



Manuals.plus /

› 3DMakerpro /

› Mole 3D Scanner User Manual

3DMakerpro MOLE

Mole 3D Scanner User Manual

Model: MOLE | Brand: 3DMakerpro

INTRODUCTION

This user manual provides comprehensive instructions for the setup, operation, and maintenance of your 3DMakerpro Mole 3D Scanner. The Mole 3D Scanner is designed for high-precision 3D scanning, offering professional-grade accuracy and seamless tracking for various applications, including 3D printing, reverse engineering, art design, and educational research. Please read this manual thoroughly before using the device to ensure optimal performance and longevity.

PRODUCT OVERVIEW AND PACKAGE CONTENTS

The Mole 3D Scanner is a compact and powerful device capable of capturing intricate details with high accuracy. It utilizes Near-Infrared (NIR) light and visual tracking technology for efficient and eye-safe scanning.



Image 1: Mole 3D Scanner and Accessories. This image displays the Mole 3D Scanner in both handheld and tripod-mounted configurations, alongside its various accessories including power adapters, cables, a calibration board, and a carrying case.

Your Mole 3D Scanner package typically includes the following components:

- Mole 3D Scanner Unit
- Power Adapter and Cables
- USB Cable
- Tripod (optional, depending on package)
- Turntable (optional, depending on package)
- Calibration Board
- Carrying Case
- User Manual (this document)

What Can You Get?

----and more fun and joy




Image 2: Detailed Package Contents. This image provides a clear layout of all items included in the Mole 3D Scanner standard package, such as the scanner, power supply, cables, tripod, and calibration tools.

KEY FEATURES

- **High Accuracy:** Achieves professional-grade accuracy up to 0.05mm and a resolution of 0.1mm, capturing even the finest details.
- **Near-Infrared (NIR) Light:** Utilizes invisible light sources, making it eye-friendly and enabling scanning under bright ambient light conditions.
- **Visual Tracking Technology:** Features a self-developed registration algorithm for seamless and efficient tracking, reducing the need for markers.
- **Versatile Scanning:** Supports both handheld and turntable scanning modes.
- **Broad Compatibility:** Compatible with various operating systems (Windows, macOS) and integrates with popular 3D software.
- **Black Object Scanning:** Capable of accurately detecting and scanning black objects.

Why Choose Mole 3D Scanner



Near-infrared (NIR)

By using invisible light sources of the near-infrared (NIR), Mole has absolute no harm to human eyes. It also has excellent light compatibility which enables scanning under bright light.

Capture the details

Mole can clearly capture the finest details with a superior accuracy of up to 0.05mm and resolution of 0.1mm.

Visual tracking

With visual tracking technology and a self-developed registration algorithm, Mole could save you tons of time by implementing no-marker scanning.

Up to 0.05mm Accuracy

0.1mm High Definition Resolution

Multispectral Technology

No-marker Scanning

Image 3: Key Features of Mole 3D Scanner. This diagram highlights the core technologies and benefits of the Mole scanner, including its NIR light source, visual tracking, high accuracy, and ability to scan without markers.

SETUP GUIDE

1. Unpacking and Inspection

1. Carefully remove all components from the packaging.
2. Verify that all items listed in the "Product Overview and Package Contents" section are present.
3. Inspect the scanner and accessories for any visible damage. If any damage is found, contact customer support immediately.

2. Connecting the Scanner

1. Connect the USB cable from the Mole 3D Scanner to an available USB 2.0 port on your computer.
2. If using the optional turntable, connect it to its designated power source and to the computer if required for synchronization.
3. For tripod use, securely attach the Mole scanner to the tripod mount.

3. Software Installation

1. Visit the official 3DMakerpro website to download the latest version of the scanning software. Ensure you download the correct version for your operating system (Windows 10/11 or macOS 11/12 and above).
2. Follow the on-screen instructions to complete the software installation.
3. After installation, launch the software. You may be prompted to create an account or log in.

4. Initial Calibration

1. Before your first scan, it is recommended to perform an initial calibration using the provided calibration board.
2. Follow the calibration instructions within the software interface. This process ensures optimal accuracy for your

scans.

OPERATING INSTRUCTIONS

1. Preparing for Scan

1. Place the object to be scanned on a stable surface or the turntable.
2. Ensure adequate lighting. While the Mole scanner can operate in bright conditions, consistent, diffused lighting is ideal. Avoid direct, harsh spotlights that can create strong shadows or reflections.
3. For complex objects or those with uniform, featureless surfaces, consider using scanning spray or applying small, non-reflective markers if tracking becomes difficult.



Image 4: Scanning in Various Environments. The Mole 3D Scanner demonstrates its high environmental adaptability by successfully scanning an object even in bright sunlight, showcasing its robust tracking capabilities.

2. Scanning Modes

The Mole 3D Scanner supports two primary scanning modes:

- **Handheld Scanning:** Ideal for larger objects or when flexibility is required. Hold the scanner steadily and move it around the object, ensuring continuous visual tracking.
- **Turntable Scanning:** Best for smaller to medium-sized objects, providing automated and precise 360-degree capture. Place the object on the turntable and initiate the scan through the software.



Image 5: Turntable Scanning Setup. This image illustrates the Mole 3D Scanner mounted on a tripod, capturing a detailed scan of a bust placed on a rotating turntable, highlighting its precision for small objects.

3. Software Interface and Post-Processing

The accompanying software provides a user-friendly interface for controlling the scanning process, viewing real-time scan data, and performing post-processing operations.

- **Real-time Feedback:** Monitor the scan quality and tracking status directly within the software.
- **Data Processing:** After scanning, the software allows for fusion, alignment, noise reduction, and texture mapping to create a complete 3D model.

- **Export Formats:** Export your 3D models in common formats such as OBJ, STL, and PLY for use in other 3D modeling or slicing software.

Compatible Software for Mole



Image 6: Software Compatibility. This image displays various 3D modeling and design software applications that are compatible with the Mole 3D Scanner's output, including MeshMixer, MeshLab, Tinkercad, SketchUp, Solidworks, ZBrush, Blender, Rhino, Maya, Unity3D, 3DMax, and Cinema4D.

MAINTENANCE

- **Cleaning:** Use a soft, dry, lint-free cloth to gently wipe the scanner's exterior. Avoid using abrasive cleaners or solvents. Ensure the optical lenses are clean and free of dust or smudges for accurate scanning.
- **Storage:** Store the Mole 3D Scanner in its original carrying case or a protective environment when not in use to prevent dust accumulation and physical damage.
- **Software Updates:** Regularly check the 3DMakerpro website for software updates. Keeping your software up-to-date ensures access to the latest features, performance improvements, and bug fixes.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Scanner not recognized by computer.	Loose USB connection, driver issue, insufficient power.	Ensure USB cable is securely connected. Try a different USB port. Reinstall scanner drivers. Ensure power adapter is connected if required.
Frequent loss of tracking during scan.	Insufficient features on object, poor lighting, rapid movement, dirty lenses.	Ensure object has enough distinct features. Improve lighting conditions. Move the scanner more slowly and steadily. Clean scanner lenses. Consider using scanning spray or markers for featureless objects.
Software fails to launch or crashes.	Incompatible system, corrupted installation, outdated software.	Verify your computer meets minimum system requirements. Reinstall the software. Check for and install the latest software updates from the official website.
Poor scan quality or inaccurate results.	Improper calibration, environmental interference, object material.	Perform calibration. Ensure stable scanning environment. Avoid highly reflective or transparent objects without proper preparation (e.g., scanning spray).

SPECIFICATIONS

Feature	Detail
Accuracy	0.05mm
Resolution	0.1mm
Frame Rate	10 fps
Work Distance	150 ~ 400mm
USB Interface	USB 2.0
Weight	390g
Output Format	OBJ/STL/PLY
Minimum Computer Requirements	Windows 7, Intel i5 8th, 16GB RAM, MX250 GPU with 2GB VRAM
Compatible System	WIN 10/11, MacOS 11/12 (contains the M1/M2.clip)
Recommended Computer	Intel Core i7 8th, 16GB RAM, NVIDIA 1060 GPU with 4GB VRAM
Light Source Type	NIR+LED
Tracking Mode	Visual Tracking
Single Capture Area	200 x 100mm
Color Texture	Extended Support
Product Dimensions	141 x 80 x 80mm (5.55 x 3.15 x 3.15 inches)



Image 7: Technical Specifications Overview. This image presents a visual summary of the Mole 3D Scanner's technical specifications, including accuracy, resolution, frame rate, and system requirements.

WARRANTY AND SUPPORT

3DMakerpro provides a standard warranty for the Mole 3D Scanner against defects in materials and workmanship under normal use. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official 3DMakerpro website.

For technical support, troubleshooting assistance, or any inquiries regarding your Mole 3D Scanner, please contact 3DMakerpro customer service through their official website or the contact information provided in your product packaging.

Official Website: www.3dmakerpro.com

Online Support: Refer to the support section on the official website for FAQs, tutorials, and contact forms.