



SHINING 3D®

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## *EinScan Pro 2X* **2020**

Multifunctional Handheld 3D Scanner








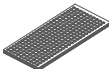

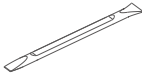


## **Quick Start Guide**

Getting Started with EinScan Pro 2X 2020







# Preparation

## Device List

### Standard Pack

 <p>Scanner body</p>	 <p>Power adapter</p>	 <p>Power cable</p>
 <p>Calibration board</p>	 <p>Calibration board support</p>	 <p>Markers</p>
 <p>USB drive</p>	 <p>Markers remover / Module port cap lifter</p>	 <p>Phone screen mount</p>
 <p>Cable clip</p>		

### Industrial Pack (optional)

 <p>Turntable</p>	 <p>Tripod</p>	 <p>Scanner tray</p>
 <p>USB cable</p>	 <p>Power adapter</p>	 <p>Power cable</p>

### Color Pack (optional)

 <p>Texture camera</p>
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\*Please only use water to clean the calibration board, avoid touching any corrosive liquid.

# Preparation

## Recommended

OS	Win10, 64bit
Graphics Card	NVIDIA GTX/RTX series cards , higher or equal to GTX 1080
Video Memory	>4G
Processor	I7-8700
Memory	64G
Interface	high-speed USB 3.0

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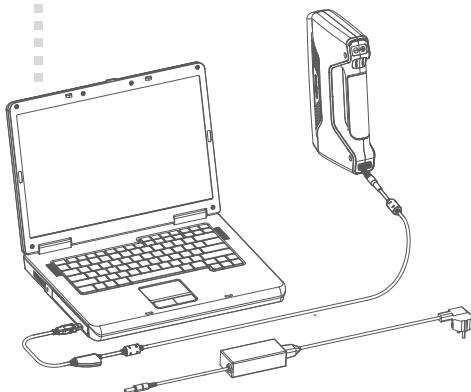
# Installation

## Hardware Installation

### 1. Standard Pack

#### STEP 01

Turn on the device and connect it to the computer through USB 3.0 port.



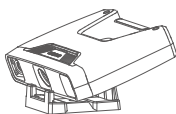
# Installation

## Hardware Installation

### 2. Industrial Pack

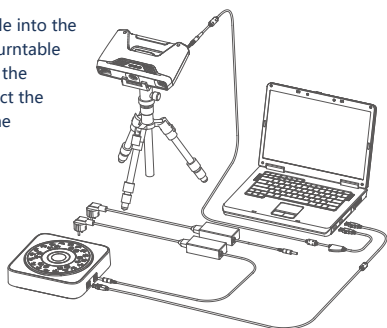
Fasten the scanner tray onto the tripod and place the scanner on the tray.

**STEP 01**



**STEP 02**

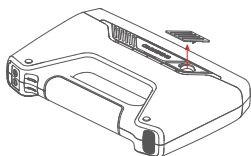
Plug the USB cable into the USB port of the turntable and connect it to the computer. Connect the power cable to the turntable.



### 3. Color Pack

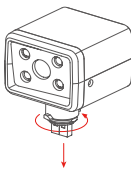
Hold the device upright and remove the USB port cover. The cover is located near the logo on the right side of the device.

**STEP 01**



Insert the Color Pack and lock it with a rotary lever.

**STEP 02**



### 4. Operation Environment

Avoid direct sunlight or too bright of light indoors.

Make sure the scanned object and table are stable. ( For Fixed Scan )

# Software Installation

## Software Download

Download the software and user manual from [support.shining3d.com](http://support.shining3d.com) or [www.einscan.com/software-download](http://www.einscan.com/software-download)

### Run the installer **STEP 01**

Double click software installation icon to install the software.



### License Activation **STEP 02**

After successful installation, when the device is correctly connected, double-click to open the software and activate the device. The format of activation is "online activation". Make sure your computer is connected to the Internet.

Online Activation

Local Activation

Or do local activation and find the license in the USB drive.

Attention: If you install another device of different serial number, the software will automatically notify users to activate this device.

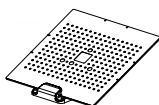
Online Activation

Local Activation

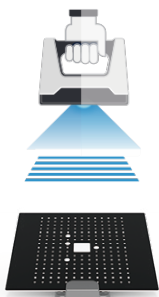
# Calibration

## Camera Calibration **STEP 01**

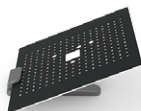
Follow the instruction on the software to place the calibration board in 5 different positions. Hold the scanner vertically and cover the screen range.



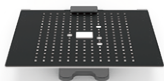
## **STEP 02**



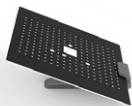
## **STEP 03**



## **STEP 04**



## **STEP 05**



# Calibration



## White Balance Calibration

Only required for Color Pack

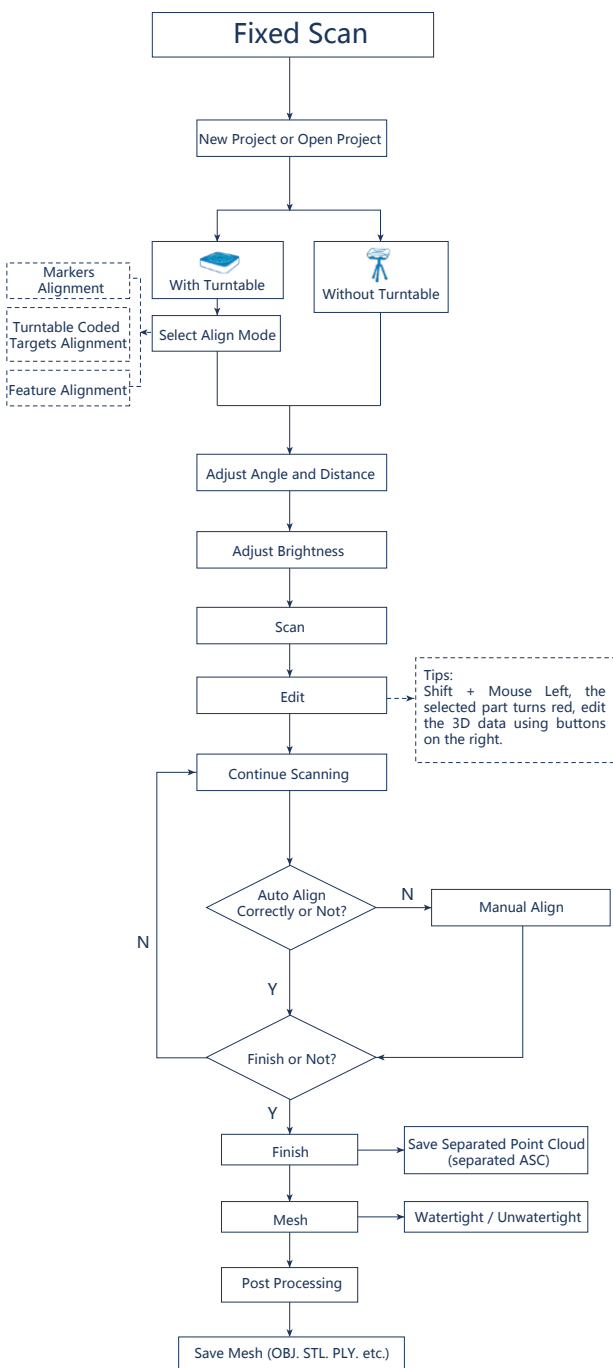
Hold the scanner vertically to the back side of calibration board (white) and adjust the distance until you find the proper distance.

The first time installing the software , calibration is required by default.

Calibration is also required for the following:

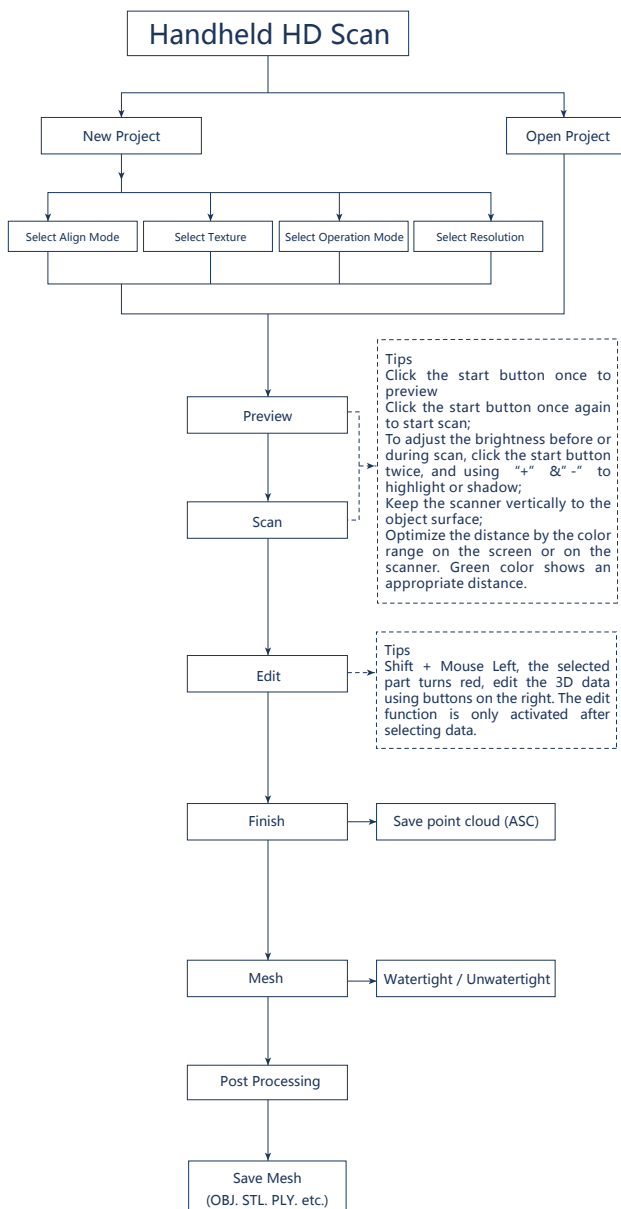
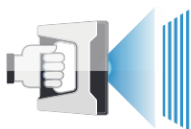
- 1.Device Change
- 2.After device enduring bumpy transportation
- 3.After device accuracy decreases
- 4.Device being uncalibrated for a long time, for example, 15 days.
- 5.When using the Color Pack, the texture camera's position has been changed.

# Fixed Scan

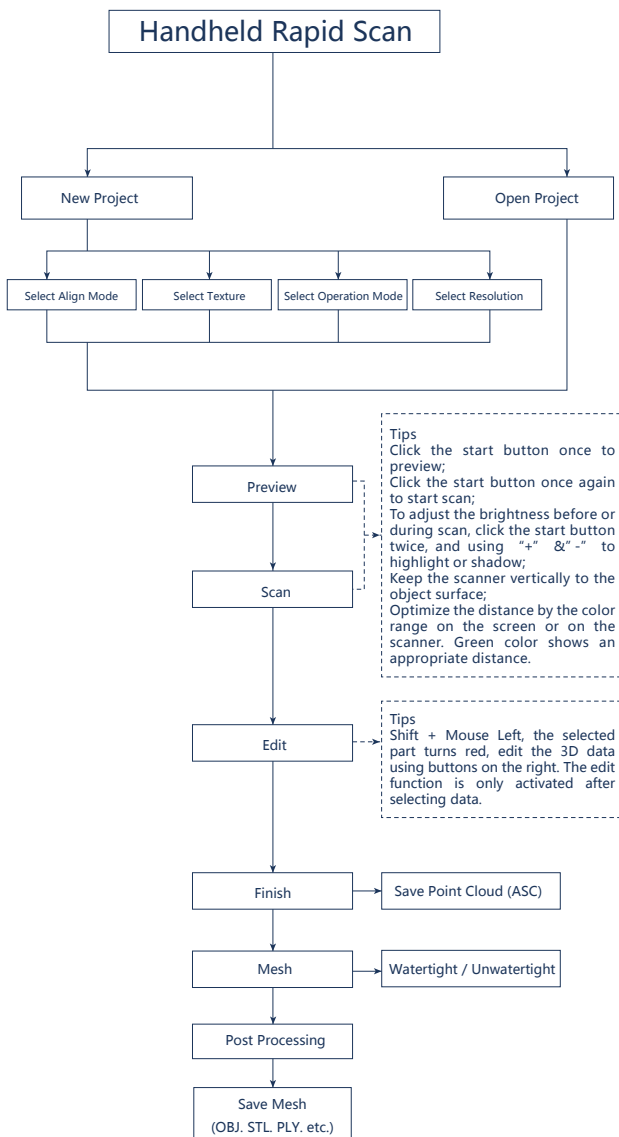
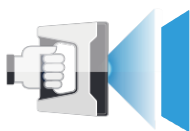




# Handheld HD Scan



# Handheld Rapid Scan



# Scanning Tips

## Scan Mode Selection

Use Handheld Rapid Scan mode when:

A fast scanning experience is needed;

Objects with good geometry for feature alignment;

Objects are hard to move or too big to stay on turntable for scanning.

Use Handheld HD Scan mode when:

High accuracy and high resolution by handheld scanning is required;

Objects are hard to move or too big to stay on turntable for scanning.

Use Fixed Scan with Turntable mode when:

High accuracy and high resolution is required;

Objects' footprint within 150mm which may not cover most coded targets on turntable;

Weight under 5kg;

Objects' footprint above 150mm with rich geometry features can also work in Fixed Scan with Turntable mode through feature alignment.

Use Fixed Scan without Turntable mode when:

High accuracy and high resolution is required;

Objects is too big or heavy to work on turntable.

## Summary

Mode	Accuracy ( mm )	Scan Efficiency	Resolution Point distance ( mm )	Align Mode
Fixed Scan with Turntable	Single Shot Accuracy 0.04 ☆☆☆☆☆	Single Scan < 0.5s ☆☆☆☆☆	0.16 ☆☆☆☆☆	Turntable Coded Targets, Feature, Markers, Manual
Fixed Scan without Turntable	Single Shot Accuracy 0.04 ☆☆☆☆☆	Single Scan < 0.5s ☆☆☆☆☆	0.16 ☆☆☆☆☆	Feature, Markers, Manual
Handheld HD Scan	Up to 0.045 +0.3 mm/m (markers alignment) ☆☆☆☆☆	10 fps 3,000,000 points/s ☆☆☆☆	0.2-2 ☆☆☆☆☆	Markers, Feature (with rich geometrical features on the surface), Hybrid(Markers and Feature)
Handheld Rapid Scan	Up to 0.1 +0.3 mm/m ☆☆☆☆	30 fps 1,500,000 points/s ☆☆☆☆	0.2-2 ☆☆☆☆	Markers, Feature (with rich geometrical features on the surface), Hybrid(Markers and Feature), Texture (with rich texture)



### Difficult to Scan

- Transparent objects like glasses
- Shining or highly reflective objects like mirrors



### Solution

- Spray with white powder



### Not Recommended

- Moving objects or vibrating objects
- Lattice structure with many small deep holes
- Hairy objects like human hair and fur



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## Technical Support

Register at [support.shining3d.com](http://support.shining3d.com) for support or contact through:

Email: [einscan\\_support@shining3d.com](mailto:einscan_support@shining3d.com)

Skype: [einscan\\_support](https://www.skype.com/partners/einscan_support)

For more videos of the scanners, please follow our YouTube channel "SHINING 3D".

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