

CR Studio

Quick Guide



Device unboxing



Host



USB drive



Tripod



Turntable cable



Device Cable



Power Supply



Turntable



Turntable surface

Device cable

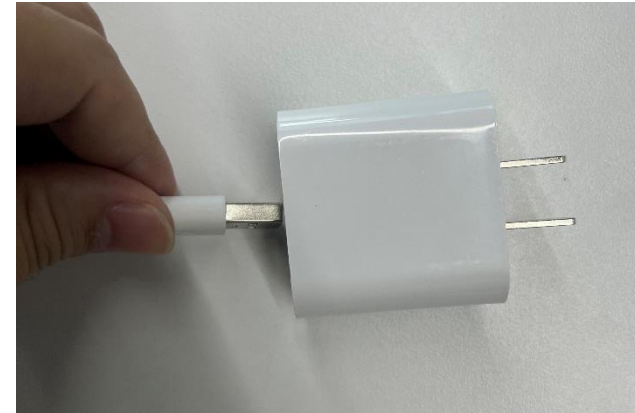
Align the airline plug of the device cable with the notch of the device jack

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



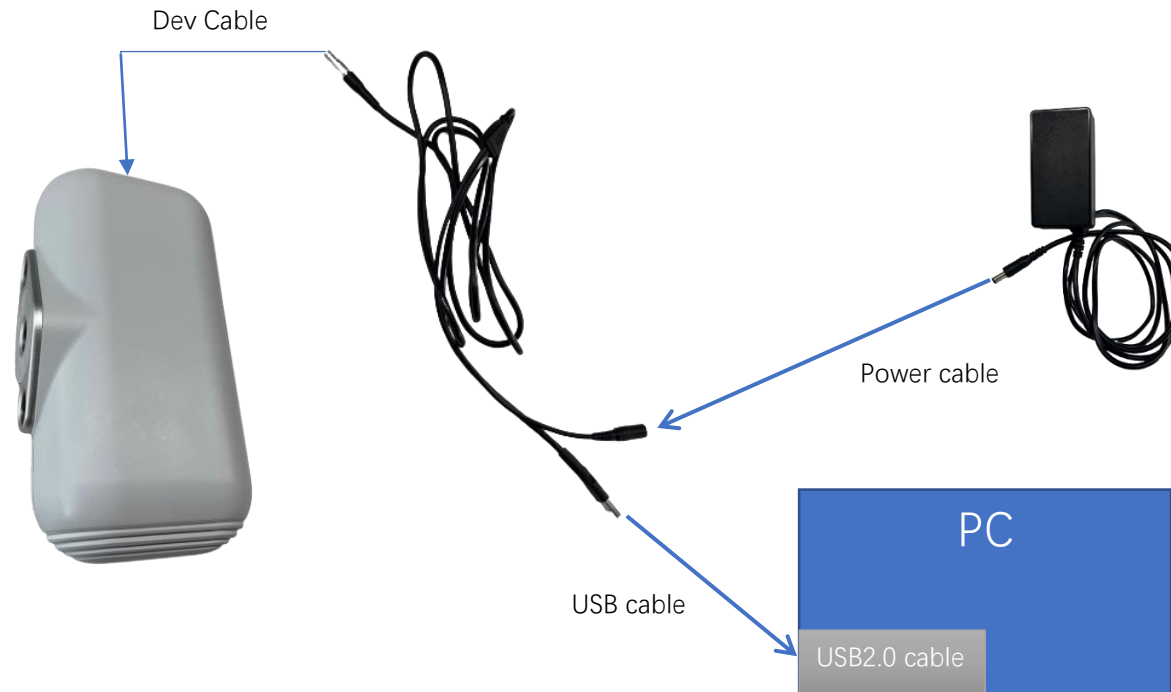
Turntable

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



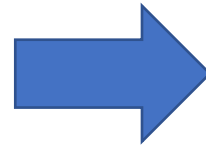
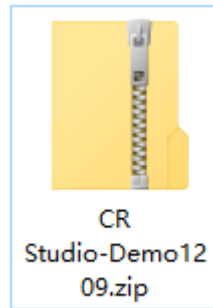
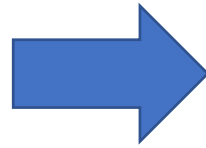
Device Installation












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



Software Installation

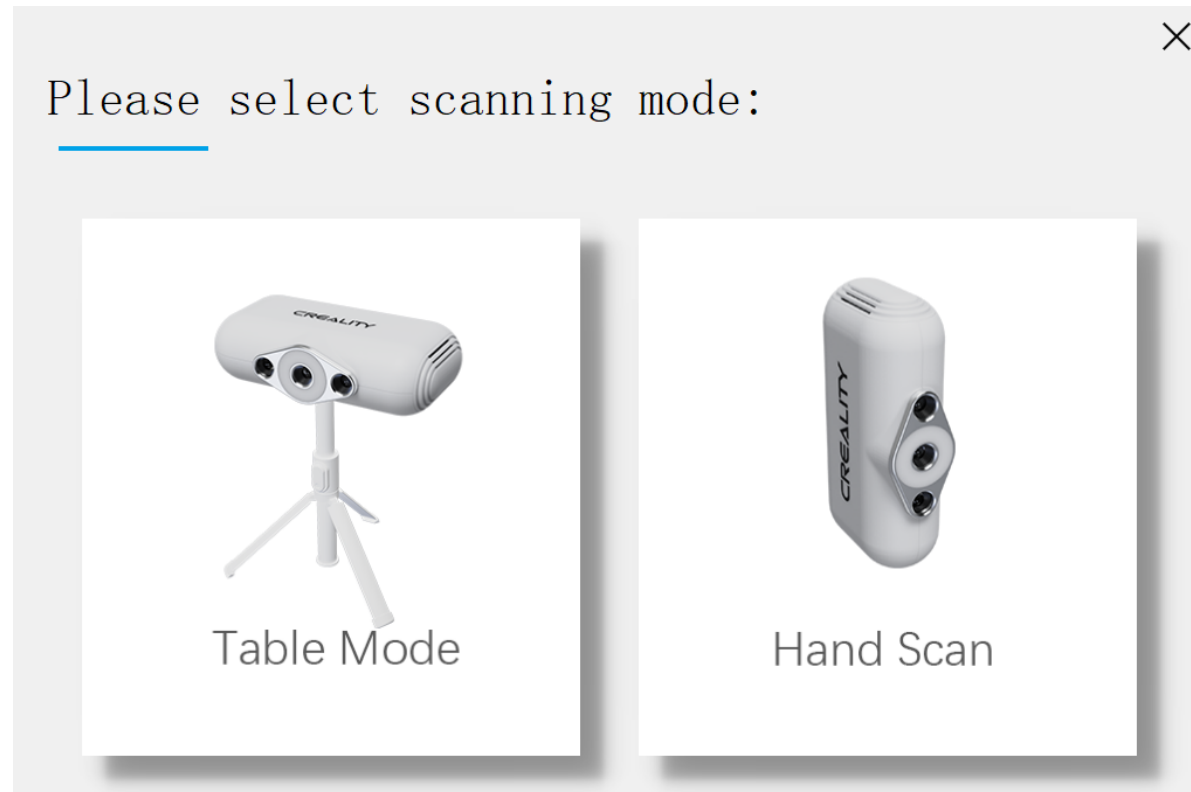
Unzip the compressed file, Run program “CRStudio.AppLoader.exe”



 CRStudio.AppLoader.pdb	2021/12/1 15:07	Program Debug...	4,476 KB
 CRStudio.AppLoader.lib	2021/12/1 15:07	Object File Library	6 KB
 CRStudio.AppLoader.exp	2021/12/1 15:07	Exports Library ...	3 KB
 CRStudio.AppLoader.exe	2021/12/1 15:07	应用程序	3,041 KB
 corrRGB.txt	2021/10/9 11:30	文本文档	75,520 KB
 corr.txt	2021/10/9 11:30	文本文档	25,174 KB
 core_release.dll	2021/10/9 11:30	应用程序扩展	75 KB
 comdrv.dll	2021/5/3 21:47	应用程序扩展	18 KB
 CGAL_ImagelO-vc120-mt-4.9.dll	2021/10/9 11:30	应用程序扩展	126 KB
 CGAL_Core-vc120-mt-4.9.dll	2021/10/9 11:30	应用程序扩展	247 KB
 ceres.dll	2021/10/9 11:30	应用程序扩展	1,491 KB

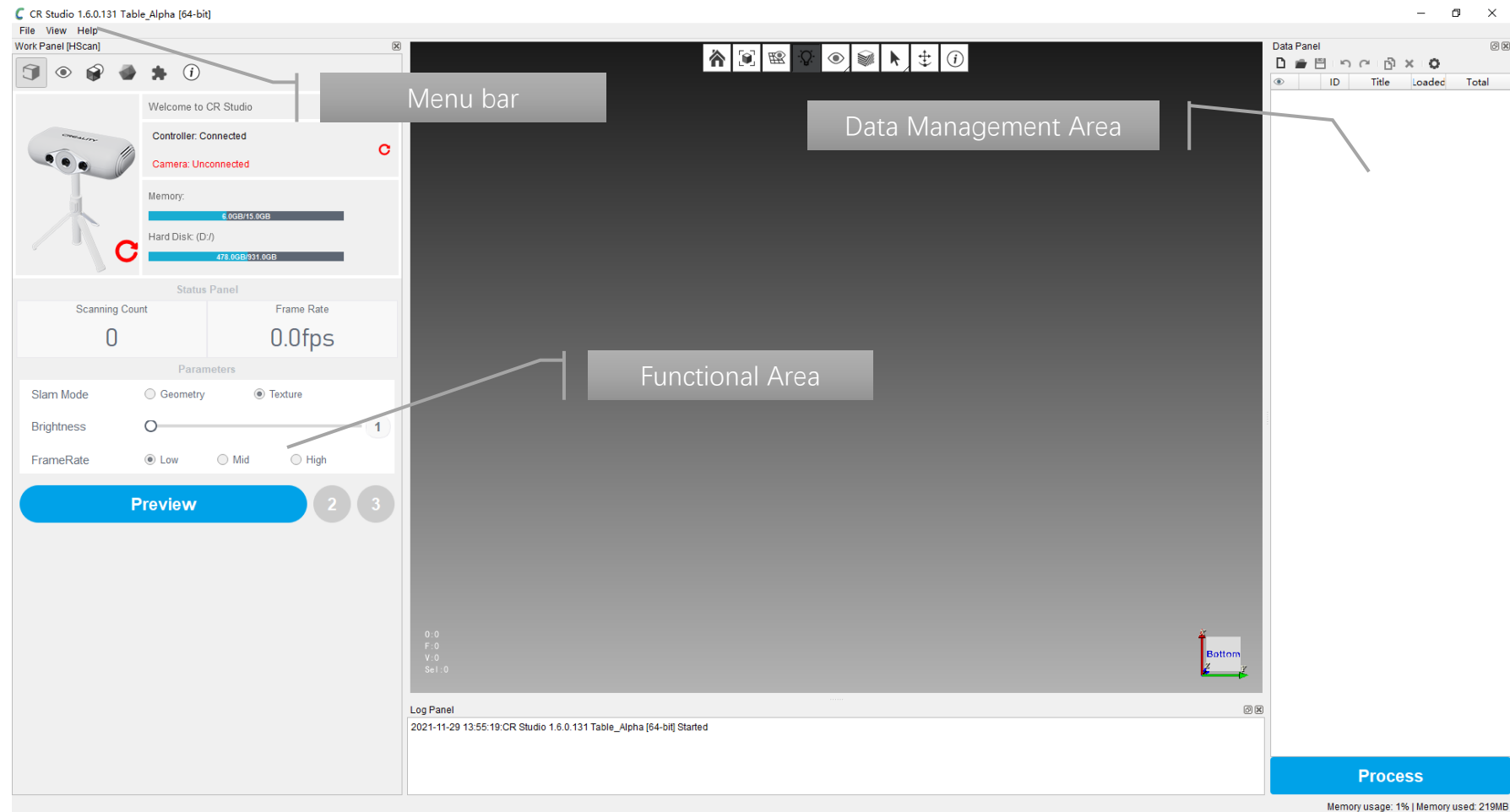
Launch Software

Start the software and select the turntable scanning mode or handheld scanning mode



Software Interface

After selecting the scanning mode, enter the main interface of the software



Shortcut key

1. Main shortcut keys

1.1 Handheld models – start/stop acquisition



1.2 Select the model rotation center



1.3 Rotating models

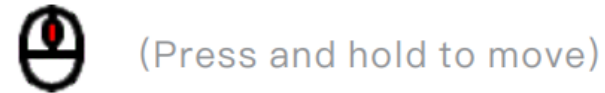


2. Edit Mode

2.1 Selection of models



1.4 Panning Model



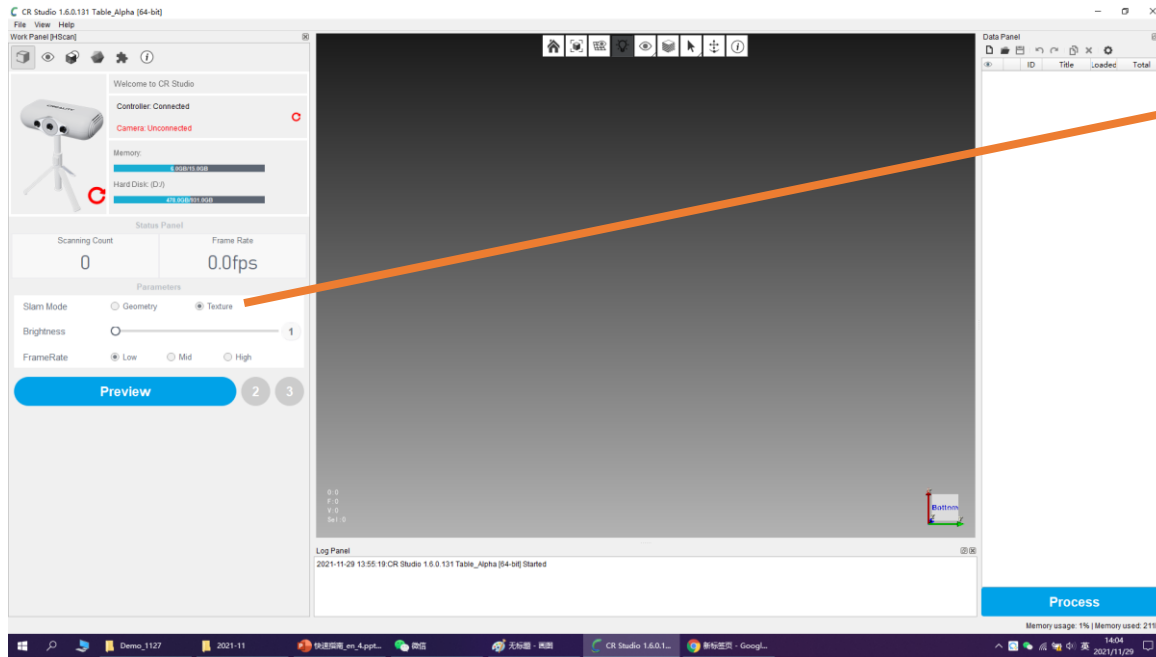
1.5 Scaling models



2.2 De-selection model



Slam mode



Slam Mode

Geometry

Texture

Geometric mode, suitable for targets with rich geometric structure



Texture mode, suitable for targets with rich Texture structure



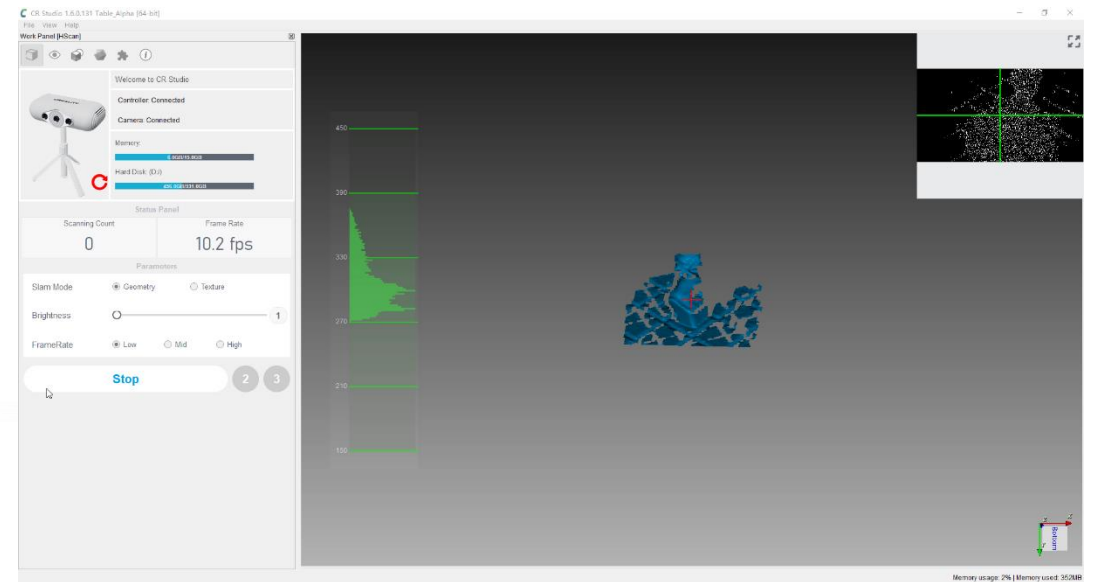
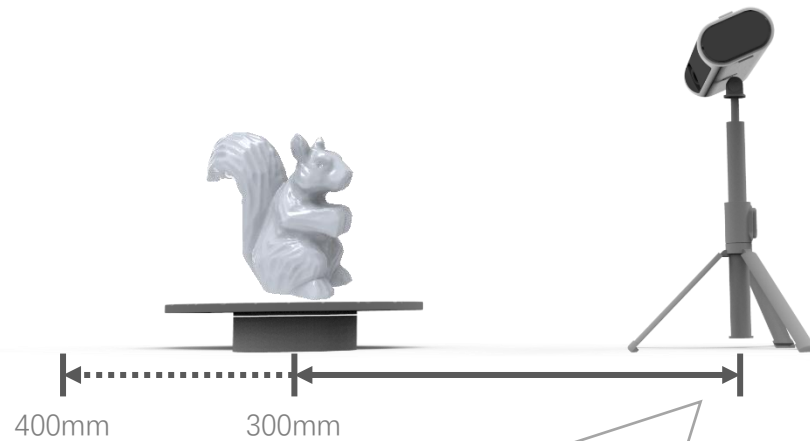
Turntable mode

Turntable mode can fully automatic scanning of objects around 100mm-300mm



Adjusting the device view

Adjust the distance and angle between the scanner and the turntable so that the object and the turntable are in the center of the 3D view and the object can be completely covered.



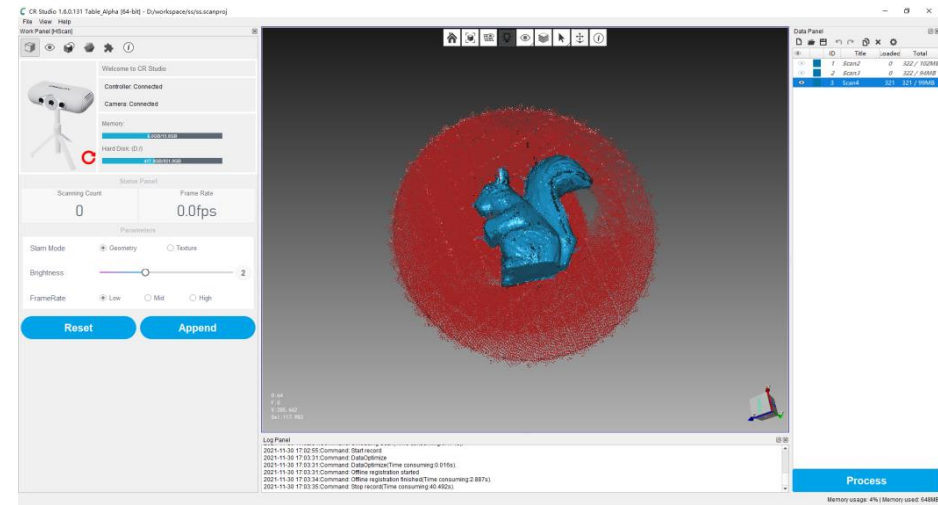
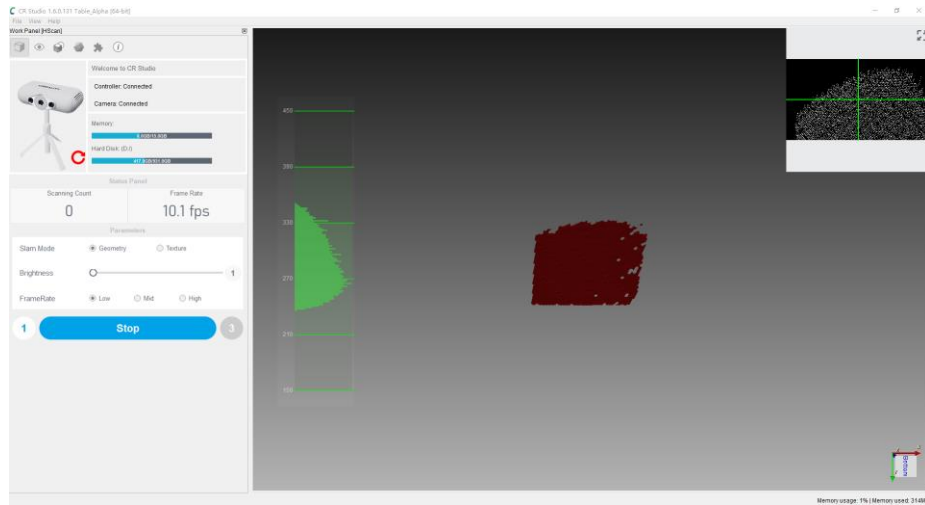
Brightness



- White object: Set the brightness to 1
- Light object: Set the brightness to 2
- Dark object: Set the brightness to 3
- Black object: Set the brightness to 4

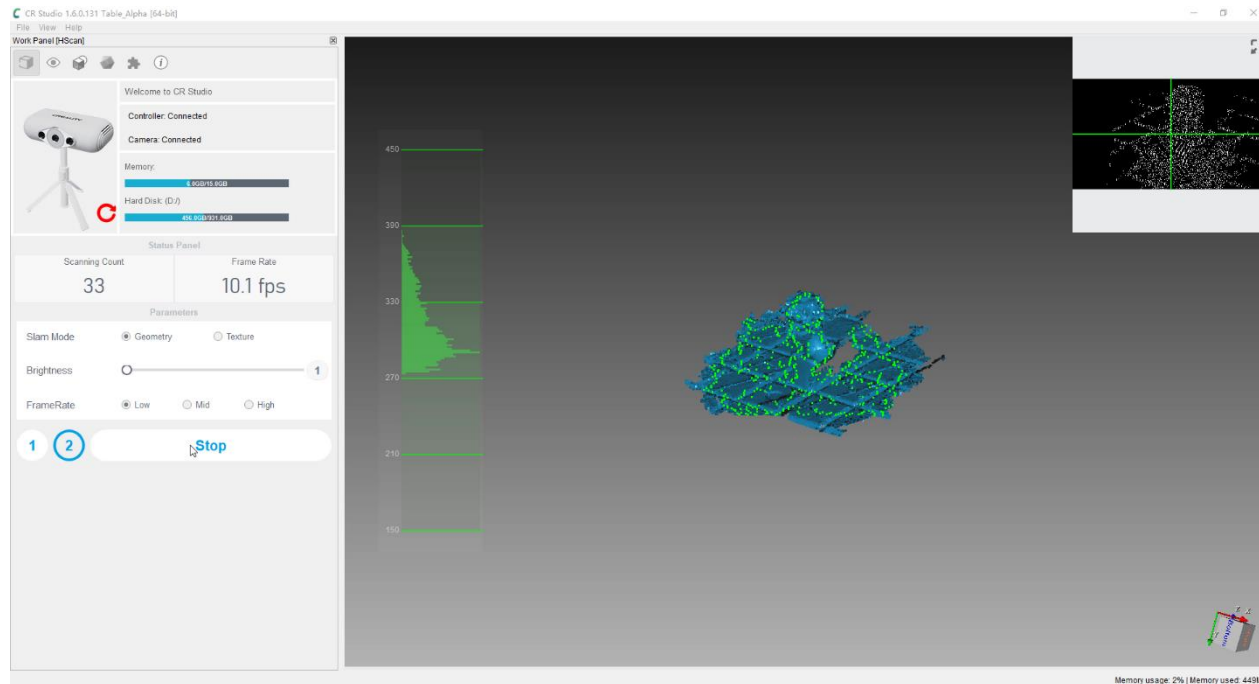
Initializing the turntable

Scanning of empty turntable, automatic positioning of turntable plane position



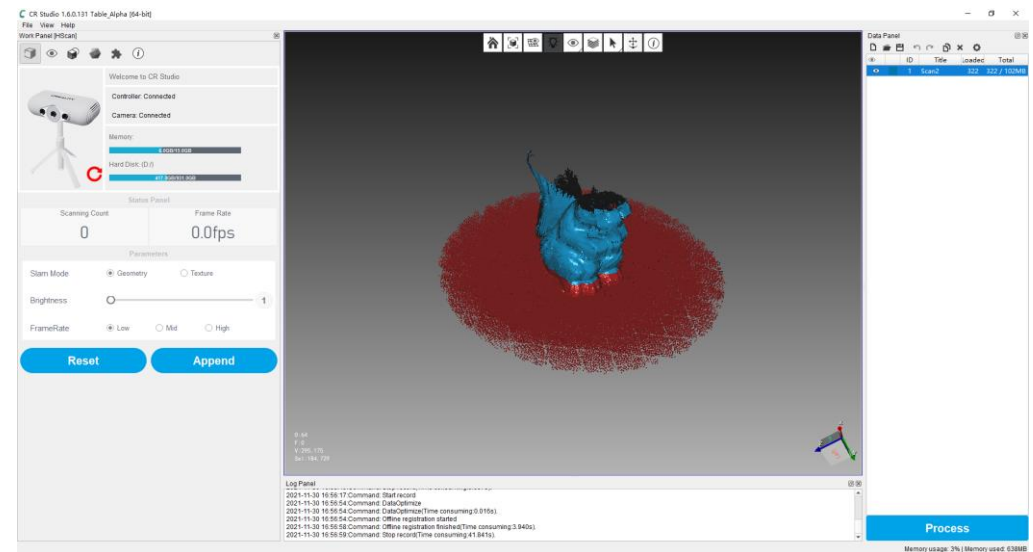
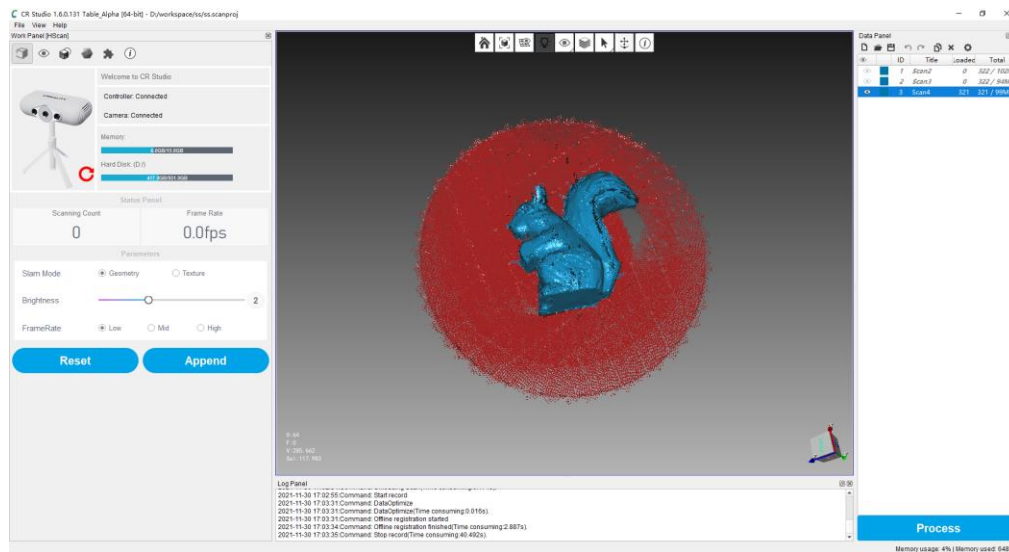
Start scanning

The scanned object is placed in the center of the turntable and starts scanning automatically



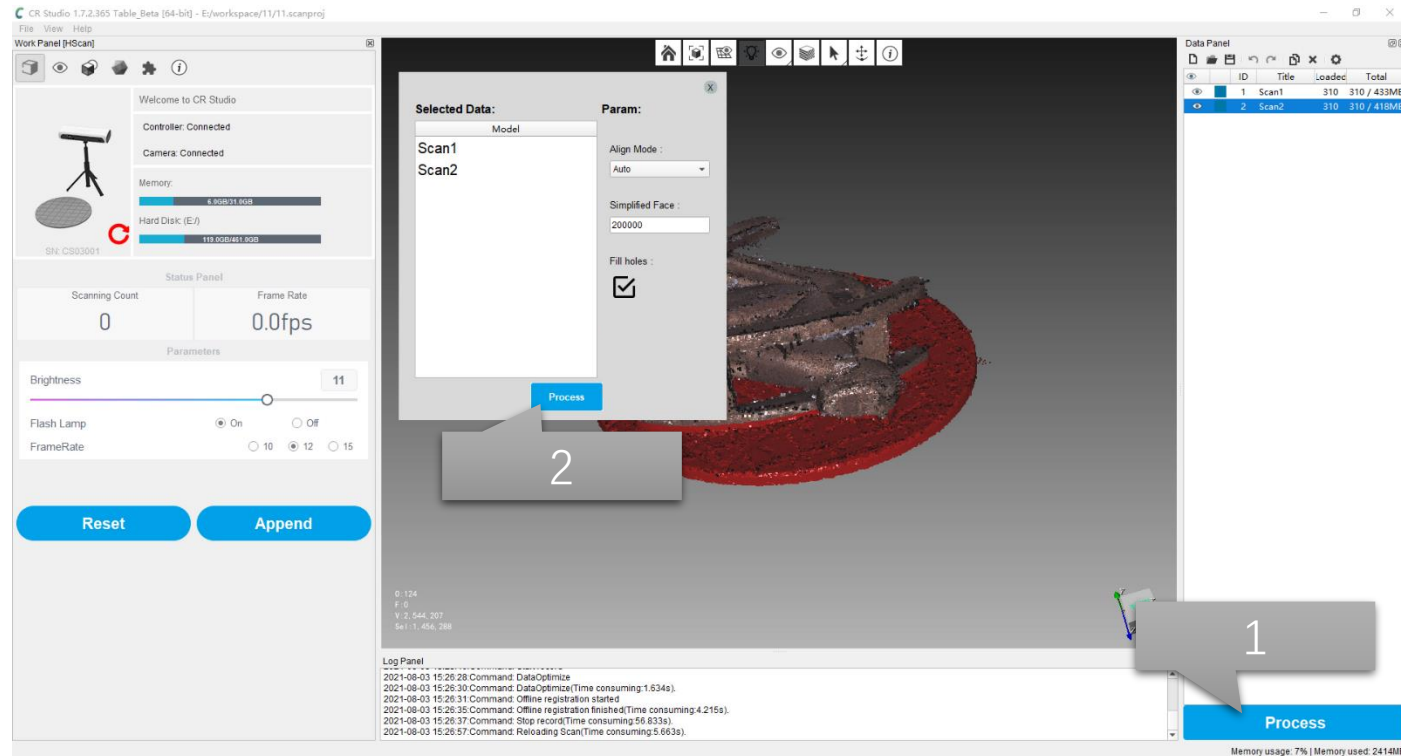
Scanning the second posture

Change the attitude of the scanned object and place it in the center of the turntable, click the Append button, and click Scan button, fill in the project name, and start automatic scanning.



Processing data

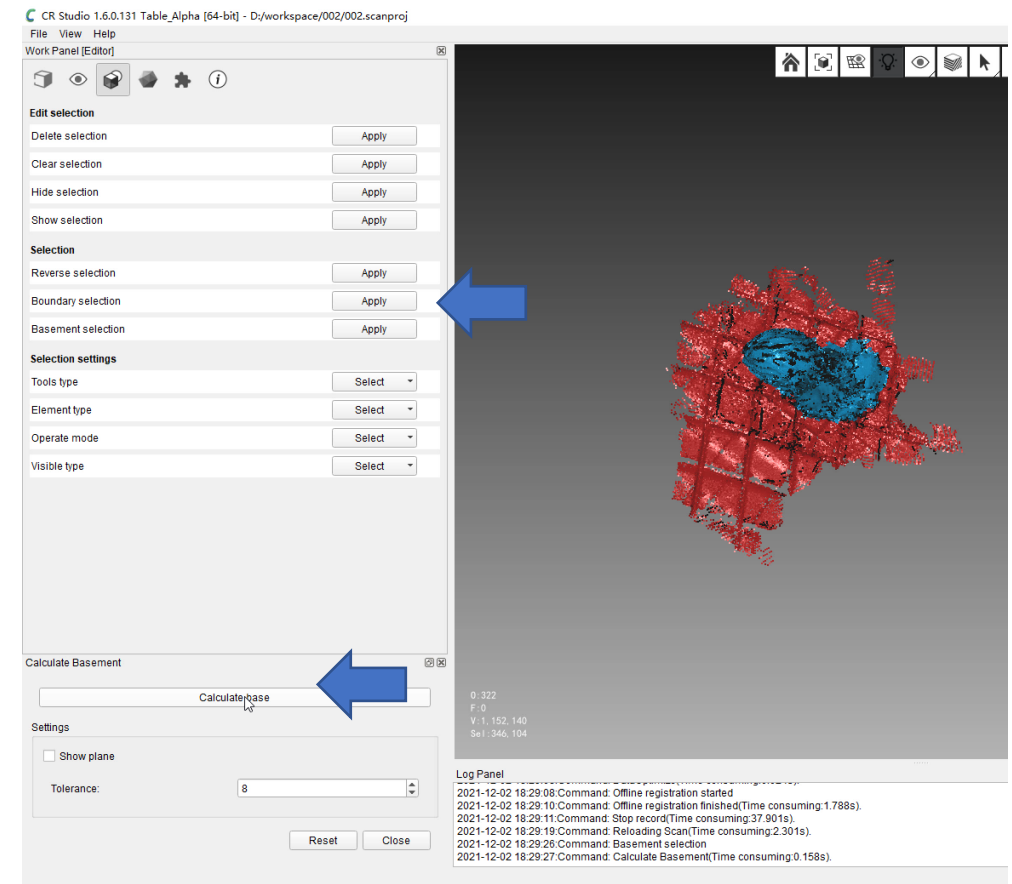
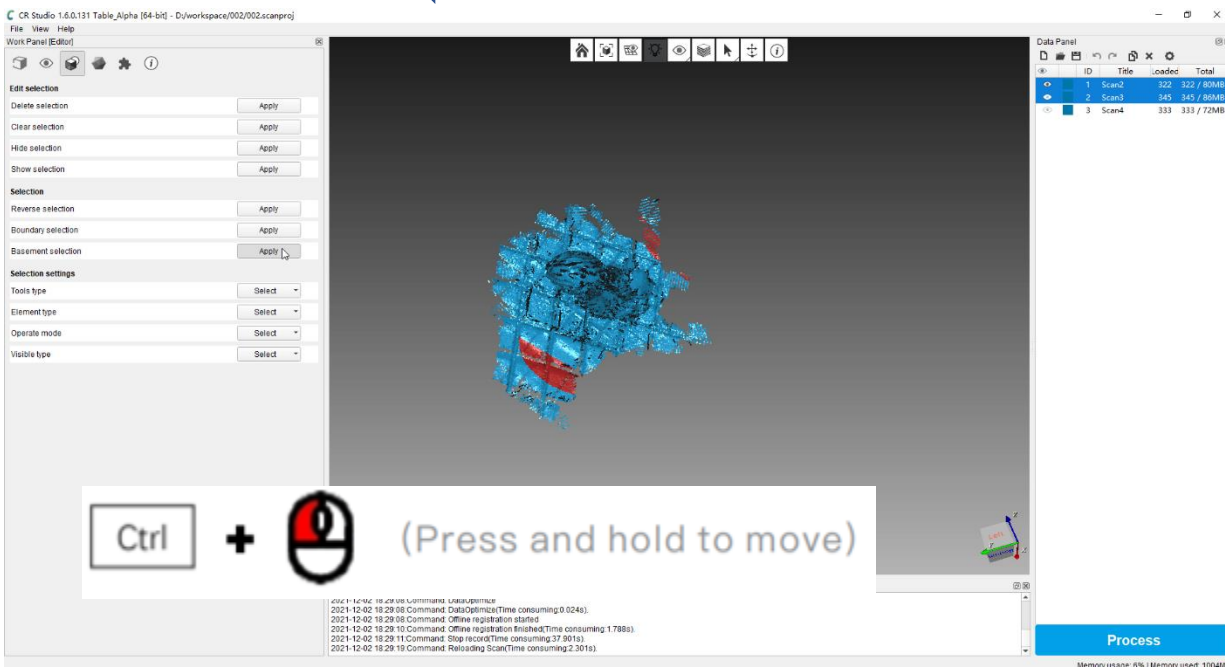
Select scanned data for automatic processing.



Remove The Base

1. Enter edit mode
2. Hold down the ctrl key, hold down the left mouse button and drag to check the location of the two bases to make them red
3. Click on Basement selection, click on Calculate base
4. Adjust Tolerance, you can adjust the height of the reddening

CR Studio 1.6.0.131 Table_Alpha [64-bit] - D:/workspace



Start automatic processing

Select scanned data for automatic processing.

The screenshot shows the CR Studio 1.6.0.131 interface. The main window displays a 3D scan of a table with red and blue point clouds. A 'Process' dialog box is open, showing the 'Selected Data' list with 'Scan2', 'Scan3', and 'Scan4'. The 'Param' section includes 'Align Mode' set to 'Auto', 'Simplified Face' set to '800000', and 'Fill holes' checked. A callout box points to the 'Fill holes' checkbox with the text: '1. Complete model selection to fill the hole' and '2. Open model not selected'. The 'Process' button is highlighted with an orange arrow. The 'Data Panel' on the right shows a table of scan data:

ID	Title	Loaded	Total
1	Scan2	322	322 / 80MB
2	Scan3	345	345 / 86MB
3	Scan4	333	333 / 72MB

The 'Log Panel' at the bottom shows the following log entries:

```
2021-12-02 18:29:27:Command: Calculate Basement(Time consuming:0.156s).
2021-12-02 18:29:32:Command: Update Basement(Time consuming:0.156s).
2021-12-02 18:29:32:Command: Update Basement(Time consuming:0.126s).
2021-12-02 18:29:40:Command: Calculate Basement(Time consuming:0.186s).
2021-12-02 18:29:58:Command: Calculate Basement(Time consuming:0.151s).
2021-12-02 18:30:03:Command: Update Basement(Time consuming:0.136s).
```

Memory usage: 7% | Memory used: 1167MB

Automatic alignment

Check the auto-alignment effect and go to the next step of processing

The screenshot displays the CR Studio 1.6.0.131 interface. The main window shows a 3D point cloud of a table with a blue object on top. A dialog box titled "Whether the effect is reasonable" is overlaid on the 3D view, with an orange arrow pointing to the "Next" button. The dialog has two options: "Qualified" (selected) and "UnQualified".

The left sidebar contains a "Work Panel [HScan]" with a camera icon and status information: "Welcome to CR Studio", "Controller: Connected", "Camera: Connected", "Memory: 6.0GB/15.0GB", and "Hard Disk (D:): 438.9GB/331.8GB". Below this is a "Status Panel" showing "Scanning Count: 0" and "Frame Rate: 0.0fps". The "Parameters" section includes "Slam Mode" (Geometry selected), "Brightness" (slider at 1), and "FrameRate" (Low selected). "Reset" and "Append" buttons are at the bottom.

The right sidebar features a "Data Panel" with a table:

ID	Title	Loaded	Total
1	Scan1	322	322 / 130MB
2	Scan2	322	322 / 118MB

At the bottom right, a blue "Process" button is visible. The bottom status bar shows "Memory usage: 6% | Memory used: 1062MB".

The "Log Panel" at the bottom left shows the following log entries:

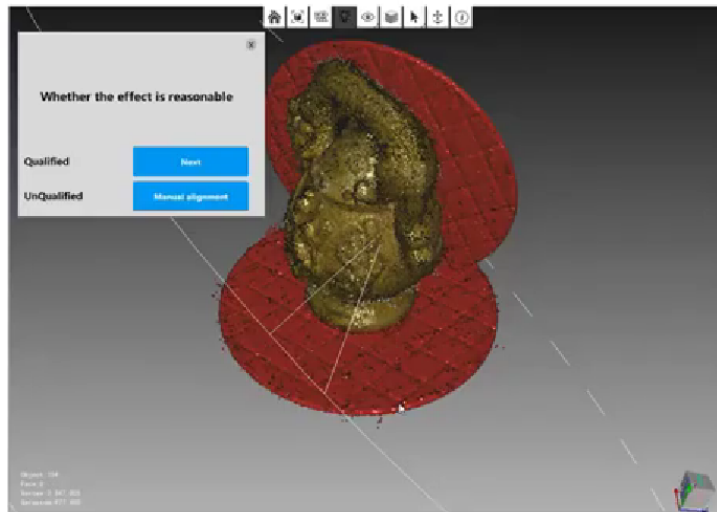
```
2021-12-02 14:51:46:Command: Offline registration started
2021-12-02 14:51:50:Command: Offline registration finished(Time consuming:3.802s).
2021-12-02 14:51:51:Command: Stop record(Time consuming:41.344s).
2021-12-02 14:52:02:Command: Reloading Scan(Time consuming:1.676s).
2021-12-02 14:52:12:Command: Auto align
2021-12-02 14:52:14:Command: Auto align(Time consuming:1.802s).
```

Manual alignment

If the results are aligned, click Next
Otherwise enter manual alignment mode

Auto-alignment Success

Next, go to Automatic Data Processing



Auto-alignment failure

Enter manual alignment mode



Manual alignment

Manual alignment, first drag the models of different poses apart and adjust the angle



CR Studio 1.6.0.131 Table_Alpha [64-bit] - D:/workspace/002/002.scanproj

File View Help

Work Panel [Align]

Model table

#	Model	PinUp
1	Scan2	Yes
2	Scan3	No

Update

Align

Type: Manual Auto ICP

Marker pair

Create marker pair Clear

Align Apply Reset

Fusions

Fusions

Simplify

Simplify

Texture mapping

Use dodging


Texture mapping

0.133
F-6

Next Exit auto mode

Data Panel

ID	Title	Loaded	Total
1	Scan2	322	392 / 80MB
2	Scan3	345	345 / 80MB
3	Scan4	333	333 / 72MB

Alt +  (Press and hold to move)

2021-12-02 18:34
2021-12-02 18:30:30 Command: Auto align(Time consuming 3.502s)
2021-12-02 18:30:45 Command: Manipulate

Process

Memory usage: 7% | Memory used: 1216MB

Manual alignment

To start manual point selection, first select manual mode, then create the same point pair, then right mouse button to select points. Select at least 3 pairs of points

The screenshot displays the CR Studio 1.6.0.131 interface. The central 3D view shows two point cloud scans: a blue one and a red one. Three pairs of corresponding points are marked with yellow and blue dots and numbered 1, 2, and 3. Orange arrows point from the 'Align' panel to these markers. A 'Process' button is at the bottom right. A 'Log Panel' at the bottom shows command history.

Work Panel [Align]

#	Model	PinUp
1	Scan2	Yes
2	Scan3	No

Align
Type: Manual ICP

Marker pair
Create marker pair

Fusions

Simplify

Texture mapping
 Use dodging

Data Panel

ID	Title	Loaded	Total
1	Scan2	322	322 / 80MB
2	Scan3	345	345 / 86MB
3	Scan4	333	333 / 72MB

Log Panel

```
0: 133  
F: 0  
V: 479, 431  
Sel: 152, 617  
2021-12-02 18:29:40 Command: Calculate Basement(Time consuming:0.186s).  
2021-12-02 18:29:58 Command: Calculate Basement(Time consuming:0.151s).  
2021-12-02 18:30:03 Command: Update Basement(Time consuming:0.139s).  
2021-12-02 18:30:27 Command: Auto align  
2021-12-02 18:30:30 Command: Auto align(Time consuming:3.502s).  
2021-12-02 18:30:45 Command: Manipulate
```

Memory usage: 7% | Memory used: 1216MB

Complete processing

Automatic completion of all model processing and export of results data

The screenshot displays the CR Studio 1.6.0.131 interface. The 'Processing' panel on the left lists the following steps, all marked as complete (Y/N):

Num	Steps	Y/N
1	MultiRebuild	✓
2	Fuse	✓
3	Remove noises	✓
4	Repair	✓
5	Simplify	✓
6	TextureMapping	✓

The 'Export' button is highlighted with an orange arrow and the number '1'. A 'Save File' dialog box is open, showing the file name 'Demo_1127' and the save type 'STL format (*.stl)'. The 'Save(S)' button is highlighted with an orange arrow and the number '2'. The 'Process' button is located at the bottom right of the interface. The 'Data Panel' on the right shows a table of scan data:

ID	Title	Loaded	Total
1	Scan2	322	322 / 71MB
2	Scan3	345	345 / 74MB
3	Scan4	333	333 / 66MB
4	Fusion_0	1	1 / 15MB

The 'Log Panel' at the bottom shows the following commands and their execution times:

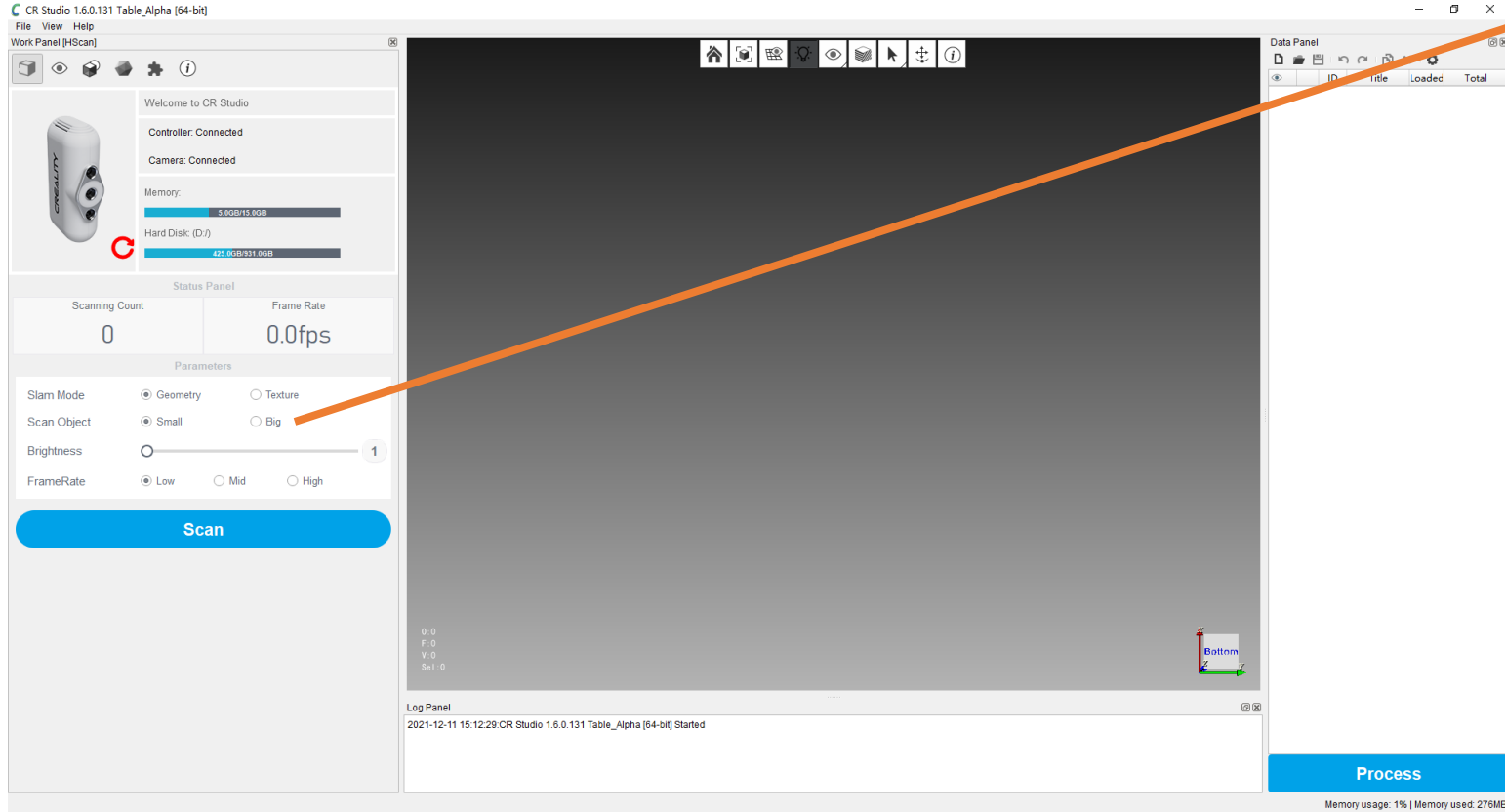
```
2021-12-02 18:31:59 Command: Fusion
2021-12-02 18:32:11 Command: Fusion(Time consuming 12.791s).
2021-12-02 18:32:11 Command: MeshRemoveNoise
2021-12-02 18:32:12 Command: MeshRemoveNoise(Time consuming 0.610s).
2021-12-02 18:32:13 Command: Mesh Repair
2021-12-02 18:32:14 Command: Mesh Repair(Time consuming 1.793s).
```


Handheld mode

Handheld mode allows flexible scanning of objects of different sizes



Scan Object



Scan Object

Small

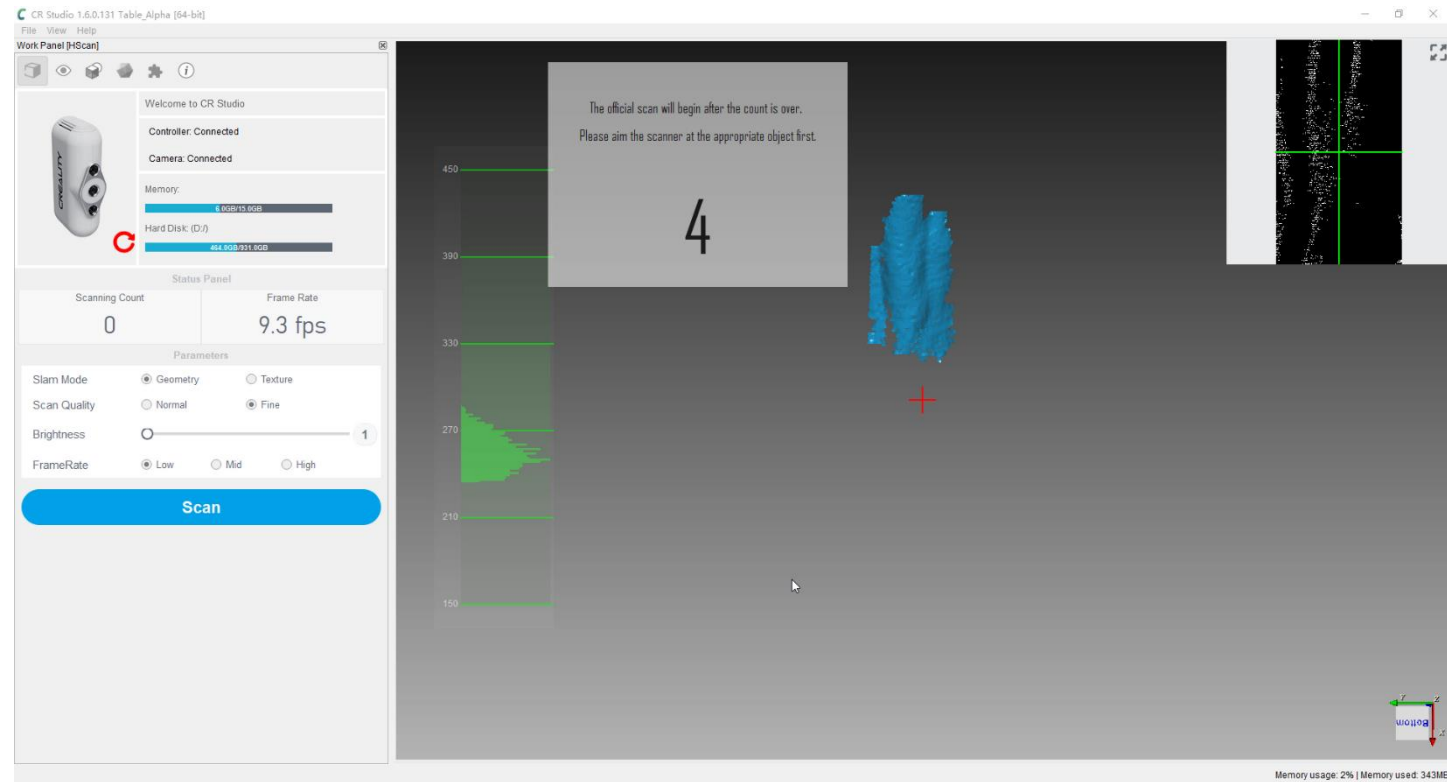
Big

Small: $\leq 500\text{mm}$ Object

Big: $> 500\text{mm}$ Object

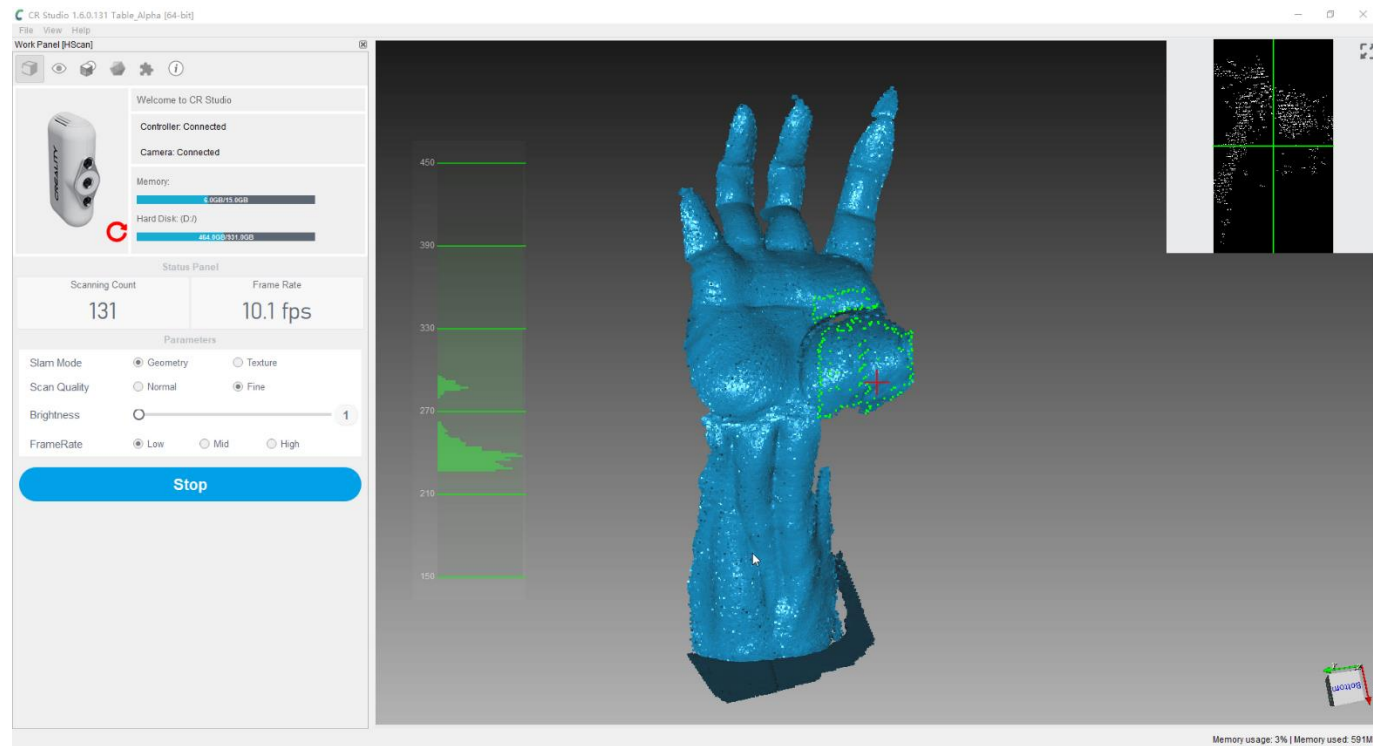
Start scanning

When previewing the countdown, focus on the object and keep a good angle



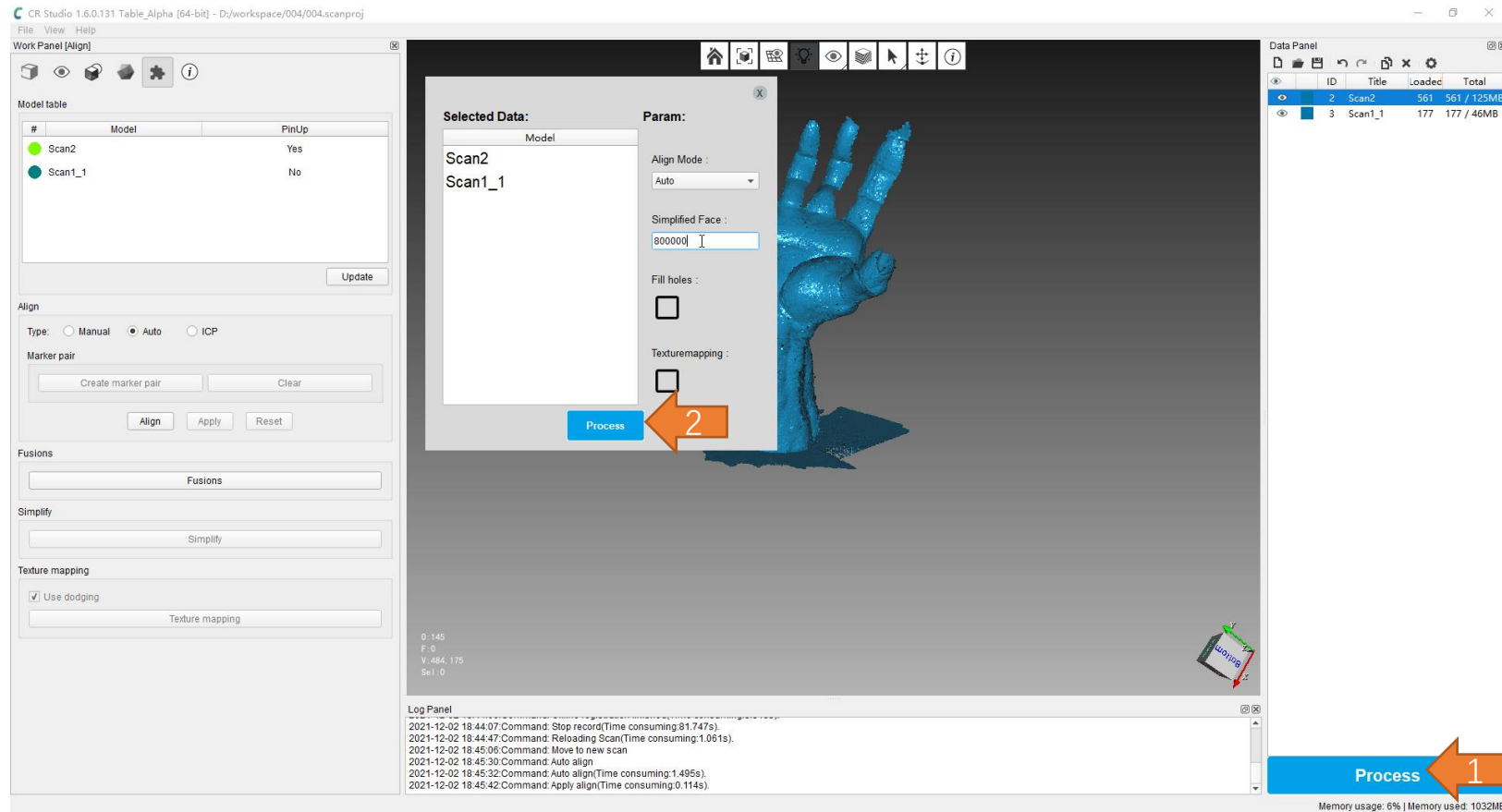
Start scanning

After you start scanning, try to keep the maximum scanning area to move. After a scan is lost, you can perform a global power-off renewal scan by scanning the previously scanned position



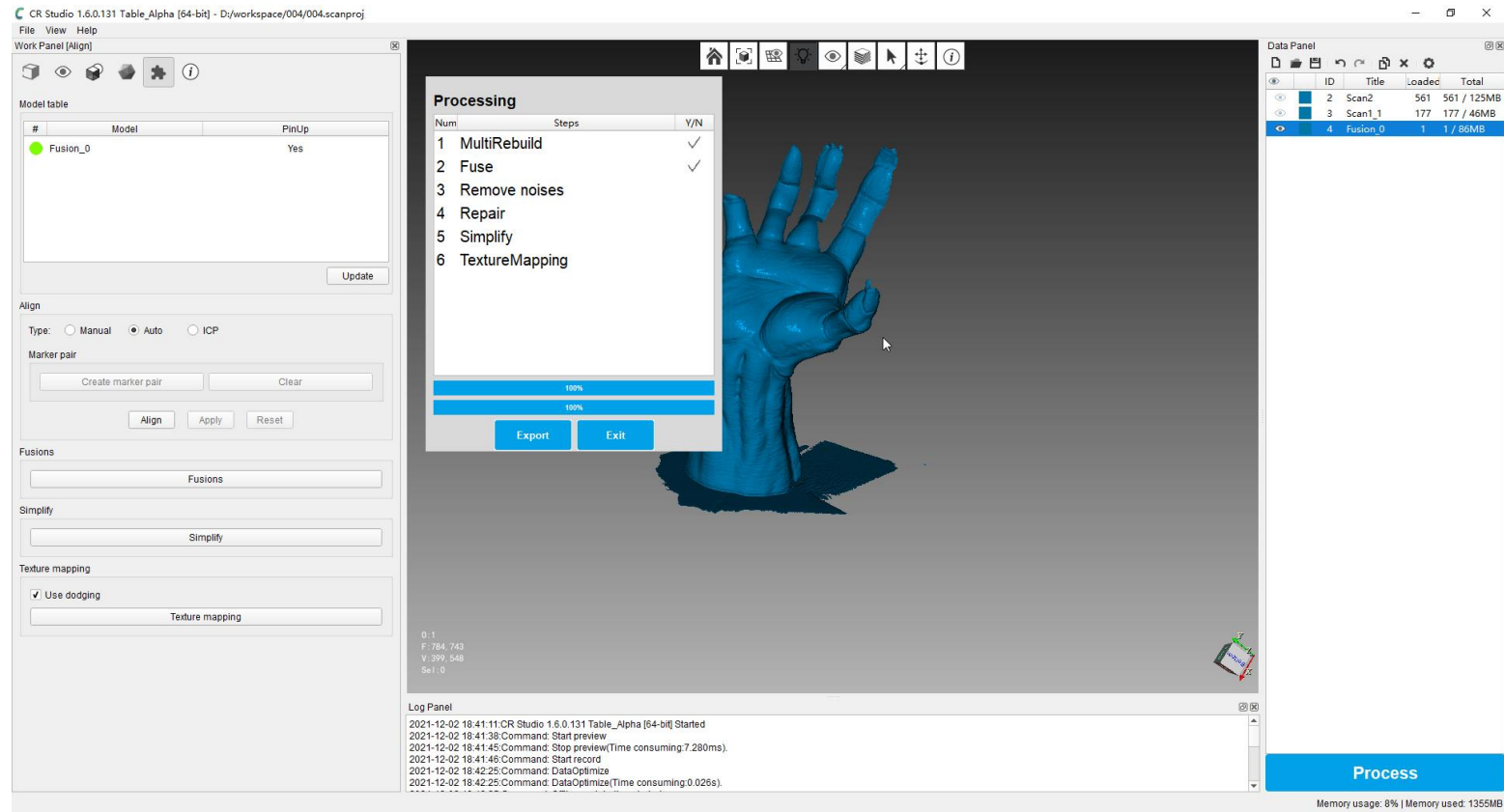
Finish scanning

After completing the scan, click “Process” button Start fully automatic data processing.



Automatic data processing

Click the Process button and the data will be processed automatically.



Fully automated color texture mapping suite Released in March 2022

With the camera/handset and scanner mount + camera controller + light box in the kit.

You can fully automate the process of mapping high-definition color photos taken by the phone/camera onto the 3D model to create a **high-quality color model**.





- 
佳能 CANON
 60D, 70D, 100D, 300D, 350D, 400D, 450D, 500D, 550D, 600D, 650D, 700D, 1000D, 1100D, 1200D, 2000D, 80D, G1X, G3X, G10, G11, G12, G15, SX50, SX60, **RS, M5, M6, EOS R/RP**
- 
佳能 CANON
 10D, 20D, 30D, 40D, 50D, 5D, 5D2, 5D3, 5DsR, 6D, 7D, 1D1DX, 1DsMark3, 1DsMarkIV, 1vEos-1v, 1DXII, 5D4, 6D2, 7D2, **EOS R5**
- 
尼康 Nikon
 D100, D200, D300, D300s, D700, D800, D810, N90s, D188F, D288F, D3, D3s, D3x, D4, D4s, D1H, D1X, D2, D2H, D2X, D2XS, D2Hs, F5, F6, F90, F90x, F100 **D850, D5**
- 
尼康 Nikon
 D600, D610, D750, D90, D3100, D3200, D5000, D5100, D5200, D7000, D7100, DF **D7500 Z6, Z7**
- 
索尼 Sony
 a100, a200, a300, a350, a550, a700, a900, a33, a35, a55, a65, a77, a99
- 
索尼 Sony
 a7, a7r, a7s, a3000, a5000, a6000, a58, HX400, HX300, HX50, HX60, RX100M2 **a9, a73, a7r3, a7m3, a7m2 (A7系列通用)**
- 
富士 FUJIFILM
 X-PRQ2, X70, X-T1, X-T10, X100T, X-A2, X-M1, XQ2, X-E2, X-T2, X-T20, X-A10, X-A3, X100F, X30, XQ1, **Finex S1**
- 
松下 Panasonic
 DMC-FZ200/20150/20k/20s/30/30k/30s/50k/50s/50100, DMC-GH4/GH5, DMC-GX7, LC-1, L1, L-10, DMC-G1/G2/G3/G10, DMC-GH1/GH2, DMC-GF1
- 
徕卡 Leica
 DIGILUX 3, DIGILUX 2, V-LUX1, V-LUX2
- 
奥林巴斯 Olympus
 E-620, E-600, E-550, E-550, E-620, E-450, E-420, E-410, E-100, E-30, E-PM1, E-PM5, E-PL2, E-PL3, E-P3, EP-2, EP-1, SP-560UZ, 570UZ, 565UZ, 560UZ, 550UZ, S1-UZ, 810UZ, S2-30MR, S2-20, S2-11, XZ-1

CREALITY