



Cr-Scan Lizard 3D Scanner



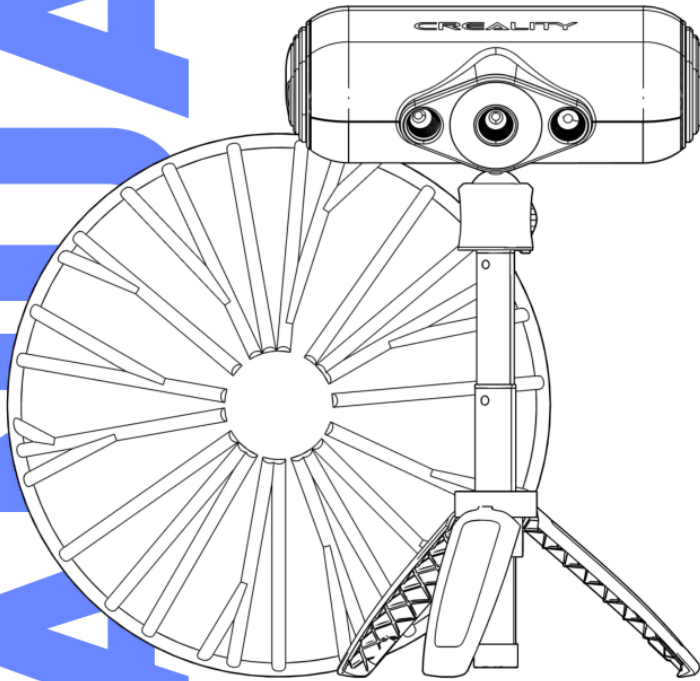
3D Scanner Inventory

When you check out this kit it will include the following items. When you return the kit, please be sure all of the items listed are contained in the kit.

- Cr-Scan Lizard Scanner
- Power Cable
- Data Transmission Cables
- Small White Tripod
- Turntable
- Tall Black Tripod
- Fold-up Enclosure
- Color Kit Cable
- Laptop With CR Studio Software

V2.0

CREALITY



MANUAL

CR-Scan Lizard

Hardware Connection **P1**

Packing List **P3**

Download latest **CRStudio** from
<https://www.creality.com/download>



Computer Requirements

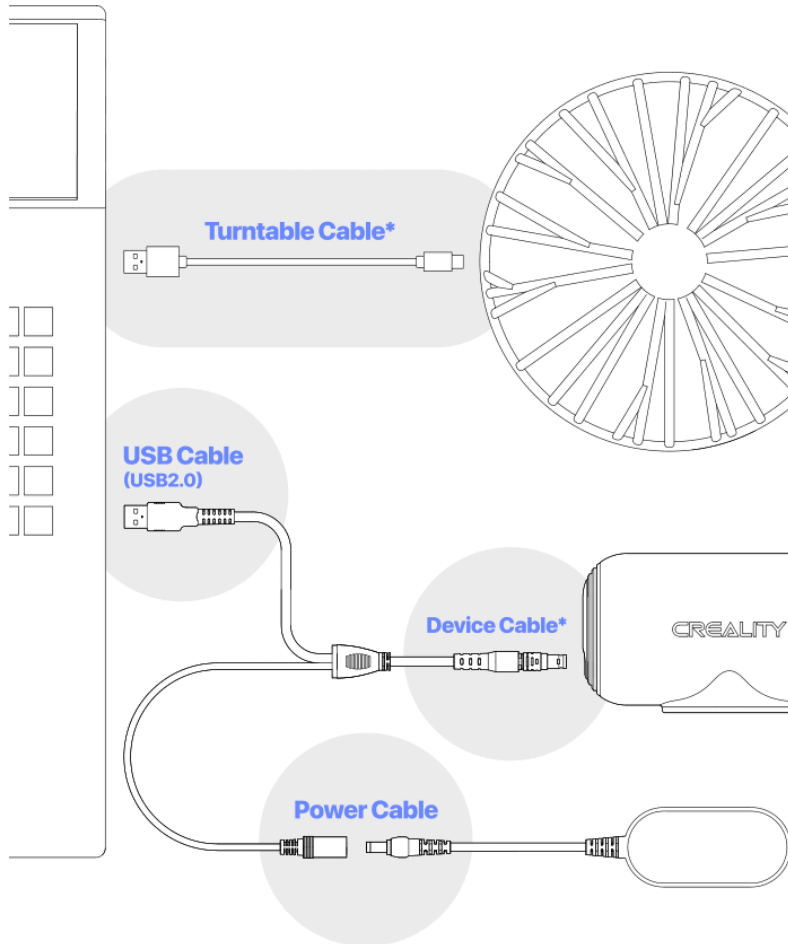
Minimum Intel Core i5 8th, 8GB RAM,
MX250 GPU with 2GB VRAM

Recommended Intel Core i7 8th, 16GB RAM,
NVDIA1060 GPU with 4GB VRAM

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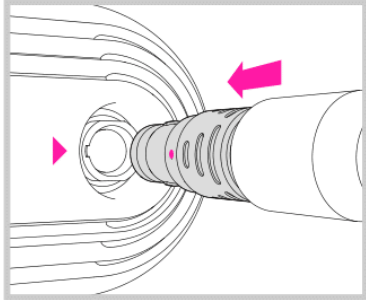
HARDWARE CONNECTION



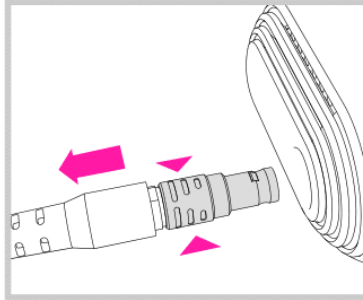
One end of the device is plugged into the navigation plug, and the other side is plugged into the power cord and computer USB 2.0 or above port respectively.

P2

* Device Cable

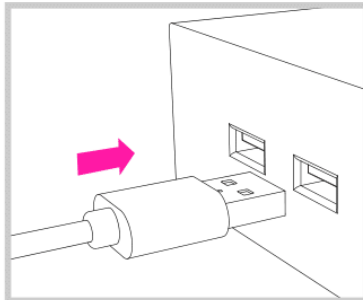
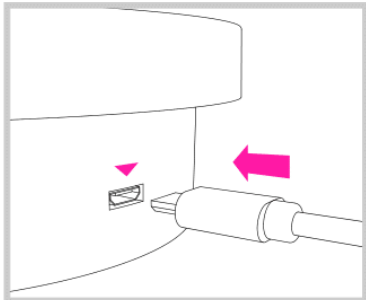


Align the airline plug of the device cable with the notch of the device jack.



To unplug the cable, press and hold the position shown in the figure and pull out the cable directly.

* Turntable Cable



The turntable power cord can be plugged into the computer through usb power supply, or use the phone charger for its power supply.



Download the Software

<https://www.crealitycloud.com/software-firmware/software?type=11>

Home > Software & Firmware > Software

Software

- Creality Print (FDM Slicer)
- HALOT BOX (Resin Slicer)
- Creality Slicer (FDM Slicer)
- CR Studio (Scan)**

CR Studio (Scan)
CR Studio is a self-developed scanner software for CR-Scan O1 by Shenzhen Creality 3D Technology Co., Ltd. This software comes with powerful model processing capabilities. It has two modes: turntable and handheld, and can export [Expand](#) ▼

Required OS
- Windows 10 64bit, 8GB RAM above and 2G graphics card memory above.
- Above Mac OS Big Sur.

System: Search by keyword

Version History

Windows ▼

- V2.2.0
 - [CR_Studio_v2.2.0.0010.exe](#) 2022-06-15 [Description](#)
- V1.8.0
 - [CR_Studio_1.8.0.046.exe](#) 2022-06-15 [Description](#)
- V2022.5.19.0020 (Lizard)
 - [CR_StudioSetup.2022.5.19.0020.exe](#) 2022-06-15 [Description](#)
- V1.7.5.086
 - [CR_Studio-V1.7.5.086.exe](#) 2022-01-19 [Description](#)

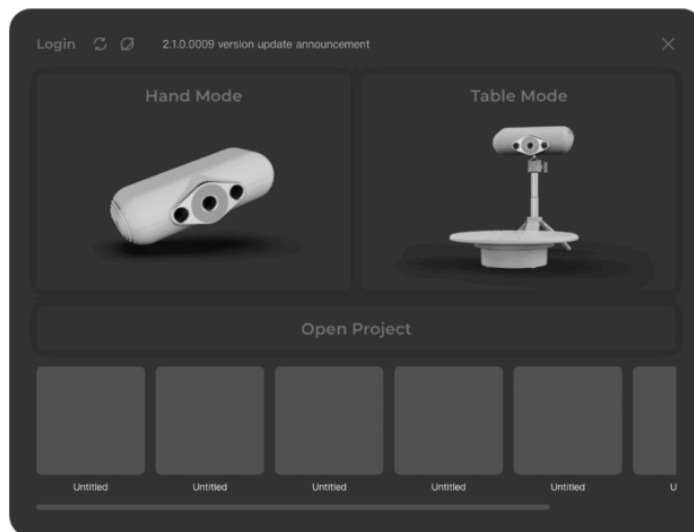
Mac ▼

- V2.2.0
 - [CR_Studio_v2.2.0.2.0007.dmg](#) 2022-06-30 [Description](#)
- V1.8.0
 - [CRStudio_1.8.0.046.dmg](#) 2022-06-15 [Description](#)
- V2022.5.19.0020 (Lizard)
 - [CRStudio.2022.5.19.0020.dmg](#) 2022-06-15 [Description](#)
- V2021.12
 - [CR_Studio-V2021.12.dmg](#) 2022-01-18 [Description](#)

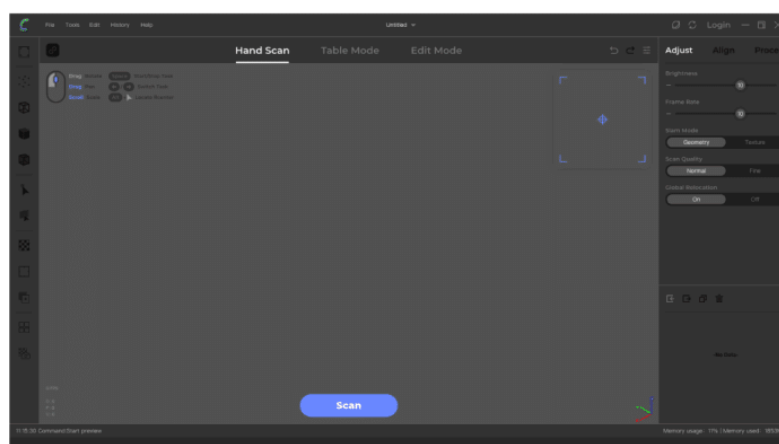


02 Launch the Software

The interface of the launching process

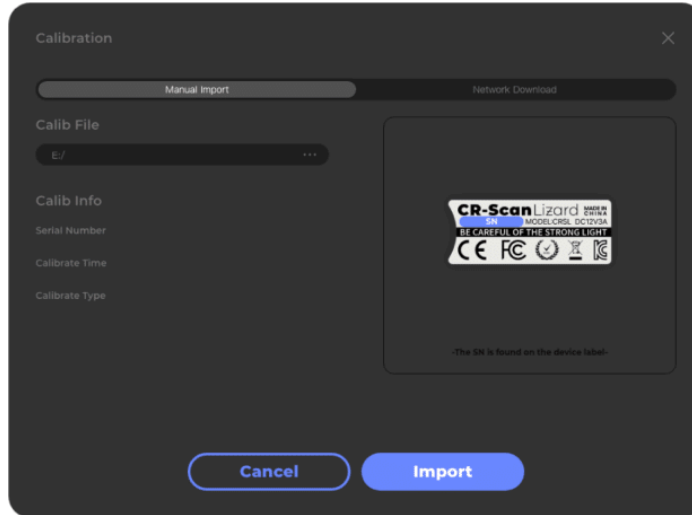


The main interface of the software



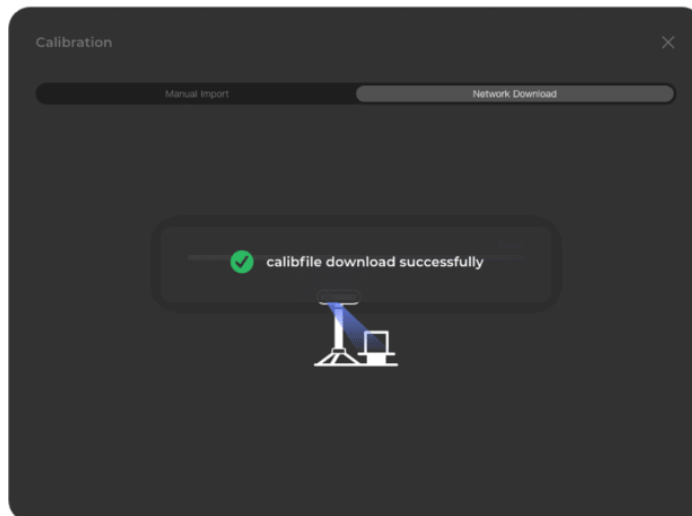
03 Import the Calib File

Click "File" in the menu-find "Import Calib".



Windows Choose "Network Download"-click "Import".

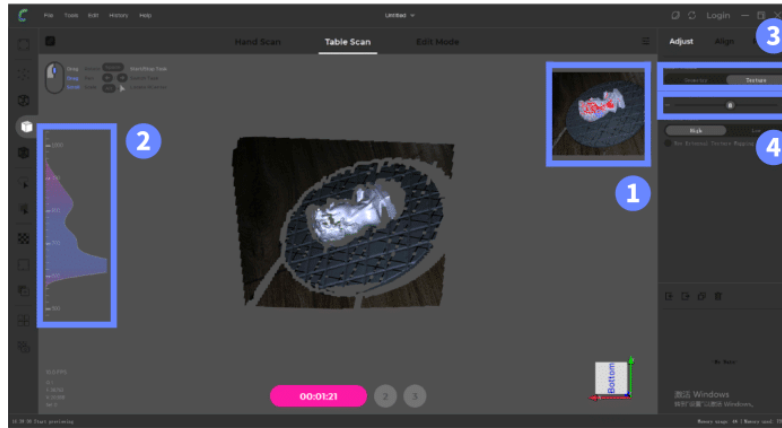
Mac OS Choose "Network Download"-input the SN of the device-click "Apply" and "Import".



04 In the Turntable Mode

Step 1

Preview

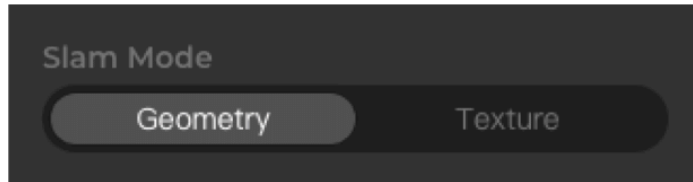


- 1 Adjust the scanning angle and the distance between the turntable and the scanner to see the object in the center of the 3D view.
For CR-Scan 01, the distance should be kept within 600-800mm.
For CR-Scan Lizard, the distance should be kept within 300-400mm.
Attention: the tripod should be extended to the highest level.
- 2 The ruler on the left side shows the scanning distance you keep. And the waveform represents whether the distance is appropriate or not.



05

- 3** Choose the scan mode between geometry and texture.

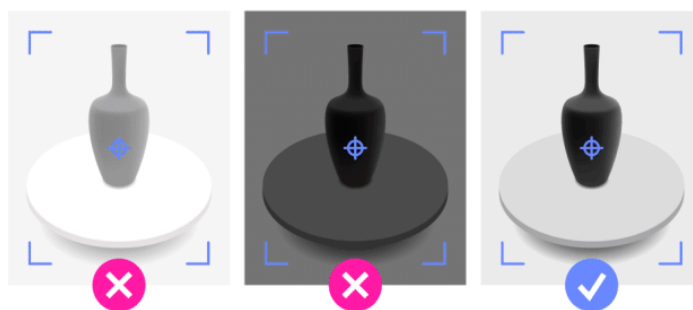
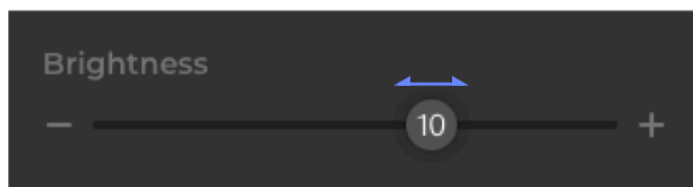


It's suitable to scan objects with rich geometric features.



It's suitable to scan objects with vivid textures.

- 4** Pull the brightness adjustment slider to make the brightness appropriate.



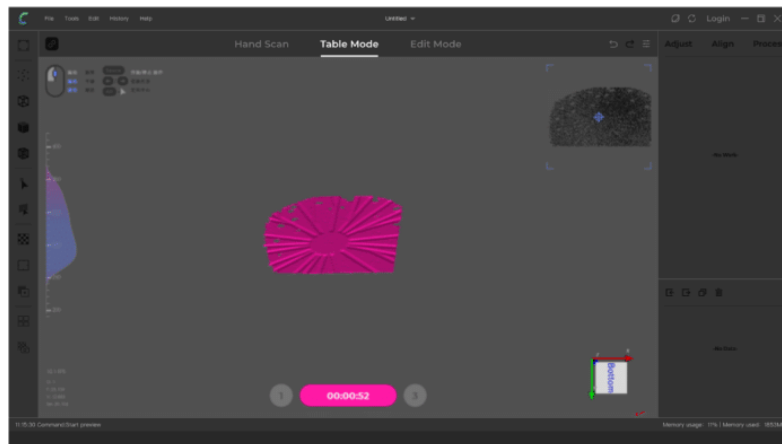
06

Keep the area around the turntable free of debris.



Step 2

Initial

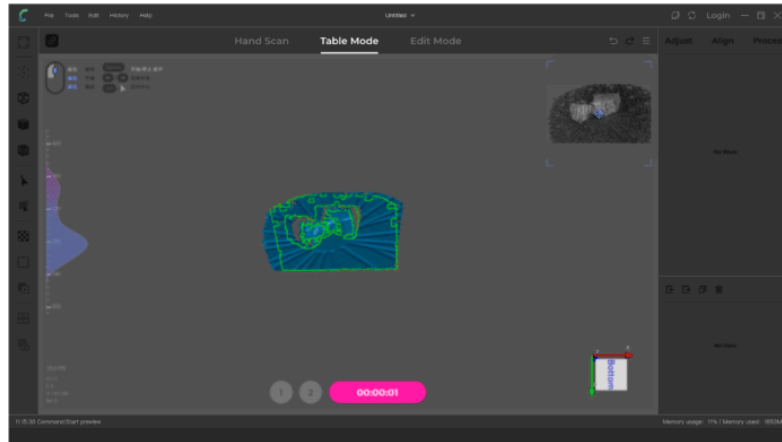


Move the object away and scan the turntable only. The initialization is successful when the turntable becomes red. (This process takes only 1-2 seconds in most cases)

07

Step 3

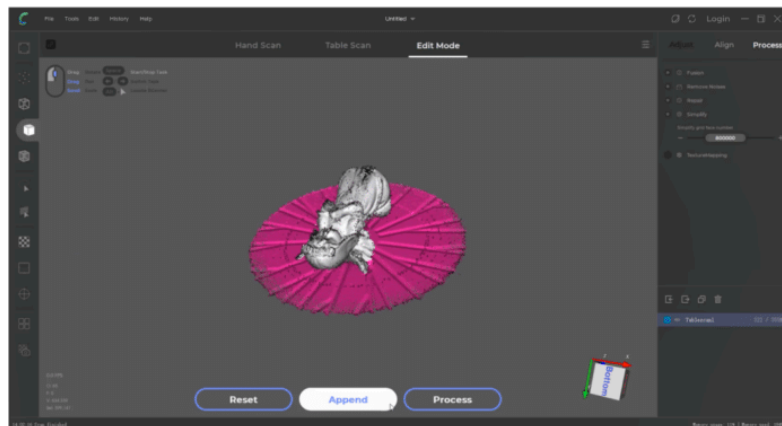
Scan



Make sure the object is in the center of the turntable, and click "scan" to start the automatic scanning. When the scanning ends, the turntable will become red automatically.

Step 4

Append

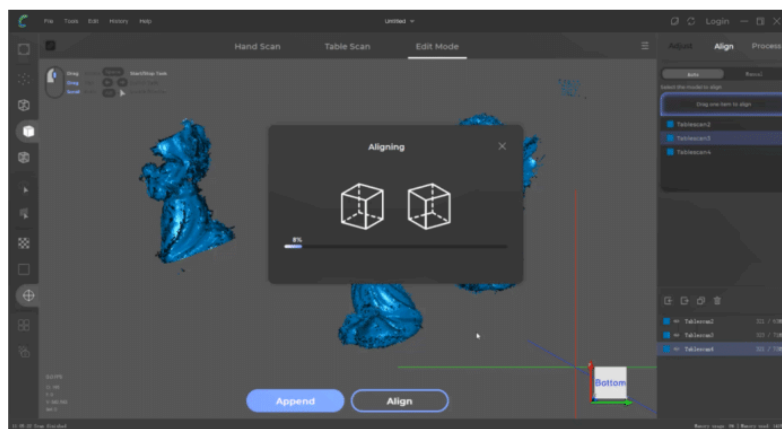


08

In order to get a complete scanning result, you can scan different postures. Change the posture of the object on the turntable, and click "append" and "scan" one at a time, then the automatic scan of the second posture will begin.

Step 5

Align

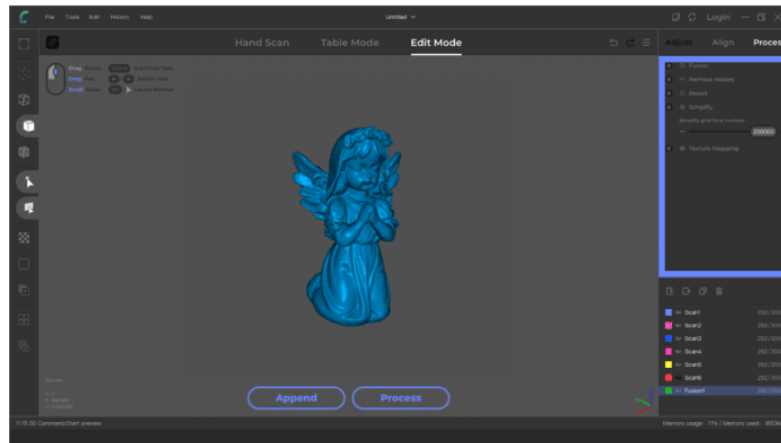


Now you can align the scanning results of different postures. First thing to do is make the models visible by picking up the scanning data, and click "align" to start automatic alignment. After finishing that, check whether the alignment is successful or not. If you're not satisfied with the result, click "manual" and start manual alignment.

Step 6

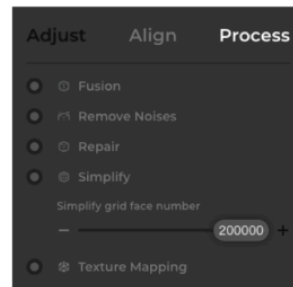
Process

09

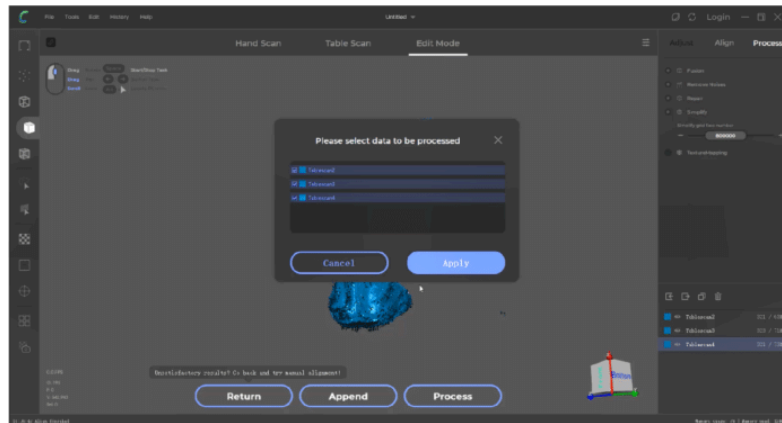


Once the alignment is done, click “process” to go through the automatic data processing. Before that, you can do some configuration about the processing.

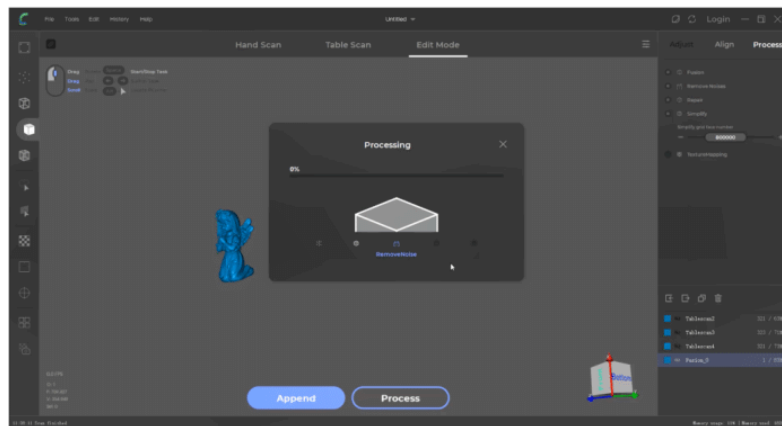
- 1 Fusion** this is the process of data fusion, building the point cloud into the digital terrain model.
- 2 Remove Noises** automatic removal of noises around the data.
- 3 Repair** automatic data repair, which is to fill the holes where the area hasn't been scanned. (Attention: Do not tick this option when scanning some objects with only one surface available, such as human face.)
- 4 Simplify** simplification of grids, so as to adjust the amount of the grids.(PS: If there are only a few grids, the details of the model will mostly lose. Our recommendation: the objects of about 1000mm-2 million grid faces, and objects of about 300mm-800,000 grid faces.)
- 5 TextureMapping** texture mapping is to automatically map the pictures shot by the cameras inside the scanner onto the model.



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Click "Apply" to activate automatic processing.



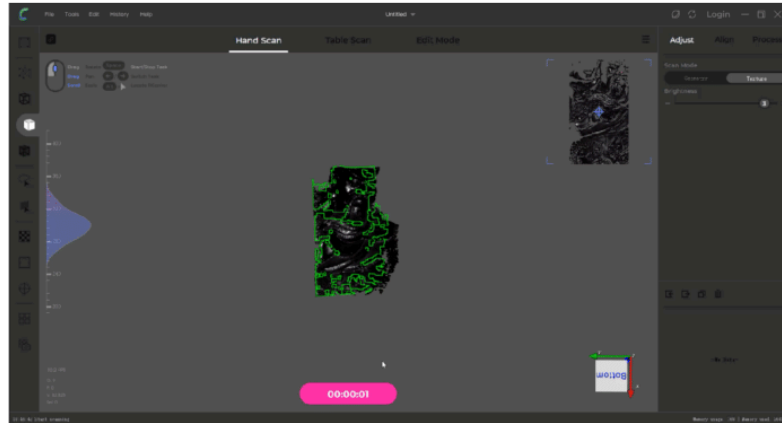
At last, please click "File" in the menu and click "Export" to get your data in the format of OBJ or STL.



In the Handheld Mode

Step 1

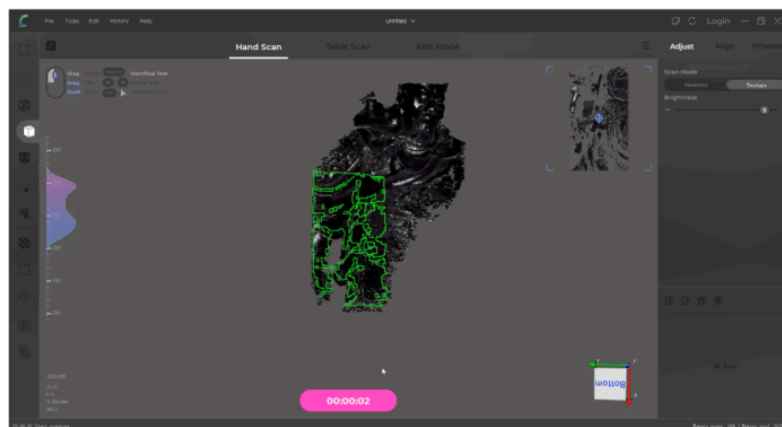
Preview



Click "preview" and there will be 10 seconds of countdown. During this period, you can adjust the brightness, the distance between the turntable and the scanner and your scanning angle.

Step 2

Scan

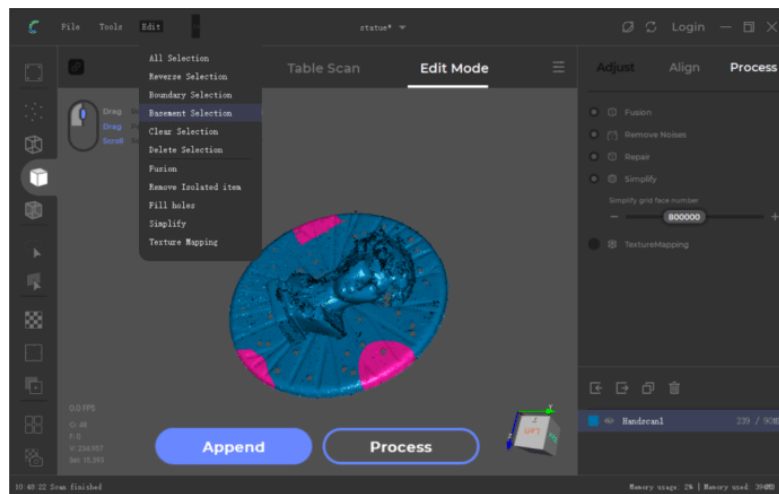


12

During the scanning process, try to move the scanner in the maximum scanning area. When the tracking is lost, you can retrieve the lost area by scanning the previously scanned area with the function of global relocation.

In the handheld mode, same with the turntable mode, you can also scan your model in different postures to get a descent and complete result.

Step 3 Remove The Basement

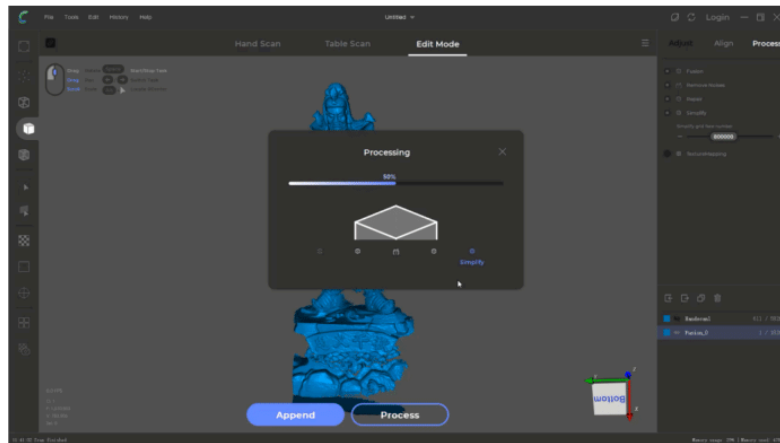


- 1 Enter the edit mode.
- 2 Hold down the ctrl key and the left mouse button to select 3 areas in the basement.
- 3 Right click your mouse and choose "selection plane" to calculate the whole basement.
Now, the basement will turn red.

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Step 4

Process



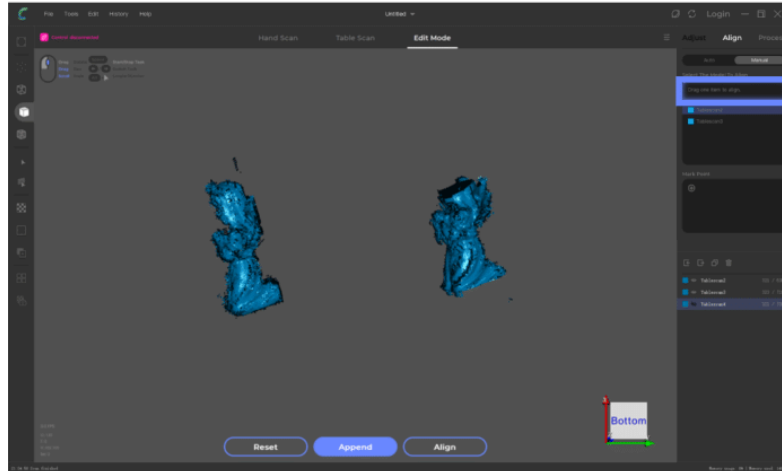
Click "process" , rename your project and save it. Then click "Apply" to activate automatic processing.

At last, please click "File" in the menu and click "Export" to get your data in the format of OBJ or STL.

14

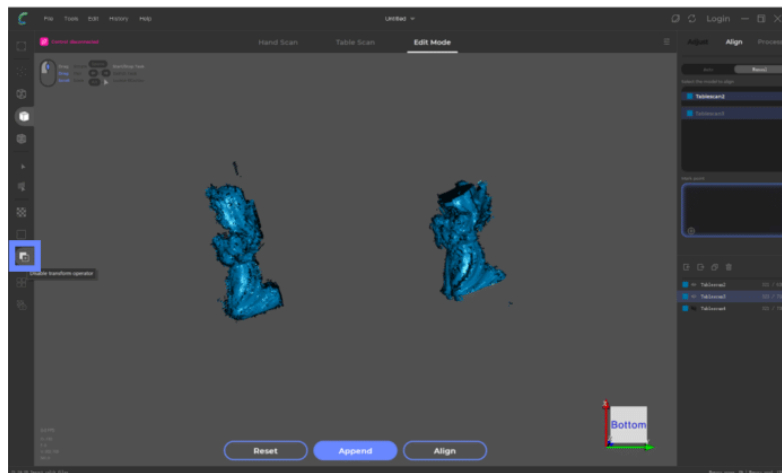
Advanced Tutorials

Manual Alignment



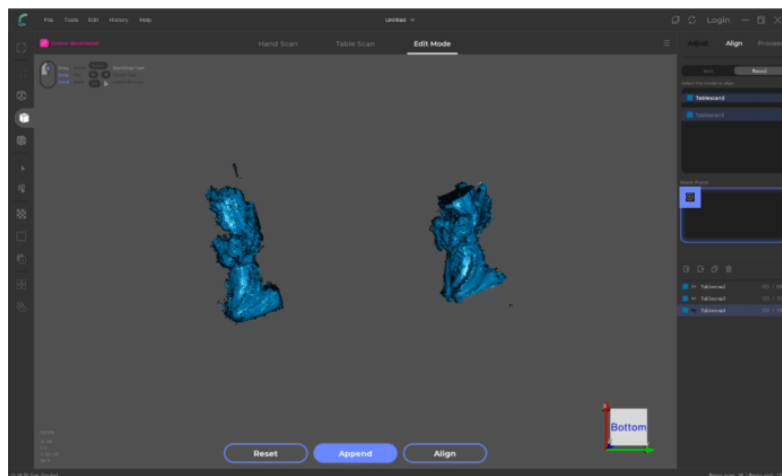
Drag one scan in the area where the arrow in the pic is pointing to, setting it as the reference model.

(In the following picture, we will align Tablescan3 with Tablescan2 and the reference model is Tablescan2.)



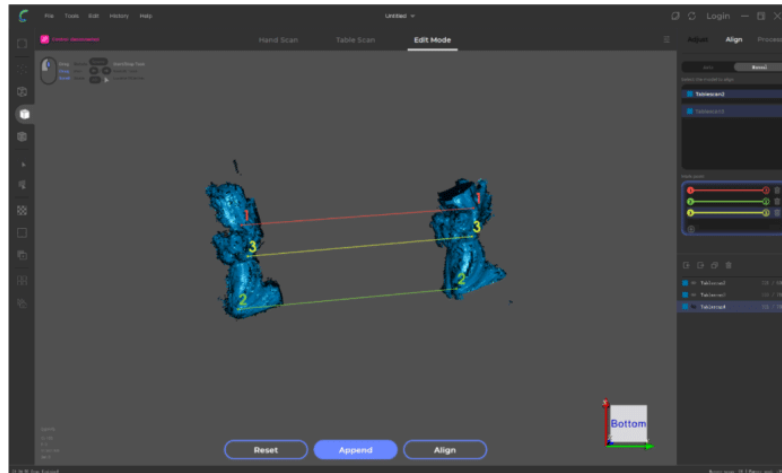
15

Click the button for separating models that the arrow in the pic is pointing to, hold Alt and the middle mouse button to separate them, and hold Alt and the left mouse button to adjust the posture of the model.



Click the little plus icon down here to add pairs of mark points.

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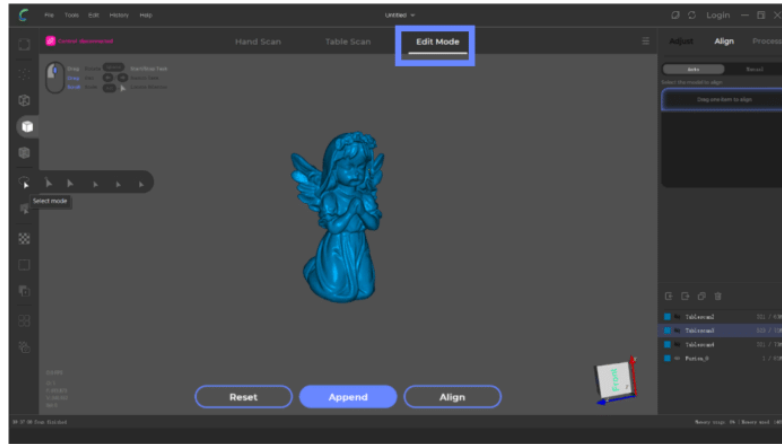
Pick up the pairs in the menu successively and create the corresponding mark points in the two models, as the picture shows.

With three pairs of mark points created, click "Align" and operate the manual alignment.


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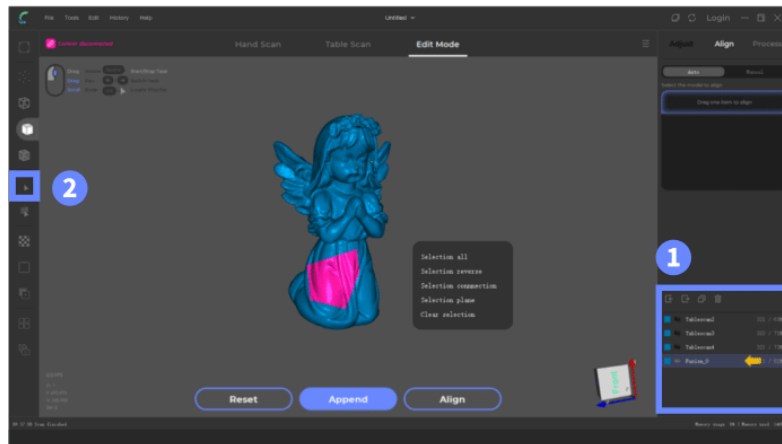
Editing the model

Step 1 Enter The Editing Mode



Switch into the editing mode as the picture shows.

Alt +  **click** locate model rotation center




1 Pick up the scan that needs editing in the data menu as the picture shows.


18

2 This is the selector for selecting area in the model.

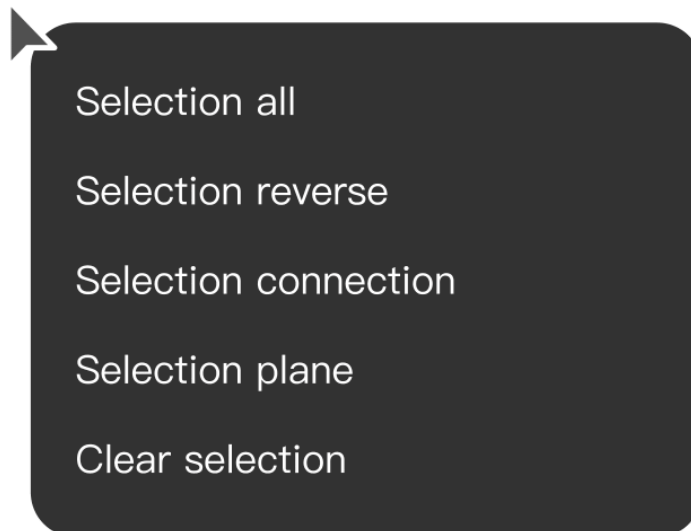


Ctrl +  **drag** select the edit area on the model

Del delete selected area

 **click** edit selected area

Right click your mouse to show the menu



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Shortcut Key



- drag** rotate model
- drag** pan model
- scroll** scale model

Space

Start/Stop Task



Switch Task

Alt + **click**

Locate Rcenter

align mode

- Alt** + **drag** pan model
- Alt** + **drag** rotate model
- click** create marker pair

edit mode

- Ctrl** + **drag** select model
- Ctrl** + **Alt** + **drag** deselect model

Creality CR-Scan Lizard 3D Scanner Troubleshooting

1. The scanner installation file is corrupted

Here you can download the latest software:

<https://www.crealitycloud.com/software-firmware/software?type=11>

2. I cannot install the software.

- a) Check whether the computer memory is 8G and above, make sure the hard disk has enough storage space;
- b) Please allow the administrator permission to run the software, you can switch to an administrator account then log in to Windows;
- c) Disable antivirus software and reinstall CR Studio. If it still does not work, please uninstall the antivirus software and reinstall the CR Studio software;
- d) Make sure the software is installed under English directory (no special character);
- e) Make sure your computer meets the system requirements;

System requirement:

Windows 10 and above, 64 bit

Mac OS Big Sur and above

Required hardware:

✧ Minimum:

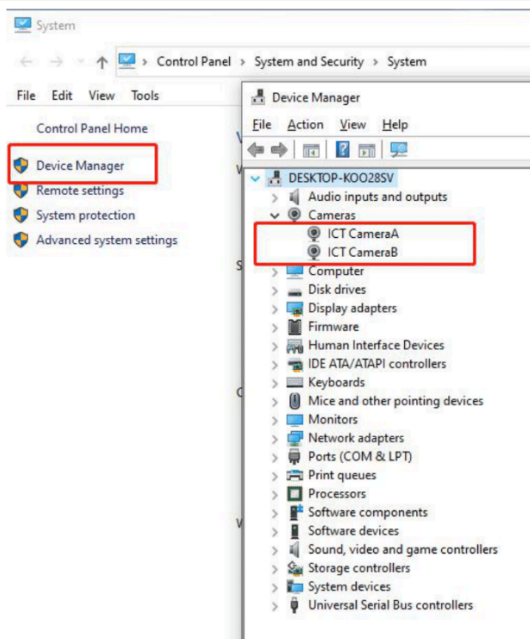
CPU: i3 7th 2.0GHz or Equivalent, RAM: 8GB,
Graphics card: MX250 or Equivalent and above

✧ Recommended:

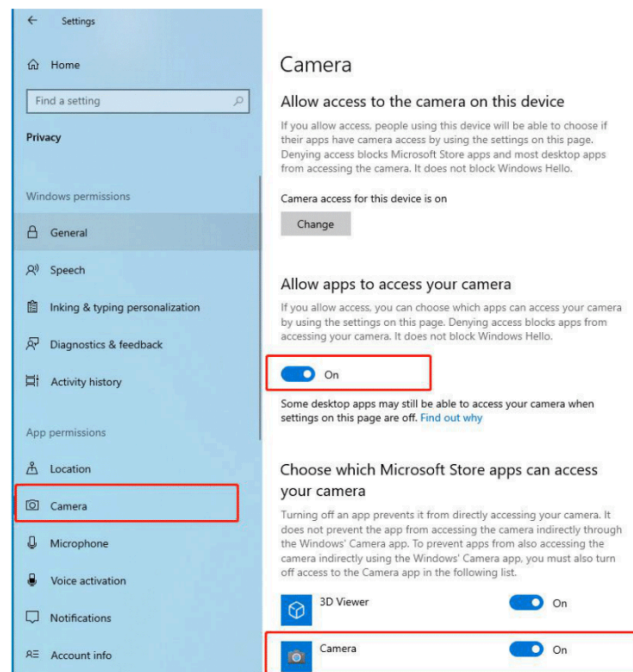
CPU: i7 8th 3.5GHz or Equivalent, RAM 16GB,
Graphics card: 1060 4GB or Equivalent and above

3. Why does it show “the scanner connect failed” in CR Studio?

- a) Make sure the data cable and power cable plugged in (the scanner indicator will be on and you can hear the fan inside the scanner is running if the scanner is powered on). Close the software then open again.
- b) It is recommended to connect the scanner to the computer directly instead of using a USB hub;
- c) Disable antivirus software and reinstall CR Studio. If it still does not work, please uninstall the antivirus software and reinstall the CR Studio software;
- d) Make sure you can find camera A and B in the device manager;



e) Verify if the camera permission is enabled on your computer: Windows settings->Security->Camera->Allow apps to access camera.

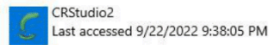


Allow desktop apps to access your camera

Some apps and Windows features need to access your camera to work as intended. Turning off this setting here might limit what desktop apps and Windows can do.

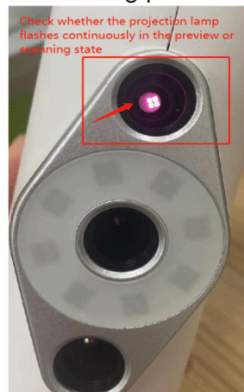


Some desktop apps might not appear in the following list or are not affected by this setting. [Find out why](#)



4. The device is connected successfully, but no image shows on the screen.

- a) Please refer to the user manual and make sure the Calibration file has been imported;
- b) The software needs restarted once you reconnect the scanner to the computer.
- c) Check whether the projection lamp is flashing continuously in the preview or scanning process.



- d) Verify if the camera permission is enabled on your computer: Windows settings->Security->Camera->Allow apps to access camera.

Camera

Allow access to the camera on this device

If you allow access, people using this device will be able to choose if their apps have camera access by using the settings on this page. Denying access blocks Microsoft Store apps and most desktop apps from accessing the camera. It does not block Windows Hello.

Camera access for this device is on

Change

Allow apps to access your camera

If you allow access, you can choose which apps can access your camera by using the settings on this page. Denying access blocks apps from accessing your camera. It does not block Windows Hello.

On

Some desktop apps may still be able to access your camera when settings on this page are off. [Find out why](#)

Choose which Microsoft Store apps can access your camera

Turning off an app prevents it from directly accessing your camera. It does not prevent the app from accessing the camera indirectly through the Windows' Camera app. To prevent apps from also accessing the camera indirectly using the Windows' Camera app, you must also turn off access to the Camera app in the following list.

3D Viewer	On
Camera	On

Allow desktop apps to access your camera

Some apps and Windows features need to access your camera to work as intended. Turning off this setting here might limit what desktop apps and Windows can do.

On

Some desktop apps might not appear in the following list or are not affected by this setting. [Find out why](#)

CRStudio2	Last accessed 9/22/2022 9:38:05 PM
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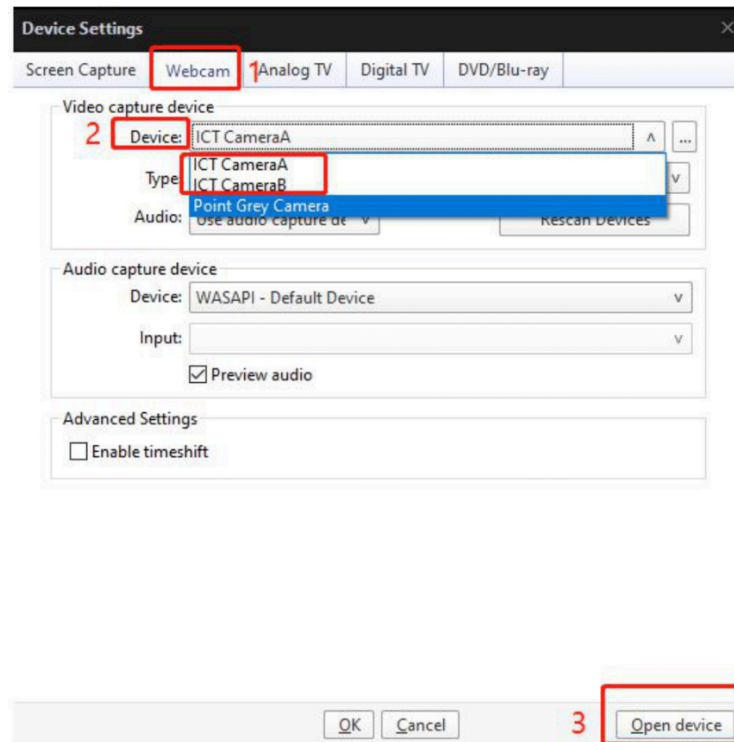
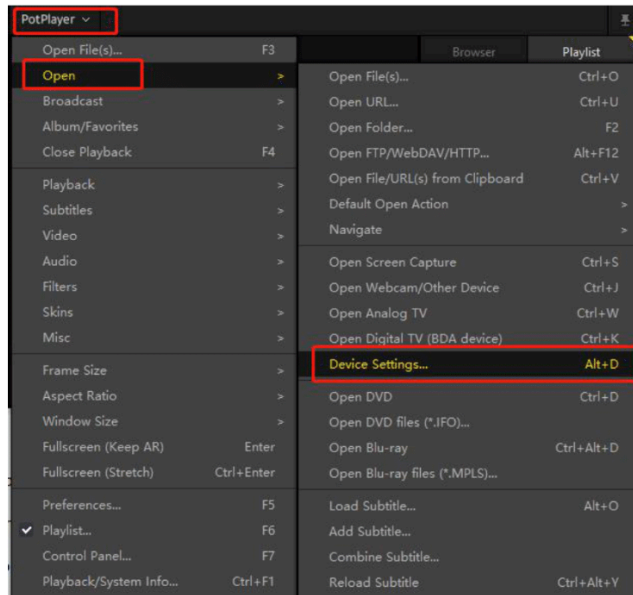
e) Install PotPlayer for 64-bit Windows

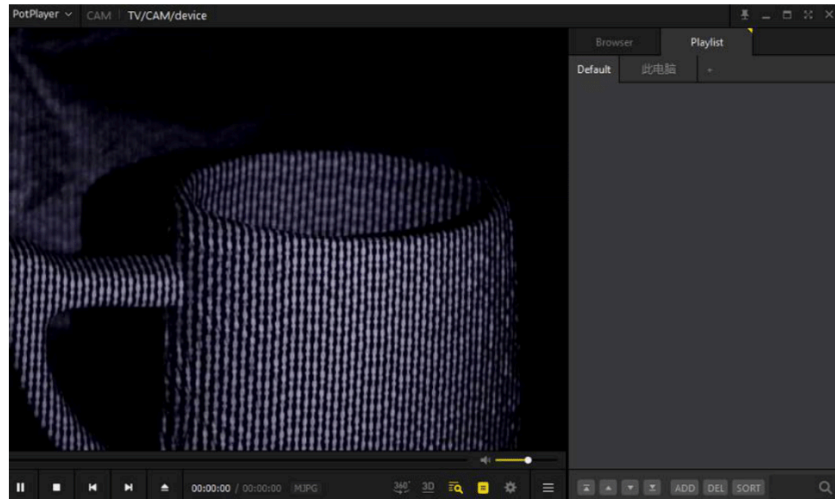
Link: <https://daumpotplayer.com/download/>



After the installation is finished, click PotPlayer -> Open -> Device Settings -> Webcam -> Device -> select ICT CameraA and ICT CameraB – Open device.

Then check if there is any video from cameras. If no videos, it means the computer system is not compatible with the scanner camera, please try another computer or reinstall the computer system.





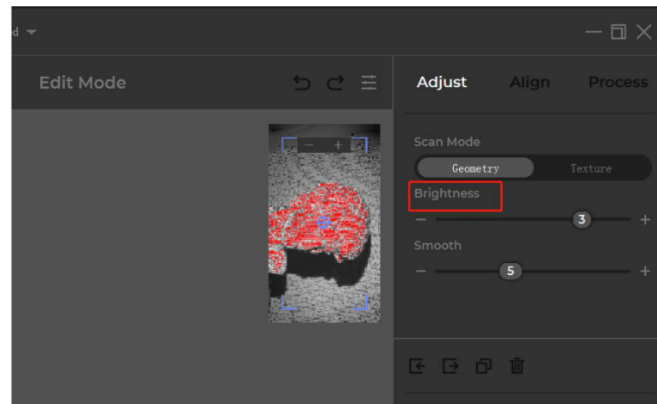
5. The software shows a white screen without any content.

- Make sure the graphics driver is installed well.
- Go Device Manager-> Display Adapters to make sure the graphics card is enabled.



5. Objects cannot be scanned or are missing

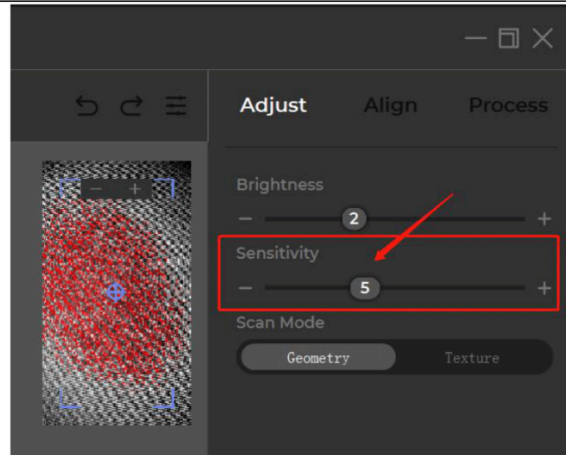
- In the turntable mode: the distance between the scanner and the turntable is about 250mm-350mm; In the handheld mode: the distance between the scanner and the scanned object is about 300mm;
- Make sure the material is NOT transparent, reflective, hollow, very thin. Regarding transparent and reflective objects, it is recommended to use scanning spray or dry shampoo before scanning. Hairs, furs, or similar tiny objects cannot be scanned either.
- Adjust the brightness bar in the top right corner, make sure the object is clear without much red points;



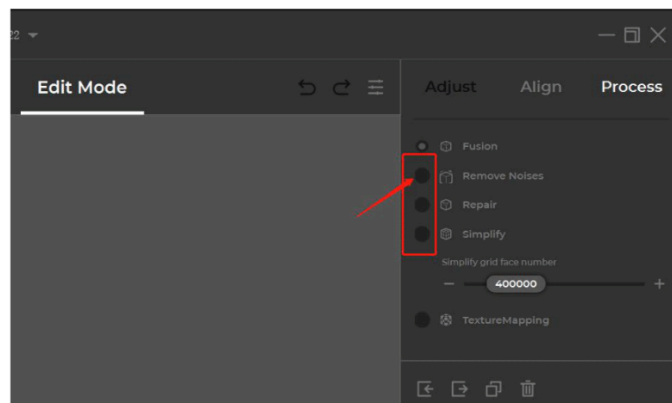
- d) Make sure the frame rate is around 10fps (you can check it in the left bottom corner while scanning). If it does not reach 10fps, please check your computer specs, refer to question 2.



- 6. After fusion, there is rough edges and a lot of noise.**
 a) Please adjust the sensitivity level while scanning



b) select “remove noises” and try to unselect “repair” before processing to see the results.

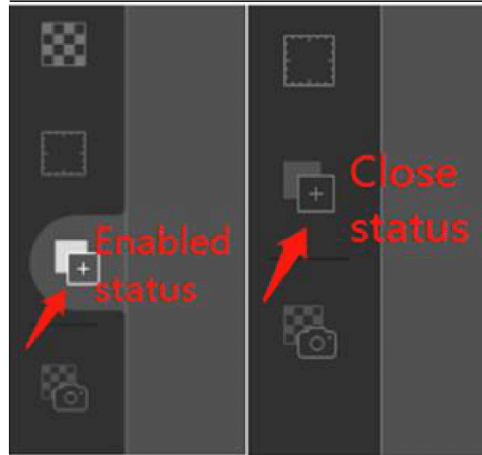


7. Can CR Scan Lizard use a mobile power supply to power the scanner?

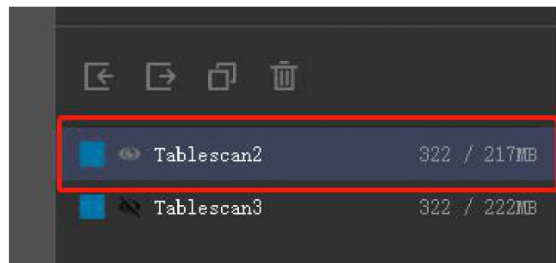
Yes, it can work with 20w fast charging power bank by using an adapter cable from type C/USB/Micro USB to round head DC5.5mm cable.

8. The basement cannot be selected.

Make sure the transform operator in the left bar is NOT enabled.

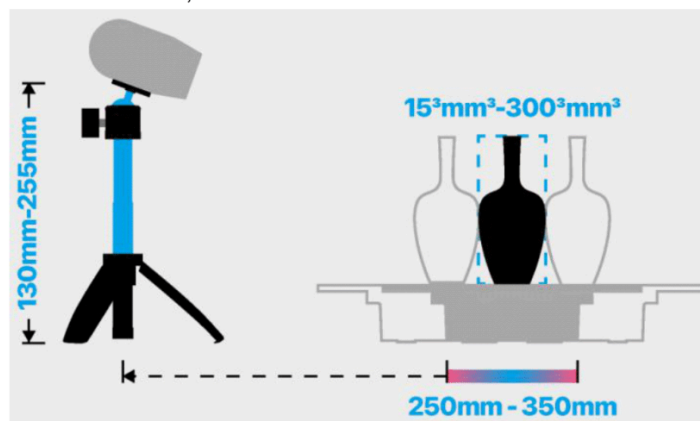


Under the edit mode, make sure the scanned data is unhidden and selected (click the small eye to unhidden) in the data menu.



9. The initialization turntable cannot turn red

- a) Make sure the distance between the turntable and the scanner is 250mm-350mm;



- b) Keep the scanned object and turntable only, remove other items and keep the scanning environment clean and empty.

10. One camera is wonky/ The camera angle of view is not positive

Please do not worry, this is designed like this for projection.

The scanner has 2 cameras and a kind of projector that projects a light pattern onto the object. According to the principles of photogrammetry, the projector needs to keep a certain angle with the point cloud camera to get better scanning result, so there is offset of the camera.

11. I lost the user manual

The latest CR Studio user manual can be found in the Help menu:

