CEREC AC

Operating Instructions for the Acquisition Unit
With Omnicam

This product is covered by one or more of the following US patents:

- US6885464
- US6813035
- US7522764
- US7388678
- US7801632
- US8062034
- US8111909

![CEREC AC Image]
## Table of contents

1. Dear Customer, ........................................................................................................ 5

2. General information .................................................................................................. 6
   2.1 Structure of the document ...................................................................................... 6
      2.1.1 Identification of the danger levels ................................................................. 6
      2.1.2 Formats and symbols used ................................................................. 6
   2.2 Warranty ............................................................................................................. 7
   2.3 Battery warranty .................................................................................................. 7
   2.4 Legend .................................................................................................................. 7

3. General description .................................................................................................. 9
   3.1 Certification ........................................................................................................ 9
   3.2 Intended use ....................................................................................................... 9

4. Safety ....................................................................................................................... 10
   4.1 Basic safety information ..................................................................................... 10
      4.1.1 Prerequisites ............................................................................................... 10
      4.1.2 Connecting the unit .................................................................................. 10
      4.1.3 General safety information ....................................................................... 10
      4.1.4 Movement and stability of the unit ...................................................... 11
      4.1.5 Maintenance and repair ........................................................................ 11
      4.1.6 Changes to the product .......................................................................... 12
      4.1.7 Accessories ............................................................................................ 12
      4.1.7.1 Included accessories ........................................................................ 12
   4.2 Safety labels ....................................................................................................... 12
   4.3 Electrostatic charge ........................................................................................... 14
      4.3.1 ESD warning labels .................................................................................. 14
      4.3.2 ESD protective measures ....................................................................... 15
      4.3.3 About the physics of electrostatic charges ........................................... 15
   4.4 Wireless phone interference with equipment ................................................. 16
   4.5 Disturbance of data transmission ................................................................. 16
   4.6 Integration in a network or connection to a modem .................................... 17

5. Technical data .......................................................................................................... 19
6 Installation and startup ........................................................................................................ 21
6.1 Transport and unpacking ............................................................................................. 21
6.2 Disposal of packaging materials ................................................................................ 21
6.3 Scope of supply .......................................................................................................... 21
6.4 Initial startup ............................................................................................................... 22
   6.4.1 Controls and functional elements ......................................................................... 22
   6.4.2 Operating state LED ............................................................................................ 25
   6.4.3 Plug connections ................................................................................................. 25
   6.4.4 Insert battery (optional) ..................................................................................... 26
   6.4.5 Using a trackball ................................................................................................. 27
   6.4.6 Changing from right-handed to left-handed operation .................................. 27
   6.4.7 Switching the units on ....................................................................................... 27
   6.4.8 Switching the units off ....................................................................................... 29
6.5 Battery-backed operation (optional) ........................................................................... 29
7 Operation ........................................................................................................................... 33
   7.1 Camera warm-up time ............................................................................................ 33
7.2 Adjusting the CEREC Omnicam ................................................................................. 33
7.3 Taking acquisitions with the CEREC Omnicam ....................................................... 33
   7.4 Directing the camera ............................................................................................... 34
      7.4.1 Occlusal scan ................................................................................................... 35
      7.4.2 Buccal scan .................................................................................................... 36
      7.4.3 Lingual scan .................................................................................................. 36
      7.4.4 Approximal surface scan ............................................................................... 36
      7.4.5 Buccal registration ......................................................................................... 37
      7.4.6 Acquisition in the anterior region ................................................................... 37
      7.4.7 Completing measurements ........................................................................... 37
7.5 Software for the CEREC Omnicam .......................................................................... 37
   7.5.1 Mode .................................................................................................................. 37
      7.5.1.1 3D acquisition mode .................................................................................. 38
      7.5.1.2 2D video mode ........................................................................................... 38
      7.5.1.3 Switching between modes ......................................................................... 38
      7.5.2 Cut out model areas ......................................................................................... 38
      7.5.3 Image catalogs ................................................................................................. 39
      7.5.4 Additional acquisitions .................................................................................... 40
8 Maintenance ............................................................................................................. 41
  8.1 Care and cleaning agents ................................................................................. 41
  8.2 Care and cleaning of the monitor screen ......................................................... 42
  8.3 Surfaces (without monitor) ............................................................................... 42
  8.4 Cleaning and setting the trackball cover ring ................................................... 43
  8.5 Calibrating CEREC Omnicam ........................................................................ 43
  8.6 CEREC Omnicam - maintenance and care ...................................................... 46
  8.7 Replacing the main fuse .................................................................................. 47
  8.8 Charge battery (optional) ................................................................................. 48
  8.9 Replace battery (optional) ................................................................................ 49

9 Disposal .................................................................................................................... 50
  9.1 Disposal of the storage battery pack ................................................................. 50

10 Appendix .................................................................................................................. 52
  10.1 DVD playback .................................................................................................. 52
  10.2 Making backup copies .................................................................................... 52
    10.2.1 Creating (burning) a CD ........................................................................ 52
  10.3 Seal on PC slide-in module ............................................................................. 53

Index ......................................................................................................................... 54
Dear Customer,

Thank you for purchasing your CEREC AC® from Sirona.

This device enables you to produce dental restorations, e.g. from ceramic material with a natural appearance (CEramic REConstruction).

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 AC Team
2 General information

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 Structure of the document

2.1.1 Identification of the 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**
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 on making work easier.

2.1.2 Formats and symbols used

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

To safeguard your warranty claims, please complete the attached Installation Report / Warranty Passport when the unit is handed over. Then fax it to the specified fax no.

### 2.3 Battery warranty

The battery is subject to wear and the warranty period of 6 months therefore deviates from the period specified for the entire device.

### 2.4 Legend

Year of manufacture

Safety labels

Identifies labels/imprints on the unit (see Safety labels).

Product disposal symbol (see "Disposal").

Storage battery pack disposal symbol (see "Disposal of the storage battery pack" [→ 50])

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

| | See "Formats and symbols used [→ 6]" | Identifies a reference to another text passage and specifies its page number. |
| | List | Designates a list. |
| "Command/menu item" | Identifies commands, menu items or quotations. |
Storage battery pack recycling symbol (see "Disposal of the storage battery pack" [→ 50])

The CEREC AC may contain an RF transmitter in the form of a WLAN card or a separate wireless module.

Radio approval for Australia/New Zealand

Follow the operating instructions.
To ensure safe operation of the unit, the user must follow the operating instructions.
3 General description

3.1 Certification

CE mark


**NOTICE**

CE mark for connected products

Further products which are connected to this unit must also bear the CE mark.

Compliance

Anyone creating or changing a medical electrical system through a combination with other devices in accordance with standard EN 60601-1-1:2001 based on 60601-1-1:2000 (specification for the safety of medical electrical systems)/UL 60601-1 Part 1: first edition 2003 is responsible for ensuring that the requirements of these standards are met to the full extent in order to ensure the safety of patients, operators and the environment.

3.2 Intended use

In connection with the milling unit, the CEREC AC acquisition unit is used to manufacture dental restorations, e.g. from a natural-appearing ceramic material. The unit may be operated only by medically trained and qualified personnel.

If the unit is used for any usage purpose other than the one mentioned above, it may be damaged.

Intended use also includes observing the present operating instructions and the relevant maintenance instructions.

**CAUTION**

Follow the instructions

If the instructions for operating the unit described in this document are not observed, the intended protection of the user may be impaired.

For the USA only

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

4.1 Basic safety information

4.1.1 Prerequisites

**NOTICE**

**Important information on the building installation**

The building installation must be performed by a qualified expert in compliance with the national regulations. DIN VDE 0100-710 applies in Germany.

**NOTICE**

**Restrictions regarding installation site**

The system is not intended for operation in areas subject to explosion hazards.

**NOTICE**

**Do not damage the unit!**

The unit can be damaged if opened improperly. It is expressly prohibited to open the unit with tools!

4.1.2 Connecting the unit

Perform connection by following the directions given in the present operating instructions.

4.1.3 General safety information

**CAUTION**

**Do not damage the monitor**

DO NOT touch the LCD screen with sharp or pointed objects.

If the LCD monitor is damaged (e.g. the glass screen is broken), prevent any leaking liquid from contacting your skin, mucous membranes (eyes, mouth) or foodstuffs and be careful not to inhale any escaping vapors. Rinse any parts of your body or items of clothing already contaminated by the liquid with ample amounts of water and soap.
4.1.4 Movement and stability of the unit

**NOTICE**

The unit can overturn or slip away

For reasons of tilt stability, the unit must be pulled by its front handle when being moved. If you push the unit, obstacles on the floor could block its wheels, thus causing it to overturn.

The two front wheels of the unit have brakes which can be locked to ensure secure positioning. If the unit has a steeply inclined or is standing on a slippery surface and lateral forces are acting on it, it may slide even though the wheel brakes are locked.

➢ Always make sure that the unit's footprint is a flat, non-skid surface.

4.1.5 Maintenance and repair

As manufacturers of dental instruments and laboratory equipment, we can assume responsibility for the safety properties of the unit only if the following points are observed:

- The maintenance and repair of this unit may be performed only by Sirona or by agencies authorized by Sirona.
- Components which have failed and influence the safety of the unit must be replaced with original (OEM) spare parts.
Please request a certificate whenever you have such work performed. It should include:

- The type and scope of work.
- Any changes made in the rated parameters or working range.
- Date, name of company and signature.

4.1.6 Changes to the product

Modifications to this unit which may affect the safety of the operator, patients or third parties are prohibited by law!

4.1.7 Accessories

In order to ensure product safety, this product may be operated only with original Sirona accessories or third-party accessories expressly approved by Sirona. The user assumes the risk of using non-approved accessories.

4.1.7.1 Included accessories

- Storage battery pack, order no.: 61 87 582

4.2 Safety labels

Fuses

NOTICE

Use ONLY fuses of the same type!
Plug connections of external interfaces

![Diagram of plug connections]

**CAUTION**

Additional devices connected to external interfaces must be tested according to the relevant standards, e.g.:


They must be installed outside of the patient area (a radius of 1.5m surrounding the patient).

**CAUTION**

Low voltages are applied to the sockets for connecting external interfaces.

➢ Do not touch the pins of the connectors.

**NOTICE**

The externally connected cables must not be subjected to pulling stress.
4.3 Electrostatic charge

4.3.1 ESD warning labels

CAUTION

Connector pins or sockets bearing ESD warning labels must not be touched or interconnected without ESD protective measures.

CAUTION

In order to maintain electrical safety, the rear doors of the acquisition unit must be kept closed while it is in operation. The acquisition unit must not be operated inside of the patient area (within a radius of 1.5 m surrounding the patient) with the doors open.

CAUTION

Risk of burns due to hot surface!

Never touch the heater plate (A)!
4.3.2 ESD protective measures

ESD stands for ElectroStatic Discharge.

ESD protective measures include:

- Procedures for preventing electrostatic charge build-up (e.g. air conditioning, air moistening, conductive floor coverings and non-synthetic clothing)
- Discharging the electrostatic charges of your own body on the frame of the UNIT, the protective ground wire or large metallic objects
- Connecting yourself to ground using a wrist band.

We therefore recommend that all persons working with this system be instructed on the significance of this warning label. Furthermore, they also should receive training in the physics of electrostatic discharges which can occur in the practice and the destruction of electronic components which may result if such components are touched by electrostatically charged USERS.

The content of this training is explained in the Chapter "About the physics of electrostatic charges" [→ 15].

4.3.3 About the physics of electrostatic charges

What is an electrostatic charge?

An electrostatic charge is a voltage field on and in an object (e.g. a human body) which is protected against conductance to ground potential by a nonconductive layer (e.g. a shoe sole).

Formation of an electrostatic charge

Electrostatic charges generally build up whenever two bodies are rubbed against each other, e.g. when walking (shoe soles against the floor) or driving a vehicle (tires against the street pavement).
Amount of charge

The amount of charge depends on several factors:

Thus the charge is higher in an environment with low air humidity than in one with high air humidity; it is also higher with synthetic materials than with natural materials (clothing, floor coverings).

Electrostatic discharge must be preceded by electrostatic charging.

The following rule of thumb can be applied to assess the transient voltages resulting from an electrostatic discharge.

An electrostatic discharge is:

- perceptible at 3,000 V or higher
- audible at 5,000 V or higher (cracking, crackling)
- visible at 10,000 V or higher (arc-over)

The transient currents resulting from these discharges have a magnitude of 10 amperes. They are not hazardous for humans because they last for only several nanoseconds.

Background

Integrated circuits (logical circuits and microprocessors) are used to implement a wide variety of functions in dental/X-ray/CAD/CAM systems.

The circuits must be miniaturized to a very high degree in order to include as many functions as possible on these chips. This leads to structure thicknesses as low as a few ten thousandths of a millimeter.

It is obvious that integrated circuits which are connected to plugs leading outside of the unit via cables are sensitive to electrostatic discharge.

Even voltages which are imperceptible to the user can cause breakdown of the structures, thus leading to a discharge current which melts the chip in the affected areas. Damage to individual integrated circuits may cause malfunction or failure of the system.

To prevent this from happening, the ESD warning label next to the plug warns of this hazard. ESD stands for ElectroStatic Discharge.

Connector pins or sockets bearing ESD warning labels must not be touched or interconnected without ESD protective measures.

4.4 Wireless phone interference with equipment

The use of mobile wireless phones in practice or hospital environments must be prohibited to ensure safe operation of the unit.

4.5 Disturbance of data transmission

Note on wireless communication

Data communication between the acquisition unit and the CEREC MC XL milling unit should preferably be established via the wireless H&W interface or WLAN. As for all wireless connections (e.g. cell phones), heavy utilization of the available radio channels or shielding caused by building installations (e.g. metal-shielded X-ray enclosures) may impair the quality of the connection. This may become noticeable through a reduction in range and/or a slower data transmission rate. In extreme cases, it will be impossible to establish a wireless connection at all.
Sirona has selected the best possible configuration for data communication via the wireless H&W interface or WLAN, which generally provides perfect functioning of this connection. However, in individual cases unrestricted wireless data communication may be impossible for the reasons mentioned above and/or due to local circumstances. In such cases, a cable LAN connection should be selected to ensure uninterrupted operation. If the only LAN interface on the rear of the CEREC AC is occupied by another plug, remove this H&W wireless interface connection and instead connect the LAN cable with the CEREC MC XL milling unit.

4.6 Integration in a network or connection to a modem

**NOTICE**

**Observe the following installation regulations**

The following installation regulations apply to integration of the acquisition unit in a network or connection of the acquisition unit to a modem:

**Network**

The acquisition unit may only be operated in a network if it is connected to a HUB/switch. The HUB/switch must:

- be located in the room where the acquisition unit is operated, permanently installed.
- be grounded via an additional ground wire.

<table>
<thead>
<tr>
<th>Cross-section of the protective ground wire</th>
<th>laid protected</th>
<th>2.5 mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>laid unprotected</td>
<td>4 mm²</td>
</tr>
</tbody>
</table>
Modem

At least one of the following specifications must be fulfilled in order to operate the acquisition unit on a modem:

- If a modem is connected, the acquisition unit may only be operated outside of the patient area (radius of 1.5 m surrounding the patient).
- An RS232 isolator compliant with EN 60 601-1-1 with a dielectric strength of at least 1.5 kV must be installed at the modem end in the RS232 connecting cable between the acquisition unit and the modem.
5 Technical data

Type designation
Rated line voltage
Rated current
Type of protection against electric shock
Type of protection against electric shock (camera)

Degree of protection against ingress of water
Pollution degree
Installation category
Operating mode

Storage battery pack for battery-backed operation

Label: CAUTION

Transport and storage conditions

Temperature
Relative humidity
Air pressure

Operating conditions

Ambient temperature
Relative humidity
Air pressure
Operating altitude

Sirona Dental Systems GmbH 5 Operating Instructions for the Acquisition Unit

Technical data

CEREC AC acquisition unit
100 - 240 V ~ / 50 - 60 Hz
4.7 - 1.8 A
Class I device
Type BF applied part

Ordinary device (without protection against ingress of water)

2
II
Continuous operation
Battery-backed operation for 6 minutes
24VDC / 2.5Ah
Sirona Order Number: 61 87 582 D3492

Observe accompanying documents

Temperature -25 °C to 60 °C
(-13° F to 140° F)
Relative humidity 10% to 75%
Air pressure 700 hPa to 1060 hPa

Ambient temperature 10 °C to 35 °C
(50° F to 95° F)
Relative humidity 30% to 85%
No condensation
Air pressure 700 hPa to 1060 hPa
Operating altitude ≤ 3000m
## Dimensions and weight

<table>
<thead>
<tr>
<th>Dimensions (WxHxD)</th>
<th>350 x 1210 x 470mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>in mm</td>
<td>13¼ x 47 ¾ x 18½”</td>
</tr>
<tr>
<td>in inches</td>
<td></td>
</tr>
</tbody>
</table>

### Weight

- without monitor and battery pack approx. 38 kg (83.8 lbs)
- Monitor approx. 4 kg (8.8 lbs)
- Battery pack approx. 2 kg (4.4 lbs)
6 Installation and startup

6.1 Transport and unpacking

All Sirona products are carefully checked prior to shipment. Please perform an incoming inspection immediately after delivery.

1. Check the delivery note to ensure that the consignment is complete.
2. Check whether the product shows any visible signs of damage.

**NOTICE**

Damage during transport

If the product was damaged during transport, please contact your carrying agent.

If return shipment is required, please use the original packaging for shipment.

To prevent damage to the LCD monitor, it must be removed during transport of the unit.

6.2 Disposal of packaging materials

The packaging must be disposed of in compliance with the relevant national regulations. Please observe the regulations applicable in your country.

6.3 Scope of supply

The detailed scope of supply is specified in the document "Scope of supply".
6.4 Initial startup

6.4.1 Controls and functional elements

Overview of the front panel

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Monitor ON/OFF switch</td>
<td>H</td>
<td>Center trackball button</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Membrane keyboard</td>
<td>I</td>
<td>Left trackball button</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>CEREC camera</td>
<td>J</td>
<td>Trackball</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Heater plate</td>
<td>K</td>
<td>Keys for monitor settings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Locking brake</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Foot control/foot pedal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Right trackball button</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Components of the Omnicam

A Press detent to release
B Mirror sleeve
C Sapphire glass
D Camera window
E Calibration set

NOTICE

CEREC Omnicam is calibrated

The CEREC Omnicam is calibrated ex works (see "Calibrating CEREC Omnicam [→ 43]").
Overview of rear side

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Fuses</td>
</tr>
<tr>
<td>B</td>
<td>Main switch</td>
</tr>
<tr>
<td></td>
<td>I = ON, 0 = OFF</td>
</tr>
<tr>
<td>C</td>
<td>Power connection</td>
</tr>
<tr>
<td>D</td>
<td>USB port</td>
</tr>
</tbody>
</table>

**NOTICE**

**Waiting time after shutting down**

If you have shut down the device using the main switch, wait at least 10 seconds before restarting.

If you do not observe the waiting time, the PC power supply cannot be switched on.

✔ You have not waited the specified time. The PC power supply cannot be switched on.

➢ Switch the unit off.
➢ Wait a further 10 seconds.
➢ Switch the unit on again.
6.4.2 **Operating state LED**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Operating state LED</td>
</tr>
<tr>
<td>B</td>
<td>ON button</td>
</tr>
</tbody>
</table>

LED not lit: Acquisition unit is switched off at main switch.
LED lights up yellow: Acquisition unit is switched on at main switch, Windows is shut down and the PC is switched off.
LED lights up green: Acquisition unit is switched on at ON button and ready for operation.

6.4.3 **Plug connections**

**NOTICE**

The CEREC Omnicam is a high-precision optoelectronic scanning instrument for non-contact impression taking which requires careful handling. Incorrect handling (impacts, dropping) leads to failure of the CEREC Omnicam.
➢ Always deposit the sensitive CEREC Omnicam in its holder!

**NOTICE**

Do not damage the cables
If you pull on the cable itself in order to unplug it or to check the plug connection, you will damage the cable.
➢ Never pull on the cable.
➢ Slide the moving part of the plug coupling on the CEREC AC upward. At the same time, hold the camera connector in place.

1. Connect the unit to the line voltage with the power cord.
2. Carefully insert the connector of the CEREC Omnicam cable into the coupling on the CEREC AC, watching out for the guide nose.
3. Check the plug connections of the power supply and the camera. The CEREC Omnicam always remains connected.
Notes on network installation

The network card is installed. The cable with the RJ-45 connectors establishes the network connection. The network software and the driver for the network card must be installed by your network administrator.

The acquisition unit is equipped with a WLAN card that is preconfigured for operation with an MC XL milling unit. The integration of the acquisition unit into the practice network with the aid of the WLAN card is not supported by Sirona.

6.4.4 Insert battery (optional)

1. Open the lower door on the back panel.

**NOTICE**

**Open with coin.**

Use a coin to open the latch. Turn counter-clockwise.

2. Remove the battery cover.
3. Insert the battery into the battery compartment with the mounting screw and screw it down.
4. Plug in the battery plug.
5. Attach the battery cover.
6. Put the door back in position and lock it.
6.4.5 Using a trackball

1. Turn the collar (A) counterclockwise and remove it.
2. Insert the ball supplied.
3. Lay the collar (A) into position and turn it clockwise until it snaps into place.

6.4.6 Changing from right-handed to left-handed operation

In the factory default setting, the left button trackball button corresponds to a foot control entry. If you would like to change this assignment to the right trackball button, your CEREC service technician can do this for you.

6.4.7 Switching the units on

**NOTICE**
Do not put the unit into operation at low temperatures!
If you move the unit to the operating site from a cold environment, condensation may form and result in a short circuit.

- Install the unit at room temperature.
- Wait until the unit has reached room temperature and is absolutely dry (for at least one hour)
- The unit is dry and can be put into operation.

**CAUTION**
Use only the supplied power cord
Use only the power cord supplied by Sirona to connect the acquisition unit to the power supply.

If the acquisition unit is switched on at the main switch, it can be activated with the ON button. The monitor is switched on and off automatically (if it was switched on before the acquisition unit was switched off). You can switch the monitor on and off with the monitor ON/OFF switch.
6.4 Initial startup

Operating Instructions for the Acquisition Unit

Switching on CEREC AC graphics

1. Switch the acquisition unit on at the main switch.
2. Switch the acquisition unit on at the ON switch.

NOTICE

Possible data loss and PC malfunction:
Switching the exposure unit off at the ON button during operation may cause data loss and PC malfunctions.

➢ Always switch the unit off as described in the chapter "Switching the units off".

3. Switch the monitor on.
4. Switch the milling unit on (see the Operating Instructions for the Milling Unit).
5. After loading the operating system, start the CEREC application by double-clicking on the CEREC button.
6. For descriptions of further software actions, an online help function can be invoked with "F1" or via the Help... menu option.

NOTICE

Internet Explorer V 5.0 or higher must be installed on your system in order to use the online help function.
### 6.4.8 Switching the units off

**NOTICE**

**Proper shutdown procedure**

The operating system must always be shut down properly to prevent data loss.

1. Exit all programs.
2. Power down the operating system.
   - The PC automatically switches off. The operating state LED lights up yellow.

**NOTICE**

**Do not switch off while battery (optional) is being charged**

The battery will be charged only if the power cord is plugged in and the main switch at the back of the unit is switched on (see also Charging the battery (optional) [→ 48]).

3. Switch the acquisition unit off at the main switch.
   - The operating state LED goes out.

**NOTICE:** Now you can also switch the milling unit off if necessary.

### 6.5 Battery-backed operation (optional)

**Introduction**

The acquisition unit PC has a battery-backed power supply. It is thus possible to operate the acquisition unit for a short time with no line voltage connected.

**CAUTION**

**No treatment without connected line voltage**

Patients must not be treated (generation of intra-oral impressions) unless the unit is connected to the practice’s electricity-supply system.

The following parameters are constantly checked by the installed monitoring software in order to monitor the battery back-up function:

- Line voltage present
- Charge set of storage battery pack
- Fan function
- Temperature of power supply

When the unit is running in the battery-powered mode, this is indicated by a message displayed at the bottom of the screen. It is accompanied by a rhythmic beep.

This beep changes to a continuous signal 30 seconds before the system shuts down due to insufficient battery power. A corresponding display then appears in the center of the screen. The user thus has time to finish his last actions on the PC.
As soon as 30 seconds have elapsed, the operating system is shut down.

**NOTICE**
The operating time of the storage batteries is not constant. It depends on the charge state, the load and the age of the storage batteries.

Monitoring program

The monitoring program is represented in the task bar by the following symbol:

The color of the symbol has the following meaning:

- **Green** = line voltage present, fan functioning, temperature OK.
- **Yellow** = Unit running in battery-powered mode, all other operating parameters OK.
- **Red** = error

Following a double-click on the symbol, the following monitoring window opens:

<table>
<thead>
<tr>
<th>ATX Power Supply V 0.04</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMPS-System</td>
<td>Status</td>
</tr>
<tr>
<td></td>
<td>ok</td>
</tr>
<tr>
<td>Line</td>
<td>Active</td>
</tr>
<tr>
<td>Battery</td>
<td>Ok</td>
</tr>
<tr>
<td>Fan</td>
<td>Ok</td>
</tr>
<tr>
<td>Temperature</td>
<td>Ok</td>
</tr>
</tbody>
</table>

The following information is displayed in the monitoring window:
## Monitoring window

<table>
<thead>
<tr>
<th>ATX Power Supply V 0.8Z</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMPS-System Status</td>
<td></td>
</tr>
<tr>
<td>Line Active</td>
<td></td>
</tr>
<tr>
<td>Battery Ok</td>
<td></td>
</tr>
<tr>
<td>Fan Ok</td>
<td></td>
</tr>
<tr>
<td>Temperature Ok</td>
<td></td>
</tr>
</tbody>
</table>

**Line voltage switched on and battery available.**

<table>
<thead>
<tr>
<th>ATX Power Supply V 0.8Z</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMPS-System Status</td>
<td></td>
</tr>
<tr>
<td>Line Active</td>
<td></td>
</tr>
<tr>
<td>Battery Test</td>
<td></td>
</tr>
<tr>
<td>Fan Ok</td>
<td></td>
</tr>
<tr>
<td>Temperature Ok</td>
<td></td>
</tr>
</tbody>
</table>

**When the line voltage is switched on, a battery test is performed one time.**

**You can repeat this test at any time by clicking the right mouse button inside this window.**

<table>
<thead>
<tr>
<th>ATX Power Supply V 0.8Z</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMPS-System Status</td>
<td></td>
</tr>
<tr>
<td>Line Off</td>
<td></td>
</tr>
<tr>
<td>Battery Active 00:15</td>
<td></td>
</tr>
<tr>
<td>Fan Ok</td>
<td></td>
</tr>
<tr>
<td>Temperature Ok</td>
<td></td>
</tr>
</tbody>
</table>

**Battery-powered operation in the event of power failure.**

**The time in brackets shows how long the battery has been active.**

**A rhythmic beep is sounded via the system loudspeaker.**

<table>
<thead>
<tr>
<th>Attention</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery critical low</td>
<td></td>
</tr>
<tr>
<td>System will shutdown in 23 seconds</td>
<td></td>
</tr>
</tbody>
</table>

**Warning window with 30s countdown until the PC shuts down.**

**A continuous signal is then sounded via the system loudspeaker.**

<table>
<thead>
<tr>
<th>ATX Power Supply V 0.84</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMPS-System Status</td>
<td></td>
</tr>
<tr>
<td>Line Active</td>
<td></td>
</tr>
<tr>
<td>Battery Ok</td>
<td></td>
</tr>
<tr>
<td>Fan Error</td>
<td></td>
</tr>
<tr>
<td>Temperature Ok</td>
<td></td>
</tr>
</tbody>
</table>

**Fan blocked, status message in monitoring window.**

<table>
<thead>
<tr>
<th>Attention</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fan error</td>
<td></td>
</tr>
<tr>
<td>System will shutdown in 27 seconds</td>
<td></td>
</tr>
</tbody>
</table>

**Warning window with 30s countdown until the PC shuts down.**

**A continuous signal is then sounded via the system loudspeaker.**
**Monitoring window**

<table>
<thead>
<tr>
<th>ATX Power Supply V 0.84</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMPS-System</td>
<td></td>
</tr>
<tr>
<td>Line</td>
<td>Active</td>
</tr>
<tr>
<td>Battery</td>
<td>Ok</td>
</tr>
<tr>
<td>Fan</td>
<td>Ok</td>
</tr>
<tr>
<td>Temperature</td>
<td>High</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ATX Power Supply V 0.82</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMPS-System</td>
<td></td>
</tr>
<tr>
<td>Line</td>
<td>Active</td>
</tr>
<tr>
<td>Battery</td>
<td>---</td>
</tr>
<tr>
<td>Fan</td>
<td>Ok</td>
</tr>
<tr>
<td>Temperature</td>
<td>Ok</td>
</tr>
</tbody>
</table>

**Explanation**

The temperature monitor has two message thresholds. The first message threshold is output as the message "High" in the temperature result field. The "High" reading is displayed in the red-and-black flashing mode. No countdown window appears since, depending on the load and ambient conditions, the unit can keep operating for a few minutes, or even for a longer period of time if the temperature level decreases again. Direct shutdown occurs if the 2nd threshold is reached.

No battery is inserted.

**Restarting delay**

Once the power supply has been switched off, it can only be switched back on again after 10 seconds have elapsed.
7 Operation

7.1 Camera warm-up time

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

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

7.2 Adjusting the CEREC Omnicam

You can adjust the CEREC Omnicam in the device configuration.

1. In the software, navigate to the system menu, and click on the "Configuration" button.
2. Click on the "Devices" button.
3. Click on the "Omnicam" button.

Camera mode

Using the "Camera Mode" function, you can choose between intraoral or extraoral measurements.

Audio feedback

Using the "Sound" selection box, you can switch the audio feedback on or off. You can control the volume using the slide bar.

Accepting settings

➢ Click on the "Ok" button.

Discarding settings

➢ Click on the "Cancel" button.

7.3 Taking acquisitions with the CEREC Omnicam

⚠️ CAUTION

Hot surface!

The output window of the CEREC Omnicam is preheated in the camera holder. When removing the CEREC Omnicam from its holder, the surface temperature of the mirror sleeve can be up to 51°C. This may cause an unpleasant heat sensation on contacting a person's skin or mucous membrane. These temperatures will not damage anyone's skin or mucosal membrane.

After removing the CEREC Omnicam from its camera holder, the temperature of the mirror sleeve drops within a number of minutes (<5 minutes) to less than 43°C. The CEREC Omnicam is therefore suitable for use in the patient's mouth for an unlimited period of time.
7.4 Directing the camera

The **CEREC Omnicam** acquires images, that are used during the ongoing measurement in spatial relation to each other (image registration).

During the acquisition and then during the ongoing registration process, a distinctive sound can be heard.

If the registration cannot be implemented, the acquisition flow is suspended. You are informed of this by means of a sound. This is different to the sound emitted during successful acquisition.

---

**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 acquired 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.

✔ The teeth are blow-dried

1. Change to phase "ACQUISITION".
   - The camera is ready for exposure. The cursor switches to an icon of a foot control.
   - A live image appears which can be used to look around the patient's mouth.

2. Remove the CEREC Omnicam from its holder.
   - As soon as the camera is pointed over a tooth or the gums, data acquisition begins. During the continuous data acquisition, a color 3D model is generated automatically on the screen.

   A white field indicates in which area data will be acquired. If the automatic data flow breaks off, the white field is lost and the audio signal changes. In this case, move the camera to any area which has already been acquired. The acquisition procedure continues.

3. Use the foot switch or point the camera cursor to the Omnicam icon in the bottom left corner to end the acquisition procedure.

**Proceeding with the acquisition procedure**

1. Use the foot switch or click on the Omnicam icon with the cursor.
   - The acquisition procedure begins.

2. Proceed with the acquisition procedure as described above.

---

**7.4 Directing the camera**

The CEREC Omnicam acquires images, that are used during the ongoing measurement in spatial relation to each other (image registration).
Divide the acquisition into four consecutive sequences:

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

### 7.4.1 Occlusal scan

**Important:** Ensure that the distance between the output window of the CEREC Omnicam and the scanned surface is observed. The distance must be between 0-15 mm (ideally: 5 mm). If the distance is too great, no data will be obtained.

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

✔ The CEREC Omnicam is on the adjacent tooth, in the mesial direction to the preparation.
1. Rotate the CEREC Omnicam approximately 90° toward the buccal.
2. Guide the CEREC Omnicam over the entire buccal distance in the distal direction over the prepared tooth.

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

Tip: Practice guiding the camera below 90°.

7.4.3 Lingual scan

✔ The CEREC Omnicam is on the tooth that is positioned next to the preparation in the distal direction.
1. Rotate the CEREC Omnicam by 90° in the buccal direction to the other side, to around 90° in the lingual direction.
2. Guide the CEREC Omnicam over the entire lingual distance in the mesial direction over the prepared tooth.

7.4.4 Approximal surface scan

Scan the approximal surfaces of the prepared tooth.

➢ Move the CEREC Omnicam in the occlusal direction to the prepared tooth. Acquire the approximal surfaces in the distal and mesial direction by using a wave motion in the occlusal direction over the prepared tooth.
To do so, tilt the surface by 15° in the distal and mesial direction to gain a better view of the approximal contacts.
7.4.5 **Buccal registration**

A buccal registration can be used to establish contact with the antagonist.

✔ The jaw with the preparation is scanned.

1. Scan the occlusal and buccal view of the antagonist (see the section Occlusal scan [→ 35] and Buccal scan [→ 36]).
2. Perform a buccal scan of the bite block prior to completing the registration.

7.4.6 **Acquisition in the anterior region**

Ensure that the CEREC Omnicam is tilted correctly, particularly in the anterior region.

As a general rule, swivel from vestibular to oral.

**Tip:** Be sure to thoroughly practice passing over the incisal ridge.

If the data stream is interrupted at this point, proceed as follows:

1. Return to an occlusal surface of a premolar which has already been acquired.
2. Approach the anterior teeth again from this occlusal surface.

7.4.7 **Completing measurements**

✔ The acquisitions are complete.

1. Click on the "Next" button.
   - The virtual model is calculated and presented in color.
   - Gray sections highlight data material that is missing from the calculated model.
2. If data is missing from the preparation area, perform additional scans. Return to the "ACQUISITION" phase. Perform additional scans to complete the model structure.

7.5 **Software for the CEREC Omnicam**

Changes to the software for the use of the CEREC Omnicam. Further information on using the CEREC SW4.0 can be found in the operator's manual (REF: 63 61 120).

In the chapter on Adjusting the CEREC Omnicam [→ 33] in these Operating Instructions, you can find additional information on adjusting the CEREC Omnicam.

7.5.1 **Mode**

You can choose between the Measure (3D) and Video (2D) modes.

1. Go to phase "ACQUISITION".
2. Click on the "Mode" button on the right side of the screen.
7.5.1.1 3D acquisition mode

1. Click on the "Mode" button.
2. Click on the Measure (3D) button.
3. Acquire the 3D model as described in the chapter on Directing the camera \[ \rightarrow 34 \].

7.5.1.2 2D video mode

Video recording

Using the video mode, you can record patient situations and play them back.

1. Click on the "Mode" button.
2. Click on the Video (2D) button.
   - In the camera view base board, a red button appears.
3. Click on the red button in the camera view base board.
   - The video mode starts.
   - During the acquisition, a red dot with a letter R appears in the top left corner of the camera view. The dot indicates that a recording is being taken.
4. Record the video with the CEREC Omnicam.
5. End the recording by clicking on the red button in the camera view base board with the cursor.

The video recording is automatically deleted if you switch to the "MODEL" phase.

Deleting an existing video

Only one video is possible per patient. The existing video must therefore be deleted before a new one can be recorded.

✔ A video recording exists.
✔ You are in the Video (2D) acquisition mode.
➢ Click on the "Recycle Bin" button in the camera view base board.

Playing back a video

You can play back, rewind or fast forward the video using the button in camera view.

7.5.1.3 Switching between modes

You can use the "Mode" button to switch between the acquisition modes.

7.5.2 Cut out model areas

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

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

1. Click on the tool wheel.
2. Click on the "Cut" button.
   ✔ The cursor changes to a cross.
3. Begin the cut line with a double-click.
4. Click to set additional points.
5. Finish the cut by double clicking.
   ✔ The model area is cut out.
6. Click the "Apply" button to implement the change.

You can execute another scan of the area which you have cut out using the crop function. To do so, close the tool window, by clicking on the top right corner. You can refill the area with another acquisition.

**Undo and reset**

With the "Undo" button in the tools you can undo the last change made.

With the "Reset" button you can reset changes that were made with the tool.

### 7.5.3 Image catalogs

In the ACQUISITION phase, three image catalogs are available as standard:

- **Lower Jaw**

- **Upper Jaw**

- **Buccal**

In addition, further image catalogs can be shown:

- BioRef Lower (Lower jaw)
- BioRef Upper (Upper jaw)
- BioCopy Lower (Lower jaw)
- BioCopy Upper (Upper jaw)

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

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

➢ Grab the image with your mouse and move it to the shredder using drag & drop.
_approval: The image is deleted.

7.5.4 Additional acquisitions

You can switch back from the DESIGN phase to the ACQUISITION phase and add additional acquisitions.

✓ You are now in the DESIGN phase.

1. Click on the ACQUISITION phase.
approval: The ACQUISITION phase opens. The image catalogs are locked.

2. Click the button marked "Unlock" in the side bar.
approval: The image catalogs are unlocked.
approval: You can take additional acquisitions.
8 Maintenance

**WARNING**

**Danger of touching live parts**
If the housing is damaged, there is a possibility of touching live parts inside the unit. If the housing is damaged, the unit must be put and left out of operation until it has been professionally repaired.

**NOTICE**

**Regular inspection**
Some countries have legal regulations which require regular safety inspections of electrical devices or systems by the operator.
Sirona would like to point out that a so-called "retest" (repeat test) must be carried out for the CEREC AC acquisition unit every three years at the latest. In addition, this retest also must be performed following every repair or retrofit of components such as the PC, the PC power supply, the isolating transformer, the camera and the camera cable.

**NOTICE**

Annual maintenance performed by trained technical personnel is recommended.

8.1 Care and cleaning agents

**NOTICE**

**Approved care and cleaning agents**
Use only care and cleaning agents which have been approved by Sirona!

**Approved care and cleaning agents**

**NOTICE**

**Not for LCD monitors**
Do not use the agents listed in the following for the LCD monitor!
You can use these agents for all other surfaces, including the camera.

Not approved in the USA

<table>
<thead>
<tr>
<th>Alpro</th>
<th>• Minuten Spray classic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Minuten Wipes</td>
</tr>
<tr>
<td></td>
<td>• Plasti Sept</td>
</tr>
<tr>
<td></td>
<td>• Plasti Sept Wipes</td>
</tr>
<tr>
<td>Merz</td>
<td>• Pursept-A</td>
</tr>
<tr>
<td>Dürr</td>
<td>• FD 312</td>
</tr>
</tbody>
</table>
8.2 Care and cleaning of the monitor screen

Cleaning
The monitor screen can be wiped off with a soft cloth.

NOTICE
Never spray the monitor screen with a disinfectant or cleaning agent!

8.3 Surfaces (without monitor)

NOTICE
Use only care and cleaning agents which have been approved by Sirona (see Care and cleaning agents)!

Cleaning

NOTICE
Do not allow liquids to penetrate into the ventilation slots!

NOTICE
Never use corrosive cleaning agents, wax or solvents.

Remove any dirt and disinfectant residues regularly using a mild commercial cleaning agent.

Do not use any colored cloths for cleaning, since they may cause discoloration of the surfaces, e.g. in combination with disinfectants!

Protection against medicaments
Due to their high concentrations and the substances they contain, many medicaments can dissolve, etch, bleach or discolor surfaces.

NOTICE
The only way to prevent damage is to wipe off medicaments immediately with a damp cloth and a cleaning agent!
8.4 Cleaning and setting the trackball cover ring

1. Rotate the cover ring counterclockwise and remove it.
2. Clean inner surface of cover ring (A) with ethanol (commercially available cleaning alcohol).
3. Remove the ball.
4. Wipe out the calotte (spherical cap).
5. Insert the ball.
6. Fit the cover ring and turn it clockwise until it is firmly tightened.

---

**NOTICE**

Setting the ease of action of the ball
For cover rings with various detent positions, the ease of action of the ball can be set by selecting the corresponding detent position.

---

8.5 Calibrating CEREC Omnicam

The measurement procedure used by the system requires the use of a calibrated CEREC Omnicam. The CEREC Omnicam is factory calibrated. If calibration is required, you can use the supplied CEREC Omnicam calibration set for this purpose.

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

Prior to the first calibration
Prior to the first calibration and switching the calibration set, you must request the software and serial number of the calibration set to be used.

1. Start the CalibRegistry.exe application on the USB stick included with delivery of the calibration set.
2. Enter the 8-digit Sirona ID. You can find the ID on the sticker on the calibration set.
   - The CEREC software will request you to use this calibration set for all future calibrations.

Start 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 "Omnicanm" button.
4. Click on the "Calibrate" button.
   - The camera view is displayed in one window.
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 in a clockwise motion until it gently locks into place.
4. Click on the “OK” button on your CEREC AC.
   - 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 on your CEREC AC. 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 12 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 on your CEREC AC.
   - 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 on your CEREC AC.
   - 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.

Ending the calibration

✔ The software indicates that the calibration was completed successfully.
➢ Click on the “OK” button.
   - The CEREC Omnicam is calibrated.
8.6 CEREC Omnicam - maintenance and care

Components of the Omnicam

The CEREC Omnicam is a very sensitive optical device and must therefore be handled with the utmost care. Protect the sapphire glass and the camera window against scratching and clean them with a lint-free cloth and ethanol (commercially available cleaning alcohol).

Removing the mirror sleeve
1. Press the mirror sleeve against the camera body.
2. Press detent A.

**NOTICE**
Risk of damaging the camera window or sapphire glass.
Push the mirror sleeve straight toward the front; do not tilt it.

3. Pull off the mirror sleeve.

Disinfecting

**NOTICE**
Do not spray the CEREC Omnicam or immerse it in cleaning agents or disinfectants!

Disinfect the CEREC Omnicam (including the mirror sleeve) with a cloth which has been soaked in the agent specified in the section "Care and cleaning agents" in the Operating Instructions for the acquisition unit.
Sterilizing

**CAUTION**

If the CEREC Omnicam accidentally falls down, check to make sure that the camera window and sapphire glass are not damaged. If the CEREC Omnicam has been damaged, it must no longer be used on patients. The CEREC Omnicam must be recalibrated.

**NOTICE**

Not sterilizable!

Do not under any circumstances sterilize the CEREC Omnicam or the video cable!

The mirror sleeve can be sterilized with hot air (180°C, 30 min) **(not in the autoclave)**.

**NOTICE**

For markets where the RKI* guidelines are to be observed

The mirror sleeve is classified as a "semicritical medical device A" according to RKI guidelines and therefore does not have to be autoclavable.

*RKI=Robert Koch Institute, Berlin (Germany).

Refitting the mirror sleeve

**NOTICE**

Risk of damaging the camera window or sapphire glass.

➢ The mirror sleeve must not come into contact with the camera window.

➢ Push the mirror sleeve straight toward the camera body; do not tilt it.

➢ Carefully refit the mirror sleeve until it locks in place.

8.7 Replacing the main fuse

**WARNING**

Electric shock

Disconnect the power plug at the unit end before replacing the fuses.

**NOTICE**

Fuse type

Use only fuses of the same type in the fuse module!
The power plug must be disconnected.

1. Unlatch the fuse module with a screwdriver and pull the module out.
2. Replace the defective fuses.
3. Reinsert the fuse module.

### Charge battery (optional)

The storage battery is permanently charged during operation on line voltage. This allows brief buffer operation after one hour of charging.

For a complete charge, the battery must be charged without interruption for at least 12 hours. Keeping the acquisition unit connected to the mains voltage and the power switch on is sufficient here. The PC does not have to be switched on for the charging process.
8.9 Replace battery (optional)

1. Open the lower door on the back panel.

**NOTICE**

Open with coin.

Use a coin to open the latch. Turn counterclockwise.

2. Remove the battery cover.
3. Unplug the battery connector.
4. Unscrew the fastening screw and remove the battery.
5. Insert the new battery into the battery compartment with the fastening screw and screw it down.
6. Plug in the battery plug.
7. Attach the battery cover.
8. Put the door back in position and lock it.
9 Disposal

Your product is marked with the adjacent symbol. Within the European Economic Area, this product is subject to Directive 2002/96/EC as well as the corresponding national laws. This directive requires environmentally sound recycling/disposal of the product. The product must not be disposed of as domestic refuse!

Please observe the disposal regulations applicable in your country.

Disposal procedure

Please note that this product is subject to the stipulations in EC Directive 2002/96 governing waste electrical and electronic equipment and must be disposed of in line with these special requirements within the European Union (EU).

Prior to disassembly / disposal of the product, it must be fully prepared (cleaned / disinfected / sterilized).

When disposing of equipment permanently, please proceed as follows:

In Germany:

To initiate return of the electrical device, please send a disposal order to "enretec GmbH".

1. You can find a form for placing a disposal order on the company's homepage (www.enretec.de) under the menu item "Entsorgung elektrischer und elektronischer Geräte" (Disposal of electric and electronic devices). The form can either be downloaded or completed online.

2. Fill out the form with the corresponding details and send it as an online order or fax it to enretec GmbH at +49(0)3304 3919 590. You can also get in touch with the following contacts for disposal orders and any questions relating to this you may have:
   Phone: +49(0)3304 3919 500;
   E-mail: pickup@eomRECYCLING.com
   Mailing address: enretec GmbH, Geschäftsbereich eomRECYCLING Kanalstrasse 17, 16727 Velten

   Any nonpermanently installed equipment will be picked up at its installation site in the practice. Permanently installed equipment will be picked up curbside at your address by appointment.

All disassembly, transport and packaging costs are to be borne by the owner/operator of the equipment. The disposal itself is free of charge.

Worldwide (outside Germany):

Please contact your local dental equipment specialist for country-specific information on disposal.
9.1 Disposal of the storage battery pack

The storage battery pack located in the acquisition unit must be subjected to recycling if it becomes defective or reaches the end of its service life. Recycling is performed via Sirona.

The storage battery pack is marked with the adjacent symbol. Disposal of the storage battery pack with domestic refuse is not compatible with the objectives of environmentally sound recycling/disposal. Send in the replaced storage battery pack to Sirona (see the reverse side of these operating instructions for the mailing address).
10 Appendix

10.1 DVD playback

DVD videos can be played back on the acquisition unit via "Windows Media Center".

➢ Start the program via the corresponding icon or via "Start" / "All Programs" / "Windows Media Center"

The program features an online help function to familiarize you with the operation of the software.

10.2 Making backup copies

To increase the system's data security and protect themselves against data losses, users should make backup copies of the data regularly.

10.2.1 Creating (burning) a CD

The Nero Multimedia Suite 10 Essentials program is installed on the acquisition unit for burning data CDs.

➢ Start the program via the corresponding icon or via "Start" / "All Programs" / "Nero" / "Nero 10" / "NeroExpress".

The program features an online help function (F1) to familiarize you with the operation of the software.

**NOTICE**

The front panel must remain open when completing the write operation.

**NOTICE**

Do not work with other programs and do not put the acquisition unit in the non-operative state during a write operation.

Checking the CD

Insert the CD in the drive and check its contents with the Windows Explorer.
10.3 Seal on PC slide-in module

**NOTICE**

If the seal is broken, all warranty claims regarding the PC slide-module automatically expire.

The PC slide-in module may be opened only by an authorized dental technician. Only spare parts approved by us may be used in this module.

Following a repair, the seal supplied along with the spare parts must be affixed at the specified location (A).
Index

A

Acquisition unit
  Overview, 22

Air pressure
  Operation, 19
  Storage, 19
  Transport, 19

Ambient temperature
  Operation, 19

B

Building installation, 10

C

Calibration set, 23, 46

Camera
  Care, 46
  Disinfecting, 46
  Sterilizing, 47

Camera window, 23, 46

Care agents
  Care, 41

Care and cleaning agents
  approved care and cleaning agents, 41

CE mark, 9

CEREC application, 28

CEREC button, 28

Cleaning agent, 42

Cleaning agents
  Cleaning, 41

Compliance, 9

Conditions
  Operation, 19
  Storage, 19
  Transport, 19

D

Dimensions, 20

Disinfectant, 42

Disinfecting, 42

Disposal
  Disposal of electronic and electrical equipment, 50

F

Foot pedal, 22

Fuse
  Fuse type, 47
  Order No., 48
  Replacement, 48

Fuses, 24

H

Heater plate, 22

HUB, 17

I

Insertion
  Trackball, 27

Intended use, 9

M

Main fuses, 48

Main switch, 24, 25, 27

Maintenance, 11

Mirror sleeve, 23, 46

Modem, 18

Monitor
  Cleaning, 41
  ON/OFF switch, 27

N

Network, 17

Network installation, 26
ON button, 25, 27
Online help, 28
Operating mode, 19
Operating state LED, 25
Packaging, 21
Patient area, 18
Plug connections, 25
Power connection, 24
Product safety, 12
Protection against medicaments, 42
Protection class, 19
Protective ground wire, 17
Rated current, 19
Rated line voltage, 19
Relative humidity
   Operation, 19
   Storage, 19
   Transport, 19
Repair, 11
Safety information, 6
Sapphire glass, 23, 46
Scope of supply, 21
Setting
   Trackball, 43
Storage battery, 48
Storage battery pack, 19
   Disposal, 50
Switch, 17
Temperature
   Storage, 19
   Transport, 19
Trackball, 22
   Cleaning, 43
trackball button
   left, 27
   right, 27
Trackball button
   center, 22
   left, 22
   right, 22
Transport, 21
Type designation, 19
Unpacking, 21
Usage purpose, 9
Voltage selection insert, 48
warm-up time
   Camera, 33
Warranty, 7
Water, 19
Weight, 20
We reserve the right to make any alterations which may be required due to technical improvements.