

NP50RNA NP50RNB NP55RNA NP55RNB NP60RNA NP60RNB

# Instruction Manual: Generic Laptop CPU GPU Fan

For Prostar NP50RNA, NP50RNB, NP55RNA, NP55RNB, NP60RNA, NP60RNB Series Laptops

## 1. INTRODUCTION

This manual provides essential instructions for the proper installation, operation, and maintenance of your new Generic Laptop CPU GPU Fan set. This fan set is designed as a replacement cooling solution for specific Prostar laptop models, including NP50RNA, NP50RNB, NP55RNA, NP55RNB, NP60RNA, and NP60RNB. Please read this manual thoroughly before attempting any installation to ensure safe and correct usage.

## 2. PRODUCT OVERVIEW

The product consists of a pair of cooling fans, one for the Central Processing Unit (CPU) and one for the Graphics Processing Unit (GPU), specifically designed for the listed Prostar laptop models. These fans operate at DC5V and 0.5A, featuring a 4-pin connector for power and speed control. Their primary function is to dissipate heat generated by the CPU and GPU, maintaining optimal operating temperatures and preventing thermal throttling or damage to internal components.



Image 1: Generic Laptop CPU GPU Fan Pair. This image displays the two cooling fans, typically one for the CPU and one for the GPU, with their respective 4-pin connectors.

## 3. SAFETY INFORMATION

Always observe the following safety precautions:

- **Disconnect Power:** Before opening your laptop or handling any internal components, ensure the laptop is completely powered off and disconnected from the AC adapter. Remove the battery if it is externally accessible.
- **Static Electricity:** Static discharge can damage sensitive electronic components. Use an anti-static wrist strap or frequently touch a grounded metal object before and during installation.
- **Handle with Care:** Fans and connectors are delicate. Avoid excessive force when installing or removing components.
- **Professional Assistance:** If you are unsure about any step of the installation process, seek assistance from a qualified technician.

## 4. SETUP AND INSTALLATION

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Replacing laptop cooling fans requires careful attention. The following steps are general guidelines. Specific laptop disassembly procedures may vary. Refer to your laptop's service manual for detailed instructions.

### Important Pre-Installation Note:

**Wiring Sequence Compatibility:** There are various fan wiring sequences, and they are often incompatible between different fan models. To ensure compatibility and prevent damage, it is crucial to verify the wiring sequence of your existing fan against the replacement fan. If you are uncertain, it is recommended to send clear photos of the front and back of your original fan, along with a diagram of its interface wiring sequence, to your supplier for verification before installation.

### General Installation Steps:

1. **Prepare the Laptop:** Power off the laptop, disconnect the AC adapter, and remove the battery (if removable).
2. **Open the Laptop Casing:** Carefully remove the screws securing the bottom cover of your laptop. Use appropriate tools to gently pry open the casing.
3. **Locate Old Fans:** Identify the CPU and GPU fans within the laptop. They are typically located near the heat sinks.
4. **Disconnect Old Fans:** Gently disconnect the 4-pin power cables of the old fans from their respective sockets on the motherboard. Remove any screws holding the old fans in place.
5. **Remove Old Fans:** Carefully lift out the old fans.
6. **Install New Fans:** Place the new CPU and GPU fans into their designated positions. Ensure they align correctly with the screw holes.
7. **Secure New Fans:** Fasten the new fans with the appropriate screws.
8. **Connect New Fans:** Carefully connect the 4-pin power cables of the new fans to the corresponding sockets on the motherboard. Ensure the connectors are fully seated and oriented correctly.
9. **Reassemble Laptop:** Replace the bottom cover and secure it with all screws.
10. **Power On and Test:** Reconnect the battery and AC adapter. Power on the laptop and observe if the fans spin correctly and quietly. Monitor CPU/GPU temperatures using system monitoring software.

## 5. OPERATING INSTRUCTIONS

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Once correctly installed, the CPU and GPU fans operate automatically. They are controlled by the laptop's

system, which monitors the temperature of the CPU and GPU. The fan speed will adjust dynamically to maintain optimal temperatures, spinning faster when the components are under heavy load and slower during light use or idle states.

## 6. MAINTENANCE

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Regular maintenance can extend the lifespan of your cooling fans and maintain optimal laptop performance:

- **Dust Cleaning:** Over time, dust can accumulate on fan blades and heat sinks, reducing cooling efficiency. Periodically (e.g., every 6-12 months), open the laptop (following safety guidelines in Section 3) and use compressed air to gently clean dust from the fan blades and heat sink fins. Hold the fan blades to prevent them from spinning rapidly during cleaning, which can damage the bearings.
- **Check Connections:** Ensure fan cables remain securely connected to the motherboard.
- **Monitor Temperatures:** Use software tools to monitor your laptop's CPU and GPU temperatures. Consistently high temperatures may indicate a need for more thorough cleaning or professional inspection.

## 7. TROUBLESHOOTING

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If you encounter issues with your new fans, consider the following:

- **Fans Not Spinning:**
  - Ensure the 4-pin connectors are fully and correctly seated on the motherboard.
  - Verify the wiring sequence compatibility as mentioned in Section 4.
  - Check if the laptop is generating enough heat to trigger fan operation. Fans may not spin at low temperatures.
- **Unusual Noise:**
  - Ensure no cables or debris are obstructing the fan blades.
  - Verify that the fans are securely mounted and not vibrating against other components.
- **Overheating:**
  - Confirm that the heat sinks are clean and thermal paste/pads are properly applied (if applicable to your specific repair).
  - Ensure adequate airflow within the laptop chassis.

For persistent or complex issues, it is recommended to consult a professional laptop repair technician.

## 8. SPECIFICATIONS

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<b>Product Type</b>	Laptop CPU GPU Cooling Fan Pair
<b>Compatibility</b>	Prostar NP50RNA, NP50RNB, NP55RNA, NP55RNB, NP60RNA, NP60RNB
<b>Voltage</b>	DC5V
<b>Current</b>	0.5A

<b>Connector</b>	4-Pin
<b>Product Dimensions</b>	Approximately 3.94 x 3.94 x 3.94 inches (per fan, estimated)
<b>Item Weight</b>	Approximately 3.52 ounces (total)
<b>Country of Origin</b>	China

## 9. WARRANTY AND SUPPORT

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For information regarding product warranty, return policy, or technical support, please refer to the terms and conditions provided by your original seller or retailer at the time of purchase. Keep your purchase receipt or order confirmation as proof of purchase.