SVBONY SV227

Svbony SV227 OIII 5nm Narrow-Band CCD Telescope Filter Instruction Manual

Model: SV227 (FCAW9187DC)

1. Introduction

The Svbony SV227 OIII 5nm Narrow-Band CCD Telescope Filter is designed to enhance deep-sky astrophotography by isolating specific emission lines from celestial objects. This filter effectively reduces light pollution and sky glow, improving contrast and detail in images, particularly for nebulae. It is optimized for use with monochrome cameras.



Image: Svbony OIII 5nm 2-inch Narrowband Filter overview.



Image: Angled view of the Svbony SV227 OIII 5nm filter.

2. Setup and Installation

The SV227 filter is designed for easy integration into your astrophotography setup. It features a standard 2-inch

mounted design with an M48x0.75 thread.

Installation Steps:

1. Ensure your telescope eyepiece or camera adapter has a compatible 2-inch barrel with M48x0.75 threading.
2. Carefully thread the Svbony SV227 OIII 5nm filter into the appropriate component (e.g., the barrel of your 2-inch eyepiece, a filter wheel, or a camera adapter).
3. Tighten the filter gently until secure. Avoid overtightening to prevent damage to the filter or threads.
4. Once installed, the filter is ready for use with your telescope and monochrome camera setup.



Image: Diagram illustrating the installation of the filter into a telescope system.



Image: Close-up view of the M48x0.75 thread on the filter and its connection point.

3. Operating Instructions

The Svbony SV227 OIII 5nm filter is specifically designed for deep-sky astrophotography, particularly for capturing nebulae and other emission objects. Its narrow bandwidth allows for significant improvements in image quality under light-polluted skies.

Key Operational Benefits:

- **Light Pollution Reduction:** The filter blocks unwanted wavelengths associated with artificial light sources, allowing the faint light from celestial objects to stand out.
- **Enhanced Contrast and Detail:** By isolating the OIII emission line (500.7nm), the filter significantly increases the contrast between nebulae and the background sky, revealing finer details.
- **Monochrome Camera Compatibility:** This filter is optimized for use with monochrome cameras, which are ideal for capturing specific narrowband data.

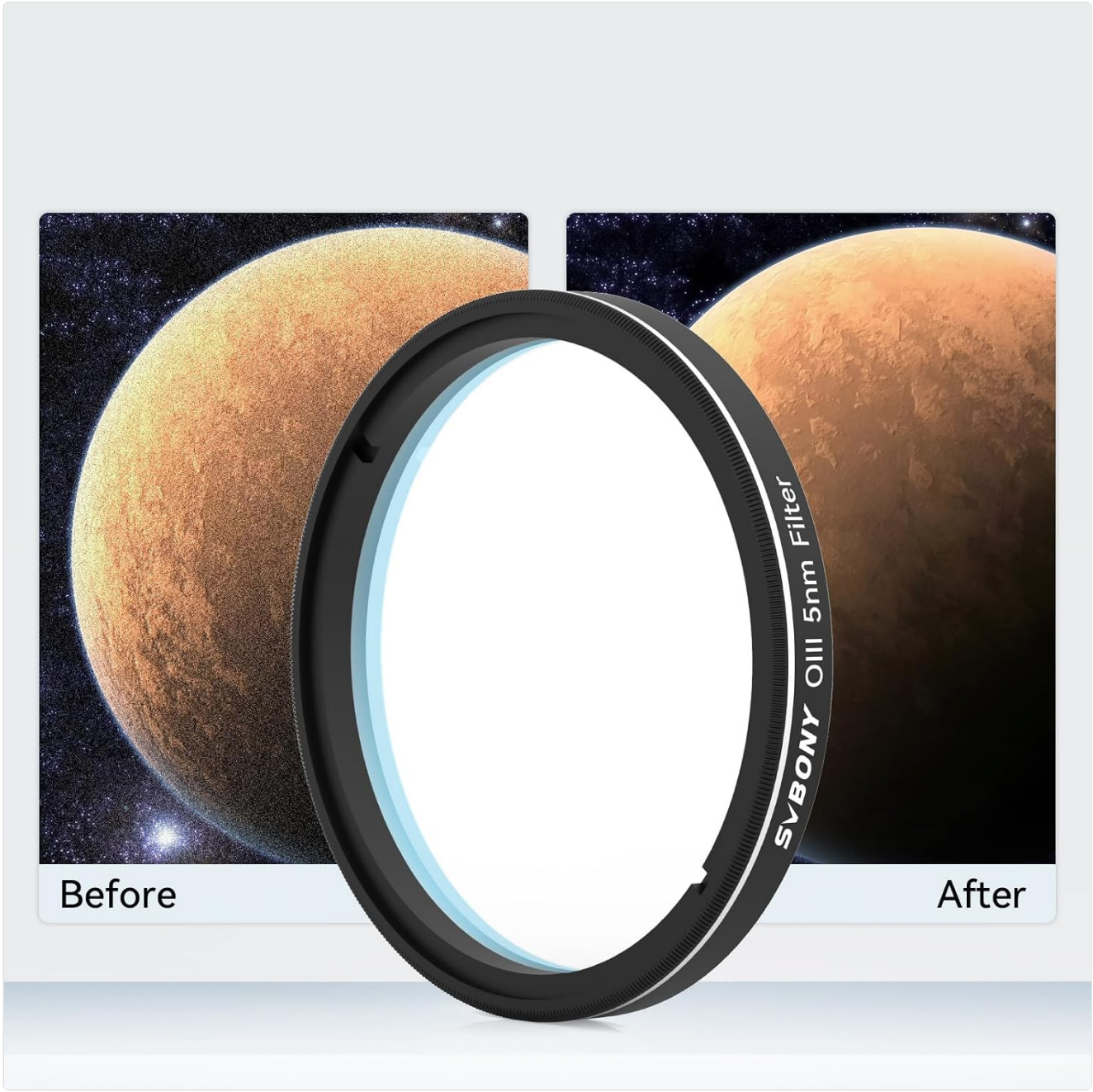


Image: Visual comparison showing improved contrast and detail of a celestial object when using the OIII filter.

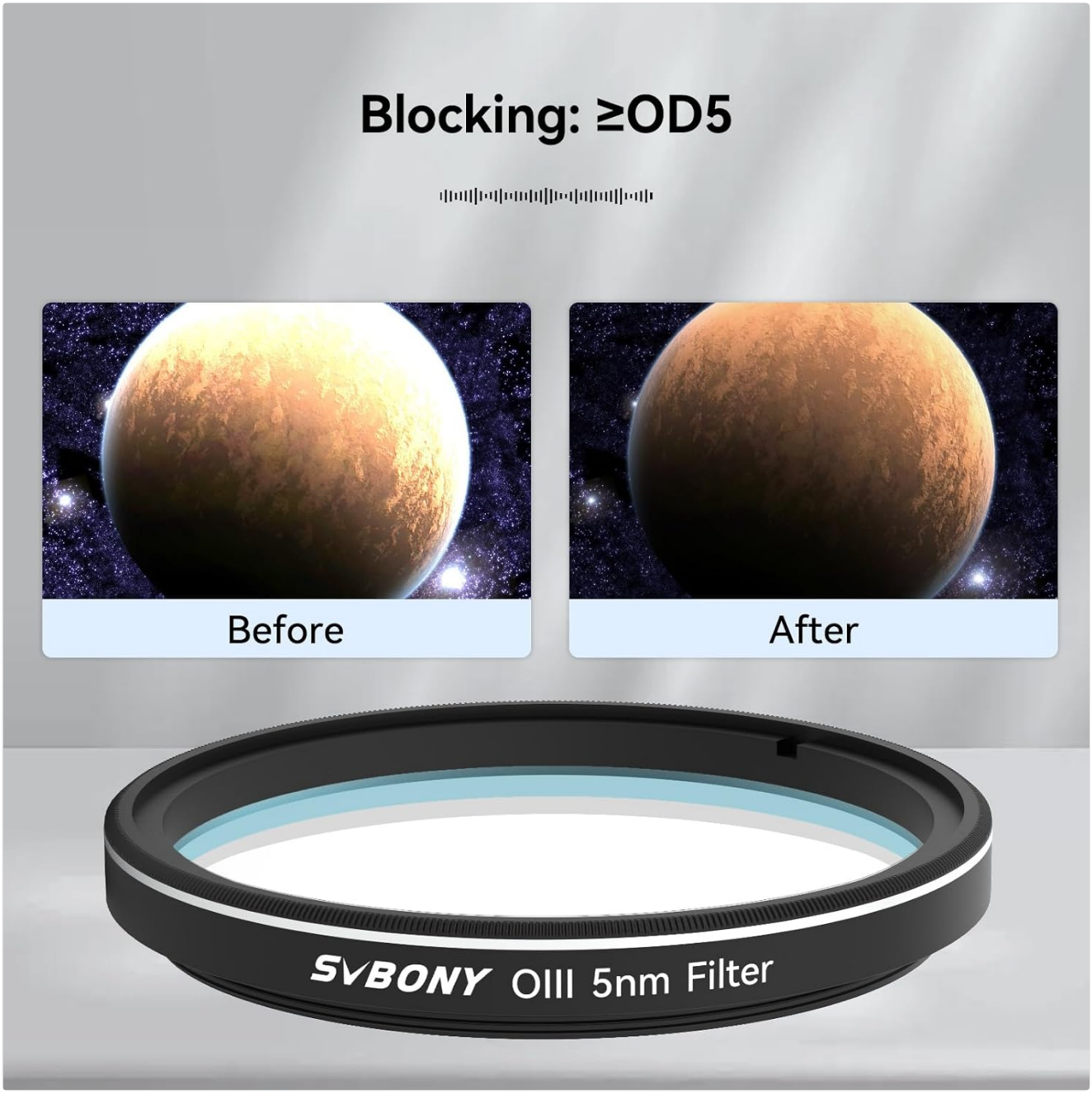


Image: Another comparison demonstrating the filter's ability to block unwanted light, resulting in clearer images.



Image: Illustration of light pollution reduction achieved with the filter.

4. Maintenance

Proper care and maintenance will ensure the longevity and optimal performance of your Svbony SV227 filter.

- **Cleaning:** Use a soft, lint-free microfiber cloth specifically designed for optics. For stubborn smudges, use a small amount of optical cleaning solution applied to the cloth, not directly to the filter.
- **Handling:** Always handle the filter by its edges to avoid touching the optical surface. Fingerprints can leave oils that are difficult to remove.
- **Storage:** Store the filter in its protective plastic box when not in use to prevent dust accumulation and accidental damage. Keep it in a dry, cool environment.
- **Inspection:** Periodically inspect the filter for any signs of dust, smudges, or damage. Clean as necessary.

5. Troubleshooting and Compatibility

This section addresses common questions and compatibility considerations for the SV227 filter.

Compatibility Note:

The Svbony SV227 OIII 5nm Narrow-Band CCD Filter is specifically designed for use with**monochrome cameras**. It is generally **not recommended for use with color cameras**, as it will only pass a very narrow band of light, resulting in images that lack full color information and may appear dim or monochromatic. For optimal results, pair this filter with a dedicated monochrome astrophotography camera.

General Issues:

- **Dim Images:** Ensure your camera settings (exposure time, gain) are appropriate for narrowband imaging. Narrowband filters pass less light than broadband filters, requiring longer exposures.
- **Unclear Images:** Check for dust or smudges on the filter or other optical components. Ensure proper focus of your telescope system.

6. Specifications

Feature	Specification
Product Dimensions	2.9 x 2.9 x 0.04 inches (7.37 x 7.37 x 0.1 cm)
Item Weight	2.12 ounces (60.1 grams)
Item Model Number	FCAW9187DC
Photo Filter Thread Size	M48x0.75 (2 inch)
Coating Description	Multi Coating
Photo Filter Effect Type	OIII (Oxygen III)
Water Resistance Level	Waterproof
Wavelength Range	300-1000nm
Center Wavelength (CWL)	500.7nm

Feature	Specification
Bandwidth (FWHM)	5nm
Peak Transmittance	≥90% at 500.7nm
Optical Density (Blocking)	≥OD5
Substrate Thickness	1.85mm

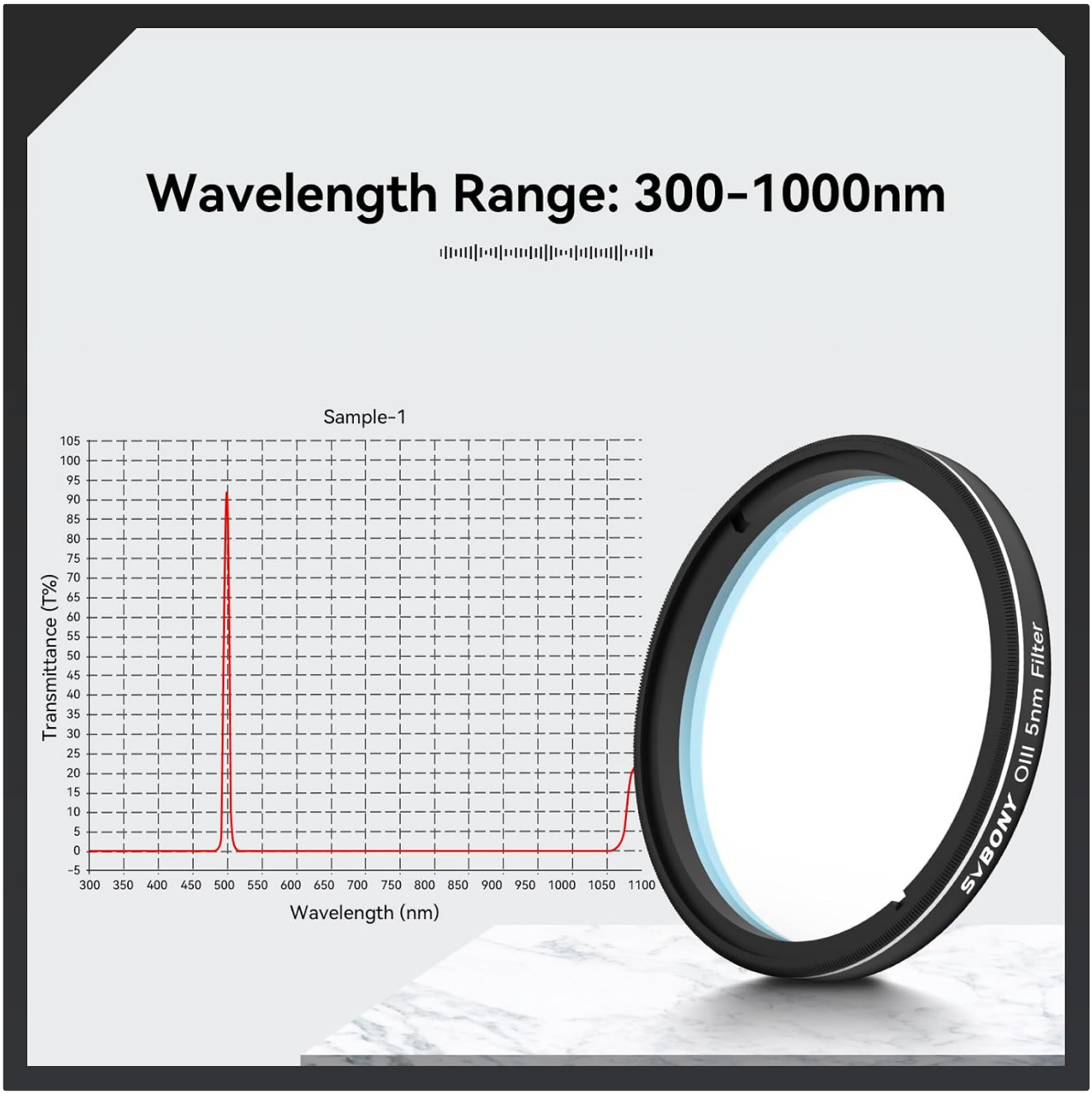


Image: Wavelength range and transmittance curve of the filter.



Image: Illustration of the filter's center wavelength at 500.7nm.

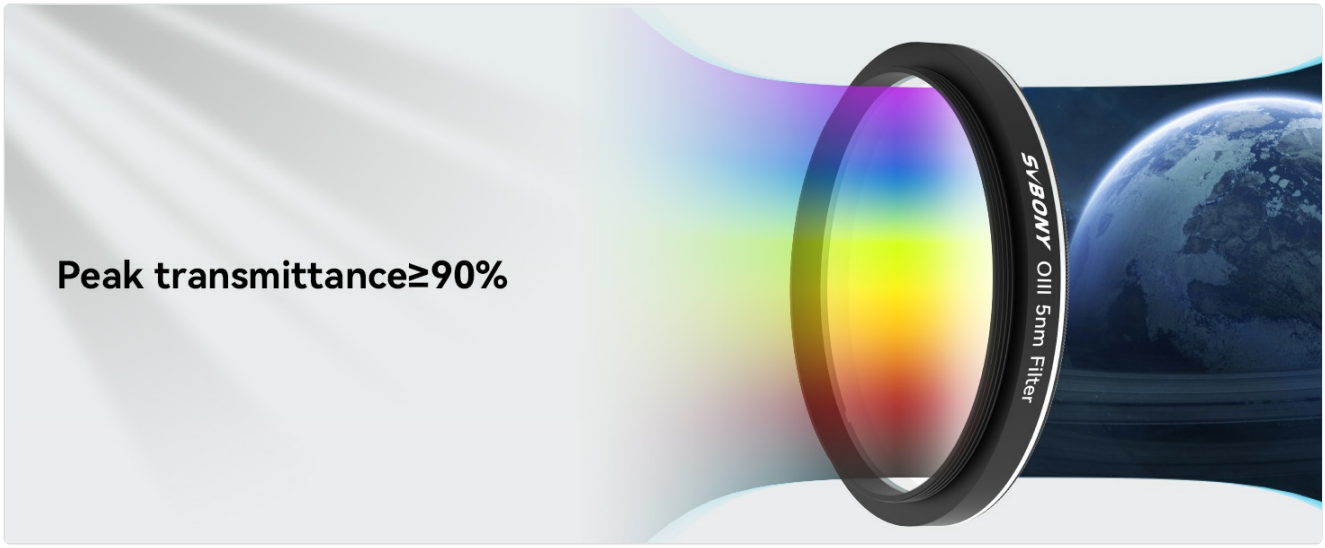


Image: Diagram indicating the filter's peak transmittance of 90%.

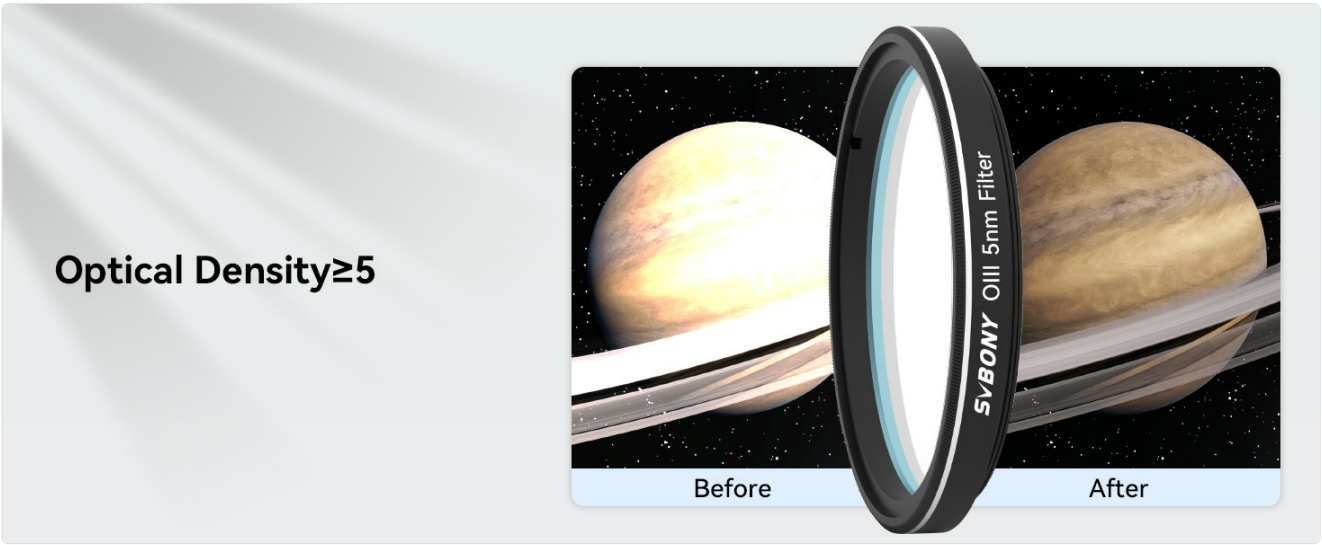


Image: Illustration of the filter's optical density blocking at ≥OD5.



Image: Diagram indicating the filter's Full Width at Half Maximum (FWHM) of 5nm.



Image: Diagram showing the substrate thickness of the filter at 1.85mm.



Image: Illustration of the filter's 2-inch diameter and M48x0.75 thread.

7. What's in the Box

Upon opening the package, you will find the following items:

- 1x Svbony 2" OIII 5nm Narrow-Band CCD Filter
- 1x PP Material Plastic Box (for storage)



Image: The Svbony SV227 filter and its protective plastic storage box.

8. Warranty and Support

For warranty information, technical support, or any inquiries regarding your Svbony SV227 OIII 5nm Narrow-Band CCD Telescope Filter, please refer to the official Svbony website or contact their customer service directly. Details can typically be found on the product packaging or the manufacturer's official online resources.

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Question

Example: How do I reset this device or fix this error?

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Model number, symptoms, what you tried, or the section of the manual you are using.

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