SilverStone SST-AP181

SilverStone SST-AP181 Air Penetrator 180mm Computer Case Cooling Fan Instruction Manual

Model: SST-AP181

1. INTRODUCTION

The SilverStone SST-AP181 Air Penetrator is a high-performance 180mm computer case cooling fan designed to provide focused airflow for efficient system cooling. Unlike traditional fans that disperse air, the Air Penetrator's unique blade and grille design channels air into a concentrated column, allowing it to effectively pass through obstacles within a computer case. This design is particularly beneficial for intake applications, ensuring optimal cooling performance even at lower fan speeds and noise levels.

Figure 1: Angled view of the SilverStone SST-AP181 Air Penetrator fan, showcasing its unique blade design.

2. SAFETY INFORMATION

- Always disconnect power from your computer before installing or performing maintenance on any internal components.
- Handle the fan by its frame to avoid damaging the blades or internal components.
- Ensure proper orientation during installation to achieve desired airflow direction.
- Keep fingers and other objects clear of rotating fan blades to prevent injury.
- Do not attempt to disassemble or modify the fan, as this may void the warranty and cause damage.

3. PACKAGE CONTENTS

Verify that all items are present in the package before proceeding with installation:

- 1 x SilverStone SST-AP181 Air Penetrator 180mm Fan

- Mounting Screws

- Anti-vibration Rubber Mounts

- Y-Cable Adapter (for connecting two fans to one power source, if included)
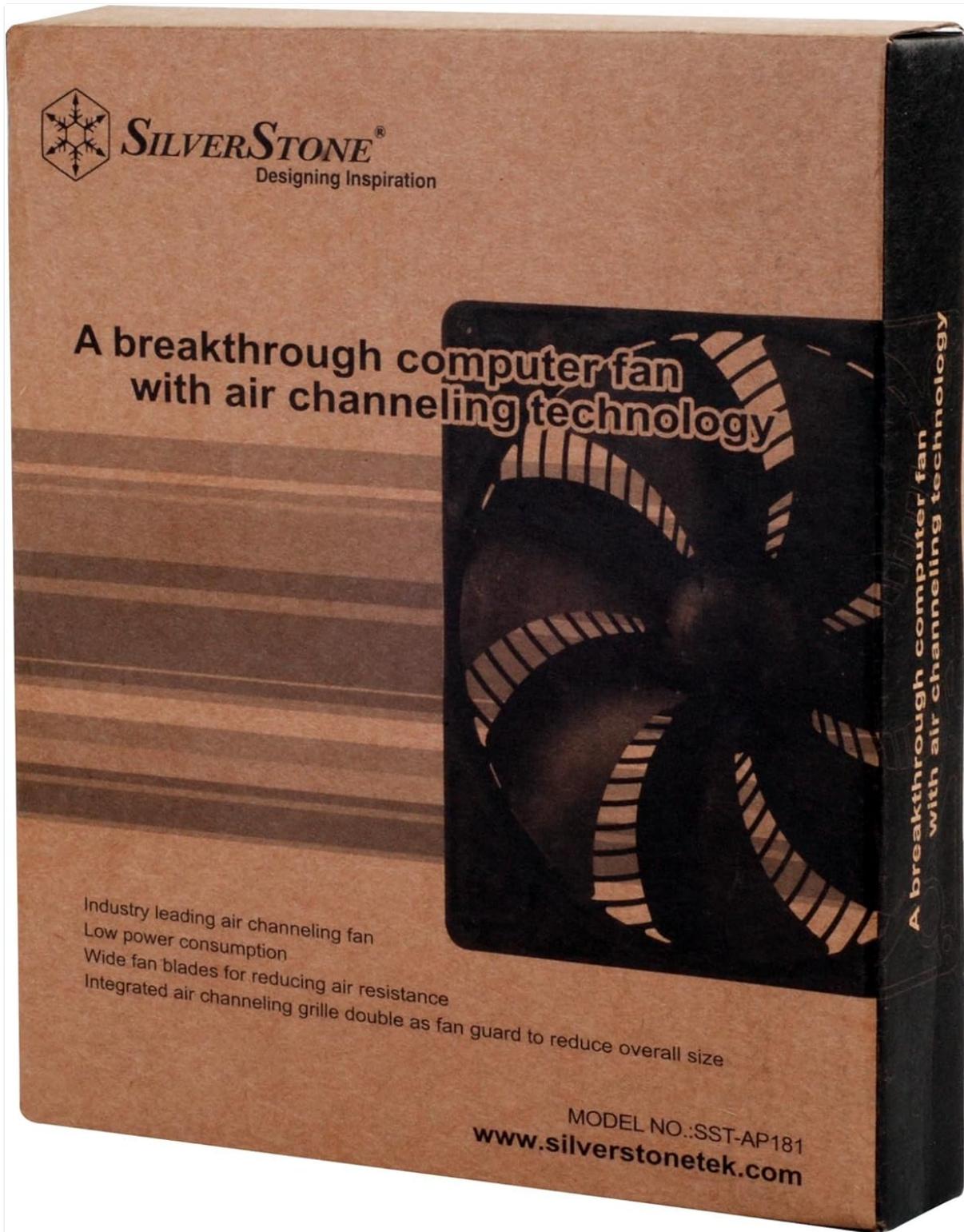
Figure 2: Retail packaging for the SilverStone SST-AP181 fan.

4. SETUP AND INSTALLATION

The SST-AP181 fan is designed for easy installation in standard computer cases that support 180mm fan mounts. It is particularly effective as an intake fan due to its air channeling capabilities.

1. **Prepare your computer:** Power off your computer and disconnect it from the power outlet. Open the

computer case to access the fan mounting locations.

2. **Identify mounting location:** Locate an available 180mm fan mount in your computer case. Consider the desired airflow direction (typically intake for this fan type).

3. **Mount the fan:**
   - Align the fan with the mounting holes.
   - Secure the fan using the provided mounting screws or anti-vibration rubber mounts. If using rubber mounts, carefully pull them through the fan and case holes to avoid tearing.

4. **Connect power:** The SST-AP181 uses a 3-pin or 4-pin power connector. Connect the fan's power cable to an available fan header on your motherboard or a fan controller.

Figure 3: Example of a fan power connector and an optional speed switch (if included with your case).

Important Note on Starting Voltage: The SST-AP181 may require approximately 10.8 Volts to start at its low speed setting. Some fan controllers or motherboard BIOS settings might not supply sufficient voltage at low temperatures, causing the fan to not spin up. If this occurs:
   - Adjust the fan speed or temperature settings within your motherboard's BIOS to ensure a higher starting voltage.
   - If your case has a fan speed switch, set it to the "high" position to enable a lower starting voltage for the fan.

5. **Cable management:** Route the fan cable neatly to avoid interference with other components or airflow.

6. **Close case and power on:** Once the fan is securely installed and connected, close your computer case and reconnect the power. Power on your computer and verify that the fan is operating correctly.

Easy to assemble, fit all 180mm fans, clear demonstration of incredible Air Penetrator fan!

Using the Y-cable adapter provides power with two fans in the same time.

Tradition Fan   Air Penetrator Fan

Figure 4: Visual representation of the Air Penetrator fan's focused airflow compared to a traditional fan's dispersed airflow.

5. OPERATING THE FAN

The SilverStone SST-AP181 fan operates continuously once powered. Its speed can be controlled via a compatible motherboard fan header (PWM or voltage control) or an external fan controller, if available. At lower voltages (e.g., 5 Volts), the fan speed will be approximately 500 RPM, resulting in nearly inaudible operation while still providing effective airflow.

- **Speed Control:** Adjust fan speed through your motherboard's BIOS settings or dedicated fan control software for optimal balance between cooling and noise.
- **Airflow Direction:** Ensure the fan is oriented to draw cool air into the case (intake) for best performance, especially when utilizing its air channeling capabilities.

6. MAINTENANCE

Regular maintenance helps ensure optimal performance and longevity of your fan.

- **Dust Removal:** Periodically clean dust from the fan blades and grille using compressed air or a soft brush. Ensure the fan is powered off and stationary before cleaning.
- **Inspection:** Check for any obstructions around the fan or signs of wear on the cables.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Fan does not spin or spins intermittently.	Insufficient starting voltage from motherboard/controller. Loose power connection. Fan cable damage.	Check motherboard BIOS settings for fan control; increase starting voltage or set to a higher fan speed profile. If using a case fan speed switch, ensure it is set to "high". Verify the fan's power connector is securely attached to the motherboard or controller. Inspect the fan cable for any visible damage.
Fan is unusually loud or making a buzzing noise.	Dust accumulation on blades. Obstruction near fan blades. Loose mounting. Bearing issue (less common).	Clean fan blades and grille thoroughly. Ensure no cables or objects are touching the fan blades. Verify the fan is securely mounted and not vibrating against the case. If noise persists, contact SilverStone support.
Poor cooling performance.	Incorrect airflow direction. Insufficient fan speed. Blocked air intake/exhaust.	Confirm the fan is installed as an intake fan, drawing air into the case. Increase fan speed via motherboard BIOS or fan controller. Ensure case vents and filters are clean and unobstructed.

8. SPECIFICATIONS
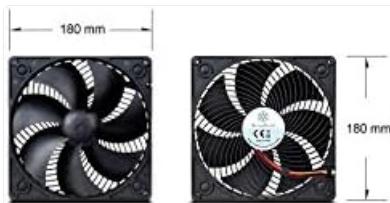
Figure 5: Diagram showing the 180mm x 180mm dimensions of the SilverStone SST-AP181 fan.

Feature	Detail
Model Number	SST-AP181
Dimensions (LxWxH)	7.09" x 7.09" x 1.26" (180mm x 180mm x 32mm)
Material	Polycarbonate
Power Connector Type	3-Pin or 4-Pin
Voltage	10.8 Volts (starting), 12 Volts (operating)
Wattage	5.4 watts
Cooling Method	Air
Noise Level	20 Decibels (at specified conditions)
Maximum Rotational Speed	1500 RPM
Air Flow Capacity	0.08 Cubic Meters Per Second
Compatible Devices	Desktop Computers

9. WARRANTY AND SUPPORT

SilverStone Technology Co., Ltd. provides a limited warranty for its products. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official SilverStone website. For technical support, product inquiries, or warranty claims, please contact SilverStone customer service through their official channels.

Official Website: www.silverstonetek.com