

DX300 3D Dental Scanner

User's Manual

This Dental scanner is specially designed to provide solutions for dentistry, developed by **Glorious Dental Materials Co.,Ltd** independently. The process of calibration and scan are fully automatic. The scanner brings precise 3D scanning and effective order management, providing the customers with a simple and intuitive workflow to improve the efficiency of production.

The manual describes Scanner consisting of following parts:

- 1. The Use of Fixture
- 2. Software operation
- 3. Notes

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Disclaimer

This user manual is an instruction for installation, operation, and maintenance, but not product warranty. All efforts have been made to ensure the accuracy and completeness of the information in this manual. However, CEDU Tech Co., Ltd. accepts no responsibility for any errors or an omission contained in the documentation and reserves the right to explain and revise the publishing and fault of this manual. The information in this manual is subject to change without notice.

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1. The Use of Fixture

During the software operation, the fixtures will be used for scanning, including the following fixtures:

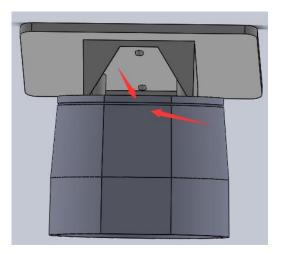
- 1. The fixture of Calibration Plate
- 2. Model fixing fixture
- 3. The fixture of Die
- 4. The fixture of dental model

1.1 The fixture of Calibration Plate



Calibration Plate

Align the No. 1 hole at the base of calibration plate with the No.2 hole on the rotating table.



Note: usually, the arrow points to the operator.

1.2 Model fixing fixture



fixture

Align the No.1 hole on the fixture with the No.2 hole on the rotating table.

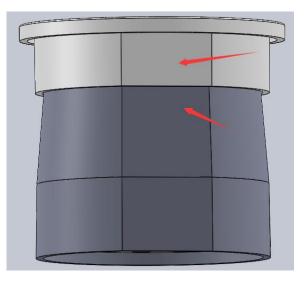


1.3 The fixture of Die



Die tray

Align two arrows on the die tray and rotating table, as well as hole 1 and hole 2.



1.4 The fixture of dental model

(1) The fixture of dental full arch: Place full arch model on the plate, fixing by rubber band, blue-tack or screw depends on dental models and model fixing fixture came with the scanner, shown as the images below.

(2) The fixture of the quadrant arch: Fix the quadrant jaw with blue-tack, shown as the figure below.



full arch fixture



Single jaw fixture

(3) Tooth fixture: insert the teeth into the hole of blue-tack.



(4) Implant fixture: it includes fixing the teeth model with scan pole and fixing teeth model with gum.



Clamping tooth with gum

(5) Impression fixture:



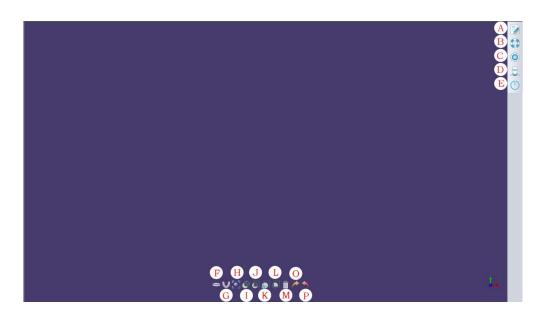
Impression model on the fixture



Stick the fixture on the general block

2. Software operation

The scanning software is used with dental scanner together. Before starting the software, please make sure the scanner is well connected. Double click the software, you will find the following interface:



There will be two parts which are "scan" and "edit". "Scan" includes four sections: A create order, B calibration, C setting, D machine test.

- F: Front view
- G: Up view
- H: Proper view
- I: Curve line
- J: Rectangular
- K: Cancel selection
- L: Reverse selection
- M: Delete selected data
- O: Redo
- P: Withdraw

2.1 Configuration settings

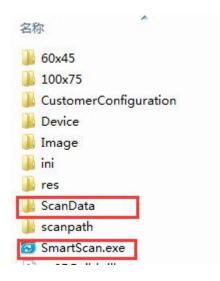
In the setting section, click "setting" to set the system.

Parameter Set		×
1 Language: English (American)	Operation mode: Measure	• •
Data save path	<u></u>	evert elect
	OK Can	el

(1) Language: there are two options: English and Chinese, please choose the right language according system setting.

2Operation model: default setting as picture shows, there are more options to select.

3 Data save path: the default saving path is: [•] ScanData</sup>, This folder is in the same folder which includes the running program "DentalScan.exe".



(4) Select: you can select the folder to change the file path, and Click "Reset" enables default save path to be reset if the save path is changed.

Operating steps:

Click "OK" to finish parameter adjustment. Click "Yes", the parameter will be applied. The new parameter is effective when program reboots. The parameter adjustment is disabled by clicking "No" or "Cancel".

Note: Program shall be shut down after saving.

2.2 System test

System test is used to observe the working condition of hardware and diagnose

problem. Click the menu "²", a dialogue will pop up, shown as the figure below. The interface contains the parts of ① projector control, ② camera control and ③ turntable control.

• • •	• • • • • • • • • • • •	
	• • • • • • • • • • • •	
e e • •		• • • • • •
	•	
	2	3
U	Camera	Turntable Control
Strip Width . 12	Left ID: RG1548008017 Zoom	In PCB version: V1.1
Intensity	Right ID: RG1603008017 Zoom	To Axis
Min _ 0		30 STOP
Max 255	Exp. Time 33.1	
1704		
	Gain 19	Y axis
Strip Test Cross	Gain 19	STOP
		Y- Y+ 0.0000
	C ScanStatus CalibrateStatu	is Reset
		Keset
		SetCalibrationOrg SetMendscanOrg

As shown in the figure above, the interface contains the parts of ① projector control, ② camera control and ③ turntable control. The parameters of projector control and camera control are predefined before delivery, which is not suggested to reset. Technician checks the scanner working condition and make problem diagnosis by those setting.

When adjust the parameters of turntable control, ClickImage: Click and the control of the control of

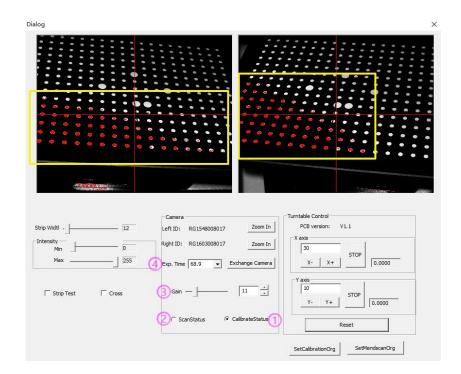
Note: The parameters of projector setting and camera setting are predefined before delivery. To avoid abnormal working condition, it is not suggested to change the setting without technician advice.

2.2.1 User guide to system setting

User guide includes three parts: Calibration process, add scan process and rotate control process. Please set the parameters according to the following operation guide **Note:** 1, Please try not to click "calibrate original point" and "add scan original point" in the "rotate control" setting, in case of abnormal working condition of the machine. 2 User has no need to change the exposure time in adjusting the calibration and add scan setting.

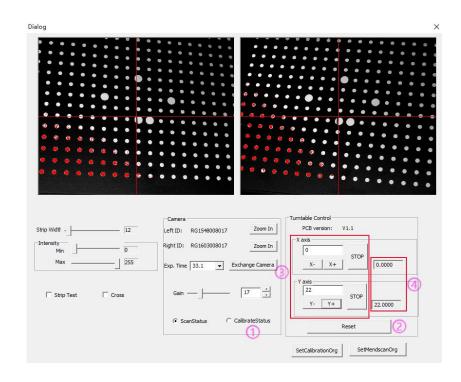
Calibration process

Check the brightness before calibration. Put the calibration board on the turntable support, adjust and modify the exposure via camera control (show as below)

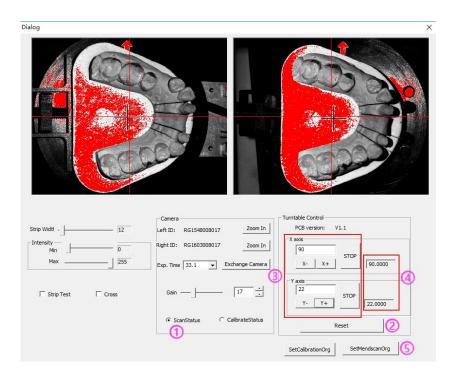


Rotate control

Please try not to click "calibrate original point" and "add scan original point" in the "rotate control" setting, in case of abnormal working condition of the machine.



Add scan original point setting



2.3 Calibration

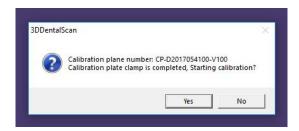
The precision of calibration will affect the scanning precision. User needs to calibrate under following situations:

- (1) The scanner is moved from one position to another;
- (2) The precision dropped during scanning, alignment failure shows up frequently.

Calibration process:

Put the calibrate plate on the scanning plate in the scanner box, click

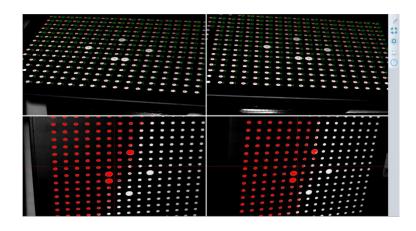
"calibrate " button, the following interface will show up:



Note: please make sure the Numbers are the same, the number is on the back of calibrate plate, as picture shows:



Click "yes" to confirm it, the scanner will do calibration automatically.



When calibration is finished, the software will show calibration is successful. Click "OK".

Note: the whole process will last around 7 minutes



button after calibration finished, then please restart the software.

2.4 Order information

Click the "

" button, the following interface will show up:

Issuel Oxform Cipers Circles Parts	Job definition	Court
Date 2018-5-17 17:43:50		D
Client*		indurt Marcet
Techician		(N) Clear
		Tooth shades A1
	Scan mode Articulator type	Material Zirconia
	SeparatorM · None ·	R Stat

The blanks with * must be filled in, other blanks are optional based on different cases.

Import order

A import order: click the button to import the previous order

Click the button to open the window, choose the order folder, and choose.xml file, as following pictures shows:

w folder				
Name	Date modified	Туре	Size	
📙 temp	5/17/2018 12:57 PM	File folder		
* bom.xml	5/17/2018 12:56 PM	XML Document	5 KB	
3				

Click open or double click .xml file, the order is imported.

Note: 1.when import the order, the system will ask if you choose the original model to scan, you can decide the original model or re-scan;

2.save the order please refer to order storage;

D Time: show the current time;

Customer information

E Case No.: you can edit or choose the existing information;

F Customer: record the doctor's name, you can choose the doctor or add a new doctor by the drop down menu:

click button, insert doctor's name in the pop-up window, click "yes" to add the

information; delete the doctor's name;

click button, choose the doctor's name in the pop-up window, click "delete" to

delete doctor's name.

G Name: patient's name, you can choose patient's name or add new name via drop down menu;

Technician information

H Technician: record the scan technician's name, it can be input manually and are corresponding to the name.

J Scan Type: it contains the following options.

- (1) Separated model: it represents that the scan model is plaster model, and the tooth can be separated.
- (2) Non-separated Model: it represents that the scan model is plaster model, and the tooth can't be separated.
- (3) Impression: it represents that the scan model is impression.
- (4) Die: it represents that the scan model is tooth, the "Occlusion" is "None" by default, which cannot be modified.

K Occlusion

L Material;

M Color;

N Clear;

O Tooth position chart

It shows the patients' tooth position info, you can select the teeth by clicking the tooth for restoration requirement. The color of the selected tooth represents the corresponding restoration type. Click it to select it and click it again to cancel.



Shown as the figure above, it selects the tooth type as "Single Crown" in the location "15", it selects "Single Inlay" in the location "17" and selects "veneer" in the location "14".

P Tooth restoration type: it contains four options.

(1)Crown: the restoration type is crown, and it is shown in red.

(2)Pontic: represents that it is the lost tooth, and it is shown in yellow.

(3)Inlay/Onlay: the restoration type is inlay, making no distinction between inlay and onlay, it is shown in blue.

(4)Abutment: the restoration type is implant. It is abutment here, shown in green.

Note: The scan type of wax is "Separated model" by default, which cannot be modified. The wax cannot be scanned with other types of model.

The scan type of implant is "Separated model" by default, which cannot be modified. The implant tooth cannot be scanned with other types of model.

When scan the pontic, the missing tooth cannot be scanned alone, it should be scanned with the adjacent tooth together.

X click X, close the order.

R Scan: click the button to begin scanning. If the options marked with the "*" are not filled, the button "Scan" will not be activated.

2.5 Scan Type

The scan type contains "Separated model", "Non-separated model", "Impression" and "Die". The following examples of scan type are all based on the condition that the "Occlusion" type is "None".

Note: 1.After a model is scanned, you can "Add scan" and "Edit" it. If you go to the next interface and click "Back" to return, you will not be able to "add scan" to the model, but you can still edit it. If you need to add scan to this model, you must go back to the interface of "please insert the model" step to scan again.

2. Under the interface of "please insert the model" and click "Next", you can not "add scan" to the model if you use the existing model, but you can edit it.

3. When the number of crown and veneer is no more than 8, you can scan these models at a time. If the number is more than 8, you need to scan these models more than one time. 4. You can scan only one inlay each time. If there are several inlays in an order, you should scan several times correspondingly.

2.5.1 Separated Model

The "Separated Model" is designed especially for the separated model, which contains scan types as follows: single crown, inlay, veneer, wax crown, wax inlay, combination and so on.

You need to clamp the model during scanning, please refer the following links for the reference.

- 1. The clamping of crown: please refer to the clamping of a jaw
- 2. The clamping of tooth: please refer to <u>Tooth clamping</u>
- 3. The clamping of inlay: please refer to Inlay clamping
- 4. The clamping of implant: please refer to Implant clamping

1.After a model is scanned, you can "Add scan" and "Edit" it. If you go to the next interface and click "Back" to return, you will not be able to "add scan" to the model, but you can still edit it. If you need to add scan to this model, you must go back to the interface of "please insert the model" step to scan again.

2. Under the interface of "please insert the model" and click "Next", you can not "add scan" to the model if you use the existing model, but you can edit it.

3. When the number of crown and veneer is no more than 8, you can scan these models at a time. If the number is more than 8, you need to scan these models more than one time.

4. You can scan only one inlay each time. If there are several inlays in an order, you should scan several times correspondingly.

2.5.1.1 Crown

(1) Create Order

You can choose "Single Crown "in the "Crown", then choose the tooth to be scanned (you can choose one or several teeth at a time) ; the "Scan type "is "Separated Model "and the "Occlusion" type is "None", shown as the figure below.

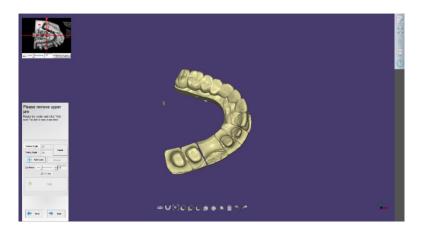
	Import Oxder	Open Order Path	Perior		b definition	<u>m</u> ~	ur:	
Date	2018-4-27 16:3	6:12		(15)		🔛 in 0	~	Venser
Case ID*	crown		*		3	🔛 Maar	ng Talath	
Client*	Doctor001		•	ECCB.	8 8 8 8 8	🛄 ingl	ert 🔝	Runert
Name*	1		•		8	m wa	up -	
echician			-	8	2	Clear	8	
Notes			_	ě	a a a			
					J. J	Tooth shades	A1	·
				C. C		Material	Zirconia	
				Scan mode	Articulator typ	e		
				SeparatorM	None -			

(2) Scan Jaw

After creating the order, click "Scan", the following interface will pop up. According to the tips on the interface, insert upper/lower jaw, and click "Next".



After automatic scanning, you can click "Add Scan" to have better scanning result if need be. Then you can click "Apply" for data optimization as below.



Note : After a model is scanned, you can "add scan" and "Edit" it. If you enter the next interface and click "Back" to return, you will not be able to "add scan "to the model, but you can still edit it.

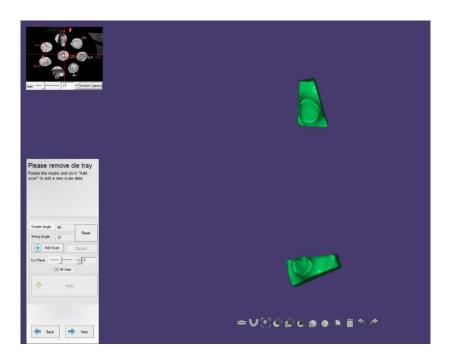
(3) Scan Tooth

After scanning the jaw, click "Next", it will enter the die scan interface, shown as the figure below. Then insert the tooth according to the tips.



Note: When the number of crown and veneer is no more than 8, you can scan these models at a time. If the number is more than 8, you need to scan these models more than one time.

As shown in the figure below, click the holes on the die (when click a hole, it will mark the tooth number in the model. The selected hole turns red), after selecting the all teeth to be scanned, the button "Next" will be activated.



Note: After the model is scanned, you can "add scan" and "Edit" it. If you enter the next interface and click "Back", you will can not "add scan" the model, but you can edit it only.

(4) Auto Alignment

After completing the die scan, click "Next" to enter the auto alignment interface, shown as the figure below.

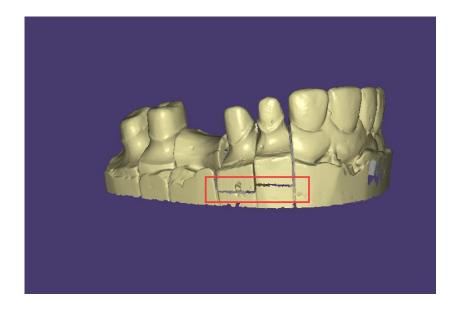


Note: After the alignment fails, you can align the model manually.

(5) Completing scan

After the alignment is completed, click "Next", the interface will pop up, shown as the figure below. Click "complete", the whole order is completed. Rotate the jaw to observe that there is parting line between the aligned tooth and jaw, shown as the figure below.





2.5.1.2 Inlay

(1) Create order

You can choose "Single inlay "in the "Inlay/Onlay", then choose the tooth to be scanned (26 and 27), the "Scan type" is "Separated model" and the "Occlusion" type is "None", shown as the figure below.

	Import Order	Open Order Path	Preview	Job	definition	<u>(</u>	мп	×
Date	2018-4-27 16:36	:12		13	P B	<u>U</u> 10	niay	Veneer
Case ID*	onlay	•			24) 25)	Maar	ng Tooth	
Client*	Doctor001	•	-		2	inpl	art 🔝	Abument
Name*	1	•		18		M wa	ND	
Techician	•		(m)	40		Clear		
Notes				46	36			
				COR COR	35 37 39	Tooth shades	A1	*
				AN AN		Material	Zirconia	•
				Scan mode	Articulator type			
				SeparatorM -	None			
								Scan

(2) Scan Crown

The scan operation is the same with the "Single jaw" in the "Separated model", refer to the Crown for the operation.

(3) Scan the first tooth

Insert the tooth "26" into the die according to the prompts, then begin to scan, refer to Scan Tooth .

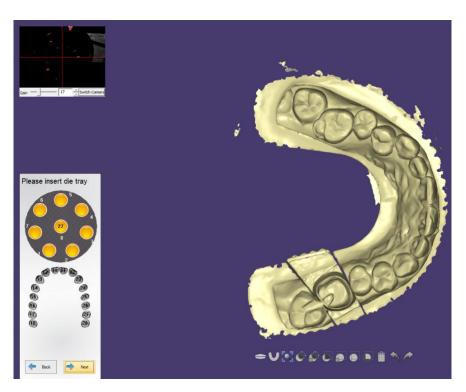


(4) Auto alignment

After the scan of the tooth "26" is completed, it will enter to auto alignment. Refer to Auto Alignment for operation.

(5) Scan the second tooth

Insert the tooth "27" into the die according to the prompts, then begin to scan, refer to Scan Tooth .

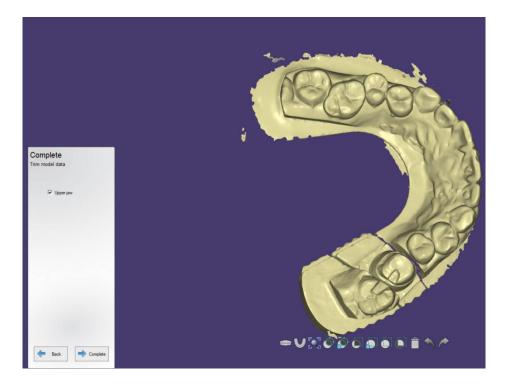


(6) Auto alignment

After the scan of the tooth "26" is completed, it will enter to auto alignment. Refer to <u>Auto Alignment</u> for operation.

(7) Completing scan

After the alignment is completed, click "Next", the interface will pop up, shown as the figure below. Click "complete", the whole order is completed.



Note : You can scan only one inlay at each time. If there are several inlays in a order, you should scan several times.

2.5.1.3 Veneer

(1) Create order

You can choose "Veneer "in the "Inlay/Onlay", then choose the tooth to be scanned, the "Scan type "is "Separated model "and the "Occlusion" type is "None", shown as the figure below.

	Import Order Op	sen Order Path	Preview	b definition	<u></u> ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	wo.	
Date	2018-4-27 16:36:12		6	# # @	🛄 но	nlay	Veneer
Case ID*	veneer	•		(A) (B)	🔛 Maak	ng Toath	
Client*	Doctor001	•			🧾 Inpl	art 🔝	Abument
Name*	1			28	[** wa	nib	
Techician	•		40	38	Clear	r	
Notes			46	35			
			4	35 35 37 37	Tooth shades	A1	*
			B B B B B B B B B B B B B B B B B B B		Material	Zirconia	•
			Scan mode	Articulator type			
			SeparatorM *	None -			

(2) Scan Crown

The scan operation is the same with the "Single jaw" in the "Separated model", refer to the Crown for the operation.

2.5.1.4 Implant

Note: During the implant scanning process, either upper jaw or lower jaw can be scanned with implant. If there are implant on both upper and lower jaws, it will lead to scanning and design error.

(1) Create order

Choose "Implant "in the interface, then choose the tooth location of the implant, shown as the figure below. The "Scan type "is "Separated Model "and the "Occlusion" type is "None".

		Preview		definition	Cros	MT .	
Date 2	2018-5-17 20:14:12		and the second s	FERE	L 100	niay 🔺	Veneer
Case ID* in	mplant	·		24	🔛 Maar	ng Tooth	
Client* D	Doctor001	•	15 16 12 18	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	ing ing	ert 🔝	Abument
Name* 1	1	•	(10)	28	M Wa	шр	
echician	*		48	38.	Clear	•	
Notes		_	46	12 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)			
			4	33	Tooth shades	A1	*
			S S S S S S S		Material	Zirconia	*
			Scan mode	Articulator type			
			SeparatorM -	None -			

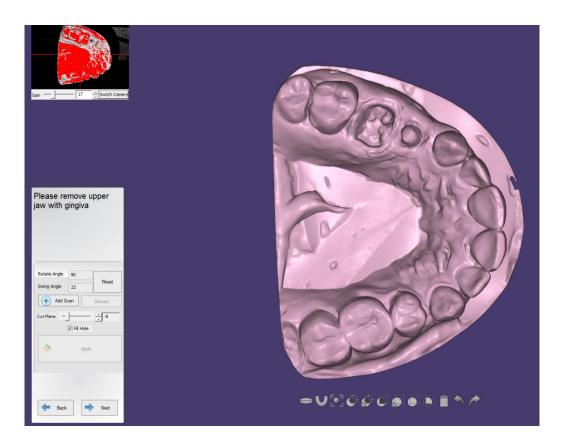
Note : the scan type of implant can only be "Separated model". It is set by default and can not be modified.

(2) Scan bar of implant

After creating the order, click "Scan", the interface will pop up. Insert the up/lower jaw with scan body



After automatic scanning, you can click "Add Scan" to have better scanning result if need be. Then you can click "Apply" for data optimization as below.



(3) Scan abutment

After scanning the bar, click "Next" and enter the interface shown as the following figure. Then Insert lower jaw with scan body according to the prompts.



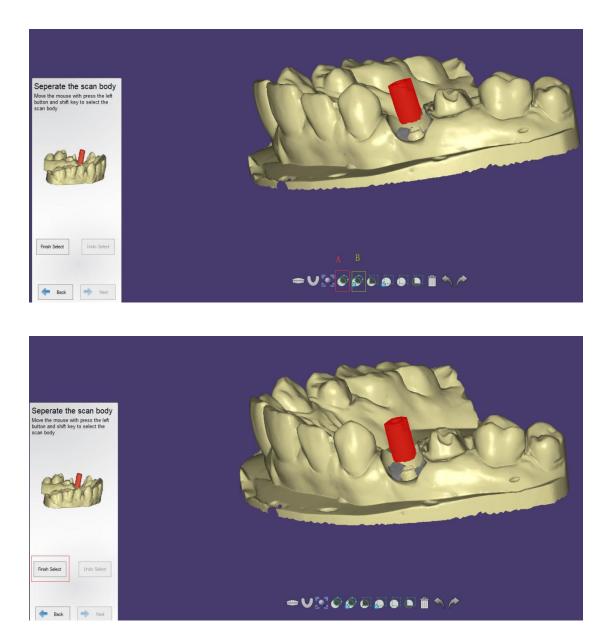
After automatic scanning, you can click "Add Scan" to have better scanning result if need be. Then you can click "Apply" for data optimization as below.



(4) Choose implant bar

After the scan finished, click "next" to enter the bar selection interface.

Click A and press "shift ", then choose the selecting area via left button on the mouse:



If you want to edit "Lower jaw" only, you can uncheck "Lower gingiva". Or else, you should uncheck "Lower jaw". If you check the two options, the two options will be edited simultaneously. After edit is completed, click "complete" to complete the whole order.



2.5.1.5 missing tooth (Pontic)

You can refer to "Scan combination" for the operation of scanning missing tooth. **Note:** the missing tooth cannot be scanned alone, it should be scanned with crown, inlay or veneer together. The missing tooth is not an individual, and it can be ignored.

2.5.2 Non-separated Model

The "Non-separated model" is designed especially for scanning jaw in the Non-separated model, which contains single crown, inlay and veneer.

You need to clamp the model during scanning, please refer to the clamping of a jaw or the fixture of the half jaw

Note: 1. If there are different types of teeth or more than one tooth in an order under the "Non-separated model", you need to scan it once only. 2. the missing tooth cannot be scanned alone.

2.5.2.1 Single Crown

(1) Create order

Choose the scan type of "Non separated model" and the "Occlusion" type is "None". Choose "Crown" in the "Crown", then choose the tooth location (one or more disjunct teeth), shown as the figure below.

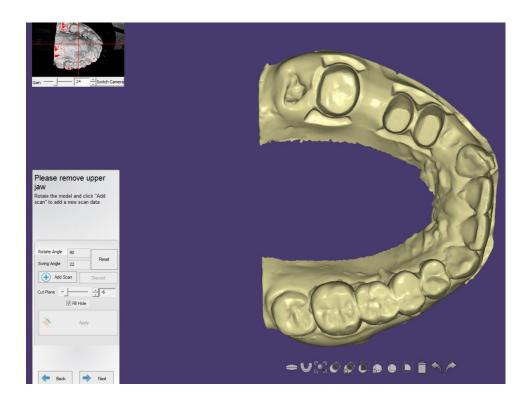
	Import Order	Open Order Path	Preview	dol	definition	Cro	wn	
Date	2018-5-17 20:40	5:18		13 12	17 27 22 23	U 11/0		Veneer
Case ID*	crown	•		6	24	K Missi	ng Tooth	
Client*	Doctor001	•			22 23 23 23 25 25	E Impl	ant 🔝	Abument
Name*	2	Ŧ		(18)	28	M was	kup	
Techician	•		-	4B 47	38	Clear	r	
Notes				46	36			
				40 45 45 45 45 45 45 45 45 45 45 45 45 45	35	Tooth shades	A1	-
				42		Material	Zirconia	*
				Scan mode	Articulator type			
				Unseparato *	None			
								Scan

(2) Scan crown

After creating order, click "Scan", the interface will pop up, shown as the figure below. Insert the jaw according to the prompts.

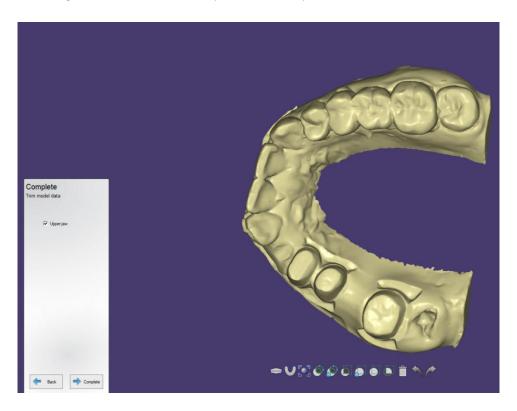
Please inse	rt upper jaw
600	500
Range scan	Cancel select
Back	Next

Then click "Next" to begin to scan. After the models is scanned, it will align the scanned model automatically. When alignment is completed, it will show "Complete model optimization" at the bottom, shown as the following figure.



(3) Complete scan

After the alignment is completed, click "Next", the interface will pop up, shown as the figure below. Click "Complete" to complete the scan,



Note: If there are different types of teeth or more than one tooth in an order under the "Non-separated model", you need to scan it once only.

2.5.2.2 Single Inlay

The scan operation is the same with the "Single Crown" in the "Non separated Model", refer to the <u>Single Crown</u> for the operation.

2.5.2.3 Scan Veneer

The scan operation is the same with the "Single Crown" in the "Non separated model", refer to the <u>Single Crown</u> for the operation.

2.5.3 Impression

The impression function is specially designed for impression scanning. There are four scan types: single crown, inlay, veneer, and combination.

For the impression clamping during impression scanning, please refer to impression clamping

2.5.4 Die

The "Die" is designed specially for a large number of simple tooth models. It is used to scan data for making the inner crown generally. Take the single crown as the example. You need to clamp the model during scanning, please refer to the Clamping of tooth <u>Die.</u>

Single Crown

(1) Create order

Choose the scan type of "Die" and the "Occlusion" type is "None". Choose "Crown" in the "Crown", then choose the location of the tooth to be scanned (one or more teeth), shown as the figure below.

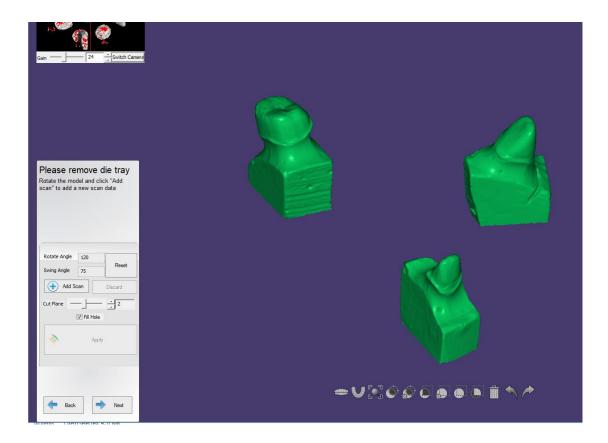
	Import Order	Open Order Path	Preview	Job	definition	<u> </u>	vn		×
Date	2018-5-17 20:46	i:18			T E E	L in o		Veneer	
Case ID*	die	•			24	Kissir	g Tooth		
Client*	Doctor001	*			8 (8) (8) (8) (8) (8) (8)	impl	ert [Abument	
Name*	2	×		18	28	M was	up		
Techician				48	38	Clear			
Notes				45	35				
				41	35 37 33	Tooth shades	A1	-	
				48 48 48 48 48 48 48 48 48 48 48 48 48 4	a 33 32	Material	Zirconia	-	
				Scan mode	Articulator type				
				Die -	None -				
									Scan

(2) Scan die

After creating order, click "Scan", the interface will pop up, shown as the figure below. Insert the die tray with teeth according to the prompts.

Please inse	15 ⁵
	8 14
Back	Next

Make sure that die tray are inserted with die before you click "Next" to start scanning. After scanning, you can "Add scan" to get better scan result. Then click "Apply" to optimize the scan data as below.



(3) Completing scan

After the alignment is completed, click "Next", the interface will pop up, shown as the figure below. Click "Complete" to complete the order scan.

Note: 1. If there are three types of teeth in an order, which are crown, inlay and veneer, you can scan crown and veneer at a time. Inlay should be scanned alone, and you can only scan one inlay at a time.

2. Scanning for die of upper and lower jaw are the same. When the number of crown and veneer is no more than 8, you can scan these models all at a time. If the number is more than 8, you should scan these models more than once according to the hole location on the die tray.

3. The scan type of die cannot be wax or implant and the "Occlusion" type can only be "None".

4. The missing tooth cannot be scanned alone. When choose the missing tooth in the order, the type will be ignored by default.

5. When there is an inlay with the die in the order, you can only scan one inlay at a time, if there are multiple inlays in the order, you should scan the die at multiple times.

2.6 The "Occlusion" types contain "None" 、 "Registered jaw""Bite impression".

Note: The operation of None "Occlusion" type had introduced in <u>Separated Model</u>, <u>Non separated Model</u>, <u>Impression</u>, <u>Die</u>.

Choose the scan process of "Registered jaw" according to the selected tooth type and scan type. Take the single crown in the "Separated model" for example. **Note:** While scanning the combination jaws with wax, the wax can exist only in the upper jaw or lower jaw. If both of the two crowns have wax, the scan design will be wrong.

Create order

Choose "Non Separated model" for the scan type and "Registered jaw" for "Occlusion" type. Choose "Crown" option in the "Crown", then choose the location of the tooth to be scanned (25), shown as the figure below.

	Import Order	Open Order Path	Pre	J	ob definition	<u> </u>	ND	
Date	2018-5-17 21:3	5:25		13	THE REAL	<u>h</u> /0	niay 🛕 Venice	
Case ID*	crown		•	14	24) 25)	Mesi	ig Tooth	
Client*	Doctor001		•		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	🧾 Impl	ant 📃 Abumer	n.
Name*	1		*	10	28	M Wa	цр	
echician	•		-		2	Clear		
Notes			1			Tooth shades	A1	×
					41 33 33	Material	Zirconia	~
				Scan mode	Articulator type	-		
				SeparatorM	 Registered j * 			

(1) Scan the combination jaws

Insert the model according to the prompt, shown as the figure below, click "Next" to begin to scan.



(2) Scan the lower jaw

After scanning the total jaw, click "Next" to enter the interface of scanning the combination jaws. Insert the lower jaw according to the prompt.



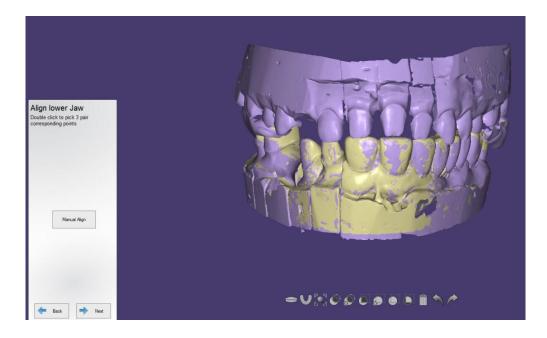
(3) Scan upper jaw

After scanning the lower jaw, click "Next" to enter the interface of scanning the up jaws. Insert the up jaw according to the prompt.

(4) Auto alignment

Auto alignment of the upper jaw

After scanning the total jaw, lowered, up jaw model, click "Next" to enter the interface for auto alignment of upper jaw. It will align the model automatically. When alignment is completed, the model is shown as the following figure. (if the auto alignment result is not satisfactory, you can choose to align it manually)



Click "Next" to enter the auto alignment of lower jaw (you can also choose the "Manual Align"), shown as the figure below.



(5) Completing scan

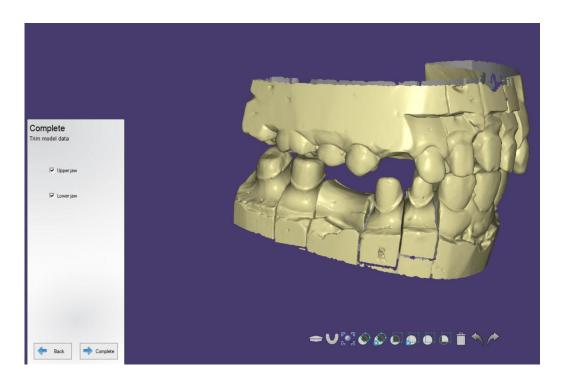
After the alignment is completed, click "Next", the following interface will pop up, shown as the figure below.



(6) Tooth alignment



(7) Scan completed



Note:

1. In the mode of "Registered jaw", if the selected teeth are all in the lower jaw, please scan the lower jaw first before scanning the upper jaw.

2. While scanning the combination jaws with wax, if there is a pontic in the upper or lower jaw, operate it according to the operation of the pontic with wax.

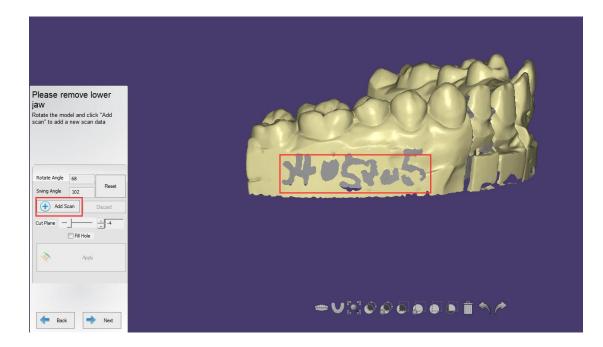
3. While scanning the combination jaws with wax, the wax can exist only in the upper crown or lower crown. If the wax exists in both of the two crowns, the scan design will be wrong.

4. If you click "Back" during the combination jaws scanning, the auto alignment will fail, and then you need to align it manually.

5. If you use the previous model by importing order, the auto alignment will fail, and then you need to align it manually.

2.7 Add scan

If the scanning result is not good enough, you can use the "add scan" function to get better scanning image. Take tooth scan as example, as picture shows below:



Click "Add scan", as below picture shows, the green parts are the "add scan" result.



Click "discard" button, you will get the new scanning image as below, the hollow parts have been mended.



If there are still holes existed, please move the holes to the front, click "add scan," till the image is good enough.

Note: if you have moved to next step, and you need add scan, please go back to the inset model step to re-scan the model.

2.8 Edit

When the scan is finished, the menu will activate "edit" function, the buttons will become bright, you can choose to edit:



Including following functions Front view:





Up view:



Proper view:



Curve: you can choose scan parts in any shape you like



Cancel Curve selection:



Rectangular selection: you can select area in rectangular shape



Cancel rectangular selection:



Cancel selection:



Note: choose free, rectangular, brush functions, and press shift + left button on the mouse to choose.



Free selection



rectangular selection

As the picture shows, the selected parts will become red, you can choose the extra part or single point, then delete them by click the "delete" button.



Reverse selection:



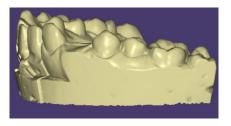
Withdraw:

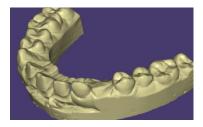




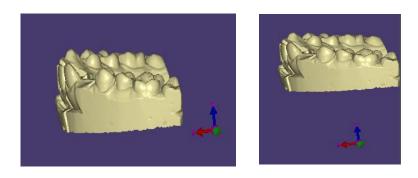
Besides, you can operate through mouse and Ctrl button as follows.

Rotate: position the mouse on the model, press the left button on the mouse to drag the model or rotate the model.





Horizontal move: position the mouse on the model, press "ctrl" + left button on the mouse, you can move the model.

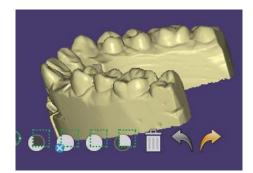


Zoom in/Zoom out: position the mouse in the selected area, move the middle button in the mouse, you can zoom in or zoom out the image.



Redo:

Zoom in



Zoom out

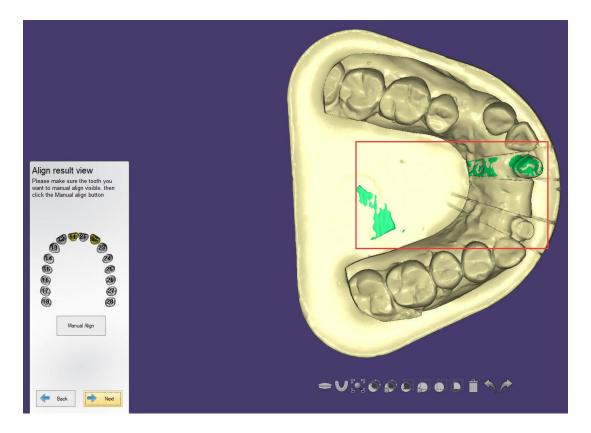


Note: 1. you can edit after the scanning finished or order finished; 2.in the order finish interface, you can choose different models, user can edit the selected model.

2.9 Manual alignment

Manual alignment

Manual alignment is designed especially for the condition that the auto alignment of tooth and jaws fails. Take the tooth manual alignment for example. (the manual alignment of combination jaws is the same as that of tooth)As shown in the figure below, the auto alignment of the tooth 22 fails.

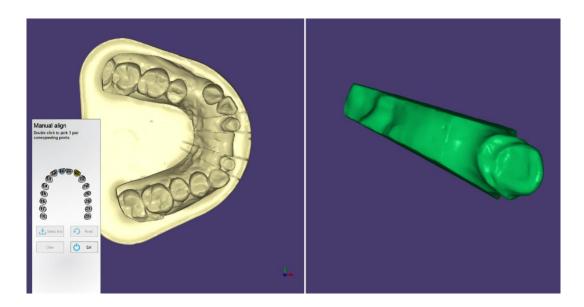


Note:

If you have checked the tooth number in the window "Align result view", then click "Manual Align", the tooth will not be displayed, you have to exit and enter again. Click "Manual Align" to enter the alignment interface, the operation is as follows.

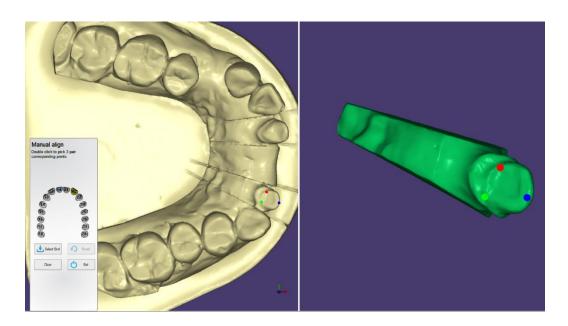
Choose the tooth 22

Choose the tooth 22 to begin the manual alignment.



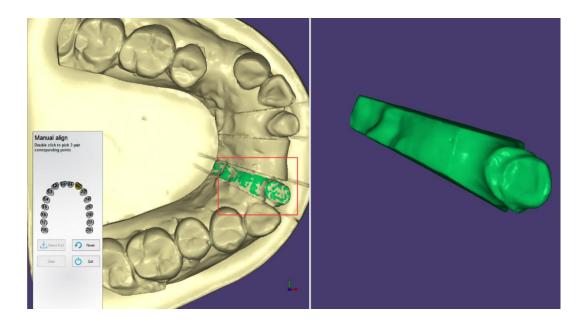
(2) double click 4 pairs corresponding points

Operate according to the prompts to double click the corresponding tooth to select it, shown as the figure below. Double click 4 groups of points respectively on the tooth 22 and the model on the right.



click "Select"

After selecting the 4 groups of points, click "Select" to complete the alignment, the result is shown as the figure below.



(3) After completing the alignment of the tooth 22, you can click "Exit" to view the alignment result, or you can click Reset to recover the previous data, shown as the figure below.



(8) Exit

If the alignment result is right and satisfactory, click "Exit", it will display the alignment result, shown as the following figure.



Note:

- 1. You can cancel the selected points by right clicking the mouse.
- 2. After completing the alignment of the first tooth manually, if you click "Exit" or choose another tooth, the alignment of the first tooth will be saved and the "reset" is invalid.
- 3. When clicking the 4 groups of corresponding points, you'd better choose the area with obvious features. Please don't choose the points at the same plane.
- 4. When scan more than one teeth on the die, the alignment of a few teeth may fail, you need to align the teeth manually.
- 5. If the tooth for alignment is the existing model, or you go back to the last interface after auto alignment, it will result in failure in auto alignment. Then you need to align the tooth manually again.

2.10 Save order

You don't need to save the scan result, because it will save the project automatically in the default path (refer to "<u>Setting</u>"), and each saved file is named with "order no._ doctor's _name_time". There are many folders named with the patients' information (the doctor's name) in the save path.

Then there are many files named with the case's information (the name) in the folder named with the doctor's name. The data of the patient is in the file. The save path is shown as the following figure.

ta save path	
	Revert
C:\ProgramData\ScanData	Select

As shown in the figure below, the "Order No." is 'crown', 'Doctor Name' is 'doctor1', the 'Name' of "Case Information" is '4', the "Time" is "2018-05-18 07:41:37".

Input Order Open Order Ruth Privie	Job definition	<u>(</u>) 00	an f	
Date 2018-5-18 07:41:37		🔛 no	niny 🔝	Veneer
Client* Doctor001		ingl		Aument
Name* 4		Clear		
Notes	EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE	Tooth shades	A1	•
		Material	Zirconia	•
	Scan mode Articulator type SeparatorM · None ·			
				Scan

The order is saved in the file "ScanData" as the file name "doctor1".

Clipboa	ara Org	anize New	Open	5
→ * ↑	This PC > Local Disk (E:) > Release.xt	64_20180321_2-enc > ScanData >	Doctor001 > crown_4_2018-5-18	
Downloads Documents	Name bom.xml tooth_11.stl tooth_22.stl upperjaw.stl	Date modified 5/18/2018 7:41 AM 5/18/2018 8:05 AM 5/18/2018 8:05 AM 5/18/2018 8:05 AM	Type Size XML Document 5 3D Object 2,110 3D Object 1,928 3D Object 15,281	КВ

The data in the file is the scan data, shown as the figure below.

Name	Date modified	Туре	Size
📄 bom.xml	5/18/2018 7:41 AM	XML Document	5 KB
🚺 tooth_11.stl	5/18/2018 8:05 AM	3D Object	2,110 KB
1 tooth_22.stl	5/18/2018 8:05 AM	3D Object	1,928 KB
👖 upperjaw.stl	5/18/2018 8:05 AM	3D Object	15,281 KB

3.Notes

1) To make sure the data transmission, please insertline in USB 3.0 port;

2) Please use the Nvidia graphics card to acquire high efficiency for scan;

3) Each software binds to a certain calibration plate; so don't mix up the calibration plates Number.

4) Please don't move the device when it is working.

5) Please keep the scan box clean.

6) Please do not start the software in the CD or U disk directly. You must copy the software from the CD to the PC before using, and you must have the permissions to read/write the folder of the scan software, or else the software will not work normally.

7) If the software reminds "cannot recognize the scanner" please turn off the scanner and shutdown the software, then unplug USB data cable that connect the scanner and PC, then plug back in.

8) Users can not insert the USB wireless card.