

Thermalright AX120 R SE

Thermalright Assassin X 120 R SE CPU Air Cooler Instruction Manual

Model: AX120 R SE

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your Thermalright Assassin X 120 R SE CPU Air Cooler. This high-performance air cooler is designed to efficiently dissipate heat from your CPU, ensuring stable and optimal system performance. It features 4 heat pipes and a TL-C12C PWM quiet fan with an S-FDB bearing, offering effective cooling with low noise levels. The cooler is compatible with various Intel and AMD platforms.

2. SAFETY INFORMATION

Please read and understand all safety instructions before installation and use. Failure to do so may result in damage to the product or other components.

- Ensure your computer system is powered off and unplugged from the wall outlet before beginning installation.
- Handle components with care to avoid damage.
- Keep thermal paste away from skin and eyes. In case of contact, rinse thoroughly with water.
- Do not attempt to modify the cooler or its components.
- If you are unsure about any step, consult a qualified technician or refer to online resources.

3. PACKAGE CONTENTS

Verify that all items listed below are present in your package:

- Thermalright Assassin X 120 R SE Heatsink
- TL-C12C PWM Fan (120mm)
- Intel Mounting Kit (LGA1700/115X/1200)
- AMD Mounting Kit (AM4/AM5)

- Fan Clips
- Thermal Compound
- Installation Manual (this document)



Image 3.1: Thermalright Assassin X 120 R SE CPU Air Cooler with included fan.

4. SETUP AND INSTALLATION

The installation process involves mounting the heatsink and fan onto your CPU. Ensure you have the correct mounting hardware for your CPU socket type (Intel LGA1700/115X/1200 or AMD AM4/AM5).

4.1. Installation Video Guide

For a visual guide, please refer to the official installation video below. While the video title mentions an ARGB series cooler, the core installation steps for the heatsink and fan are identical for the Assassin X 120 R SE model.

Your browser does not support the video tag.

Video 4.1: Installation tutorial for the Thermalright Assassin X 120 SE series CPU cooler. This video demonstrates the general mounting process for Intel LGA1700 sockets.

4.2. Step-by-Step Installation (Intel LGA1700 Example)

Follow these steps for installing the cooler on an Intel LGA1700 motherboard. Steps for other sockets will be similar, using the appropriate mounting hardware.

1. **Prepare Motherboard:** Place the Intel 1700 backplate on the backside of your motherboard, aligning it with the CPU socket holes.
2. **Install Standoffs:** From the front side of the motherboard, install the four Intel 1700 plastic standoffs into the backplate.
3. **Attach Mounting Brackets:** Secure the two metal mounting brackets onto the plastic standoffs using the provided Intel screws. Ensure the brackets are oriented correctly according to the LGA1700 mounting holes. Tighten them evenly.



Image 4.2: Installation of the Intel LGA1700 backplate and metal mounting brackets on the motherboard.

4. **Apply Thermal Compound:** Apply a small amount of thermal compound (thermal paste) to the center of your CPU's Integrated Heat Spreader (IHS). Use the included spreader or a similar tool to spread it into a thin, even layer across the entire surface.

Perfect match, fast heat dissipation

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Image 4.3: Demonstrating the application of thermal compound onto the CPU surface.

5. **Position Heatsink:** Remove the protective plastic sticker from the heatsink base. Carefully place the heatsink onto the CPU, aligning the mounting nuts on the heatsink with the screws on the metal brackets.
6. **Secure Heatsink:** Using a screwdriver, alternately tighten the nuts on both sides of the heatsink until it is firmly secured. Do not overtighten.
7. **Install Fan Clips:** Attach the fan clips to the TL-C12C PWM fan.



Image 4.4: The TL-C12C PWM fan, ready for clip installation.

8. **Mount Fan:** Using the fan clips, attach the fan to the heatsink. Ensure the fan is oriented to blow air through the heatsink fins towards the rear or top of your computer case.
9. **Connect Fan Cable:** Connect the fan's 4-pin PWM cable to the CPU_FAN header on your motherboard.
10. **Connect Lighting Cable (if applicable):** If your fan or cooler has RGB lighting (this model does not feature RGB), connect the lighting signal cable to the appropriate +5V ARGB 3PIN lighting socket on your motherboard.

5. OPERATION

Once installed, the Thermalright Assassin X 120 R SE CPU Air Cooler operates automatically. The TL-C12C PWM fan's speed is controlled by your motherboard based on CPU temperature, ensuring optimal cooling performance while minimizing noise.

- Ensure the fan cable is securely connected to the CPU_FAN header.
- Monitor CPU temperatures using system monitoring software to confirm proper cooling.
- Adjust fan curves in your motherboard's BIOS/UEFI settings if you wish to customize fan behavior (e.g., for quieter operation or maximum cooling).

6. MAINTENANCE

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

- **Dust Cleaning:** Periodically clean dust from the heatsink fins and fan blades using compressed air or a soft brush. Ensure the fan is not spinning during cleaning.
- **Thermal Paste:** The thermal compound typically lasts for several years. If you notice a significant increase in CPU temperatures, consider reapplying fresh thermal paste. This involves carefully removing the heatsink, cleaning off old thermal paste from both the CPU and heatsink base, and applying new thermal paste.
- **Fan Inspection:** Check the fan for any signs of wear or unusual noise. The S-FDB bearing is designed for long service life, but extreme conditions can affect it.

7. TROUBLESHOOTING

If you encounter issues with your CPU cooler, refer to the following common problems and solutions:

- **Fan Not Spinning:**
 - Check if the fan's 4-pin PWM cable is securely connected to the CPU_FAN header on the motherboard.
 - Verify fan settings in your motherboard's BIOS/UEFI.
 - Ensure the fan is not obstructed by cables or other components.
- **High CPU Temperatures:**
 - Confirm the heatsink is securely mounted and making good contact with the CPU.
 - Check if thermal paste was applied correctly and evenly. Reapply if necessary.
 - Ensure adequate airflow within your computer case.
 - Clean any dust accumulation on the heatsink fins and fan blades.
- **Excessive Noise:**
 - Check for loose fan clips or vibrations.
 - Adjust fan speed settings in your motherboard's BIOS/UEFI to a quieter profile.
 - Ensure no cables are touching the fan blades.

8. SPECIFICATIONS

Detailed technical specifications for the Thermalright Assassin X 120 R SE CPU Air Cooler:

Feature	Specification
CPU Cooler Dimensions	125(L) x 71(W) x 148(H) mm (4.92 x 2.8 x 5.83 inch)
Product Weight	0.645 kg (1.42 lb)
Heat Sink Material	Aluminum fins, Pure Copper Heat Pipes and Base, Nickel Plated
Heat Pipes	4 x 6mm (AGHP technique)

Feature	Specification
Fan Model	TL-C12C
Fan Dimensions	120 x 120 x 25 mm (4.72 x 4.72 x 0.98 inches)
Fan Speed (RPM)	1550 RPM \pm 10%
Air Flow	66.17 CFM (MAX)
Noise Level	\leq 25.6 dB(A)
Power Connector	4-Pin PWM
Voltage	12V DC
Fan Bearing	S-FDB Bearing
Compatibility	Intel: LGA115X/1200/1700/17XX, AMD: AM4/AM5









Image 8.1: Visual representation of the cooler's specifications and features, including AGHP technology and heat pipe design.

9. WARRANTY AND SUPPORT

Thermalright products come with a manufacturer's warranty. For specific warranty terms, duration, and to register your product, please visit the official Thermalright website or contact your local retailer. For technical support, troubleshooting assistance beyond this manual, or inquiries about replacement parts, please contact Thermalright customer service through their official channels.

Official Website: www.thermalright.com

	<p><u>Thermalright Peerless Assassin 120 Installation Guide</u></p> <p>Comprehensive installation guide for the Thermalright Peerless Assassin 120 CPU cooler, covering various Intel and AMD socket types.</p>
	<p><u>Thermalright Assassin X 120 V2 Installation Guide</u></p> <p>Detailed installation guide for the Thermalright Assassin X 120 V2 CPU cooler, covering AMD AM4/AM5 and Intel LGA115X/1200/1700 socket compatibility.</p>
	<p><u>Thermalright Assassin King 120 MINI V2 Installation Guide</u></p> <p>Comprehensive installation guide for the Thermalright Assassin King 120 MINI V2 CPU cooler, covering assembly and mounting for both Intel and AMD platforms.</p>
	<p><u>Thermalright Assassin King 120 SE CPU Cooler Installation Guide</u></p> <p>Official installation guide for the Thermalright Assassin King 120 SE CPU cooler, detailing compatibility with Intel LGA115x/1700 and AMD AM4 sockets, and outlining the mounting procedure.</p>
	<p><u>Thermalright Assassin Spirit 120 EVO CPU Cooler Installation Guide and Specifications</u></p> <p>Comprehensive guide for installing the Thermalright Assassin Spirit 120 EVO CPU Cooler. Features compatibility with Intel LGA1700/115x and AMD AM4/AM5 sockets, ARGB lighting, and detailed component descriptions.</p>
	<p><u>Thermalright Royal Knight 120 CPU Cooler Installation Guide</u></p> <p>Comprehensive installation guide for the Thermalright Royal Knight 120 CPU cooler, detailing compatibility and assembly steps for AMD AM4/AM5 and various Intel LGA sockets.</p>