

Creality CR-Scan Raptor Pro

Creality CR-Scan Raptor Pro 3D Scanner User Manual

1. INTRODUCTION

This manual provides comprehensive instructions for the Creality CR-Scan Raptor Pro 3D Scanner. It covers essential information for setup, operation, maintenance, and troubleshooting to ensure optimal performance and longevity of your device. The CR-Scan Raptor Pro is designed for high-precision 3D scanning across a wide range of object sizes and materials, utilizing advanced blue laser and near-infrared (NIR) structured light technologies.



Figure 1: The Creality CR-Scan Raptor Pro 3D Scanner capturing data from a detailed statue.

2. PACKAGE CONTENTS AND SETUP

Before beginning, ensure all components are present in the package. The CR-Scan Raptor Pro comes securely packaged to protect its sensitive components.

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Video 1: Unboxing and initial setup of the Creality CR-Scan Raptor Pro 3D Scanner, showing how to connect the device to a computer.

2.1. Unboxing

Carefully open the packaging and remove all items. Verify that the following components are included:

- CR-Scan Raptor Pro 3D Scanner
- Power Adapter
- USB Cable
- Calibration Board

- Markers
- User Manual and Warranty Card

Figure 2: All components included with the CR-Scan Raptor Pro, including the scanner, cables, power adapter, and calibration tools.

2.2. Connecting the Scanner

1. Connect the power adapter to the scanner and a power outlet.
2. Connect the USB cable from the scanner to your computer. Ensure you use a USB 3.0 port for optimal data transfer.
3. Install the Creaality Scan software on your computer. Refer to the included software guide for installation instructions.
4. Launch the Creaality Scan software. The software should detect the scanner automatically.

3. OPERATING INSTRUCTIONS

The CR-Scan Raptor Pro offers multiple scanning modes to accommodate various object types and environmental conditions.

3.1. Scanning Modes

The scanner features a multi-mode system with 22 blue laser lines and 7 near-infrared (NIR) structured light modes.

- **22 Blue Cross Laser Lines:** Ideal for high-precision scanning of medium to large objects. Offers a scanning speed of 660,000 points/s and volumetric accuracy of 0.02mm + 0.08mm/m. Working distance is 200-550mm.
- **7 Blue Parallel Laser Lines:** Suitable for detailed scanning with a speed of 420,000 points/s. Working distance is 160-400mm.
- **NIR Structured Light:** Provides a scanning speed of 3,580,000 points/s and is effective for markerless scanning and capturing human faces and bodies quickly. Working distance is 170-1000mm.

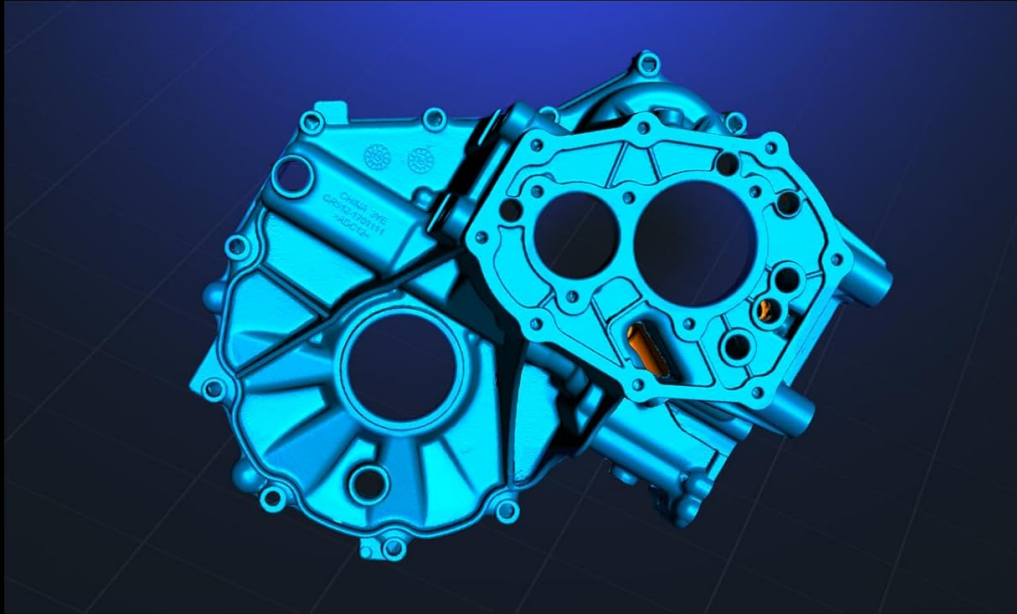
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Video 2: Demonstration of the Creaality Raptor Pro's hybrid blue laser and NIR scanning capabilities, showcasing its metrology-grade accuracy on automotive parts.

3.2. Object Size and Material Handling

The CR-Scan Raptor Pro can handle objects ranging from 5mm miniatures to massive 4m components with consistent precision. Its advanced laser line technology and proprietary algorithms allow direct scanning of challenging materials such as automotive glass (up to 71% transmittance), dark surfaces, and reflective metallic materials without the need for scanning sprays.

Volumetric Accuracy $0.02\text{mm} + 0.08\text{mm/m}$



Reliable Precision and Accurate Detail

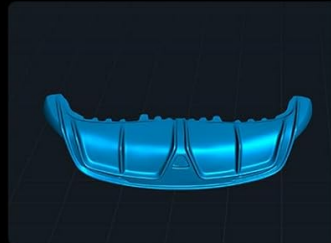


Figure 3: Volumetric accuracy of $0.02\text{mm} + 0.08\text{mm/m}$ demonstrated on complex mechanical parts.

Objects Between 0.2-157" / 5-4000mm

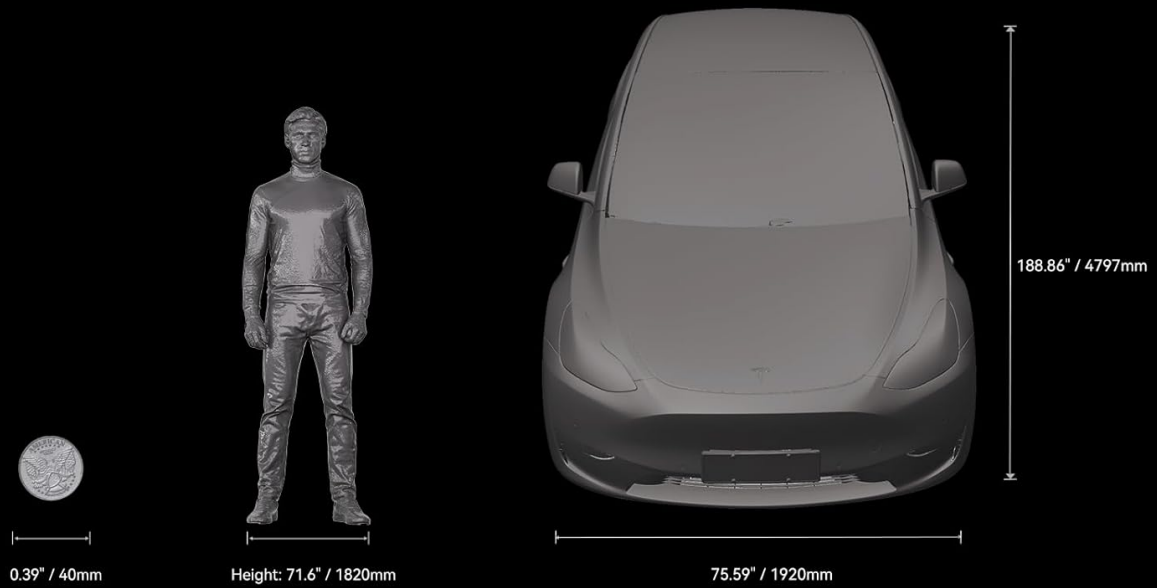


Figure 4: The scanner's adaptable range, capable of capturing objects from 5mm to 4 meters.

NIR Structured Light Scanning

Markerless Scanning

Raptor Pro utilizes speckle matching 3D imaging. No markers needed for feature-rich workpieces. Objects can be scan quickly and directly.



Unique Face & Body Algorithm

Face & body mode is equipped with a unique face mapping algorithm that captures more details and easily scan hair, a human body scan only needs as quick as 2 minutes.

Figure 5: Markerless scanning and unique face & body algorithm using NIR structured light.

3.3. Full-Color Scanning

Equipped with a high-resolution RGB camera, the CR-Scan Raptor Pro supports 24-bit full-color texture capturing in all scanning modes, providing vibrant and realistic 3D models.

24-bit Full-Color Scanning in All Modes



Figure 6: Examples of 24-bit full-color scanning results.

3.4. Outdoor Performance

The blue laser technology provides strong environmental resistance, allowing for outstanding scanning performance even in bright outdoor conditions. The parallel 7-line mode can operate in conditions up to 50,000 lux, and the cross 22-line mode up to 100,000 lux.

3.5. Wireless Operation

For enhanced flexibility, the scanner supports handheld wireless scanning when paired with the ergonomic control handle CR-Scan Bridge (sold separately).

4. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your CR-Scan Raptor Pro 3D Scanner.

- **Cleaning:** Regularly clean the scanner's lenses and body with a soft, dry, lint-free cloth. Avoid abrasive materials or harsh chemicals.

- **Storage:** Store the scanner in its protective case in a cool, dry environment when not in use.
- **Software Updates:** Keep the Creality Scan software updated to the latest version to benefit from performance improvements and new features.
- **Calibration:** Perform regular calibration using the provided calibration board to maintain scanning accuracy.

5. TROUBLESHOOTING

If you encounter issues with your CR-Scan Raptor Pro, refer to the following common solutions:

5.1. Scanner Not Detected

- Ensure the USB cable is securely connected to a USB 3.0 port on your computer.
- Verify the power adapter is correctly connected and the scanner is powered on.
- Check your computer's device manager to ensure the scanner drivers are installed correctly.

5.2. Software Compatibility Issues

Some users have reported issues with specific Windows security updates or display adapter configurations. Creality recommends:

- Ensure your operating system meets the recommended requirements (Windows 10/11 64-bit, macOS M1/M2/M3/M4 series).
- If experiencing issues on Windows, consider temporarily uninstalling recent Windows security updates (e.g., KB5049981) if advised by Creality support, or consult their official troubleshooting guides.
- If your system has multiple display adapters, disabling the basic integrated one (e.g., Intel(R) UHD Graphics) might resolve conflicts.

5.3. Poor Scan Quality or Tracking Loss

- Ensure proper lighting conditions. While the scanner performs well outdoors, extreme glare or insufficient light can affect results.
- Calibrate the scanner regularly.
- For objects lacking distinct features, use the provided markers to aid tracking.
- Maintain a stable scanning distance as indicated by the software's feedback.

For persistent issues, please contact Creality customer support for professional guidance.

6. SPECIFICATIONS

Detailed technical specifications for the Creality CR-Scan Raptor Pro 3D Scanner:

Feature	Specification
Model	CR-Scan Raptor Pro
Scanning Technology	22 Blue Laser Lines + 7 Near-Infrared Structured Light
Accuracy	0.02mm (Blue Laser), 0.05mm (NIR)

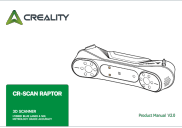
Feature	Specification
Volumetric Accuracy	0.02mm + 0.08mm/m (Blue Laser), 0.075mm + 0.1mm/m (NIR)
Scanning Speed	660,000 points/s (22 Cross Laser Lines), 420,000 points/s (7 Parallel Laser Lines), 3,580,000 points/s (NIR)
Scan Frame Rate	Up to 60fps (Laser Line Scanning), Up to 30fps (Infrared Structured Light Scanning)
Object Size Range	5mm to 4m
Color Scanning	24-Bit Full-Color
Outdoor Performance	7-line mode: ≤50,000 lux, 22-line mode: ≤100,000 lux
Wireless Scanning	Supported with CR-Scan Bridge (sold separately)
System Requirements (Windows)	Recommended: i7-Gen10 CPU, GPU (8GB VRAM), 32GB RAM, Windows 10/11 (64-bit)
System Requirements (macOS)	Recommended: M1/M2/M3/M4 series, 16GB RAM
System Requirements (Android)	OS: Android 10.0+, RAM: >8GB, Connectivity: Wi-Fi 6, App: V2.0.2, Chipset: Snapdragon 888+
Dimensions	13.89 x 12.4 x 6.5 inches
Weight	9.06 Pounds (approx. 4.1 kg)





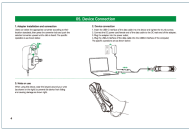
7. WARRANTY AND SUPPORT

The Creality CR-Scan Raptor Pro 3D Scanner comes with a manufacturer's warranty. Please refer to the included warranty card for specific terms and conditions. For technical support, product inquiries, or warranty claims, please visit the official Creality website or contact their customer service department. Keep your purchase receipt as proof of purchase.

You can find more information and support resources on the [Creality Official Store](#).

Related Documents - CR-Scan Raptor Pro

	<p>Creality CR-Scan Raptor 3D Scanner Product Manual V2.0</p> <p>Discover the Creality CR-Scan Raptor, a high-precision 3D scanner offering metrology-grade accuracy with hybrid blue laser and NIR technology. This manual covers its advanced features, detailed specifications, step-by-step operation, software integration, and FAQs for professional and enthusiast use.</p>
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	<p>Creality CR-Scan Raptor 3D Scanner Product Manual</p> <p>Comprehensive product manual for the Creality CR-Scan Raptor 3D Scanner, detailing its features, specifications, operation, and troubleshooting. Learn about its hybrid blue laser and NIR technology for metrology-grade accuracy.</p>
	<p>Creality CR-Scan Ferret 3D Scanner User Manual</p> <p>Comprehensive user manual for the Creality CR-Scan Ferret 3D Scanner, detailing its specifications, setup, scanning workflows, PC software usage, tips, and frequently asked questions. Learn how to achieve high-quality 3D scans for various applications.</p>
	<p>Creality CR-Scan Otter 3D Scanner Product Manual</p> <p>This manual provides a comprehensive guide to the Creality CR-Scan Otter, a high-precision, handheld 3D scanner. It covers product introduction, specifications, equipment overview, button functions, LED indicator status, packing list, software installation, device connection, first scan procedures, FAQs, and troubleshooting.</p>
	<p>Creality Scan Bridge Quick Guide: Wireless 3D Scanning Setup</p> <p>A comprehensive quick guide to setting up and using the Creality Scan Bridge for wireless 3D scanning. Learn about its features, connection methods, and troubleshooting tips for Creality 3D scanners.</p>
	<p>Creality CR-Scan Raptor User Manual: Device and Software Operation</p> <p>Comprehensive guide to connecting the Creality CR-Scan Raptor 3D scanner, installing and operating the Creality Scan software, and performing your first scan. Includes system requirements and operational notes.</p>