Dentsply Sirona

Connect SW

Software version 5.1.x

Operator's Manual

English

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1 Introduction

1.1 Dear Customer,

Thank you for purchasing Connect SW from Dentsply Sirona.

You can use Connect SW in combination with a Dentsply Sirona acquisition unit to create digital impressions and send them to your partner laboratory or a central production point via the Connect portal. Various dental applications can be produced there.

It is not possible to design and mill restorations with this software.

Improper use and handling can create hazards and cause damage. Therefore, please read and follow this document carefully. You should always keep it within reach.

Also pay attention to the safety instructions to prevent personal injury and material damage.

Your
Connect SW team,

1.1.1 Contact data

Customer Service Center

In the event of technical queries, please use our online contact form at the following address:
http://srvcontact.sirona.com

Manufacturer's address

Sirona Dental Systems GmbH
Fabrikstrasse 31
64625 Bensheim
Germany

Tel.: +49 (0) 6251/16-0
Fax: +49 (0) 6251/16-2591
e-Mail: contact@dentsplysirona.com
www.dentsplysirona.com

1.2 Copyright and trademark

Copyright

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Windows™ is a trademark of Microsoft Corporation.

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Notes on 3rd party code libraries must be stored in license.pdf in the installation directory.

2 General data

Please read this document completely and follow the instructions exactly. You should always keep it within reach.

Original language of the present document: German

2.1 Certification

CE mark

This product bears the CE mark in accordance with the provisions of the Council Directive 93/42/EEC of June 14, 1993 concerning medical devices (MDD).

2.2 General safety information

Only use original software

Only use original software or software which has been released by Dentsply Sirona. To produce restorations and equipment, manipulated or non-released software components must not be used.

Software and software components must not be installed using incorrect data.

Please check that each installed component has been granted approval in its country. Contact your dealer for more information.

Models to be checked by trained personnel

Each model which is created with this software must be checked for suitability by a trained person (e.g. dental technician or dentist).

For the USA only

CAUTION: According to US Federal Law, this product may be sold only to or by instruction of physicians, dentists, or licensed professionals.

2.2.1 Intended use

The Connect SW Software is intended to be used for creating optical impression of dental situations (intraoral or from stone models) and sending these optical impressions digitally to dental laboratories or central production services that create dental products. This process is comparable to creating and mailing traditional stone models.

2.3 Accessories

In order to ensure product safety, this device may be operated only with original Dentsply Sirona accessories or third-party accessories expressly approved by Dentsply Sirona. The user is responsible for any damage resulting from the use of non-approved accessories.

2.3.1 Accessories for implant measurement

Manufacturer / Implant	Implant Diameter	Platform	ScanPost	REF	Connection	Abutment Screw	REF
Dentsply Sirona Implants							
AstraTech Osseospeed EV	3	3.0	AT EV 3.0 S	6586353	S	AT EV 3.0	6586262
	3,6	3.6	AT EV 3.6 S	6586361	S	AT EV 3.6	6586270
	4,2	4.2	AT EV 4.2 L	6586379	L	AT EV 4.2	6586288
	4,8	4.8	AT EV 4.8 L	6586387	L	AT EV 4.8	6586296
	5,4	5.4	AT EV 5.4 L	6586395	L	AT EV 5.4	6593714
AstraTech OsseoSpeed TX	3.5 S / 4.0 S	3.5 / 4.0	AT OS 3.5/4.0 L	6431055	L	AT OS 3.5/4.0	6460344
	4.5 / 5.0 / 5.0 S	4.5 / 5.0	AT OS 4.5/5.0 L	6431063	L	AT OS 4.5/5.0	6460443
Ankylos	A, B, C, D	C/X	ANK S	6586569	S	Not available	
Frialit / Xive	3,4	3.4	FX 3.4 S	6430891	S	FX 3.4, 3.8, 4.5, 5.5	6460476
	3,8	3.8	FX 3.8 S	6430909	S		
	4,5	4.5	FX 4.5 L	6430917	L		
	5,5	5.5	FX 5.5 L	6430925	L		
Biomet 3i							
Certain®	3,4	3.4	B C 3.4 S	6431212	S	B C 3.4, 4.1, 5.0	6460450
(Inner connection)	4,1	4.1	B C 4.1 L	6431220	L		
	5	5.0	B C 5.0 L	6431238	L		
Outer hexagon	3,4	3.4	B O 3.4 L	6431089		B O 3.4, 4.1, 5.0	6460468
	4,1	4.1	B O 4.1 L	6431105	L		
	5	5.0	B O 5.0 L	6431113			
BioHorizons							
(Inner connection) tapered internal,	3,0 / 3,8	3.0	BH 3.0 S	6532761	S	BH 3.0	6561240
tapered internal tissue level, tapered	3,0/3,5/3,8/4,0/4,6	3.5	BH 3.5 L	6532886	L	BH 3.5, 4.5, 5.7	6561257
plus, internal dental implant, single stage	4,0/4,6/5,0/5,8	4.5	BH 4.5 L	6532944	L		
dental implants	5,0/5,8/6,0	5.7	BH 5.7 L	6536234	L		
Nobel Biocare							
Replace	3,5	NP	NB RS 3.5 L	6430933		NB RS 3.5	6460526
(Tri-channel inner connection)	4,3	RP	NB RS 4.3 L	6430941	L	NB RS 4.3, 5.0, 6.0	6460534
	5	WP	NB RS 5.0 L	6430958			
	6	6.0	NB RS 6.0 L	6430982			
Nobel Active	3,5	NP	NB A 4.5 L	6431279	L	NB A 4.5	6460484
(conical connection)	4,3 / 5,0	RP	NB A 5.0 L	6431287		NB A 5.0	6460492
Branemark®	3,3	NP	NB B 3.4 L	6431006	L	NB B 3.4	6460500
(Outer hexagon)	3,75 / 4,0	RP	NB B 4.1 L	6431022		NB B 4.1	6460518
Osstem							
Osstem TS	3,5	Mini	O TS 3.5 L	6534197	L	O TS 3.5	6561208
	4,0/4,5/5,0/6,0/7,0	Standard	O TS 4.0 L	6536846		O TS 4.0	6561232
Straumann							
Bone Level	3,3	NC (3.3 mm)	S BL 3.3 L	6431246	L	S BL 3.3, 4.1	6460542
	4,1 / 4,8	RC (4.1 mm / 4.8 mm)	S BL 4.1 L	6431253			
Standard	3,3	NN (3.5 mm)	S SO 3.5 L	6431162	L	S SO 3.5	6460559
(Tissue Level)	3,3 / 4,1 / 4,8	RN (4.8 mm)	S SO 4.8 L	6431170		S SO 4.8, 6.5	6460567
	4,8	WN (6.5 mm)	S SO 6.5 L	6431196			
Thommen Medical							
SPI Element, SPI Contact, SPI Element	3,5	3,5	TM 3.5 S	6544386	S	TM 3.5	6561265
Inicell, SPI Contact Inicell	4	4	TM 4 S	6544394		TM 4.0, 4.5, 5.0, 6.0	6561273
	4,5	4,5	TM 4.5 S	6544402			
	5	5	TM 5 S	6544410			
	6	6	TM 6 S	6544428			
Zimmer							
Tapered Screw-Vent	3,7 / 4,1	3,5	Z TSV 3.5 L	6431139	L	Z TSV 3.5, 4.5, 5.7	6460575
	4,7	4,5	Z TSV 4.5 L	6431147			
	6	5,7	Z TSV 5.7 L	6431154			

2.3.2 Hub

Hub is a network-based data center for CAD/CAM data in the practice. Hub stores data from the acquisition unit and enables data exchanges between devices.

If a Hub is connected to the network, it is detected automatically.

The Hub logo appears in the context bar in the Connect SW.

The Connect SW must be set so that it can save data on the Hub. For more information refer to the Hub Operator's Manual.

1. In the system menu in the *"Configuration"* area, under *"Settings"* the menu *"Patient Database"*.
   - ↳ The *"Database Settings"* menu appears.
2. Activate the *"Hub Patient Database"* option.

Setup and commissioning of the Hub is described for users in the Operator's Manual. For more information, refer to the Hub Service Manual.

2.4 Structure of the manual

2.4.1 Identification of the danger levels

To prevent personal injury and material damage, please observe the warning and safety information provided in these operating instructions. Such information is highlighted as follows:

⚠ DANGER
An imminent danger that could result in serious bodily injury or death.

⚠ WARNING
A possibly dangerous situation that could result in serious bodily injury or death.

⚠ CAUTION
A possibly dangerous situation that could result in slight bodily injury.

NOTE
A possibly harmful situation which could lead to damage of the product or an object in its environment.

IMPORTANT
Application instructions and other important information.

Tip: Information for simplifying work.

2.4.2 Formats and symbols used

The formats and symbols used in this document have the following meaning:

✔ Prerequisite 1. First action step 2. Second action step or ➢ Alternative action ↳ Result ➢ Individual action step	Requests you to do something.
See "Formats and symbols used [→ 11]"	Identifies a reference to another text passage and specifies its page number.
● List	Designates a list.
"Command / menu item"	Indicates commands / menu items or quotations.

2.4.3 Operating conventions

Example	Meaning
Tapping	Pressing once and releasing the finger or the left trackball/touchpad key on the acquisition unit.
Double-tapping	Pressing twice quickly in succession and releasing the finger or the left trackball/touchpad key on the acquisition unit.
Moving the mouse in one direction	On the acquisition unit: Moving the trackball/finger in the corresponding direction.
Seizing a point	Pressing and holding the left mouse button (left trackball/touchpad button on the acquisition unit).
"Ctrl+N"	On the keyboard: Press the **Ctrl** and **N** keys simultaneously.
Drag & drop	. Select an element (e.g. a pictograph) and drop / release it onto a potential destination.

Multi-touch technology (only for systems with touch monitor)

The screen is equipped with multi-touch technology. You can navigate and enter content using your finger. Icons open if you tap them with your finger.

Navigating in the software

Example	Meaning
Tap	Single tap on the screen using your finger. To execute functions in the software you must tap once on the corresponding button.
Double-tapping	Two taps on the screen in rapid succession using your finger. **Tip:** To open programs in Windows you must tap the corresponding button twice (double-click).
Call up shortcut menus	Tap the corresponding point and hold the finger on the screen for a longer period. A shortcut menu opens at this point.
Drag & drop	. Tap an element (e.g. pictograph), drag and drop onto new potential destination.

Edit a 3D model with multi-touch

You can edit the 3D model using multi-touch.

Item	Function
A	➢ Complete a rotary movement using 2 fingers. ↳ The object is rotated in the plane.
B	➢ Drag with 1 finger. ↳ The model is rotated out of its current plane.
C	➢ Pull 2 fingers in together. ↳ The object is minimized.
D	➢ Pull the fingers apart. ↳ The object is maximized.
E	➢ Drag with 2 fingers. ↳ The model is dragged.

2.4.4 Manual formats (assistance)

You can access the manual via the Help button or by pressing "F1".

The PDF format user manual can be found on the supplied software DVD or on the Internet (http://www.dentsplysirona.com/manuals).

This format is page-oriented and is well suited for printing out the desired pages.

2.4.5 Odontogram used

The software can be adjusted to the international odontogram (FDI) or the USA odontogram (ADA) (Odontogram).

In this documentation teeth are named as follows:

Principle:	FDI	(#ADA)
Example:	13	(#6)

2.4.6 Data format

You can assign one or more cases to any patient in the software. Depending on the processing status, a case comprises multiple optical impressions, the virtual models reconstructed from them and the preparation margin which has been drawn in.

In this manual, patient data is generally referred to as "cases".

The software uses its own file format (*.con) to export a case. This format contains all of the case data including patient information. A different file format is used (*.dxd) to send data via the Connect portal or if data is opened in the CEREC SW.

Furthermore, a Support.zip exists which can be sent to customer service in the event of a fault, and can be exported to the ADMINISTRATION phase. This file contains additional case information and does not save any patient information.

Under certain circumstances, older software versions cannot open data exports from a more recent version.

2.5 User interface
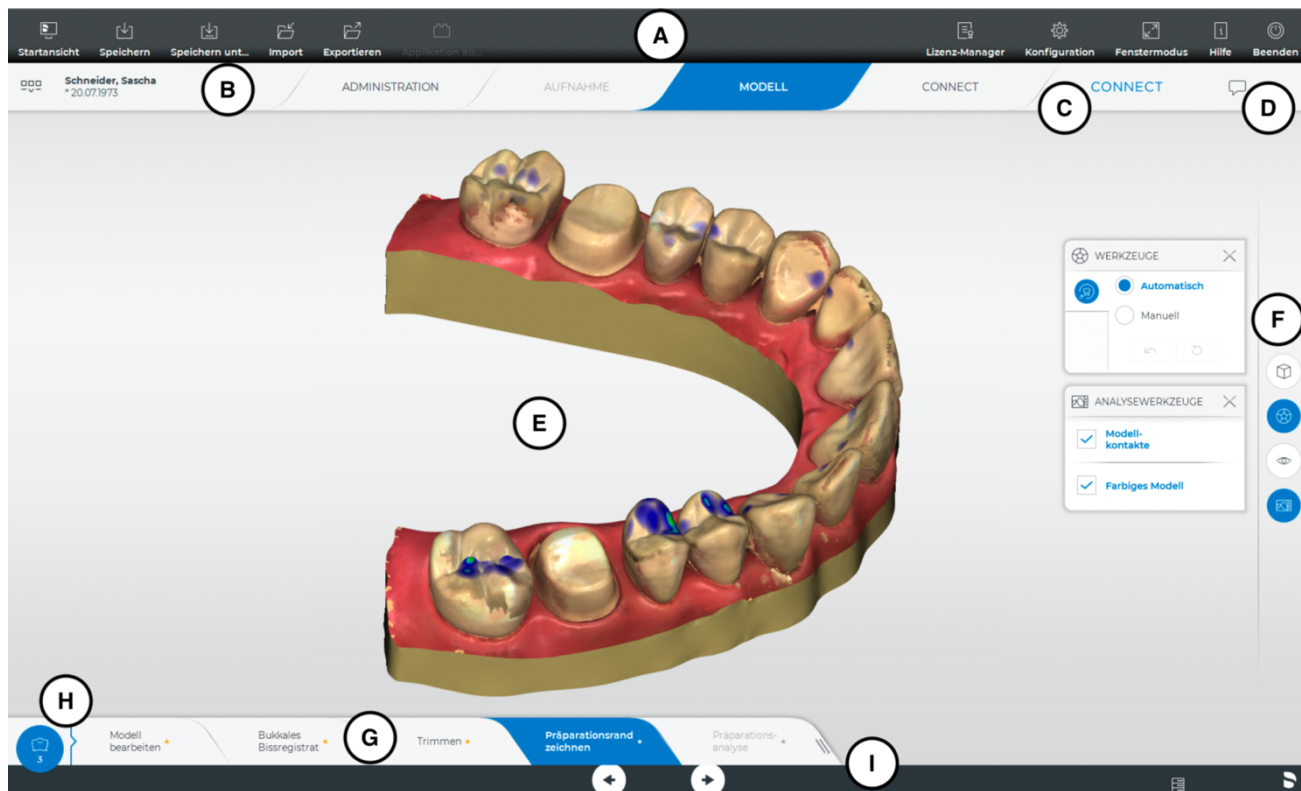
Overview of the user interface

A	System menu	F	Side palette
B	Phase bar	G	Step menu
C	Information dialog	H	Object bar
D	Open chat	I	Context bar
E	Main window		

2.5.1 New features from the new acquisition unit and Connect SW software

2.5.1.1 New screen format

With the new CEREC Primescan AC / Primescan AC / CEREC Omnicam AC / Omnicam AC acquisition unit, you are provided with a new screen resolution. The wide-screen format in 16:9 offers you more space for an increased level of precision when working on models and restorations. Tool windows can be positioned more generously, at the same time the 3D preview is presented in a rather large format.

2.5.1.2 New control options
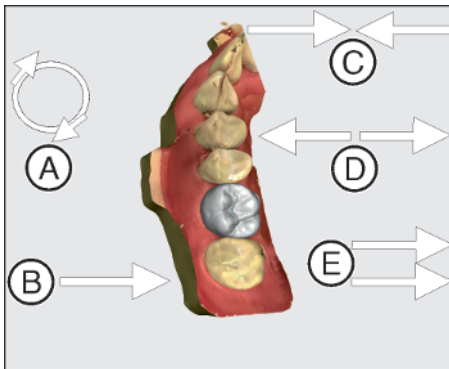
Touch functionality

The Connect SW software is touch-compatible. This means that you can interact directly on screen with your finger.

The application can be operated unconditionally by switching between touch and using a touchpad or trackball.

A number of functions can only be executed by trackball. If this is the case, this is indicated in the corresponding sections.

Edit a 3D model with multi-touch

You can edit the 3D model using multi-touch.

Item	Function
A	➢ Complete a rotary movement using 2 fingers. ↳ The object is rotated in the plane.
B	➢ Drag with 1 finger. ↳ The model is rotated out of its current plane.
C	➢ Pull 2 fingers in together. ↳ The object is minimized.
D	➢ Pull the fingers apart. ↳ The object is maximized.
E	➢ Drag with 2 fingers. ↳ The model is dragged.

2.5.1.3 Touchpad

A touchpad is installed in the CEREC Primescan AC / Primescan AC / CEREC Omnicam AC / Omnicam AC acquisition unit as standard. On the flush-mounted horizontal surface, you can move a mouse cursor with your finger on the screen. All the usual interactions of a standard mouse are possible.

2.5.1.4 Trackball

Alternatively, a device model with an integrated trackball can be ordered. This also enables use of a mouse cursor and represents an alternative input option for the direct touch operation by finger on the display.

2.5.2 Phase bar

The workflow is illustrated in the software in four phases.
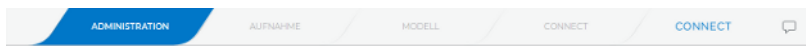
Phase bar

- ADMINISTRATION
- ACQUISITION
- MODEL
- CONNECT

2.5.2.1 ADMINISTRATION
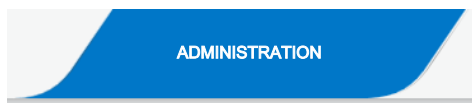
In this phase, you can perform the following:
- Manage patients
- Create cases and determine their type,
- Define the tooth numbers and materials.

2.5.2.2 ACQUISITION

In this phase, you can perform the following:
- Create acquisitions
  - lower jaw,
  - upper jaw,
  - buccal bite registration
- View a 3D preview of the acquisitions

2.5.2.3 MODEL

In this phase, you can perform the following:
- The buccal registration of the bite situation
- Adjust the virtual models
- Draw and edit preparation margins

2.5.2.4 CONNECT

In this phase, you can log in to the Connect portal (see "Log in to the portal from the Connect software [→ 94]"). You must register as a dentist on the Connect homepage for this.

You can open this phase by clicking the phase in the phase bar *"CONNECT"* or the Next arrow in context bar.

2.5.2.5 Current program version

If you click on the lettering *"CONNECT"* in the phase tab, you obtain information on the current program version.

2.5.2.6 Open chat

You can chat with your laboratory via the speech bubble. When you select the top right corner of the speech bubble, the software asks you to log onto the Connect portal.

In the chat window under *"All Chats"* you can have your job-related chats displayed. You can archive or display your chats in the chat window.

Under *"Notifications"* you can call up the notifications from the Connect portal.

Under *"History"* you can see your most recent chats.

Under *"Settings"* you can change your online status (*"available"* and *"Busy"*).

2.5.3 Object bar
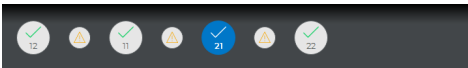
The buttons for restoration selection are located in the object bar.

Each restoration is represented by a tooth or a bridge icon with the corresponding tooth number. You can switch back and forth between the teeth by tapping on the corresponding icon.
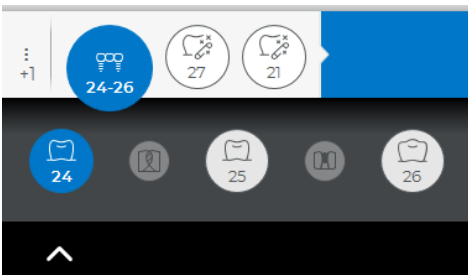
Active elements are presented on a blue background.

Once a case includes more than three restorations, these are hidden summarized behind a button.

2.5.4 Step menu

Each phase is divided into steps. They are shown in the step menu at the bottom edge of the screen. The step menu changes depending on which phase the current case is in.

This menu guides you through the process step-by-step. All obligatory steps of a phase are performed automatically or manually. Changes in the individual steps are accepted by clicking on the next step.

The arrow keys in the context bar can be used to switch between phases.

Certain steps must be confirmed with a *"Ok"* or can be interrupted.

Status symbols

All steps have a status symbol. Asterisks indicate obligatory steps.
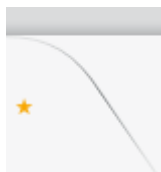
Orange asterisk / no check mark:	The step is mandatory and has not been started yet.
White asterisk / no check mark:	The step has not yet been completed.
No asterisk / check mark:	The step has been completed successfully.

Mandatory and optional steps

Optional steps can be shown or hidden using the button on the right of the step menu. To do so, tap in the right area near to the edge of the last step.

Optional steps are executed automatically and have a green check mark with immediate effect. However, the standards used can be modified. Obligatory steps are also automatically executed by the software as far as possible. The automatic process stops at the next mandatory step, when self-execution is necessary. There is only one obligatory step per phase.

2.5.5 Context bar

In the lower area of the screen, you will find a black bar.
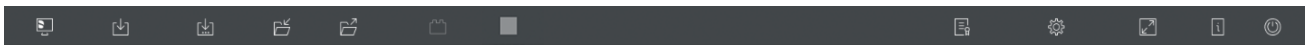
In this area, you will find context-dependent function buttons, such as the arrow keys for switching to the next phase.

Certain steps must be confirmed with a *"OK"* or can be interrupted.

Furthermore, the context bar contains the status information and functions on the right side:

- Screen lock
- Connect Chat
- Hub connectivity
- Battery status

2.5.6 System menu

In the system menu, you can:

- Switch to the start view to start a new case
- Save case
- Save case as
- Import case
- Exporting a case
- Run applications
- Open a case in CEREC SW
- Open license manager
- Configure hardware and software
- Open help information
- Change window mode
- Exit Connect SW

2.5.7 Start view
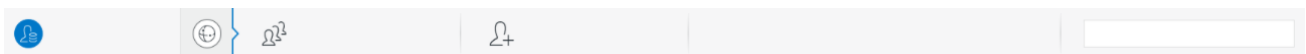
In the start window, you can perform the following:

- Create a new patient,
- Search patient database,
- Open patient database
- Open the Connect portal.

2.5.8 Workflow path

The workflow path in the software is not strictly linear. You can switch to any active phase using the phase bar or switch back and forth between individual steps using the step menu.

For example, if you notice during the process that there is a crown rather than an onlay, you can return to the administration and simply change the restoration type.

3 Getting started

3.1 Installing the software

✓ The PC is powered up and all programs are terminated.

✓ You have downloaded the installation file from the Internet and saved it to the device.

1. Navigate to the location of the installation file.
2. Run the "setup. exe" file.
3. Select the language of the installation and press the button marked *"OK"*.
   ↳ The installation wizard opens.
4. Press the *"Next"* button.
   ↳ The license agreement is shown.
5. Confirm the license agreement with the *"Yes"* button.
   ↳ The program continues the installation routine.
6. Select "Full Installation".

> **NOTE**
>
> **Installing DirectX**
>
> If DirectX is not yet installed on your computer, it will be installed now. Accept the license agreement and decide whether the computer is to be restarted now or later.

7. After installation, you can display the *"ReadMe"* file by checking or unchecking the appropriate check box.
8. Click on the *"Finish"* button.

3.2 Uninstalling the software

✓ The program is closed.

1. Press "Start / All Programs / Sirona Dental Systems /Connect SW / Tools / Deinstallation" to uninstall the software.
   ↳ During the uninstall procedure, you will be asked whether you want to delete the patient data or the entries in the registration database (e.g. the calibration data).
2. Depending on your decision, confirm with the *"Yes"* button or decline with the *"No"* button.
   ↳ The software is uninstalled.

3.3 Restore factory default settings

✓ The program is closed.

1. Uninstall the software (see "Uninstalling the software [→ 20]").
2. Install the software (see "Installing the software [→ 20]").
   ↳ The original factory default settings are restored.

3.4 Copy protection

The software can be started only when the USB license stick is plugged in. The USB license stick is included in the scope of supply of the acquisition unit. If you require additional licenses, please contact your dealer.

Always keep the USB license stick near the acquisition unit/PC.

All authorizations (interface and software licenses) can be installed as electronic licenses on the USB license stick. You must enter a 25-digit license key for this purpose.
You will receive the license key along with the acquisition unit. Alternatively, you can order it separately from your dealer.

Following an update, you may require a new license that is not available on your USB license stick. For more information, refer to the "License manager" section.

IMPORTANT
Software license for Connect SW is pre-installed.
No separate license needs to be installed for the Connect SW software. This is pre-installed on every USB license stick.

3.5 Downloading software

Service packs

To keep your software updated, regularly check whether new service packs are available.

To do this, visit the website at "www.dentsplysirona.com" and go to "Digital impression" in the "Connect Software" area.

Automatic software updates

Once the Connect SW software is opened and the acquisition unit is connected to the Internet, the Connect SW software from version 5.0 searches for updates automatically.

If a new version is found you will be asked whether you want to download this now or later.

If you decide not to download the software now the, the Connect SW software will prompt you again when you next start.

Once you have downloaded the Connect SW software, you will be asked whether you want to install the software now.

3.6 Starting the software

✓ The Connect SW software is installed. You will find the start icon on the desktop.

✓ The USB license stick is connected with a valid, current license.

1. Double-click the Connect SW start icon.

or

➢ Press "Start / All Programs / Sirona Dental Systems/ Connect SW / Connect SW".

    ↳ The software is started.

3.7 License manager

For more information on the license manager, refer to the section on "License manager."

3.7.1 Installation of the License Manager (Individual)

✓ The PC is powered up and all programs are terminated.
1. Insert the DVD in the DVD drive.
   ↳ The setup program starts automatically.
2. If this is not the case, run the *"Setup.exe"* file in the root directory of the DVD.
   ↳ The installation wizard opens.
3. Press the *"OK"* button.
4. In the next dialog, click the *"Next"* button.
   ↳ The license agreement is shown.
5. Read through the license agreement carefully.
6. If you accept the license agreement, then check the *"I accept the terms in the license agreement"* option button and then click the *"Next"* button.
7. In the next dialog, select the *"Custom"* button.
8. Uncheck all options apart from the license manager.
9. In the next dialog, click the *"Next"* button.
10. In the next dialog, click the *"Install"* button.
    ↳ The program continues the installation routine. This may take several minutes.
11. Click the *"Finish"* button once installation is complete.
    ↳ The license manager is installed.

3.7.2 License update without Internet access

If the acquisition unit does not have Internet access itself, you can run the license manager on another PC with Internet access.

You need to remove the license stick from the Sirona acquisition unit and plug it into the PC with Internet access. The license stick is behind the lower cover at the rear side of the acquisition unit.

Install the license manager on the PC with Internet access and run the license update.

4 Configuration

The *"Configuration"* menu contains the following submenus:

- *"Parameters"*
- *"Devices"*
- *"Settings"*
- *"Apps"*

## 4.1 Parameters

General information

The *"Parameters"* menu is arranged according to adjustment options.

The parameters in the configuration are used the standard value when calculating tools.

Preparation Analysis

Under *"Preparation Analysis"* you can define the ideal distance of the preparation to the antagonist. A tolerance value can also be specified here.

4.2 Devices
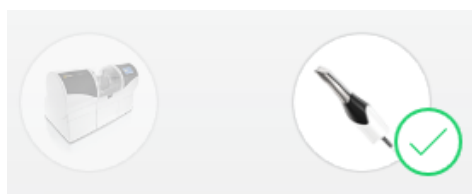
All connected devices can be displayed and configured under the menu item *"Devices"*.

If the device is inaccessible, a warning symbol is displayed instead of a miniature image.

Refresh Devices

With the *"Refresh Devices"* button you can:

- refresh the status or
- Check the current availability of a device.

4.2.1 Scanner

4.2.1.1 Configuring the scanner

Audio feedback

Using the *"Sound:"* selection box, you can switch the audio feedback for acquisitions on or off. You can set the volume using the slide bar. You are able to choose from five different sounds.

Switch on the color analysis

1. In the software, navigate to the system menu and click on the *"Configuration"* button.
2. Press the *"Devices"* button.
3. Press the *"Omnicam"* / *"Primescan"* button.
4. Select the *"Shade Detection"* option.
   - You can choose between various color systems (*"Shade Guide Selection"*).
   - You can decide whether you would like to be notified in 14 days when the color calibration is needed again.
   - If color analysis is not possible with your scanner, a corresponding notice will appear. A color calibration is also not available in this case.
5. Confirm the changes below with *"Ok"*.
6. Click the *"Color Calibration"* button and carry out the color calibration.

4.2.1.2 Resetting scanner settings

➢ Press the *"Reset Scanner Settings"* button.
  ↳ The settings are reset to factory settings.

4.2.1.3 Calibrating the scanner

Using a calibrated scanner

The measurement procedure used by the system requires the use of a calibrated scanner. The scanner is calibrated ex works. Calibrate the scanner after every reinstallation and after each time that it is transported. The calibration set supplied is available for the calibration process.

CEREC Omnicam / Omnicam: In order to achieve optimum results, the scanner must be allowed to warm up for **15-20 minutes** before calibration.

CEREC Primescan / Primescan: In order to achieve optimum results, the scanner must be allowed to warm up for **2 minutes** before calibration.

Recalibrate the scanner in the following cases:

- following transport (shaking stress) or during first commissioning,
- after storage in unheated or un-air-conditioned rooms (temperature differences exceeding 30°C / 85°F),
- with temperature differences of over 15°C / 60°F between the last calibration and operation.
- In general, carrying out a calibration is the correct process in the event of errors in the acquisition process (such as poor image quality or the lack of a 3D preview). In many cases, the errors can be corrected in doing so.
- As the system may be exposed to vibration loads without knowledge of this, it should be calibrated once a month.

Starting calibration

1. In the software, navigate to the system menu and click on the *"Configuration"* button.
2. Press the *"Devices"* button.
3. Press the *"Omnicam"* / *"Primescan"* button.
4. Press the *"Calibrate"* button.
   - ⮡ The camera view is displayed in one window.
5. Enter the 8-digit Sirona ID. You can find this ID on the sticker on the calibration set (not required for CEREC Primescan / Primescan).
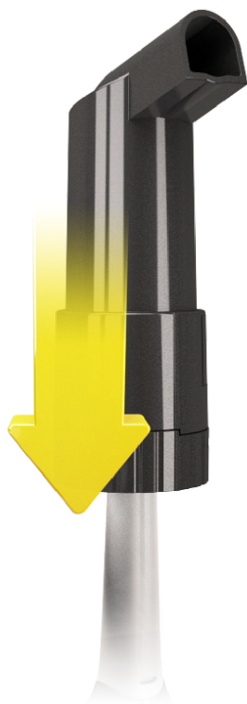
Calibrating the scanner

1. Remove the protective cap from the calibration set.
2. Mount the calibration set on the tip of the scanner until it locks into place.
3. Secure the scanner in the calibration set using one hand. Ensure that the external calibration set screw is fully screwed in a clockwise motion until it gently locks into place.
4. Click on the *"OK"* button.
   - ↳ The measuring process starts.
   - ↳ The software prompts you to proceed to the next latching.

5. Turn the screw counter-clockwise until you reach the next latching point.
6. Hold the scanner still.
   - ↳ The software prompts you to proceed to the next latching.
7. CEREC Omnicam / Omnicam: Execute steps 5 and 6 a total of 11 times.
   CEREC Primescan / Primescan: Execute steps 5 and 6 a total of 17 times.
   - ↳ The software provides status updates on the calibration and informs you once the procedure is complete.
   - ↳ You will be prompted to measure the position of the exit window.

Measuring the position of the exit window

1. Mount the bottom side of the calibration set to the tip of the scanner.
2. Click on the *"OK"* button.
   - ↳ The calibration process is continued.
   - ↳ Once the calibration is complete, a message is displayed indicating this.
3. Confirm the message by clicking the *"OK"* button.

↳ The scanner is calibrated.

Error message during calibration

The software indicates if an error occurs during calibration. If the calibration process resulted in errors, restart the process.

End calibration

✓ The software indicates that the calibration was completed successfully.

➢ Press the *"OK"* button.
   - ↳ The scanner is calibrated.

4.2.1.4 Color calibration

General information

> **NOTE**
>
> **Faulty color analysis**
>
> The color analysis can be negatively impacted due to strong light incidence and it can lead to varying results.
>
> ➢ Set the scanner up so that it is not located directly in the beam path of an extreme light source (e.g., the treatment light) and not exposed to direct sunlight.

A color-calibrated scanner must be used for the color analysis.

> **NOTE**
>
> **Observe color calibration**
>
> A color calibration may only be performed at least 20 minutes after the system start/cleaning.
>
> The color calibration must be performed regularly.

The scanner must be color calibrated every two weeks in order to carry out a reliable color analysis. You will achieve the best results if the scanner is color calibrated immediately before scanning a new case.

Carry out a color calibration also after changing a sleeve/mirror sleeve.

Heavily scratched sleeve window may not be used for a color analysis.

Storing a color-calibration set

The color-calibration set must be stored in its packaging in a dry place which is protected from light. It must be used with a disinfected scanner as the color-calibration set must itself not be disinfected. If dust accumulates on the inside of the color-calibration set, it must be carefully removed using compressed air.

Switch on the color analysis

1. In the software, navigate to the system menu and click on the *"Configuration"* button.
2. Click on the *"Devices"* button.
3. Click on the *"Omnicam"* / *"Primescan"* button.
4. Select the *"Shade Detection"* option.
   - You can choose between various color systems (*"Shade Guide Selection"*).
   - You can decide whether you would like to be notified in 14 days when the color calibration is needed again.
5. Confirm the changes below with *"Ok"*.
6. Click the *"Color Calibration"* button and carry out the color calibration.

Color-calibrating the scanner

> **NOTE**
>
> **Only use color calibration set with clean, dry CEREC Primescan / Primescan / CEREC Omnicam / Omnicam scanner**
>
> In order to achieve optimum results, the CEREC Primescan / Primescan / CEREC Omnicam / Omnicam scanner must be clean, disinfected and dry before color calibration.
>
> ➢ Make sure that the CEREC Primescan / Primescan / CEREC Omnicam / Omnicam scanner is clean, disinfected and dry.

1. Remove the color-calibration set from the packaging.
2. Use the CEREC Primescan / Primescan / CEREC Omnicam / Omnicam scanner to scan the QR code on the underside of your color-calibration set. In order to do this, you must hold the CEREC Primescan / Primescan / CEREC Omnicam / Omnicam scanner still in front of the QR code so that it is completely visible in the picture. If the QR code appears to be shiny, hold the scanner at more of an oblique angle in order to avoid any glaring light and to make it easier to scan the codes. If the QR code is recognized, the next *"Please mount color calibration set"* step appears.
This step of the QR code scan is skipped during the subsequent color calibration and the serial number of the color-calibration set is thus displayed. If this does not match the serial number printed on your color-calibration set, click on the *"Rescan QR Code"* button and scan the new QR code.
3. Mount the color-calibration set on the tip of the scanner until it locks into place.
4. Click on the *"Ok"* button.
   - ↳ The measuring process starts. Do not move the CEREC Primescan / Primescan / CEREC Omnicam / Omnicam scanner or the color-calibration set during this time.
   - ↳ The software provides status updates on the calibration and informs you once the procedure is complete.

Ending the color calibration

✓ The software indicates that the color calibration was completed successfully.

1. Click on the *"Ok"* button.
   - ↳ The CEREC Primescan / Primescan / CEREC Omnicam / Omnicam scanner is now color-calibrated.
2. Remove the color-calibration set from the scanner and place it back in the packaging.

Error message during color calibration

The software indicates if an error occurs during color calibration. If the color calibration contained an error, ensure the following:

- The color-calibration set is free of dust
- The color-calibration set was mounted correctly
- The CEREC Primescan / Primescan / CEREC Omnicam / Omnicam scanner exit window is clean

➢ Then restart the color calibration.

Do not continue using a damaged color-calibration set; instead, contact your distributor to purchase a new one.

Replacing the color calibration set

NOTE
Regularly replacing the color calibration set
In order to achieve optimum results, the color calibration set must be replaced regularly.
➢ Observe the following:

Please note that the color calibration set

- can only be used with CEREC 5 software ≥ 5.x or Connect SW ≥ 5.
- can only be kept for use for a maximum of 2 years. You can find the expiry date at the bottom of the color calibration set container. Previous storage may mean that the period for use has been reduced to less than 2 years.
- can only be used for one year after the container has been opened. Write the date that the container was opened on the container after "Opened on _____" using a waterproof pen and do not use after one year.

The color calibration set may no longer be used once either of the two periods has expired.

The software notifies you that the color calibration set needs to be replaced with a new set before the color calibration expires.

Once the color calibration set has expired the software notifies you that a color analysis can only be carried out based on old calibration data.

Please contact your dealer for replacements for the color calibration set.

4.2.1.5 Scanner heating settings (Omnicam)

You can access the dialog for the temperature settings of the scanner via the *"Camera Heater Settings"* button. Using the slider, you can set the temperature at which the scanner's mirror sleeve is preheated in five stages to prevent the optics from potentially fogging up. Confirm your settings with *"Cancel"* or discard them with *"Ok"*.

> ⚠ **CAUTION**
>
> **Hot surface!**
>
> The coated sapphire glass of the scanner, is preheated in the scanner cradle. When removing the scanner from its holder, the surface temperature of the mirror sleeve can be up to 51°C. This may cause an unpleasant heat sensation on contact with a person's skin or mucous membrane. These temperatures will not damage the skin or mucosal membrane.
>
> After removing the scanner from the scanner cradle, the temperature of the mirror sleeve drops within a few minutes (< 5 minutes) to less than 43°C. The scanner is therefore suitable for use in the patient's mouth for an unlimited period of time.
>
> At an ambient temperature from 30°C, only select the three lower heater settings.

4.2.1.6 Updating the firmware
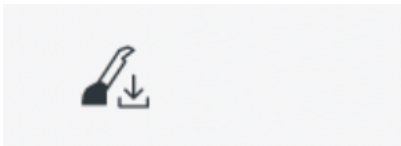
You can start the camera software update directly through the *"Update Firmware"* button.

> **NOTE**
>
> The firmware update is mandatory for operating the CEREC Omnicam in conjunction with the Connect SW. When starting phase ACQUISITION, the firmware must be updated.
> The firmware update takes around two minutes.

4.3 Settings

The menu item *"Settings"* has the following subitems:

- ADA/FDI Notation
- Notification Messages
- Hub Settings
- Patient Database
- Language
- Quality Improvement Agreement

4.3.1 ADA/FDI odontogram

You can set the odontogram using *"ADA/FDI Notation"*:

- International (*"FDI Notation"*)
- USA (*"ADA Notation"*)

4.3.2 Notifications

Notes may appear in pop-up windows when using the software. Many of these messages can be deactivated by clicking on the *"Don't show this message again"* check box. If this check box is already selected or if a new user uses the software, all notifications can be reset here. By pressing the *"Reset"* button, all notes are displayed again.

4.3.3 Hub settings

You can implement the settings for connecting to the server in the *"Hub Settings"* menu item. The IP settings may be automatic or may be entered manually with the corresponding IP address and port.

Information on the connection status is provided on the right half of the screen.

If the check mark *"Scan network for Hub"* is set, it is automatically connected to the Connect SW software.

4.3.4 Patient database
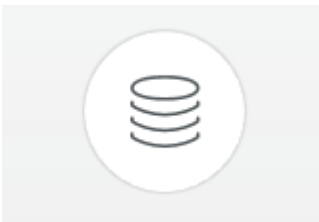
In the menu item *"Patient Database"*, you can determine where patient data and cases are saved.

You have the option to rename patients and cases in the patient overview table (accessible via the start view).

You can specify a folder for this data. This allows you, for example, to save all data on a secure server on the practice network.

Alternatively, you can manage patient data with Sirona SIDEXIS software and save cases in a database created in SIDEXIS.

You can export a support container (*.zip) in the tabular patient overview (accessible via the start view) that contains all the data for analyzing problems: rst file, image data, log files, etc.

4.3.5 Language
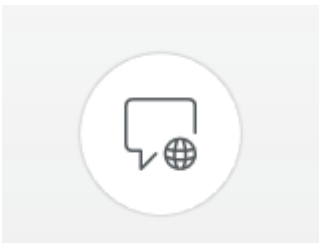
Here, you can set the language of the software.

4.3.6 Quality improvement agreement

Here you can select whether or not you wish to participate in the quality improvement program.

By participating in the program for quality improvement, you agree to anonymous usage data being sent to Dentsply Sirona. The data transmitted are used to improve the quality of the software.

To participate in the program for quality improvement, set a checkmark next to *"Yes, I would like to participate in the quality improvement program."*

4.4 App Center (applications)

Via the App Center (Apps), you have access to various apps (applications) for our CAD/CAM products.
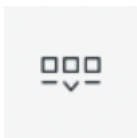
5 System menu

In the system menu, you can:

- Switch to the start view to start a new case
- Save case
- Save case as
- Import case
- Exporting a case
- Run applications
- Open a case in CEREC SW
- Open license manager
- Configure hardware and software
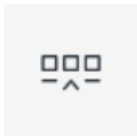- Open help information
- Change window mode
- Exit Connect SW

Open system menu

➢ Press the button in the top left corner of the screen.
   ↳ The system menu is displayed.

Close system menu

1. Press the button in the top left corner of the screen.

or

➢ Tap or click in the main window.
   ↳ The system menu is closed.

5.1 Saving the impression

In this window, you can save the current optical impression.

➢ Select *"Save"* in the system menu.
   ↳ The impression is saved.

5.2 Saving the impression under a different name

This dialog allows you to save the current optical impression under a new name or assign it to a different patient.

1. Select *"Save As"* in the system menu.
   - ↳ The *"Save as…"* dialog box opens.
2. Enter a name for the optical impression.
3. Select the appropriate patient.
4. Press the *"OK"* button.

5.3 Importing an impression

- ✓ An existing optical impression is located on your acquisition unit (or data storage medium).
1. Click the *"Import"* button in the system menu.
   - ↳ A standard Windows dialog box opens.
2. Select the folder where the optical impression is located.
3. Select the relevant file.

> **NOTE**
>
> **File types**
>
> If the selected file is an optical impression with CEREC Connect SW or Connect SW this is opened. If not, it will not open, and an error message will be displayed.

4. Press the *"Open"* button.
5. Assign a name to the optical impression.
6. Press the *"OK"* button.
- ↳ The optical impression is imported and opened.

5.4 Exporting an impression

You can save an optical impression in a compressed format in any location.

- ✓ You have opened an optical impression.
1. Select *"Export"*.
   - ↳ A standard Windows file dialog box opens.
2. Select the target folder to which you want to export the optical impression.
3. Assign a name to the optical impression.
4. Press the *"Save"* button.
- ↳ The optical impression is exported.

If you want to transfer the optical impression from your acquisition unit to another PC (e.g. in order to upload it to the Internet portal), you can use a USB stick for this purpose.

5.5 Exporting scan data

You can export scan data as STL or DXD in order to process

- in inLab SW, CEREC SW or Connect SW (DXD)
  or
- in another compatible (STL)

system.

IMPORTANT
Dentsply Sirona will not be held liable for the further processing of *.stl data in other/external software.

5.6 Open a case in the CEREC software

If the CEREC SW and Connect SW are operated in parallel, a CEREC button appears in the Connect SW system menu. If you press this button, the current case will open in the CEREC software - e.g. in order to create the temporary solution.

5.7 License manager

The license manager is used for the installation of new software licenses on the USB license stick. To do this, start the license manager via the system menu and follow the instructions on the screen. Keep the license certificate with 25-digit license key ready, which you either obtained with the unit or ordered separately from your dealer.

Tip: You can also start the license manager via "Start / All Programs / Sirona Dental Systems / Connect SW / Tools / License Manager".

To activate the license you must have an Internet connection and the USB license stick must be connected.

IMPORTANT
Software license for Connect SW is pre-installed.
No separate license needs to be installed for the Connect SW software. This is pre-installed on every USB license stick.

Licenses and code libraries

For information on licenses and code libraries from other providers, see licenses.pdf. The file is in the installation directory under "C:/Programs/Sirona Dental Systems/CADCAM".

5.8 Configuration

The configuration is described in the "Configuration [→ 24]" section.

5.9 Window mode

The *"Window Mode"* function can be used to exit full-screen mode or enter it again. You can also activate or deactivate the window mode by pressing `F11`.
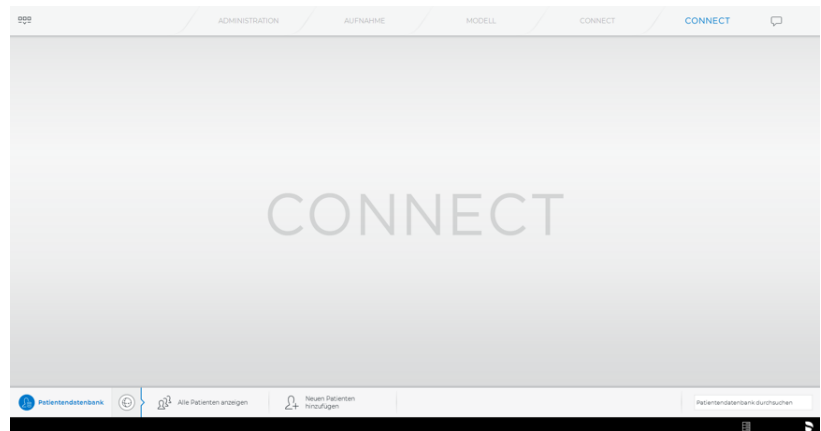
5.10 Open help information

You can access the manual via the Help button or by pressing "F1".

5.11 Exit program

The *"Exit"* function can be used to close the software.

6 Start view

In the start window, you can perform the following:
- Create a new patient,
- Search patient database,
- Open patient database
- Open the Connect portal.

Switching to the start view

You can switch to the start view at any time.
1. Open the system menu.
2. Press the *"Start Screen"* button.

6.1 Create a new patient

In the data structure, a patient is uniquely identified by one of the following two entries:

- Surname, first name and date of birth
  or
- Patient ID
  Tip: We recommend that our customers work solely with one reference number. Please observe the data protection regulations applicable to you.
  The patient data can also be anonymized in the Connect Portal.

Add patients
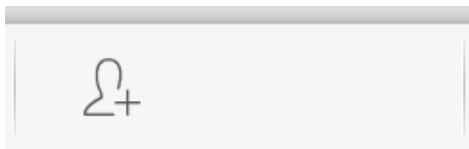
1. Press the *"Add New Patient"* button.
   - ↳ An empty patient card is opened.
2. Enter a surname, first name, and date of birth. A real-time search function is active during the input which should prevent duplicate entries.
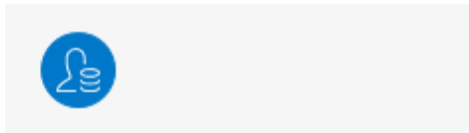
or

➢ Enter the patient ID.
3. Press the *"Add New Case"* button.
   - ↳ The program switches over to the *"ADMINISTRATION"* phase.
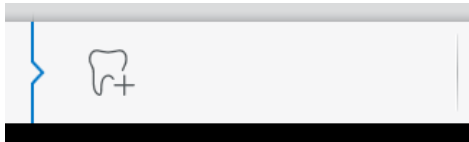
6.2 Patient database

In the menu item *"Patient Database"*, you can determine where patient data and cases are saved.

The information on the dentist and patient is on the left of the screen, information on the individual cases is in the center and a preview of the relevant case is displayed on the right-hand side.

The case currently selected is highlighted in color.

The individual columns (e.g. first name, last name, and restoration type) can be rearranged using Drag & Drop.

6.2.1 Buttons

The order icon opens a case.

The pen is used for editing the case or the patient.

The folder with the arrow exports a case.

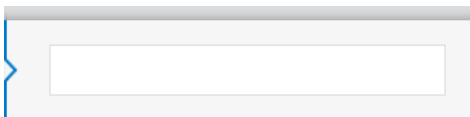The trash can is used for deleting the case or the patient.

The check mark saves an entry.

The cross cancels the entry.

6.2.2 Searching for individual patients

You can view individual patients by searching for them.

1. Click into the search text box.
2. Enter the surname or the patient ID.
3. Press "Enter" on the keyboard to start.
   - ↳ The program now shows all the search results.
   - ↳ The patiently currently selected is highlighted in color.

6.2.3 Edit a patient

✓ You have found the patient with the search function.

1. Press the pen to edit the patient.
   - ↳ The patient data can be edited in the row.
2. Carry out the changes.

3. Confirm your changes by clicking the check mark.
   - ↳ The changes are saved in the memory.

4. If you do not want to save the changes, click the X icon (Cancel) or press "Esc" on the keyboard.

6.2.4 Deleting patients

✓ You have found the patient with the search function.
1. Select the patient.
2. Click on the trash can icon.

3. Confirm the deletion by clicking the check mark.
   ↳ The patient is deleted.

6.2.5 Delete a case

✓ You have found the associated patient with the search function.
1. Select the patient.
2. Select a case.
   ↳ The different cases for each patient are presented together.
3. Click on the trash can icon to delete the case.
4. Confirm the deletion by selecting *"Yes"*.
   ↳ The impression is deleted.

6.2.6 Opening an impression

✓ You have found the associated patient with the search function.
1. Select the patient.
2. Select the case.
3. Click on the folder symbol marked in the case row.
   As an alternative, you can also double-tap or click the case row or the thumbnail.
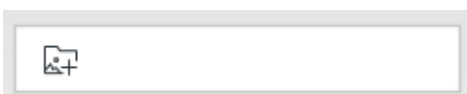   ↳ The impression is opened.

6.2.7 Add a new case

✓ You have found the associated patient with the search function.
1. Select the patient.
2. Press the *"Add New Case"* button above the case list.
   ↳ The program switches over to the *"ADMINISTRATION"* phase.

6.2.8 2D optical impressions with the scanner

As a scanner user you can add 2D photos and videos to the case here. Confirmation with this button takes you to the acquisition phase.

7 Page palette

Various functions and options are offered to you in the page palette, depending on the restoration phase currently active.

You can open several page palettes at the same time. Initially all page palettes opened on the right side of the main window in a fixed state. In this state all opened page palettes share the height available there.

Should this display be inadequate for you, you can remove any page palette of your choosing from the fixed state of the magnet bar. To do this, drag the palette to the desired position within the main window.

7.1 View options

Different views are available to you in the *"View Options"* page palette. These view options are split into global and local views. The global views are based on the model axis of the upper and lower jaw.
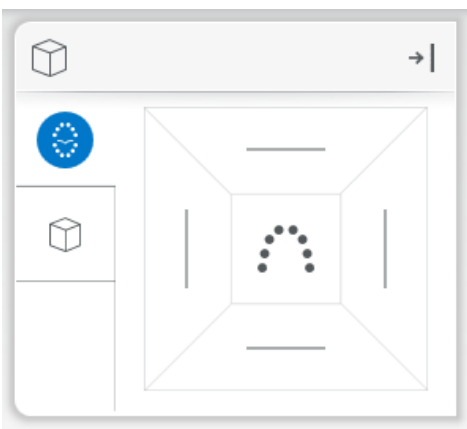
The local views are determined by the element currently selected in the object bar. Each element in the object bar therefore has its own coordinate system. Depending on the current step, the following views are available to you:

Global views

- *"Top"*
- *"Bottom"*
- *"Right"*
- *"Left"*
- *"Front"*
- *"Back side"*

Local views

- *"Mesial"*
- *"Distal"*
- *"Buccal"* / *"Labial"*
- *"Lingual"*
- *"Cervical"*
- *"Occlusal"* / *"Incisal"*

Changing the view

1. Press the *"View Options"* button.
2. Select one of three available views.
   - ↳ The virtual model rotates to the corresponding view.

Enlarge or reduce 3D preview

Using the slide you can enlarge or reduce the 3D preview.

In the attendant text field, the current degree of enlargement is displayed in percent. Here you can also manually enter a value from 0 to 100 percent and confirm with the Enter button.

In the default setting, the data are displayed from the occlusal direction in the 3D preview.

You can freely select the viewing direction of the virtual model in the 3D preview window by using your fingers or the mouse.

1. Press with two fingers or click on the 3D preview with the middle mouse button and hold it down.
2. Move your fingers apart and together or move the mouse up or down as desired.
   - ↳ The 3D preview is enlarged or reduced.

Rotating a 3D preview

1. Press with one finger or click on the 3D preview with the left mouse button and hold it down.
2. Move your finger or the mouse.
   - ↳ The 3D preview is rotated.

Moving the 3D preview

1. Press with two fingers or click on the 3D preview with the right mouse button and hold it down.
2. Move the finger or the mouse.
   - ↳ The 3D preview moves.

7.2 Tools

You will find all tools in the page palette under *"Tools"*. The available tools are displayed for each step.
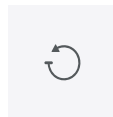
To change a tool, press the button of another tool in the window of the of the page palette.

To close a tool, press the button of the active tool once more.

"Undo" and *"Reset"*

With the *"Undo"* button in the tools you can undo all changes made on the selected restorations since the tool was started.

With the *"Reset"* button in the tools you can undo all changes made on all restorations since the tool was started.

7.2.1 Buccal registration

The buccal registration takes place automatically.

Move buccal image

Activate the *"Buccal Bite Registration"* step for this, which allows you to move the buccal image.

1. Press the *"Drag Buccal"* button.
2. Press the buccal image and displace it to the same region on the upper or lower jaw.
   ⬦ The image is accepted.
      Tip: If an image is not accepted, align the jaw buccally. This enables better overlaying.
      If registration is still not possible, check whether the buccal sections in the jaws and in the buccal image are sufficient.
3. If the image was accepted, move the image to the corresponding region of the opposite jaw.

Turn Buccal Impression

With the *"Turn Buccal Impression"* function, you can rotate the buccal image.

1. Press the *"Buccal"* button.
2. Press the *"Turn Buccal Impression"* button.
   ⬦ The buccal image is then rotated.

7.2.2 Cut out model areas

(*"MODEL"* phase, *"Edit Model"* step)

IMPORTANT
For precision reasons, this function can only be operated by trackball or touchpad.

With the *"Cut"* function, you can cut out model areas. The cut-out model areas are then discarded once you exit the *"Edit Model"* step. You cannot display discarded areas later on.

Removing the model area

When performing this activity, be careful not to accidentally cut out any areas that e.g. are located behind the model or are otherwise cut away from the line.

1. Press the *"Cut"* button.
2. Begin the cut line with a double-click.
3. Press to set additional points.
4. Finish the cut by double clicking.
   ↳ The model area is cut off.

Inverting the model area

With the *"Invert Selected"* function, the model area that is cut out can be inverted.

✓ The *"Cut"* tool is selected.

✓ You have created a cut.

➢ Press the *"Invert Selected"* button.
   ↳ The model area which was cut out is displayed.
   The rest of the model area is hidden.

Tip: You can invert the model area that is cut out by double-clicking on the semitransparent cut-out area.

7.2.3 Resetting the model

(*"MODEL"* phase, *"Edit Model"* step)

With the *"Reset Model"* function, all changes will be reset.

1. Press the *"Reset Model"* button.
2. Confirm with *"Apply"*.

7.2.4 Trimming

(*"MODEL"* phase, *"Trim"* step)

IMPORTANT
For precision reasons, this function can only be operated by trackball or touchpad.

With the *"Trim"* function, you can isolate the preparation. You can thus e.g. draw in the preparation margin more easily. Trimmed image regions can be optionally displayed and hidden later on.

Hiding image regions

The trim line can also be placed over the preparation line. Only the region underneath the preparation will then be hidden automatically. The prepared region remains fully intact.

1. Press the *"Trim"* button.
2. Start by double-tapping in the vicinity of the model or on the model.
3. Tap to set additional points. Draw the line close to the preparation around which you want to trim.
4. Finish the line by double-tapping.
   ✥ The smaller region of the model is hidden.

Inverting an image region

With the *"Invert Selected"* function, an image region which was hidden can be restored.

✓ An image region has been hidden using the *"Trim"* tool.

➢ Press the *"Invert Selected"* button.
   ✥ The hidden image region will be shown.
   The image region shown will be hidden.

Tip: You can invert the hidden image area by double-clicking on the semitransparent hidden region.

7.2.5 Entering the preparation margin

Automatic edge detection

With *"Margin"* / *"Auto"*, you can work with automatic edge detection.

1. Proceed to the *"Draw Margin"* step.
2. Click the button *"Auto"* in the tool palette.
   ✥ Automatic edge detection is switched on.

Manual drawing

With *"Manual"* you can draw in the preparation margin manually. With this technique, you must place the individual points close together in order to clearly define the contour of the preparation margin even in difficult situations.

✓   The *"Margin"* tool is open.

➢   Press the *"Manual"* button.

     ↳   The manual technique is switched on.

Tip: You start the drawing by double-clicking and end it by double-clicking. The tooth number appears if the preparation margin is drawn. If amendments are required you can make corrections by clicking on the line in manual mode. To end the correction, click on the blue line again.

7.3 Display objects

Opening view options

Open the *"View Options"* page palette. Here you will find all currently available options for setting visibilities in the 3D preview. The options available depend on the current step.

Showing and hiding the upper jaw

With the *"Upper Jaw"* button, you can display and hide the upper jaw.

➢ Press the *"Upper Jaw"* button.
   ↳ The upper jaw is displayed or hidden.
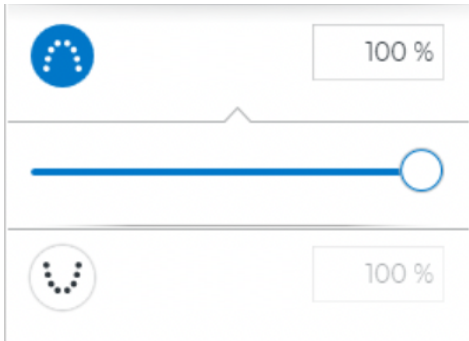
Showing and hiding the lower jaw

With the *"Lower Jaw"* button, you can display and hide the lower jaw.

➢ Press the *"Lower Jaw"* button.
   ↳ The lower jaw is displayed or hidden.
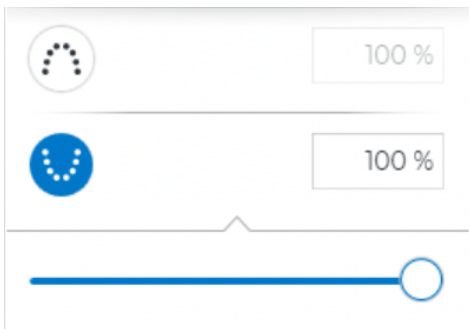
Display upper/lower jaw transparently

You can adjust the transparency of the upper/lower jaw continuously.

1. Actuate the slider of the "Upper/lower jaw" and press and hold this.
2. Now drag the slider to the right or left to increase or reduce the transparency.
   ↳ The transparency of the jaw concerned is changed.

Side and bottom surfaces

Using the *"Model Box"* button, the virtual model can be displayed without the sides and bottom.

➢ Press the *"Model Base"* button.
   ↳ The virtual model is displayed without side and bottom surfaces.

Displaying and hiding the trimmed region

With the *"Trimmed Model"* button, you can display and hide the trimmed region.

✓ You have trimmed a region in the MODEL phase.

➢ Press the *"Trimmed Model"* button.
    ↳ The trimmed region of the virtual model is displayed or hidden.

Additional image catalogs acquired

Additional image catalogs acquired such as BioCopy can also be displayed and hidden here.
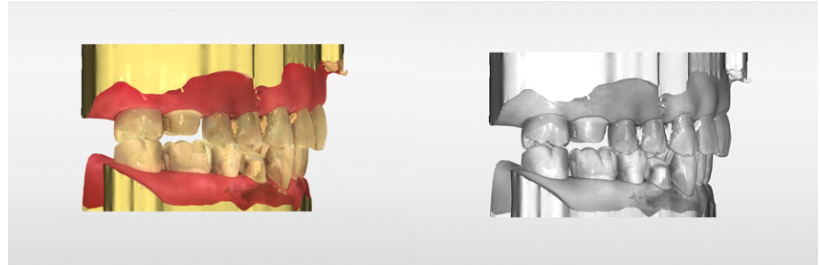
7.4 Activating analysis

Activating Analyzing Tools

➢ Open the page palette *"Analyzing Tools"* to activate the analysis tools.

Color model

Using the *"Color Model"* button, you can change the color of models that were acquired with the scanner.

Contact surfaces on the virtual model

Using the *"Model Contacts"* button, the contact surfaces on the virtual model can be displayed or hidden.

➢ Press the *"Model Contacts"* button.
　🖖 The contact areas on the model are displayed or hidden.

Penetration/pressure:		> 100 µm
		100 - 50 µm
		50 - 0 µm
Distance:		0 - 50 µm
		50 - 100 µm
		> 100 µm

Side and bottom surfaces

Using the *"Model Box"* button, the virtual model can be displayed without the sides and bottom.

➢ Press the *"Model Base"* button.
　🖖 The virtual model is displayed without side and bottom surfaces.

Distance to the antagonist

If the preparation margin has been drawn in then the distance to the antagonist can be displayed in the step *"Preparation Analysis"*. The parameters can be set under *"Configuration"* / *"Parameters"* / *"Preparation Analysis"*.

Tip: Set the distance to the desired value, e.g. 1500 µm and 0 µm tolerance. Distances that are less than 1500 µm are then displayed in the software.

Under Tolerance you can add a tolerance range to the ideal distance. This is displayed in blue. The blue marking is displayed between ideal value minus tolerance value and ideal value plus tolerance value.

Example: You set the distance (ideal value) to 1500 µm and a tolerance value of 500 µm.

- Distances less than 1000 µm are displayed in red by the software.
- Distances between 1000 µm and 2000 µm are displayed in blue.
- Distances greater than 2000 µm are displayed in green.

Undercuts

If the preparation margin has been drawn in then the undercuts can be displayed in the step *"Preparation Analysis"*. The thickness of the undercut can be read from the scale.

8 ADMINISTRATION phase

Selecting a restoration type

Tip: Restorations can be selected both in the upper and lower jaw.

➢ Select the restoration type in the page palette: *"Single Restoration"*, *"Bridge Restoration"* or *"Full arch scan mode"*.

Single tooth restoration

✓ You have selected the restoration type *"Single Restoration"*.

1. Select the restoration type.
   ↳ The types of restoration available match the selected tooth number.
2. Select a fully anatomic or veneered restoration.
3. Select the tooth for which the restoration is to be created.
   ↳ The selected tooth is marked.
4. Go to the *"Select Material"* step in the step menu in order to select the material class. Selection of the material class is optional.
   For the *"Abutment"* restoration type, select the manufacturer and implant type suitable for the implant. Select TiBase, ScanPost or an intraoral scanbody from another provider.
5. Confirm your settings with *"Ok"*.
   Tip: If you click *"Cancel"*, the restoration will not be created and the program will return to the odontogram.
6. If necessary, create further restorations.

Bridge restoration

✓ You have selected the restoration type *"Bridge Restoration"*.

1. Determine the restoration type and the design mode for the abutment teeth. With a bridge on implants you can only select *"Implant"*.
2. Select the positions of the abutment teeth of the bridge.
   ↳ The selected teeth are marked.
3. Determine the restoration type and the design mode for the intermediate teeth.
   ↳ The selected teeth are marked.
4. In the step menu, go to the *"Select Material"* step to select the material. The selection of the material class is optional.
5. Confirm your settings with *"Ok"*.
   Tip: If you click on *"Cancel"*, the restoration will not be created and the program will return to the odontogram.
6. If necessary, create further restorations.

Full arch scan mode

If no bridge or individual restoration is selected, you are automatically in *"Full arch scan mode"*. You can send this scan to the laboratory automatically without making any further selections.

You can also choose between aligners, splints, and individual impression trays here.

Select material

You can select the desired material in this optional step.

1. Select the desired material class.
2. Select *"See Additional Notes"* if you wish to order a certain material and define it in the text field in the Connect portal.

Color selection

➢ Click *"Select Final Shade"* or *"Select Stump Shade"* to proceed to the step of choosing colors. Stating the color is optional.

Tip: It is also possible to state the color later in the additional information in the portal.

You can select the stump/restoration color in this step.

1. First select the shade guide.
2. Then select the appropriate color using the coloring group.
3. Press *"Ok"* to confirm the selection.

Selecting the scanbody type (only for abutments)

You can select the desired scanbody type in this step. In addition to TiBase and ScanPost, you can also select IO FLO and *"Other"* to use an intraoral scanbody from another provider.

> ⚠ **CAUTION**
>
> The user is responsible for the correct use of scanbodies, which are offered by other providers. Dentsply Sirona can neither guarantee the clinical safety and biocompatibility nor the scan quality for all available scanbodies. Ask your provider whether such use with Omnicam or Primescan is permitted in your country.

➢ Tap or click on the desired scanbody type.

Selecting material for the veneering structure

You can select the desired material for the veneering structure in this step.

➢ Select the desired material.

Selecting material for the framework

You can select the desired material for the framework in this step.

➢ Select the desired material.

Closing the ADMINISTRATION phase

After at least one restoration has been added to the odontogram, you can jump to the *"ACQUISITION"* phase.

✓ At least one restoration is added to the odontogram.

✓ The *"ACQUISITION"* phase can be selected.

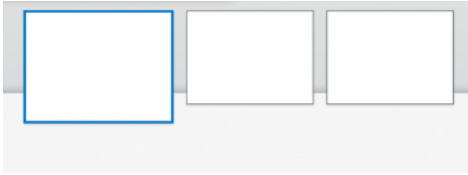**1.** Press the *"ACQUISITION"* button in the phase bar.

AUFNAHME

or
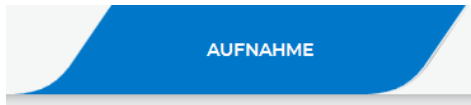
➢ Press the Next arrow in the context bar.

↳ The program switches over to the *"ACQUISITION"* phase.

9 ACQUISITION phase

9.1 Image catalogs

In the *"ACQUISITION"* phase, 3 image catalogs are available as standard:

- Lower Jaw
- Upper Jaw
- Buccal

In addition, further image catalogs can be shown:

- BioRef Lower (Lower jaw)
- BioRef Upper (Upper jaw)
- BioCopy Lower (Lower jaw)
- BioCopy Upper (Upper jaw)
- Gingiva Mask Lower Jaw (Lower jaw)
- Gingiva Mask Upper Jaw (Upper jaw)
- Scanbody Lower Jaw (Lower jaw)
- Scanbody Upper Jaw (Upper jaw)

For each of these image catalogs, only one acquisition is saved in the corresponding image catalog.

Opening the image catalog

➢ Select the icon of the desired image catalog.
    ↳ The active image catalog is opened, the 3D exposure is visible.

The necessary image catalog is initially selected provided the restoration(s) is (are) only in the upper or lower jaw.

If you exit the ACQUISITION phase and return to it later, all acquisitions are initially blocked.

Deleting acquisitions

If an acquisition is not suitable, you can delete it. You can then execute a new acquisition for the corresponding image catalog.

1. Select the image in the image catalog.
2. Move it using drag & drop to the trach can.
3. Press *"Delete"* in the context bar.
    ↳ A notification window then appears.
4. Confirm the deletion by selecting *"Yes"*.
↳ The image is deleted.

9.1.1 Adding image catalogs

Using the *"Add Catalog"* button, you can create additional image catalogs in the page palette.

1. Click the button *"Add Catalog"* in the page palette.
   - ↳ The possible image catalogs are offered.
2. Select the required image catalog.
- ↳ The image catalog is displayed next to the standard image catalogs.

9.2 3D Preview

In the default setting, the data are displayed from the occlusal direction in the 3D preview.

You can freely select the viewing direction of the virtual model in the 3D preview window by using the mouse.

Rotating a 3D preview

1. Press with one finger or click on the 3D preview with the left mouse button and hold it down.
2. Move your finger or the mouse.
- ↳ The 3D preview is rotated.

Moving the 3D preview

1. Press with two fingers or click on the 3D preview with the right mouse button and hold it down.
2. Move the finger or the mouse.
- ↳ The 3D preview moves.

Zooming into/out of the 3D preview

1. Press with two fingers or click on the 3D preview with the middle mouse button and hold it down.
2. Move your fingers apart and together or move the mouse up or down as desired.
   - ↳ The 3D preview is enlarged or reduced.
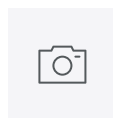
9.3 Take a scan

9.3.1 Mode

Step Video / Photo

In the *"Video"* / *"Photo"* step, you can make intraoral videos and individual intraoral images with the scanner.

Taking photos

1. In the step menu, go to *"Video / Picture"*.
2. Select the *"Photo"* option.
3. Press the button or use the foot switch to trigger the scanner.

Recording videos

1. In the step menu, go to *"Video / Picture"*.
2. Select the *"Video"* option.
3. Press the button to start video recording or use the foot control.
4. Repeatedly press the button or actuate the foot control once more to stop the recording.

View photos and videos

1. Select the button with the *"View"* folder symbol.
2. Use the left or right arrows to see all exposures taken. Videos can be started by pressing the play icon.
   Tip: In the acquisition modes activate the right button with the folder symbol in order to switch directly from the acquisition mode to the media view.

9.3.2 CEREC Omnicam, Omnicam

9.3.2.1 Scanner warm-up time

When switching on the system, the scanner needs to warm up for 15 - 20 minutes. If the coated sapphire glass of the scanner is not sufficiently warm, it may steam up during the acquisition. This complicates the scan acquisition.

Following use, always position the scanner on the heater plate or in the scanner cradle.

You can set the end temperature to which the scanner heater warms the mirror sleeve of the scanner.

1. In the software, navigate to the system menu and click on the *"Configuration"* button.
2. Click on the *"Devices"* button.
3. Click on the *"Omnicam"* button.
4. Click on the *"Camera Heater Settings"* button.
5. Use the slider to adjust the temperature.

9.3.2.2 Scanner guide

The scanner acquires images which are used during the ongoing measurement in spatial relation to each other (image registration).

During the acquisition and then during the ongoing registration process, a distinctive sound can be heard.
If the registration cannot be implemented, the acquisition flow is suspended. You are informed of this by means of a sound. This is different to the sound emitted during successful acquisition. You can adjust the volume under configuration and select another type of sound (melody).

IMPORTANT
Registration error
Should a registration error occur, you must return to another acquired point. To start with, practice this procedure on the model and then on intraoral areas. ➢ Move the scanner to a position where a successful acquisition was taken. A point that has already been acquired in the occlusal area is best.   ⇨ You will be able to hear the sound for registered acquisitions. ➢ Continue the acquisition.

Divide the acquisition into four consecutive sequences:

1. Occlusal
2. Buccal
3. Lingual
4. Proximal

9.3.2.2.1   Occlusal scan
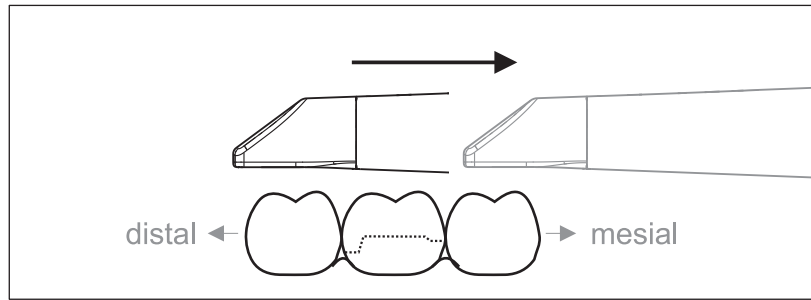
Important: Ensure that the distance between the coated sapphire glass of the scanner and the scanned surface is observed.
The distance must be between 0-15 mm (ideally: 5 mm). The scanner does not rest on the teeth or the gums. If the distance is too great, no data will be obtained.

1. Move the scanner to the starting position. For this purpose, the scanner is in the occlusal view of the tooth, which is next to the prepared tooth in the distal direction.
2. Scan in the mesial direction. To do so, move the scanner slowly in the occlusal direction from the distal-positioned tooth over the prepared tooth to the mesial-positioned tooth.

With full jaw acquisitions, the scan sequence is different for the transition to anteriors. Scanning begins with the lingual and labial areas, before moving on to the incisors.

9.3.2.2.2   Buccal scan
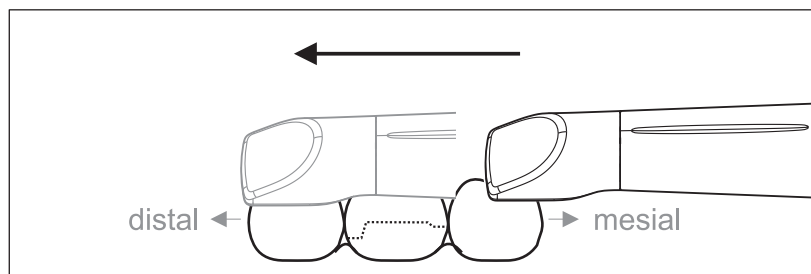
✓   The scanner is on the adjacent tooth, in the mesial direction to the preparation.

1. Rotate the scanner between 45° to maximum 90° toward the buccal.
2. Guide the scanner over the entire buccal distance in the distal direction over the prepared tooth.
   With full jaw acquisitions, limit the buccal scan to no more than a quadrant.

Ensure that the scanner is held like a flute during buccal scans. Do not tilt it vertically to the direction of motion.

Tip: Practice guiding the scanner between 45° and 90°.

9.3.2.2.3 Lingual scan
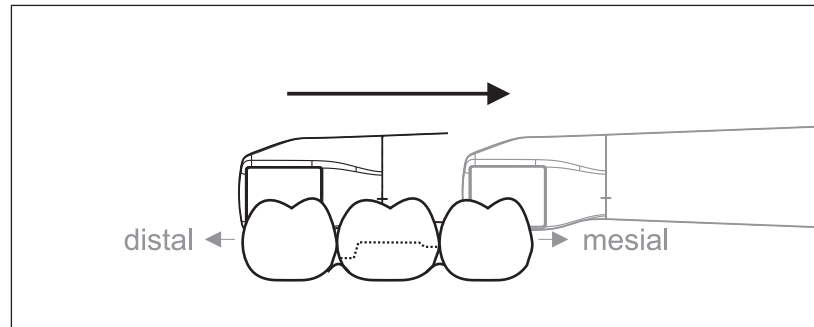
✓ The scanner is on the tooth that is positioned next to the preparation in the distal direction.

1. Rotate the scanner from 90° in the buccal direction to around 45° to maximum 90° in the lingual direction on the other side.

2. Guide the scanner over the entire lingual distance in the mesial direction over the prepared tooth.

9.3.2.2.4 Approximal surface scan
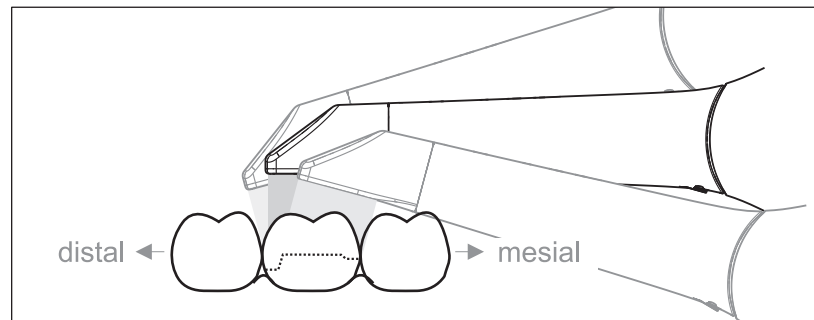
Scan the approximal surfaces of the prepared tooth.

➢ Move the scanner in the occlusal direction to the prepared tooth. Acquire the approximal surfaces in the distal and mesial direction by using a wave motion in the occlusal, buccal, and lingual direction over the prepared tooth.
To do so, tilt the surface by 15° in the distal and mesial direction to gain a better view of the approximal contacts.

Notes:

● Remove the soft tissue.

● Cut away the moveable gingivae, so that only 2-5 mm gingivae remains around the tooth.

● When performing this activity, be careful not to accidentally cut out any areas that e.g. are located behind the model or are otherwise cut away from the line.

● This cut must be completed during the ACQUISITION phase using the cutter.

9.3.2.2.5 **Single and multiple buccal registration**

The buccal registration establishes the allocation of jaw exposures.

✓ The jaw with the preparation is scanned.

1. Scan the occlusal, buccal and lingual view of the antagonist (see the section "Occlusal scan [→ 70]", "Buccal scan [→ 70]" and "Lingual scan [→ 71]").

2. Perform a buccal scan of the bite block prior to completing the registration. This buccal scan should be carried out close-up to the preparation. To acquire sufficient geometry, capture the teeth of the upper and lower jaw as well as 5 mm of the respective gingival areas.

Tip: In the case of multiple or long-span restorations over several quadrants, we recommend generating several buccal exposures close to the restoration.

9.3.2.2.6 **Scanning the quadrant and jaw**

The following scan regulation applies for the acquisition of a complete quadrant or jaw arch.

The first (fourth) quadrant is scanned up to the opposite second front tooth by moving the scanner in parallel along the jaw arch.

Start the scanning process
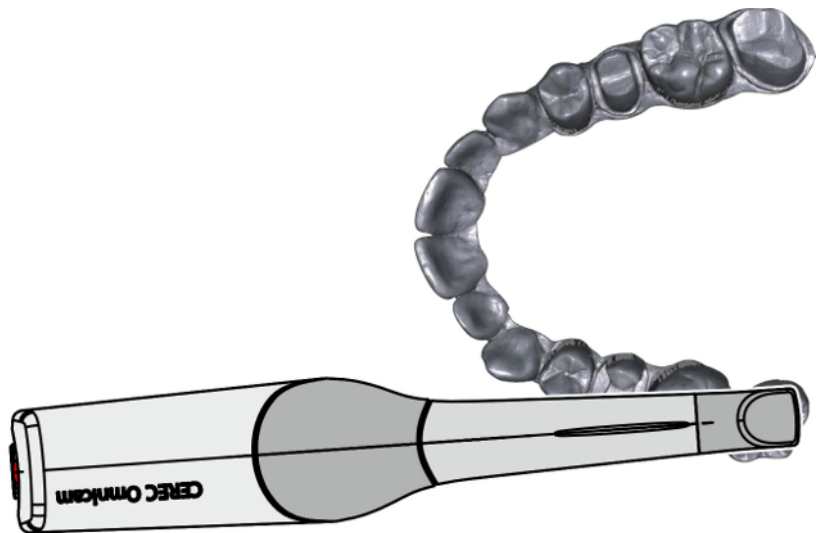
➢ Position the scanner occlusally above the last tooth on the right, to start the scanning process.

Completing the scanning process
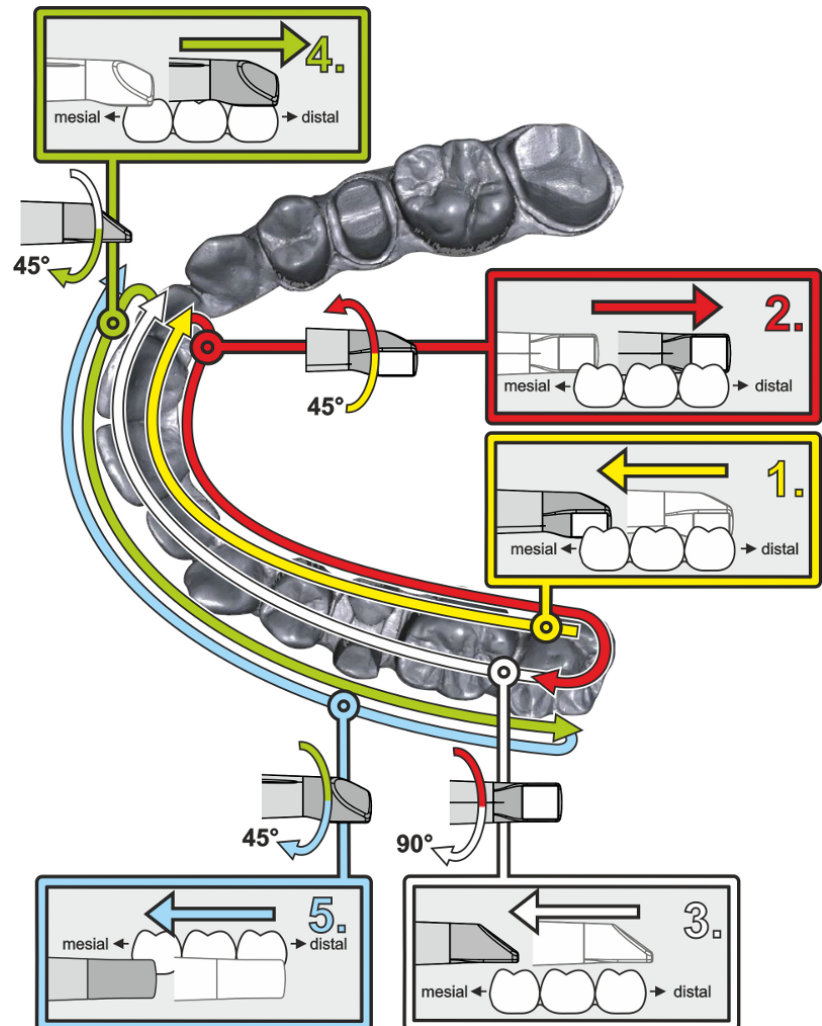
1. **Start as indicated above, on the occlusal surface of the right terminal tooth,** and scan it occlusally.
   Tilt the scanner by 45° in a palatinal direction (oral) and guide it from the distal to the mesial.
2. Tilt the scanner another 45° in a palatinal direction (oral) and move it in a distal direction.
3. Tilt the scanner by 90° on to the occlusal surface and move it in a mesial direction.
4. Tilt the scanner in a 45° buccal direction and move it back towards the distal.
5. Then tilt the scanner a further 45° in a buccal direction to a total of 90° and move it in a mesial direction again.

The following scan sequence is implemented for the opposite second (third) quadrant:
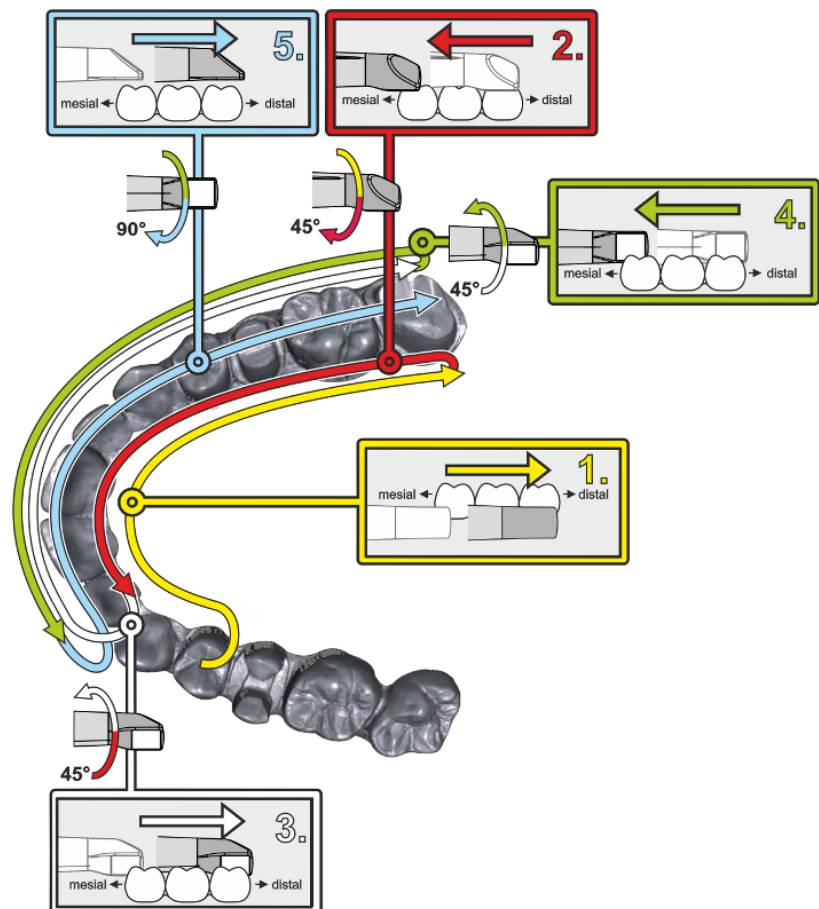
1. **Start by placing the device on the occlusal surface of a premolar, that has already been scanned,** and guide the scanner palatally (orally) at a mesial tilt of up to 90° across the lingual surface of the front teeth in a distal direction towards the terminal tooth.

2. Slight tilt the scanner by 45°, so that the scanner is only tilted by 45° in a palatinal direction (oral) moving from the distal and back to the mesial to the front teeth.

3. Once you have reached the area of the front tooth, guide the scanner 45° to the buccal side and tilt the scanner by 45° from the mesial to the distal direction.

4. Once you have reached the distal, tilt the scanner by another 45° (total of 90°) further towards the buccal and guide the scanner from the distal back to the mesial direction.

5. Once you have reached the area of the front tooth, tilt the scanner in an occlusal direction and guide the scanner mesially to the occlusal surfaces right to the back distal molars.

Notes:

• Remove the soft tissue.

• Cut away the moveable gingivae, so that only 2-5 mm gingivae remains around the tooth.

- When performing this activity, be careful not to accidentally cut out any areas that e.g. are located behind the model or are otherwise cut away from the line.
- This cut must be completed during the ACQUISITION phase using the cutter.

9.3.2.2.7 Completing measurements

✓ The exposures are complete.

1. Press the *"Next"* button.
   ↳ The virtual model is calculated and displayed in color.
2. If missing data emerges in the preparation area, carry out further exposures.

9.3.2.3 Taking optical impressions with the scanner

NOTE
Image brightness
The image brightness during the acquisition is controlled automatically, so that there is always optimum image brightness, largely independent of the distance between the scanner and the tooth.
The surroundings of the tooth to be scanned should be as weakly illuminated as possible. Avoid any type of external light. Switch off the operating light.

IMPORTANT
Do not use cotton rolls in the scan area
Do not use any cotton rolls in the vicinity of the scan area, as they can reduce the precision of the scan and create image interference.

⚠ CAUTION
Prevent cross-contamination
Germs can be transmitted to uncontaminated persons via the hands, materials or objects.
➢ For hygiene reasons, wear a new set of disposable gloves for each patient while using the scanner.

⚠ CAUTION
In the case of patients with allergies to nickel
Should the scanner mirror sleeve make contact with the skin of patients allergic to nickel, allergic reactions may occur.
➢ Ensure that in the case of patients with nickel allergies, the parts of the mirror sleeve which may make contact are protected from areas of skin.

> ⚠ **WARNING**
>
> **Risk of injury for those diagnosed with epilepsy**
>
> For persons who have been diagnosed with epilepsy, there is a risk of epileptic shock through the flashing light of the scanner.
>
> ➢ Patients who have been diagnosed with epilepsy cannot be treated with the scanner.
>
> ➢ Dentists and dental assistants who have been diagnosed with epilepsy cannot work with the scanner.

Proceeding with scanning procedure

1. Activate the foot control or click on the switch with the cursor.
   - ↳ The scanning procedure begins.
2. Proceed with the scanning procedure as described above.

9.3.3 CEREC Primescan, Primescan

9.3.3.1 Optical impressions with the scanner

NOTE
Image brightness
The image brightness during the acquisition is controlled automatically, so that there is always optimum image brightness, largely independent of the distance between the scanner and the tooth. The surroundings of the tooth to be scanned should be as weakly illuminated as possible. Avoid any type of external light. Switch off the operating light.

IMPORTANT
Do not use cotton rolls in the scan area
Do not use any cotton rolls in the vicinity of the scan area, as they can reduce the precision of the scan and create image interference.

⚠ CAUTION
Prevent cross-contamination
Germs can be transmitted to uncontaminated persons via the hands, materials or objects. ➢ For hygiene reasons, wear a new set of disposable gloves for each patient while using the scanner.

⚠ WARNING
Risk of injury for those diagnosed with epilepsy
For persons who have been diagnosed with epilepsy, there is a risk of epileptic shock through the flashing light of the scanner. ➢ Patients who have been diagnosed with epilepsy cannot be treated with the scanner. ➢ Dentists and dental assistants who have been diagnosed with epilepsy cannot work with the scanner.

⚠ CAUTION
Potentially hazardous optical radiation
The scanner transmits potentially hazardous optical radiation which may cause harm to the eyes. ➢ During operation, do not look directly at the scanner for long periods.

IMPORTANT
Potential switch-off procedure
In the case of several repeated scans of the image fields without model calculation, the scanner can deviate from the calibrated temperature range. In this case, a warning message appears and you need to take a scanning break prior to completing the exposures. Please wait roughly long enough for the remaining exposures to be performed. The potential switch-off procedure is innocuous for your scanner and is not a malfunction.

IMPORTANT
Heating up the scanner
The internal scanner heating ensures that condensation does not form during scanning. The heating starts immediately after starting up the exposure unit, and after around five minutes the scanner is free of condensation. This is usually the case through to navigation into the exposure phase.

Proceeding with scanning procedure

1. Activate the foot control or click on the switch with the cursor.
   - ↳ The scanning procedure begins.
2. Proceed with the scanning procedure as described above.

9.3.3.2 Scanner guide

The scanner acquires images which are used during the ongoing measurement in spatial relation to each other (image registration).

During the acquisition and then during the ongoing registration process, a distinctive sound can be heard.
If the registration cannot be implemented, the acquisition flow is suspended. You are informed of this by means of a sound. This is different to the sound emitted during successful acquisition. You can adjust the volume under configuration and select another type of sound (melody).

IMPORTANT
Registration error
Should a registration error occur, you must return to another acquired point. To start with, practice this procedure on the model and then on intraoral areas. ➢ Move the scanner to a position where a successful acquisition was taken. A point that has already been acquired in the occlusal area is best.   ⇨ You will be able to hear the sound for registered acquisitions. ➢ Continue the acquisition.

Divide the acquisition into four consecutive sequences:

1. Occlusal
2. Buccal
3. Lingual
4. Proximal

9.3.3.2.1 Occlusal scan
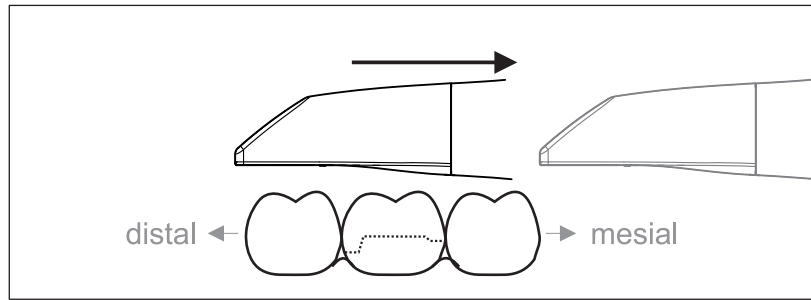
Important: Ensure that the distance between the coated sapphire glass of the scanner and the scanned surface is observed.
The distance must be between 0-20 mm (ideally: 2 mm). The scanner does not rest on the teeth or the gums.

1. Move the scanner to the starting position. For this purpose, the scanner is in the occlusal view of the tooth, which is next to the prepared tooth in the distal direction.
2. Scan in the mesial direction. To do so, move the scanner in the occlusal direction from the distal-positioned tooth over the prepared tooth to the mesial-positioned tooth.

9.3.3.2.2 Buccal scan
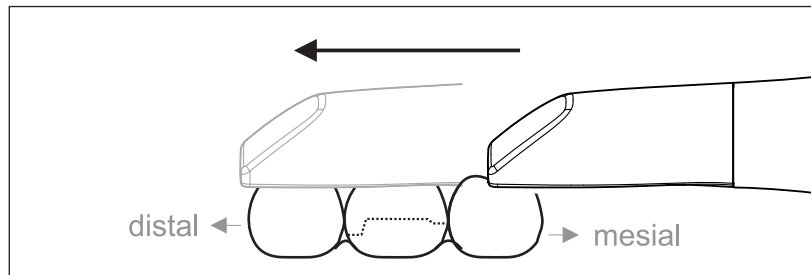
✓ The scanner is on the adjacent tooth, in the mesial direction to the preparation.

1. Rotate the scanner 20° toward the buccal.
2. Guide the scanner over the entire buccal distance in the distal direction over the prepared tooth.

9.3.3.2.3 Lingual scan
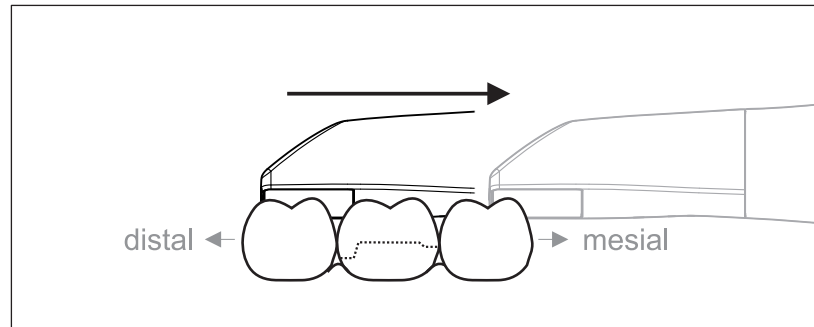
distal ← → mesial

✓ The scanner is on the tooth that is positioned next to the preparation in the distal direction.

1. Rotate the scanner to maximum 20° toward the lingual direction.

2. Guide the scanner over the entire lingual distance in the mesial direction over the prepared tooth.

9.3.3.2.4 Approximal surface scan
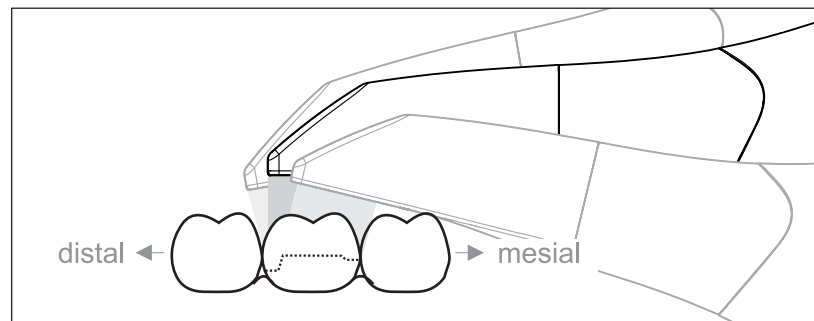
distal ← → mesial

Scan the approximal surfaces of the prepared tooth.

➢ Move the scanner in the occlusal direction to the prepared tooth. Acquire the approximal surfaces in the distal and mesial direction.

9.3.3.2.5 **Single and multiple buccal registration**

The buccal registration establishes the allocation of jaw exposures.

✓ The jaw with the preparation is scanned.

1. Scan the occlusal, buccal and lingual view of the antagonist (see the section "Occlusal scan [→ 70]", "Buccal scan [→ 70]" and "Lingual scan [→ 71]").

2. Perform a buccal scan of the bite block prior to completing the registration. This buccal scan should be carried out close-up to the preparation. To acquire sufficient geometry, capture the teeth of the upper and lower jaw as well as 5 mm of the respective gingival areas.

Tip: In the case of multiple or long-span restorations over several quadrants, we recommend generating several buccal exposures close to the restoration.

9.3.3.2.6 Square and full jaw scan

You can use different scanning procedures for scanning a quadrant or a full jaw. Find two procedures as follows to help you gain access should such help be necessary.

Procedure 1
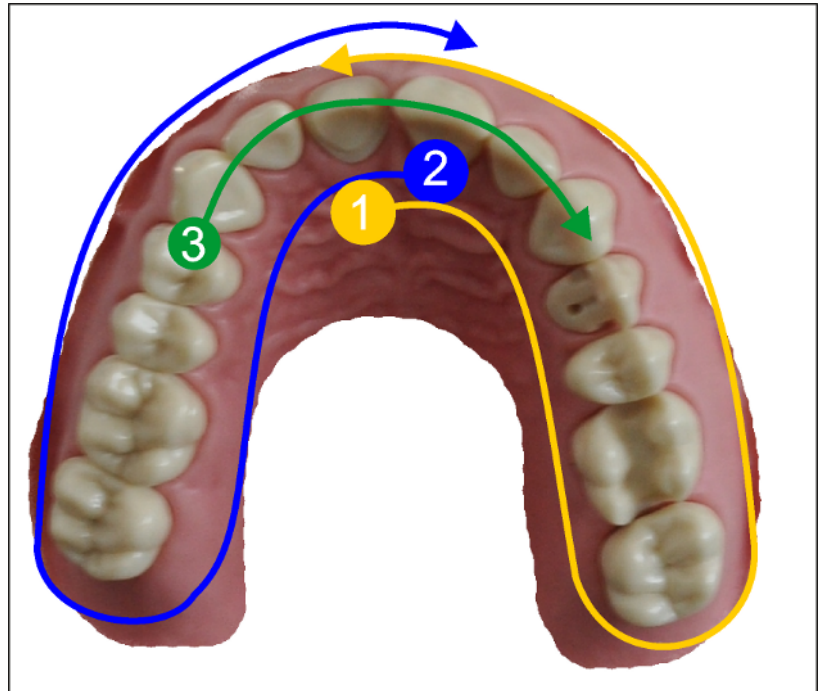
1. Start with the oral surface of the anterior teeth and move the scanner in the oral direction along the quadrant. Move the scanner over the distal tooth to the vestibular side and track the first quadrant to the anterior teeth. Gently tilt the scanner approx. 30° in the coronal-apical direction.
2. Move the scanner as shown below (1) for the second quadrant.
3. Then scan the anterior teeth from cuspid to cuspid in the coronal-apical direction. Ensure that both the labial surface and the oral surfaces are visible.
    Extend this third scan to locations where you can view scan holes.

Procedure 2
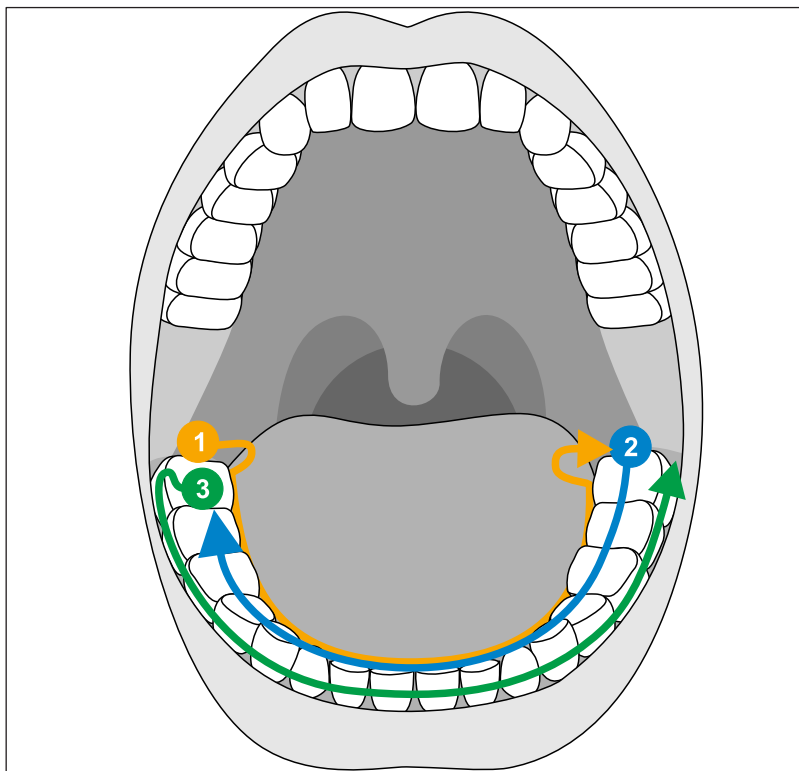
1. Start occlusally on the distal tooth, tilt the scanner approx. 60° in an oral direction and move it orally along the dental arch up to the opposite distal tooth.
2. Guide the scanner occlusally from the distal tooth across the entire dental arch back to the other side.
3. To complete the scan, tilt the scanner approx. 60° in a buccal direction and move it buccally along the entire dental arch.

9.3.3.2.7 **Concluding the optical impressions**

    ✓ The exposures are complete.

1. Click on the *"Next"* button.
    - ↳ The virtual model is calculated and displayed in color.
2. If missing data emerges in the preparation area, carry out further scans.

9.3.4 Cut out model areas

With the *"Cut"* function, you can should be able to cut out model areas. These can be areas in which parts of cotton rolls or cheeks were unintentionally acquired.

When performing this activity, be careful not to accidentally cut out any areas that e.g. are located behind the model or are otherwise cut away from the line.

IMPORTANT
For precision reasons, this function can only be operated by trackball or touchpad.

    ✓ You are now in the ACQUISITION or MODEL phase.

1. Actuate the tool wheel.
2. Press the *"Cut"* button.
    - ↳ The cursor changes to a cross.
3. Begin the cut line with a double-tap/double-click.
4. Tap/click to set additional points.
5. Finish the cut by double-tapping/double-clicking.
    - ↳ The model area is cut out.
6. Press the *"Apply"* button to implement the change.

9.3.5 Additional acquisitions

You can switch back from the MODEL phase to the ACQUISITION phase and add additional exposures.

✓ You are now in the MODEL phase.

1. Proceed to the ACQUISITION phase.
   ↳ The ACQUISITION phase opens. The image catalogs are locked.

2. Click the button *"Unlock"* in the page palette.
   ↳ The image catalogs are unlocked.
   ↳ You can take additional exposures.
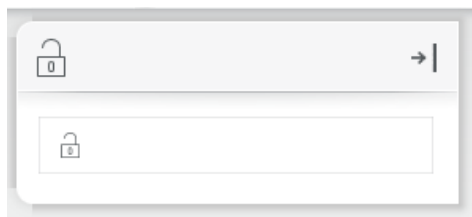
9.3.6 Full jaw scan mode
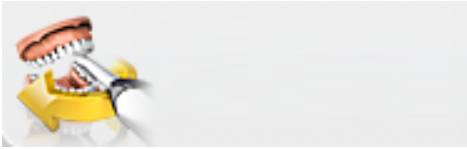
The full jaw scan mode is an optional scan mode for the Omnicam. This can be switched on and off in the ACQUISITION phase. Once the first images have been acquired with the full jaw scan mode switched on, this scan mode cannot be exited again. In order to switch this off again, all image catalogs must be deleted.

Scan objects and sequence bars
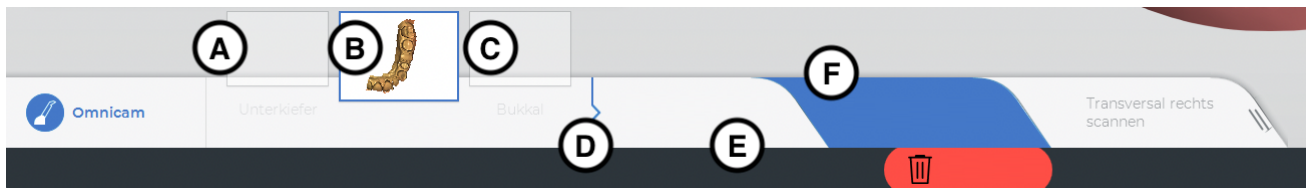
The full jaw scan mode contains 3 scan objects:

- Lower jaw scan (A)
- Upper jaw scan (B)
- Buccal registration (C)

The selected scan object is highlighted in blue (B).

Every scan object contains several steps which are displayed in a sequence bar (D).

The selected step is highlighted in blue (F).

When a step is finished (E), the software switches to the next step.

Deleting and repeating scan steps

Use the *"Delete Scan Data"* button to delete and repeat individual scan steps or the scan of the entire lower jaw or upper jaw.

The following options are available for the dialog box which opens:

- *"Selected Step"* deletes the selected scan step and the scan steps subsequently performed.
- *"Entire Jaw"* deletes the entire scan of the lower jaw or upper jaw.
- *"Cancel"*

If an individual scan step has been deleted, the software switches again to acquisition mode for the deleted scan step. The scan step and subsequent scan steps can be repeated.

If the entire scan of the lower jaw or upper jaw has been deleted, the software switches to the first scan step. The entire scan of the jaw can be repeated.

User guidance

You are guided through the acquisition steps with tone signals and graphic displays.
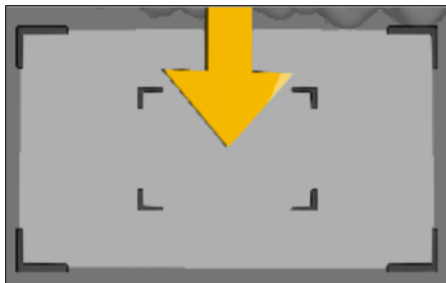
- Starting point for a scanning step: Hold the camera over this marker for 3 seconds to start scanning the scanning step.

- Resume the scan. If the scan has been interrupted, hold the camera over this marker to continue the scan.

- Target area: Guide the camera along the arrow into this area. The partial scan does not end at an exact point.

- End point of a quadrant: Hold the camera over this marker for 3 seconds to mark the end point of the quadrant.

- End point of a scanning step: When this marker is reached, the scanning step is complete.
- If the camera has identified the start point of a partial scan, the tone signal changes and the start marker is hidden. The acquisition begins.

- When a partial scan is finished, a green check mark is displayed.
- The guide direction for the camera is displayed with arrows.
- If the automatic data flow is interrupted, the tone signal changes and a start marker is displayed. In this case, guide the camera to the start marker. As soon as the correct position has been found, the tone signal changes and the start marker disappears. The acquisition procedure starts.
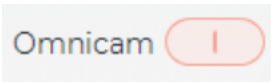
Switching Omnicam on/off

You can switch the camera on/off by clicking the Omnicam symbol at the top right.

9.3.6.1 Start the scan process

✓ The patient has assumed the correct exposure position.

✓ The teeth are cleaned and blow-dried.

➢ Change to the *"ACQUISITION"* phase.

9.3.6.2 **Lower jaw scan**

Scan the right-hand quadrants

1. Remove the CEREC Omnicam from its holder.
   - ↳ The step list for scanning the lower jaw is displayed.
   - ↳ The first step, *"Scan lingual right"*, is selected in the step list.
2. Position the camera above the last molar on the right of the lower jaw and hold the camera in this position to mark the start of the scan.
   - ↳ The start marker (A), which marks the starting point for the partial scan, slowly disappears and the scan begins.
   - ↳ The guide direction for the camera is shown with an arrow.
3. Turn the camera lingually and guide it in the direction of the arrow over the lingual surface of the teeth as far as the target marker (B) on the centerline.
   - ↳ When the center line has been reached, hold the camera in position once more for 3 seconds to mark the end point of the partial scan. While doing so, the target marker slowly disappears.
   - ↳ The software automatically changes to the next *"Scan occlusal right"* step.
4. Position the camera above the last molar on the right. The starting point is marked with a start marker (A) and is automatically recognized. Guide the camera occlusally in the direction of the arrow as far as the target marker (B) on the centerline.
   - ↳ If the centerline has been scanned, a signal tone will be heard.
   - ↳ The software changes to the next *"Scan vestibular right"* step.
5. Position the camera above the last molar on the right. The starting point is marked with a start marker (A) and is automatically recognized.
6. Turn the camera towards the buccal and guide it in the direction of the arrow over the arch as far as the target marker (B) on the centerline.
   - ↳ If the centerline has been scanned, a signal tone will be heard.
   - ↳ The software changes to the next *"Scan transversal right"* step.
7. Guide the camera in the direction of the arrow over the marked area from the start marker (A) to the target area (B).
   - ↳ If the connection is scanned, a signal tone will be heard.
   - ↳ The software changes to the next left-hand quadrant step.
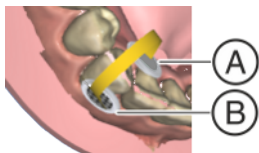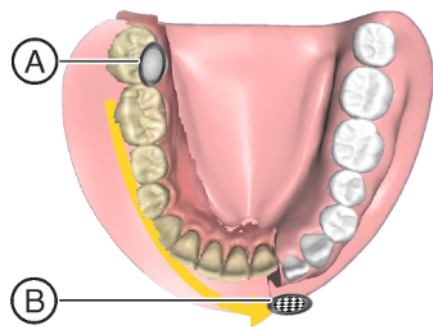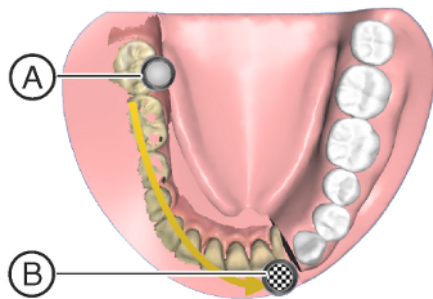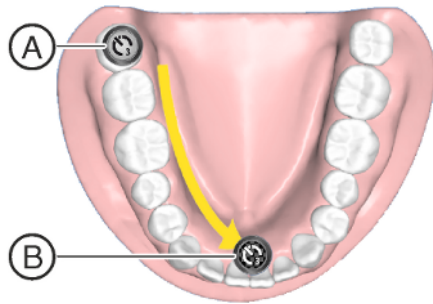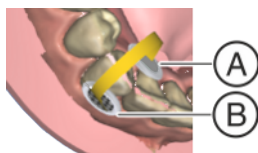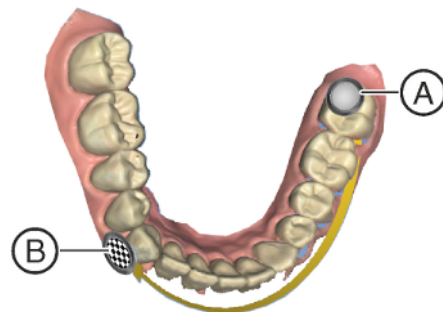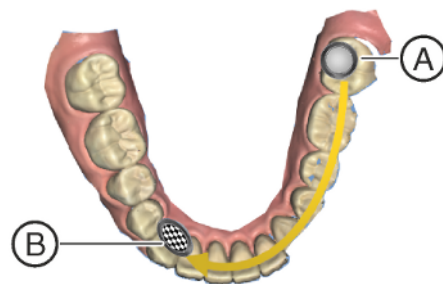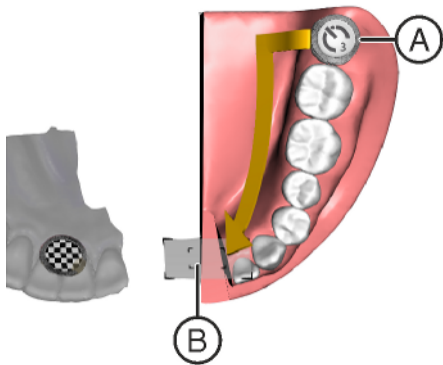
Scan the left-hand quadrants

1. Position the camera above the last molar on the left of the lower jaw and hold the camera in this position to mark the start of the scan.
   - ↳ The position marker (A), which marks the start of the scan, slowly disappears and the scan begins.
   - ↳ The guide direction for the camera is shown with an arrow.
2. Turn the camera lingually and guide it in the direction of the arrow over the lingual surface of the teeth as far as the target area (B) on the centerline.
   - ↳ When the center line has been reached, hold the camera in position once more for 3 seconds to mark the end point of the partial scan. While doing so, the target marker slowly disappears.
   - ↳ The software automatically changes to the next *"Scan occlusal left"* step.

3. Position the camera above the last molar on the left. The starting point is marked with a start marker (A) and is automatically recognized. Guide the camera occlusally as far as the target marker (B) on the centerline.
   - ↳ If the centerline has been scanned, a signal tone will be heard.
   - ↳ The software changes to the next *"Scan vestibular left"* step.

4. Position the camera above the last molar on the left. The starting point is marked with a start marker (A) and is automatically recognized.
5. Turn the camera towards the buccal and guide it in the direction of the arrow over the arch as far as the target marker (B) on the centerline.
   - ↳ If the centerline has been scanned, a signal tone will be heard.
   - ↳ The software changes to the next *"Scan transversal left"* step.

6. Guide the camera in the direction of the arrow over the marked area from the start marker (A) to the target marker (B).
   - ↳ If the connection is scanned, a signal tone will be heard.
   - ↳ The software changes to the *"Complete Jaw"* step.

Completing the jaw

In step *"Complete Jaw"* you can process the model.

You can re-scan further required areas (vestibule, gums and base of tongue) as well as not yet scanned areas of the model.

Areas of the mouth outside the jaw and other objects can have a negative impact on the accuracy and the speed when creating the model. To avoid this, you can cut the model to the area required for manufacturing the restoration. The boundary is marked by a blue line.
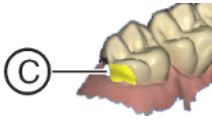
Re-scan vestibule, gums and base of tongue.

➢ Use the camera and rescan the missing areas.
  ↳ The re-scanned areas are added to the model and the blue boundary line is automatically extended.

Re-scan not yet scanned areas

All areas that have not been scanned are marked in yellow (C). In order to improve the quality of the model, these areas can be re-scanned.

➢ Use the camera and rescan the areas marked as missing.
  ↳ The yellow markings are replaced by scan data.

IMPORTANT
Particularly in the area of the preparation as well as neighboring teeth, the yellow marked areas should be rescanned.

Editing the boundary line

IMPORTANT
For precision reasons, this function can only be operated by trackball, touchpad, or mouse.

If necessary, edit the blue boundary line of the model. Ensure that only the areas required for manufacturing the restoration are inside the boundary line.

1. Align the model in such a way that you can view the area to be edited orthogonally.
2. Double-click on the point of the boundary line, at which you would like to start editing.
3. Pull and click to set additional points.
4. To stop editing the boundary line, double-click again.

| IMPORTANT |
| --- |
| Once the boundary line has been manually edited, the automatic extension of the boundary line for the current jaw is deactivated irrevocably. |

Finishing the lower jaw scan

➢ Click on the Next arrow to switch to the next scan object *"Upper Jaw"*.

9.3.6.3 Upper jaw scan

Scan the right-hand quadrants

✓ The lower jaw has been scanned.

✓ The *"Upper Jaw"* scan object is activated.

✓ The step list for scanning the upper jaw is displayed.

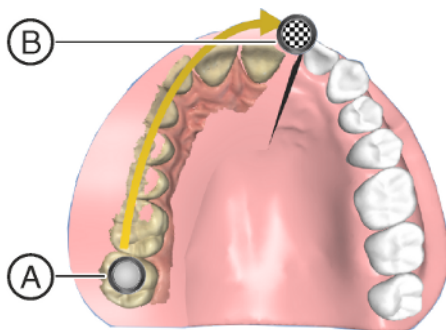✓ The first step, *"Scan palatal right"*, is selected in the step list.
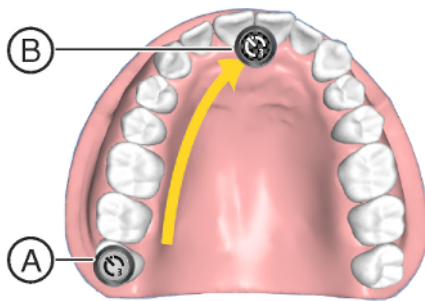
1. Position the camera above the last molar on the right of the upper jaw and hold the camera in this position to mark the start of the scan.
   - ↳ The start marker (A), which marks the starting point for the partial scan, slowly disappears and the scan begins.
   - ↳ The guide direction for the camera is shown with an arrow.

2. Turn the camera lingually and guide it in the direction of the arrow over the lingual surface of the teeth as far as the target marker (B) on the centerline.
   - ↳ When the center line has been reached, hold the camera in position once more for 3 seconds to mark the end point of the partial scan. While doing so, the target marker slowly disappears.
   - ↳ The software automatically changes to the next *"Scan occlusal right"* step.

3. Position the camera above the last molar on the right. The starting point is marked with a start marker (A) and is automatically recognized. Guide the camera occlusally as far as the target marker (B) on the centerline.
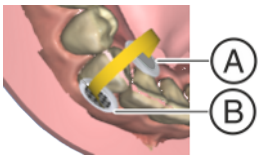   - ↳ If the centerline has been scanned, a signal tone will be heard.
   - ↳ The software changes to the next *"Scan vestibular right"* step.

4. Position the camera above the last molar on the right. The starting point is marked with a start marker (A) and is automatically recognized.

5. Turn the camera towards the buccal and guide it in the direction of the arrow over the arch as far as the target marker (B) on the centerline.
   - ↳ If the centerline has been scanned, a signal tone will be heard.
   - ↳ The software changes to the next *"Scan transversal right"* step.

> **IMPORTANT**
>
> As the jaw models are displayed with a distance from one another before the first bite is scanned, the target symbol appears lower in relation to the lower jaw during scanning than it is in reality.
>
> ➢ Before scanning, observe the position of the target marker in the upper jaw (between the premolars and the molars in the figure) and scan this region in the mouth.

6. Guide the camera in the direction of the arrow over the marked area from the start marker (A) as far as the target marker (B).
   - ↳ If the connection is scanned, a signal tone will be heard.
   - ↳ The software changes to the next *"Scan palatal left"* step.

Scan the left-hand quadrants
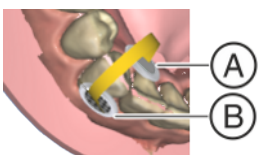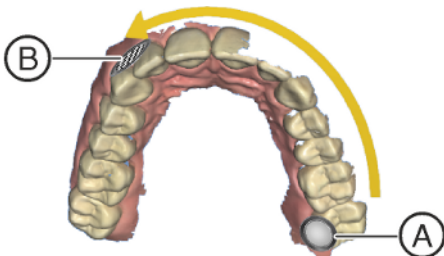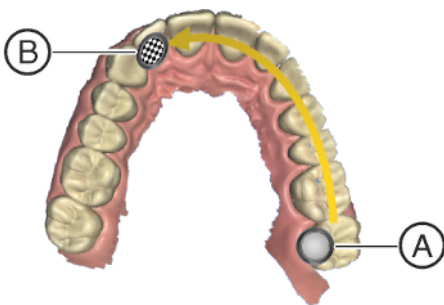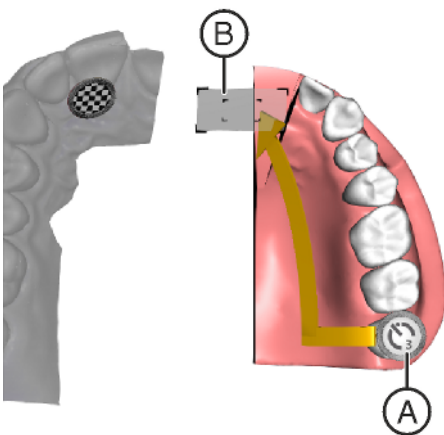
1. Position the camera above the last molar on the left of the upper jaw and hold the camera in this position to mark the start of the scan.
   - ↳ The start marker (A), which marks the start of the scan, slowly disappears and the scan begins.
   - ↳ The guide direction for the camera is shown with an arrow.
2. Turn the camera lingually and guide it in the direction of the arrow over the lingual surface of the teeth as far as the target area (B) on the centerline.
   - ↳ When the center line has been reached, hold the camera in position once more for 3 seconds to mark the end point of the partial scan. While doing so, the target marker slowly disappears.
   - ↳ The software automatically changes to the next *"Scan occlusal left"* step.

3. Position the camera above the last molar on the left. The starting point is marked with a start marker (A) and is automatically recognized. Guide the camera occlusally as far as the target marker (B) on the centerline.
   - ↳ If the centerline has been scanned, a signal tone will be heard.
   - ↳ The software changes to the next *"Scan vestibular left"* step.

4. Position the camera above the last molar on the left and hold the camera in this position to mark the start of the partial scan.
5. Turn the camera towards the buccal and guide it in the direction of the arrow over the arch as far as the centerline.
   - ↳ If the centerline has been scanned, a signal tone will be heard.
   - ↳ The software changes to the next *"Scan transversal left"* step.

6. Guide the camera in the direction of the arrow over the marked area.
   - ↳ If the connection is scanned, a signal tone will be heard.
   - ↳ The software changes to the *"Complete Jaw"* step.

Completing the jaw

In step *"Complete Jaw"* you can process the model.

You can re-scan further required areas (vestibule, gums and base of tongue) as well as not yet scanned areas of the model.

Areas of the mouth outside the jaw and other objects can have a negative impact on the accuracy and the speed when creating the model. To avoid this, you can cut the model to the area required for manufacturing the restoration. The boundary is marked by a blue line.
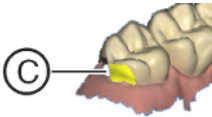
Re-scan vestibule, gums and base of tongue.

➢ Use the camera and rescan the missing areas.
   ↪ The re-scanned areas are added to the model and the blue boundary line is automatically extended.

Re-scan not yet scanned areas

All areas that have not been scanned are marked in yellow (C). In order to improve the quality of the model, these areas can be re-scanned.

➢ Use the camera and rescan the areas marked as missing.
   ↪ The yellow markings are replaced by scan data.

IMPORTANT
Particularly in the area of the preparation as well as neighboring teeth, the yellow marked areas should be rescanned.

Editing the boundary line

IMPORTANT
For precision reasons, this function can only be operated by trackball, touchpad, or mouse.

If necessary, edit the blue boundary line of the model. Ensure that only the areas required for manufacturing the restoration are inside the boundary line.

1. Align the model in such a way that you can view the area to be edited orthogonally.
2. Double-click on the point of the boundary line, at which you would like to start editing.
3. Pull and click to set additional points.
4. To stop editing the boundary line, double-click again.
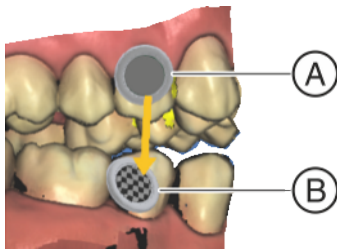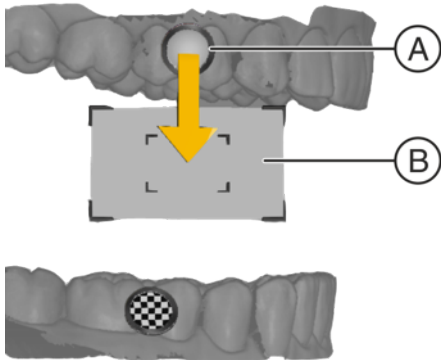
IMPORTANT
Once the boundary line has been manually edited, the automatic extension of the boundary line for the current jaw is deactivated irrevocably.

➢ Click on the Next arrow to switch to the next scan object *"Buccal"*.

9.3.6.4 Buccal registration

✓ The lower jaw and upper jaw have been scanned.

✓ The *"Buccal"* scan object is activated.

✓ The sequence bar for the buccal registration is displayed.

1. Perform the buccal registration on the right side by having the patient bite as required and guiding the camera from the start marker (A) to the target area (B).

| IMPORTANT |
| --- |
| As the jaw models are displayed with a distance from one another before the first bite is scanned, the target symbol appears lower in relation to the upper jaw during scanning than it is in reality.

➢ Before scanning, observe the position of the target marker in the lower jaw (between the premolars and the molars in the figure) and scan this region in the mouth. |

↳ As soon as the buccal registration is finished a signal tone will be heard.

↳ The software changes to the next *"Scan buccal left"* step.

2. Perform the buccal registration on the left side by guiding the camera from the start marker (A) to the target marker (B).

↳ As soon as the buccal registration is finished a signal tone will be heard.

9.4 Finishing the phase

✓ All required scans are present (jaw, if necessary the opposing jaw and buccal bite exposure).

✓ The *"MODEL"* phase can be selected.

1. Proceed to the *"MODEL"* phase.

or
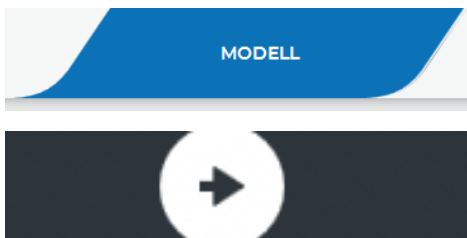
➢ Press the Next arrow in the context bar.

↳ The program switches over to the *"MODEL"* phase.

10 MODEL phase

In the *"MODEL"* phase, the virtual models are reconstructed based on the acquired image catalogs.

If you would like to edit the model, change to the *"Edit Model"* step.

The *"Edit Model"*, *"Bite Registration"* and *"Set Model Axis"* steps relate to the entire model (upper and lower jaw).

All other steps in the *"MODEL"* phase refer to the restoration currently selected. These steps must be carried out as relevant for all restorations.

10.1 Editing the model

This step is optional. You must select this step in order to access it.

In the *"Edit Model"* step, you can work with the following tool:

- *"Cut"*
- *"Reset Model"*

Use of the individual tools is described in the section "Page palette [→ 43]".

10.2 Buccal registration (optional)

The software joins the models together automatically und shows this with a green check mark at the buccal window. If this is not possible, the software will attempt to correlate the jaws in the following process. If this is not possible, you can also correlate the models together manually.

Manual correlation

In this step, the virtual models of the upper and lower jaw should be aligned with one another with the help of the buccal image in its correct position.

In the *"Buccal Bite Registration"* step, you can work with the following tools in the page palette:

- Drag Buccal
- Turn Buccal Impression

Rotating the lower and upper jaw

➢ Press with one finger or click in the gray area with the left mouse button and keep held down.
   ↳ The lower jaw and upper jaw can be rotated about the vertical axis simultaneously.
➢ Press with one finger or click on the lower jaw or upper jaw with the left mouse button and keep held down.
   ↳ The arches can be rotated freely, individually.

Drag Buccal
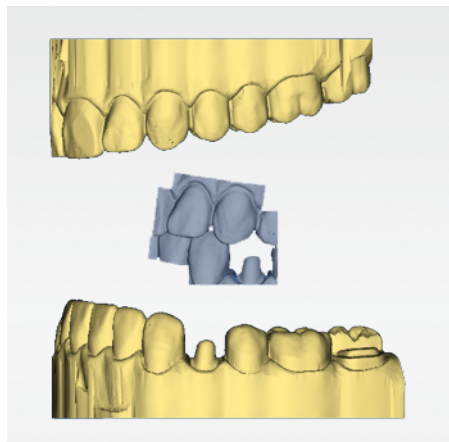
1. Rotate both models so that you can see the overlap area of the buccal acquisition and of the upper jaw and lower jaw.
2. Now drag the buccal acquisition to the corresponding area of the upper jaw with the finger/mouse and let go (drag & drop).
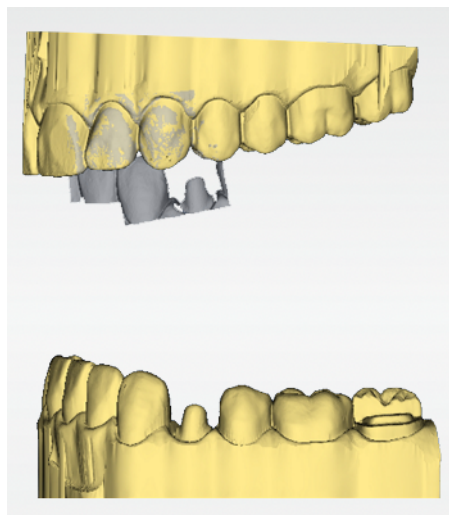
   ꙮ The buccal acquisition automatically registers itself on the upper jaw. If the registration was successful, this will be indicated by a "leopard pattern". If the registration was not successful, the buccal acquisition returns to its original position. In this case, you must repeat the drag&drop procedure in order to find a better correlation surface.
3. Now press the buccal acquisition once again and drag it onto the appropriate area of the lower jaw (drag & drop).
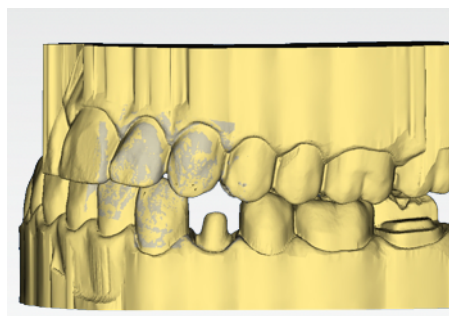
   ꙮ If the registration was successful, this will be indicated by a "leopard pattern". If the registration was not successful, the buccal acquisition returns to its original position. In this case, you must repeat the drag&drop procedure in order to find a better correlation surface.

It is irrelevant whether you drag the buccal acquisition onto the lower jaw or onto the upper jaw first.

Turn Buccal Impression

In some cases, the buccal acquisition may be displayed upside down in relation to the lower jaw and the upper jaw. Proceed as follows in such cases:

1. Press the upper area of the buccal image and drag it onto the lower model.

or

➢ Move the mouse via *"Tools"* onto the *"Bite Registration"* button and activate the *"Turn Buccal Impression"* command.

    ↳ The buccal acquisition will automatically flip, and you can then register it on the jaw using the drag & drop technique.

This works in the same way vice versa, i.e. if you press on the lower area of the buccal image and then drag it onto the upper model.
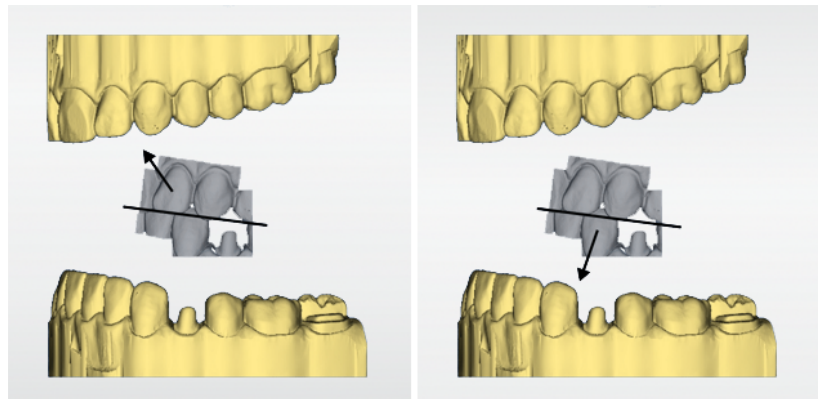
The buccal image is then displayed right side up. Registration is possible without rotation.
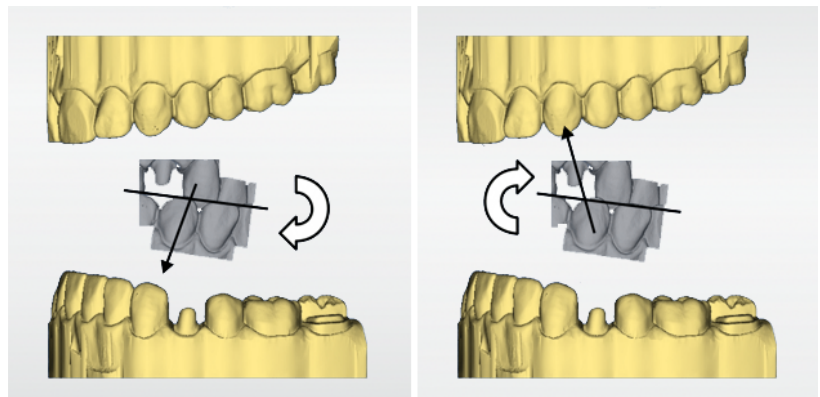
The buccal image is then displayed upside down. When you begin the registration, the software detects this and automatically flips the image right side up.
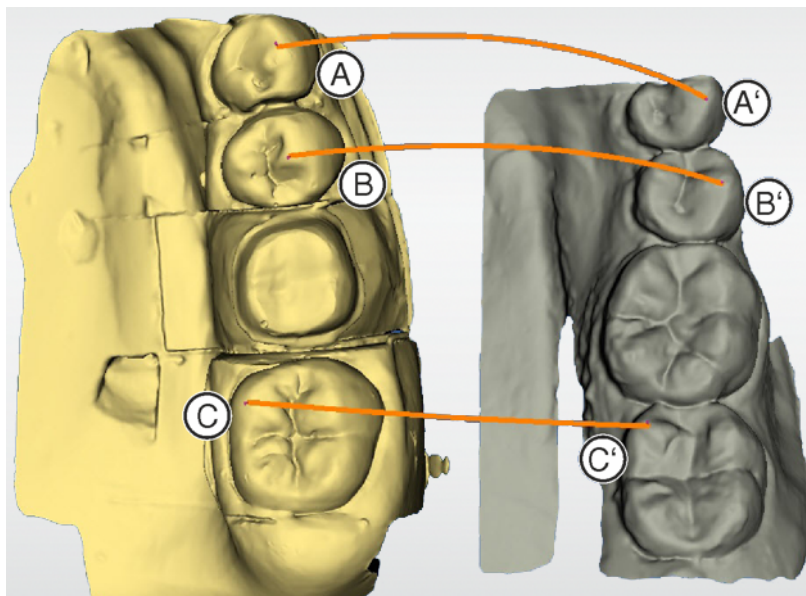
Moving to the next step

✓ The step is completed.

➢ Go to the next step to proceed.

10.3 Manual correlation for image fields

If automatic correlation of the image fields does not occur, you can compose the image fields via manual correlation. To do so, three points must be set by double-clicking on both models.

1. Select the *"Set Points"* tool.

2. Double-click a prominent location (e.g. **A**) in a model to set a point.
3. Then double-click the corresponding location on the other model (e.g. **A'**).
   - ↳ This pair of points is marked by an orange curve.
4. Set reference points B – B' and C – C' as described under items **2 – 3**.
5. Click *"Apply"*.

10.4 Select Scanbody

✓ The step *"Click Scanbody Head"* is active.
➢ Click or tap on the tip of the Scanbody.

10.5 Trimming the preparation

This step is optional. You must click on this step in order to access it.

In the *"Trim Area"* step, you can hide image regions outside of the preparation; e.g. mesial and distal neighbors.

If the virtual model is trimmed in this design step, both the sides and the bottom are subsequently displayed as closed.

In the step *"Trim Area"*, you can work with the following tool:

- *"Trim"*

The use of the tool is described in the "Page palette [→ 43]" section.

Trimming image regions

IMPORTANT
For precision reasons, this function can only be operated by trackball, touchpad, or mouse.

You can trim several image regions.

1. Rotate the model to a perspective in which you can see all areas that you want to trim. The model cannot be rotated while you are drawing the line.
2. Double click in any location to set the starting point of the trim line.
3. Click to set further points of the line, e.g. in the interdental space.
4. Double click in any position to end the line. Ensure that the closing end of the line does not cut any areas of the model that you want to keep.
   ⮑ The smaller image region to the side of the line is hidden.
   Tip: If the wrong image region is hidden, you can switch to the other image region by double-clicking the hidden region.

10.6 Entering the preparation margin

In the step *"Draw Margin"*, you can work with the following tool:

- Margin

The use of the tool is described in the Page palette [→ 43] section.

General information

IMPORTANT
For precision reasons, this function can only be operated by trackball, touchpad, or mouse.

IMPORTANT
You can enlarge or reduce the 3D view during the input or editing of the preparation margin (see "3D Preview") in order to ensure the correct positioning of the preparation margin. Be sure to hold down the left mouse button for a long time. A short click adds a point to the preparation margin.

The preparation margin must always form a closed line.

You can edit the finished preparation margin after entering the last line.

Once the preparation margin is complete and has a tooth number, only the *"Manual"* tool will be available. This can be used for editing.

To enter the preparation margin, a technique can be selected in the page palette:

Entering the preparation margin in the case of clear preparation edges

Tip: You can rotate the model during input in order to obtain a better view of the preparation limit.
Click and hold the left mouse button and move the model with the mouse.

Enter the preparation margin for the next restoration

➢ Continue with the preparation margin for the next restoration by clicking on the desired restoration in the object bar.

10.7 Preparation analysis

This step can optionally be selected after defining the insertion axis.

Here the following analyses are possible:

- Undercuts
- Distance to antagonists

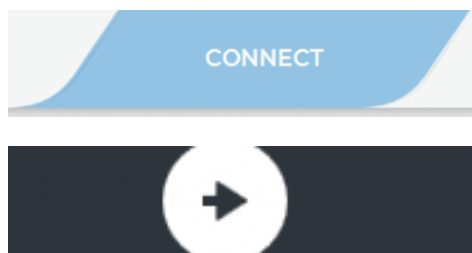## 10.8 Finishing the phase

✓ The next phase can be selected.
1. Proceed to the next phase.

or

➢ Press the Next arrow in the context bar.
   ↳ The program switches over to the next phase.

11 CONNECT phase

In this phase, you can log in to the Connect portal (see "Log in to the portal from the Connect software [→ 94]"). You must register as a dentist on the Connect homepage for this.

You can open this phase by clicking the phase in the phase bar *"CONNECT"* or the Next arrow in context bar.

Model data in the Connect Portal

The user contact data is saved within Connect and is used by Dentsply Sirona to make contact if necessary. The users should send patient data via Connect SW software in anonymized form only wherever possible. Connect SW deletes this data at regular intervals.

11.1 Registration and functions of the Connect portal

1. Go to the Connect homepage and select *"Dentist registration"*.
   - ↳ The application software now guides you through the log-in process.
2. Enter all required information there.
   - ↳ On completing registration successfully, you will receive an e-mail from Connect SW with an activation link.
3. Activate your account by clicking the link in the e-mail.

Under *"My account"* you have the option of amending your user data and saving additional information such as your Skype™ ID.

Under *"My favorite Laboratories"* you can add up to 5 laboratories with which you are able to work via Connect SW. For this, click on *"Search labs"* and enter at least your zip code and an area for the search. Via the *"add"* and *"remove"* buttons you can adapt your favorite laboratories.

Under the *"External portals"* link you have the option of linking the Connect portal with other portals. If you do connect with other portals, the data-protection regulations apply for the other portal that is connected. Depending on the external portal you may need its access data to log on.

You can also change your password in this area and display your Connect order list.

Under the *"User Administration"* link you can create new users, e.g. if there are multiple users working in a practice, and manage their access rights.

11.2 Log in to the portal from the Connect software

1. Enter user name and password.
2. Activate the relevant option if you want to save the user name and password.
3. Press *"Apply"* in the window.

↯   The data are uploaded in parallel to the information being entered in the portal.

11.3 Check restoration information

You can check the restoration information in the first step.

To the left of the overview the restoration information is shown for each restoration that was created in the *"ADMINISTRATION"* phase.

If the data are not correct you have to change them in the *"ADMINISTRATION"* phase. You can leave the portal by clicking the "back" double arrow button.

If the data are correct, you can select *"Enter Order Data"* to move to the next step.

11.4 Entering order data

In this step you can select the lab to which the case is to be sent and enter the desired delivery date.

IMPORTANT
Maximum 5 labs
You can save a maximum of 5 labs in the list of your favorite labs.

You can add labs to or delete labs from the list via *"Add Lab"*.

Under *"Return Date"* you can select the delivery date by clicking on the desired day in the calendar. Under *"Time"* you can also state a delivery time.

You can then click *"Additional instructions of purchaser"* to enter individual order information, which must be entered in addition to the return date.

11.5 Anonymizing patient data

When sending the order, if you wish to hide your first name, surname and date of birth, you can tick *"Anonymize"*. The recipient only receives the *"Patient ID"* and no identifying patient data.

11.6 Add additional information

In this step you must add the patient's gender and insurance type (Germany only).

Under *"Additional Instructions"*, either a wide text field is provided or individual fields for further information are shown, which were created by their laboratory.

Using the *"Additional Files"* function you can send additional files (photos).

You can then go to the *"Add To Cart"* step to move to the shopping cart or click on *"Submit Cart"* to send the order immediately.

11.7 Shopping cart

In the shopping cart you can check the order details, modify them or delete the order from the shopping cart.

As soon as the file has been fully uploaded and all the information is correct, you can send the order to your lab via *"Submit Cart"*. To do so under *"Verification"* you must enter your password and confirm it with *"Ok"*. The order list is then inserted automatically.

11.8 Order list

All sent orders are displayed in the order list. The most recently sent order is always at the top.

You can filter the orders by the various statuses via the filter next to the list.

In order to view the order details you must select the relevant order in the list so that it is highlighted in a color. Then you can view the details by clicking on *"View Order"* in the step menu.

Via the step menu you can call up individual items of information on the highlighted order.

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We reserve the right to make any alterations which may be required due to technical improvements.

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