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› Mole 3D Scanner User Manual

YOOPAI Mole - Premium Version

Mole 3D Scanner User Manual

Model: Mole - Premium Version | Brand: YOOPAI

1. INTRODUCTION

The YOOPAI Mole 3D Scanner is a high-precision device designed for capturing detailed three-dimensional models of objects. Featuring an accuracy of up to 0.05mm and a resolution of 0.1mm, it is suitable for a wide range of applications from industrial design to artistic creation. This manual provides comprehensive instructions for setting up, operating, and maintaining your Mole 3D Scanner to ensure optimal performance and longevity.



Figure 1.1: The Mole 3D Scanner setup, including the scanner unit, tripod, turntable, and a laptop running the scanning software.

2. PRODUCT FEATURES

- **High Accuracy and Resolution:** The Mole 3D scanner offers an accuracy of up to 0.05mm and a resolution of 0.1mm, enabling the capture of intricate details and precise dimensions.
- **Fast Scanning Speed:** With a scanning speed of up to 10 frames per second (fps), the device can quickly scan medium-sized objects, streamlining the 3D modeling process.
- **Dual Scanning Modes:** Supports both turntable scanning for automated, precise captures and handheld scanning for flexible, on-the-go applications.
- **Advanced Optical System:** Equipped with upgraded high-precision and high-resolution lenses, along with optical anti-

shake modules, ensuring stable and smooth scanning with minimal distortion.

- **Powerful JM Studio Software:** The accompanying JM Studio software features one-click auto-alignment, denoising, simplification, repair, and texture mapping, simplifying the post-processing workflow.
- **Black Object Scanning:** Utilizes Near Infrared (NIR) technology for excellent optical compatibility, allowing for clear and accurate scanning of black objects.

UP TO 0.1MM ACCURACY

With high-precision and high-resolution lenses, Mole can accurately recreate the size of scanned objects and capture more intricate details.



Figure 2.1: Illustration of the Mole scanner's 0.1mm accuracy in recreating object dimensions.

0.1MM HIGH RESOLUTION

0.1mm point distance, ensuring extremely precise and detailed 3D models.



Up to 0.05mm
Accuracy



0.1mm High
Definition Resolution



Multispectral
Technology



No-marker
Scanning

Figure 2.2: Visual representation of the upgraded optical system for enhanced resolution.

3. PACKAGE CONTENTS AND SETUP

Upon unboxing your Mole 3D Scanner, verify that all components listed below are present. The package is designed for secure transport and easy assembly.



Premium Version Product List

- | | | |
|---------------------|-------------------|-------------|
| 1 Mole scanner | 2 Turntable Kit | 3 Tripod |
| 4 Plaster Sculpture | 5 Data Cable | 6 Power Kit |
| 7 User Manual | 8 USB Flash Drive | |

Figure 3.1: Contents of the Mole 3D Scanner Premium Version package.

3.1. Product List:

1. Mole Scanner Unit
2. Turntable Kit
3. Tripod
4. Plaster Sculpture (for practice)
5. Data Cable
6. Power Kit
7. User Manual

8. USB Flash Drive (containing software and resources)

3.2. Initial Setup:

- **Software Installation:** Insert the provided USB Flash Drive into your computer. Install the JM Studio software compatible with your operating system (Windows 10 or macOS). Follow the on-screen instructions.
- **Hardware Connection:**
 - Connect the Mole scanner to your computer using the provided data cable.
 - Assemble the tripod and attach the Mole scanner if using the turntable or stationary scanning mode.
 - Connect the turntable to the power kit and then to the computer, if applicable.
- **Power On:** Ensure all connections are secure and power on the scanner and turntable (if used).
- **Software Configuration:** Launch JM Studio. In the software settings, select "Mole scanner" as your device profile. Refer to the software's built-in tutorial for initial configuration.

4. OPERATING MODES

The Mole 3D Scanner supports multiple operating modes to accommodate various scanning needs and object types.

DUAL SCANNING MODES

Two scanning modes offer users the choice for mode switch and find out the most suitable mode under various circumstances.



Turntable Mode

The automatic scanning process can provide you with a convenient using experience.

Handheld Mode

Flexible, suitable for various scenarios.



Figure 4.1: Overview of the dual scanning modes available with the Mole 3D Scanner.

4.1. Turntable Scanning Mode:

This mode is ideal for small to medium-sized objects requiring high precision and automated capture. The turntable rotates the object, allowing the scanner to capture data from all angles systematically.

- Place the object centrally on the turntable.
- Position the Mole scanner on its tripod, ensuring it has a clear view of the object.
- In JM Studio, select the "Turntable Scan" option.
- Adjust scanning parameters such as brightness and sensitivity as needed.

- Initiate the scan. The software will guide the turntable's rotation and data acquisition.

4.2. Handheld Scanning Mode:

For larger objects or situations requiring flexibility, the handheld mode allows you to move the scanner around the object. This mode benefits from the optical anti-shake modules for stable tracking.

- Hold the Mole scanner firmly.
- In JM Studio, select the "Handheld Scan" option.
- Begin scanning by moving the scanner smoothly around the object, maintaining a consistent distance.
- The software provides real-time feedback on tracking and coverage. Ensure sufficient overlap between scanned areas for accurate model reconstruction.
- For mobile phone scanning, a separate PTZ phone holder (connector) is required and sold separately.

4.3. JM Studio Software Usage:

JM Studio is the primary software for controlling the Mole 3D Scanner and processing scan data. It offers a user-friendly interface with powerful features.

POWERFUL SOFTWARE

JM Studio supports one-click auto-alignment, denoising, simplifying, repair and texture mapping.



Please Note: Mobile phone scanning requires a PTZ phone holder, which is sold separately.



JMStudio



macOS



Microsoft



JMStudio



iOS



android

Figure 4.2: JM Studio software interface demonstrating its one-click optimization features.

- **One-Click Optimization:** After scanning, utilize the software's automated algorithms for model optimization, including multi-positional auto-alignment, auto-noise removal, auto-model simplified topology, auto-hole filling, and auto-texture mapping.
- **Export Formats:** Scanned models can be exported in common 3D file formats such as OBJ, STL, and PLY for compatibility with other 3D modeling software or 3D printing.
- **System Compatibility:** JM Studio is compatible with Windows 10 and macOS. Mobile versions are available for iOS and Android when used with the optional connector.

5. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your Mole 3D Scanner.

- **Cleaning:** Use a soft, dry, lint-free cloth to clean the scanner's exterior. For lenses, use a specialized lens cleaning cloth and solution. Avoid abrasive materials or harsh chemicals.
- **Storage:** Store the scanner and its accessories in the provided carrying case in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Software Updates:** Regularly check for and install the latest JM Studio software updates to benefit from performance improvements, new features, and bug fixes.
- **Cable Care:** Handle data and power cables carefully. Avoid sharp bends or excessive pulling that could damage the connectors or internal wiring.

6. TROUBLESHOOTING

This section addresses common issues you might encounter and provides solutions.

Problem	Possible Cause	Solution
Scanner not recognized by software.	Incorrect driver installation, loose cable connection, wrong software profile selected.	Ensure the data cable is securely connected to both the scanner and the computer. Reinstall JM Studio software and drivers from the provided USB drive or manufacturer's website. In JM Studio settings, verify that "Mole scanner" is selected as the active device.
Poor scan quality or noisy models.	Insufficient lighting, object movement during scan, incorrect scanning distance, reflective surfaces.	Ensure consistent and adequate lighting. Avoid direct sunlight or strong glare. Keep the object and scanner stable during the scan. Use the turntable for stationary objects. Maintain the recommended scanning distance as indicated by the software. For highly reflective or transparent objects, consider using a matte scanning spray (not included). Utilize JM Studio's auto-noise removal and optimization features.
Software crashes or freezes.	Outdated software, insufficient system resources, conflicting software.	Update JM Studio to the latest version. Close other demanding applications to free up system memory and CPU. Ensure your computer meets the minimum system requirements (Windows 10, macOS). Restart the software and/or your computer.

Problem	Possible Cause	Solution
Difficulty tracking in handheld mode.	Rapid movement, lack of distinct features on object, poor lighting.	Move the scanner slowly and smoothly. Ensure the object has sufficient texture or features for the scanner to track. Improve lighting conditions.

7. SPECIFICATIONS

Attribute	Detail
Model Name	Mole - Premium Version
Brand	YOOPAI
Accuracy	Up to 0.05mm
Resolution	0.1mm
Scan Speed	Up to 10fps
Connectivity Technology	USB
Color Depth	24 bpp
Minimum System Requirements	Windows 10, macOS (Premium Version)
Item Weight	5.21 pounds
Package Dimensions	11.73 x 11.54 x 5.24 inches
Manufacturer	3DMakerpro
UPC	850075053049

8. WARRANTY AND SUPPORT

For any quality-related issues or technical assistance, please contact the manufacturer or authorized seller. They are committed to providing support and will respond to inquiries within 24 hours.

Please refer to the official product packaging or the manufacturer's website for specific warranty terms and conditions, as these may vary.

Manufacturer: 3DMakerpro

For support, visit: [YOOPAI Store on Amazon](#)

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

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

Details

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

Submit question