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## GIGABYTE H610I DDR4

# GIGABYTE H610I DDR4 Mini-ITX Motherboard User Manual

Model: H610I DDR4

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## 1. PRODUCT OVERVIEW

The GIGABYTE H610I DDR4 is a Mini-ITX motherboard designed to support 12th Generation Intel Core Series Processors. It offers a robust platform for building compact yet powerful systems, suitable for various applications from gaming to everyday computing. This motherboard integrates essential features for reliable performance and connectivity.

### Key Features:

- **Intel LGA 1700 Socket:** Supports 12th Gen Intel Core Series Processors.
- **DDR4 Compatible:** Features Dual Channel Non-ECC Unbuffered DDR4 memory support with 2 DIMM slots.
- **Commanding Power Design:** Equipped with a 4+1+1 Hybrid Digital VRM Design for stable power delivery.
- **Advanced Connectivity:** Includes PCIe 4.0 support, a Single NVMe PCIe 3.0 x4 M.2 slot, and USB 3.2 Gen1 ports.
- **Fast Networking:** Integrated Intel GbE LAN Chip for reliable wired network connections.
- **Dynamic Audio:** Features High Quality Audio Capacitors and Audio Noise Guard for enhanced sound experience.



Figure 1.1: Top-down view of the GIGABYTE H610I DDR4 Mini-ITX Motherboard, showcasing the LGA 1700 socket, DDR4 DIMM slots, and various connectors.



Figure 1.2: Angled view of the GIGABYTE H610I DDR4 Mini-ITX Motherboard, highlighting the compact form factor and component layout.

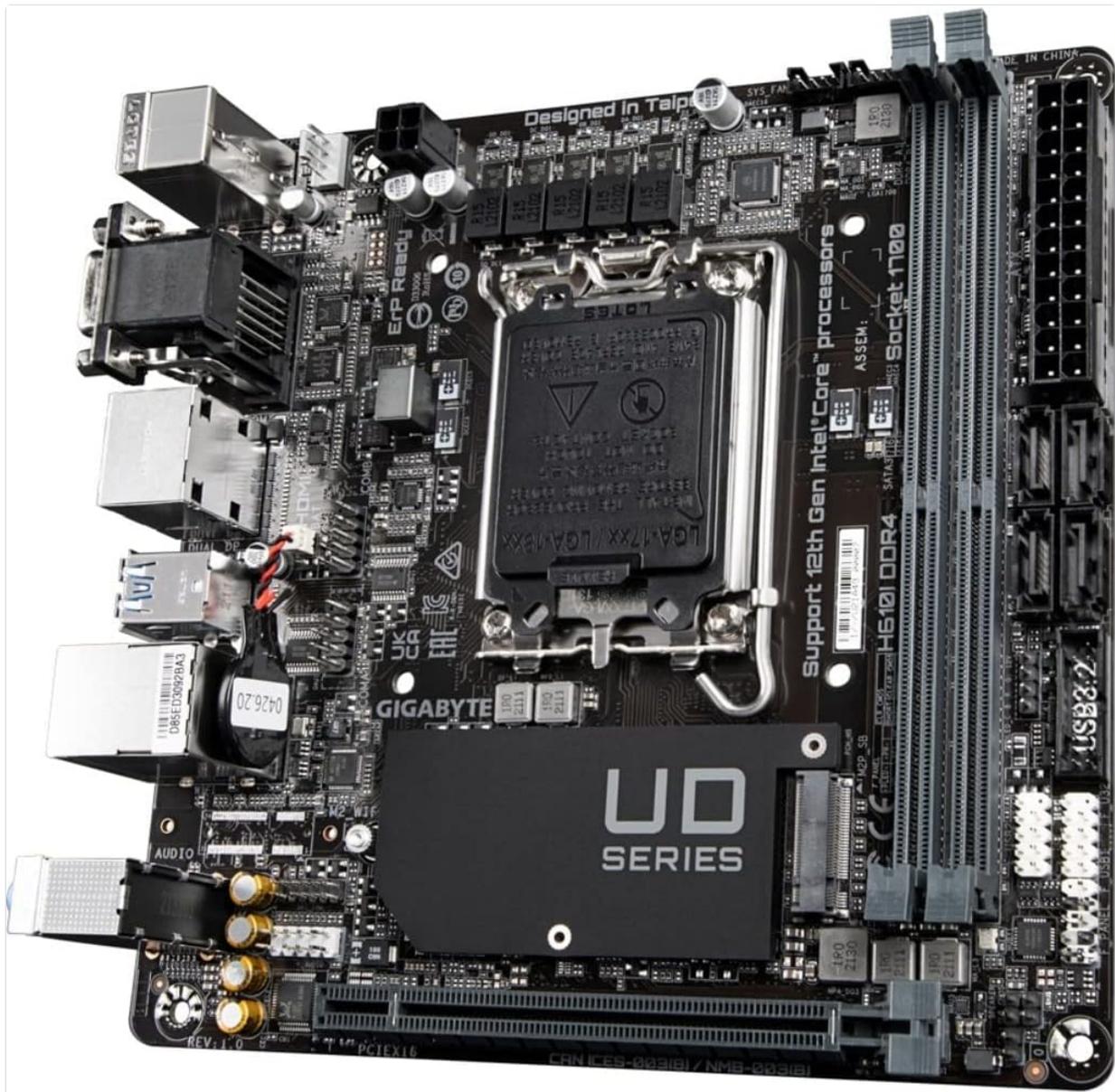


Figure 1.3: Rear I/O ports of the GIGABYTE H610I DDR4 Mini-ITX Motherboard, including USB, display outputs, and LAN port.

## 2. SETUP AND INSTALLATION

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Follow these steps for proper installation of your GIGABYTE H610I DDR4 motherboard and its components.

### 2.1 Installing the CPU

1. Locate the LGA 1700 CPU socket on the motherboard.
2. Open the CPU socket lever and remove the protective cover.
3. Carefully align your 12th Gen Intel Core processor with the socket, ensuring the notches on the CPU match the keys on the socket.
4. Gently place the CPU into the socket without applying force.
5. Close the CPU socket lever to secure the processor.



Figure 2.1: The GIGABYTE H610I DDR4 Motherboard with various components highlighted, including the CPU socket (LGA 1700).

## 2.2 Installing DDR4 Memory

1. Locate the two DDR4 DIMM slots on the motherboard.
2. Open the clips at both ends of the DIMM slot.
3. Align the notch on the DDR4 memory module with the key in the DIMM slot.
4. Insert the memory module firmly into the slot until the clips snap into place.

## 2.3 Installing NVMe M.2 SSD

1. Locate the single NVMe PCIe 3.0 x4 M.2 slot.
2. Remove the M.2 screw and standoff from the motherboard.
3. Insert the M.2 SSD into the slot at an angle.
4. Gently push down the M.2 SSD and secure it with the screw and standoff.

## 2.4 Power Connections

1. Connect the 24-pin ATX main power connector from your power supply to the corresponding header on the motherboard.
2. Connect the 8-pin CPU power connector (or 4-pin if applicable) to the CPU power header.

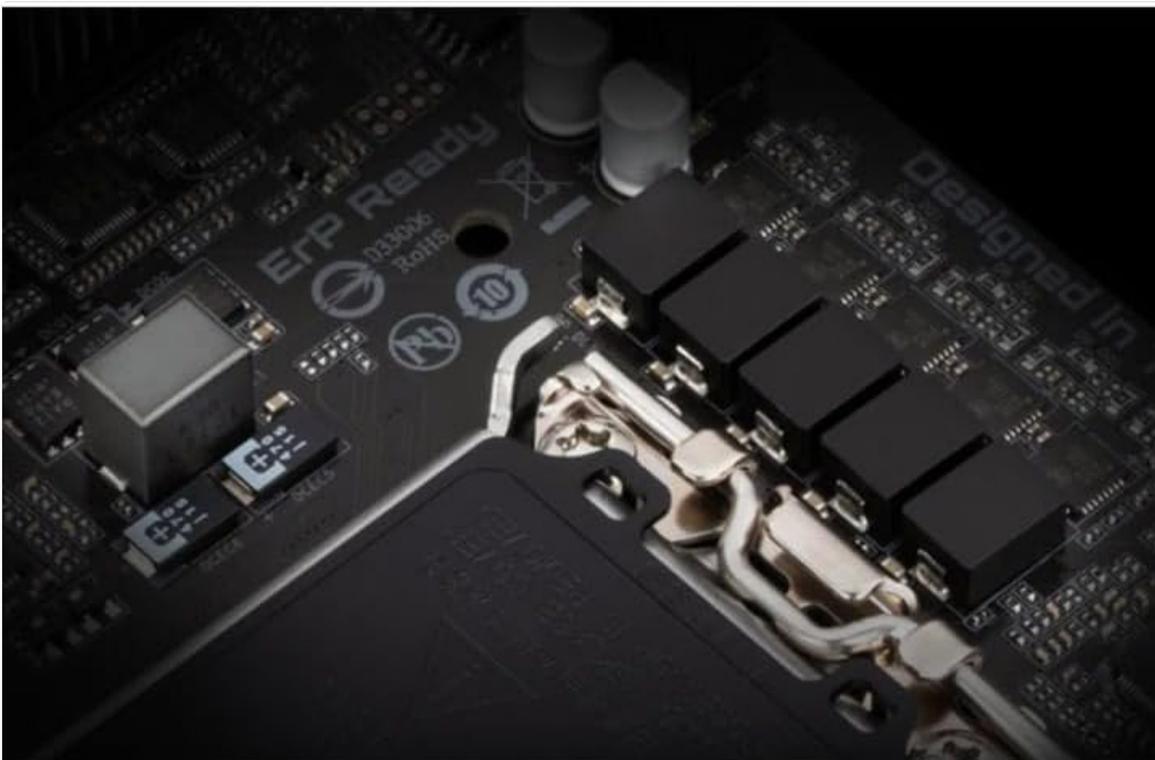


Figure 2.2: Close-up view of the 24-pin ATX and 8-pin CPU power connectors, essential for providing power to the motherboard and CPU.

## 2.5 Front Panel and Peripheral Connections

Connect your case's front panel headers (power button, reset button, USB, audio) to the corresponding pins on the motherboard. Refer to your case manual for specific pin layouts. Connect peripherals such as USB devices, display cables, and network cables to the rear I/O ports.

## 3. OPERATING INSTRUCTIONS

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### 3.1 Initial Boot-up and BIOS/UEFI Setup

1. After assembling all components, connect your monitor, keyboard, and mouse.
2. Power on your system. During the boot process, press the **DEL** key repeatedly to enter the BIOS/UEFI setup utility.
3. In the BIOS/UEFI, you can configure boot order, system time, and other advanced settings. Save changes and exit to continue booting into your operating system installer.

### 3.2 Driver Installation

After installing your operating system, install the necessary drivers for the motherboard components. These typically include chipset drivers, LAN drivers, audio drivers, and any other peripheral drivers. Drivers can usually be found on the GIGABYTE official website for your specific motherboard model.

## 4. MAINTENANCE

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### 4.1 Cleaning

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

### 4.2 BIOS/UEFI Updates

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

## 5. TROUBLESHOOTING

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This section addresses common issues you might encounter with your motherboard.

### 5.1 No Display Output

- **Check Monitor Connection:** Ensure your monitor is correctly connected to the graphics card or motherboard's integrated graphics port and is powered on.
- **Verify RAM Installation:** Reseat the DDR4 memory modules firmly in their slots. Incorrectly seated RAM is a common cause of no display.

- **CPU Power:** Confirm the 8-pin (or 4-pin) CPU power connector is securely plugged into the motherboard.
- **Graphics Card:** If using a dedicated graphics card, ensure it is properly seated in the PCIe slot and has all necessary power cables connected.
- **Bent CPU Pins:** Carefully inspect the CPU socket for any bent pins. If found, contact GIGABYTE support.

## 5.2 System Unresponsive / Does Not Boot

- **Power Supply:** Ensure the power supply is connected to the motherboard (24-pin ATX and CPU power) and is switched on.
- **Clear CMOS:** Try clearing the CMOS (Complementary Metal-Oxide-Semiconductor) settings. This can usually be done by removing the CMOS battery for a few minutes or using a dedicated jumper on the motherboard.
- **Minimal Boot Configuration:** Disconnect all non-essential peripherals and components (e.g., extra storage drives, expansion cards) and attempt to boot with only the CPU, one RAM stick, and the graphics card (if no integrated graphics).

## 5.3 RAM Slot Malfunction

- If one of the two DDR4 RAM slots is not functioning, try testing each RAM stick individually in each slot to isolate the faulty component (RAM stick or motherboard slot).
- Ensure the RAM is compatible with the motherboard's specifications (DDR4, Non-ECC Unbuffered).

## 6. TECHNICAL SPECIFICATIONS

Feature	Specification
Brand	GIGABYTE
Model Name	H610I DDR4
CPU Socket	LGA 1700
Compatible Processors	12th Gen Intel Core Series Processors
Chipset Type	Intel H610
RAM Memory Technology	DDR4 (Dual Channel Non-ECC Unbuffered)
Memory Slots	2 DIMMs
Memory Clock Speed	Up to 3200 MHz
PCIe Slots	PCIe 4.0
M.2 Slots	1 x NVMe PCIe 3.0 x4 M.2
USB Ports	USB 3.2 Gen1, USB 2.0
LAN	Intel GbE LAN Chip
Audio	High Quality Audio Capacitors and Audio Noise Guard

Feature	Specification
Form Factor	Mini-ITX
Product Dimensions	8.74 x 7.09 x 2.56 inches
Item Weight	1.3 pounds

## 7. PRODUCT VIDEOS

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### 7.1 Product Demonstration Video

This video provides a brief demonstration of the GIGABYTE H610I DDR4 Mini-ITX Motherboard, showcasing its physical features and design. (Duration: 0:35)

### 7.2 Product Overview Video

An official overview video detailing the features and benefits of the GIGABYTE H610I DDR4 Mini-ITX Motherboard. (Duration: 0:52)

## 8. WARRANTY AND SUPPORT

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### 8.1 Warranty Information

GIGABYTE products are covered by a limited warranty. The specific terms and duration of the warranty may vary by region and product type. Please refer to the warranty card included with your product or visit the official GIGABYTE website for detailed warranty information.

### 8.2 Technical Support

For technical assistance, driver downloads, or further product information, please visit the official GIGABYTE support website. You can find FAQs, troubleshooting guides, and contact information for customer service.

**GIGABYTE Official Website:** [www.gigabyte.com](http://www.gigabyte.com)