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SIVISION digital

Operating instructions 22" Monitor AC, REF 64 65 228

English



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1 General information

1.1 Dear Customer,

You have decided to equip your dental treatment center with the integrated SIVISION digital communication system from Sirona.

As such, you have made a significant step towards improving your patient communication. You can therefore easily discuss the source situation, status and the success of treatment with your patients. For indeed a picture says more than a thousand words.

These Operating Instructions are designed to assist you prior to initial use and whenever you require information later on.

Your Sirona Team

1.2 Contact data

Customer service center

For technical questions, use the contact form on the internet at www.sirona.com. Follow the menu items *"CONTACT"* *"Customer Service Center"* on the navigation bar and click on the *"CONTACT FORM FOR TECHNICAL QUESTIONS"* button.

Sirona Dental Systems GmbH
Fabrikstrasse 31
64625 Bensheim
Germany

Phone: +49 (0) 6251/16-0
Fax: +49 (0) 6251/16-2591
E-mail: contact@sirona.com
www.sirona.com

1.3 General information on the Operating Instructions

Observing the operating instructions

Please familiarize yourself with the unit by reading through these operating instructions before putting them into operation. It is essential that you comply with the specified warning and safety information.

Keep documents safe

Always keep the operating instructions handy in case you or another user require(s) information at a later point in time. Save the operating instructions on the PC or print them out.

Should you subsequently sell the unit, ensure that the operating instructions are included with the unit in paper form or as electronic storage media so that the new owner can be suitably informed about the function of the unit and the warning and safety information provided.

Online portal for technical documents

For technical documents, we have created an online portal at <http://www.sirona.com/manuals>. There, you can download these operating instructions and further documents. If you prefer a document in paper format, please fill out the web form. We would be delighted to send you a printed copy, free of charge.

Help

If you reach an impasse despite having thoroughly studied the operating instructions, please contact your dental depot.

1.4 Warranty and liability

Warranty passport

To safeguard your warranty claims, please complete the attached "Installation Report / Warranty Passport" together with the service engineer immediately after the installation of your unit.

Exclusion of liability

In the event that the system owner fails to fulfill the obligation to perform scheduled inspections and preventive maintenance activities or ignores error messages, Sirona Dental Systems GmbH and its authorized dealers cannot assume any liability for damages.

Certificate of work

We suggest that you request a certificate, showing the nature and extent of the work performed, from those who carry out such work, and specify that the certificate show any changes in rated parameters or working ranges, as well as the date, the name of the firm and a signature.

1.5 Intended use

The 22" monitor AC is intended for use on dental units made by Sirona. It serves for viewing intraoral images and any other images resulting from the PC connection.

This device is not intended for operation in areas subject to explosion hazards.

IMPORTANT

If the monitor is used to diagnose X-ray images, special proof is required from the user in terms of the ambient conditions specifying that the monitor is suitable for diagnostic purposes. Please observe the relevant national regulations.

The acceptance test can be performed using the SIDEXIS program, for example. The document entitled "SIDEXIS, digital radiology in dentistry, performing acceptance testing on image display devices for diagnosing with SIDEXIS" (REF 6088699) describes the procedure.

1.6 Formats and symbols used

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

✓ Prerequisite 1. First action step 2. Second action step or > Alternative action ↵ Result	Prompts you to do something.
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.

2 Safety information

2.1 Identification of the danger levels

To prevent personal injury and material damage, please observe the warning and safety instructions provided in this document, which are highlighted as follows:

DANGER

Imminent danger that could result in serious bodily injury or death.

WARNING

Potentially dangerous situation that could result in serious bodily injury or death.

CAUTION

Potentially dangerous situation that could result in slight bodily injury.

NOTICE

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

IMPORTANT

Instructions for use and other important information.

Tip: Information for simplifying work.

2.2 Information on the unit

This symbol can be found on the rating plate on the unit.

Meaning: The accompanying documents are available on the Sirona homepage.



2.3 Maintenance and repair

As manufacturers of dental medical units and in the interest of the operational safety of your system, we stress the importance of having maintenance and repair of this unit performed only by ourselves or by agencies expressly authorized by us. Furthermore, failed components must always be replaced with original spare parts.

2.4 Modifications and extensions of the system

Modifications to this system which might affect the safety of the system owner, patients or other persons are prohibited by law.

For reasons of 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.

If any devices not approved by Sirona are connected, they must comply with the applicable standards, e.g.:

- IEC 60950-1 for information technology equipment (e.g. PC) and
- IEC 60601-1 for medical electrical equipment.

The loudspeaker port of the monitor may be connected only to a device that complies with IEC 60950 (e.g. a PC) or IEC 60601-1. Under no circumstances may it be connected to a stereo system, or similar, for example.

If a system is created during the installation process, the requirements of IEC 60601-1, 3rd edition, must be fulfilled. The system author assumes responsibility for conformity of the system with 93/42/EEC Directive.

2.5 Danger of electric shock

To prevent the danger of fire or of electric shock, the product must not be exposed to rain or moisture.

Please do not open or dismantle the unit, as otherwise there will be a risk of electric shock.

2.6 Electromagnetic compatibility



Medical electrical equipment is subject to special precautionary measures with regard to electromagnetic compatibility (EMC). It must be installed and operated in compliance with the specifications provided for the respective treatment center in the document "Installation Requirements".

Portable and mobile RF communications equipment may interfere with medical electrical equipment. Therefore, the use of mobile wireless phones in medical office or hospital environments must be prohibited.

To ensure safe operation from the standpoint of EMC, please observe the chapter entitled "Electromagnetic compatibility" in the document "Installation Requirements".

2.7 Dismantling/Installation

When dismantling and reinstalling the unit, proceed according to the installation instructions for new installation in order to guarantee its proper functioning and stability.

This unit must not be used in areas subject to explosion hazards.

3 Unit description

3.1 Standards/approvals

The 22" monitor AC complies with the following standards:

- IEC 60950-1 (information technology equipment, e.g. PC)
- IEC 60601-1-2 (electromagnetic compatibility)



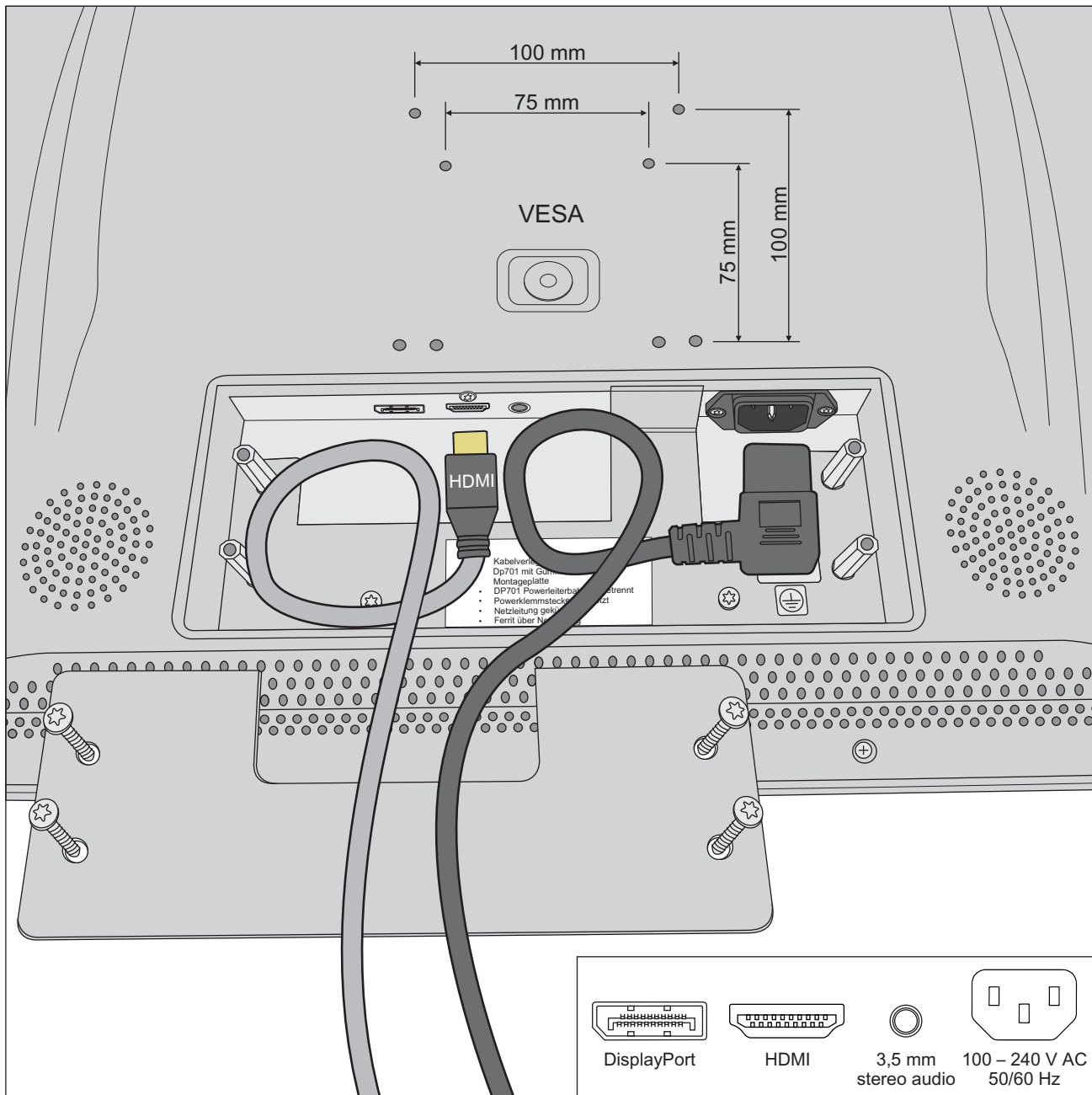
This product bears the CE mark in accordance with the provisions of Directive 2006/95/EC of the European parliament.

3.2 Technical data

Model designation:	22" monitor AC
LCD display:	21.5" TFT active matrix screen
Display size:	475.2 (H) x 267.3 (V) mm
Pixel spacing:	0.247 (H) x 0.247 (V) mm
Display mode:	VESA 1024 x 768 with 45 – 116 Hz VESA 1280 x 720 with 45 – 92 Hz VESA 1600 x 1050 with 50 – 75 Hz VESA 1920 x 1080 with 60 – 70 Hz
Maximum resolution:	WUXGA 1920 x 1080 with 60 – 70 Hz
Pixel error rate:	according to ISO 13406-2:2001 Class 2
Contrast ratio:	> 350:1
Brightness:	> 220 cd/m ²
Display color:	16.7 M (RGB 8 bit)
Perspective:	± 80° / ± 80° (horizontal / vertical)
Loudspeakers:	2 x 4 W
Input signal:	Stereo jack 3.5 mm 21-pos. HDMI connector 20-pos. display port connector
Control elements:	Touch-sensitive softkeys on the front
On-screen display (OSD, on-screen menu)	"Brightness / Contrast", "Image Properties", "Options" and "Exit" divided into additional sub-menus
Dimensions:	530 mm (H) x 370 mm (W) x 65 mm (D)
Weight:	7.0 kg
Mode of operation	Continuous operation
Nominal voltage:	100 V AC – 240 V AC ± 10% 50/60 Hz
Rated current:	Maximum of 1 A
Protection class:	Class I unit – with protective conductor connector

Degree of protection against ingress of water:	Ordinary equipment (IP X0 – without protection against ingress of water)
Transport and storage conditions:	Temperature: -20 °C – +70 °C (-4 °F – +158 °F) Relative humidity: 10 % – 95 % Air pressure: 500 hPa – 1060 hPa
Operating conditions:	Ambient temperature: 10 °C – 40 °C (50 °F – 104 °F) Relative humidity: 30 % – 85 % no condensation Air pressure: 700 hPa – 1060 hPa

3.3 Attachment and Connections



4 Operation

4.1 Monitor operating concept

4.1.1 Operating and display elements

The monitor settings are made on the on-screen display (OSD, on-screen menu).



no.	Softkey	Function
1	Back	Switches to a higher-level menu and hides the on-screen menu
2	Left arrow	Reduces the value of the selected OSD or selects the previous menu
3	Right arrow	Increases the value of the selected OSD or selects the next menu
4	OK check mark	Display on-screen menu or confirm selection
5	Ready indicator	This LED indicates the operational readiness of the monitor: <ul style="list-style-type: none"> • green: monitor is switched on • Flashing yellow: monitor is on stand-by • Off: monitor not connected to power supply
6	ON/OFF	Switch on monitor or switch to stand-by.

4.1.2 Displaying the on-screen menu and selecting settings

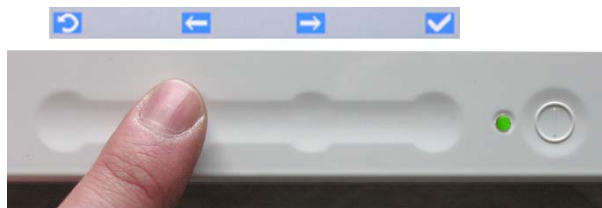
In the on-screen menu, the settings are grouped into three menus "Brightness/Contrast", "Image Properties" and "Options". You can select the necessary settings from these menus.



- ✓ The monitor is switched on. The operational readiness LED lights up green.
- 1. Confirm the softkey for the [OK check mark].
 - ↳ The on-screen menu is displayed.
- 2. Use the softkeys [Left arrow] and [Right arrow] to select the required menu and confirm by pressing the [OK check mark].
 - ↳ The settings are displayed for you to select. Details regarding the settings are described in the following chapters.
- 3. Select the required setting and re-confirm your selection.

The on-screen menu is automatically hidden if no keys are activated within 10 seconds. This period of time prior to the menu being hidden can be adjusted, see "Changing the time before the on-screen menu is hidden" [→ 23].

4.1.3 Setting values



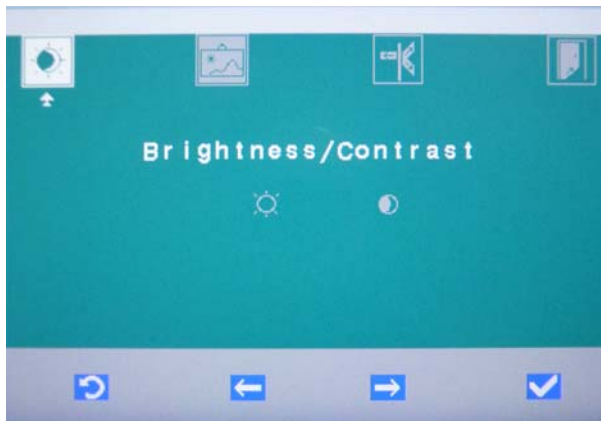
- ✓ A setting has been selected.
- Press the softkeys [Left arrow] and [Right arrow] to change the selected value. Confirm your setting by pressing the [OK check mark].
 - ↳ Your setting is saved. The on-screen menu is hidden.

4.1.4 Controlling the volume

The monitor has two integrated loudspeakers. The loudspeakers are adjusted via the connected PC.

4.2 Calling up the "Brightness/Contrast" menu

1. Confirm the softkey for the [OK check mark].
↳ The on-screen menu is displayed.

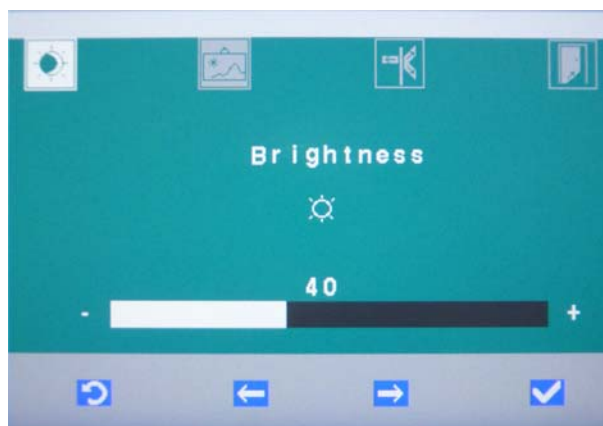


2. Use the softkeys [Left arrow] and [Right arrow] to select the "Brightness / Contrast" menu and confirm by pressing the [OK check mark].

4.2.1 Adjusting the brightness



1. Select the "Brightness" setting and confirm by pressing the [OK check mark].



2. Use the softkeys [Left arrow] and [Right arrow] to change the brightness value. Confirm by pressing the [OK check mark].
↳ The brightness value is saved. The on-screen menu is hidden.

4.2.2 Adjusting the contrast



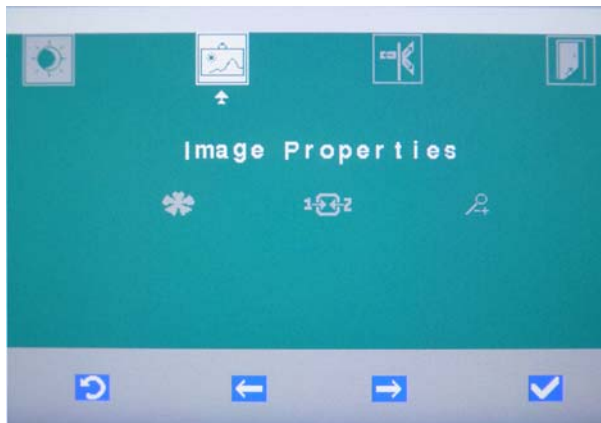
1. Select the "Contrast" setting and confirm by pressing the [OK check mark].



2. Use the softkeys [Left arrow] and [Right arrow] to change the contrast value. Confirm by pressing the [OK check mark].
↳ The contrast value is saved. The on-screen menu is hidden.

4.3 Calling up the "Image Properties" menu

1. Confirm the softkey for the [OK check mark].
↳ The on-screen menu is displayed.

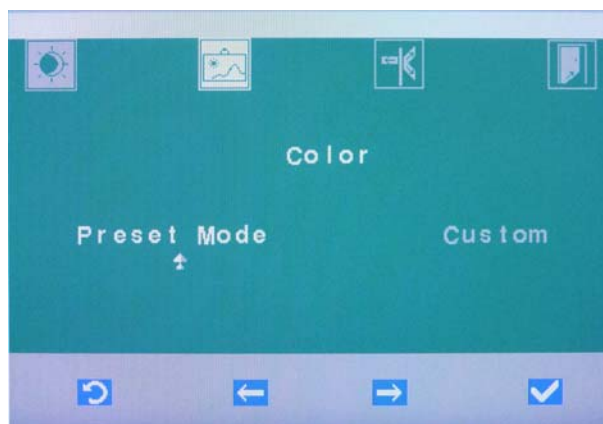


2. Use the softkeys [Left arrow] and [Right arrow] to select the "Image Properties" menu and confirm by pressing the [OK check mark].

4.3.1 Setting the color intensity



1. Select the "Color" setting and confirm by pressing the [OK check mark].



2. Select the "Preset Mode" option to use preset RGB values.
Select the "Custom" option to adjust the RGB values yourself.

Using preset RGB values ("Preset Mode" option)



- Select the presetting "Neutral", "sRGB" (standard RGB), "Reddish" or "Bluish". Confirm by pressing the [OK check mark].
 - ↳ The preset RGB value is saved. The on-screen menu is hidden.

Adjusting RGB values yourself ("Custom" option)



- Select the desired color intensity for "Red", "Green" and "Blue". Confirm each selection by pressing the [OK check mark].
 - ↳ The RGB values have been saved.

4.3.2 Selecting the input signal



1. Select the "Input Signal" setting and confirm by pressing the [OK check mark].



2. Select the "HDMI" option or "DP" (DisplayPort) and confirm by pressing the [OK check mark].
 - ↳ The image of the selected input is displayed. The on-screen menu is hidden.

4.3.3 Switching scaling on/off



1. Select the "Scaling" setting and confirm by pressing the [OK check mark].



2. Select the "OFF(Original Aspect Ratio)" if you want to maintain the aspect ratio of the received image. If necessary, black margins are shown on the edge of the image. Select the "ON(Full)" option if the image received should cover the size of the entire screen. If necessary, the image could be displayed blurred. Confirm by pressing the [OK check mark].
↳ The scaling is saved. The on-screen menu is hidden.

4.4 Calling up the "Options" menu

1. Confirm the softkey for the [OK check mark].
 ↳ The on-screen menu is displayed.



2. Use the softkeys [Left arrow] and [Right arrow] to select the "Options" menu and confirm by pressing the [OK check mark].

4.4.1 Displaying monitor information



- Select the "Information" entry and confirm by pressing the [OK check mark].



- ↳ The maximum screen resolution and frame rate (horizontal/vertical), the product name and the serial number, as well as the firmware version are displayed.

4.4.2 Moving the on-screen menu window



1. Select the "Menu Position" setting and confirm by pressing the [OK check mark].



2. Select the "Default" option to select the default menu location. Press the [OK check mark] to confirm your selection, the on-screen menu is displayed in the default location. Select the "Custom" option to individually adjust the menu location.



3. Set the horizontal and vertical menu position using the [Left arrow] and [Right arrow] softkeys. Confirm by pressing the [OK check mark].
 - ↳ The on-screen menu is moved on the monitor according to the position set.

4.4.3 Resetting to factory settings



1. Select the "Factory Default" setting and confirm by pressing the [OK check mark].



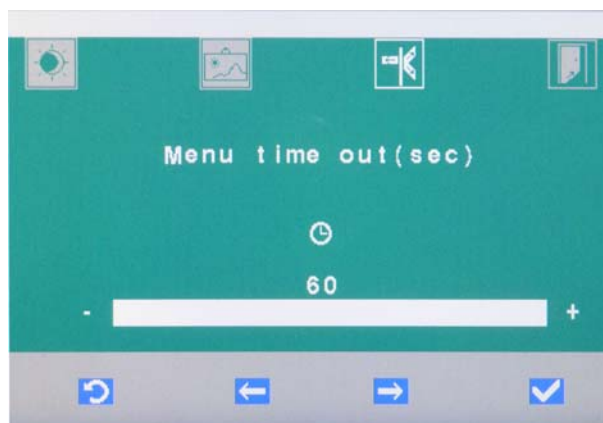
2. Select "Cancel" to abort the reset and keep your own settings. The on-screen menu is hidden when you confirm by pressing the [OK check mark].
Select "Reset" to restore the monitor to its factory default settings. Confirm by pressing the [OK check mark].
↳ The monitor is reset to factory default settings. The on-screen menu is hidden.

4.4.4 Changing the time before the on-screen menu is hidden

The time before the on-screen menu is hidden is preset to 10 seconds in the factory default settings.



1. Select the "Accessibility" setting and confirm by pressing the [OK check mark].



2. Use the softkeys [Left arrow] and [Right arrow] to set the "Menu time out, sec" option. The time prior to the menu being hidden can be set to a maximum of 60 seconds. Confirm by pressing the [OK check mark].
 - ↳ The time before the on-screen menu is hidden is saved. The on-screen menu is hidden.

4.4.5 Selecting a digital or analog audio signal



1. Select the "Audio source" setting and confirm by pressing the [OK check mark].



2. Select the "Digital" option for digital audio transmission via HDMI or display port.
Select the "Analog" option for analog audio transmission via the stereo jack.
Confirm by pressing the [OK check mark].
 - ↳ The audio source is saved. The on-screen menu is hidden.

IMPORTANT

The monitor has two integrated loudspeakers. The loudspeakers are adjusted via the connected PC.

4.5 "Exit" menu

The on-screen menu is automatically hidden if no keys are pressed for a certain period of time. This period of time prior to the menu being hidden can be adjusted, see "Changing the time before the on-screen menu is hidden" [→ 23].

The on-screen menu can be instantly hidden by selecting the "Exit" menu or pressing the [Back] key (more than once, if necessary).



- Use the softkeys [Left arrow] and [Right arrow] to select the "Exit" menu and confirm by pressing the [OK check mark].
 - ↳ When exiting the menu, your settings are automatically saved.

5 Care and cleaning instructions for the practice team

5.1 Care and cleaning agents

NOTICE

Approved care and cleaning agents

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

A continuously updated list of approved agents can be downloaded from the Internet at the address "www.sirona.com". In the navigation bar, go to the menu items "*SERVICE*" / "*Care and cleaning*" and then open the document "*Care and cleaning agents*".

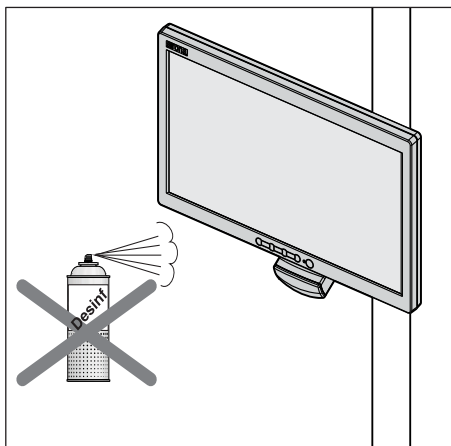
If you do not have any access to the Internet, please contact your dental depot to order the list.

REF 59 70 905

5.2 Care and cleaning of the monitor

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

The surfaces of the monitor can be wiped with surface disinfectants.



NOTICE

Disinfectants can dissolve dyes in cleaning clothes.

The outer surface of the unit may then be discolored by the dye.

- Do not clean or disinfect the unit with colored cleaning cloths.
- Remove any dirt and disinfectant residues regularly using a mild commercial cleaning agent.

NOTICE

Liquids can enter the unit during cleaning or disinfection.

Electrical components of the monitor can be destroyed by liquids.

- Do not spray any liquids into the unit.
- First spray the liquid onto a cleaning cloth. Then wipe the surfaces of the monitor with the cleaning cloth.

NOTICE

Never use corrosive cleaning agents, wax or solvents.



6 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.

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

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