# 3DMAKERPRO JMSTUDIO macOS App User Guide



3DMAKERPRO

JMStudio

**macOS | Windows**
**Manual**

Contents



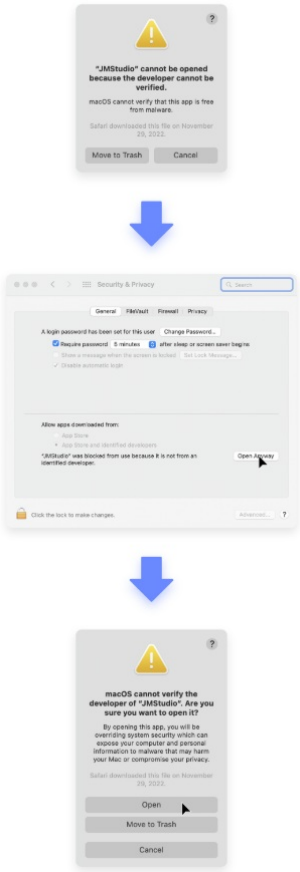
## Software Installation

Operating System Requirement
Recommended Computer Configurations
Intel Core i7 8th, 16GB RAM, NVDIA1060 GPU with 4GB VRAM
**Minimum Computer Configurations**
Intel Core i5 8th, 16GB RAM, MX250 GPU with 2GB VRAM
**How to Install**
You can acquire the application file by visting our website.
Follow the steps below to install the software.

**For macOS**

1. Double-click the application file and drag it to the Applications folder.


2. When this erro occurs, please go into your Security & Privacy, check the App Store and Identified Developers radio button, and click Open Anyway.




3. Allow JMStudio to access files in your Desktop folder.


4. Run JMStudio, allow it to access the camera, now the installation is completed.


**For Windows**

1. Click on the application file, follow the intallation wizard and click Next to install the software.


**Software Upgrade**
Please make sure you're running the lastest version of software.

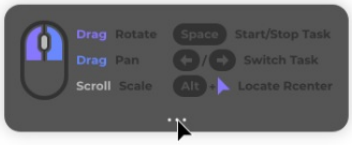
## User Interface

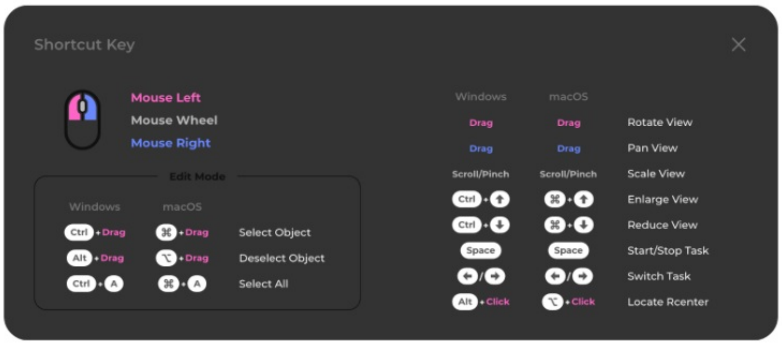
The user interface consists of the following parts:

1. Title Bar
2. Tool Bar
3. Work Mode
4. 3D Viewer
5. Work Panel
6. Data Panel
7. Status Bar


## Shortcut Key

The upper-left area in the 3D Viewer shows you the commonly used mouse and keyboard shortcuts; check all the shortcuts by hovering over this area and clicking the ellipsis below. You can also view or modify more shortcuts by going Settings Shortcut Key.

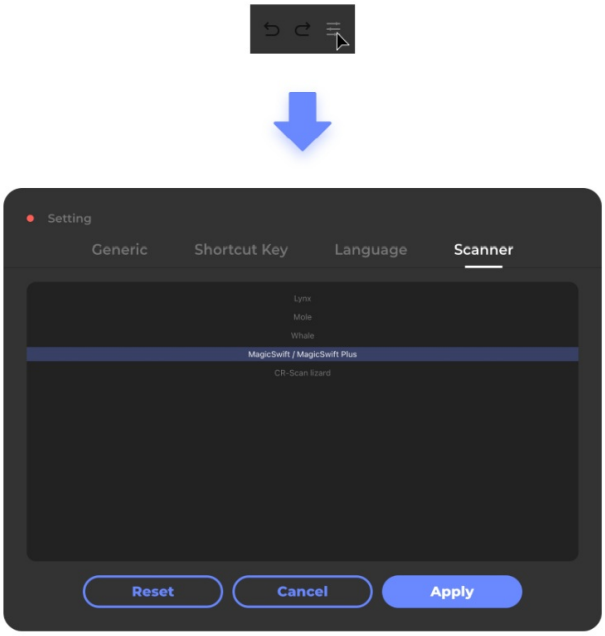



## Scanning Workflow

**Import the Calibration File**
The first-time scan requires you to calibrate the scanner by importing the calibration file.
Before that, please refer to Connect the Cables to ensure the scanner is well-connected.
Make sure your PC is networked to download the calib file. For Windows, JMStudio can automatically identify your scanner and download the calib as well; for macQOS, it requires you to set the scanner type first then download it.
Follow the steps below to calibrate your scanner:
**For macOS**

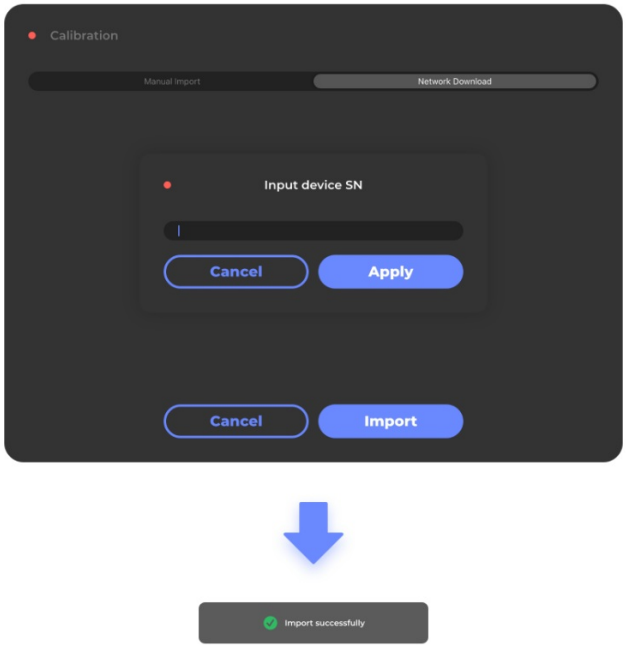
1. In the Work Mode panel, click “Settings” to open the menu and choose the corresponding scanner type.




2. In the Title Bar, click File Import calib and go into Network Download, then input the device SN and click “Import”.

   The device SN can be found at the buttom of the scanner body, then input the letters and numbers and apply to await the prompt “Import successfully”

   **Note:** Please input the last 7 numbers if you are using CR-Scan Lizard.




**Preparation**

**Preparation for special objects**

**lynx:** With 400mm wide capture range, lynx is capable of capturing as many as details, and scanning large sized objects in a smooth and fast manner.

**Mole:** Mole has a standard format of 200mm and an accuracy of 0.05mm, which can capture more target features and is suitable for fine scanning of small objects.

**Whale:** With two cores both in one, Whale is able to scan large-sized objects by activating its wide core; while captures the greatest details of small-sized objects with the micro core at work.

**MagicSwift Plus:** With 400mm wide capture range, MagicSwift Plus is capable of capturing as many as details, and scanning large sized objects in a smooth and fast manner.

**CR-Scan Lizard:** CR-Scan Lizard has a standard format of 200mm and an accuracy of 0.05mm, which can capture more target features and is suitable for fine scanning of small objects.

Please choose the right scan mode according to the size of the object, for more information: Scan Mode

**Objects needing special treatment**
In order to get a better scanning result, please use spray, dry shampoo, powder, etc. on the following types of objects before scanning:


①transparant objects (glass products, plastic bottles, etc.)

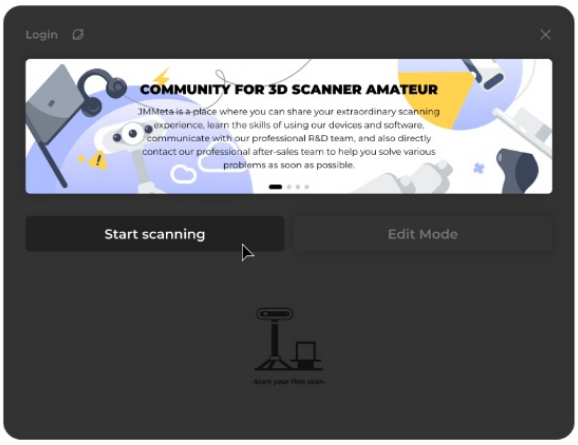

②deformable objects (clothes, animals, etc.)


③reflective, shinny objects (metal products, electroplated parts, etc.)


Before


After

**Preview and Adjustment**
Click “Start Scanning” in the splash screen and will go into scanning preview. In the preview, the Work Panel will switch into “Adjust” panel.




In order to get a best scanning result, please carefully read through the following instructions.
**Scan Mode**
In Easy Scan, you can operate the scanner flexibly to scan large sized objects in irregular shapes; In Table Scan, the scanner works with tripod and turntable to scan small sized objects and free your hands.
Please choose the right scan mode accordingly, and keep a proper working distance as follows.

| unit: mm | Working Distance | Object<br>Easy Scan Size | Table Scan |
|---|---|---|---|
| Lynx | 400-900 | 100-2000 | 100-500 |
| Mole | I 200-400 | I 15-1500 | I 15-300 |
| wide-core<br>Whale<br>micro-core | 400-900<br>200-400 | 200-2000<br>15-2000 | 200-500<br>15-300 |
| MagicSwift Plus | I 400-900 | I 100-2000 | I 100-500 |
| MagicSwift | 400-900 | 200-2000 | 200-500 |
| CR-Scan Lizard | I 200-400 | I 15-1500 | I 15-300 |
| CR-Scan 01 | I 400-900 | I 200-2000 | I 200-500 |

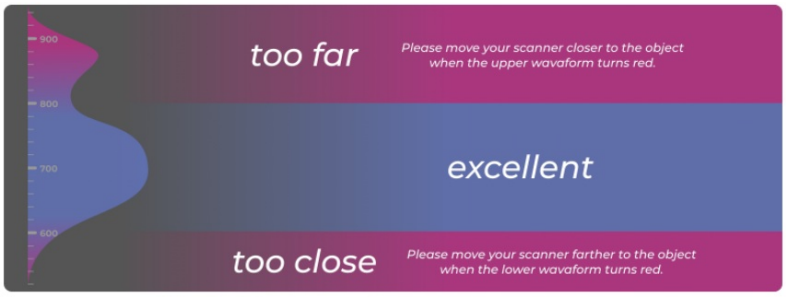
Choose “Easy Scan” or “Table Scan” in the Work Mode.


**For Whale**
We suggest you scan an object of arround 20x20x20cm at your first attempt.
If the data cannot be captured or the software says “tracking lost” please follow the above sheet to adjust the distance between the scanner and the object, and make sure the latter is clear of clutter. If the scanning goes well, please adjust the scanner’s angle and confirm again; if not, please contact us.
Choose “Wide” or “Micro” for the Work Mode in the Work Panel_Adjust.

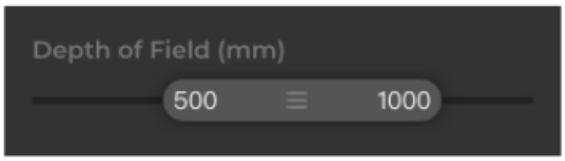

**SLAM Mode**
Choose “Geometry Mode” if the scanned object is bumpy and has great geometic features; while choose “Texture Mode” when scanning objects with vivid colors, patterns and textures.
Please choose the right SLAM mode for your target objects.

Geometry Texture

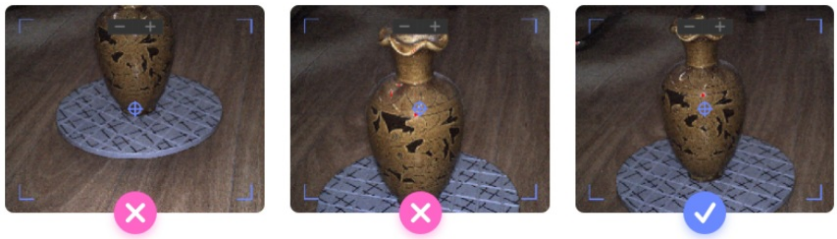
**Working Distance**
The distance indicator on the left side of the 3D viewer can help you find the optimal woking distance.



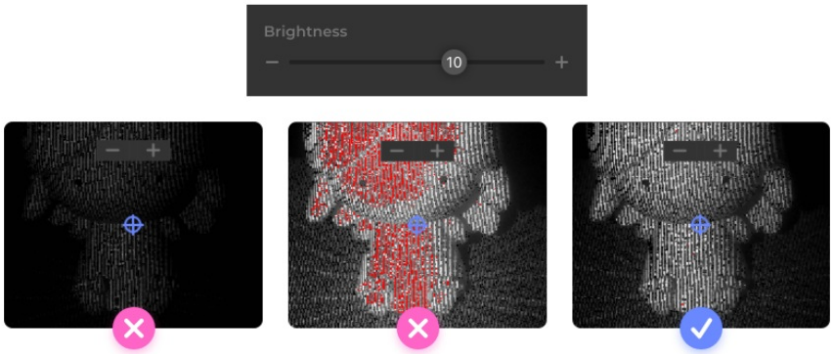

Set the depth range of data aquisition in the Work Panel_Adjust_Depth of Field.



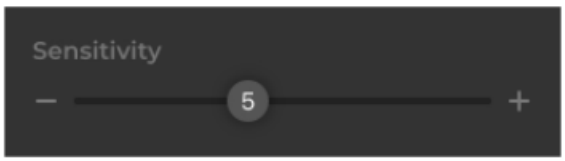

**Locate the Object**
The preview window on the top right of the 3D viewer helps you locate the object. Make sure it fully exposed in the preview window.



**Brightness**
Use the slider to adjust the brightness to a proper level in the Work Panel_Adjust_Brightness.




**Sensitivity**
Use the slider to adjust the Sensitivity to a proper level in the Work panel_Adjust_Brightness. Sensitivity is a parameter to control how sensitive the scanner is to light, affecting the quality of the scan data. Normally set high sensitivity when scanning dark objects, as it allows the scanner to pick up more details while also making the scan data noiser; it's often the opposite at low sensitivity. We can adjust this parameter to balance the data quality and noise reduction according to the type and color of the target object.



**Easy Scan**

**Scan**

Adjust the scanner's position and angle to centre the target object in the preview window; check if they're kept in a proper distance by focusing on the distance indicator.

For more information: Working Distance , Locate the Object, Brightness Click "Scan" on the work panel, hit the spacebar or press the start/stop button on the scanner(supported on specific models) to start scanning.


**Stop**

Click the red counter, hit the spacebar or press the start/stop button on the scanner(supported on specific models) to stop scanning.


*F: Frame is used to measure the pictures. The more frames you've collected, the larger and more complete data you'll get, while it requires more time and a stronger PC to process the data. It's suggested to limit the single scan within 2000F.

**Append**

If you want to scan at a different angle and add a new scan, click "Append", hit the spacebar or press the start/stop botton on the scanner(supported on specific models).


**Process**

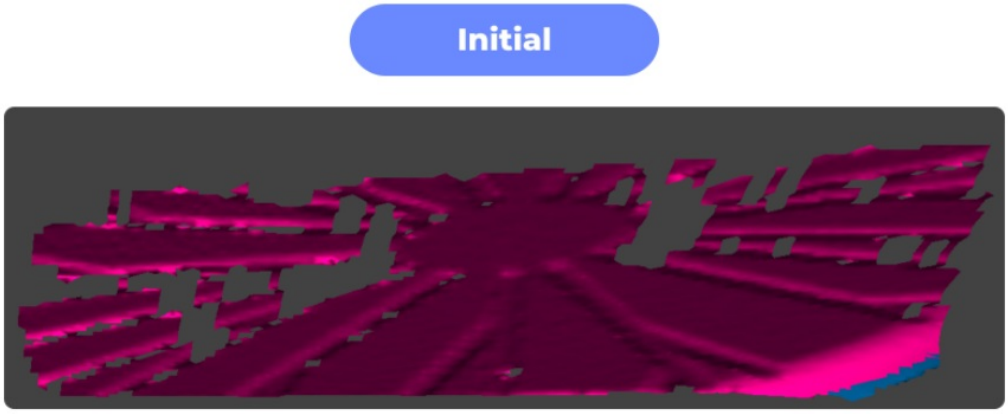
Click "Process", hit the spacebar or press the start/stop botton on the scanner(supported on specific models) to go into the Edit Mode and process the scan data. You can also hit right or left arrow keys to the next or last step.


**Table Scan**

**Initial**

Adjust the scanner's position and angle to centre the target object in the preview window; check if they're kept in a proper distance by focusing on the distance indicator.

For more information: Working Distance , Locate the Object, Brightness Remove the object from the turntable when scanner is well positioned.Click "Initial", hit the spacebar or press the start/stop botton on the scanner(supported on specific models) to scan the empty turntable until it turns red.

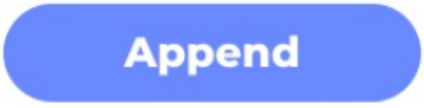



**Stop Initializing**
Click the red counter, hit the spacebar or press the start/stop button on the scanner(supported on specific models) to stop initializing.


*F: Frame is used to measure the pictures. The more frames you've collected, the larger and more complete data you'll get, while it requires more time and a stronger PC to process the data. It's suggested to limit the single scan within 2000F.
**Scan**
Leave the turntable there and place the target object in the centre of it. Click "Scan", hit the spacebar or press the start/stop button on the scanner(supported on specific models) to start scanning.


If you find the initialization result unsatisfactory, can also hit right or left arrow keys to the next or last step. Click the button "1″ hit the spacebar or press the start/stop button on the scanner(supported on specific models) to re-initialize.1
**Stop**
Click the red counter, hit the spacebar or press the start/stop button on the scanner(supported on specific models) to stop scanning.


*F: Frame is used to measure the pictures. The more frames you've collected, the larger and more complete data you'll get, while it requires more time and a stronger PC to process the data. It's suggested to limit the single scan within 2000F.
**Append**
If you want to scan at a different angle and add a new scan, click "Append", hit the spacebar or press the start/stop botton on the scanner(supported on specific models).



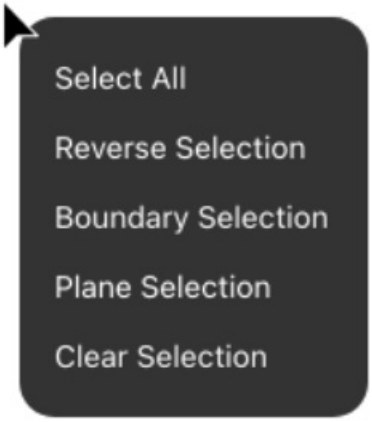
**Process**
Click “Process”, hit the spacebar or press the start/stop botton on the scanner(supported on specific models) to go into the Edit Mode and process the scan data. Or hit right or left arrow keys to the next or last step.


**Reset**
Click “Reset”, hit the spacebar or press the start/stop botton on the scanner(supported on specific models) to initialize again. Or hit right or left arrow keys to the next or last step.


## Editing

**Data Editing**
Before meshing the point cloud data, you can do simple editing on it to delete excess data and ensure the guality of the model.

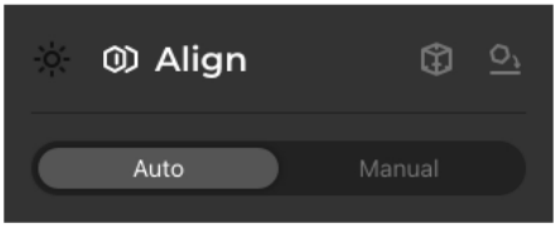
1. **Select Tools**
   Hover your mouse over the Tool Bar on the left side of the interface, here are a few selection tools available.
    Point Picker
    Line Picker
    Rectangle Picker
    Lasso Picker
    Poyline Picker
    Pick on Face
    Pick through Face
2. **Select the Data**
   Hold Ctrl and press left mouse button in the 3D Viewer to select an area, the selected place will turn red.
3. **Process the Data**
   Hover your mouse in the 3D Viewer and right click or click on “Edit” in the Title Bar to show the menu then edit your data.




Select All: Select all visible data.
Reverse Selection: Select the data outside the selected area.
Boundary Selection: Select an area that falls with a given region or boundary.
Plane Selection*: Select all the data on one fitting plane.
Clear Selection: Deselect the data.
*Plane Selection can be used to select a plane such as the turntable, floor, wall and have them deleted. Watch the tutorial below to learn more:
https://forum.jimumeta.com/home/tutorial/41ba5746e3df4aebbfccfa90abde0el18.html

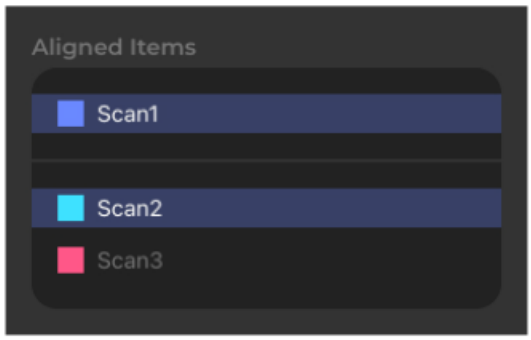
**Align**
Watch the tutorial below to learn more about Align:
https://forum.jimumeta.com/home/tutorial/a911d93894004ba7a618ac0e7b309d04.html

Go into “Align” in the Work Panel and select the align mode.

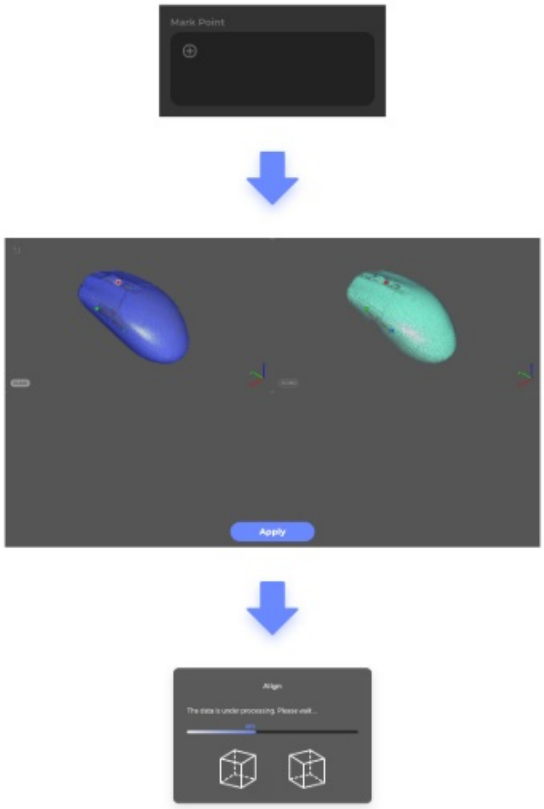



**Auto Align**
Select the scans that need to be aligned to in the “Work Panel”. Drag one in the above highlighted box as the reference, another in the box below as the floating scan. Click “Align” to merge them together.


**Manual Align**
Select the scans that need to be aligned to in the “Work Panel”. Drag one in the above highlighted box as the reference, another in the box below as the floating scan.

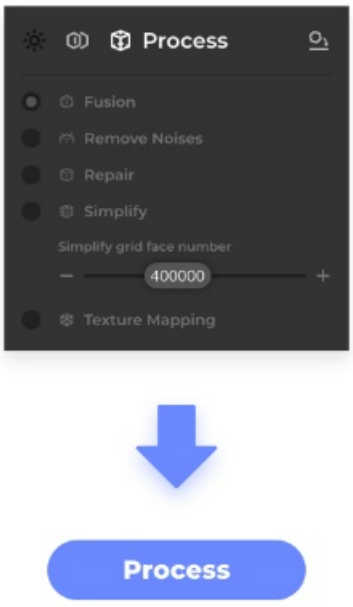



Click “+” in the mark point box to automatically generate three pairs of mark points in the 3D Viewer. Right-click to pick up the points then reposition them, and drag each pair to the place you want until they are matched.Click “Align”:

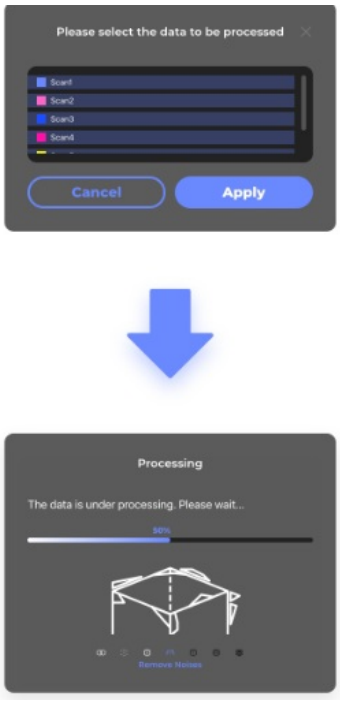



**Process**

Check the processing steps needed for your point cloud data in the Work Panel Process:
[Fusion] Mesh the point cloud data by connecting the dots to produce a complete model.
[Remove Noises] Clean up the mesh by removing the floating noises from the scans.
[Repair Gaps] Fill the holes on the mesh to produce a watertight model.
[Simplify] Narrow down the amount of mesh faces to reduce the data size.
[Texture Mapping] Apply the texture or color information onto the mesh surface.(Colors only available for some of 3DMakerpro models.) Note: here “Texture Mapping” refers to the texture capturing by the scanner itself. If you need to do “External Texture Mapping”, please uncheck this step.
Click “Process” in the 3D Viewer after checking the needed steps.




Select the scans in this pop-up window and click “”Apply” to start the data processing.

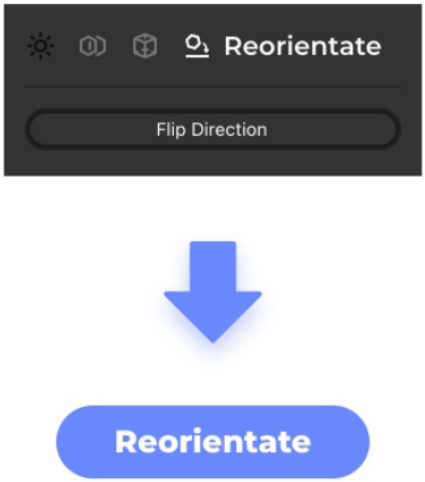



You can further edit on the mesh model to delete excess data with the selection tools available. For more information: Data Editing Watch the tutorial below to learn more:
https://forum.jimumeta.com/home/tutorial/fee6bfaad70e41a1b251ed0c555a8496.html

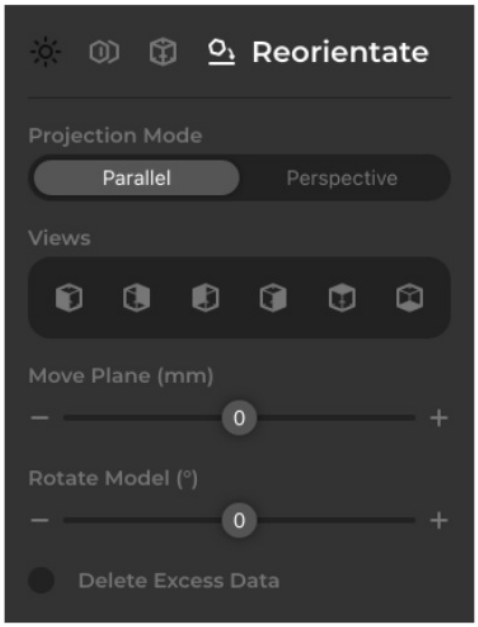
**Reorientate**

Adjust the model's posture, align its base to XY axis of the coordinate system for further model editing and 3D printing.

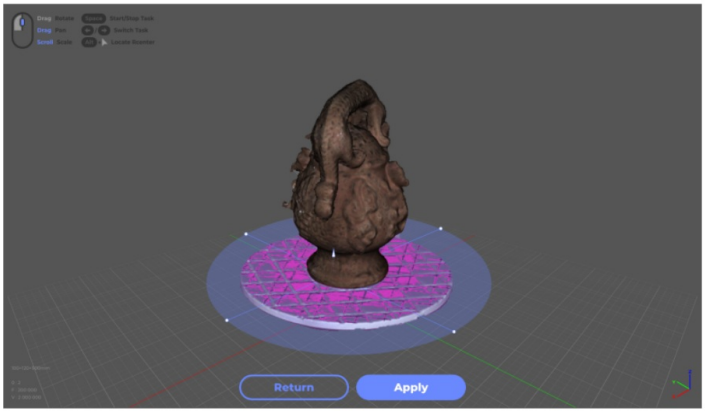
Reorientate your 3D model by going into the Work Panel_Reorientate. Three mark points will be automatically created to generate a plane; right-click to reposition them but not make them in a line; flip directions of the normal line in the Work Panel_Reorientate; click "Reorientate"to execute it.




In the Work Panel_Reorientate, there are other settings such as changing the view types, moving the plane, rotating the model and deleting the highlighted excess data below the plane.

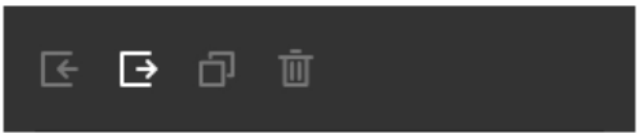



Drag four anchor points to reposition the plane, and drag the arrow in the middle to move the plane vertically; click “Apply” if you are satisfied.

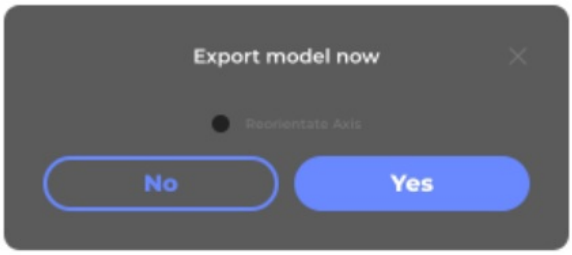



### Export the Model

Click “Export” in the Title Bar_File or the export icon in the Data Panel to export the model.



Click “Yes” in the pop-up, will go to reorientate the model if checking “Reorientate Axis”.
For more information: Reorientate




JMStudio now supports model exported in obj, stl and ply format, stay tuned for more available formats. Thank you for your time!

**Download latest JMStudio from**
**https://fforumjimumeta.com/home/help/download.html**

**Get latest Manual from**
**https://ffforum.jimumeta.com/home/help/manual.html**

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## Documents / Resources


[3DMAKERPRO JMSTUDIO macOS App] [pdf] User Guide
JMSTUDIO macOS App, JMSTUDIO, macOS App, App

## References

- User Manual