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Thermalright AE120 V3 D6

Thermalright Aqua Elite 120 V3 AIO CPU Cooler Instruction Manual

Model: AE120 V3 D6 | Brand: Thermalright

1. Introduction

The Thermalright Aqua Elite 120 V3 is an All-in-One (AIO) liquid CPU cooler designed to provide efficient thermal management for your computer's central processing unit. This cooler features a 120mm radiator, an integrated pump, and an ARGB PWM fan, ensuring optimal cooling performance with customizable lighting effects. This manual provides detailed instructions for installation, operation, maintenance, and troubleshooting.

Image 1.1: Thermalright Aqua Elite 120 V3 AIO CPU Cooler components.

2. Safety Information

- Always disconnect power from your computer before installing or performing maintenance on any components.
- Handle components with care to avoid damage. Avoid touching electrical contacts.
- Ensure proper grounding to prevent electrostatic discharge (ESD).
- Keep the cooler and its components away from liquids and extreme temperatures.
- Do not attempt to open the pump or radiator, as this may void the warranty and cause leaks.

3. Package Contents

Verify that all components are present in the package before beginning installation:

- Thermalright Aqua Elite 120 V3 AIO Liquid CPU Cooler (Radiator, Pump, and Fan pre-assembled)
- Intel Mounting Hardware (for LGA1150/1151/1155/1156/1200/2011/2066/1700 sockets)
- AMD Mounting Hardware (for AM4/AM5 sockets)
- Thermal Paste
- Fan Hub

- Plumbing Snaps (Cable Management Clips)
- User Manual

4. Setup and Installation

4.1. Pre-Installation Checks

- **Compatibility:** Ensure your motherboard socket (Intel LGA115X/1200/1700/2011/2066 or AMD AM4/AM5) is supported.
- **Case Clearance:** Verify that your PC case has adequate space for a 120mm radiator and fan.
- **Motherboard Headers:** Locate an available 4-pin PWM fan header for the pump and fan, and a 5V 3-pin ARGB header for lighting control.

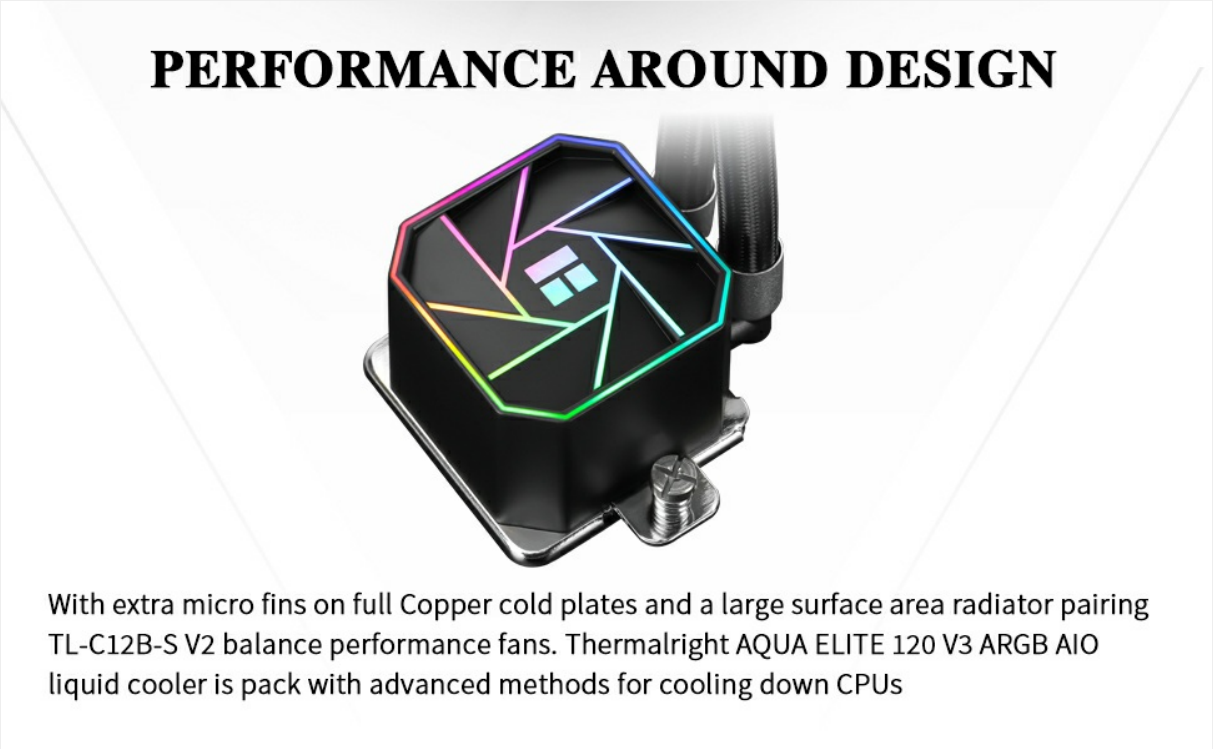

Image 4.1: Supported Intel and AMD sockets, illustrating water channel design and protected tubing.

4.2. CPU Preparation

1. If an old cooler was installed, carefully remove it and clean any residual thermal paste from the CPU surface using isopropyl alcohol and a lint-free cloth.
2. Apply a small amount of thermal paste (included) to the center of the CPU's integrated heat spreader (IHS). A pea-sized dot is generally sufficient.

4.3. Water Block Installation

1. Identify the correct mounting brackets for your CPU socket (Intel or AMD). Attach them to the water block according to the specific instructions for your socket type.
2. Carefully align the water block with the CPU and the motherboard's mounting holes.
3. Gently place the water block onto the CPU, ensuring even contact.
4. Secure the water block using the provided screws, tightening them in a diagonal pattern until snug. Do not overtighten.

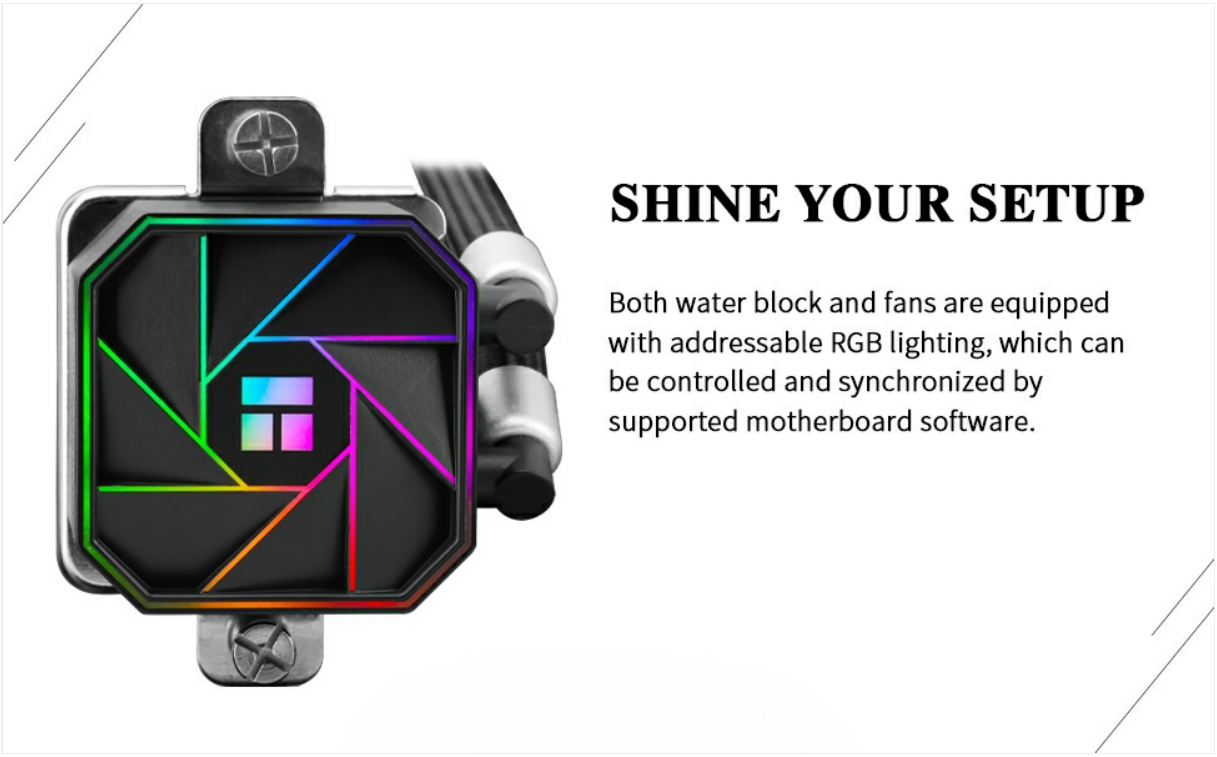

Image 4.2: Close-up of the water block, highlighting its mirror finish, ARGB lighting, pump speed (3300 RPM), and water pump voltage (12V DC/4pin).

4.4. Radiator and Fan Installation

The 120mm ARGB fan is pre-installed on the radiator for convenience.

1. Determine the optimal mounting location for the 120mm radiator in your PC case (e.g., rear exhaust, top exhaust).
2. Secure the radiator to the case using the appropriate screws. Ensure the fan is oriented to provide optimal airflow (typically exhausting air out of the case).

Image 4.3: Thermalright Aqua Elite 120 V3 AIO cooler installed in a PC, showcasing ARGB lighting and pre-installed fan on the radiator.

4.5. Cable Connections

1. **Pump Power:** Connect the pump's 4-pin connector to a dedicated AIO_PUMP or CPU_FAN header on your motherboard. Consult your motherboard manual for the correct header.
2. **Fan Power (PWM):** Connect the fan's 4-pin PWM connector to a CPU_FAN or SYS_FAN header on your motherboard. If using the included fan hub, connect all fans to the hub and then the hub to a motherboard fan header.
3. **ARGB Lighting:** Connect the 5V 3-pin ARGB connector from the pump and fan to a compatible 5V 3-pin ARGB header on your motherboard. Ensure it is a 5V header, not a 12V RGB header, to prevent damage.
4. Use the provided plumbing snaps to manage the tubing and cables for a clean installation.

Image 4.4: Details of the PWM intelligent control fan, featuring high static pressure, S-FDB bearing for low noise, shock-absorbing silicone pads, and PBT+PC material.

5. Operating Instructions

5.1. Initial Power On

After completing the installation, power on your computer. The pump and fan should start operating, and the ARGB lighting should illuminate. Monitor CPU temperatures during initial use to ensure proper function.

5.2. Fan Control (PWM)

The fan and pump utilize PWM (Pulse Width Modulation) technology, allowing their speed to be automatically adjusted based on CPU temperature. This can be configured in your motherboard's BIOS/UEFI settings or through motherboard-specific software. Ensure the fan headers are set to PWM mode for optimal control.

5.3. ARGB Lighting Control

The Addressable RGB (ARGB) lighting on the pump and fan can be synchronized with your motherboard's lighting system. Connect the 5V 3-pin ARGB cable to a compatible header on your motherboard. Use your motherboard's ARGB control software (e.g., ASUS Aura Sync, MSI Mystic Light, Gigabyte RGB Fusion, ASRock Polychrome Sync) to customize lighting effects and colors.

6. Maintenance

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

- **Dust Removal:** Periodically clean dust from the radiator fins and fan blades using compressed air or a soft brush. Ensure the fan is not spinning during cleaning.
- **Inspect Tubing:** Check the tubing for any signs of kinks, leaks, or damage. The protective mesh water pipe is designed for durability and low evaporation.
- **Connection Check:** Ensure all power and ARGB cables remain securely connected.

7. Troubleshooting

- **High CPU Temperatures:**
  - Verify the pump is running (you may feel a slight vibration or hear a faint hum).
  - Ensure the water block is making proper contact with the CPU and thermal paste is applied correctly.
  - Check fan orientation and ensure it's spinning.
  - Clean any dust buildup on the radiator fins.
- **Fan Not Spinning:**
  - Check the 4-pin PWM fan connection to the motherboard or fan hub.
  - Verify fan settings in BIOS/UEFI.
- **ARGB Lighting Not Working:**
  - Ensure the 5V 3-pin ARGB cable is securely connected to the correct motherboard header.
  - Confirm that your motherboard's ARGB software is installed and configured correctly.
  - Verify it's connected to a 5V ARGB header, not a 12V RGB header.
- **Unusual Noises (Gurgling/Whining):**
  - A slight gurgling sound during initial startup is normal as air bubbles settle. If persistent, try gently tilting your PC case to help move air bubbles to the radiator.
  - Ensure the pump is not running at 100% constantly if not necessary; adjust PWM settings.

8. Specifications

Component	Specification
Model Number	AE120 V3 D6
Product Dimensions (Cooler)	6.18 x 4.72 x 2.05 inches (157 x 120 x 52 mm)
Water Block Dimensions	61.7mm * 61.7mm * 53.8mm
Radiator Dimensions	157mm * 120mm * 27mm
Material	Aluminum (Radiator)
Cooling Method	Water
Compatible Devices	Desktop

Component	Specification
Compatible Sockets	Intel: LGA1150/1151/1155/1156/1200/2011/2066/1700 AMD: AM4/AM5
Water Pump Speed	3300 RPM ±10%
Water Pump Noise	≤23 dBA
Water Pump Rated Current	0.40 ±10% A
Water Pump Rated Power	≤4.8 W
Pump Bearing	Ceramic bearing
Pump Connector	4-Pin PWM
Waterblock Lighting Support	+5V Addressable RGB
Fan Model	TL-C12B-S V2
Fan Dimensions	120mm * 120mm * 25mm
Fan Rated Speed	1500 RPM ±10%
Fan Rated Noise	≤25.6 dBA
Air Flow Capacity	66.17 CFM (MAX)
Fan Static Pressure	1.53 mm/H_2O (MAX)
Fan Connector	4-Pin PWM
Fan Rated Voltage	12 Volts
Fan Rated Current	0.20 A (MAX)
Fan Bearing Type	S-FDB Bearing

9. Warranty and Support

For warranty information, please refer to the documentation included with your product or visit the official Thermalright website. Warranty terms and conditions may vary by region and retailer.

For technical support, product inquiries, or further assistance, please visit the Thermalright official website or contact their customer service department through the channels provided on their website.

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