

FACE SCANNER  
**SNAP**



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## Precautions for Safety

Read the following precautions and use them according to the manual.

### 1 Symbols in the User Guide



Caution, Failure to respond to caution may result in product malfunction or damage.



Indication of information related to the product.

### 2 Precautions for Use



- Do not touch the camera lens.
- Follow the guide when attaching / detaching from the Microsoft Surface.
- Do not apply excessive force or shock to the product.
- Be careful not to expose the product to direct sunlight.
- Be careful not to let water get inside the product and do not leave it in a humid place.
- Do not disassemble or apply excessive force the product.

### 3 Storage and Environmental Use

Environment	Condition	Min	Max
Storage Environment	Temperature (long-term storage temperature) <sup>1)</sup>	0 °C	40 °C
	Temperature (short-term exposure temperature) <sup>2)</sup>	-30 °C	65 °C
	Humidity	90% RH, 30°C	
Environment	Temperature	0 °C	35 °C



1) When storing the product for a long period of time, observe the environmental conditions indicated.

2) Temporary maximum limit allowed in transportation conditions.

## Certification / Compliance Information

### 1 Specifications for Laser Products

This product is classified as Level 1 according to IEC60825-1 edition 3,2014.



System integrators should refer to their respective regulatory and compliance center for specific regulatory requirements for a specific geography.

This product is in conformity with performance standards for laser products under 21 CFR 1040, except with respect to those characteristics authorized by variance number FDA 2013-1-02175-001 effective February 11, 2014. This product is classified as Class 1 under 21 CFR 1040.10-1, edition 1, 2014, internationally. The use of the edition 1 for classification also in the US is allowed by the terms of the aforementioned US FDA 2013-1-02175-001 variance at the time of manufacture.



**Caution:** Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Manufactured by Intel Corporation  
2200 Mission College Blvd., Santa Clara, CA 95054

U.S. FDA accession number is 5423077-001.



If you modify this product arbitrarily, it may exceed the laser emission standard of the infrared projector.

## 2 Follow the FCC Rule



This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device Sep not cause harmful interference, and (2) this device must accept any interference received, including interference that Sep cause undesired operation.

## 3 Authentication Information



EN 55032:2015 / EN 55024:2010 +A1:2015  
Following the provisions Directive 2014/30/EU



FCC Rule Part(s) : FCC 47CFR Part15 Subpart B Class B  
Part 15.107(a) & Part 15.109(a)



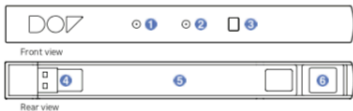
Registration No : MSIP-REM-dof-FS17A  
Class B Equipment(home-use broadcasting communication equipment)

## Specification

Electrical Specifications	
Rated Voltage	DC 5V / 0.6A
Rated Power	3 W(supplying at least 2.5W through a DV 5V)
Technical Specifications	
Resolution - depth / color	640x480(VGA) / 1920x1080 (FHD)
Depth Capture Distance	0.2 to 1.5m
Output File Format	OBJ (with ScanApp)
Measurement Method	IR light triangulation
Light Source	Infrared laser(Class 1)
Interface	USB 3.0
System Specifications (Surface Pro)	
CPU	Intel core 7 i5
Memory / SSD	8GB / 256GB
Graphic	Intel Iris Plus Graphics 640

## Components

### 1 Scanner Body



- ① IR camera - capture data with infrared camera
- ② Color Camera - capture color of data with color camera
- ③ IR Laser Projector - investigates IR patterns with an infrared projector
- ④ USB connector - connected to USB 3.0 port
- ⑤ Aluminium Case
- ⑥ Catcher Body - guides you to install the scanner on your tablet

Size: 18(W) x 167(L) x 17(H) mm Weight: 70g

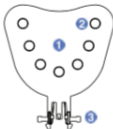
### 2 Target Plate



- ① Target Sticker - reference point for recording the position of the bite
- ② Handle
- ③ Connector - female clip to be attached with bite tray

Size: 100(W) x 750(L) x 46(H) mm Weight: 10g Quantity: 20EA

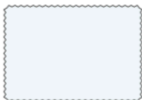
### 3 Bite Tray



- ① Base - base plate for bite registration
- ② Hole - hole for holding the bite registration material and the bite tray
- ③ Connector - male clip to be attached with target plate

Size: 59(W) x 67(L) x 9(H) mm Weight: 5g  
Quantity: 60EA

#### 4 Cleaning Cloth



If the lens of the cameras appear dirty, wipe with the supplied cleaning cloth. It is suggested to use one or two drops of isopropyl alcohol (IPA).

### SNAP Installation Guide

#### 1 Hardware Installation

- 1 Attaching Catcher Body: attach the catcher body to the case bottom and remove the double-sided tape.



- 2 Surface Connection: connect scanner body to USB port.



- 3 When SNAP is attached to the USB port, the catcher body is attached to the Surface.



The catcher body works as a guide and stopper when attaching the scanner.

## 2 Software Installation

### 1 Installing the Driver

- Internet Connection: the Surface or PC must be connected to the Internet.
- Driver Verification: connect SNAP to USB 3.0 port and wait for the relevant driver to be recognized (takes about 3 minutes).



- If the driver cannot be installed: download the driver from the address below and install it, <https://software.intel.com/en-us/realsense-sdk-windows-eol>

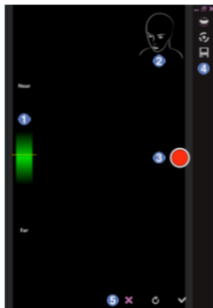
### 2 Software Installation: Install DOF SmileApp. <http://update.libnexus.com/latest/DOF/SNAP>



It is recommended to use the program after setting the PC Power Management Option -> High Performance.

## Face Scan Process (SmileApp)

### 1 Software UI Summary



- 1 Scanning Distance Adjustment Guide: indicates the optimum scan distance from the subject.
- 2 Scanning Sequence Guide: follow the guide procedure to scan.
- 3 Scan Button: scan on / off button
- 4 Scan List: displays the required scan steps for the face scan.
- 5 Task View: performs functions such as job completion, rescan, and cancel.

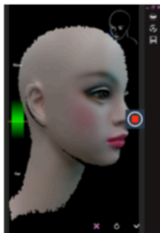
## 2 Smile Line Scan(Face Scan)



- 1 After running the program, click the Scan Smile Line icon.
- 2 Start Scan: Position the scanner so that the front of the face is on screen, then press the Scan button to start scanning.



When the Eye Zone enters the Guide Zone, the Scan button is activated. During scanning, the yellow bar should be positioned in the middle of the distance control guide. Maintain the distance between face and scanner.



- 3 Right Side Scan: capture data by rotating the scanner towards the right side of the patient's face.



- 4 Left Side Scan: capture data by rotating the scanner towards the left side of the patient's face.



- 5 Front Scan: complete the scan by rotating the scanner back to a frontal view of the patient's face. Press the Stop button to proceed to the next step.



- 6 Data Verification: scanned data is merged after several seconds. Verify the merged data.



If there is an issue with the scan data, rescan by accessing the Smile Line Scan once more.

### 3 Chairside Preparations



- 1 Attach the bite plate to the target plate.



- 2 Bite Registration and Scan: Prepare the impression material and spread into the tray. Allow the patient to bite down on the impression material and proceed to scan the scan targets.



If a scannable bite registration material is not used, spray powder needs to be applied for ScanApp process.





- 3 Removing the Bite Plate:  
When removing the bite plate from the target plate, remove it by twisting it in either the left or right direction and pulling. We recommend using up to three bite plates per target plate.

#### 4 Scan Bite Registration : click the Scan Bite icon in the scan list window.



- 1 Start Scan: position the Eye Zone in the Guide Zone and press the Scan button to proceed with the scan.

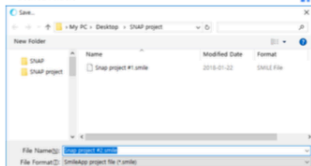


- Scanning is performed by moving the scanner slightly in the up, down, left, and right directions until the target scan ends automatically.

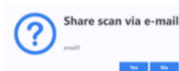


- 2 When the bite scan ends after all targets are captured, the smile line scan data and the bite scan are aligned automatically into a single file.

- 5 Save Project File: click the Save File icon to save the project file in the desired folder.



- 6 E-mail Function: a function to send the scan files by e-mail. You can save the scanned file as an e-mail ready file and then click the Yes / No button to decide whether or not to share the file via e-mail.



### 1 Registering User Mail Account

Fill in the required information based on the SMTP settings of the user's mail account, the Host Name, SMTP Port number, TLS Check security setting.

- \* Username : user mail account field
- \* Password : user mail account password field
- \* Test Recipient : email info field for test mail
- \* Test Connection : after confirming that the e-mail is received normally with the test connection button, press the OK button to end the SMTP setting.

### New Recipient

- 2 Recipient Input: you can enter additional information about the recipient of the e-mail.

## Share Snap Data

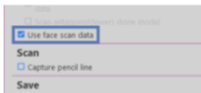
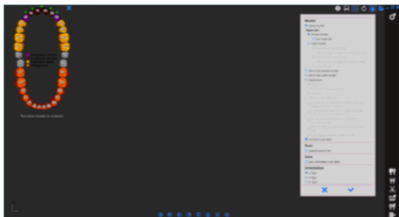
From: myemail@address.com  
To: My Name <myemail@address.com>  
Subject: test  
Note: snap data

Cancel Send

- 3 **Send:** select the recipient of the message in the chart, fill in the information required for the Subject and Note, and click the Send button to send the message.

## ScanApp Process

- 1 Running ScanApp: launch ScanApp to scan stone models



- 2 **Scan Planning:** select "Use face scan data" in the scanning options for integration with the face scan project.

- 3 Stone Model Scan: Proceed to Stone Model Scan.
- 4 Target Bite Scan



- 1** Putting Target Bites: place the target bites on the scanning platform as shown below.

2 Scan Progress: click the Smile Bite icon to proceed with the scan.



3 Checking the Scan Data

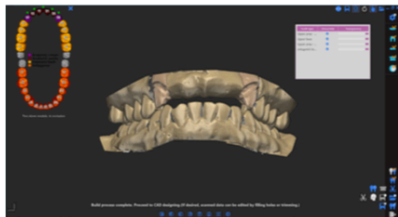


The four targets shown in the photo must be scanned. If the green target does not appear, perform an additional scan, confirm the target scan, and finish the scan.

5 Scan Data Matching: match the stone model and bites using 3 points.



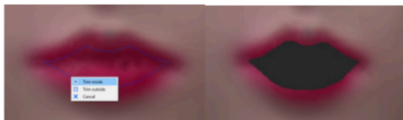
6 Building the Data



- 7 Load Face Scan Data: click the Load icon and load the project file.



- 8 Edit Lip Line: tap the Trim icon and edit the lip line (tooth).



- 9 Data Check: check the location of the face scan data and tooth model.



If there is a problem in matching the tooth model with the face data, the position of the teeth may look distorted. Perform a smile line scan (face scan) again to generate a project file and then try the alignment again.

## 10 Plane Creation: creates various planes needed for tooth design.



You can create four planes - Mid Line, Camper's Plane, Occlusal Plane, and FH Plane and save them as OBJ files. Click the Set Plane icon and create plane.

- 1 Create Mid Line: if you click the three points which are the bases of the Mid Line, plane is created automatically.



## 2 Toggle and plane adjustment method



\* Toggle Selection: when toggle is selected, a virtual line appears as a vertical line and the plane can be rotated around the line.



\* Plane Selection: plane can be moved by dragging and dropping it after selecting plane.

- 3 Create Camper's Plane: click on the three points that are the base points of the Camper's Plane. The plane will then be created automatically.



- 4 Creating an Occlusal Plane: clicking a point in the center of your upper lip will automatically create a plane. Move the face to set the exact occlusal plane position.



The Occlusal Plane is set parallel to the Camper's Plane and can not be adjusted with toggle. Camper's Plane must be set correctly in advance.

- 5 Create FH Plane: plane is created automatically when you click three points which are the base points of the FH Plane.



- 11 Confirm Plane: make sure all planes are created properly



- 12 Data Storage

Click the Save Data icon to save the face scan data.

Click the Save STL icon to save the stone model scan data.



## exocad Design

- 1 Add/Remove Mesh : After loading scan data Expert mode -> Tool-> Run Add / Remove Mesh

