



SHINING 3D[®]

For More Shining Ideas

FreeScan UE

Blue Laser Handheld 3D Scanner

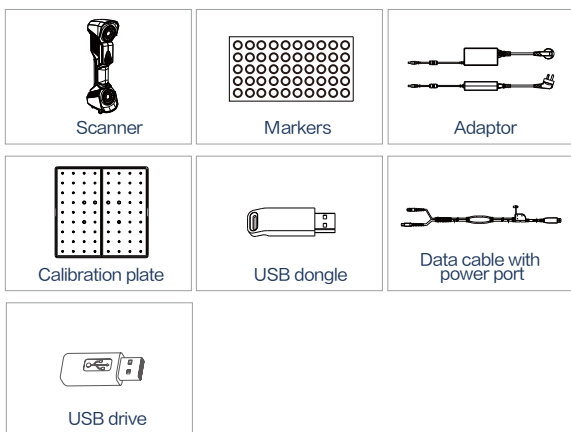


Quick Start Guide

Getting Started with FreeScan UE

Preparation

List of parts



PC System Requirements Recommended

Graphics Card : NVIDIA GTX/RTX series cards , higher or equal to GTX 1080

Processor : I7-8700

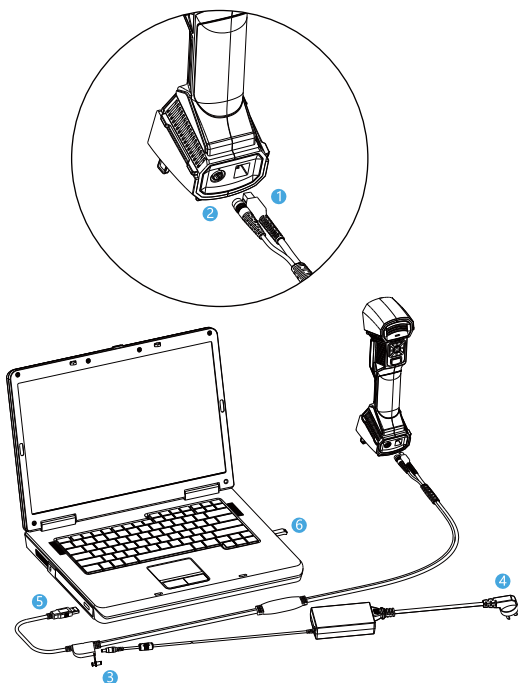
Memory : $\geq 32G$

Video Memory : $\geq 4G$

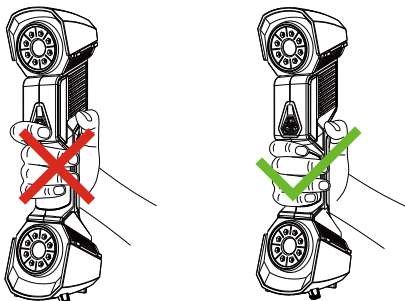
USB Port : High-speed USB3.0



Hardware Installation



- 1 Insert the round aviation plug of the data cable into circular port of the scanner.
- 2 Insert the USB3.0-BM plug of the data cable into USB port of the scanner.
- 3 Connect the data cable to Adaptor through the power port.
- 4 Insert the Adaptor into power socket.
- 5 Connect the USB3.0-AM of the data cable to USB 3.0 port on the computer.
- 6 Plug the USB dongle on the computer.

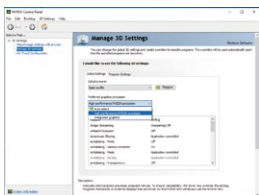


Software Installation

STEP 01

Software Installation

Use the installation package from the USB drive to correctly install the program and device driver.



STEP 02 Set the software graphics card

Switch to discrete graphics.

Software start

Make sure the dongle is correctly inserted and double-click the shortcut to start the software.

STEP 03

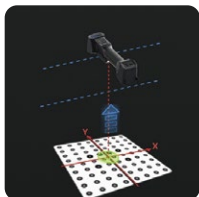


Attention:

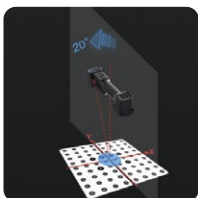
USB dongle contains the necessary parameters for software startup and it must be properly paired with the device. The software will start abnormally with wrong USB dongle. It is forbidden to pull out the dongle during use, otherwise it will cause software error.

Calibration

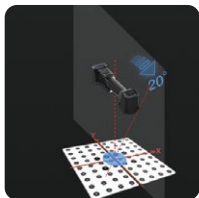
STEP
01



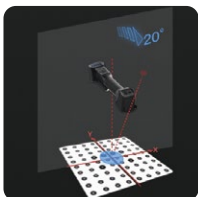
STEP
02



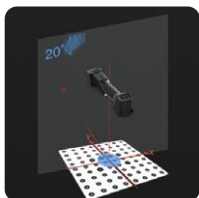
STEP
03



STEP
04



STEP
05



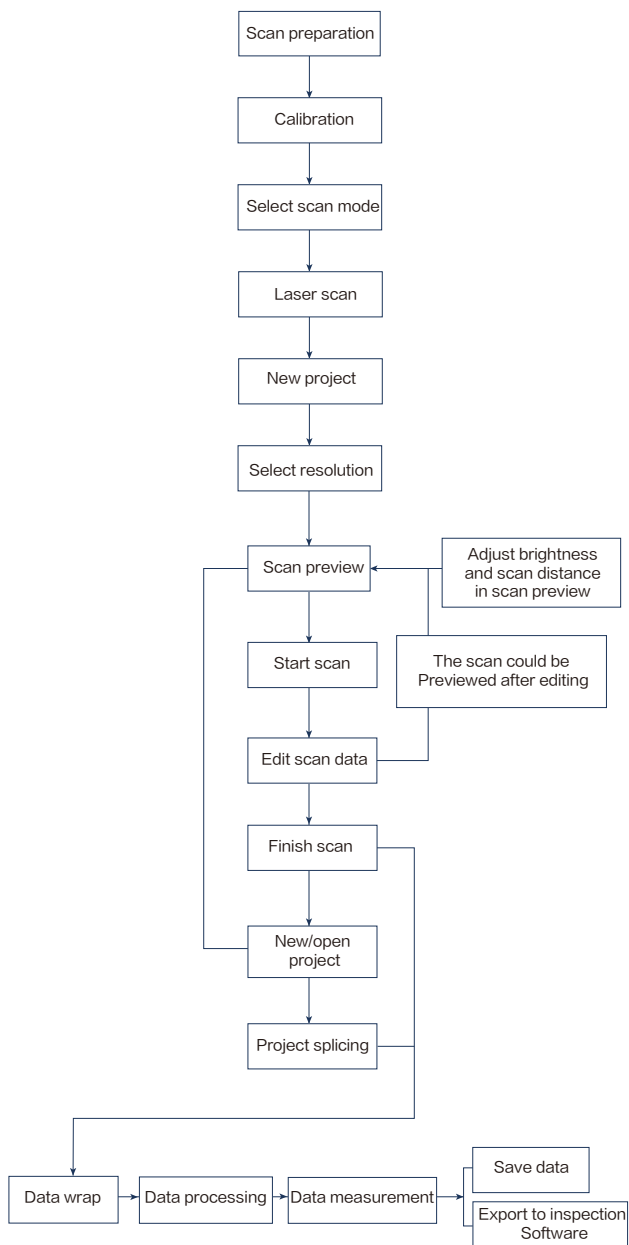
Take the calibration plate out of the bottom of the equipment box, open and place it in a flat position. Pull the scanner farther or closer to the calibration plate according to the instructions of the program until the images at all distances are captured. Move the scanner in pitch and roll to complete the calibration of the scanner.

The purpose of calibration is to ensure the accuracy of the scanned data. The scanner therefore needs to be calibrated after installing the software for the first time.

Attention:

1. It is recommended that the scanner be calibrated before use after transportation to ensure data accuracy.
2. It is recommended to calibrate the scanner before use, when it has been stored for more than a week.
3. The scanner needs to be calibrated when the temperature differences are huge between storage, transportation and use.
4. Please be careful about the operation of the calibration plate and put it back into the equipment box after calibration to avoid damage.
5. Do not touch, scratch or stain the reflective points on the surface of the calibration plate, and it is forbidden to clean the calibration plate with any liquid.
6. The calibration plate and the scanner are bound with the software and cannot be wrong used.

Scanning Process



Scanning Skills



Arrangement of markers

- a. The intervals between markers is better to be around 80–150mm.
- b. There are fewer markers in flat areas and more should be used in curved areas so as to ensure smooth scanning.
- c. When the scanned object is so small that the markers could not be stick onto the object, markers could be arranged around the object to ensure that the relative positions of the markers and the object remain unchanged during the scanning process.
- d. Avoided sticking markers on locations with high curvature.
- e. Avoided sticking markers near the edge of the scan details (< 3–4 mm).
- f. Avoid using damaged, dusty, or dirty markers.
- g. Avoid arranging the markers in a line.



Adjustment of scanning parameters

Before scanning black or highly reflective objects, please adjust the brightness of the scanning object to get higher quality data.



Use of developer

The developer could be used in an appropriate amount, when we scan highly reflective or transparent objects.

Depending on the type of developer, the final scan data will have a deviation of 1–6 μm .

Conclusion

Mode	Laserscan
Accuracy	up to 0.02 mm
Volume accuracy *Locate with the help of markers	0.02 mm + 0.04 mm/m
Point distance	0.05 – 3 mm



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