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Biostar Z690A VALKYRIE

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User Manual

1. Introduction

Welcome to the user manual for the Biostar Z690A VALKYRIE motherboard. This high-performance motherboard is designed to support 12th Generation Intel LGA 1700 Core processors, offering robust features for gaming, content creation, and demanding computing tasks. It incorporates advanced technologies such as PCIe 5.0, DDR4 memory support, and high-speed M.2 storage. This manual will guide you through the installation, setup, operation, and maintenance of your new motherboard, ensuring optimal performance and longevity.

2. Safety Information

Please read the following safety guidelines carefully before installing or operating the motherboard:

- **Electrostatic Discharge (ESD) Precautions:** Always wear an anti-static wrist strap or frequently touch a grounded metal object (like the computer case) before handling the motherboard or any components. ESD can severely damage electronic components.
- **Power Off:** Ensure the power supply is disconnected from the wall outlet before installing or removing any components.
- **Handle with Care:** Hold the motherboard by its edges. Avoid touching the components, circuits, or pins directly.
- **Ventilation:** Ensure proper airflow within your PC case to prevent overheating.
- **Liquid and Moisture:** Keep the motherboard away from liquids and moisture.

3. Package Contents

Verify that all items listed below are included in your motherboard package. If any item is missing or damaged, please contact your retailer.

- Biostar Z690A VALKYRIE Motherboard
- Driver DVD

- User's Manual (Multilingual)
- SATA Cables (x4)
- Smart Connector (for front panel headers)



Figure 3.1: Biostar Z690A VALKYRIE Motherboard and its accessories, including the driver DVD, user manual, four SATA cables, and a smart connector for easy front panel header connection.

4. Setup

Follow these steps for the proper installation of your Biostar Z690A VALKYRIE motherboard and its components.

4.1. Motherboard Overview



Figure 4.1: A top-down view of the Biostar Z690A VALKYRIE motherboard, highlighting the LGA 1700 CPU socket, DDR4 memory slots, PCIe slots, and M.2 slots. Note the VRM heatsinks and integrated I/O shield.



Figure 4.2: An angled view of the Biostar Z690A VALKYRIE motherboard, showcasing the aesthetic design, heatsinks, and the layout of various connectors and expansion slots.

4.2. CPU Installation (LGA 1700)

1. Locate the LGA 1700 socket on the motherboard.
2. Gently push down the load lever and pull it to the side to open the CPU socket retention frame.
3. Align the triangular mark on the CPU with the mark on the socket. Carefully place the CPU into the socket without forcing it.
4. Close the retention frame and push the load lever back into its locked position.

4.3. RAM Installation (DDR4)

1. Open the clips at both ends of the DDR4 memory slots.
2. Align the notch on the DDR4 memory module with the key in the memory slot.
3. Insert the memory module firmly into the slot until the clips snap into place. For dual-channel operation, refer to the motherboard manual for specific slot pairing.

4.4. Storage Installation (M.2 and SATA)

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

4.5. Expansion Card Installation (PCIe)

Insert your graphics card or other PCIe expansion cards into the appropriate PCIe slots. Ensure the card is fully seated

and secured with the case screw.

4.6. Power Connections

- Connect the 24-pin ATX power connector from your power supply to the main power connector on the motherboard.
- Connect the 8-pin (or 4+4-pin) CPU power connector(s) to the CPU power input(s) near the CPU socket.

4.7. Front Panel and Rear I/O Connections



Figure 4.3: The rear I/O panel of the Biostar Z690A VALKYRIE motherboard, showing various ports including DisplayPort, HDMI, USB 3.2 Gen2 x 2 Type C, USB 3.2 Gen2, USB 3.2 Gen1, 2.5G LAN, and audio jacks.

- **Front Panel Headers:** Use the included Smart Connector to easily connect your case's power button, reset button, HDD LED, and power LED cables to the motherboard's front panel header.
- **USB Headers:** Connect your case's front USB ports to the corresponding USB headers on the motherboard.
- **Audio Headers:** Connect your case's front audio panel to the audio header.
- **Rear I/O:** Connect your peripherals (monitor, keyboard, mouse, network cable) to the appropriate ports on the rear I/O panel. This includes DisplayPort, HDMI, USB 3.2 Gen2 x 2 Type C, USB 3.2 Gen2, USB 3.2 Gen1, and 2.5G LAN.

5. Operating

Once your hardware is installed, you can proceed with operating your system.

5.1. First Boot and BIOS/UEFI Setup

1. After connecting all components and power, turn on your system.
2. Press the `DEL` key repeatedly during startup to enter the BIOS/UEFI setup utility.
3. In the BIOS/UEFI, you can configure boot order, system time, fan speeds, memory profiles (XMP/DOCP), and other advanced settings. Save changes and exit to boot into your operating system installer.

5.2. Driver Installation

After installing your operating system, install the necessary drivers for your motherboard components. You can use the included Driver DVD or download the latest drivers from the official Biostar website for optimal performance and compatibility.

5.3. Software Utilities

Biostar may provide utility software for system monitoring, fan control, and other enhancements. Refer to the Biostar

website for available software downloads specific to the Z690A VALKYRIE.

6. Maintenance

Regular maintenance helps ensure the longevity and stable operation of your motherboard.

- **Dust Removal:** Periodically clean dust from inside your PC case, especially from heatsinks and fans, using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **BIOS/UEFI Updates:** Check the Biostar website for the latest BIOS/UEFI updates. Updates can improve stability, compatibility, and add new features. Follow the update instructions carefully to avoid damaging the motherboard.
- **Driver Updates:** Keep your drivers updated to ensure compatibility with new software and hardware, and to benefit from performance improvements and bug fixes.

7. Troubleshooting

If you encounter issues with your motherboard, refer to the following common troubleshooting steps:

- **No Power/No Boot:**
  - Check all power connections (24-pin ATX, 8-pin CPU).
  - Ensure the power supply is switched on and connected to a working outlet.
  - Verify that the front panel power button is correctly connected.
- **No Display:**
  - Ensure your monitor is connected to the graphics card (or motherboard's integrated graphics port if applicable) and is powered on.
  - Reseat the graphics card and RAM modules.
  - Try booting with only one RAM stick.
- **Component Not Detected:**
  - Reseat the component (e.g., M.2 SSD, SATA drive, PCIe card).
  - Check cable connections for SATA drives.
  - Ensure the component is compatible with the motherboard.
- **System Instability/Crashes:**
  - Check CPU and GPU temperatures.
  - Ensure all drivers are up to date.
  - Run memory diagnostic tools to check for RAM issues.

For more detailed troubleshooting, consult the comprehensive manual available on the Biostar website or contact Biostar technical support.

8. Specifications

Key technical specifications for the Biostar Z690A VALKYRIE motherboard:

Feature	Specification
CPU Socket	LGA 1700
Chipset	Intel Z690
Memory	Dual Channel DDR4, 4 DIMM slots, up to 128GB, supports 5000+(OC)/4333(OC)/4266(OC)/4133(OC)/4000/3866/3800/3733/3600/3200/2933/2800/2666/2400/2133 MHz
PCIe Support	PCIe 5.0
Storage	PCIe M.2 (64 GB/s), Intel Optane Technology support
LAN	2.5 GbE LAN
Wireless	Supports WiFi 6E module (module not included)
Video Output	DisplayPort 5K, HDMI
USB	USB 3.2 Gen2 x 2 Type C, USB 3.2 Gen2, USB 3.2 Gen1
Compatible OS	Windows 10

9. Warranty and Support

Biostar provides a limited warranty for its products. For detailed warranty terms and conditions, please refer to the warranty card included with your product or visit the official Biostar website. For technical support, driver downloads, BIOS updates, and further information, please visit the Biostar official website:

www.biostar.com.tw

Always ensure you are downloading software and drivers from the official manufacturer's website to avoid compatibility issues or security risks.

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