

New as of:

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CEREC Connect

Operator's Manual
Software version 3.8X

English

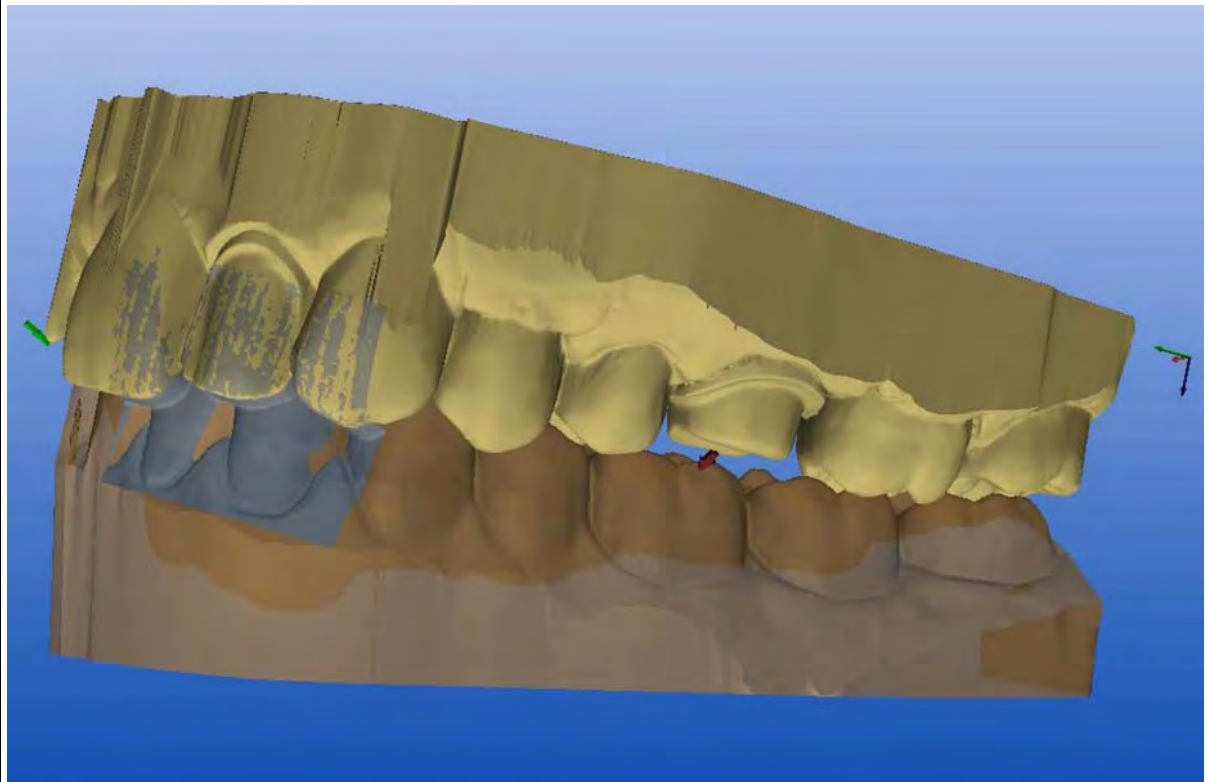


Table of contents

1	Introduction.....	7
1.1	Dear Customer,.....	7
1.2	General information.....	7
1.2.1	Structure of the documents.....	8
1.2.1.1	Identification of danger levels.....	8
1.2.1.2	Formats and symbols used.....	8
1.2.1.3	Conventions.....	9
1.2.1.4	Formats of the manual.....	9
2	Software.....	10
2.1	Installing the software.....	10
2.2	Uninstalling the software.....	11
2.3	Starting the software.....	11
3	User interface.....	12
3.1	Description of the user interface.....	12
3.2	Tool bar.....	13
3.3	View window.....	14
3.3.1	Introduction.....	14
3.3.2	Standard views.....	14
3.3.3	Zoom tool.....	15
3.3.4	Show/hide preparation.....	15
3.3.5	Showing/hiding a buccal image.....	15
3.3.6	Show/hide antagonist.....	15
3.4	Status bar.....	15
3.5	3D viewer.....	16
3.5.1	Scale.....	16
3.5.2	Coordinate system.....	17
3.6	Menu bar.....	17
3.6.1	Restoration menu.....	17
3.6.1.1	Creating a restoration.....	18
3.6.1.2	Loading a restoration.....	18
3.6.1.3	Delete restoration.....	18
3.6.1.4	Saving the restoration under a different name.....	18
3.6.1.5	Exporting a restoration.....	18

3.6.1.6	Importing a restoration	19
3.6.1.7	Managing patient data.....	20
3.6.1.8	Sending a restoration	21
3.6.2	Settings menu	21
3.6.2.1	Options.....	21
3.6.2.2	Calibrating the 3D camera	22
3.6.3	Window menu	23
3.6.3.1	Cursor	23
3.6.3.2	Distance	24
3.6.4	"?" menu.....	24
3.6.4.1	Help (online help).....	24
3.6.4.2	Info about unit	24
4	Optical impression.....	25
4.1	Acquisition of a digital impression	25
4.1.1	General	25
4.1.2	Preparations.....	26
4.1.2.1	Surface.....	26
4.1.2.2	Direction of application.....	27
4.1.2.3	Marking the cervical step	27
4.1.3	Acquisition control.....	28
4.1.4	Single optical impression	29
4.1.5	Supplementary and angled optical impressions.....	31
4.1.6	Optical impressions for quadrant restoration	31
4.1.7	Buccal image.....	32
4.1.8	Acquiring the antagonist.....	32
4.1.9	Acquiring preparations for bridges	33
4.1.10	Full arch acquisition	33
4.1.11	Acquiring an impression.....	36
4.2	Image fields.....	36
4.2.1	Image field of the preparation	37
4.2.2	Image field of the buccal image	37
4.2.3	Image field of the antagonists	37
4.3	3D Preview	38
4.3.1	Opening the 3D Preview	38
4.3.2	Design of the 3D Preview.....	38
4.3.3	3D preview of "buccal image"	39
4.3.4	Symbol for reference optical impression.....	39
4.3.5	Numbering of optical impressions	39

4.3.6	Passive folder.....	40
4.3.7	Copying/moving optical impressions.....	40
4.3.8	Displaying the date/time in the intensity image.....	40
4.3.9	Displaying the height image.....	41
4.3.10	Zoom function in the 3D Preview.....	41
4.3.11	Change view.....	41
4.3.12	Buffer quadrant.....	41
4.3.13	Compose quadrants.....	42
4.3.14	Deleting images.....	42
4.3.15	Opening the recycle bin.....	42
4.3.16	Closing the 3D Preview.....	42
4.3.17	Discarding initial, unsuitable optical impressions.....	43
5	Model calculation.....	45
5.1	Manual Correlation.....	45
5.2	Occlusal contact points.....	48
5.3	Checking the model.....	49
5.4	Trimming the preparation.....	49
5.5	Entering the preparation margin.....	50
5.5.1	General information.....	50
5.5.2	Entering the preparation margin.....	51
5.5.3	Entering a preparation margin with unclear edges.....	52
6	Internet Portal.....	53
6.1	Registration.....	53
6.1.1	Registering via the website.....	53
6.1.2	Registering via the CEREC Connect software.....	54
6.2	Connecting to the CEREC Connect portal.....	54
6.3	CEREC Connect portal.....	55
6.3.1	Introduction.....	55
6.3.2	"Restoration data" tab.....	55
6.3.3	"Laboratory" tab.....	56
6.3.4	"More information" tab.....	56
6.3.5	"Your order" page.....	56
6.3.6	"Shopping cart" tab.....	57
6.4	Quadrant restoration with CEREC Connect software.....	57
6.4.1	Introduction.....	57
6.4.2	Optical impression.....	58

6.4.3	Manual Correlation.....	58
6.4.4	Checking the model	59
6.4.5	Trimming and drawing preparation margins.....	60
6.4.6	Entering data in the CEREC Connect Portal.....	60
6.5	Ordering restorations	61
6.6	Administration	62
7	Importing CEREC Connect files into the CEREC 3D software	63
	Index.....	64

1 Introduction

1.1 Dear Customer,

Thank you for purchasing your CEREC Connect software from Sirona.

You can use the CEREC Connect software in combination with the CEREC Connect Internet Portal and CEREC Connectto create digital impressions and to send them to your partner laboratory via the portal. Any type of restoration can be manufactured from your impressions there.

Your laboratory can then decide whether to produce the restorations directly from our digital impression or, if necessary, whether to order a physical model from infiniDent to perform the work. Models are always required when you order a veneer crown or a veneer bridge from your laboratory (e.g. made of zirconia or VMK etc.).

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

Improper use and handling can create hazards and cause damage. Please read and follow these operating instructions carefully and always keep them within easy reach.

To prevent personal injury or material damage it is important to observe all safety information.

To safeguard your warranty claims, please complete the attached **Installation Report / Warranty Passport** when the system is handed over and send it to the indicated fax number.

Your
CEREC Connect Team

1.2 General information

CAUTION

Be sure to observe all warnings!

Please observe the warning and safety information provided to prevent personal injury and material damage. Any such information is highlighted by a signal word, i.e. DANGER, WARNING, CAUTION or NOTICE.

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

Original language of the present document: German.

1.2.1 Structure of the documents

1.2.1.1 Identification of danger levels

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

DANGER

In the event of imminent danger, which results in severe injuries or even death.

WARNING

In the event of a potentially dangerous situation, which could result in severe injuries or even death.

CAUTION

In the event of a potentially dangerous situation, which could result in minor personal injuries.

NOTICE

In the event of a potentially harmful situation, which could lead to damage of the product or an object in its environment.

NOTE: Application information and other useful information

Tip: Work simplification information

1.2.1.2 Formats and symbols used

The symbols and character formats used in the present manual have the following meaning:

<ul style="list-style-type: none"> ✓ Prerequisite 1. First action step CAUTION! Action step warning 2. Second action step or ➤ Alternative action ↵ Result 	Requests you to do something.
see "Formats and symbols used"	Identifies a reference to another text passage and specifies its page number.
• List	Identifies a list.
"Command/menu item"	Identifies commands, menu items or quotations.

1.2.1.3 Conventions

Example	Meaning
Clicking	Pressing once and releasing the left mouse button or the left trackball button on the acquisition unit (or foot switch).
Double-clicking	Pressing twice quickly in succession and releasing the left mouse button or the left trackball button on the acquisition unit (or foot switch).
Moving the mouse in one direction	On the acquisition unit: Moving the trackball in the corresponding direction.
Seizing a point	Pressing the left mouse button (left trackball button on the acquisition unit) and keeping it pressed.
For impressions acquired with 3D camera: Actuate foot switch	The same function as: Pressing the left trackball button on the acquisition unit or the left mouse button.
" <i>Ctrl+N</i> "	On the keyboard: Press the Ctrl and N keys simultaneously.

1.2.1.4 Formats of the manual

The Operator's Manual is available on the supplied program DVD in html format. This format is screen-oriented and is well suited for finding terms, e.g. in the index or table of contents.

You can call up this manual via the online help function.

The Operator's Manual is available on the supplied program DVD in pdf format.

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

2 Software

2.1 Installing the software

NOTICE

Installation only with administrator rights

You must have administrator rights on the PC on which you want to install the software!

Installation procedure

- ✓ The PC is powered up and all programs are terminated.
- 1. Insert the DVD in the CD/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.
- 3. Select the language of the installation and click the button marked *"OK"*.
 - ↳ The installation wizard opens.
- 4. Click the *"Next"* button.
 - ↳ The license agreement is shown.
- 5. Accept the license agreement with the *"Yes"* button.
 - ↳ The program continues the installation routine.

Selecting the standard installation

- 1. Click the button marked *"Standard Installation"*.

NOTICE

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.

- 2. To complete the installation, you can register to receive current information on software updates and/or have the *"ReadMe"* file displayed. This file contains the latest information on the software. Select or deselect the corresponding checkbox.
- 3. Click the button marked *"Finish"*.
- 4. Decide whether the computer should be restarted now or later and click the button marked *"Finish"*.

2.2 Uninstalling the software

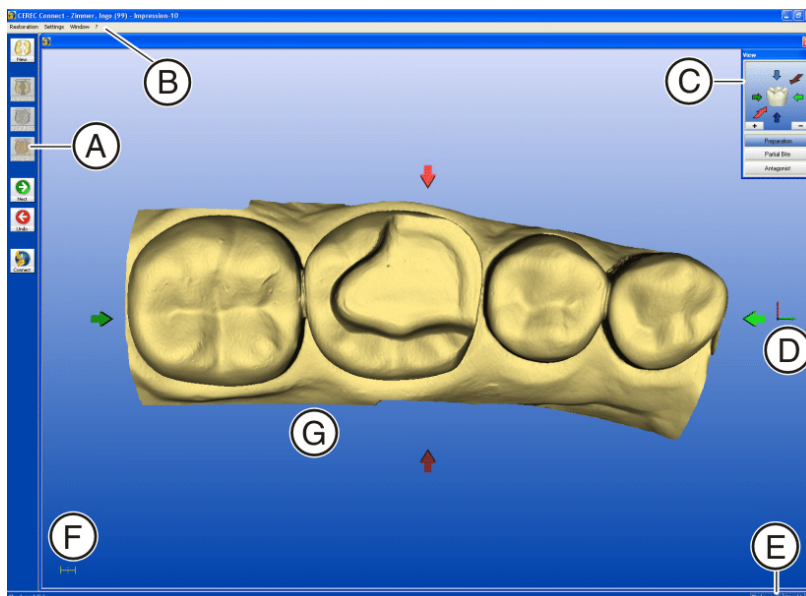
- ✓ The program is closed.
- 1. Click *"Start" / "Programs" / "CEREC Connect" / "Deinstallation"* to uninstall the software.
 - ↳ During the uninstall procedure, you will be asked whether you want to delete the patient data or the entries in the registration database (e.g. the calibration data).
- 2. According to how you decide, click the button marked *"Yes"* or *"No"*.
 - ↳ The software is uninstalled.

2.3 Starting the software

- ✓ The CEREC Connect software is installed. The CEREC Connect button is located on the desktop.
- Start the CEREC Connect software by double-clicking the CEREC Connect button.
 - or
 - Click *"Start" / "Programs" / "CEREC Connect" / "CEREC Connect"*.

3 User interface

3.1 Description of the user interface



User interface

CEREC Connect features a menu-controlled user interface for scanning preparations.

The screen displays guide you through the work steps and give you a continuous overview of the program steps currently being performed.

The main menu consists of:

- A: Tool bar
- B: Menu bar
- C: View window
- D: Coordinate system,
- E: Status bar
- F: Scale (1 mm)
- G: View window (3D viewer)

You can show or hide the following windows/bars:

- View
- Tool bar
- Status bar

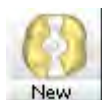
3.2 Tool bar

You can show or hide the tool bar via the *"Window"/"Tool bar"* menu item.

Unavailable functions (e.g. Partial Bite) appear dimmed.

If you place the mouse pointer on an active button, e.g. Connect, it will be displayed orange.

Description of the buttons



New

- Take new optical impression



Preparation

- Acquire prepared tooth (preparation)



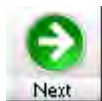
Buccal

- Acquire a buccal optical impression



Antagonist

- Acquire antagonist



Next

- Go to model view (Next)



Undo

- Return to acquisition (Undo)



Connect

- Export optical impression

You can drag the tool bar with the mouse and drop it anywhere on the screen. It can be docked at the left, right, top or bottom edge of the screen, as is customary with Windows programs. Using *"Window"/"Reset" ("Ctrl+R")*, it can be returned to its default position (on the left edge of the screen).

3.3 View window

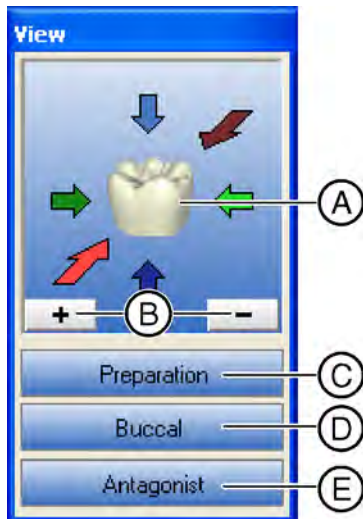
3.3.1 Introduction

You can display or hide this window via the menu item *"Window"/"View"*.

Inactive windows appear dimmed.

You can drag the window with the mouse by grabbing its title bar and drop it at any position on the screen. Via *"Window"/"Reset"* (*"Ctrl+R"*) it can be restored to the position it had on delivery (right edge of screen).

- A: Standard views
- B: Zoom tool
- C: Show/hide preparation
- D: Showing/hiding a buccal image
- E: Show/hide antagonist



3.3.2 Standard views

The models in the View window can be displayed in six predefined views by clicking the corresponding arrows:

- mesial
- distal
- buccal/labial
- lingual
- cervical
- occlusal/incisal

When you point to one of these arrows with the mouse cursor, the direction of the view is indicated.

Click on the arrow to turn the object into this view.

The light green, dark green, light red and dark red directional arrows feature two display options:

Single-click	Double-click
Oblique top view	90° view

If you have changed the display of the objects with the zoom tool, you can reset your changes by clicking on the tooth in the View window.



3.3.3 Zoom tool

The models displayed in the View window can be zoomed in and out as follows:

- step by step, by repeatedly clicking the "+" sign (zoom in) or the "-" sign (zoom out)
- continuously, by pressing and holding down the "+" sign (zoom in) or the "-" sign (zoom out)

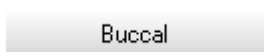
3.3.4 Show/hide preparation

You can show or hide the model of the preparation with this button.



3.3.5 Showing/hiding a buccal image

The buccal image can be shown and hidden by clicking this button.



3.3.6 Show/hide antagonist

If a model of the antagonist exists, you can show or hide it by clicking this button.

If *"Antagonist"* is activated, the model of the central bite registration appears above the optical impression.



3.4 Status bar



Status bar

NOTICE

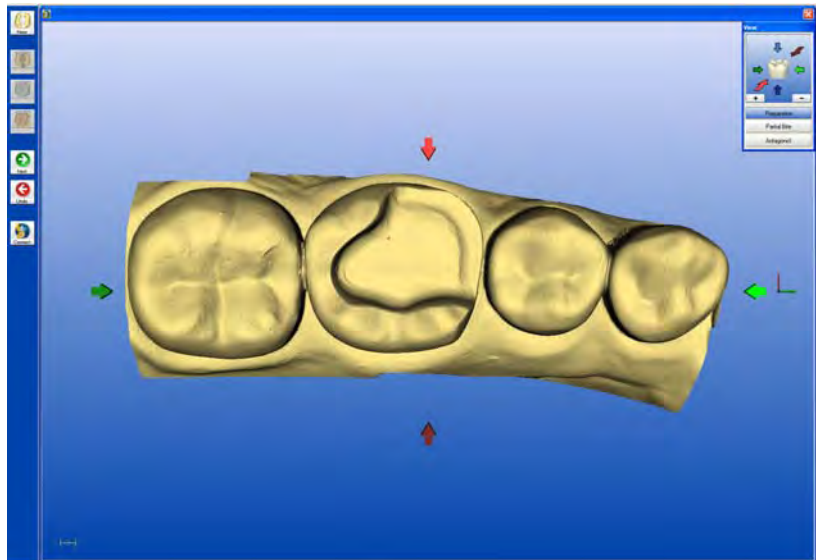
Showing the status bar

The status bar can be shown or hidden via the *"Window"* *"Status bar"* menu item.

The status bar provides current information about:

- A: the work steps to be performed, displayed at the bottom right in the status bar.
- B: the height of the model at the location of the mouse pointer, displayed at the bottom right in the status bar.

3.5 3D viewer



3D viewer

The program contains a main window (3D viewer) for visualizing a model in 3D.

Once all optical impressions have been acquired, you can open the 3D viewer by clicking the "Next" button. The time until the viewer is displayed depends on the number of optical impressions and the number of single optical impressions.

You can do the following in the 3D viewer:

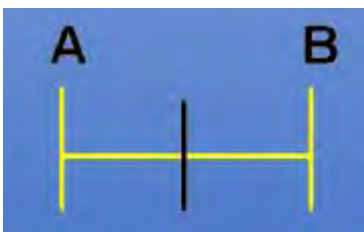
- view the models of the preparation, the buccal scan, and the antagonist either individually or in any combination,
- rotate the models in any direction.

To do so, press and hold down the left mouse button and move the mouse in the desired direction.

For enhanced orientation, the directional arrows are displayed as in the "View" window.

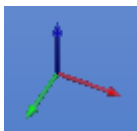
The models are displayed centered. Click and hold the right mouse button to change the position of the models.

3.5.1 Scale



The scale is displayed in the bottom left corner of the 3D viewer. The distance between A and B corresponds to 1 mm.

If the display of the model is zoomed in or out, the display of the scale changes accordingly.



3.5.2 Coordinate system

The coordinate system shows the orientation of the model on the screen.

3.6 Menu bar

The menu bar at the top of the window allows you to select further program functions which cannot be accessed via the tool bars.

The following menus are available:

- *"Restoration"*
- *"Settings"*
- *"Window"*
- *"?"*

NOTICE

Alternatives to the menu bar

Some menu functions can also be activated using the shortcut keys specified in the menu item or the corresponding icons on the tool bar.

3.6.1 Restoration menu

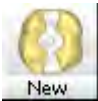
Use the menu to...



- open a window for a new optical impression
"Restoration" | "New..." or "Ctrl+N"
- load an existing optical impression
"Restoration" | "Load..." or "Ctrl+O"
- delete a restoration
"Restoration" | "Delete..."
- save an optical impression
"Restoration" | "Save..." or "Ctrl+S"
- save a restoration under another name or assign it to another patient
"Restoration" | "Save as..."
- export an optical impression
"Restoration" | "Export..."
- import an optical impression
"Restoration" | "Import..."
- Edit patient data for an optical impression
"Restoration" | "Administer patient data..."
- send restoration data by e-mail
"Restoration" | "Send to..."

- open a previous optical impression or
- quit the application with
"Restoration" | "Exit"

3.6.1.1 Creating a restoration



- Wählen Sie *"Restoration" | "New"...* oder klicken Sie das Symbol *"New"* an.

3.6.1.2 Loading a restoration

- Select *"Restoration" | "Load..."*.
- ↳ The *"Load restoration"* dialog box opens.

NOTICE

Rotating a 3D preview

The 3D preview can be rotated with the mouse and viewed from all sides (control the same as for rotating the model in the 3D viewer).

3.6.1.3 Delete restoration

1. Select *"Restoration" | "Delete..."*.
 - ↳ The *"Delete restoration"* dialog box opens.
2. Select the optical impression you wish to delete.
3. Click the *"Delete"* button.
 - ↳ You will be asked if you wish to delete the file.
4. Confirm by clicking the button marked *"Yes"*.
 - ↳ The optical impression is deleted.

NOTICE

Rotating a 3D preview

The 3D preview can be rotated with the mouse and viewed from all sides (controls are the same as for rotating the model in the 3D viewer).

3.6.1.4 Saving the restoration under a different name

This dialog lets you save the current restoration under a new name or assign it to a different patient.

1. Select *"Restoration" | "Save as..."*.
 - ↳ The *"Save as..."* dialog box opens.
2. Enter a name for the optical impression.
3. Select the appropriate patient.
4. Click the *"OK"* button.

3.6.1.5 Exporting a restoration

You can send an optical impression in compressed form via the Internet or save it at any location.

- ✓ You have opened an optical impression.

✓ In the *"Settings"/"Options"* configuration dialog, the item *"Open internet portal"* is deselected.

1. Select *"Restoration"/"Export..."*.
 - ↳ A standard Windows file dialog box opens.
2. Select the target folder to which you want to export the optical impression.
3. Assign any name to the optical impression.
4. Click 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.

If the file is to be reloaded in CEREC Connect software, the 'Restoration.cdt' file from the patient folder must be saved to the USB stick. You will find this file under the following path:

C:\Programme\CEREC\DATA...

NOTICE

"Transfer" USB stick

If your USB stick is designated "Transfer" it will automatically be offered as the default export path.

NOTICE

Option *"Open internet portal"*

If the item *"Open internet portal"* is selected in the *"Options"* configuration dialog, the Internet Portal will open following a password query.

3.6.1.6 Importing a restoration

✓ An existing optical impression is located on your acquisition unit.

1. Select *"Restoration"/"Import..."*.
 - ↳ A standard Windows file dialog box opens.
2. Select the folder where the optical impression is located.
3. Select the relevant file.

NOTICE

File types

If the selected file (*.cdt) is an optical impression, it will be opened. If not, it will not open, and an error message will be displayed.

4. Click the *"Open"* button.
 - ↳ A dialog box opens.
5. Assign a name to the optical impression.
6. Click the *"OK"* button.
 - ↳ The optical impression is imported and opened.

Under the preview window the tooth number, the restoration type and the design technique of the selected restoration file are shown.

The thumbnail view additionally shows a preview of the preparation impression in the folder list.

3.6.1.7 Managing patient data

➤ Select *"Restoration"* *"Administer patient data..."*.

↳ The *"Administer patient data..."* dialog box opens.

The *"Administer patient data..."* dialog box primarily contains a list of all patients.

First name, last name, scan date and reference number are displayed.

You can sort the entries by clicking the column header.

With the help of the *"Search"* text box, you can make the list more clear and concise by entering a last name, first name or initial letter.

Example

If you enter the letter "c" in the *"Search"* text box, a list of all patients whose last name, first name or card index number contains the letter "c" is displayed.

3.6.1.7.1 Creating a new patient

1. Click the *"New"* button.

↳ A dialog box is displayed.

2. Enter *"Name"*, *"First name"*, *"Scan date"*¹ or *"Reference number"*.

NOTICE

Inserting an image

Using the *"Image"* button, you can assign an image (photo) to each patient.

3. Click the *"OK"* button.

↳ The patient is saved in the patient list.

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

- *"Name"*, *"First name"* and *"Scan date"*

or

- *"Reference number"*.

1. The scan date must be entered according to the syntax selected in the regional setting of Windows: in the format DD.MM.YYYY (e.g.: 27.03.1964) or MM/DD/YYYY (e.g.: 03/27/1964).

3.6.1.7.2 Editing patient data

1. Click the *"Edit"* button.
 - ↳ A dialog box is displayed.
2. Edit *"Name"*, *"First name"*, *"Scan date"* or *"Reference number"*.
3. Click the *"OK"* button.
 - ↳ The changes are stored in the patient list.

3.6.1.7.3 Deleting patient data

1. Click the *"Delete"* button.
2. Click the *"OK"* button.

NOTICE

Assigned restorations

If any CEREC or video images are still assigned to a patient, a warning allowing you to cancel the delete operation will appear.

In case of confirmation, these images will be deleted.

3.6.1.8 Sending a restoration

If an Internet e-mail connection is configured on your PC, you can send data via e-mail.

3.6.2 Settings menu

With the *"Settings"* menu, you can adapt and change the following menu items:

- *"Options"*
- *"3D camera calibration"*

3.6.2.1 Options

In the *"Options"* configuration dialog, you can select or deselect general settings:

- *"Show all warnings and messages"*
- *"Open internet portal"* (for CEREC AC and CEREC AC PAYG only)
- *"Trim preparation step active"*
- *"Auto confirm model"* (for CEREC AC PAYG only)
- *"Hide dockbar"*
- *"Delete rejected images automatically"*
- *"Automatic capture"*

Show all warnings and messages

If you have hidden individual warnings (checkmark removed), they can be displayed again by placing a checkmark in front of *"Show all warnings and messages"*.

Open internet portal

If a check mark is set in front of *"Open internet portal"*, the Internet portal is opened when a restoration is exported. This option is available only on a CEREC AC and CEREC AC PAYG.

Trim preparation step active

If a check mark is placed in front of *"Trim preparation step active"*, the preparation margin can be trimmed before drawing in the preparation. The parts of the model not displayed are not lost, but only hidden.

Auto confirm model (for CEREC AC PAYG only)

If a check mark is set in front of *"Auto confirm model"*, no separate query will be made prior to confirmation of the model.

Hide dockbar

If a check mark is set in front of *"Hide dockbar"*, the docking bar is not displayed in the *"Preparation"*, *"Buccal scan"* and *"Antagonist"* 3D Preview windows.

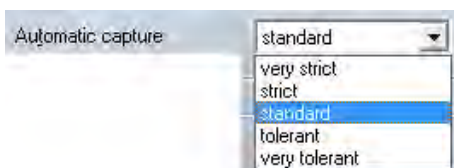
Delete rejected images automatically

If a check mark is placed in front of *"Delete rejected images automatically"*, exposures that cannot be reconstructed in the 3D preview (red cross) will then immediately be deleted to the recycle bin.

Automatic capture

For impressions acquired with the CEREC Bluecam, you can use the *"Automatic capture"* option to set the sensitivity to shaking of the automatic acquisition technique. The setting options are available:

- *"very strict"*
- *"strict"*
- *"standard"*
- *"tolerant"*
- *"very tolerant"*



3.6.2.2 Calibrating the 3D camera

Under the *"3D camera calibration"* menu item, you can

- calibrate the *"3D camera"*

NOTICE

Calibrating the 3D camera

The *"3D calibration set"* is required for calibrating the 3D camera.
The *"3D calibration set"* must not be powdered.

3.6.3 Window menu

Using the menu *"Window"*, you can change the arrangement of the various viewing windows on the screen and refresh the screen display.

You can restore the default setting for the display of the windows/tool bar on the screen:

"Window" / "Reset" or "Ctrl+R"

The following views and windows are available for assessment and editing purposes:

- *"Image catalog"*
- *"3D Preview"*
- *"Cursor"*
- *"Distance"*
- *"View"-Window*
- *"Tool bar"*
- *"Status bar"*

NOTICE

Displayed windows

Displayed windows/bars are identified by a check mark in front of the menu item.

3.6.3.1 Cursor



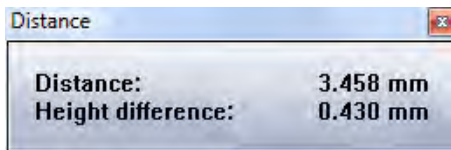
In the *"Cursor"* window, the current position of the cursor (arrow tip) in the active window is displayed as an absolute value. The zero point of the absolute cursor position is located in the distal and the lingual (or buccal) direction from the model.

The first line shows the x, y value at the cursor position.

The second line shows the height value at the cursor position.

You can drag the *"Cursor"* window with the mouse by grabbing its title bar and drop it at any position on the screen.

3.6.3.2 Distance



If you select the function *"Window" "Distance"*, the *"Distance"* window is displayed.

✓ The *"Distance"* window opens.

1. Left-click to set the desired starting point of the distance to be measured.
2. Move the mouse to the desired end point.
3. Left-click to set the end point.

Changing the position of the blue line:

1. Drag the red pin at the end of the blue line with the left mouse button pressed.
2. Release it anywhere you want.

The first line shows the 3-dimensional distance between the starting and end points of the blue line.

The second line shows the height difference between the starting and end points of the blue line.

You can drag the Distance window with the mouse by grabbing its title bar and drop it at any position on the screen.

3.6.4 "?" menu

Using the *"?"* menu you can

- start the Help function (online help)
"?" "Help" or function key *"F1"*
- Activate the *"Text prompts"* menu item.
If the menu item *"Text prompts"* is activated, the next work step is described in a balloon in the status bar.
- call up information about the current program version
"?" Info about CEREC Connect

3.6.4.1 Help (online help)

The online help function gives you instructions on the steps to be performed.

To start help, call up the menu item *"?" "Help"* or *"F1"*.

A dialog box appears that contains a variety of help topics you can select and have displayed.

3.6.4.2 Info about unit

In the *"Info about CEREC Connect"* window, you can obtain information on the current program version.

If you have installed an internet access, you can access our internet website directly by clicking the *"Homepage"* link.

4 Optical impression

NOTICE

Exposures with the CEREC Connect software

At this time, it is not possible to order a model from a dental technician for the purpose of manufacturing restorations using data from CEREC 3D software. Whenever a model is required, the exposures must be made with the CEREC Connect software.

4.1 Acquisition of a digital impression

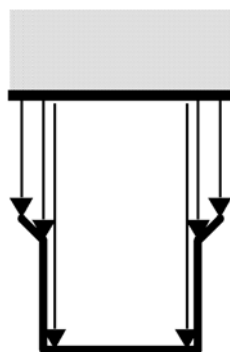
CEREC Connect enables optical impressions of either partial or whole jaws. In particular, the new software supports whole jaw scans with the "Quadrant imaging" [→ 33] function.

4.1.1 General

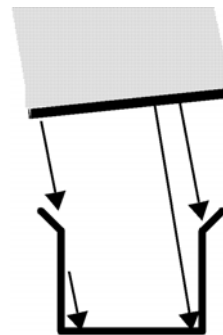
Aligning the Bluecam

The direction of acquisition must coincide with the insertion axis of the preparation prepared by the dentist.

If the Bluecam is held at an oblique angle to the prepared insertion axis, the wall closer to the lens will be registered with an undercut; the wall further away from the lens will be fully displayed, thus causing the occlusal margin angle to be presented unfavorably there and obstructing the automatic margin detection.



right

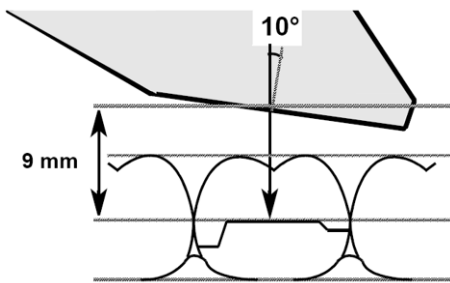


wrong

Depth of focus and focusing

The telecentric optics, which cause objects to be displayed with a constant size regardless of how far away from the prism they are, have a depth of focus which is sufficient to capture deep preparations.

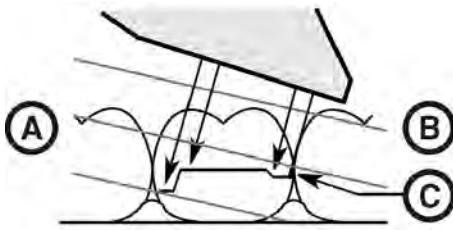
The image definition is determined by the distance between the Bluecam and the preparation.



- **Check the monitor** to determine whether the cervical steps and the occlusal margins are simultaneously displayed with sufficient definition. The center of focus should be aimed at the vertical center of the preparation, e.g. at the occlusal base.

Angle of incidence/steepness

If the angle of incidence of the Bluecam is too large, the mesial cervical step moves outside of the focal depth range of the Bluecam as shown in the illustration. Distally, the cervical step is concealed by the distal neighbors with the excessively steep angle shown here. This leads to an inadequate "optical impression".



4.1.2 Preparations

4.1.2.1 Surface

The surface of the preparation is captured with an especially fast and precisely functioning optical measuring technique. This measuring technique requires a non-glare, diffusely reflecting surface. The surface must be covered with a thin, opaque coating in order to obtain even light dispersion, exclude blinding effects and obtain clear surface definition. This is the precondition for a high-contrast image and good optical acquisition.

NOTICE

Thin and even coating

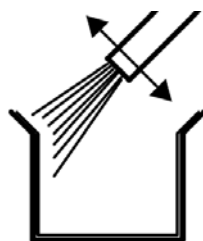
Please try to deposit as thin and even a coating as possible on all surfaces, especially in the edge and marginal regions.

NOTICE

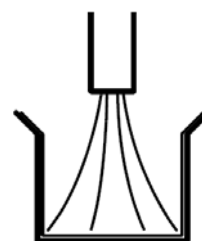
The extraoral 3D image acquisition of a model may be adversely affected by bright light.

Set the model up so that it is not located directly in the beam path of an extreme light source and not exposed to direct sunlight.

4.1.2.2 Direction of application



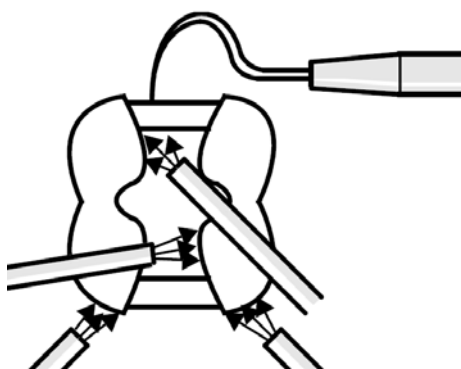
right



wrong

It is essential that the material is applied perfectly, especially in the edge and marginal areas. It is therefore advisable to aim the cannula directly at all edge and marginal areas. Spraying directly onto the base may result in an excessively thick layer, which in turn can result in fitting inaccuracy.

4.1.2.3 Marking the cervical step



The cervical and lateral edges are coated from the proximal direction.

If the cervical step is located at the same height as the edge of the gingiva, the spray may cover the borderline between these two structures.

This boundary can be marked again by running a fine probe along the step or laterally pulling a rubber cofferdam.

Before you start spraying, you can loosely insert dental floss and then carefully remove it again.

NOTICE

Avoid applying too much or not enough coating. We recommend blowing the object clean with compressed air after spraying.

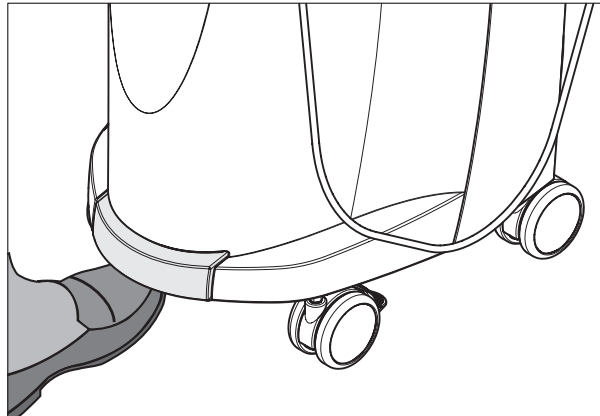
4.1.3 Acquisition control

The acquisition control of the Bluecam functions as follows:

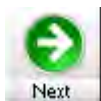
Manual acquisition control

✓ A window is opened for a new patient case.

1. Position the cursor on the acquisition icon (e.g. *"Acquire preparation"*).

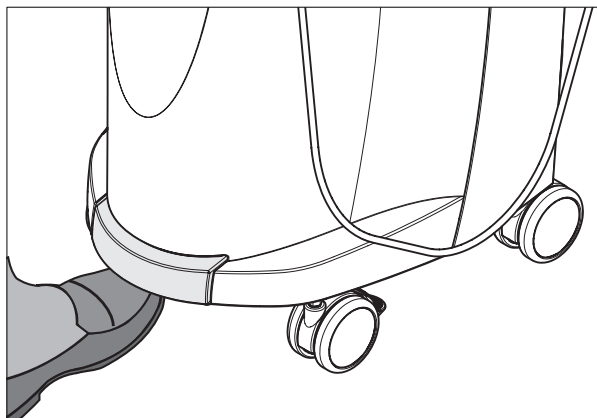


2. Press the **foot control upward** and **keep it pressed**.
 - ↳ A live video image appears with a green cross.
3. Release the foot control.
 - ↳ The optical impression is automatically transferred to the 3D preview (e.g. the Preparation image field).
4. Additional optical impressions can be captured by repeating steps 1 to 3.
5. By positioning the cursor on another acquisition icon (e.g. *"Buccal scan"* or *"Acquire antagonist"*) and repeating steps 2 to 4, additional optical impressions can be acquired in the models of the buccal scan or the antagonist.
6. To exit the acquisition process, click the icon marked *"Next"*.

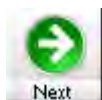


Automatic acquisition control

- ✓ A window is opened for a new patient case.
- 1. Click with the cursor on the preparation icon.
Alternatively, you also can move the cursor onto the preparation icon and briefly press the foot switch upward.



- 2. Press the foot control upward **briefly**.
 - ↳ As soon as a sharp optical impression can be captured, images are automatically generated and transferred to the 3D preview.
- 3. Click on the preparation icon to end the acquisition process.
Alternatively, you also can **briefly** push the foot switch upward.
- 4. By positioning the cursor on another acquisition icon (e.g. "*Buccal scan*" or "*Acquire antagonist*") and repeating steps 2 to 4, additional optical impressions can be acquired in the models of the buccal scan or the antagonist.
- 5. To exit the acquisition process, click the icon marked "*Next*".



Changing from automatic to manual acquisition control

If you press the **foot control upward** and **keep it pressed** during an automatic exposure, this changes the program back to manual acquisition control.

4.1.4 Single optical impression

Reference optical impression

As a rule, a single optical impression is sufficient for single tooth restorations. It must be taken in the occlusal direction (insertion axis) and is called reference optical impression.

As soon as you have selected a tooth and a design technique, the "*Acquire preparation*" icon is activated in the tool bar. The cursor then jumps to this icon.



⚠ CAUTION

Using the Bluecam

For intra-oral impressions, always use the camera support.

The Bluecam is a high-precision optoelectronic instrument which requires careful handling. Incorrect handling (impacts, dropping) leads to failure of the Bluecam.

Do not support the camera head (prism) on a tooth.

Camera support

Using the camera support helps ensure that the scans are not blurred. The camera support prevents damage to the prism and contact with the prepared tooth.

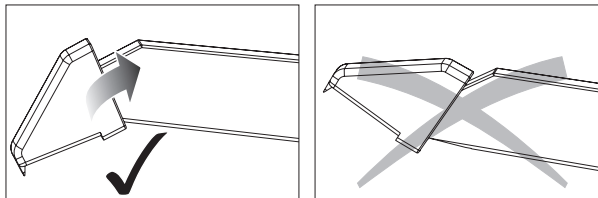
⚠ CAUTION

Using the camera support

Clean the camera support by wiping or spraying it with disinfectant prior to use. Designed for one-time use only.

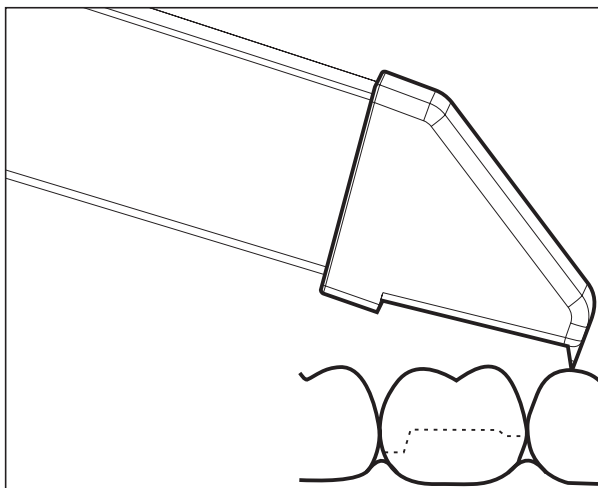
Preparing an optical impression

1. Push the camera support onto the camera as illustrated.



Pushing on the camera support

2. Position the camera over the powdered preparation.



Supporting the 3D camera

3. Support the camera with the front part of the camera support on a tooth so that you can hold it quietly during the acquisition phase.

NOTICE

Powder on the surface of the prism

If the prism touches powdered surfaces, then powder usually remains on the prism surface and generates dark spots in the image.

The powder can be wiped off from the prism with a soft cloth.

Taking the scan

- Take the scan as described under "Acquisition control".

Concluding the optical impression

- To exit the acquisition mode, click the icon marked "Next".



4.1.5 Supplementary and angled optical impressions

NOTICE

Insertion axis

The reference optical impression determines the original insertion axis which can be modified later if required (see "Redefining the insertion axis").

Supplementary optical impressions and additional angled optical impressions

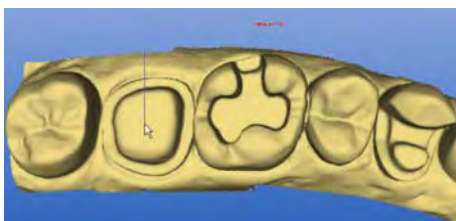
Apart from the reference optical impression, additional supplementary optical impressions and additional angled optical impressions are possible.

4.1.6 Optical impressions for quadrant restoration

NOTICE

Insertion axis

The reference optical impression determines the original insertion axis which can be modified later if required (see "Redefining the insertion axis").



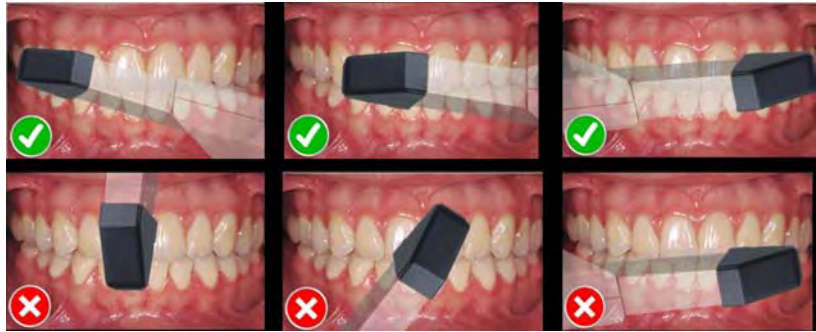
For quadrant restoration it is recommended to acquire the prepared teeth as well as an unprepared neighboring tooth in each case. It can be covered by capturing several supplementary optical impressions.

Make sure there is always dental substance visible in the overlap area of the acquisitions.

4.1.7 Buccal image

The interocclusal relationship between the two acquired arch halves is established via the buccal registration with the patient's jaws closed.

1. Ask the patient to bite down (centric bite).
2. Acquire a buccal image of the closed jaws (see Single optical impression [→ 29]). Alignment of the camera for the buccal image must be performed as follows:



NOTICE

Image field of buccal image

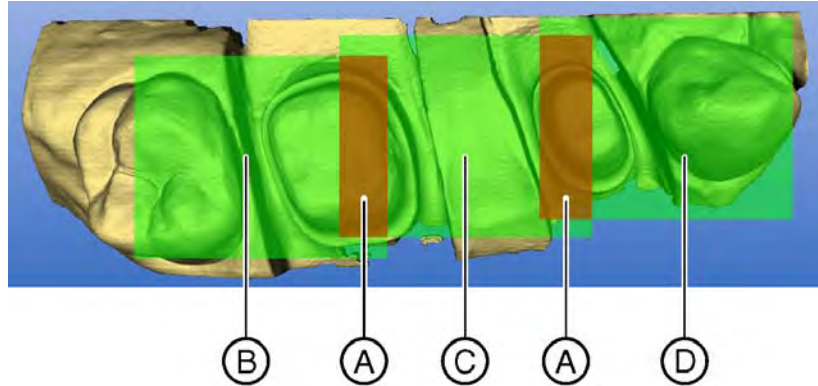
The area of the buccal images must also be acquired in the image catalog of the preparation and in the image catalog of the antagonist.

4.1.8 Acquiring the antagonist

To acquire the antagonist, proceed in the same way as for the Preparation. There must not be any identical image areas mesially or distally.

To exit the exposure process, click the button marked "Next".

4.1.9 Acquiring preparations for bridges



A	Overlap area	C	2. optical impression
B	1. optical impression	D	3. optical impression

To produce bridge frameworks of up to 3 elements, you can acquire the tooth situation with the CEREC Bluecam. Make sure there is always dental substance visible in the overlap area of the acquisitions (areas **A**). Start by taking the 1st scan on the distal end. Then guide the camera over the preparation in the mesial direction.

4.1.10 Full arch acquisition

This description explains the workflow for preparing full arch acquisition using the CEREC Connect software.

A certain procedure must be followed, especially when acquiring the anterior tooth region.

"Quadrant imaging" workflow

Taking images for a full arch with this software is done via separate acquisition of quadrant 1 and quadrant 2. The following example illustrates the workflow:

1. Open the CEREC Connect software, click the "New" icon and create a new case.
2. Begin on the distal side of quadrant 1 and guide the camera over the teeth in a mesial direction until you have reached the opposite canine tooth.



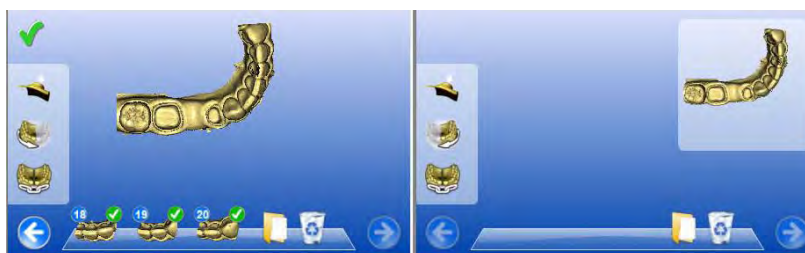
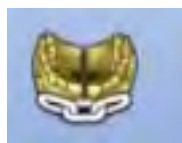
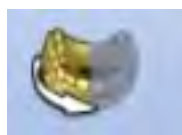
NOTICE

Overlap area

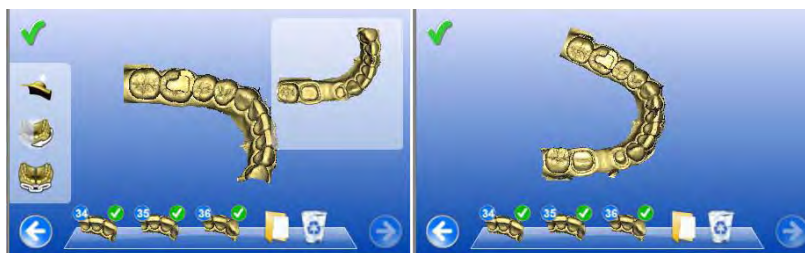
It must be ensured that as large an overlap area as possible exists in the front tooth region in both quadrants so that the software can calculate both quadrants together.

In this example, tooth 31, 32, 33, 41, 42 and 43 (US: 22, 23, 24, 25, 26, 27) are acquired in both quadrants.

3. Then move the cursor to the left edge of the 3D Preview.
 - ↳ A field with three buttons automatically moves in.



4. Click the middle icon (buffer quadrant).
 - ↳ The 3D model of the first quadrant is displayed in a white rectangle in the upper right corner of the 3D Preview. The dock bar is now empty again and the software is ready for acquisition of the second quadrant.
5. Click the "Preparation" icon in the left tool bar to start acquisition for the second quadrant. Begin on the distal side again and guide the camera over the teeth in a mesial direction until you have reached the opposite canine tooth.
6. Then move the cursor to the left edge of the 3D Preview once again.
 - ↳ A field with three buttons automatically moves in.

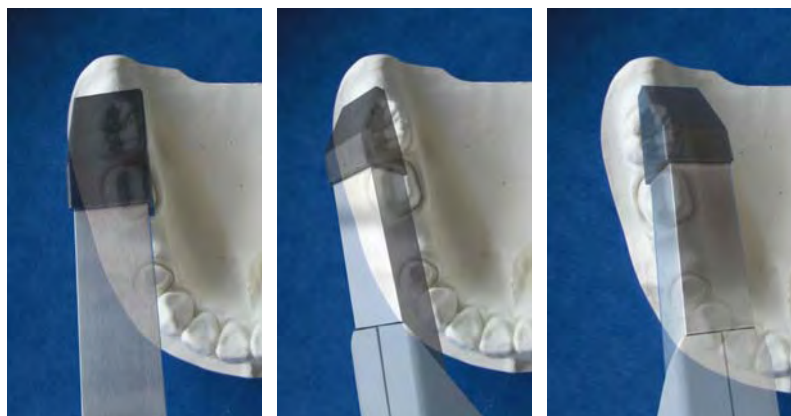


7. Click the lower icon (calculate quadrant together).
 - ↳ The software now correlates the two quadrant models together to form a full arch.
In cases where the software cannot correlate the quadrant models (e.g. due to an insufficient overlap area) an error message is displayed. In such cases, you must acquire additional images for the second quadrant in order to generate a sufficiently large overlap area.

This function can be used for any optical impression - not only for full arch impressions. It is important, however, that the overlap area between the first part and the second part of the images is large enough so that the software can calculate or reconstruct both parts together.

Order of acquisition

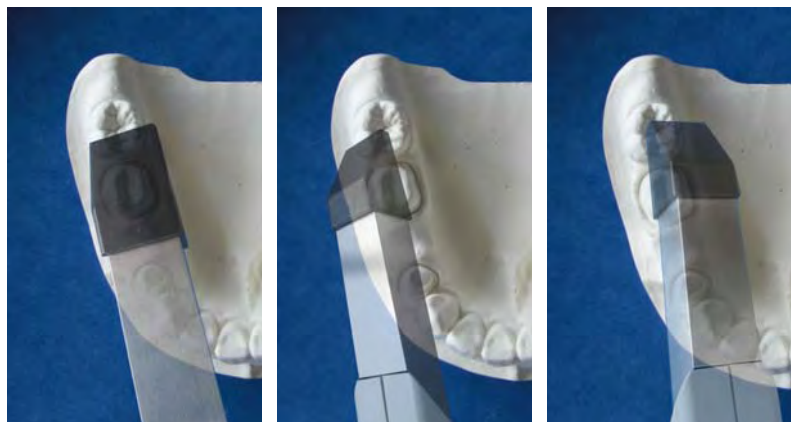
In order to enable the reconstruction of detail scans, a specific order of acquisition must be observed. Crooked scans (e.g. used to capture undercuts, for crowns or in the region of the contact point) cannot be subsequently added at just any point of time. They should be included in the scan sequence immediately. Detail scans can be reconstructed retroactively for up to max. two images.



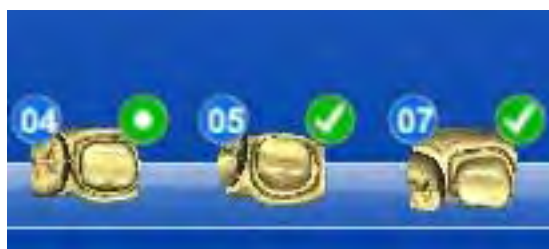
Optical impression 1 Optical impression 2 Optical impression 3



Thumbnails on the docking bar



Optical impression 4 Optical impression 5 Optical impression 6



Thumbnails on the docking bar

Continue performing optical impressions in this order until the required area has been acquired.

Subsequently added crooked optical impressions can no longer be registered by the software.

After switching the camera switched off and on again, you can continue the optical impression at any location.

4.1.11 Acquiring an impression

Preparing an impression

- ✓ In certain circumstances, the casting must be cut free somewhat, so that the definition of the image of the CEREC Bluecam is sufficient.
- Apply a matte finishing to the areas to be acquired to prevent reflections. For this purpose, use CEREC Optispray.

Acquiring an impression

1. Click the "Preparation" icon to start the acquisition.
2. Move the cursor to the left edge of the image catalog "Preparation".
3. Click the "Change view" icon.
4. Start the acquisition procedure.
5. In the 3D preview, the model is displayed on both sides. The model preview is displayed in yellow, whereas the preview of the casting itself is shown in green.
6. Following acquisition of the required area, click on the "Next" icon to have the model reconstructed.



It is possible to combine casting acquisitions and intraoral acquisitions, while upper and lower jaws can be correlated by means of an intraoral buccal acquisition.

4.2 Image fields

An image field can consist of one or more optical impressions.

We distinguish between the following image field types:



- Image field of the preparation



- Image field of the buccal image



- Image field of the antagonists

NOTICE

Waiting times

If a large number of optical impressions is used (>50), longer waiting times may result during reconstruction of the 3D model. The files become very large.

Generally, the following applies: As many optical impressions as necessary, but as few as possible.

4.2.1 Image field of the preparation

Scans of the prepared jaw are possible in the image field of the preparation. These scans may cover the entire jaw.

Angled optical impressions are expedient here as well.

4.2.2 Image field of the buccal image

These impressions are possible only if you have selected the following in the New dialog box: "*Bite registration technique*" > "*Buccal scan*".

An exposure in which 50% of the image contains the upper jaw and 50% of the image contains the lower jaw is usually sufficient in most cases. In order for the registration to succeed, it is important to ensure that the relevant image information for the preparation and the antagonist show sufficient a buccal proportion.

4.2.3 Image field of the antagonists

The impressions of the antagonists in the opposite jaw are in the image field of the antagonists.

These scans may cover the entire jaw.

Angled optical impressions are expedient here as well.

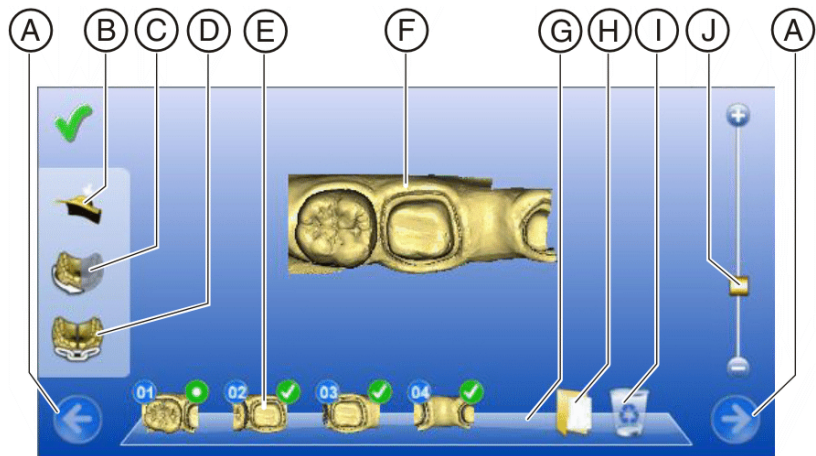
4.3 3D Preview

4.3.1 Opening the 3D Preview

The 3D preview opens automatically when it is necessary or possible to acquire an optical impression.

To open the 3D preview manually, select "Window" / "3D Preview".

4.3.2 Design of the 3D Preview



Design of the 3D Preview

A	Scroll arrow	F	3D overall view, active region
B	Change view	G	Docking bar
C	Buffer quadrant	H	Passive folder
D	Compose quadrants	I	Recycle bin
E	Thumbnails	J	Zoom function, appears only if the mouse pointer is moved to the right margin of the window.

In the 3D preview, scans are displayed in the following three image fields:

- Preparation
- Occlusion/articulation/buccal (if present)
- Antagonist (if present)

The design inside the image field is identical.



If images are located in the active region and can be attached to other images, the thumbnails are marked with a green check mark.



Thumbnails which cannot be attached to each other are marked with a red X.

The window with the 3D preview and the panes of the individual image fields in the 3D preview can be minimized, maximized, and restored to their default size. You can click the following icons at the top right edge of the window:



- Minimize
- Maximize
- Restore

4.3.3 3D preview of "buccal image"

The antagonist must be acquired directly so that the physical model can be generated from the digital impression. The data from a bite registration are not sufficient.

With the buccal image, the software can reconstruct the two jaws to form a single digital model and bring them into occlusion.

For the buccal image, one image is usually sufficient in order for the software to bring the upper and lower full arches into occlusion.

4.3.4 Symbol for reference optical impression



The reference optical impression is marked by a green circle with a white dot.

To select another image as the reference optical impression, double-click the desired thumbnail. As you can see, the green circle with the white dot is adapted accordingly.

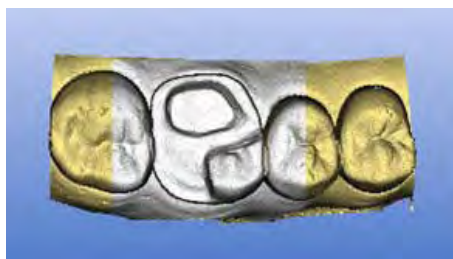
4.3.5 Numbering of optical impressions



Each thumbnail has a white number in a blue circle (based on the acquisition date). All optical impressions/thumbnails in each image field are numbered consecutively according to this principle.

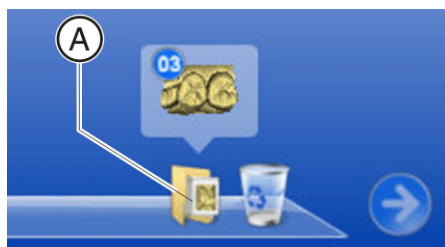


Depending on the current size of the window, the scrolling arrows (**B**) located to the left and right of the docking bar may be activated for scrolling in case of multiple thumbnails.



If you move the mouse pointer over the thumbnail, this causes the corresponding part to be highlighted in the 3D overall display. This part is displayed white.

4.3.6 Passive folder



You also have the option of dragging optical impressions which may be used at a later time from the docking bar to the passive folder **(A)** and saving them there. The optical impressions in this folder are saved, and not deleted.

If you click the folder icon, the folder is opened and its contents, including all of the optical impressions it contains, are displayed. You can then drag the optical impressions from the folder to the active region of the 3D Preview. The optical impression is recorrelated in the process.

4.3.7 Copying/moving optical impressions

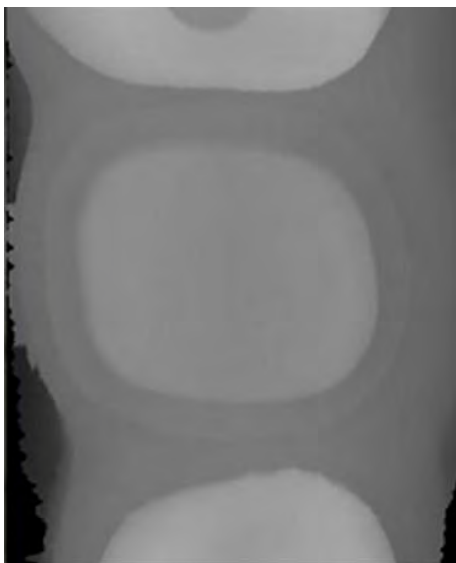
If you drag an optical impression or a thumbnail from one image field to another, a small context menu opens after you release the mouse button. In this menu, you can select whether the optical impression should be copied or moved.

4.3.8 Displaying the date/time in the intensity image



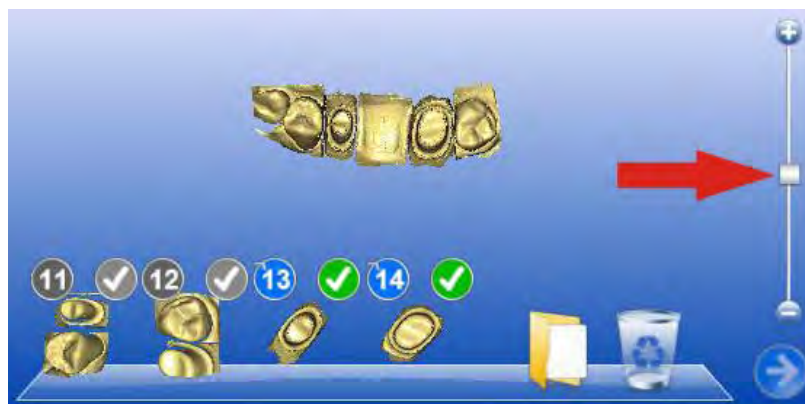
If you move the mouse pointer over a thumbnail in the docking bar and keep it there for at least 2 seconds, the intensity image appears to the left along with the date and time of acquisition in red lettering.

4.3.9 Displaying the height image



If you move the mouse pointer over a thumbnail in the docking bar and right-click it, the height image appears to the left. To close the height image, right-click the thumbnail once again.

4.3.10 Zoom function in the 3D Preview



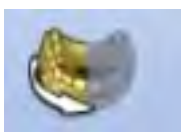
If you move the mouse pointer into the right region of the respective image field, a slider appears which can be used to change the size of the thumbnails.

4.3.11 Change view



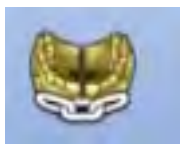
You can use this icon to change the view in the 3D preview between display of the impression and display of the model during acquisition.

4.3.12 Buffer quadrant



You can use this icon to temporarily store a scan sequence and then start an additional scan sequence.

4.3.13 Compose quadrants



With this icon, you can combine two scan sequences to form a single model. It is important to have a sufficient overlapping range in both scan sequences.

4.3.14 Deleting images



You can drag an unusable scan onto this button to discontinue using it.

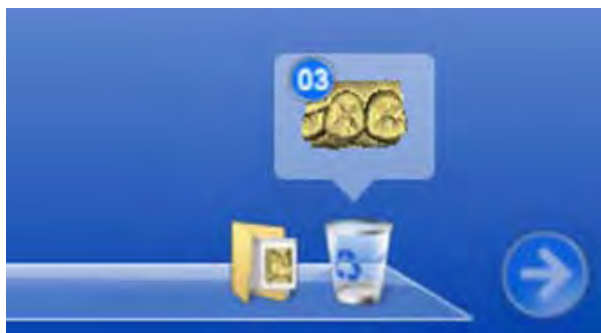
1. Holding down the left mouse button, drag the thumbnail you want to delete to the recycle bin icon.
 2. Release the mouse button.
- ↳ The image is deleted.

If you would like to use a deleted image once again, left-click the recycle bin icon again (see also "Opening the recycle bin [→ 42]").

Images that have been moved to the recycle bin will be automatically deleted as soon as you click the "Next" button after producing the optical impression.

Tip: Alternatively, you can move the mouse pointer onto the scan icon (e.g. "Preparation"). You can then right-click to delete the last scan.

4.3.15 Opening the recycle bin

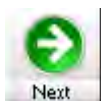


Open recycle bin

If you click the recycle bin icon, the recycle bin is opened and its contents, including all of the optical impressions it contains, are displayed. You can then drag the optical impressions from the folder to the active region of the 3D Preview. The optical impression is recorrelated in the process.

4.3.16 Closing the 3D Preview

Closing the 3D Preview



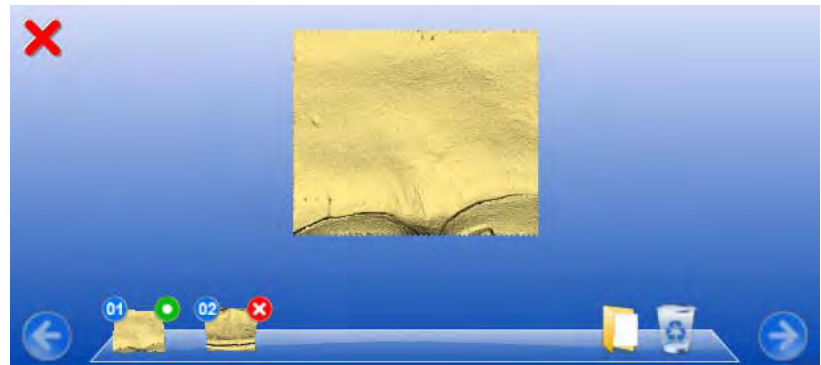
The "3D Preview" automatically closes when you click the "Next" icon and it is possible to reconstruct a 3D model from all active images.

You can close the "3D Preview" manually via the menu "Window" > "3D Preview".

4.3.17 Discarding initial, unsuitable optical impressions

If the first optical impressions are unsuitable, e.g. because cotton pellets or a cofferdam were/was scanned, they will automatically be discarded later on once a suitable pair of images has been found.

It is thus possible to continue working quickly even when unsuitable images are scanned at the beginning of automatic acquisition. The following example explains this relationship.



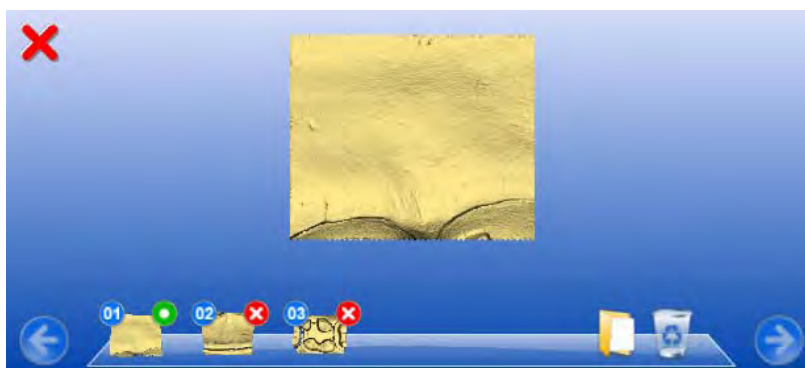
1. and 2nd optical impression

1. optical impression:

- Cofferdam,
- unsuitable,
- green dot,
- forms the model

2. optical impression:

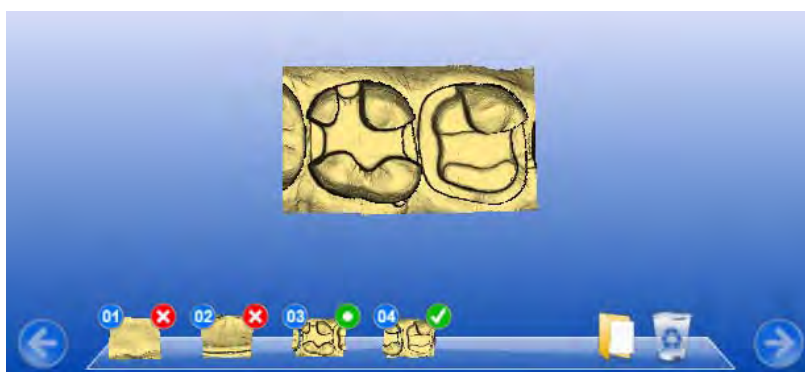
- cellulose roll,
- unsuitable,
- cannot be registered,
- red cross



3. optical impression

3. optical impression:

- Tooth 17,
- OK,
- cannot be registered,
- red cross.



4. optical impression

4. optical impression:

- Tooth 16,
- OK,
- matches 3rd optical impression

The first two optical impressions are sorted out (red cross), the 3rd optical impression is used as a reference image. The 3rd and 4th optical impression form the model.

5 Model calculation

NOTICE

This chapter is only relevant if exposures were acquired using an inEos Blue or the CEREC AC.

Once you have acquired the optical impressions for the preparation, the buccal image and the antagonist, the system is ready to calculate the 3D model.

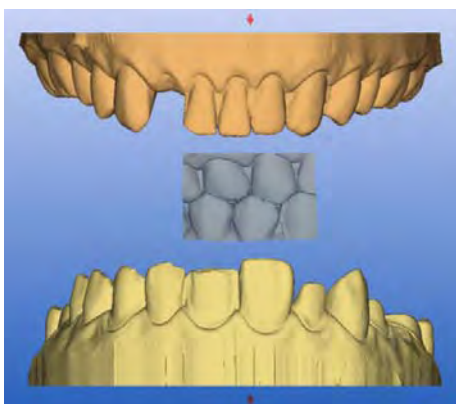
To do this, click the button marked "Next".

5.1 Manual Correlation

In this step, you see the models of the preparation, the antagonist and the buccal image. The buccal image is placed in the center between the preparation and the antagonist.

Rotating the preparation and the antagonist

- Click in the blue area with the left mouse button and hold the button down.
 - ↳ The preparation and the antagonist can be rotated about the vertical axis simultaneously.
- Click on the preparation or the antagonist with the left mouse button and hold the button down.
 - ↳ The arches can be rotated individually.

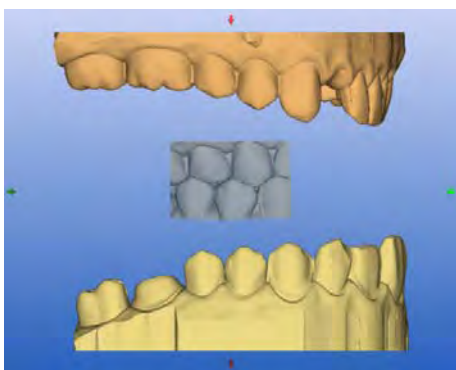


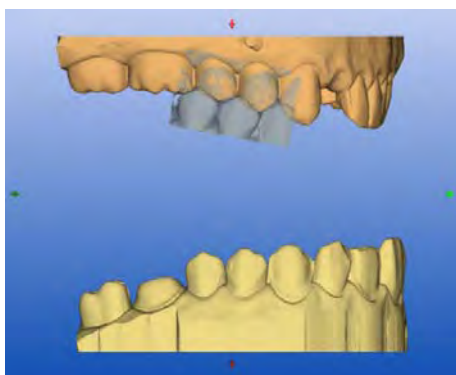
NOTICE

The prepared jaw is always displayed at the bottom, even if the preparations are located in the upper jaw.

Registering the buccal image on the preparation and the antagonist

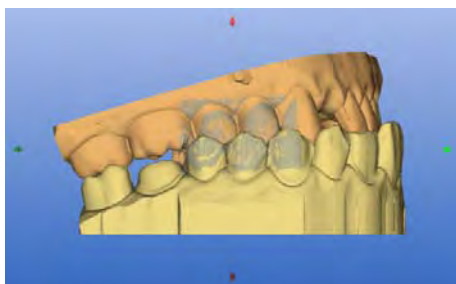
1. Rotate both models so that you can see the overlap area of the buccal image and of the preparation and the antagonist. See "Rotating the preparation and the antagonist" [→ 45].
2. Now drag the buccal image to the corresponding area of the antagonist with the mouse and let go of the mouse button (drag&drop).
 - ↳ The buccal image automatically registers itself on the preparation. If the registration was successful, this will be indicated by a "leopard pattern". If the registration was not successful, the model will start shaking and the buccal image will jump back to its original position. In this case, you must repeat the drag&drop procedure in order to find a better correlation surface.





3. Now click on the buccal image once again and drag it onto the appropriate surface of the preparation (drag&drop).

- ↔ If the registration was successful, this will be indicated by a "leopard pattern". If the registration was not successful, the model will start shaking and the buccal image will jump back to its original position. In this case, you must repeat the drag&drop procedure in order to find a better correlation surface.



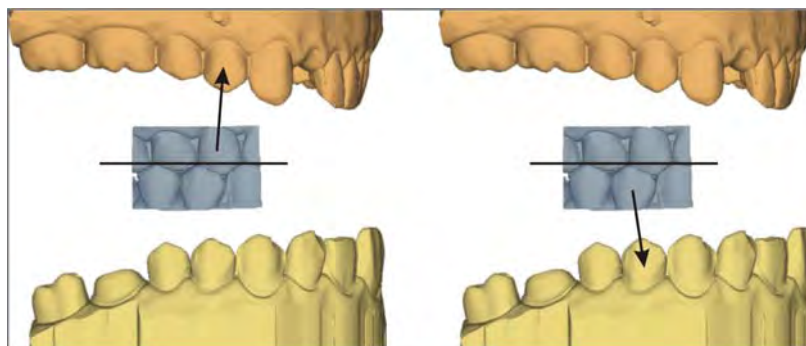
It is irrelevant whether you drag the buccal image onto the preparation or onto the antagonist first.

Rotating the buccal image

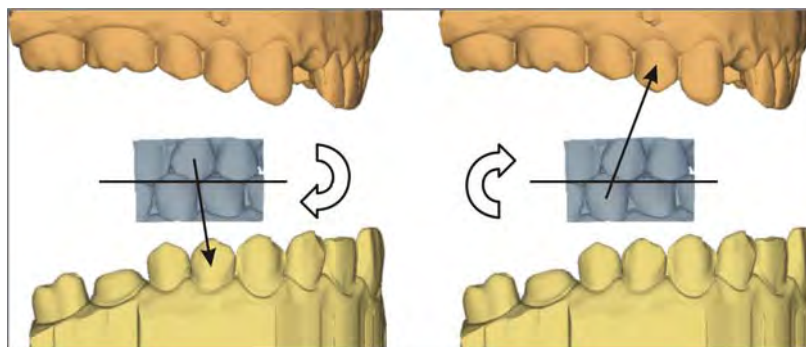
In some cases, the buccal image may be displayed upside down in relation to the preparation and the antagonist. Proceed as follows in such cases:

- Click on the upper area of the buccal image and drag it onto the lower model.
 - ↳ The buccal image will automatically flip, and you can then register it on the jaw via the drag&drop technique.

This works in the same way vice versa, i.e. if you click 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.



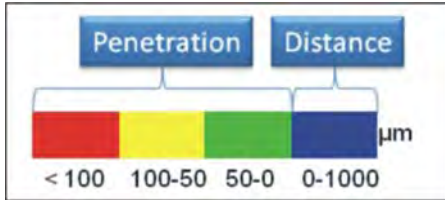
The buccal image is then displayed upside down. When you begin the registration, the software detects this and automatically flips the image right side up.

5.2 Occlusal contact points

You can use the *"Toggle Contacts"* button to check the occlusal contact points of the jaws.

The same color scheme is used as when displaying the contacts to the neighboring teeth or to the antagonist.

- blue: Clearance 0-1 mm
- green: Penetration 0-50 μm
- yellow: Penetration 50-100 μm
- red: Penetration >100 μm



Using the *"Settling"* function, the models can be rearticulated manually.

NOTICE

Only execute *"Settling"* if the model spans all 4 quadrants and you have ensured that all support points are contained in the model.

5.3 Checking the model

In the "*Check model(s)*" step, you can check the calculated model.

1. For checking purposes, show the buccal acquisition and the antagonist adjacent to one another.
2. Decide whether you would like to mark the preparation borders yourself.

NOTICE

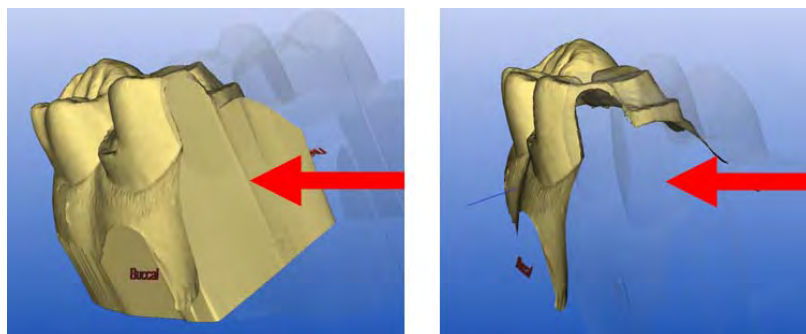
Not marking the preparation borders yourself

If you do not wish to mark any preparation borders yourself, you can forward the model to your laboratory.

- Click the "*Connect*" button.
 - ↪ You will be connected to the CEREC Connect Portal. Skip the rest of this chapter.

5.4 Trimming the preparation

After the 3D model of the preparation is displayed in the viewer and before you enter the preparation margin, you can hide image regions of the preparation, e.g. the mesial and distal neighbors.

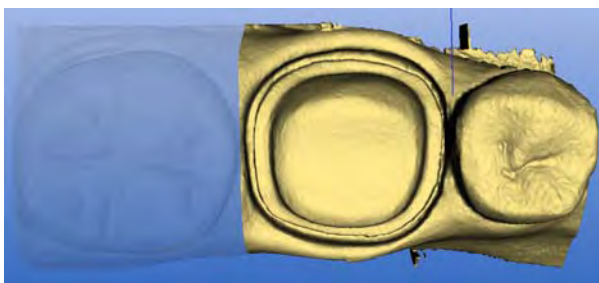


If the 3D model is trimmed in this design step, both the side surfaces and the bottom are then displayed complete (illustration on the left). With the "*Ctrl+B*" shortcut, the model can be displayed without the side surfaces and without the bottom (illustration on the right). If you wish, you can now view and edit the preparation margin in the cervical view.

Hiding 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 start point of the trim line.

Trim



Distal neighbor hidden

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.

NOTICE

Switching the image region

If it is the wrong image region, you can switch to the other image region by double-clicking the hidden region.

5. To exit this mode, click the icon marked "Next".

By clicking the "Trim" button, you can simultaneously show or hide all image regions.

NOTICE

Showing and hiding the preparation

If the preparation was not trimmed, you can use the "Trim" button to show and hide the entire preparation, e.g. for editing the proximal surface of the restoration.

5.5 Entering the preparation margin

5.5.1 General information

You can enter the preparation margin in the viewer in the 3-dimensional (3D) representation of the preparation.

NOTICE

No movement during the drawing process

Since the last "drawing click" can be undone by clicking with the right mouse button, it is not possible to move the 3D model while drawing (since this is done by pressing and holding down the right mouse button).

During the entry of the preparation margin, you can rotate the 3D display of the preparation.

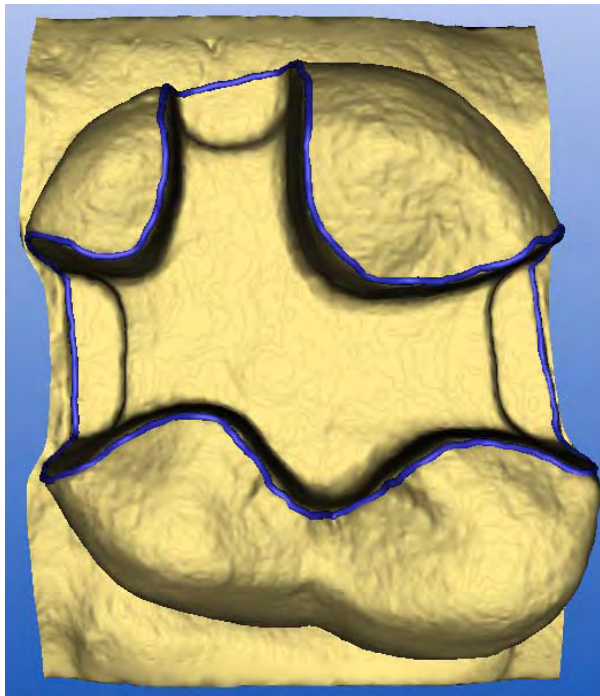
The preparation margin must always form a closed line.

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

Entering the preparation margin for bridges

1. After entering the preparation margin on the first abutment, click the icon marked "Next".
2. Continue this procedure until you have drawn in the preparation margin on all of the abutment teeth.

5.5.2 Entering the preparation margin



Entering the preparation margin

1. Start the entry by double-clicking anywhere on the preparation margin.
2. Move the cursor along the preparation margin.

NOTICE

Automatic edge detection

To support the automatic edge detection, click anywhere near the margin on the raised side. There is an automatic correction when the next point is set.

3. Continue this procedure until you are back at the starting point.
4. Conclude the entry by double-clicking the starting point.

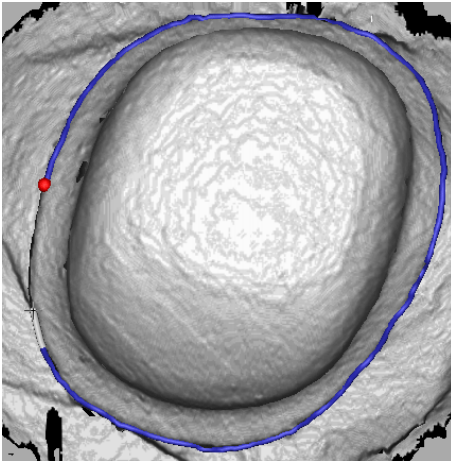
5.5.3 Entering a preparation margin with unclear edges

If you press the **space bar** while entering the preparation margin, the system switches to the interpolating method (spline function) and you can set individual points by clicking.

NOTICE

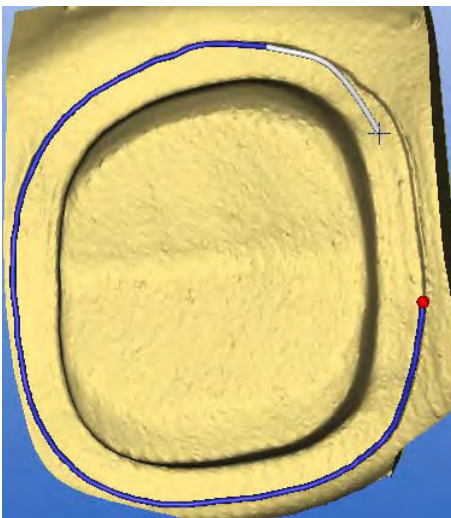
Setting points close together

Set the points exactly on the edge and close to one another.



If the optical impressions have been made with the CEREC 3D camera or with inEos*, the switch is made to intensity image.

*In the case of inEos optical impressions which contain a rotational scan, or in case of optical impressions made with the scanner, the system does not switch over to intensity image.



In the case of optical impressions made with the CEREC Bluecam, the normal model continues to appear. If you wish to see the intensity image in unclear situations, press the space key once again. When the space key is pressed for the third time, the system switches to the edge detection method again.

6 Internet Portal

6.1 Registration

To work together with your laboratory via CEREC Connect, you have to register in the CEREC Connect portal. You need an e-mail address to register.

NOTICE

Changing your password

Change your password during your first login (see Changing user data).

NOTICE

Did you forget your login information?

If you forgot your login information, you can request it in the CEREC Connect Portal under *"Contact" / "Hotline / Support" / "Patterson Technology Center"*. You will then be notified of your *"User ID"* and your *"Password"*.

6.1.1 Registering via the website

1. Open your internet browser and go to www.cerec-connect.com.
2. Click *"Dentist Registration"* in the menu navigation.
 - ↳ The user registration home page opens.

NOTICE

Fields marked *

Fields marked with an asterisk (*) are mandatory.

3. Select a user name and click *"Next"*.
4. Enter your personal data and click *"Next"*.
5. Enter your shipping address and click *"Next"*.
6. Enter your billing address.

NOTICE

Using the shipping address as the billing address

If the billing address is the same as the shipping address, you can copy the data by clicking *"Apply"*.

7. Select your preferred dental laboratories from the list of providers and confirm these selections. The selected dental laboratories are then preset on your order page.
 - ↳ You will be prompted to contact the dental laboratory before forwarding the order.
8. Click on *"SEND"*.

You will be contacted by "Patterson Technology Center" within three days in order to complete the registration.

6.1.2 Registering via the CEREC Connect software



- ✓ The CEREC Connect software has been started.
- 1. On the tool bar, click the icon marked "Connect".
- 2. In the login window, click the button marked "Registration".
 - ↳ The registration home page opens.

NOTICE
Fields marked * Fields marked with an asterisk (*) are mandatory.

- 3. Select a user name and click "Next".
- 4. Enter your personal data and click "Next".
- 5. Enter your shipping address and click "Next".
- 6. Enter your billing address.

NOTICE
Using the shipping address as the billing address If the billing address is the same as the shipping address, you can copy the data by clicking "Apply".

- 7. Select your preferred dental laboratories from the list of providers and confirm these selections. The selected dental laboratories are then preset on your order page.
 - ↳ You will be prompted to contact the dental laboratory before forwarding the order.
- 8. Click on "SEND".

You will be contacted by "Patterson Technology Center" within three days in order to complete the registration.

6.2 Connecting to the CEREC Connect portal



- ✓ The CEREC Connect software has been started.
- 1. On the tool bar, click the button marked "Connect".
- 2. Enter the access data from the e-mail you received after following successful registration in the login window.
- 3. Click "OK".
 - ↳ The CEREC Connect portal opens.

6.3 CEREC Connect portal

6.3.1 Introduction

The portal has a tab control function in which topics are grouped. It has the following tabs:

- *"Restoration Data"*,
- *"Desired Lab"*,
- *"Additional Notes"*,
- *"Cart"*

Once you have opened an order, you can move freely between tabs by clicking on them. The portal always opens with the tab marked *"Restoration Data"*. You can close the portal and log out automatically by clicking the *"Close"* button at the end of the page.

6.3.2 "Restoration data" tab

The *"Restoration Data"* tab contains all the information about the restoration. The tab is divided into three sections.

- *"Patient"*
- *"Restoration"*
- *"US Tooth Number(s)"*

The fields are partially filled in with data from the software.

Patient

This section displays the the first and last name of the patient. These fields are previously filled in with data from the software.

Restoration

This section displays

- the restoration type
 - You can select the restoration type from a list. To do this, click the arrow to the right of the restoration type.
- the material selection
 - You can select the required material from a list. To do this, click the arrow to the right of the material.
- the stump color
 - You can select a color system that is suitable for the stump color from a list. To do this, click the arrow to the right of the color system. This selection is optional.
- the desired restoration color
 - You can select a color system that is suitable for the restoration color from a list. To do this, click the arrow to the right of the color system. This selection is optional.
- the data record of the digital impression

- The software completes this field by default.

US Tooth Number(s)

Select the tooth to be restored (for bridges, abutments and pontics) in the 3D jaw.

The tooth is displayed dark blue for Inlay/Onlay, crowns, Veneer and stumps for bridges.

The tooth is displayed light blue for pontics.

Select the teeth individually for each restoration.

Click the arrow to go on to the next step.



6.3.3 "Laboratory" tab

In the section *"Desired Lab"* select:

- the laboratory to which you would like to send the digital impression,
- the date and time when the work must be returned to your practice.

Click the *"Next step"* arrow to proceed to the next tab.

Click the *"Previous step"* arrow to go back to the previous tab.

6.3.4 "More information" tab

The *"Additional Notes"* tab offers you the following options:

"Notes"

You can enter additional information for the laboratory.

"Additional Patient Data"

You can specify the patient's sex and age.

"Photos"

You can provide the laboratory with additional photos or data which might be useful for manufacturing the restoration.

Click the *"Add to cart"* button to place the digital impression in your shopping cart. The data record is uploaded to the CEREC Connect server. An upload window displays the status of the upload.

Click the *"Previous step"* arrow to go back to the previous tab.

6.3.5 "Your order" page

As soon as you have uploaded the data record, the *"Your order"* page is displayed. This page offers the following options:

- *"Go to your cart"*
 - Activate this option if you do not want to upload any more digital impressions and would like to check out.
- *"Add a new order from a new patient"*

- Activate this option if you would like to upload another digital impression. This could also involve an impression for another patient or another laboratory.
- *"Use digital impression below to order next tooth (quadrante)"*
 - Activate this option if you would like to make a quadrant restoration. In this way, you can enter the next tooth with the same digital impression.

Click the *"Next step"* arrow to proceed to the next tab.

6.3.6 "Shopping cart" tab

In this tab, you can check your orders before sending them off.

The number in brackets next to *"Cart"* shows the number of orders contained in the shopping cart.

In the *"Addresses"* section you can see your current shipping and billing addresses.

In the *"Order"* section you can see your orders. You can edit or delete them as required.

In the *"Verification"* section, you must enter your dental license number under *"License Number"* and under *"Password"* you must enter your password once again before dispatching the order.

With the *"Submit"* button, you can send your orders to your partner laboratory and notify them accordingly with an e-mail.

6.4 Quadrant restoration with CEREC Connect software

6.4.1 Introduction

CEREC Connect software can be used to produce both single-tooth and multiple restorations (quadrants). For these cases, a specific workflow must be observed, which is described in the following.

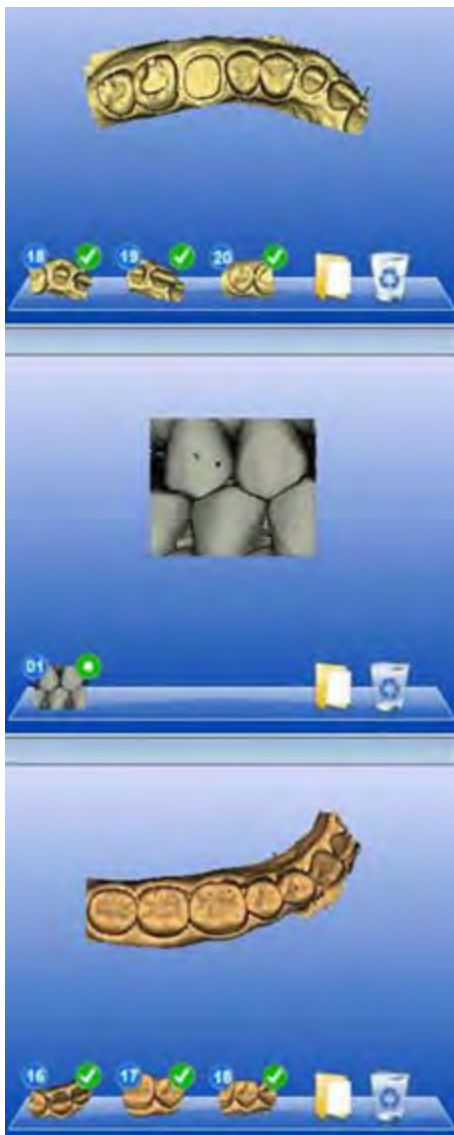
The following example shows a typical quadrant case (an inlay and two crowns).

1. Open the CEREC Connect software.
2. Click the *"New"* icon to create a new case.



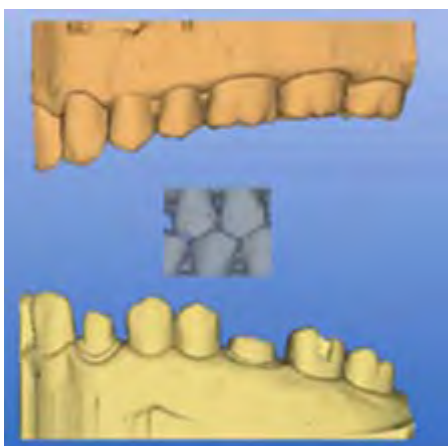
6.4.2 Optical impression

- Perform all scans of the preparation, the antagonist and the buccal bite as usual. Make sure that all of the teeth to be reconstructed are included in the scans of the preparation.



6.4.3 Manual Correlation

In this step, you register the upper and lower jaws to each other with the help of the buccal scan.



1. Grasp the buccal scan with the left mouse button, drag it to the appropriate position in the upper or lower jaw and drop it there (drag & drop).
2. Proceed in exactly the same manner to register the scan to the other jaw.

6.4.4 Checking the model



In this step, you can check the correlation of the upper and lower jaws and buccal scan.

We recommend drawing in the preparation margins first.

If you do not want to draw in the preparation margins, you can now send the optical impression to your laboratory. In this case, click the *"Connect"* icon and continue reading under "Entering data in the CEREC Connect Portal [→ 60]".

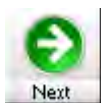
6.4.5 Trimming and drawing preparation margins



The preparation margin must be drawn in separately for each tooth. Trimming can be performed before each drawing step. The trimming step is optional.

NOTICE

The "Connect" icon remains inactive during the trimming and preparation margin drawing steps. The icon becomes active again only after you have completed the "Draw in preparation margin" step.



1. Click the "Next" icon to draw in the first preparation margin (for inlay 17 in our example).
2. Once you have drawn in the first preparation margin, click the "Next" icon. You now once again have the possibility of trimming.
3. Click the "Next" icon once again to draw in the next preparation margin (for posterior tooth crown 16 in our example).
4. After drawing in the last preparation margin (anterior tooth crown 13 in our example), you can send the case to your laboratory by clicking the "Connect" icon.

6.4.6 Entering data in the CEREC Connect Portal

- ✓ On entering your access data (user name and password), you will come to the "Restoration Data" tab card.
 - ✓ The information for all restorations must be entered in succession.
1. Enter the information for the first restoration (inlay 17 in our example) in all tab cards. Then click the "Go to your cart" button.

NOTICE

If you are performing quadrant restorations, it is very important for you to select the "Use digital impression below for next restoration (quadrant)" option.



2. Click the *"Use digital impression below for next restoration (quadrant)"* radio button on the *"Cart"* tab card.
3. Click *"Next step"* and you will return to the *"Restoration Data"* step.
4. Enter information for the next restoration (posterior tooth crown 16 in our example).
5. Click the *"Use digital impression below for next restoration (quadrant)"* radio button on the *"Cart"* tab card.
6. Click *"Next step"* and you will return to the *"Restoration Data"* step.
7. Enter information for the last restoration (anterior tooth crown 13 in our example).
 - ↳ All restorations are now in the shopping cart.
8. Click the *"Go to your cart"* radio button on the *"Cart"* tab card.
9. Click on *"Next step"*.
 - ↳ Now you can see all of the restorations of the case in the shopping cart.
10. Enter the user name and password under *"Confirmation"* and click *"Prescription"* to send the case to your laboratory.
 - ↳ Following successful data transfer, a green bar is displayed to confirm that the order has been successfully transmitted to the laboratory.

6.5 Ordering restorations

The restoration can be produced in any laboratory equipped with an inLab system.

For this purpose, the optical impression can be transferred to the relevant laboratory via the Internet portal.

Providing the restoration on a PC

If you must provide the restoration via another PC, please proceed as follows:

- ✓ The restoration is opened.
 - ✓ The *"Transfer"* stick (USB stick) is plugged into the USB port of the acquisition unit.
1. Open the Windows Explorer and go to the directory:
C:\Programme\CEREC Connect\Data\...
 2. Open the respective 'impression' folder and save the 'Restoration.cdt' file to the *"Transfer"* stick.
 3. Unplug the *"Transfer"* stick and plug it into the USB port of your internet PC.

NOTICE

CEREC Connect Software on the Internet PC

The CEREC Connect software must be installed on your internet PC and the restoration must be imported to the software for dispatch.

4. Proceed as described in the Chapter "Internet Portal [→ 53]".

6.6 Administration



If you click the two cogwheels in the top right-hand corner of the CEREC Connect portal, you can edit the following user data on the portal:

- Passwords
- Phone numbers
- E-mail addresses,

In addition, you can add laboratories to or delete them from your list of preferred laboratories.

You can also change your shipping and billing address in this section.

7 Importing CEREC Connect files into the CEREC 3D software

NOTICE

CEREC Connect software

Files can only be imported from the CEREC Connect software into the CEREC 3D software if you have confirmed the validity of the 3D model.

- ✓ The CEREC Connect software is started.
- ✓ The validity of the 3D model is confirmed.
- 1. Save the restoration in the CEREC Connect software by selecting *"Restoration" / "Save as..."*.
- 2. Close the CEREC Connect software by selecting *"Restoration" / "Exit"*.
- 3. Start the CEREC 3D software.
- 4. Load the restoration, which was saved previously in the CEREC Connect software, by selecting *"Restoration" / "Load..."*.
- 5. Once the restoration has been loaded, select *"Design" / "Change..."*.
- 6. Select a patient or create a new one.
- 7. Select the restoration type (*"Restoration"*), *"Design technique"* and tooth number in the next dialog box.
- 8. Confirm with *"OK"*.
- 9. Proceed by selecting *"Restoration" / "Save as..."*.
- 10. Enter a new name and click *"OK"* to confirm.
- 11. You can now proceed with the design process as normal.

Index

Numerics

3D camera, 22

3D preview

Delete scans, 42

3D Preview

Design, 38

3D viewer, 16

A

Acquisition

optical, 26

Administering patient data, 17

Editing, 21

New, 20

Antagonist, 15

Automatic exposures, 22

B

Bluecam

Acquisition control, 28

Angle of incidence, 26

Depth of focus, 25

Focusing, 25

C

Calibration

3D camera, 22

Camera support, 30

Color scheme, 48

Coordinate system, 17

Cursor, 23

D

Delete scans, 42

Design, 49

Distance, 24

E

Entering the preparation margin, 51

H

Help, 24, 24

Hiding the docking bar, 22

I

Image field, 36

image regions

hiding, 49

M

Manage patient data, 20

Managing patient data

Delete, 21

Manual

html format, 9

pdf format, 9

Measuring technique, 26

Menu bar, 17

O

Opening the Internet portal, 22

Optical impression, 30

Buccal image, 32

Quadrant restoration, 31

P

Preparation, 15

Providing the restoration on a PC, 61

R

- Recycle bin**, 42
- Reference optical impression**, 29
- Registering models**, 45
- restoration**
 - Manage patient data, 20
- Restoration**, 17
 - Administering patient data, 17
 - Delete, 17, 18
 - Exit, 18
 - Export, 17, 18
 - Import, 17, 19
 - Load, 17
 - loading, 18
 - New, 17, 18
 - Save, 17
 - Save as, 18
 - Save as..., 17
 - Send to, 17, 21

Rotate

- Buccal image, 47
- preparation and antagonist, 45

S

- Safety information**, 8
- Scale**, 16
- Settings**, 21
 - Options, 21
- Show all warnings**, 21
- Single optical impression**, 29
- Software**
 - Installation, 10
 - Uninstallation, 11
- Standard views**, 14
- Status bar**, 15
- Surface**, 26

T

- Tool bar**, 13

U

- User interface**, 12

V

- View window**, 14

W

- window**
 - Distance, 24
- Window**, 23
 - Cursor, 23

Z

- Zoom**, 15

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

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