Thermalright PEERLESS ASSASSIN 120 SE V2

Thermalright Peerless Assassin 120 SE V2 CPU Air Cooler Instruction Manual

Model: **PEERLESS ASSASSIN 120 SE V2** | Brand: **Thermalright**

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your Thermalright Peerless Assassin 120 SE V2 CPU Air Cooler. This high-performance cooler is designed to provide efficient heat dissipation for a wide range of Intel and AMD processors, ensuring stable system operation.

Thermalright Peerless Assassin 120 SE V2 CPU Air Cooler, showcasing its dual tower heatsink and two 120mm fans.

2. Package Contents

Please verify that all components are present before beginning installation:

- Thermalright Peerless Assassin 120 SE V2 Heatsink (Dual Tower)
- TL-C12C-X28 V2 120mm PWM Fans (x2)
- Fan Clips (for attaching fans to heatsink)
- Thermal Compound (syringe)
- CPU Fan Y-Cable (4-pin)
- Mounting Hardware for Intel Sockets (LGA 1851/1700/115X/1200)
- Mounting Hardware for AMD Sockets (AM4/AM5)

3. Technical Specifications

Detailed view of the Peerless Assassin 120 SE V2, highlighting the 28mm thick TL-C12C-X28 V2 fan, Counter-Gravity Heat Pipe Technology (AGHP GEN 6mm Heat Pipe), and 155mm high compatibility design.

Feature	Specification
Cooler Dimensions (L x W x H)	125 mm x 135 mm x 155 mm (without fan)
Heat Pipes	6 x 6mm copper heat pipes (AGHP GEN 5.0 Technology)
Copper Base	C1100 Pure copper, nickel plated
Fan Model	TL-C12C-X28 V2 (x2)
Fan Dimensions (L x W x H)	120 mm x 120 mm x 28 mm
Rated Fan Speed	1850 RPM ±10% (MAX)
Noise Level	29.5 dBA (MAX)
Air Flow	88.89 CFM (MAX)
Air Pressure	2.21 mm H2O (MAX)

Feature	Specification
Fan Ampere	0.30 A
Fan Connector	4-Pin PWM
Bearing Type	S-FDB Bearing
TDP	Up to 265W
Material	Aluminum (fins), Copper (heat pipes, base)
Item Weight	3.14 pounds

4. CPU Socket Compatibility

The Thermalright Peerless Assassin 120 SE V2 CPU Air Cooler supports the following CPU sockets:

- **Intel:** LGA 1851, LGA 1700, LGA 1200, LGA 115X (1150, 1151, 1155, 1156)
- **AMD:** AM4, AM5

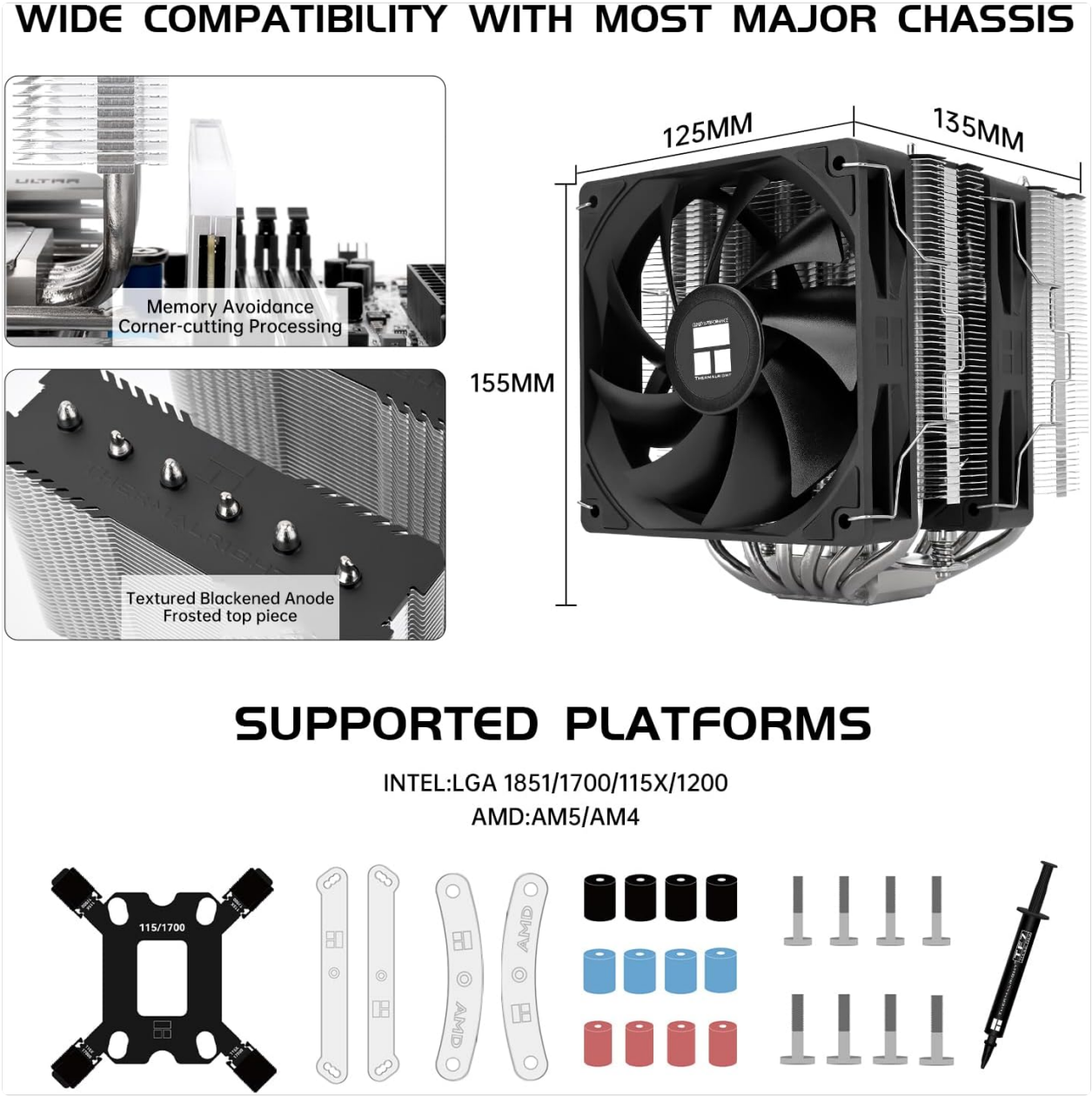


Image displaying the wide compatibility of the cooler with various CPU sockets and the included mounting hardware for different platforms.

5. Installation Guide

Before starting, ensure your system is powered off and unplugged. It is recommended to work on a clean, static-free surface. Refer to the video below for a visual guide.

Official installation guide for the Thermalright Peerless Assassin 120 Series CPU Air Cooler, demonstrating the step-by-step process for mounting on compatible motherboards.

5.1. Preparation

1. Remove your existing CPU cooler and clean any old thermal paste from the CPU and cooler contact surface using isopropyl alcohol.
2. Identify the correct mounting hardware for your CPU socket (Intel or AMD).

5.2. AMD AM4/AM5 Installation

1. **Remove Original Brackets:** Unscrew and remove the original plastic retention brackets from around the CPU socket.

Remove the original AMD plastic bracket.

2. **Keep Backplate:** Ensure the original AMD backplate remains in place behind the motherboard.

Keep the AM4 backplate.

3. **Install Standoffs:** Place the four red plastic standoffs onto the backplate screws.

Install four AM4 plastic standoffs.

4. **Attach Metal Brackets:** Secure the two metal AM4 brackets onto the plastic standoffs using the four AM4 screws.

Install two metal AM4 brackets and secure with four AM4 screws.

5.3. Intel 115X/1200/1700/1851 Installation

1. **Attach Backplate:** Stick the Intel 115X/1200 backplate onto the back of the motherboard, aligning the holes.

Stick Intel 115X/1200 back plate on back side of motherboard.

2. **Install Standoffs:** Place the four black plastic standoffs onto the backplate screws.

Install four Intel 115X/1200 plastic standoffs.

3. **Attach Metal Brackets:** Secure the two metal 115X/1200 brackets onto the plastic standoffs using the four 115X/1200 screws.

Install two metal 115X/1200 brackets and secure with four 115X/1200 screws.

5.4. Heatsink Mounting

1. **Apply Thermal Compound:** Apply a small amount of thermal compound to the center of your CPU's integrated heat spreader (IHS). A pea-sized dot or a thin line is generally sufficient.

Apply thermal compound on CPU.

2. **Remove Protective Sticker:** Peel off the protective plastic sticker from the heatsink's copper base.

Remove protective plastic sticker.

3. **Place Heatsink:** Carefully place the heatsink onto the CPU, aligning the mounting nuts with the screws on the brackets. Be aware of the heatsink's mounting direction.

Put Heatsink on CPU.

4. **Secure Heatsink:** Use a screwdriver to tighten both screws evenly until the heatsink is firmly secured. Do not overtighten.

Align mounting nuts with screws on brackets and tighten both screws with screwdriver.

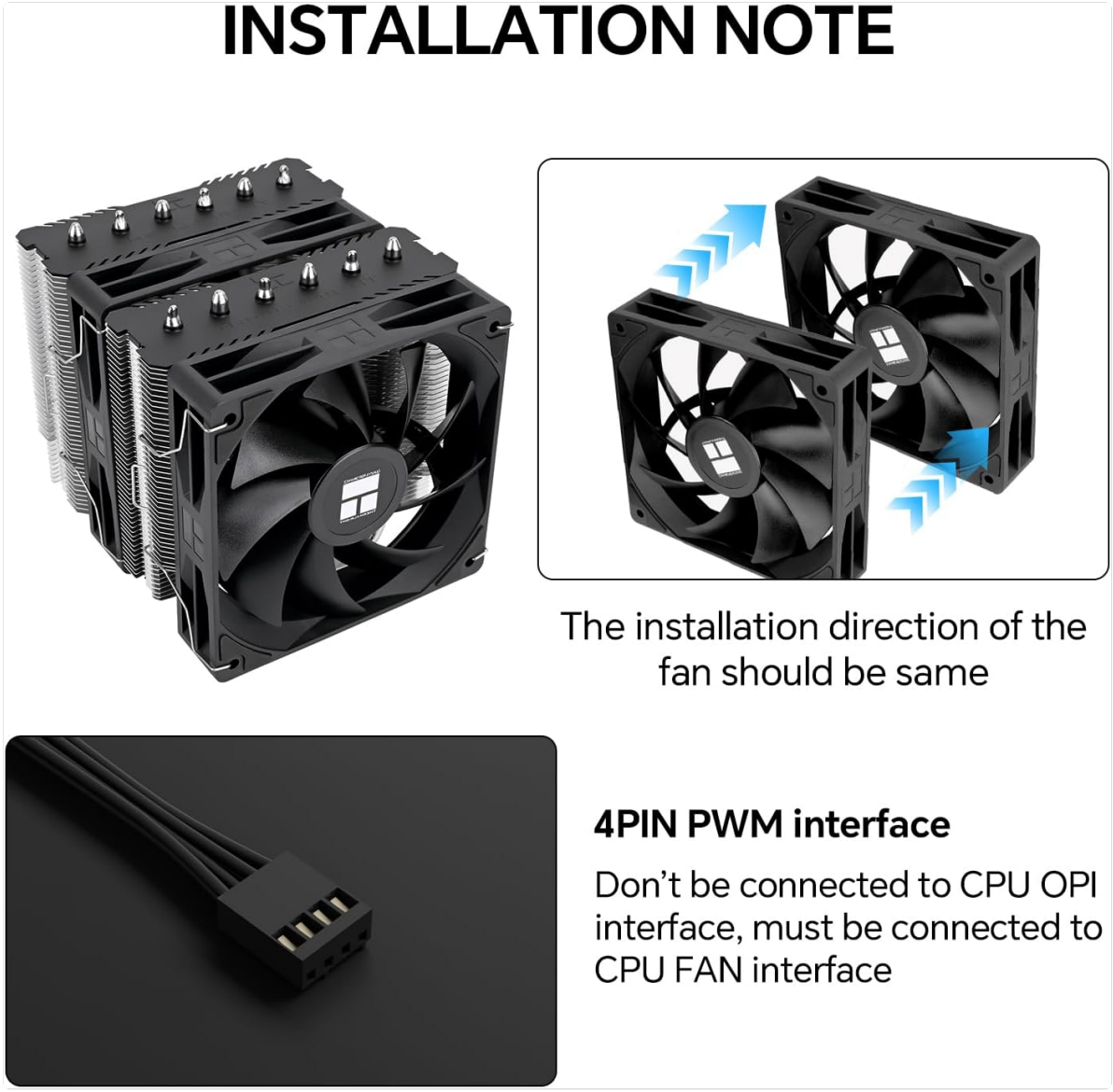
5.5. Fan Installation

1. **Attach Fan Clips:** Install the fan wires (clips) onto both 120mm fans.

Install fan wires on both fans.

2. **Mount Fans:** Clip both fans onto the heatsink using the fan clips. Ensure the fans are oriented correctly for optimal airflow (typically blowing air through the heatsink towards the rear exhaust of your case).

Install both fans with fan clips on heatsink.



The installation direction of the fan should be the same for both fans to ensure proper airflow.

3. **Connect Fan Cables:** Connect both fan cables to the provided 4-pin PWM Y-cable. Then, connect the Y-cable to the CPU FAN header on your motherboard. Do not connect to CPU OPI interface.

Connect both fan cables on fan Y-Cable.

Install Fan Y-Cable on CPU FAN socket on motherboard.

6. Operating Instructions

The Thermalright Peerless Assassin 120 SE V2 utilizes PWM (Pulse Width Modulation) fans. This technology allows your motherboard to dynamically control the fan speed based on CPU temperature, providing an optimal balance between cooling performance and noise levels.

- **BIOS/UEFI Settings:** Access your motherboard's BIOS/UEFI settings to configure the CPU fan curve. You can typically set a target temperature and corresponding fan speeds to customize performance.
- **Software Control:** Some motherboards offer software utilities within the operating system to adjust fan speeds and monitor temperatures.

Diagram illustrating the airflow through the dual TL-C12C-X28 V2 performance fans, showing increased air movement for better heat dissipation. Fan specifications are also listed.

7. Maintenance

Regular maintenance ensures optimal performance and longevity of your CPU cooler.

- **Dust Cleaning:** Periodically clean dust from the heatsink fins and fan blades using compressed air or a soft brush. Ensure fans are not spinning during cleaning to prevent damage.
- **Thermal Paste:** Thermal paste 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 old paste, and applying new paste as per installation instructions.
- **Fan Inspection:** Check fan blades for any obstructions or signs of wear. If a fan becomes excessively noisy or stops spinning, it may need replacement.

8. Troubleshooting

- **High CPU Temperatures:**
  - Ensure the heatsink is securely mounted and making good contact with the CPU.

- Verify that thermal paste was applied correctly and evenly.
- Check fan connections to the motherboard and ensure they are spinning.
- Clean any dust buildup on the heatsink and fans.
- Adjust fan curves in BIOS/UEFI for more aggressive cooling if necessary.

- **Excessive Fan Noise:**
  - Check for obstructions hitting the fan blades.
  - Adjust fan curves in BIOS/UEFI to reduce fan speed at lower temperatures.
  - Ensure fans are securely attached to the heatsink.

- **Fans Not Spinning:**
  - Verify the 4-pin PWM Y-cable is correctly connected to both fans and the CPU FAN header on the motherboard.
  - Check BIOS/UEFI settings to ensure fan control is enabled and not set to 0 RPM.

9. Warranty and Support

Thermalright products are manufactured to high-quality standards. For warranty information, technical support, or service inquiries, please refer to the official Thermalright website or contact their customer support directly. Please retain your proof of purchase for warranty claims.