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- › GIGABYTE B650 AORUS Elite AX ICE Motherboard User Manual

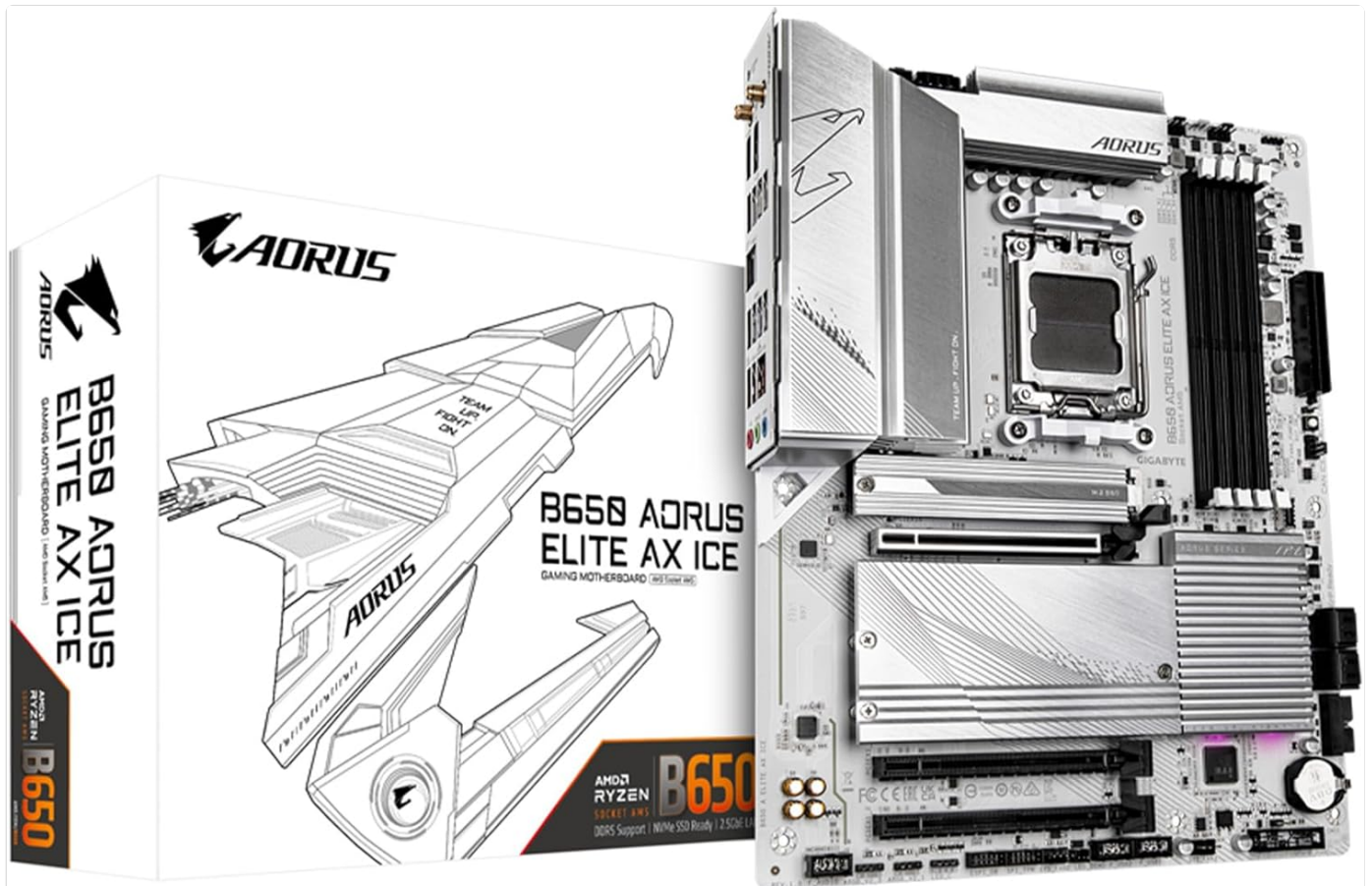
GIGABYTE B650 AORUS ELITE AX ICE

GIGABYTE B650 AORUS Elite AX ICE Motherboard User Manual

Model: B650 AORUS ELITE AX ICE

1. INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of your GIGABYTE B650 AORUS Elite AX ICE motherboard. Designed for AMD Ryzen 7000 Series Processors, this motherboard features dual-channel DDR5 memory support, robust power delivery, advanced thermal solutions, and next-generation connectivity. Please read this manual thoroughly before proceeding with installation to ensure proper setup and optimal performance.



2. SETUP AND INSTALLATION

Before beginning installation, ensure your system is powered off and disconnected from the power source. Handle the motherboard by its edges to avoid static discharge.

2.1 Component Overview

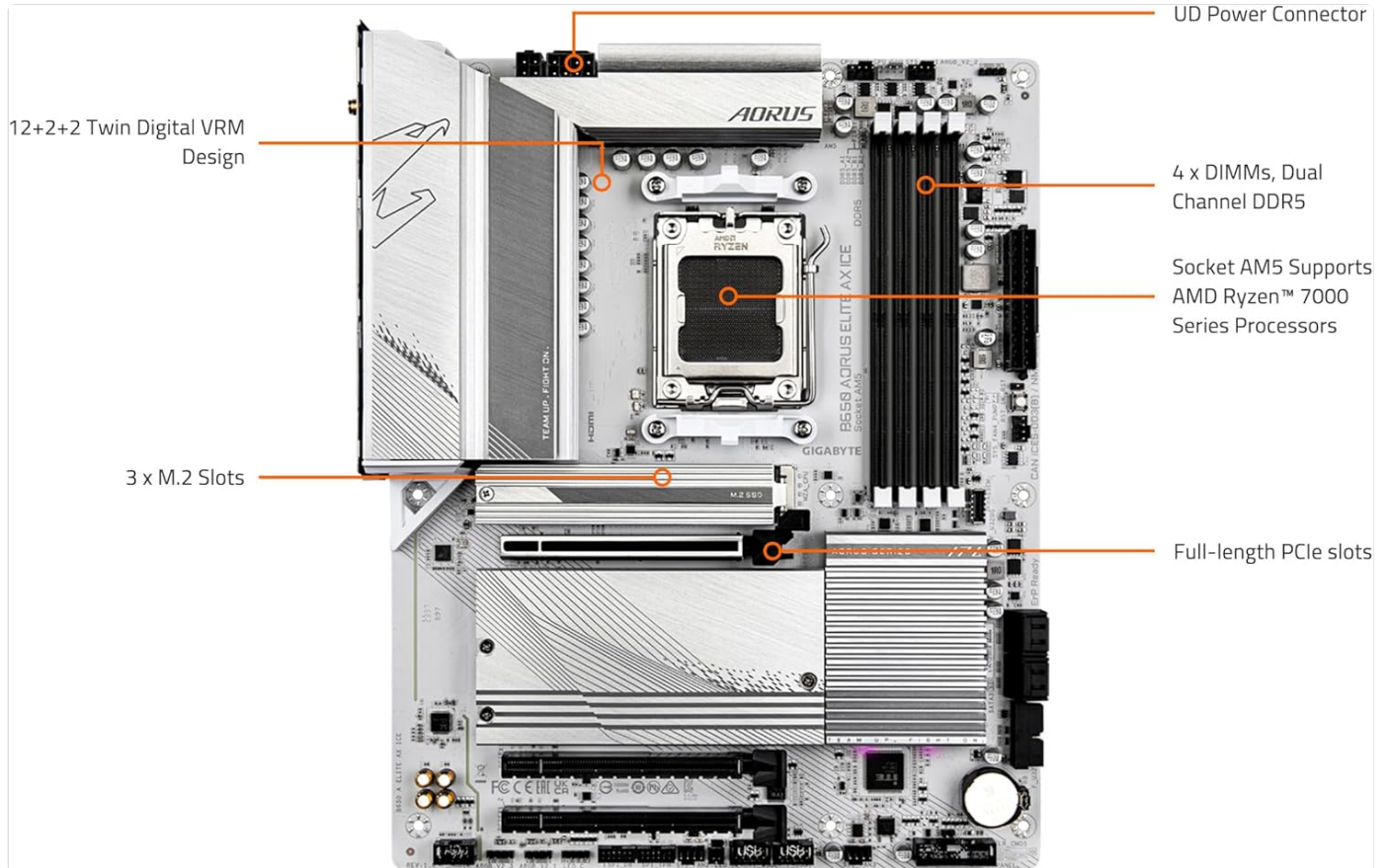


Figure 2.1: Key components and connectors on the motherboard.

- **UD Power Connector:** Main power input for the motherboard.
- **12+2+2 Twin Digital VRM Design:** Power delivery system for stable voltage to the CPU.
- **4 x DIMMs, Dual Channel DDR5:** Slots for installing DDR5 memory modules.
- **Socket AM5:** CPU socket for AMD Ryzen 7000 Series Processors.
- **3 x M.2 Slots:** High-speed storage slots for NVMe SSDs.
- **Full-length PCIe slots:** Slots for graphics cards and other expansion cards.

2.2 CPU Installation

1. Locate the AM5 socket on the motherboard.
2. Gently lift the load lever and open the load plate.
3. Align the triangular mark on the CPU with the mark on the socket.
4. Carefully place the CPU into the socket without forcing it.
5. Close the load plate and press down the load lever until it clicks into place.



Figure 2.2: Top-down view showing the AM5 CPU socket.

2.3 Memory (RAM) Installation

1. Open the clips at both ends of the DIMM slots.
2. Align the notch on the DDR5 memory module with the key in the DIMM slot.
3. Insert the memory module firmly into the slot until the clips snap into place. Ensure both clips are closed.
4. For dual-channel operation, install memory modules in the recommended paired slots (refer to your motherboard's detailed manual for specific slot configurations).

- LAN Drivers (2.5GbE)
- Wi-Fi 6E and Bluetooth 5.3 Drivers
- Audio Drivers
- USB Drivers

3.3 Software Utilities

GIGABYTE provides several utilities to enhance your experience:

- **RGB FUSION:** Control and synchronize RGB lighting effects on the motherboard and connected devices.
- **Smart Fan 6:** Monitor and control fan speeds for optimal cooling and noise levels.
- **APP Center:** Centralized platform for managing GIGABYTE utilities and drivers.

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Video 3.1: Product Overview Video demonstrating features and design of the motherboard.

4. MAINTENANCE

- **Keep Drivers Updated:** Regularly check the GIGABYTE website for the latest BIOS and driver updates to ensure system stability and performance.
- **Dust Removal:** Periodically clean dust from the motherboard and components using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **Thermal Management:** Ensure proper airflow within your PC case. Monitor temperatures using Smart Fan 6 or other monitoring software to prevent overheating.
- **BIOS Battery:** The CMOS battery (CR2032) typically lasts for several years. If you experience issues with BIOS settings resetting, consider replacing it.

5. TROUBLESHOOTING

Problem	Possible Cause	Solution
System does not power on.	Loose power connections, faulty power supply, incorrect front panel wiring.	Check 24-pin and 8-pin power connectors. Verify front panel power switch connection. Test power supply.
No display output.	Graphics card not seated properly, monitor cable issue, incorrect display output selected.	Reseat graphics card. Ensure monitor cable is securely connected. Try different display ports.
System unstable or crashes.	Outdated BIOS/drivers, incompatible RAM, overheating components.	Update BIOS and drivers. Verify RAM compatibility and seating. Check component temperatures.
Wi-Fi/Bluetooth not working.	Missing drivers, antenna not connected, disabled in BIOS.	Install/update Wi-Fi/Bluetooth drivers. Ensure antennas are securely attached. Check BIOS settings.
Slow boot times.	BIOS settings, old storage drive, too many startup programs.	Optimize BIOS boot settings (e.g., Fast Boot). Consider upgrading to an NVMe SSD. Manage startup programs in OS.

6. SPECIFICATIONS

Feature	Detail
CPU Socket	AMD AM5 (LGA 1718)
Supported CPUs	AMD Ryzen 7000 Series Processors
Chipset	AMD B650
Memory	4 x DDR5 DIMM slots, Dual Channel, up to 128GB, supports Intel XMP
PCIe Slots	1 x PCIe 5.0 x16, 2 x PCIe 3.0 x16 (running at x1)
Storage	3 x M.2 slots (PCIe 5.0/4.0 support), 4 x SATA 6Gb/s ports
LAN	2.5GbE LAN
Wireless Connectivity	WiFi 6E, Bluetooth 5.3
USB Ports	USB 3.2 Gen2X2 Type-C, USB 3.2 Gen 2, USB 3.2 Gen 1, USB 2.0
Audio	Hi-Fi Audio with High-End Audio Capacitors
Form Factor	ATX
Dimensions (LxWxH)	3.31 x 10.75 x 13.39 inches
Weight	4.45 pounds

7. WARRANTY AND SUPPORT

7.1 Warranty Information

The GIGABYTE B650 AORUS Elite AX ICE motherboard comes with a **5-Year Warranty**. Please retain your proof of purchase for warranty claims. The warranty covers defects in materials and workmanship under normal use. It does not cover damage caused by misuse, accident, modification, or unauthorized repair.

7.2 Technical Support

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

www.gigabyte.com/Support

You may also contact GIGABYTE customer service through the contact information provided on their website for direct support.