

EinScan Pro 2X Plus

Multifunctional Handheld 3D Scanner



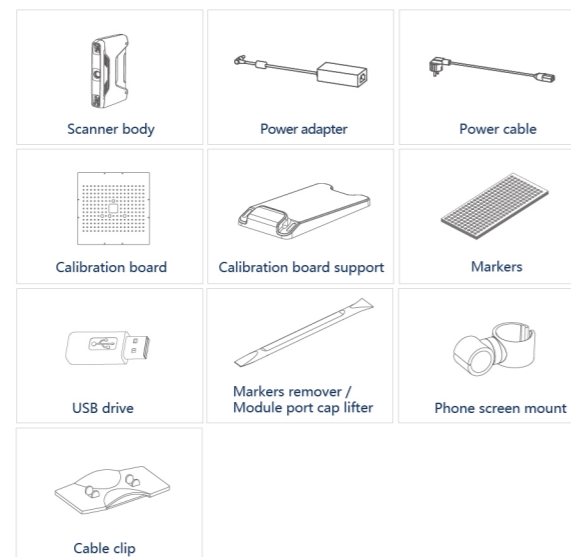
Quick Start Guide

Getting Started with EinScan Pro 2X Plus

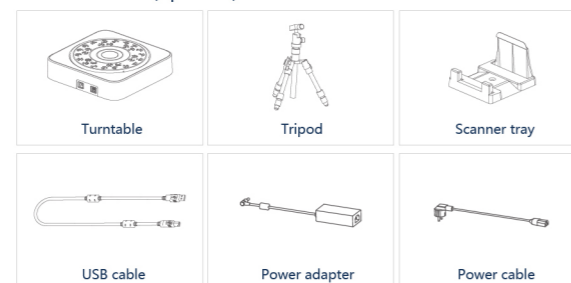
Preparation

Device List

Standard Pack



Industrial Pack (optional)



Color Pack (optional)



HD Prime Pack (optional)



Preparation

PC Requirement

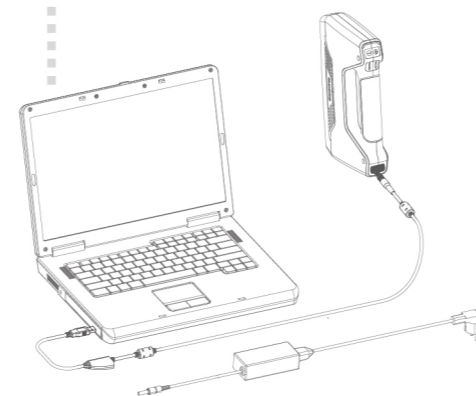
OS	Win7,Win8,Win10 (64bit)
USB Port	Two USB Ports, at least one is USB 3.0
RAM	16GB or more
Graphics Card	NVIDIA GTX770 or higher
Graphics Memory	4G or more
CPU	i7 or higher

Installation

Hardware Installation

1. Standard Pack

STEP 01 Turn on the device and connect it to the computer through USB 3.0 port.

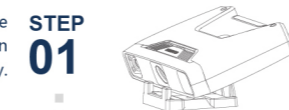


Installation

Hardware Installation

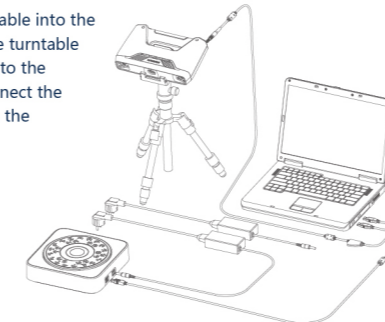
2. Industrial Pack

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



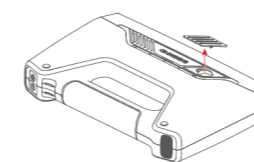
STEP 02

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/HD Prime Pack

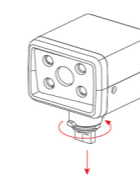
Hold the device upright and remove the USB port cover. The cover is located near the logo on the right side of the device.



STEP 01

Insert the Color Pack / HD Prime 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 community.shining3d.com or www.einscan.com/software-download

Run the installer

Double click software installation icon to install the software.



License Activation

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.

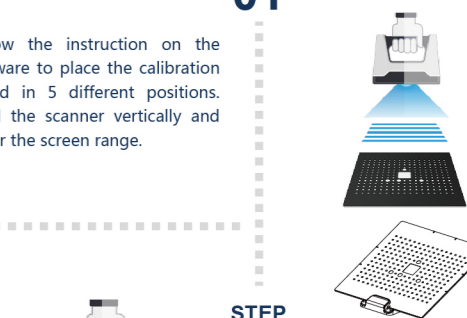
Online Activation

Local Activation

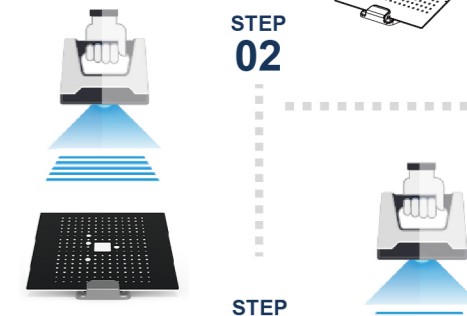
Calibration

Camera Calibration

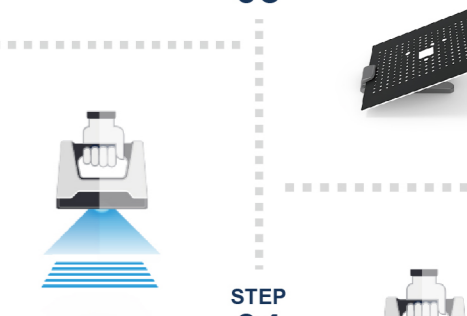
Follow the instruction on the software to place the calibration board in 5 different positions. Hold the scanner vertically and cover the screen range.



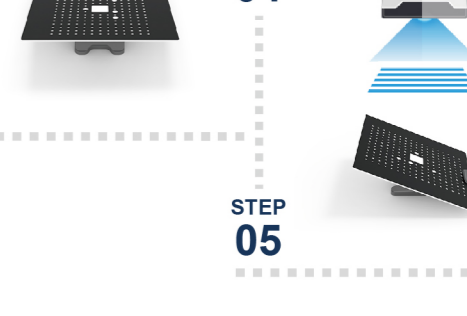
STEP 02



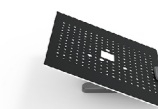
STEP 03



STEP 04



STEP 05



Calibration



White Balance Calibration

Only required for Color Pack

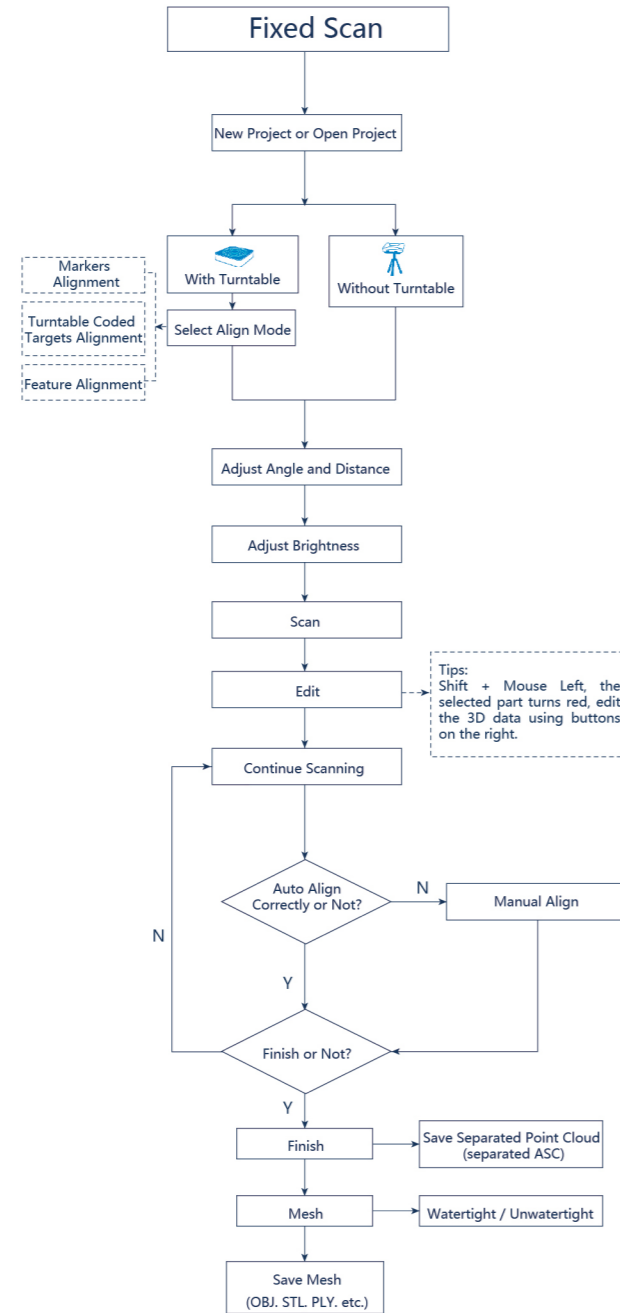
Hold the scanner vertically to the back side of calibration board (white) and adjust the distance until you find the proper distance.

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

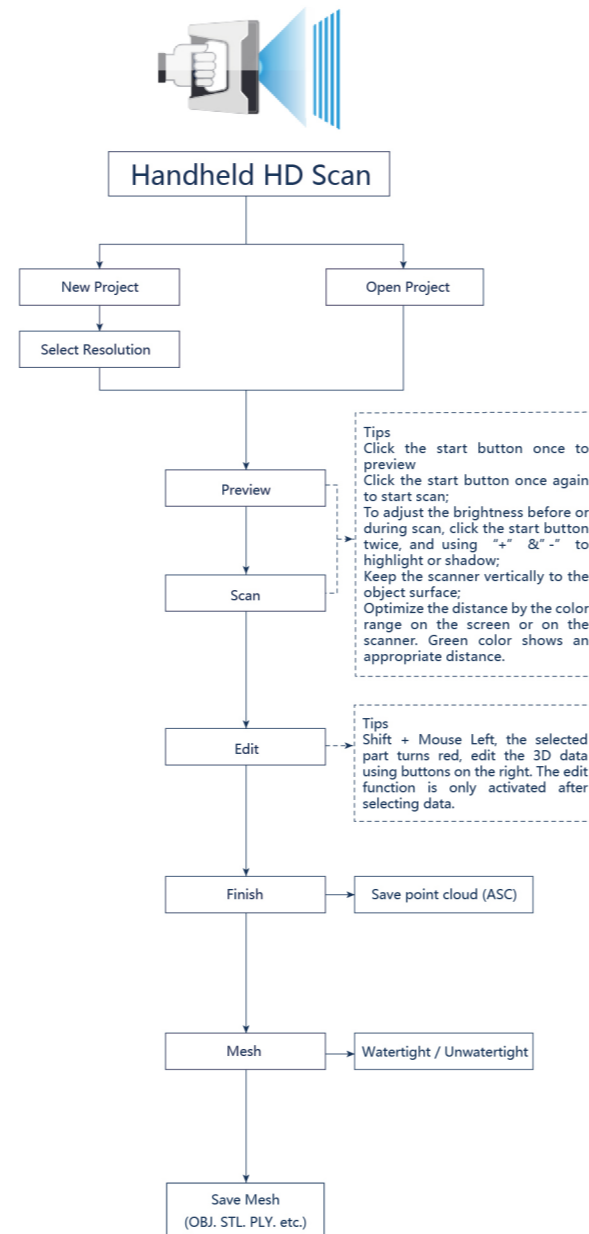
Calibration is also required for the following:

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.

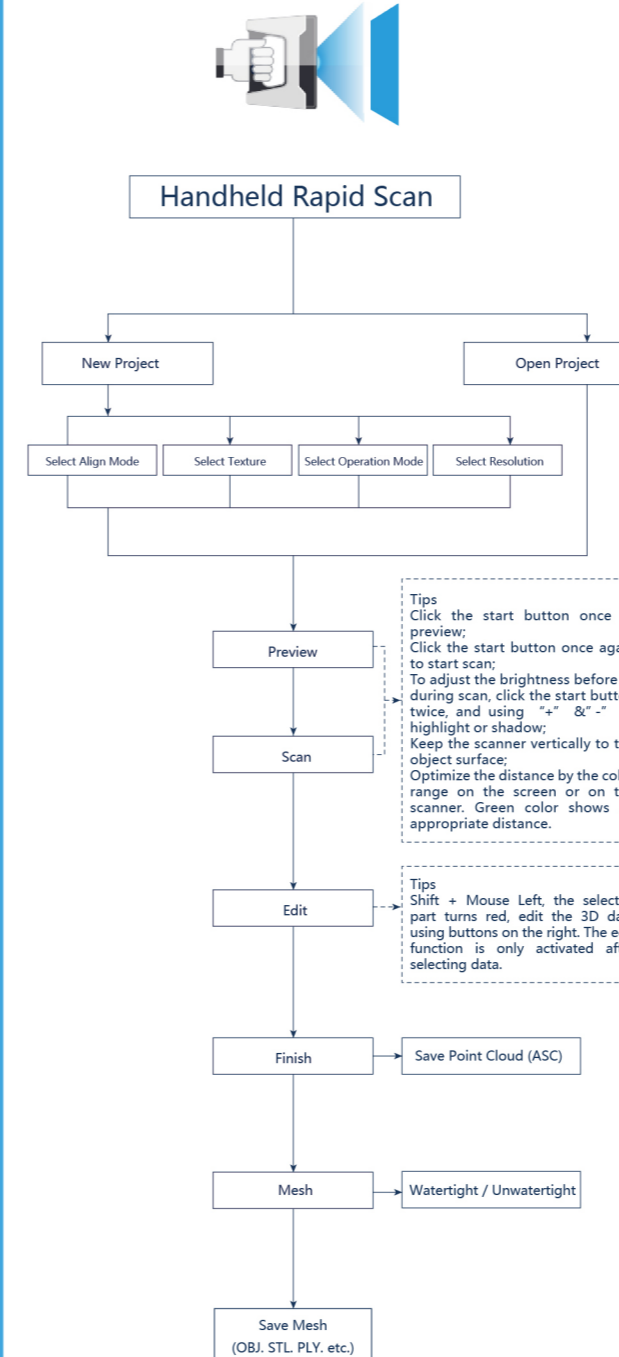
Fixed Scan



Handheld HD Scan



Handheld Rapid Scan



Scanning Tips

Scan Mode Selection

Use Handheld Rapid Scan mode when:

- A fast scanning experience is needed;
- Color texture is required (with Color Pack installed);
- 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;
- Objects are allowed to be stuck with markers.

(Note: Texture scan is not available even with Color Pack installed; When installed HD Prime pack, feature alignment is active for objects with good geometry)

Use Fixed Scan with Turntable mode when:

- High accuracy and high resolution is required;
- Objects' footprint within $\varnothing 150\text{mm}$ which may not cover most coded targets on turntable;

Weight under 5kg;

Objects' footprint above $\varnothing 150\text{mm}$ with rich geometry features can also work in Auto Scan 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 ☆☆☆☆☆	0.24 ☆☆☆☆☆	Turntable Coded Targets, Feature, Markers, Manual
Fixed Scan without Turntable	Single Shot Accuracy 0.04 ☆☆☆☆☆	Single Scan < 0.5s ☆☆☆☆☆	0.24 ☆☆☆☆☆	Feature, Markers, Manual
Handheld HD Scan	Up to 0.05 +0.3 mm/m (markers alignment) ☆☆☆☆☆	20 fps 1,100,000 points/s ☆☆☆☆☆	0.2-3 ☆☆☆☆☆	Markers
Handheld Rapid Scan	Up to 0.1 +0.3 mm/m (markers alignment) ☆☆☆☆☆	30 fps 1,500,000 points/s ☆☆☆☆☆	0.25-3 ☆☆☆☆☆	Markers, Feature (with rich geometrical features on the surface), Hybrid (Markers and Feature)



Difficult to Scan

- Transparent objects like glasses
- Shining or highly reflective objects like mirrors and varnished metal parts
- Some objects of dark color



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



Technical Support

Register at community.shining3d.com for warranty Or contact us through:

Email: einscan_support@shining3d.com
 Skype: [einscan_support](https://www.skype.com/partners/einscan_support)

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