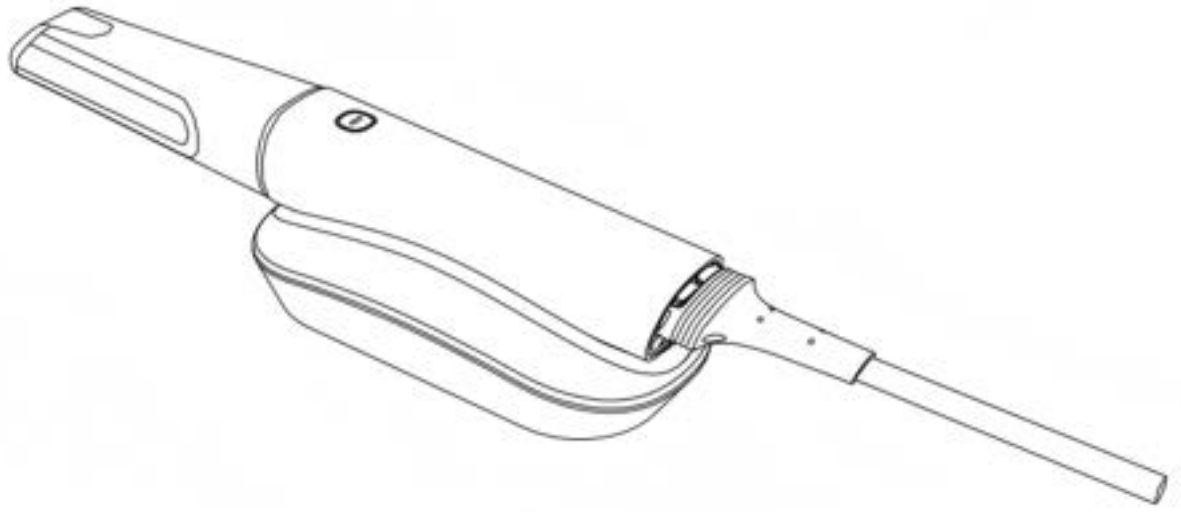
SHINING 3D



Aoralscan Elf

3.7.0

User Manual

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Overview

Foreword

Safety Instruction

Signal	Meaning
	**Note:** This symbol is used to inform you of the additional information of the product.
	**Caution:** 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.
	**Warning:** 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 Elf.

Aoralscan Elf 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.

Order system

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

→ Functions

→ Precautions before calibration

→ How to calibrate the scanner?

→ 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

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

Pre-design

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

→ How to edit a 3D model?

→ Other functions

→ How to create my oral report?

→ How to detect the bite?

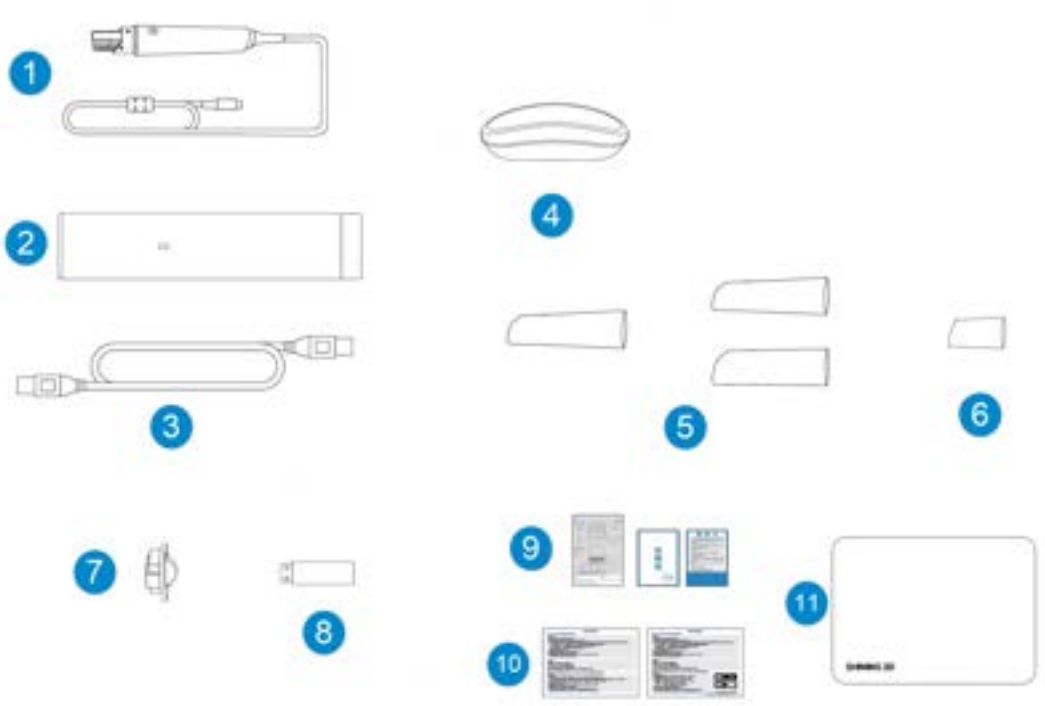
Hardware

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	No.	Name
1	Scanner body	2	Calibrator
3	Connection cable	4	Cradle
5	Scanner tips: standard tips, big tip (optional) and mini tip(optional)	6	Dust cap
7	Dust cover	8	USB flash driver
9	Quick guide and certification	10	Disinfection guide A and disinfection guide B
11	Package box		

Notes

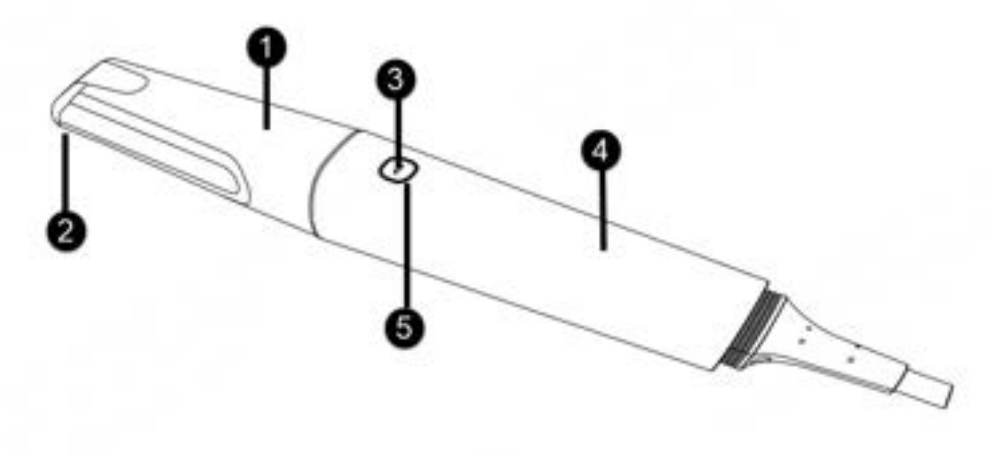
- The number of scanner tips is selectable.
- The mini tip is intended to be used for patients who can not fully open their mouth, or for scanning narrow areas in the mouth (such as the back teeth area, etc.). Please do not use the mini tip for other purposes.

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. For more details, see Scanner Storage.

Hardware Overview

Scanner Tip and Scanner Body



No.	Name	Description
1	Scanner tip	Use the scanner tip to scan the upper, lower or full jaw. The scanner tip can be used for 100 times. The scanner can identify different types of tips and automatically adjust the format.
2	Heater and laser window	The heating device ensure successful scanning by preventing fogging on the mirror. The laser window.
3	Scan button	Single press to start scanning and pause scanning; long press for about 3 seconds to proceed to the next step; long press for about 7 seconds to turn off the scanner.
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. • Green: The scanner is in scanning, heating or standby status. • Breathing green: The scanner is in standby mode, low battery or unconnected. • Orange: Abnormal status. The scanner is not correctly connected or malfunctioned. The scanner tip is not inserted tightly or the scanner is not correctly connected. • Extinguished: 1. The scanner is in the sleep mode. 2. There is no power supply. 3. The scanner is shut down.

Scanner Cradle

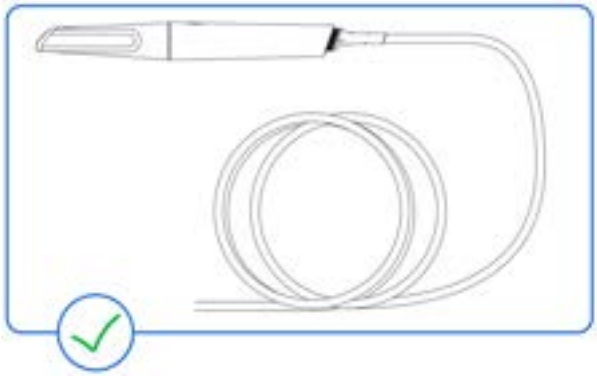


Note

- When the scanner is not in use, place it on the cradle.
- If the scanner is placed on the cradle, it will automatically enter the standby mode. When the scanner is not used and placed on the cradle for more than 10 minutes, it will enter the sleep mode.
- 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.

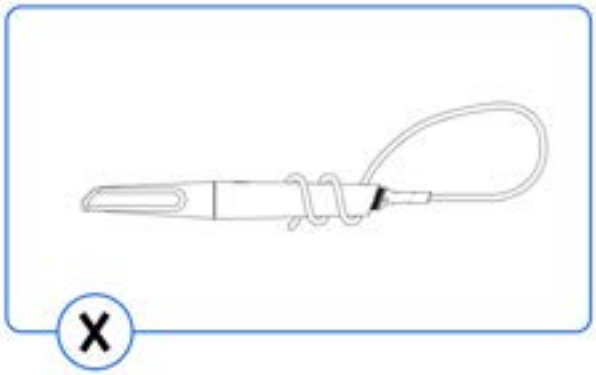
Scanner USB cable storage

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/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:

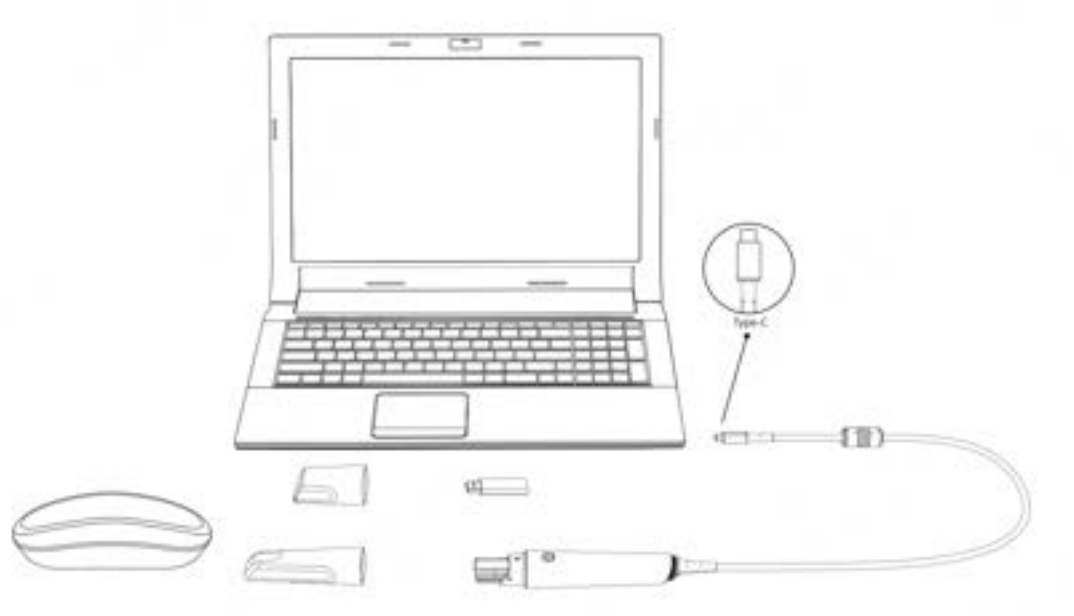
Connection

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 Type-C port.



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

Disconnection

> **Caution**
>
> 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.

1. Quit the software.
2. Disconnect the scanner with the computer.

Specifications

Parameter	Description
Type name	Intraoral Scanner
Model name	Aoralscan Elite
Device lifecycle	8 years

Scanner	
Scanner tip types	Big tip, standard tip and mini tip
Scan field (L×W)	• Big tip: 19 mm × 14 mm • Standard tip: 16 mm × 12 mm • Mini tip: 12 mm × 9 mm
Scanning tip dimensions (L×W×H) (Tolerance: ±2 mm)	• Big tip: 95 mm × 30 mm × 26 mm • Standard tip: 93 mm × 30 mm × 26 mm • Mini tip: 92 mm × 30 mm × 26 mm
Scanning depth	22 mm (-2 mm ~ 20 mm away from the window of the scanner tip)
Scanner size (L×W×H) (Tolerance: ± 4 mm)	245 mm × 30 mm × 26 mm
Scanner weight (Tolerance: ±20 g)	124 g (with a standard tip and without cable)
Scanner tip maintenance	Sterilized and disinfected by users (Maximum: 100 times)
Scanner tip connection	Pluggable
Light source	LED and laser
Wave length	Blue laser: 450 nm White LED: 400 nm - 780 nm
Output	STL、OBJ、PLY
Power	Input: 5V DC/3 A

Cradle	
Cradle size (L×W×H) (Tolerance: ±3 mm)	103 mm × 80 mm × 67 mm
Cradle weight (Tolerance: ±20 g)	242 g

Calibrator	
Calibrator size (L×W×H) （Tolerance: ±3 mm）	236 mm × 50 mm × 50 mm
Calibrator weight （Tolerance: ±30 g）	431 g
Calibrator cable length	1.5 m

Environmental Requirements

Operating and storage requirements	Description
Operating temperature	10°C – 30°C Recommend: 20°C ~ 30°C
Scanner storage/transport temperature (without battery)	-30°C – 60°C
Working relative humidity	30%RH – 80%RH
Scanner storage/transport relative humidity (without battery)	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	Description
CPU	**Minimum Requirements**: Laptop: Intel® Core™ i5-13500H or Intel® Core™ Ultra 5125H Desktop: Intel® Core™ i5-12600 **Recommended Requirements**: Laptop: Intel® Core™ i7-13700H or Intel® Core™ Ultra 7165H and higher Desktop: Intel® Core™ i7-12700K and higher
Graphic Card (GPU)	**Recommended Requirements**: NVIDIA® RTX™ 2070, 3060, 4050, 5060 and above from the 20, 30, 40 and 50 series graphics cards[1] **Note**: When using the software and a prompt pops up to indicate that 50 series graphics card is not supported, please install the software again with the package for 50 series graphics cards. If you have any questions, please consult technical support or contact us.
Memory	**Minimum Requirements**: DDR4 2666 MHz 16 GB **Recommended Requirements**: DDR5 4800 MHz 32 GB and above
Hard Disk Drive	**Minimum Requirements**: SSD 512 GB **Recommended Requirements**: SSD 2 TB and above
Operating System	Windows 10/11 Professional (64-bit)
Ports	At least 1 Type-C port and 1 Type-A USB 3.0 (or higher) port

Note

- When running the software for the first time, a prompt of restarting the software to perform the PC performance test will pop up. After test, the software will automatically adjust 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 4.8 GB, and insufficient virtual memory may cause software crashes.

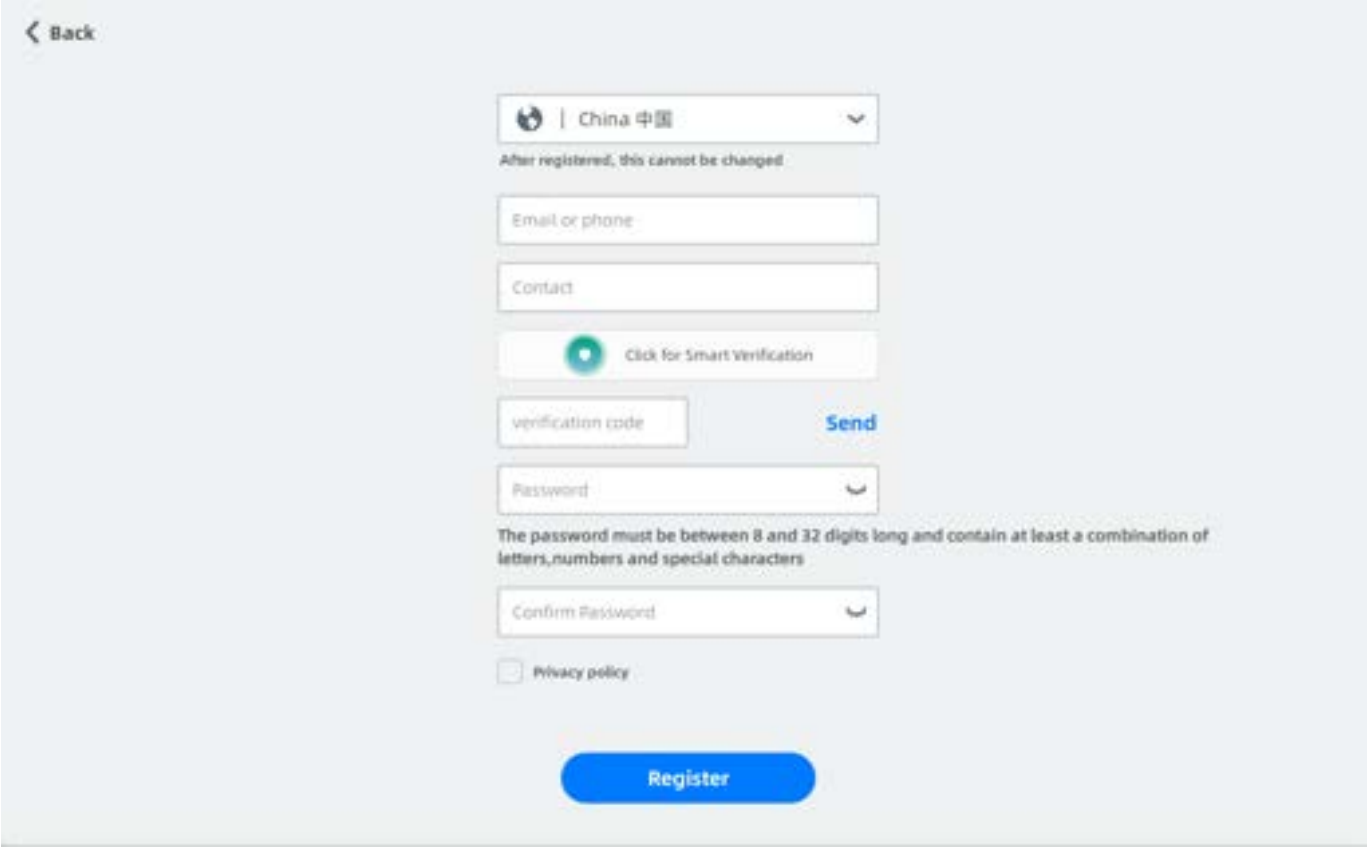
1. The supported graphics card models include 2070, 2080, 3060, 3070, 3080, 4050, 4060, 4060Ti, 4070, 4080, 4090, 5060, 5070, 5070Ti, 5080 etc. If you have any questions, please consult technical support or contact us. ↩

Register and Log in

Register

Steps

1. Select a role type and fill in registration information such as contact information and phone number.
2. Read **Privacy Policy** and check it.
3. Click **Register**.
4. Click **Back** to return to the login interface. Enter the account and password to log in.

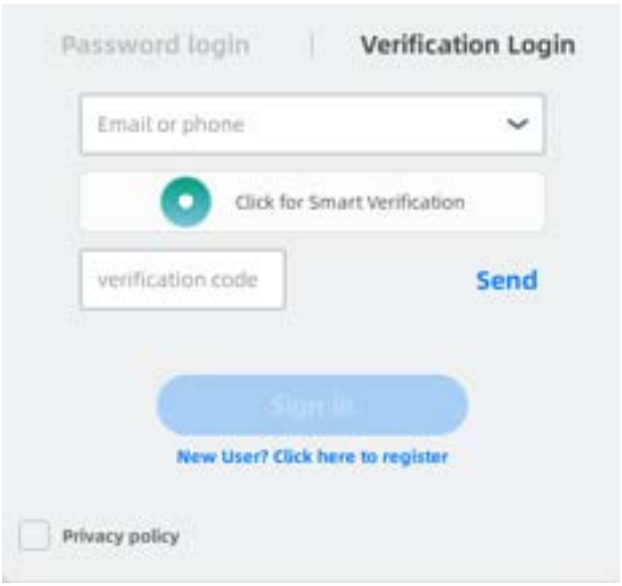


Note

- 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	By verification code
	

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

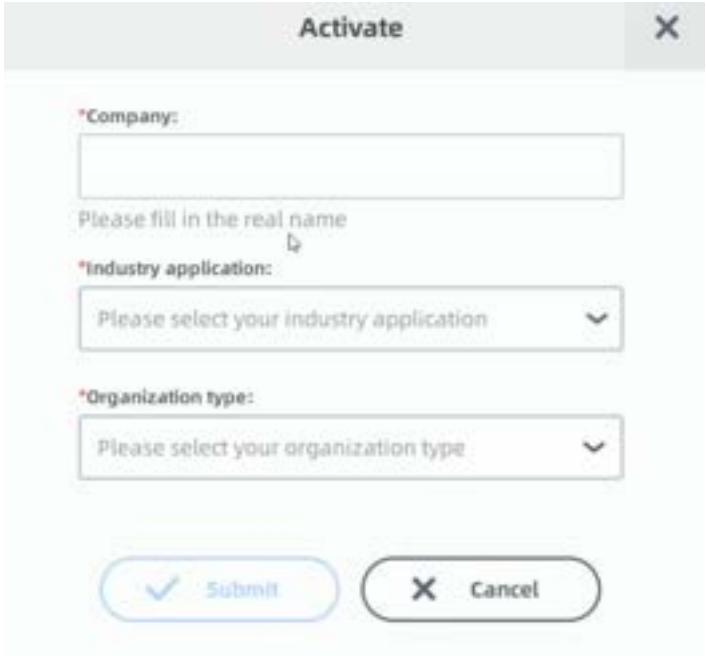
Activation

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.



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, you 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 perform calibration (including brightness adjustment) on the scanner to ensure the accuracy of scanned data.

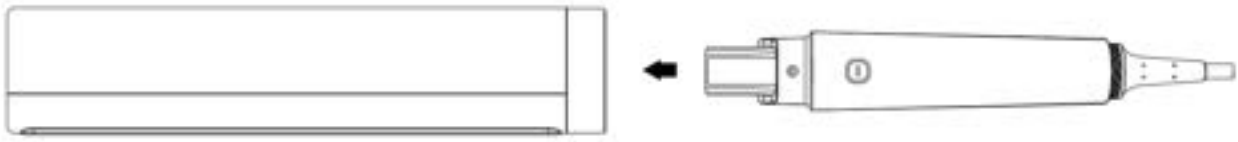
- The initial setup of the scanner is completed.
- The scanner has been used for a period of time (e.g. 2 weeks).
- The scanner is accidentally dropped or strongly vibrated.

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. Connect the calibrator with the computer. When the calibrator is ready, its indicator turns into green.
2. Remove the scanner tip from the scanner. More details of removing the tip can be found in Connection.
3. Insert the scanner firmly into the calibrator.



4. Place the scanner and the calibrator horizontally on a flat surface. Click on the main interface to enter the calibration interface and click **Start** to calibrate.
5. The calibration (including brightness adjustment) will be performed automatically.

   When calibrating successfully, click in the right corner to exit. If the calibration fails, please recalibrate the scanner.
6. Remove the calibrator from 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.

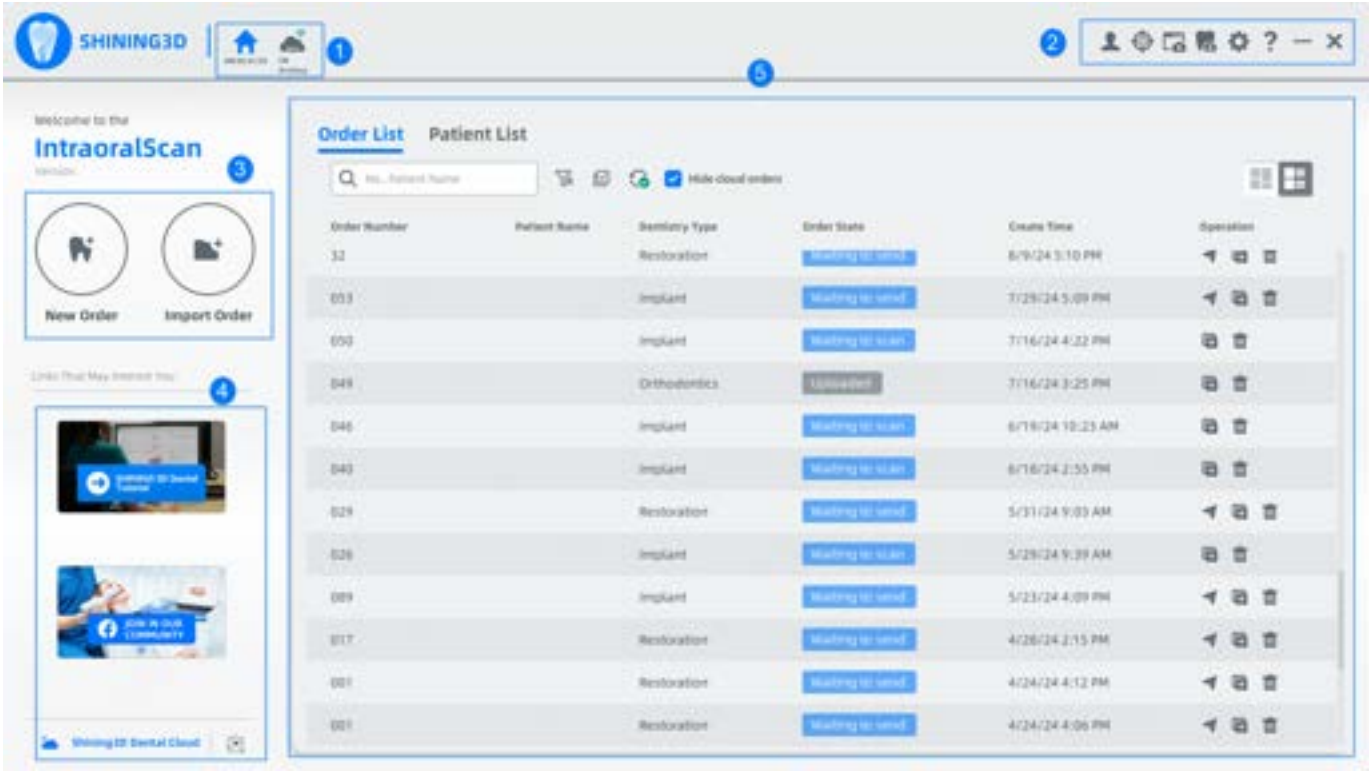
> ⚠ **Caution**
>
> Please remove the calibrator from the scanner after calibration to avoid overheating of the calibrator.

Create Order

Interface

After logging in, you can check your orders.

Preview



① Home and dental cloud connection

: Click to return to the homepage.

Dental cloud connection

You can check the connection status to Dental Cloud, the station of the institution and your IP address here.

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

> **Note**
>
> - If there are multiple stations for your institution, you can switch the station in the drop-down window.
> - The station should be consistent with your IP address.

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, 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.
- Information: Check new functions and other information about the software.
- Video Tutorial Center: Scan the QR code to watch the sterilization guide and operation guide of the coded scanbody.

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 in SHINING 3D.
- Click **SHINING 3D Dental Cloud** to enter the cloud platform.
- Click the QR code to zoom it in. You can follow us for more information.

⑤ Orders

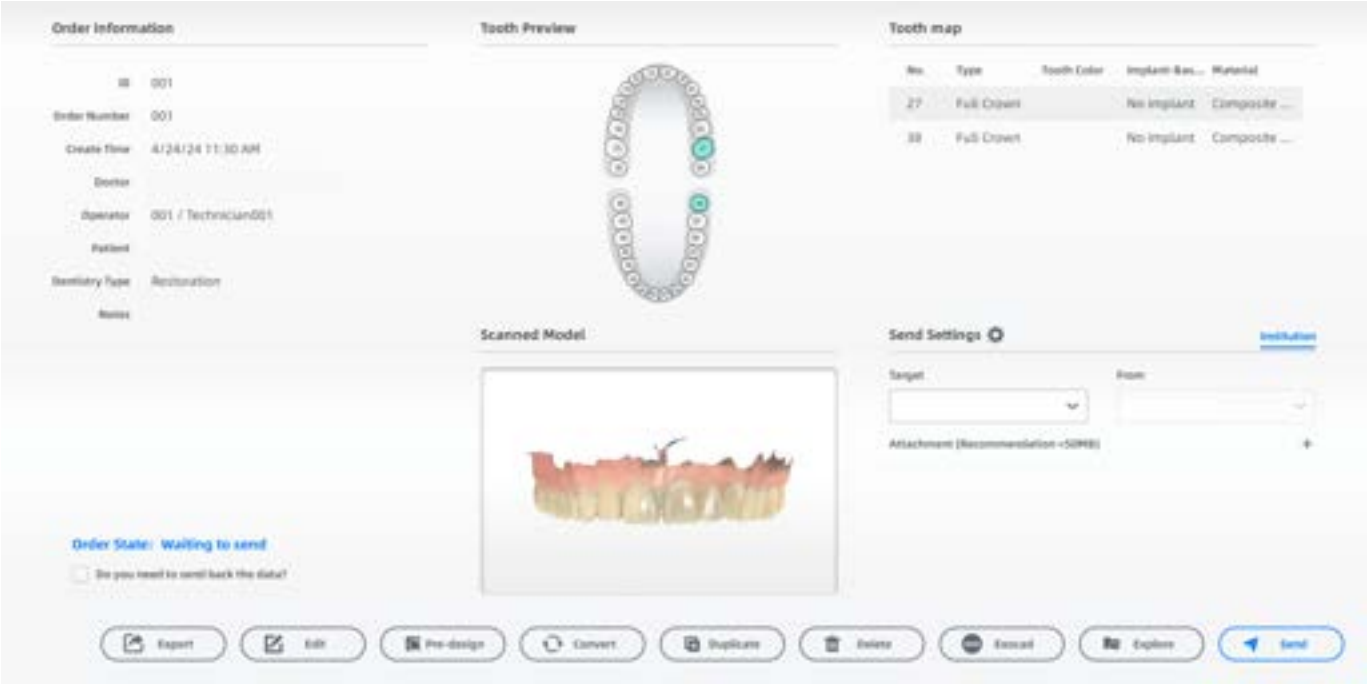
Including Order list and Patient list.

Order list

Icon	Description
Search	Enter order number or patient's name for searching.
Filter	• Click to choose filtering conditions (e.g. order status, sources, time) to find the targeted order. • If check Hide cloud order, the order stored in the cloud platform (No such order data locally) is hidden and not displayed. • Click  again to close it.
Multi-selection mode	Process the duplication or the deletion of multiple orders. Click  on the right top to exit.
Sync information	Synchronize the cloud order to the software.
Card Mode &Table Mode	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.
Send	Send order information and scanning data to other labs.
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.

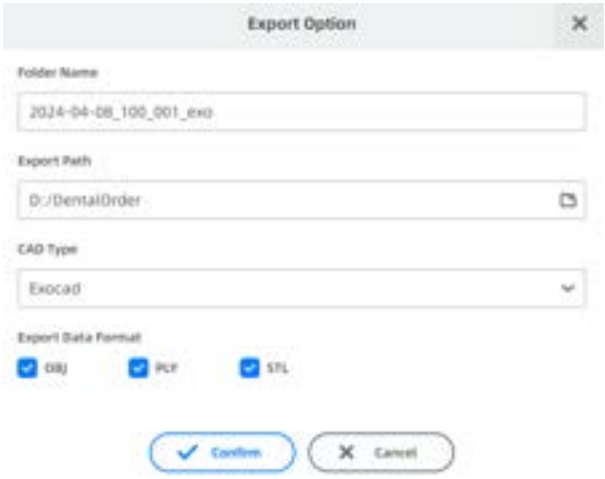
Order details

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



- 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.

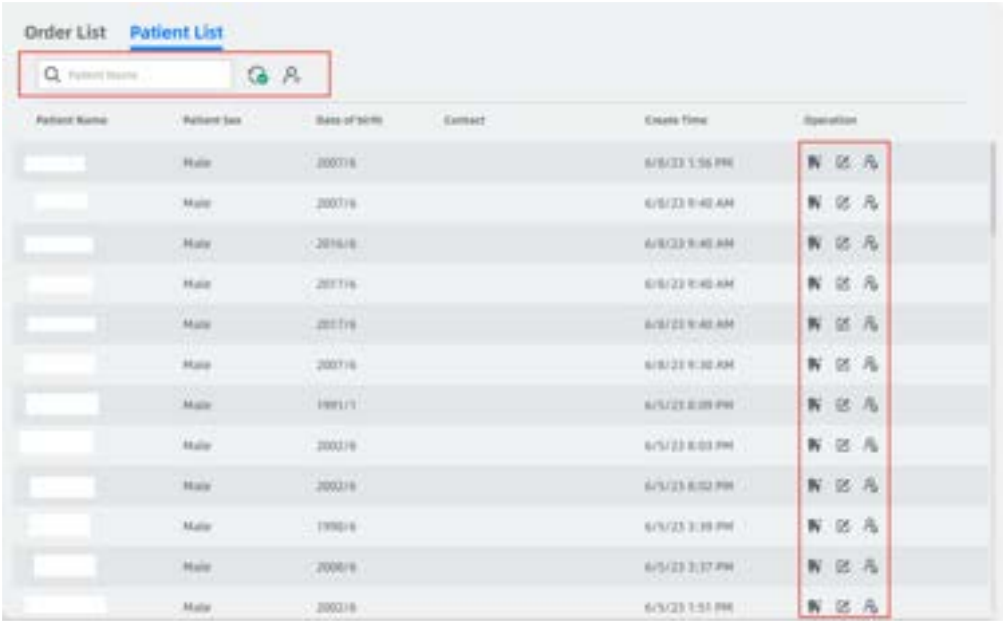


- Edit: Click to edit order information again, including changing information of the patient and the doctor, and editing notes.
- Pre-design: Click to enter the interface of Pre-design.
- Convert: When the dentistry type is **Restoration** or **Other**, converting the order is supported. The users can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



Icon	Description	Icon	Description
Search	Enter patient's name to search orders.	Sync information	Synchronize the cloud order to the software.
Add a patient	Click the button to enter the New Patient window. Enter name, gender, age and other necessary information to add a new patient.	Create an order	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 Create/Import Order.
Edit patient	Click to edit relative information of the certain patient.	Merge patient	Merge the same patient for better patient management. More details can be found in Patient Merge.

> **Note**
>
> - If you edit the patient information, create new orders or add a patient, the relative information will be synchronized to the cloud when the computer is networked.
> - Only institution manager can merge patients.

Order Settings

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

General

- **Language**: You 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 **Restoration**, **Implant**, **Orthodontics**, **Removable Denture** and **Other**.
- **Dental Notation**: **FDI World Dental Federation notation** and **Universal numbering system**. 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.

> **Caution**
>
> Please save the order files to a SSD. Otherwise, it may cause software lag.

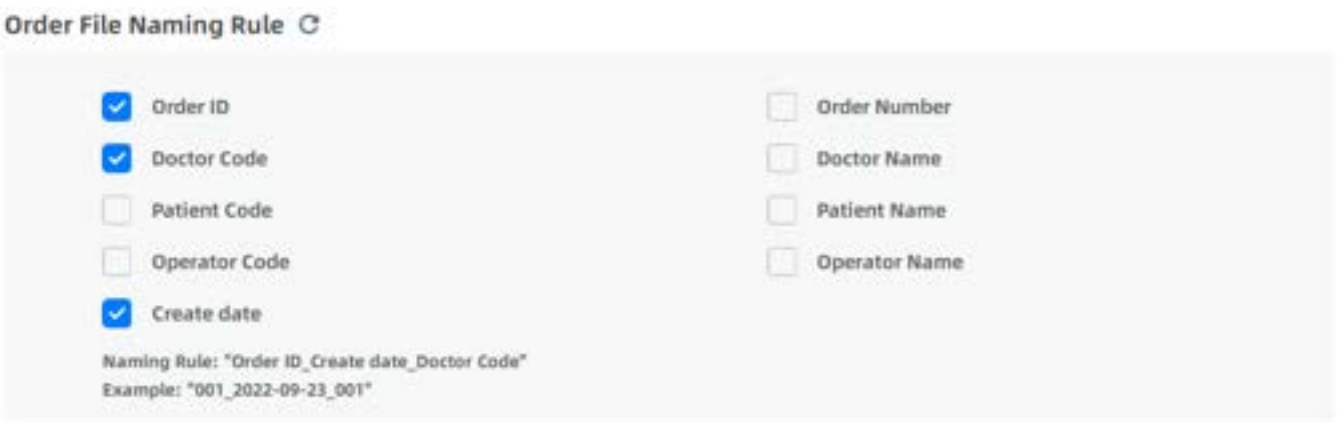
- Exocad DentalCAD Path: To combine EXO software to IntraoralScan, enter EXO software location.
- Pre-op Scan Selection: Set the way of pre-po scan selection: **Select by tooth position** or **Select by dental arch (default)**.

> **Note**
>
> When **Select by dental arch** is selected, you can select **Upper jaw** or **Lower jaw**, and pre-op will be supported to all teeth on the selected jaw during the process of scanning a pre-op model.

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.



Saved Format

Save Exocad Order is checked by default. The exocad order in the format of *.dentalProject is saved while saving the order. You can import the order into the EXO design software for design.

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.

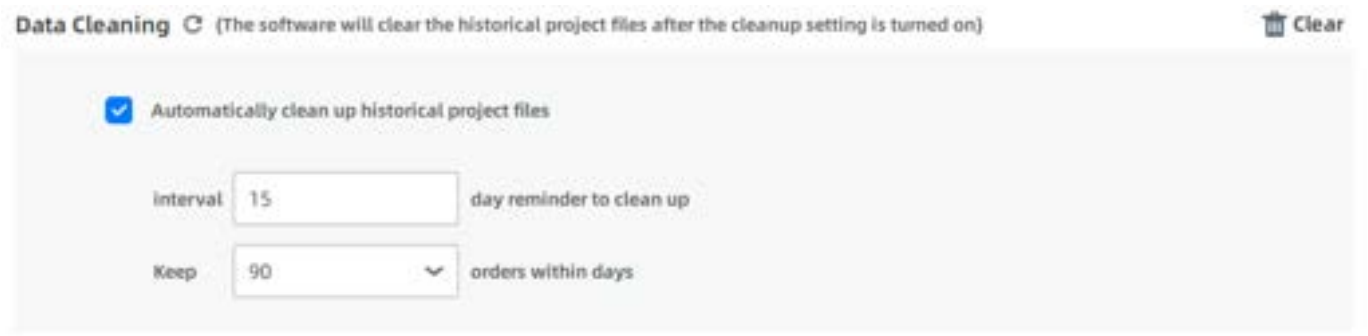
Automatic cleaning:
1. Check **Automatic cleaning of historical project files**.
2. Set interval time to remind and retain days within the order.

> **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**.

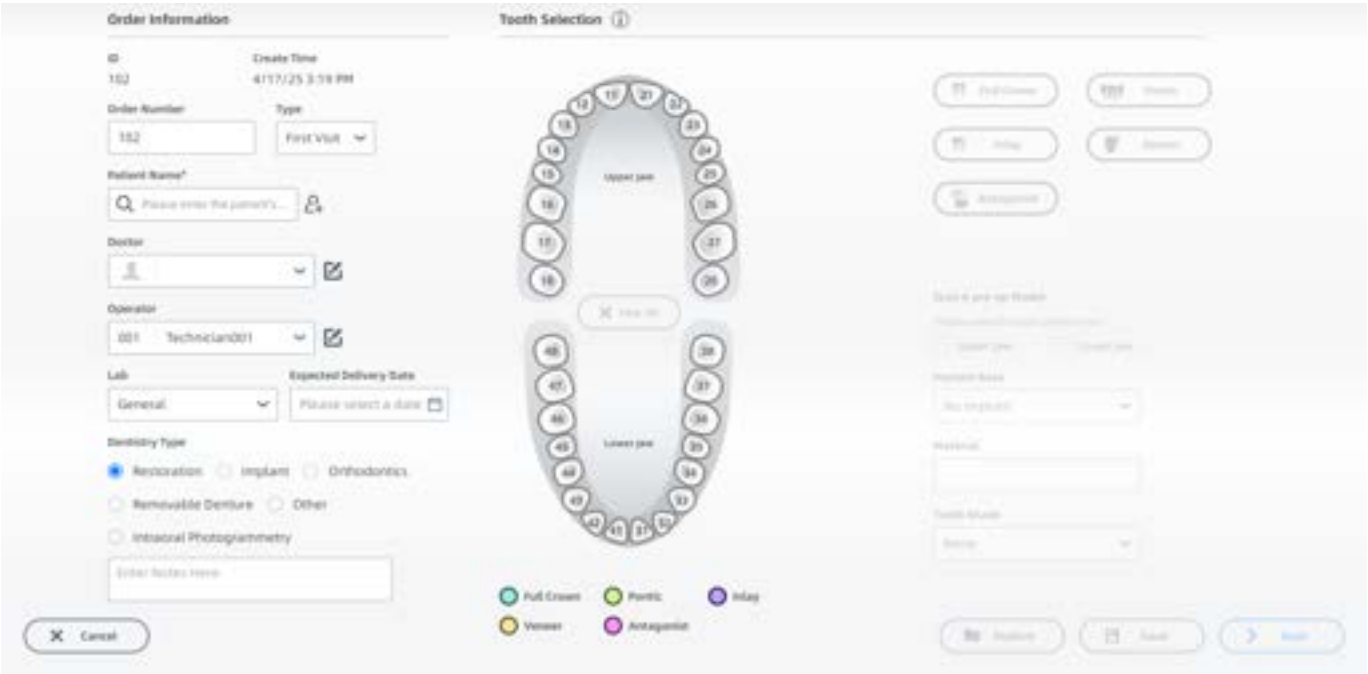
Note

- 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.



Create Order

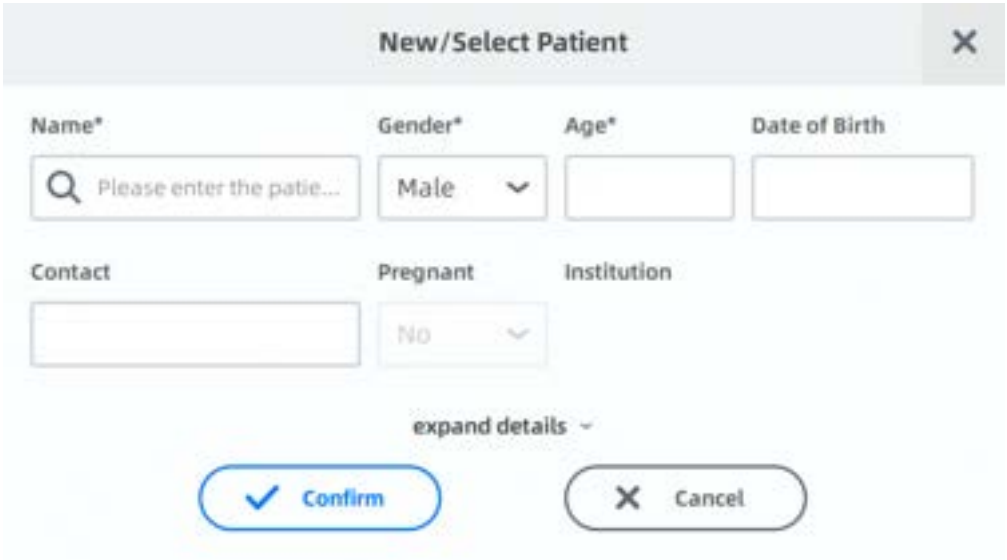
Create different kinds of orders according to the scanning results. Orders will show the types of patients, tooth place and scanning process.



Order information

Click to enter order information.

1. Add/Select a patient.
   - You can add a new patient by entering the name, gender and age.
   - You can search a patient that has been added by entering the name.
   - Click Expand details to add more information.



   - You can click  to edit patient's information.
2. Enter the 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.
3. (Optional) Select the expected delivery date of the order.
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**.
   - **Removable denture**: Check the bite relationships of edentulous patients. The types of removable denture orders can be **Full denture**, **Partial removable denture** or **Antagonist**. The **Bite Record Type** can be natural occlusion, bite tray, old denture or copy denture (scanned extraorally).
   - **Intraoral Photogrammetry**: Capture implant positions quickly and accurately with intraoral photogrammetry technology. More details can be found in Introductions of Intraoral Photogrammetry.
   - **Other**: Receive other dental examinations and treatments including **Oral Exam**, **Caries Filling**, **Oral RCT** and **Period DontTm**.

5. Check **Plaque Detection Scan** and you can scan the teeth with colored plaque, which clearly shows the distribution and range of the colored plaque on the tooth surface. More details can be found in Plaque Detection Scan.

Tooth selection

1. Based on the teeth to be treated, select the teeth directly on the teeth map. More shortcuts can be found in Shortcut Instructions.

Keyboard Shortcuts	Description
`Left Button`	Select one tooth or teeth.
`Right Button`	Cancel settings of a tooth.
`^ Ctrl` + `Left Button`	Copy the last defined dental restoration type to the currently selected dental position.
`⇧ Shift` + `Left Button`	Copy the restoration type defined by the previous tooth position to all teeth between the selected tooth position and the previous tooth position.

> **Note**
>
> It is supported to change the teeth of an order that has been scanned and the scanned data will noe be deleted.
>
> If you want to change the teeth of an IPG order that has been scanned, you have to re-match the tooth and the coded scanbody.

2. Select whether to **Scan a Pre-op Model**. Select **Implant Base**, **Material** and **Tooth Shade**.
   - The selection method of pre-op scanning (**Select by tooth position** or **Select by dental arch**) can be adjusted in Order Settings - General.
   - If you have selected **Scan a pre-op model**, you can select the way of post-op scanning in the dropdown list.
   - Implant Base:

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

- Once a tooth shade is selected for one tooth, the same shade will be applied to all other teeth.
- When **Removable Denture** is selected as the **Dentistry Type**, you can select the **Bite Record Type**: **Natural Occlusion**, **Bite Tray**, **Old Denture** or **Copy Denture (scanned extraorally)**.
- When **Orthodontics** is selected as the **Dentistry Type**, the dentist can choose the orthodontics stages.

3. Click **Scan** to start scanning.

   Or click **Save** to save the current order on local path for future scanning. Click **Explore** to check the local path of the order on the pop-up window.

Import orders

Click **Import order** and select INPROJECT or DENTALPROJECT files. It is supported to import orders saved by IntraoralScan software and ExoCAD.

If you import a scanned order and click **Scan**, a prompt pops up to inform you that the order has been scanned. Click **Yes** to load the original data, or click **No** to stay at the current interface.

Patient Merge

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

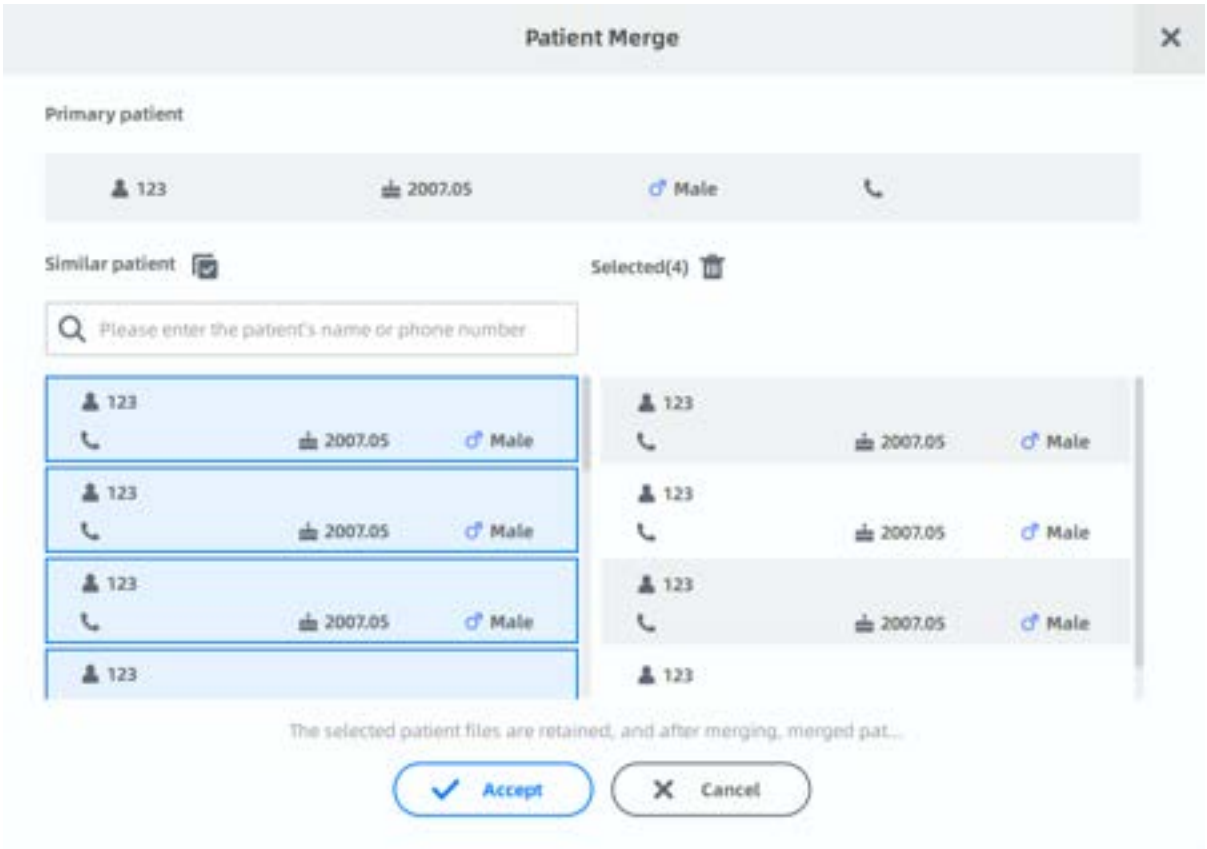
When importing orders, the imported patient can be merged into an existing patient.

> **Note**
>
> Only manager of the institution can merge patients.

Patient merge in software

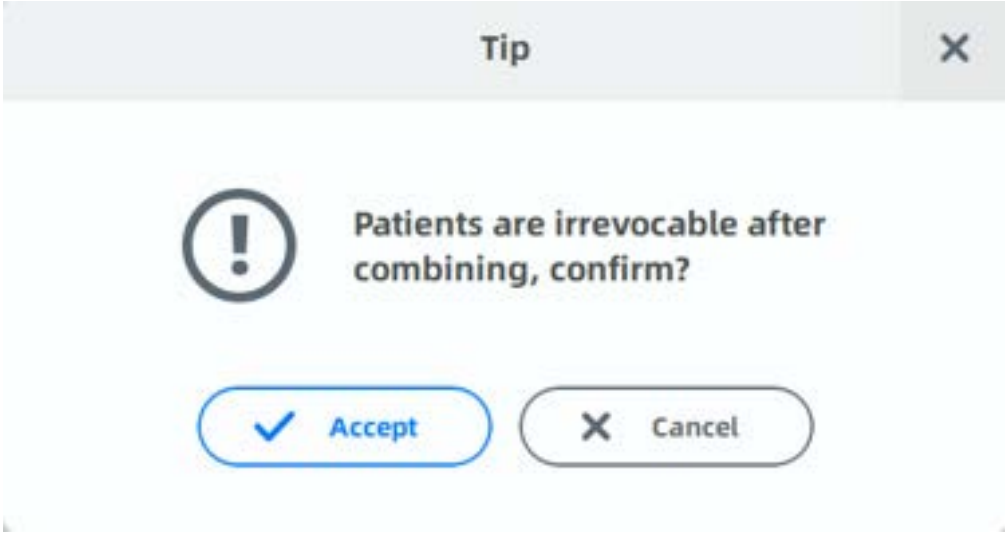
Steps

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** list on the left. Move the cursor on a certain patient and click to delete the selected patient.

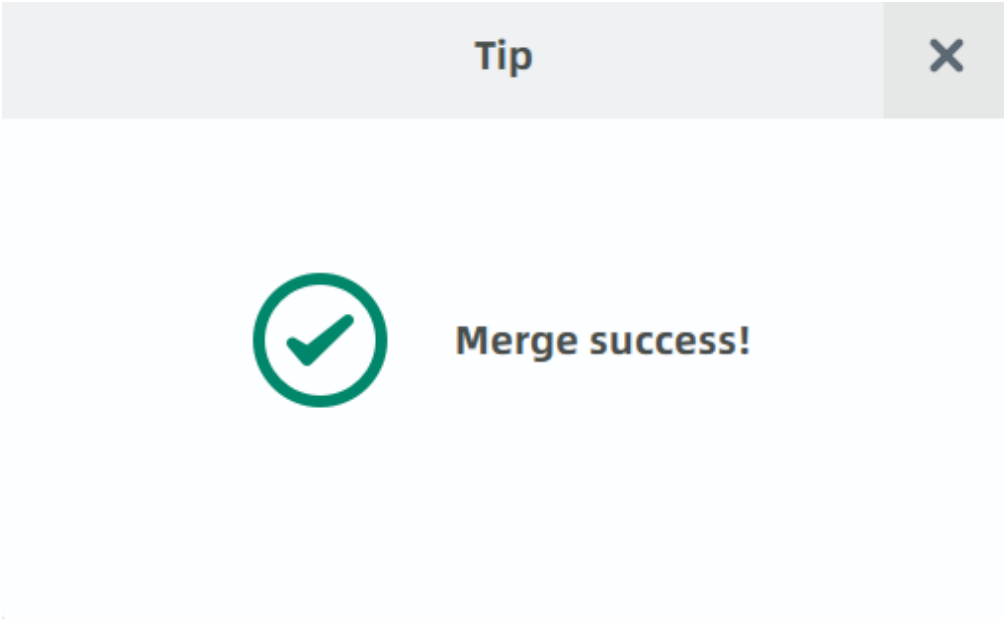


> **Note**
>
> When there are no similar patients, manually enter the patient's name or phone number to search.

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.



5. A prompt showing "**Merge Success**" indicates that the selected patients have been merged with the primary patient.



Functions

Icon	Description
Select all	Click the button to select all similar patients.
Clear all	Click the button on the right of **Selected** to clear all selected patients.
Search	Enter the patient's name or phone number to manually search patients

Caution

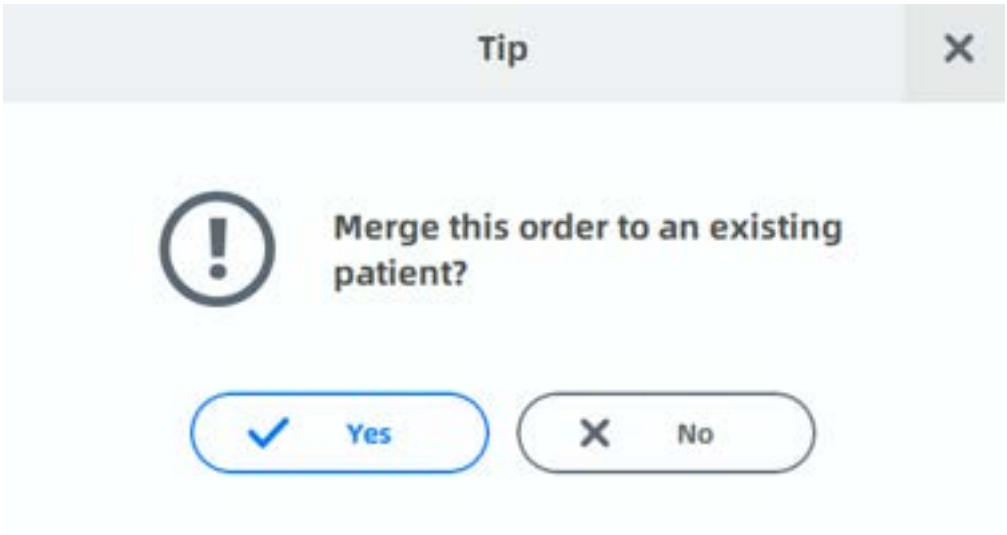
- The combination cannot be withdrawn. And the combination record will be uploaded to the cloud.
- After merging, the merged patients won't be displayed in the similar patients any more.
- Merging patients is accessible only when connected to the Internet.

Merge patients of the imported order

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

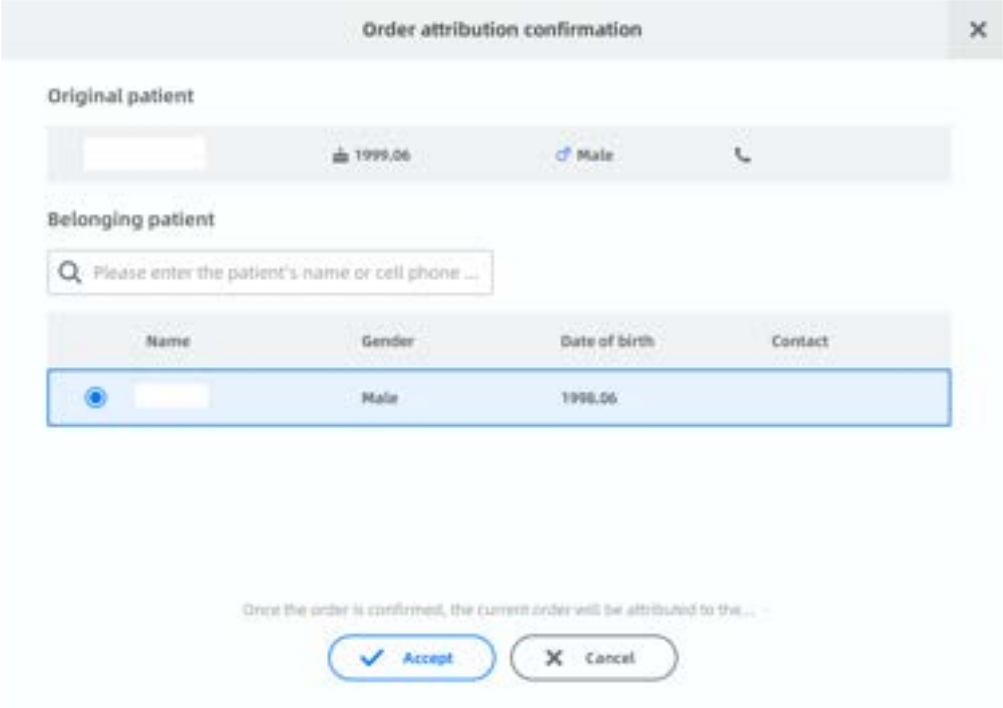
Steps

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?" pops 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.

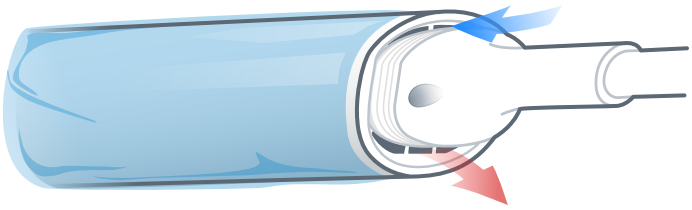


5. Click **Accept** and the imported order will be attributed to the selected patient.

> ⚠ **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.
>
> 
>
> - When scanning, please do not scan silicone materials or other objects containing fluorescent agents to avoid poor scanning results.

Intraoral environment

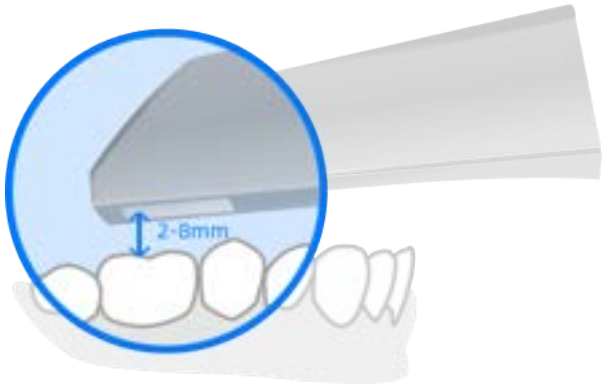
- Make sure there is no foreign body or blood in the mouth after gargling. Stop the bleeding if necessary.
- If necessary, ask the patient to keep the tongue still and move it to the other side of the mouth.
- Consider using a dental three-way syringe or cotton to dry the tooth surface before starting the scan.
- Turn off the oral light on the dental chair and start scanning. Do not allow direct light from any light source, such as the dentist chair lamp, to shine on the area you are working on.
- 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

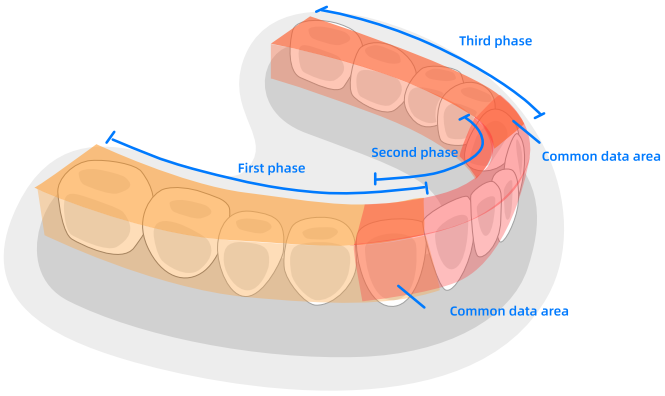
- Ensure that the scanner tip, scanner body, and cradle are properly pre-cleaned, disinfected, or sterilized. For more details, see Pre-cleaning, Disinfection and Sterilization.
- Ensure that the scanner tip has no scratches or is not damaged. Additionally, the tip is firmly attached to the front end 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. For more details, see Calibration.

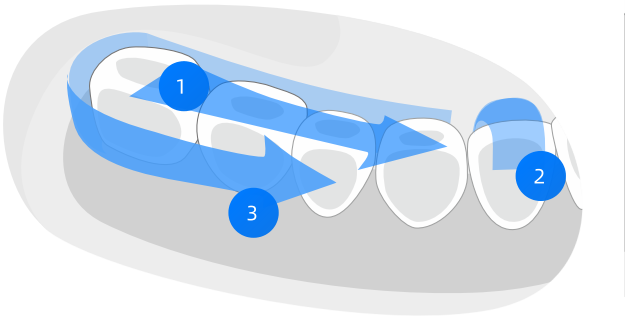
Scanning position and path

- When scanning, the scanner tip should be close to the teeth with the optimal distance being 2 - 8 mm. The movement should not be too fast, and the operation should be kept at a constant speed.
- When scanning, the scanner tip should move along the shapes of the lower and upper dental arches.



- 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, it is important to achieve an overlap of at least 30% between each acquisition. If the overlap is small, the alignment may fail.
- Inspect the scanned image in the 3D scan view window and pay attention to warning messages. Check the scan results on the screen to ensure that the scanning is of good quality.
- For bite alignment, it is not recommended to scan a long area. Stop scanning once the data is matched (when the arches move into place on the bite scan).
- Please always pay attention to the status of the device and the patient. If any abnormal situation occurs, please stop using and consult the technical support immediately.





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. For 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. It 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.
> - 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.

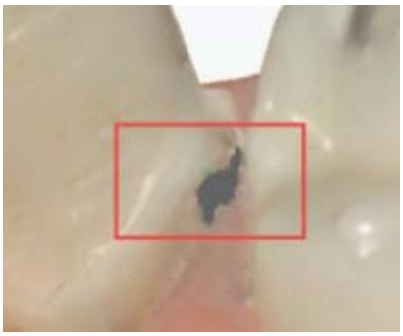
After changing, click  to reset the settings.

General

- **IMU menu**: Enabled by default. When scanning, press the button on the scanner body twice to open the IMU menu.
- **Auto-brightness**: Enabled by default. Adjust the camera brightness to capture clear images.
- **Refined scan**: Enabled 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 orthodotics 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.

> **Note**
>
> **Supports alternate day scanning** is not supported for orders that are scanned after this function has been disabled.

- **Filled holes will be displayed in grey**: Enabled by default. When it is enabled, the filled holes on the teeth will be displayed in grey (after post-processed), as shown in the following picture. When it is disabled, the filled holes on the teeth teeth will be displayed in color.



- **Automatic bite optimization**: Enabled by default.
  - Adjust the occlusal position to keep the bite cross within the acceptable range.
  - Optimize the data automatically when scanning the occlusion. When scanning bites,  indicates that auto bite optimization is checked. Click to uncheck it.
- **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.
- **Light off when not scanning**: Disabled by default.
  - When it is disabled, the scanner will immediately cast light when you enter the step of scanning.
  - When it is enabled, you should press `Space`, or press the scanner button, or click to start casting light and scanning. The light will not be cast when scanning is paused.
- **Light on when tip is unplugged**: Disabled by default. If it is disabled, the scanner will not cast light when the scanner tip is unplugged.

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	The scanning position of the operator perspective is divided into **Patients Front** and **Patients Rear**. **Patients Front**: The scanner perspective of lower jaw scan does not change, and the upper jaw data are mirror images. **Patients Rear**:The scanner perspective of upper jaw scan does not change, and the lower jaw data are mirror images. When selecting the **operator perspective**, you can check **Mirror Show Upper Jaw**, 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.

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.

Music Settings

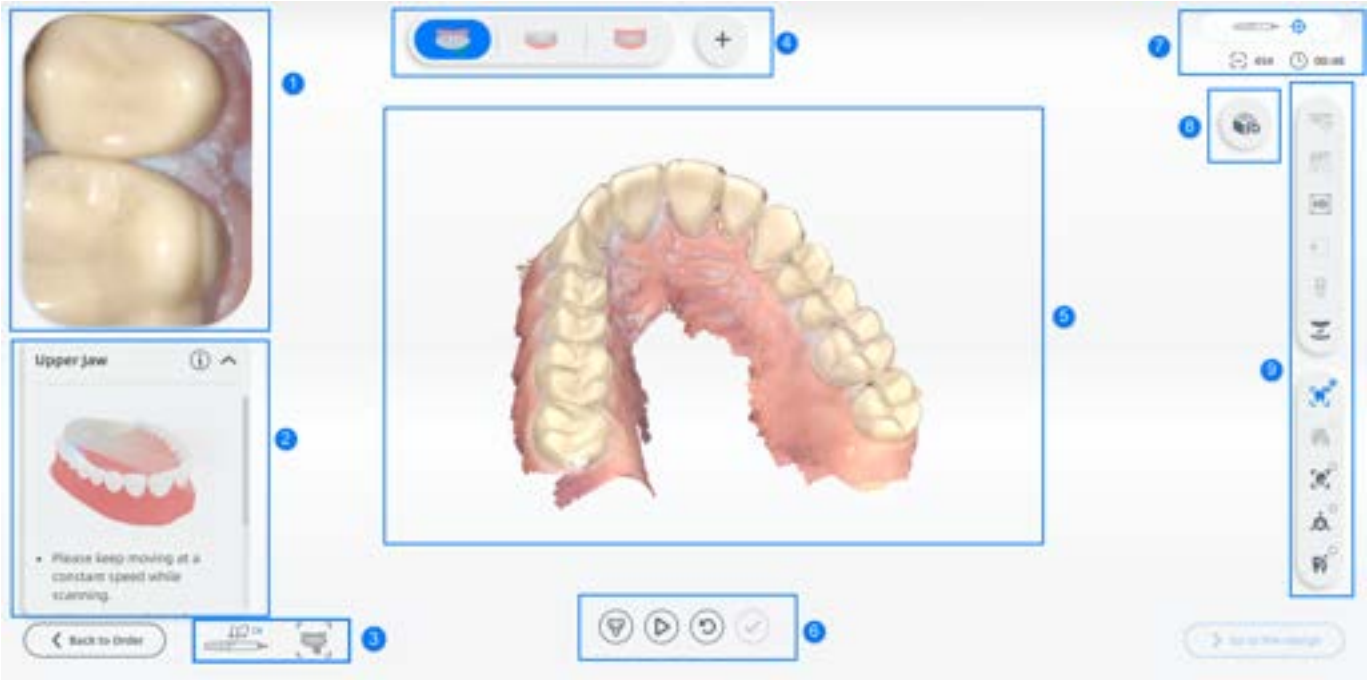
Click , upload the music documents.

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
Endoscope	Click to enlarge the image window, and click again to restore it to the default size.	Screenshot	Take a screenshot of the current image in the image window, and save the image in the "EndoscopeImg" folder under the current order directory.
Mask	Scanning indication switch. Disabled by default. When turned on, the camera window displays the current unscanned data area in purple when scanning.	Find screenshot	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

- **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 Scanning**: Checked by default. This function is used for intraoral scanning and please uncheck it when scanning dental models.
- **All-on-X Provisional Denture Scanning**: This functions is used for scanning the temporary denture of the intraoral photogrammetry orders.

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, you should finish the former one.
> - The disk memory must be at least 25 GB when adding additional scan.

⑤ Preview

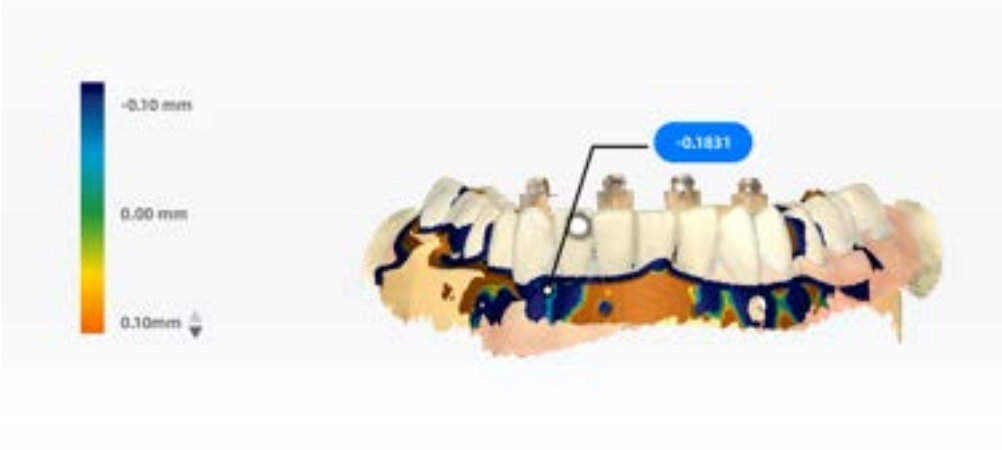
Supports previewing the scanned data. To gain a comprehensive view to the model, details can be found in Operation Skill.

> **Note**
>
> The green box in the middle of the interface indicates the range of the current data. If the green box turns red, it indicates that the scanned position is incorrect. Please move the scanner tip to the position where data has been scanned to continue scanning.

⑥ Operations

Including scan operations.

- View heat map: 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.
- **IntelliBite**: When scanning the bite, **IntelliBite** is enabled by default to optimize the bite. If you need to disable it, please uncheck **Automatic Bite Optimization** in Scan Settings.

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.		Not connected.
	Connecting.		Wrong connection.
	Without scanner tip.		Overheated.
	In standby status.		In scanning status.

⑧ Extra match

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

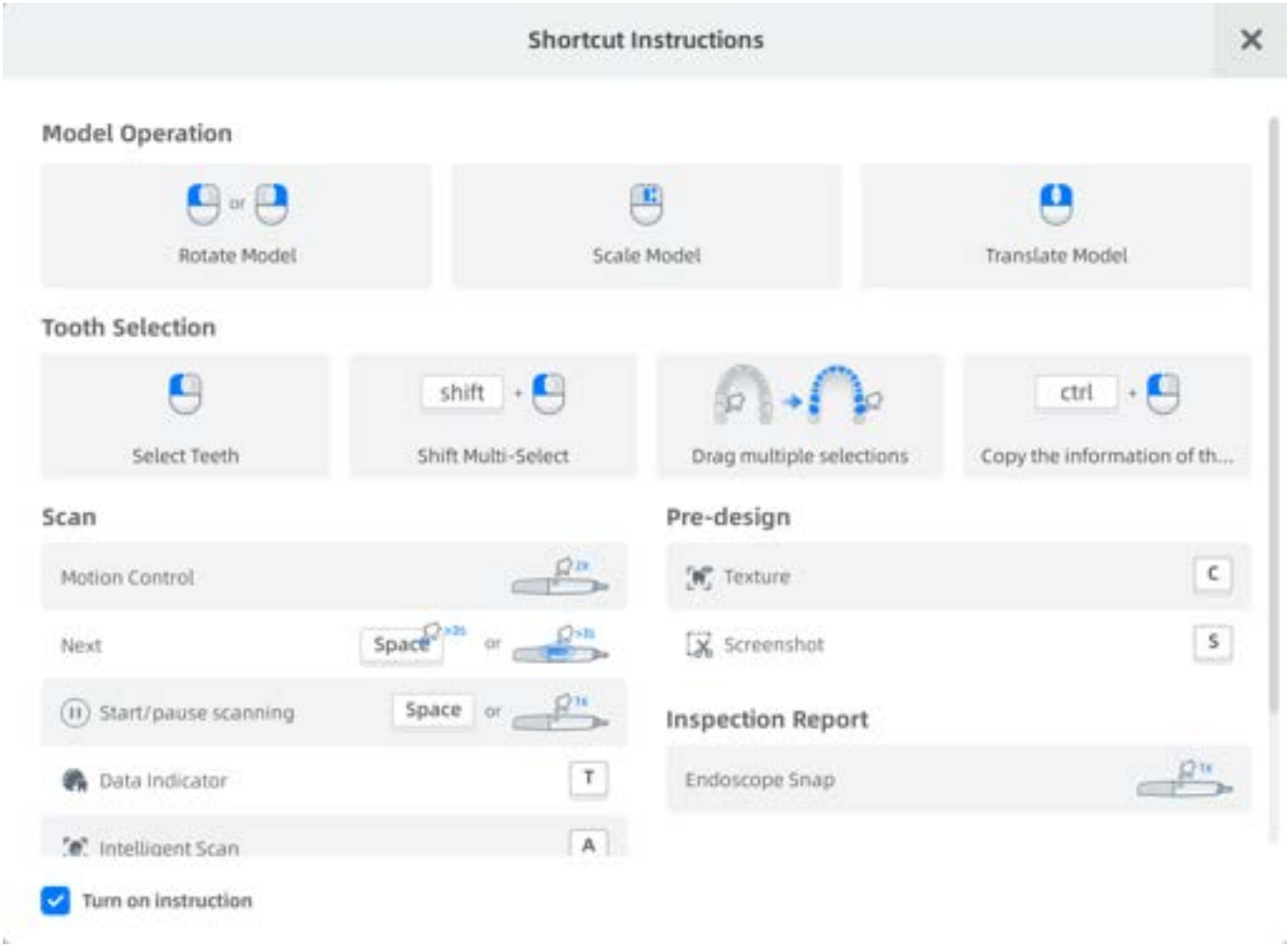
More details can be found in Extra match.

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**.



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

For more details on creating an order, please refer to Create an Order.

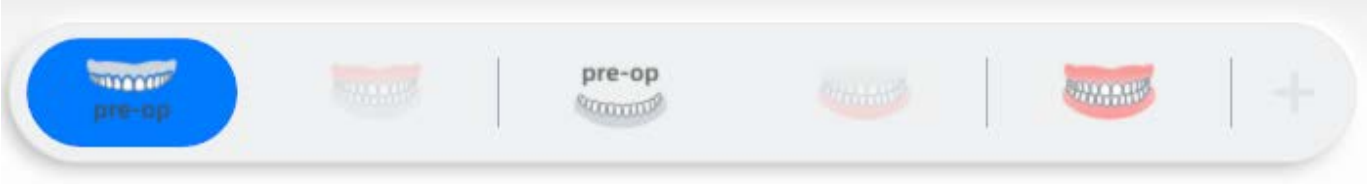
> **Note**
>
> - For pre-op scanning, you can choose **Restoration** or **Implantation** as the dentistry type.
> - In this chapter, the process of pre-op scanning takes restoration of **Full Crown** as an example.
> - To create a pre-op scanning order, please select **Yes** in the dropdown list of **Scan a Pre-op Model** (select by tooth position) or select Upper Jaw / Lower Jaw (select by dental arch). Then select **General Post-op** in the dropdown list of **Post-op Scan**.

Start scanning

> **Note**
>
> Before scanning, please ensure the intraoral environment and the scanner is well prepared. More scanning preparations can be found in Scanning Preparation.

Steps of pre-op scanning (if pre-op scanning is selected for both upper jaw and lower jaw):

1. Pre-op scanning of the jaws and the bite
2. Post-op scanning of the jaws
3. Check the bite
4. Completed



① Pre-op scanning

Scan the pre-op upper jaw, the pre-op lower jaw and the bite with a disinfected scanner. After scanning, click ✓ for next step.

1. Click ▷ (or press `Space` or press the button on the scanner body) to start scanning the upper jaw. After scanning, click ⏸ to pause scanning and review the results, or click ✓ to finish scanning the upper jaw.

   > **Note**
   >
   > - If you need to edit the scanned data, you can pause the scan and click on the right side to enter the editing interface.
   > - Functions such as island **Remove Isolated Data**, **Part Lock** and **Undercut** are also supported.
   > - More details can be found in Data Edit.

2. Scan the pre-op lower jaw. The scanning steps are the same as those of the pre-op upper jaw.
3. Scan the bite. The software can align the upper jaw and the lower jaw automatically when you have scanned part of the data. Click ⏸ or press `Space` tp pause scanning and check the alignment effect.

   If you want to align manually, you can click . More details can be found in Bite alignment.

> **Caution**
>
> - It is not recommended to scan a long area. Stop scanning once the data is matched (when the arches move into place on the bite scan). You can scan the left and right side of the bite (recommended) or scan the left, the right and the front side of the bite (click to add a third bite).
> - The maximum scanning frames of each bite group is 300. The software will stop the scanning once the frames reach 300.
> - When pausing scanning, you can click to add Multiple Bites.
> - When pausing scanning, you can click to add Dynamic Bite.

Bite alignment

You can click **Automatic Alignment** or **Manual Alignment** to improve the performance of alignment.

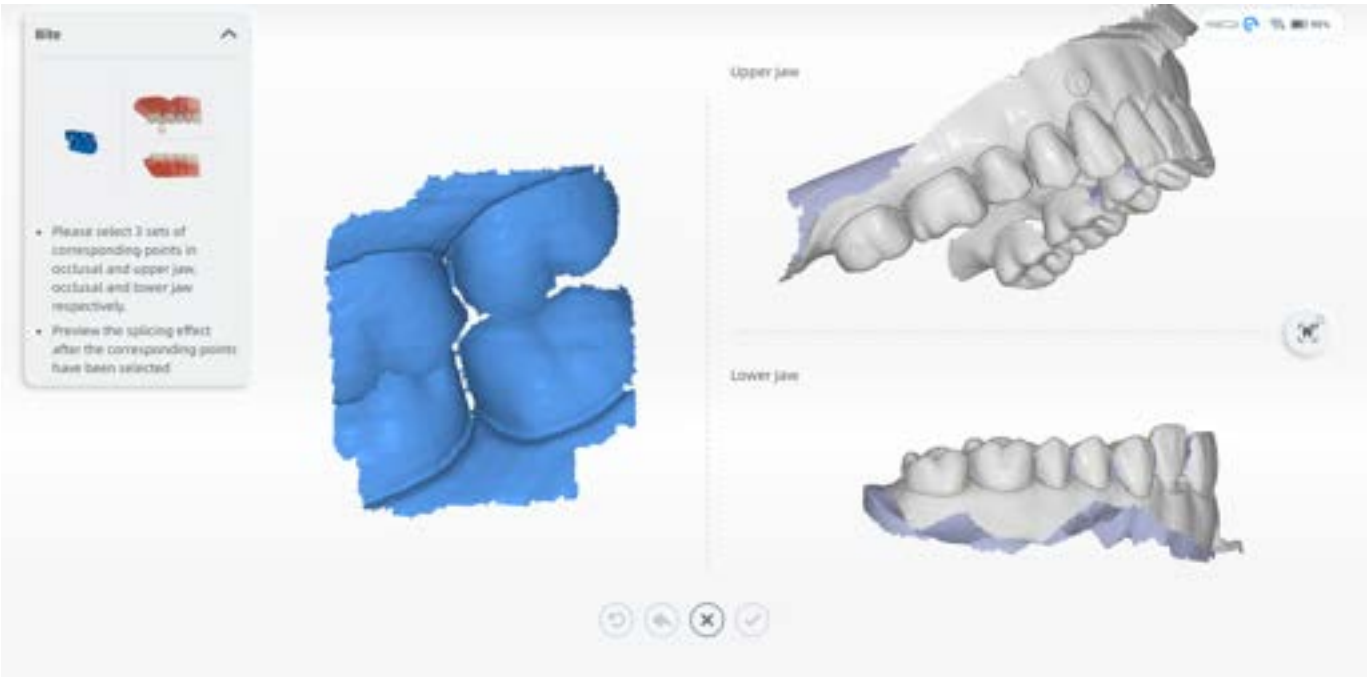
Automatic Alignment

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 alignment effect after the corresponding points have been selected.



Caution

If dynamic bite is scanned, when click to start automatic 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.

---

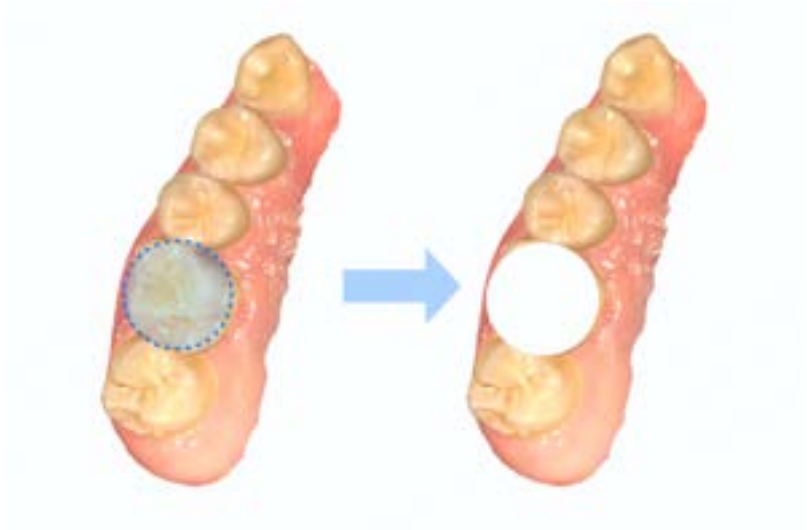
② Post-op scanning

Scan the post-op upper jaw and the post-op lower jaw. In this step, you can **dig a hole** on the treated tooth and **make tooth preparation**.

Hole digging

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).
3. Double-click to dig a hole.
4. Click to finish and get into tooth preparation scanning.

   If the effect is not satisfied, you can click to re-dig a hole.



Tooth preparation

1. Scan the prepared tooth on the hole.
2. After scanning, click for the next step.

> **Note**
>
> - Group scanning is supported. You can click to add a group of hole digging and tooth preparation when pausing scanning. Four additional groups can be added.
> - Locked areas are displayed in dark green. Only the unlocked areas can be scanned and edited.
> - During post-op scanning, **Refined Area** is enabled. The recognized refined areas are colored blue. This function can provide more partial details in Pre-design, and is often used as restoration of sharp edges of inlay and veneer.

---

③ Bite checking

Check the bite. You can re-scan or re-align the bite.

> **Note**
>
> You can switch the models to be aligned at the top right corner.

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

For more details on creating an order, please refer to Create an Order.

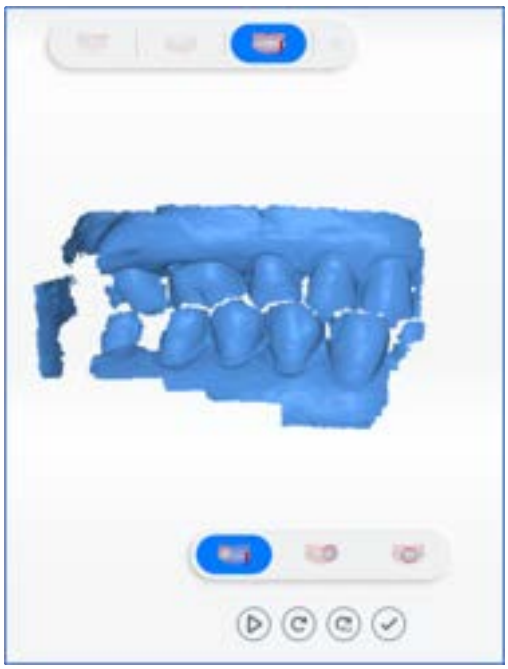
In this chapter, the recommended process of restoration scanning takes restoration of **Full Crown** as an example.

Start Scanning

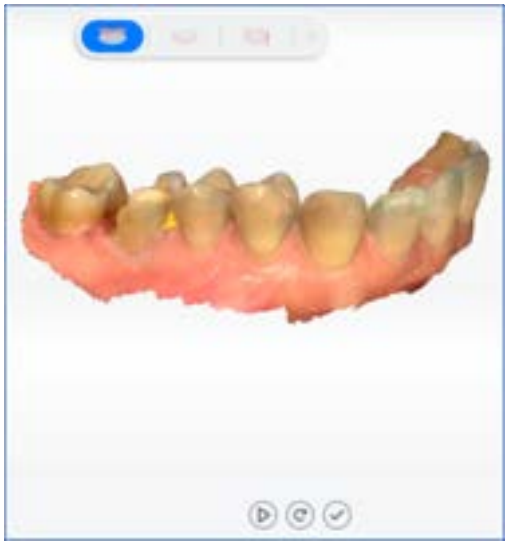
Bite scanning can be put at first step. Click and you will start scanning the bite.

The scanning steps are: bites → upper jaw → lower jaw.

1. Scanning bites. An 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

For more details on creating an order, please refer to Create an Order.

> **Note**
>
> - For implant scanning, please choose **Implantation** as the dentistry type.
> - In this chapter, the process of implant scanning takes a case of full crown as an example.
> - You can select **Custom Base** or **Screw Retained** to create an implant order.
> - You can select material to restore the tooth according to the case.

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).

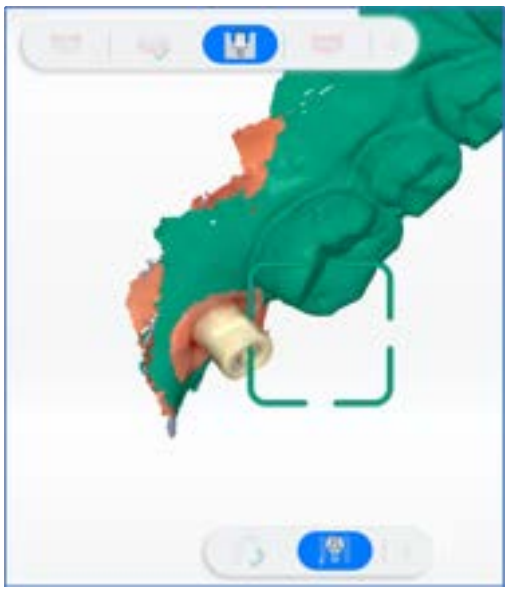
> ⚠ **Caution**
>
> Locked data is displayed in dark green. Only the unlocked areas can be edited.



(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):

i. Click  to enter the Scan Body Matching window.

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

iii. Select the tooth for implant on the left.

iv. Choose one type of scanbody and start matching. After matching, the standard scanbody data will be displayed on the right of the scan interface.

v. After setting the scanbody, start scanning it.

vi. 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.

i. Click  to delete all alignment on the scanbody (only scanbody data on the tooth can be retained).

ii. Click  to enter the Scan Body Matching window.

iii. Choose one type of scanbody and start matching. After matching, the standard scanbody data will be displayed on the right of the scan interface.

iv. Click  to enter the manual alignment interface.

v. 3 groups of corresponding points were selected respectively on the left and right scannbody models.

vi. 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 the scanned group will be locked and displayed in dark green. You can add scanning to the groups that have been scanned.
- Pause scanning and click next group to continue if there are more groups.
- You can click  to clear the data and scan again; click  to delete all implant group data; click  to delete the current implant group.

(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.

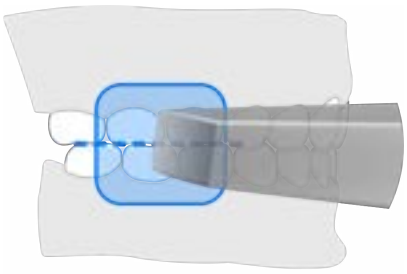
Scanning Completed

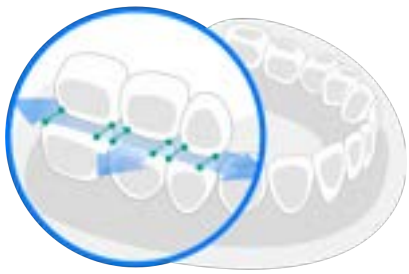
Click to complete scanning. Once the data is post-processed, the software will enter the interface of Pre-design.

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.

Removable Denture Scan

Through scanning of removable denture, the dentists can check the bite relationships of edentulous patients. In addition, the dentists can finish scanning within one order.

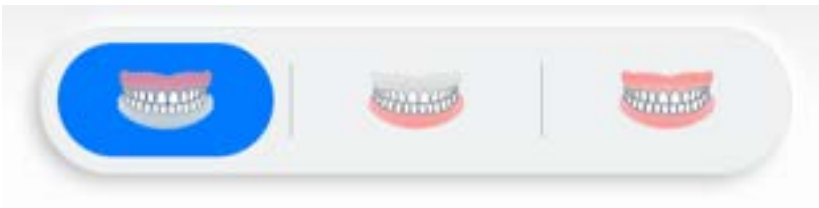
Create an order

More details can be found in Create Order.

> **Note**
>
> - Bite scanning can be put at first step during the scanning process of removable denture.
> - Multiple Bites is supported when scanning bite.

Natural occlusion

The suggested scanning process of Natural occlusion as the **Bite Record Type** is scanning upper jaw, lower jaw and bite.



After scanning, click  to go to Pre-design.

Bite tray

For upper jaw and lower jaw

The suggested scanning process is scanning upper jaw, lower jaw and bite tray.



After scanning upper jaw and lower jaw, click to scan bite tray.

The step of scanning bite tray can be divided into **Scan: scan bite tray** and **Align: align bite tray with jaws**.

1. Start scanning bite tray.

> **Note**
>
> Please scan the whole bite tray for better alignment.

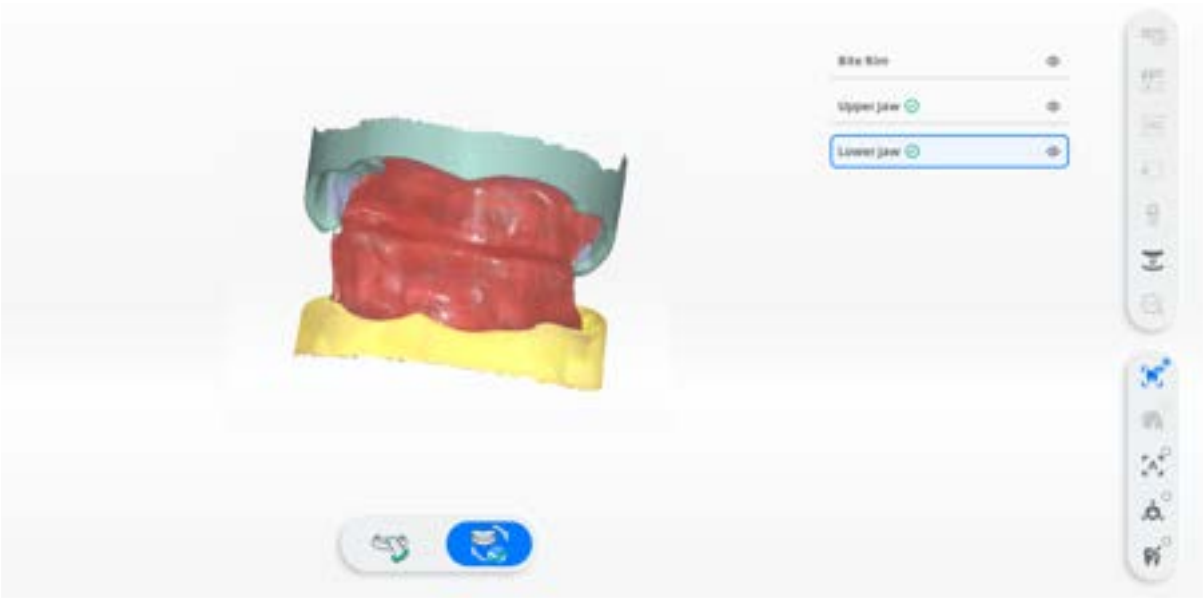
2. Align bite tray with jaws:

Auto alignment

The scanned upper jaw and lower jaw will be automatically aligned with the bite tray.

Scanned data will be displayed on the right. indicates success, while indicates failure.

Click to hide/show scanned models.



Manual alignment

If something is wrong with the auto alignment, please select the upper jaw or lower jaw and click  to start manual alignment.

Steps:

(1) Rotate the scanned models to the position shown in the guide.

(2) Select 3 sets of corresponding points on the left and right models.



(3) Preview the effect.



Operations

Icons	Descriptions	Icons	Descriptions
Delete	Delete all points on the models.	Undo	Undo the last selected point.
cancel	Cancel the changes and exit.	Confirm	Confirm the manual alignment.

3. Click to complete the scanning.

For a single jaw

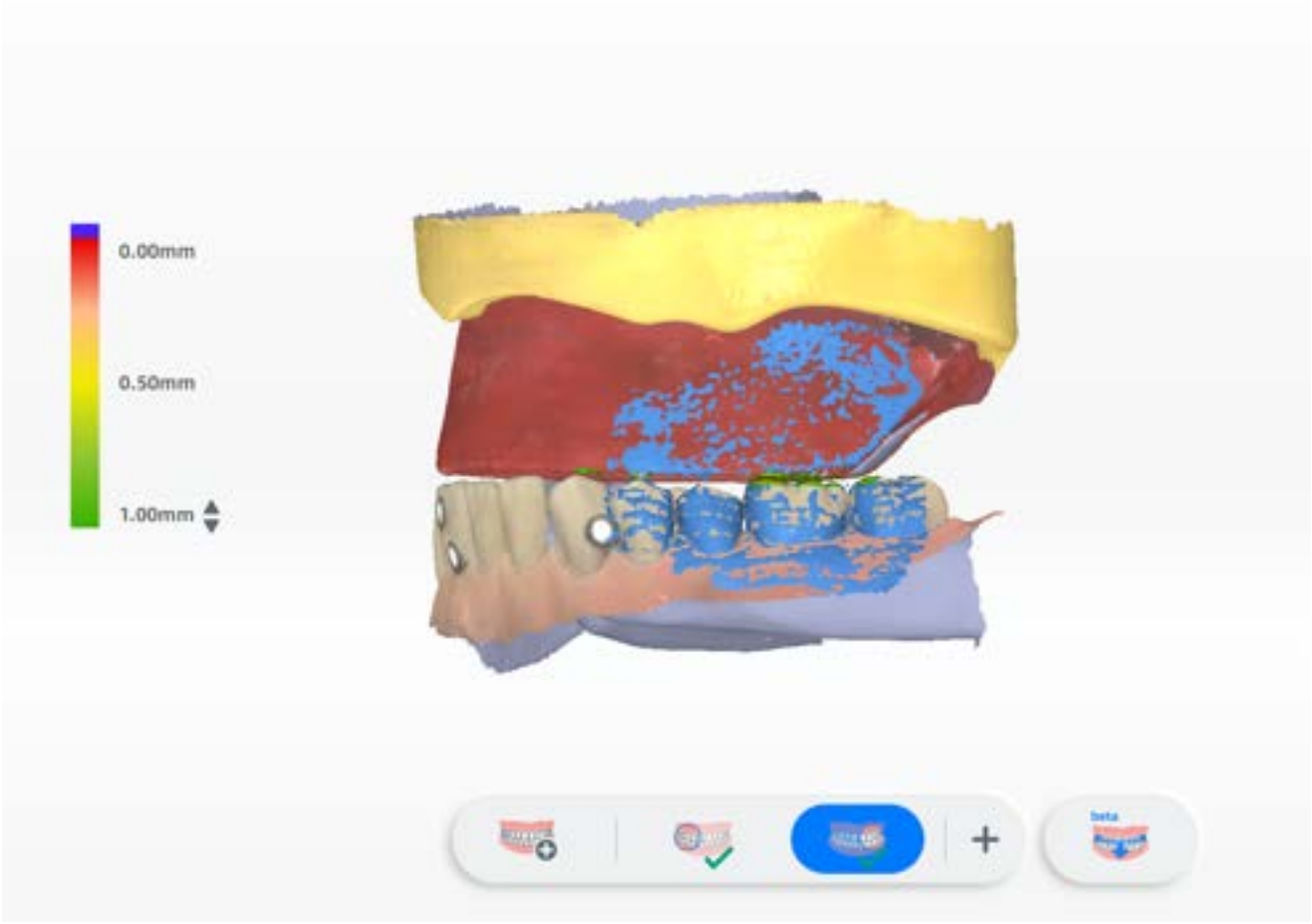
Taking the upper jaw as example, the suggested scanning process is upper jaw, lower jaw, upper jaw rim, and bite.



1. Start scanning upper jaw rim after scanning upper jaw and lower jaw.

> **Note**
>
> The step of scanning upper jaw rim can be divided into **Scan: scan upper jaw rim** and **Align: align rim with upper jaw**, which is similar to the steps mentioned above. References can be found in For upper jaw and lower jaw.

2. Start scanning the bite of the upper jaw rim and lower jaw.



3. Confirm the alignment and click to finish scanning.

Old denture scanning

You can choose the alignment methods of old dentures between **Public Mucosal Region** and **Public Tissue Surface**.

If using old dentures to record occlusion in the mouth, it is recommended to use **Public Tissue Surface** for alignment.	If using temporary dentures or partial removable dentures to record occlusion in the mouth, it is recommended to use **Public Mucosal Region** for alignment.

For upper jaw and lower jaw

The suggested scanning process is upper jaw, lower jaw, upper jaw old denture, lower jaw old denture, and bite.



1. Scan the upper jaw and lower jaw.
2. Scan upper jaw old denture. The steps can be divided into **Scan: scan old denture** and **Align: align old denture with jaws**.

   Scan upper jaw old denture:



   Align upper jaw old denture with upper jaw:

   Click to automatically align the upper jaw old denture with the upper jaw. Click to start manual alignment.



> **Note**
>
> The alignment method is the same as the chosen one when creating the order. You can also switch the method at the left upper corner.

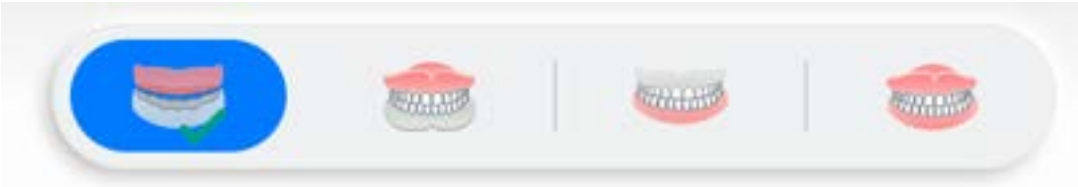
3. After scanning upper jaw old denture, please start lower jaw old denture. The steps are the same with steps in scanning upper jaw old denture.
4. Click ✓ to start scanning bite and bite alignment.



5. Click ✓ to finish scanning.

For a single jaw

Take the upper jaw as example, the suggested scanning process is upper jaw, lower jaw, upper jaw old denture, and bite.



1. Scan the upper jaw and lower jaw.
2. Scan the upper jaw old denture.

> **Note**
>
> The steps of scanning the upper jaw old denture can be divided into **Scan: scan upper jaw old denture** and **Align: align upper jaw old denture with upper jaw**. More details can be found in bite tray scanning - For upper jaw and lower jaw.

3. Scan the bite of upper jaw old denture and the lower jaw. After scanning, the models will be automatically aligned.



4. Confirm the alignment and click to finish scanning.

Copy denture (scanned extra-orally)

The suggested scanning process of copy denture as the **Bite Record Type** is scanning upper jaw, lower jaw and bite.



After scanning, click to go to Pre-design.

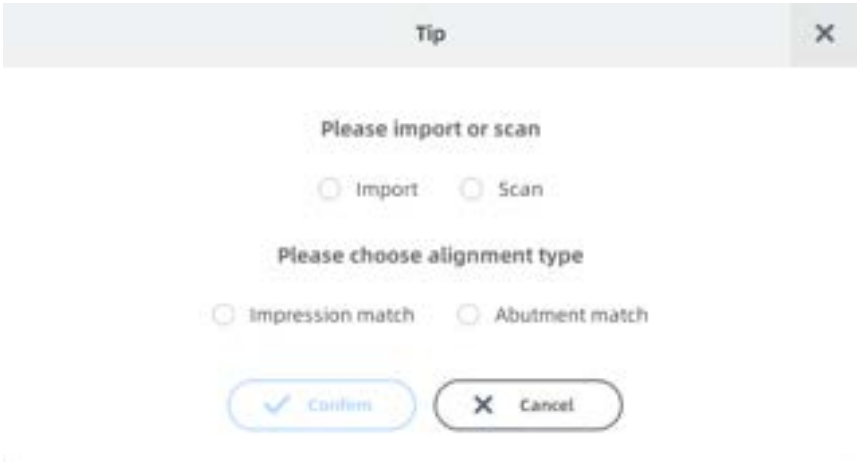
Extra Match

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

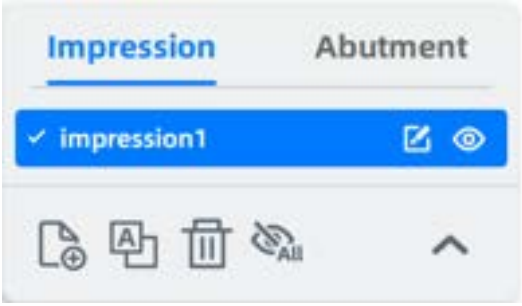
> **Note**
>
> Extra match is supported in various scanning process, except **full jaw scanning** (including **scanning of full jaw bite tray**), **old denture scanning**, **bite tray scanning**, **implant scanning** and **extra scanning**.

Create extra align

Click 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**, you 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.

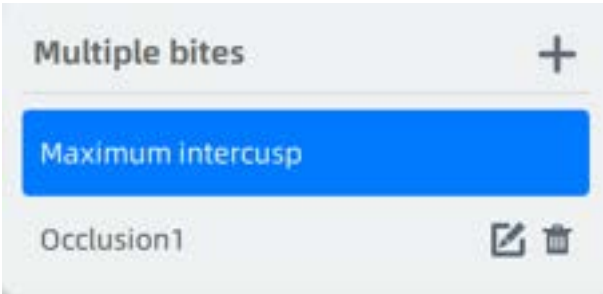
Multiple Bites

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 bte is called **Maximum intercusp**. 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.

Plaque Detection Scan

Dental plaque is a microbial community that adheres to the teeth and is not easily visible. **Plaque Detection Scan** can make dental plaque visible by coloring the plaque, clearly showing the distribution and range of the colored plaque on the tooth surface.

It can be widely used for plaque inspection, evaluation of patients' oral hygiene status, guiding patients on proper teeth brushing, monitoring the effectiveness of oral treatments, enhancing patients' oral health awareness, and providing a basis for personalized treatment plans.

For example, after color scanning, the dentist can generate a report, which can be a reference for checking the distribution and extent of the patient's dental plaque. Based on that, the dentist can guide the patient on the proper methods of teeth brushing, or taking special treatment measures. For areas where plaque tends to accumulate, it is suggested that the patient should pay more attention when teeth brushing.

When the patient returns for a follow-up visit, the dentist can compare the plaque distribution before and after treatment, monitoring the treatment effectiveness and making adjustments to the treatment plan.

Create an order

More details can be found in Create Order.

After creating the order, click **Scan** to enter the scanning process.

> **Note**
>
> - Please select **Restoration** or **Other** as the dentistry type.
> - Please check **Plaque Detection Scan**.

Preparations before scanning

Before scanning, the dentists should color the plaque with the dye to make the plaque visible.

1. Check the patient's oral conditions and ensure the mouth is clean, free of food debris, and the tooth surface is dry.
2. The patient should open the mouth and the teeth should be fully exposed (use a mouth opener if necessary).
3. Painting the teeth according to the dye instructions.

> **Caution**
>
> - Please read the dye instructions before painting.
> - Before painting, use a cotton ball or gauze to dry the saliva on the tooth surface.

Start scanning

After the plaque is colored, please start scanning. The suggested scanning process is: scanning the upper jaw, the lower jaw, and the bite. Refer to Restoration Scan for more details.

1. Click  to start scanning the upper jaw and the lower jaw, ensuring all tooth surfaces are scanned.
2. After completing the scan, click  to the next step.
3. Scan the bite on both sides.
4. Click  to complete the scan.



Quick Plaque Sense

After scanning, **Quick Plaque Sense** is supported in Pre-design. You can click on the right panel. More details can be found in Quick Plaque Sense.

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.

- **Rotate**: Click and move the cursor to adjust the view of the 3D model.
- **Through**: When **Through** is enabled and use **Brush** to paint on the model, all data within the brush range will be deleted, including underlying data that is blocked from view. It allows you to delete multi-layer data simultaneously.

  When it is disabled, using the brush will only delete the surface data.
- **Brush**:

  a. Click and the cursor becomes a blue brush. Drag the slider to change its size.

  b. Move the brush to the areas you want to delete.

  c. Press and the area covered by the blue circle will be deleted.

- **Free selection**:
  a. Click .
  b. Move the cursor and press the left mouse button to draw a closed curve.
  c. Release the mouse and the selected areas will be deleted.
- **Undo**: Undo the last operation. Multi-clicking for undoing multi-operations.
- **Redo**: Restore the operation that has been undone. Multi-clicking for redoing multi-operation.
- **Cancel**: Cancel the operation.
- **Confirm**: 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 scan and click **Undercut**.

The areas selected by the brush will be calculated automatically.

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.

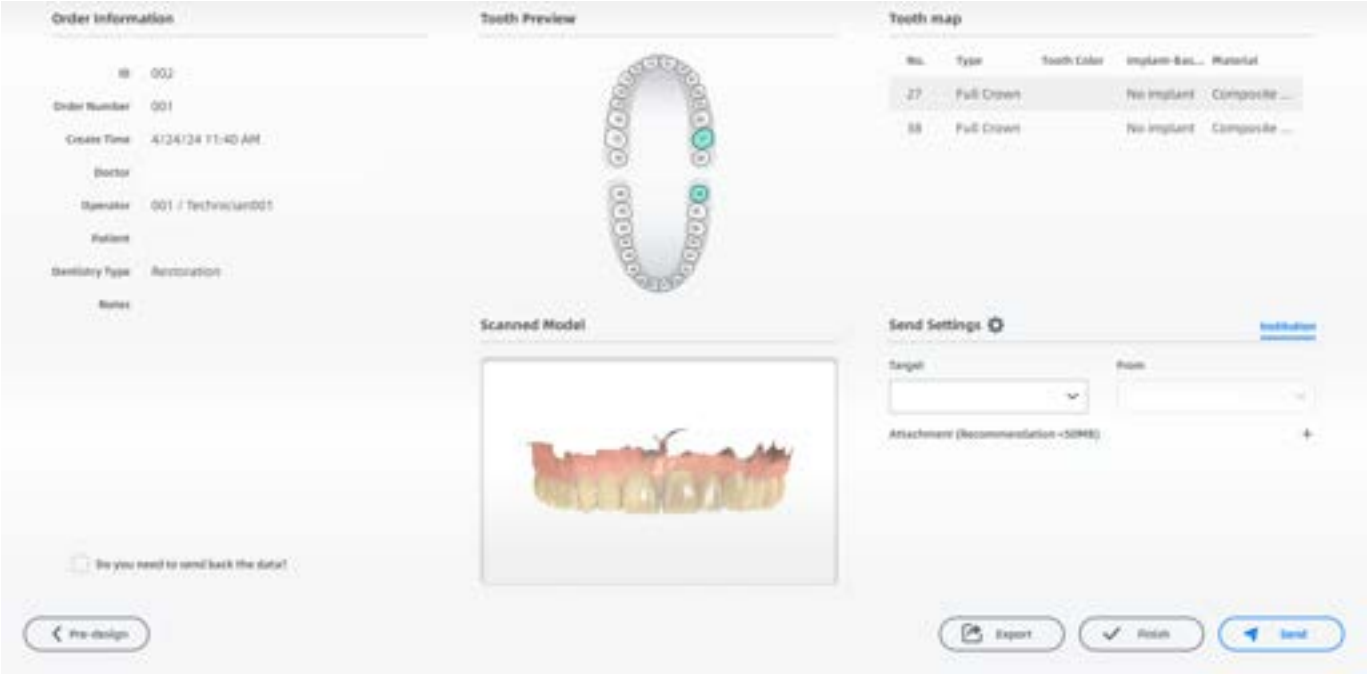
Additional functions

Icon	Description
Texture	Enable or disable the color display for the model.
Scan Quality Indicator	To show the scan quality of the model. 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 the model's true color, it means the data quality has reached the requirements for post-processing.
Intelligent Scan	Applied to **intraoral scanning**. 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.
View Lock	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.
Mental tooth scan	Improve the scanning speed and sweep the whole situation for metal teeth. 

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.



Steps

1. On the interface of sending an order, you 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, you 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, you can switch between different groups of multiple bites to check the models.

Icon	Name	Description
	**Upper Jaw**	Check the option to view the upper jaw data. Drag the slider to change the upper jaw opacity value.
	**Lower Jaw**	Check the option to view the lower jaw data. Drag the slider to change the lower jaw opacity value.
	**View from Different Perspectives**	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.

-  **Rotate**: Click  and move the cursor to adjust the view of the 3D model.

- **Through**: When **Through** is enabled and use **Brush** to paint on the model, all data within the brush range will be deleted, including underlying data that is blocked from view. It allows you to delete multi-layer data simultaneously.

  When it is disabled, using the brush will only delete the surface data.

- **Brush**:

  a. Click and the cursor becomes a blue brush. Drag the slider to change its size.

  b. Move the brush to the areas you want to delete.

  c. Press and the area covered by the blue circle will be deleted.

- **Free selection**:

  a. Click .

  b. Move the cursor and press the left mouse button to draw a closed curve.

  c. Release the mouse and the selected areas will be deleted.

- **Undo**: Undo the last operation. Multi-clicking for undoing multi-operations.
- **Redo**: Restore the operation that has been undone. Multi-clicking for redoing multi-operation.
- **Cancel**: Cancel the operation.
- **Confirm**: Confirm the operation.

Remove isolated data

Remove Isolated Data can quickly delete small data isolated from the main model.

Fill holes

Steps

1. Click the icon to enter the **Fill Holes** interface.
2. Drag the slider to adjust the application range.
3. Click ✓ to confirm the operation and exit; click ✕ to discard the process and exit.

Sectional mode

In **Sectional Mode**, you can check the relationship between models and measure their distance.

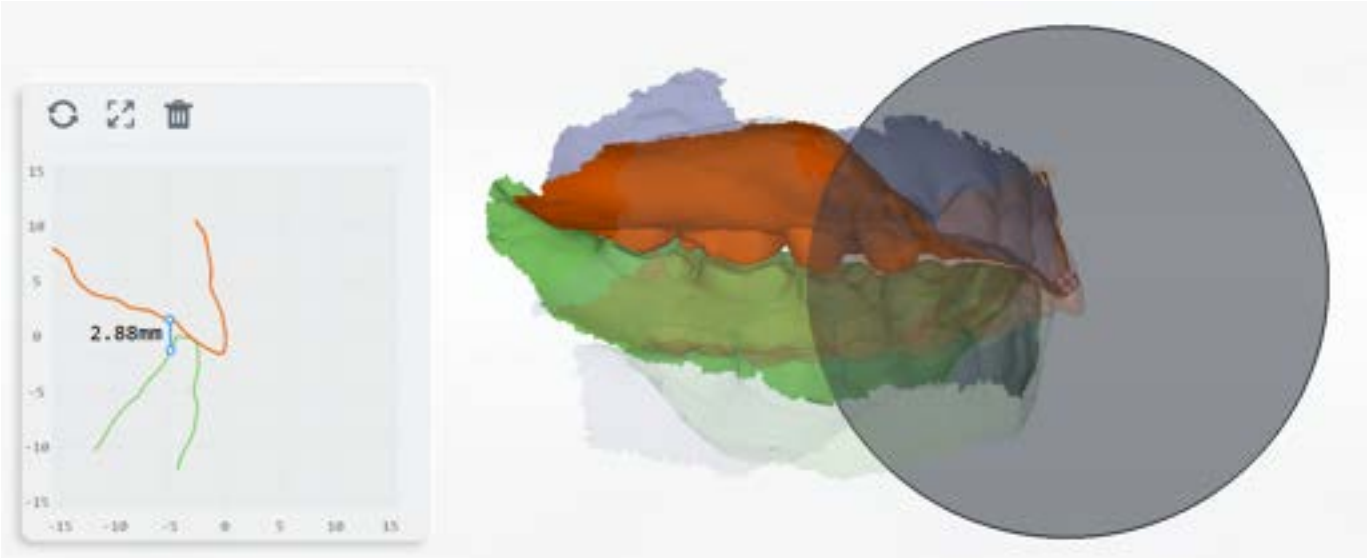
Select models in the list of intraoral data and click  **Sectional Mode**. A profile will be shown. Move the profile to the model and click to generate.

The 2D window in the lower left corner shows the corresponding intersecting parts between the profile and the model.

> **Note**
>
> - **Profile Mode** is supported when selecting intraoral models (except the total jaw model) and data of additional scanning.
> - No more than 4 models can be selected.

Profile operation	Description
Move the profile	Press the pink ball on the middle of the profile and move the cursor.
Rotate the profile	Press any point of the profile (except the pink ball) and move the cursor.

2D Window operation	Description
Reset	Click  to reset the plane to the original state.
Zoom in/out	• Scroll up and down the wheel to zoom in/out the sectional view. • Click  to zoom in the 2D window.
Measurement	• Add a point: Click on the line to add a point. • Move the point: Press the point and drag. • Distance measurement: When 2 points are added, the distance between them will be shown on the 2D window, and a line linking the 2 points will be shown on the 3D model as well. • Re-measurement: Add another 2 points to measure the distance again.



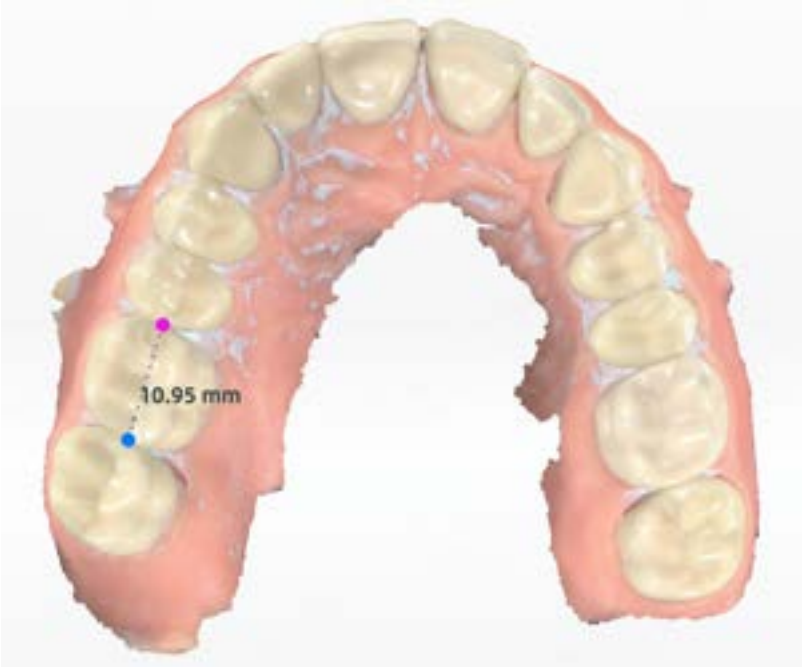
Free measurement

Distance Measurement and **Angle Measurement** are supported.

Distance Measurement

Distance Measurement can be used for measuring the tooth width, measuring the gap of a missing tooth and so on.

Rotate the model to a proper position and select 2 points on the model. The distance between the 2 points is measured automatically.



Angle Measurement

Angle Measurement can be used for measuring the inclination of a tooth or a tooth cusp.

Rotate the model to a proper position and select 3 points on the model. The angle generated between the 3 points is measured automatically.



After measurement, click ✕ to exit.

Quick Plaque Sense

In **Plaque Calculation**, the areas with plaque will be colored in red. You can check the plaque percentage on the left.



After calculation, you can click to exit.

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

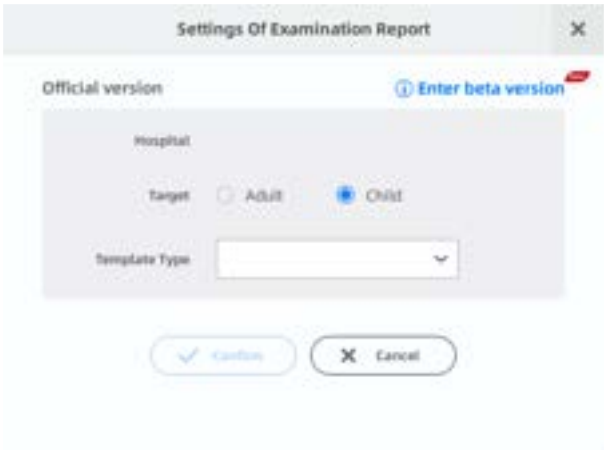
Click to adjust the size of the model to be adaptive to the interface.

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.

> **Note**
>
> - When enabling Assist Mode, the software will start assistant identification automatically before editing the oral report.
> - Assist Mode is only available when the target is adult.

Edit the oral report

1. When enabling assistant mode, click **Accept** to enter the main interface to edit the oral report.
2. 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.

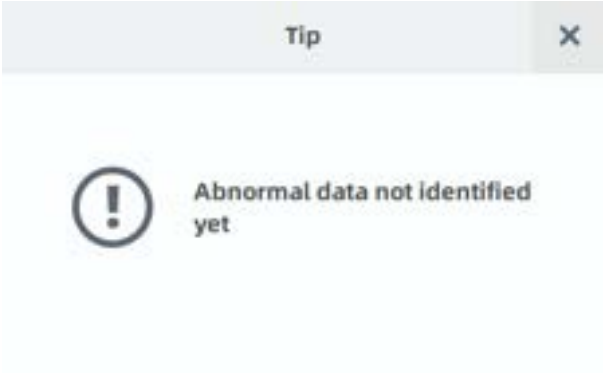


> **Note**
>
> - Import an order which was created in the software with lower versions and click oral report, and then a tip pops up to confirm whether to generate a new report. Click **Yes** to clear operations and enter the interface of editing a new report. Click **No** to preview the report.
> -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

Assistant mode

The identification results are shown in the **Issue** window and you can click the picture to zoom it in.

A tip of **Abnormal data not identified yet** pops up when the software can't identify diseases.





Operation	Description
Show description / Show notes and plan	Check to show the description, notes and plan of the symptoms.
Select best (all)	Check to select the first one of the symptoms.
Reset option	Click and a tip of "Whether to clear all operations?" pops up. Click **Yes** to delete all selections and notes.
Hide this symptom	Check to hide this kind of symptom.
Accept	Save all the selections and enter the interface of editing oral report.
 **Select teeth**	Click to select the tooth of the symptom.
 **Delete**	Click to delete the certain symptom.

- Select no symptom and click **Accept**, then a tip of "Symptom select incompleted, whether to nex step?" pops up. Click **Yes** and unselected symptoms are deleted.

> ⚠ **Note**
>
> The selected symptoms are displayed in the main interface of oral report, while the unselected symptoms are completely deleted.

Main interface of oral report

One-click filling

Click to set descriptions and plans in the issue view.

Delete

Click and a tip of "Whether to delete all issues?" pops up. Click **Yes** to confirm.

 **Preview**

Preview the oral health report.

- **Share**: Create a QR code which can be scanned by the phone to view the report.
- **Export**: Export the report in the format of PDF or PNG.

Assistant mode

Assistant Mode will automatically detect teeth problems and take screenshots of certain teeth.

Click when there are already identifications, and a prompt of "Whether to perform auxiliary identification again?" pops up. Click **Yes** to restart auxiliary identification and current results are deleted.

Endoscope

Take a screenshot of the model.

Steps:

1. Click and the enlarged image window is displayed on the left.
2. Scan the teeth.
3. Press **scanning button** on the scanner or click on the image window to take a screenshot.
4. Select the treated tooth and problems in the new pop-up. Adding notes is also supported.
5. Click to take more screenshots.

CT image

Add an image and edit it. Treatment plan and other information of the treated teeth can be imported.

Name	Description	Name	Description
	Click to change the image.	 Mark	Click the treated tooth to mark it with different colors and enter relative information.
 Plan	Click  and a box is displayed where you can enter your treatment plan.	 Brush	Click to paint directly on the image. Drag the slider to adjust its thickness.
 Eraser	Clear the marks in the model.		Multi clicks for undoing multi-operations.
	Multi clicks for redoing multi-operations.		Discard the changes.
	Confirm and save the changes.		

 **Grab image**

Take a screenshot of the scanned model.

Steps:

1. Click the button of screenshot and an enlarged screenshot box is displayed.
   - Press left mouse button within the black box and move the cursor to rotate the model.
   - Press right mouse button outside the box and move the cursor to rotate the model.
   - Press right and left mouse button outside the box and move the cursor to move the model.
   - Scroll the wheel to zoom the model in and out.
2. Double click in the box to confirm and select the treated tooth and problems in the new pop-up. Adding notes is also supported.
3. Click  to take more screenshots.

 **Graffiti mode**

- Display models in various angles including **close jaw**, **open jaw** and **CT**.
- Move the slider the adjust the thickness of the brush.

Recycle bin

- Deleted symptoms are collected in the recycle bin.
- Click the restore button on the top right corner of the picture to restore it.
- Click the recycle bin button again or click **Exit** in the top right corner to exit.

Exit

Click to exit the oral report.

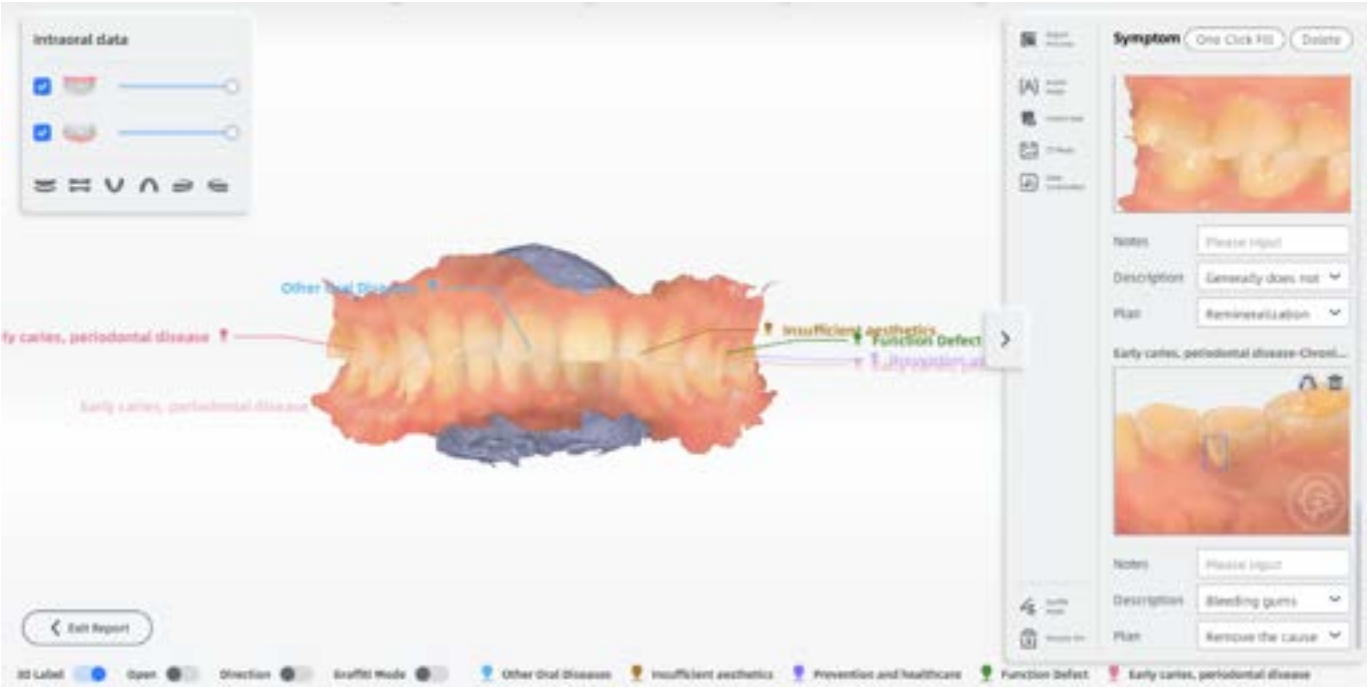
3D label

Disabled by default. When it's enabled, symptoms under this perspective is tagged.

- Click the tag and the picture of this symptom is selected on the right.
- Modifying notes, descriptions and plans, selecting tooth and deleting this symptom are supported.

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.

> **Note**
>
> 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.



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 is 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

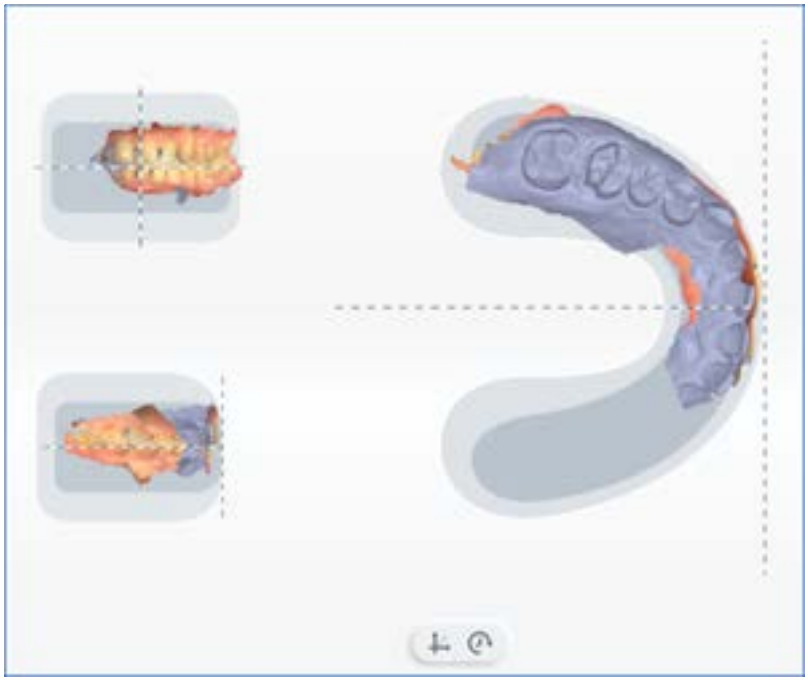
Not enabled by default. When it's enabled, the cursor turns into brush.

You can press the left mouse button and move the cursor to draw on the model.

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, then 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 previously marked 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.

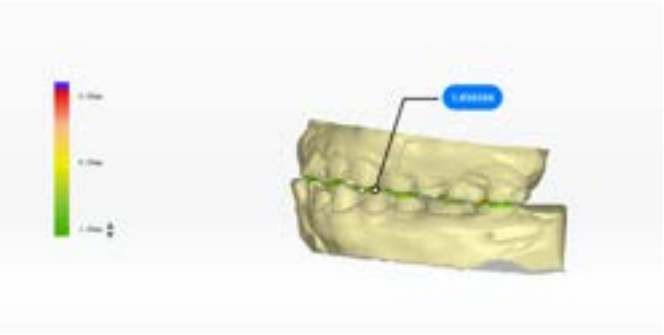
Bite Detection

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

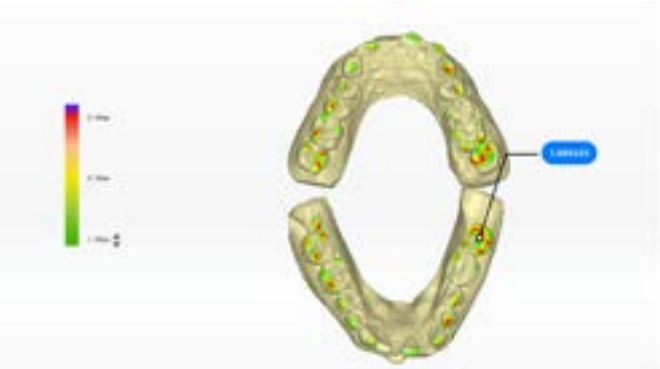
Click under the "Pre-design" process to enter the occlusion detection interface.

Color Bar Mode

You can check the collusion depth with color indications and the specific value.



Close



Open

- Color indication: The model is colored to indicate the collision depth. A color bar displayed in the bottom left corner shows the range of the collision depth. Click the arrow on the color bar to adjust the range of depth displayed on the model.

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

- Specific value: Move the cursor to the colored areas and double click. Then a label is displayed to show the specific value of collusion depth on this point.

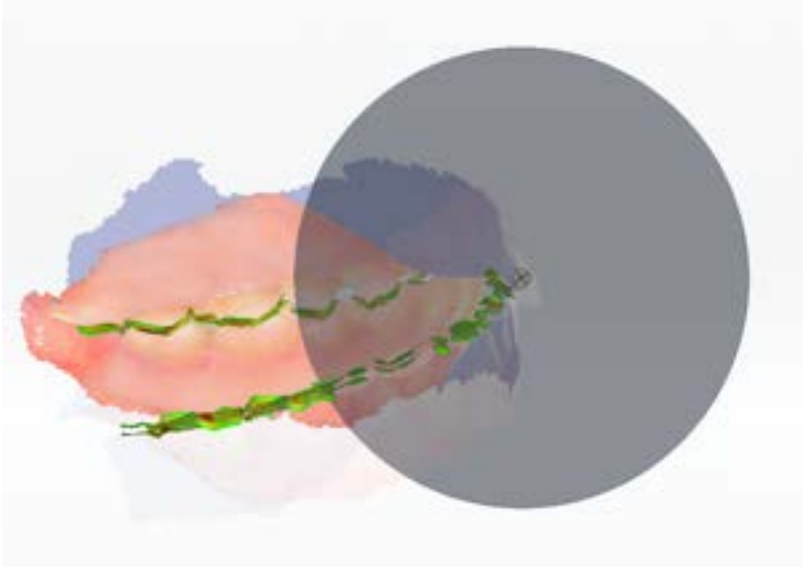
Operation	Description
Exchange pre-op and post-op data	Click the icons in the right left corner.
Open / Close	Click /
Calculate	Click to calculate the bite amount. Move the cursor to the calculated area to check the value.
Reset	Click to reset the adjusted value to the initial value.

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). A plane will be generated and the 2D window in the lower left corner shows the corresponding intersecting parts between the plane and the model.

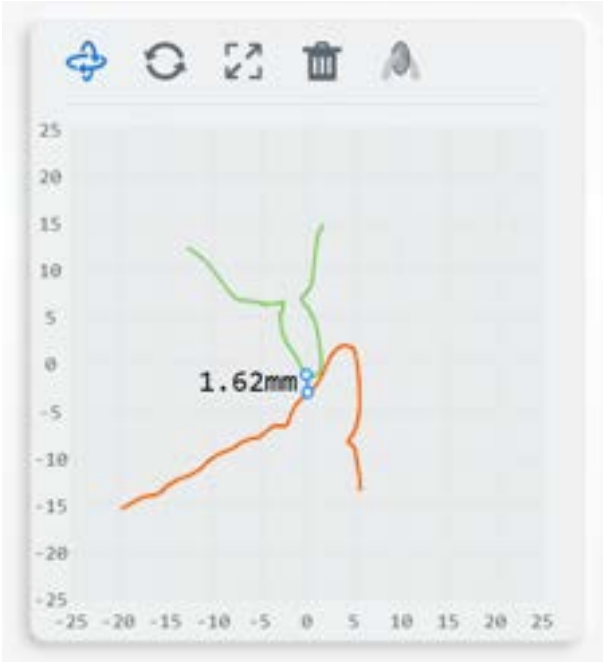
Note

- The generated plane is perpendicular to the arch line by default and can be moved along with the arch line. If you want a plane that can be moved freely, please enable **Free Section Mode**.
- The arch line will be extracted automatically when using **Section Mode**. If the arch line can not be extracted, it will enable free section mode instead.



Plane operation	Description
Move the plane	Press the pink ball on the middle of the plane and move the cursor.
Rotate the plane	Press any point of the plane (except the pink ball) and move the cursor.

2D Window operation	Description
Vertical to dental arch	Click  to show the dental arch on the model. When moving the plane, it will be vertical to the dental arch.
Reset	Click  to reset the plane to the original state.
Zoom in/out	• Scroll up and down the wheel to zoom in/out the sectional view. • Click  to zoom in the 2D window.
Delete	Click  to delete all points on the 2D window.
Free section mode	• Click  to enter the free section mode. • In the free section mode, the plane will follow the cursor. • Move the cursor to the model and click to generate a plane.
Measurement	• Add a point: Click on the line to add a point. • Move the point: Press the point and drag. • Distance measurement: When 2 points are added, the distance between them will be shown on the 2D window, and a line linking the 2 points will be shown on the 3D model as well. • Re-measurement: Add another 2 points to measure the distance again.



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.

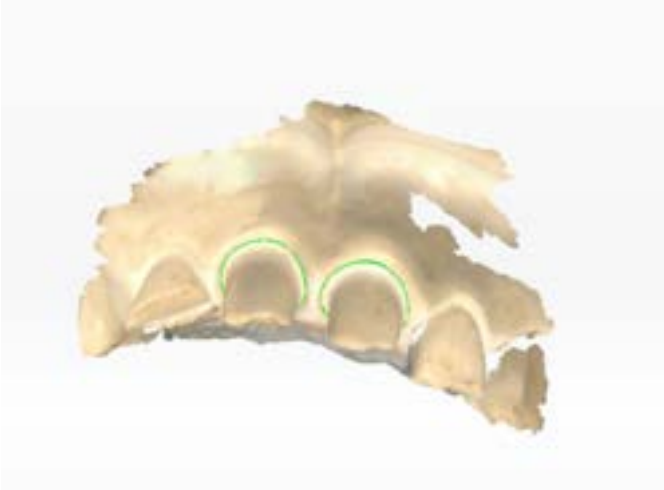
> **Note**
>
> IntraoralScan will recognize margin lines automatically when importing projects.

Auto Drawing

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



Margin line not extracted

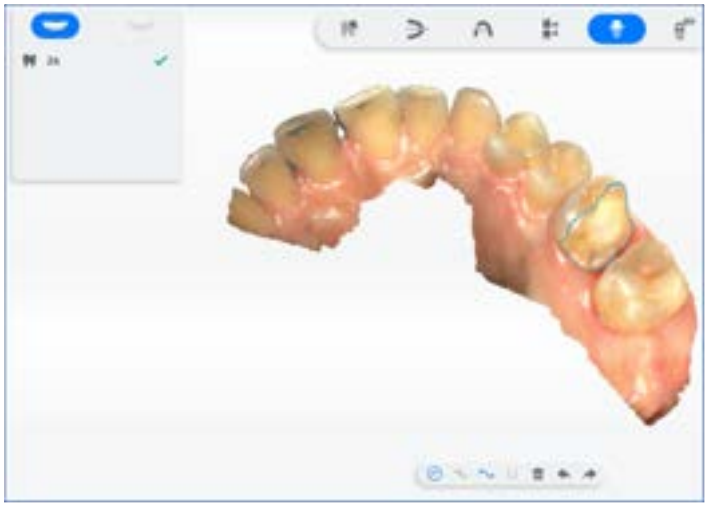


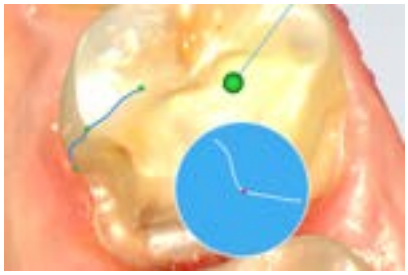
Margin line extracted

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
Sectional view	The curvature of the profile along the tooth surface normal to the occlusion plane is displayed, and the effect is as follows. 
Drawing line extraction	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.
Segment extraction	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. **Note** Line segment extraction is a complementary tool for magnetic extraction, suitable for teeth with no clear margins.
Magnetic switcher	Used to control the magnetic suction function switch of the line segment extraction method. 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). Magnetic suction extraction is suitable for teeth with clear margins.

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

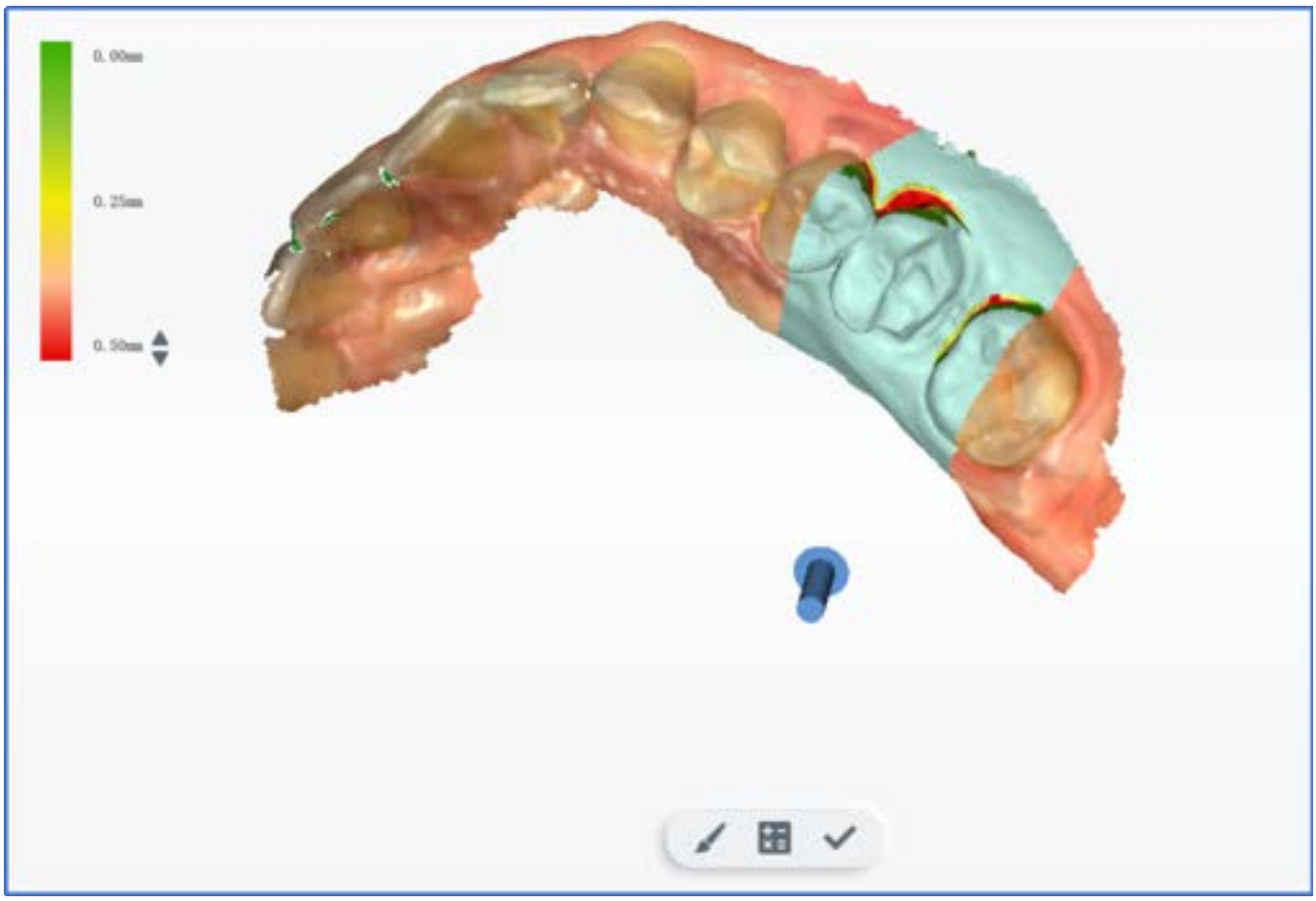
Icon	Name	Description
	Undercut Direction	Click  to enter the **Undercut Direction** interface to set the undercut direction.
	Delete Undercut Direction	In the tooth mark list, click  to delete the corresponding tooth mark.
	Undercut Direction Group	In the tooth mark list, the icon will appear after 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 **brash** 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 (Optional)

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

Create program

Creating programs after importing teeth models, adjusting the model, confirming teeth and the program are supporting.

→ Create program

Preview program

Generating orthodontic reports, previewing orthodontic process via animation, and comparing the models before and after orthodontics are supported.

→ Main interface

Manual setup

Adjust the dental arch and teeth to customize individual teeth.

→ Manual setup

Add brackets

Simulate the real orthodontic effects with brackets.

→ Add brackets

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.

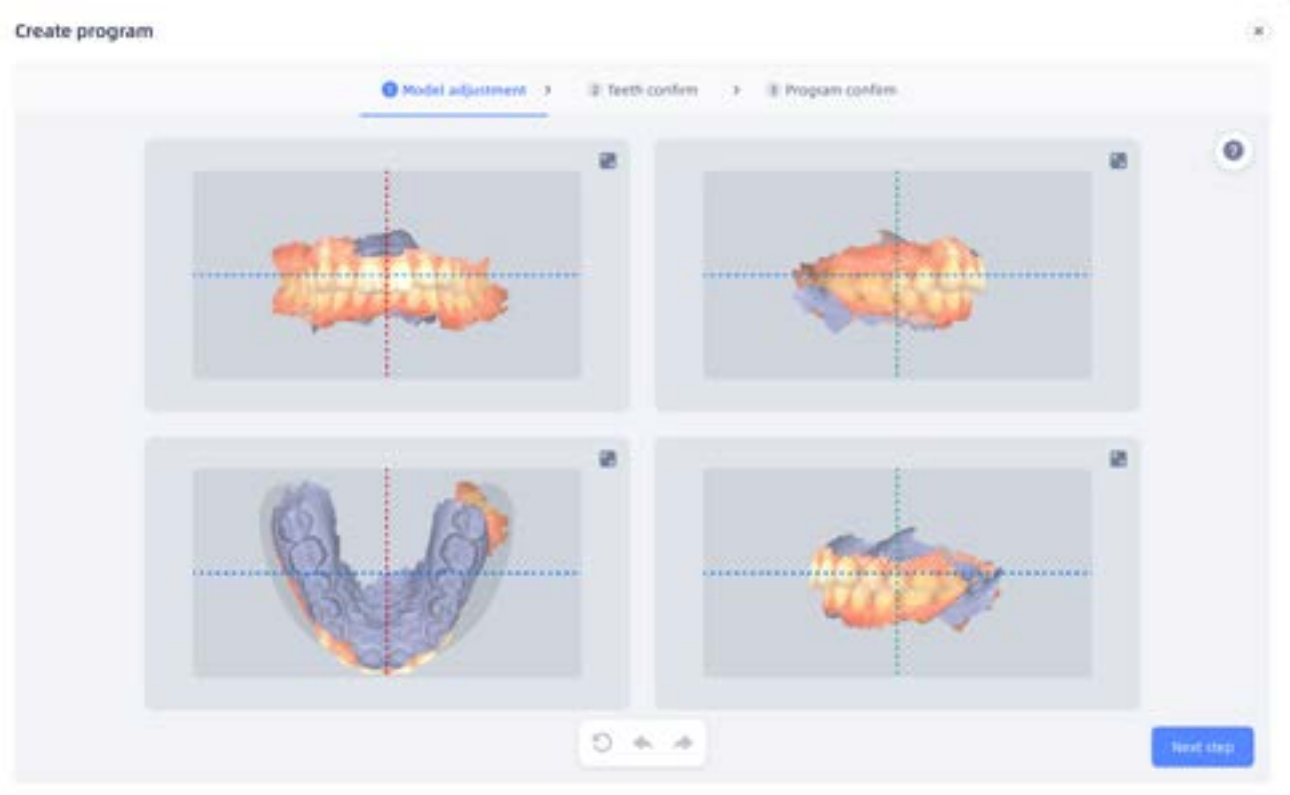
Click **Auto creation** to start.

Note

- Click ✕ 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.

Teeth model only
There are four views of the teeth model. • If the user adjust the model in one view, the other views will be changed correspondingly. 

Operation

Operation	Description	Operation	Description
Rotate the model	Press and hold the left or right mouse button and move the cursor.	 Guidance	Click to pop up the guidance. Click  to set wether 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.	 Reset	Click to restore the models.
 Zoom in	Click to zoom in the view.  **Note** Zoom-in can be used when importing **teeth model only**.	 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.



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 wholely 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

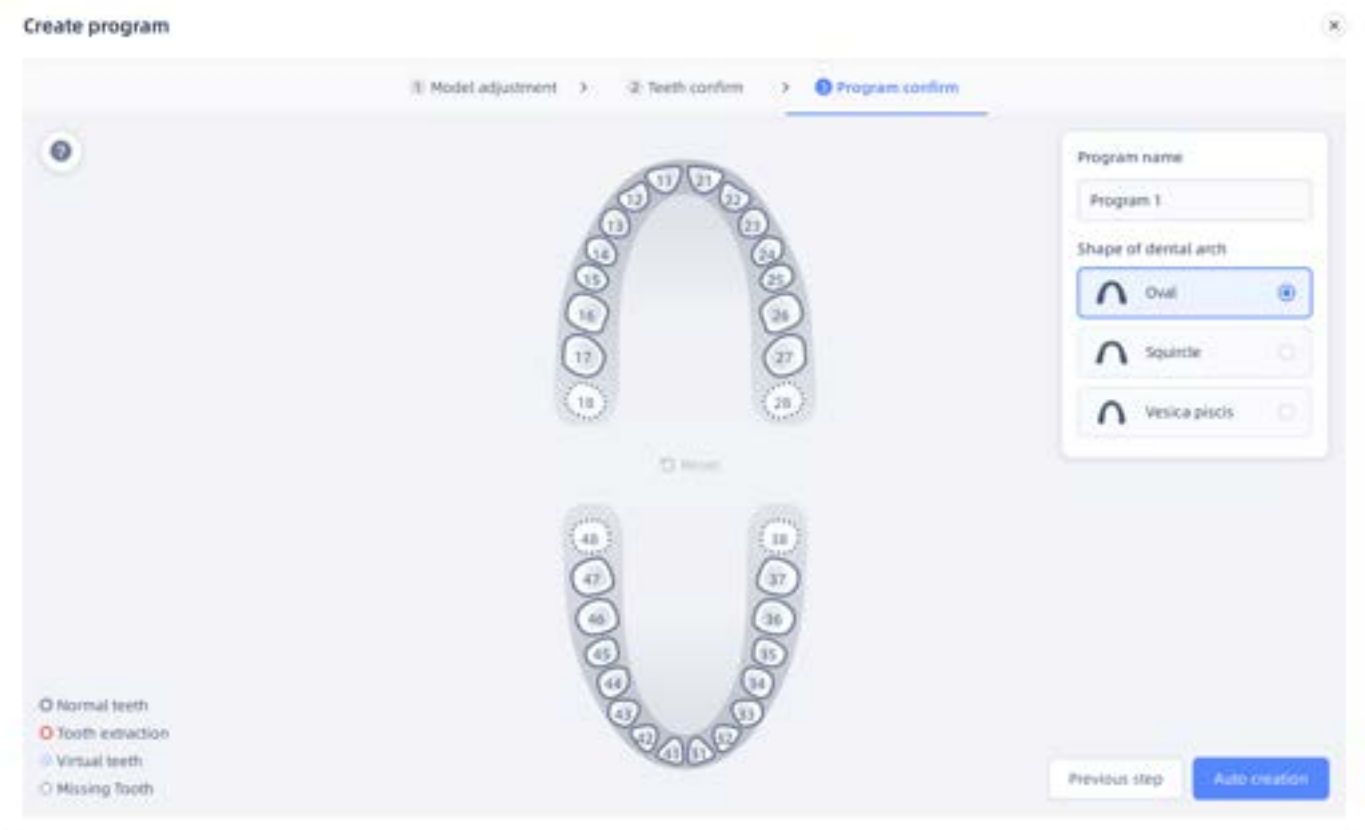
1. Click  to enter the interface of adding teeth.
2. Double-click the position where the tooth should be added.
3. Select the tooth number in the pop-up window.
4. Click **Confirm** to save, or click **Cancel** to cancel all operations and exit.
   Repeat steps 1-4 to add more teeth.

> **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.

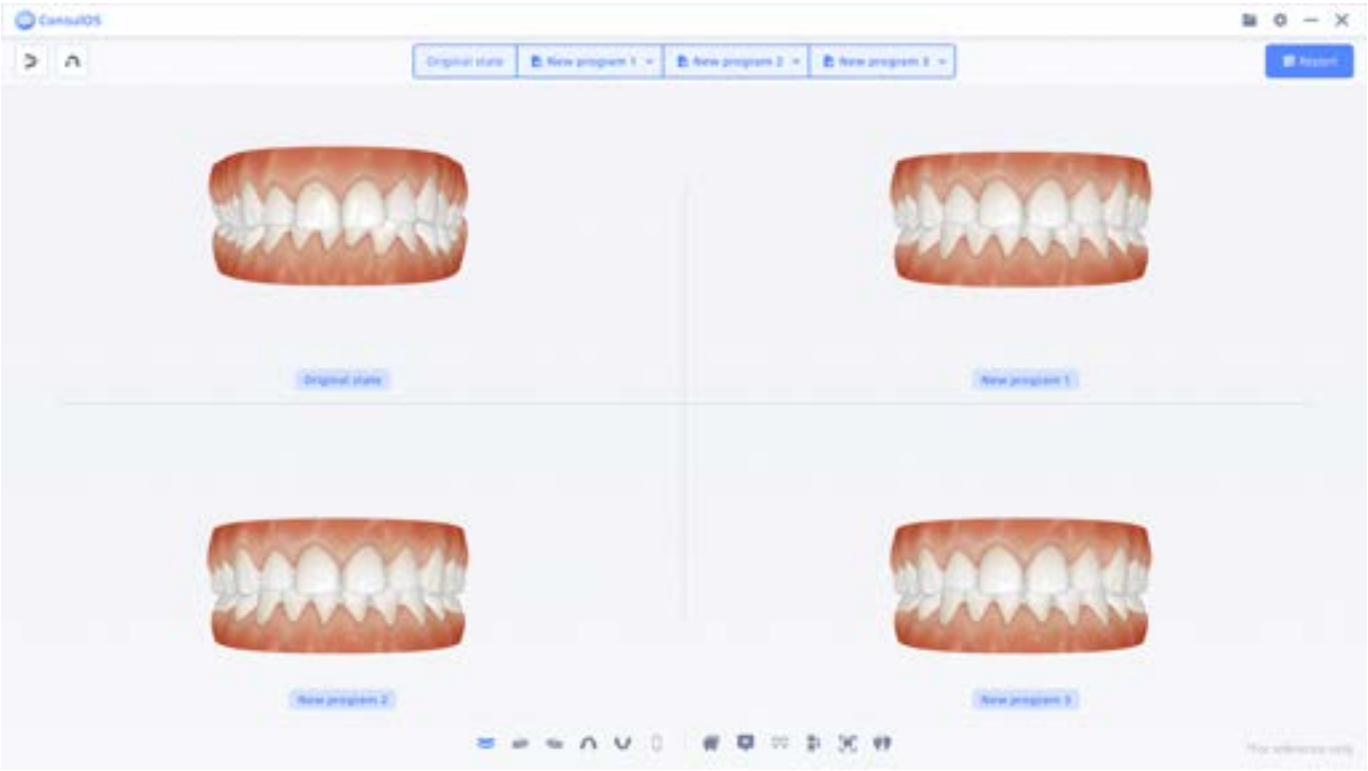
> **Note**
>
> Preview the animation of one program is supported. If comparing 2 or more programs, click and then a tip will pop up to select a program.

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

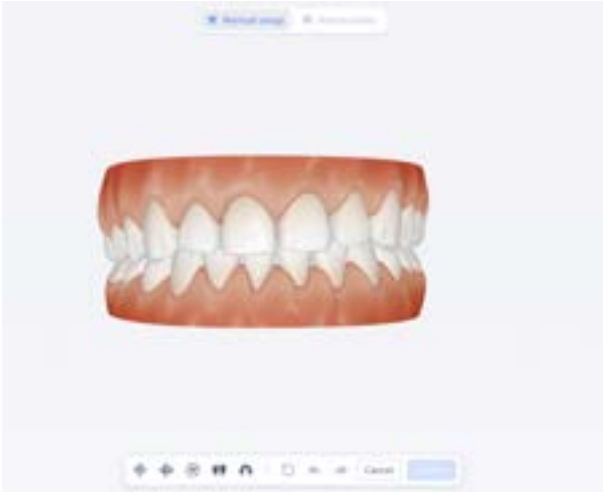
Name	Description	Effect
Overlay	Not enabled by default. Click to overlay the model of the original state on the simulated model. The original model will be displayed in blue.	
Tooth position	Not enabled by default. Click to show tooth number on the model.	
Brackets	After adding brackets, click to show brackets on the model. **Caution** Please add bracket in advance. More details can be found in Add brackets.	
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 Manual setup.	
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.



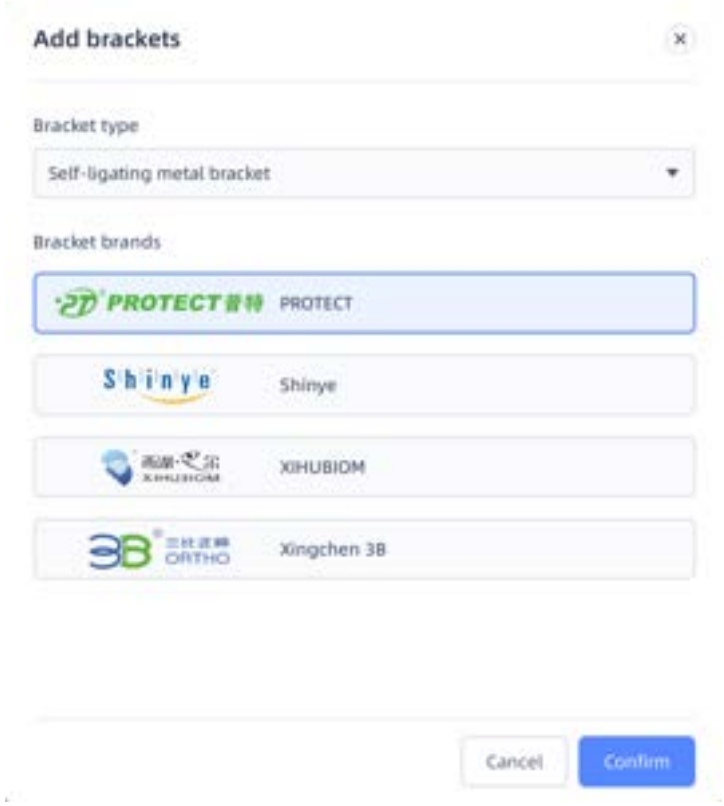
Add brackets

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.

AccuDesign (Optional)

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 curser while hold down the left and right mouse buttons
Rotate	Move the curser 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
Model without foundation		/	/
Model with foundation		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
Orthodontic ABO			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**:



Baseplate honeycomb



Throughout honeycomb



Solid



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 lease proceed to Attachment adjustment.

Import a Project

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

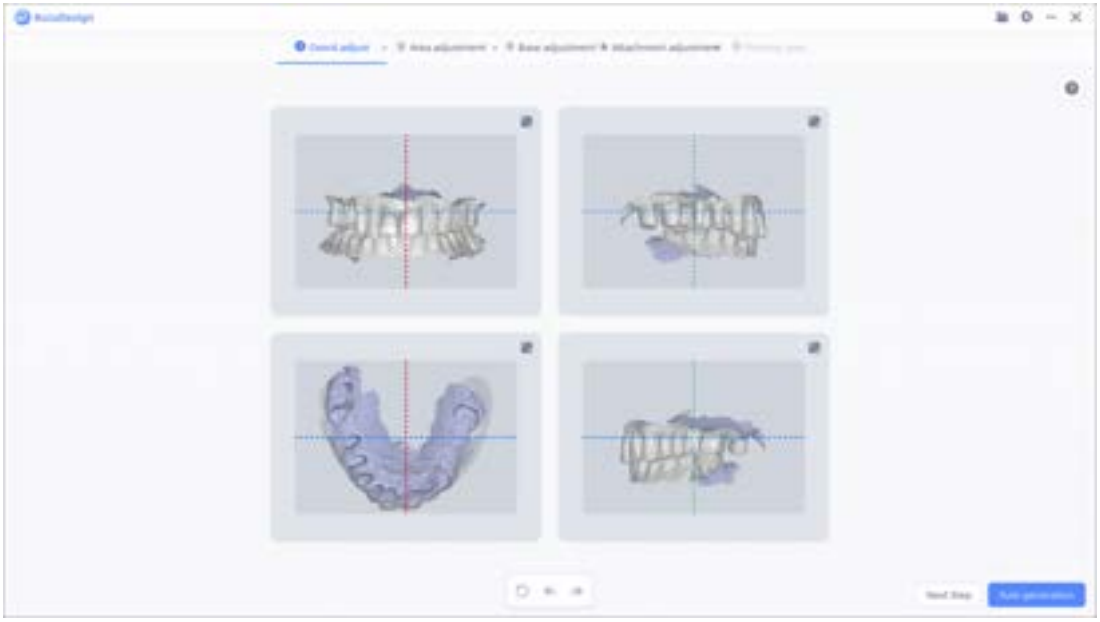
1. Click **Import project** will pop up a **Import project** dialog box.
2. Double click a project file in the dialog box, or click to choose a project file and click **Open** button to import the project.

> **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 **light grey** 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 **dark grey** 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

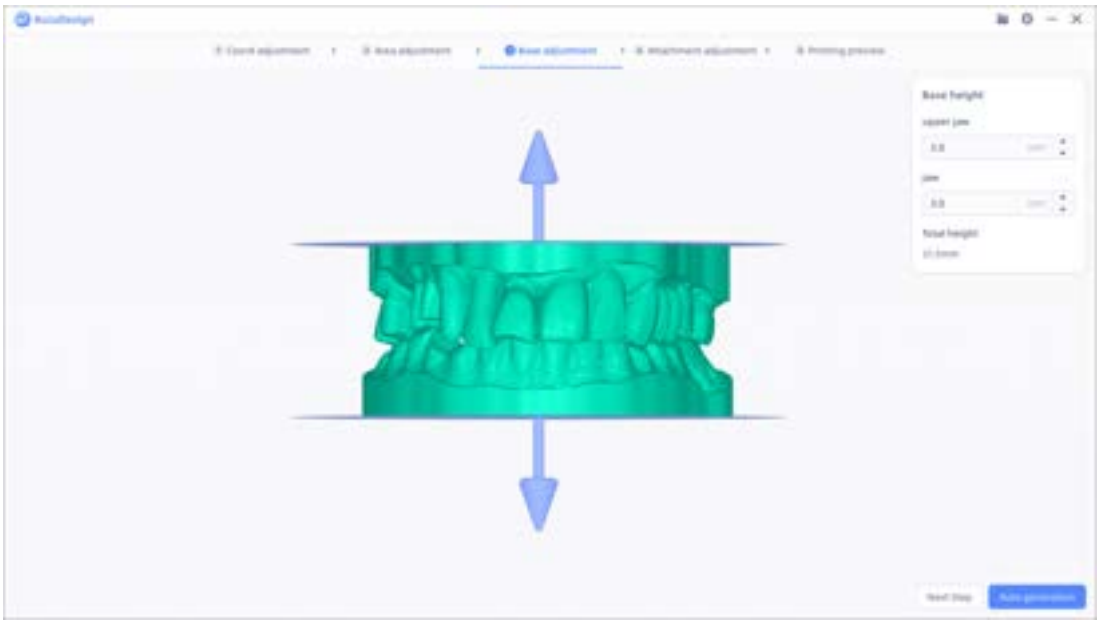
On the interface of **Area adjustment**, use **Brush**, **Transmission** and other tools to manually select area to be printed.

> **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	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. 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 **Transmission** tool to select both the inner and outer sides of the jaw simultaneously. 3. After selecting the area, you can use the region size adjustment slider to repeatedly enlarge or reduce the selected area's size.
Eraser	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. 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 **Transmission** tool to deselecting both the inner and outer sides of the jaw simultaneously. 3. After deselecting the area, you can use the region size adjustment slider to repeatedly enlarge or reduce the size of the deselected area.
Transmission	1. Click the button, and the button will switch to . 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.
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 text**area, 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 (Optional)

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.

Note

If you open MetronTrack from IntraoralScan, it will create the design based on the current order.

Characteristic

Marking teeth at different stages

It is supported to mark teeth at different stages (primary dentition, mixed dentition and permanent dentition).

→ Mark teeth

Various methods for measurement and analysis

It is supported to analyze teeth via multiple methods.

→ Measurement analysis

Model comparison

It is supported to compare 2 sets of models on the same screen for their changes in tooth positions or tooth wear. It can be used to check the effectiveness of orthodontic treatment.

→ Model comparison

Generating and uploading reports

It is supported to generate and upload a report which includes the measurement results.

→ Generate a report

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 Functions

MetronTrack includes Mark teeth, Measurement analysis and Model comparison. You can switch the functions by clicking the icons.

② Timeline

Via the timeline, you can drag to switch between the models or click to add/delete another model.

- **Mark teeth** only supports displaying one set of data.
- **Measurement analysis** supports displaying one or two sets of data.
- **Model Comparison** only supports two sets of data.

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

③ Preview

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

- Rotate the model: Hold the left/right mouse button and move.

- Move the model: Hold the left and right mouse button and move, or hold the mouse wheel and move.
- Zoom in or zoom out: Scroll the mouse wheel.

④ Setting

- **Report**: Save and upload Report of different measurement data.
- **Help**:
  - Click to check the User Manual and Shortcut instructions.
  - Auto Pop-up Guidance: Enabled by default. When disabled, you can manually click to pop up the guidance.
- Screenshots:
  - Click **Screenshot** to capture the screen and you can edit the picture by clicking the picture displayed at the right bottom corner.
  - Click **Screen Record** to record the screen and click again to end it.
  - Click **Find the screenshots/screen records** to view the storage path.
- **Settings**:
  - Select **Reference Range Template**: 2 default templates are provided.
  - You can click or **Check Template** to view the template.
  - Click **Add a new template** to create a new template.

⑤ Function bar

Modify area

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

Name	Description	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 wholely 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 be re-numbered.
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.

4. Click to confirm and exit the operation interface, or click to exit.

> **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.

⑥ Visible control

Number

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



Enabled



Disabled

Texture

Enabled by default. When enabled, the model is colored.



Enabled



Disabled

Area

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

Measurement Analysis

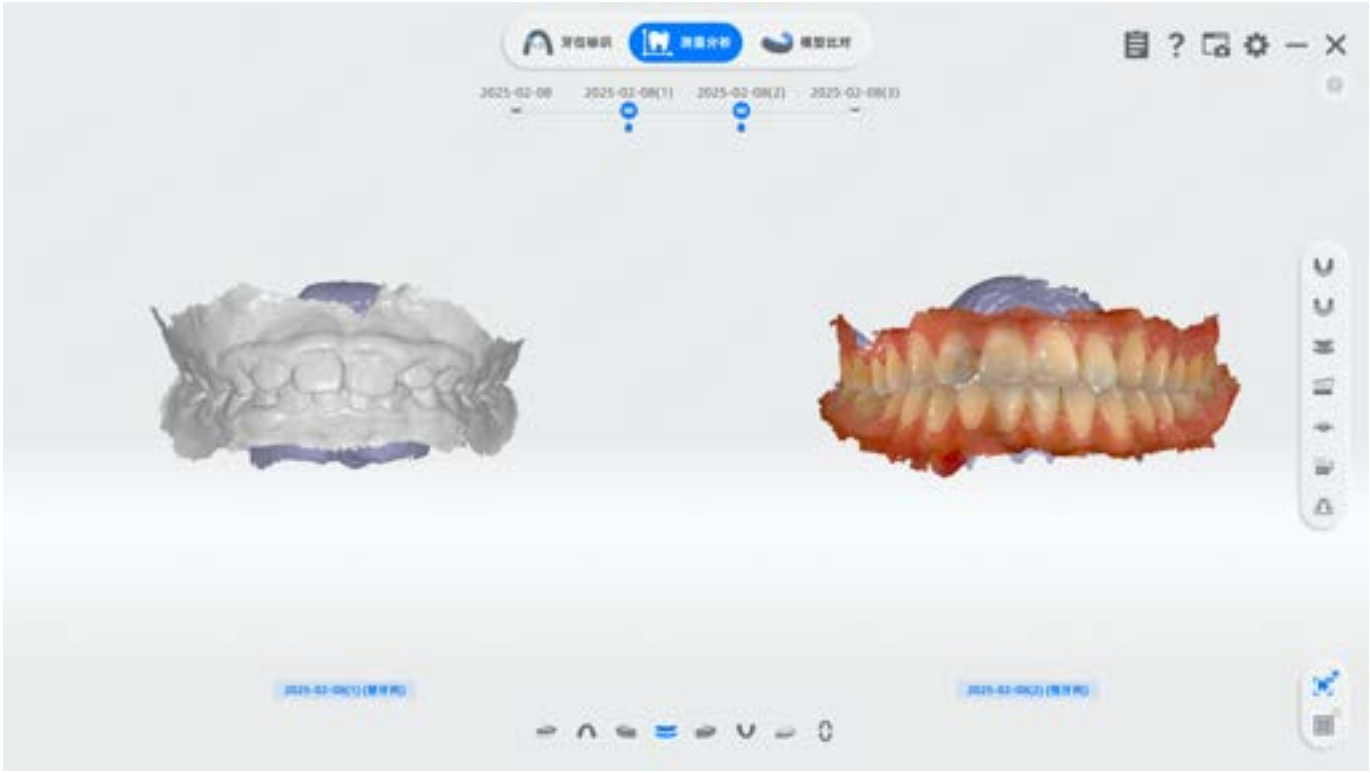
Click to enter the measurement analysis interface.



Enabled



Disabled



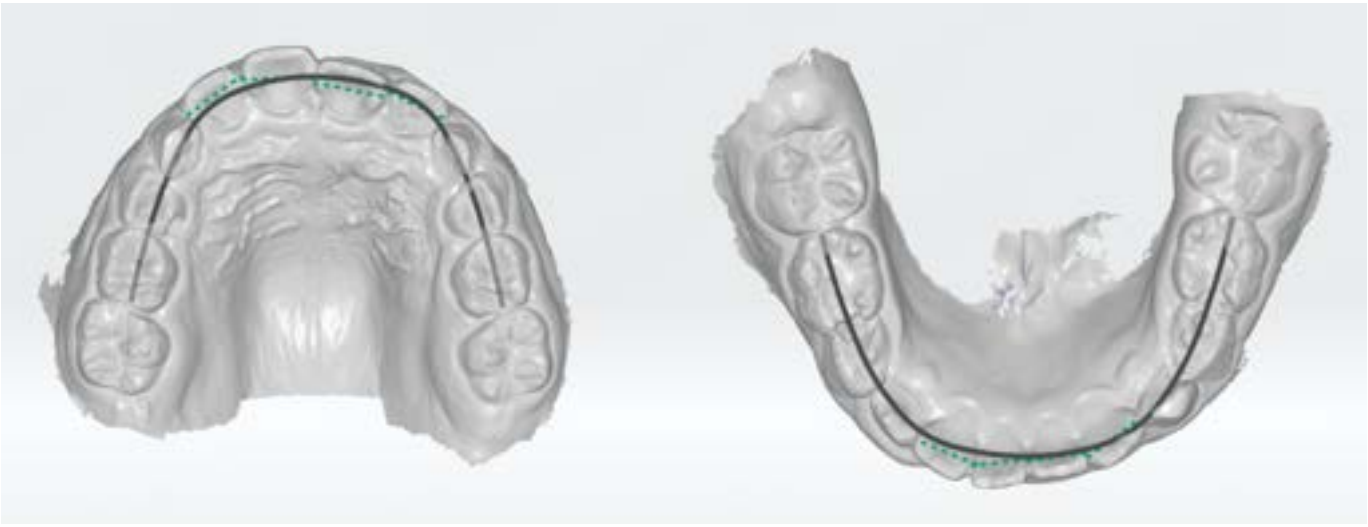
The measurement methods are displayed on the right side of the interface. You can analyze various data of the model through different measurement methods. You can select one or two models for measurement analysis through the timeline.

Moyers analysis

For patients in the mixed dentition stage, you can use the **Moyers analysis**. By referring to the **Moyers analysis table of tooth width for males and females** and the crown width of the erupted mandibular incisors, you can predict the crown width of the upper and lower canines and premolars, thus predicting the dental crowding of the permanent teeth that will erupt.

> ⚠ **Caution**
>
> - Moyers analysis is **only applicable to patients in the mixed dentition stage**.
> - Moyers analysis is **only applicable to the prediction of dental crowding when all the permanent incisors have erupted**. The presence of primary incisors will affect the accuracy of prediction.
> - When importing a single upper jaw, Moyers analysis is not supported; when importing data for a single lower jaw, Moyers analysis is supported.

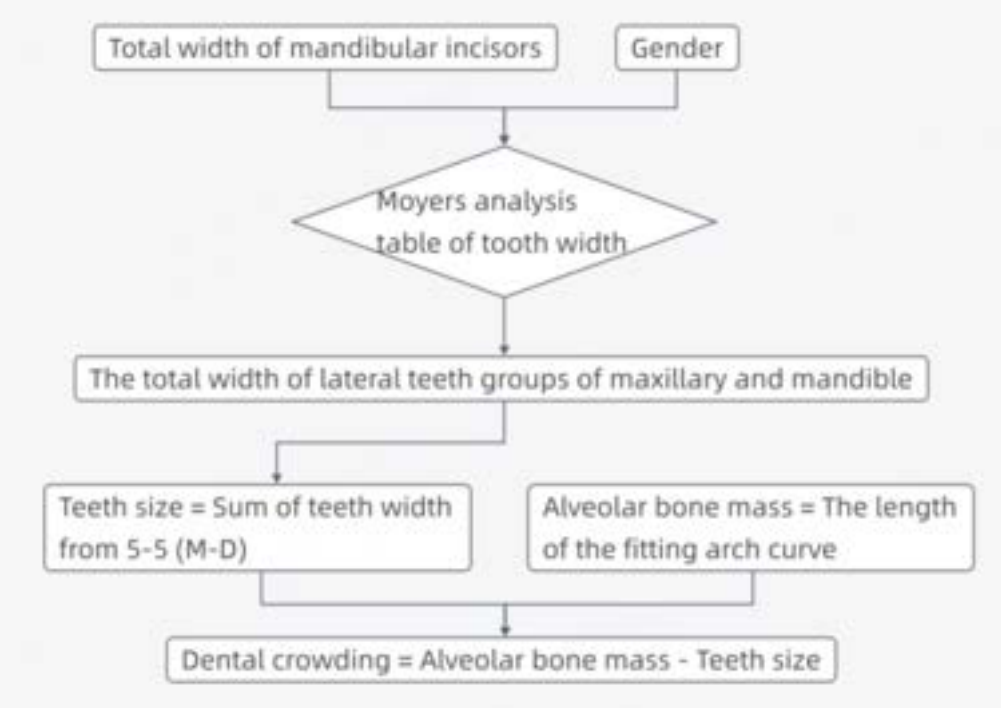
After entering Moyers analysis, the fitted dental arch curves of the upper and lower jaws will be automatically generated. A measurement table will be generated as well, including multiple measurement results such as teeth size, alveolar bone mass, and dental crowding prediction.



In the measurement table, move the cursor to ⓘ to view the Moyers measurement method. Click **Check the Moyers table** to pop up the Moyers analysis table of tooth width for males and females.

You can move, zoom, and perform other operations on the measurement table. For details, please refer to Measurement Table Operations.

Measurement Method:



Manual adjustment of the dental arch

1. Click the dental arch (which will be colored in blue), and a panel for dental arch shape adjustment will appear at the bottom right corner.
2. On the panel, you can hold the control point on the dental arch curve and move the cursor to adjust the shape of the dental arch.

Manual adjustment of the tooth width

1. After clicking a tooth on the green dashed line, the label will display the tooth width and a panel for width adjustment will appear at the bottom right corner.
2. On the panel, you can rotate the tooth to align the mesiodistal and buccolingual directions with the coordinate axes. The measurement value of the tooth width will be updated in real-time.

> **Note**
>
> To move the panel, you can hold at the top right corner of the panel and move the cursor.

Dental crowding measurement

Dental misalignment will lead to dental crowding. **Dental crowding measurement** is mainly used to measure the dental crowding of patients at the permanent dentition stage. Dental crowding is an important indicator for determining whether a patient needs tooth extraction. This function will measure the crown width of the permanent teeth and the length of the fitted dental arch. The difference between the two is the crowding.

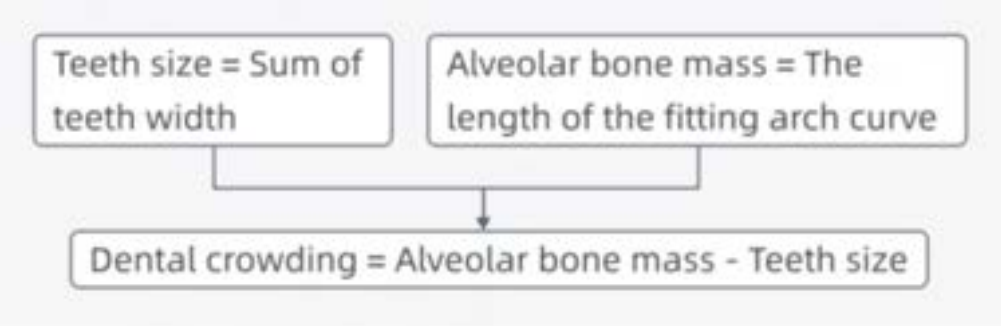
After entering this function, the fitted dental arch curves of the upper and lower jaws will be automatically generated. A measurement table will be generated as well, including teeth size, alveolar bone mass, and dental crowding results.



The measurement table provides crowding measurements for 3-3, 5-5, 6-6, and 7-7 dental arches. You can switch the dental arches to obtain different measurement results. Move the cursor to ⓘ to view the crowding measurement method.

You can move, zoom, and perform other operations on the measurement table. For details, please refer to Measurement Table Operations.

Measurement Method:



Manual adjustment of the dental arch

1. Click the dental arch (which will be colored in blue), and a panel for dental arch shape adjustment will appear at the bottom right corner.

2. On the panel, you can hold the control point on the dental arch curve and move the cursor to adjust the shape of the dental arch.

Manual adjustment of the tooth width

1. After clicking a tooth on the green dashed line, the label will display the tooth width and a panel for width adjustment will appear at the bottom right corner.
2. On the panel, you can rotate the tooth to align the mesiodistal and buccolingual directions with the coordinate axes. The measurement value of the tooth width will be updated in real-time.

> **Note**
>
> To move the panel, you can hold at the top right corner of the panel and move the cursor.

Bolton ratio measurement

Bolton ratio refers to the ratio of the mesiodistal widths of the upper and lower teeth. Through **Bolton ratio measurement**, you can preliminarily determine whether the upper and lower dental arches and tooth widths of the patient are abnormal, which can be used as a reference for diagnosing malocclusion.

In addition, by analyzing the Bolton ratio, you can assess the size of the tooth volume of the upper and lower jaws and effectively adjust the arrangement of the teeth based on the results. Therefore, Bolton ratio measurement is of great reference value in orthodontic treatment planning.

> **Caution**
>
> Bolton ratio measurement is **only applicable to patients at the permanent dentition stage**.

After entering this function, the widths of the upper and lower teeth will be detected and displayed as green dashed lines on the model.

A measurement table will be generated as well, including the sum of mandibular and maxillary anterior teeth, the anterior ratio, and the overall ratio.



Measurement Method:

- Anterior Ratio = (Sum of the mandibular 6 (M-D) / Sum of the maxillary 6 (M-D)) * 100%
- Overall Ratio = (Sum of the mandibular 12 (M-D) / Sum of the maxillary 12 (M-D)) * 100%

You can move, zoom, and perform other operations on the measurement table. For details, please refer to Measurement Table Operations.

Manual Adjustment of Tooth Width

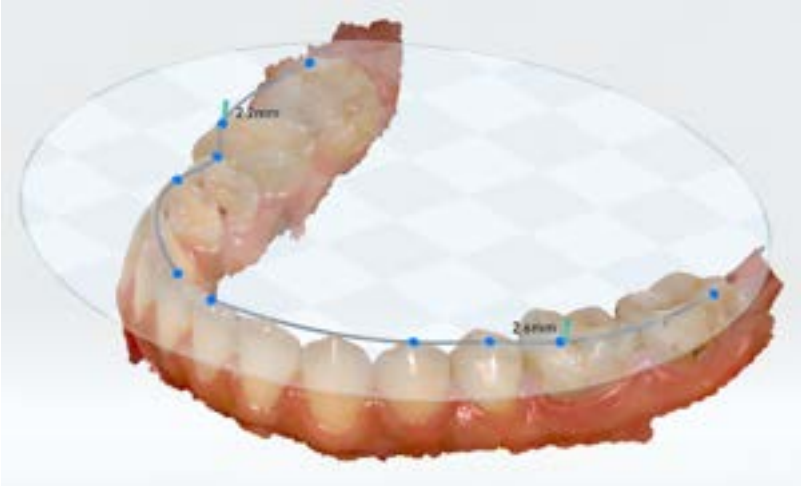
1. After clicking a tooth on the green dashed line, the label will display the tooth width and a panel for width adjustment will appear at the bottom right corner.
2. On the panel, you can rotate the tooth to align the mesiodistal and buccolingual directions with the coordinate . The measurement value of the tooth width will be updated in real-time.

> **Note**
>
> To move the panel, you can hold at the top right corner of the panel and move the cursor.

Curve of Spee

The leveling of the Spee curve is a key factor for the success of orthodontic treatment. Click to enter this function. The fitted Spee curve and plane of the lower jaw will be automatically generated. A measurement table will be generated as well.

> ⚠ **Note**
>
> If there are too many teeth missing (e.g., missing lower central incisors or both the first and second molars on the same side) on the imported model, the measurement of the Spee curve is not available.



- The plane is formed by three points: the midpoint of the incisal edge on the central incisors of the lower jaw, the distobuccal cusp tips of the second molars on both sides of the lower jaw (or the distobuccal cusp tips of the first molars on both sides).
- The curve is formed by multiple feature points on the teeth.
- The green line represents the distance from the lowest point of the Spee curve to the plane.

You can move, zoom, and perform other operations on the measurement table. For details, please refer to Measurement Table Operations.

Measurement Method:

Create fitted curve of Spee and plane, and calculate the distance from the lowest point of the curve to the plane.

Manual Adjustment

You can manually adjust the Spee curve by moving the blue feature points on the curve. The measurement results in the table will be updated in real-time.

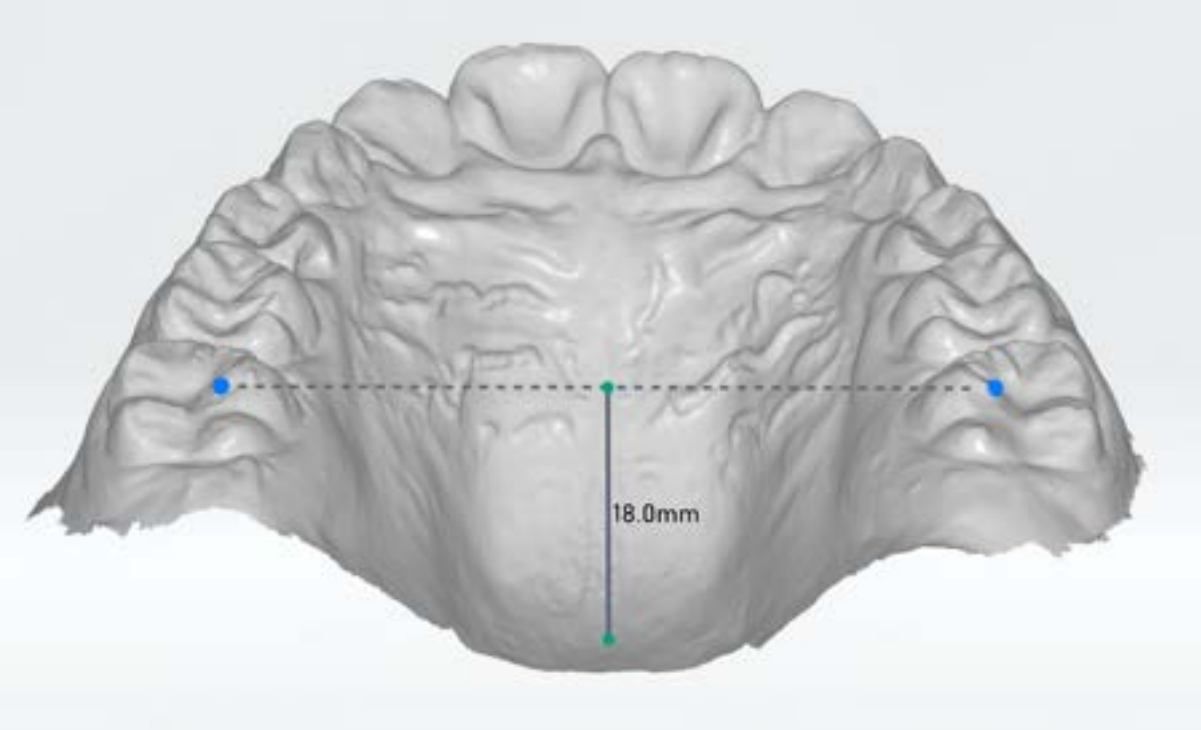
Palatal height measurement

Palatal Height Measurement allows you to visually examine the patient's palatal condition. By observing the patient's palatal condition and the direction of the posterior alveolar, you can determine whether the patient has dental or skeletal maxillary transverse deficiency.

If a crossbite patient has a wide and flat palate but the posterior alveolar tilts towards the palate, it may indicate a dental crossbite; if the patient has a V-shaped dental arch and/or a narrow and high palate, it may indicate a skeletal discrepancy. Measuring the palatal height can provide reference data for orthodontic treatment, helping you to develop a more precise treatment plan.

After entering this function, a line segment linking the central fossa of teeth 16 and 26 will be automatically generated. The distance between the palate and the midpoint of this line segment is the palatal height.

> ⚠ **Caution**
>
> - Palatal height measurement is only supported for the upper jaw when importing a single jaw.
> - Please ensure the model is completely scanned, otherwise, palatal height measurement is not supported.



By moving the blue control points at both ends of the line segment, you can measure the palatal height at other positions. The measurement results in the table will be updated in real-time.

You can move, zoom, and perform other operations on the measurement table. For details, please refer to Measurement Table Operations.

Occlusion

Click  to enter occlusion measurement, which is divided into four measurement tools: Overbite and overjet, Molar relationship, Canine relationship, and Midline relationship.

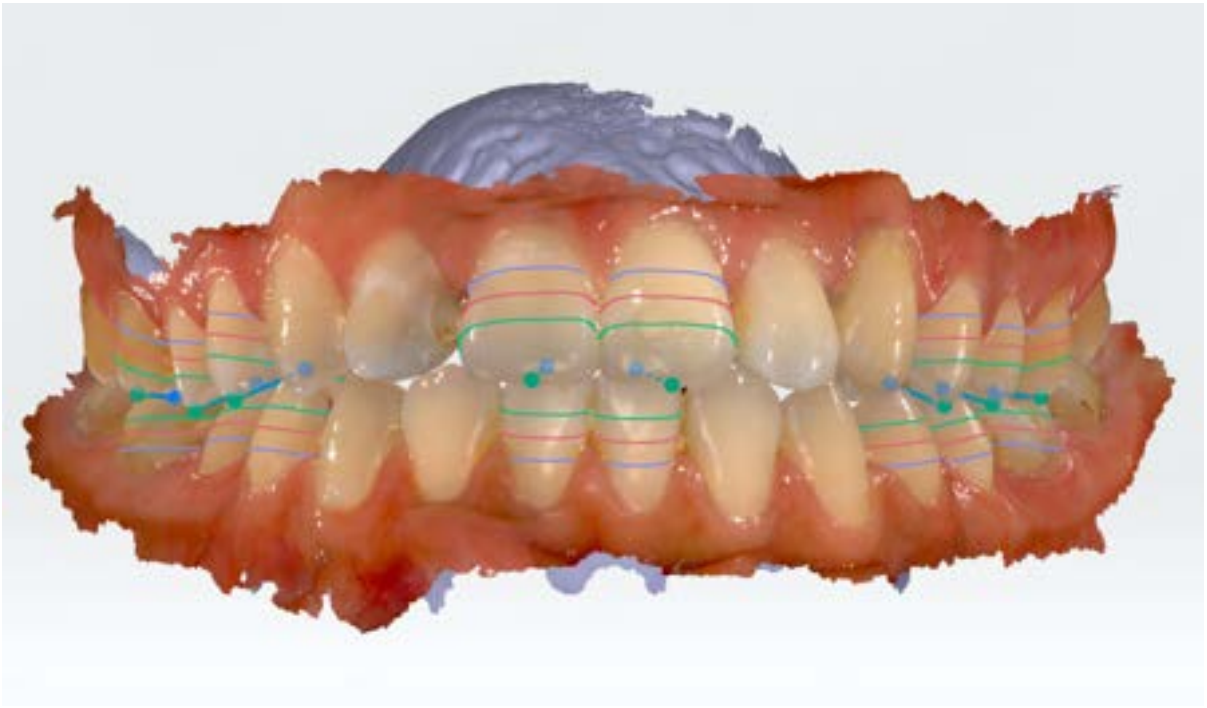
> ⚠ **Caution**
>
> When importing a single jaw, occlusion measurement is not supported.

Overbite and overjet

Overbite and overjet measurement helps you view the occlusal relationship between the upper and lower teeth of the patient, aiding in diagnosing occlusal problems.

Click  to enter overbite and overjet measurement. Teeth with overbite and overjet relationships will be automatically detected. Feature lines at ⅓, ½, and ⅔ of the crown and feature points will be generated.

A measurement table will also be generated, including tooth position, overbite degree, and overjet degree.



Manual adjustment of feature points

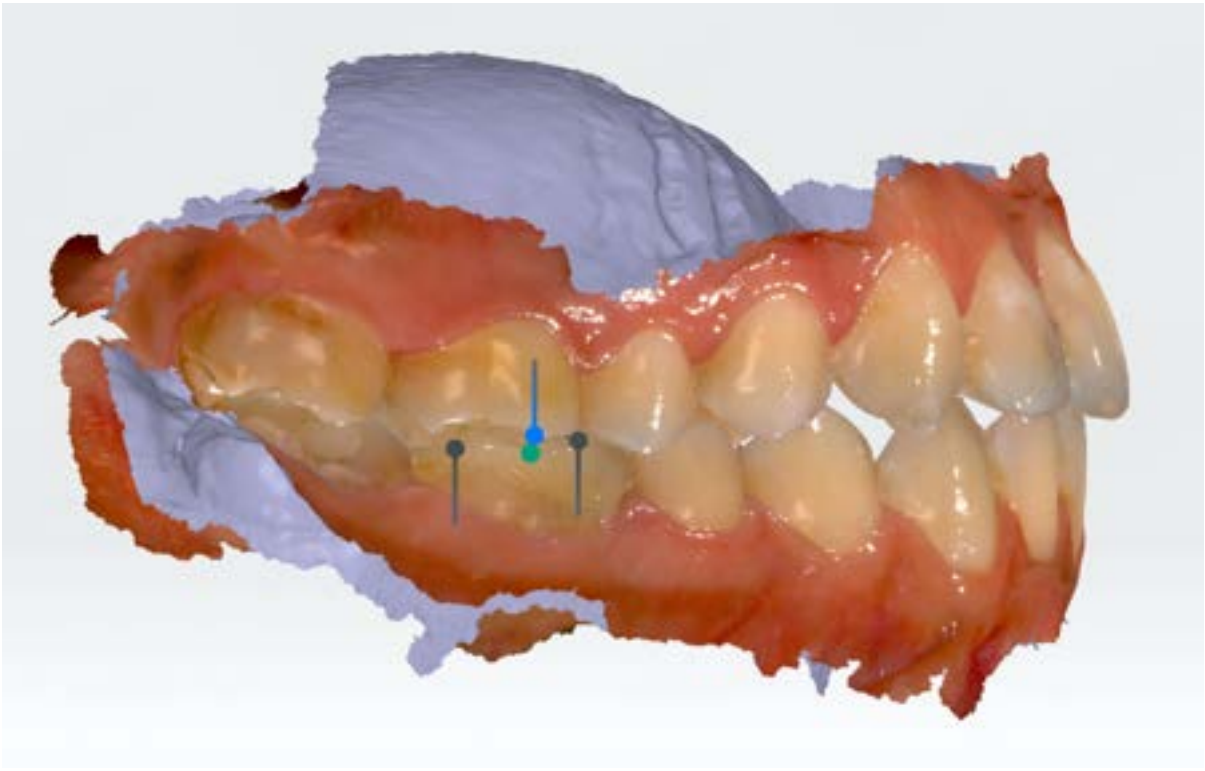
1. Click a pair of teeth to be adjusted, and the adjustment panel will be displayed at the bottom right corner.
2. On the left side of the panel, you can hold and move the feature point. The overbite and overjet relationships for the corresponding teeth will be updated in real-time.

   You can hold the left/right mouse button to rotate the teeth.
3. Take the upper and lower central incisors as an example. Click this pair of teeth and manually adjust the feature points on the panel.
   - According to the relative position of the upper central incisor to the lower central incisor crown and the relative position of the lower central incisor to the upper central incisor crown, the overbite relationship will be displayed on the measurement table.

- Move the feature point of the upper incisal edge to adjust the length of the line connecting this point to the point of the lower incisal edge. The overjet relationship measurement will be displayed on the measurement table.

Molar relationship

Click  to enter the molar relationship measurement. Different feature points will be displayed according to different stages (primary dentition, mixed dentition and permanent dentition).



Period	Feature Points
Primary dentition	Mesial buccal cusp tips of the second primary molars (55 and 65) and mesial buccal groove points, mesial buccal cusp tips, and distal buccal cusp tips of the second primary molars (75 and 85).
Mixed dentition	Mesial buccal cusp tips of the first molars (16 and 26) and mesial buccal groove points, mesial buccal cusp tips, and distal buccal cusp tips of the first molars (36 and 46).
Permanent dentition	Mesial buccal cusp tips of the first molars (16 and 26) and mesial buccal groove points, mesial buccal cusp tips, and distal buccal cusp tips of the first molars (36 and 46).

Molar relationship

Position	Molar Relationship
Mesial buccal cusp tip of the maxilla is between the mesial and distal buccal cusp tips of the mandible	Neutral relationship
Mesial buccal cusp tip of the maxilla is anterior to the mesial buccal cusp tip of the mandible	Distal relationship
Mesial buccal cusp tip of the maxilla is posterior to the distal buccal cusp tip of the mandible	Mesial relationship

Manual Adjustment of Feature Points

1. Click a pair of teeth with a molar relationship, and the adjustment panel will be displayed at the bottom right corner.
2. On the left side of the panel, hold and move the feature points of the teeth to modify the molar relationship.

   You can hold the left/right mouse button to rotate the upper and lower teeth.
3. Take teeth at the permanent dentition stage as an example. Move the feature point on the panel to adjust the distance between this point and the buccal groove point, mesial buccal cusp tip, and distal buccal cusp tip of the mandible, thereby determining the molar relationship on both sides of the teeth.

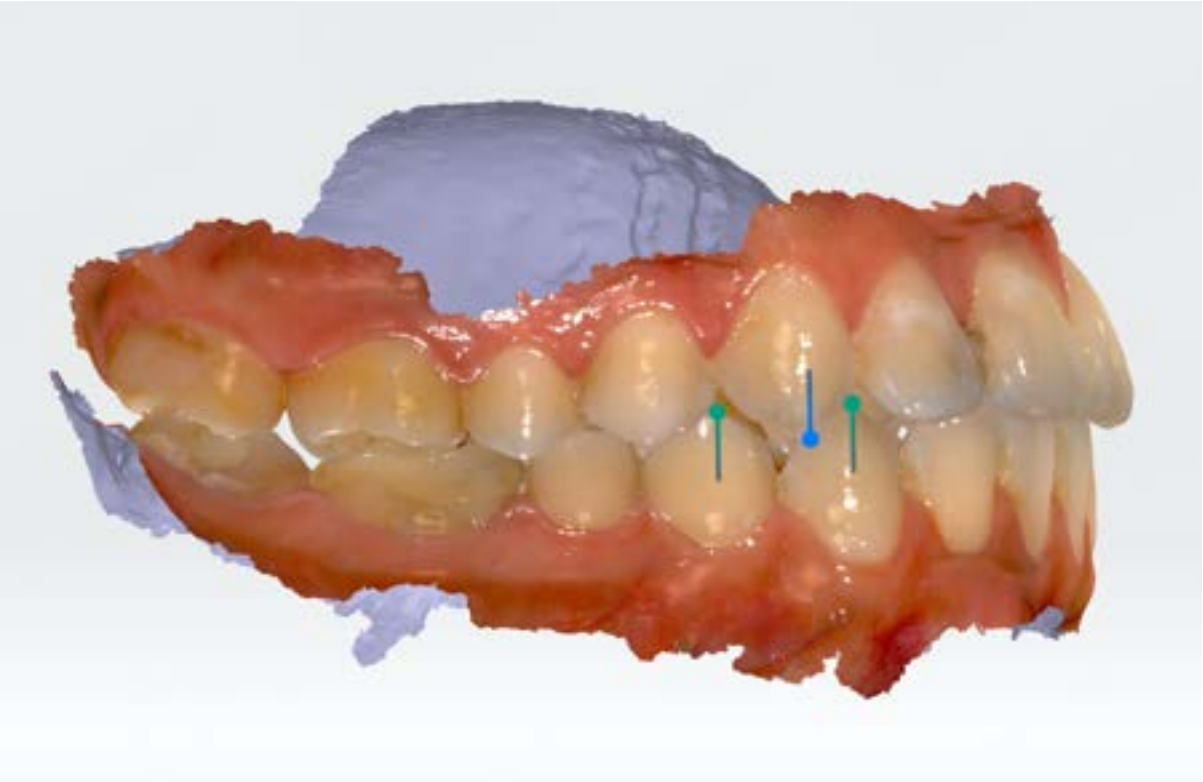
Note

If one or both teeth in a pair of molar relationship are missing, the feature points for that pair of teeth will not be displayed.

Canine relationship

A neutral canine relationship is a prerequisite for normal occlusion and function.

Click  to enter the canine relationship measurement. It will automatically identify the cusp tips of the canines (13, 23, 33, 43) and the buccal cusp tips of the first premolars (34, 44), and generate feature points. A canine relationship measurement table will also be generated.



Canine relationship

Position	Canine Relationship
The line connecting the cusp tips of the maxillary canines is between the cusp tips of the mandibular canines and the buccal cusp tips of the mandibular first premolars	Neutral relationship
The line connecting the cusp tips of the maxillary canines is anterior to the cusp tips of the mandibular canines	Mesial relationship
The line connecting the cusp tips of the maxillary canines is posterior to the buccal cusp tips of the mandibular first premolars	Distal relationship

Manual adjustment

1. Click teeth with a canine relationship, and the adjustment panel will be displayed at the bottom right corner.
2. On the left side of the panel, hold and move the feature point to modify the canine relationship.

   You can hold the left/right mouse button to rotate the upper and lower teeth.

Midline Relationship Measurement

Midline relationship measurement can be used to evaluate whether the midlines of the upper and lower teeth are aligned during orthodontic treatment.

Click to enter the midline relationship measurement. The system will automatically detect and generate the midlines of the upper and lower teeth and generate a measurement table.



Manual adjustment

Hold and move the point in the center of the midline to move the midline. The measurement data in the table will be updated simultaneously.

Dental arch measurement

The dental arch supports the soft tissues of the face, so measuring the length, width, symmetry, and form of the dental arch can help customize a personalized treatment plan for the patient.

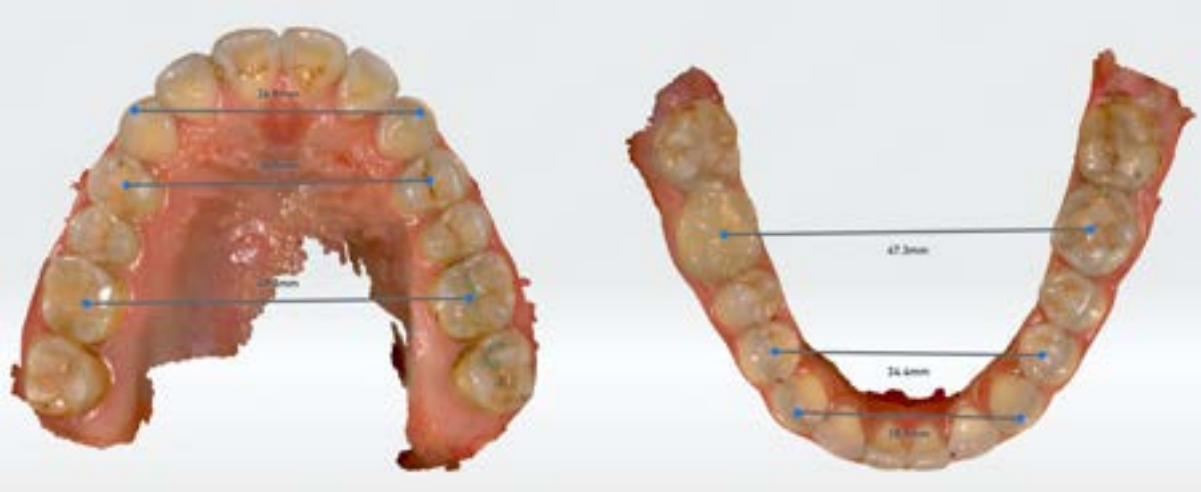
Click to enter the dental arch measurement, which is divided into Width of dental arch, Length of dental arch, Dental arch symmetry, and Arch form analysis.

Width of dental arch

Based on the width of the dental arch, you can evaluate the patient's arch development, detect or prevent tooth alignment problems early, and customize a treatment plan.

Click to enter the width of dental arch measurement. It will automatically measure the width of the anterior, middle, and posterior parts of the dental arch and generate a measurement table.

You can move the feature points on the dental arch to modify the width of the dental arch, and the measurement results in the table will be updated simultaneously.



Length of dental arch

Measuring the length of the dental arch can help determine whether the patient has insufficient space for permanent teeth due to early loss of primary teeth. You can treat early and restore space for permanent teeth eruption.

Click  to enter the length of the dental arch measurement. The system will automatically measure the length of the anterior, middle, posterior, and the total length of the dental arch, and generate a measurement table.

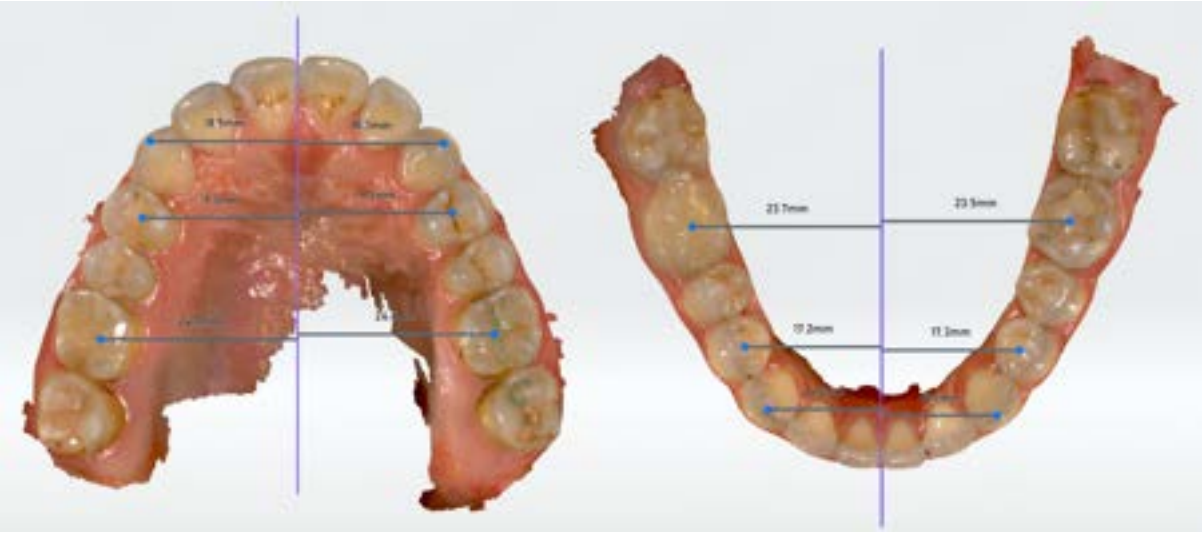
You can move the feature points on the dental arch to modify the length of the dental arch, and the measurement results in the table will be updated simultaneously.



Dental arch symmetry

Dental arch symmetry measurement can prevent problems caused by asymmetrical arches.

Click to enter this function. It will automatically generate a median sagittal plane and measure the distances from the left and right sides of the dental arch to the sagittal plane. The dental arch can also be divided into three parts: the anterior, the middle and the posterior.



You can move the feature points on the dental arch, and the measurement results in the table will be updated simultaneously. You can also move and rotate the median sagittal plane.

- **Move the median sagittal plane**: Hold the purple arrow in the center of the sagittal plane and move it along the arrow direction.
- **Rotate the median sagittal plane**: Hold and move the purple control points on the four sides of the plane.

Arch form analysis

The form of the dental arch is generally divided into three types: rounded square, oval, and tapered. Click to enter the arch form analysis. It will automatically detect the forms of the dental arch and generate a measurement table.



You can modify the arch shape by moving the measurement points on the dental arch or by modifying the measurement table.

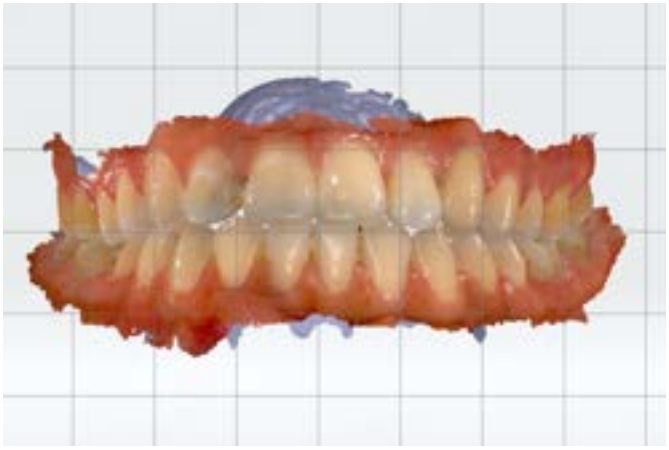
Measurement table operations

Operation	Description	Operation	Description
Move table	Hold and drag the cursor.	Show tooth width list	Click **Tooth Width List** to switch the measurement table.
Hide table	Click to hide the table.	Show table	Click at the bottom left corner of the interface to show the table.
Show/Hide reference values	Click / to show/hide reference values.	Modify measurement results	Double-click the values on the table or select the values on the dropdown list. The modified values will be displayed in blue. Click to restore the initial values.

Other functions

Show grid

When enabled, grid lines will be displayed in the background.



Show Grid

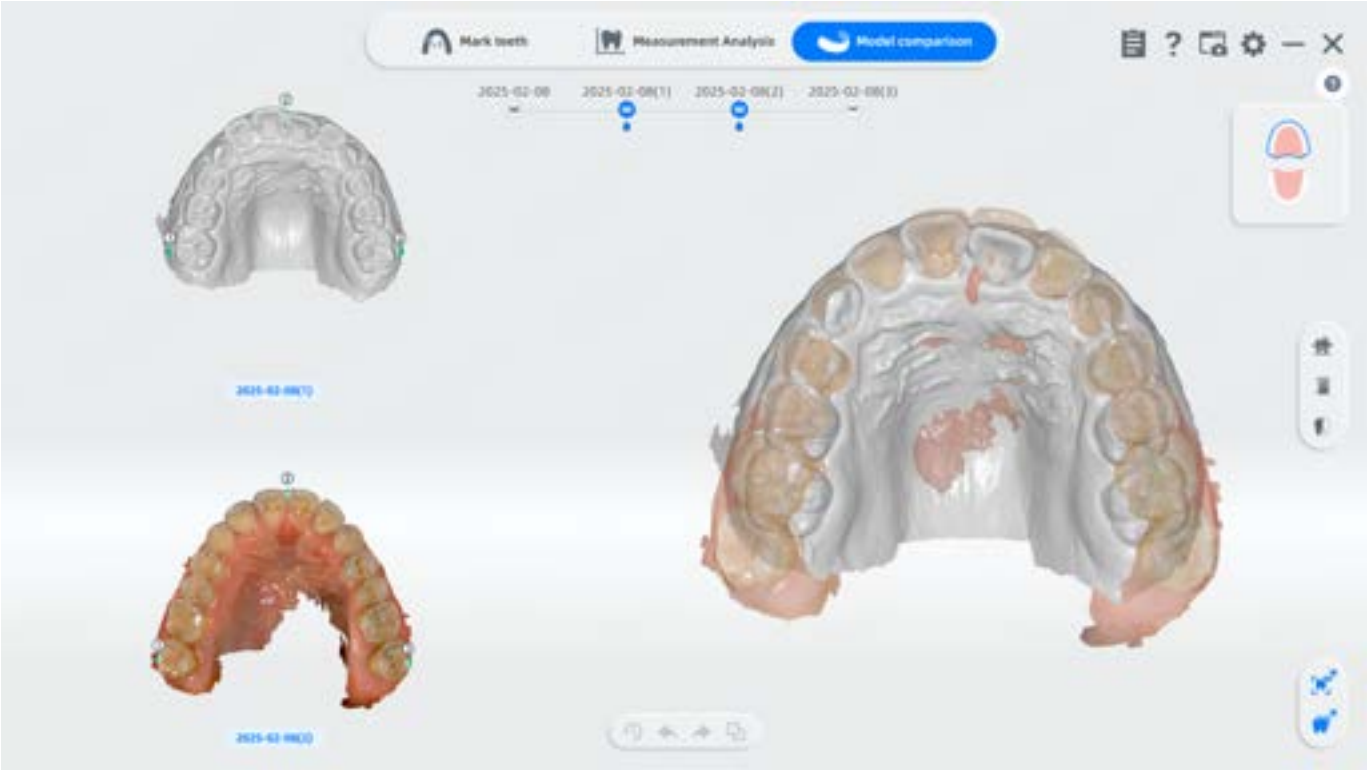


Hide Grid

Model Comparison

Model Comparison is a tool that can compare and analyze the differences in 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 the model comparison interface.



Model alignment

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

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

> **Note**
>
> In the model comparison interface, the upper jaws or the lower jaws will be automatically aligned and displayed by default.

Manual Alignment

1. Click on the model to add a new point. You can press the point to move it.

2. After adding corresponding points at the same position of the two models, click to manually align the two models. The overlay effect of two models will be displayed.

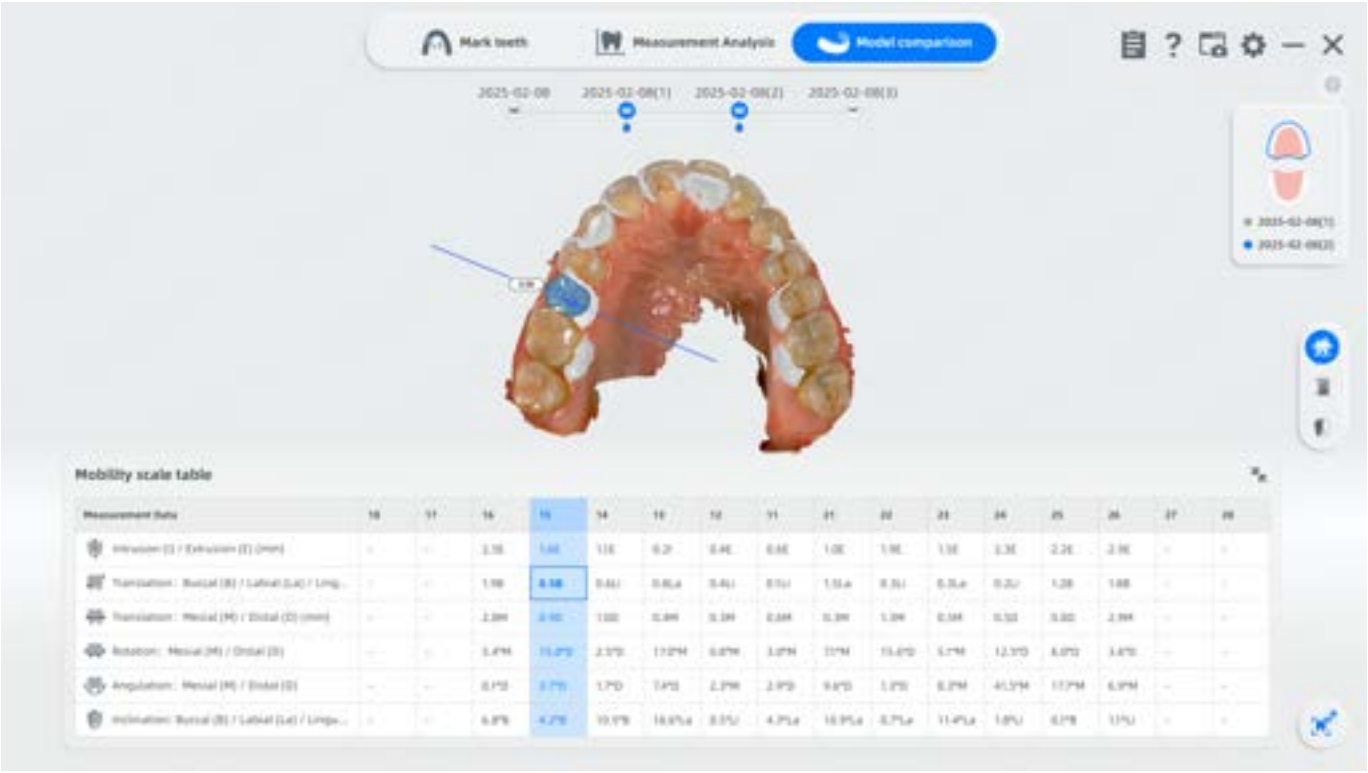
   Click to reset the positions if needed, leaving only the default three points remaining.

Teeth movement analysis

Click to enter **Teeth movement analysis**. Overlaid effect of the two models and the mobility scale table is displayed.

When you select one tooth on the model, the corresponding data on the mobility scale table will be highlighted.

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



> **Note**
>
> The movement value of new teeth and dental implants cannot be measured.

Color map

1. Click to view the color map for teeth comparison. You can switch the comparison area: **Tooth**, **Jaw** or **Gingiva**.
2. Drag the slider at the right bottom corner 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 the 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.

3. Click on the model and its numerical value will be shown in detail.
4. The photoscope can be dragged to the 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.

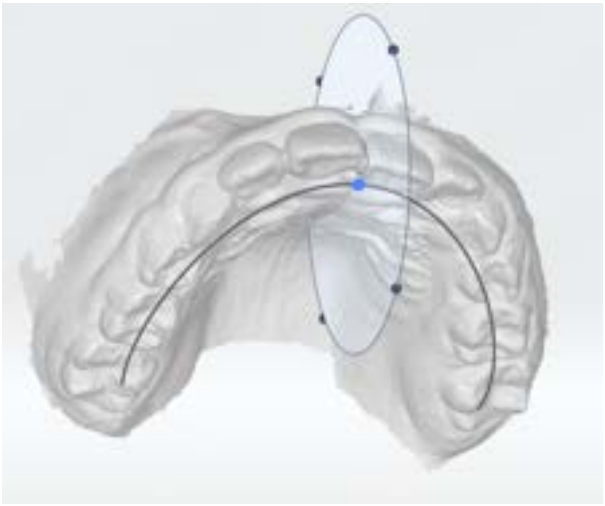
> **Note**
>
> Colors in the photoscope indicate the differences between Model 1 and Model 2 in this target area. The darker the color, the greater the difference.

Sectional view

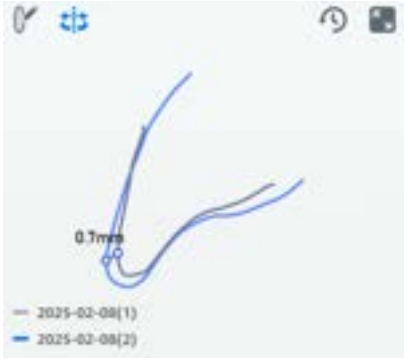
Click **Sectional View** and a screenshot plane will be automatically created on the model.

The 2D window at the lower right corner shows the corresponding intersecting parts between the plane and the model.

You can switch the comparison area: **Tooth**, **Jaw** or **Gingiva**.



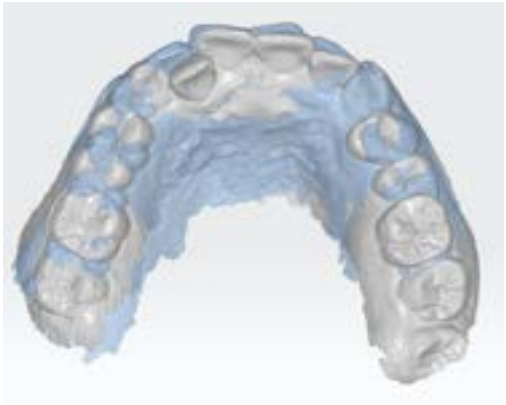
Plane operation	Description
Move the plane	Press the ball in the middle of the plane and move the cursor.
Rotate the plane	Press any part of the plane except the ball and move the cursor.

2D Window operation	Description
Vertical to dental arch	Click to show the dental arch on the model. When moving the plane, it will be vertical to the dental arch.
Draw a section	Click to draw a section on the model. Press and hold the left mouse button, then drag to draw a line to generate a section.
Reset	Click to reset the plane to the original state.
Zoom in/out	• Scroll up and down the wheel to zoom in and out the sectional view. • Click to zoom in and zoom out the 2D window.
Measurement	• Add a point: Click on the line to add a point. • Move the point: Press the point and drag. • Distance measurement: When 2 points are added, the distance between them is shown on the 2D window. And a line linking the 2 points will be shown on the 3D model as well. • Re-measurement: Add another 2 points to measure the distance again. 

Display effect

Overlay

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



Show Overlay



Hide Overlay

Measurement Report

Measurement results and images are visible in the report for use's reference.

Click in the upper right of the interface, and the measurement report will pop up.

Note

- You can select at most 2 sets of scanned data on the timeline, which will be displayed in the report.
- You can choose different measurement methods for the report output.

Icon	Name	Note
	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	Generate a QR code for the report. You can save the QR code or copy the link.

CreTemp (Optional)

Introduction

CreTemp is an intelligent software for designing temporary crowns. With simple interaction, it allows dentists to make temporary crowns in a short time. Compared to the traditional way of making temporary crowns by hands, CreTemp streamlines the process, making it more efficient and convenient for both dentists and patients due to its digital design process and 3D printing technology. The temporary crowns designed by CreTemp are more accurate and comfortable for patients as well.

Additionally, CreTemp can be paired with a 3D printer, allowing for the design and printing of temporary crowns immediately after tooth preparation is completed. CreTemp realizes the integrated process of tooth preparation, designing and making the temporary crowns, improving the diagnosis and treatment efficiency of dentists and patients.

> **Note**
>
> To print the temporary crowns, please install AccuWare first.

Getting started

Create a design

- How to create a design for a temporary crown

Pre-design

On the interface of Pre-design, the dentist can preview models and adjust the temporary crowns in advance.

- How to edit the margin line
- How to adjust the path of insertion
- How to adjust the posture

Design

On the interface of Design, the dentist can check the relationship between the temporary crown and the teeth with multiple tools.

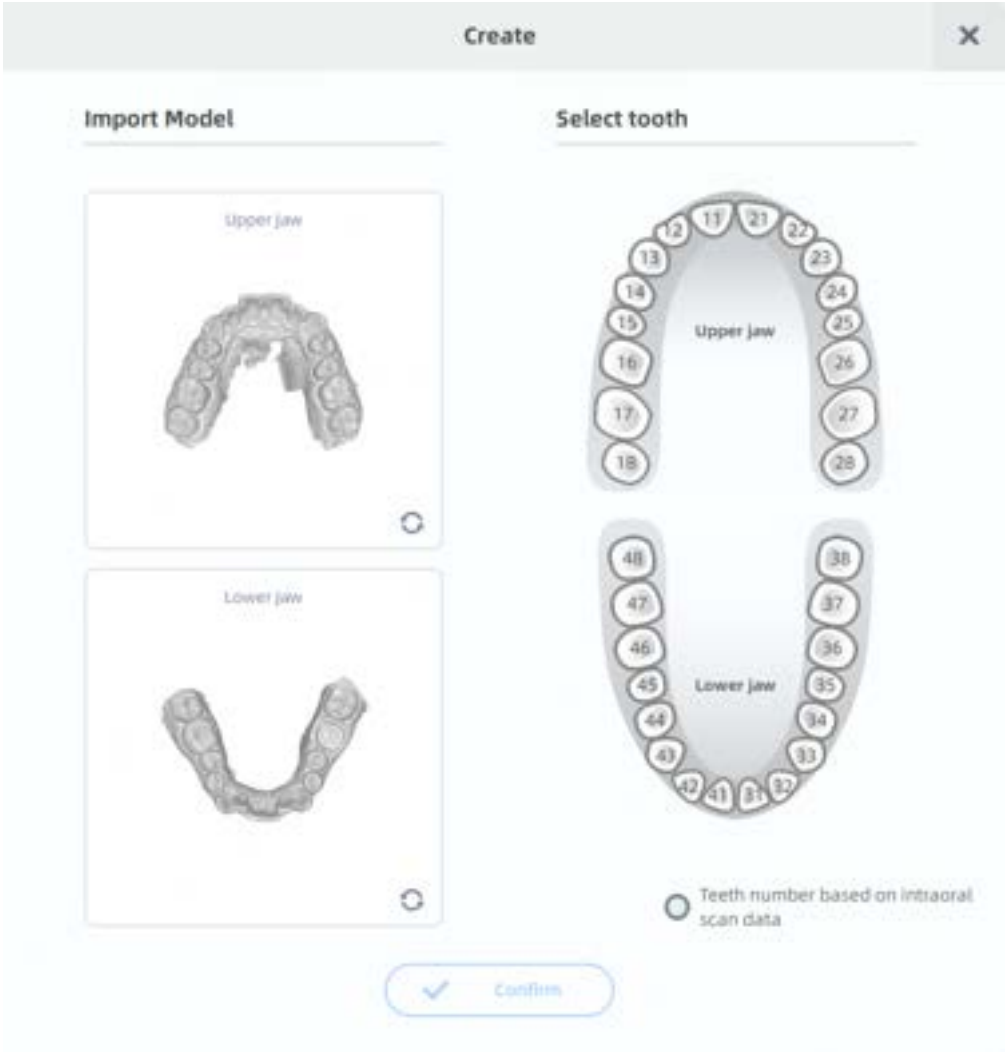
- Adjust the distance between the temporary crown and the teeth with adaptive adjustment
- Check the sectional view
- Check thickness of the temporary crown

Start Designing

Create a design

> **Caution**
>
> If you open CreTemp from other software (such as IntraoralScan), CreTemp will automatically create a design based on the current order.

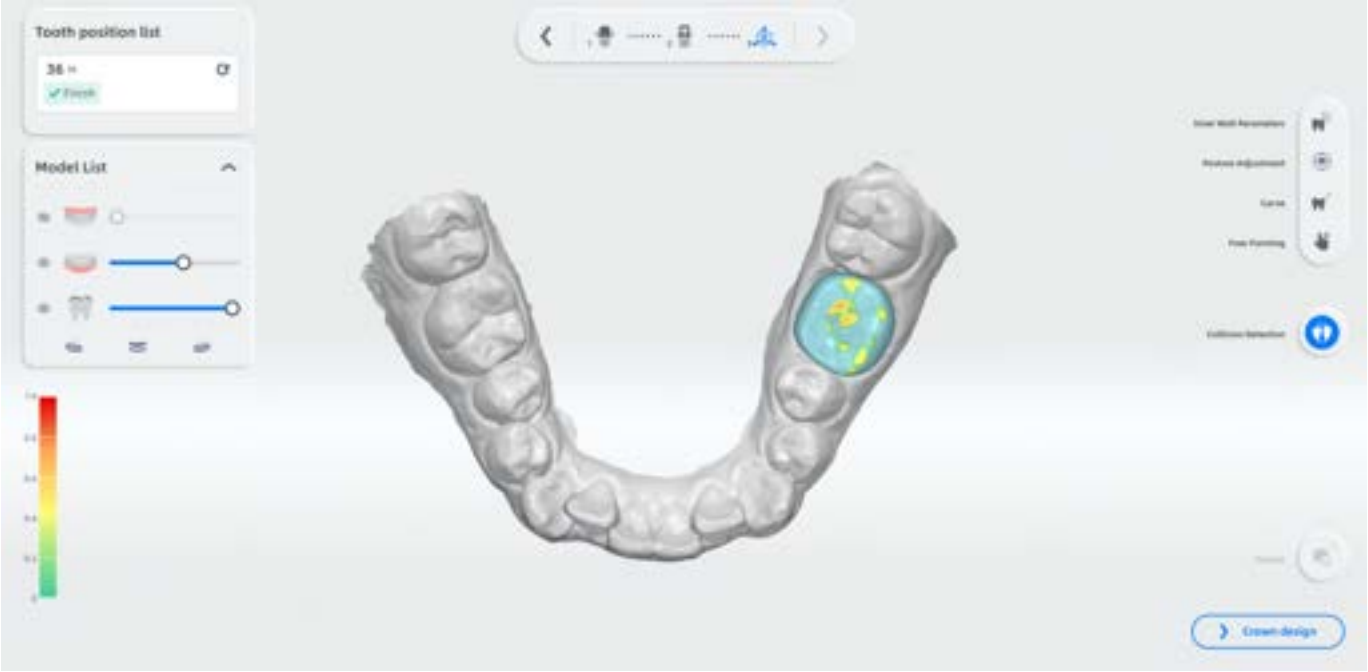
1. Select **CreTemp**.
2. Choose a tooth on the tooth map.



> **Note**
>
> It is supported to choose **only one tooth**.

3. Click **Confirm**.

Pre-design



It is divided into 3 steps: Margin line edit → Path of insertion adjustment → Posture adjustment.



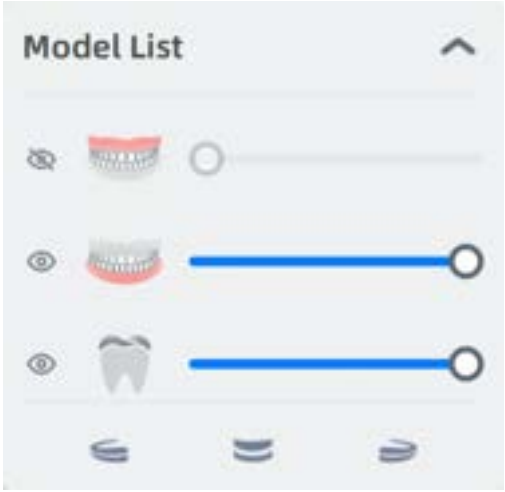
Tooth position list

Check the tooth and its status. When the 3 steps of pre-deisgn have been finished, a tip of ✓ Finish is displayed.

Reset: Click to reset the current result and return to **Margin line edit**.

Model list

Preview the models and the temporary crown.



- Move the slider to adjust the opacity of the models and the temporary crown.
- Click to hide the model.
- Click , and to preview the model from different views.

> **Note**
>
> To preview the temporary crown and adjust its opacity, please generate the temporary crown first in Posture adjustment.

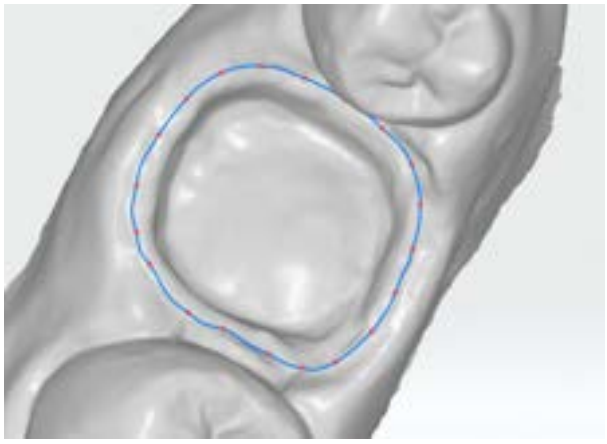
Margin line edit

The margin line wraps the range of the temporary crown and editing the margin line changes the range of the temporary crown.

After entering CreTemp, the margin line will be generated automatically.

> **Note**
>
> If it fails to generate the margin line automatically, please double-click the tooth for which you need to generate the margin line.

There are red control points on the margin line after it is generated.



Edit the margin line

You can press these points and move the cursor to edit the margin line.

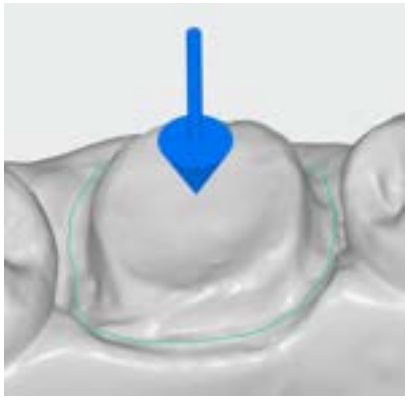
Purpose	Operation
Edit margin line	Press a control point and move the cursor to edit the margin line.
Delete a control point	**Double-click** the right mouse button to delete the certain control point.
Add a control point	Move the cursor on the line and there will be a green point. Click on the margin line to add a new control point.

Click › to confirm and go to next step.

Path of insertion adjustment

Path of insertion refers to the direction in which the temporary crown is positioned.

CreTemp will generate the path of insertion automatically and the blue arrow indicates its direction.



How to adjust

1. Rotate the model to the expected perspective.
2. Click the blue arrow and CreTemp will automatically adjust the path of insertion.
3. Rotate the model and check the effect of the path of insertion.

Click › to confirm and go to next step.

Posture adjustment

CreTemp will generate the temporary crown according to the margin line and the path of insertion. You can adjust it by multiple tools, such as **Inner Wall Parameters**, **Posture Adjustment**, **Carve**, **Free-Forming** and **Collision Detection**.

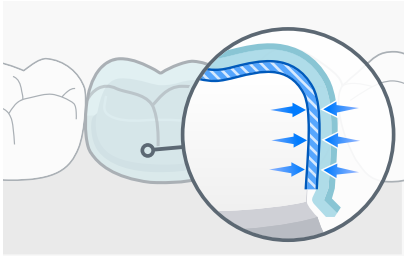
You can click ✓ to save the adjustment and exit. Or you can click ✕ to cancel the adjustment and exit.

Inner Wall Parameters

Adjust the inner wall parameters of the temporary crown. You can click ◀ and ▶ to adjust the parameters, or directly fill in the values.

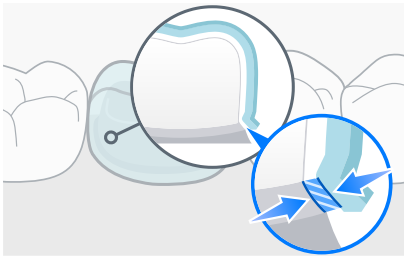
- **Extra Cement Gap**:

  Range: 0.00-0.20 mm; the default is 0.10 mm.



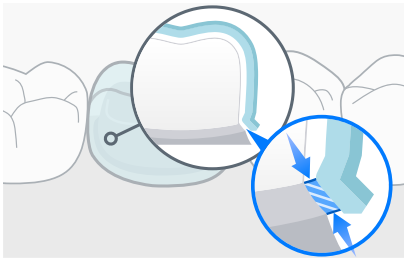
- **Cement Gap in Cervical Space**:

  Range: 0.00-0.20 mm; the default is 0.05 mm.



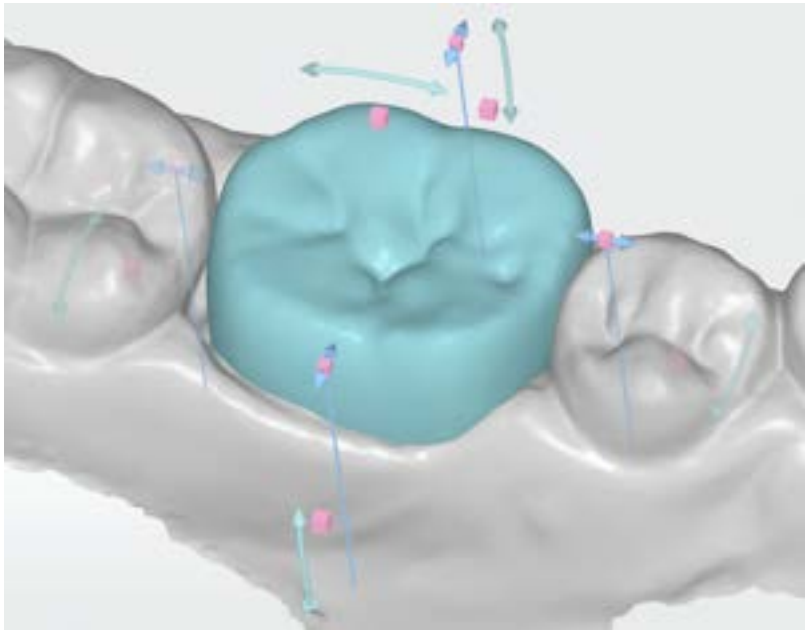
- **Distance to Margin Line**:

  Range: 0.80-1.50 mm; the default is 0.80 mm.



Posture Adjustment

You can adjust the shape of the temporary crown.



- Blue arrow: Press the blue arrow and move the cursor to adjust the crown. The crown from the tip to the neck will be deformed and the deformation degree is gradually reduced from the tip to the neck.
- Green arrow: Press the green arrow and move the cursor to rotate the crown.
- Pink cube: Press the pink cube and move the cursor to zoom in/out the crown in the corresponding direction.
- Move the crown: Press the crown and move the cursor.

Other operations

- Reset: Click to reset the model to the original state.
- Undo：Undo the last operation. Multi-click to undo multi-operations. Pressing `^ Ctrl` + `Z` to undo the last operation is also supported.
- Redo：Redo the last operation. Multi-click to redo multi-operations. Pressing `^ Ctrl` + `Y` to redo the last operation is also supported.

Carve

With a brush, you can **Increase** or **Decrease** the thickness of the crown, or **Smooth** the surface of the crown.

Steps

1. Click **Crave** and select the brush type.

2. Move the slider to adjust the brush strength and size.

   Shortcut keys:

   - Press `^ Ctrl` and scroll the mouse wheel to adjust the brush strength.
   - Press `⇧ Shift` and scroll the mouse wheel to adjust the brush size.

3. Press the brush on the model and move the cursor to crave the crown.

Other operations

- Reset: Click to reset the model to the original state.
- Undo：Undo the last operation. Multi-click to undo multi-operations. Pressing `^ Ctrl` + `Z` to undo the last operation is also supported.
- Redo：Redo the last operation. Multi-click to redo multi-operations. Pressing `^ Ctrl` + `Y` to redo the last operation is also supported.

Free-Forming

Free-Forming supports you to adjust the temporary crown more accurately with a brush.

1. Click .
2. Move the slider or press `⇧ Shift` and scroll the mouse wheel to adjust the brush size.
3. Press the brush on the model and move the cursor to adjust the crown.

Other operations

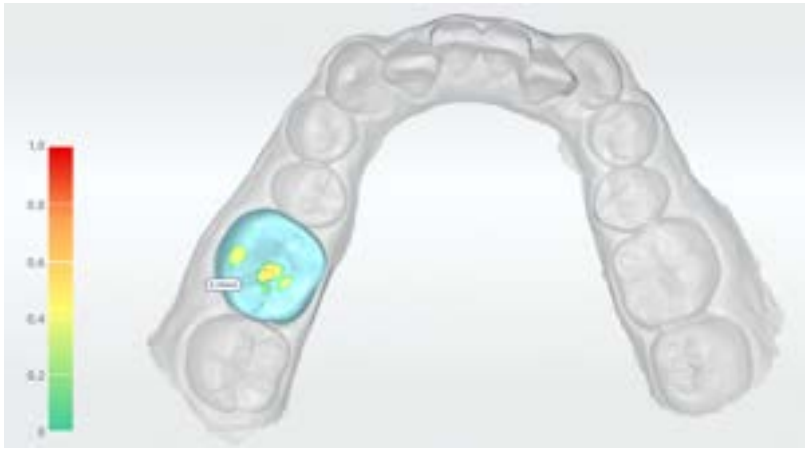
- Reset: Click to reset the model to the original state.
- Undo：Undo the last operation. Multi-click to undo multi-operations. Pressing `^ Ctrl` + `Z` to undo the last operation is also supported.
- Redo：Redo the last operation. Multi-click to redo multi-operations. Pressing `^ Ctrl` + `Y` to redo the last operation is also supported.

Collision Detection

Click to enable **Collision Detection**. It detects the collision depth between the temporary crown and the opposite jaw. You can check the collision depth by different colors shown on the crown and the specific value.

- Color indication: The crown is colored to indicate the collision depth. A color bar displayed in the bottom left corner shows the range of the collision depth. Red indicates deep collision depth and green indicates shallow depth.

- Specific value: Move the cursor to the colored areas on the crown and a label is displayed to show the specific value of collision depth on this point.



Texture

Click  to show the texture.



Disabled



Enabled

Completion

Click **Crown design** after completing **Pre-design**.

Crown Design

You can edit the temporary crown on this interface with multiple tools and preview the crown with the visualization tools.

Visualization tools



With a brush, you can  **Increase** or  **Decrease** the thickness of the crown, or  **Smooth** the surface of the crown.

More details can be found in Pre-design - Crave.

Free-Forming

Free-Forming supports you to adjust the temporary crown more accurately with a brush.

More details can be found in Pre-design - Free-Forming.

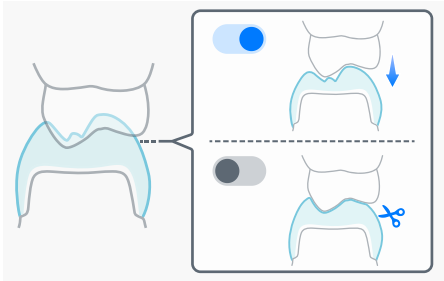
Adaptive Adjustment

To adjust the occlusal gap and adjacent gap. You can click ◀ and ▶ to adjust the parameters, or directly fill in the values.

- **Preserve Tooth Morphology**:

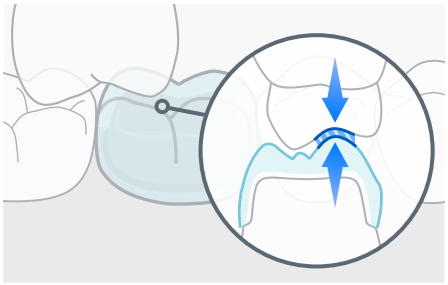
  Enabled by default and the tooth morphology will be preserved when adjusting the occlusal gap or adjacent gap.

  When disabled, the contacting areas will be deleted and the tooth morphology will not be preserved.



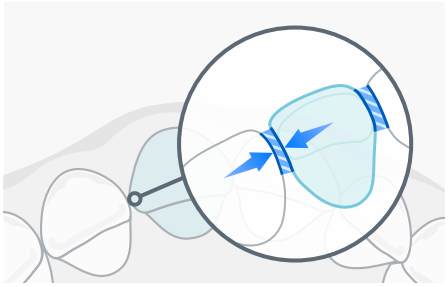
- **Occlusal Gap**:

  Range: -0.20 - 1.00 mm; the default is 0.20 mm.



- **Adjacent Gap**:

  Range: -0.50 - 0.50 mm; the default is -0.10 mm.

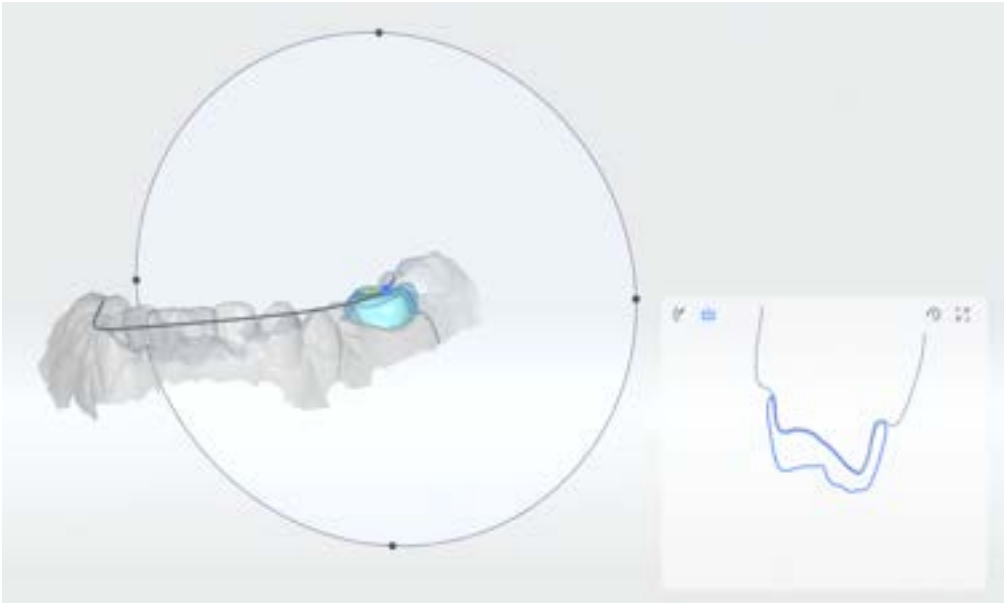


Preview the crown

Sectional View

Click **Sectional View** and a screenshot plane will be automatically created on the model.

The 2D window in the lower right corner shows the corresponding intersecting parts between the plane and the model.



Plane operation	Description
Move the plane	Press the blue ball on the middle of the plane and move the cursor.
Rotate the plane	Press the black balls on the edge of the plane or just press the edge and move the cursor.

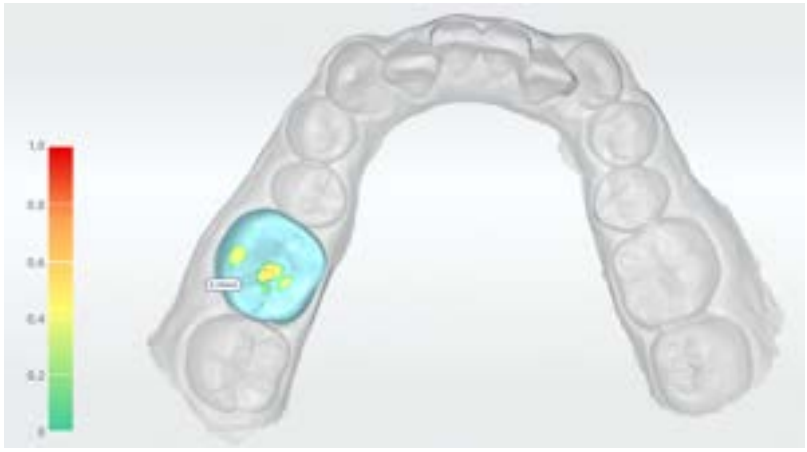
2D Window operation	Description
Vertical to dental arch	Click to show the dental arch on the model. When moving the plane, it will be vertical to the dental arch.
Draw a section	Click and you can draw a section on the model. Press and hold the left mouse button, then drag to draw a line to generate a section.
Reset	Click to reset the plane to the original state.
Zoom in/out	• Scroll up and down the wheel to zoom in/out the sectional view. • Click to zoom in the 2D window.
Measurement	• Add a point: Click on the line to add a point. • Move the point: Press the point and drag. • Distance measurement: When 2 points are added, the distance between them will be shown on the 2D window, and a line linking the 2 points will be shown on the 3D model as well. • Re-measurement: Add another 2 points to measure the distance again. 

Collision Detection

Click to enable **Collision Detection**. It detects the collision depth between the temporary crown and the opposite jaw. You can check the collision depth by different colors shown on the crown or a label of the specific value.

- Color indication: The crown is colored to indicate the collision depth. A color bar displayed in the bottom left corner shows the range of the collision depth. Red indicates deep collision depth and green indicates shallow depth.

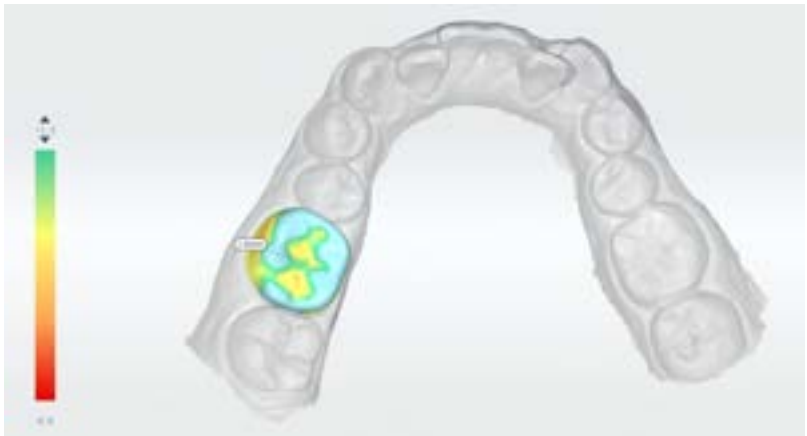
- Specific value: Move the cursor to the colored areas on the crown and a label is displayed to show the specific value of collision depth on this point.



Thickness

Click to enable **Thickness**. It detects the thickness of the crown. You can check the thickness by different colors shown on the crown or a label of the specific value.

- Color indication: The crown is colored to indicate the thickness. A color bar displayed in the bottom left corner shows the range of thickness.
- Specific value: Move the cursor to the colored areas on the crown and a label is displayed to show the specific value of thickness on this point.



Note

- Click the arrow above the color bar to adjust the range of thickness displayed on the crown.
- Red indicates the crown is thin while green indicates the crown is thick.
- Areas where the thickness exceeds the maximum value of the color bar will not be colored.

Completion

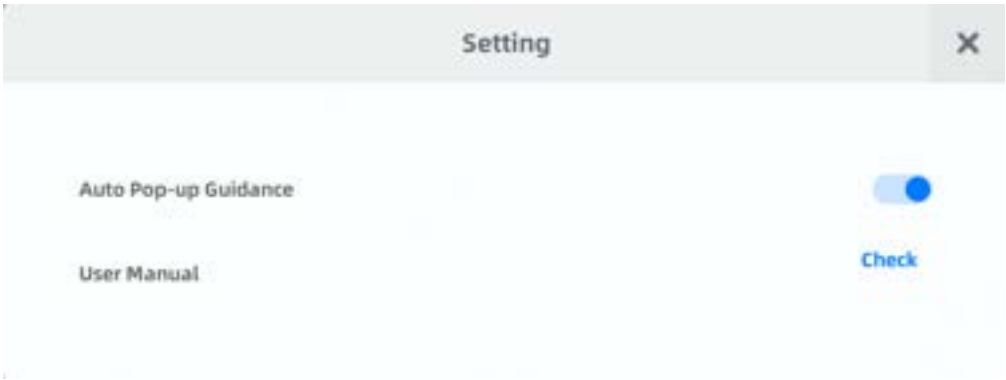
Click **Go to Print** to print the temporary crown.

Or click ✕ in the upper right corner to exit CreTemp and return back to IntraoralScan.

> **Note**
>
> - If you open CreTemp from IntraoralScan, you can export the file of intraoral data and the temporary crown together in IntraoralScan.
> - To print the temporary crowns, please install AccuWare first.

Settings

On the interface of CreTemp, click ⚙ in the upper right corner.



- **Auto Pop-up Guidance**: Enabled by default. Once enabled, a function guidance will automatically pop up.

  If disabled, click ? in the upper right corner to pop up the guidance manually.
- **User Manual**: Click **Check** to open this user manual.

CreIBT (Optional)

Introduction

CreIBT (Indirect Bonding Trays) is a design software for digital bracket tray. It can virtually position the bracket on the surface of the tooth. The custom guide correlates the position of the brackets with that of the tooth surface, facilitating the bonding of the brackets onto the desired teeth positions.

After collecting intraoral data from the patient, the doctor can use the IBT design software to arrange teeth, popsition and place brackets, and generate bracket guides for the patient's dental model.
If the model needs to be printed, it can be printed through the AccuWare software developed by Shining 3D as well.

> **Caution**
>
> - Only when the order type is Orthodontics, can the design be performed on IBT.
> - To print the guide, please install AccuWare first.

Workflow

Segmentation

Recognize teeth numbers

Recognize teeth numbers for further steps.

Arrangement

Teeth arrangement

Arrange teeth according to the results of tooth segmentation, assisting in the positioning of the FA points.

FA

Place FA points

Determine the positions of FA points and provide reference for the brackets.

Bracket

Preview brackets

Place brackets according to the FA points. Manually adjusting the positions of brackets are supported. The database containing various brands of brackets allows users to customize their brackets and guides.

Guide

Generate guides

Adjust the guides and preview the position.

Settings

Click  to open the setting window.

Item	Description
Language	You can set the software interface language: Chinese (Simplified) and English. The default language is the language selected during software installation.
Dental Notation	FDI World Dental Federation(ISO) notation and Universal numbering system. The default is FDI World Dental Federation(ISO) notation.
Guide parameter	Click **Create a New Template** to set default parameters.
Auto pop-up guidance	Enabled by default. Video guidance is available.

Create a New Template

You can change the value of the gap between the guide and the model, diameter of both ends of the connecting rod, diameter of middle part of the connecting rod and gap between the guide and the brackets.

Create a New Template

Template Name	Create a New Template1
The gap between guide and model	0.10 mm
Diameter of both ends of the connecting rod	3.0 mm
Diameter of middle part of the connecting rod	1.5 mm

Gap between the guide plate and the brackets

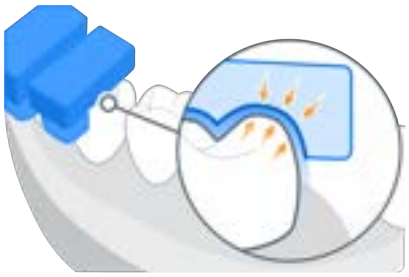
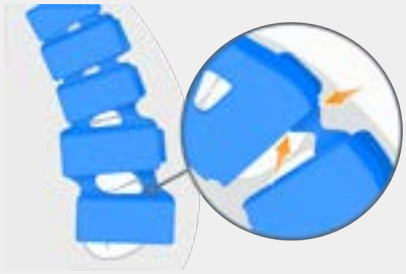
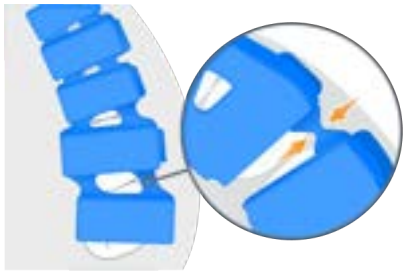
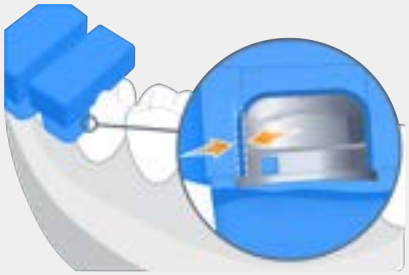
Overall adjustment of bracket gap in the upper jaw: mm

Tooth position	Gap Value (mm)	Tooth position	Gap Value (mm)
11	-0.05	21	-0.05
12	-0.05	22	-0.05
13	-0.05	23	-0.05
14	-0.05	24	-0.05
15	-0.05	25	-0.05

Overall adjustment of bracket gap in the lower jaw: mm

Tooth position	Gap Value (mm)	Tooth position	Gap Value (mm)

Save Cancel

Name	Illustration
The gap between the guide and the model	
Diameter of both ends of the connecting rod	
Diameter of middle part of the connecting rod	
The gap between the guide and the brackets	

Steps

1. Click **Create a New Template** to set the template's parameters.
2. Enter the **Template Name**. The name must be unique and cannot be left blank, with a maximum of 20 characters.
3. Adjust the **The gap between guide and model**, **Diameter of both ends of the connecting rod**, and **Diameter of middle part of the connecting rod**.
4. Modify the **Gap between the guide plate and the brackets**.
   You can adjust the overall gap between the guide and the upper and lower brackets and buccal tubes, or

change the gap value for individual teeth positions. The default value is -0.05 mm. Values are rounded to two decimal places and are adjustable from -0.10 mm to +0.10 mm.

5. Click **Save** to return to the settings interface, where it will automatically switch to the newly created template.

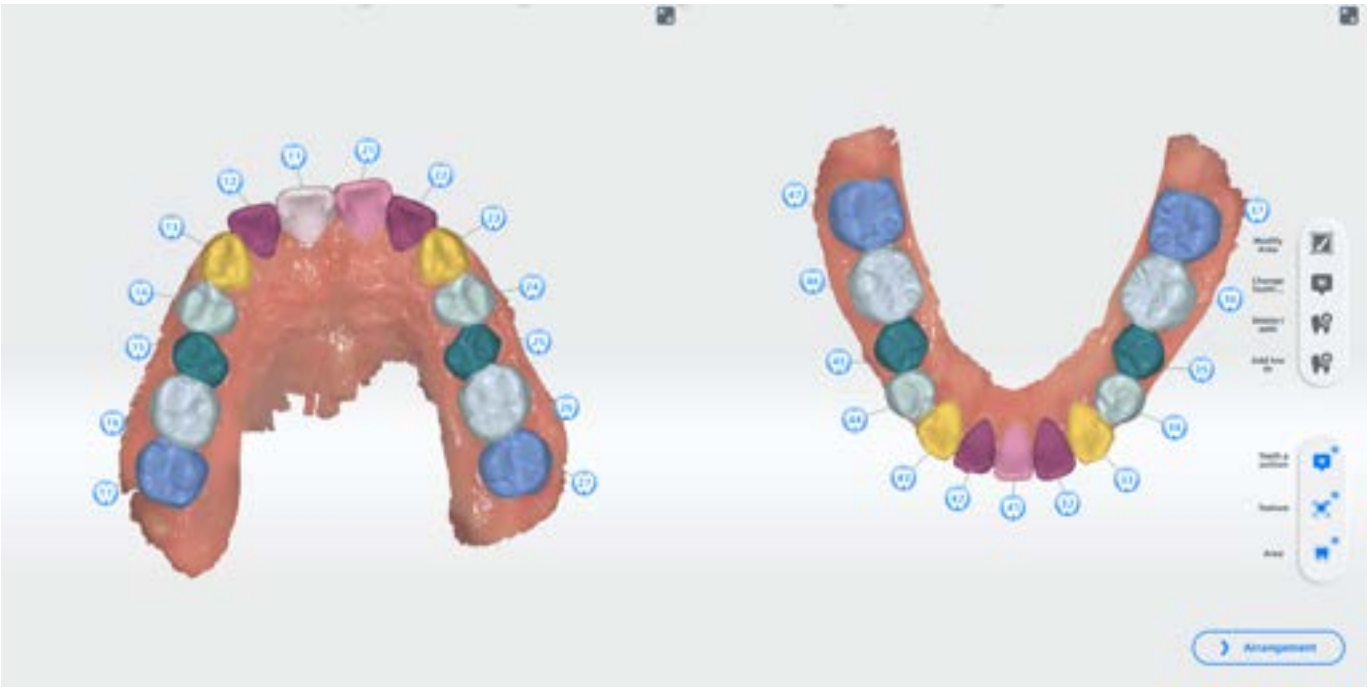
> ⚠ **Caution**
>
> When switching templates, the parameters of the new template will take effect the next time a guide is generated. Existing guides will not be affected.

After changing the items, click ✕ and a confirm dialog is popped up. Click **Yes** to apply the changes.

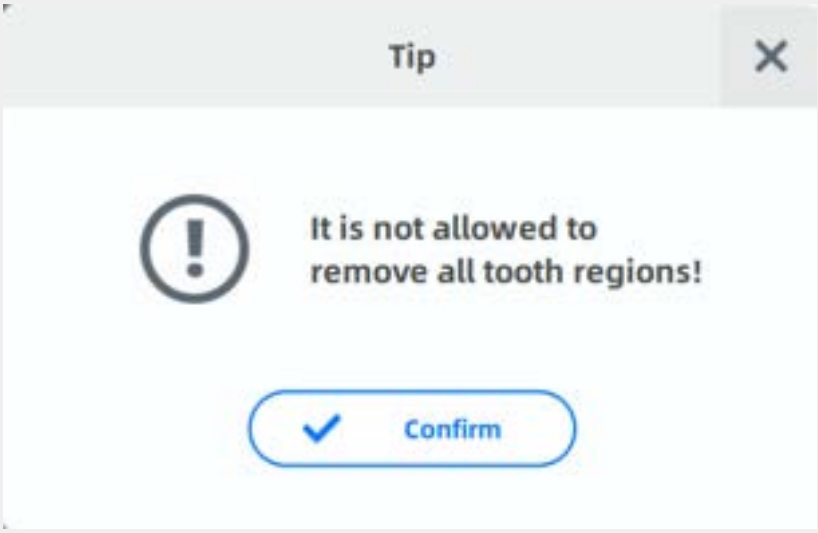
Segmentation

On the interface of segmentation, 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.

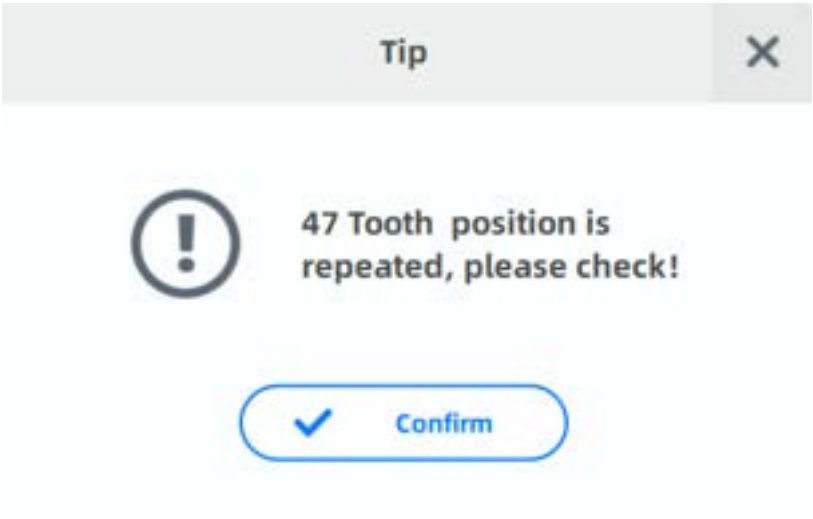
Interface



Functions

Name	Description
Enlarge	Click to enlarge the model of upper jaw or lower jaw to the full screen. Click to restore.
Modify Area	Click to enter the interface of tooth selection. Select a certain tooth to modify its area. : Click Brush to select the tooth area. Drag the slider to adjust the thickness of the brush. : Click Erase to delete the selected area. Drag the slider to adjust the thickness of the eraser. : Undo the last operation. : Redo the last operation. : Click Draft to save the current operation and return to the tooth selection interface to select other teeth. : Cancel all operations and exit Modify Area. : Save all operations and return to the segment interface. **Caution** When tooth regions are wholely erased, a tip of "It is not allowed to remove all tooth regions!" is popped up. 
Change Tooth Number	Click to enter the interface of changing tooth number. Click the tooth to re-number it. : Click to cancel all operation and exit. : Click to confirm and save all operations. **Caution**

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



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 to confirm. Click to cancel all operations and exit.
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. Click to cancel all operations and exit. **Caution** Repeat steps 1-4 to add more teeth. And the tooth number should be different.

Options

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

Arrangement

The tooth arrangement ensures precise alignment of teeth and prevent collisions and excessive gaps between them, which can assist users in marking FA points.
In the **Tooth Arrangement** interface, the software automatically arranges the teeth based on the tooth segmentation results, and users can manually edit the automatic arrangement results.

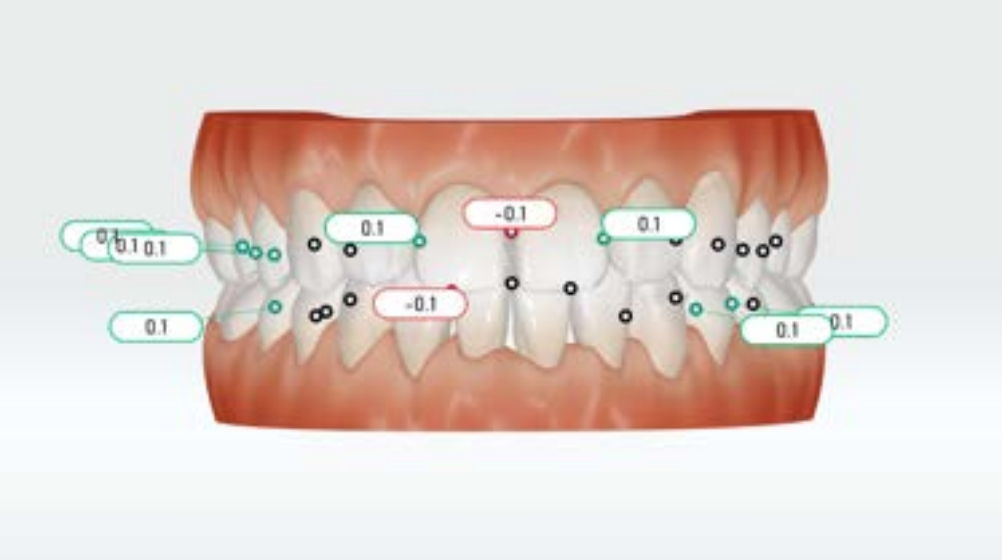
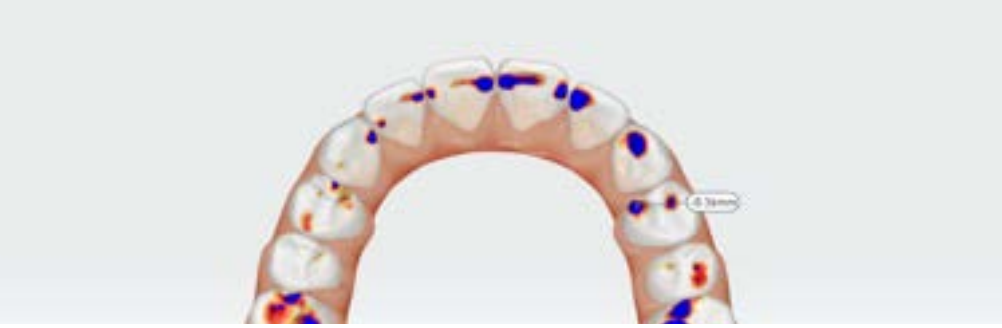
Interface



Model:

- Click  to show/hide the upper and lower jaws to more intuitively observe the arrangement of the teeth.
- Drag the slider to adjust the opacity of the upper and lower jaws.

Operations

Item	Description
Shift	Left-click and hold on a single tooth, then move the cursor to move the tooth.
Rotation	Left-click and hold on a single tooth, then move the cursor to rotate the tooth to any angle.
Torsion	Left-click and hold on a single tooth, then move the cursor to twist the tooth left or right.
Interproximal contact	Adjust the interproximal distance between teeth. When the distance is zero, only a small dot is displayed. Otherwise both a small dot and a label value are displayed. Click the dot or label to adjust the distance from -1 to 2.  : Contact : Collision : Gap
Occlusion	Display the occlusion status by the color bar. It can quickly and intuitively help determine which teeth have occlusion problems. Click the ▲ or ▼ beside the bar to change occlusion parameters. 

	 • **Green**: The gap. • **Red**: The touching area • **Blue**: The bite-through area
Reset	Undo all operations and reset the model to the automatic tooth arrangement state.
Undo/Redo	Undo the previous step / Revert the undone operation.

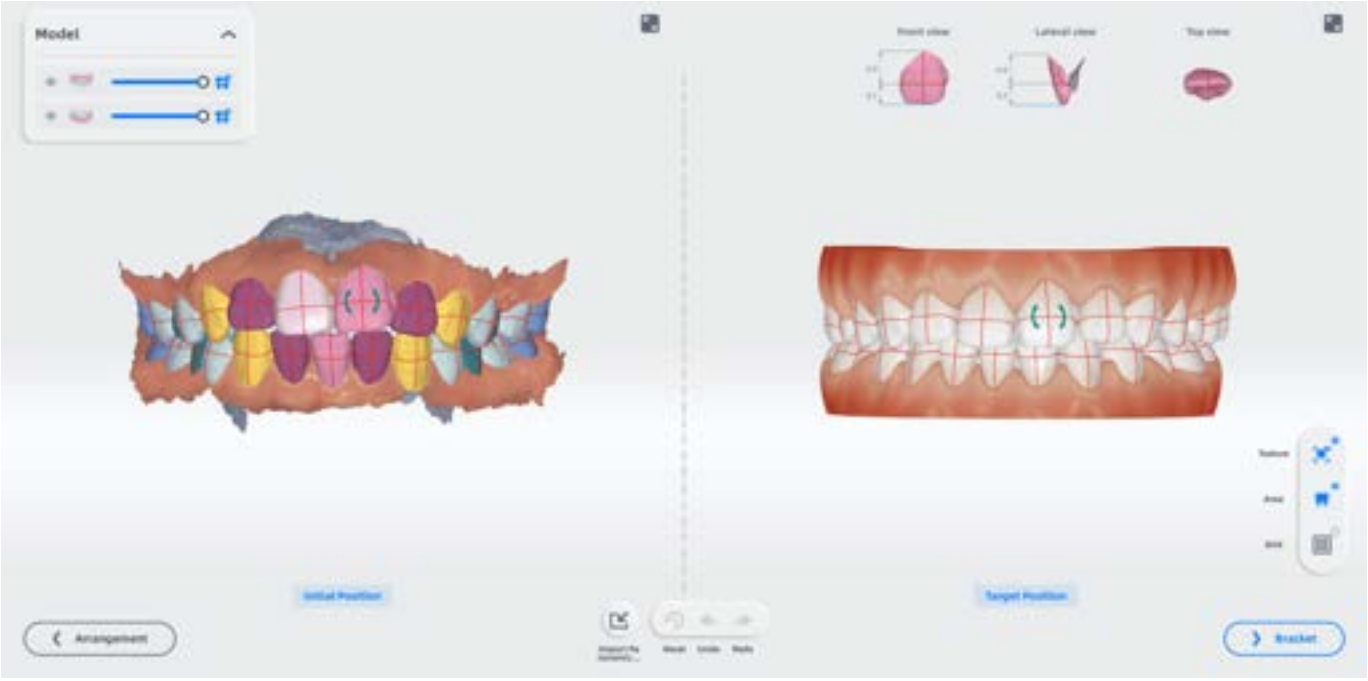
Options

Item	Description
Texture	Enabled by default. When enabled, the model is colored.
Grid	When enabled, the model background shows grid for reference when adjusting teeth vertically or horizontally.

FA points

On the interface of FA, the software will automatically generate the FA points and the user can preview the three views of the FA points on the 3D model as well as the reference lines and adjust them as needed. The teeth in the three views will correspondingly change with the adjustments of the FA points.

Interface



Model:

- Click  to show/hide the upper jaw or lower jaw.
- Drag the slider to adjust the opacity of the upper jaw or lower jaw.
- Click  to show/hide the reference lines.

Operation

Move/Rotate the FA point

- Movement: Click and hold the FA point that needs to be adjusted, and move the cursor to adjust the FA point position.
- Rotation: Click the FA point you want to rotate, hold the green arrows on either side of the FA point and move the cursor to rotate the FA point.

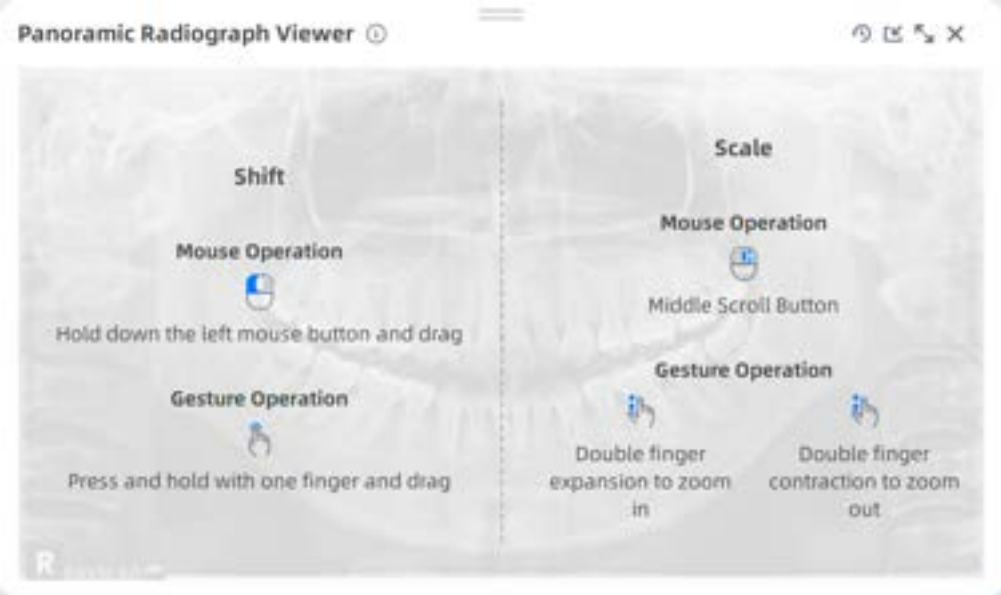
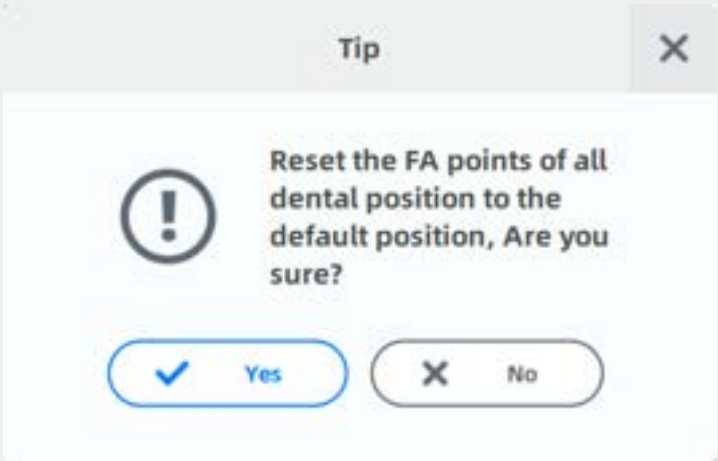
Fine movement/rotation

- Fine Movement: Press and hold the keyboard arrow keys for fine movement (↑ / ↓ / ← / →).
- Fine Rotation: Hold down control + arrow keys at the same time to perform a fine rotation (^ Ctrl + ↑ / ↓ / ← / →)

Move/Rotate the FACC line

With the FA point of a tooth position selected, move the cursor over the FACC line (horizontal axis) of the tooth position, and when the line is blue, drag the line to rotate the FACC line.

Toolbar

Operation	Description
Import Panoramic X-ray	Click to import an image (PNG, BMP, JPG, JPEG formats supported). The viewer will appear as a floating window, allowing you to zoom and move the image. On first use, a tutorial will guide you through the operations. After the tutorial closes, hover over ⓘ to view it again. 
Reset	Rest the FA points of all dental position to the default position. Click the button and a tip is popped up. Click **Yes** to confirm. 
Undo	Undo the last operation.
Redo	Redo the last operation.

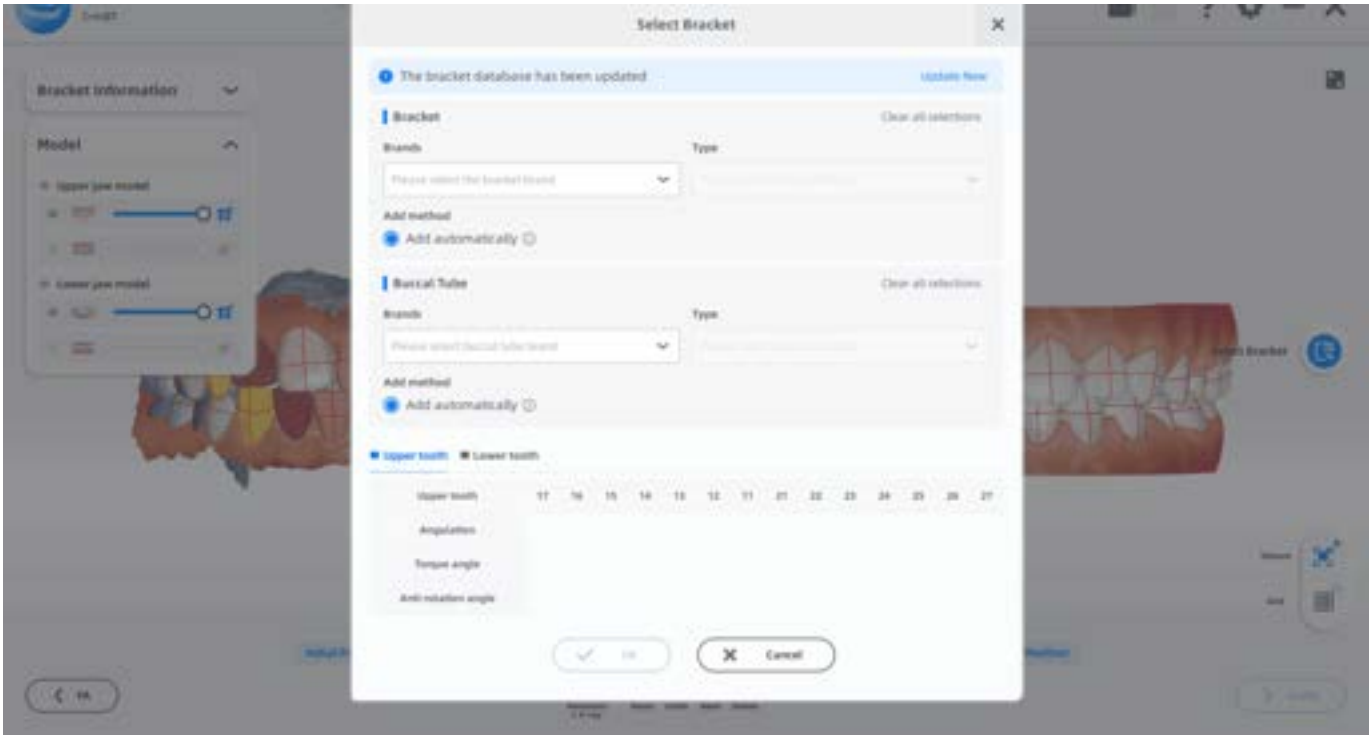
Options

Item	Description
 Texture	Enabled by default. When enabled, the model is colored.
 Area	Enabled by default. When enabled, teeth are differentiated from each other with different colors.
 Grid	When enabled, the model background shows grid for reference when adjusting teeth vertically or horizontally.

Bracket

You can select and edit brackets in this interface, where bracket information and model information are displayed. You can also choose to show or hide the upper and lower jaw and brackets, or adjust their opacity.

Interface



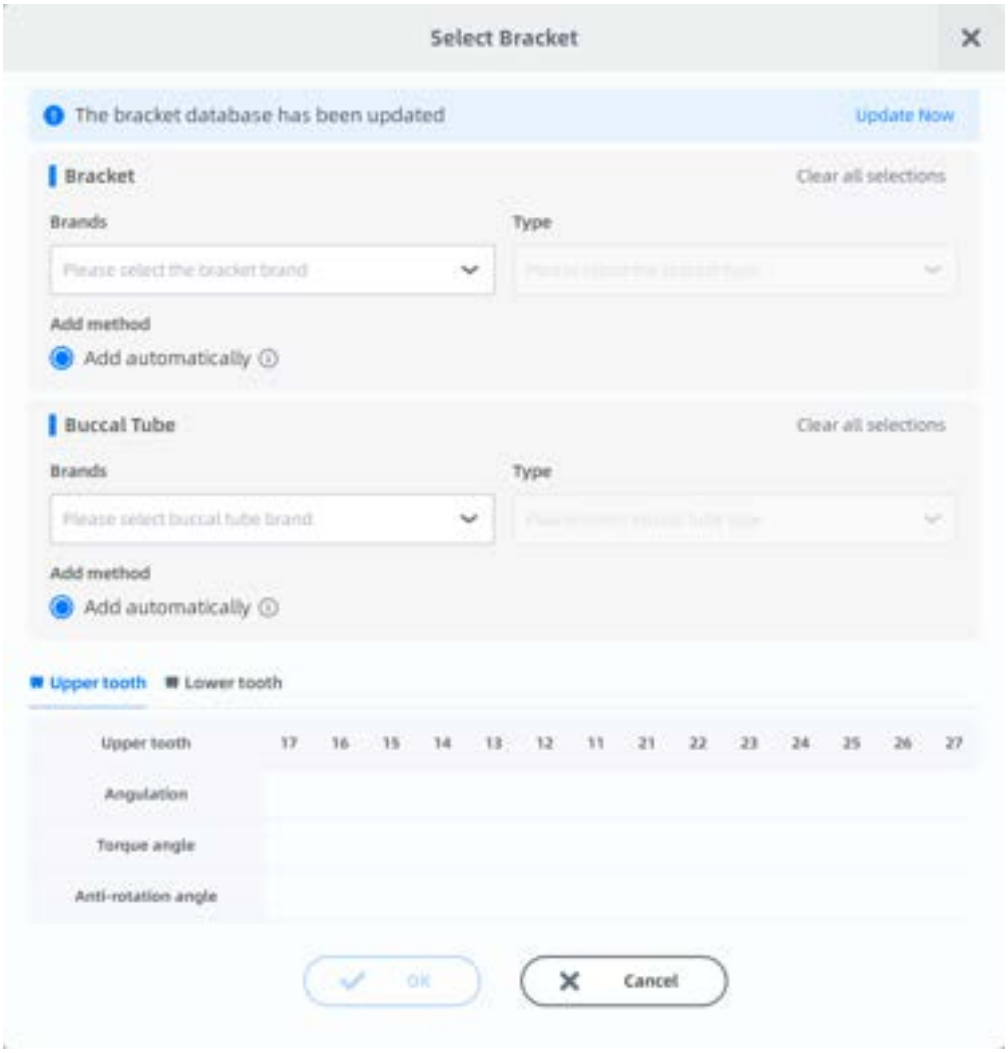
- **Bracket Information**:
  Display the brand and model of the bracket or buccal tube.
- **Model**:

- Click to show/hide the upper jaw or lower jaw.
- Drag the slider to adjust the opacity of the upper jaw or lower jaw.
- Click to show/hide the reference lines.
- Click to show/hide the collision parts in blue between the brackets and the teeth.

Bracket selection

Steps

1. When you first enter the main bracket interface, the bracket selection interface will automatically appear. Alternatively, you can click to select bracket brand and model.



2. Select the brand and model of bracket or buccal canal (or both) as needed, and the software will display the axial inclination, rotational angle and anti-rotation angle of each tooth in the upper and lower positions.

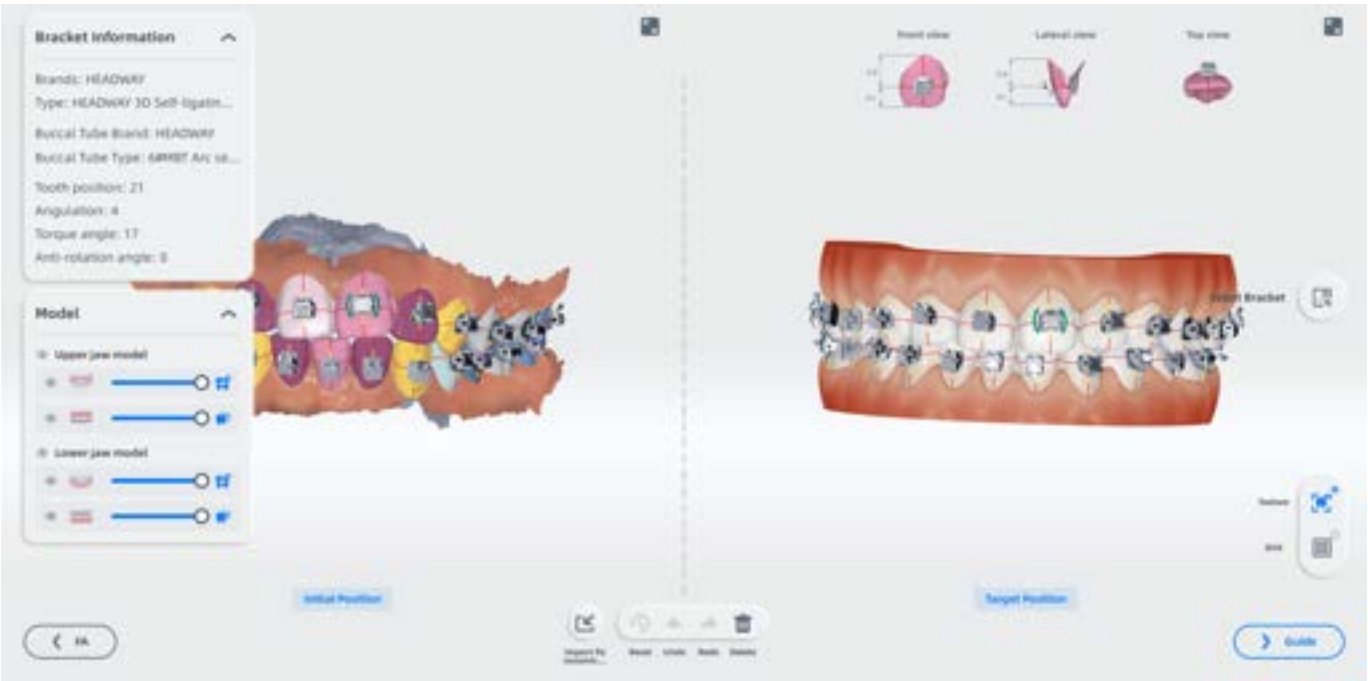
> **info**
>
> You can can select the brand and model of brackets and buccal tubes separately, such as brand A brackets paired with brand B buccal tubes. Besides, you can also choose only one of the brackets and buccal tubes.

3. Click **Confirm**, brackets are automatically added to the model.

> **info**
>
> - If the imported teeth model has brackets, which are not included in the database, you have to choose whether to continue to use the current bracket data. If not, you need to choose a new bracket model.
> - If there is an update to the bracket database, an update prompt will appear at the top of the Bracket Selection interface.

Bracket editing

The main interface allows the user to preview and edit three views of the brackets on the 3D model.



Move/Rotate the bracket

- To move a bracket: Click and hold the brackets you want to move, then move the cursor to adjust the bracket position.
- To rotate a bracker: Click the brackets you want to rotate, hold the green arrows on either side of the brackets and move the cursor to rotate the brackets.

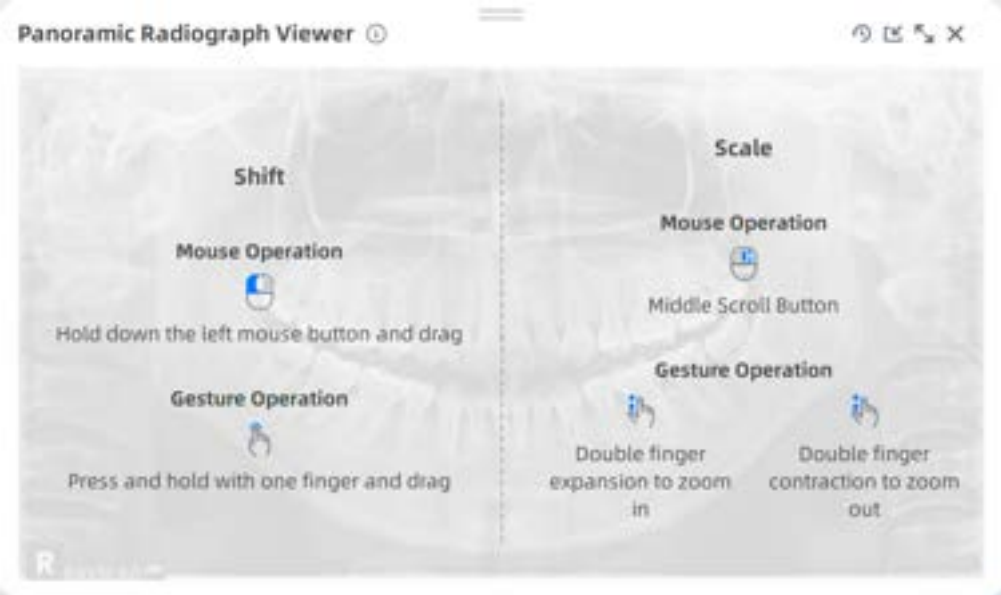
Fine movement/rotation

- Fine Movement: Press and hold the keyboard arrow keys for fine movement (↑ / ↓ / ← / →).
- Fine Rotation: Hold down control + arrow keys at the same time to perform a fine rotation (^ Ctrl + ↑ / ↓ / ← / →).

Delete the bracket

- To delete a bracket: Select a bracket to be deleted and click  to delete the bracket.

Toolbar

Operation	Description
Import Panoramic X-ray	Click to import an image (PNG, BMP, JPG, JPEG formats supported). The viewer will appear as a floating window, allowing you to zoom and move the image. On first use, a tutorial will guide you through the operations. After the tutorial closes, hover over ⓘ to view it again. 
Replace	Select the bracket and if there is another bracket which can be replaced, click ⇄ to confirm the tooth bit.
Reset	Undo all operations.
Undo	Undo: Undo the last operation.
Redo	Redo: Redo the last operation.
Delete	Click to delete the selected bracket.

Options

Item	Description
 Texture	Enabled by default. When enabled, the model is colored.
 Grid	When enabled, the model background shows grid for reference when adjusting teeth vertically or horizontally.

Guide

You can create and edit guides on this interface.

Interface



List to be generated:

A list includes the selected tooth positions for generating a guide.

Model:

- Click  to show/hide the upper or lower jaw and brackets.
- Drag the slider to adjust the opacity of the upper or lower jaw and brackets.

Guide create

Steps

1. Selecting Brackets:
   - **Single Bracket**: Click directly on a bracket to select it.
   - **Multiple Brackets**: Click and drag the cursor over multiple brackets to select them all at once.
   - **Preset Teeth Regions**: The toolbar provides pre-defined regions of teeth for quick selection. Simply click on the desired region in the toolbar to select all brackets within that area.
   - **Deselect Brackets**: Click a selected bracket again to deselect it.
2. Click + to add the selected brackets into the **List to be generated**.
3. Click ✓ to confirm the selected brackets and create guides.
4. Select a group of guides in the **Guide List** to preview the guides on the model. The selected guides are displayed in blue. Others are displayed in grey.

Toolbar

Icon	Description
 Multiple teeth selection	Select different regions of teeth.
Reset	Clear all selected brackets.
Add to list	Add the selected brackets into the **List to be generated**.
Cancel	Cancel all operations and exit.
Confirm	Save all operations.
Delete	Delete the selected guides. Click and a confirmation dialog is popped up. Click **Confirm** to delete.

Guide edit

1. Select a group of guides in the **Guide List** and click  to enter the interface to edit guide.
2. Click to adjust the position and size of the guides.
3. Click  to confirm the edit.
4. Click **To Print** to print the guides on AccuWare.

Toolbar

Operation	Description
 Undo	Undo: Undo the last operation.
 Redo	Redo: Redo the last operation.
 Cancel	Cancel all operations and exit.
 Confirm	Save all operations.

Options

Item	Description
 Texture	Enabled by default. When enabled, the model is colored.

Export model with brackets

Steps

1. Click  in the top right corner.
2. Select the **Export model with brackets** option from the menu.
3. The file browser will launch, allowing you to choose a folder to save the model file.
4. If an export success message appears, click the **View** button to open the folder's directory.

> **Note**
>
> If an export failure message appears, you can click the **Retry** button to attempt the export again.

Report

After creating the guide, you can click in the top right corner to generate a report.

This report includes the patient's basic information, attending dentist's name, guide details and different types of model view.

> **Caution**
>
> This report is for reference only. Please use it in conjunction with clinical conditions.

Functions

Name	Description
Edit report	Edit the basic information of the report.
Export PDF report	Save the report as a PDF file to a local path.
Upload report	Click to upload the report to the cloud. After uploading, you can scan the pop-up QR code to view and share the report, save the QR code image locally, or copy the link.

CreSplint (Optional)

Overview

CreSplint is an intelligent design software for splints developed by SHINING 3D. After collecting intraoral data from the patient, the doctor can invoke CreSplint design software.

With this software, when importing a teeth model, the software will automatically design an expected splint quickly and conveniently according to the teeth shape by changing the path insertion, the edge line and relevant parameters.

The doctor can manually edit the shape of splint or retainer as well.

After designing, the doctor can save the file to a local disk or export it into the Shining printer and print the splint.

CreSplint supports **Splint** and **Retainer**.

- **Splint** includes molar pads and other splints.
- **Retainer** is an appliance used after orthodontic treatment to restrain the teeth in the expected positions and to prevent recurrence.

⚠ **Caution**

- To print the splint, you need to install AccuWare first.

Characteristic

Auto Generation

It is supported to pre-set parameters and the software will automatically generate the splint / retainer.

→ Create a design

Pre-processing

You can preview and edit the model. **Remove Brackets** is supported to simulate the tooth status without brackets.

→ Model Pre-processing

Parameter Adjustment

- Support to edit the margin line.
- Support to check the undercut depth and the sectional view.
- Support to adjust parameters.

→ Parameter Adjustment

Shape Adjustment

- Support to preview the splint / retainer with multiple visualization tools.
- Support to adjust the shape of splint / retainer through the brush.
- Support to add virtual articulator when designing **Splint**.

→ Shape Adjustment

Post Processing

Support to add text on the splint / retainer.

→ Post Processing

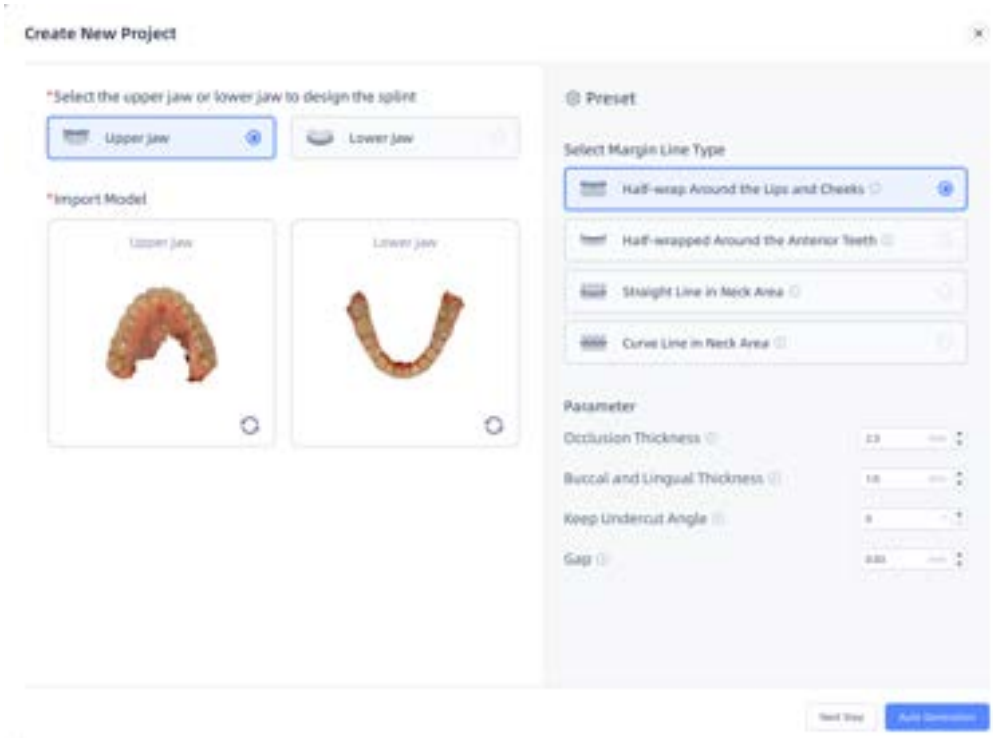
Design of splint / retainer

Creating and editing a splint / retainer are both supported.

Create a design

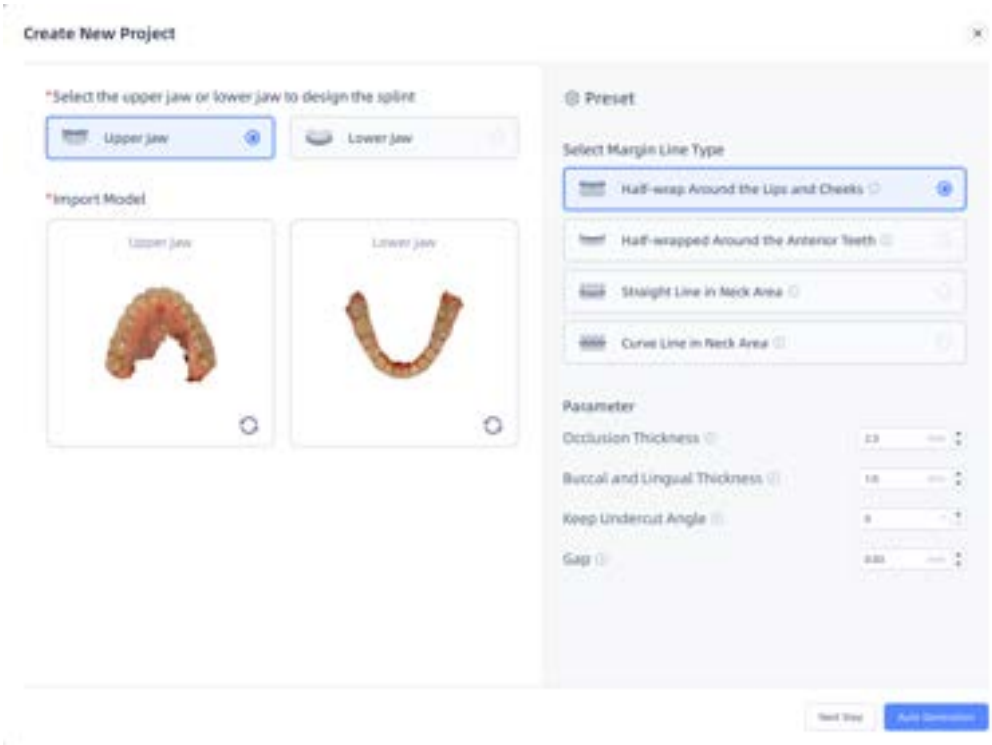
1. Choose a patient and the teeth model.
2. Select **Splint** or **Retainer**.
3. Start preset the design. The user can select the margin line type and adjust parameters.

Splint



> ⚠ **Caution**
>
> When selecting **Splint**, only one jaw can be chosen to design the splint (the upper jaw is chosen by default).

Retainer



Margin line type	Picture	Margin line type	Picture
Half-wrap around the lips and cheeks	 Selected by default when designing **Splints**.	Half-wrapped around the anterior teeth	 Selected by default when designing **Retainers**.
Straight line in neck area		Curve line in neck area	

Parameter	Picture	Description
Occlusion thickness		To adjust the occlusion thickness of **Splints**. Range: 0.6 mm ~ 5.0 mm.
Buccal and lingual thickness		To adjust the buccal and lingual thickness of **Retainers**. Range: 0.6 mm ~ 5.0 mm.
Anterior teeth thickness		To adjust the anterior teeth thickness of **Retainers**. Range: 0.6 mm ~ 5.0 mm.
Posterior teeth thickness		To adjust the posterior teeth thickness of **Retainers**. Range: 0.6 mm ~ 5.0 mm.
Keep undercut angle		To adjust the undercut angle of **Splints** or **Retainers**. Range: 0° ~ 90 °.
Gap		To adjust the gap between the **Splints** or the **Retainers** and the teeth. Range: -0.30 mm ~ 0.30 mm.

4. Click **Next Step** to enter Model Pre-processing.

   Or click **Auto Generation** to Post Processing. Model pre-processing, parameter adjustment and shape adjustment will be finished automatically.

> **Note**
>
> If you want to adjust the parameters and shape after Auto Generation, please click the step on the top of the interface.

Adjust a design

1. In the right panel of the DentalCopilot interface, select **Splint** or **Retainer**.
2. Find the design to be adjusted. Click ••• , then click to adjust the design.

Setting

Click to enable auto pop-up guidance.

Model pre-processing

Model list

On the model list, you can drag the slider to respectively adjust the opacity of the models and the splint / retainer.

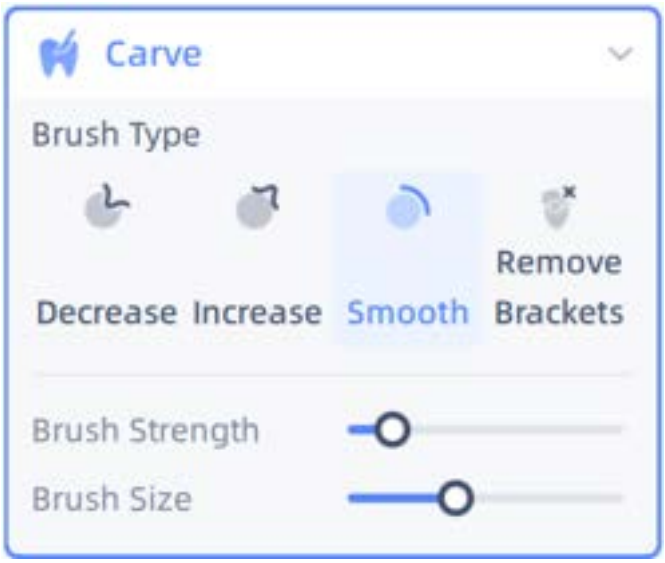
> **Note**
>
> After generating the splint / retainer, you can adjust its opacity.

Click to hide the model.

Click / / to change the perspectives of the model.

Design adjustments

Click **Crave** and choose the brush type to adjust the model.



Steps

1. Choose the brush type.
2. Drag the slider to adjust the brush strength and size. Make sure that the brush can cover the areas to be adjusted.
3. Press the left mouse button and move the cursor to adjust the model.

> **Note**
>
> When choosing **Remove Brackets**, the brush strength is not supported to be adjusted.

Other options

- Reset: Click to reset the model to the original state.
- Undo：Undo the last operation. Multi-click to undo multi-operations. Pressing `^ Ctrl` + `Z` to undo the last operation is also supported.
- Redo：Redo the last operation. Multi-click to redo multi-operations. Pressing `^ Ctrl` + `Y` to redo the last operation is also supported.

Parameter adjustment

CreSplint will automatically generate the margin line according to the teeth model and pre-settings. You can manually adjust the margin line and parameters. It is supported to check undercut depth and the sectional view between the model and the splint / retainer.

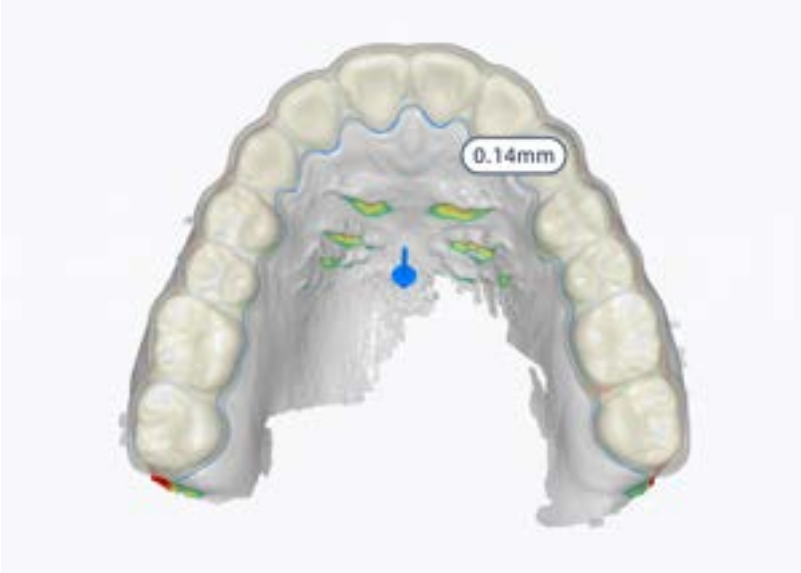
Visualization tools

Undercut depth

The path insertion refers to the direction in which the splint or the retainer is positioned. Different path insertions have different undercut ranges, affecting the shape of the splint or the retainer.

Click **Undercut Depth** and the model will be colored to show the undercut depth.

Move the cursor to the colored area and the accurate value of undercut depth will be shown.



A color bar will be shown on the left bottom corner, on which you can click the arrow to adjust the range of undercut depth.

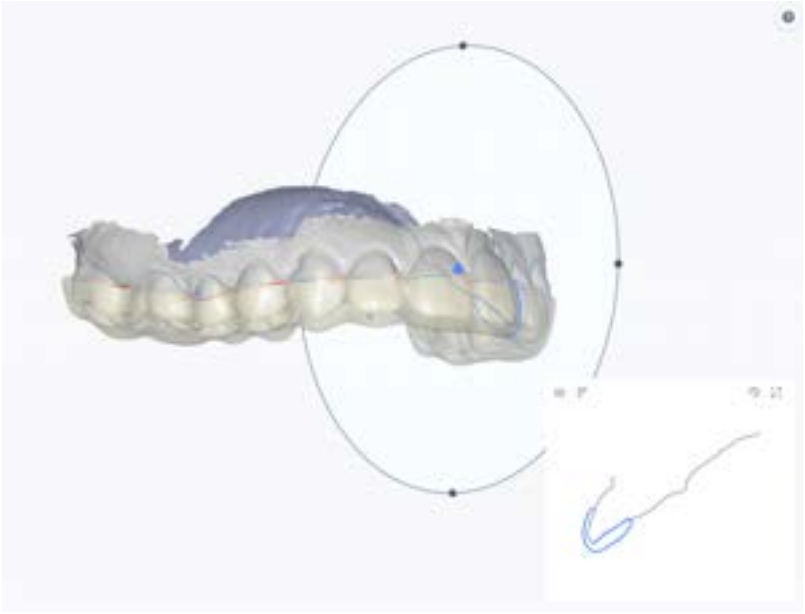
Steps for adjusting the path insertion

1. Rotate the model to the expected perspective where you can see the blue arrow.
2. Click the blue arrow pointing to the upper/lower jaw and the software will automatically adjust the path insertion.
3. Check the path insertion.

Sectional view

Click **Sectional View** and a screenshot plane will be automatically created on the model.

The 2D window in the lower right corner shows the corresponding intersecting parts between the plane and the model.



Plane operation	Description
Move the plane	Press the ball on the middle of the plane and move the cursor.
Rotate the plane	Press the other part except the ball of the plane and move the cursor.

2D Window operation	Description
Vertical to dental arch	Click to show the dental arch on the model. When moving the plane, it will be vertical to the dental arch.
Draw a section	Click and you can draw a section on the model. Press and hold the left mouse button, then drag to draw a line to generate a section.
Reset	Click to reset the plane to the original state.
Zoom in/out	• Scroll up and down the wheel to zoom in and out the sectional view. • Click and to zoom in and zoom out the 2D window.
Measurement	• Add a point: Click on the line to add a point. • Move the point: Press the point and drag. • Distance measurement: When 2 points are added, the distance between them is shown on the 2D window. And a line linking the 2 points will be shown on the 3D model as well. • Re-measurement: Add another 2 points to measure the distance again. 

Texture

On the model list, click to show the texture



Disabled



Enabled

Margin line

The margin line wraps the range of the splint or the retainer. Editing the margin line changes the range of the splint / retainer.

Click **Margin line** and there are several methods to edit edit the margin line.

> **Note**
>
> After editing the margin line, CreSplint will re-generate it. During this process, you can still edit the margin line.

- **Method 1: Mode Selection**. By **Control Point Mode** or **Drawing Mode**, you can edit the margin line.

Control Point Mode

Click **Control Point Mode** and there are red control points on the margin line. You can move these points to change the range of the splint / retainer.

Purpose	Operation
Edit margin line	Press a control point ad move the cursor to edit the margin line.
Delete a control point	Double-click right mouse button to delete the certain control point.
Add a control point	Move the cursor on the line and there will be a green point. Click on the margin line to add a new control point.

Drawing Mode

You can press the lft mouse button and move the cursor to draw a line on the model. And this line will replace the former margin line.

- **Method 2: Type Selection**. Change the types of the margin line.

Type	Picture	Type	Picture
Half-wrap around the lips and cheeks	 Selected by default when designing **Splints**.	Half-wrapped around the anterior teeth	 Selected by default when designing **Retainers**.
Straight line in neck area		Curve line in neck area	

- **Method 3: Overall adjustment**. By changing the labial height and lingual height of upper jaw or lower jaw, you can edit the margin line as a whole.

Parameters

Click  to edit the parameters again.

Next step

After adjusting the parameters, click **Next Step**.

Shape adjustment

Visualization tools

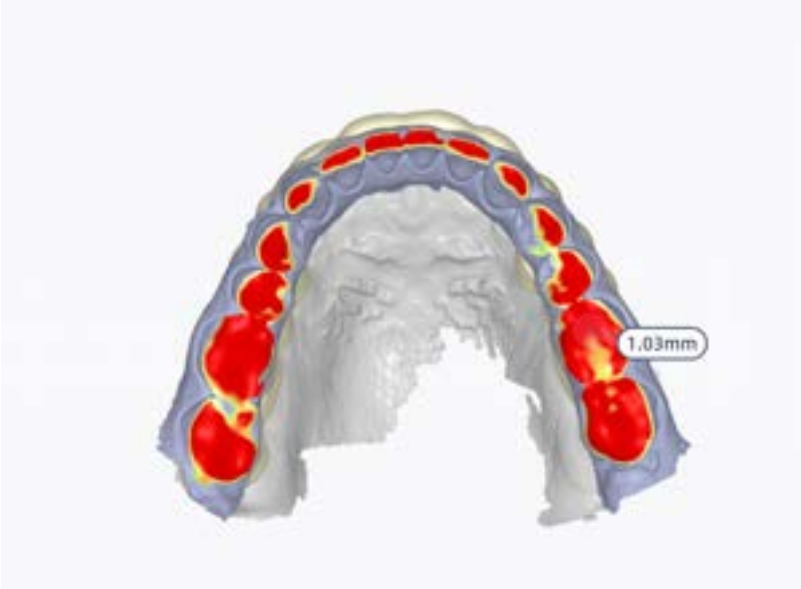
Bite detection

> **Note**
>
> **Bite Detection** is supported when designing **Splint**.

Static Bite Detection, **Dynamic Bite Detection** and **Realtime Bite Detection** are supported. The occlusal areas of the model will be colored.

- Static Bite Detection: It shows the occlusal areas between the splint and the opposite jaw in the static bite status or the occlusal areas when the jaws are open after the virtual articulator is added.
- Dynamic Bite Detection: **Only supported after the virtual articulator is added.** It shows all occlusal areas between the splint and the opposite jaw during the bite movement.
- Realtime Bite Detection: **Only supported after the virtual articulator is added.** It shows the changing occlusal areas between the splint and the opposite jaw in real time during the bite movement.

By moving the cursor to the colored areas, you can check the bite depth.

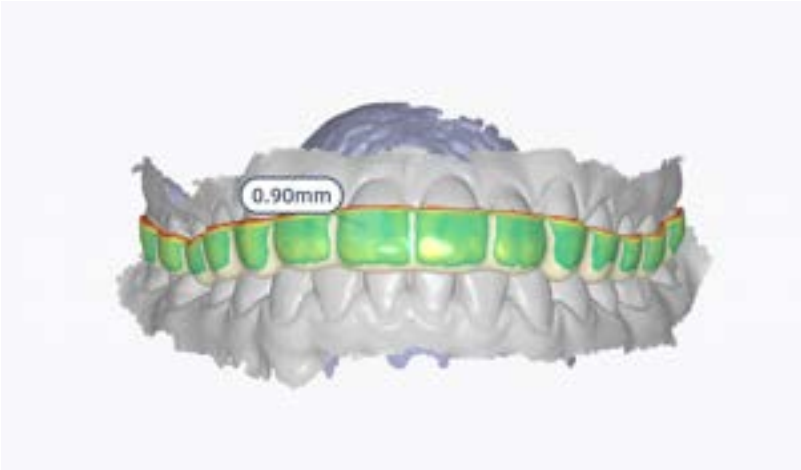


A color bar will be shown on the left bottom corner, on which you can click the arrow to adjust the range of bite depth.

Thickness detection

Click **Thickness Detection** and the model will be colored.

By moving the cursor to the colored areas, you can check the thickness of the splint / retainer.



A color bar will be shown on the left bottom corner, on which you can click the arrow to adjust the range of thickness.

> **Note**
>
> Areas with thickness exceeding the maximum value of the color bar will not be colored.

Sectional view

Click **Sectional View** and a screenshot plane will be automatically created on the model.

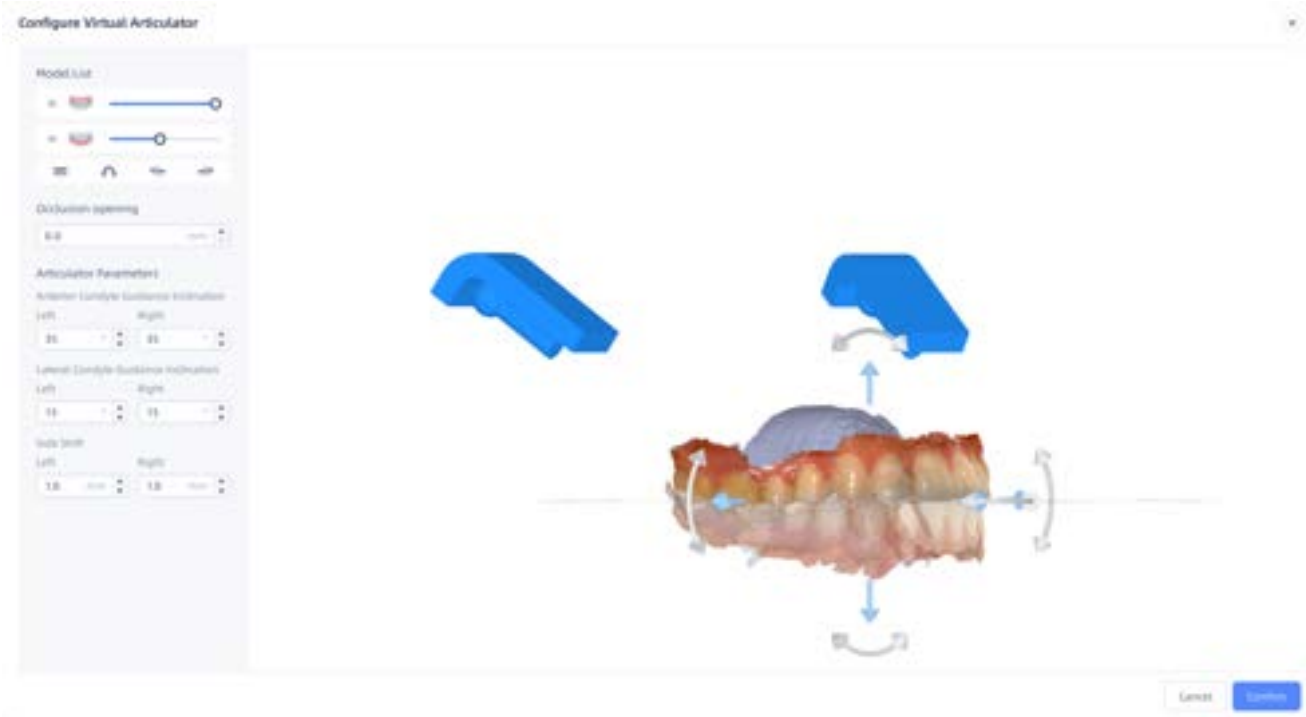
More details can be found in Parameter Adjustment - Sectional View.

Virtual articulator

> **Caution**
>
> Virtual articulator is supported when designing **Splint** of a model with upper jaw and lower jaw.

Steps of configuring virtual articulator:

1. Click **Configure Virtual Articulator** and enter the interface.



2. Adjust the occlusion opening (Range: -10.0 mm - 10.0 mm; the default is 0.0 mm).
3. Adjust the articulator parameters.
    - Range of anterior condyle guidance inclination: 0-60° (the default is 35°).
    - Range of lateral condyle guidance inclination: 0-30° (the default is 15°).
    - Range of side shift: 0 - 2 mm (the default is 1 mm).
4. Adjust the position of the teeth model.
    - Rotate the model: Press the white arrow and drag in the direction of the arrow.
    - Move the model: Press the blue arrow and drag in the direction of the arrow.
5. Click **Confirm** to apply the virtual articulator.

After adding the virtual articulator, click ▶ to play the animation of virtual bite movement.

You can choose **Protract movement (default)**, **Left lateral movement** or **Right lateral movement** on the pop-up window.

Cut out bite

- Cut off static contacts: Cut off the occlusal areas between the splint and the opposite jaw in the static bite status or the occlusal areas when the jaws are open after the virtual articulator is added;
- Cut out dynamic contact points: **Only supported after the virtual articulator is added.** Cut off all occlusal areas between the splint and the opposite jaw during the bite movement.

Carve

With the brush, you can decrease or increase the thickness of the splint / retainer, or make it more smoother.

Steps

1. Click **Crave**.
2. Choose the brush type.
3. Drag the slider to adjust the brush strength and size. Make sure that the brush can cover the areas to be adjusted.
4. Press the left mouse button and move the cursor to adjust the model.

Next step

After adjusting the shape, click **Next Step** to enter **Post Processing**.

Post processing

In the interface of post processing, you can add text on models to distinguish printed splints / retainers of patients.

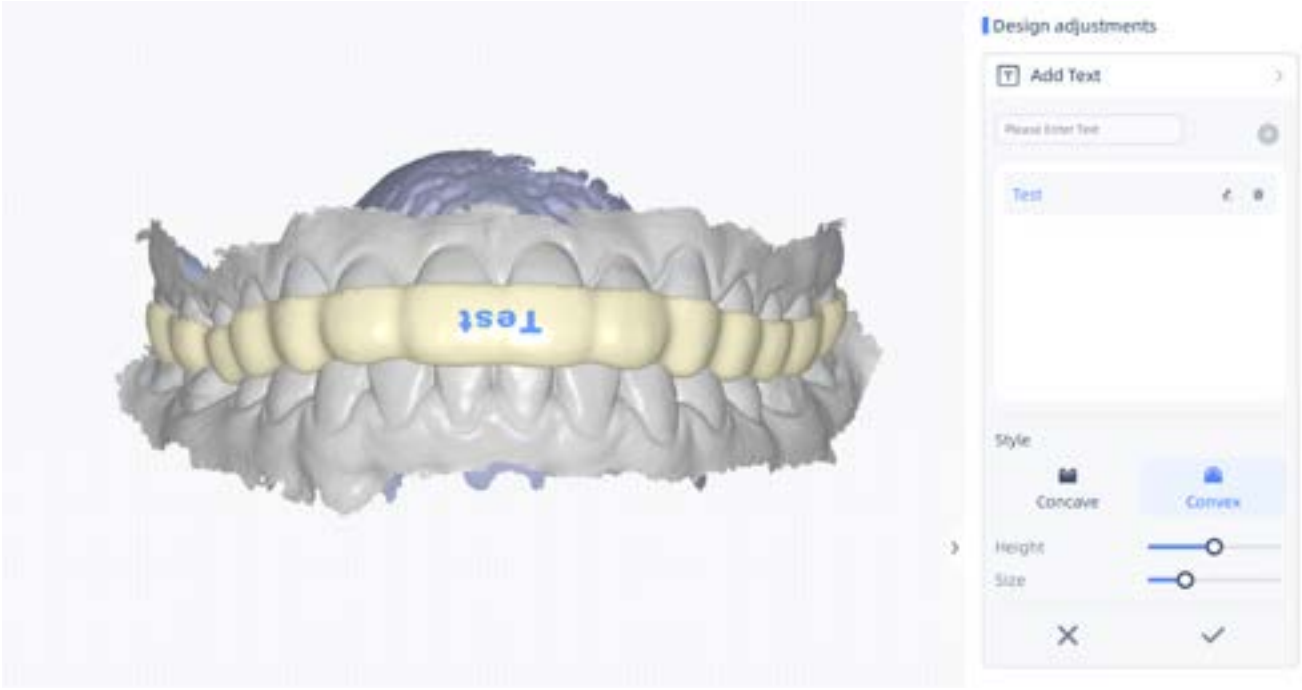
If there is no need to add text, please click **Go to Print** to print the splint / retainer directly.

How to add text

1. Click **Add Text**.
2. Enter text (no more than 30 characters).
3. Click and the text will follow the cursor.
4. Move the cursor to the model and click to add text.

   To move the text that has added on the model already, please press it and drag the cursor.
5. (Optional) Adjust text styles (including concave or convex, text height and text size).

> ⚠ **Note**
>
> If the text is concave and the its height is more than the thickness of the splint / retainer, the splint / retainer may be penetrated when going to print.



6. Click ✓ to confirm adding text. Click ✕ to cancel the current operations.

   If you need to add multiple texts, please repeat step 2 to step 5.

Other operations

When selecting a certain text in the text list, it is supported to edit or delete it.

- Edit: Click ✎ to edit the text. Click ✓ to confirm.
- Delete: Click 🗑 to delete the text.

Tools

Introduction to Dental Cloud

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 data.

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: Dental Cloud .

Use ScanBinder

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

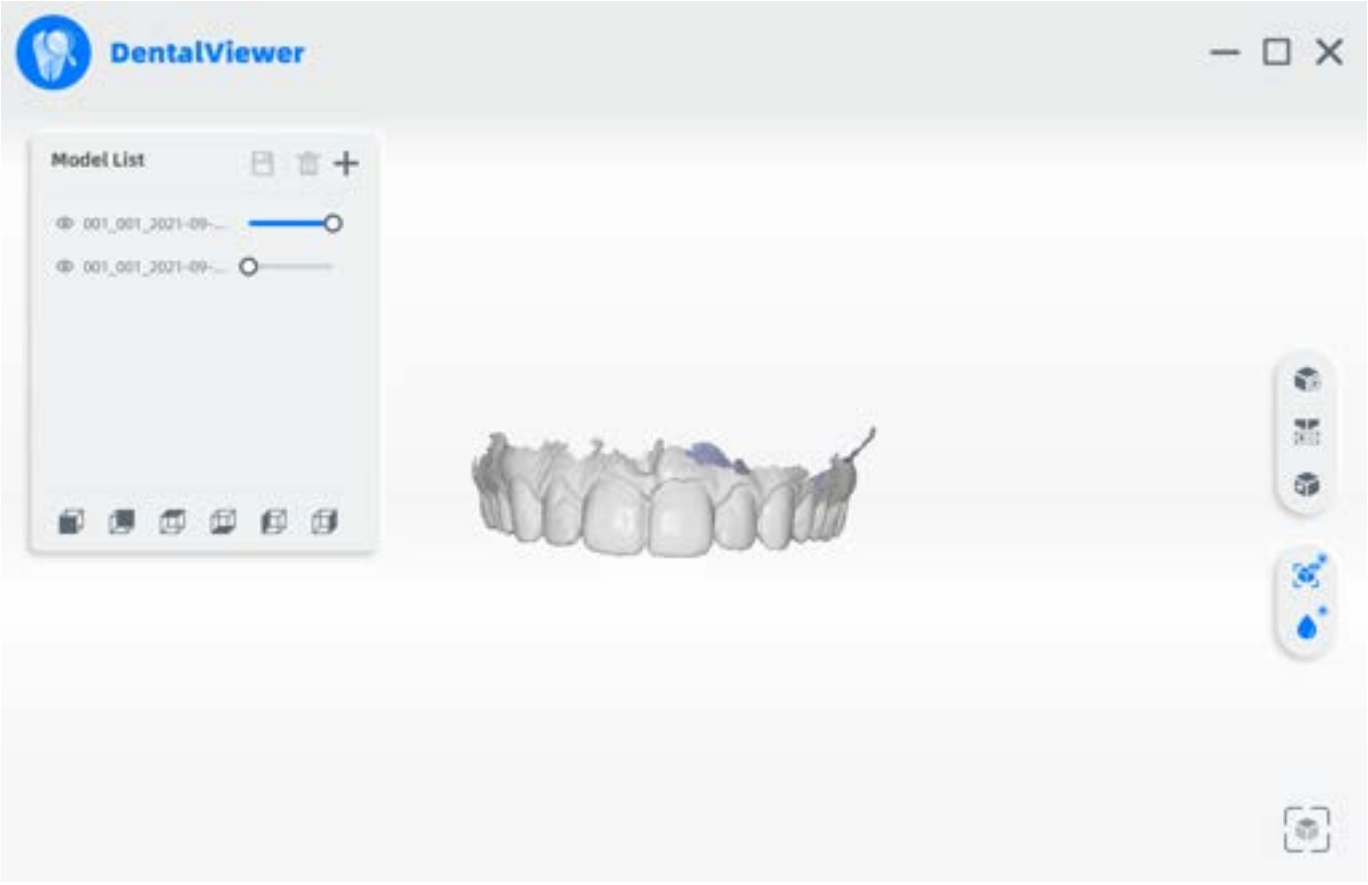
   > **Note**
   >
   > Support binding of ExoCAD and Dentalwings design software.

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.

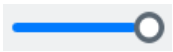
> **Note**
>
> support draging files to the DentalViewer interface to edit the data.

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

Icon	Name	Description
	Edit	Details in Data Edit .
	Remove Isolated Data	Quickly delete small data isolated to the main model.
	Fill Holes	1 Click the icon to enter the fill holes interface. 2 Drag the slider to adjust the application range. 3 Click  to confirm the operation and exit; Click  to discard the process and exit.
	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 the scanner tip, the scanner body, the scanner cradle and the calibrator, requires proper care, cleaning, and handling.

As individual parts may be processed differently, please read and follow the given instructions:

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, the cradle and the 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. Clean the lens on the front end of the scanner body. You can use a lint-free cloth or lens paper moistened with cleaning solution to gently wipe the lens from the center outward. Please ensure that the whole lens is cleaned.
5. Hold the supplied dust cap and blocks to the matching slots on the front end of the scanner body.
6. Use new cotton gauze moistened with 70%-75% solution of ethanol to wipe the surface of the scanner body.
7. When done, store the scanner body in a clean and safe place.
8. Use new cotton gauze moistened with 70%-75% solution of ethanol to wipe the surface of the cradle and the calibrator.
9. 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 scanner tip must be thoroughly cleaned and disinfected/sterilized after it touches a patient; before using, please make sure that the scanner tip has been cleaned and disinfected/sterilized, and is sterile.

> **Warning**
>
> - The scanner tip can be sterilized under high temperature up to 100 times and must be disposed of afterwards.
> - **High-level disinfection and high temperature autoclave sterilization must NOT be combined**.
> - Before cleaning and disinfection/sterilization, please wear clean surgical gloves and goggles.

There are several effective and approved methods:

- Method 1: Cleaning, auto-disinfection (optional) and high-level disinfection.
- Method 2: Cleaning, auto-disinfection (optional) and high temperature autoclave sterilization.

For cleaning steps, you can choose manual cleaning or auto-cleaning.

Manual cleaning steps

1. Disconnect the power of the scanner, and pull the scanner tip off the scanner body. Please transport the scanner tip to the point where cleaning is to be performed as soon as practical.

   > **Note**
   >
   > - 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.
   > - Please do not mix the uncovered scanner tip with other devices to prevent from damages.

2. Pre-clean the scanner tip with purified water at a temperature of less than 30℃ for 3 minutes to remove stains, such as saliva or blood.
3. Brush the inside and the outside of the scanner tip with a neutral enzyme surfactant for 2 ~ 10 minutes. Repeat the step for at least 2 times. 3M fast and efficient multi enzyme cleaning agent is recommended with a suggested ratio of 5 mL ~ 10 mL of cleaner to 1 L of water at a temperature of 25℃ ~ 40℃ (if the cleaning solution used is not the recommended one, please follow its instructions).
   - When cleaning the inside of the scanner tip, insert a sponge brush or a common brush into the scanner tip from both the front and rear ends, and move the brush lightly in tiny circles.
   - When cleaning the outside of the scanner tip, brush the surface back and forth lightly.
4. Rinse the scanner tip thoroughly with purified 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 scanner tip with purified 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 scanner tip to make sure it is clean and free of damage.

> **Warning**
>
> If the lens of the scanner tip has cracks or scratches on it, contact your local distributor or service provider after cleaning and disinfection/sterilization.

Auto-cleaning steps

1. Disconnect the power of the scanner, and pull the scanner tip off the scanner body. Please transport the scanner tip to the point where cleaning is to be performed as soon as practical.

   > **Note**
   >
   > - 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.
   > - Please do not mix the uncovered scanner tip with other devices to prevent from damages.

2. Pre-cleaning: Pre-clean the scanner tip with purified water at a temperature of less than 30℃ and a sponge brush or a common brush for 2 minutes.
   - When cleaning the inside of the scanner tip, insert a sponge brush or a common brush into the scanner tip from both the front and rear ends, and move the brush lightly in tiny circles.
   - When cleaning the outside of the scanner tip, brush the surface back and forth lightly.
3. Auto-cleaning: After pre-cleaning, please place the scanner tip into a washing machine. Set the procedure as follows:
   (1) **Cleaning**: Clean the scanner tip with a neutral enzyme surfactant for 2 ~ 10 minutes. 3M fast and efficient multi enzyme cleaning agent is recommended with a suggested ratio of 2.5 mL ~ 5 mL of cleaner to 1 L of water at a temperature of 40℃ ~ 60℃ (if the cleaning solution used is not the recommended one, please follow its instructions).

   (2) **Washing (rinsing)**: Wash (rinse) the scanner tip with purified water for 3 minutes at the temperature of 40℃.

   (3) **Terminal rinsing**: Rinse the scanner tip with purified water for 5 minutes at the temperature of 40℃.

(4) **Drying**: Dry the scanner tip for 25 minutes at a temperature of 110℃.

4. Take out the scanner tip after drying. Inspect the lens of the scanner tip to make sure it is clean and free of damage.

> **Warning**
>
> - After drying, cool the scanner tip to room temperature to avoid a scald.
> - If the lens of the scanner tip has cracks or scratches on it, contact your local distributor or service provider after cleaning and disinfection/sterilization.

> **Note**
>
> If auto-disinfection is supported by the washing machine, it can be directly carried out after auto-cleaning is complete.

Auto-disinfection

Auto-disinfection can be carried out after cleaning. Set the procedure as follows:

1. **Disinfection**: Disinfect the scanner tip with purified water for 5 minutes at the temperature of 90℃.
2. **Drying**: Dry the scanner tip for 25 minutes at a temperature of 110℃.
3. Take out the scanner tip after drying. Inspect the lens of the scanner tip to make sure it is clean and free of damage.

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

High-level disinfection steps

1. Carefully fill the container with phthalaldehyde at a concentration of 5.5 g/L, and fully immerse the scanner tip in the disinfectant for at least 5 minutes at a temperature of 20℃ ~ 25℃.

   > **Caution**
   >
   > - When immersing the scanner tip into the disinfectant solution, please follow the instructions of the disinfectant solution.
   > - It has been verified that the scanner tip can be disinfected in 5 minutes. It is not recommended to immerse the scanner tip in the disinfectant for more than 14 minutes.

2. Take out the scanner tip from the disinfectant, and rinse it with purified water 3 times and 1 minute for each to remove disinfectant residues.

> ⚠ **Caution**
>
> Discard the used purified water. Do not reuse the water for rinsing or any other purpose.

3. Flush the scanner tip with purified water for at least 3 minutes.
4. Dry the scanner 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 scanner tip to make sure it is clean and free of damage.
6. If using the scanner tip immediately is required, reconnect it; if not, store it with other dental instruments.

> ⚠ **Caution**
>
> **Before using or storing the scanner tip, please ensure that it is completely dry. Or it may cause damage to the scanner or affect scanning performance.**

High temperature autoclave sterilization steps

1. Fill the scanner tip with medical gauze and seal it in an autoclave bag.
2. Place the wrapped scanner tip into a sterilizer and set the sterilization parameters according to the sterilizer type as the following table.

Sterilizer type	Sterilization parameters
Dynamic-air-removal sterilizer	Sterilize for 4 minutes at 134°C; dry for 30 minutes.
Gravity-displacement sterilizer	Sterilize for 30 minutes at 121°C; dry for 30 minutes.

> ⚠ **Warning**
>
> After drying, cool the scanner tip to room temperature to avoid a scald.

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

⚠ **Caution**

Before using or storing the scanner tip, please ensure that it is completely dry. Or it may cause damage to the scanner or affect scanning performance.

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.

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Contact Us

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