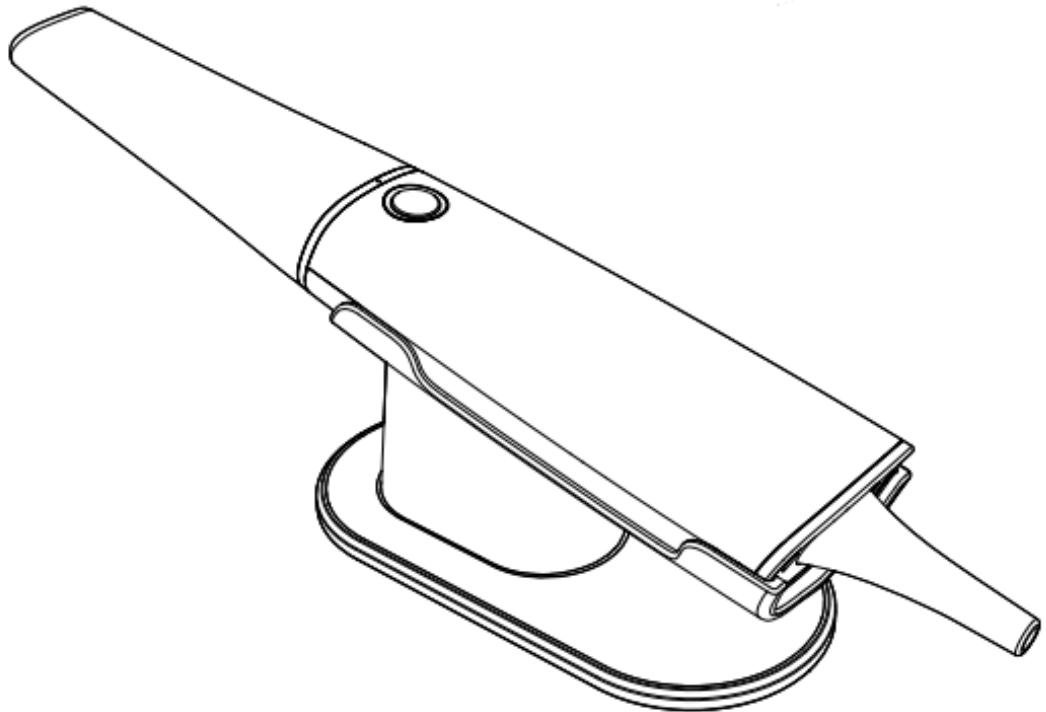




# SHINING 3D



## Aoralscan L

3.5.4

# User Manual

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# Overview

## Foreword

### Safety Instruction

Signal	Meaning
	<b>Note:</b> This symbol is used to inform you of the additional information of the product.
	<b>Caution:</b> This symbol is used to inform you of incorrect operations that may damage the device or result in data loss. Any damages resulting from misuse are not covered by the warranty.
	<b>Warning:</b> This symbol is used to inform you of the potential risks that may result in serious personal injury and other safety incidents.

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## Getting Started

This manual mainly introduces the [hardware](#) and [software functions](#) of Aoralscan L.

Aoralscan L is designed to provide powder-free intraoral color scanning with higher speed, bringing greater accuracy and less time-lag for image acquisition. It can be used to scan a single tooth, multiple teeth, and whole dental arches. The captured 3D digital images of teeth and soft-tissue areas are designed to be used in conjunction with the supplied software programs.

Dental Order System module helps manage the patient information and scanned records. Scan module assists you in acquiring digital images. Exporting scanning data (in STL/OBJ format) to CAD/CAM systems for different purposes of dental care is also supported.

## Hardware introduction

Hardware introduction describes different parts of the scanner and how to connect the scanner and computer, etc.

## Connection

→ How to connect/disconnect the device?

## Scanner description

→ Check the package list.

→ Check the description of different parts of the scanner.

→ How to clean the scanner?

→ How to store the scanner?

# Software functions

The recommended process of scanning by the supplied software IntraoralScan is: Calibrate(Optional) → Create an order → Scan → Pre-design → Send the order.

## IntraoralScan (Downloaded from the USB flash driver)

→ How to register an account or log in?

→ How to activate the device?

→ How to upgrade the IntraoralScan?

## Calibration

Calibrate the scanner to ensure its accuracy and the quality of scan data. It contains two functions: brightness adjustment and calibration.

→ Precautions before calibration

→ How to calibrate the scanner?

## Order system

Create, edit, search and delete orders., as well as add new patients and so on.

→ Functions

→ How to check my orders and my patients?

→ How to create a new order?

## Scanning

Scan the object and collect digital images, and export 3D data in STL, OBJ, BEB, PLY format.

→ Precautions before scanning

→ How to set scanning parameters?

→ Functions during scanning

## Pre-design

Various functions are provided for the users to preview and edit the 3D model.

→ How to edit a 3D model?

→ Other functions

→ How to create my oral report?

→ How to extract the margin line?

→ How to start scanning? (Take pro-op scanning as an example)

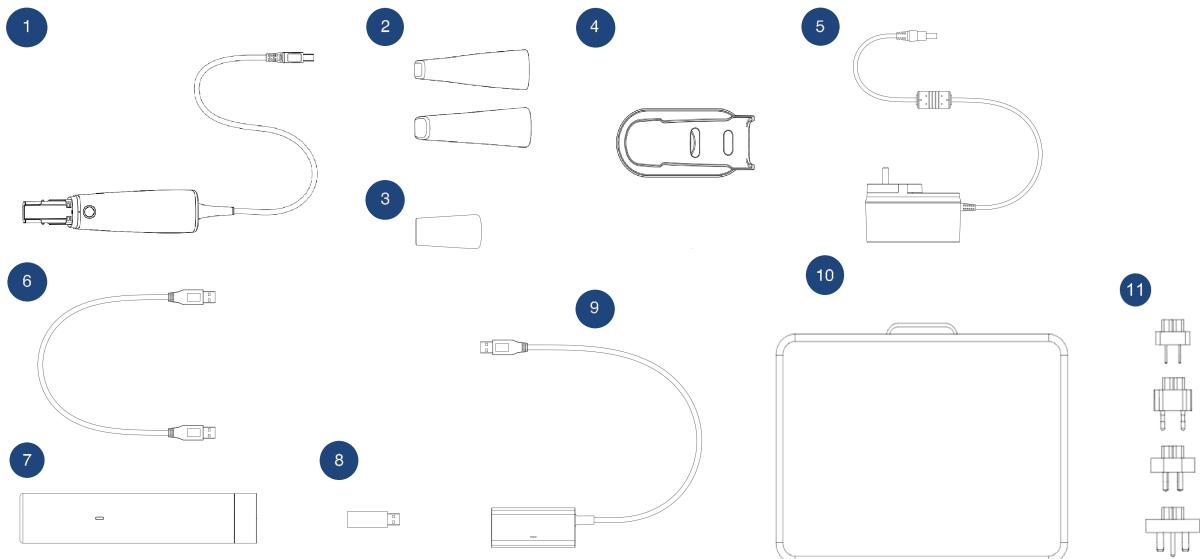
## Hardware

### Unpack the Package

Check the carry box for the following items. If any item is missing or damaged, contact the distributor or service provider immediately.

#### Note

The following figures in the parts list are for reference only, the actual product shall prevail if there is any inconsistency.



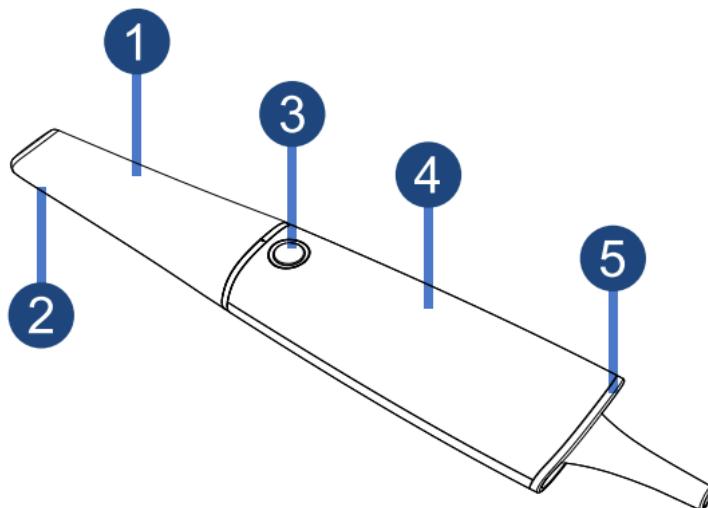
No.	Name	Description
1	Scanner Body	Data collection.
2	Scanner Tips	4 standard tips and 1 mini tip.
3	Dust Cap	Protect the scanner from dust.
4	Cradle	The scanner can be put on the cradle.
5	Power Adapter	power supply.
6	USB 3.0 Cable (For the calibrator)	For the calibrator.
7	Calibrator	To calibrate the scanner.
8	USB Flash Drive	The software package is contained.
9	USB 3.0 Repeater	/
10	Package Box	Contain all parts.
11	Power Adapter Plugs	/

### Caution

- AC plug types vary by country/region.
- Using accessories, peripherals, or cables not supplied with the product or recommended by SHINING 3D can affect the device in the form of increased emissions or decreased immunity to external EMI/EMC occurrences. Non-specified peripherals, and cables in some cases, can also increase leakage current or compromise the safety of the grounding scheme.
- Using accessories or power supply units other than those specified may cause the warranty to void and result in increased emissions, decreased EMI immunity of the device, or even damages to the device and personal injuries.
- Place the USB flash drive in a safe place for later usage.
- We recommend that you keep all the original packaging components in a safe place in case you need to transport or dispose of the scanner in the future. More details see [Care and Maintenance](#).

## Hardware Overview

## Scanner Tip and Scanner Body



No.	Item	Description
1	Scanner tip	Use the scanner tip to scan the upper, lower or full jaw. The scanner tip can be autoclaved for 100 times.
2	Heater	The heating device ensure successful scanning by preventing fogging on the lens.
3	Scan button	Single press to start scanning and pause scanning; long press to proceed to the next step.
4	Scanner body	Rotate the scanner body during scanning to obtain the best scanning angle. During the scanning process, the scanner body may heat up, but the temperature will not cause harm to users and patients.
5	Indicator	Indicates the status of the scanner. <ul style="list-style-type: none"><li>• Green: The scanner is in scanning, heating or standby status.</li><li>• Blue: The alignment unsuccessful when the scanner is scanning or aligning.</li><li>• Breathing green: The scanner is in sleep.</li></ul>

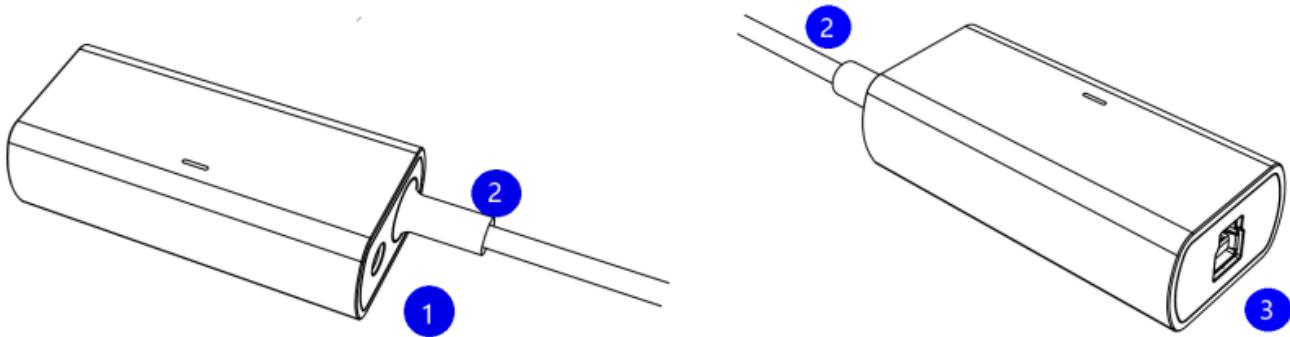
## Scanner Cradle



### Note

- When the scanner is not in use, place it on the cradle.
- If the scanner is idle for more than 3 minute, it will automatically enter the standby mode. When the scanner is idle for more than 10 minutes (such as on the cradle), it will enter the sleep mode, and the indicator on the scanner body will also be in the breathing light state.
- If the scanner is idle for 30 minutes, or place it on the cradle for 30 minutes, it will enter the deep sleep condition. During deep sleep, all the scanner indicator lights will go off.
- As long as there is power connected to scanner, the scanner tip will be heated even if the scanner is in standby or sleep mode.

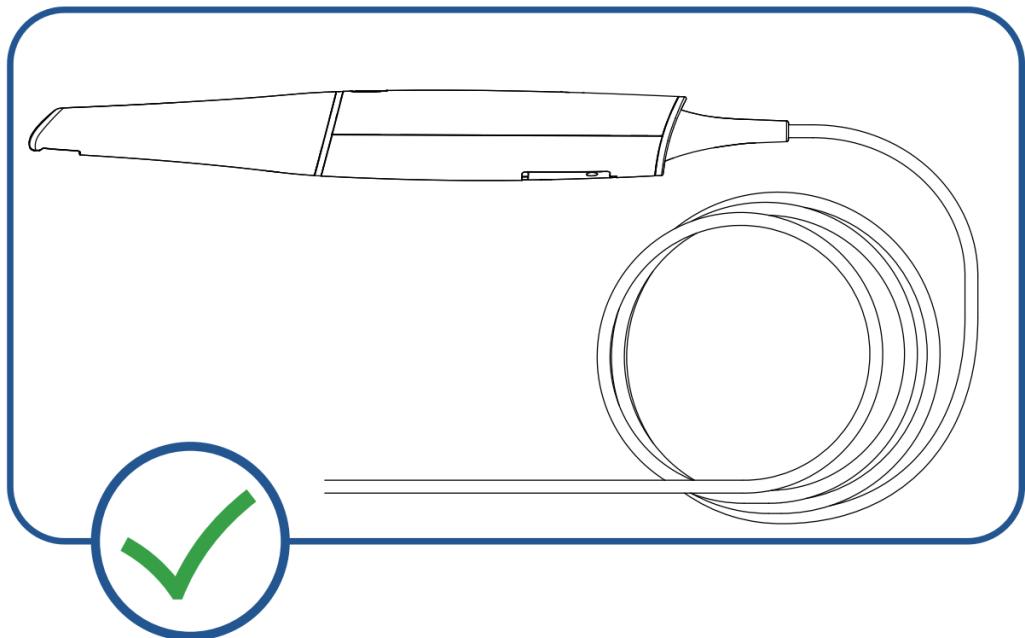
## USB 3.0 Repeater



No.	Description
1	Power Port
2	USB 3.0 Data Cable. Connect it to your PC USB3.0 port.
3	Scanner Port. Connect it to your scanner.

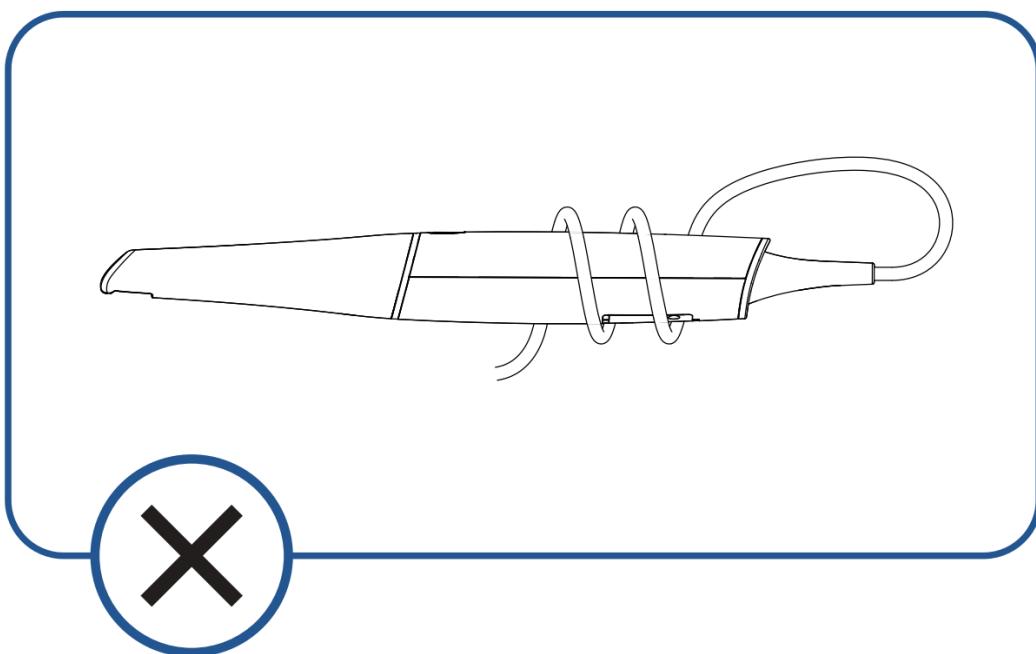
## Scanner USB cable storage

To prevent the USB cable from getting damaged by excessive bending or twisting, you should loosely coil the cable and avoid making kinks or sharp bends. Up to 30,000 uses of the scanner tail cable.



**⚠ Caution**

- Do not roll the cable over the handle of the scanner or even bend the cable sharply. The illustration below demonstrates improper cable storage.
- Do not drag the tail cable of the device when taking the scanner to avoid damage caused by excessive pulling.



## Connect/Disconnect the Scanner

### Caution

- Please follow the equipment connection diagram when connecting the devices and aware the sequence of cable interface connections. Do not use non-kit cables for connection.
- To ensure equipment performance and safety, use only the original accessories and software provided with the device.
- Using cables or accessories other than those provided in the package might result in equipment malfunctions, damages, or financial losses.
- Ensure the supplied software programs are installed on your computer before the connection.
- If the accuracy of the equipment decreases or if the equipment does not work properly, please consult technical support promptly.
- Install the scanner in accordance with the instructions stated in the Manual.
- Use the scanner only in dental laboratories, dental clinics, and equivalent environment.
- Do not install, place, and use the scanner in dusty and damp environment or in the areas of temperature extremes or in direct sunlight.
- Prepare a flat surface, e.g. your desk, for the scanner and the cradle. Do not place them on a slanted surface.
- Before the installation is completed, do not plug the power adapter into the wall outlet or turn on the scanner until you are instructed to do so.
- Always hold the scanner firmly when lifting from the stand or when using the scanner. Do not shake the scanner.
- Always return the scanner to the cradle when it is not in use. Do not place the scanner in heated or wet surfaces as this can cause damage to the scanner.
- It is normal that the scanner gets warm when in use. Do not block the ventilation holes on the bottom of the scanner. If the scanner overheats, the scanner will stop working.
- Ensure that you use only the supplied power adapter, power cable, and USB cable.

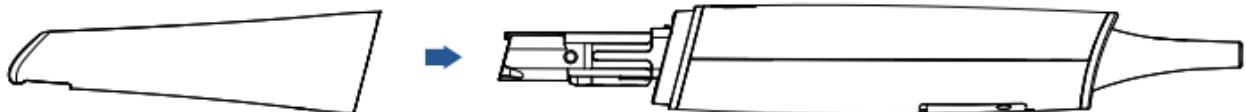
## Attach and Detach the scanner tip

### Caution

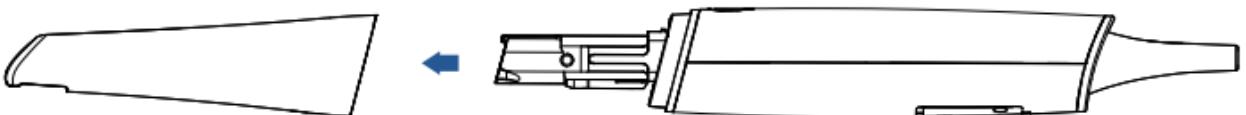
- Do not place your finger(s) on the mirror of the tip when attaching as this may result in damage to the mirror.
- Do not place your finger (s) on the lens of the tip when detaching the tip to prevent damages to the lens.
- Do not attempt to clean the outer units and inner optical components on the front end of the scanner with any sharp objects or other such tools, which may result in scratches and damage to the scanner.

**Follow the step below to attach the scanner tip:**

Hold the scanner tip firmly with your thumb and forefinger on both sides, and then gently attach the tip facing downward to the scanner.



**Follow the step below to detach the scanner tip:**



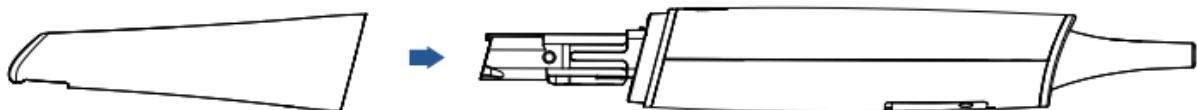
## Connect and disconnect the scanner

**Follow the steps below to complete the connection and disconnection:**

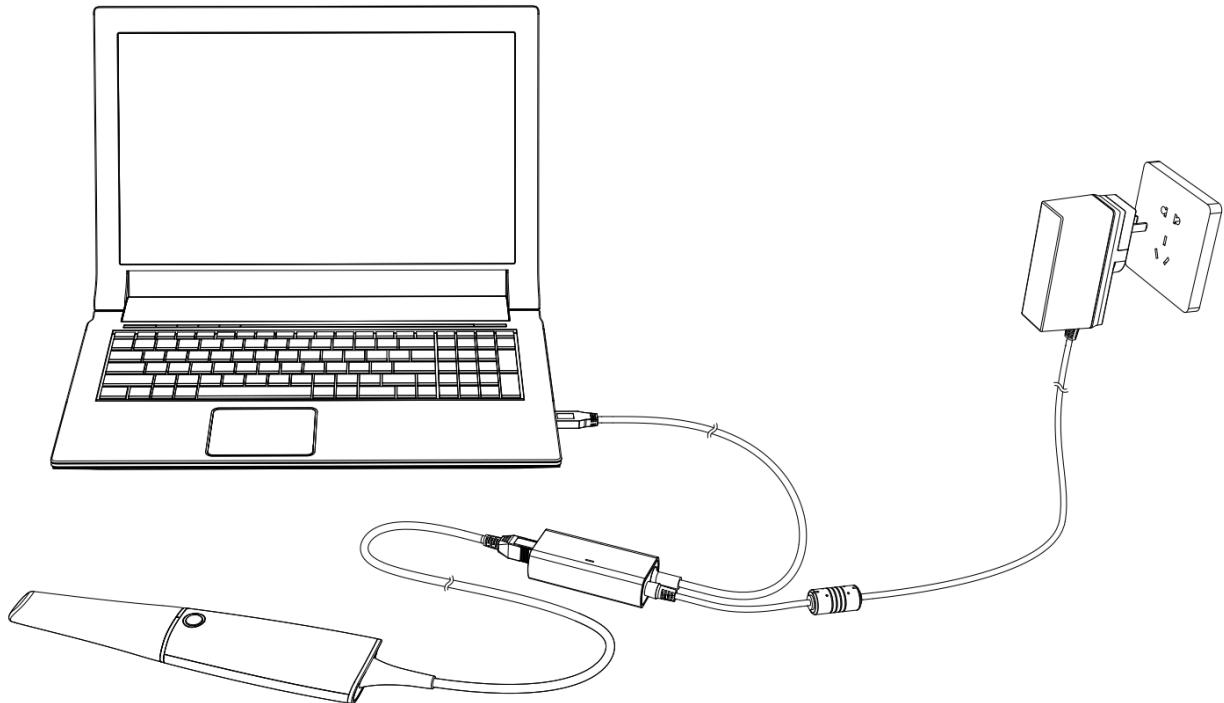
### Connection

**Follow the steps to complete wired connection.**

1. Push the scanner tip hard to the scanner main body to ensure firm attachment.



2. Connect the scanner cable to the USB 3.0 repeater.
3. Connect the USB 3.0 repeater to the USB 3.0 port on your PC.
4. Insert the power plug of the supplied power adapter into the power port on the cradle, and plug the power adapter into a wall outlet.



5. Click the shortcut icon of IntraoralScan (Named "Dental Launcher") on the desktop to launch the software.

#### Disconnection

##### Caution

- Do not attempt to directly disconnect the scanner by removing the power cable and USB cable.
- Do not roll the cable over the handle of the scanner or even create any sharp bends in the cable after you disconnect the scanner.

#### Follow the steps below to safely disconnect the scanner:

1. Quit the IntraoralScan scanning software.
2. Unplug the power adapter from the wall outlet and remove the power plug from the power port on the cradle.
3. Disconnect the scanner USB 3.0 cable from the USB 3.0 repeater.
4. Disconnect the other port of the USB 3.0 repeater from the computer.
5. Right-click the **Safely Remove Hardware** icon on Windows taskbar and select **Eject Flash Drive**.
6. Unplug the USB flash drive and keep it in a safe place for future use.

## Specifications

Parameter	Description
Type name	Intraoral Scanner
Model name	Aoralscan L
Lifecycle	8 years

Scanner	
Scan field	Standard tip: 16 mm × 12 mm Mini tip: 12 mm × 9 mm
Scan depth	22 mm (2 mm to 20 mm away from the front window plane of the scanner tip)
Scan theory	Non-contact scanner with the structured light (by customized projection system)
Dimension (L × W × H)	295 mm × 46 mm × 35 mm
Weight (Tolerance: ±20 g)	239 g (without cables)
Output	STL, OBJ, PLY
Connector	USB 3.0
Power	Input: 12V DC/3 A
USB 3.0 repeater net dimensions	73 mm × 36 mm × 24 mm
Scanning tip dimensions	119 mm × 32 mm × 36 mm

Cradle	
Dimension (L × W × H)	144 mm × 65 mm × 62 mm
Weight (Tolerance: ±20 g)	314 g

## Environmental Requirements

Operating and storage requirements	Description
Operating temperature	10°C – 40°C
Scanner storage/transport temperature	-30°C – 60°C
Working relative humidity	30%RH – 80%RH
Scanner storage/transport relative humidity	30%RH – 90%RH
Air pressure	70 kPa – 106 kPa

## About IntraoralScan System Requirements

Before installing and running the supplied software programs, your computer shall meet the following requirements:

 **Note**

Your PC shall meet the safety requirements of IEC 60950-1, IEC 62368-1/GB 4943.1.

**Computer**

Item	Classification	Description
Intel CPU	/	Intel® Core™ i7-8700F or above Recommend: Intel®Core™ i7-11800H
Memory	RAM	Minimum: 16GB Recommend: 32GB
Hard Disk Drive	SSD	Minimum: 256GB Recommend: 2TB
Graphic Card (GPU)	Discrete graphic card	NVIDIA RTX 2060/2070/2080/3060/3070/3080/4060/4060Ti/4070/4080/4090
Operating System	Windows	Windows 10/11 Professional (64-bit)
Ports	Input/Output ports	More than 2 type-A USB 3.0 (or higher) ports

### Note

- When running the software for the first time, a prompt of restarting the software to perform the PC performance test will be popped up. After test, the software will automatically configure the scanning speed to suit your computer's performance. Click Yes to restart the software.
- Your PC shall meet the safety requirements.
- The default virtual memory is 4.8GB, and insufficient virtual memory may cause software crashes.

## Register and Log in

Open the software and enter the login interface.

### Register

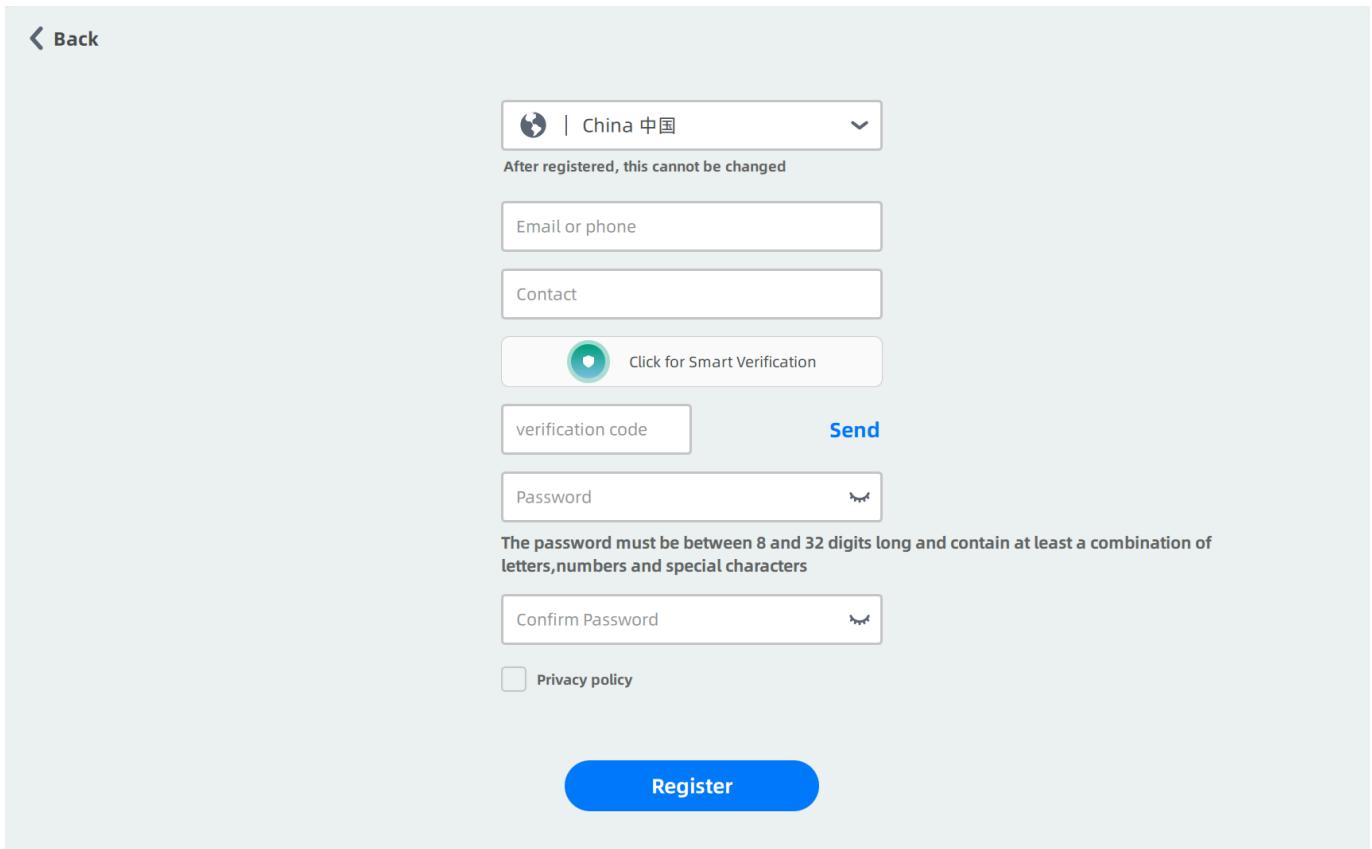
If there are no SHINING 3D accounts, click **New User? Click here to register** to enter the registration interface.

### Steps

- Select a role type and fill in registration information such as contact information and phone number.
- Read **Privacy Policy** and select the check box.

3. Click **Register**.

4. Click **Back** to return to the login interface. Enter the account and password to log in.



The screenshot shows a registration form on a mobile device. At the top left is a back arrow labeled "Back". Below it is a dropdown menu showing "China 中国" with a globe icon. A note below the dropdown says "After registered, this cannot be changed". The form fields include "Email or phone", "Contact", and a button "Click for Smart Verification". To the right of the verification code input field is a "Send" button. Below these are "Password" and "Confirm Password" fields, each with a character count indicator (8-32). A note above the password field states: "The password must be between 8 and 32 digits long and contain at least a combination of letters, numbers and special characters". At the bottom left is a checkbox for "Privacy policy", and at the bottom center is a large blue "Register" button.

#### Note

- You can join in the temporary institution directly for 3 days without approval.
- If you found an institution or are approved to join in a common institution in 3 days, then you will be moved out from the temporary institution.
- One user can only join in the temporary institution once.
- After registration, messages about dental cloud will be sent to the phone or e-mail you entered.

#### Log in

- The users can log in with a dental cloud account or register a new account.
- The users can log in by **password** or by **verification code**.
- After logging in, registration information and connection can be checked.

**By password**

**Password login** | **Verification Login**

▼

✖

Remember password

[Forgot your password?](#)

Sign in

New User? [Click here to register](#) Privacy policy

**By verification code**

**Password login** | **Verification Login**

▼

?

[Click for Smart Verification](#)

Send

Sign in

New User? [Click here to register](#)

Privacy policy

### Note

The account information can be deleted in the drop-down menu of the account login box.

## Activation

### Activation for the first time

When using the device for the first time, it needs to be activated.

1. [Connect the device following the instructions.](#)
2. After successfully connecting the device, launch the software while being online.
3. [Register or log in to your account.](#)
4. Once you are in the main interface of the software, a prompt for device activation will appear. Click **Yes**.
5. Fill in the company, industry application and organization type (Dental hospital, Stomatology department of general hospital, Dental clinic, Lab, Reseller and Others). Then, click **Submit**.
  - Industry application: Including Prosthodontics, Orthodontics, Oral implantology, General dentistry, Pediatric dentistry, Hearing-aid and Other. Multiple selection is supported.
  - Organization type: Including Dental hospital, Stomatology department of general hospital, Dental clinic, Lab, Reseller and Others.

**Activate**

\*Company:

Please fill in the real name

\*Industry application:  
 Please select your industry application

\*Organization type:  
 Please select your organization type

 **Submit**     **Cancel**

6. Click **Activate** to activate the device. After successful activation, you can start using the device normally.

## Authorization renewal

Click  **Settings** → **About** to check the authorization remaining days.

When the authorization of the device expires, the users can click **Request an Authorization Renewal**. On the window of Authorization Tools, select authorized days, and click **Apply**. After the application is approved, the authorization will be renewed.

## Upgrade Software

Click " **> About**" on the upper right corner of the homepage.

- Click **Check for Updates** and it will automatically check whether there is a new version. If there is a updated installation package on the network, you can choose to download and install it now or next time.
- If you have chosen **Check updates automatically**, the software will download the updated package when connected to the network. And you can also choose to install it now or next time on the pop-up box.

### Note

Please make sure the computer installed with the software has been connected to the network before upgrading.

## Calibrate the Scanner

**Under these circumstances, we recommend that you shall execute the calibration for the scanner to ensure the accuracy of scanned data:**

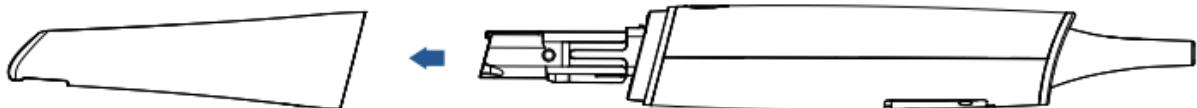
- The initial setup of the scanner is completed.
- The scanner has been used for a period of time (e.g. 2 weeks).
- Scanner brightness adjustment is recommended once every 3 months.
- The scanner is accidentally dropped or strongly vibrated.

### Caution

- Before calibration, please connect the calibrator with the cable.
- Please keep the calibrator in bag to prevent from dust when it is not used.
- Do not drop or strike the calibrator.
- Do not splash water into the calibrator.

**Follow the steps below to perform the calibration:**

1. Gently take the tip off from the scanner.



### Caution

- Do not place your finger(s) on the mirror of the tip when detaching as this may result in damage to the mirror.
- Store the detached tip in a safe place, e.g. a dental instrument tray, for future use.

2. Gently take the calibrator onto the front end of the scanner.



3. Click  on the main interface to enter the calibration interface.
4. Ensure the scanner is plugged into the calibrator firmly. Click **Start** to calibrate.  
Normally the calibration takes approximately 7 minutes.
5. After the calibration is finished, click  in right corner to exit.
6. Gently take the Calibrator off the scanner.
7. Reattach the scanner tip to the scanner for later use or put the dust cap onto the scanner to prevent damage and dust.

 **Caution**

Make sure that the Calibrator is removed from the scanner after the calibration is done. Otherwise, the Calibrator temperature may get very high.

## Create Order

### Interface

After logging in, you can check your orders.

### Preview

The screenshot shows the SHINING3D IntraoralScan software interface. At the top, there is a header with the SHINING3D logo, a home icon, a cloud icon, and a user profile icon. Below the header, the main interface is divided into several sections:

- Welcome to the IntraoralScan**: Version: 3.0.0.0
- New order** and **Import order** buttons.
- Links That May Interest You:**
  - SHINING 3D Dental Tutorial**
  - JOIN IN OUR COMMUNITY**
- Order List** and **Patient List** tabs. The **Patient List** tab is selected, displaying a table of patient orders:
 

Order Number	Patient Name	Dentistry Type	Order State	Create Time	Operation
050		Implant	Waiting to scan	7/16/24 4:22 PM	
049		Orthodontics	Waiting to send	7/16/24 3:25 PM	
046		Implant	Waiting to scan	6/19/24 10:23 AM	
040		Implant	Waiting to scan	6/18/24 2:55 PM	
029		Restoration	Waiting to send	5/31/24 9:03 AM	
026		Implant	Waiting to scan	5/29/24 9:39 AM	
089		Implant	Waiting to send	5/23/24 4:09 PM	
089		Implant	Waiting to scan	5/23/24 4:09 PM	
017		Restoration	Waiting to send	4/28/24 2:15 PM	
001		Restoration	Waiting to send	4/24/24 4:12 PM	
001		Restoration	Waiting to send	4/24/24 4:06 PM	
001		Restoration	Waiting to send	4/24/24 3:43 PM	

## ① Home and dental cloud connection



: Click to return to the homepage.

### Dental cloud connection

- : Normal connection.
- : Failed connection.
- : Unstable connection.

## ② Settings

Check [Users information and connection](#), [Calibration](#), [Record and screenshot](#), [Endoscope](#), [Order settings](#) and [Help](#).

### Users information and connection

Click to check user profile and the connections.

When adding new connections, click **New** to search a target organization and click  to send the application.

### Caution

If you fail to add a new connection and a tip informing that necessary information is not completed, please log in the dental cloud to complete the relevant information, then start to re-establish the relationship.

## Screenshot

Record the screen, take a screenshot and check screenshots.

- Click **Screen Record** to record the screen and click  to end it.
- Click **Screenshot** to capture the picture and you can edit the picture by clicking it displayed in the lower right corner.
- Click **Find the screenshots/screen records** to view the storage path.

## Endoscope

With Endoscope, users can check the teeth in advance and create the corresponding orders.

Click  to start Endoscope.  to take screenshots and click  to check the path where the screenshots are stored.

### Caution

Please connect or wake up the scanner when using Endoscope.

## Help

Click **Help** for the User Manual, Shortcut Instructions, User Guide (Enabled by default), Support Center, Remote Assistance, Feedback, Official Account Customer Service and Information.

- Support Center: Check our technical support.
- Feedback: Submit your issues, suggestions or requirements or others.

Please fill in your contact information and the device serial number, and describe what problems you encountered. You can upload attachments for better description.

- Official Account Customer Service: Scan the QR code to follow our official account.
- Information: Check new functions and other information about the software.

## ③ Create/ Import Orders

-  : Click to create a new order, as well as a scanning order. Details in [Create/Import Order](#).
-  : Click to import an order from ExoCAD and IntraoralScan.

## ④ Advertisement

See information of other productions.

Click **Dental Cloud** to enter cloud platform.

## ⑤ Orders

Including [Order list](#) and [Patient list](#).

[Order list](#)

Icon	Description
	Enter order number or patient's name for searching.
Search	
	<ul style="list-style-type: none"> <li>Click to choose filtering conditions (e.g. order status, sources, time) to find the targeted order.</li> <li>If check Hide cloud order, the order stored in the cloud platform (No such order data locally) is hidden and not displayed.</li> </ul>
Filter	<ul style="list-style-type: none"> <li>Click  again to close it.</li> </ul>
	Process the duplication or the deletion of multiple orders. Click  on the right top to exit.
Multi-selection mode	
	Synchronize the cloud order to the software.
Sync information	
	Switch arraying methods between card & table. Check order information (e.g. patient's information, order status and creating time). Open a certain order by double-clicking it.
Card Mode & Table Mode	
	Send order information and scanning data to other labs.
Send	
	Create a new order identical to the current one and re-scan.
Duplicate	
	Delete the selected order(s) from the list. Delete the file and scanning data permanently by checking Delete File and Scanning Data.
Delete	

## Order details

Click one order to check details, including its order information, the tooth map and the scanned model. Users can change send settings as well.

**Order Information**

- ID: 001
- Order Number: 001
- Create Time: 4/24/24 11:30 AM
- Doctor:
- Operator: 001 / Technician001
- Patient:
- Dentistry Type: Restoration
- Notes

**Tooth Preview**

**Tooth map**

No.	Type	Tooth Color	Implant-Bas...	Material
27	Full Crown	No implant	Composite ...	
38	Full Crown	No implant	Composite ...	

**Scanned Model**

**Send Settings**

**Institution**

**Order State: Waiting to send**

Do you need to send back the data?

**Action Buttons:**

- Export
- Edit
- Pre-design
- Convert
- Duplicate
- Delete
- Exocad
- Explore
- Send

- Export: Click to save the order to the local path.

The users can change the folder name, export path, CAD type and the data format. After changing, click **Confirm** to check the local path.

**Export Option**

Folder Name: 2024-04-08\_100\_001\_exo

Export Path: D:/DentalOrder

CAD Type: Exocad

Export Data Format:  OBJ  PLY  STL

**Action Buttons:**

- Confirm
- Cancel

- Edit: Click to edit order information again, including changing information of the patient and the doctor, and editing notes.
- Pre-design: Click to enter the interface of pre-design.
- Convert: When the dentistry type is **Restoration** or **Other**, converting the order is supported. The users can enable pre-op scanning when converting the order.

### Note

If **Pre-op** is already enabled, converting the order is not supported.

- Duplicate: Create a new order identical to the current one and re-scan.
- Delete: Delete the selected order(s) from the list. Delete the file and scanning data permanently by checking Delete File and Scanning Data.
- Exocad: Enter Exocad to design the model.
- Explore: Click  to explore the current local path where the order is saved.
- Send: Click  to send the order. More details can be found in [Send Order](#).

## Patient list

Order List		Patient List					
		Patient Name	Patient Sex	Date of birth	Contact	Create Time	Operation
		[REDACTED]	Male	2007/6		6/8/23 1:56 PM	  
		[REDACTED]	Male	2007/6		6/8/23 9:40 AM	  
		[REDACTED]	Male	2016/6		6/8/23 9:40 AM	  
		[REDACTED]	Male	2017/6		6/8/23 9:40 AM	  
		[REDACTED]	Male	2017/6		6/8/23 9:40 AM	  
		[REDACTED]	Male	2007/6		6/8/23 9:30 AM	  
		[REDACTED]	Male	1991/1		6/5/23 8:09 PM	  
		[REDACTED]	Male	2002/6		6/5/23 8:03 PM	  
		[REDACTED]	Male	2002/6		6/5/23 8:02 PM	  
		[REDACTED]	Male	1998/6		6/5/23 3:39 PM	  
		[REDACTED]	Male	2008/6		6/5/23 3:37 PM	  
		[REDACTED]	Male	2002/6		6/5/23 1:51 PM	  

Icon	Description	Icon	Description
	Enter patient's name to search orders.		Synchronize the cloud order to the software.
	Click the button to enter the New Patient window. Enter name, gender, age and other necessary information to add a new patient.		Create a new order based on the certain patient. Relative information will be filled automatically and can be edited. More details can be found in <a href="#">Create/Import Order</a> .
	Click to edit relative information of the certain patient.		Merge the same patient for better patient management. More details can be found in <a href="#">Patient Merge</a> .

### Note

- If the user edits patient information, creates new orders or adds a patient when the computer is not connected to the network, the relative information will be synchronized to the cloud.
- Only institution manager can merge patients.

## Order Settings

Click  to set order parameters. To restore parameters on **Order Settings** interface to the default.

### General

Parameter	Description
Language	Users can set the software interface language: Chinese (Simplified), English and other languages. The default language is the language selected during software installation.
Default Dentistry Type	Select a default dentistry type from <b>Restoration</b> , <b>Implant</b> , <b>Orthodontics</b> and <b>Other</b> .
Dental Notation	<b>FDI World Dental Federation notation</b> and <b>Universal numbering system</b> . The default is FDI World Dental Federation notation.
Order Save Path	Set the order saving path. The default is to save the DentalOrder file in the installation package disk. If the installation package is stored in the C disk, the software installation path is C:\DentalOrder.
Exocad DentalCAD Path	After setting the local path where the Exocad is installed, click <b>Exocad</b> on the interface of <a href="#">Order details</a> to enter Exocad and load the current order for further design.

### Naming Rules

Default naming rule is "Create date\_Doctor Code\_Order ID". Still, you can define your own naming rule. Select wanted naming rules (order ID is a must) one after another and the final naming will be displayed in earlier selected rule > later selected rule sequence.

### Note

When the order ID is checked, you can set that the ID is displayed out of order. After enabling it, the order ID number will be displayed randomly.

### Order File Naming Rule C

- Order ID
- Doctor Code
- Patient Code
- Operator Code
- Create date

- Order Number
- Doctor Name
- Patient Name
- Operator Name

Naming Rule: "Order ID\_Create date\_Doctor Code"

Example: "001\_2022-09-23\_001"

### Saved Format

Parameter	Description
Save Exocad order	The exocad order *.dentalProject is saved while saving the order. You can import the order into the EXO design software for design. The default is on.
Save 3 <sup>rd</sup> party order	Save third-party software order when an order is finished. A third-party software order is saved while saving the order. The folder named "original order name_thirdParty" is generated under the order path, and the .xml file and the scanning result data .stl/* .ply (the coordinate system is consistent with the third-party design software) are stored. You can create an order into a third-party design software and import the data to design. The default is on.

### Save Format C

- Save Exocad order
- Save 3rd party order

### Data Cleaning

By setting the storage time, project files beyond the time can be deleted automatically or manually, and more space is reserved for storing newly scanned project files.

## Automatic cleaning:

1. Check **Automatic cleaning of historical project files**.
2. Set interval time to remind and retain days within the order.

### Note

After logging in, you will be prompted whether to delete historical data according to the date you set.

## Manual cleaning:

1. Click **immediately clean up**.
2. Set the end date.
3. Click **OK**.

### Note

- Only temporary data will be deleted.
- Data before a certain date can be cleared manually, while the data on that date can be retained.
- When the disk space for saving project files is lower than 20G, a prompt will pop up to show that clear the data immediately.
- You can choose to save data for 30 days, 90 days or 120 days.

**Data Cleaning**  (The software will clear the historical project files after the cleanup setting is turned on)

 Clear

Automatically clean up historical project files

interval  day reminder to clean up  
Keep  orders within days

## Create Order

Create different kinds of orders according to the scanning results. Orders will show the types of patients, tooth place and scanning process.

**Order Information**

ID 013	Create Time 4/15/24 9:41 AM
Order Number 013	Type First Visit
Patient Name*	<input type="text"/>
Doctor	<input type="text"/> 15700127595/1570
Operator	<input type="text"/> 001 Technician001
Lab	<input type="text"/> General
Dentistry Type	<input checked="" type="radio"/> Restoration <input type="radio"/> Implant <input type="radio"/> Orthodontics <input type="radio"/> Other
Please enter the remarks	

**Tooth Selection** ⓘ

Full Crown
Pontics

Inlay
Veneer

Antagonist

Implant-Based

No implant

Material

Composite Material

Scan a pre-op model

No

Teeth Shade

None

Explore
Save
Scan

## Order Information

Click to enter order information.

1. Choose the types of patients. **FirstVisit** or **FollowUp**.

2. Click to enter required information of the patient such as name and age.

### Note

If it is a followup, you can enter the patient's name directly.

3. Enter doctor's name to search the doctor. Or click to add a new doctor: enter the doctor's name (and

email or phone if needed) in the **Doctor Configuration** interface and click to add the new doctor.

4. Select a dentistry type:

- **Restoration:** Replace or restore your missing parts of your tooth structure. The treatment types include **Full Crown**, **Pontic**, **Inlay**, **Veneer** and **Antagonist**, and the dentist will choose the proper types according to the situation.
- **Implant:** Replace damaged or missing teeth with artificial teeth. Implant treatment types include **Full Crown**, **Bridge**, **Upper**, **Lower** and **Full**, and the dentist will choose the proper types according to the situation.
- **Orthodontics:** Deal with irregularities of the teeth and their correction. Treatment types include **Fixed Ortho**, **Mobile Ortho** and **Invisible Ortho**.

- **Other:** Receive other dental examinations and treatments including **Oral Exam**, **Caries Filling**, **Oral RCT** and **Periodontitis**.

## Tooth Selection

1. Based on the teeth to be treated, select the teeth directly on the teeth map.

Keyboard shortcuts	Description
<b>Left-click</b>	Select one tooth or teeth.
<b>Right-click</b>	Cancel settings of a tooth.
<b>Ctrl+ Left-click</b>	Copy the last defined dental restoration type to the currently selected dental position.
<b>Shift + Left-click</b>	Copy the restoration type defined by the previous tooth position to all teeth between the selected tooth position and the previous tooth position.

2. Select implant type.

Implant Type	Description
<b>Custom Abutment</b>	Add the step of scanning <b>ScanBody</b> .
<b>Custom Abutment</b> (manual positioning)	Add the step of scanning <b>Abutment</b> .
<b>Screw Retained</b>	Add the step of scanning <b>ScanBody</b> for dental implant.
<b>Screw Retained</b> (manual positioning)	Add the step of die scanning.

3. Set **Material**.

4. Set to open **Scan a pre-op model**.



When selecting **Orthodontics**, the dentist should choose the stage.

5. Click the buttons for further operations.

Operation	Description
<b>Scan</b>	Click to enter scanning interface.
<b>Save</b>	Click to save the current order for subsequent scanning.
<b>Explore</b>	Check the saved orders on the pop-up window.

## Import Orders

Click **Import order** and select INPROJECT or DENTALPROJECT files. Supports importing orders saved by IntraoralScan software and ExoCAD orders.

When importing scanned orders and clicking **Go to scan**.

To load the last scanned data, click **Yes**. To reread, click **No**.

## Patient Merge

In the **Patient List**, merging patients is supported when these patients are the same. Merging patients make it easy to manage patients.

When importing orders, the imported patient can be merged into an existing patient.

### Note

Only manager of the institution can merge patients.

## Patient Merge in Software

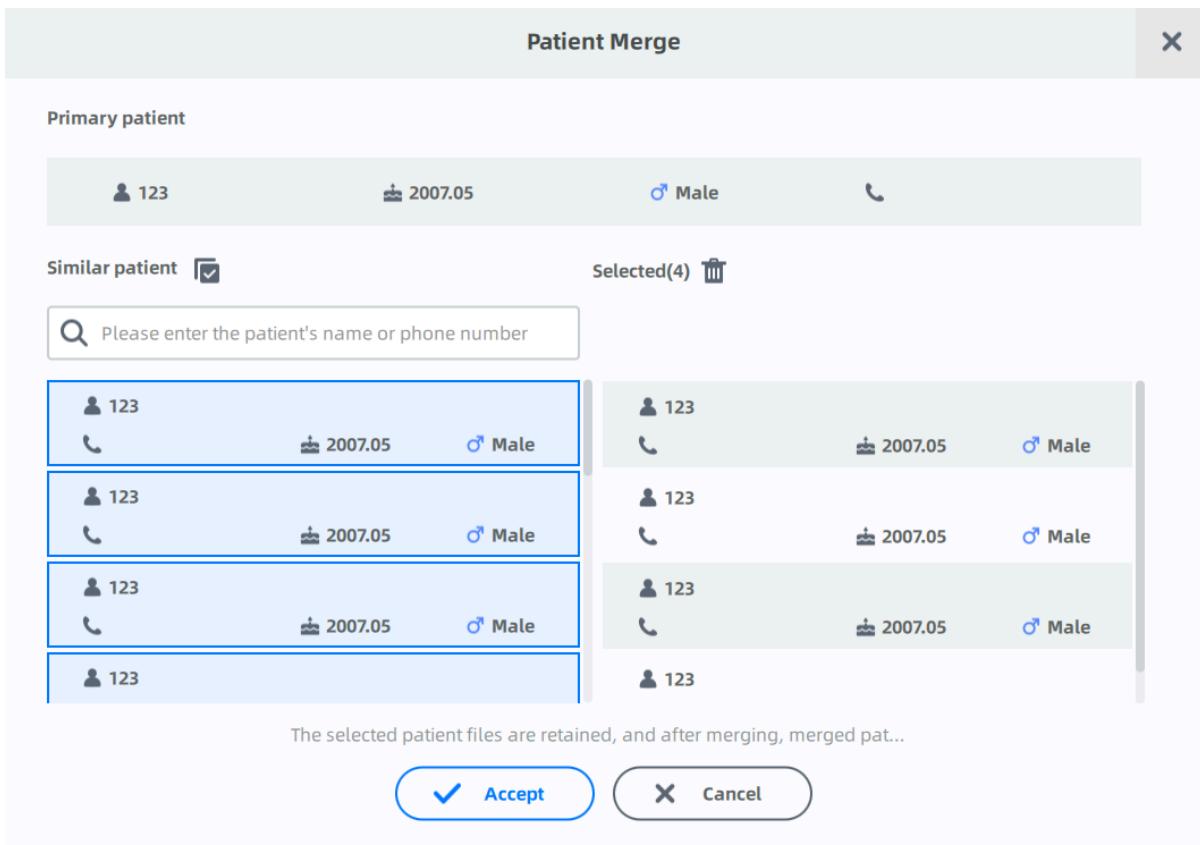
### Steps



1. Click to enter the window of merging patients.

2. The window of **Patient Merge** shows the basic information of the primary patient and similar patients.

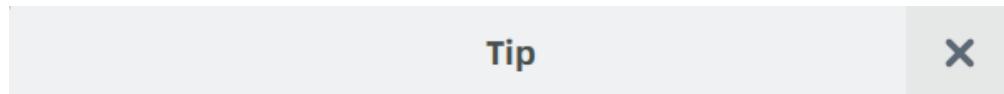
3. Click the similar patients and the curtain patient will be added in the **Selected** on the left. Move the cursor on a certain patient and click to delete the selected patient.



#### Note

When there are no similar patients, manually enter the patient's name or phone number to search.

4. Click **Accept** and a prompt is displayed, indicating that **The combination of patients cannot be withdrawn**. After confirming, click **Accept** again to merge patients.



**Patients are irrevocable after combining, confirm?**



5. A prompt showing "**Merge Success**" indicates that the selected patient(s) has been merged with the primary patient.

## Tip



Merge success!

## Functions

Icon	Description
<input checked="" type="checkbox"/>	Click the button to select all similar patients.
	Click the button on the right of <b>Selected</b> to clear all selected patients.
	Enter the patient's name or phone number to manually search patients

### Caution

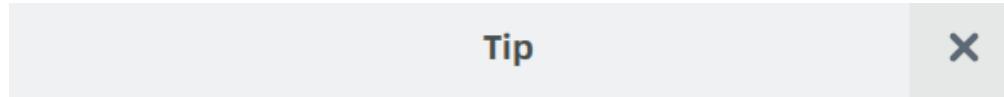
- The combination cannot be withdrawn. And the combination record will be uploaded to the cloud.
- After merging, the merged patients won't be displayed in the similar patients any more.
- Merging patients is accessible only when connected to the Internet.

## Merge Patients of Imported Order

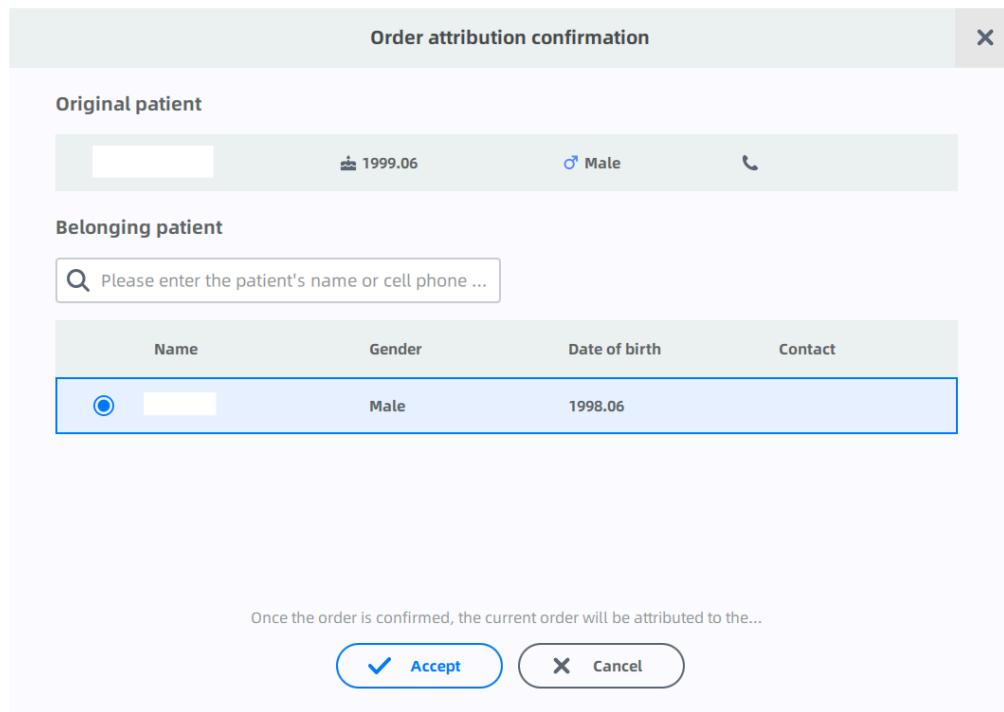
When importing orders, imported patients can be merged into existing patients.

## Steps

1. Click  to import orders.
2. When the imported order isn't from the current institution, or its patient information is empty, a prompt of "Merge this order to an existing patient?" is popped up.



3. Click **Yes** to enter the window of Order attribution modification.
4. The window of Order attribution modification shows the original patient of the imported order and attribution patient.  
Enter the patient's name or phone number to search.



A screenshot of the 'Order attribution confirmation' dialog box. At the top is a title bar with the window title and a close button. The main area is divided into two sections: 'Original patient' and 'Belonging patient'. The 'Original patient' section shows a placeholder image, the date of birth '1999.06', and the gender 'Male'. The 'Belonging patient' section has a search input field with the placeholder 'Please enter the patient's name or cell phone ...'. Below it is a table with columns 'Name', 'Gender', 'Date of birth', and 'Contact'. A single row is shown, with the 'Name' column containing a placeholder image and the 'Gender' column showing 'Male'. At the bottom, a note states 'Once the order is confirmed, the current order will be attributed to the...'. Two buttons are at the bottom: a blue rounded rectangle with a checkmark labeled 'Accept' and a grey rounded rectangle with a cross labeled 'Cancel'.

5. Click **Accept** and the imported order will be attributed to the selected patient.

### Caution

When the imported order comes from the third-party or from Exocad, and information of the imported patient is totally same with that of an existing patient, then the order will be directly merged into the existing patient.

## Scan

### Scanning Preparations

### Caution

- Concerning hand hygiene and personnel safety when performing a scan, you must wear clean surgical gloves through the whole process.
- If you need to use isolation film or protective film (such as blue film) to wrap the scanner, please do not block the air inlet and outlet of the scanner to avoid affecting the heat dissipation.



### Intraoral Environment

- Make sure there is no foreign body or blood in the mouth after gargling. Stop the bleeding if necessary.
- If necessary, ask the patient to keep the tongue still and move it to the other side of the mouth.
- Consider using a dental three-way syringe or cotton to dry the tooth surface before starting the scan.
- Turn off the oral light on the dental chair and start scanning.
- Consider using aspirators or cotton to keep the surfaces dry during scanning.
- If necessary, consider using an oral mirror to help create space while working in the narrow area between the teeth.

### Scanner Preparation

- Ensure that the scanner tip, scanner body, and cradle are properly pre-cleaned, disinfected, or sterilized. More Details see [Pre- cleaning, disinfection, and sterilization](#).
- Ensure that the scanner tip has no scratches or is not damaged. Additionally, the tip is firmly attached to the front end of the scanner body.

- Ensure that the scanner connection is ready; it is correctly connected to a power source and powered on, and IntraoralScan is launched and ready to work.
- To avoid condensation on the mirror of the tip when scanning, the scanner tip must have been warmed up.
- Calibrate the scanner and verify the accuracy of the acquisition regularly. More details see [Calibration](#).

## Scanning Position and Path

- Avoid direct light from any light source, e.g. dentist chair lamp, to shine on the area you are working on.
- Hold the scanner steady by resting it on the tooth surface and keep the scan tip window in the range of -1 mm to 16 mm from the teeth.
- When scanning, slowly move the scanner and simultaneously check the scan results on the screen to ensure that the scanning is of good quality.
- When scanning, the scanner tip should be centered over the teeth, and each movement should align with the cross-hairs, following the lower and upper dental arch shapes.
- A complete scan data of a single area includes the surfaces of bite, lingual, buccal, interproximal contacts of the adjacent teeth, and 2-3 mm buccal gingiva.
- A complete scan data of a single case includes the lower jaw, upper jaw, and bite registration.
- When scanning, change the scanning angle to 35-55 degrees to create overlaps. It is important to achieve an overlap of at least 30% between each acquisition. If the overlap is small, the alignment may fail.
- To scan the occlusal surface of the teeth, hold the scanner at a 90-degree angle; to scan the buccal and lingual surfaces of the teeth, hold the scanner at a 45-degree angle.
- Inspect the scanned image in the 3D scan view window (IntraoralScan) and pay attention to warning messages.

## Heat the Scanner Tip

To ensure the quality of optimal images, you should prevent condensation on the scanner mirror before each scan by heating the scanner tip.

Follow the steps below to warm up the scanner before starting an acquisition:

1. Ensure that the scanner tip, scanner body, and cradle are clean. To clean them, please check [Pre-cleaning, Disinfection and Sterilization](#)
2. Gently and carefully attach the scanner tip to the scanner body with the mirror facing downward.
3. Connect the power supply to the scanner. More details see [Connection](#).
4. Place the scanner in the cradle to secure it in place.
5. When the LED ring light on the scanner body lights up green, the heater automatically turns on and detects the temperature.
6. If the temperature of the scanner tip is lower than the set value for anti-fogging, a notification message of pre-heating and current temperature appears.

7. When the message disappears, the scanner tip has been heated. The scanner is now ready for scanning.

 **Note**

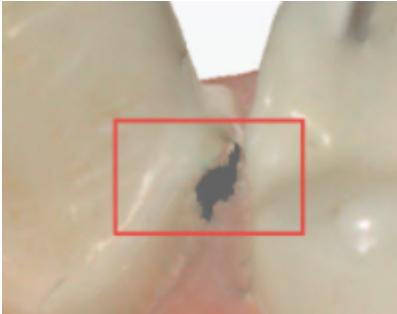
- The heater helps keep the scanner tip temperature in a normal range.
- The scanner tip is being heated whenever power is supplied, even if the scanner is in standby or sleep mode.
- If the heater does not reach the necessary temperature for preventing condensation during scanning, a tip will appear.

## Scanning Settings

Click  and then click the **Scan Settings** tab to view or set scanning parameters.

After changing, click  to reset the settings.

### General

General function	Description
IMU menu	Enabled by default.
Auto-brightness	Adjust the camera brightness to capture clear images. Enabled by default.
Refined scan	Checked by default. Suitable for scanning refined areas, making processed data more precise and improving data details. In the scenario of teeth restoration and implant, the refined areas will be automatically recognized after enabling this function. While in orthodontics and other scanning processes, the software will automatically start refined scanning, but will not automatically recognize refined areas.
Supports alternate day scanning	Enabled by default. Scanned orders support unlimited add-scan.
Filled holes will be displayed in grey	<p>Check to make the holes of teeth displayed in grey, as shown in the following picture. This function is unchecked by default, making the holes of teeth will be displayed in color.</p> 
Auto bite optimization	<p>Optimize the data automatically when scanning the occlusion.</p> <p>When scanning bites,  indicates that auto bite optimization is checked. Click to uncheck it.</p>
Pick up and scan	Enabled by default. When it's enabled, the scanner automatically starts scanning once it's lifted from the cradle. Otherwise, please click the start button on the software, or press space button on the keyboard/start button on the scanner to start scanning.

## Preferences Settings

- Scanning order: Support to set the scanning order according to the operation habits. The default setting is working jaw priority.

- Scanning View: Support to set various scanner views.

View	Description
Scanner view 1	Camera Window and scanning data clockwise rotation 90°.
Scanner view 2	The camera window displays the real scanning scenarios same as the scanned data displayed angle.
Operator perspective	<p>The scanning position of the operator perspective is divided into <b>Patients Front</b> and <b>Patients Rear</b>.</p> <p><b>Patients Front:</b> The scanner perspective of lower jaw scan does not change, and the upper jaw data are mirror images.</p> <p><b>Patients Rear:</b> The scanner perspective of upper jaw scan does not change, and the lower jaw data are mirror images.</p> <p>When selecting the <b>operator perspective</b>, you can check <b>Mirror Show Upper Jaw</b>. This parameter is mainly designed for the sitting position of the patient. After checking, the camera window is mirrored up and down, the scanning data is clockwise rotated clockwise by 180°, and the mirror image shows the upper jaw.</p>

## Camera

Camera top, bottom, left, and right margins' values are acquired from the camera by default; When selecting **Operator Perspective** as scanning view, you can also manually set the cropping parameters for the top, bottom, left, and right margins of the camera window.

Adjustable left or right margins in the range of [8, 300].

Adjustable top or bottom margins in the range of [8, 400].

 : Restores the margin values in the camera.

## Heat the Scanner Tip

To prevent fogging, set different heating temperatures.

- When the ambient temperature is less than 20°C, select medium temperature or high temperature.
- When the ambient temperature is higher than 20°C, select low temperature.
- To restore to default temperature (low temperature), click .

### Caution

Either medium temperature or high temperature heating takes about 5 mins. Low temperature heating takes about 3 mins.

### Music Settings

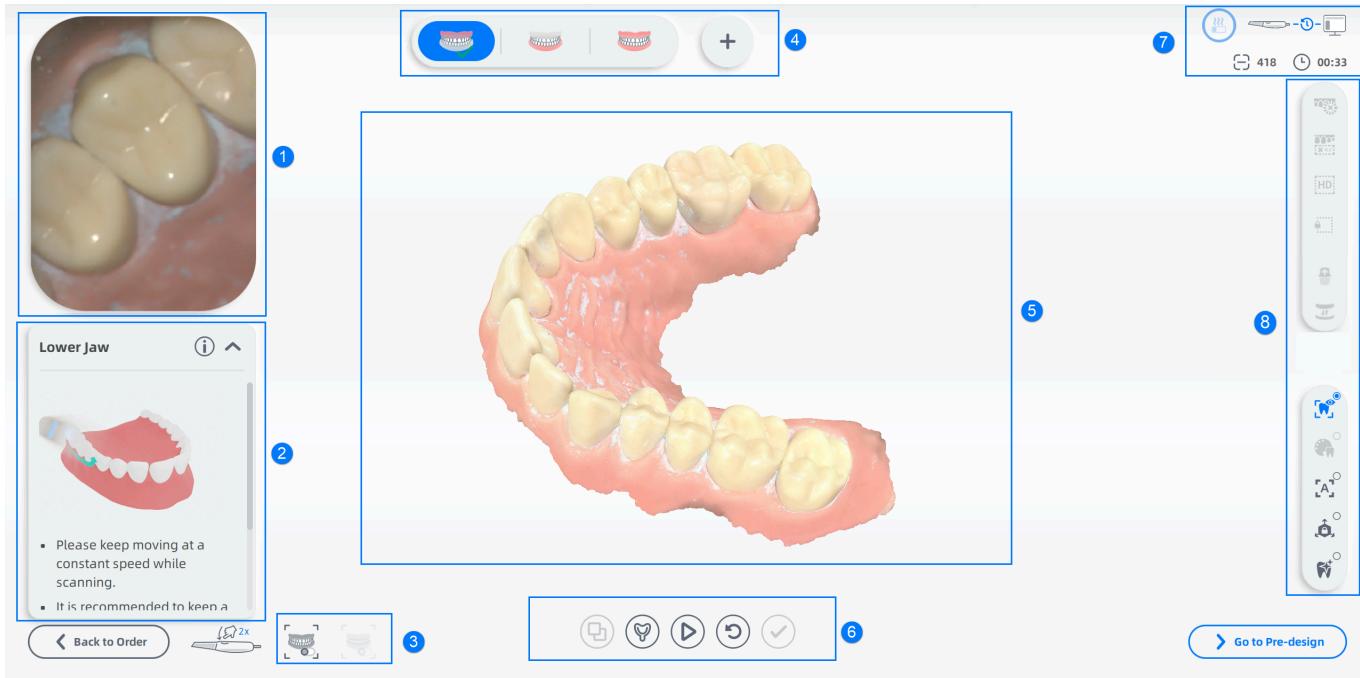
Click  , upload the music documents.

### PC Performance Test

- Start testing PC performance or restore factory settings.
- After the test, the software will automatically configure the scanning speed to suit your computer's performance.

## Scan Interface Introduction

### Function preview



### ① Camera Window

Displays the real scanning scenarios and supports to set camera parameters.

Move the mouse within the image window to adjust the camera parameters.

Icon	Description	Icon	Description
	Click to enlarge the image window, and click again to restore it to the default size.		Take a screenshot of the current image in the image window, and save the image in the "EndoscopeImg" folder under the current order directory.
	Scanning indication switch. Disabled by default. When turned on, the camera window displays the current unscanned data area in purple when scanning.		After taking screenshots, click it to open the path of saved screenshot.

## ② Guide

Contains the current process, operating diagrams and detailed tips.

## ③ IMU menu/Intraoral scan/Edentulous scan

- **IMU menu:** Double-press the button on the scanner to open the IMU menu. Move the scanner tip and stop on the options for several seconds to go to the next step/former step/view the model/start scanning.

IMU menu is enabled by default. To disable this function, please click → [Scan Settings](#) → [General](#) → [IMU menu](#).

- **Intraoral scan:** Checked by default, applicable to intraoral scanning. It is recommended to leave this checkbox unchecked when scanning dental models.
- **Edentulous scan:** It can be checked after checking Intraoral scan. If it is checked, scanning process for edentulous patients will be speeded up.

## ④ Progress Bar

Displays the current position within the whole progress.

To view the other processes, click **...**.

To add extra processes, click **+**.

The progress bar includes upper jaw, lower jaw, bite, additional scan and so on.

### Additional scan

Additional scanning is used for scanning groups of additional models for extra information.

-  : Click to add additional scan.
-  : Click to rename the additional scanned model.
-  : Click to delete the additional scan.

#### Note

- When adding another group of additional scan, the user should finish the former one.
- The disk memory must be at least 25 GB when adding additional scan.

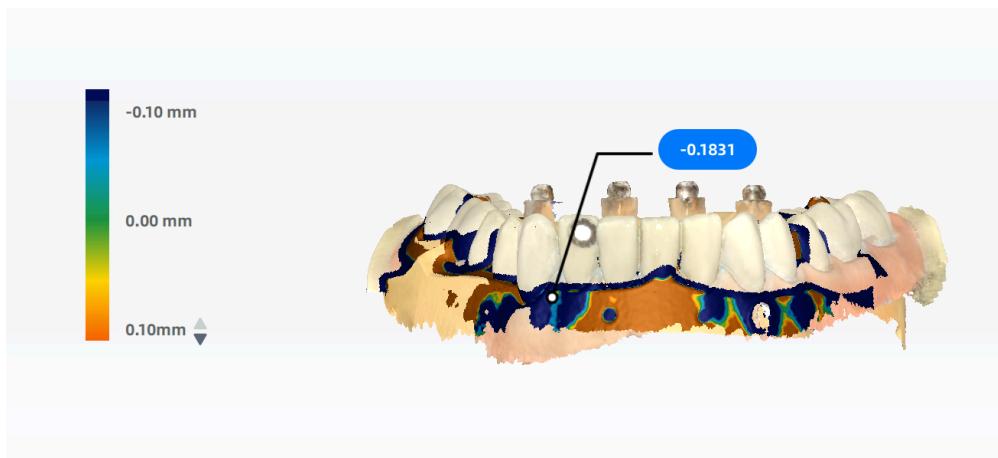
## ⑤ Preview

Supports previewing the scanned data. To gain a comprehensive view to the model, details can be found in [Operation Skill](#).

## ⑥ Operations

Including scan operations.

-  View ribbon: After alignment, the model will be colored to show the alignment deviation. And a color bar will be displayed on the left side of the model. You can click the arrow to adjust the range of the color bar. Move the cursor to check the accuracy value.



-  Impression scan: Combine the impression scan with the main data. During this scanning process, user can edit the data, remove the isolated data and so on.
-  Static align: Statically align the models.
-  Manual align: Manually align the models.

-  Start/Pause: Click to start or pause the scanning.
-  Reset: Reset current scanning data.
-  Finish: Finish scanning and save the current scanning data.

## ⑦ Scan frames and time

Show the number of scanned frames, scan and data processing time and the scanner status.

Icon	Description	Icon	Description
	Connected.		Connecting.
	Wrong connection.		In sleeping mode.
	Overheated.		In standby mode.

## ⑧ Extra match

Extra-match can align the scanned data with third-party accessories for checking multiple sets of data.

More details can be found in [Extra match](#).

## ⑨ Tools and additional functions

Tools and additional functions can be used for better scanning and previewing the model. More details can be found in [Scanning tools](#) and [Additional functions](#).

# Functions

Click  >Shortcut Instructions.

## Shortcut Instructions



### Model Operation



or



Scale Model



Translate Model

### Tooth Selection



Select Teeth



Shift Multi-Select



Drag multiple selections



Copy the information of th...

### Scan

Motion Control



Next

Space



or



(II) Start/pause scanning

Space

or



Data Indicator



Intelligent Scan



Turn on instruction

### Pre-design

Texture

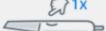


Screenshot



### Inspection Report

Endoscope Snap



### Note

After checking **Turn on instruction**, a prompt will pop up when you click a function button which is supported by keyboard shortcuts for the first time.

### Scan Model

Action	Instruction
Space	Start scan or move forward.

### View Model

Action	Instruction
Hold the Left or Right Button and Move	Rotate the model
Hold the Left and the Right Button and Drag	Pan the model
Scroll the Mouse Wheel	Zoom in or out

## Edit Model

Action	Instruction
Shift + Left Button	Switch the tool to the eraser
Shift + Scroll the Mouse Wheel	Resize the brush
Del	Delete the data in red color

# Scan Workflow

## Pre-op Scanning

Pre-op scanning means to collect and retain intraoral data before treatment.

## Create an Order

Pre-op scanning takes restoration of full crown as an example.

Enter necessary information.

1. Choose patient types, **FirstVisit** or **FollowUp**.
2. Enter necessary information of the patient such as **name** and **age**.

3. Add a doctor/operator. Click  and enter the doctor's name, then click  to confirm.
4. Choose **restoration** or **implant** as the dentistry type. Add notes such as teeth shade.

Dentistry type	Description
Restoration	Restore missing parts of your tooth structure. Select the restoration type according to the reality such as full crown, pontic, inlay and veneer.
Implant	Replace a lost tooth with a dental implant. Select the implant type according to the reality such as full crown, bridge, upper jaw, lower jaw and full jaw.

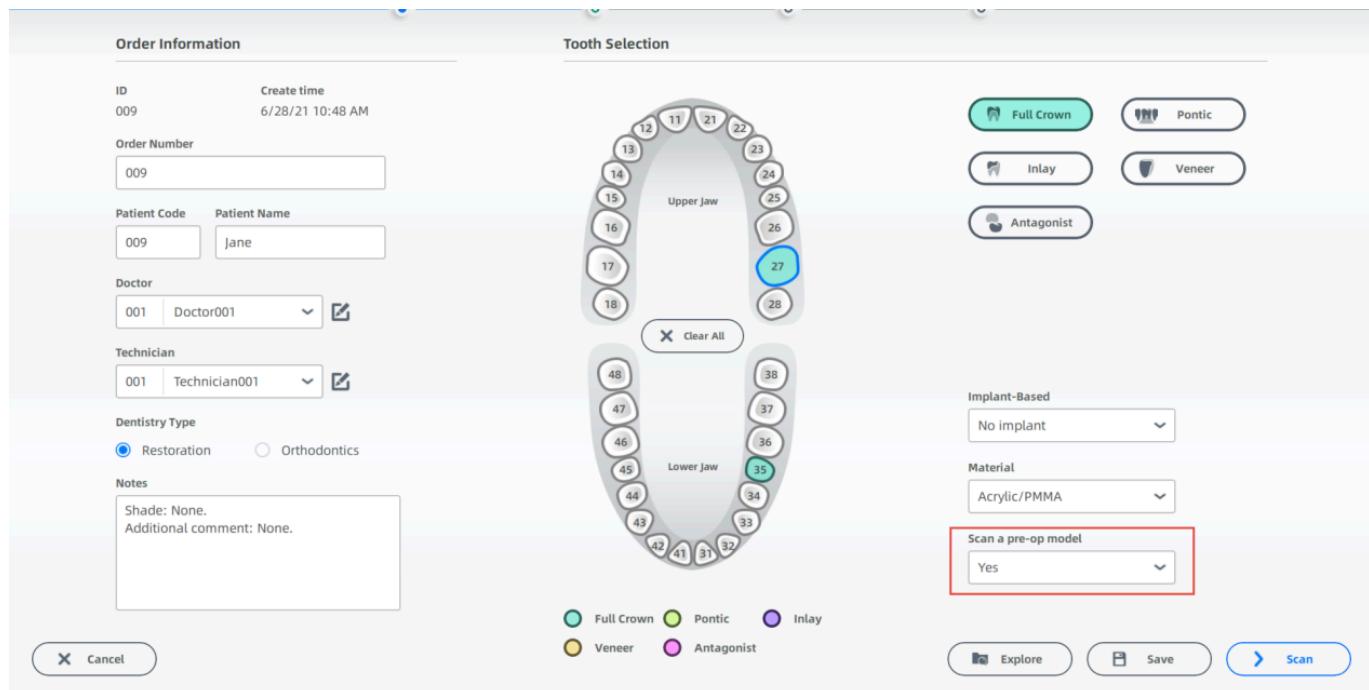
## 5. Select the tooth.

Click on the number of one tooth to select it (click right mouse button on the number to cancel the selection). Multiple selection is available.

- Click **Ctrl+left mouse button** to copy the restoration type of last tooth to the currently selected tooth.
- Click **Shift+left mouse button** to copy the restoration type of last tooth to all the teeth between the last tooth and the currently selected tooth.

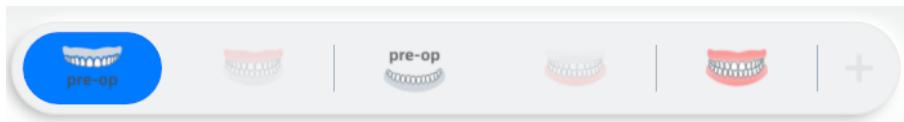
## 6. Select **Yes** in the pop-up window of Scan a pre-op model.

## 7. Click **Scan** to enter the scanning interface.



## Start Scanning

Steps of pre-op scanning: pre-op of the upper jaw (the treated tooth is on the upper jaw) > pre-op of the lower jaw (the treated tooth is on the lower jaw) > full jaw > upper jaw > lower jaw.

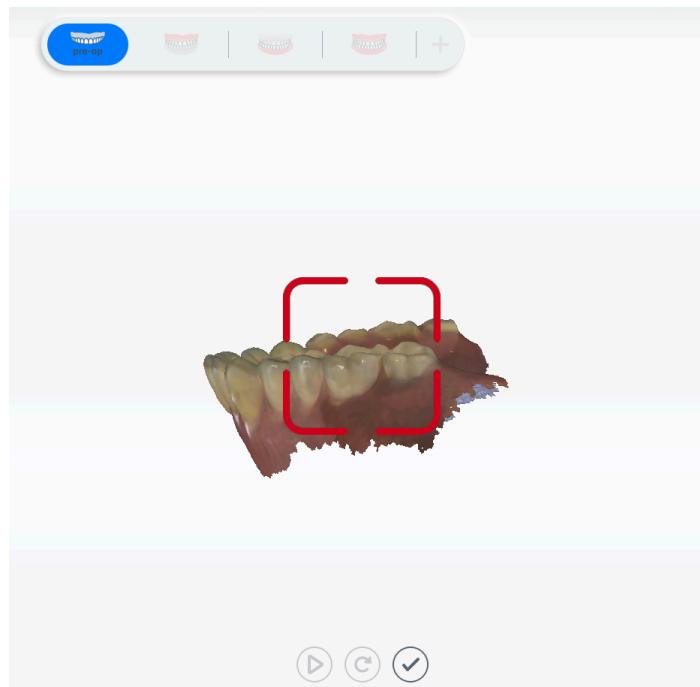


### Note

- Default scanning steps are: pre-op of the upper jaw > pre-op of the lower jaw > full jaw (scanning the bite) > upper jaw > lower jaw > full jaw (aligning automatically)
- The scanning steps of upper jaw/ lower jaw (post-op) is similar to implant jaw. After loading pre-op data, the doctor needs to dig a hole on the tooth, then starts scanning post-op teeth.

Scanning steps:

1. Scan pre-op upper jaw with a disinfected scanner.

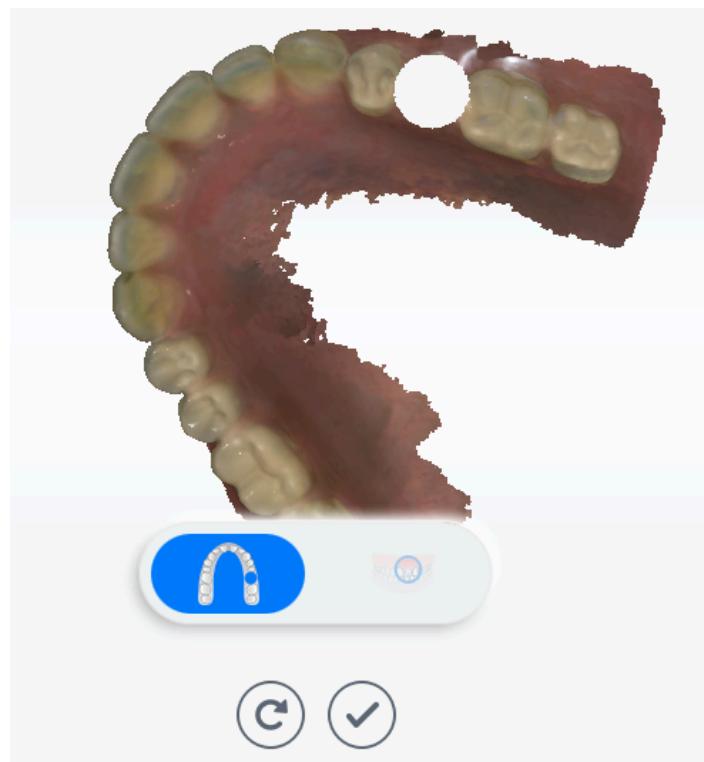


### Caution

Please keep moving the scanner at a relatively same speed.

The distance between the scanner tip and the surface of the teeth should be 3 mm to 5 mm.

2. Dig a hole on the treated tooth to avoid alignment failure resulting from the inconsistent scanning data of pre-op and post-op.
  - (1) Move the cursor to the treated tooth.
  - (2) Scroll the wheel up and down to zoom in and out the tooth model (make the treated tooth as big as the circle). Select the tooth place and make preparation for digging a hole.
  - (3) Double-click to dig a hole.



3. Scan the post-op teeth.

4. Repeat step 1 to 3 if teeth on the lower jaw need to be treated.

After scanning, it will automatically start editing **Refined Area**. The recognized refined areas are colored blue. Manually selecting refined areas in key parts is supported. This function can provide more partial details in pre-design, and is often used as restoration of sharp edges of inlay and veneer.

5. Scanning the bite part.

Scan the left bite part and the right bite part. Click ➤ or press space to start scanning. The software will start alignment automatically when part data is collected.

When the upper jaw and lower jaw is aligned, click || or press space to pause scanning. Check the bite.

#### Note

- There is no need to scan full jaw for collecting bite data. You can scan left and right (recommended) or left, right and front teeth to align the models of upper jaw and lower jaw.
- The maximum scanning frames of each bite group is 300. The software will stop the scanning once the frames are up to 300.

6. Click  on the right panel to edit the model. Details see [Data Edit](#).

7. Click  to confirm the changes and exit the edit interface.

#### Alignment



Click **Static Alignment** or **Manual Alignment** to improve the performance of alignment.

### Static Alignment



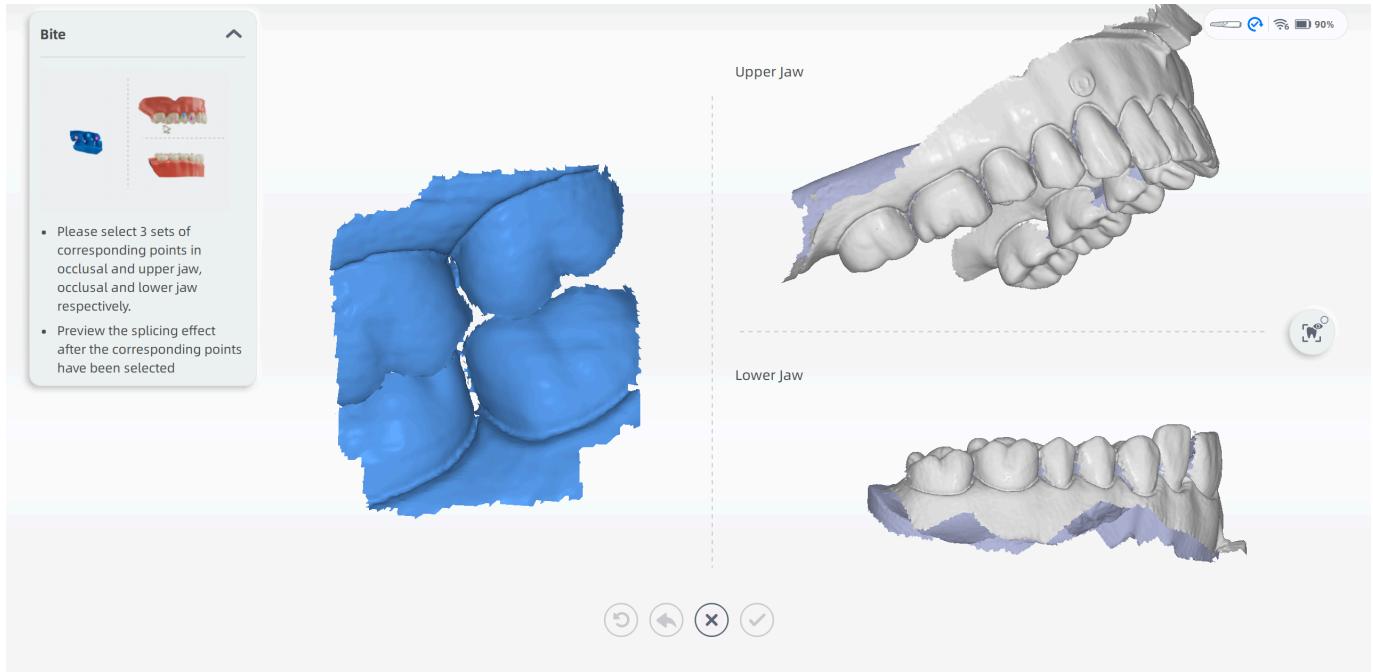
Click to automatically align the bite once again.

### Manual Alignment



Click to enter the interface of manual alignment.

1. Please select 3 sets of corresponding points in occlusal and upper jaw as well as occlusal and lower jaw respectively.
2. Preview the splicing effect after the corresponding points have been selected.



#### Caution



If dynamic bite is scanned, when click to start static alignment or click to finish manual alignment, the data of dynamic bite will be deleted and a tip will pop up. Please confirm whether to delete the data according to the tip.

**Scanning Completed**



Click to complete scanning. Once the data is post-processed, the software will enter the interface of pre-design.

## Restoration Scan

### Create an Order

Pre-op scanning takes restoration of full crown as an example.

Enter necessary information.

1. Choose patient types, **FirstVisit** or **FollowUp**.
2. Enter necessary information of the patient such as **name** and **age**.



to confirm.

3. Add a doctor/operator. Click and enter the doctor's name, then click to confirm.
4. Choose **restoration** as the dentistry type. Add notes such as teeth shade.

Click on the number of one tooth to select it (click right mouse button on the number to cancel the selection).

Multiple selection is available.

- Click **Ctrl+left mouse button** to copy the restoration type of last tooth to the currently selected tooth.
  - Click **Shift+left mouse button** to copy the restoration type of last tooth to all the teeth between the last tooth and the currently selected tooth.
5. Select the tooth.
  6. Select treatment type, including full crown, pontic, inlay, veneer and antagonist.

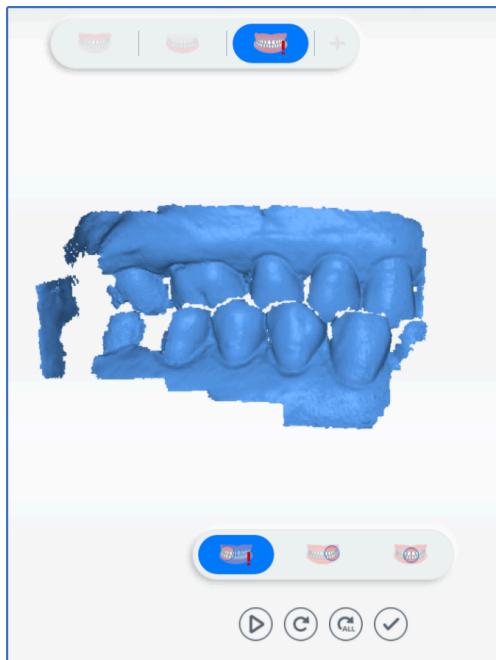
The screenshot shows the 'Order Information' section with fields for ID (010), Create time (6/28/21 10:54 AM), Order Number (010), Patient Code (010), Patient Name (Josh), Doctor (001, Doctor001), Technician (001, Technician001), Dentistry Type (Restoration selected), and Notes (Shade: None, Additional comment: None). The 'Tooth Selection' section displays a dental arch diagram with numbered teeth from 12 to 32. A pink circle highlights tooth 16 in the upper jaw, and a blue circle highlights tooth 46 in the lower jaw. A 'Clear All' button is located below the arch. To the right, there are buttons for 'Full Crown' (green), 'Pontic' (orange), 'Inlay' (blue), 'Veneer' (yellow), and 'Antagonist' (purple). The 'Treatment Type' section includes dropdowns for 'Implant-Based' (Custom Abutment), 'Material' (Acrylic/PMMA), and 'Scan a pre-op model' (No). At the bottom are 'Back', 'Explore', 'Save', and 'Scan' buttons.

7. Click **Scan** to enter the scanning interface.

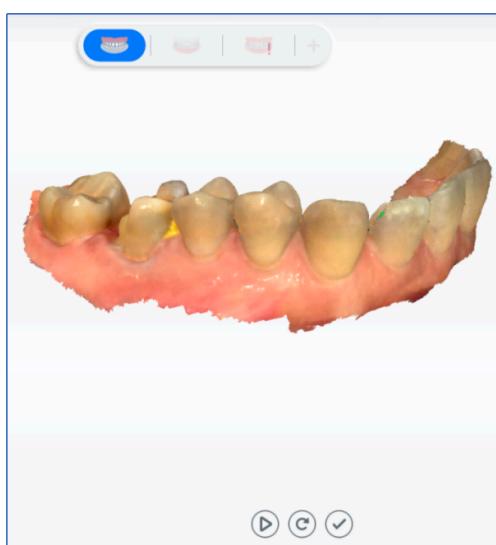
# Start Scanning

Bite scanning can be put at first step. Click  and you will see the bite scanning points.

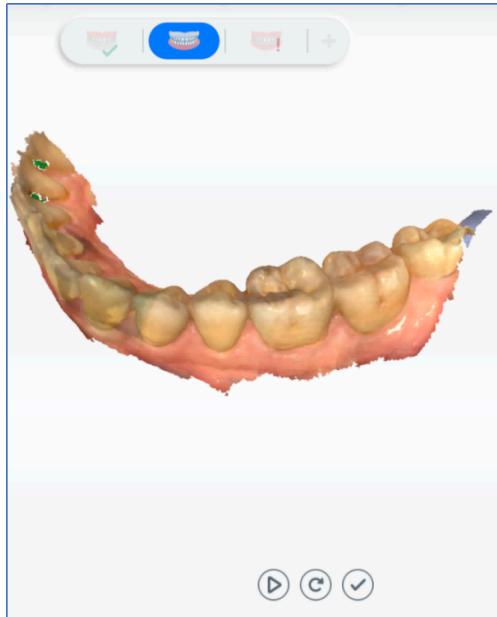
1. Scanning bites. A exclamation mark on the bite icon means alignment failure with collected bite data.



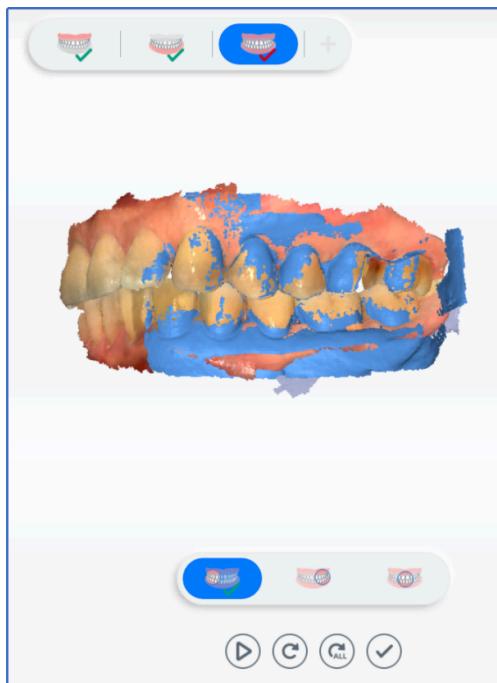
2. Scan upper jaw. Click  when scanning completed.



3. Scan lower jaw. Click  when scanning completed.



4. Scan left, right and front bite parts.



5. Align automatically. If it succeeds (✓ displays), click . If it fails (! displays), you need to re-scan bite parts.

## Scanning Completed

Click to complete scanning. Once the data is post-processed, the software will enter the interface of pre-design.

## Implant Scan

## Create an order

Implant scan takes a case of full crown as an example. Enter necessary information.

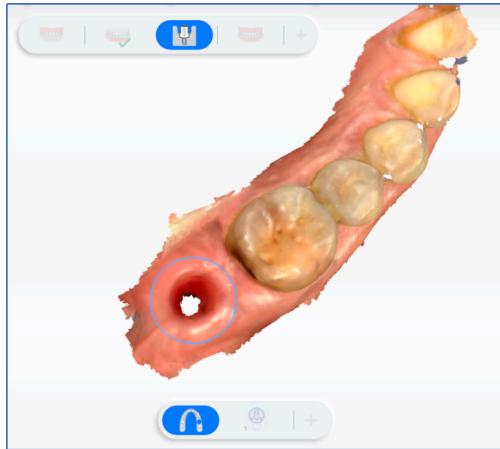
1. Choose patient types, **FirstVisit** or **FollowUp**.
2. Enter necessary information of the patient such as **name** and **age**.

3. Add a doctor/operator. Click  and enter the doctor's name, then click  to confirm.
4. Choose **implant** as the dentistry type. Add notes such as teeth shade.
5. Select the tooth and select **Full Crown** as the treatment type.
  - Click on the number of one tooth to select it (click right mouse button on the number to cancel the selection). Multiple selection is available.
  - Click **Ctrl+left mouse button** to copy the restoration type of last tooth to the currently selected tooth.
  - Click **Shift+left mouse button** to copy the restoration type of last tooth to all the teeth between the last tooth and the currently selected tooth.
6. Select **Custom Base** or **Screw Retained** to create a implant order.
7. Select material to restore the tooth according to the case.
8. Click **Scan** to enter the scanning interface.

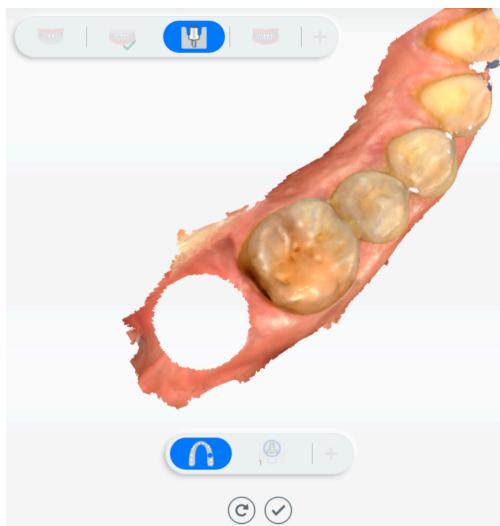
## Start Scanning

Steps of implant scanning: lower jaw (implant a tooth on the lower jaw) > implant on the lower jaw > upper jaw > full jaw.

1. Scan lower jaw (without intraoral scan body) and click  to complete lower jaw scanning.
2. Scan lower jaw implant.
  - (1) Enter the interface of lower jaw implant. Scroll the wheel up and down to zoom in and out the tooth model. Select the tooth place and make preparation for digging a hole.



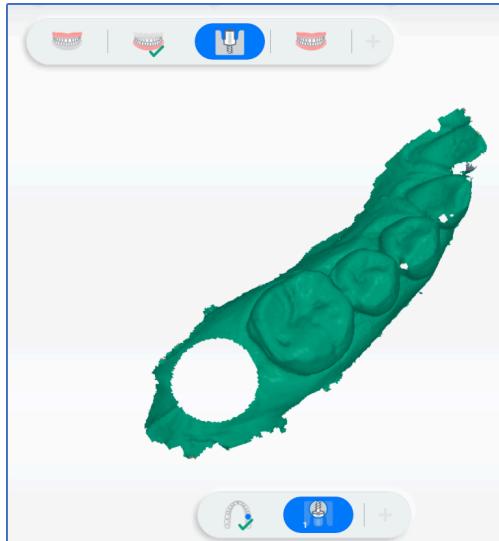
(2) Double-click to dig a hole.



(3) Click  to lock data and start the process of scanning implants (the scan body must be inserted in the implant position before scanning).

 **Caution**

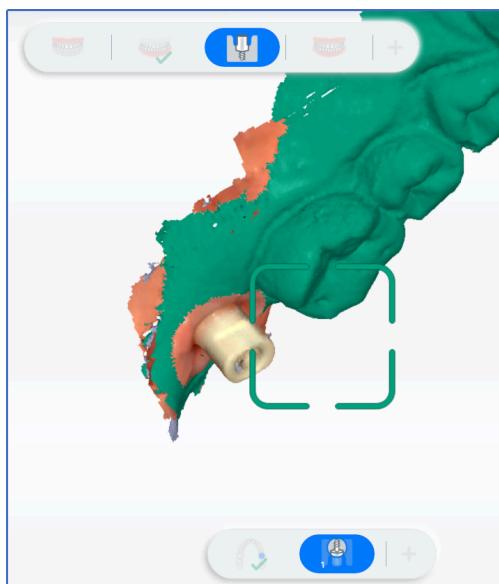
Locked data is displayed in dark green. Only the unlocked areas can be edited.



(4) Scan the scanbody.

#### Set and Scan the Scanbody

After setting the scanbody, it can be scanned.



#### Set the Scanby and Automatically Align

The material and shape of the scanbody (reflective metal and length, etc.) make it hard for the scanner to obtain the data of the whole scanbody. By aligning the scanned scanbody with scanbody model, the factory can have better design precision.

Steps of aligning the scanbody (Optional):



1) Click to enter the Scan Body Matching window.



2) If there is no scanbody data, please download from the cloud database or click to import local data.

- 3) Select the tooth for implant on the left.
- 4) Choose one type of scanbody and start matching. After matching, the standard scanbody data will be displayed on the right of the scan interface.
- 5) After setting the scanbody, start scanning it.
- 6) After scanning, the scanned data and the standard scanbody will be aligned automatically.

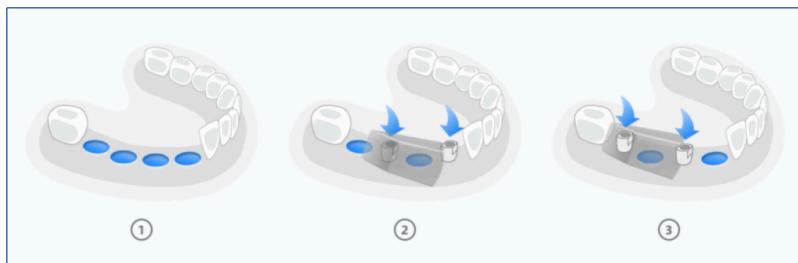
#### Set the Scanbody and Manually Align

Manual alignment can be adopted if the effect of auto alignment is not good enough.

- 1) Click  to delete all alignment on the scanbody (only scanbody data on the tooth can be retained).
- 2) Click  to enter the Scan Body Matching window.
- 3) Choose one type of scanbody and start matching. After matching, the standard scanbody data will be displayed on the right of the scan interface.
- 4) Click  to enter the manual alignment interface.
- 5) 3 groups of corresponding points were selected respectively on the left and right scannbody models.
- 6) Click  to finish manual alignment.
- (5) Click  and complete scanning lower jaw implants.

#### 3. (Optional) Scan multiple implant teeth.

- (1) Enter the hole digging interface. Dig hole at the location of the implant and delete collected data.
- (2) Follow the guidance on the left panel and scan implants in groups. Try to stagger adjacent scan body. Insert the first group of scan bodies and then scan again. After scanning, click to pause.



- (3) Click  and add another group of implants.



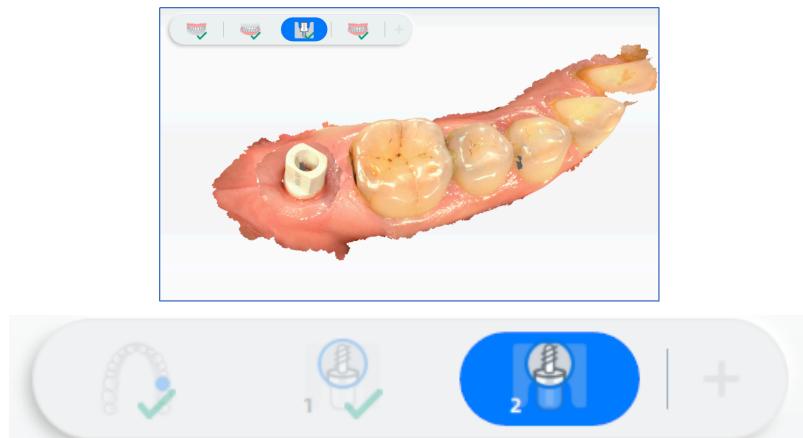
### Note

When you start scanning next group of scan bodies, the data of first group will be locked and displayed in dark green. You can not add scanning to the groups that have been scanned.

Pause scanning and click next group to continue if there are more groups.



(4) Click to complete scanning.



4. Scan bite parts. After scanning and saving upper jaw and lower jaw, the software will start bite scanning.



5. Click on the right panel to edit the model. Details see [Data Edit](#).



6. Click to confirm the changes and exit the edit interface.

## Scanning Completed

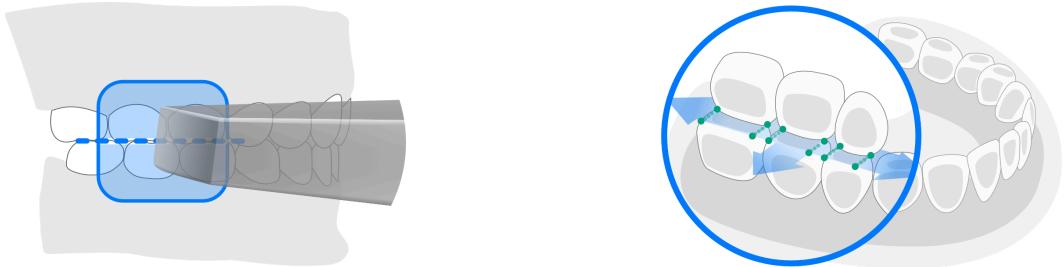


Click to complete scanning. Once the data is post-processed, the software will enter the interface of pre-design.

## Dynamic Bite

### Caution

- To collect data of dynamic bite, you need to collect data of static bite first.
- The areas of dynamic bite and static bite should be overlapped.
- The scanner tip should be at the center of upper and lower jaw when scanning.
- Make sure there are contacting points when biting.



### Steps:

1. Click  to open dynamic bite.
2. Click  to start scanning.
3. Open mouth and scan the bite motion on the left and right.
4. Scanning completed, the video of dynamic bite is played automatically.
5. Click  and save data of dynamic bite

### Note

You can move the cursor and rotate the model to view the bite condition from different perspectives.

## Extra Match

Extra-match can align the scanned data with third-party accessories for checking multiple sets of data.

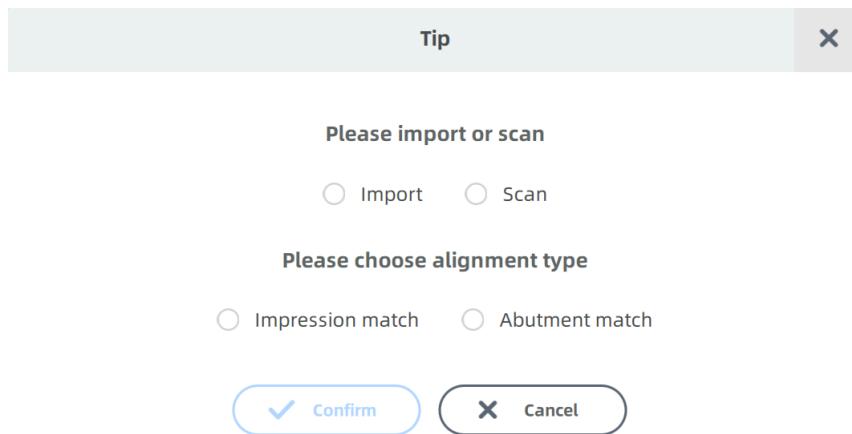
### Note

Extra match is supported in various scanning process, except **full jaw scanning** (including **scanning of full jaw bite rim**), **old denture scanning**, **bite rim scanning**, **implant scanning** and **extra scanning**.

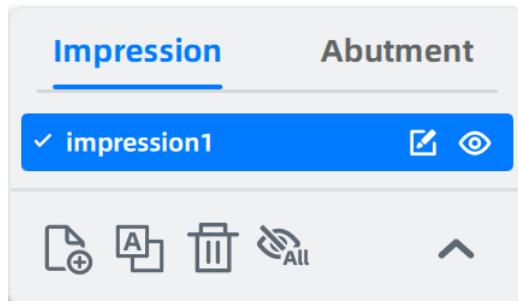
## Create extra align



Click **Import/Scan** to choose Import/Scan, Impression match/Abutment match.



After choosing **Import** or **Scan**, the imported data or scanned data will be shown on the right of the interface. The data will be divided into 2 columns: impression data and abutment data.



### Import

- After choosing **Import**, the user can choose STL, PLY, OBJ or BEB files from the local path.
- The maximum size of imported data is 500MB.

### Scan

- After choosing **Scan**, the software will enter the interface of scanning impression or abutment.
- The user can add another group of data after scanning the former one.
- The scanning process of extra match is the same with other scanning processes.
- When scanning, **Edit**, **Remove isolated data** and **Part lock** are supported.

## Other functions

Icon	Description	Icon	Description
	Manual alignment.		Rename.
	Display/hide the selected data.		Import or scan a new group of data.
	Auto alignment.		Click to delete the selected data.
	Display/hide all data.		Exit the interface of extra match and save current operations.

## Multiple Bites

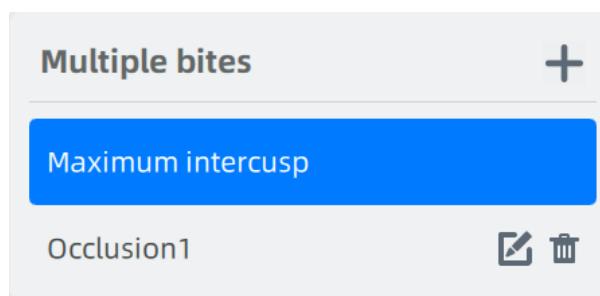
When scanning bite, users can add and scan multi-positional occlusions. By checking the multiple bites, the doctor can confirm the occlusal relationship.

### Caution

Adding multiple bites will prolong the time of processing.

## Add multiple bites

After entering the interface of scanning bite, click to check the multiple bites.



- **Add:** Click to add a new group of bites. A total of 6 groups of multiple bites can be added.
- **Rename:** Click to rename the selected group of multiple bite.

- **Delete:** Click  to delete the selected multiple bite.

#### Note

- The default group of multiple bite is called **Maximum intercusps**. It can not be renamed or deleted.
- Dynamic bite is supported only for the default group.

## Pre-design

On the interface of **Preview Edit**, users can check the multiple bites from different perspectives.

#### Note

If a group of multiple bite is not scanned, then it will be deleted in pre-design automatically.

More details can be found in [Preview Edit](#).

## Send

The data of multiple bites can be sent or exported.

More details can be found in [Send Order](#).

## Scanning Tools and Additional Functions

### Scanning tools

Scanning tools include  [Edit](#),  [Remove isolated data](#),  [Refined area](#),  [Part lock](#),  
 [Undercut](#),  [Swap jaws](#).

### Edit

Edit the model with the following tools.

Icon	Description	Icon	Description
	Click Rotate and move the cursor to adjust the view of 3D model.		<ol style="list-style-type: none"> <li>1. Click Brush and the cursor becomes a blue brush. Drag the slider to change its size.</li> <li>2. Move the brush to the areas you want to delete.</li> <li>3. Click and the area covered by the blue circle will be deleted.</li> </ol>
	<ol style="list-style-type: none"> <li>1. Click Free Selection.</li> <li>2. Move the cursor and press the left mouse button to draw a closed curve.</li> <li>3. Release the mouse and the selected areas will be deleted.</li> </ol>		Undo the last operation. Multi-clicking for undoing multi-operations.
	Restore the operation that has been undone. Multi-clicking for redoing multi-operation.		Cancel
	Confirm the operation.		

## Remove isolated data

Delete smaller and isolated model data that are not connected to the main model. Help delete unrelated model data quickly.

## Refined area

The area will display more partial details in a higher resolution grid during the post-op process.

This feature is best used with Tooth Color function to ensure that the quality of the tooth color is true in the refined area.

Select **Refined Scan** in the **Settings -> Scanning Settings** to automatically enter the process of refined area selection when the upper/lower jaw scanning is completed.

## Part lock

When the scan is paused during the scanning process of **pre-op or upper/lower jaw**, click  **Part Lock** to set the scanning lock area to ensure the data in the locked area will not change in subsequent scanning.

## Undercut

It is used to check and calculate the undercut area on the marked teeth (in accordance with the order).

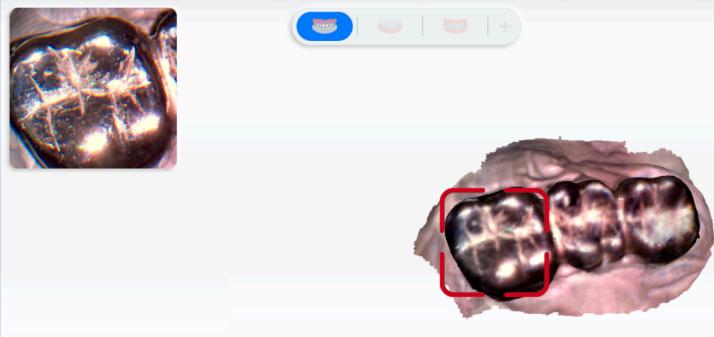
During the scanning process of upper/lower jaw, pause the scanning and click **Undercut**.

The area selected by the brush will be calculated automatically. Details see [Undercut](#).

## Swap jaws

Switch data of upper and lower jaw after the scanning is completed or post-processing is completed. This function is used when the upper and lower jaw is reversed during scanning.

## Additional functions

Icon	Description
	Set whether the model shows colored model or not.
Texture	
	Turn on the tooth color display. If the gray color is displayed when scanning, it means the data quality in these area is not good enough, and the area should be scanned again. When the grey color turns into true color display, it means the data quality has reached the requirements of better post-processing.
Data indicator	
	Applied to <b>intraoral scanning</b> . After clicking it, miscellaneous data will be automatically deleted when scanning, such as data of buccal, lingual and soft tissues. When you use the software for the first time and enter the scanning interface, the button is gray and you need to wait for 1-2 minutes for initialization. After the initialization is completed, the button can be clicked.
Intelligent Scan	
	Check the model from one fixed perspective when scanning, and the automatic perspective tracking function is not enabled. This function is not enabled by default.
View Lock	
	Improve the scanning speed and sweep the whole situation for metal teeth.
Mental tooth scan	<p>Improve the scanning speed and sweep the whole situation for metal teeth.</p> 

## Send Order

Upload the order to the cloud or a third-party platform for the download and use by other authorized institutions.

On the interface of pre-design, click **Send** to send the order. The users can also click on the order list or double-click a certain order to send it.

**Order Information**

---

ID 002  
Order Number 001  
Create Time 4/24/24 11:40 AM  
Doctor  
Operator 001 / Technician001  
Patient  
Dentistry Type Restoration  
Notes

**Tooth Preview**



**Tooth map**

No.	Type	Tooth Color	Implant-Bas...	Material
27	Full Crown	No implant	Composite ...	
38	Full Crown	No implant	Composite ...	

Do you need to send back the data?

[Pre-design](#)
[!\[\]\(888e8c1ab240677fa0b5e442a3cb65d4\_img.jpg\) Export](#)
[!\[\]\(341776e16c81003c406829b2306a1404\_img.jpg\) Finish](#)
[!\[\]\(c829981a308961074a356179e29b3d7d\_img.jpg\) Send](#)

## Steps

1. On the interface of sending an order, the users can check order information, tooth list, the scanned model and change send settings.
2. Check whether to send back the data. When it is enabled, the users can download and check relevant data which is uploaded to the dental cloud.
3. Click  to check **Send EXO order** or not.
4. Set the **Send Settings**.

(1) Select the target institution in the drop-down list.

 **Note**

Unconnected institutions are not displayed.

- (2) (Optional) Click  to add attachments.
5. Click **Send** to send the order.

## Pre-design

### Preview Edit

Observe the scanned model from different angles and then optimize scanning data.

## Intraoral data

- Change the opacity and switch the viewing angle to edit the stereoscopic data.
- If multiple bites are added and scanned, the users can switch between different groups of multiple bites to check the models.

Icon	Name	Description
	<b>Upper Jaw</b>	Check the option to view the upper jaw data. Drag the slider to change the upper jaw opacity value.
	<b>Lower Jaw</b>	Check the option to view the lower jaw data. Drag the slider to change the lower jaw opacity value.
	<b>View from Different Perspectives</b>	Check the view of the model.

## Application list

- Click **More Applications** to check more on the pop-up window.
- Click **Adjust sequence** to adjust the sequence of applications showing in the interface.
  - (1) Drag the icon of an application to adjust the sequence.
  - (2) Click **Apply** to save the adjustment.
- The last used application will be displayed before **More Applications** by default.



**Edit**

Click



to edit the model with the following tools.

Icon	Name	Description
	Rotate	Click and rotate the model.
	Brush	<ul style="list-style-type: none"> <li>Hold left mouse button and move to select areas and delete them.</li> <li>Drag the slider to change the brush size.</li> </ul>
	Free Choice	Hold the left mouse button to select. The area selected will be deleted.
	Undo	Clicking for undoing operations.
	Redo	Clicking for redoing operations.
	Cancel	Discard the changes.
	Confirm	Confirm the changes.



## Remove Isolated Data

**Remove Isolated Date** can quickly delete small data isolated to the main model.

### Fill Holes

#### Steps

1. Click the icon
2. Drag the slider to adjust the application range.
3. Click
4. Click

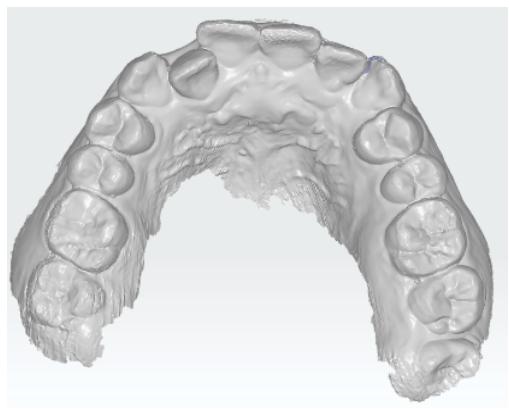


## Texture

Enabled by default. When enabled, the model will be colored.



Enabled



Disabled

## Smooth

Click to reduce noise and improve the quality of the model.

## Fit View

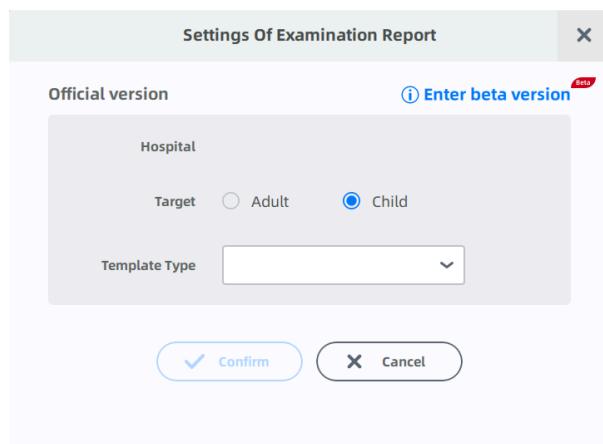
Click to adjust the size of the model to be adaptive to the interface.

## Oral Health Report

### Create an oral report

#### Steps

1. On the pre-design interface, click .



### Note

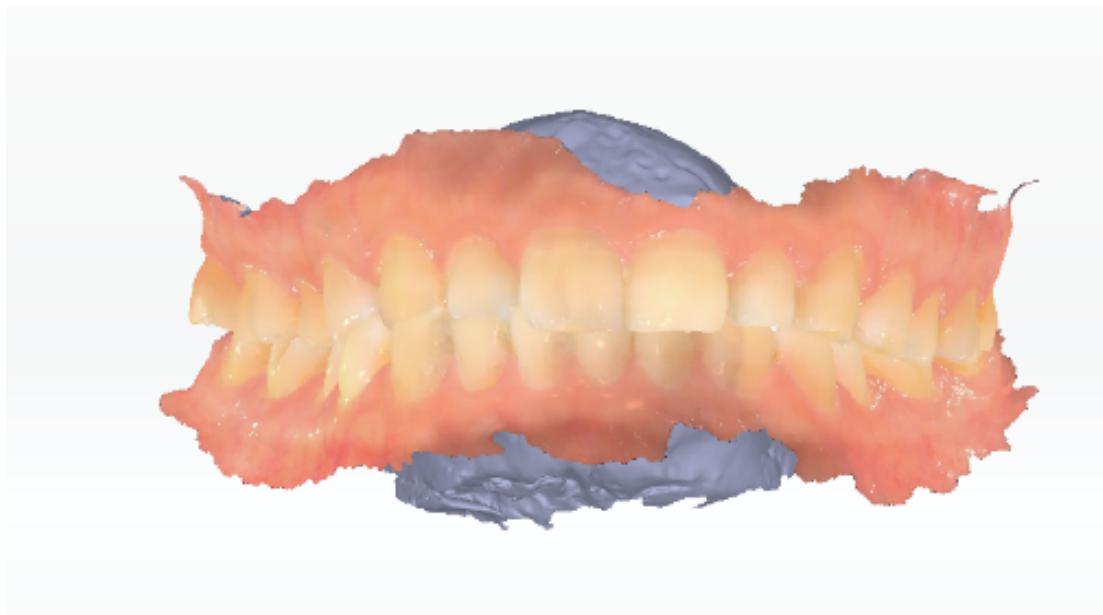
A beta version is available. Click **Enter beta version** to get new features. More details can be found in [ConsulReport](#).

2. Select a hospital, a target (Adult/ Child) and a template type.

3. Click **Accept** to edit the oral report.

## Edit the oral report

1. The main interface displays the bite status of the jaws. Click the picture of a symptom and the model will show the position of the symptom.



### Note

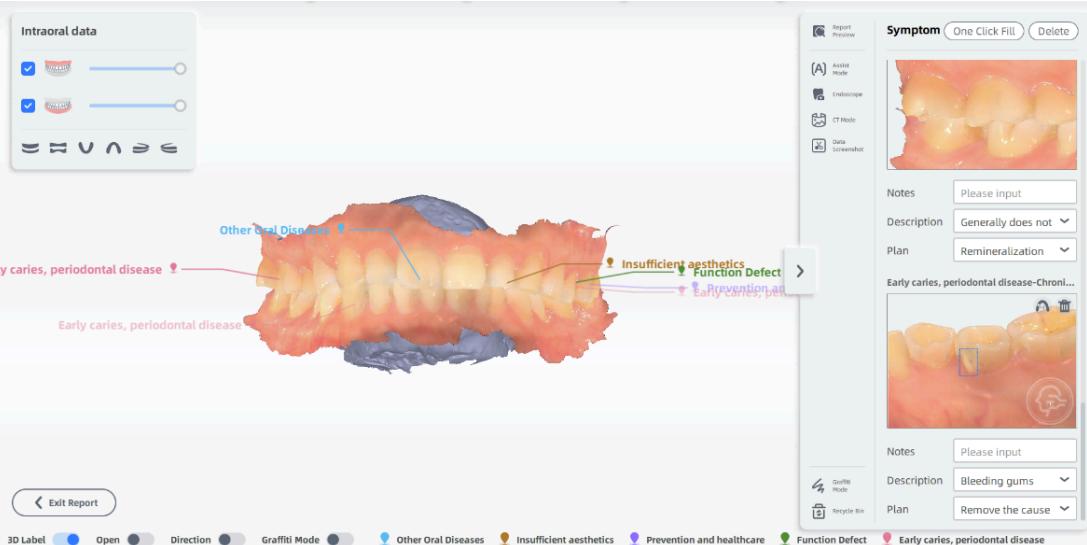
- Import an order which was created in the software with lower versions and click oral report, and then a tip is popped up to confirm whether to generate a new report. Click **Yes** to clear operations and enter the interface of editing a new report. Click **No** to preview the report.
- Assistant mode is not enabled for preview-only reports.

## Main Interface of Oral Report

Icon	Description
<b>One-click filling</b>	Click to set descriptions and plans in issue view.
<b>Delete</b>	Click and a tip of "Whether to delete all issues?" is popped up. Click <b>Yes</b> to confirm.
 Preview	<p>Preview the oral health report.</p> <p><b>Share:</b> Create a QR code which can be scanned by the phone to view the report.</p> <p><b>Export:</b> The report will be exported in PDF and PNG.</p>
 Assistant Mode	<p><b>Assistant Mode</b> will automatically detect teeth problems and take screenshots of certain teeth.</p> <p>Click the button when there are already identifications, a prompt of "Whether to perform auxiliary identification again?" is popped up. Click <b>Yes</b> to restart auxiliary identification and current results are deleted.</p>
 Endoscope	<p>Take a screenshot of the model.</p> <ol style="list-style-type: none"> <li>1. Click and the enlarged image window is displayed on the left.</li> <li>2. Scan the teeth.</li> <li>3. Press <b>scanning button</b> on the scanner or click  on the image window to take a screenshot.</li> <li>4. Select the treated tooth and problems in the new pop-up. Adding notes is also supported.</li> <li>5. Click  to take more screenshots.</li> </ol>
 CT Image	<p>Add an image and edit it. Treatment plan and other information of the treated teeth can be imported.</p> <p>Change image: Click to change the image.</p> <ul style="list-style-type: none"> <li> Mark: Click the treated tooth to mark it with different colors and enter relative information.</li> <li> Plan: Click plan and a box is displayed. You can enter your treatment plan here.</li> <li> Brush: Click to paint directly on the image. Drag the slider to adjust its thickness.</li> <li> Eraser: Clear the marks in the model.</li> <li> : Multi-click for undoing multi-operations.</li> <li> : Multi-click for redoing multi-operations.</li> <li> : Discard the changes.</li> <li> : Confirm and save the changes.</li> </ul>

Icon	Description
	Take a screenshot of the scanned model.
Grab image	<p>1. Click the button of screenshot and an enlarged screenshot box is displayed.</p> <p>2. Press left mouse button within the black box and move the cursor to rotate the model.</p> <p>3. Press right mouse button outside the box and move the cursor to rotate the model.</p> <p>4. Press right and left mouse button outside the box and move the cursor to move the model.</p> <p>5. Scroll the wheel to zoom the model in and out.</p> <p>6. Double click in the box to confirm and select the treated tooth and problems in the new pop-up. Adding notes is also supported.</p> <p>7. Click  to take more screenshots.</p>
	Display models in various angles including <b>close jaw</b> , <b>open jaw</b> and <b>CT</b> .
Graffiti Mode	
	<p>Deleted symptoms are collected in the recycle bin.</p> <p>Click the Restore button on the top right corner of the picture to restore it.</p> <p>Click the recycle bin button again or click <b>Exit</b> on the top right corner to exit.</p>
	Click to exit the oral report.
Exit	

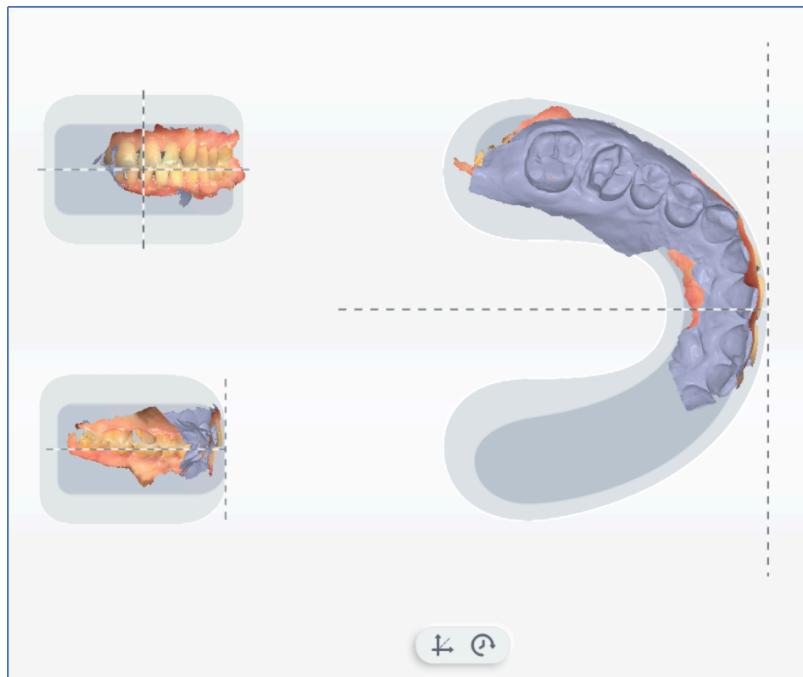
## Other functions

Name	Description
3D label	<p>Not enabled by default. When it's enabled, symptoms under this perspective will be tagged. Click the tag and the picture of this symptom will be selected on the right. Modifying notes, descriptions and plans, selecting tooth and deleting this symptom are supported.</p> <p> <b>Note</b></p> <p>When the jaws are open, the 3D tags are hidden if the software can't determine whether the symptoms are on upper jaw or lower jaw.</p> 
Opened jaw	Not enabled by default. When it's enabled, the model is displayed in open jaw.
Direction flag	Not enabled by default. When it's enabled, an indicator avatar will be displayed in the bottom left corner. The indicator avatar will change synchronously as the model is moved, providing users with a more intuitive view of the model.
Graffiti mode	<p>Not enabled by default. When it's enabled, the cursor turns into brush.</p> <p>Press the left mouse button and move the cursor to draw on the model.</p> <p>Press left mouse button and move the cursor to rotate the model.</p>

## Coordinate Adjustment

Adjust the position and the angle of model from three views, until the model being approximately horizontal and covering the central shadow area of the coordinate.

Click  under the "pre-design" process to enter the interface.



You can choose to manually or automatically adjust the coordinates.

Instruction	Short-cut Key
Rotate model	Press and hold the left (or right) mouse button, and meanwhile move the cursor.
Move model	Press and hold the left and right mouse button, and meanwhile move the cursor.

Click  and the model will be placed in a proper position.

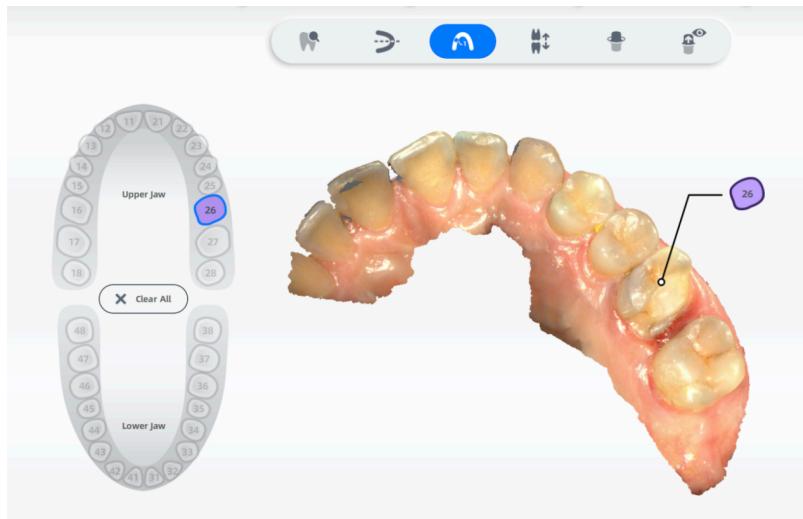
Click , the system is to restore the model to the initial position.

After adjusting the coordinates, click **Go to send** to upload data or implement other operations.

## Mark Teeth

Mark teeth is used to manually mark the corresponding position of the teeth specified in the scan order in the scanned model for subsequent extraction of the margin line and detecting of the undercut.

Click  under the "Pre-design" process to enter interface on which you can mark the teeth, and the tooth map on the left side shows the teeth defined by the order.



### Note

IntraoralScan will automatically recognize teeth marks from the imported project.

### Steps:

1. Select the tooth needed to be marked on tooth map.
2. Move the cursor to locate the corresponding tooth on the scanned model, double click it to mark.
3. Repeat step 1 and step 2 if you want to mark two or more teeth.
4. Double click the right tooth on the model to change the mark.
5. To delete all teeth markers, please click **Delete** on the left side.

### Note

To delete single tooth marker is not supported currently.

## Bite Detection

Check if it is a normal occlusion and adjust it. Adjust and view the occlusal gap between the upper and lower jaws.

Click  under the "Pre-design" process to enter the occlusion detection interface.

### Color Bar Mode

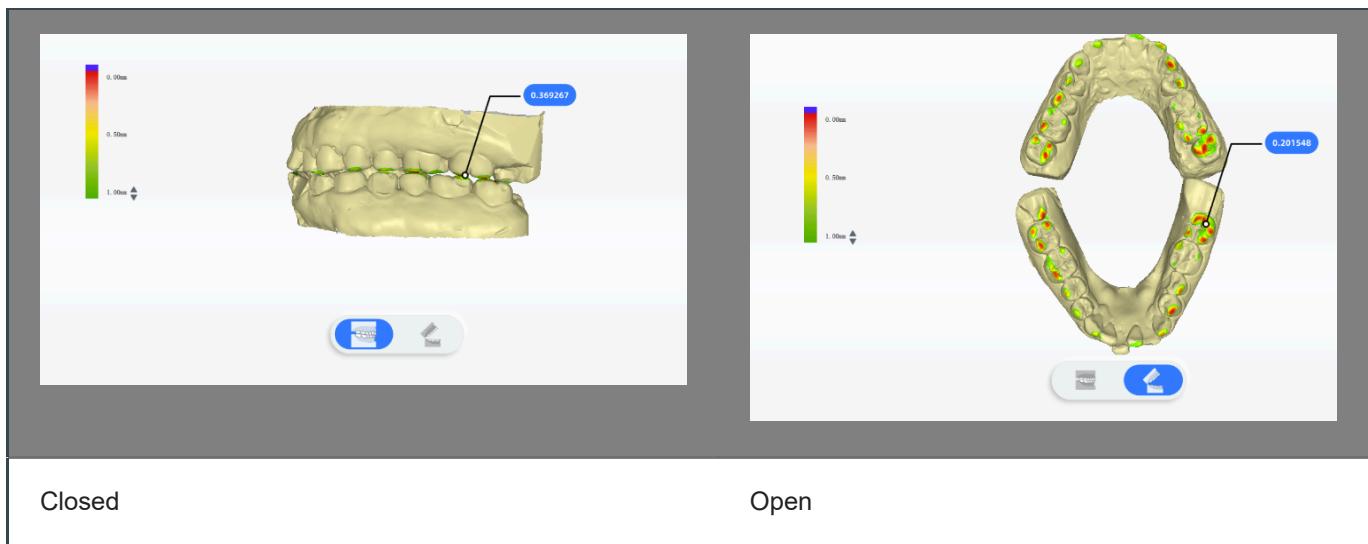
The occlusion status is shown by the color bars.

- Click the button on the left to change occlusion parameters.
- Double click one touching point to detect the gap.

Color	
Green	The gap
Red	The touching area
Blue	The bite-through area

Description	Operation
Click 	Exchange the upper jaw and the lower jaw.
Click 	Open or clamp jaws for imitating the biting action.
Calculate	Click  to calculate the bite amount. Move the cursor to the calculated area to check the value.
Reset	Click  to reset the adjusted value to the initial value.

Action	
Double Click	Check the specific occlusion value.
Click Up / Down Buttons on the Left Bar	Adjust the numerical range to occlusion.



### Section Mode



Click  to enter the section mode, from which the occlusion status can be easily checked (the positions of teeth in upper jaw and lower jaw). Manually select two points on the section view to measure the distance.

- In this mode, a round section with a diameter of 30mm will be created on the 3D model automatically.
- Click the small sphere in the center of the section and the arch line will be displayed. Hold the sphere and move the cursor, the section view on the left will show the 2D intersecting part of the section with the model in real time. Click on the other part of the section and hold, then move the cursor, the section will be rotated.
- The section view on the left will show the 2D wireframe of the intersecting part, from which the occlusion status can be easily checked.

#### Note

Manually select two points on the wireframe to measure the distance. When selecting a third point, the second point is the start point while the third one is the end point.

Icon	Name	Description
	Vertical Arch Line	After enabling it, when moving the center sphere, the section will be vertical to the arch line.
	Restore the Default Scale	Scroll up and down the mouse wheel on the section view, and the wireframe will be zoomed in and out. Click  to restore the default scale.
	Zoom in	Click to zoom in the section view. Click again, the view will be restored.
	Clear Selected Points	Click to clear all selected points.

## Extract Margin Line

Extract and save the margin line of the marked (corresponding) teeth.

Click  under the "Pre-design" process to enter the margin line extraction interface.

### Caution

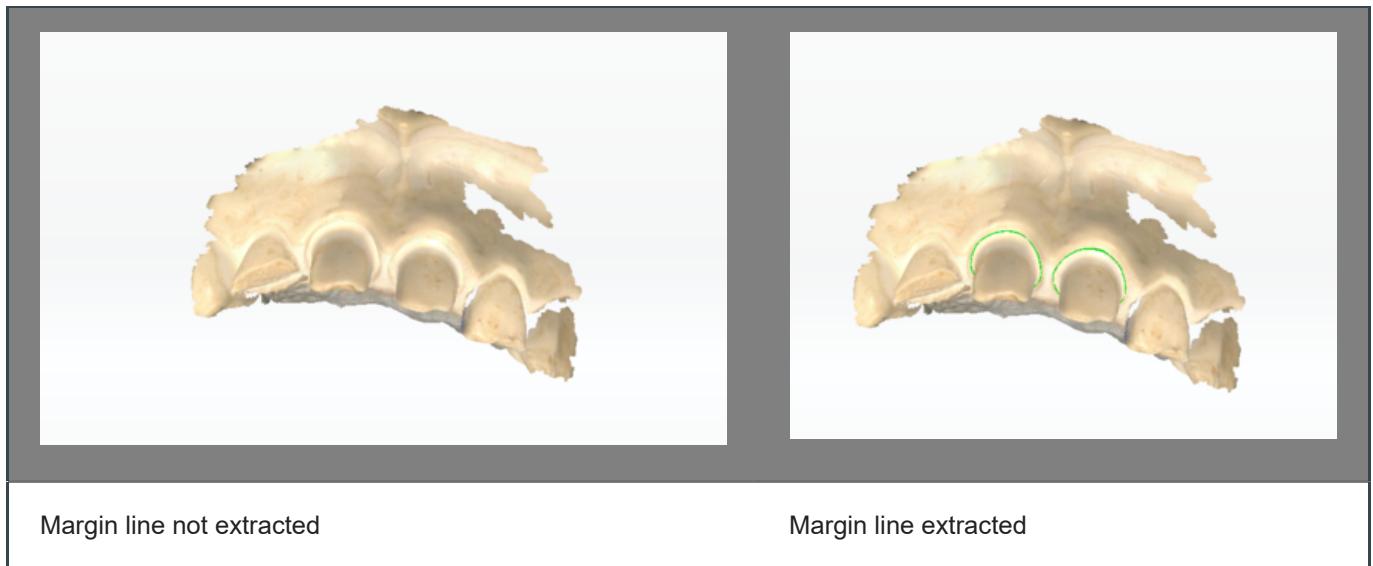
Please mark the teeth before extracting its margin line. More details see [Mark Teeth](#).

### Note

IntraoralScan will recognize margin lines automatically when importing projects.

### Auto Drawing

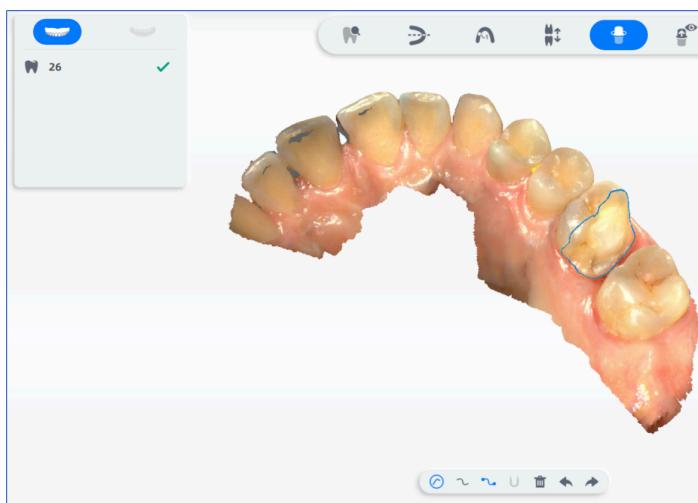
Click  to extract margin line for teeth with apparent edge line automatically.

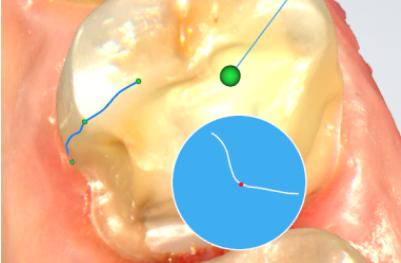


### Manual Drawing

#### Steps:

1. On the teeth position marking list, select a tooth.
2. Under tooth map, click to select margin line extraction method.



Approach	Description
 <b>Sectional view</b>	<p>The curvature of the profile along the tooth surface normal to the occlusion plane is displayed, and the effect is as follows.</p> 
 <b>Drawing line extraction</b>	<p>Long press the left mouse key to draw a line, and release the mouse to extract part of the margin line, each drawn line is automatically connected with the previous one, and finally a closed margin line is extracted.</p>
 <b>Segment extraction</b>	<p>Left click the mouse to generate a control point, move the mouse along the margin of the tooth, a line segment will be automatically generated between previous control point and current mouse position, left click to generate another control point; repeat the above steps before you set the final control point to overlap with the first one to form a closed margin line by double clicking.</p>
 <b>Note</b>	<p>Line segment extraction is a complementary tool for magnetic extraction, suitable for teeth with no clear margins.</p>
 <b>Magnetic switcher</b>	<p>Used to control the magnetic suction function switch of the line segment extraction method.</p> <p>After the magnetic suction function is turned on, the line between the current position of the mouse and the previous control point will be automatically attached to the margin (large curvature), the attaching effect is related to the current mouse position; when you left click to add a new control point, the attached line segment between the first two control points will not change again, repeat the above steps before you set the final control point to overlap with the first one to form a closed margin line by double clicking. When the magnetic suction function is off, a straight line will be created between the current mouse position and the previous control point (i.e. line segment extraction).</p> <p>Magnetic suction extraction is suitable for teeth with clear margins.</p>

3. Click to add a new control point and a margin line will be drawn automatically between two control points. Repeat the above steps and you will draw a closed margin line by double clicking near the first control point.
4. The model size can be adjusted by scrolling up and down the wheel. You can view the margin line by pressing right mouse button then rotating the model, or pressing right and left mouse buttons to move the model.

5. Edit margin lines to make them closer to tooth edges.

- **Draw line extraction mode:** The newly drawn line replaces part of originally extracted margin line.
- **Segment extraction mode:** Move the mouse to the extracted margin line, the red point indicates the location of the control point, if you left click the mouse key, a new control point will be added; select a control point, the control point color changes from green to red, you can move or delete the control point.

6. ✓ on the left of the tooth list indicates the line has been extracted.

## Buttons

Icon	Name	Description
	Delete	Delete the currently extracted margin line of the tooth.
	Undo	Undo the last operation.
	Redo	Restore the operation that has been undone.

## Modified Model

After marking teeth and drawing margin lines, you can set the undercut direction, fill the undercut and sink margin lines on the **Modified Model** interface.

Click  to enter the Modified Model interface.



#### Steps:

1. In the upper left tooth mark list, click a tooth in the upper or lower jaw to adjust the margin line again, if needed.
2. Check one or more teeth in the tooth mark list in the upper left corner.
3. Click to enter the **Undercut Direction** interface to set the undercut direction.
4. Click and set the value at the bottom of the interface to fill the undercut.
5. Click and set the value at the bottom of the interface to sink the margin line.

#### Note

After filling the undercut or sinking the margin line, drag the slider in the upper left corner of the interface to view the comparison.

#### Button

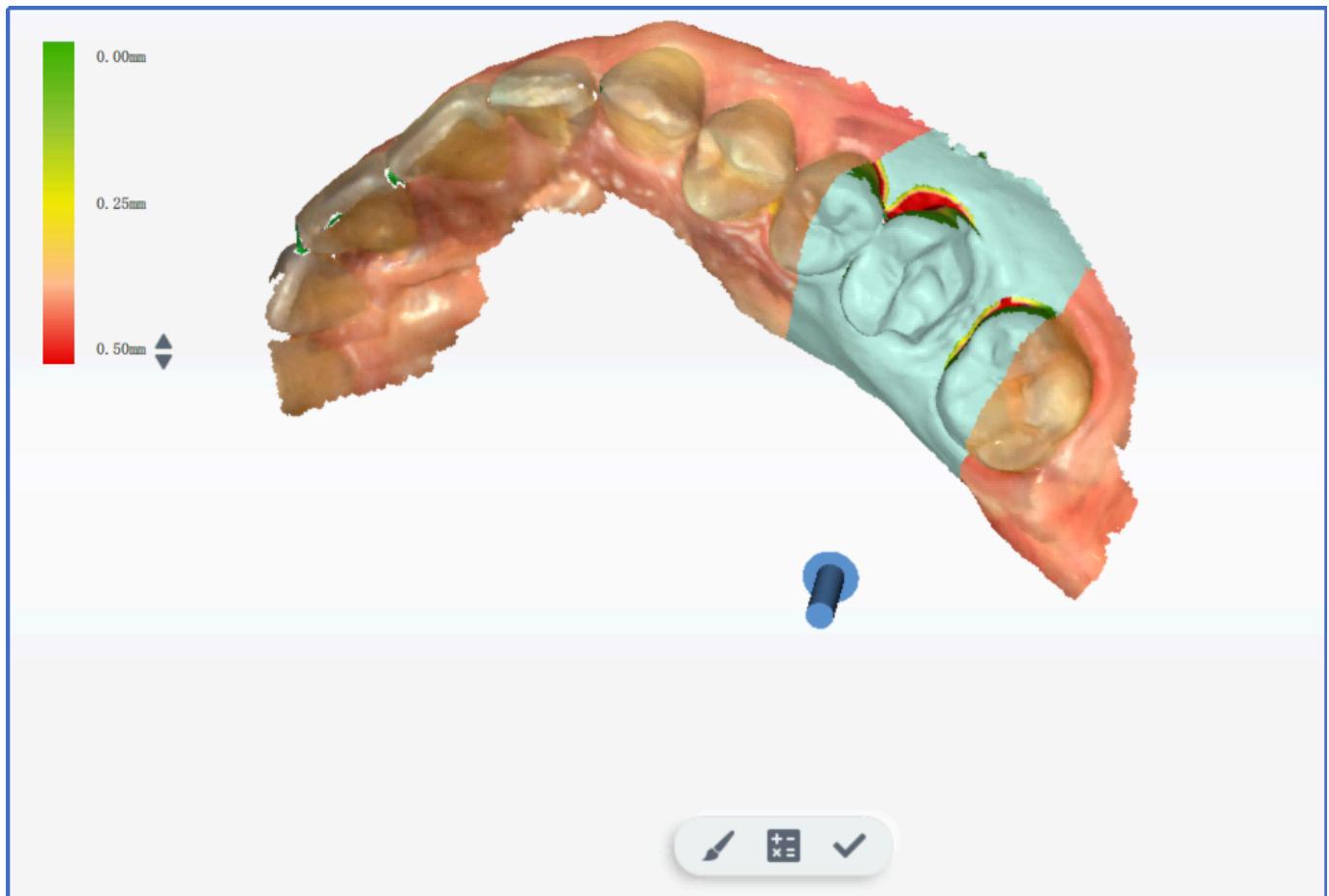
Icon	Name	Description
	Undercut Direction	Click  to enter the <b>Undercut Direction</b> interface to set the undercut direction.
	Delete Undercut Direction	In the tooth mark list, click  to delete the corresponding tooth mark.
	Undercut Direction Group	In the tooth mark list, the icon will appear after checking two or more teeth to set the undercut direction all at once.
	Undercut Filling	Set the value at the bottom of the interface to fill the undercut
	Margin Line Sink	Set the distance and expansion for margin line sinking.



## Undercut

Undercut is used to calculate and view the undercut area of the marked (corresponding part in the order) teeth.

After the margin lines are detected, click to enter the undercut interface.



### Steps:

1. Choose one tooth on the upper jaw or lower jaw.
2. Double click left mouse button on the model or use **brush** to select the undercut range.
3. Click to calculate the undercut.
4. Move cursor can view the undercut value.

#### Note

Adjust the range of the undercut value through the bar on the left.

### Buttons

Icon	Name	Description
	Brush	Click the Brush and set the range of undercut generation. Drag the slider to change its size.
	Calculate the undercut	Display the undercut effect.
	Auto-fill	The model interface will automatically be adjusted to fit the size of window.

## Dynamic Bite

Dynamic bite refers to the bite relationship between upper jaw and lower jaw in occlusion. Normally, other dental scanners collect data of static bite, which may pay less attention on occlusal problems with the impact of muscle stretching, joint motion and fissures.

Bite movement is displayed by videos.



After completing the [dynamic bite scanning](#), click  and enter dynamic bite interface to preview the bite movement.

Icon	Name	Description
	Occlusion Detect	Check the occlusion situation.
	Open Jaw	Choose contacting points in upper jaw and lower jaw for malocclusion cases.

## ConsulOS Overview

ConsulOS is a software targeted at orthodontic simulation of teeth data, which can be scanned by IntraoralScan and FScan.

## Features

1. Automatically simulate the change of the face and teeth before and after the orthodontic setup;

2. Switch flexibly between the teeth model, providing different perspectives to observe the simulation effect;
3. The enhanced tooth texture makes the model closer to the real teeth of the patients;
4. Upload multiple programs and generate various reports of orthodontic simulation at a time.

## Quick guide

 <b>Create program</b> <p>Creating programs after importing teeth models, adjusting the model, confirming teeth and the program are supporting.</p> <p><a href="#">→ Create program</a></p>	 <b>Preview program</b> <p>Generating orthodontic reports, previewing orthodontic process via animation, and comparing the models before and after orthodontics are supported.</p> <p><a href="#">→ Main interface</a></p>
 <b>Manual setup</b> <p>Adjust the dental arch and teeth to customize individual teeth.</p> <p><a href="#">→ Manual setup</a></p>	 <b>Add brackets</b> <p>Simulate the real orthodontic effects with brackets.</p> <p><a href="#">→ Add brackets</a></p>

## Create program

When the user opens ConsulOS from IntraoralScan or FScan, the software will create the program based on the order from IntraoralScan or FScan. The user can add intraoral data in FScan.

### Caution

- Select **Orthodontics** as the **Dentistry Type** to enable the orthodontic simulation function.
- Lip line should be extracted in advance in FScan. More details can be found in [Lip line extraction](#).

There are three steps: **Model adjustment**, **Teeth confirm** and **Program confirm**. **Change program** is also supported.

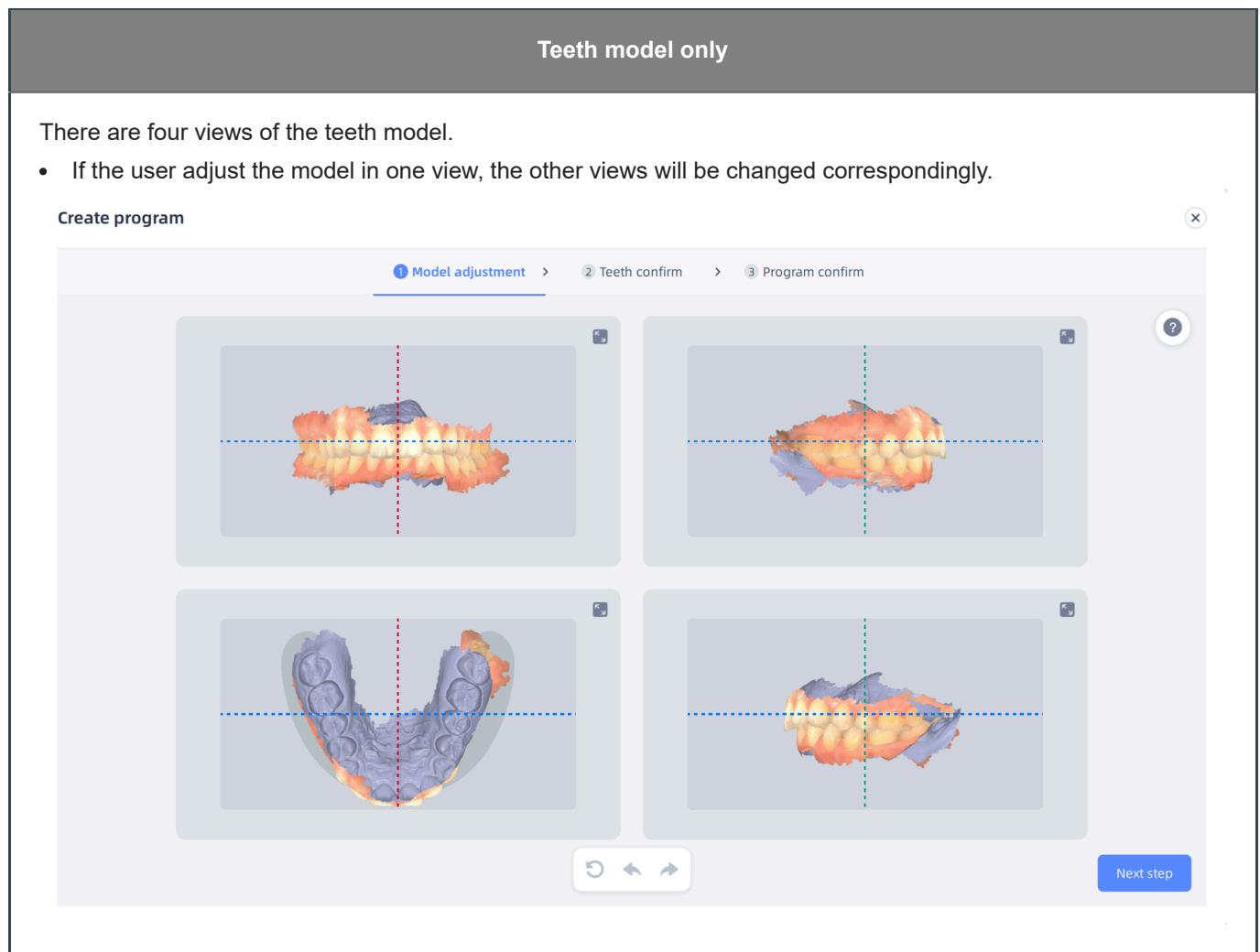
Click **Auto creation** to start.

### Note

- Click **X** on the top right corner to exit the window of creating program. And the original model is displayed on the main interface.
- Click **+** on the top of the main interface again to create more programs.
- Up to three new programs can be created.

## Model adjustment

In this window, the software will automatically adjust the model and show multi-views. The user can manually adjust the perspectives of models.



## Operation

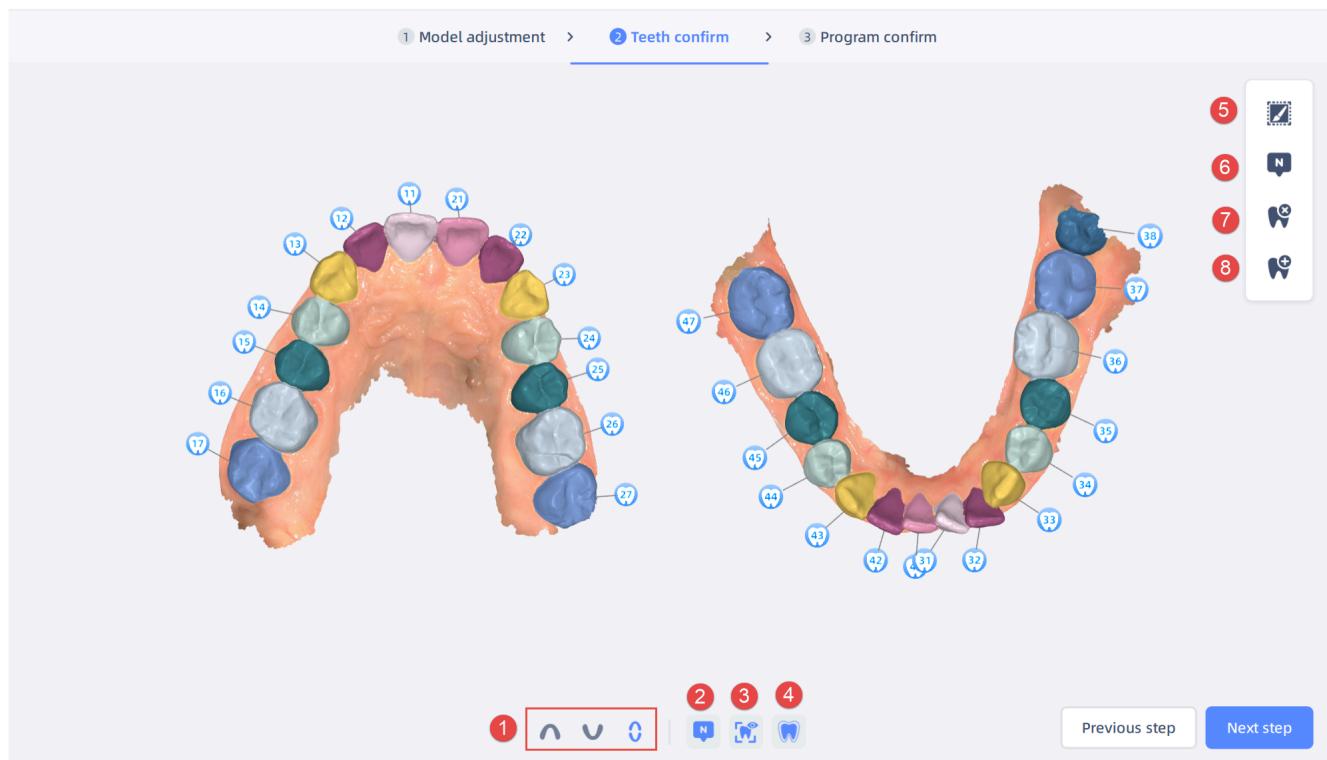
Operation	Description	Operation	Description
Rotate the model	Press and hold the left or right mouse button and move the cursor.		Click to pop up the guidance. Click  to set whether to automatically pop up guidance.
Move the model	Press and hold the left and right mouse button at the same time and move the cursor.		Click to restore the models.
 Zoom in	Click to zoom in the view.   <b>Note</b> Zoom-in can be used when importing <b>teeth model only</b> .	 Undo	Click to undo operations.
 Redo	Click to redo operations.		

## Teeth confirm

In this window, models of upper jaw and lower jaw are displayed separately. The software automatically recognizes each tooth with different colors and displays teeth numbers.

Users can preview the upper jaw and lower jaw from different perspectives, check the teeth numbers, edit teeth areas, remove teeth and add teeth. Click the number on the **Table of contents** to check the certain function.

## Create program



### ① Views

Click to change the views of the model.

### ② Tooth number

Enabled by default. When enabled, the teeth numbers are displayed.



With tooth number



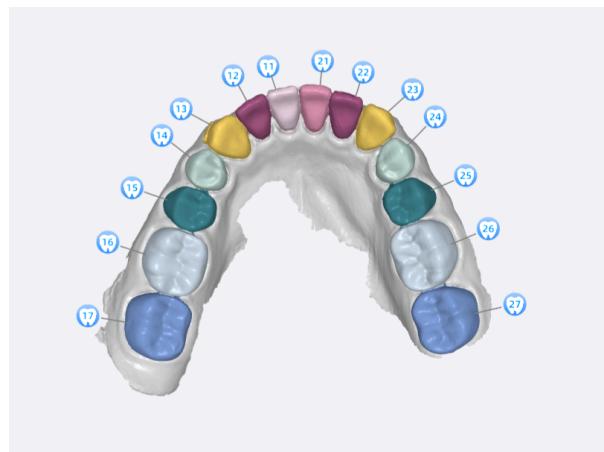
Without tooth number

### ③ Texture

When enabled, the model is colored.



With texture



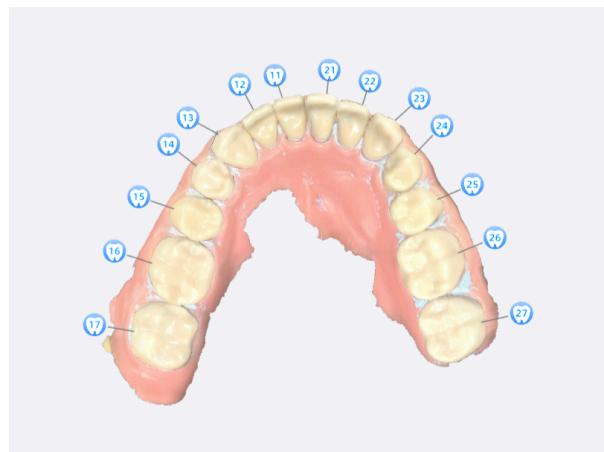
Without texture

④ Area

Enabled by default. When enabled, teeth are differentiated from each other with different colors.



With area



Without area

⑤ Modify Area

Click to enter the interface of tooth selection. Select a certain tooth to modify its area.

- : Click to select the tooth area. Drag the slider to adjust the thickness of the brush.
- : Click to delete the selected area. Drag the slider to adjust the thickness of the eraser.
- : Undo the last operation.

- : Redo the last operation.
- **Draft**: Click to save the current operation and return to the tooth selection interface to select other teeth.
- **Cancel**: Cancel all operations and exit Modify Area.
- **Confirm**: Save all operations and return to the teeth confirm interface.

#### Note

When tooth regions are wholly erased, a tip of "Delete all teeth areas is not allowed" will pop up.

#### ⑥ Change tooth number

Click  to change tooth number.

- **Cancel**: Click to cancel all operation and exit.
- **Confirm**: Click to confirm and save all operations.

#### Notw

The red number means tooth position is repeated. When confirming, a tip will pop up.

#### ⑦ Remove teeth

##### Steps

1. Click  to enter the interface of removing teeth.
2. Select the tooth which should be deleted and the tooth number is displayed in red.
3. Click  to delete it. If more than one tooth needs to be deleted, repeat steps 1-3.
4. Click **Confirm** to save the change, or click **Cancel** to cancel all operations and exit.

#### ⑧ Add teeth

##### Steps



1. Click to enter the interface of adding teeth.
2. Double-click the position where the tooth should be added.
3. Select the tooth number in the pop-up window.
4. Click **Confirm** to save, or click **Cancel** to cancel all operations and exit.

Repeat steps 1-4 to add more teeth.

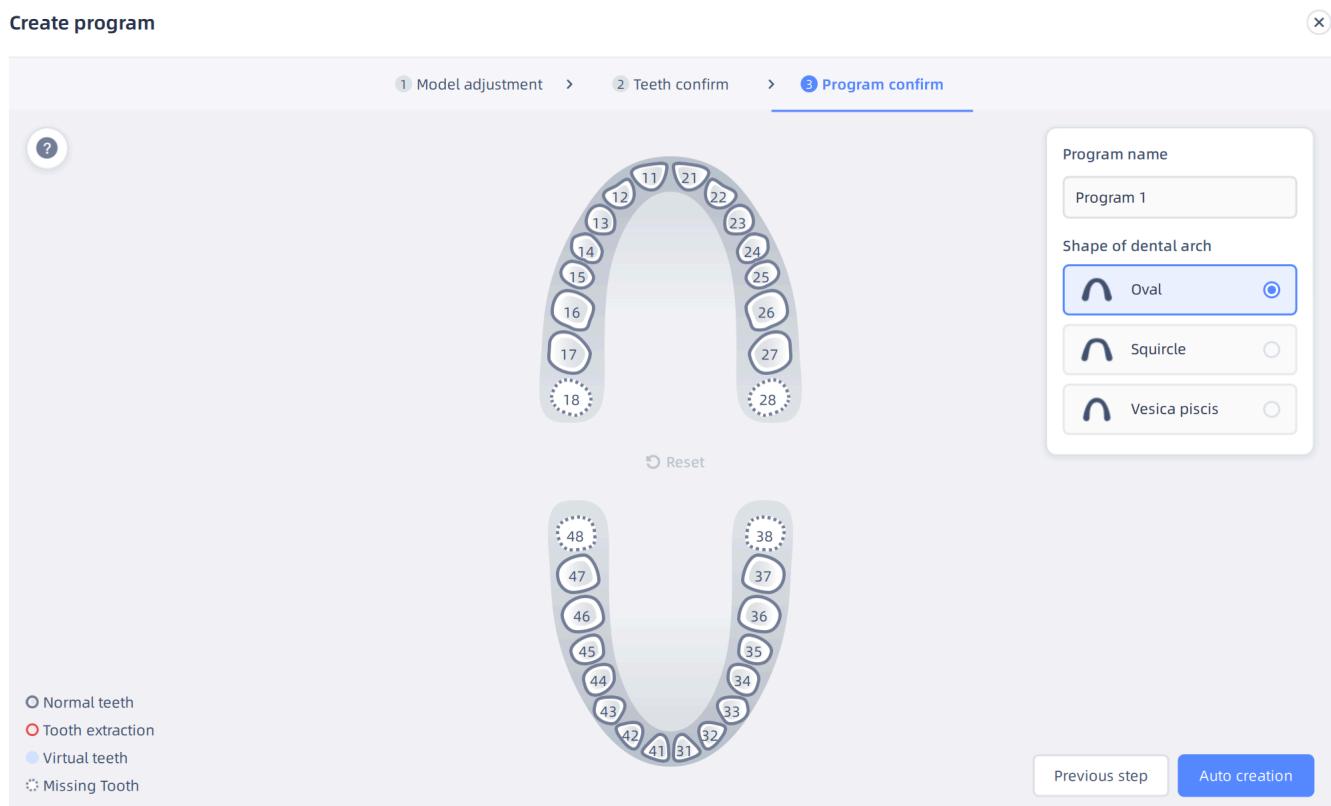
#### Note

The tooth number should be different.

5. If the tooth area is not satisfied, please double-click the tooth area to re-select or modify the area.

## Program confirm

In this window, the user can change the program name, choose the shape of dental arch and select tooth types.



1. Click the name box to change the program name.
2. The shapes of dental arch are: **Oval**, **Squircle** and **Vesica piscis**.
3. Tooth types: normal tooth, extracted tooth, virtual tooth and missing tooth.

### Note

Click **Reset** to reset all tooth types.

## Change program

To change program, please click  to enter the interface of **Model adjustment**. Click  to enter the interface of **Teeth confirm**.

### ⚠ Caution

After changing the program, the software will clear all programs and a tip will pop up. Click **Continue creating** to confirm the changes.

# Orthodontic Simulation

## Orthodontic simulation

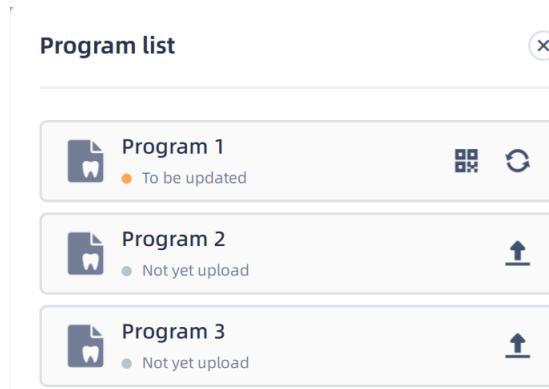
After creating the program, the user can enter the main interface.

The user can generate the QR code of the simulated orthodontic report, preview the orthodontic effect via animation, and compare the programs with the original states. In addition, the user can [adjust the setup manually](#) and [add brackets](#) as well.

## Generate report

On the report, the patient can check the 3D models before and after the orthodontic simulation, and preview the process via a video.

1. Click **Report** on the top right corner of the main interface.



2. Click  to upload the programs and generate the orthodontic report. Saving the QR code or copying the link for future use are supported.

3. Click  to check the QR code again.

4. After changing the program, click  to update the report.

## Animation

Animation is supported for previewing the orthodontic process and final effect. Click  to play the animation.

Click  to loop the animation.

### Note

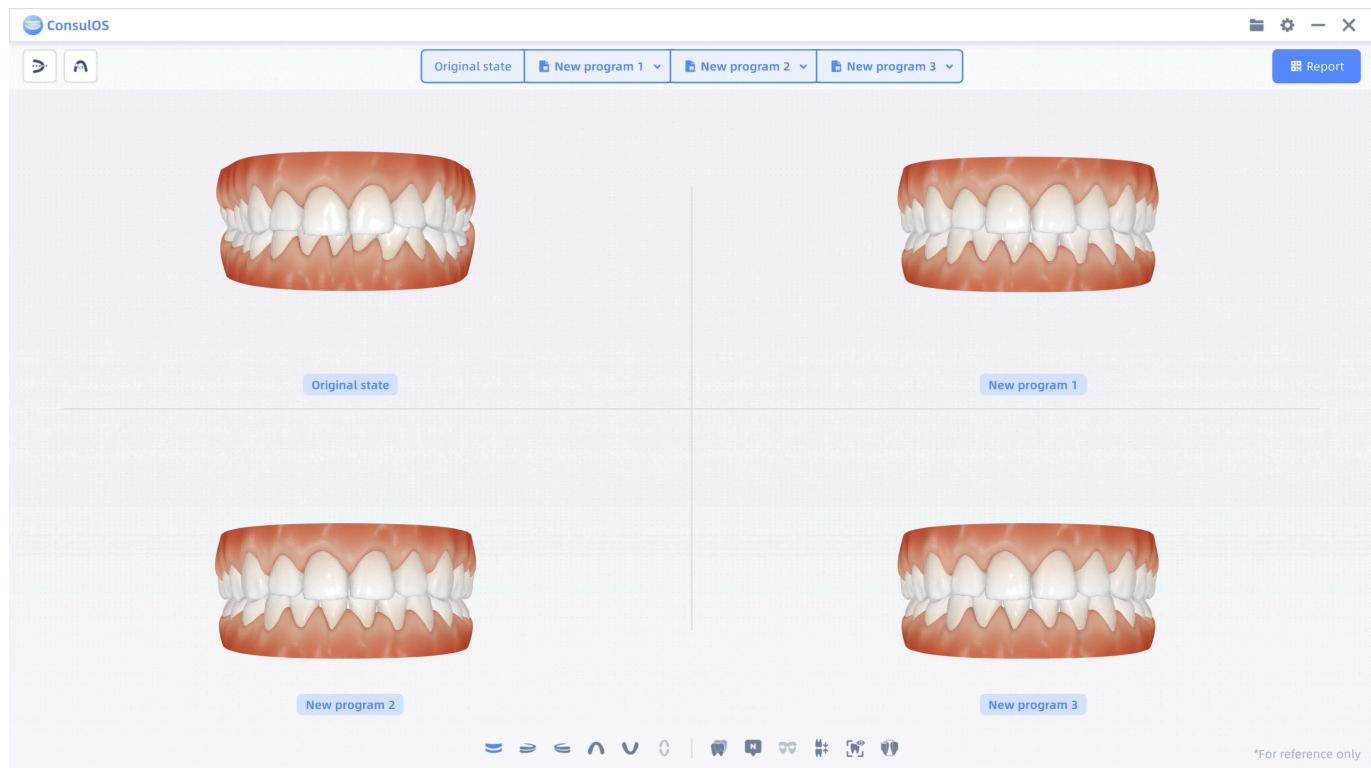
Preview the animation of one program is supported. If comparing 2 or more programs, click  and then a tip will pop up to select a program.

## Compare the programs

Comparing programs and the original state is supported.

Selecting the programs (the original state can also be selected) on the top of the main interface to start comparison.

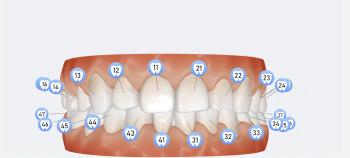
Up to 3 new programs and the original state can be compared at the same time.



## Other Functions

On the main interface, there are a few functions to better preview the models.

### General functions

Name	Description	Effect
 Overlay	Not enabled by default. Click to overlay the model of the original state on the simulated model. The original model will be displayed in blue.	
 Tooth position	Not enabled by default. Click to show tooth number on the model.	
 Brackets	After adding brackets, click to show brackets on the model.   <b>Caution</b> Please add bracket in advance. More details can be found in <a href="#">Add brackets</a> .	
 Occlude	Not enabled by default. Click to check the occlusion status with the color bars.	
 Texture enhancement	Click to change the effect of the simulated model to the effect of the scanned model. The simulated model effect is enabled by default.	
 Interproximal contact	To check the interval between the adjacent teeth. Not enabled by default.  To adjust the interval, please start <a href="#">Manual setup</a> .	
Jaws views	To change different views	

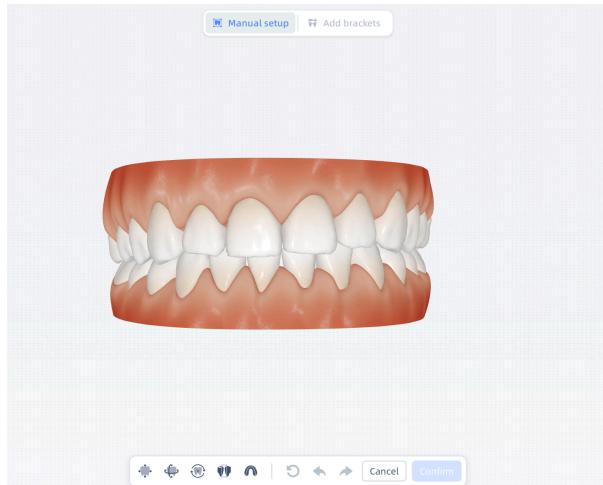
# Manual setup

## Note

- When comparing the original state with programs or comparing programs, **Manual setup** is supported. Please select the certain program on the pop-up window.
- In the original state, if the user adjusts the teeth and confirm the adjustment, a new program will be created. If there is already 3 programs, then manual setup is not supported in the original state.

Through manual setup, the user can adjust the simulated orthodontic effect and customize individual teeth according to specific requirements.

Click  on the top of the main interface when selecting only **one program** to enter **Manual setup** interface.

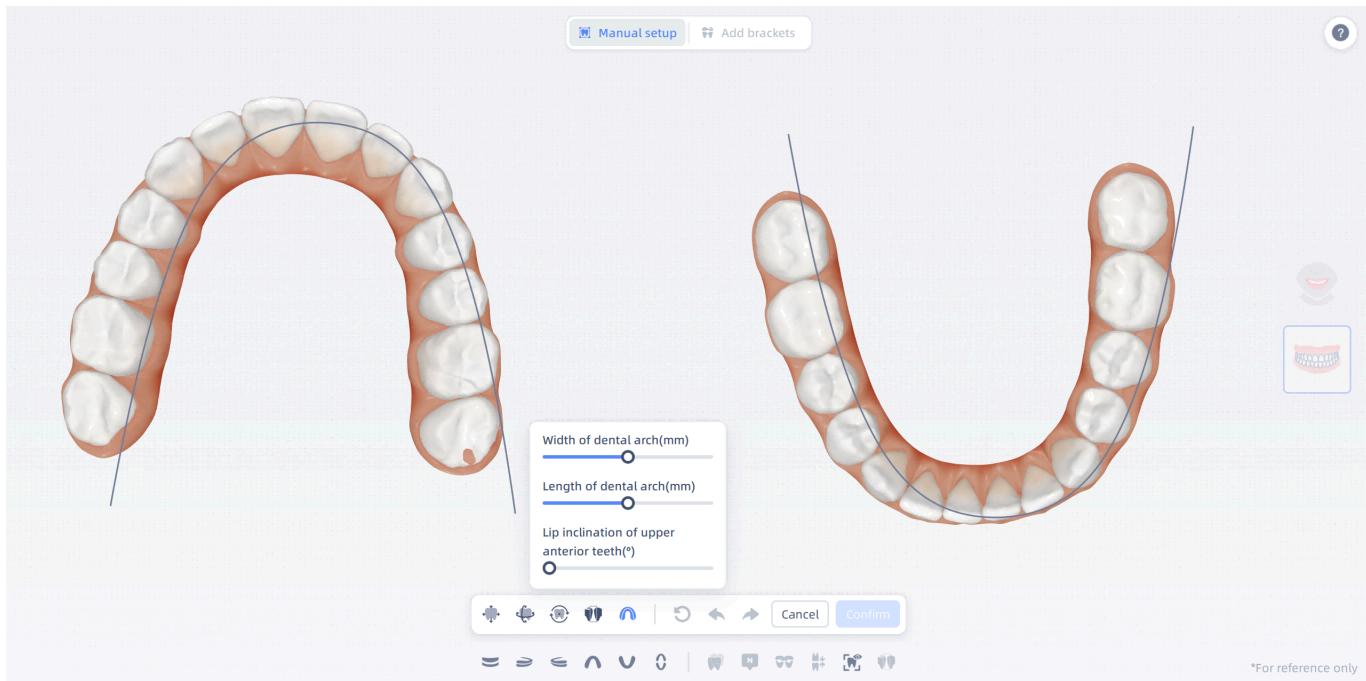


After adjustment, click **Confirm** to save the changes.

## Dental arch

Manually adjusting indexes of the dental arch by dragging the slider is supported.

When checking the teeth model, click  to adjust indexes of the dental arch.



### Adjust teeth

Use Shift, Rotation and Torsion to adjust the teeth.

Drag the slider to adjust the sensitivity.

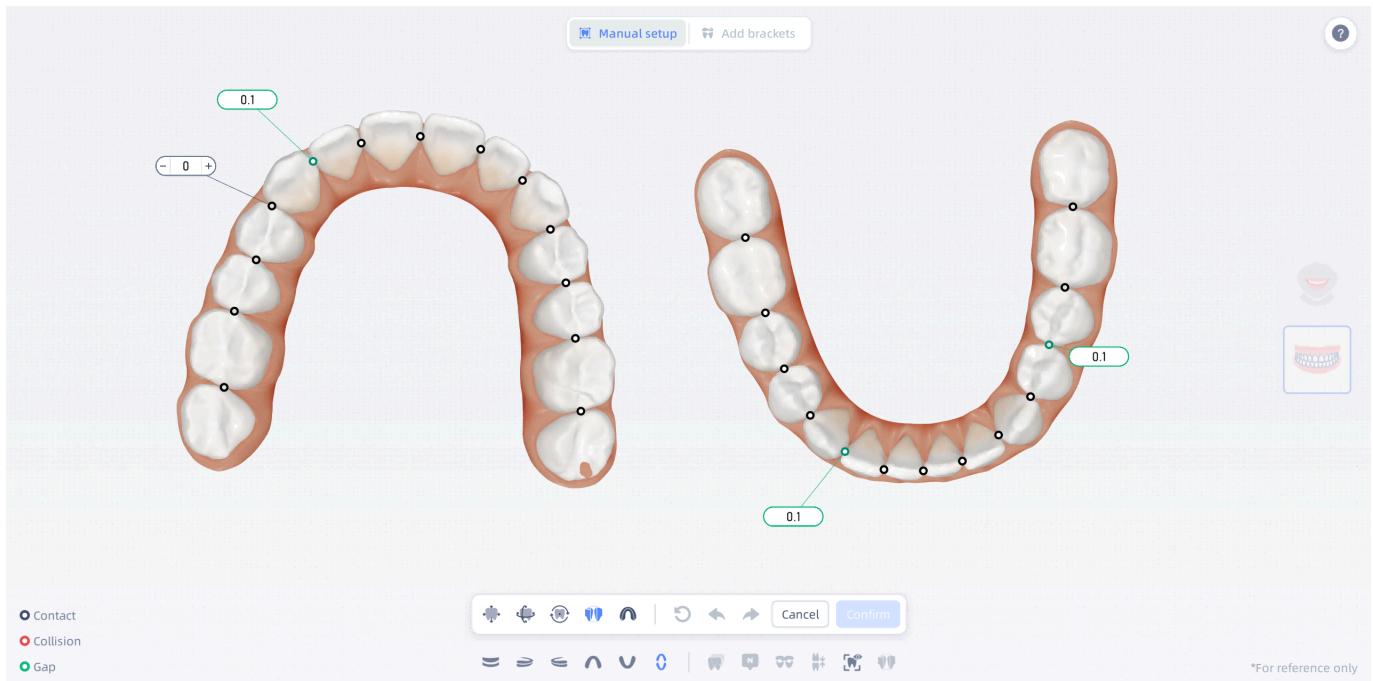
### Interproximal contact

Click to check and adjust the interval between the adjacent teeth.

- There is a point on the contacting part of adjacent teeth. Different colors indicate different intervals.
- Click one point and adjust the interval by + and -.
- The tags showing the intervals can be pressed and dragged to anywhere to avoid blocking the model.

#### Note

Only \*\*Tooth Model\*\* can check and adjust interproximal contact.



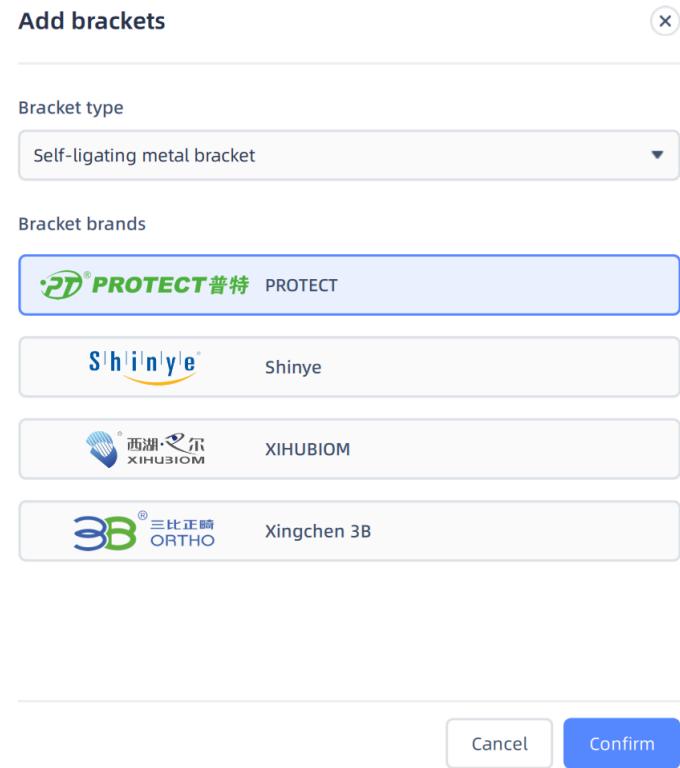
## Add brackets

Through adding brackets, the user can simulate the real orthodontic effects with brackets.

Click on the top of the main interface when selecting only one program to enter **Add brackets** interface.

### Steps:

1. After entering the **Add brackets** interface, click to add.
2. If there are existing brackets, click to replace the original brackets, or click to delete the original brackets.
3. Choose the bracket type and brands.



4. Click **Confirm** to apply the brackets.

## Introduction

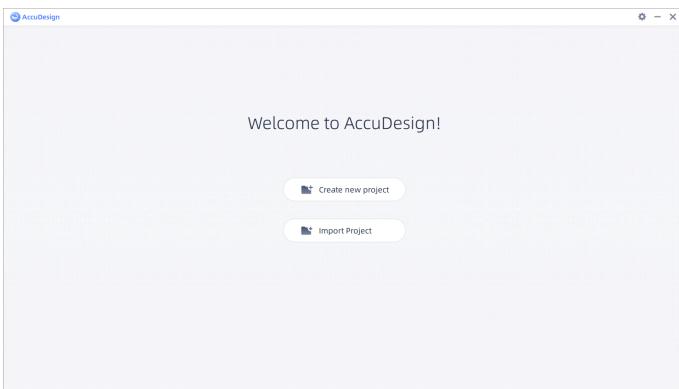
AccuDesign is a model generation software developed independently by Shining 3D, and it is used for editing scanned data to export digital models. Besides, featuring the combination of automation and personalization, the software also supports adding specially designed attachments to digital models living up to 3D printing requirements, mainly applying in dental implant and orthodontics.

### Note

- The software can be used independently, but it only supports importing model files in STL, PLY, OBJ, and BEB formats, or project files in ACCUDESIGNPROJECT format.
- Additionally, it also supports being called from scanning software such as IntraoralScan, from which the direct use of the model data is allowed, but it requires the use of Shining 3D intraoral scanners or Shining 3D desktop scanners.

## Import the Model

Enter the **Welcome to AccuDesign!** interface, where you can choose to [Create new project](#) or [Import project](#).



### Note

If AccuDesign is called from other scanning software (such as IntraoralScan), the software will load the models from the current order. Deleting the models or importing other models are not supported; only 3D preview of the current models is available.

## Create a New Project

Click  **Create new project**, import model files (in the format of STL, PLY, OBJ or BEB) locally and select **Base, Type of honeycomb, Articulator and Text**.

### Import the Model

- Click **Upper Jaw** or **Lower Jaw** import frame to import models.
- The imported model is displayed in the default occlusal view. You can perform operations such as translation, rotation, and scaling on the model (as shown in the table below). In addition, you can click the button to delete the model or click the button to reset the model to its initial state.

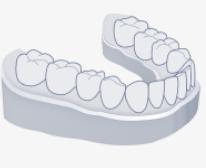
Order	Shortcuts
Move	Move the cursor while hold down the left and right mouse buttons
Rotate	Move the cursor while hold down the right mouse button
Scale	Rotate the wheel up or down

### Note

- It supports importing non-segmented models, which means it can import data for a single upper jaw model, a single lower jaw model, or a model including both upper and lower jaws.
- It is recommended to import the correct upper jaw and lower models that match the diagram information within the specified frame, otherwise it may affect the automatic generation of the model.

### Base

Support three base types, namely **Model with foundation** (as default), **Model without foundation** and **Orthodontic ABO**; the description of three types is shown in the table below.

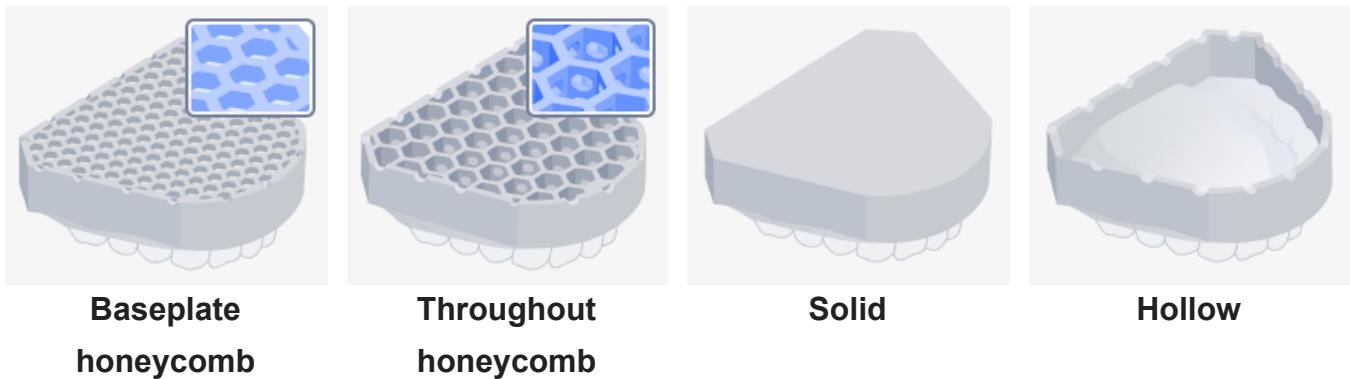
Base type	Demonstration	Commons	Differences
<b>Model without foundation</b>		/	/
<b>Model with foundation</b>		The base is a bottom mesh and has drainage holes, and its default thickness is 2mm	Pull the base directly downward from the model edge to extend it. The default height of the base is 3 mm
<b>Orthodontic ABO</b>			The default height of the base is 13 mm. A matching dental arch for the base is added, with a basal angle of 70°

### Note

You can hover the cursor over ⓘ button to view the guide chart.

### Type of honeycomb

Support four types of honeycomb, namely **Baseplate honeycomb** (as default), **Throughout honeycomb**, **Solid** and **Hollow**:



- The usage of print materials: Hollow < Baseplate honeycomb < Throughout honeycomb < Solid.
- The hardness of printed model: Solid > Throughout model > Baseplate model > Hollow.

In a word, when more printing materials are consumed, the hardness of the printed models can be ensured; please select the honeycomb structure according to the actual situation.

### Note

- If you select **Baseplate honeycomb**, you should set the printer type: **Shining 3D's printers** or **Other printers**.
- You can hover the cursor over ⓘ button to view the guide chart.

### Articulator

Support multiple articulator options (the default option is **Empty**): large/medium/small articulator, articulator for quadrant models, etc.

### Note

Articulator options can not be applied when only one model is imported.

## Text

Support customizing **Text Content** and **Text Position** (Left, Middle, Right).

### Note

- The maximum chapter limit is 100.
- You can hover the cursor over ⓘ button to preview the position of the text.

Click **Auto generation**, and wait for the software to automatically design and generate the digital model.

### Note

- When the interface displays "Processing, please wait...", please wait until the interface finishes loading.
- If a popup window appears with the message "Generation failed, please readjust!", please follow the guidance on the right side of the interface for adjustments:
- If the automatic alignment of the model fails, then you will be automatically navigated to [Coord adjust](#).
- If the recognition of the model area or shell extraction of the base fails, then you will be automatically navigated to [Area adjustment](#).
- If the addition of customized text or articulator fails, then you will be automatically navigated to [Attachment adjustment](#).

## Import a Project

Click  **Import project**, import project files (in the format of ACCUDESIGNPROJECT) locally.

1. Click **Import project** will pop up a **Import project** dialog box.
2. Double click a project file in the dialog box, or click to choose a project file and click **Open** button to import the project.

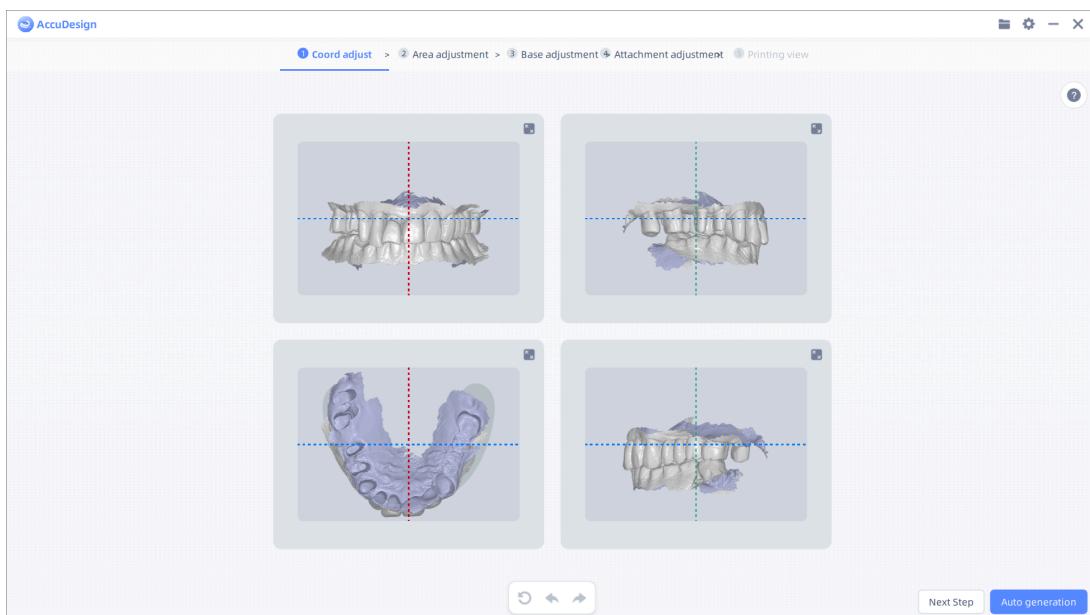
### Note

If the imported project has not yet proceeded with all steps, then you will be automatically navigated to the unfinished steps; or you will be automatically navigated to [Printing view](#).

## Edit the Model

### Coord Adjustment

On the interface of **Coord adjust**, adjust the position and the angle of model from three views (front view, top view, left and right side views) until the model is horizontally aligned in all three views, and meanwhile roughly overlaps with most darker colored shadow area on the coordinate system, to ensure the model is positioned at the center of the coordinate system.



#### Button introduction

- : **Create new project.**
  - : **Import project.**
  - : **Export project.**
  - : **Export model.**
- : **Options** button. Click the button to expand the dropdown list.

#### Note

If AccuDesign is called from other scanning software (such as IntraoralScan), the functions mentioned above are not supported.

- : **Setting** button. Click the button to open the **Settings** popup window, where you can **Select Language**, set up **Model thickness** and **Auto pop-up guidance** (switched off by default).

### Note

- Support setting language as Chinese or English. If AccuDesign is called from other scanning software (such as IntraoralScan), the language corresponds with that in the scanning software and the language setting is not displayed.
- Support entering number directly or clicking  button to increase or decrease the thickness (mm) of models, and the setting will be effective after restarting the software.
- The instructional animated image will be displayed by default on the right side of the step interface when the **Auto pop-up guidance** is enabled.

-  : **Help** button. Click the button to show or hide the instructional animated image.
-  : Enlarge button. Click the button to enlarge the instructional animated image; and click  in the top right corner to shrink the image.
-  : Enlarge button. Click the button to enlarge three views to help for delicate operations; and click  in the top right corner to shrink the image.
-  : **Reset** button. Click the button to reset the model to its initial coordinates.
-  : **Undo** button. Click the button to undo the previous action performed on the model; you can click it multiple times to undo multiple actions in succession.
-  : **Redo** button. Click the button to redo the previous action performed on the model; you can click it multiple times to redo multiple actions in succession.

### Operation introduction

Support moving or rotating the model, as shown in the table below.

Order	Shortcuts
Move	Move the cursor to any area of the three views, then hold down the left and right mouse buttons, or hold down the mouse wheel button, while move the cursor.
2D Rotation	Move the cursor to any position within the <b>light grey</b> area of the three views, then hold down the left or right mouse button, while move the cursor.
3D Rotation	Move the cursor to any position within the <b>dark grey</b> area of the three views, then hold down the left or right mouse button, while move the cursor.

After the model alignment, click **Next step** to proceed with manual operation or click **Auto generation**.

## Area Adjustment

On the interface of **Area adjustment**, use **Brush**, **Transmission** and other tools to manually select area to be printed.

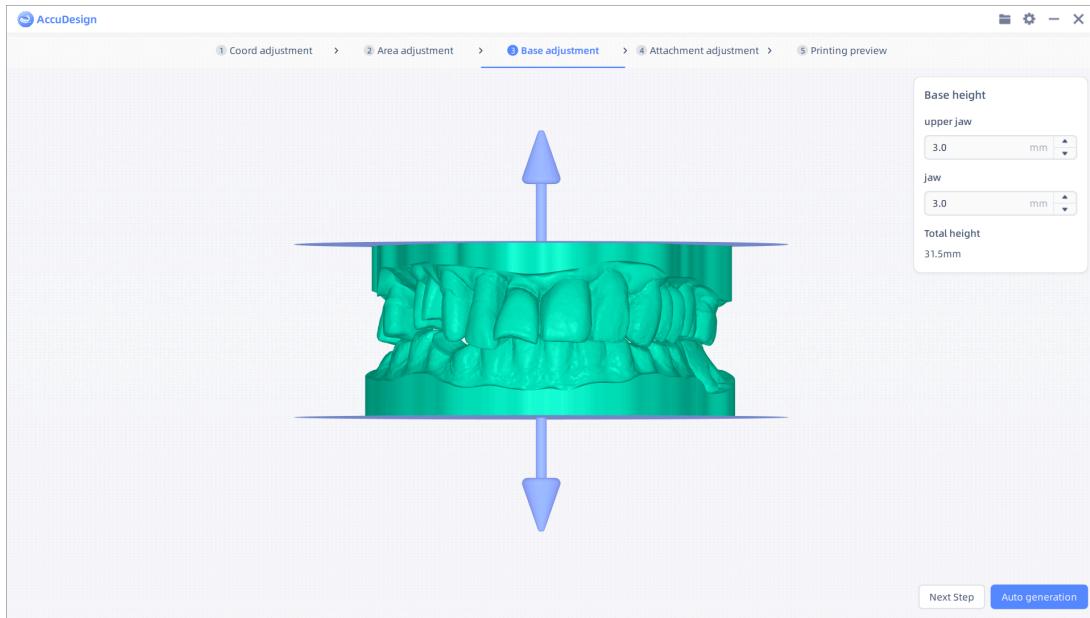
### Note

When adjusting the area, you can hold down the right mouse button to rotate models or rotate the wheel to zoom in/out, which helps in selecting the area more precisely.

Tool/Button	Instructions
 Brush	<p>1. Click the button, and the button will switch to ; in the operation interface, the dark gray circle at the cursor represents the coverage area of the brush, and you can use the slider to enlarge or reduce the size of this circle, which helps in selecting the area more precisely.</p> <p>2. Move the brush to the desired area, then hold down the left mouse button to brush over it to select (highlighted in green) the outer layer data of the scanned model that has been brushed; before brushing, you can click to use the <b>Transmission</b> tool to select both the inner and outer sides of the jaw simultaneously.</p> <p>3. After selecting the area, you can use the region size adjustment slider to repeatedly enlarge or reduce the selected area's size.</p>
 Eraser	<p>1. Click the button, and the button will switch to ; in the operation interface, the dark gray circle at the cursor represents the coverage area of the eraser, and you can use the slider to enlarge or reduce the size of this circle, which helps in deselecting the area more precisely.</p> <p>2. Move the eraser to the desired area, then hold down the left mouse button to brush over it to deselect the outer layer data of the scanned model that has been brushed; before brushing, you can click to use the <b>Transmission</b> tool to deselecting both the inner and outer sides of the jaw simultaneously.</p> <p>3. After deselecting the area, you can use the region size adjustment slider to repeatedly enlarge or reduce the size of the deselected area.</p>
 Transmission	<p>1. Click the button, and the button will switch to .</p> <p>2. When using the Brush or Eraser, you can simultaneously select or deselect the corresponding area on the opposite side of the jaw while brushing, which helps in quickly applying or removing the brush strokes in the desired area.</p>
 Automatic filling	Click the button to fill all connected regions.
 Reset	Click the button to reset the model to its initial coordinates.
 Undo	Click the button to undo the previous action; you can click continuously to undo multiple actions in succession.
 Redo	Click the button to redo the previous action; you can click continuously to redo multiple actions in succession.

# Base Adjustment

On the interface of **Base adjustment**, drag the base manually to set the height of models by entering values.



## Note

When adjusting the base, you can hold down the right mouse button to rotate models or rotate the wheel to zoom in/out, which helps in selecting the area more precisely.

**Precise adjustment:** Enter values in the input box (range: 2mm ~ 100mm) to accurately adjust the height of the base, and preview in real time.

## Note

If the input value is greater than 100, it will be automatically set to 100; if the input value is less than 2, it will prompt "not valid".

**Manual dragging:** Move the cursor to any position within the base (blue area) to be generated; when the cursor turns to , hold down the left mouse button to drag the base up or down to adjust the height of models.

## Attachment Adjustment

On the interface of **Attachment adjustment**, you can add the articulator, text or other attachments to models.

### Articulator Adjustment

Support multiple articulator options (with the default articulator selection being the type set during model import): large/medium/small articulator, articulator for quadrant models, etc; the articulator is used to securely hold the upper and lower jaw models, facilitating the examination of the inherent positional relationship between the patient's upper and lower jaw joints.

#### Note

- Articulator options can not be applied when only one model is imported.
- When adjusting the attachment, you can hold down the right mouse button to rotate models or rotate the wheel to zoom in/out, which helps in selecting the area more precisely.

#### Move the articulator

1. Click the articulator, a circular transparent adjustment button will appear on it, surrounded by a white circular track.
2. Move the cursor to the transparent area, and when the cursor turns to , hold down the left mouse button to drag the articulator.

#### Rotate the articulator

1. Click the articulator, a circular transparent adjustment button will appear on it, surrounded by a white circular track.
2. Move the cursor to the white track, and when the cursor turns to , hold down the left mouse button to rotate the articulator along the track.

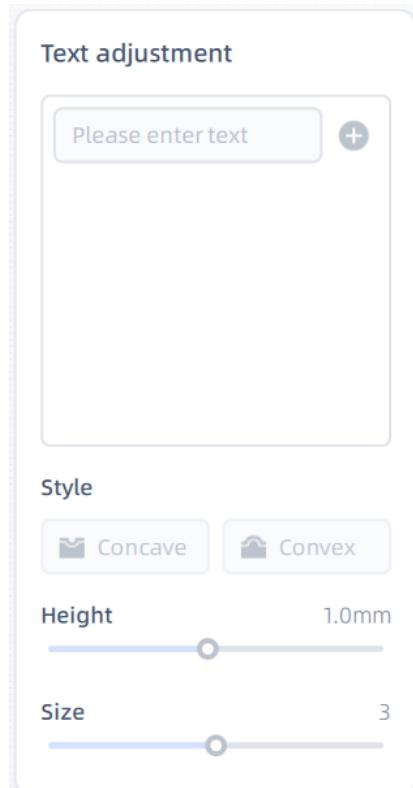
## Text Adjustment

Support adding text labels, such as the owner's name or numerical identifier.

### Note

When adjusting the text, you can hold down the right mouse button to rotate models or rotate the wheel to zoom in/out, which helps in selecting the area more precisely.

1. In the **Please enter textarea**, enter the text that needs to be engraved on the model; in addition, the **Style** ( **Concave** or  **Convex**), **Height** (0.1mm ~ 2mm) and **Size**.
2. Click  **Add text** button, move the cursor to any position within the area where the text can be added, you can preview the text to be printed.
3. Click on the desired place on the model to add the text, and the corresponding column for text edition will appear under the text box:
  - click  to edit the text;
  - click  to add mirror effect (engrave mirrored text on the other jaw);
  - click  to delete the text.

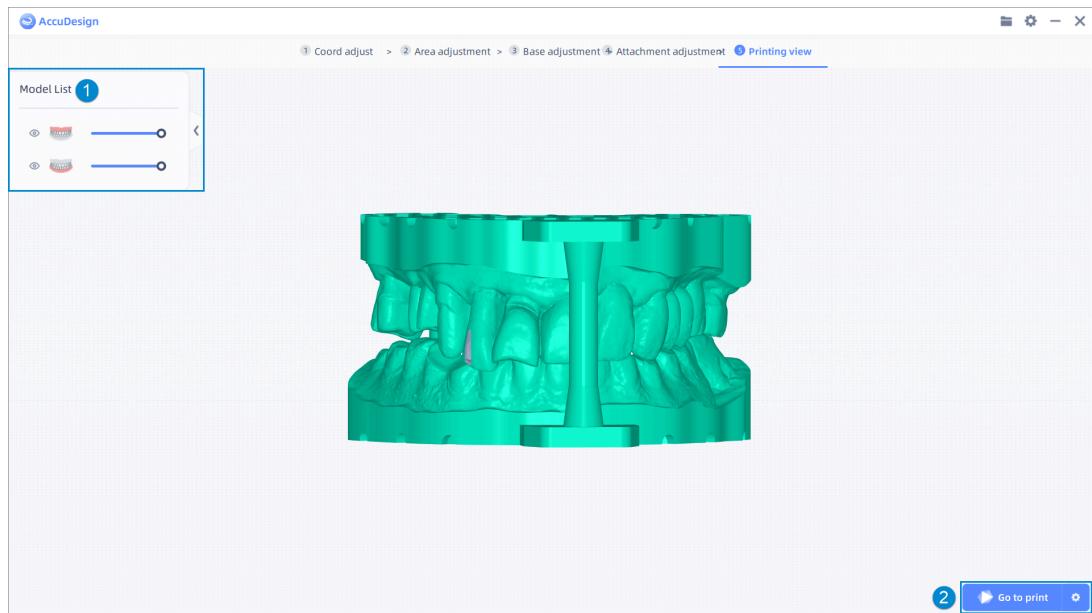


### Note

- The **Mirror** button  will be grayed out when only one model is imported.
- You can hold down the left mouse button to drag the text, so as to adjust its position.
- When you click on the text on the model and it appears in blue color, it means the text is in editing mode, and you can modify the style, height, and size of the text.

## Printing View

On the interface of **Printing view**, preview the printing effect of models and set printing parameters.



### Note

- If AccuDesign is called from other scanning software (such as IntraoralScan), setting parameters of printing is not displayed.
- When previewing models, you can hold down the right mouse button to rotate models or rotate the wheel to zoom in/out, which helps in selecting the area more precisely.

### ① Model list

- Click  button on the left side of the model, the corresponding model (shown by default) will be hided, and the button will switch to .
- Drag the transparency slider to adjust the transparency level of models.
- Click  button to collapse the Model List (expanded by default), and the button will switch to .

## ② Print settings

Click  button to set **Printer Series**, **Printer Serial No.**, **Material Brand**, **Material Name**, **Layer Thickness** and **One-Click Printing Type**, and click **Save** to save the settings.

Click  **Go to print** button to start up the AccuWare software and the models to be printed will be imported automatically.

### Note

- Please install the AccuWare software in the first place.
- If you have not clicked  to adjust printing parameters, a **Print Settings** window will pop up, and you can click **Save** to start up AccuWare.

## Export the Model

After entering any step for designing models, in the top right corner you can click  **File** >  **Export project**, or click  **Export model** to save models locally.

### Note

If AccuDesign is called from other scanning software (such as IntraoralScan), the designed models will be displayed on the **Model List** when exiting AccuDesign and return back to other software.

On the interface of **Printing view**, you can click  **Go to print** in the bottom right corner to start up AccuWare to print models.

## MetronTrack

### What is MetronTrack?

MetronTrack is a tool that can compare and analyze the difference of a patient's intraoral data at different times. It can automatically identify and mark tooth positions. The measurement data through the measurement analysis system can serve as a reference for dental diagnosis. After loading multiple sets of model data, it can monitor the changes in tooth positions at different times and intraoral data about tooth wear for orthodontic treatment.

## Characteristic

### Support Identifying Teeth at Different Times.

Identify teeth at different times, including deciduous dentition, mixed dentition, and permanent dentition. In the mixed dentition phase, Moyers Prediction is accessible. In the permanent dentition phase, Crowding and Bolton Ratio Measurements are accessible.

[→ Reference](#)

### Support Moyers Prediction, Crowding Measurement, Bolton Ratio Measurement, Overbite and Overjet Measurement, Molar Relationship Measurement and Curve of Spee.

Measure the degree of crowding at different times and the proportion of the size of the upper teeth to the lower teeth. Based on the measured data, it helps to achieve proper alignment.

[→ Reference](#)

### Support Model Comparison.

Monitor tooth position changes and intraoral data about tooth wear for orthodontic treatment.

[→ Reference](#)

### Support Measurement Report and Uploading.

Support saving and uploading reports of different measurement data and provide a centralized display for user's reference.

[→ Reference](#)

## Functions

## Segment

On the interface of segment, models of upper jaw and lower jaw are displayed separately. The software automatically recognizes each tooth with different colors and displays teeth numbers. Users can preview the upper jaw and lower jaw from different perspectives, check the teeth numbers, edit teeth areas, remove teeth and add teeth.

## Interface



## ① Timeline

Via the timeline, users can switch between one set of data and two sets of data or choose the data of mixed dentition or permanent dentition.

- **Mark Teeth** only supports one set of data. Move the to switch.
- **Measurement Analysis** supports one or two sets of data. Click the node to select model.
- **Model Comparison** only supports two sets of data.

### Note

After entering the functions in the **Mark Teeth** interface, the timeline can't be switched.

## ② Setting

### Report

Save and upload [Report](#) of different measurement data.

### Help

Click to open the guide window.

### Setting

Select language and choose [Measurement Template](#).

### ③ Function Bar



#### Modify Area

Click to enter the interface of tooth selection. Select a certain tooth to modify its area.

Icon	Name	Description
	Brush	Click Brush to select the tooth area. Drag the slider to adjust the thickness of the brush.
	Erase	Click Erase to delete the selected area. Drag the slider to adjust the thickness of the eraser.
	Undo	Undo the last operation.
	Redo	Redo the last operation.
	Draft	Click Draft to save the current operation and return to the tooth selection interface to select other teeth.
	Cancel	Cancel all operations and exit Modify Area.
	Confirm	Save all operations and return to the segment interface.



#### Caution

When tooth regions are wholly erased, a tip of "It is not allowed to remove all tooth regions!" pops up.



#### Change Tooth Number

1. Click to enter the interface of changing tooth number.
2. Click the tooth to re-number it.
3. Select the tooth number according to the actual situation of the patient.

### Note

- The outer tooth number is permanent tooth (permanent dentition for adults), and the inner tooth number is deciduous tooth (period of mixed dentition for children).
- When the mixed dentition is selected, only the Moyers Prediction function is supported; when the permanent dentition is selected, the Crowding Measurement, Bolton Ratio Measurement and model comparison function are supported.

Icons	Description
	Click to switch to primary teeth.
	Click to switch to permanent teeth.
	Click to cancel all operations and exit.
	Click to confirm and save all operations.

### Caution

Do not repeat the same tooth number; the red number means tooth position is repeated.

## Remove teeth

### Steps

1. Click  to enter the interface of removing teeth.
2. Select the tooth which should be deleted and the tooth number is displayed in red.
3. Click  to delete it.
4. If more than one tooth needs to be deleted, repeat steps 2-3.
5. Click  to confirm and exit the operation interface.

## Add Teeth

### Steps

1. Click  to enter the interface of adding teeth.

2. Double-click the position where the tooth should be added.
3. Select the tooth number in the pop-up window.
4. Click ✓ to confirm.

 **Caution**

Repeat steps 1-4 to add more teeth. And the tooth number should be different.

#### ④ Visible Control

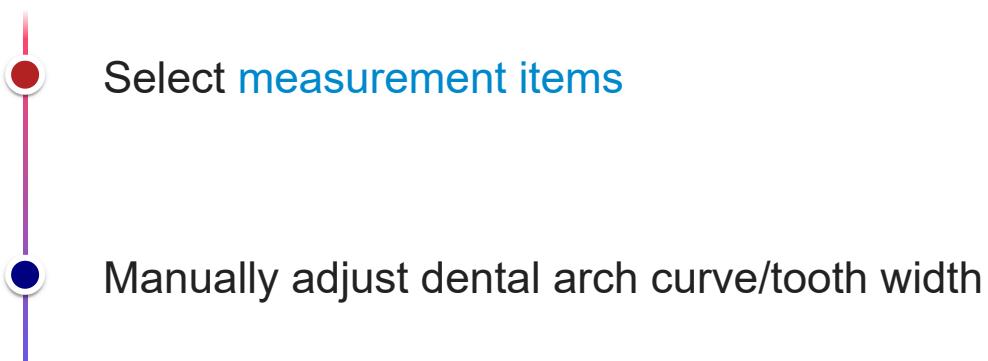
Icon	Name	Description
	<b>Number</b>	Enabled by default. When enabled, the teeth numbers are displayed.
	<b>Texture</b>	Enabled by default. When enabled, the model is colored.
	<b>Area</b>	Enabled by default. When enabled, teeth are differentiated from each other with different colors

#### ⑤ Preview

Support previewing the scanned data. To gain a comprehensive view to the model, please use the following shortcuts for switching perspectives.

- Hold the Right Mouse Button: Rotate the model.
- Hold the Left and Right Mouse Button: Move the model.
- Scroll the Mouse Wheel: Zoom in or zoom out.

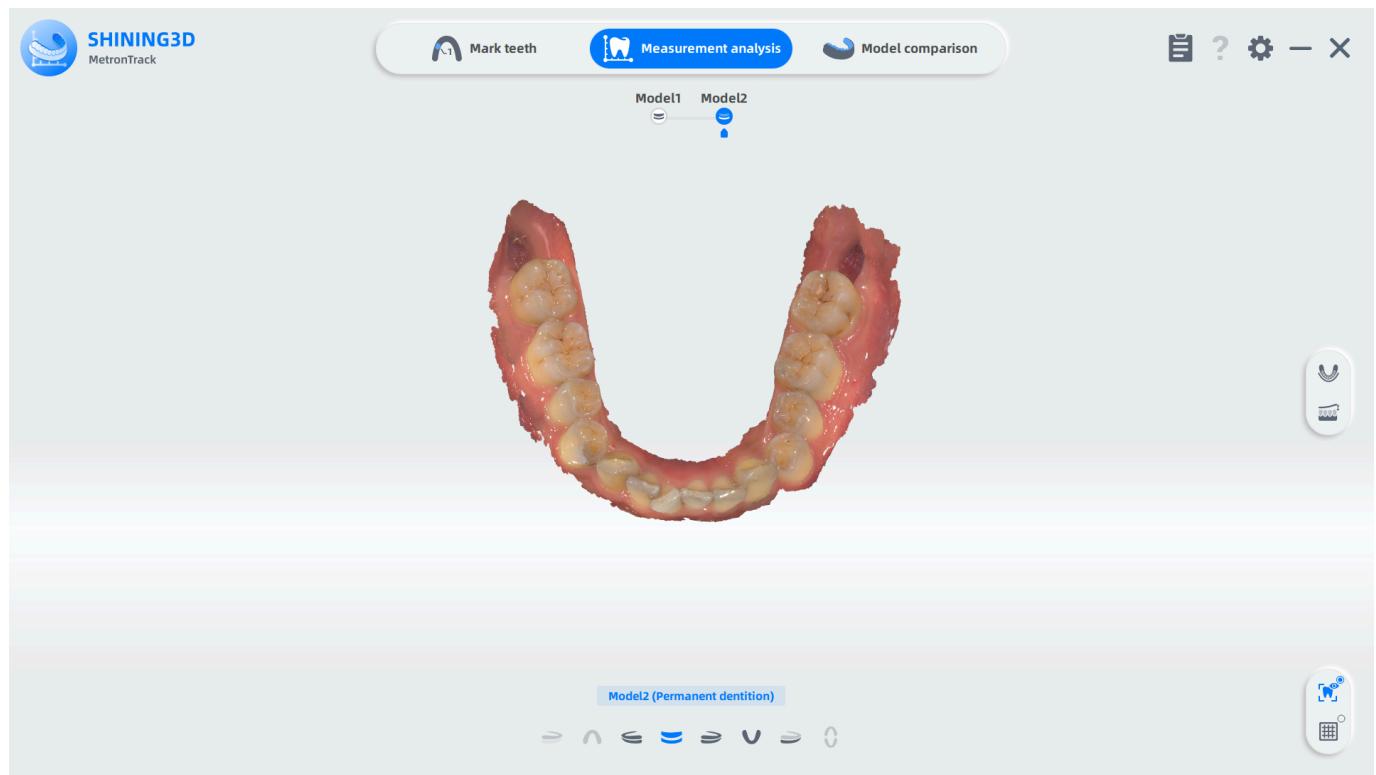
## Measurement Workflow



- Obtain dental arch/tooth width measurement data
- Save the [measurement report](#)

## Measurement Guidance

Click  to enter the interface of measurement analysis.



## Measurement Items

Moyers Forecast

For patients in the mixed dentition stage, the software will predict the crowding of the permanent teeth that are yet to erupt based on the existing mandibular permanent teeth.

### Caution

Moyers forecast can only be used in mixed dentition state teeth. When only a single upper jaw is imported, Moyers forecast is not accessible.

The dental arches of the upper jaw and lower jaw will be displayed.

#### **Adjust the dental arch manually:**

1. Click the dental arch when it turns into blue and a window pops up.
2. Move the control point on the dental arch to adjust the arch.

#### **Adjust the tooth width manually:**

1. Click a tooth and a window showing its labio-buccal direction and mesial direction pops up.
2. Rotate the tooth to adjust the labio-buccal direction and distal direction. The tooth width is adjusted as well.

### Dental Crowding Measurement

The dental crowding measurement is used to measure the crowding degree of the teeth. Crowding teeth usually happen when the teeth are not regularly arranged. By analyzing the teeth model, the sum of teeth width and the circumference of the dental arch are measured and the difference between the two values represents the degree of crowding. Crowding measurement is an important indicator in determining whether tooth extraction is necessary.

**Moyers forecast** can be used for crowding measurement in mixed dental stage. While in permanent dentition stage, moyers forecast is not accurate. Thus, **dental crowding measurement** is used to measure the crowding degree in the permanent dentition state.

The dental arches of the upper jaw and lower jaw will be displayed.

#### **Adjust the dental arch manually:**

1. Click the dental arch when it turns into blue and a window pops up.
2. Move the control point on the dental arch to adjust the arch.

#### **Adjust the tooth width manually:**

1. Click a tooth and a window pops up.
2. Rotate the tooth to adjust the labio-buccal direction and distal direction. The tooth width is adjusted as well.

### Bolton Ratio Measurement

The Bolton Index refers to the proportional relationship between the widths of the upper and lower teeth. It helps preliminarily determine whether the upper and lower teeth are proportionally aligned or if there is an abnormality in their width relationship, serving as a reference for diagnosing dental malocclusions. Besides, the Bolton Ratio Measurement enables to analyze the size of the upper and lower teeth to achieve effective adjustment of teeth alignment. Therefore, this measurement is also valuable as a reference in orthodontic treatment.

### Caution

The result of the Bolton ratio can be influenced by factors such as the malocclusion type, gender, ethnicity, extraction patterns, measurement errors, tooth thickness, and torque, which may introduce errors in the Bolton Ratio Measurement. Therefore, it is important to consider these factors and to use this measurement as a reference alongside other clinical assessments for an accurate treatment plan.

### Manually adjust tooth width

- 1 Click a specific tooth to display the adjustment panel in lower right corner to adjust tooth width.
- 2 Rotate the tooth to align its mesiodistal and buccolingual directions with the coordinate axes. The measurement value of the tooth width will be updated in real-time.

### Overbite and Overjet Measurement

Click  to enter Overbite and Overjet Measurement.

### Steps

1. Click a specific point on the model to display the adjustment panel in lower right corner.
2. Manually adjust the point in the panel, bringing a corresponding change in **Overbite** and **Overjet** data.  
    Rotate the tooth to align its mesiodistal and buccolingual directions with the coordinate axes.
3. For example, click **Middle point of Incisal edge in upper jaw** and manually adjust its position in the panel in lower right corner.
  - The position changes between central incisor in upper jaw and central incisor crown in upper jaw reveal the overbite data.
  - Move the **Middle point of Incisal edge in upper jaw** to adjust the distance between this point and **Middle point of Incisal edge in lower jaw**. The overjet data on measurement table will be updated.

Position	Overbite	Distance(mm)	Overjet
No contact	Open jaw	≤ 0	Crossbite
Within incisal edge $\frac{1}{3}$	Normal	0~3(including 3)	Normal
Incisal edge $\frac{1}{3} \sim \frac{1}{2}$	I ° deep overbite	3~5(including 5)	I ° deep overjet
Incisal edge $\frac{1}{2} \sim \frac{2}{3}$	II ° deep overbite	5~7(including 7)	II ° deep overjet
Above incisal edge $\frac{2}{3}$	III ° deep overbite	>7	III ° deep overjet

### Molar Relationship Measurement

Click  to enter **Molar Relationship Measurement**. The points are displayed differently in primary dentition, permanent dentition and mixed dentition.

#### Steps

1. Click a specific point on the model to display the adjustment panel in lower right corner.
2. Manually adjust the point in the panel, bringing a position changes between buccal groove and buccal cusp. Rotate the tooth to align its mesiodistal and buccolingual directions with the coordinate axes.
3. Take the permanent dentition as example.
  - Click the point **Mesiobuccal cusp in upper jaw** on the model.
  - Drag this point at desired position, changing the distance between this point and other three points in lower jaw, including Distobuccal cusp, Mesiobuccal cusp and Buccal groove.
  - Accordingly, the measurement value will be updated, defining Molar relationship.

Position	Molar relationship
The <b>Mesiobuccal cusp in upper jaw</b> is located between Distobuccal cusp and Mesiobuccal cusp in lower jaw.	Neutral relationship
The <b>Mesiobuccal cusp in upper jaw</b> is located in front of Mesiobuccal cusp in lower jaw.	Mesial relationship
The <b>Mesiobuccal cusp in upper jaw</b> is located behind Distobuccal cusp and Mesiobuccal cusp in lower jaw.	Distal relationship

### Note

When one or two teeth are missing in each pair of upper and lower jaws, the points are not displayed.

## Curve of Spee

Click  to enter Curve of Spee measurement.

Click a point from left or right view to manually adjust Curve of Spee, bringing a change in measurement value updated on the table.

### Caution

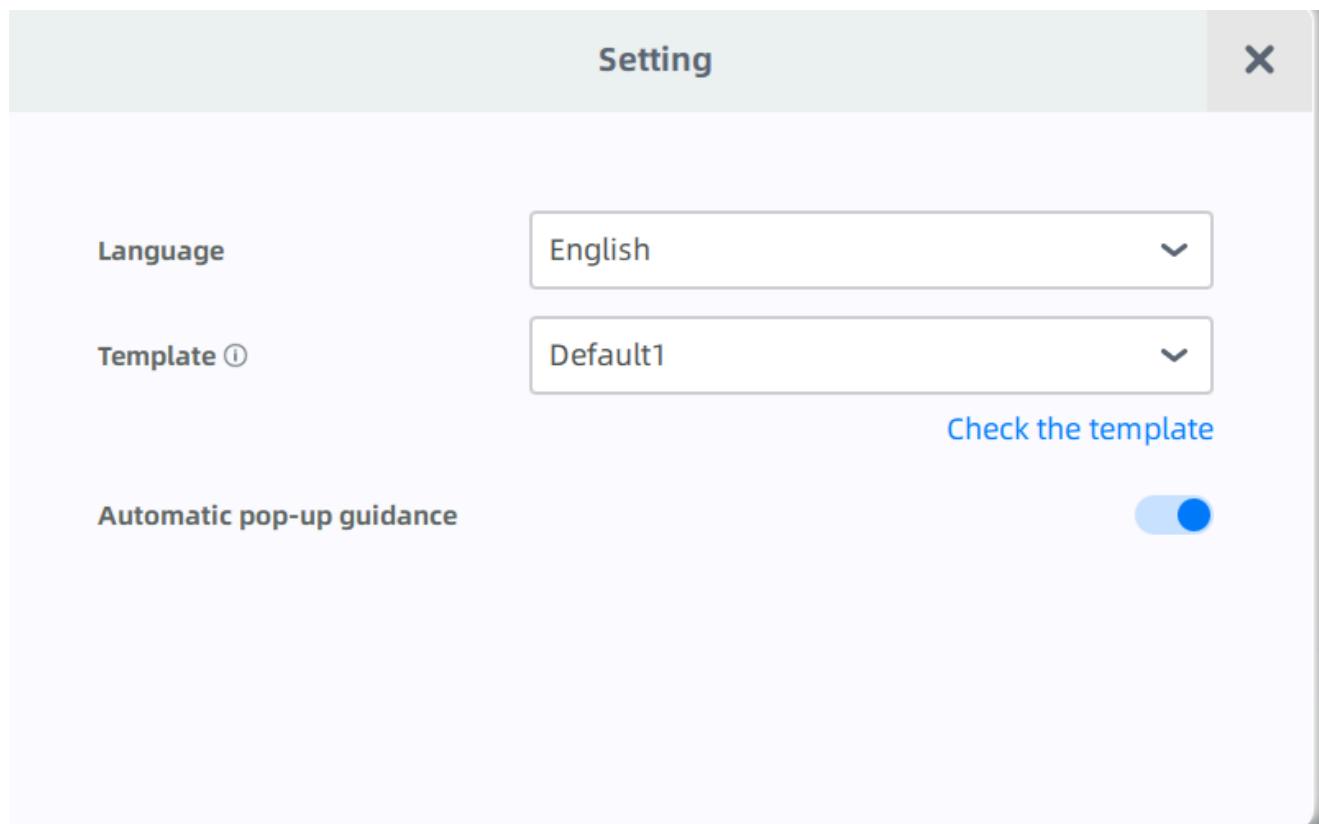
If too many teeth are missing, the Curve of Spee measurement is not accessible.

## Measurement Template

Two templates are provided in MetronTrack for your reference.

### Steps

1. Click  in the right top corner.
2. In the pop-up setting window, select one template from the dropdown menu: default 1 or default 2.



3. Click to check, and then click **Select this template**.

## Measurement Report

Measurement results and images are visible in the report for user's reference. For different measurement options, reports vary from Moyers Prediction, Crowding Measurement, Bolton Ratio Measurement, Overbite and Overjet Measurement, Molar Relationship Measurement, Curve of Spee and Analysis of tooth movement. Click in the upper right of the interface, and the measurement report will pop up.

### Note

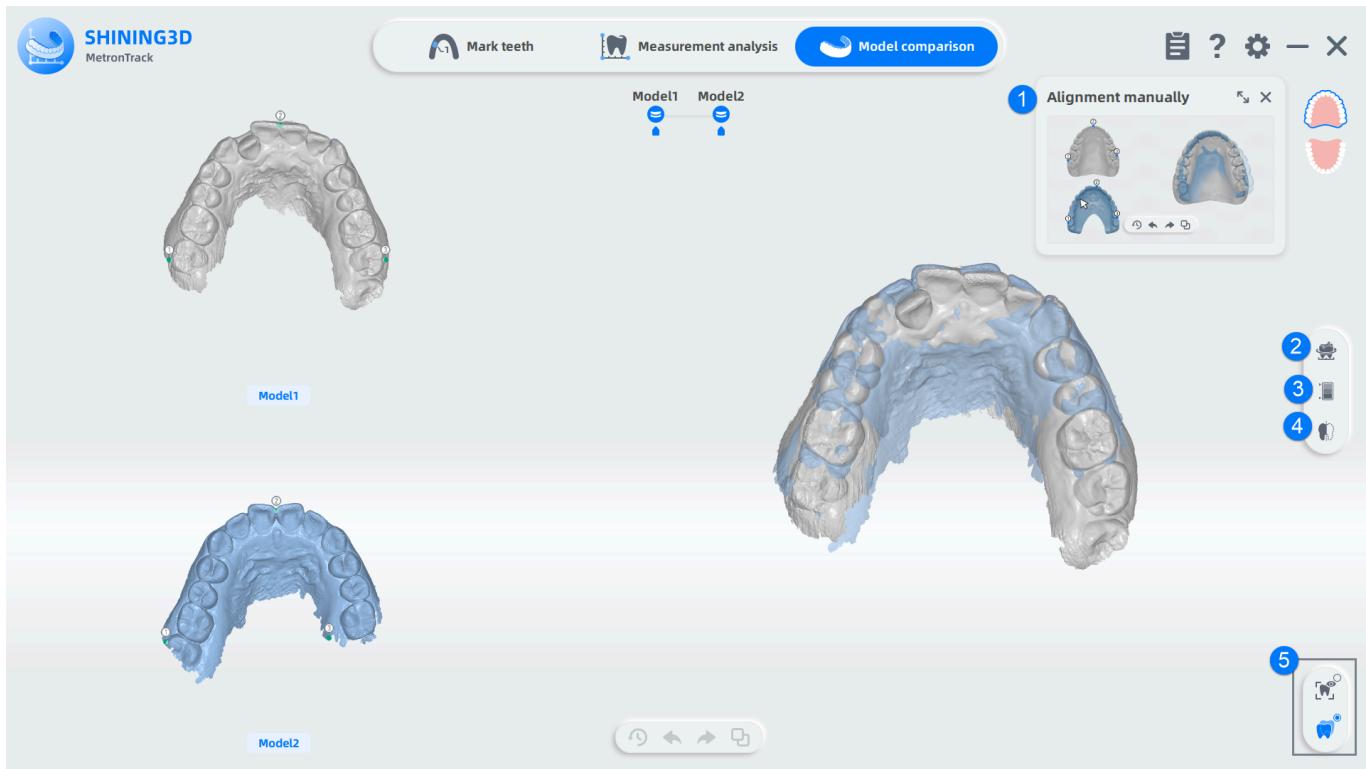
- Users can select the scan data from different dates on the timeline, which will be displayed as model data in the report.
- Users can choose different measurement methods for the report output, as shown in the table below:

Icon	Name	Note
	Edit the Report	Edit patient information.
	Moyers Prediction	Display upper/lower jaw model views and Moyers Prediction data.
	Crowding Measurement	Display upper/lower jaw model views and Crowding Measurement data.
	Bolton Ratio Measurement	Display upper/lower jaw model views and Bolton Ratio Measurement data.
	Overbite and Overjet Measurement	Display upper/lower jaw model views, right view/lower jaw, and Overbite and Overjet data.
	Molar Relationship Measurement	Display upper/lower jaw model views, right view/lower jaw, and Molar Relationship Measurement data.
	Curve of Spee	Display upper/lower jaw model views and Curve of Spee data.
	Analysis of Tooth Movement	Display upper/lower jaw model views and Tooth Movement data.
	Save PDF	Download in PDF format. Export the report and name it as 'Name_Report date'. The exported report will contain the scan data for the date on the current timeline.
	Upload	Upload the report to cloud.

## Model comparison

Model Comparison is a tool that can compare and analyze the difference of a patient's intraoral data at different times. It can monitor multiple sets of tooth position changes and intraoral tooth wear data for orthodontic treatment.

Click to enter model comparison interface.



## ① Model Alignment

The models from different treatment periods are aligned according to the feature points, both automatically and manually.

Click and in the upper right corner of the interface to select jaw-plane view of upper/lower jaw.

### Note

In the model comparison interface, the automatically aligned total-jaw model will be displayed by default.

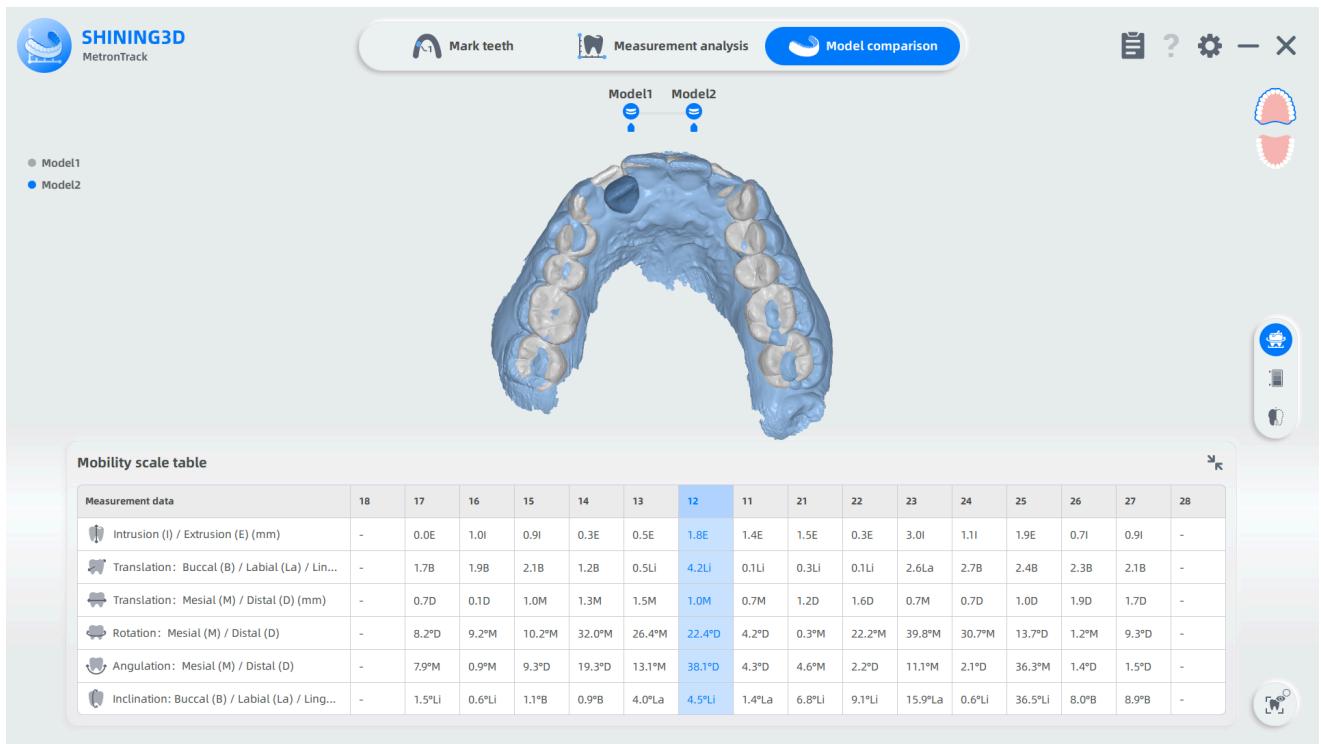
## Manual Alignment

1. Left-click to add new points on model 1 and model 2. Press and hold the right mouse to move them. After the added points are set, click to manual alignment. The overlay effect of two models will be displayed.
2. Click to reset if needed, leaving only the default three points remained.

## ② Analysis of teeth movement

1. Click to enter Analysis of teeth movement. Default is the overlay effect of two models.
2. Click one tooth to highlight the corresponding data on the mobility scale table.

3. When you select a specific measurement value on the mobility scale table, the model will display the corresponding tooth and its movement reference line.



### Note

Movement value of new teeth and dental implants cannot be measured.

### ③ Ribbon Chart

1. Click to view the ribbon chart for teeth comparison. Drag the slider in the right bottom to set the range.

### Note

- The movement variables of the teeth in the new data are compared with the scanned data from earlier times.
- Positive values are set to red, which indicate a shift toward cheek; negative values are set to blue, which indicate a shift toward tongue.
- The function of ribbon chart and sectional view cannot be enabled at the same time.

2. Move the cursor to one single tooth and its numerical value will be shown in detail.

3. Support switching the comparison area: jaw or tooth.

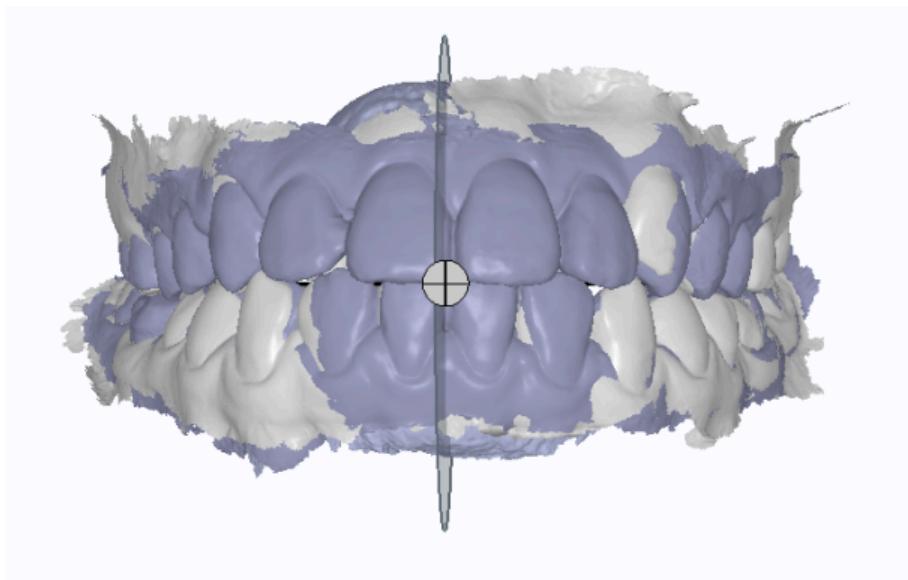
4. The photoscope can be dragged to model for viewing. Left-click the photoscope to display the magnification effect of Model 2. Otherwise, the photoscope will display the magnification effect of Model 1.

#### Note

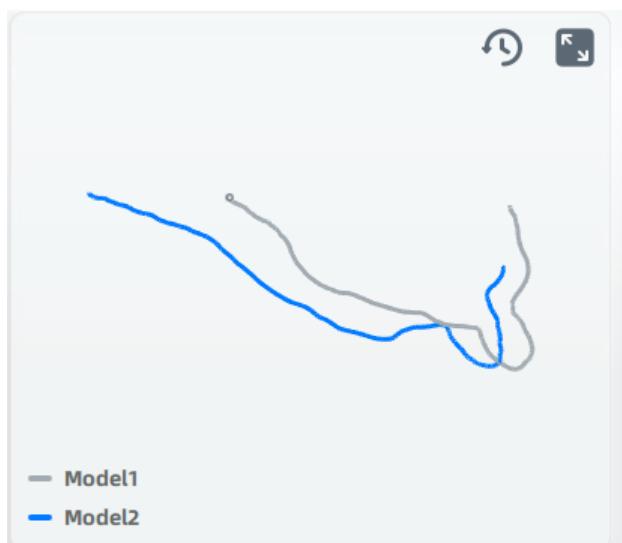
Colors in the photoscope indicates the differences between Model 1 and Model 2 in this target area. The darker the color, the more different they are.

#### ④ Sectional View

1. Click  for the sectional view of teeth model.
2. Move and rotate the section to the proper position and angle you want.



3. Comparison between new and previous scanned data is shown in the bottom-right corner. Users can click two different points to measure the distance.



### Note

- The darker lines are the newer scanned data, and the lighter lines are scanned data from earlier times.
- Compare the two lines to detect the changes of teeth movement.

4. Support switching the comparison area: jaw or tooth.

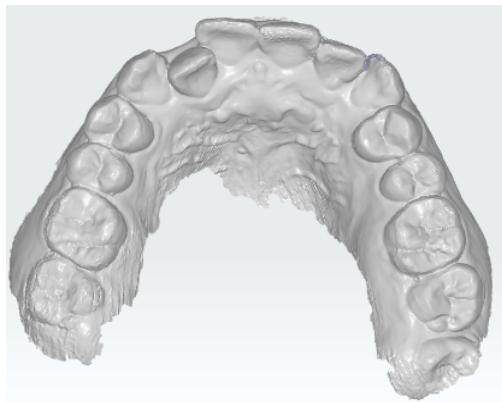
### ⑤ Display Effect

#### Texture

When this function is enabled, the model is colored.



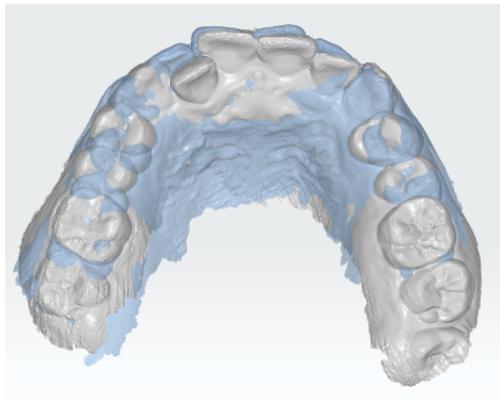
Show Texture



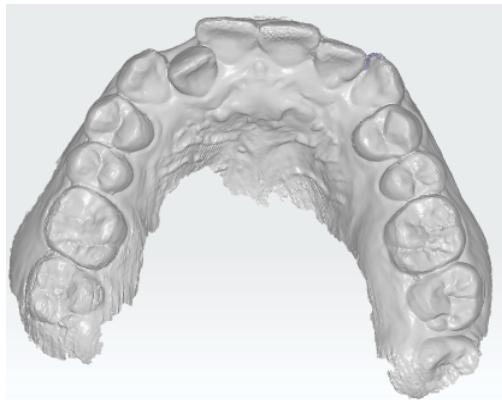
Hide Texture

#### Overlay

Enabled by default. When enabled, one model will be overlaid with the other model.



Show Overlay



Hide Overlay

Click  in Pre Design interface.

After importing the data into AccuWare, the user can slice the model and send it to the printer. For more, see [AccuWare User Manual](#).

## Tools

### Introduction to Dental Cloud

SHINING 3D Dental Cloud is an integrated platform which provides service support and service invoke for users. Users in different identities can customize and choose the services they need and search, acquire, transmit and share date.

Dental Cloud is a platform for connecting clinical and technical workers. On this platform, users can establish connections between labs, doctors and hospitals/clinics, manage orders, manage organizations and maintain account information.

Visit the website at: [SHINING 3D Dental Cloud](#) .

### Use ScanBinder

1. On the start menu, select DentalLauncher > ScanBinder to open the scan binder.

 **Note**

Support binding of ExoCAD and Dentalwings design software.

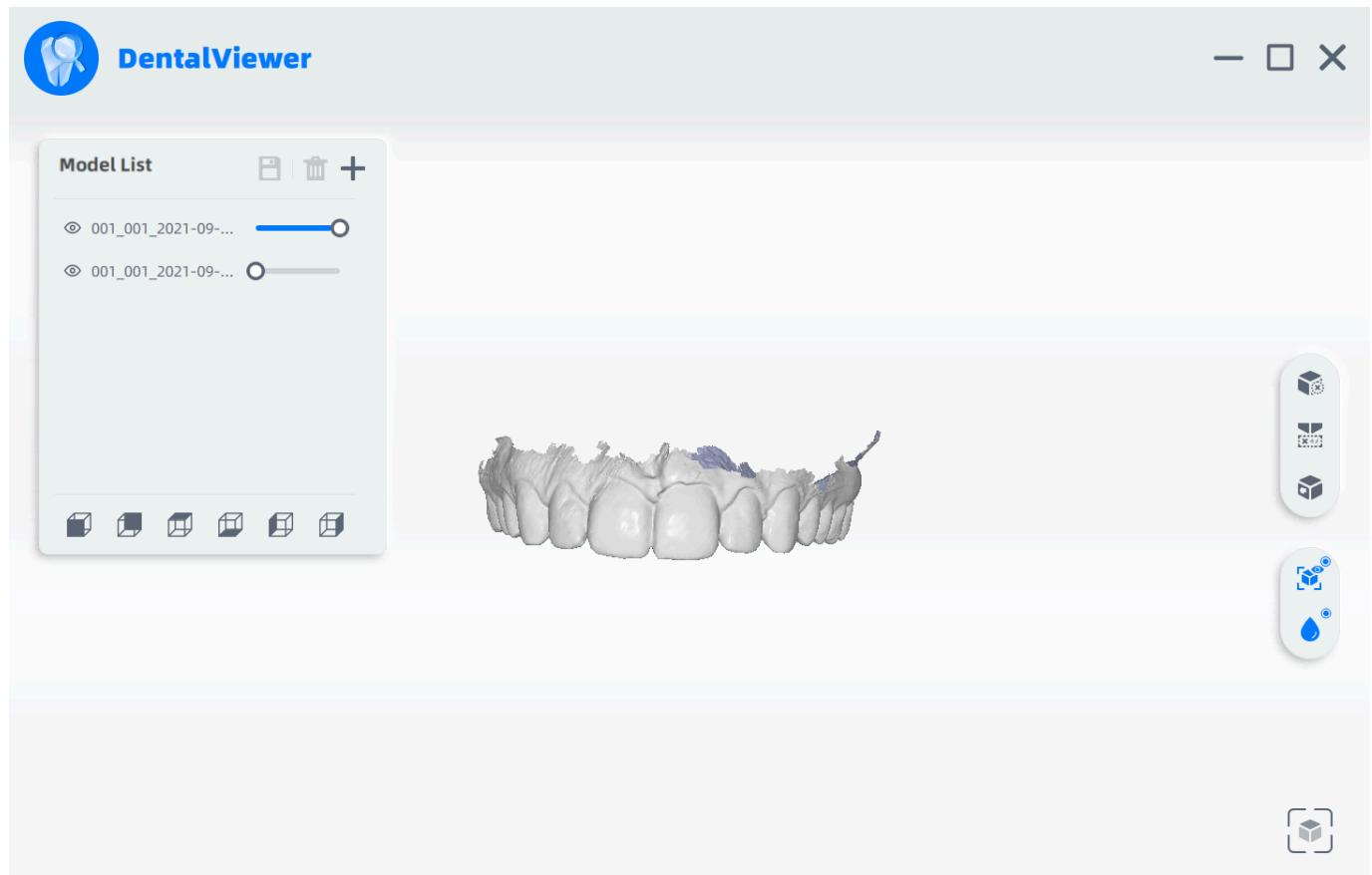
2. Select the path of DentalDB (supporting Chairside 2.1, ExoCAD 2018, 2019 and 3.0).
3. Click **Bind**. When **Bind Scanner Succeed** pops up, it is indicated that the binding is successful.
4. Start DentalDB program.
5. Create an order. Set the scanning type as **Digital Model Scan**, define restoration types, save and scan.
6. Start the scanning software for scanning and data processing.

7. After the data processing is complete, click **Go to Send** to open the send interface, and select the target lab.

## Use DentalViewer

Through the DentalViewer, you can preview the edited scanning data directly, that is more convenient and fast.

On the start menu select **DentalLauncher > DentalViewer** to open DentalViewer as follows.



### Operation Guide

1. Click  to add the scanning data generated by IntraoralScan.

#### Note

support dragging files to the DentalViewer interface to edit the data.

1. Edit or optimize the scanning model data through the right toolbar.

Icon	Name	Description
	Edit	Details in <a href="#">Data Edit</a> .
	Remove Isolated Data	Quickly delete small data isolated to the main model.
	Fill Holes	<p>1 Click the icon to enter the fill holes interface.</p> <p>2 Drag the slider to adjust the application range.</p> <p>3 Click  to confirm the operation and exit; Click  to discard the process and exit.</p>
	Texture	Click the icon to view the texture on the scanned model.
	Smooth	Click the icon to clean and improve the quality of the model.
	Fit View	Click the icon to adjust the size of the model to be adaptive to the interface.

3 Click to save the edited model data.

### Related operation

Icon	Name	Description
	Transparency	Adjustable transparency of model data. Drag the slider to the far left, and the model data becomes transparent.
	View	View the data from six different directions.
	Delete Selection	In the model list, delete the selected data file.

## Care and Maintenance

# Pre-cleaning, Disinfection, and Sterilization

The whole set of scanner, including scanner tip, scanner body, and scanner cradle, requires proper care, cleaning, and handling. As individual part may be processed differently, read and follow the information and instructions given to help you effectively and thoroughly reprocess the set.

## Caution

- All parts are shipped non-sterilized. Follow the instructions prior to initial use.
- Ensure that you have completely disconnected the power supply and all connections from the scanner.
- Follow the instructions given in the Manual to pre-clean, disinfect, and sterilize each part of the scanner. Using other methods not approved by SHINING 3D will damage your scanner and void your warranty.
- Using detergent, disinfection solutions or wipes, sterilization procedures other than those specified in the Manual may damage the product and void your warranty.
- Only sterilize the part(s) for which a sterilization method is specified. Do not attempt to sterilize all parts of the product. SHINING 3D is not liable for any damages due to improper sterilization.
- After sterilization, wait until each of the parts is at room temperature to prevent possible heat injuries to the user and the patient.
- To prevent cross-contamination, pre-cleaning, disinfection, and sterilization must be correctly performed after each use.
- When the scanner tip is detached from the scanner, always protect the subtle units and the inner optical components on the front end of the scanner body by putting on the supplied dust cap.

# Pre-cleaning, Disinfection, and Sterilization

The whole set of scanner, including scanner tip, scanner body, scanner cradle and the calibrator, requires proper care, cleaning, and handling.

As individual part may be processed differently, please read and follow the given Instructions to help you effectively.

1. Scanner body, cradle and calibrator maintenance
2. Scanner tip maintenance

 **Note**

- All parts are provided non-sterilized. Please follow the Instructions before the first use.
- Follow the Instructions to pre-clean, disinfect, and sterilize each part of the scanner. Using other methods not approved by the Instructions may damage your scanner and void your warranty.
- Only disinfect or sterilize the specified part(s). Do not attempt to disinfect or sterilize all parts of the product. The Company is not liable for any damages due to improper disinfection and sterilization.
- To ensure safety and effectiveness, it is recommended to use equipment, materials, and disinfectants that have been approved by local regulatory authorities for sterilization and disinfection.

 **Caution**

- Before pre-cleaning, disinfection and sterilization, please wear a pair of clean medical gloves.
- Ensure that you have completely cut off the power supply and all connections from the scanner.
- After sterilization, cool the scanner tip for a period of time to prevent possible heat injuries to the user and the patient.
- To prevent cross-contamination, proper pre-cleaning, disinfection and sterilization of the scanner after each use is necessary.
- When the scanner tip is detached from the scanner, always protect the subtle units and the inner optical components on the front end of the scanner body by putting on the supplied dust cap.

## Scanner Body, Cradle and Calibrator Maintenance

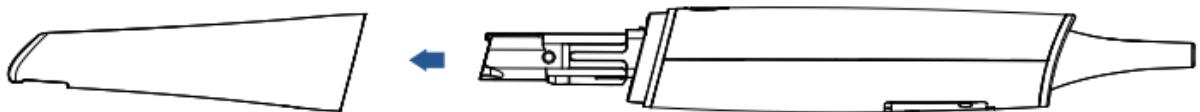
The scanner body, cradle and calibrator require an intermediate-level disinfection.

 **Caution**

Before disinfecting the scanner body, please ensure that the scanner tip is detached from the scanner body, and the scanner body is covered by the dust cap.

### Follow the steps below to complete the disinfection:

1. Disconnect the power of the scanner (see more details in [Connection and disconnection](#)).
2. Hold the scanner tip firmly and then gently take the tip off from the scanner.



3. Store the detached tip in a safe place, e.g. a dental instrument tray.
4. Hold the supplied dust cap and blocks to the matching slots on the front end of the scanner body.
5. Use new cotton gauze moistened with 70%-75% solution of ethanol to wipe the surface of the scanner body.
6. When done, store the scanner body in a clean and safe place.
7. Use new cotton gauze moistened with 70%-75% solution of ethanol to wipe the surface of the cradle and the calibrator.
8. When done, store the cradle and the calibrator in a clean and safe place.

 **Caution**

- When detaching the scanner tip, do not put your fingers on the lens of the scanner tip. Otherwise, the lens may be damaged.
- Put the scanner into a dust-proof bag when it's not in use to avoid collision or accidental drop.
- Avoid using any kind of detergent as some detergents or surfactants might penetrate the surface of the scanner body and then damage the device.
- Please do not clean the outer units and inner optical components on the front end of the scanner with any sharp objects, which may cause scratches and damage to the scanner.
- Do not clean the intake and exhaust vents with any sharp objects or other such tools.

## Scanner Tip Maintenance

The scanner tip is the most essential part of the scanner as it is inserted into the patient's mouth during scanning. Therefore, in order to prevent cross-contamination, the tip must be thoroughly cleaned and sterilized before and after it touches a patient.

 **Caution**

- When immersing the scanner tip into the disinfectant solution, please follow the Instructions of the disinfectant solution.
- The scanner tip can be sterilized under high temperature up to 100 times and must be disposed of afterwards.
- Before cleaning and disinfection/sterilization, please wear clean surgical gloves and goggles.

There are two effective and approved methods:

Method 1: Cleaning and high-level disinfection.

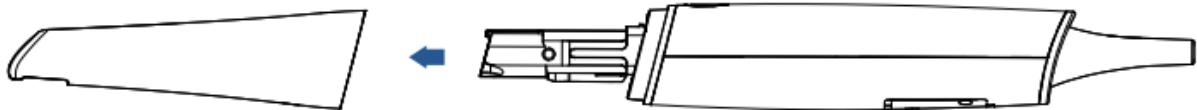
Method 2: Cleaning and high temperature autoclave sterilization.

**⚠ Caution**

High-level disinfection and steam sterilization must NOT be combined.

## Cleaning steps

1. Disconnect the power of the scanner, and pull the scanner tip off the scanner body.



2. Pre-clean the scanner tip with distilled water for 3 minutes to remove stains like the saliva or blood.
3. Brush the inside and the outside of the tip with enzyme surfactant for 3 minutes. Repeat the step for at least 2 times.
  - When cleaning the inside of the tip, insert the sponge brush into the tip from both the front and rear ends, and move the brush lightly in tiny circles.
  - When cleaning the outside of the tip, brush the surface back and forth lightly.
4. Rinse the tip thoroughly with distilled water for at least 3 minutes.
5. If there is any stain or fingerprint on the lens, repeat step 3 and 4.

**⚠ Caution**

Rinse the tip with distilled water every time and discard the used water. Do not reuse the water for rinsing or any other purpose.

6. Dry the scanner tip with a soft lint-free cloth, and put it in a well-ventilated place to ensure it's totally dry, or put it in a dryer for 10 minutes.
7. Inspect the lens of the tip to make sure it is clean and free of damage.

**⚠ Caution**

If the lens of the tip has cracks or scratches on it, contact your local distributor or service provider.

## High-level disinfection steps

1. Carefully fill the container with phthalaldehyde at a concentration of 5.5g/L, and immerse the scanner tip in the disinfectant for 12 minutes.
2. Take out the scanner tip from the disinfectant, and rinse it with distilled water 3 times and 1 minute for each to remove disinfectant residues.



#### Caution

Discard the used distilled water. Do not reuse the water for rinsing or any other purpose.

3. Flush the tip with distilled water for at least 3 minutes.
4. Dry the tip with a soft, lint-free cloth and put it in a well-ventilated place to make sure it is totally dry, or put it in a dryer for 30 minutes.
5. Inspect the lens of the tip to make sure it is clean and free of damage.
6. If immediate use of the scanner tip is required, reconnect it; if not, store it with other dental instruments, and make sure it is totally dry.

### High temperature autoclave sterilization steps

1. Fill the scanner tip with medical gauze and seal it in the autoclave bag.
2. Put the wrapped scanner tip into a sterilizer for 30 minutes at 121°C under a relative pressure of 102.9kPa (or 4 minutes at 134°C under a relative pressure of 205.8kPa), and then dry it for 30 minutes.



#### Caution

After drying, cool the scanner tip to room temperature to avoid a scald.

3. Inspect the lens of the tip to make sure it is clean and free of damage.
4. If immediate use of the scanner tip is required, reconnect it; if not, store it with other dental instruments, and make sure it is totally dry.

## Scanner Storage

In case you need to transport the device, we strongly recommend that you keep the original packaging after unpacking the Scanner. Shipping the device without its original packaging material may cause possible product damage and result in additional service fees.

If the original packaging is no longer available or damaged, carefully package each part of the scanner with bubble wrap to protect against any possible damage during transportation.

### Storage for Transport

- Make sure that the scanner is clean before placing it in the original carry box/package to avoid any possible contamination.
- Place each part of the product, e.g. the tip, scanner body, cradle, power adapter, in the original package carefully and prevent kinks of the cable.
- Make sure that each cable is rolled up and tangle-free before placing it in the original carry box.
- Before closing the lid, make sure no part of the product is protruding from the package.

#### Daily and Long-term Storage

- Always place the scanner in the cradle when it is not in use.
- When the scanner tip is detached from the scanner body, always protect the subtle units and the inner optical components on the front end of the scanner by putting on the supplied dust cap.
- Ensure the scanner is clean before long-term storage.
- Avoid storing the scanner and accessories in areas of extreme temperatures or under direct sunlight.
- Before storing the scanner, make sure the scanner tip, scanner body and cradle are thoroughly dry.

## Contact Us

### Contact Us

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#### **Facebook:**

<https://www.facebook.com/shining3d.dental/>

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<https://www.instagram.com/shining3ddental/>

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