ASUS P8Z68-V/GEN3

ASUS P8Z68-V/GEN3 Motherboard User Manual

Model: P8Z68-V/GEN3

INTRODUCTION

The ASUS P8Z68-V/GEN3 motherboard is designed to support 2nd Generation Intel Core i7/Core i5/Core i3 Processors, featuring the Intel Z68 chipset. This motherboard is built with future-proof technology, including native BIOS support for 22nm next-gen Intel processors and PCIe 3.0 switching IC for SLI support. It incorporates ASUS's UEFI BIOS, which simplifies platform settings with an EZ tuning mode, providing an intuitive interface for system configuration.

KEY FEATURES

- **PCIe 3.0/2.0 x16 Slots:** Two slots supporting 1x16 or dual x8 configurations for high-performance graphics.
- **16-Phase Power Digital Design:** Ensures stable and efficient power delivery to critical components.
- **Multi-GPU Support:** Compatible with AMD Quad-GPU CrossFireX and NVIDIA Quad-GPU SLI technologies.
- **Intel Gigabit LAN:** Features the latest Intel chipset for reliable network connectivity.
- **Bluetooth v2.1 + EDR:** Integrated Bluetooth for wireless peripheral connections.
- **UEFI (Extensible Firmware Interface) BIOS:** An advanced, user-friendly graphical BIOS interface.
- **BT GO! (BT Turbo Remote):** Enhances Bluetooth functionality for remote control and connectivity.
- **USB 3.0 Ports:** Four USB 3.0 ports (two at the back panel, two via mid-board header) for high-speed data transfer.

PRODUCT OVERVIEW

Figure 1: ASUS P8Z68-V/GEN3 Motherboard Layout. This image displays the full layout of the ASUS P8Z68-V/GEN3 motherboard. Key components visible include the LGA 1155 CPU socket at the center, surrounded by blue heatsinks for the DIGI+ VRM power delivery system. To the right of the CPU socket are four DDR3 DIMM slots, also in blue, indicating support for dual-channel memory. Further right, the Intel Z68 chipset heatsink with the ASUS logo is prominent. The board features multiple PCIe slots, including two blue PCIe 3.0/2.0 x16 slots, and several PCIe x1 slots. Along the bottom and right edges, various headers and SATA 6Gb/s ports are visible. The rear I/O panel on the left side shows a range of connectivity options including USB 3.0 ports, video outputs (HDMI, DVI, VGA), LAN, and audio jacks.

SETUP AND INSTALLATION

1. Preparing Your System

- Ensure your power supply is compatible and provides sufficient wattage for all components.
- Prepare your computer case, ensuring proper standoffs are installed for the ATX form factor.
- Ground yourself to prevent electrostatic discharge (ESD) damage to components.

2. CPU Installation (LGA 1155)

1. Gently lift the CPU socket lever and open the load plate.
2. Align the triangular mark on the CPU with the mark on the socket. Carefully place the CPU into the socket without forcing it.
3. Close the load plate and press down the lever until it locks into place.
4. Apply thermal paste and install the CPU cooler according to its manufacturer's instructions.

3. Memory (RAM) Installation

- The motherboard supports DDR3 memory modules at various speeds (2200, 2133, 1600, 1333, 1066 MHz).
- For dual-channel operation, install memory modules into the DIMM slots of the same color. Refer to the motherboard manual for specific slot recommendations (e.g., A2 and B2 for initial setup). Note: Some users have reported success with B1 and B2 if A2 and B2 do not initially recognize both sticks.

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

4. Storage Device Connection (SATA)

- Connect your SATA 6Gb/s and SATA 3Gb/s storage devices (HDDs, SSDs, optical drives) to the appropriate SATA ports on the motherboard using SATA data cables.
- Ensure power cables from your power supply are connected to each storage device.

5. Expansion Card Installation (PCIe)

- Install your graphics card(s) into the PCIe 3.0/2.0 x16 slots. For optimal performance with a single card, use the primary PCIe x16 slot.
- Install other expansion cards (e.g., sound cards, network cards) into the available PCIe x1 slots.
- Secure expansion cards with screws to the case.

6. Front Panel and USB Connections

- Connect the front panel headers (power button, reset button, HDD LED, power LED) to the corresponding pins on the motherboard.
- Connect internal USB 2.0 and USB 3.0 headers to your case's front panel USB ports.

7. Power Connections

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

OPERATING YOUR MOTHERBOARD

UEFI BIOS Overview

The ASUS P8Z68-V/GEN3 features an advanced UEFI BIOS with a graphical user interface that supports mouse input. This makes navigating and configuring system settings significantly easier than traditional text-based BIOS. The UEFI BIOS includes an EZ tuning mode for simplified setup and advanced modes for detailed control over system parameters.

- **Accessing BIOS:** Press the **DEL** key during system startup to enter the UEFI BIOS.
- **EZ Mode:** Provides quick access to common settings like boot priority, system information, and fan profiles.
- **Advanced Mode:** Offers comprehensive control over CPU, memory, and chipset settings, including overclocking options.

Overclocking and Performance Tuning

The motherboard provides robust tools for performance tuning and overclocking. While the UEFI BIOS offers manual control, ASUS also provides utilities for automated overclocking. Exercise caution when overclocking, as it can increase heat and power consumption. Ensure adequate cooling is in place.

BT GO! Functionality

Leverage the integrated Bluetooth v2.1 + EDR with ASUS's BT GO! feature. This allows for various wireless functionalities, including remote control of your PC from a smartphone or tablet, file transfer, and network sharing.

MAINTENANCE

- **Dust Removal:** Regularly clean dust from inside your computer case, especially from heatsinks and fans, to

maintain optimal cooling and prevent overheating. Use compressed air for this purpose.

- **Cable Management:** Ensure internal cables are neatly routed to improve airflow and prevent interference.
- **BIOS Updates:** Periodically check the ASUS support website for BIOS updates. Updating the BIOS can improve system stability, compatibility, and performance. Follow the instructions provided by ASUS carefully when performing a BIOS update.
- **Driver Updates:** Keep your motherboard drivers (chipset, LAN, audio, USB) updated to ensure optimal performance and compatibility with your operating system and peripherals.

TROUBLESHOOTING

This section provides general troubleshooting tips for common issues. For more detailed diagnostics, refer to the comprehensive user manual provided with your motherboard or visit the ASUS support website.

- **No Power/No Boot:**

  - Verify all power cables (24-pin ATX, 8-pin CPU) are securely connected to the motherboard and power supply.
  - Ensure the power supply switch is in the ON position.
  - Check front panel power button connection to the motherboard.

- **No Display:**

  - Ensure your monitor is connected to the correct video output (either integrated graphics or discrete graphics card).
  - Reseat the graphics card firmly in its PCIe slot.
  - Check if the graphics card requires supplementary power cables from the PSU.

- **Memory (RAM) Issues (e.g., System Not Recognizing All RAM, Beeping):**

  - Ensure RAM modules are fully seated in their slots.
  - Try reseating the RAM modules.
  - Test each RAM stick individually in different slots to identify a faulty module or slot.
  - Verify RAM is installed in the correct dual-channel configuration as per the manual (e.g., A2/B2 or A1/B1). If issues persist, try alternative slot combinations like B1/B2 as some users have found success.

- **System Instability/Crashes:**

  - Check CPU and GPU temperatures to ensure they are within safe operating limits.
  - Ensure all drivers are up to date.
  - If overclocking, revert to default settings to check for stability.

- **Noisy Sound Output:**

  - Ensure audio cables are properly shielded and routed away from power cables.
  - Check for proper grounding of the PC case.
  - Update audio drivers.

SPECIFICATIONS

Category	Detail
Brand	ASUS

Model Name	P8Z68-V/GEN3
CPU Socket	LGA 1155
Compatible Processors	Intel Core i7 (2nd Generation Intel Core i7/Core i5/Core i3 Processors)
Chipset Type	Intel Z68
RAM Memory Technology	DDR3
Supported RAM Speeds	2200 MHz, 2133 MHz, 1600 MHz, 1333 MHz, 1066 MHz
Memory Storage Capacity (Max)	32 GB
PCIe Slots	2 x PCIe 3.0/2.0 x16 (1x16 or dual x8)
SATA Ports	SATA 6Gb/s, SATA 3Gb/s
USB Ports	4 x USB 3.0 (2 rear, 2 mid-board), 4 x USB 2.0 (rear)
LAN	1 x Gigabit LAN (Intel chipset)
Wireless Type	Bluetooth v2.1 + EDR
Item Weight	3.45 pounds
Item Dimensions (LxWxH)	12 x 9.6 inches (ATX Form Factor)
Platform	Windows 7 (Compatible)

WARRANTY AND SUPPORT

For warranty information, please refer to the documentation included with your product or visit the official ASUS support website. ASUS provides technical support for their products. If you encounter issues that cannot be resolved using this manual or the troubleshooting section, please contact ASUS customer support for assistance. Have your product model number (P8Z68-V/GEN3) and serial number ready when contacting support.

You can typically find support resources, driver downloads, and BIOS updates on the official ASUS support website:

www.asus.com/support