
- **PCI-E 3.0 x16 Slots:** Three slots for graphics cards, supporting multi-GPU configurations (Crossfire and SLI ready).
- **PCI-E x1 Slots:** Four slots for expansion cards.
- **M.2 Slot:** One 10Gb/s M.2 slot for high-speed storage devices.
- **SATA 6Gb/s Ports:** Multiple ports for connecting SATA storage devices.
- **USB 3.1 Type-C Port:** One reversible USB 3.1 Type-C port on the rear I/O.
- **USB 3.0/2.0 Ports:** Various USB ports on the rear I/O and internal headers.
- **Killer E2205 Gigabit LAN:** Dedicated network controller for optimized online gaming.
- **Audio Boost 2:** Enhanced audio solution for superior sound quality.

5. SETUP AND INSTALLATION

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

5.1. CPU Installation

1. Open the CPU socket lever and lift the metal load plate.
2. Carefully align the CPU with the socket, ensuring the gold triangle on the CPU matches the triangle on the socket. Do not force the CPU into the socket.
3. Lower the load plate and secure it with the lever.
4. Install the CPU cooler according to its manufacturer's instructions.

5.2. RAM (Memory) Installation

1. Open the clips at both ends of the DIMM slot.
2. Align the notch on the DDR3 memory module with the key in the DIMM slot.
3. Press down firmly on both ends of the memory module until the clips snap into place.
4. For optimal performance, install memory modules in the recommended dual-channel configuration (refer to the motherboard's printed manual for specific slot pairing).

5.3. Storage Device Installation (SATA & M.2)

- **SATA Drives:** Connect SATA data cables from your storage devices (HDDs/SSDs) to the SATA 6Gb/s ports on the motherboard. Connect power cables from your power supply to the drives.

- **M.2 SSD:** Insert the M.2 SSD into the M.2 slot at an angle, then gently push it down and secure it with the provided screw.

5.4. Expansion Card Installation (PCIe)

1. Align your graphics card or other PCIe expansion card with an available PCI-E slot.
2. Press down firmly until the card is fully seated in the slot and the retention clip engages.
3. Secure the card to the chassis with a screw.
4. For graphics cards, connect any required PCIe power cables from your power supply.

5.5. Front Panel Connectors

Connect the cables from your computer case's front panel (power button, reset button, USB ports, audio jacks, LED indicators) to the corresponding headers on the motherboard. Refer to the motherboard's printed manual for detailed pin assignments.

5.6. Power Connections

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

6. OPERATING YOUR MOTHERBOARD

6.1. BIOS/UEFI Setup

Upon initial power-on, press the **DEL** key during the boot process to enter the BIOS/UEFI setup utility. Here you can configure system settings, boot order, and monitor hardware status. The MSI UEFI BIOS offers a user-friendly graphical interface.

6.2. Driver Installation

After installing your operating system, install the necessary drivers for optimal performance. You can use the included driver DVD or download the latest drivers from the official MSI website. The MSI Live Update utility can scan your system and assist in downloading and updating drivers and utilities automatically.

6.3. Software Utilities

MSI provides various utilities to enhance your experience, such as MSI Command Center for system monitoring and overclocking, and Gaming App for quick system tuning. These can be installed via the driver DVD or MSI Live Update.

7. MAINTENANCE

- **Keep Clean:** Regularly clean dust from inside your computer case, especially around fans and heatsinks, to ensure proper airflow and prevent overheating. Use compressed air for best results.
- **BIOS Updates:** Periodically check the MSI website for BIOS/UEFI updates. Updating the BIOS can improve system stability, compatibility, and performance. Follow MSI's instructions carefully when updating the BIOS.
- **Driver Updates:** Keep your drivers updated to ensure optimal performance and compatibility with new software and hardware.

8. TROUBLESHOOTING

If you encounter issues, consider the following common troubleshooting steps:

- **No Power:** Ensure all power cables (24-pin ATX, 8-pin CPU, GPU PCIe power) are securely connected. Verify the

power supply is switched on.

- **No Display:** Check that the monitor is connected to the correct video output (either integrated graphics or dedicated graphics card). Reseat the graphics card and memory modules.
- **System Instability/Crashes:** This can be caused by incompatible or faulty RAM, an unstable CPU overclock, or outdated drivers. Test memory modules individually. Reset BIOS settings to default.
- **Driver Issues:** If a component is not functioning correctly, ensure you have installed the latest drivers from the MSI website. For Killer Ethernet, some users have reported issues with certain driver versions; try different stable versions if connectivity problems arise.
- **PCIe Slot Malfunction:** If an expansion card is not detected, ensure it is fully seated. Test the card in a different slot if possible. Verify BIOS settings related to PCIe slots.
- **BIOS Reset:** If the system fails to boot after changing BIOS settings, clear the CMOS by either removing the CMOS battery for a few minutes or using the JBAT1 jumper (refer to the motherboard manual for location).

For persistent issues, consult the detailed troubleshooting section in the full user manual or contact MSI technical support.

9. SPECIFICATIONS

Feature	Detail
Brand	MSI
Model Name	Z97A GAMING 6
CPU Socket	LGA 1150
Chipset Type	Intel Z97
RAM Memory Technology	DDR3
Memory Clock Speed	1333 MHz (Supports up to 2600MHz O.C.)
Memory Slots Available	4
Memory Storage Capacity (Max)	32 GB
Graphics Card Interface	PCI Express (3 x PCI-E 3.0 x16, 4 x PCI-E x1)
Storage Interfaces	SATA 6Gb/s, 1 x M.2 10Gb/s slot
USB Ports	1 x USB 3.1 Type-C, 6 x USB 3.0, 6 x USB 2.0 (total)
LAN	Killer E2205 Gigabit LAN
Video Outputs	VGA, DVI, HDMI
Form Factor	ATX
Compatible Processors	Intel Celeron, Intel Pentium, Intel Core (4th/5th Gen)
Platform	Windows 7, Windows 8 (and later compatible OS)
Item Weight	2.2 Pounds

Feature	Detail
UPC	824142115404

10. WARRANTY INFORMATION

MSI products are covered by a limited warranty. The duration and terms of the warranty may vary by region and product. For detailed warranty information, including coverage, limitations, and how to make a claim, please refer to the warranty card included with your product or visit the official MSI website.

11. TECHNICAL SUPPORT

For technical assistance, driver downloads, BIOS updates, FAQs, and further product information, please visit the official MSI website:

www.msi.com

You can also find contact information for MSI customer service and support in your region on their website.