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Thermalright PA120 Vision MAX ARGB

Thermalright Peerless Assassin 120 Vision MAX ARGB CPU Cooler User Manual

Model: PA120 Vision MAX ARGB

1. INTRODUCTION

The Thermalright Peerless Assassin 120 Vision MAX ARGB CPU Cooler is a high-performance dual-tower air cooler designed for efficient heat dissipation in modern computing systems. It features a 5-inch LCD screen for customizable display options and two TL-K12 120mm PWM ARGB fans. This manual provides detailed instructions for installation, operation, and maintenance to ensure optimal performance and longevity of your cooler.

2. SAFETY INFORMATION

- Always disconnect power from your computer before installing or performing maintenance on the CPU cooler.
- Handle components with care to avoid damage. Sharp edges may be present on heatsink fins.
- Keep out of reach of children.
- Ensure proper grounding to prevent electrostatic discharge (ESD) damage to sensitive components.
- Do not modify the product. Unauthorized modifications may void your warranty and pose safety risks.

3. PACKAGE CONTENTS

Verify that all components are present in the package:

- 1 x Thermalright Peerless Assassin 120 Vision MAX ARGB CPU cooler (heatsink with LCD top cover)
- 2 x TL-K12 120 mm PWM ARGB fans
- 1 x Mounting kit for Intel and AMD platforms
- 1 x User manual / installation guide (this document)

4. SETUP AND INSTALLATION

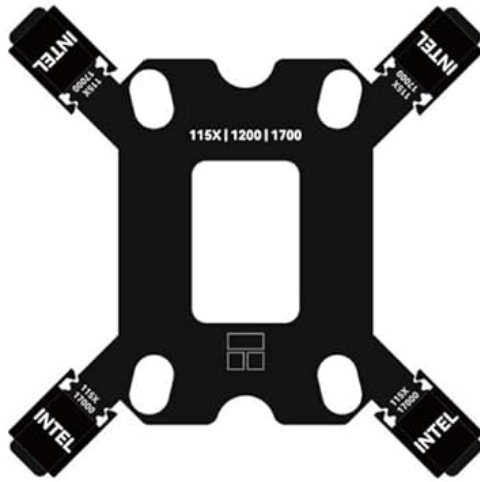
4.1 Pre-Installation Checks

- **Case Compatibility:** Ensure your PC case supports a CPU cooler height of at least 164 mm.
- **Motherboard Headers:** Confirm your motherboard has a free 4-pin CPU fan header, a 3-pin 5V ARGB header, and a 9-pin USB 2.0 header available.
- **Thermal Paste:** The included thermal grease (TF7) is suitable for effective application.

4.2 General Installation Steps

1. Prepare your motherboard by removing any existing CPU cooler and cleaning the CPU surface thoroughly.
2. Identify the correct mounting hardware for your CPU socket (Intel LGA115X/1200/1700/1851 or AMD AM4/AM5). Refer to the detailed mounting kit diagram below.
3. Install the backplate (if required for your socket) and standoffs onto the motherboard.
4. Apply a small amount of thermal paste to the center of the CPU's integrated heat spreader (IHS).
5. Carefully place the heatsink onto the CPU, ensuring even contact.
6. Secure the heatsink with the appropriate mounting brackets and screws, tightening them in an alternating pattern to ensure even pressure.
7. Attach the two TL-K12 fans to the heatsink using the provided clips. Ensure the airflow direction is correct (typically blowing towards the rear of the case).
8. Connect the 4-pin PWM fan connectors to the CPU_FAN headers on your motherboard. If using a Y-splitter, note that some motherboards may not detect individual fan speeds.
9. Connect the 3-pin 5V ARGB connectors to the ARGB headers on your motherboard.
10. Connect the LCD display's 9-pin USB 2.0 header cable to an available USB 2.0 header on your motherboard.
11. Route all cables to avoid contact with fan blades and other moving parts inside the case.

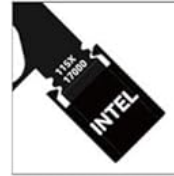
Complete SS2 buckle system



115X | 1200
Internal push

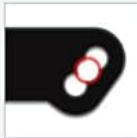


1851 | 1700
External pull



Under the Limin SS2 buckle system
Except for AK120 MINI TS120 MINI TA120EX
MINITA140EX, all other radiators using the SS2
buckle system can achieve water-cooled and
air-cooled shared cooling of all parts in the
buckle package

LGA1851 1700



LGA1851 1700
bracket Use the
middle hole



Blue adhesive
column * 4



INTEL Nut cap* 4

LGA115X 1200



LGA115X 1200
bracket Use inner hole



Black adhesive
pillar * 4



INTEL Nut cap* 4

TF7 silicone grease comes standard
and is suitable for effective application



*Thermal conductivity
coefficient 12.8W/MK

AMD: AM5、AM4



Attention: AMD motherboards should be installed
using the original motherboard backplane



Red adhesive
pillar * 4



AMD Screw* 4

Figure 1: Mounting Kit Components for Intel and AMD Platforms. This image shows the various brackets, screws, and pillars

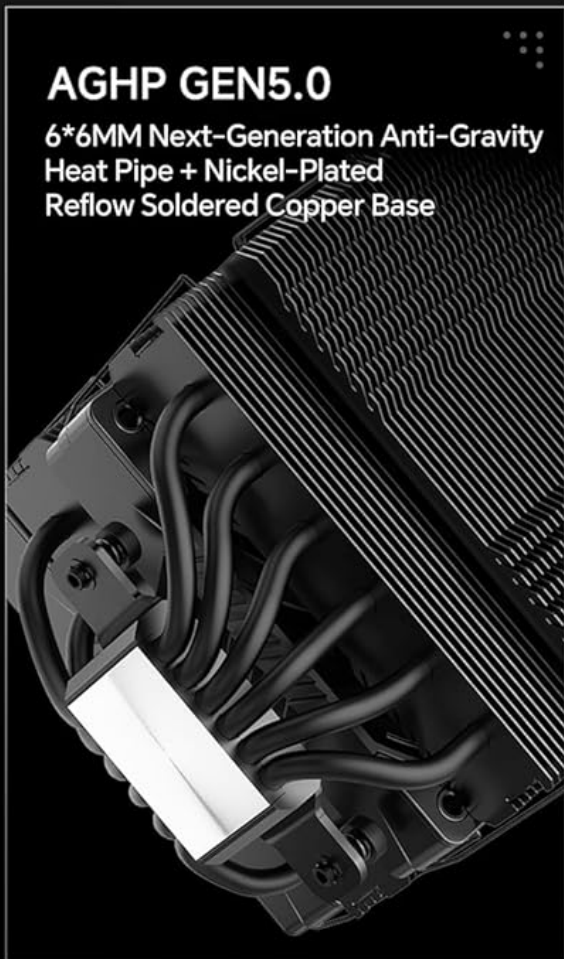
required for installing the cooler on different CPU sockets, including Intel LGA1851, 1700, 115X, 1200, and AMD AM4, AM5.



**JUE SHUANG ASSASSIN 120 MAX
SCREEN EDITION**

5-Inch Large Display Screen
480*854 resolution IPS LCD screen

AGHP GEN5.0
6*6MM Next-Generation Anti-Gravity
Heat Pipe + Nickel-Plated
Reflow Soldered Copper Base



Magnetic screen display top cover
Customized playback
of animated videos



**ARGB Embellishment,
High-Performance Dual Fan**






Figure 2: Cooler Compatibility and Clearance. This diagram illustrates how the cooler fits within a standard ATX chassis, emphasizing clearance for RAM modules, the overall 164mm height, and avoiding interference with the graphics card.

5. OPERATING INSTRUCTIONS

5.1 Power On and Initial Boot

After successful installation, power on your computer. The fans should begin spinning, and the ARGB lighting should illuminate. The LCD screen will typically display a default animation or system information upon boot.

5.2 LCD Screen Functionality

The 5-inch LCD screen (480 x 854 resolution) on the top cover supports displaying system themes, logos, videos, and animated images. To customize the display, you will need to install the dedicated Thermalright software (usually available for download from the official Thermalright website). This software allows you to:

- Upload custom images and GIFs.
- Display real-time system information (CPU temperature, usage, etc.).
- Adjust screen brightness and orientation.

15:30

5-INCH HIGH-QUALITY SCREEN DISPLAY

Support personalized image animation display, with IPS panel screen accurately reproducing true colors , It is solid and fine, with good visual angle stability



Figure 3: Customizable LCD Display. This image shows the 5-inch IPS LCD screen integrated into the cooler, capable of displaying personalized images, animations, and system data with high quality.

5.3 Fan Control (PWM)

The TL-K12 fans are PWM (Pulse Width Modulation) controlled. Their speed will automatically adjust based on CPU temperature, as managed by your motherboard's BIOS/UEFI settings or dedicated fan control software. You can typically configure fan curves in your motherboard's BIOS to optimize for noise or cooling performance.

5.4 ARGB Lighting Control

The ARGB lighting of the fans is controlled via the 3-pin 5V ARGB header connected to your motherboard. You can synchronize the lighting with other ARGB components in your system using your motherboard's RGB software (e.g., ASUS Aura Sync, MSI Mystic Light, Gigabyte RGB Fusion, ASRock Polychrome Sync).

6. MAINTENANCE

6.1 Cleaning the Heatsink and Fans

Regular cleaning helps maintain optimal cooling performance. It is recommended to clean the cooler every 6-12 months, or more frequently in dusty environments.

- Disconnect power from your computer.
- Carefully remove the fans from the heatsink.
- Use compressed air to blow dust out of the heatsink fins. Hold the can upright to prevent propellant discharge.
- Wipe fan blades and frames with a soft, dry cloth. Avoid using liquid cleaners directly on electronic components.
- Reattach the fans securely.

6.2 Thermal Paste Reapplication

Over time, thermal paste can dry out, reducing its effectiveness. If you notice a significant increase in CPU temperatures, consider reapplying thermal paste. This involves removing the heatsink, cleaning off old thermal paste from both the CPU and cooler base, and applying a fresh layer.

QUICK DISASSEMBLY AND ASSEMBLY, MAGNETIC COVER DESIGN



No need for screw fixation, quick-release and quick-installation magnetic top cover



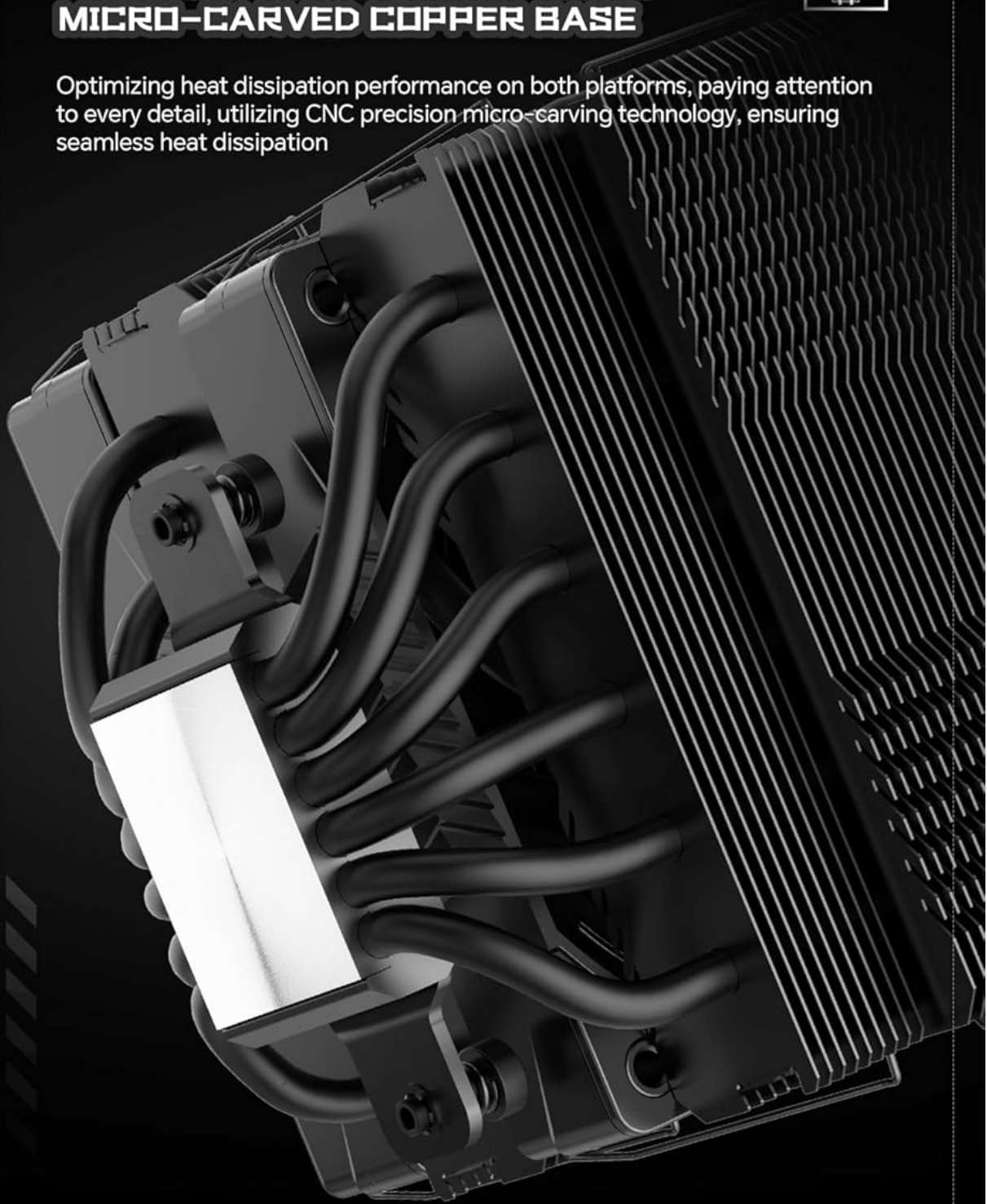
PEERLESS ASSASSIN 120 VISION
MAX ARGB BLACK

Figure 4: Magnetic Top Cover for Easy Access. This image highlights the magnetic design of the cooler's top cover, allowing for quick disassembly and assembly for maintenance or customization.

PRECISION REFLOW SOLDERING MICRO-CARVED COPPER BASE



Optimizing heat dissipation performance on both platforms, paying attention to every detail, utilizing CNC precision micro-carving technology, ensuring seamless heat dissipation



PEERLESS ASSASSIN 120 VISION
MAX ARGB BLACK



Figure 5: Precision Reflow Soldering Copper Base. A close-up view of the nickel-plated C1100 pure copper base and six 6mm heat pipes, demonstrating the micro-carved design and reflow soldering for efficient heat transfer.

7. TROUBLESHOOTING

7.1 Fans Not Spinning

- **Check Connections:** Ensure the 4-pin PWM fan cables are securely connected to the motherboard's CPU_FAN headers.
- **BIOS Settings:** Verify that fan control settings in your motherboard's BIOS are configured correctly and not set to 'off' or a very low RPM at idle temperatures.
- **Power Supply:** Ensure your power supply is providing adequate power to the motherboard and components.

7.2 LCD Screen Not Displaying

- **Check USB Connection:** Ensure the 9-pin USB 2.0 header cable from the LCD is firmly connected to an available USB 2.0 header on your motherboard.
- **Software Installation:** Install the Thermalright LCD control software from the official website.
- **Driver Issues:** Check Device Manager for any unrecognized USB devices or driver conflicts.

7.3 Poor Cooling Performance / High CPU Temperatures

- **Thermal Paste Application:** Ensure thermal paste was applied correctly and evenly. Reapply if necessary.
- **Heatsink Contact:** Verify that the heatsink base makes firm, even contact with the CPU's IHS. Check for any obstructions or uneven mounting pressure.
- **Fan Orientation:** Confirm that the fans are oriented correctly to pull air through the heatsink and exhaust it from the case.
- **Case Airflow:** Ensure adequate airflow within your PC case. Poor case ventilation can hinder cooler performance.
- **Dust Buildup:** Clean the heatsink and fans as described in the Maintenance section.

7.4 ARGB Lighting Not Working

- **Check ARGB Connection:** Ensure the 3-pin 5V ARGB cables are securely connected to the motherboard's ARGB headers.
- **Motherboard Software:** Use your motherboard's RGB control software to manage and troubleshoot ARGB lighting.
- **Compatibility:** Verify that your motherboard's ARGB header is 5V (3-pin) and not 12V (4-pin), as connecting to the wrong header can cause damage.

8. SPECIFICATIONS

JUE SHUANG ASSASSIN 120 MAX SCREEN EDITION



164MM height dark nano-coating
spraying twin towers

5-inch IPS magnetic quick-release
screen top cover

Seiko micro-carving reflow
soldering copper base

TL-K12 performance fan

Basic Parameters ▼

Size	L 125 * W 110 * H 164MM
Material	Pure copper heat pipe + aluminum fins

Supported Platforms ▼

INTEL: LGA: 1851 | 1700 | 115X | 1200
AMD: AM5 | AM4

Fan Parameters (TL-K12)

Fan size	120MM * 120MM * 25MM
fan speed	2150 RPM±10% (MAX)
wind pressure	2.87MM H ₂ O(MAX)
fan air volume	69 CFM (MAX)
operating noise	≤27 DB(A)
fan interface	4PIN PWM
fan bearing	S-FDB BEARING V2
Lighting interface	+5V 3PIN ARGB

Figure 6: Product Dimensions and Fan Parameters. This image provides a visual representation of the cooler's overall dimensions and detailed specifications for the TL-K12 fans.

8.1 Heatsink

- **Dimensions:** 125 (L) x 110 (W) x 164 (H) mm
- **Heat Pipes:** 6 x 6 mm
- **Copper Base:** C1100 pure copper, nickel plated
- **Screen Size:** 5 inch
- **Screen Resolution:** 480 x 854
- **LCD Display Connector:** Motherboard 9-pin USB 2.0 header

- **Material:** Aluminum (fins), Copper (base, heat pipes)

8.2 TL-K12 Fan

- **Dimensions:** 120 (L) x 120 (W) x 25 (H) mm
- **Rated Speed:** 2150 RPM \pm 10% (max)
- **Noise Level:** 27 dBA (max)
- **Airflow:** 69 CFM (max)
- **Air Pressure:** 2.87 mm H₂O (max)
- **Fan Connector:** 4-pin PWM fan connector
- **ARGB Connector:** 3-pin 5V
- **Bearing Type:** S-FDB V2 bearing

8.3 Platform Compatibility

- **Intel:** LGA115X, LGA1200, LGA1700, LGA1851
- **AMD:** AM4, AM5

9. WARRANTY INFORMATION

Thermalright products are covered by a limited warranty against defects in materials and workmanship. The specific warranty period and terms may vary by region and product. Please retain your proof of purchase for warranty claims. For detailed warranty information, refer to the official Thermalright website or contact their customer support.

10. SUPPORT

If you encounter any issues or have questions regarding your Thermalright Peerless Assassin 120 Vision MAX ARGB CPU Cooler that are not addressed in this manual, please visit the official Thermalright website for FAQs, driver downloads, and contact information for technical support.

Official Website: www.thermalright.com