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## ASRock H87 Performance

# ASRock H87 PERFORMANCE Motherboard Instruction Manual

Model: H87 Performance

## 1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your ASRock H87 PERFORMANCE motherboard. This motherboard supports 4th Generation Intel Core i7 / i5 / i3 / Xeon / Pentium / Celeron processors in the LGA1150 package. It features ASRock DuraCap, Digi Power, and an 8 Power Phase Design for stable performance.

Key features include:

- Supports Dual Channel DDR3 1600 memory.
- Equipped with 1 x PCIe 3.0 x16 slot and 1 x PCIe 2.0 x16 slot, supporting AMD Quad CrossFireX and CrossFireX.
- Multiple video output options: DVI-D, D-Sub, HDMI.
- Intel Gigabit LAN for reliable network connectivity.
- 7.1 CH HD Audio with Content Protection (Realtek ALC1150 Audio Codec), supporting DTS Connect.
- 6 x SATA3 ports, 6 x USB 3.0 ports, and 8 x USB 2.0 ports (including 1 Fatal1ty Mouse Port).
- Advanced A-Style features: Home Cloud, HDMI-In, Purity Sound, Gaming Armor (CPU Power - Hi-Density Power Connector, VGA Card - 15µ Gold Finger, Internet - Intel LAN, Audio - Purity Sound).

## 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 Installing the CPU

1. Locate the LGA1150 CPU socket on the motherboard.
2. Open the CPU socket lever and remove the protective cap.
3. Carefully align the CPU with the socket, ensuring the gold triangle on the CPU matches the triangle on the socket.
4. Gently place the CPU into the socket without forcing it.
5. Close the CPU socket lever to secure the CPU.

### 2.2 Installing Memory (RAM)

1. Identify the DDR3 DIMM slots.
2. Open the clips at both ends of the DIMM slot.
3. Align the memory module with the slot, ensuring the notch on the module matches the key in the slot.
4. Press down firmly on both ends of the memory module until the clips snap into place.

### 2.3 Connecting Peripherals to the I/O Panel

The rear I/O panel provides various ports for connecting external devices. Refer to the image below for port identification.



**Image 1:** Rear I/O Panel of the ASRock H87 PERFORMANCE Motherboard. From left to right, it features: two USB 2.0 ports and a PS/2 port; a D-Sub (VGA) port and a DVI-D port; two more USB 2.0 ports and an HDMI-In port; two USB 3.0 ports and an HDMI port; an Intel Gigabit LAN port and two more USB 3.0 ports; and finally, the audio jacks (line-in, line-out, microphone, rear, center/subwoofer) and an optical S/PDIF out port.

- **PS/2 Port:** For connecting a PS/2 keyboard or mouse.
- **USB 2.0 Ports:** For connecting USB 2.0 devices.
- **D-Sub (VGA) Port:** For connecting a VGA monitor.
- **DVI-D Port:** For connecting a DVI-D monitor.
- **HDMI-In Port:** For connecting an external device's HDMI output to display on your system.
- **HDMI Port:** For connecting an HDMI monitor.
- **USB 3.0 Ports:** For connecting USB 3.0 devices, offering faster data transfer speeds.
- **Intel Gigabit LAN Port:** For connecting to a network via an Ethernet cable.
- **Audio Jacks:** For connecting speakers, headphones, and microphones.
- **Optical S/PDIF Out Port:** For digital audio output.

## 3. OPERATING INSTRUCTIONS

### 3.1 First Boot and BIOS/UEFI Setup

Upon the first power-on, the system will enter the BIOS/UEFI setup utility. You can access this utility by pressing the **Del** or **F2** key during startup. Here you can configure system settings, boot order, and monitor hardware status.

- **Boot Order:** Set the primary boot device (e.g., SSD/HDD, USB drive, optical drive).
- **System Information:** View CPU, memory, and BIOS version details.
- **Overclocking (OC):** Adjust CPU and memory frequencies for enhanced performance (use with caution).

- **Fan Control:** Utilize FAN-Tastic Tuning for optimized cooling and noise levels.

## 3.2 Driver Installation

After installing your operating system, install the necessary drivers for the motherboard components. These drivers are typically provided on a support CD/DVD or can be downloaded from the ASRock website. The Easy Driver Installer utility can assist with this process.

- Install Chipset Drivers.
- Install Audio Drivers (Realtek ALC1150).
- Install LAN Drivers (Intel Gigabit LAN).
- Install USB 3.0 Drivers.
- Install VGA Drivers (if using integrated graphics).

## 4. MAINTENANCE

### 4.1 BIOS/UEFI Updates

Periodically check the ASRock website for BIOS/UEFI updates. Updates can improve system stability, compatibility, and performance. Follow the instructions provided by ASRock carefully when performing a BIOS update to avoid system damage.

### 4.2 Cleaning

To ensure optimal performance and longevity, regularly clean your computer's interior.

- Power off and unplug the system before cleaning.
- Use compressed air to remove dust from fans, heatsinks, and motherboard components.
- Avoid using liquid cleaners directly on components.

## 5. TROUBLESHOOTING

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

- **No Power:** Ensure all power cables (24-pin ATX, 8-pin CPU) are securely connected to the motherboard and power supply. Check the power supply switch.
- **No Display:** Verify that the monitor cable is correctly connected to the graphics output (either integrated or discrete graphics card). Try reseating the graphics card and memory modules.
- **System Instability/Crashes:** Check memory modules for proper installation. Ensure CPU cooler is correctly seated. Update BIOS/UEFI and drivers.
- **Component Not Detected:** Ensure all components (storage drives, expansion cards) are properly seated and connected. Check BIOS/UEFI settings to ensure they are enabled.
- **Audio Issues:** Verify audio drivers are installed. Check speaker/headphone connections to the correct audio jacks.

## 6. SPECIFICATIONS

| Feature              | Specification                                       |
|----------------------|---|
| Model Number         | H87 Performance                                     |
| CPU Socket           | LGA1150   |
| Chipset              | Intel H87   |
| Memory Support       | Dual Channel DDR3 1600                              |
| PCIe Slots           | 1 x PCIe 3.0 x16, 1 x PCIe 2.0 x16, 2 x PCIe 2.0 x1 |
| Multi-GPU Support    | AMD Quad CrossFireX, CrossFireX                     |
| Video Output         | DVI-D, D-Sub, HDMI                                  |
| LAN                  | Intel Gigabit LAN                                   |
| Audio                | 7.1 CH HD Audio (Realtek ALC1150), DTS Connect      |
| SATA Ports           | 6 x SATA3   |
| USB Ports            | 6 x USB 3.0, 8 x USB 2.0                            |
| Form Factor          | ATX   |
| Dimensions (Package) | 13.86 x 10.55 x 3.15 inches                         |
| Item Weight          | 3.3 pounds  |

## 7. WARRANTY AND SUPPORT

The ASRock H87 PERFORMANCE motherboard comes with a 1-Year Warranty. For technical support, driver downloads, and further information, please visit the official ASRock website or the ASRock Store on Amazon: [ASRock Store](#).

