NZXT N9-X87XT-B1

NZXT N9 X870E ATX Gaming Motherboard User Manual

Model: N9-X87XT-B1

Introduction

This manual provides comprehensive instructions for the installation, operation, maintenance, and troubleshooting of your NZXT N9 X870E ATX Gaming Motherboard. Please read this manual thoroughly before proceeding with installation to ensure proper setup and optimal performance.

The NZXT N9 X870E is a high-performance ATX gaming motherboard designed for AMD Ryzen 9000, 8000, and 7000 series processors with an AM5 socket. It features a 20+2+1 power phase design, advanced thermal solutions, and PCIe 5.0 for next-gen GPUs. With four quick-release M.2 slots, DDR5 support, USB4, Wi-Fi 7, and 5GbE, it delivers ultra-fast storage and seamless networking. A full-metal cover ensures a sleek, modern look along with customizable onboard RGB lighting.

Package Contents

Before beginning installation, verify that all components listed below are present in your package:

- NZXT N9 X870E Motherboard
- 2 x Wireless Antennas
- 4 x SATA Cables
- 2 x NZXT 8-pin Splitters
- 1 x User Manual (this document)



Image: Contents of the NZXT N9 X870E Motherboard package, including the motherboard, wireless antennas, SATA cables, NZXT 8-pin splitters, and the user manual.

Setup and Installation

1. Motherboard Layout and Components

Familiarize yourself with the key components and connectors on the NZXT N9 X870E motherboard.

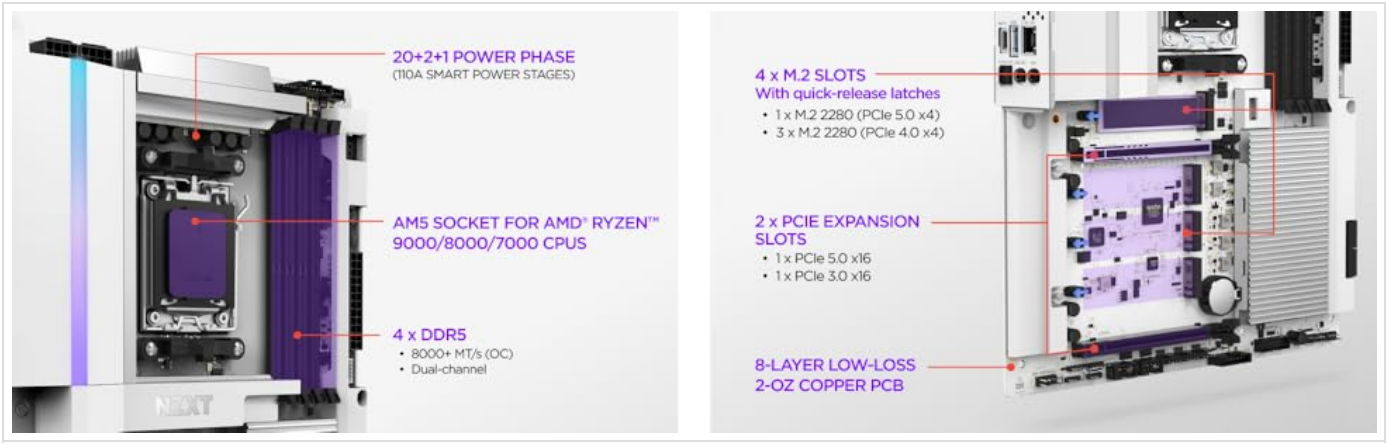


Image: Detailed diagram of the motherboard's internal layout, highlighting the 20+2+1 power phase design, AM5 socket for Ryzen 9000/8000/7000 CPUs, four DDR5 DIMM slots (8000+ MT/s OC), four M.2 slots with quick-release latches (1x PCIe 5.0 x4, 3x PCIe 4.0 x4), and two PCIe expansion slots (1x PCIe 5.0 x16, 1x PCIe 3.0 x16). Also notes the 8-layer low-loss 2-ounce copper PCB.

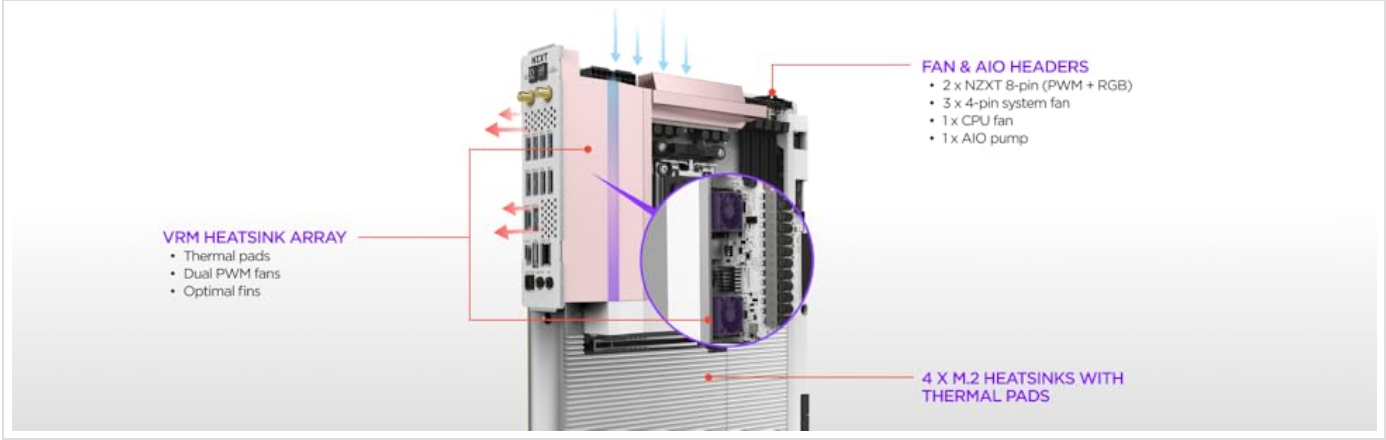


Image: Diagram illustrating the advanced thermal solutions, including the VRM heatsink array with thermal pads and dual PWM fans, and four dedicated M.2 heatsinks with thermal pads. Also shows fan and AIO headers: 2x NZXT 8-pin (PWM + RGB), 3x 4-pin system fan, 1x CPU fan, and 1x AIO pump.



Image: Diagram detailing the rear I/O panel and next-gen connectivity features, including USB 4 (40 Gbps), Wi-Fi 7 (Dual-Band), 5Gb Ethernet, Realtek ALC 4082 Audio, Bluetooth 5.4, various USB 3.2 Gen 1/2 ports, USB 2.0 ports, Optical S/PDIF Out, and audio jacks.

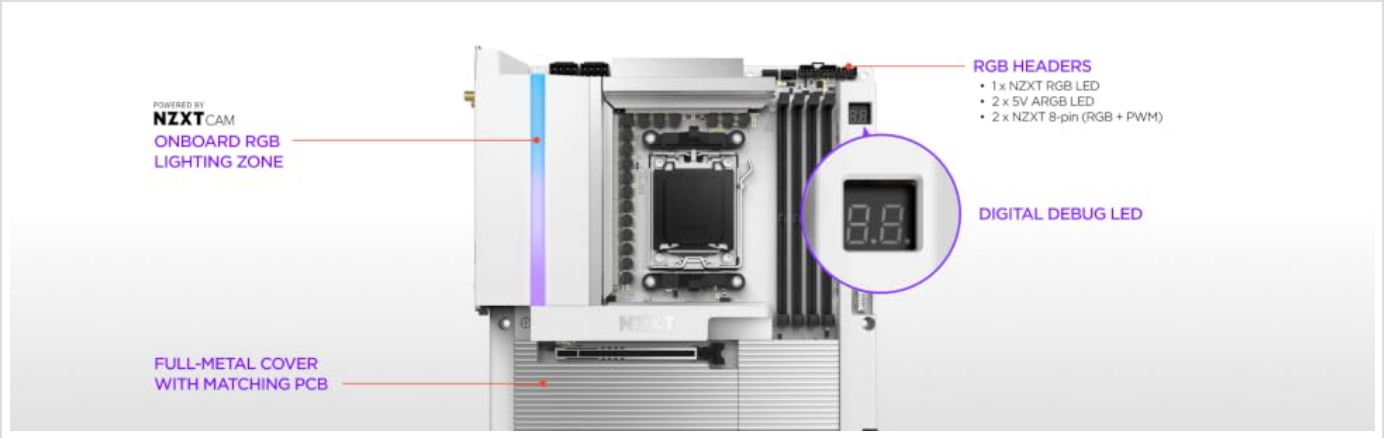


Image: Diagram showcasing the sleek and customizable aspects of the motherboard, including onboard RGB lighting powered by NZXT CAM, a digital debug LED, a full-metal cover with matching PCB, and various RGB headers (1x NZXT RGB LED, 2x 5V ARGB LED, 2x NZXT 8-pin RGB + PWM).

2. Component Installation Steps

1. **CPU Installation:**
   Carefully open the CPU socket retention arm. Align the triangular marker on your AMD Ryzen processor with the corresponding marker on the AM5 socket. Gently place the CPU into the socket without applying force. Close the retention arm to secure the CPU.
2. **DDR5 Memory Installation:**
   Open the clips on both ends of the DDR5 DIMM slots. Align the notch on the DDR5 memory module with the key in the DIMM slot. Press down firmly on both ends of the memory module until the clips snap into place. For optimal performance, install memory modules in the recommended dual-channel configuration (refer to the motherboard's silkscreen or full manual for specific slot pairing).
3. **M.2 SSD Installation:**
   Locate the M.2 slots, which feature quick-release latches. Gently lift the latch. Insert your M.2 SSD into the slot at an angle. Push the SSD down until it is flat, and then secure it by pressing the quick-release latch back into place. Ensure the M.2 heatsink is properly installed over the SSD for thermal management.
4. **PCIe Expansion Card Installation (e.g., GPU):**
   Align your PCIe 5.0 x16 graphics card or other expansion card with the primary PCIe slot. Press down firmly until the card is fully seated and the retention clip at the end of the slot locks into place. Secure the card to your chassis with screws.
5. **Power Connections:**
   Connect the 24-pin ATX power connector from your power supply unit (PSU) to the main power socket on the motherboard. Connect the 8-pin CPU power connector (and additional 4-pin if available/required by your PSU) to the CPU power sockets near the CPU socket. Ensure all power connections are secure.
6. **Front Panel and Peripheral Connections:**
   Connect your case's front panel headers (power button, reset button, USB ports, audio jacks) to the corresponding pins on the motherboard. Refer to the motherboard's silkscreen labels for correct pin alignment. Connect SATA data cables to the SATA ports for 2.5-inch or 3.5-inch storage drives.
7. **Wireless Antenna Installation:**
   Screw the two wireless antennas onto the corresponding connectors on the rear I/O panel for Wi-Fi 7 and Bluetooth functionality.

Operating Instructions

Initial Boot and BIOS/UEFI Setup

1. **Power On:**
   After all components are installed and connected, power on your system. The system should display the NZXT logo and prompt you to enter the BIOS/UEFI setup (usually by pressing DEL or F2 during boot).
2. **BIOS/UEFI Navigation:**
   Navigate the BIOS/UEFI interface using your keyboard or mouse. Key sections include:
   - **Main:** System information, date, and time.
   - **Advanced:** CPU configuration, PCH configuration, storage configuration, onboard device configuration.
   - **Boot:** Boot order, boot options.
   - **OC (Overclocking):** CPU/Memory frequency and voltage adjustments.
   - **Monitor:** System temperatures, fan speeds, voltage readings.
   - **Security:** Password settings, secure boot.
   - **Save & Exit:** Save changes and exit, discard changes and exit, load defaults.
3. **Memory Profile (EXPO/XMP):**
   To achieve advertised memory speeds, enable the AMD EXPO or Intel XMP profile in the BIOS/UEFI's OC section. Ensure your RAM is on the motherboard's Qualified Vendor List (QVL) for optimal compatibility and stability when enabling these profiles.
4. **Operating System Installation:**
   Insert your operating system installation media (USB drive or DVD) and set it as the primary boot device in the BIOS/UEFI. Follow the on-screen prompts to install your operating system.

Software and Drivers

After operating system installation, install the necessary drivers for your motherboard components (chipset, audio, LAN, Wi-Fi, Bluetooth, etc.) from the NZXT support website or the included driver disk (if applicable). Install NZXT CAM software for monitoring system performance, controlling RGB lighting, and managing fan curves.

Maintenance

Cleaning

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

BIOS/UEFI Updates

Periodically check the NZXT support website for updated BIOS/UEFI versions. BIOS updates can improve system stability, compatibility with new hardware, and performance. Follow the instructions provided by NZXT for the specific update procedure, often involving a USB flash drive (BIOS Flashback feature is available on this board).

Driver Updates

Keep your system drivers updated. Visit the NZXT support website and component manufacturer websites (e.g., AMD for chipset drivers, Realtek for audio/LAN) to download the latest drivers. Updated drivers can resolve issues and improve hardware performance.

Troubleshooting

This section provides solutions to common issues you might encounter.

Digital Debug LED

The NZXT N9 X870E motherboard features a digital debug LED display that shows POST (Power-On Self-Test) codes during startup. These codes can help identify the source of a boot issue. Refer to the full user manual or NZXT's support resources for a complete list of debug codes and their meanings.

Common Issues and Solutions

- **No Power/No Boot:**
  - Ensure all power cables (24-pin ATX, 8-pin CPU) are securely connected to the motherboard and PSU.
  - Verify the PSU is switched on and connected to a working power outlet.
  - Check front panel power button connection to the motherboard.
  - Try booting with minimal components (CPU, one RAM stick, GPU if no integrated graphics) to isolate the issue.
- **No Display Output:**
  - Ensure your monitor cable is connected to the graphics card (or motherboard if using integrated graphics) and the monitor is powered on and set to the correct input.
  - Reseat the graphics card in its PCIe slot.
  - Test with a different monitor or cable if possible.
- **RAM Not Detected/System Instability:**
  - Ensure RAM modules are fully seated in their slots.
  - Try one RAM stick at a time in different slots to identify a faulty module or slot.
  - If using EXPO/XMP profiles, try disabling them in BIOS/UEFI or resetting BIOS to default settings.
  - Verify your RAM is on NZXT's Qualified Vendor List (QVL) for the N9 X870E motherboard. Incompatible RAM, especially when using EXPO profiles, can lead to instability or prevent booting.
- **Peripherals Not Working (USB, Audio, LAN):**
  - Install or update the latest chipset, USB, audio, and LAN drivers from the NZXT support website.
  - Check connections for front panel USB/audio headers.
  - Test peripherals in different ports to rule out faulty devices.
- **BIOS Flashback Issues:**
  - Ensure the USB drive is formatted to FAT32.
  - Verify the BIOS file is correctly renamed according to NZXT's instructions.
  - Use the designated BIOS Flashback USB port on the rear I/O.

SPECIFICATIONS

Feature	Detail
Brand	NZXT
Model Name	N9 X870E

Feature	Detail
Item Model Number	N9-X87XT-B1
CPU Socket	Socket AM5
Compatible Processors	AMD Ryzen™ 9000/ 8000 / 7000 Series
Chipset Type	AMD X870E
RAM Memory Technology	DDR5
Memory Speed	8000+ MT/s (OC)
Power Phase Design	20+2+1 with 110A Smart Power Stages
PCIe Expansion Slots	1x PCIe 5.0 x16, 1x PCIe 3.0 x16
M.2 Slots	4 (1x PCIe 5.0 x4, 3x PCIe 4.0 x4) with Quick-Release Latches
USB Connectivity	USB 4 (40 Gbps), USB 3.2 Gen 2, USB 3.2 Gen 1, USB 2.0
Wireless Connectivity	Wi-Fi 7 (Dual-Band), Bluetooth 5.4
Ethernet	5GbE
Audio	Realtek ALC 4082
Form Factor	ATX
Item Weight	5.61 pounds
Color	Black
Country of Origin	China

Warranty and Support

Warranty Information

This product is covered by NZXT's standard warranty. For detailed warranty terms and conditions, please refer to the warranty card included with your product or visit the official NZXT website. Optional protection plans are available for extended coverage:

- 3-Year Protection Plan
- 4-Year Protection Plan
- Complete Protect (monthly plan covering eligible purchases)

Please retain your proof of purchase for warranty claims.

Customer Support

For technical assistance, troubleshooting, driver downloads, or further inquiries, please visit the official NZXT support website or contact their customer service. You can find more information and resources at the NZXT Store on Amazon.

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Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question