Instructions for Use

CuratOR®
LX550W

8MP 55" LCD Monitor

Important

Please read the safety information and all information delivered with the product carefully to familiarize yourself with safe and effective usage.

EIZO®

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠ **DANGER**
indicates that death or severe personal injury **will** result if proper precautions are not taken.

⚠ **WARNING**
indicates that death or severe personal injury **may** result if proper precautions are not taken.

⚠ **CAUTION**
indicates that minor personal injury can result if proper precautions are not taken.

NOTICE
indicates that material damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Use of EIZO products

⚠ **WARNING**
EIZO products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by EIZO. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of their respective owners. Please refer to the trademarks listed in the appendix. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Table of contents

1 Introduction

1.1 Contents of this document

This document explains the functionality and the approved use of the CuratOR LX550W. To ensure clarity, it does not contain all detailed information on this product.

The contents of this document are neither part of a previous or existing agreement, commitment or legal relationship, nor does it modify such.

Note
This documentation is available in electronic format only. It can be found on the CD-ROM provided and can be downloaded from www.eizo-or.com.

1.2 Intended use

Intended purpose

The CuratOR LX550W is intended for the display of still images and moving images from various commercially available devices commonly used in a medical environment, in particular radiology. The monitor is optimized for the reproduction of grayscale X-ray images. The monitor is not suitable for mammography.

Intended patient population and medical conditions

The LX550W can be used for the intended purpose irrespective of age, body weight and gender.

The LX550W is intended to be used in combination with or mounted on medical devices. The monitor therefore has no direct contact with the patient.

The LX550W is intended to display still images and moving images from various commercially available (medical) devices commonly used in a medical environment. The monitor cannot be used for direct diagnosis and as main device for monitoring live support equipment.

Intended users

The intended users for the LX550W are qualified healthcare professionals.

Intended environment

The LX550W is intended to be used in professional healthcare facilities such as clinics and hospitals. The monitor can be used in operating rooms (OR) or near patients, but is not limited to them. The monitor is not intended for direct patient contact!

The LX550W is not suited for the following environments:

• Home-based healthcare facilities.

• Near short-wave therapy devices.

• Near an MRI-System.

• Built into vehicles, including ambulances.

Note
Serious incident
Any serious incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority of the Member State in which the user and/or patient is established.

1.3 User

User

In the following, healthcare personnel such as surgeons or medical technicians are referred to as the "user".

Service / service personnel

"Service" or "Service personnel" identifies authorized personnel with knowledge of electrical and signal connection, local standards for image quality requirements, and safety of medical products, for example a hospital technician or manufacturer of medical devices.

Cleaning staff

"Cleaning staff" refers to personnel responsible for cleaning medical devices.

2 Safety information

2.1 General safety instructions

Correct and safe operation of EIZO devices assume professional transport, storage, installation, and connection, as well as careful operation and service.

The devices may only be used for applications for which they are intended.

For safety reasons, the following precautions must be observed:

⚠ **DANGER**

Please observe all warning information present on the device and in the instructions for use.

There is a danger to life if warnings are not obeyed. Severe personal injury or damage to property may occur.

Observe the safety requirements of EN 60601-1 (IEC 60601-1)

To prevent injury to patients and users, connect the electrical system in accordance with the safety requirements of EN 60601-1 (IEC 60601-1) for "Safety requirements for medical electrical systems".

Connecting the protective earth conductor

If the device is connected to line power, the device must be connected to a protective ground conductor. This is the only way to ensure that the touch leakage current in a first fault event does not exceed 500 µA.
The interruption of the device's protective conductor is considered a first fault event in accordance with EN 60601-1.

Use the following measures to ensure that the leakage currents remain below the specified limits:

* Separators for signal input unit or signal output unit
* Use of a safety isolating transformer
* Use of the additional protective ground terminal

Mounting of the monitor: The monitor's suspension arm must have its own protective ground conductor. This protective ground conductor guarantees, together with the protective ground conductor of the monitor, that the housing leakage current always remains less than 500 µA, even in the event of a single fault condition.

No unauthorized opening of the device / no unauthorized service or maintenance work

The device may only be opened by qualified personnel. Likewise, service or maintenance work may only be carried out by qualified personnel. There is a risk of electric shock.

No liability is accepted for death and injury to persons or damage to property resulting from work carried out by non-qualified personnel.

Do not touch components in the device

If the device is connected to the line power, components in the device are subjected to high voltages. Touching the components may be fatal.

No contact between device and patients

The device is not suitable for direct contact with a patient. The device and patient must never be touched simultaneously. Otherwise there is a danger to life and limb.

⚠ **DANGER**

Please observe all warning information present on the device and in the instructions for use.

There is a danger to life if warnings are not obeyed. Severe personal injury or damage to property may occur.

Never use defective power cables

If a damaged or unsuitable power cable is used, it could result in a fire or electric shock. Only use power cables with PE contacts approved by the manufacturer.

Disconnect the power cable correctly

When disconnecting the power cable, always do so by holding the plug. Ensure that your hands are dry. There is a risk of electric shock.

Do not insert any objects into the housing

Objects inserted into the housing may result in an electric shock or damage to the device.

Do not place any objects on top of the device

If you place objects on top of the device, this can lead to overheating and fire.

Avoid penetration of liquid

Liquids seeping into the device may result in electric shock or device failure.

⚠ **CAUTION**

Extensive damage to property may result if the device is not connected correctly

That is why you should observe the warning information:

Connection must be carried out by specialists

Please ensure that all steps are taken to avoid injuries or incorrect diagnoses.

- Only use the video cables specified by the manufacturer for the connection.
- Only use power cables with PE contacts.
- Only use power outlets with PE contacts.
- Do not connect too many devices to a power outlet or extension cable.
- Observe the information provided by the respective manufacturer.
- If required by the application or local regulations, QA software must be used for quality control and documentation.

Connection in the USA and Canada

Molded power supply plugs must comply with the requirements for "hospital grade attachments" CSA Std. C22.2 No. 21 and UL 498.

Connection in China

Only use power cables approved for China. These power cables are identified by the labels "CCC" or "CQC".

Observe the country-specific regulations

Observe all regulations of the country in which the device is used.

NOTICE
Extensive damage to property may result if the device is not connected correctly
That is why you should observe the warning information:
• Desktop installation: Place the device on a solid and level surface. The attached stand, as well as the installation surface, must be suitable for the weight of the device.
• For mounting on a wall or ceiling suspension: The mount unit must be suitable for the weight of the device.
• For installation in a rack: Observe the installation sequence, and provide ventilation for the device.
Provide adequate air circulation
When installing the device, ensure that there is adequate air circulation for operation. The permissible ambient temperature range must not be violated. Otherwise, the device could be destroyed by overheating.
Avoid sources of heat
Do not install the device in the vicinity of sources of heat, such as radiators, heating appliances or other devices that can generate or emit heat.
Do not subject the device to jolting or shocks
The device contains sensitive electronic components that could be damaged by jolting or shocks.
Only switch on a cold device following adaptation to room temperature
If the device is brought into a room with a higher or rising temperature, condensed water will form in and on the device. Do not switch on the device until the condensed water has evaporated. Otherwise, the device could be damaged.

NOTICE
Extensive damage to property may result if the device is not connected correctly
That is why you should observe the warning information:
Transportation only in original packaging
Use the original packaging for transportation, and transport in the correct shipping position. Be sure in particular to protect the monitor LCD modules from shocks.
Care of device / cleaning agents
• Remove water drops immediately; extended contact with water discolors the surface.
• Only clean the surfaces using the cleaning agents referred to in the Instructions for Use.
• Monitor: The screen is extremely sensitive to mechanical damage. Absolutely avoid scratches, shocks, etc.
What to do if the device is faulty
If the following conditions exist, the device must be disconnected from the line power supply and checked by qualified personnel:
• Damage to the plug or power cable.
• After liquid seeps into the device.
• If the device has been exposed to moisture.
• If the device does not function or if a fault cannot be eliminated using the Instructions for Use.
• If the device has been dropped and/or the housing damaged.
• If the device smells of burning or makes peculiar noises.
Be aware of the monitors aging
Note that monitors can fail as a result of aging, and that image properties such as brightness, contrast,and color value can change.
Do not touch the monitor screen
Due to mechanical pressure or electrostatic discharges, touching the screen can result in brief disturbances to the image.

2.2 Product-specific safety instructions

NOTICE
Medical System
Do not connect devices which are not part of the medical system.

NOTICE
Opening the device
The device must only be opened by service personnel.
• Disconnect the power supply plugs before opening the device

NOTICE
Radio interference
This is a Class B device.
The device may cause radio interference or interfere with the operation of other devices in close proximity. In this case the user is encouraged to perform appropriate measures to correct the interference.

Note
No zero error rate
LCD monitors do not have a zero error rate. For this reason, the image parameters can change over time, e.g. reduced luminance or changing/fading colors.

Note
Image quality
To maintain constant image quality, EIZO recommends cleaning the monitor on a regular basis and checking image properties in accordance with all applicable local regulations.

3 Description

3.1 Scope of delivery

The device and various components are included in the scope of delivery. After unpacking, check the scope of delivery for correctness and completeness.

Note
Keep the packaging material for subsequent transport of the device.

Device

The CuratOR LX550W is a 8MP 55" LCD Monitor for mounting in a ceiling suspension unit or wall mount.

Product	Order number
CuratOR LX550W	6GF62008BA01

Components

The following components are included in the scope of delivery:

- Power cable
  - Power cable for Europe(1)
  - Power cable for US (1)
- Signal cable
  - DVI dual link cable, 2 m (2)
- CD-ROM with documentation and general safety instructions (1)

3.2 Monitor performance features

The CuratOR LX550W has the following features that permit a wide range of applications:

Perfect picture reproduction

The TFT panel used with the LX550W enables a very large viewing angle and high luminance.

The LX550W provides a flicker-free picture, even at low refresh rates. The monitor thus meets the strictest ergonomic requirements.

Fully Automated Stability

The LX550W has a Fully Automated Stability system that keeps luminance constant in accordance with medical standards such as DICOM or Gamma 2.2, for example. The integrated stability system ensures constant luminance using a light sensor integrated in the backlight.

Flexible connection and operating options

The LX550W has flexible options for connection and operation:

• Two DVI-D inputs.

• Two DisplayPort 1.1 inputs.

• Two DVI inputs with HDMI connectors for PiP function.

Increased failure safety

Two redundant power supply units are built into the LX550W. This increases the failure safety of the backlight and monitor electronics.

Preset Look Up Tables

The LX550W is precalibrated at the factory. A total of five practice oriented Look Up Tables (LUTs) have been preset. This calibration data makes installation and maintenance easier. As such, the monitor can be easily adapted to the respective application and local lighting conditions.

In addition, special application requests from service personnel can be taken into account, such as changing the color location or adapting to ambient brightness.

All Look Up Tables are color matched ex-factory, so that the color impression remains the same across all gray scale levels.

Picture in Picture (PiP) function

Using two DVI inputs (HDMI connectors), a video signal with increased priority can be activated, for example, directly from a radiography system (live image).

The signals are transmitted when the system experiences an error or interruption on the image transmission and processing path. They are then given priority and displayed on the monitor. This ensures that the treating physician only sees one picture on the monitor at all times. The operation in progress can continue uninterrupted.

4 Setup and installation

⚠CAUTION
Changes to device
Do not make any mechanical or electric changes to the device. Otherwise the device warranty becomes invalid.
The manufacturer is not liable for changes made to the device.

4.1 Installation site

NOTICE
The power switch and connections must be accessible at all times
When installing and connecting the monitor, ensure that the power switch and the connections are accessible at all times.

NOTICE
Condensation
If the device is brought into a warm environment from a cold one, condensation may form in the device. This could result in a short circuit when switching on the device, damaging it.
• Wait until the condensed water has evaporated, including that inside the device, before you switch it on. This can take several hours.

NOTICE
Overheating
Ventilation holes are located on the rear of the housing.
If the ventilation holes are covered or closed, the heat generated in the monitor will not be dissipated sufficiently.
• Do not cover the ventilation holes.
• Do not close the ventilation holes.
• The minimum distance from the back and side of the monitor to the wall must be 10 cm, and at least 15 cm from other devices.
• The ambient temperature of the monitor must be in the acceptable range of +5 °C to +40 °C.

NOTICE
Dusty environment
The monitor is intended for use in the clean environment of medical diagnostics. In dusty environments, ventilation holes in the back can allow dust to penetrate into the monitor.
In the worst case, deposits are possible which become evident as dark spots in a white picture and result in deterioration of the luminance.
• Protect the monitor from dust, for example through appropriate construction measures at the installation site.

Note
Reflections on the screen   The monitor has an anti-glare surface that is only effective if the screen is clean and grease-free.   • Comply with the specifications for cleaning.   • Position the monitor to avoid reflections on the display area.   Reflections can be caused by lights, windows, furniture with shiny surfaces, or light-colored walls.   • In order to reduce reflections on the monitor, only use non-dazzling reflector bulbs for the ceiling lighting.

Note
Shocks and impacts   The monitor is sensitive to mechanical influences. Shocks and impacts on the panel surface can lead to total failure.   • Ensure that such mechanical influences at the installation site are avoided.

Note
Movable installation   If the monitor is installed such that it can move, make sure that persons or objects in the facility are not endangered by the monitor's range of movement.

Note
During transport, use the original packaging or service packaging.
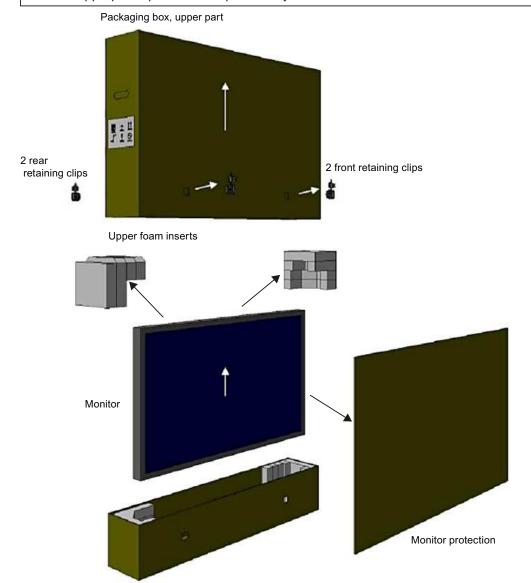
4.2 Unpacking the monitor

⚠ **CAUTION**

Injuries due to the monitor falling or tipping over

To prevent injuries when unpacking the monitor, proceed as follows:

- Make sure the monitor cannot tip over.
- The monitor must be removed from the packaging and carried by at least two persons.
- Wear appropriate protection to prevent injuries should the monitor fall.

Packaging box, upper part

2 rear retaining clips

2 front retaining clips

Upper foam inserts

Monitor

Monitor protection

Packaging box, base element with foam inserts inside

Fig. 1: Monitor packing (schematic representation)

Unpack the monitor as follows:

1. Carefully open the packaging and remove the upper section of the carton as well as all accessible packing parts.

2. Lift the monitor from the base of the packing carton. Hold it on the side and underside.

4.3 Mounting the monitor

The monitor has a VESA 400 x 400 adapter and can be installed in a suitable ceiling suspension or wall mount.

Observe the following during installation:

- The maximum torque for attaching to the holder is 15 Nm.

- The screws used for attaching to the holder must meet the following requirements:

Number	4
Thread	M8
Strength	8.8 in accordance with ISO 898-1
Insertion depth	16 - 20 mm

⚠ CAUTION
Installation
• To ensure even load distribution, insert and tighten all four screws before placing a load on the screws.
• Irreparable damage to the monitor may result from exceeding the maximum torque for attaching the holder.
• Using screws that are too short or too long could result in instability or damage to the monitor.

⚠ CAUTION
Holders
• Mounts must be tested and approved by the manufacturer for the weight to be supported.
• An installed stand must be sufficiently stable to withstand tilting of up to 10° without toppling the monitor.

5 Connecting

5.1 Safety information for connection

All safety information and warnings for the device must be observed to ensure danger-free operation.

⚠ CAUTION
Changes to device
Do not make any mechanical or electric changes to the device. Otherwise the device warranty becomes invalid.
The manufacturer is not liable for changes made to the device.

⚠ CAUTION
Shielding measures
Follow all shielding measures in accordance with local EMC directives. If these guidelines are not observed, device malfunction may result.

⚠ CAUTION
Grounding
The permissible leakage current is not exceeded during the first fault event in accordance with EN60601-1. The device is grounded with an additional protective conductor to ensure the greatest possible electric safety.

⚠ CAUTION
Excessive currents, short circuits, and ground faults
In accordance with national standards and regulations, protection against excessive currents, short circuits, and ground faults must be incorporated into the building installation.

NOTICE
Changes to device settings
Device settings may only be adjusted by service personnel.

NOTICE
Disconnecting from line power
Always set the power switch to "Off" before disconnecting the device from power. Otherwise the device could be destroyed.

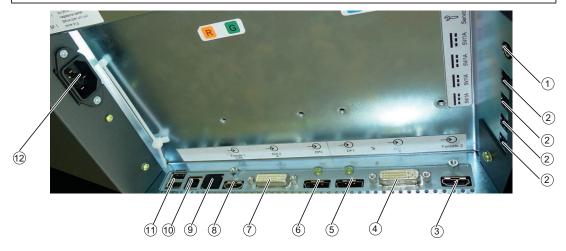| NOTICE |
| --- |
| **Cable installation** |
| Observe the following instructions: |
| • Only shielded cables are to be used for all signal connections. |
| • The connecting cables must not be kinked. |
| • The minimum bending radius of a connecting cable generally equals five times the cable diameter. |
| • Do not route signal cables and power cables next to one another. Otherwise, line power subject to heavy interference could result in reversible pixel errors. |
| • The device must not share a line power supply with motors or valves (interference!). |
| • Externally connected cables can represent a trip hazard. Make sure that all incoming cables are safely routed. |
| • If the device offers strain relief mechanisms for the cables, use them to prevent unintended loosening of connected cables. |

5.2 Device connections

⚠ CAUTION
Opening the connector panel cover
Only service may open the connector panel cover. Patients must not be present when the cover is open.

①	SW1 (for service only)	⑦	DVI - dual link connection DVI 2
②	5 V connectors to supply external devices	⑧	PiP 1 connector (HDMI connector)
③	PiP 2 connector (HDMI connector)	⑨	RJ45 connector (for service only)
④	DVI - dual link connection DVI 1	⑩	1 USB Type B (upstream)
⑤	DisplayPort connector DP1	⑪	2 USB Type A (downstream)
⑥	DisplayPort connector DP2	⑫	Power connector

5 V connectors

The monitor has four 5 V outputs that can be used to supply external devices.

DisplayPort and DVI connectors

The monitor has two DisplayPort and two DVI-Dual Link connectors. Digital input signals can be processed using these connectors. DisplayPort or DVI are the main inputs of the device.

Grounding screw

The additional protective conductor is connected to the grounding screw. It is located in the connection panel to the upper right.

PiP connector (HDMI connector)

The monitor has two PiP connectors for HDMI connectors, through which an emergency signal and a signal with additional information can be transmitted.
See also PiP connector (HDMI connector) [▶ 22].
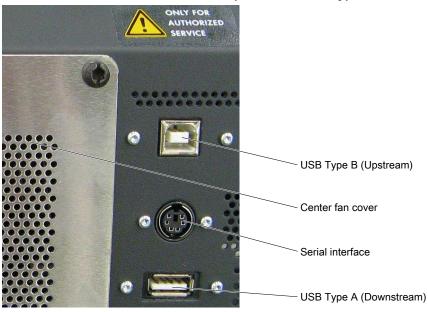
Power connector

The device's power supply is connected using an appliance plug.

USB upstream and downstream ports

USB type A and type B are the connectors of the integrated USB hub. There is no connection to the monitor electronics. The USB downstream ports (type A) enable communication with external devices. The USB upstream ports (type B) enable communication between the monitor and a connected PC.

Connectors on underside of unit (for service only)

USB Type B (Upstream)

Center fan cover

Serial interface

USB Type A (Downstream)

- **USB:** USB ports type A or B are used by Service for software updates.

- **Serial interface:** Service uses the serial interface to connect a photometer.

NOTICE
Connecting a photometer
• Only service can connect or disconnect a photometer.
• Only photometers tested for calibrating the monitor may be connected to the serial interface.
• A photometer must not be connected in the presence of the patient.

5.2.1 Power connector

The device power connector is located within the connection panel under a cover on the rear of the device. The power supply is connected using an appliance plug.

⚠ DANGER
Connecting to line power
• The device is designed for line power with a grounded neutral conductor.
• To avoid risk of electric shock, this device must only be connected to line power with a protective conductor.
• Contact the responsible building technician or a qualified electrician if you are uncertain whether the line power is equipped with a protective conductor.

⚠ CAUTION
Risk of damage to the device
• Only use the power cord supplied with the device , or a connection cable with a protective conductor and an appliance plug in accordance with DIN 49547, IEC 60320 (max. length 3 m, cable e.g. H05VV-F 3x1.0 mm^2). The cable must comply with the safety regulations of the respective country.
• Device fuses may only be replaced by authorized repair centers. The failure of a device fuse may result in a defect in the device. Do not use any other fuse.

NOTICE
Line voltage and frequency
Before connecting the device, make sure the line voltage and frequency correspond to the specifications on the name plate.

5.2.2 Monitor main inputs

The monitor can process digital DVI-Dual Link or DisplayPort input signals. The DVI1 and DVI2 or DP1 and DP2 connectors are provided for this.

NOTICE
Video source settings
The monitor sends the correct settings to the video source via the DDC interface. If you change the settings, the images will not be displayed correctly.

NOTICE
Connecting cable
• The connecting cables must not be kinked. The minimum bending radius of the cable generally equals ten times the cable diameter.   • Use only the cables specified by EIZO or the transmission links available from EIZO. The picture quality, interference immunity, and emitted interference of the entire system depend on the quality and cable length.

Note
Video source on DisplayPort
Operation via DVI is set as default using the "Input Selection" function in the OSD "Display" menu. If a video source should be displayed via DisplayPort, the function has to be set to DP.   See also Display menu.

5.2.3 PiP connector (HDMI connector)

DVI signals are transmitted via the PiP connectors.

The DVI signal of the PiP 1 connector represents the emergency signal (life signal) of the connected system. An emergency signal is used when the system experiences an error or interruption on the image transmission and processing path. The emergency signal is a video signal with increased priority and is displayed as soon as it is applied, for example from a radiography system. This ensures that the current image is displayed on the monitor at all times.

The DVI signal of the PiP 2 connector contains additional information on the connected system. The signal is displayed only when an emergency signal is applied to PiP 1 at the same time.

By default, the emergency signal of the PiP 1 connector is displayed in the upper left and lower right corner of the monitor. By default, the emergency signal of the PiP 2 connector is displayed in the upper right and lower left corner of the monitor.

Note
Display of PiP signals on the monitor
The PiP 1 signal is displayed at 1280 x 1024 resolution.   One of four prescribed resolutions can be selected in the OSD for the PiP 2 signal. The signals are not scaled.

5.3 Description of the connection procedure

⚠ **CAUTION**

Opening the connection panel cover

• Only service may open the connection panel cover.

• The screw torque may not exceed 0.75 Nm +/- 0.05 Nm.

• Patients must not be present when the cover is open.

⚠ **CAUTION**

Connector

Connectors may only be plugged in or removed by Service when the device is switched off.
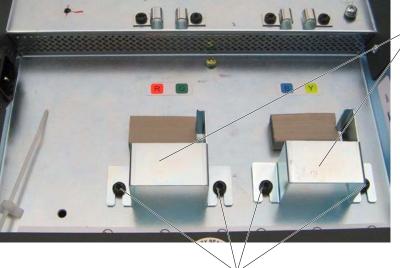
Prerequisite

The monitor connection panel is freely accessible and the monitor is in a stable installation position.

5.3.1 Connect the DVI receiver modules

If you want to use the TDL transmission links from EIZO with the monitor, connect the corresponding DVI receiver modules as follows:

1. Loosen the connector panel Combi-Torx screws and remove the cover.

DVI module mounts
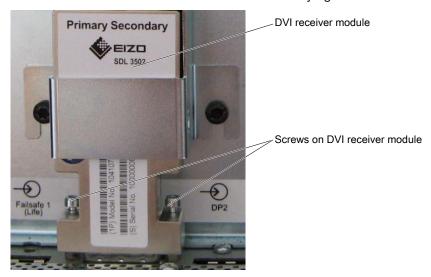
Screws for the DVI module mounts

2. Loosen the screws on the DVI module holders and remove the holders.

3. Insert the DVI receiver module in a DVI interface and secure it with a holder and two screws.
   Note: The DVI receiver module screws are not fully tightened.

4. Insert the second DVI receiver module in the other DVI interface and secure it with a holder and two screws.

5. Connect the CAT cables to the DVI receiver module connectors and tighten the clamps. When connecting the cables, observe the color coding and customer-specific information.

6. If you want to use the PiP function, connect the HDMI connector for the emergency signal (Life) and the additional signal to the PiP connectors.

7. Connect the appliance plug to the monitor power socket.

8. Secure appliance cable with cable ties to the lug to prevent unintentional loosening.

9. Secure the cover on the connection panel with the Combi-Torx screws.

6 Commissioning

Note
Factory settings
All monitors are optimally preset in the factory, such that changes are not usually required.

6.1 Switching on the monitor and video source

Note
To obtain the best possible results, the video source should support communication via the Display Data Channel (DDC) for DVI or the Auxiliary (AUX) Channel for DisplayPort.

The monitor and video source can be switched on in any order.

Note
Operating mode selection
The first time the monitor is switched on, an OSD menu is displayed for the selection of the "Universal" or "Compatible" operating mode. Select the correct mode corresponding to the system.
• For systems (VC and VD series) that use the Multi Display Manager (MDM), select "Compatible". The DVI inputs are active in this mode.
• For newer systems (VE10, VE20) with a direct connection, select "Universal": either "Universal 1.1" for two DP1.1 inputs or "Universal 1.2" for one DP1.2 input.

Switching on the monitor before the video source

1. Switch on the monitor.

    ⇨ The operation LED lights up yellow.

2. Switch on the video source.

  ⇨ If the connected signal can be displayed on the monitor, the operation LED will light green.

Switching on the video source before the monitor

1. Switch on the video source.

2. Switch on the monitor.

  ⇨ If the connected signal can be displayed on the monitor, the operation LED will light green.

⚠ CAUTION
Operation LED does not light green?
If the operation LED does not light green after the equipment has been switched on and a video signal has been applied:
• check the system for basic connection and operating errors before contacting service personnel.

6.2 Avoiding image sticking

Image sticking may occur with LCD monitors. Image sticking is an effect whereby a faint image of the previous screen contents can be seen after the display contents have changed.

The following measures can reduce or prevent image sticking:

- Use a screen saver with regularly changing images

- Switch off the monitor when it is no longer needed.

- The monitor has an energy saving mode:
  If the application in use supports the energy saving mode, activate it.

Note
Energy saving (Power Management)
The monitor supports various energy saving settings, called Power Management (PM). When PM is active, the monitor backlight switches off automatically for example, if the monitor is without a video signal for an extended period.
Also observe the operating system manufacturer's instructions regarding power management settings.

6.3 Graphics controller settings

Controlling the monitor with the Large Monitor Manager

No settings have to be made if a Large Monitor Manager is used to control the monitor. No configuration is required.

Controlling the monitor without the Large Monitor Manager

Note
Native resolution
Resolutions that do not correspond to the native resolution of 3840 x 2160 pixels are not displayed. This applies to connectors to the DVI and DP.

The monitor can be used as a high end PC monitor without the Large Monitor Manager. The following prerequisites must be met to be able to control the monitor without the Large Monitor Manager.

- Connector to DVI

  – The graphics card of the PC supports communication via DDC (Display Data Channel).

  – The graphics card has two dual link outputs. Both outputs must operate in synchronized mode.

  – The graphics card must support a resolution of 3840 x 2160 pixels (8 MP) in stretched mode.

  – To operate the monitor at the desired resolution, a driver for the graphics card used must be installed.

- Connector to DisplayPort:
    - The graphics card of the PC supports communication via the auxiliary channel.
    - The graphics card has a DP1.2 output or two DP1.1 outputs.
    - The graphics card supports a resolution of 3840 x 2160 pixels (8 MP) in stretched mode.
    - To operate the monitor at the desired resolution, a driver for the graphics card used must be installed.

If these requirements are met, the monitor is recognized by Windows as a plug-and-play monitor when it is switched on and the EDID (Extended Display Identification Data) of the monitor is transferred to the graphics card. You can now configure the resolution based on the driver or operating system settings.

NOTICE
Installation and parameterization of the video source
Please refer to the video source manufacturer's manual for detailed information about installation and configuration of the video source.

6.4 Check for pixel defects

Pixel defects (small bright or dark dots) can occur in LCD monitors. During the manufacturing process, all monitors are checked for the permitted number of defective pixels.

Defective pixels cannot be corrected.

7 Operation

Once installed, operating the monitor consists mainly of switching the power on and off.

After switching on the monitor, the operation LED is lit green continuously. If the LED lights up with another color, the monitor is not operating within normal operation.

Note
Switching off the monitor
When the monitor is switched off, the counter for the warm-up time is reset. To ensure stable brightness, a warm-up time of 20 to 30 minutes is recommended, even if the monitor is switched off for a short period of time.

Measures in the event of a failure

Note
Device malfunction in operation
If the device is not working properly, check the system for basic connection and operating errors before contacting service personnel.

7.1 Locking or unlocking the OSD menu
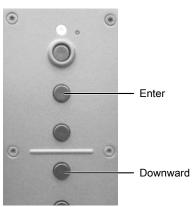
⚠CAUTION
Locking and unlocking the OSD menu
• Only authorized service personnel may lock or unlock the OSD menu.
• The OSD must be locked if inappropriate operation by the user can impact the intended use of the monitor.

The OSD is locked when delivered.

To lock or unlock the OSD menu, proceed as follows:

1. Press the "Enter" key once.

2. Then press the "Down" key three times.

The OSD menu is now locked or unlocked, depending on its initial state.

7.2 Operator controls

The control panel with the keys can be found to the right on the back of the housing frame. Use the keys to select the OSD menu functions.

Note
The OSD menu can only be opened when it is unlocked.
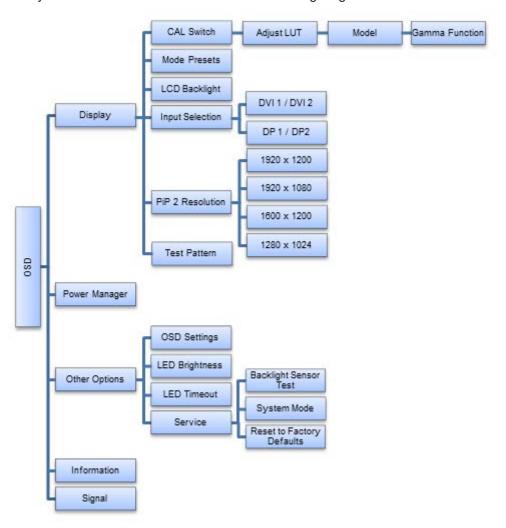
Key	Action
Enter	• Opens the next submenu. • Jumps to the element to the right. • Performs the selected function.
Up	• Scroll up in the menu. • Enlarge the selected entry.
Down	• Scroll down in the menu. • Reduce the selected entry.
Menu	• Opens the main menu. • Returns to the higher level menu or closes the top OSD menu. • Jumps to the element to the left.
Mode	• Opens the CAL Switch. • Selects LUT.

7.3 Description of OSD menu

The OSD menu is used to make settings for operation of the monitor with up to three video sources.

The layout of the OSD menu is shown in the following diagram.

7.3.1 Display menu

Function	Values	Description
CAL Switch	LUT 1 to LUT 5	**Select the Look Up Table (LUT)**
		The LUT determines the monitor's gamma curve. By using a different LUT for example, you can highlight specific grayscale levels.
		The LUT names displayed provide a brief description of the model for which the LUT is valid.
		Note: Select a DICOM LUT to view radiographic images.

Function	Values	Description
Adjust LUT **Note:** Open the function by selecting a LUT under "CAL Switch" and pressing "Enter".	Model Lum Max [cd/m^2] Lum Min [cd/m^2] Lum Ambient [cd/m^2] Color Calibration X Y	**Adjust LUT** Here you can adjust the model and the color and brightness settings of the selected LUT. **CAUTION:** All values may only be changed by service personnel. Otherwise, the intended use of the device is no longer ensured. • Lum Max: Set brightness for fully white. • Lum Min: Set value for black. • Lum Ambient: Set value for ambient brightness. • Color Calibration: Cannot be changed. Set to Yes. • X, Y: Color coordinate setting. These coordinates can be changed incrementally. **Note**: After each parameter change, the LUT in the device is immediately recalculated. **Note:** Parameter changes must be saved. Otherwise, the settings will be lost when switching off.
Model	CIE1976 CIE (DIN 6174) CRT DICOM Gamma Function Log.Lum.Linear Native	**Set the gamma model** The gamma model, which serves as the basis for recalculating the LUT, can be set here.
Gamma Function	2.0 2.2 2.5 2.7 3.0 3.3	**Select the gamma function**
Mode Presets	"0" or "1 per LUT	**Setting the Mode Preset** This function enables you to make any LUT settings in the "CAL Switch" function selectable (1) or non-selectable (0). The names of the selectable LUT settings are taken from the "CAL Switch" function. **Note:** An active LUT setting cannot be replaced.

Function	Values	Description
LCD Backlight	LUT BL Command Active	**Backlight Command Control**
		If the command is marked, the brightness control based on the gamma curve is active.
		This means the maximum value of the gamma curve is set in accordance with the values calibrated at the factory. This ensures that the maximum brightness fits with the gamma curve.
	Backlight 0 - 1023	**Changing the brightness of the backlight**
		CAUTION: If you adjust brightness, the gray scale values no longer correspond to the set gamma curve (LUT). As a result, the calibrated values cannot be guaranteed and there could be a loss of information in the displayed images.
Input Selection	DVI 1 / DVI 2 DP 1 / DP 2 *Default: DP 1 / DP 2*	**Setting the video source connection** If needed, the video input can be changed here.
PiP 2 Resolution	1920 x 1200 (WUXGA) 1920 x 1080 (HD) 1600 x 1200 (UXGA) 1280 x 1024 (SXGA)	**Establishing the PiP 2 resolution** Here you set the resolution at which the PiP 2 signal is displayed. **Note:** Changes do not go into effect until the monitor reboots.
Test Pattern	None <Selection of test patterns>	**Select and display test patterns** The monitor contains an internal test pattern generator that can create various test patterns to enable visual checks of the device without software. **CAUTION:** Only use the test patterns during maintenance. The PiP functions are deactivated when a test pattern is displayed. **Note:** After selecting a test pattern, select "None" in order to display the video signals of the connected system again.

7.3.2 Power Manager menu

Function	Values	Description
DMPM …	DMPM External Power On DMPM External Power Off DMPM Disabled	**Setting the DMPM mode** The set DMPM mode is active when there is no video signal at the DP and DVI inputs. • External Power On: The backlight has been turned off. • External Power Off: The backlight, 5 V connectors, and PiP connectors (HDMI connector) are fully turned off. Energy savings increase compared to "External Power On". **CAUTION:** Do not set "DMPM External Power off" if you are using the 5 V connectors or DVI receiver modules. The monitor cannot be awakened again when video signals are applied again. To put the monitor back into operation in this case, it has to be turned off at the main switch for approx. 10 seconds and then turned back on. • Disabled: DMPM signals are ignored. The monitor does not change to energy saving mode.

7.3.3 Other Options menu

Function	Values	Description
OSD Settings	Horizontal 0 - 214 Vertical 0 - 58 Transparency 64 - 255	**Setting the position and transparency of the OSD menu** Horizontal and vertical coordinates establish the position of the OSD menu. **Note:** The OSD menu cannot be set via a PiP window. Corresponding entries are suppressed or the OSD menu position is corrected automatically. Use "Transparency" to change the transparency of the OSD background.
LED Brightness	Bright Dimmed	**Set the brightness of the operation LED.** You can lower the brightness of the operation LED to prevent interfering stray light. **Note:** The brightness of the operation LED increases again automatically when an error occurs in the monitor. The color of the operation LED then indicates a possible cause of the error [▶ 39].

Function	Values	Description
LED Timeout	No Timeout Timeout (min) 1	**Setting the operation LED timeout** You can set a set wait time (in minutes) after which the operation LED is switched off to prevent interfering stray light. **Note:** The operation LED switches on again automatically when an error occurs in the monitor. The color of the operation LED then indicates a possible cause of the error [▶ 39].
Service	Backlight Sensor Test System Mode Reset to Factory Defaults	**Backlight Sensor Test** When you select this function, a series of brightness settings is checked using the internal sensor. • The these values differ from the defaults, the message "Check with QA SW" is displayed. You can recalibrate the sensor using the QA software. • If the values do not differ from the defaults, "Normal" status is displayed. **System Mode** Set the mode in which the monitor is to operate. • In "Compatible Mode", DVI is the default video input. • In "Universal Mode", DisplayPort is the default video input. See also Description of the connection procedure [▶ 23]. **Reset to Factory Defaults** Selecting this function opens a dialog box where you can reset the device to the factory settings.

7.3.4 Information menu

Display (Example)	Description
P/N 6GF6200-8BA00 S/N 1000000#### AN ######## Working Hours 151 Temperature (°C) 25 Firmware 4.161 FPGA 1.023 OSD 3.002	Selecting this menu displays the following information regarding the monitor: • Product number P/N • Serial number S/N • Asset number A/N • Operating hours • Temperature in the device • Installed firmware, FPGA, and OSD version.

7.3.5 Signal menu

Display (Example)			Description
Input	Width	Height	Selecting this menu displays information regarding the video signals at the selected inputs.
DVI 2 or DP 2	1920	2160	The selected inputs are established in the "Other Options" -> "Service" -> "System Mode" menu or in the "Display" -> "Input Selection" menu.
DVI 1 or DP 1	1920	2160	
DVI 3	no sync		**Note:** The inputs currently selected by the monitor are shown in inverse color display.
DVI 4	no sync		

7.4 Import update (service only)

Updates are imported by service personnel from a USB stick with released update software.

NOTICE
Update requirements
• The power supply to the monitor must not be interrupted during the update. An interrupted update can result in monitor failure.
• During the update, multiple reboots of the monitor may occur. Do not switch off the monitor until the update has been completed. A message is displayed on the monitor as soon as the update is complete.
• Only use updates released by the manufacturer to ensure proper function of the monitor.
• The OSD menu must be closed.

To update the firmware, proceed as follows:

1. Connect the USB stick to the type A USB port on the base of the device.

2. The update software is checked.
   If the update software is valid, a start window is displayed.

3. Start the update.

4. If the message "Pull Stick to finish Updates" is displayed, remove the USB stick from the USB port.

8 Cleaning and check settings

8.1 Cleaning

NOTICE
Device maintenance, cleaning and disinfecting
• Make sure liquids do not seep into the device. Liquids that seep into the device may result in an electric shock or failure of the device.
• The screen is extremely sensitive to mechanical influences. Absolutely avoid scratches, shocks, etc. for this reason.
• Clean the screen when dirty using a microfiber cloth and, if necessary, a recommended cleaning agent. Clean the housing parts with a recommended cleaning agent.
• Use only tested disinfectants.
• If a cleaning agent is sprayed directly onto the screen surface, use a microfiber cloth to remove drops which run down before they reach the edge of the panel.
• Remove drops of liquid from the device immediately. Contact with liquids over a longer period can cause discoloration or allow calcium deposits to form on the surface.

Recommended cleaning agents and disinfectants

⚠CAUTION
Use of cleaning agents and disinfectants
When handling the recommended cleaning agents and disinfectants, observe the information in the respective safety data sheet.

Agent class	Tested cleaning agents and disinfectants	Further examples
Alcohol	Ethyl alcohol, 96% by vol. Mikrozid Liquid, undiluted	Hospiset cloth Meliseptol Rapid Isopropyl alcohol (Isopropanol), 70 %
Aldehyde	Melsitt 10% by vol. Cidex, undiluted	Aldasan 2000 Kohsolin Gigasept FF
Chlorine derivatives	Terrain 0.5% by vol.	Quartamon Med
Disinfectants	Perform 3% by weight Morning Mist (1:64) Terralin Protect 2% by vol. Melisepton rapid; direct Microbac Tissues	
Glucoprotamine	Incidin Plus 8% by vol.	
Guanidine derivatives	Lysoformin 2% by vol.	

Agent class	Tested cleaning agents and disinfectants	Further examples
Quaternary compounds	Incidur spray, undiluted	
	Mikrozid Sensitive Liquid, undiluted	
Standard household washing-up liquid	Tempo	Fairy Ultra, Pril, Palmolive
Pyridine derivatives	Activ spray, undiluted	
Organic acids	Bio-AntiBact med	
Water	Tap water	
	Distilled water	
Spray disinfectant	Nocospray / Nocolyse	

Prohibited cleaning agents and disinfectants

After extended use, the cleaning agents and disinfectants listed can lighten the paint or damage the polarizer.

Agent class	Tested cleaning agents and disinfectants	Further examples
Light gasoline	Cleaning solvent, petroleum spirit close to boiling	Petroleum ether

Note
Cleaning other components
Information on cleaning or disinfection of other system components can be obtained from the respective instructions for use.

8.2 Check the settings

⚠ CAUTION
Checking the settings
• The settings may only be checked by service personnel.
• The settings must not be checked in the presence of patients.

Check the settings on a regular basis

The picture quality of the monitor changes due to aging of the LCD unit and the backlight.

• Check the monitor settings at regular intervals in accordance with the local guidelines.

• Correct the settings if necessary.

Checking, changing, and calibrating settings

You can change the monitor settings with suitable software and check or calibrate them if necessary using a photometer. For the use of a photometer, the monitor has a serial interface with a 6-pin mini-DIN socket.

Confirming the image quality visually after calibrating the monitor

After calibration, the monitor must be visually inspected to verify successful and correct completion of the calibration procedure. Various test patterns are stored in the monitor and can be activated in the OSD; for example, Measure, Graybars, Cross, Pixel on off, Grayramp, TG18-OIQ.

9 Troubleshooting

The operation LED continuously lights up green when operating normally. In the event of a fault, localize it as follows, based on the screen display and the operation LED.

1. Check the device for the possible causes listed in the following.

2. Carry out the remedial measures before contacting service personnel.

9.1 No picture

LED	Cause	Remedy
Green	Video signal detected, but the monitor or graphics card is set up incorrectly	• Check the monitor settings (e.g. LUT, brightness, no test pattern, etc.). • Check and adapt the graphics card settings.
	Video signal detected, but only one DVI or Display Port input connected	• Signal cables are not connected in pairs to the DVI or Display Port input.
	Video signal detected but device defective	• Inform service department
	The DMPM (Digital Monitor Power Management) is active due to an interface command.	• The main computer has to send a wake-up signal so that the image can be displayed.
Yellow	No error: The "DMPM External Power on" energy saving mode in the Power Manager OSD menu is active.	• Deactivate energy saving mode.
	No input signal	• Signal cable is not connected
	Incorrect timing is set	• Apply supported timing
Yellow flashing	No error: The "DMPM External Power off" energy saving mode in the Power Manager OSD menu is active.	• Deactivate energy saving mode. **WARNING:** You may not set "DMPM External Power off" if you use the 5 V ports or DVI receiver modules. The monitor cannot be awakened again when the video signal is present. To put the monitor back into operation in such a situation, turn off the main switch for approx. 10 seconds and then turn it on again.
Red	Internal error	• Inform service department
	Overtemperature threshold exceeded: The nominal value for the backlight control is reduced by half. Brightness is reduced significantly to lower the temperature and avoid potential damage.	• Switch off the monitor • Check the ventilation and improve these conditions if necessary. • Select a lower brightness level for standard operation.
Dark	Device is off	• Switch on power switch
	Power cable is not inserted or incorrectly inserted.	• Check the power cable
	Power cable is defective	• Replace power cable
	Blown fuse	• Inform service department

9.2 Picture displayed

LED	Cause	Remedy
Green	No error, correct operating status	-
Yellow flashing	The monitor has not reached the stabilized luminance level.	• Select a lower brightness level for standard operation. • Inform service department
	Monitor has reached an initial critical temperature level.	• Select a lower brightness level for standard operation. • Check the ventilation and improve conditions if necessary.
	Internal error	• Inform service department
Red	Overtemperature threshold exceeded: The nominal value for the backlight control is reduced by half. Brightness is reduced significantly to lower the temperature and avoid potential damage.	• Switch off the monitor • Check the ventilation and improve conditions if necessary. • Select a lower brightness level for standard operation.
	Internal error	• Inform service department
Green yellow red flashing	No error: Update being performed.	
Dark	LED timeout activated	• No error • Switch off the LED timeout setting
	Operation LED is defective	• Inform service department

9.3 Messages during operation

The following messages can be displayed when operating the monitor:

Message	Description	Remedy
No Signal	No valid video signal.	Check the video source connection.
OSD Locked	Attempts to open a locked OSD menu.	Locking or unlocking the OSD menu [▸ 28]
OSD Unlocked	Unlocking the OSD menu was successful	-
Sensor Status Normal	Displayed after a successful backlight sensor test.	-
Check with QA SW	Displayed after a failed backlight sensor test.	Contact service.
Energy Saving Mode	The monitor changes to energy saving mode.	-
Processing … Please Wait	LUT data is being processed.	-
Operation Rejected	The requested operation could not be executed.	Observe the requirements for executing the function. Contact service.
Operation Successful	The requested operation was successfully executed.	-
Operation Failed	Execution of the requested operation was canceled.	Contact service.
Please close OSD first	A USB stick with update software was connected with the OSD open.	Remove the USB stick. Close OSD.
Do not turn display off	Do not turn off the display during an update.	-
Pull stick to finish Updates	An attempt was made to close OSD when the USB stick with update software was connected.	Remove the USB stick. Close OSD.

10 Technical specifications

Note
Applicability of technical specifications
All technical specifications are valid after a warm-up period of 30 minutes.

10.1 Monitor characteristics

Property	Value
Type	Color, TFT (IPS Pro)
Active Area	1209.6 mm x 680.4 mm
Screen diagonal	55" (1388 mm)
Resolution	3840 x 2160 (QFHD)
Refresh rate	60 Hz
Pixel arrangement	RGB vertical stripes
Pixel spacing	0.315 mm x 0.315 mm
Contrast ratio	Typically 1450:1
Horizontal viewing angle	Typically 178°
Vertical viewing angle	Typically 178°
Backlighting	LED
Screen brightness	Typically 700 cd/m², uncontrolled Min. 560 cd/m²

10.2 Power supply

Power connector	C14 power cord connector with protective conductor, IEC 60320
Line voltage	AC 100 ... 240 V (± 10%)
Line frequency	50 ... 60 Hz (± 5%)
Current consumption	< 2.0 A @ 240 V / 5.0 A @ 100 V
Maximum current consumption	400 W

10.3 Inputs / outputs in the connection panel

DVI 1 / DVI 2	Dual link DVI-I socket (analog pins are not used) - max. 1920 x 2160 at 60 Hz
DP1, DP2	DisplayPort – max. 1920 x 2160 at 60 Hz
PiP 1	HDMI socket (transmits a DVI signal) – max. 1280 x 1024 at 60 Hz
PiP 2	HDMI socket (transmits a DVI signal) – max. 1920 x 1200 at 60 Hz
4-pin mini-DIN socket (serial connection)	For connecting a photometer
2 USB Type A (downstream)	For connecting external USB devices
1 USB Type B (upstream)	To communicate with the PC and for service purposes
4 DC 5 V/max. 1 A	For connecting external devices

10.4 Mechanical design

Housing components	Metal
Ventilation openings	In rear panel
Degree of protection	IP20 according to EN 60529
Connection panel	On rear panel, under cover

10.5 Climatic conditions

In operation	
Temperature range	+5 °C to +40 °C Ambient temperature
Temperature gradient	Max. 6 °C/h, no condensation
Humidity	20 - 80%, non condensing, at 25 °C
Air pressure	700 - 1060 hPa or up to an altitude of 3000 m

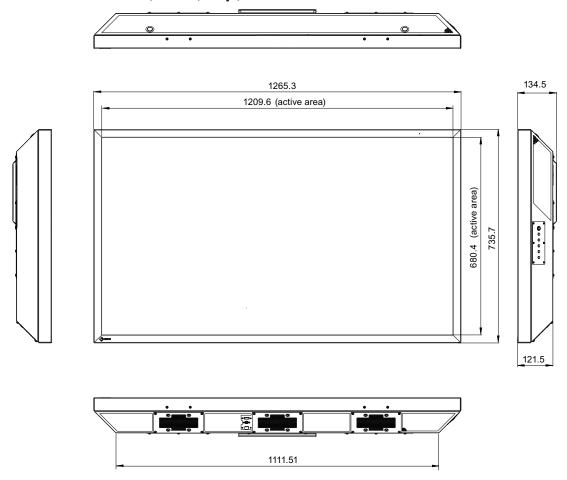| **For transport and storage (packed)**	
Temperature range	-20 °C - +60 °C ambient temperature
Temperature gradient	Max. 6 °C/h, no condensation
Humidity	10 - 95%, non condensing, at 25 °C
Air pressure	500 - 1060 hPa or up to an altitude of 5600 m

10.6 Safety regulations

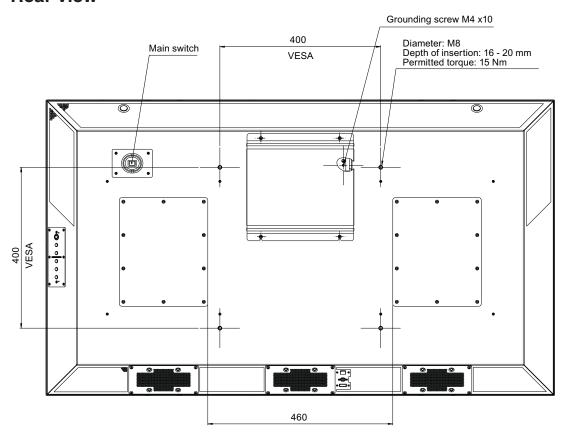| Safety regulations	
Safety standards	• IEC/EN 60601-1
	• CAN/CSA - C 22.2 No. 60601-1
	• UL 60601-1
	• ANSI/AAMI ES60601-1
Protection class	Protection class I
Degree of protection	IP20
Medical device classification (EU)	Class 1

11 Dimension drawings

All dimensions in mm

11.1 View from front, side, top, and below

11.2 Rear view

12 Appendix

12.1 Markings and symbols

Marking / symbol	Meaning
⚠	Symbol for "Caution, observe accompanying documents".
⚡	Symbol for "Hazardous electrical voltage".
CE	CE marking (EU conformity mark).
EU Medical Device	Medical device in accordance with the European medical device regulation.
Electrical Safety (MET) c us E113208	MET marking, in accordance with U.S. and Canadian national regulations.
FC	U.S. FCC marking for communication devices.
CCC	CCC marking, in accordance with Chinese national regulations.
IS 13252 (Part 1)/ IEC 60950-1 § R-41126039 www.bis.gov.in	BIS marking, in accordance with Indian national regulations.
RCM	RCM marking for conformity with Australian and New Zealand EMC standards.
▰	Symbol for the manufacturer of medical devices, supplemented by the date of manufacture.
⌧	WEEE marking: Product must be disposed of separately; materials may be recycled.
⟳10⟳	Marking according to ACPEIP (China-RoHS).
IP20	Degree of protection according to DIN EN 60529.
|	"On" symbol (voltage).
◯	"Off" symbol (voltage)
🔧	Input for service calls.
📖	Symbol for "Comply with the instructions for use".
⚠	Symbol for "Authorized service personnel only".

12.2 Information on electromagnetic compatibility (EMC)

EIZO monitors were designed for the display of images and normal monitor operation.

⚠ WARNING
Special EMC provisions are required for use of the CuratOR LX550W. Installation, assembly, and use must take place in compliance with the following instructions.
• Only use the cables included in the scope of delivery or recommended by the manufacturer. The use of other cables can result in increased electromagnetic radiation and reduced electromagnetic interference immunity of the device, as well as improper use. Cable length: max. 3 m
• The monitor should not be placed on other devices or positioned in their immediate vicinity. If devices have to be operated on or in the immediate vicinity of one another, the monitor or system must be monitored to ensure proper operation for the defined configuration.
• When using a portable RF communications device, maintain a distance of at least 30 cm from all parts of the monitor, including cables. Otherwise, problem-free function of the device cannot be guaranteed.
• Persons connecting additional devices to the signal input or output when configuring a medical system are responsible for ensuring compliance with standard IEC/EN 60601-1-2.

Electromagnetic radiation		
The CuratOR LX550W is intended for use in the electromagnetic environments noted below. Customers and users of the CuratOR LX550W have to ensure that the device is used in such an environment.		
Radiation test	**Conformity**	**Information regarding the electromagnetic environment**
RF radiation CISPR11/EN 55011	Group 1	The CuratOR LX550W generates RF for its internal function only. For this reason, the RF radiation is very low and is therefore unlikely that it will result in interference in electronic devices in the immediate vicinity.
RF radiation CISPR11/EN 55011 GB9254	Class B	The CuratOR LX550W is approved for use in a number of environments. This includes residential areas and areas connected directly to the public low-voltage grid, such as private homes.
Harmonic currents IEC/EN 61000-3-2 GB17625.1	Class D	
Voltage fluctuations / flicker IEC/EN 61000-3-3	fulfilled	

Electromagnetic interference immunity			
The CuratOR LX550W was tested with the following compliance levels in accordance with the test requirements for professional healthcare facilities, as established in IEC/EN 60610-1-2.			
Customers and users of the CuratOR LX550W have to ensure that the monitor is used in such an environment.			
Interference immunity test	**Measurement level**	**Compliance level**	**Information regarding the electromagnetic environment**
Electrostatic discharge (ESD) IEC/EN 61000-4-2	±8 kV contact ±15 kV air	±8 kV contact ±15 kV air	It is recommended to use the device on wood, concrete, or ceramic floors. If the floor is made of synthetic material, the relative humidity should be at least 30%.
Fast transient electric disturbances (bursts) IEC/EN 61000-4-4	±2 kV power lines ±1 kV input / output lines	±2 kV power lines ±1 kV input / output lines	The power supply quality has to correspond to that of typical industrial environments or hospitals.
Surge voltage IEC/EN 61000-4-5	±1 kV line against line ±2 kV line against ground	±1 kV line against line ±2 kV line against ground	The power supply quality has to correspond to that of typical industrial environments or hospitals.
Voltage dips, brief interruptions, and fluctuations of power supply lines IEC/EN 61000-4-11	0 % V_T for 0.5 periods and 1 period 70 % V_T for 25 / 30 periods at 50 / 60 Hz 0 % V_T for 250 / 300 periods at 50 / 60Hz	0 % V_T for 0.5 periods and 1 period 70 % V_T for 25 periods at 50 Hz 0 % V_T for 250 periods at 50 Hz	The power supply quality has to correspond to that of typical industrial environments or hospitals. If the monitor has to continue operation even if the power supply is interrupted, it is recommended to connect the device to an uninterruptible power supply or battery.
Magnetic fields with energy technology frequencies IEC/EN 61000-4-8	30 A/m (50 / 60 Hz)	30 A/m (50 Hz)	The magnetic fields with energy technology frequencies must be in an area that is representative of a typical location in a typical industrial environment or hospitals. The device should be used at least 15 cm away from the source of magnetic fields with energy technology frequencies.
Note: V_T is the alternating current voltage before application of the measurement level.			

Electromagnetic interference immunity			
The CuratOR LX550W was tested with the following compliance levels in accordance with the test requirements for professional healthcare facilities, as established in IEC/EN 60601-1-2. Customers and users of the monitor have to ensure that the monitor is used in such an environment.			
Interference immunity test	**Measurement level**	**Compliance level**	**Information regarding the electromagnetic environment**
Line-based disturbances caused by RF fields IEC/EN 61000-4-6	$3\ V_{rms}$ 150 kHz to 80 MHz	$3\ V_{rms}$	Portable and mobile RF communications devices may only be operated in the vicinity of the monitor and its components (including cables) when in compliance with the recommended minimum distance. It is determined using the formula for calculating the frequency of the transmitter.
	$6\ V_{rms}$ ISM bands between 150 kHz and 80 MHz	$6\ V_{rms}$	Recommended minimum distance $d = 3.5/3\ \sqrt{P} = 1.2\ \sqrt{P}$, 150 kHz to 80 MHz
Electromagnetic RF fields IEC/EN 61000-4-3	3 V/m 80 MHz to 2.7 GHz	3 V/m	$d = 2\ \sqrt{P}$, ISM bands between 150 kHz and 80 MHz $d = 3.5/3\ \sqrt{P} = 1.2\ \sqrt{P}$, 80 MHz to 800 MHz $d = 7/3\ \sqrt{P} = 2.3\ \sqrt{P}$, 800 MHz to 2.7 GHz In this case, "P" stands for the measured maximum nominal output power in watts (W) of the transmitter recommended by the transmitter manufacturer, and "d" for the recommended minimum distance in meters (m). The field strengths of fixed transmitters according to electromagnetic location measurement[a] have to be less than the compliance level in each individual frequency range. Interference can occur when used in the vicinity of devices identified with the following symbol.
Note: The higher frequency range applies at 80 MHz and 800 MHz. **Note:** Guidelines with respect to line-based interference due to RF fields or electromagnetic RF fields may not apply in all situations. Absorption and reflection by structures, objects, and people impact the propagation of electromagnetic waves. .			
[a] The field strengths of fixed transmitters, for example the base station for cordless and mobile telephones, radio, land mobile radio, ham radio, and television cannot be determined precisely in advance. To evaluate the electromagnetic environment using fixed transmitters, an electromagnetic location measurement should be included. If the measured field strength in the environment where the device is used exceeds the applicable RF compliance level, observe the monitor to ensure its proper operation. If improper operation is observed, in some circumstances additional measures may be necessary, such as reorienting or repositioning the device.			

Recommended minimum distance between portable or mobile RF communications devices and the CuratOR LX550W			
The CuratOR LX550W is intended for use in an electromagnetic environment in which interference due to electromagnetic radiation is controlled. For other portable and mobile RF communication devices (transmitters), the recommended minimum distance between the portable and mobile RF communication devices (transmitters) and the monitor applies as listed below. This is based on the maximum output power of the communication device.			
Maximum nominal output power of the transmitter (W)	Recommended minimum distance according to the frequency of the transmitter (m)		
	150 kHz to 80 MHz $d = 1.2 \sqrt{P}$	80 MHz to 800 MHz $d = 1.2 \sqrt{P}$	800 MHz to 2.7 GHz $d = 2.3 \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
For transmitters whose maximum nominal output power is not shown above, the recommended minimum distance "d" in meters (m) can be determined using the formula for calculating the frequency of the transmitter. "P" here stands for the transmitter's maximum measured nominal output power in watts (W), as recommended by the transmitter's manufacturer.			
Note: For 80 MHz and 800 MHz, the recommended minimum distance for the higher frequency range applies. **Note:** This information may not be applicable in all situations. Absorption and reflection by structures, objects, and people impact the propagation of electromagnetic waves.			

Recommended minimum distance between portable or mobile RF communications devices and the CuratOR LX550W							
The CuratOR LX550W is intended for use in an electromagnetic environment in which interference due to electromagnetic radiation is controlled. The customer or user of the monitor can help prevent electromagnetic interference by maintaining the recommended minimum distance between portable and mobile RF communications devices (transmitters) and the monitor. The interference immunity regarding adjacent fields has been confirmed for the following wireless RF communications devices:							
Test frequency (MHz)	**Bandwidth[a] (MHz)**	**Service[a]**	**Modulation[b]**	**Maximum power (W)**	**Minimum distance (m)**	**Measurement level (V/m)**	**Compliance level (V/m)**
385	380 - 390	TETRA 400	Pulse modulation[b] 18 Hz	1.8	0.3	27	27
450	430 - 470	GMRS 460 FRS 460	FM ±5 kHz deviation 1 kHz sine	2	0.3	28	28
710 745 780	704 - 787	LTE band 13, 17	Pulse modulation[b] 217 Hz	0.2	0.3	9	9
810 870 930	800 - 960	GSM 800/900 TETRA 800 iDEN 820 CDMA 850 LTE band 5	Pulse modulation[b] 18 Hz	2	0.3	28	28
1720 1845 1970	1700 - 1990	GSM 1800; CDMA 1900 GSM 1900 DECT LTE band 1, 3, 4, 25 UMTS	Pulse modulation[b] 217 Hz	2	0.3	28	28
2450	2400 - 2570	Bluetooth WLAN 802.11 b/g/n RFID 2450 LTE band 7	Pulse modulation[b] 217 Hz	2	0.3	28	28
5240 5500 5785	5100 - 5800	WLAN 802.11 a/n	Pulse modulation[b] 217 Hz	0.2	0.3	9	9
[a] For some radio services, only the frequencies for the radio contact from the mobile communications device to the base station ("Uplink") is included in the table. [b] The carrier is modulated by a square wave with 50 % duty cycle.							

12.3 FCC Declaration of Conformity

For U.S.A. , Canada, etc. (rated 100-120 Vac) Only
FCC Declaration of Conformity
We, the Responsible Party EIZO Inc. 5710 Warland Drive, Cypress, CA 90630 Phone: +1 (562) 4 31 50 11 declare that the product • Trade name: EIZO • Model: CuratOR LX550W is in conformity with Part 15 of the FCC Rules. Operation of this product is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures. • Reorient or relocate the receiving antenna. • Increase the separation between the equipment and receiver. • Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. • Consult the dealer or an experienced radio/TV technician for help. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. **Note** Use the attached specified cable below or EIZO signal cable with this monitor so as to keep interference within the limits of a Class B digital device. • AC Cord • Shielded Signal Cable (enclosed)
Canadian Notice
This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est comforme à la norme NMB-003 du Canada.

12.4 China RoHS (Restriction of Hazardous Substances)

液晶显示器 LCD Monitor
型号 Model: 6GF62008B$## ($ = A...Z; ## = 00…99)

根据SJ/T11364-2014《电子电气产品有害物质限制使用标识要求》特提供如下有关污染控制方面的信息。

The following product pollution control information is provided according to SJ/T11364-2014 Marking for the restriction of the use of hazardous substances in electrical and electronic product.

电子电气产品有害物质限制使用标志说明
Explanation of Marking for Restriction of Hazardous Substances

该标志表明本产品含有超过中国标准GB/T26572-2011《电子电气产品中限用物质的限量要求》中限量的有毒有害物质。标志中的数字为本产品的环保使用期，表明本产品在正常使用的条件下，有毒有害物质不会发生外泄或突变，用户使用本产品不会对环境造成严重污染或对其人身、财产造成严重损害的期限。单位为年。

为保证所申明的环保使用期限，应按产品手册中所规定的环境条件和方法进行正常使用，并严格遵守产品维修手册中规定的定期维修和保养要求。

产品中的消耗件和某些零部件可能有其单独的环保使用期限标志，并且其环保使用期限有可能比整个产品本身的环保使用期限短。应到期按产品维修程序更换那些消耗件和零部件，以保证所申明的整个产品的环保使用期限。

本产品在使用寿命结束时不可作为普通生活垃圾处理，应被单独收集妥善处理。

This symbol indicates the product contains hazardous materials in excess of the limits established by the Chinese standard GB/T26572-2011 Requirements of concentration limits for certain restricted substances in electrical and electronic products. The number in the symbol is the Environment-friendly Use Period (EFUP), which indicates the period during which the toxic or hazardous substances or elements contained in electronic information products will not leak or mutate under normal operating conditions so that the use of such electronic information products will not result in any severe environmental pollution, any bodily injury or damage to any assets. The unit of the period is "Year".

In order to maintain the declared EFUP, the product shall be operated normally according to the instructions and environmental conditions as defined in the product manual, and periodic maintenance schedules specified in Product Maintenance Procedures shall be followed strictly.

Consumables or certain parts may have their own label with an EFUP value less than the product. Periodic replacement of those consumables or parts to maintain the declared EFUP shall be done in accordance with the Product Maintenance Procedures.

This product must not be disposed of as unsorted municipal waste, and must be collected separately and handled properly after decommissioning.

有毒有害物质或元素的名称及含量 Name and Concentration of Hazardous Substances

部件名称 Component Name	有毒有害物质或元素 Hazardous substances' name					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
液晶纯平屏幕 LCD Flat Screen	O	O	O	O	O	O
控制板 Controller Board	O	O	O	O	O	O
电源 Power Supply	X	O	O	O	O	O
其他 电路板 Other Circuit Boards	O	O	O	O	O	O
其他（电缆等） Others (cables, etc.)	O	O	O	O	O	O
机架、底盘 Housing, Chassis	O	O	O	O	O	O
附件（信号电缆、输电线等） Accessories (signal cable, power line, etc.)	O	O	O	O	O	O

本表格依据SJ/T 11364 的规定编制。
O: 表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572 标准规定的限量要求以下
X: 表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572 标准规定的限量要求

• 此表所列数据为发布时所能获得的最佳信息.

• 由于缺少经济上或技术上合理可行的替代物质或方案，此医疗设备运用以上一些有害物质来实现设备的预期临床功能，或给人员或环境提供更好的保护效果。

This list is based on SJ/T 11364.
O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in GB/T 26572.
X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in GB/T 26572.

• Data listed in the table represents the best information available at the time of publication.

• Applications of hazardous substances in this medical device are required to achieve its intended clinical uses, and/or to provide better protection to human beings and/or to environment, due to lack of reasonably (economically or technically) available substitutes.

产品中有毒有害物质或元素的名称及含量 Table of hazardous substances' name and concentration.

12.5 Declaration of compliance with India RoHS

We, EIZO Corporation, hereby declare and guarantee that this product has been designed and manufactured in compliance with the E-Waste management rule 2016 which prohibit the inclusion of the following substances except for the exemptions listed in schedule II.

• Lead, Mercury, Hexavalent Chromium, Polybrominated Biphenyls or Polybrominated Diphenyl Ethers exceeding a concentration of 0.1% by weight in homogeneous materials

• Cadmium exceeding a concentration of 0.01% by weight in homogeneous materials

For information on proper disposal and recycling of the product, please refer to the following website.
eizo.co.in/e-waste.php

12.6 Environmental protection

Comply with all local requirements and laws pertaining to the disposal of devices.

The device is in compliance with directive 2011/65/EU for limiting the use of specific hazardous materials in electric and electronic devices.

12.7 Additional devices

Connected devices must meet the relevant safety standards.

12.8 Repairs

Please contact the sales partner from whom you purchased the product.

12.9 Contact

Support during installation and for technical questions

www.eizo-or.com

12.10 Trademarks

The EIZO Logo is a registered trademark of EIZO Corporation in Japan and other countries.

EIZO is a registered trademark of EIZO Corporation in Japan and other countries.

RadiForce is a registered trademark of EIZO Corporation in Japan and other countries.

CuratOR is a registered trademark of the EIZO Corporation.

RadiCS is a registered trademark of EIZO Corporation in Japan and other countries.

RadiNET is a registered trademark of EIZO Corporation in Japan and other countries.

ScreenManager is a registered trademark of EIZO Corporation in Japan and other countries.

Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

Apple is a registered trademark of Apple Inc.

Macintosh is a registered trademark of Apple Inc.

Mac is a registered trademark of Apple Inc.

VESA is a registered trademark of the Video Electronics Standards Association.

HDMI is a trademark or registered trademark of HDMI Licensing, LLC in the United States and other countries.

DICOM is a registered trademark of the National Electrical Manufacturers Association for the publication of standards in the area of digital communication of medical information.

TORX is a registered trademark of Acument Intellectual Properties, LLC.

All other company and product names are trademarks or registered trademarks of their respective owners.

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