

ASRock Z390 Phantom Gaming 4-IB

ASRock Z390 Phantom Gaming 4-IB Motherboard Instruction Manual

Model: Z390 Phantom Gaming 4-IB

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the ASRock Z390 Phantom Gaming 4-IB motherboard. Please read this manual thoroughly before installing or using your new motherboard to ensure proper setup and to prevent damage to the components.

2. SAFETY INFORMATION

- Always disconnect the power cord from the wall outlet before touching any components inside the computer case.
- Wear an anti-static wrist strap when handling components to prevent electrostatic discharge (ESD) damage.
- Handle components by their edges to avoid touching sensitive parts.
- Ensure proper ventilation within the computer case to prevent overheating.
- Keep the motherboard away from moisture and extreme temperatures.

3. PACKAGE CONTENTS

Verify that all items are present in your motherboard package:

- ASRock Z390 Phantom Gaming 4-IB Motherboard
- 3 x Screws for M.2 Sockets
- User Manual (this document)
- I/O Shield
- SATA Data Cables
- Support CD/DVD (for drivers and utilities)

Note: The actual contents may vary slightly depending on the region and retailer.

4. MOTHERBOARD LAYOUT

Familiarize yourself with the main components and connectors on the ASRock Z390 Phantom Gaming 4-IB motherboard.



Image 1: Top view of the ASRock Z390 Phantom Gaming 4-IB motherboard, showing the CPU socket, RAM slots, PCIe slots, and various headers.

Key Components:

- **LGA 1151 CPU Socket:** For Intel 8th and 9th Generation Core processors.
- **DDR4 DIMM Slots:** Four slots supporting up to 128GB of DDR4 memory.
- **PCI Express Slots:** Multiple slots for graphics cards and other expansion cards.
- **M.2 Slots:** For high-speed NVMe SSDs.
- **SATA 6Gb/s Ports:** For connecting SATA storage devices.
- **Front Panel Headers:** Connectors for power button, reset button, USB ports, and audio jacks on your PC case.
- **Power Connectors:** 24-pin ATX power connector and 8-pin CPU power connector.

5. SETUP AND INSTALLATION

5.1 CPU Installation

1. Open the CPU socket lever and lift the load plate.
2. Carefully align the CPU with the socket, ensuring the golden triangle on the CPU matches the triangle on the socket.
3. Gently place the CPU into the socket without forcing it.
4. Close the load plate and push down the lever until it locks into place.

5.2 CPU Cooler Installation

Follow the instructions provided with your specific CPU cooler. Ensure proper thermal paste application for optimal heat dissipation.

5.3 Memory (RAM) Installation

1. Open the clips at both ends of the DIMM slot.
2. Align the notch on the RAM module with the key in the DIMM slot.
3. Press down firmly on both ends of the RAM module until the clips snap into place.
4. For dual-channel operation, install modules in matching colored slots (refer to motherboard manual for specific slot pairing).

5.4 Storage Device Installation (M.2 SSD / SATA Drives)

- **M.2 SSD:** Insert the M.2 SSD into the M.2 slot at an angle, then push it down and secure it with the provided screw.
- **SATA Drives:** Connect one end of a SATA data cable to a SATA port on the motherboard and the other end to your SATA HDD/SSD. Connect a SATA power cable from your power supply to the drive.

5.5 Expansion Card Installation (PCIe)

1. Remove the metal bracket cover from the desired PCIe slot on your PC case.
2. Align the expansion card with the PCIe slot and press down firmly until it is seated correctly.
3. Secure the card with a screw to the PC case.

5.6 Power Supply Connection

- Connect the 24-pin ATX power cable from your power supply to the 24-pin connector on the motherboard.
- Connect the 8-pin CPU power cable from your power supply to the 8-pin CPU power connector on the motherboard.

5.7 Front Panel Connectors

Connect the cables from your PC case (power button, reset button, USB ports, audio jacks, LED indicators) to the corresponding headers on the motherboard. Refer to the motherboard diagram for exact locations.

6. REAR I/O PANEL

The rear I/O panel provides various ports for connecting external devices.



Image 2: Rear I/O panel of the ASRock Z390 Phantom Gaming 4-1B motherboard, showing various connectivity ports.

Port Descriptions:

- **PS/2 Port:** For connecting legacy keyboard or mouse.
- **USB 3.1 Gen1 Ports:** High-speed USB ports for peripherals.
- **VGA Port:** Video output for monitors.
- **DVI-D Port:** Digital video output for monitors.
- **HDMI Port:** High-definition video and audio output.
- **USB 3.1 Gen2 Type-A Port:** Ultra-high-speed USB port.
- **USB 3.1 Gen2 Type-C Port:** Reversible ultra-high-speed USB port.
- **LAN Port (RJ-45):** For network connection.
- **Audio Jacks:** For speakers, headphones, and microphones.

7. OPERATING INSTRUCTIONS

7.1 Initial Boot-up

After completing all hardware installations, connect your monitor, keyboard, and mouse. Power on your system. The system should display the ASRock logo and enter the BIOS/UEFI setup or attempt to boot from a storage device.

7.2 BIOS/UEFI Setup

To enter the BIOS/UEFI setup utility, press the **Delete** or **F2** key during the boot-up process. Here you can configure system settings, boot order, and monitor hardware status.

7.3 Driver Installation

After installing your operating system, install the necessary drivers from the provided support CD/DVD or download the latest drivers from the ASRock official website. This includes chipset drivers, audio drivers, LAN drivers, and any other peripheral drivers.

8. MAINTENANCE

8.1 Cleaning

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

8.2 BIOS Updates

Periodically check the ASRock website for BIOS updates. BIOS updates can improve system stability, add support for new hardware, or fix bugs. Follow the instructions provided by ASRock carefully when performing a BIOS update to avoid system damage.

9. TROUBLESHOOTING

- **No Power:** Check all power connections (24-pin ATX, 8-pin CPU, and power supply cables). Ensure the power supply switch is on.
- **No Display:** Verify that the monitor is connected to the correct video output (integrated graphics or discrete graphics card). Reseat the graphics card and RAM modules.
- **System Instability/Crashes:** Check RAM modules for proper seating. Ensure CPU cooler is installed correctly and thermal paste is applied. Update drivers and BIOS.
- **Boot Device Not Found:** Check SATA/M.2 cable connections. Verify boot order in BIOS/UEFI. Ensure the operating system is installed on a recognized drive.
- **Overheating:** Ensure proper case ventilation. Clean dust from fans and heatsinks. Verify CPU cooler installation.

10. SPECIFICATIONS

Key technical specifications for the ASRock Z390 Phantom Gaming 4-IB motherboard:

Feature	Specification
Brand	ASRock
Model Number	Z390 Phantom Gaming 4-IB
CPU Socket	LGA 1151
Compatible Processors	8th and 9th Generation Intel Core
Chipset Type	Intel Z390
RAM Memory Technology	DDR4
Memory Slots Available	4
RAM Memory Maximum Size	128 GB
Graphics Card Interface	PCI Express
System Bus Standard Supported	SATA 3
Total Number of HDMI Ports	1
Platform	Windows 10

11. WARRANTY AND SUPPORT

For warranty information, please refer to the warranty card included with your product or visit the official ASRock website. Technical support and driver downloads are available on the ASRock support page. Please have your model number (Z390 Phantom Gaming 4-IB) and serial number ready when contacting support.

ASRock Official Website: www.asrock.com

