

POWER X H110 DDR4 Motherboard

POWERX H110 DDR4 Motherboard User Manual

Model: H110 DDR4 Motherboard

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your POWERX H110 DDR4 Motherboard. This motherboard is designed to support Intel 6th, 7th, 8th, and 9th Generation LGA 1151 CPUs, offering a reliable foundation for your personal computer build. Please read this manual thoroughly before proceeding with installation to ensure proper setup and optimal performance.

2. PACKAGE CONTENTS

Carefully unpack the motherboard box and verify that all items listed below are present. If any item is missing or damaged, contact your retailer.

- 1 x POWERX H110 DDR4 Motherboard
- 1 x I/O Panel Shield
- 1 x SATA Data Cable
- 1 x Driver CD
- 1 x User's Manual (this document)

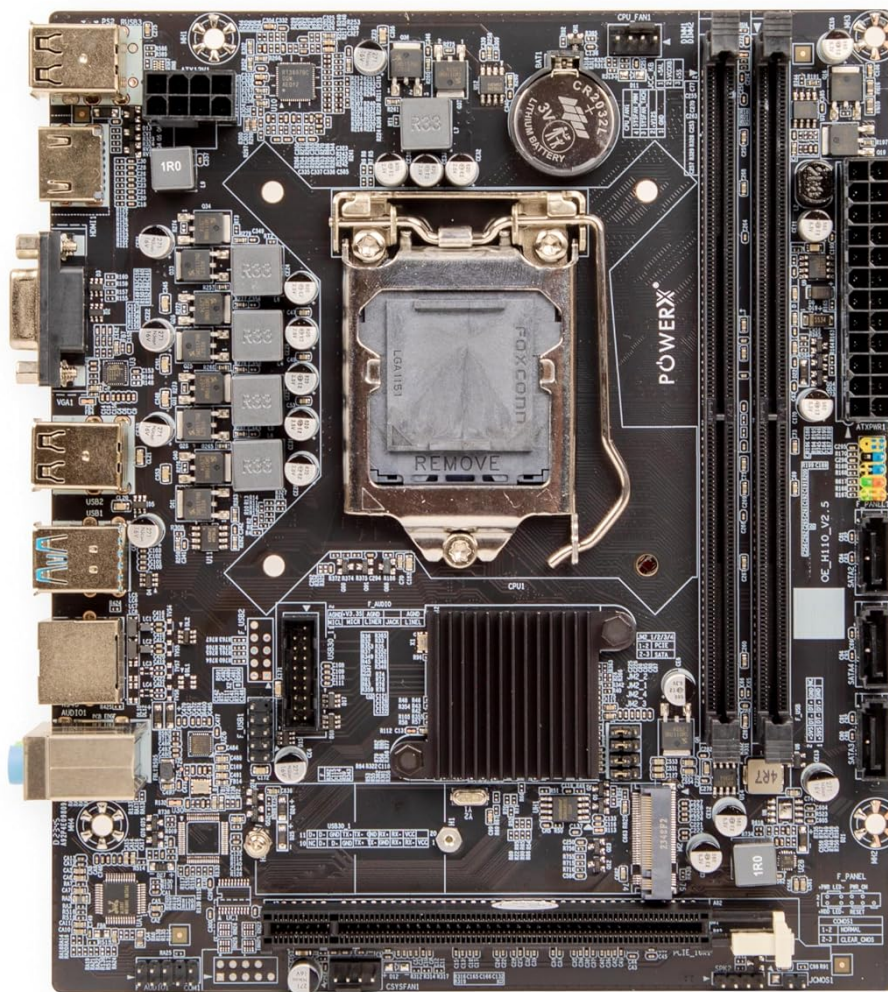


Package Contains 1 x Motherboard, 1 x I/O Panel, 1 x SATA Cable, 1 x CD Driver, 1 x User's Manual

Image: Contents of the POWERX H110 DDR4 Motherboard package.

3. KEY FEATURES

- **CPU Support:** Compatible with Intel 6th, 7th, 8th, and 9th Generation Core i3/i5/i7/Celeron/Pentium Processors (LGA 1151 socket).
- **Memory:** Dual DDR4 memory slots supporting up to 16GB RAM at 2133 MHz.
- **Storage:** Features an M.2 NVMe/NGFF SSD slot for high-speed storage and 3 x SATA 2.0 connection ports.
- **Video Output:** Integrated HDMI and VGA ports for dual-display configurations.
- **USB Connectivity:** Includes 2 x USB 3.0 ports and 4 x USB 2.0 ports for peripheral connections.
- **Form Factor:** Micro-ATX form factor, typically measuring around 170 x 190 mm, suitable for compact PC builds.
- **Audio:** Integrated 6-channel HD audio output for immersive sound.
- **Networking:** 10/100Mbps LAN for wired network connectivity.
- **Durability:** Solid capacitor design enhances durability and ensures stable long-term operation.



Micro-ATX Form Factor

Image: The POWERX H110 DDR4 Motherboard in Micro-ATX form factor.



SOLID CAPACITOR DESIGN

High-quality capacitors are used throughout the board to enhance durability, reduce heat, and ensure stable long-term operation.

Image: Solid capacitor design for enhanced durability.

4. COMPONENT OVERVIEW

Familiarize yourself with the various components and connectors on the motherboard before installation.

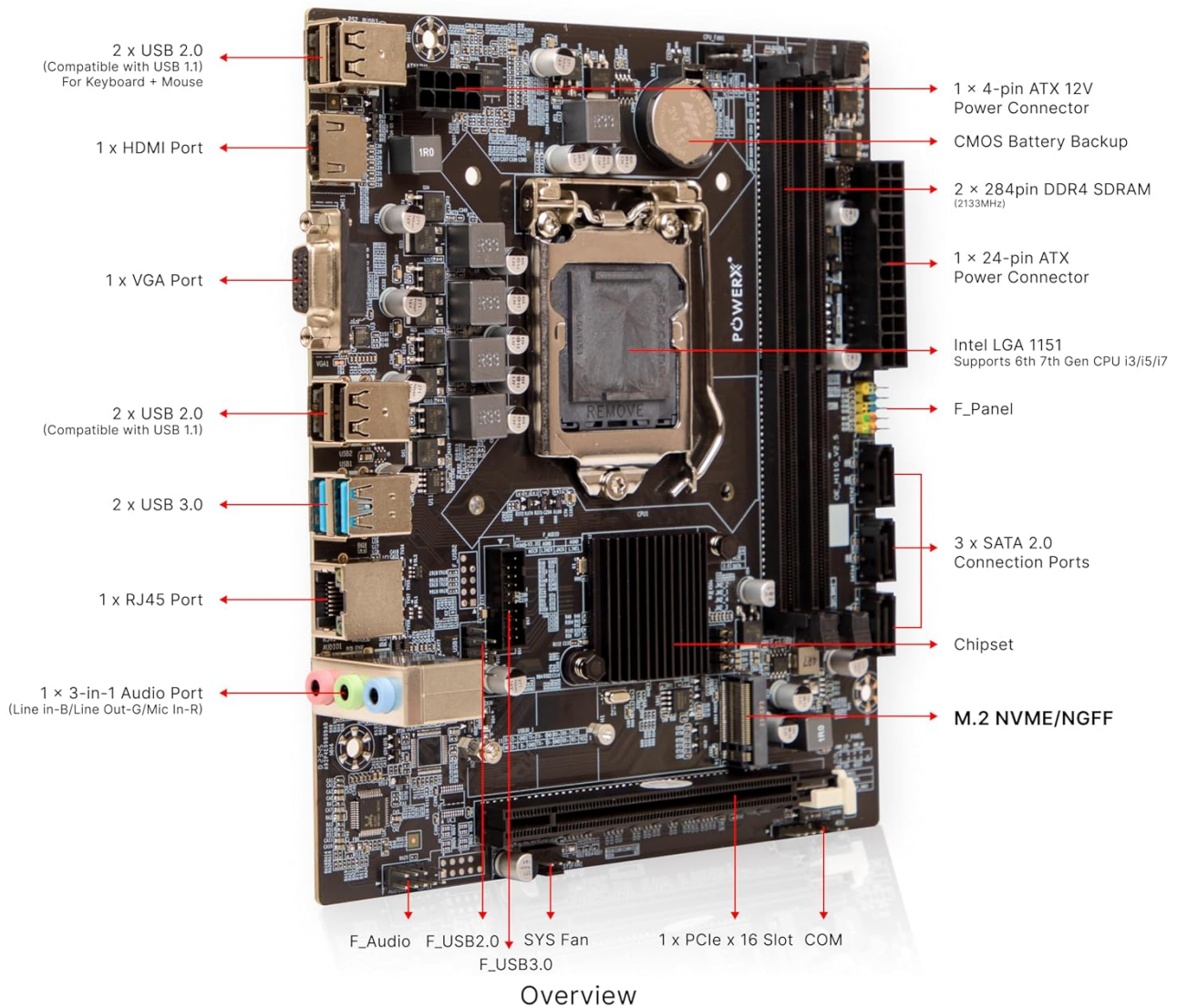


Image: Labeled overview of the POWERX H110 DDR4 Motherboard.

Key Connectors and Ports:

- **CPU Socket (LGA 1151):** For Intel 6th-9th Gen processors.
- **DDR4 DIMM Slots:** Two slots for DDR4 memory modules.
- **24-pin ATX Power Connector:** Main power input from the power supply.
- **4-pin ATX 12V Power Connector:** Provides power to the CPU.
- **SATA 2.0 Ports:** Three ports for connecting SATA storage devices (HDDs/SSDs).
- **M.2 NVMe/NGFF Slot:** For high-speed M.2 SSDs.
- **PCIe x16 Slot:** For graphics cards or other expansion cards.
- **Front Panel Header (F_Panel):** For connecting chassis power button, reset button, HDD LED, and power LED.
- **USB 3.0 Header (F_USB3.0):** For front panel USB 3.0 ports.
- **USB 2.0 Headers (F_USB2.0):** For front panel USB 2.0 ports.
- **Front Audio Header (F_Audio):** For front panel audio jacks.
- **CMOS Battery:** Provides power for the BIOS/UEFI settings and real-time clock.

- **Rear I/O Ports:** Includes USB 2.0, USB 3.0, HDMI, VGA, RJ45 (LAN), and 3-in-1 audio jacks.

5. SETUP AND INSTALLATION

Follow these steps carefully to install your POWERX H110 DDR4 Motherboard into your computer chassis.

5.1. Preparation

1. **Safety First:** Always disconnect the power supply from the wall outlet before installing or removing any components.
2. **Anti-Static Precautions:** Wear an anti-static wrist strap or frequently touch a grounded metal object (like the unpainted part of your PC case) to discharge static electricity.
3. **Clear Workspace:** Ensure you have a clean, well-lit, and organized workspace.

5.2. CPU Installation

1. Locate the LGA 1151 CPU socket on the motherboard.
2. Gently push down the load lever and pull it to the side to open the CPU socket cover.
3. Align the triangular mark on your Intel LGA 1151 CPU with the corresponding mark on the socket. Carefully place the CPU into the socket without forcing it.
4. Close the socket cover and push the load lever back into its locked position. This will secure the CPU.
5. Apply thermal paste to the CPU and install the CPU cooler according to its manufacturer's instructions.

5.3. RAM (Memory) Installation

1. Locate the two DDR4 DIMM slots.
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. Ensure both clips are fully closed.

5.4. Storage Device Installation

1. **M.2 SSD:** Insert the M.2 SSD into the M.2 slot at an angle, then gently push it down and secure it with the provided screw.
2. **SATA Devices:** Connect your SATA HDDs or SSDs to the SATA 2.0 ports using SATA data cables. Connect the other end of the SATA data cable to your storage device. Ensure your power supply has SATA power connectors for these devices.

5.5. Power Connections

1. Connect the 24-pin ATX power cable from your power supply to the 24-pin connector on the motherboard.
2. Connect the 4-pin ATX 12V power cable from your power supply to the 4-pin connector near the CPU socket.

5.6. Front Panel and I/O Connections

1. Connect the front panel cables (Power SW, Reset SW, HDD LED, Power LED) from your chassis to the F_Panel header on the motherboard. Refer to the motherboard diagram for correct pin alignment.
2. Connect the front panel USB 3.0 cable to the F_USB3.0 header.
3. Connect the front panel USB 2.0 cables to the F_USB2.0 headers.
4. Connect the front panel audio cable to the F_Audio header.
5. Install the I/O panel shield into your chassis's rear I/O opening.

6. Mount the motherboard into the chassis using standoffs and screws.

5.7. Expansion Card Installation (Optional)

1. If installing a dedicated graphics card or other PCIe expansion card, insert it firmly into the PCIe x16 slot until it clicks into place.
2. Secure the card with a screw to the chassis.

6. OPERATING INSTRUCTIONS

6.1. Initial Boot-Up

1. After all components are installed and connected, connect your monitor, keyboard, and mouse to the appropriate rear I/O ports.
2. Connect the power supply to the wall outlet and turn on the power supply switch.
3. Press the power button on your PC chassis. The system should power on, and you should see a display on your monitor.

6.2. BIOS/UEFI Setup

1. During the initial boot sequence, repeatedly press the **DEL** key (or sometimes **F2**) to enter the AMI EFI BIOS setup utility.
2. In the BIOS, you can configure system settings such as boot order, date/time, CPU settings, and memory timings.
3. Save your changes and exit the BIOS to continue booting.

6.3. Driver Installation

1. After installing your operating system, install the necessary drivers for the motherboard components.
2. Use the provided Driver CD or download the latest drivers from the POWERX official website (www.power-x.in).
3. Install chipset drivers, audio drivers, LAN drivers, and any other relevant drivers for optimal performance.

6.4. Operating System Installation

Follow the instructions provided with your operating system (e.g., Windows, Linux) to install it on your chosen storage device.

7. MAINTENANCE

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

- **Dust Removal:** Periodically clean dust from the motherboard and other components using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **BIOS Updates:** Check the POWERX website for BIOS/UEFI updates. Only update the BIOS if necessary and follow the instructions carefully to avoid system instability.
- **Cable Management:** Ensure all cables are neatly routed and not obstructing airflow.
- **Connection Checks:** Occasionally check that all power and data cables are securely connected.

8. TROUBLESHOOTING

If you encounter issues, refer to the following basic troubleshooting steps.

8.1. No Power / No Boot

- Verify that the power supply is connected to the wall outlet and turned on.
- Ensure the 24-pin ATX and 4-pin ATX 12V power connectors are securely plugged into the motherboard.
- Check that the front panel power button cable is correctly connected to the F_Panel header.
- Test the power supply with another system or a power supply tester if available.

8.2. No Display / No POST (Power-On Self-Test)

- Ensure your monitor is connected to the correct video output (HDMI or VGA) on the motherboard or graphics card and is powered on.
- Reseat the RAM modules. Try booting with only one RAM module installed.
- Reseat the CPU and check for any bent pins in the socket (only if comfortable doing so).
- If using a dedicated graphics card, ensure it is properly seated in the PCIe slot and has adequate power connected.
- **Clear CMOS:** Disconnect power, remove the CMOS battery for 30 seconds, then reinsert it. This resets BIOS settings to default.

8.3. Operating System Not Loading

- Check the boot order in the BIOS/UEFI settings to ensure your primary storage device is selected.
- Verify that your SATA or M.2 storage device is correctly connected and powered.
- If the OS was recently installed, ensure all necessary drivers are installed.

9. SPECIFICATIONS

The following table details the technical specifications of the POWERX H110 DDR4 Motherboard.

Feature	Specification
Brand	POWER X
Model Name	POWERX H110 DDR4 Motherboard
Chipset Type	Intel H110
Compatible Processors	Intel Core i3/i5/i7/i9 (6th, 7th, 8th, 9th Gen)
CPU Socket	LGA 1151
Memory Slots	2 x DDR4 DIMM
Max Memory Capacity	16 GB
Graphics Card Interface	PCI Express (1 x PCIe x16 slot)
Total SATA Ports	3
M.2 Slot	1 x NVMe/NGFF
USB Ports (Rear)	2 x USB 3.0, 4 x USB 2.0

Feature	Specification
Video Output	1 x HDMI, 1 x VGA
Ethernet Ports	1 (10/100Mbps)
Audio	6-channel HD Audio
Main Power Connector	24-Pin ATX
CPU Power Connector	4-Pin ATX 12V
Dimensions (L x W x H)	19L x 3.5W x 17H Centimeters (Approximate)

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official POWERX website or contact your retailer.

Official Website: www.power-x.in

Keep your proof of purchase for warranty claims.