

---

New as of:

03.2017

---



# SIVISION digital

Operating Instructions - 22 inch monitor

REF 6497452 D3655

REF 6576248 D3678

English





# Table of contents

<b>1</b>	<b>General information .....</b>	<b>4</b>
1.1	Dear Customer,.....	4
1.2	Contact data.....	4
1.3	General information about these operating instructions.....	5
1.4	Warranty and liability.....	5
1.5	Intended use .....	5
1.6	Formats and symbols used .....	6
<b>2</b>	<b>Safety instructions .....</b>	<b>7</b>
2.1	Identification of the danger levels.....	7
2.2	Notes on the unit.....	7
2.3	Maintenance and repair .....	7
2.4	Modifications and extensions to the unit .....	8
2.5	Danger of electric shock.....	8
2.6	Electromagnetic compatibility.....	8
2.7	Disassembly / Installation.....	8
<b>3</b>	<b>Unit description .....</b>	<b>9</b>
3.1	Monitor versions.....	9
3.2	Standards/approvals .....	9
3.3	Technical data.....	9
3.4	External dimensions landscape orientation.....	10
<b>4</b>	<b>Operation.....</b>	<b>11</b>
4.1	Control and display elements.....	11
4.2	Brightness .....	12
4.3	Contrast.....	12
4.4	Color Mode.....	12
4.5	Management .....	13
4.6	Operation Hours.....	18
<b>5</b>	<b>Care and cleaning instructions for the practice team.....</b>	<b>19</b>
5.1	Care, cleaning agents, and disinfectants .....	19
5.2	Care and cleaning of the monitor .....	19
<b>6</b>	<b>Disposal .....</b>	<b>20</b>

# 1 General information

## 1.1 Dear Customer,

You have decided to equip your dental treatment center with the integrated SIVISION digital communication system from Dentsply 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 should be of good help to you before use and can be used anytime later as reference material.

YourDentsply Sirona Team

## 1.2 Contact data

### Customer Service Center

In the event of technical queries, please use our online contact form at [www.sirona.com](http://www.sirona.com). In the navigation bar, select *"CONTACT"* *"Customer Service Center"* and click on the *"CONTACT FORM FOR TECHNICAL QUESTIONS"* button.

### Manufacturer's address



Sirona Dental Systems GmbH  
Fabrikstrasse 31  
64625 Bensheim  
Germany

Telephone: +49 (0) 6251/16-0  
Fax: +49 (0) 6251/16-2591  
E-mail: [contact@sirona.com](mailto:contact@sirona.com)  
[www.sirona.com](http://www.sirona.com)

## 1.3 General information about these operating instructions

### Observe the Operating Instructions

Please familiarize yourself with the unit by reading through these Operating Instructions before putting it 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.

If you sell the unit, make sure that the Operating Instructions are included with it either as a hard copy or on an electronic storage device so that the new owner can familiarize himself with its functions and the specified warning and safety information.

### Online portal for technical documents

We have set up an online portal for the Technical Documents at <http://www.sirona.com/manuals>. From here, you can download these Operating Instructions along with other documents. Please complete the online form if you would like a hard copy of a particular document. We will then be happy to send you a printed copy free of charge.

### Help

If you continue to have difficulties despite having thoroughly studied the Operating Instructions, please contact your dental depot.

## 1.4 Warranty and 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.

## 1.5 Intended use

The 22 inch DC monitor (REF 6497452 D3655) is designed for use with Dentsply Sirona TENEO and SINIUS treatment centers, and 22 inch AC monitor (REF 6576248 D3678) for use with the Dentsply Sirona INTEGO treatment center.

It serves for viewing intraoral images and any other images resulting from the PC connection.

This unit 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 "Digital radiography 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"	Indicates commands/menu items or quotations.


## 2 Safety instructions

### 2.1 Identification of the danger levels

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

 <b>DANGER</b>
An imminent danger that could result in serious injury or death.

 <b>WARNING</b>
A potentially dangerous situation that could result in serious injury or death.

 <b>CAUTION</b>
A potentially dangerous situation that could result in slight bodily injury.

<b>ATTENTION</b>
A potentially harmful situation which could lead to damage of the product or an object in its environment.

<b>IMPORTANT</b>
Application instructions and other important information.

**Tip:** Information on making work easier.

### 2.2 Notes on the unit



This symbol is located on the rating plate of the unit.

Meaning: The accompanying documents are available on the manufacturer's 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, defective components must always be replaced with original spare parts.

## 2.4 Modifications and extensions to the unit

Modifications to this unit 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 Dentsply Sirona accessories or third-party accessories expressly approved by Dentsply Sirona. The user is responsible for any damage resulting from the use of non-approved accessories.

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

- IEC 60950-1 or IEC 62368-1 for IT equipment (e.g. PC) and
- IEC 60601-1 for medical devices.

The loudspeaker port of the monitor may only be connected to a device that complies with the IEC 60950-1 or IEC 62368-1 (e.g. a PC) or IEC 60601-1 standard. Under no circumstances may it be connected to a stereo system or similar.

If a system is created during the installation process, the requirements of IEC 60601-1, 3rd edition, must be fulfilled.

## 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 Disassembly / 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 Monitor versions

DC Monitor for operation with 12 V direct voltage at TENEO and SINIUS treatment centers.

AC monitor for operation with alternating voltage at the INTEGO treatment center.

### 3.2 Standards/approvals

The 22 inch DC monitor (REF 6497452 D3655) meets the requirements under the following standards:

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

The 22 inch AC monitor (REF 6576248 D3678) meets the requirements under the following standards:

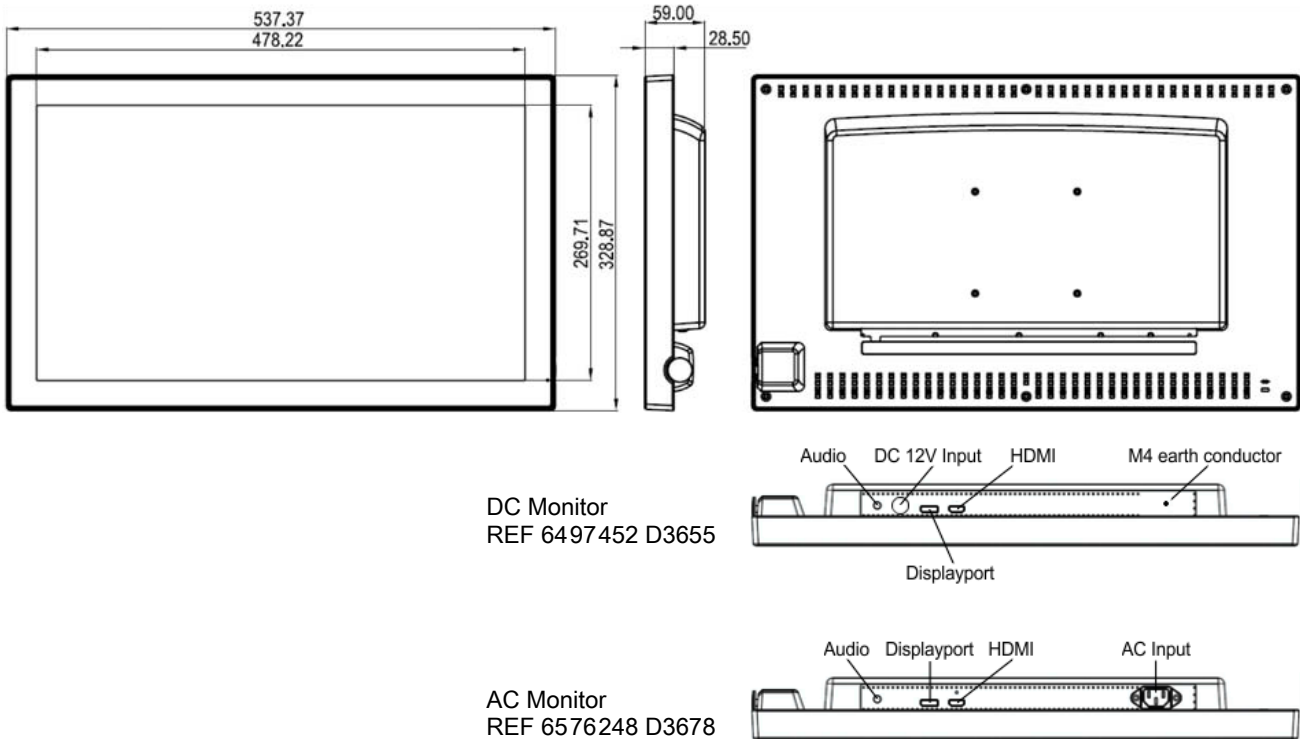
- IEC 62368-1 (information technology equipment, e.g. PC)
- IEC 60601-1-2 (Electromagnetic Compatibility)

### 3.3 Technical data

Model designation:	22 inch monitor
LCD display:	21.5 inch TFT color display, Normally Black
Display size:	476,6 (H) x 268,1 (V) mm
Pixel spacing:	0.248 (H) x 0.248 (V) mm
Display mode:	VESA 1024 x 768 with 60 Hz VESA 1280 x 1024 with 60 Hz VESA 1280 x 720 with 60 Hz VESA 1600 x 900 with 60 Hz VESA 1920 x 1080 with 60 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 <sup>2</sup>
Display color:	16.7 M (6 bit + A-FRC)
Perspective:	178° (vertical/horizontal)
Loudspeakers:	2 x 2 W
Input signal:	Stereo jack plug 3.5 mm 21 pin HDMI connector 20 pin DisplayPort connector
Dimensions:	537.7 mm (H) x 328.9 mm (W) x 59 mm (D)
Weight:	approx. 7.0 kg
Operating mode:	Continuous operation
Nominal voltage:	DC Monitor (REF 6497452 D3655): 12 V DC AC Monitor (REF 6576248 D3678): 100-240 V AC 50-60 Hz

Rated current:	DC Monitor (REF 6497452 D3655): 4.5 A AC Monitor (REF 6576248 D3678): 1-0.5 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 to +60°C Relative humidity: 10% – 95% Air pressure: 500 hPa – 1,060 hPa
Operating conditions:	Ambient temperature: 10°C – 40°C Relative humidity: 10% - 85% without condensation Air pressure: 700 hPa – 1,060 hPa ≤ 3000 m above sea level

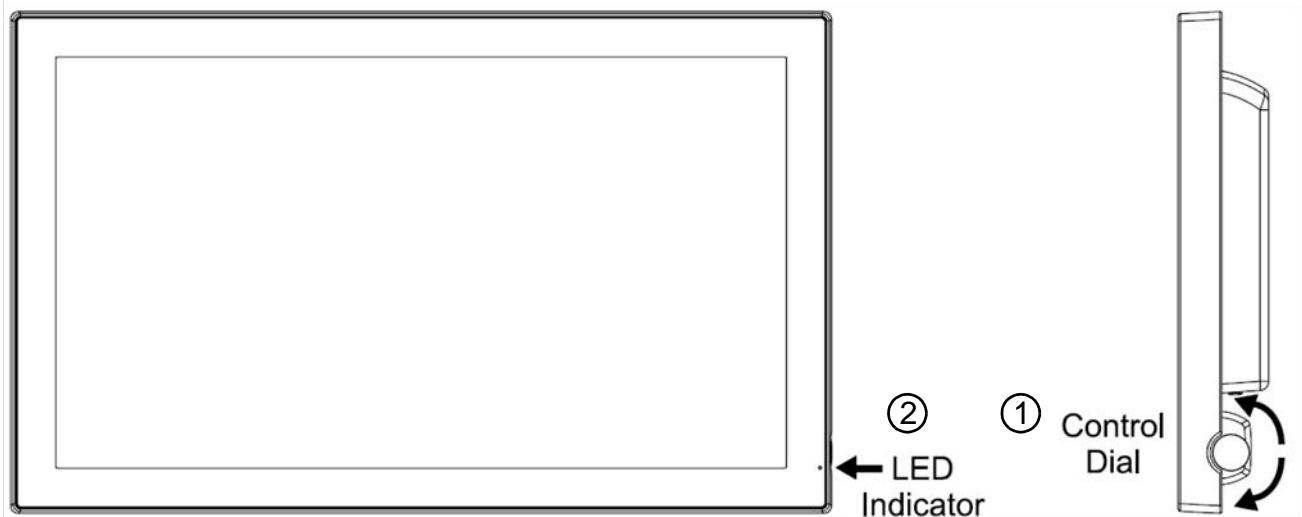
### 3.4 External dimensions landscape orientation



Subject to changes to the technical data and appearance without prior announcement within the scope of further development.

# 4 Operation

## 4.1 Control and display elements



No.	Element	Function
①	Control dial	<p>The control dial is a multifunctional control element that is located behind the LED display on the right side of the fascia panel. It provides three options for activation: Rotate upwards, Rotate downwards and Press as a button</p> <p><b>Switching ON/OFF</b>                      Press the control dial to switch the unit on when switched off (the LED is off). To switch the unit off, press the control dial and hold it down for at least one second until the LED goes off.</p> <p><b>OSD control</b>                      With the monitor switched on (the green light is showing and an image is displayed on the screen), press the control dial in order to activate the OSD. Once the OSD is active you can adjust the monitor by using the control dial. Rotate downwards: Up/right, Maximize, Zoom in, More Rotate upwards: Down/left, Minimize, Zoom out, Less Press: Execute, Confirm, Save</p>
②	LED display	<p>This LED display shows a green light when the device is switched on and the power cable is connected properly. It changes to yellow if the monitor switches to power saving mode (active off). Further information can be found in the "Power Management" section in the Operating Instructions.</p>

## 4.2 Brightness



For adapting the screen brightness. The greater the value the brighter the screen and vice versa. Settings between 0 and 100.

## 4.3 Contrast



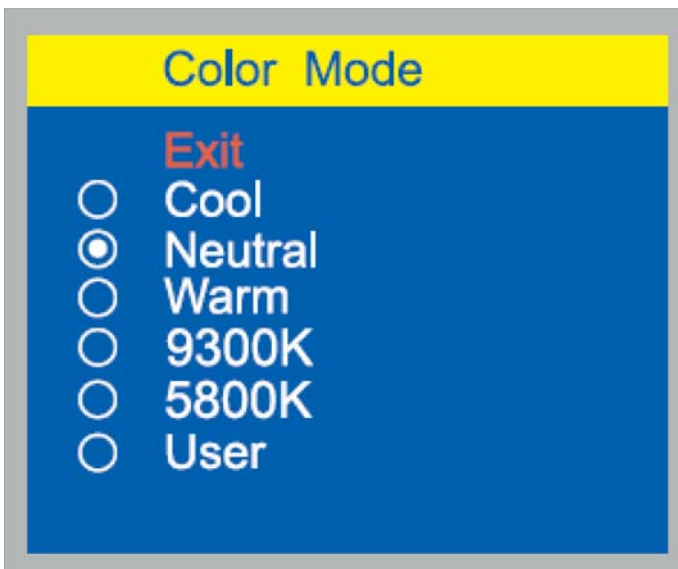
For adapting the screen contrast. The greater the value the greater the screen contrast and vice versa. Settings between 0 and 100.

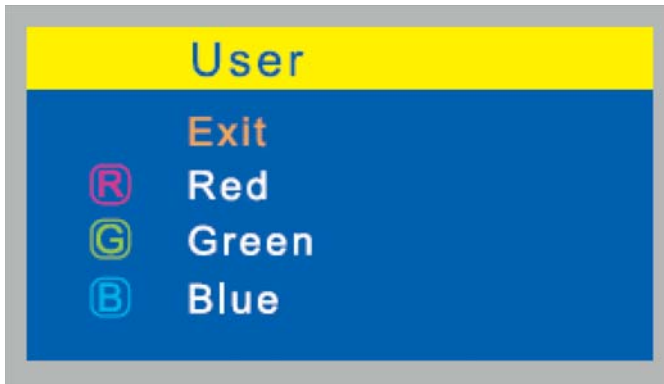
## 4.4 Color Mode

For adapting the colors.

The monitor's color temperature can be modified.

- Exit: Return to the Main Menu.
- Cool: Blueish-white for general and CAD/CAM applications. 8000K is a value stipulated by the manufacturer.
- Neutral: White, close to natural light, is generally used in publishing. 6500K is a value stipulated by the manufacturer; the user cannot modify the setting.
- Warm: Reddish-white, suitable above all for photo editing. 5400K is a value stipulated by the manufacturer; the user cannot modify the setting.
- 9300K: 9300K is a value stipulated by the manufacturer ( $0.284 \pm 0.03$ ,  $0.299 \pm 0.03$ ).
- 5800K: 5800K is a value stipulated by the manufacturer ( $0.326 \pm 0.03$ ,  $0.335 \pm 0.03$ ).

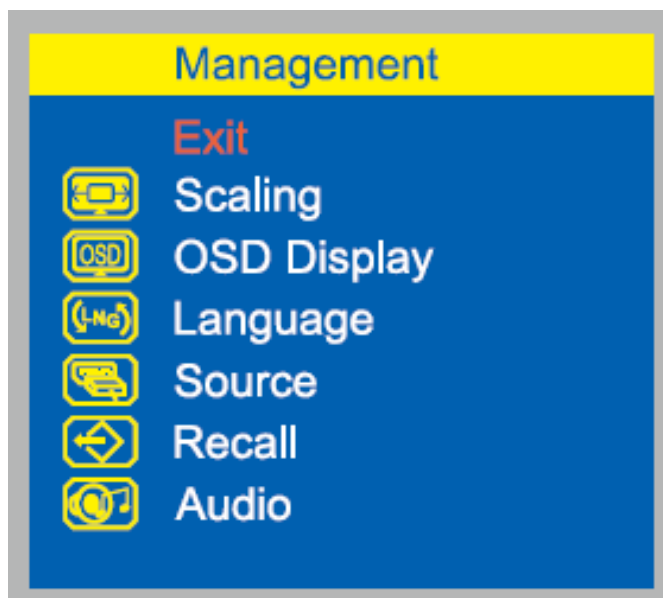




The color channels can be adjusted individually by selecting User.

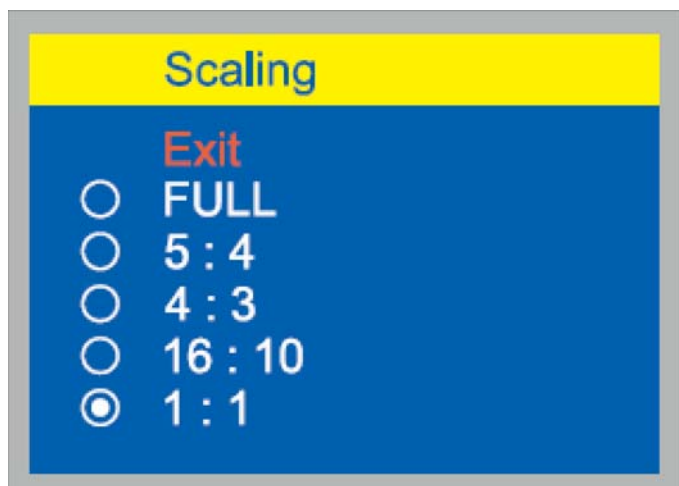
- Exit: Return to the Main Menu.
- Red: Adjusts Red and corresponding colors in the range from 0 to 100.
- Green: Adjusts Green and corresponding colors in the range from 0 to 100.
- Blue: Adjusts Blue and corresponding colors in the range from 0 to 100.

## 4.5 Management



- Exit: Return to the Main Menu.

### 4.5.1 Scaling

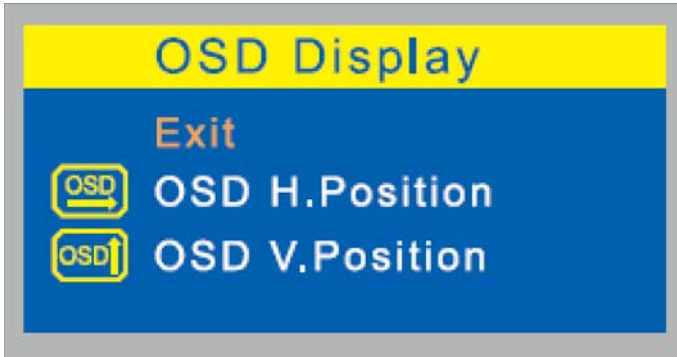


You can adjust the following elements for image scaling in the main channel with this option.

- Exit: Return to the Main Menu.

## 4.5.2 OSD Display

- Exit: Return to the Main Menu.



### 4.5.2.1 OSD H. Position

For adjusting the horizontal position of the OSD. If you rotate the control dial clockwise then the OSD moves right and vice versa.



### 4.5.2.2 OSD V. Position

For adjusting the vertical position of the OSD. If you rotate the control dial clockwise then the OSD moves up and vice versa.



### 4.5.3 Language



You can set the desired language with this option.

- English: Displays the OSD in English.
- Français: Displays the OSD in French.
- Deutsch: Displays the OSD in German.
- Español: Displays the OSD in Spanish.
- Italiano: Displays the OSD in Italian.
- Japanese: Displays the OSD in Japanese.

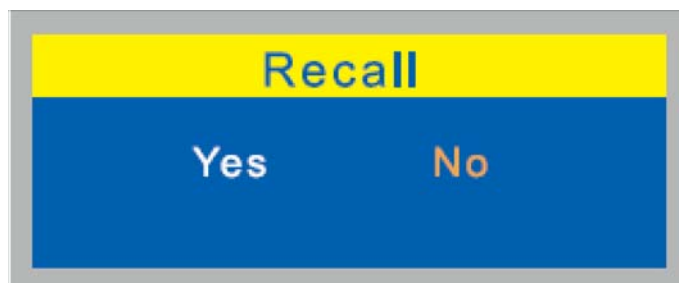
### 4.5.4 Source



You can choose manually between HDMI and Display Port with this option in order to enable automatic detection of input sources.

- Exit: Return to the Main Menu.
- HDMI: Displays the signal from the HDMI connection.
- Display port: Displays the signal from the Display Port connection.

### 4.5.5 Recall



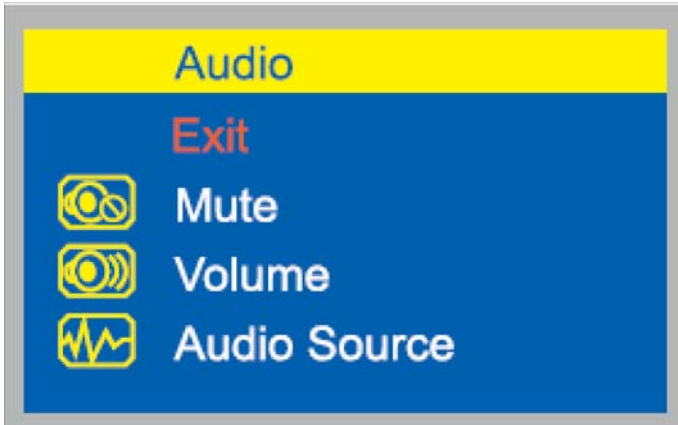
For restoring settings such as the display position and automatic adjustment to the factory settings.

## 4.5.6 Audio

### 4.5.6.1 Audio (HDMI)

The following menu is located under "HDMI Source".

- Exit: Return to the Main Menu.



#### 4.5.6.1.1 Mute

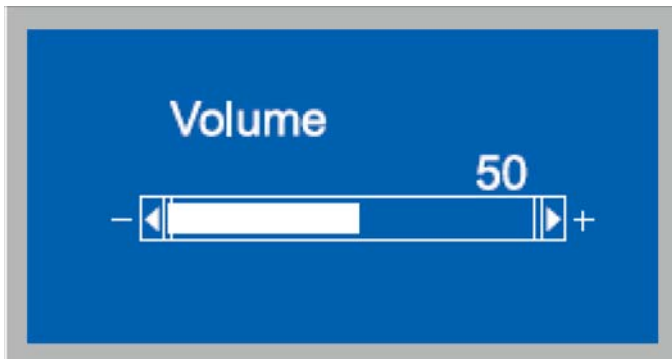
For controlling the monitor sound.

- ON: Switched to mute
- OFF: Mute off



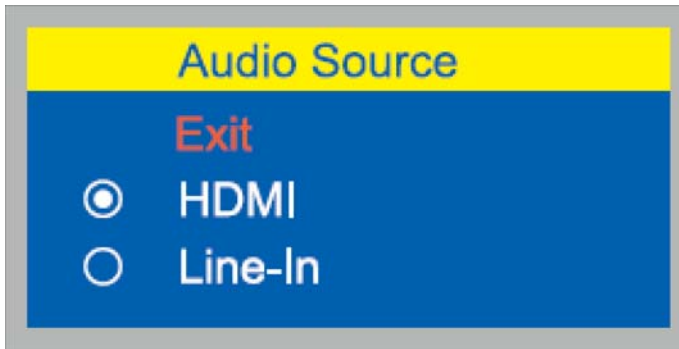
#### 4.5.6.1.2 Volume

For adjusting the volume in the range from 0 to 100.





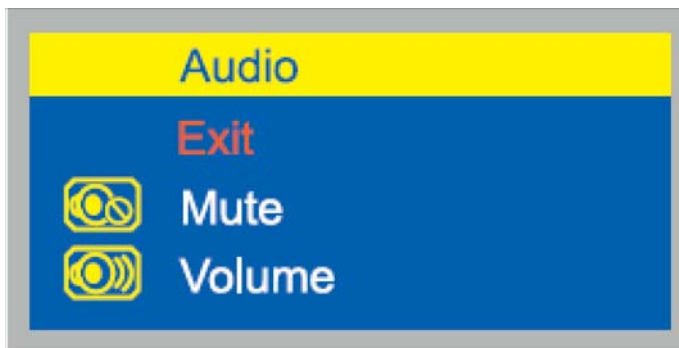
#### 4.5.6.1.3 Audio Source



You can choose the audio source manually as HDMI or Line-In with this option.

- Exit: Return to the Main Menu.

#### 4.5.6.2 Audio (Display port)



The following menu is located under "Display port Source".

- Exit: Return to the Main Menu.

#### 4.5.6.2.1 Mute

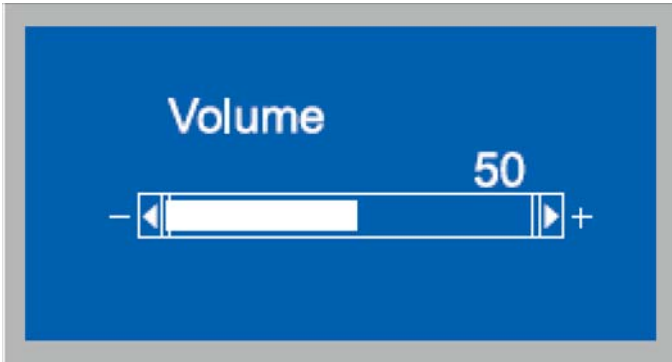


For controlling the monitor sound.

- ON: Switched to mute
- OFF: Mute off

#### 4.5.6.2.2 Volume

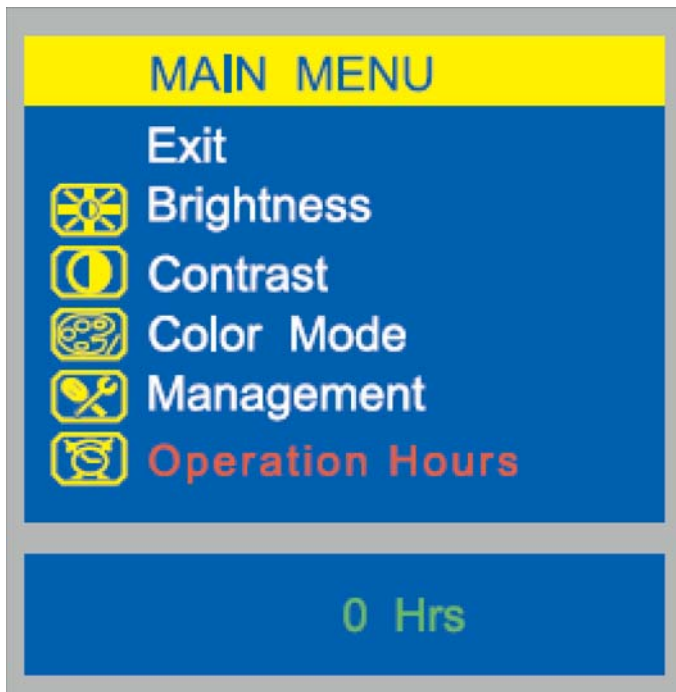
For adjusting the volume in the range from 0 to 100.



#### 4.6 Operation Hours

For displaying the operating time in hours.

- Exit: Return to the Main Menu.



## 5 Care and cleaning instructions for the practice team

### 5.1 Care, cleaning agents, and disinfectants

#### ATTENTION

Use only care, cleaning and disinfecting agents approved by Dentsply Sirona.

A continuously updated list of approved agents can be downloaded from the Internet at "www.sirona.com". To access the online portal for technical documentation, follow the "SERVICE" / "Technical Documentation" menu points in the navigation bar. The portal can also be accessed directly via the following address: <http://www.sirona.com/manuals>. Click on the "General Documents" menu point and then open the "Care, cleaning agents, and disinfectants" document.

If you do not have 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

#### Cleaning

Remove dirt and disinfectant residues **regularly** using a mild, commercially-available cleaning agent.

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

#### ATTENTION

Never use corrosive cleaning agents, wax or solvents.

#### Disinfecting

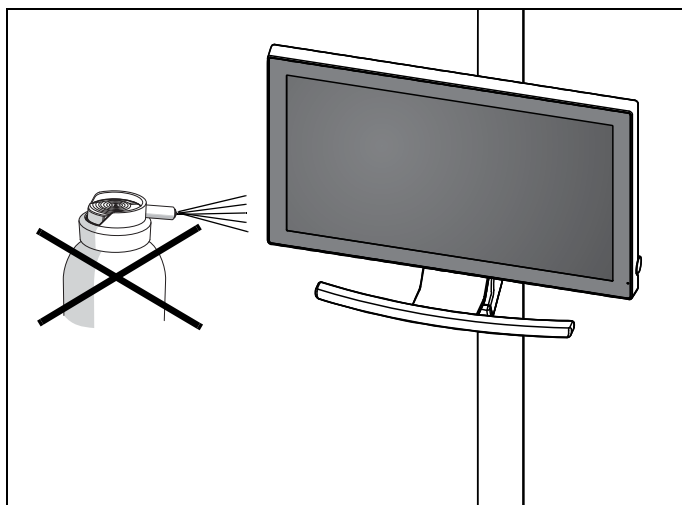
The glass screen and housing of the monitor can be disinfected by wiping them with a soft cloth.

#### ATTENTION

Use only cleaning agents which have been approved by Dentsply Sirona (see "Care, cleaning agents, and disinfectants" above).

#### ATTENTION

Do not spray disinfectants or cleaning agents on the monitor.



## 6 Disposal



In accordance with Directive 2012/19/EU and national disposal regulations regarding old electrical and electronic devices, please be advised that such items must be disposed of in a special way within the European Union (EU). These regulations require environmental friendly usage/disposal of old electrical and electronic devices. Such items must not be disposed of as domestic refuse. This has been expressed using the icon of the "crossed out trash can" since March 24, 2006, amongst other methods.

### Disposal procedure

We feel responsible for our products from the first idea to their disposal. For this reason, we give you an option to return our old electronic and electrical devices.

If you wish to dispose of your devices, please proceed as follows:

#### In Germany

To initiate return of the electrical device, please send a disposal request to enretec GmbH. You have the following options here:

- Use the "Returning an electrical device" button under the "eom" menu item on the enretec GmbH homepage ([www.enretec.de](http://www.enretec.de)).
- Alternatively, you can also contact enretec GmbH directly.

enretec GmbH  
Kanalstrasse 17  
16727 Velten  
Tel.: +49 3304 3919-500  
E-mail: [eom@enretec.de](mailto:eom@enretec.de)

In accordance with the national disposal regulations regarding old electrical and electronic devices (ElektroG), as the manufacturer, we assume the costs for disposing of the electrical and electronic devices in question. Disassembly, transport and packaging costs shall be borne by the owner / operator.

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

If your unit is not permanently installed, it will be collected from the practice. If it is permanently installed, it will be picked up curbside at your address by appointment.

#### Other countries

For country-specific information on disposal, contact your local dental dealers.



---

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

© Sirona Dental Systems GmbH  
D3655.201.01.02.02 03.2017

Sprache: englisch  
Ä.-Nr.: 123 221

Printed in Germany  
Imprimé en Allemagne

---

**Sirona Dental Systems GmbH**



Fabrikstrasse 31  
64625 Bensheim  
Germany  
[www.sirona.com](http://www.sirona.com)

Order no.: 65 38 297