

Noctua NH-U12Sredux

Noctua NH-U12S Redux CPU Cooler User Manual

Model: NH-U12Sredux

INTRODUCTION

The Noctua NH-U12S Redux is a high-performance CPU cooler designed for efficient and quiet operation. It features a slim 120mm heatsink and an NF-P12 redux-1700 PWM fan, ensuring excellent compatibility with various PC components and effective heat dissipation. This manual provides essential information for the setup, operation, and maintenance of your NH-U12S Redux CPU cooler.

PRODUCT FEATURES

- **Streamlined Design:** A more affordable version of the award-winning NH-U12S heatsink.
- **High Compatibility:** Slim 120mm size ensures excellent case, RAM, and PCIe compatibility, fitting most tower cases (158mm height) without overhanging RAM slots or blocking PCIe on most ATX and Micro-ATX motherboards.
- **Quiet Operation:** Equipped with a quiet NF-P12 redux-1700 120mm fan with PWM for automatic speed control, providing high cooling performance under load and near-silent operation at idle.
- **Easy Installation:** Includes the renowned SecuFirm2 mounting system for straightforward installation.
- **Pre-applied Thermal Compound:** Comes with high-end NT-H1 thermal paste pre-applied for convenience.
- **Broad Socket Support:** Compatible with Intel LGA1851, LGA1700, LGA1200, LGA115x and AMD AM5 & AM4 sockets.

SETUP AND INSTALLATION

Before beginning installation, ensure your system is powered off and disconnected from the power source. Refer to your motherboard's manual for specific CPU socket information.

Pre-installation Checklist:

- Verify compatibility with your CPU socket (Intel LGA1851, LGA1700, LGA1200, LGA115x; AMD AM5 & AM4).
- Ensure sufficient case clearance (158mm height required for the cooler).
- Gather necessary tools (e.g., screwdriver).

Installation Steps:

1. **Prepare Motherboard:** For Intel sockets, install the included backplate and mounting bars. For AMD AM4/AM5, use the motherboard's stock backplate and attach the Noctua mounting bars.
2. **Apply Thermal Paste:** The NH-U12S Redux comes with NT-H1 thermal paste pre-applied to the heatsink base. If reapplying, ensure the CPU surface is clean before applying a small amount of thermal paste to the center of the CPU IHS (Integrated Heat Spreader).
3. **Mount Heatsink:** Carefully place the heatsink onto the CPU, aligning the mounting screws with the stand-offs or mounting bars. Tighten the screws evenly until secure. The spring-loaded screws prevent overtightening.
4. **Attach Fan:** Secure the NF-P12 redux-1700 PWM fan to the heatsink using the provided fan clips. Ensure the fan is oriented to blow air through the heatsink fins towards the rear exhaust of your case.
5. **Connect Fan Cable:** Connect the 4-pin PWM fan cable to the CPU_FAN header on your motherboard.



Image: The Noctua NH-U12S Redux CPU cooler installed within a computer case, demonstrating its compact form factor and clearance around memory modules.

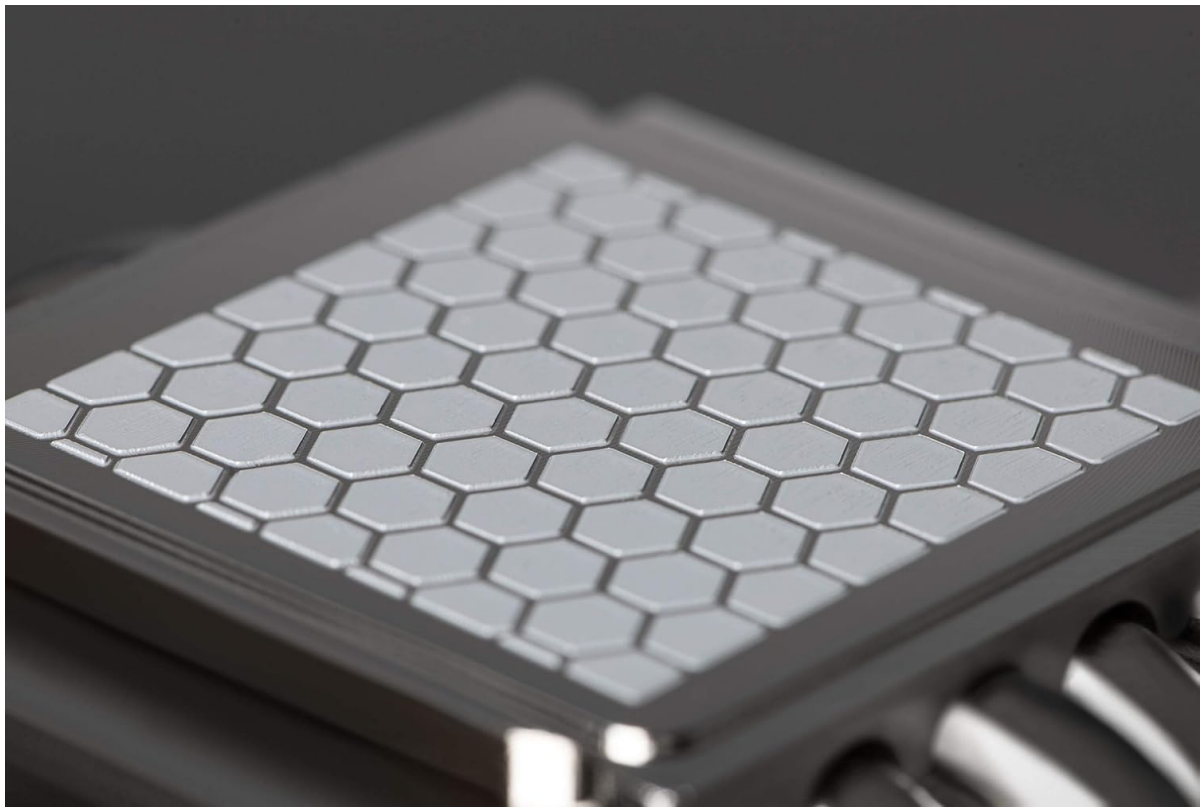


Image: A detailed view of the heatsink base of the Noctua NH-U12S Redux, showing the pre-applied NT-H1 thermal compound.

OPERATING INSTRUCTIONS

The NH-U12S Redux is designed for optimal performance with minimal user intervention thanks to its PWM-controlled fan.

Fan Speed Control:

The NF-P12 redux-1700 PWM fan automatically adjusts its speed based on CPU temperature, ensuring efficient cooling when needed and quiet operation during lighter loads. This is managed by your motherboard's BIOS/UEFI settings. You can typically configure fan curves in your motherboard's software or BIOS to fine-tune the balance between cooling performance and noise levels.

Noise Level:

The cooler operates at a low noise level of 25.1 dB (A) at maximum speed, making it suitable for quiet computing environments. At idle, the fan speed will reduce significantly, resulting in near-silent operation.

Cooling Performance:

This cooler is highly effective at dissipating heat from modern CPUs, maintaining stable temperatures even under heavy loads. Its design ensures consistent performance for both Intel Core and AMD Ryzen processors.

MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your CPU cooler.

Cleaning:

- Periodically clean dust from the heatsink fins and fan blades using compressed air or a soft brush.
- Ensure the system is powered off and unplugged before cleaning.

- Hold the fan blades gently to prevent them from spinning rapidly during cleaning with compressed air, which can damage the fan bearings.

Thermal Paste Reapplication:

While the pre-applied NT-H1 thermal paste offers excellent long-term stability, if you ever remove the cooler or notice significantly higher temperatures, it is recommended to clean off the old thermal paste from both the CPU IHS and the heatsink base using isopropyl alcohol and reapply a fresh layer of high-quality thermal compound.

TROUBLESHOOTING

Problem	Possible Cause	Solution
High CPU Temperatures	Insufficient thermal paste contact, dust buildup, incorrect fan orientation, poor case airflow.	Re-seat cooler, reapply thermal paste, clean heatsink/fan, check fan direction, improve case ventilation.
Fan Not Spinning/Loud Fan Noise	Fan cable disconnected/loose, fan obstruction, fan bearing issue, aggressive fan curve in BIOS.	Check fan connection to CPU_FAN header, remove obstructions, adjust fan curve in BIOS, contact support if fan is faulty.
Cooler Not Fitting	Incorrect mounting hardware for socket, insufficient case clearance, RAM module interference.	Verify correct mounting kit for your CPU socket, check case dimensions, ensure RAM modules are low profile if necessary.

SPECIFICATIONS

Attribute	Detail
Product Dimensions	6.22"L x 4.92"W x 2.8"H
Brand	Noctua
Power Connector Type	4-Pin
Voltage	12 Volts
Wattage	1.08 watts
Cooling Method	Air
Compatible Devices	Desktop
Noise Level	25.1 dB
Material	Nickel plated Copper (base and heat-pipes), aluminium (cooling fins)
Maximum Rotational Speed	1700 RPM
Item Weight	1.57 pounds
Model Number	NH-U12Sredux

WARRANTY AND SUPPORT

Noctua products are known for their trusted quality and reliability. For detailed warranty information and technical support, please refer to the official Noctua website or the documentation included with your product. Noctua also offers a professional SecuFirm2 mounting system and often provides upgrade kits for future socket compatibility.

You can find additional support and resources on the [Noctua Store on Amazon](#) or by visiting the official Noctua website.

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