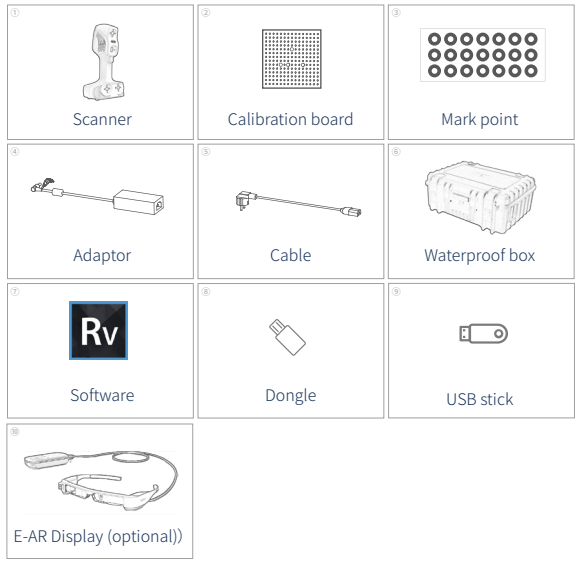
SCANTECH™

IREAL 2E

Quick Guide

Equipment list



Software and hardware installation

01 Plug cable and connect it to the USB3.0 of the computer, then turn on the power.
Note: It must be USB3.0 port; first plug the USB and then the power.

Note: The power cord is marked with an arrow, so please flip the arrow to the top and align the four thimble pins with the power port jack before gently plugging them in.

02 Take the USB stick in the device case, plug it into the computer, Copy the software package than double click the software to install it.

03 Set up the computer and software according to the "Training Course".

04 Take the dongle of the device box, plug it into the computer USB port, double clicktrun the scansoftware and star t calibration/scanning

Scanner structure

Computer Specifications (Recommended)

OS:	win7/10, professional, 64-bit (recommended)
CPU:	i7-8750H or higher
RAM:	32G or above (64G is best)
Graphics card:	NVIDIA GTX1050Ti (4G) or above
Ports:	USB3.0 port

Terms & Conditions

*Before using the device , please read the quick guide, training tutorials, and the comments for each button on the software.

*Suitable for scanning objects over 50cm, especially for portraits, body parts and medium-sized sculptures.

*The plate is fragile, please handle it with care.

* In bright light sources (e.g., Sunlight), Shading is required to scan.

*The dark, black, transparent, or reflective objects will need spray contrast enhancer before scanning.

*when do scanning Plug laptop power source and set the power supply to High Performance mode.

* When runs the software, if the software says "device not connected"/"wrong USB recognition" or the scanning is stuck, please turn off the software, replug the USB port (or change to other USB3.0 port/use USB3.0 Hub adapter).).

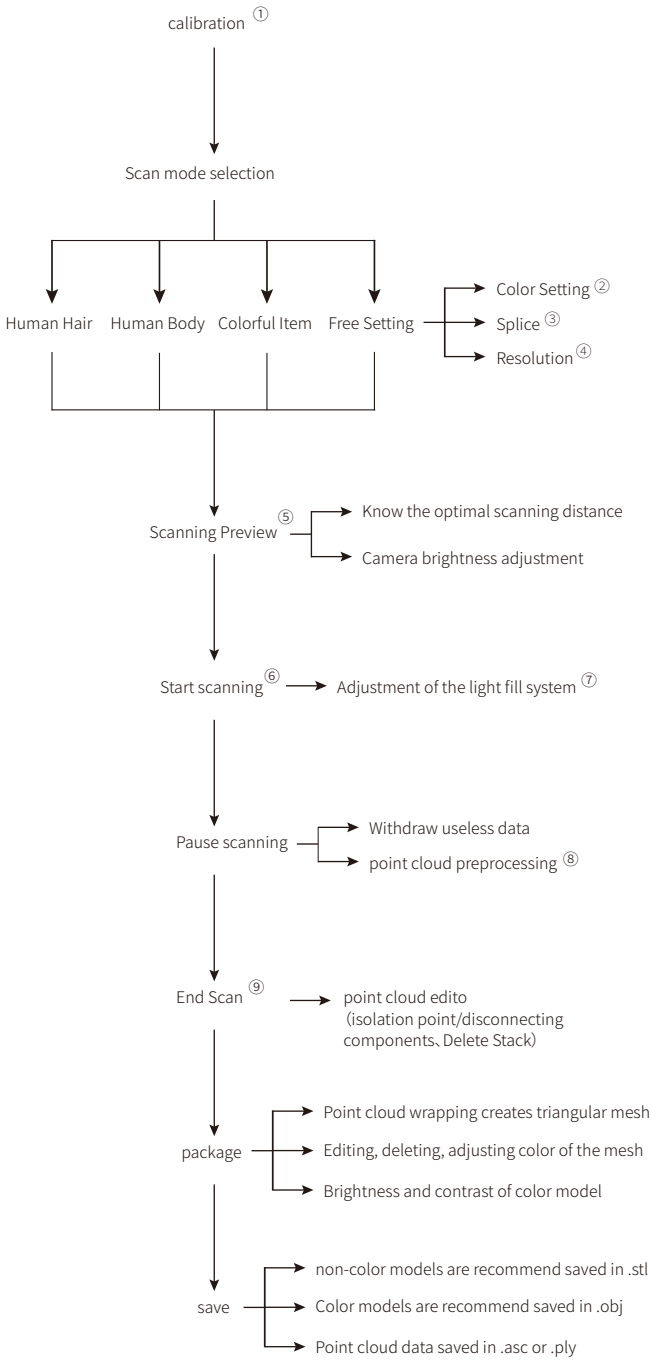
*When using a desktop computer, please use the USB 3.0 port on motherboard

*Press the Start/Pause Scan button on the scanner once, no need long press

*When first time runs the software, it needs calibrated before scanning; please do re-calibrate when the number of single-frame outputs/stitching/marker recognition rate is low.

*Do not use it with other scanners (before using it, you need to turn off the other scanner's software and unplug the other scanner from the computer).

Scanning Steps



step instructions

①**Calibration**：when using the software at first times, it must be calibrated and then scanned.The calibration is to calibrate the camera parameters Situations requiring calibration: after software installation; not calibrated for a long time; scanner has been shaken/transported; single frame scan data is low/no data; scan stitching is stuttering;marker recognition is low/unrec ognizable.

②**Color Setting**：monochrome untextured, colored textures.

③**Splice**：by Marker Point , by Feature , by Texture , and by Mix . by Mix : When an object has only partial features or Texture variation (e.g. sofa, seat, etc.),Will need marker points at no feature or texture area,.During scanning, scannner will identify markers, textures and features on the point cloud data, and then automatically switch to corresponding scan mode, ensuring the scanning of the whole item with minimum markers.

④**Resolution**：0.2-3.0mm; high resolution, larger data size, not only longer processing time, but also the needs Large memory capacity for the computer. It is recommended that the maximum size of a single scanned item does not exceed 2m.

⑤**Scanning Preview**：click start on software to start preview scanning, to know the scanning distance (the best scanning distance is 200mm). before scanning, adjust the brightness of black and white camera to increase the data, based on the color of item. adjust the brightness of the color camera to adjust the color brightness of the data. ☒ fter stopping the preview, start the first frame scanning.

⑥**Start scanning**：point the scanner at the object with enough maker point , feature , texture and click button on the hardware to start scan. of the first scan data is few or the scanner is not aligned, it may result in stitching failure, we need to build a new scan project, start again.

⑦**Adjustment of the light fill system**:before scanning , select the fill light system on/off. When do the scanning , cannot change the fill light system option. Turning on the fill light system improves the recognition of marker points and features, so when do the scanning please turn on fill light system.

⑧**point cloud preprocessing**：after processing, it is easy to see the scanned data . In color scan mode, to hidden color texture is more helpful to check data.If the point cloud still has overlays, try clicking this button again to see if the overlays can be removed.If not, you can try to repeat the scan in the area and around the overlay (the wrong layer sometimes need to rotate 360 ° scan in the wrong position to repair),click on the "End Scan" will delete some of the wrong layer.After the scanning, you can select the face of the human body, and then click "point cloud pre-processing", you can optimize the details of the face, the details will be better.

⑨**End Scan**:pac kage, stitching, de-layering, and other processing of all point cloud data acquired. After the processing is complete, the data can be deleted, encapsulated, and other operations. After clicking "End Scan", you can't continue scanning.

Tips for use

Scanning mechanism：the common field view of the two black and white cameras is for coordinate information (scan the point cloud),and the common field view of the all camera is for color information (scan the color texture).For example, when Scan two-sided objects (such as chin and neck), the scanner needs to be turned sideways.

Scanning Techniques：during the scanning , if a single sweep, the image will be dark or the edge will be too noisy, so we need to scan smoothly and change the scanner angle .About 400mm scanning distance is bast (high definition mapping, smooth surface quality of the model, low noise).For example, face scan, and fine scan (≤ 0.5mm).For easy to splice , you can scan as close as possible, so that data will better; for difficult to splice parts (few features), you can scan from a distance.

stitching retrieval：when a splice is lost, move the scanner back to the scanned area and stay there for 2-5s (the red box is the missing splice frame, and it is easier to retrieve by pointing at this frame). If not recovered, pause the start of the scan by aiming at the previously scanned area.

Improve splicing accuracy：scanning path needs to be closed loop (multiple scanning angles are needed at the overlap). When scanning medium and large items (such as sculptures, full-body portraits), the scanning is spread from the center to all around. Note: Do not make the closed loop too long, or stitching accuracy can not be guaranteed; scanning plane items , after scanning from the center to both sides, you can rotate the scanner angle horizontally, to carry out multi-angle complementary scanning to ensure the accuracy of the feature/texture stitching.

Portrait/body part scanning：

a. When scanning portraits, select the Human Hair / Human Body mode for scanning.
b.Upright/shaggy/discrete/curly hair is difficult to scan (try dampening it or using hairspray, making it lumpy), while straight/thick/unclipped hair is easy to scan.
c.During the scanning, the human body should be keep stay and not deformed, otherwise it is easy to scan the wrong layer / not spliced (the surface of the scan data is not smooth).If the skirt or tulle is fluttering, avoid scanning as much as possible; please keep the people around you quiet.
d.Small reflective objects such as glasses, watches, jewelry, ornaments, etc., which are difficult to scan properly, should be removed or covered.
e.When scanning portraits, try to avoid multiple scans for areas that are prone to change. When scanning specific arms/legs, for example, the angle of the shape can be changed, so it is necessary to complete the scan in one time.
f.In areas with fewer features, you need to use large features to stitch together. when scanning the hair, due to the small amount of hair out of the point, try to scan the forehead, shoulders, back, scan and stitch the hair together.
h.Try to scan transitions through large areas that are feature-rich areas.
g.moderately fast:Too long a scan can lead to an increase in body shaking, increasing the wrong layer, which needs to be scan steadily and quickly.

Summary: scanning paths for full-body : chest and abdomen - side face (including ears) - front face - chin - chest and abdomen - left/right front leg - abdomen - another leg - abdomen - waist - abdomen - waist (one closed loop) - back - abdomen - left/right back leg - waist - another leg - back - neck - head (sweep hair as much as possible) - chest and abdomen (end).