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› Thermalright Peerless Assassin 120 Digital White CPU Cooler Instruction Manual

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Brand: Thermalright

PRODUCT OVERVIEW

The Thermalright Peerless Assassin 120 Digital White CPU Cooler is an advanced air cooling solution designed for efficient heat dissipation in high-performance computing systems. It features a dual-tower heatsink design, dual fans, and a magnetic top cover with a digital display board. This cooler is engineered to maintain optimal CPU temperatures, ensuring stable and reliable operation for both gaming and professional applications.

Key features include 6x6mm heatpipes with AGHP technology for effective heat transfer, a precision reflow soldering micro-carved copper base, and S-FDB bearings in the fans for long life and quiet operation. The integrated digital display provides real-time CPU and GPU temperature and usage information, which can be customized via TRCC control software.



Figure 1: Thermalright Peerless Assassin 120 Digital White CPU Cooler with its magnetic display board showing CPU and GPU temperatures and usage percentages.

COMPONENTS

Before beginning installation, please verify that all components listed below are present in your package.

- Heatsink with pre-installed digital display top cover
- 2x 120mm TL-C12CW-X28 V2 ARGB Fans
- Intel Mounting Brackets (2x)
- AMD Mounting Brackets (2x)
- Intel LGA115X/1200 Spacers (4x)
- Intel LGA1851/1700 Spacers (4x)
- AMD AM4/AM5 Spacers (4x)
- Intel Screws (4x)
- AMD Screws (4x)
- Fan Y-Cable (1x)

- Thermal Compound (1x tube)
- 12cm Fan Clips (4x)
- Intel 115X/1700 Backplate (1x)

COOLING CPU WITH EASE



AGHP GEN HEATPIPE TECHNOLOGY + DUAL
PERFORMANCE FAN



Dual Tower Design



Dual Powerful Fans



Figure 2: Illustration of the dual tower heatsink and dual powerful fans, highlighting the cooling capabilities.

SETUP AND INSTALLATION

This section provides detailed instructions for installing your Thermalright Peerless Assassin 120 Digital White CPU Cooler. Please follow the steps carefully for proper installation and optimal performance.

Installation Video Guide

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Video 1: Official installation guide for Thermalright Peerless Assassin 120 Digital CPU Cooler Series. This video demonstrates the step-by-step process for both Intel and AMD platforms, including mounting bracket installation, thermal compound application, and fan attachment.

Step-by-Step Installation

1. Prepare the Motherboard

For Intel LGA1700/1851 motherboards: Adjust the backplate mounting hole position to 1700. Install the backplate from the back side of the motherboard. Place the blue LGA1700/1851 spacers onto the backplate from the front side. Install the metal brackets on these spacers using the Intel screws, ensuring the screws pass through the LGA1700/1851 holes on the brackets. Secure the metal brackets with four Intel screws.

For AMD AM5/AM4 motherboards: Remove the motherboard's plastic brackets. Keep the motherboard's original backplate. Install four pink AMD spacers onto the motherboard. Install two metal brackets on these spacers using the AMD screws. Secure the brackets with a screwdriver.



CPU Compatibility:

INTEL: LGA1851/1700/115X/1200
AMD: AM5/AM4

Figure 3: Image illustrating the CPU compatibility for various Intel and AMD sockets.

2. Apply Thermal Compound

Apply a small amount of thermal compound (included) onto the center of the CPU's Integrated Heat Spreader (IHS). A pea-sized dot is generally sufficient. This ensures optimal heat transfer between the CPU and the heatsink.

3. Prepare and Mount Heatsink

Before mounting, remove the magnetic top panel from the heatsink. Also, remove the protective sticker from the heatsink's copper base. Carefully place the heatsink onto the CPU, aligning the heatsink bracket nuts with the screws on the installed brackets. Tighten both nuts on the bracket with a screwdriver to apply mounting pressure evenly. Ensure the heatsink is firmly seated and does not wobble.

AGHP TECHNOLOGY

Adopt AGHP 6×6mm anti-gravity heat pipe to solve the effect of anti-gravity in vertical and horizontal directions.

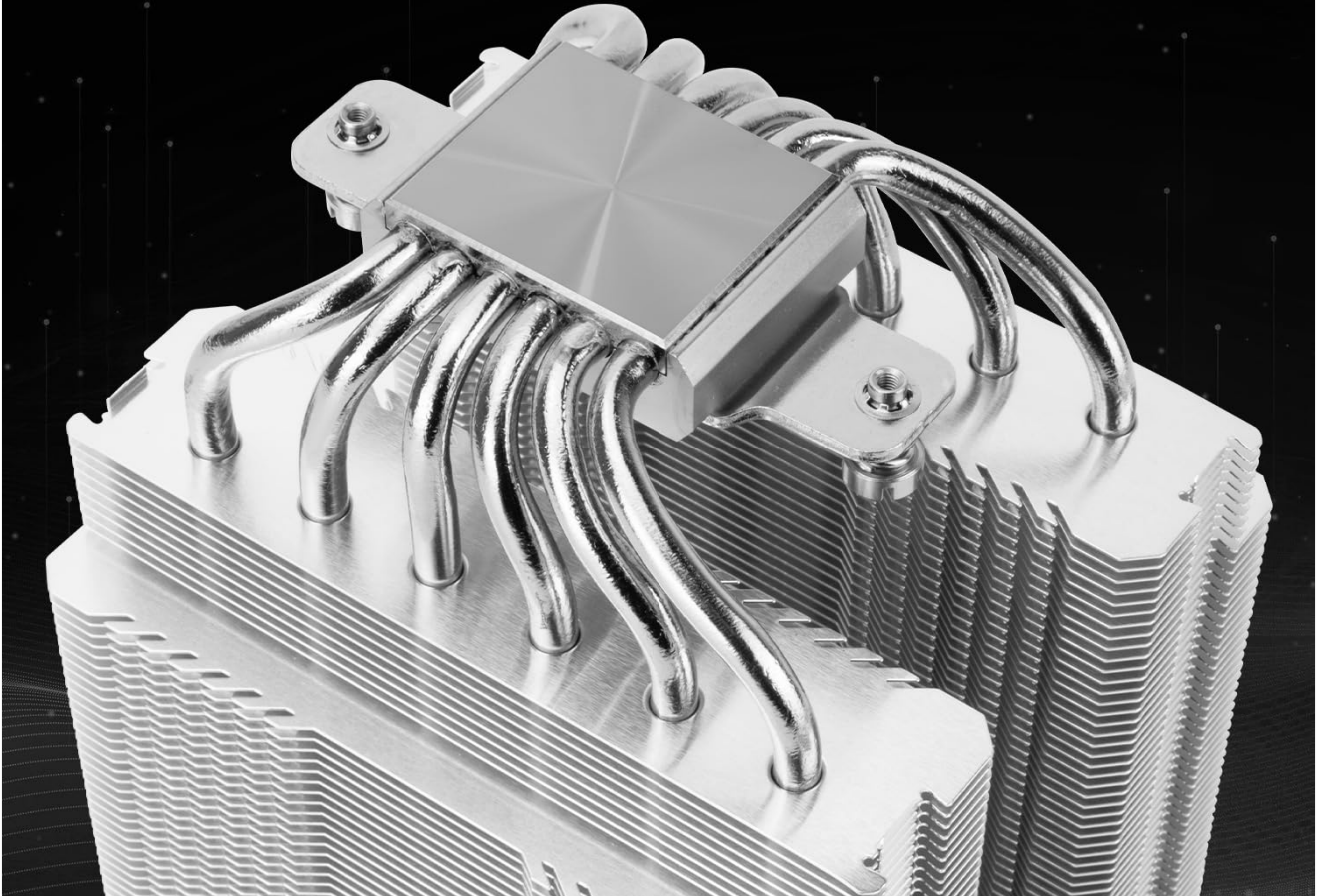


Figure 4: Close-up view of the AGHP (Anti-Gravity Heat Pipe) technology, showcasing the 6x6mm heat pipes designed for efficient heat transfer regardless of orientation.

4. Install Fans

Install the fan clips onto the two 120mm fans. Attach the fans to the heatsink using the installed fan clips. Ensure the fans are oriented correctly for optimal airflow (typically blowing air through the heatsink fins towards the rear of the case).

5. Connect Cables

Connect each fan's 4-pin connector to the fan Y-cable to synchronize fan speed. Connect the fan Y-cable to the motherboard's CPU_FAN header. For ARGB models, connect the 3-pin ARGB headers to sync lighting effects. Connect the ARGB lighting cable to the motherboard's +5V ARGB header for lighting control. Finally, connect the USB cable to a USB 2.0 header on the motherboard to enable the digital display functionality and software control.

6. Reinstall Top Panel

Once all connections are made, reinstall the magnetic top panel back onto the heatsink.

OPERATING INSTRUCTIONS

The Thermalright Peerless Assassin 120 Digital White CPU Cooler operates automatically once installed and connected. The fans will adjust their speed based on CPU temperature, controlled by the motherboard's PWM signal.

To fully utilize the digital display's features, including color switching of temperature numbers and advanced monitoring, download and install the TRCC control software from the official Thermalright website. This software allows for customization and detailed data access.

MAINTENANCE

- **Dust Removal:** Periodically clean the heatsink fins and fan blades to prevent dust buildup, which can impede airflow and reduce cooling efficiency. Use compressed air or a soft brush.
- **Thermal Compound:** Reapply thermal compound every 2-3 years, or if the cooler is removed and reinstalled, to ensure optimal heat transfer.
- **Fan Inspection:** Check fan blades for any damage or obstructions. Ensure fan cables are securely connected.

TROUBLESHOOTING

- **No Fan Spin:**
 - Check if the fan Y-cable is securely connected to both fans and the motherboard's CPU_FAN header.
 - Ensure the motherboard's CPU_FAN header is enabled in the BIOS/UEFI.
- **High CPU Temperatures:**
 - Verify that the heatsink is properly mounted and making full contact with the CPU.
 - Check if thermal compound was applied correctly and evenly.
 - Ensure adequate airflow within the PC case.
 - Clean any dust buildup on the heatsink fins and fan blades.
- **Digital Display Not Working/Incorrect Readings:**
 - Ensure the USB cable is securely connected to the heatsink and a USB 2.0 header on the motherboard.
 - Verify that the TRCC control software is installed and running.
 - Check for any software updates for the TRCC application.
- **ARGB Lighting Issues:**
 - Confirm the ARGB cable is correctly connected to the motherboard's +5V ARGB header.
 - Check the motherboard's RGB control software for lighting settings.

SPECIFICATIONS

Feature	Detail
Model	Peerless Assassin 120 Digital White
Overall Size	138x125x162mm (L x W x H)
Fan Size	120x120x28mm

Feature	Detail
Fan Speed	1850RPM \pm 10% (MAX)
Wind Pressure	2.21mm H ₂ O
Air Volume	88.89CFM
Operating Noise	\leq 25.6DB (A)
Fan Power Supply Interface	4PIN PWM
Fan Bearing	S-FDB bearings
Heat Pipes	6x6mm pure copper with AGHP 5.0 technology
Compatible Platforms	AMD: AM4/AM5; Intel: LGA1851/1700/1150/1151/1155/1156/1200
Material	Aluminum (fins), Copper (base, heatpipes)

Peerless Assassin 120 DIGITAL WHITE DIMENSION

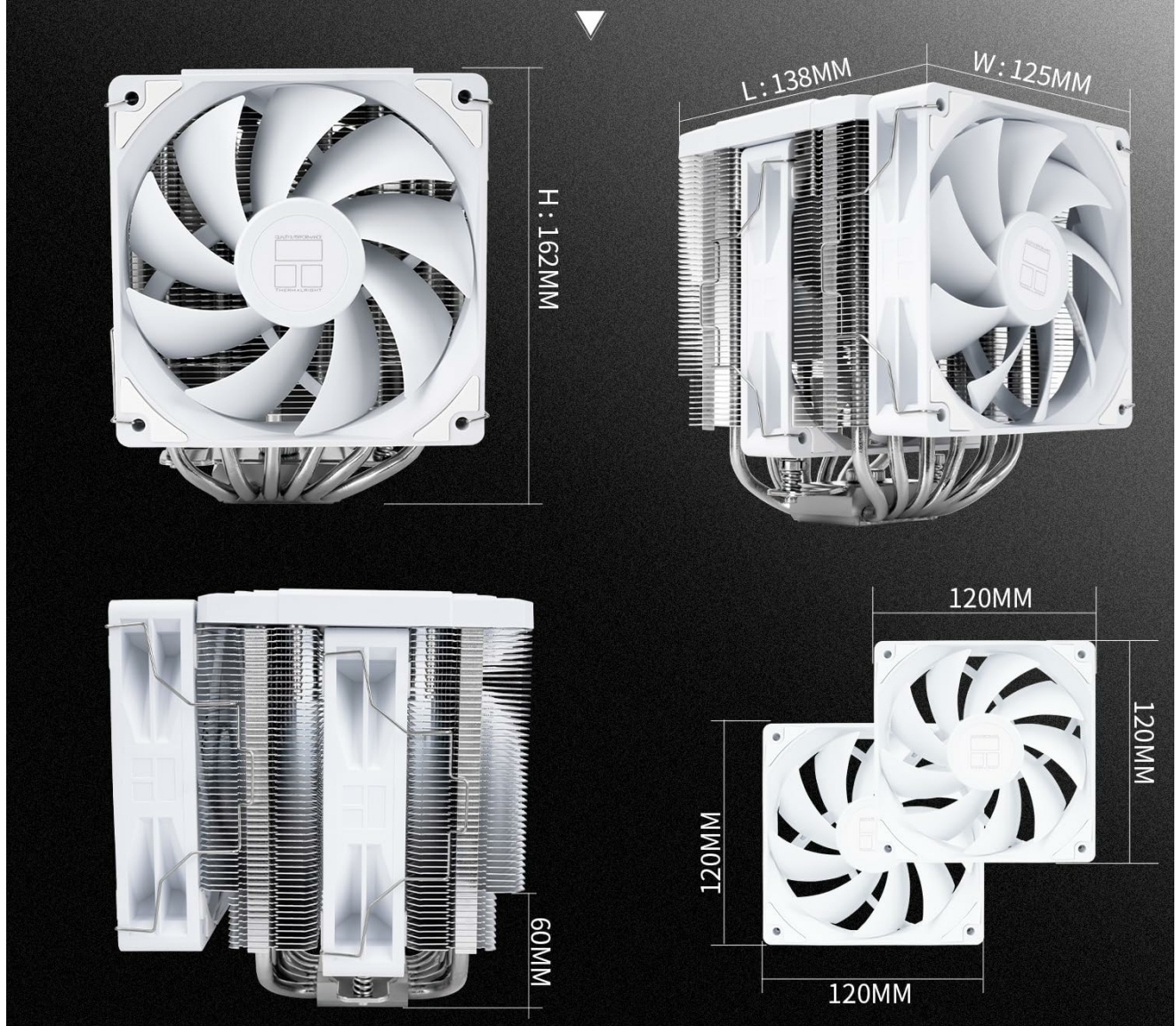


Figure 5: Detailed dimensions of the Peerless Assassin 120 Digital White CPU Cooler.

WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact Thermalright customer support directly. You may also visit the official Thermalright website for the latest drivers, software (such as TRCC control software), and support resources.

Please retain your proof of purchase for warranty claims.