CEREC Ortho SW
Software Version 1.2
Operator's Manual
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1 Introduction

1.1 Dear Customer,

Thank you for purchasing CEREC Ortho SW software from Sirona. With CEREC Ortho SW and in combination with the CEREC AC/AF/AI Omnicam acquisition unit you can create scans and send them to your partner laboratory via the Sirona Connect portal. Any type of orthodontic apparatus can be manufactured from your impressions there.

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
CEREC Ortho SW team

1.1.1 Contact information

Customer service center
For technical questions, use the contact form on the internet 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

© Sirona Dental Systems GmbH. All rights reserved.

The information contained in this manual may be changed without notice.

The software and all related documentation are protected by copyright. You must therefore handle it in the same way as any other protected material.

Anyone who copies this software to any medium for any purpose other than his own personal use without the written permission of Sirona Dental Systems will be liable to prosecution.

Trademarks

Microsoft®, Windows 7®, and Windows 10® are registered trademarks.

Windows™ is a trademark of Microsoft Corporation.

All other trademarks are the property of their respective holders.

1.3 Open source software

This product contains open source software. For more information, please refer to the Licence.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


2.2 General safety information

Only use original software

Only use original software or software which has been released by 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.
Safety instructions for using the software

⚠️ **CAUTION**
Clinical specialists only may use the product.

⚠️ **CAUTION**
Models to be checked by trained personnel
Every model created with this software must be checked for suitability by a trained person (e.g. orthodontist or dentist) before it is digitally saved or exported for further use.
The orthodontic apparatus created for the user must be checked by the clinician for suitability.

⚠️ **WARNING**
Analysis of the scanned model alone is not sufficient to justify a surgical procedure.

⚠️ **WARNING**
Analysis of the scanned model alone is not sufficient to justify an extraction.

⚠️ **CAUTION**
After the export, no responsibility can be assumed for processes in external systems.

For the USA only

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

⚠️ **WARNING**
DICOM data are only displayed for clarification and visualization, and must never be used for diagnostic purposes.
2.3 System requirements (minimum requirements)

Hardware requirements

Processor: Intel® QuadCore 1.8 GHz
RAM: 8 GB DDR3 RAM at least
Free hard disk storage: 250 GB
Graphics card: NVidia or AMD with min. 1024 MB storage, DirectX 10 compatible

Supported operating systems

- Windows 7 Professional 64-bit
- Windows 7 Enterprise 64-bit
- Windows 7 Ultimate 64-bit

2.4 Intended use

CEREC Ortho SW uses image data from intraoral 3D cameras, which are designed for use in human oral cavities, as well as desktop laboratory scanners, which are used to digitalize conventional casts or models, in order to digitally acquire the three dimensional topography of the tooth, gingiva, gum and / or other oral anatomy in a clinical environment. The aim is to replace traditional plaster casts in dentistry or orthodontics with a virtual model of the patient, who is undergoing a treatment.

Algorithms in the software process the images recorded to form a virtual 3D model and display the virtual 3D model on the computer monitor. The software also saves 3D image data and identifies patient data, which are used to design and manufacture customer-specific orthodontic apparatus. Virtual models can also be used for diagnostics, training, and planning in dentistry.
2.5 Accuracy

Requirements in terms of accuracy

The requirement placed on accuracy results from the well-established, analog measurement procedure used in orthodontics. In doing so, the width of a tooth is measured with a caliper.

The accuracy required in orthodontics, which is a result of practical medical experience, is at 0.1 mm. Values below 0.1 mm can no longer be depicted with calipers.

Maximum tolerance range

The standard tolerance range in orthodontics is +/- 0.03 mm.

System accuracy

The technically possible accuracy of the measurement function of CEREC Ortho SW is below 0.01 mm.

In the software, however the dimensions are depicted with one decimal place, i.e. the dimensions are accurately displayed to 0.1 mm.
2.6 Structure of the manual

2.6.1 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.

⚠️ **NOTICE**
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.
2.6.2 Formats and symbols used

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

<table>
<thead>
<tr>
<th>Prerequisite</th>
<th>Prompts you to do something.</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>1. First action step</td>
<td></td>
</tr>
<tr>
<td>2. Second action step</td>
<td></td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>➢ Alternative action</td>
<td></td>
</tr>
<tr>
<td>✓ Result</td>
<td></td>
</tr>
<tr>
<td>➢ Individual action step</td>
<td></td>
</tr>
</tbody>
</table>

See "Formats and symbols used [<→ 13]" 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.

2.6.3 Conventions

<table>
<thead>
<tr>
<th>Example</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clicking</td>
<td>Pressing once and releasing the left mouse button or the left trackball button on the acquisition unit (or foot switch).</td>
</tr>
<tr>
<td>Double-clicking</td>
<td>Pressing twice quickly in succession and releasing the left mouse button or the left trackball button on the acquisition unit (or foot switch).</td>
</tr>
<tr>
<td>Moving the mouse in one direction</td>
<td>On the acquisition unit: Moving the trackball in the corresponding direction.</td>
</tr>
<tr>
<td>Seizing a point</td>
<td>Pressing the left mouse button (left trackball button on the acquisition unit) and keeping it pressed.</td>
</tr>
<tr>
<td>Drag &amp; drop</td>
<td>(Drag &amp; drop) Press and hold an element (e.g. pictograph), and drop onto new potential destination.</td>
</tr>
</tbody>
</table>
2.6.4 Formats of the manual

Step-specific help

The step-specific help explains the aims and implementation of the step. There is a full view which provides a complete overview and a window view for parallel working. An illuminated lightbulb indicates that this help is available.

By clicking on the lightbulb illuminated in yellow in the phase bar, you can access the step-specific help.

When accessing the ACQUISITION phase for the first time after installation, the step-specific help opens automatically.

If the lightbulb is not illuminated in yellow, there is no step-specific help available.

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

You will find the Operator's Manual on the Internet in PDF format.

- "http://cerecortho.com"
  You can download the current manual in the "DOWNLOADS" / "Downloads" area.

- http://www.sirona.com/manuals

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

2.7.1 Phase bar

2.7.1.1 Description
For CEREC Ortho SW the digital scan process is divided into three phases.

2.7.1.2 ACQUISITION
In this phase, you can perform the following:
- Create optical impressions with CEREC camera
  - Lower jaw
  - Upper jaw
  - Buccal bite registration
- View a 3D preview of the acquisitions
Phase "ACQUISITION" is only available if "CEREC Ortho SW" is installed on an acquisition unit "CEREC AC" with "CEREC Omnicam". When installed on any other PC, the phase is deactivated.

2.7.1.3 MODEL
In this phase, you can perform the following:
- Adjust the virtual models for the lower jaw and upper jaw as required
- Check the bite situation
- Set the model axis
- Add a base to the model

2.7.1.4 EXPORT
In this phase, you can perform the following:
- Log on to the Sirona Connect portal and transfer models to the laboratory of your choice
- Send model to MTM Clear Aligner
- Send model to ClearCorrect
- Send model to Ideal Smile Aligner
- Send model to Invisalign
- Send model to Dolphin 3D
- Save the model (formats for Stratasys, OnyxCeph, 3M Incognito, CA Digital, and SICAT)
2.7.2 Tool wheel

The tool wheel provides the most common tools for simplifying access in the MODEL phase. The tools available vary depending on the current step.

1. Right-click in the workspace.
   - The tool wheel opens.
2. Click with the right mouse button anywhere in the workspace.
   - The tool wheel moves to the position of the mouse pointer.
3. Select a tool.
   - The selected tool is available. The tool wheel closes automatically.

You also can close the tool by clicking in the workspace with the left mouse button.

2.7.3 Step menu

The “ACQUISITION” and “MODEL” phases are 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 scan is in.

This menu guides you through the process step-by-step.

The double arrow keys can be used to switch between steps and phases.

Mandatory steps

Mandatory steps are marked with a red or green bar.

Red bar: The step has not yet been completed successfully.
Green bar: The step has been completed successfully.

Users who have trouble discerning between the red and green can add a striped pattern to the red bars using the shortcut Ctrl+Alt+H.

Optional steps

Optional steps do not have colored bars.

If you switch between the steps using the double arrow keys, the optional steps are skipped.
2.7.4 System menu

In the system menu, you can:

- Switch to the start window to start a new scan
- Save scan
- Save the scan under a different name
- Import scan
- Export scan
- Call up App Center/start plug-ins
- Open help
- Open license manager
- Configure hardware and software
- Change window mode
- Exit program

2.7.5 Start view

In the start view you can perform the following:

- Search in the database,
- Display patients,
- Add patients.
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. Double-click the "setup. exe" file.
3. Select the language of the installation and click the button marked "OK".
   - The installation wizard opens.
4. Click "Next".
   - The license agreement is shown.
5. Confirm the license agreement with the "Yes" button.
   - The "Quality Improvement Agreement" dialog box appears. Here you can specify whether or not you wish to participate in the improvement program. By participating in the improvement program, the software automatically sends anonymous information to Dentsply Sirona for the purpose of quality improvement.
6. If you wish to participate in the quality improvement program, set a checkmark next to "Yes, I would like to participate in the quality improvement program." If you do not want to participate in the program, do not set a checkmark.
7. Click "Next".
   - The program continues the installation routine.
8. Select "Full 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.

9. After installation, you can display the "ReadMe" file by ticking or unticking the appropriate check box.
10. Click the "Finish" button.
3.2 Uninstalling the software

✔ The program is closed.

1. Click on "Start / All Programs / Sirona Dental Systems / CEREC Ortho / 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, click either the "Yes" or "No" button.

✔ The software is uninstalled.

3.3 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 section License manager.

3.4 Downloading software

Service packs

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

You can find information on current product versions and a description of the improvements and enhancements made in the service pack under "http://cerecortho.com".

Auto update

During the installation of CEREC Ortho SW, the auto-update function is also installed. You can conveniently download and install future software updates of CEREC Ortho SW through the Internet.

Once an update is ready for download, you are notified of this automatically through a dialog box.
3.5 Starting the software

✔ The CEREC Ortho 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 CEREC Ortho SW start icon.

or

➢ Click on "Start / All Programs / Sirona Dental Systems / CEREC Ortho / CEREC Ortho SW".

☑ The software is started.

3.6 License update

For more information on the license manager, refer to the section on “License manager [→ 30]”.

3.6.1 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. Click on 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 activate the "I accept the terms in the license agreement" option button and click the "Next" button.

7. In the next dialog, click 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.
3.6.2 License update without Internet access

If the CEREC AC does not have Internet access, the license manager can be installed on another PC with Internet access to perform license updates.

1. Remove the license stick from the CEREC AC and connect it to the PC with Internet access. The license stick is behind the lower cover at the rear side of the CEREC AC.
2. Install the license manager on the PC with Internet access and run the license update.
4 Configuration

The "Configuration" button is located in the system menu.
The "Configuration" menu contains the following submenus:

- "Devices"
- "Settings"

Close the "Configuration" menu by clicking on the "Exit Configuration" button.

4.1 Devices

All connected devices can be displayed and configured under the menu item "Devices".
A green check mark on a device indicates its availability.
A red warning triangle with an exclamation mark shows that the device cannot be reached.

4.1.1 CEREC Omnicam

Audio feedback

Using the "Sound:" selection box, you can switch the audio feedback for acquisitions on or off. You can control the volume using the slide bar. 3 different tone varieties are available.

Virtual camera animation during scanning

Here you can determine whether a video animation is displayed to help during the scanning process.

4.1.1.1 Resetting settings

➢ Click on the "Reset Camera Settings" button.
   • The settings are reset to factory settings.
4.1.1.2 Calibration

The measurement procedure used by the system requires the use of a calibrated CEREC Omnicam. The CEREC Omnicam is factory-calibrated. Then calibrate the CEREC Omnicam after every reinstallation and after every transport. The calibration set supplied with the CEREC Omnicam is available for the calibration process.

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

Recalibrate the CEREC Omnicam 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)
- with temperature differences of over 15°C 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. Click on the “Devices” button.
3. Click on the “Omnica” button.
4. Click on 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.
Calibrate the camera

1. Remove the protective cap from the calibration set.
2. Mount the calibration set on the tip of the camera until it locks into place.
3. Secure the CEREC Omnicam 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. Click on the "OK" button. In doing so, ensure that the CEREC Omnicam does not move.
   - The software confirms the calibration process.
   - The software prompts you to proceed to the next latching.
7. Execute steps 5 and 6 a total of 11 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 camera.
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 CEREC Omnicam 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.
➢ Click on the “OK” button.
   - The CEREC Omnicam is calibrated.

4.1.1.3 Camera heating settings

You can access the dialog for the temperature settings of the Omnicam via the “Camera Heater Settings” button. Using the slider, you can set the temperature at which the camera’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”.
4.2 Settings

The menu item "Settings" has the following subitems:

- ADA/FDI Notation
- Warning messages
- Seat Position
- Tool-Menu
- Language
- Sirona Server
- Quality Improvement Agreement
- Scan Database

4.2.1 ADA/FDI odontogram

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

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

4.2.2 Warning messages

Warnings 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 warnings can be reset here. All warning messages are displayed once again by clicking the "Reset" button.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>Displays all the deactivated warnings in the workflow again.</td>
</tr>
<tr>
<td>NO</td>
<td>Warnings which were previously hidden, remain hidden.</td>
</tr>
</tbody>
</table>

4.2.3 Seat position

Here you can adjust the position of the user to the seating position of the patient.

For this, the alignment of the upper jaw and lower jaw on the screen and the direction of movement for the camera view are defined. These must comply with the user’s view of the patient’s upper and lower jaw.

You have the following options:

- "Always next to or facing"
  The user is next to or opposite the patient while the upper jaw and lower jaw are being scanned.

- "Facing for lower, behind for upper"
  The user is opposite the patient while the lower jaw is being scanned. The user is behind the patient while the upper jaw is being scanned.

- "Always behind"
  The user is behind the patient while the upper jaw and lower jaw are being scanned.
4.2.4 Tool menu

Here you can define whether the tool menu is automatically minimized or remains open when using a tool.

4.2.5 Sirona Server

You can determine the IP settings for the Sirona Server software here. You can determine the IP address automatically or enter it manually.

For more information on the Sirona Server, see Sirona Server Operator’s manual, REF 65 39 725.

4.2.6 Language

Here, you can set the language of the software.

4.2.7 Scan database

In the menu item “Scan Database”, you can determine where patient data and scans are saved.

You also have the option to rename patients and scans in the table.

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.

4.2.8 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.”
5 System menu

In the system menu, you can:

- Close the opened scan and switch to the start window
- Save scan
- Save scan as
- Import scan
- Export scan
- Run application
- Open license manager
- Configure hardware and software
- Change window mode
- Open help
- Close the software

Opening system menu

1. Move the mouse cursor to the top of the window.
or
   ➢ Click the Start view button.
   △ The system menu is displayed.

Closing system menu

1. Click the Start view button.
or
   ➢ Click into the main window with the left mouse button.
   △ The system menu is closed.

5.1 Save scan

In this dialog, you can save the current scan.

➢ Select "Save" in the system menu.
 △ The scan is saved.
5.2 Save the scan under a different name

This dialog allows you to save the current scan 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 scan.
3. Select the appropriate patient.
4. Click on the "OK" button.

5.3 Import scan

✔ A CEREC Ortho SW scan is located on your acquisition unit (or removable media).

1. Click on the "Import" button in the system menu.
   - A standard Windows dialog box opens.
2. Select the folder where the scan is located.
3. Select the relevant file.
4. Click the "Open" button.
   - The scan is now imported and opened.

5.4 Export scan

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

✔ You have opened a scan.

1. Select "Export".
   - A standard Windows file dialog box opens.
2. Select the target folder to which you want to export the scan.
3. Assign any name to the scan.
4. Click on the "Save" button.
   - The scan is exported.

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

NOTICE

File types
If the selected file ("*.ortho", "*.orthoimg", or "*.dxd") is an optical impression with the CEREC Ortho SW software, it will be opened. If not, it will not open, and an error message will be displayed.

Scans which were not created with the CEREC Ortho SW Guided Scanning process cannot be imported for orthodontic use.
5.5 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 / CADCAM / CEREC Ortho / Tools / License Manager”.

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

5.6 Configuration

The configuration is described in the section “Configuration”.

5.7 Window mode

The "Window Mode" function can be used to exit full-screen mode or enter it again. You can also activate/deactivate the window mode via F11.

5.8 Open help function

The function "Help" can be used to open the help function.

5.9 Execute application

The function "Run Application..." can be used to open the app center and to start plugins.

5.10 Exit program

The “Exit” function can be used to close the software.
6 Start view

In the start view you can perform the following:

- Search in the database,
- Display patients,
- Add patients.

Switching to the start view

If you have a scan open you can switch to the start view by closing the scan.
1. Open the system menu.

2. Click on the “Close” button.
   ➖ If the current scan has not been saved, a prompt appears asking if the scan should be saved.
3. Confirm the prompt to save the scan.
   ➖ The start view opens.

6.1 Creating 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

Adding patients

1. Click 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.
   ➖ Once you have entered enough information, the bar in the “Edit Patient” step turns from red to green.

3. Click the “Add new scan” button.
   ➖ The program switches over to the “ACQUISITION” phase.
6.2 Patient search

Displaying all patients

The "Show All Patients" function can be used to display all patients.

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. Click the magnifying glass to start.
   - The program now shows all the search results.

6.3 Editing patient data

6.3.1 Editing a patient card

✓ You have found the patient with the search function.
1. Click on the patient card.
2. Click the "Edit Patient" button in the patient row.
   - The patient data in the row can be edited.
3. Carry out the changes.
4. Confirm your changes by clicking the "Save" button.
   - The changes are saved in the memory.

6.3.2 Deleting patients

✓ You have found the patient with the search function.
1. Click on the patient card.
2. Click the "Delete Patient" button in the patient row.
3. Confirm the deletion by clicking the "Save" button.
   - The patient is deleted.
7 Menu field

The menu field offers you various different functions, depending on the current step.

7.1 Views

Global

You can use the "View Options" button to display six predefined views in the "Global" area.

- "Top"
- "Bottom"
- "Right"
- "Left"
- "Anterior"
- "Posterior"

Changing the view

1. Click on the "View Options" button.
2. Click on one of the proposed views.
   - The virtual model rotates to the corresponding view.

Enlarge or reduce the view

1. Click on the "View Options" button.
2. Position the mouse pointer over the center tooth icon and press and hold the left mouse button.
   - The icon then changes to a magnifying glass.
3. Pull the mouse button up or down.
   - The virtual model is then enlarged or reduced.

Tip: You can also use the center mouse button and the trackball directly on the virtual model to enlarge or reduce a view.

7.2 Tools

You will find all tools as a sub-menu under "Tools". The available tools are displayed for each step.

To change a tool, click on the button of another tool in the left column of the page palette.

To close a tool, click on the button of the active tool once more in the left column.

"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 Cut out model areas

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

Regions of the model can be cut off using the "Cut" function. The cut plane lies orthogonal to the screen plane.

Removing the model area

The "Discard Part" function enables model areas to be removed.

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. Click the "Cut" button.
2. Begin the cut line with a double-click.
3. Click 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.
➢ Click 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.

7.2.2 Cutting a model for orthodontic planning

The "Crop Model" function enables model areas to be removed. A cut line is predefined. With this cut line, you can remove areas which are not required for orthodontic treatment and which are not removed during the "ACQUISITION" phase in step "Crop Jaw". You can edit the cut line.

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

1. Click the "Crop Model" button.
2. Double-click the blue boundary line.
3. Click to set additional points.
4. Finish changing the boundary line by double clicking.
5. Click the "Apply" button to implement the change to the boundary line.
   - The model is cut on the boundary line.
7.3 Displaying objects

Upper jaw

With the "Upper Jaw" button, you can display and hide the upper jaw.
1. Click on the "View Options" button.
2. Click on the "Upper Jaw" button.
   - The upper jaw is displayed or hidden.

Lower jaw

With the "Lower Jaw" button, you can display and hide the lower jaw.
1. Click on the "View Options" button.
2. Click on 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. Click the slider of the "Upper/lower jaw" and press and hold the mouse button.
2. Now drag the slider to the right or left to increase or reduce the transparency.
   - The transparency of the jaw concerned is changed.

Displaying the model box

The "Model Box" button enables you to display and hide the model box.
1. Click on the "View Options" button.
2. Click on the "Model Box" button.
   - The model box is displayed or hidden.
8 ACQUISITION phase

8.1 Camera view

You can adjust the size of the camera view proportionally.

1. Click the arrow at the right edge with the mouse and hold down the mouse button.
2. Drag the camera view to enlarge or reduce it.

8.2 3D Preview

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

8.3 Camera warm-up time

When switching on the system, the camera needs to warm up for 15 - 20 minutes. If the coated sapphire glass of the Omnicam is not sufficiently warm, it may steam up during the acquisition. As such, it is not possible to carry out the exposure.

Following use, always position the Omnicam on the heater plate.

From device serial number 121 001, you can now set the end temperature to which the camera heater warms the Omnicam mirror sleeve.

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 "Omnicon" button.
4. Click on the "Camera Heater Settings" button.
5. Use the slider to adjust the temperature.
8.4 Taking acquisitions with the CEREC Omnicam

**NOTICE**

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 CEREC Omnicam 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. Should any pieces of cotton roll contaminate this area, the acquisitions will be inaccurate.

**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 CEREC Omnicam.

**CAUTION**

In the case of patients with allergies to nickel

Should the CEREC Omnicam 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 CEREC Omnicam mirror sleeve which may make contact are protected from areas of skin.
8.5 Performing a scan

8.5.1 Procedure for the guided scanning process

Description

During the CEREC Ortho SW guided scanning process, the complete lower jaw, complete upper jaw, and the bite situation are scanned. The guided scanning process guides the user through several partial scans whereby the single quadrants are scanned. A complete model is then rendered from the partial scans.

Scan objects and sequence bars

The guided scanning process contains 3 scan objects:

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

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

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

The selected step is highlighted in yellow and marked with a red line (F).

When a step is finished, a confirmation symbol is displayed. The finished step is marked with a green line in the sequence bar (E) and 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.

**Video animation**

There is an optional video animation which describes the scanning procedure. You can activate or deactivate the video animation in the configuration dialog for the Omnicam. See CEREC Omnicam [→ 22].

**Switching Omnicam on/off**

You can switch the camera on/off by clicking the Omnicam symbol in the bottom left.

**8.5.2 Start the scan process**

✔ The correct working position is taken up

✔ The teeth are blow-dried

➢ Change to phase "ACQUISITION".
8.5.3 **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.
   - In the step list, the first step "Scan lingual right" is selected.

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.
Scanning the left-hand quadrant and completing the lower jaw scan

1. Position the camera above the last molar on the left 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 “Crop Jaw” step.
7. If necessary, edit the blue boundary line of the model. To do this, double-click the boundary line. Pull and click to set additional points. To stop editing the boundary line, double-click again. Ensure that only the areas required for orthodontic planning are inside the boundary line.

8. If insufficient gingiva area has been scanned (less than 3 mm): switch to the next step “Complete Jaw”. Re-scan the missing areas and switch again to the “Crop Jaw” step to edit the boundary line.

9. To confirm the boundary line, click “Ok” in the sequence bar. To reset changes made to the boundary line, click “Cancel” in the sequence bar.

10. Change to step “Complete Jaw”.
   - The areas beyond the boundary line are hidden.

11. Rescan the areas that have not been scanned yet.
    - This step is optional.
    - All areas that have not been scanned are marked in yellow (C).

12. Click the “Upper Jaw” scan object.
   - The software changes to the “Upper Jaw” scan object.
8.5.4 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.
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 quadrant and complete the upper jaw scan**

1. Position the camera above the last molar on the left 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.

**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.
   - If the connection is scanned, a signal tone will be heard.
   - The software changes to the "Scan Palate" step.

7. Scan the roof of the mouth. To do this, begin at the start marker and guide the camera over the roof of the mouth. This step is optional.

8. Change to step "Crop Jaw".

9. If necessary, edit the blue boundary line of the model. To do this, double-click the boundary line. Pull and click to set additional points. To stop editing the boundary line, double-click again. Ensure that only the areas required for orthodontic planning are inside the boundary line.

10. If insufficient gingiva area has been scanned (less than 2 mm), switch to the next step.

11. To confirm the boundary line, click "Ok" in the sequence bar. To reset changes made to the boundary line, click "Cancel" in the sequence bar.
   - The model is cut to the areas of the boundary lines.

12. Change to the next "Complete Jaw" step. This step is optional.

13. Rescan the areas that have not been scanned yet. All areas that have not been scanned are marked in yellow (C).

14. Click the "Buccal" scan object.
   - The software changes to the "Buccal" scan object.

IMPORTANT

"Crop Jaw"

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, in the "Crop Jaw" step, you can cut the model to the area required for orthodontic planning. The boundary is marked by a blue line. When you change to the next step, everything that is outside this line is hidden.

Parts of the anatomy which are scanned in areas that have already been cut off during the "Complete Jaw" step are also hidden.

The areas beyond the boundary line are hidden but not deleted. The areas beyond the boundary line can therefore be displayed again by altering the boundary line.
8.5.5 **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).

<table>
<thead>
<tr>
<th>IMPORTANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>As soon as the buccal registration is finished a signal tone will be heard.</td>
</tr>
<tr>
<td>The software changes to the next &quot;Scan buccal left&quot; step.</td>
</tr>
</tbody>
</table>

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

8.6 **Finishing the phase**

- All required scans have been performed (lower jaw, upper jaw, buccal registration).
- The "MODEL" phase can be selected.

1. Click on the "MODEL" phase.

or

- Click on the double arrow.

- The program switches over to the "MODEL" phase.
9 MODEL phase

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

The "MODEL" phase comprises 10 steps. The steps are presented in a sequence bar (as in the "ACQUISITION" phase).

The "Check Lower" and "Check Upper" steps are required.
The "Set Model Axis", "Check Bite", "Mark Teeth (Lower)", "Mark Teeth (Upper)", "Separate Teeth (Lower)", "Separate Teeth (Upper)", "Model Analysis" and "Add Base" steps are optional.

The arrow keys can be used to switch between individual phases.

9.1 Checking the lower jaw

If you switch to the "MODEL" phase, the "Check Lower" step is automatically selected.

➢ In the "Check Lower" step, check whether the scan of the lower jaw is complete and contains all required information for the orthodontic planning.

Furthermore, you can work with the following tool:

- "Crop Model"
- "Cut"

The use of the individual tools is described in the "Menu field [ → 33]" section.

9.2 Checking the upper jaw

In the "Check Upper" step, check whether the scan of the upper jaw is complete and contains all required information for the orthodontic planning.

Furthermore, you can work with the following tool:

- "Crop Model"
- "Cut"

The use of the individual tools is described in the "Menu field [ → 33]" section.
9.3 **Checking the bite**

The following options are available in this step:

- Presenting the lower and upper jaw closed
- Checking contacts

Via the "Analyzing Tools" > "Model Contacts" buttons, you can switch between the closed layout and checking the contacts.

**Presentation of the closed jaws**

**Checking contacts**

Here the contact points of both jaws are displayed in order to allow a check against the natural situation.

The colored displays of the contact points have the following meanings:
Penetration/pressure:
- > 100 µm
- 100 - 50 µm
- 50 - 0 µm

Distance:
- 0 - 50 µm
- 50 - 100 µm
- > 100 µm

9.4 Set model axis

Set the axes for model alignment. Please ensure a consistent representation here.

This alignment is required to create optimal view options and initial suggestions.

1. Align the model to the orientation of the jaw (A). Each tooth must be in its respective quadrant. Align the incisors based on the displayed center line.

2. Align the incisal edges along the displayed line (B). If necessary, rotate the model by clicking on the display, holding the mouse button down, and dragging the model.

3. Align the model for the occlusion plane (C). If necessary, tilt the model by clicking on the display, holding the mouse button down, and dragging the model.

4. To confirm the model axis, click on “Ok” in the sequence bar. To reset changes made to the model axis, click in the sequence bar on “Cancel”.

Information: If you choose to create a planning model with base (optional) (see Adding a base to the model [→ 58]), the set occlusion level is set parallel to the base level here. With a standard base with an overall height of 60 mm, the occlusion level is 30 mm away from the upper and lower foundation of the base.
9.5 Marking teeth (lower jaw)

The step is required for the "Model Analysis" step.

The following options are available in this step:

- The scanned model of the lower jaw shows a jaw line and the teeth are automatically marked according to an odontogram.
- The individual markings can be manually aligned in the middle of the teeth.
- The odontogram used is defined under ADA/FDI odontogram [→ 26].

**Procedure**

1. Define the jaw line (B) so that it matches the main jaw line. The line is changed by left-clicking and dragging the blue circles (A) and the blue tooth numbers (C).
2. Align the tooth numbers by left-clicking, holding and dragging so that they are in the middle above the respective teeth in accordance with the odontogram. When the blue tooth numbers (c) are moved, the line changes. The yellow tooth numbers (D) can be moved without changing the line.
3. If a tooth number is missing, add it by left-clicking on the line and place the tooth number in the middle.
4. If a tooth number is present that is not assigned to a tooth, delete it by right-clicking.
5. If the end teeth are 8s, the jaw line must stop on the 8 and the numbers must be positioned in the middle above the tooth. If the end teeth are 7s, the line must go beyond that. In this case, right-click on the numbers of the 7s and drag the jaw line further. A blue circle will then be shown at the end. (See figure above).
9.6 Marking teeth (upper jaw)

The step is required for the "Model Analysis" step.

The following options are available in this step:

- The scanned model of the upper jaw shows a jaw line (B) and the teeth are automatically marked according to an odontogram.
- The individual markings can be manually aligned in the middle of the teeth.
- The odontogram used is defined under ADA/FDI odontogram [→ 26].

Procedure

1. Define the jaw line (B) so that it matches the main jaw line. The line is changed by left-clicking and dragging the blue circles (A) and the blue tooth numbers (C).
2. Align the tooth numbers by left-clicking, holding and dragging so that they are in the middle above the respective teeth in accordance with the odontogram. When the blue tooth numbers (c) are moved, the line changes. The yellow tooth numbers (D) can be moved without changing the line.
3. If a tooth number is missing, add it by left-clicking on the line and place the tooth number in the middle.
4. If a tooth number is present that is not assigned to a tooth, delete it by right-clicking.
5. If the end teeth are 8s, the jaw line must stop on the 8 and the numbers must be positioned in the middle above the tooth. If the end teeth are 7s, the line must go beyond that. In this case, right-click on the numbers of the 7s and drag the jaw line further. A blue circle will then be shown at the end. (See figure above).
9.7 **Separating teeth (lower jaw)**

The step is required for the "Model Analysis" step.

The following options are available in this step:

- The individual teeth and the gums of the lower jaw are separated. The separation is shown using different colors.
- Inaccurate delimitations of adjacent teeth or of a tooth to the gum can be corrected.

**Procedure**

Teeth and gums are separated automatically.

Corrections are only necessary in the case of inaccurate delimitations.

1. To make a correction, left-click in an area that is already colored correctly (A). In the figure, this is the part of a tooth colored in white. The mouse pointer is now shown as a cross-shaped paint tool (similar to an image editing program).

2. Click and hold the mouse button and move the paint tool into the area that is not yet correctly delimited (B). In the figure, this is the part of the tooth that is still colored in pink (color of the gums).

**Tip:** You can change the size of the paint tool by moving the mouse pointer into the model, clicking and holding the right mouse button and scrolling.
9.8 Separating teeth (upper jaw)

The step is required for the "Model Analysis" step.

The following options are available in this step:

- The teeth and the gums of the lower jaw are separated.
- The separation and possible corrections take place during step "Separate Teeth (Lower)".

9.9 Model analysis

In this step, the model is analyzed. The following analyses are available:

- Bolton Analysis
- Moyers Analysis
- Nance Analysis

**WARNING**

Analysis of the scanned model alone is not sufficient to justify a surgical procedure.

**WARNING**

Analysis of the scanned model alone is not sufficient to justify an extraction.

PDF Export

The results of the analysis can be exported as a PDF file using the "PDF Export" button in the tool menu.
Prerequisites

To perform the "Model Analysis" step, the following steps must already have been performed:

- "Mark Teeth (Lower)"
- "Mark Teeth (Upper)"
- "Separate Teeth (Lower)"
- "Separate Teeth (Upper)"

Bolton Analysis

1. Select the menu option "Bolton Analysis" in the tool menu.

The width of the individual teeth is shown in the model.

2. If the measurements are not accurate enough, adjust them by left-clicking and dragging the drag points (B). This works like manually measurements using a caliper gage. If two measurement displays (A) overlap, you can adjust their height by left-clicking and dragging.
3. Perform the preceding step for the lower and upper jaw. You can switch between the lower and upper jaw in the "Display Objects" area.

- The "Overall ratio" and "Anterior ratio" values are shown in the bottom left of the screen.

Moyers Analysis

1. Select the menu option "Moyers Analysis" in the tool menu.

- The measurements required for the Moyers analysis are shown in the model.

2. If the measurements are not accurate enough, adjust them by left-clicking and dragging the drag points (B). This works like manually measurements using a caliper gage. If two measurement displays (A) overlap, you can adjust their height by left-clicking and dragging.

3. Perform the preceding step for the lower and upper jaw. You can switch between the lower and upper jaw in the "Display Objects" area.

- The "Available space", "Estimated needed space" and "Difference" values are shown in the bottom left of the screen.
Nance Analysis

1. Select the menu option "Nance Analysis" in the tool menu.

   The width of the individual teeth is shown in the model. The sum of these tooth widths forms the target dental arch length.

2. If the measurements are not accurate enough, adjust them by left-clicking and dragging the drag points (B). This works like manually measurements using a caliper gage. If two measurement displays (A) overlap, you can adjust their height by left-clicking and dragging.

3. Click the "Edit Line Mode" button in the tool menu.

   A line is then displayed above the model. This line defines the actual length of the dental arch.
4. If necessary, adjust the line by left-clicking on the blue circles (A) and dragging.

5. Perform the preceding step for the lower and upper jaw. You can switch between the lower and upper jaw in the “Display Objects” area.

The “Space Available”, “Space Required” and “Difference” values are shown in the bottom left of the screen.

9.10 Adding a base to the model

You can add a base to the model in this step.

Tip: Only add a base to the model if you wish to produce a 3D print.

The following base types are possible:

- Tweed
- Ricketts
- Parallel
- ABO

To add a base, proceed as follows:

1. Switch to the “Add Base” step.
2. Select a base type.
3. Adjust the base to the upper and lower jaw using the arrows (A). You can adjust the height, width, and depth of the base.

The following base dimensions are displayed:

- Maxilla base height
- Maxilla total height
- Mandible base height
- Mandible total height
- Total height model

IMPORTANT

Observe the minimum heights of the base required for 3D printing.

4. When the base has been created, confirm with the “Apply” button.
The color of the model with base changes.

9.11 Finishing the phase

✔ The “EXPORT” phase can be selected.
1. Click on the “EXPORT” phase.

or

➢ Click on the double arrow.
♀ The program switches over to the “EXPORT” phase.
10 EXPORT phase

In this phase, you can perform the following:

- Send model to Sirona Connect portal
- Sending a model to Aligner
  - MTM Clear Aligner
  - Ideal Smile Aligner
  - ClearCorrect
  - Invisalign
- Exporting a model for manufacturers
  - 3M Incognito
  - CA Digital
- Exporting a model in the following other formats
  - Dolphin 3D (interface with Dolphin 3D software required)
  - SICAT
  - Stratasys
  - OnyxCeph

The most recently selected exports are shown under “Recent Choices:”.

10.1 Send model to Sirona Connect portal

Model data in the Sirona Connect Portal

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

✔ You are registered on “www.sirona-connect.com” as a dentist.
✔ In your account settings at least one favored laboratory is selected.
➢ Click on the “Sirona Connect Portal” button.

10.1.1 Log out of the Sirona Connect software at the portal

1. Enter user name and password.
2. Activate the relevant option if you want to save the user name and password.
3. In the step menu, click on “Ok”.
   - The data are uploaded in parallel to the information being entered in the portal.
10.1.2 Enter 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**

<table>
<thead>
<tr>
<th>Maximum 5 labs</th>
</tr>
</thead>
<tbody>
<tr>
<td>You can save a maximum of 5 labs in the list of your favorite labs.</td>
</tr>
</tbody>
</table>

Via "Edit your favourite laboratories" you can add labs to or delete labs from the list.

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.

Then click on "Add Additional Information" to go on to the next step. Your preferred laboratory has saved individual order information, which must be entered for the return date.

10.1.3 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).

Then click on the "Add To Cart" button to move to the shopping cart.

10.1.4 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.

10.1.5 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 below the list.

In order to view the order details you must click the relevant order in the list so that it is highlighted in orange. 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.
10.2 Sending a model to Aligner

10.2.1 Sending a model to MTM Clear Aligner

Exporting a model to MTM Clear Aligner occurs via the Sirona Connect portal.

Model data in the Sirona Connect Portal

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

✔ You are registered on "www.sirona-connect.com" as a dentist.
✔ In your account settings "MTM Clear Aligner" is selected as a favored laboratory.
➢ Click the "MTM Clear Aligner" button in the "Aligners" menu.

10.2.1.1 Log out of the Sirona Connect software at the portal

1. Enter user name and password.
2. Activate the relevant option if you want to save the user name and password.
3. In the step menu, click on "Ok".
   ▶ The data are uploaded in parallel to the information being entered in the portal.

10.2.1.2 Enter order data

You can enter the desired delivery date in this step.

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.

Then click on "Add Additional Information" to go on to the next step.

10.2.1.3 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).

Then click on the "Add To Cart" button to move to the shopping cart.
10.2.1.4 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.

10.2.1.5 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 below the list.

In order to view the order details you must click the relevant order in the list so that it is highlighted in orange. 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.

10.2.2 Sending a model to Ideal Smile Aligner

Exporting a model to “Ideal Smile Aligner” occurs via the Sirona Connect portal.

Model data in the Sirona Connect Portal

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

✔ You are registered on “www.sirona-connect.com” as a dentist.
✔ In your account settings “Ideal Smile Aligner” is selected as a favored laboratory.
➢ Click the “Ideal Smile Aligner” button in the “Aligners” menu.

10.2.2.1 Enter order data

You can enter the desired delivery date in this step.

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.

Then click on "Add Additional Information" to go on to the next step.

10.2.2.2 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).

Then click on the "Add To Cart" button to move to the shopping cart.

10.2.2.3 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.

10.2.2.4 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 below the list.

In order to view the order details you must click the relevant order in the list so that it is highlighted in orange. 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.

10.2.3 Sending the model to Invisalign

You can export a model to Invisalign via the Sirona Connect portal directly into your customer account on the Invisalign Doctor Site (http://vip.invisalign.com).

Model data in the Sirona Connect Portal

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

✔ You are registered on "www.sirona-connect.com" as a dentist.
1. Log in at "www.sirona-connect.com".
2. Under My account, select the option Your Laboratories.
3. Select Invisalign.
4. Follow the instructions to carry out the authentication process.

☐ Your Sirona Connect account is linked to your Invisalign customer account.
5. Click the Invisalign button in the “Aligners” menu.
   The model is uploaded and automatically filed to your Invisalign Doctor Site customer account.

10.2.4 Send model to ClearCorrect

Exporting a model to ClearCorrect occurs via the Sirona Connect portal.

Model data in the Sirona Connect Portal

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

✔ You are registered on “www.sirona-connect.com” as a dentist.
✔ In your account settings “ClearCorrect” is selected as a favored laboratory.
➢ Click the “ClearCorrect” button in the “Aligners” menu.

10.2.4.1 Log out of the Sirona Connect software at the portal

1. Enter user name and password.
2. Activate the relevant option if you want to save the user name and password.
3. In the step menu, click on “Ok”.
   The data are uploaded in parallel to the information being entered in the portal.

10.2.4.2 Enter order data

You can enter the desired delivery date in this step.

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.

Then click on “Add Additional Information” to go on to the next step.
10.2.4.3 **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).

Then click on the "Add To Cart" button to move to the shopping cart.

10.2.4.4 **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.

10.2.4.5 **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 below the list.

In order to view the order details you must click the relevant order in the list so that it is highlighted in orange. 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.

10.3 **Exporting a model for manufacturers**

1. Select either the "3M Incognito" or "CA Digital" button in the "Manufacturers" menu.

2. Select the storage location and change the file name if necessary.

3. Click on "Save".
10.4 Other export formats

10.4.1 Send model to Dolphin 3D

**IMPORTANT**
In order to send a virtual model to Dolphin 3D, the "Sirona Server" software must be installed and configured with the "Sirona Registry Server", "Sirona Launcher", and "RequestScan" components. For more information about this, see "Sirona Server Operator's manual", REF "65 39 725".

**IMPORTANT**
The Dolphin 3D software must be version 11.8.06.16 or higher.

**IMPORTANT**
Exporting to Dolphin 3D is available if CEREC Ortho SW has been started via the Dolphin 3D software.

1. Click the "Dolphin 3D" button.

**IMPORTANT**
If the scan is requested via Dolphin 3D, exporting to Dolphin 3D starts automatically when switching to the EXPORT phase. In this case, clicking on the "Dolphin 3D" button is not required.

2. Click the "Add..." button in the window that appears.
3. In the menu that appears, select the menu option "CEREC Ortho Scanner".
   - While the data is being sent to Dolphin 3D, the "Loading Arch Models... Please wait..." message is displayed.
   - When the data is sent, a confirmation message appears.
4. Click the "OK" button in the confirmation message.
   - The data has been sent to Dolphin 3D and can be processed there.

10.4.2 Exporting a model for SICAT, Stratasys or OnyxCeph

1. Click on one of the "SICAT", "Stratasys", or "OnyxCeph" buttons in the "File Export" menu.
2. Select the storage location and change the file name if necessary.
3. Click on "Save".
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We reserve the right to make any alterations which may be required due to technical improvements.