



Dear customer,

Congratulations on choosing the Noctua NH-U12S TR4-SP3.

Continuing the legacy of Noctua's classic NH-U-series, which has received more than a thousand awards and recommendations from international hardware websites and magazines, the NH-U12S has become a benchmark for slim, highly compatible 120mm single tower coolers. The TR4-SP3 version is a tailored custom model for AMD's TR4/SP3 platform and features a larger contact surface as well as the latest SecuFirm2™ mounting system for socket TR4/SP3.

Enjoy your NH-U12S TR4-SP3!

Yours sincerely,

*R. Müssig*  
Roland Mossig, Noctua CEO

This manual will guide you through the installation process of the SecuFirm2™ mounting system step by step.

Prior to installing the cooler, please consult the compatibility list on our website ([www.noctua.at/compatibility](http://www.noctua.at/compatibility)) and verify that the cooler is fully compatible with your motherboard.

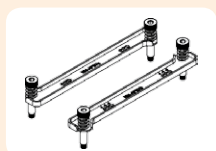
Please also make sure that your PC case offers sufficient clearance for the cooler and that there are no compatibility issues with any other components (e.g. tall RAM modules). Double check that the heatsink and fan clips do not make contact with the VGA card or other PCIe cards.

Noctua cannot be held responsible for any damage or losses caused by compatibility issues.

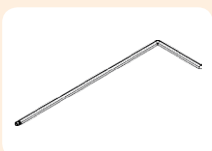
Should you encounter any difficulties, please check the FAQs on our website ([www.noctua.at/faqs](http://www.noctua.at/faqs)) and don't hesitate to contact our support team at [support@noctua.at](mailto:support@noctua.at).

Multilingual versions of this manual are available on our website: [www.noctua.at/manuals](http://www.noctua.at/manuals)

**Required mounting parts:**



NM-AFB7 fastening brackets  
(pre-installed on the cooler)



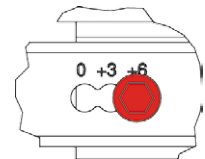
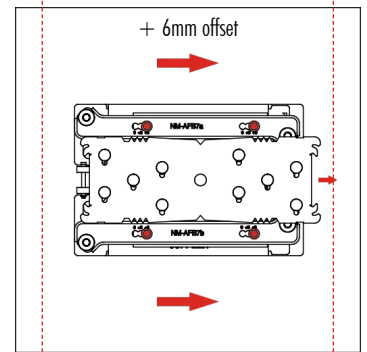
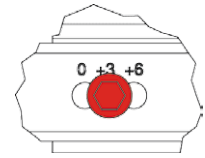
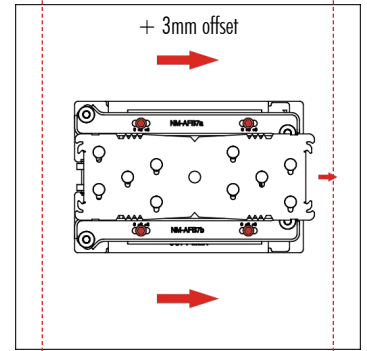
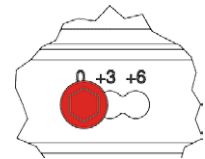
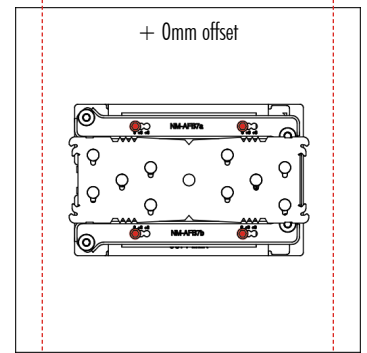
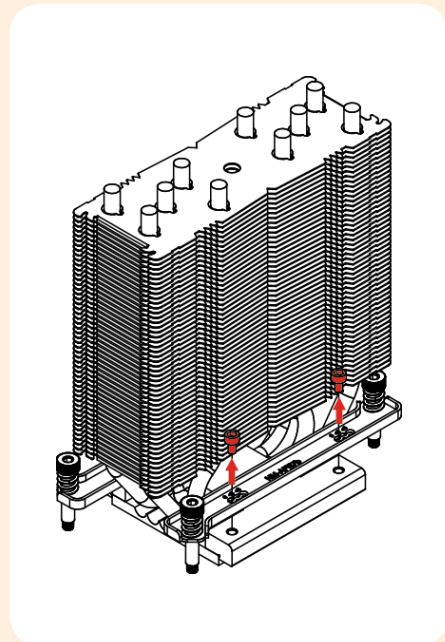
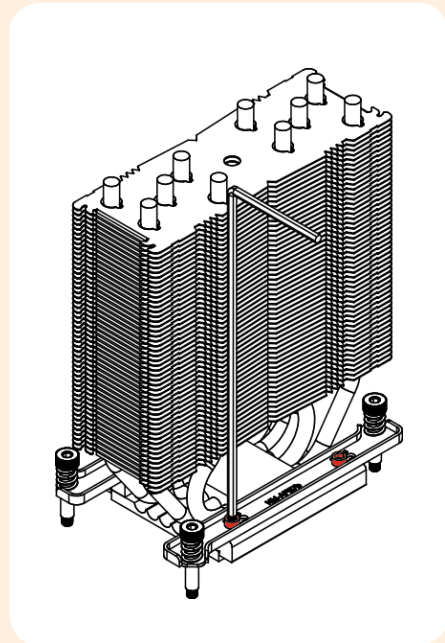
NM-SMT3 mounting tool

**Step 1**

**Offsetting the cooler to increase PCIe clearance**

If you would like to use a PCIe card in the top slot and the slot is located close to the CPU socket on your motherboard, test fit the cooler to the CPU socket in order to check if it comes too close to the back side of the card or overhangs the slot. If yes, you can offset the cooler towards the top side of the motherboard by either 3mm or 6mm for increased PCIe clearance.

In order to offset the cooler, please unscrew the NM-AFB7 fastening brackets and re-install them in the +3 (3mm offset) or +6 (6mm offset) position.



**Caution:** Gently tighten the screws until they stop, but don't use excessive force (max. torque 0.6 Nm).

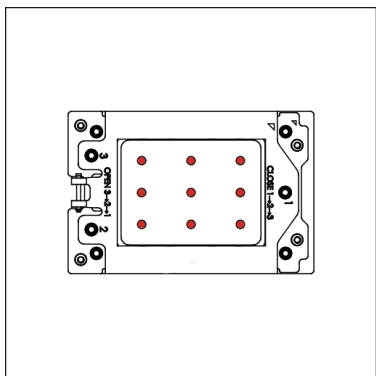


Step 2

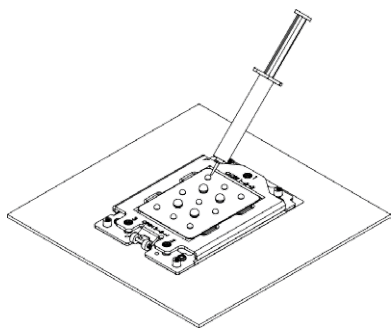
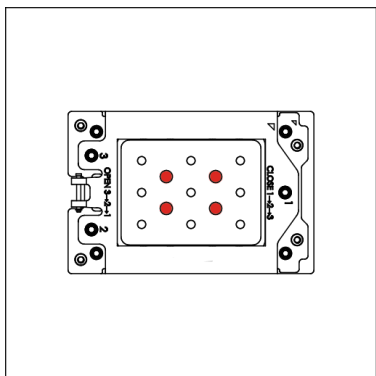
Applying thermal paste

If there are residual traces of thermal paste or thermal pads on your CPU, please clean them off first.

Then press 9 small drops (3-4mm diameter) of NT-H1 onto the heatspreader in a square 3x3 pattern as shown below:



Continue by adding 4 larger drops (5-6mm diameter) of NT-H1 in a square pattern at the center as shown below:

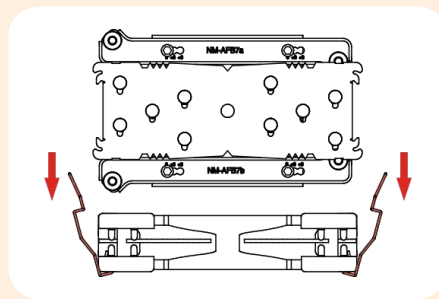


**Caution:** Applying too much thermal paste will lower heat conductivity and cooling performance!

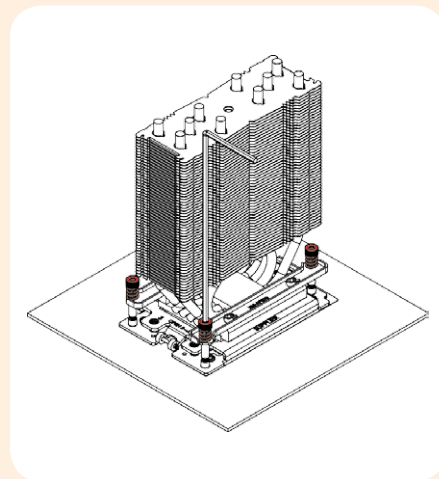
Step 3

Fastening the heatsink to the CPU

Please first take off the fan as well as the protection cover at the bottom side of the heatsink.

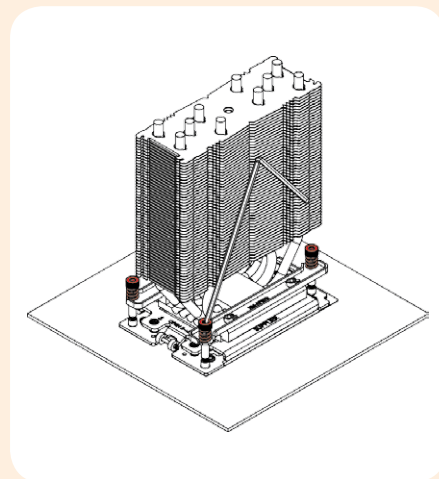


Then put the heatsink onto the CPU so that the four spring-loaded screws align with the threads of the CPU socket. Use the supplied mounting tool to tighten the screws. Perform 3 turns on each screw, then repeat until all are fully tightened.



**Caution:** Gently tighten the screws until they stop, but don't use excessive force (max. torque 0.6 Nm).

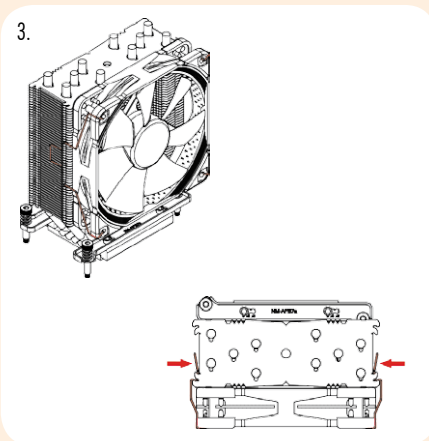
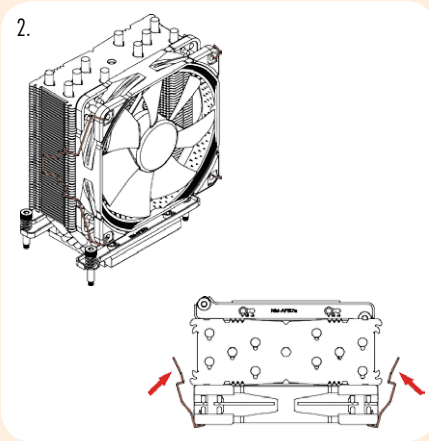
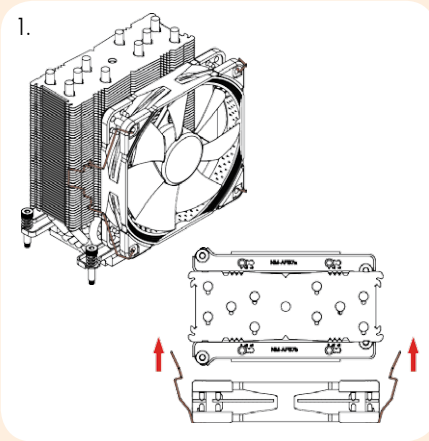
Note that you can tilt the mounting tool for reaching the screws in case they are blocked by the heatsink fins.



Step 4

Attaching the fan

Reattach the fan to the heatsink using the supplied steel clips:



Connect the fan to the motherboard's CPU fan header.

Depending on your CPU and the temperature inside the case, you may interconnect the supplied NA-RC6 Low-Noise Adapter (L.N.A.) in order to further reduce the fan's operating noise.



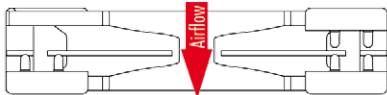
**Caution:** When using the L.N.A., check the temperature of your CPU using appropriate software (e.g. the respective applications of your mainboard manufacturer), in order to evade automatic throttling of the CPU due to the increased temperature. If the cooling performance is insufficient, please increase case ventilation or remove the L.N.A.

### Adding a second fan

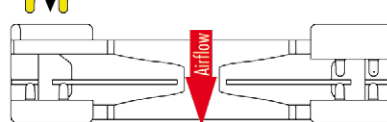
The NH-U12S includes an extra set of fan clips and an extra set of thicker anti-vibration pads for installing a second NF-F12 fan in push/pull mode in order to further improve cooling performance.

Please use the thicker anti-vibration pads on the rear NF-F12 fan for improved acoustics if space allows. The y-cable supplied with the retail NF-F12 fan can be used to control the speed of both fans via the same mainboard fan header.

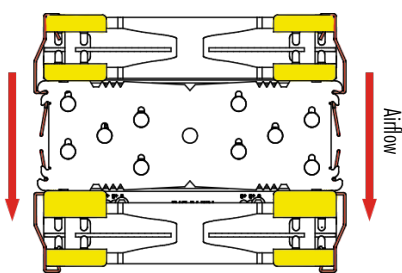
1. Remove standard pads on rear fan



2. Install thick pads on rear fan

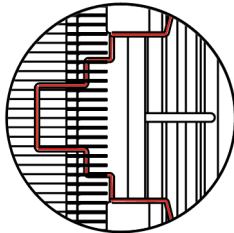


front fan (standard pads)

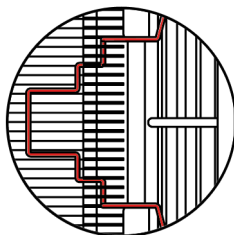


rear fan (thick pads)

Clip position for thick pads:



Clip position for standard pads:



While Noctua recommends using an NF-F12 fan for best results in dual fan mode, the extra set of fan clips can also be used to install most other fans. In this case, please put the supplied self-adhesive anti-vibration strips onto the heatsink to avoid vibrations being transmitted to the cooler.

### Should I take the cooler off before transporting my system?

As it is not possible to reliably calculate or control the forces that act upon a system during transport (e.g. in shipping), we generally recommend, for safety reasons, taking the fan off the heatsink in order to reduce the weight below 700g. Noctua cannot be held responsible for any damage that may arise due to excessive stress during transport if you keep the fan installed.

### Warranty, Support and FAQs

Even with high-grade products and strict quality control, the possibility of defects cannot be eliminated entirely. Therefore, we aim at providing the highest possible level of reliability and convenience by offering a warranty period of 6 years and direct, fast and straightforward RMA service.

Should you encounter any problems with your NH-U12S TR4-SP3, please don't hesitate to contact our support team ([support@noctua.at](mailto:support@noctua.at)).

Please also consult the FAQ section on our website: [www.noctua.at/faqs](http://www.noctua.at/faqs).