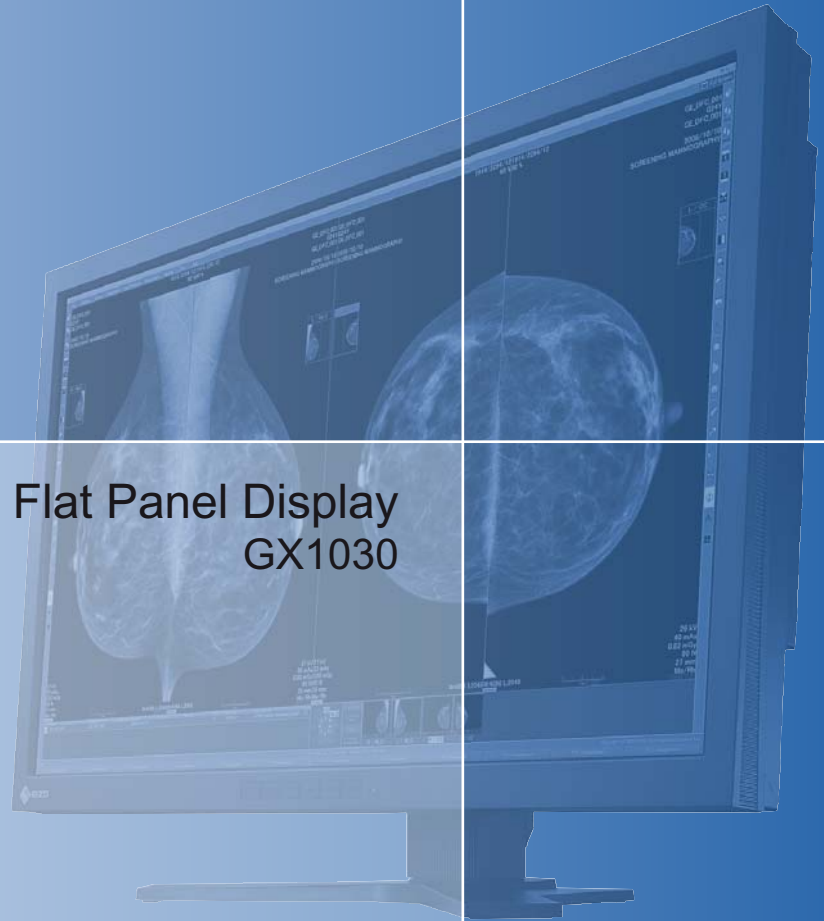30" Gray Scale Flat Panel Display
GX1030

display
SOLUTIONS

EIZO®

EIZO

LCD displays for
medical applications

30" Gray Scale Flat Panel Display
GX1030

Instruction Manual

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
with a safety alert symbol, indicates that minor personal injury can result if proper precautions are not taken.

CAUTION
without a safety alert symbol, indicates that property damage can result if proper precautions are not taken.

NOTICE
indicates that an unintended result or situation can occur if the relevant information is not taken into account.

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.

Proper use of EIZO products

Note the following:

⚠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

Alle mit dem Schutzrechtsvermerk ® gekennzeichneten Bezeichnungen sind eingetragene Marken der entsprechenden Markeninhaber. Siehe bitte Markenzeichen im Anhang. Die übrigen Bezeichnungen in dieser Schrift können Marken sein, deren Benutzung durch Dritte für deren Zwecke die Rechte der Inhaber verletzen können.

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

Introduction

<div style="text-align: right; font-size: 3em;">1</div>

1.1 Contents of this document

This document describes the functionality and the intended use of the GX1030 Gray Scale Flat Panel Display.

To ensure clarity, it does not contain all detailed information about 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.

Safety notes

<div style="text-align: right; font-size: 3em;">2</div>

2.1 General safety notes

Flawless, safe and reliable operation of the equipment assumes that it has been professionally transported, stored, mounted and installed as well as careful operator control and service. The units may only be used for applications for which monitors are normally used.

For safety reasons, the following precautions must be observed:

⚠ DANGER
There is a danger to life if warnings are not obeyed. Severe personal injury or damage to property may occur. Please observe all warning information present on the display and in the instruction manual. **Do not open the display** The display may only be opened by trained and qualified personnel. There is risk of an electric shock. Components inside the displays are at high voltage. **Touching these components is extremely dangerous!** Servicing and maintenance must be carried out by qualified personnel only. No liability is accepted for damage to property or injury to persons if the display is opened by non-qualified personnel. **Never use defective power cables** A damaged power cable may result in fire or electric shock. Only use power cables approved by the manufacturer. When disconnecting the power supply cable, always do so by holding the plug. Ensure that your hands are dry. Route the cable such that it cannot be tripped over. **Do not insert any objects into the housing** Objects inserted into the housing may result in damage to the unit or personal injury. **Do not place any objects on top of the unit** If you place objects on top of the unit, the unit may overheat. Liquid entering the unit may result in fire or electric shock. **Connecting** There must be no contact to a patient when handling the connection cables. **Overload** Do not connect too many devices to one socket or extension cable since this could result in a fire or electric shock. Observe the information provided by the manufacturer.

CAUTION

Improper installation may result in extensive damage to property.
 Installation must be carried out by specialists.
 	
 1. To avoid danger for patients and users, connect your electrical system in accordance with the safety requirements of EN 60601-1-1 (IEC 60601-1-1) "Safety requirements for medical electrical systems".
 	
 In order to guarantee that the housing discharge current in the event of a first fault does not exceed 500 µA, the display must be connected to an additional PE connection. The bracket of the display's support mechanism has its own grounding (PE conductor). This grounding together with the PE conductor of the display means that the housing discharge current always remains less than 500 µA, even in the event of a first fault. The PE conductors of the display and of the separate PC are considered as a first fault event.
 	
 2. Use appropriate measures to ensure that the leakage currents in particular remain below the necessary limits:
 	
 Appropriate measures include:
   – Separators for signal input or signal output unit
   – Use of a safety isolating transformer
   – Use of the additional protective conductor terminal
 	
 3. Device and patient must never be touched simultaneously.
 	
 4. It must be specifically mentioned that the display is only suitable for a patient environment, but not for contact with a patient.
 	
 5. Only use the video lines specified by the manufacturer for installation.
 	
 The serial interface cable must have a female Sub-D connector at the computer end.
 	
 6. Use power cables with PE contacts. Only plug the device into sockets with protective grounding.
 	
 7. For certain applications, the video earth can be connected separately to the protective earth via the additional PE connection in the plug panel.
 Observe EN 60601-1-1 (IEC 60601-1-1).
 	
 8. Close the connection panel using the cover provided, and secure with the screws.
 	
 9. **Note for users:**
 	
 The closed connection panel may only be opened by trained and qualified personnel.
 	
 10. **Servicing information:**
 	
 If housing parts have to be removed for servicing, this must not be carried out in the presence of the patient or user. Only connect displays with a VESA connection on the rear panel to the power supply when the VESA plate is screwed on.
 	
 11. **Important:**
 	
 Note that displays can fail and that the image properties such as brightness, contrast or color location can change with time.
 	
 Please ensure that all steps are taken to avoid injuries or incorrect diagnoses. If your application or local regulations require calibration, EIZO offers the optional QA software "SMfit Total Care" to facilitate quality control and review activities. Observe all regulations of the country in which the display is used.

CAUTION
Failure to observe warnings may result in substantial damage to property
Ensure sufficient heat dissipation
Observe an appropriate spacing to neighboring objects when placing or dispensing the devices to ensure appropriate air circulation.
Ventilation slots are provided on the housing base, the top of the cover, the rear panel and the side panels. The permissible ambient temperature range (see instruction manual) must not be violated.
• Installation on a desk:
Place the unit on a solid and level surface. The installed stand as well as the mounting surface have to be suitable for the weight of the unit.
• For ceiling suspension:
The wall mount must be suited for the weight of the unit.
Avoid sources of heat
Do not install the display in the vicinity of sources of heat, e.g. radiators, heating appliances or other devices which can generate or emit heat.
Do not subject display to excessive shocks
Take care when transporting! **Use the original packaging, and transport correctly oriented!** Be sure to protect the LCD module in particular from shocks.
Care of display / Cleaning agents
• The screen surface (front panel) is extremely sensitive to mechanical damage. Absolutely avoid scratches, shocks etc.
• Remove water drops immediately; extended contact with water discolors the surface.
• Clean the screen and the housing using only the cleaning agents referred to in the instruction manual.

NOTICE
Touching the screen surface can result in brief disturbances to the image
Due to mechanical pressure or electrostatic discharging, touching the screen can result in brief disturbances to the image.
Only switch on cold displays following their adaptation to room temperature
If the display is brought into a room with a higher or rising temperature, condensation is formed inside and outside the unit. In such a case, do not switch on the display until the condensation has evaporated. The display will otherwise be damaged.
What to do if the display is faulty
If the following conditions exist, the display must be disconnected from the power supply and checked by qualified personnel:
• Damage to the plug or power cable.
• Following the entry of liquid into the unit.
• If the unit has been exposed to moisture.
• If the unit does not function or if you cannot eliminate a fault using the instruction manual.
• If the unit has been dropped and/or the housing damaged.
• If the unit smells of burning or produces peculiar noises.
Information for installations 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.
Note for installations in China
Only use the the power cables approved for China. These power cables are identified by the labels "CCC" or "CQC".

See also

2.2 Product-specific safety notes

> ⚠ **DANGER**
>
> **Correct calibration reduces the risk of misdiagnosis**
>
> When used in medical environments for diagnostic purposes, improper calibration of the display can result in incorrect diagnoses.

> ⚠ **CAUTION**
>
> **Carefully setting the stand reduces the risk of injury**
>
> The angle, position, and height of the display can be changed on the pre-installed height-adjustable stand. During handling, the display can tip downwards, potentially pinching body parts between the housing and stand.
>
> The stability of the GX1030 display has been checked with the supplied height-adjustable stand.
>
> - If a different unit such as a stand or wall bracket is used, ensure that the display is secure.

Description

3

3.1 Scope of delivery

Note

EIZO recommends that you keep the packaging material for subsequent transport of the display.

GX1030

- Display with height-adjustable stand
- CD with instruction manual and SMfit Total Care
- Power cable
- 2 dual link DVI video cables
- USB cable
- 2 DisplayPort to DVI converter (single link)

3.2 Applications

The GX1030 Gray Scale Flat Panel Display has been specially designed for medical diagnostics.

Device type	Order No.	Note
GX1030-BL	6GF6201-8CA01	Includes a power cable for Europe
GX1030-BL	6GF6201-8CA02	Includes a power cable for Japan
GX1030-BL	6GF6201-8CA03	Includes a power cable for the USA
GX1030-CL	6GF6201-8CA11	Includes a power cable for Europe
GX1030-CL	6GF6201-8CA12	Includes a power cable for Japan
GX1030-CL	6GF6201-8CA13	Includes a power cable for the USA

3.3 Important features

The display has the following features which permit a wide range of applications:

Perfect picture reproduction thanks to LCD technology

Distortions in the image geometry do not occur with LCD technology.

The Flat Panel Display provides a flicker-free picture even at low refresh rates. The display thus fulfills even the strictest ergonomic requirements.

The Flat Panel Display has a TFT display module with a very wide viewing angle. The use of a monochrome panel allows a high screen brightness.

Large 30" screen diagonal

With a screen diagonal of 30" and a resolution of 4096 x 2560 pixels, the display can be used in place of two 5 MP monitors. The 5 MP monitor pairs are typically used in mammography and PACS applications.

The GX1030 is a single display with a single lamp that ages at a uniform rate: No measures need to be taken to ensure a consistent color impression.

Monopixel structure with wide aperture for the the most detailed graphic display

Thanks to its monopixel structure, the display offers a wider aperture than displays with conventional TFT modules. This allows the greatest possible brightness level and a finer level of detail.

Fully Automated Stability

The Flat Panel Display is equipped with an automated stability system (Fully Automated Stability) in accordance with the DICOM standard. The integrated stability system (ISS) ensures consistent luminance levels using an integral light sensor in the center of the backlight unit. Using SMfit Total Care and an external photometer option obtainable from EIZO, the ISS sensor is automatically adjusted to ensure traceable calibration.

The display is precalibrated in the factory. It is supplied from factory with a total of five defined Look Up Tables. The saved calibration data simplify installation and servicing: Even if the graphics card or workstation is replaced, e.g. during upgrade, the graphics settings are retained and there is no need to recalibrate the monitor.

The GX1030 display offers the additional IFS (Integrated Front Sensor) (Integrated Front Sensor) sensor. The Integrated Front Sensor is a second sensor independent of the calibration system and permits automatic checking of the stability of the gray levels. This redundant system offers additional security for particularly critical applications such as mammography.

Compact design

The low weight, small size, minimal power consumption and low heat generation of the display provide advantages over conventional CRT monitors.

Settings for optimizing the application

The reproduction properties can be adapted using the SMfit Total Care software tool to achieve optimum picture display.

The display can be adapted to the local lighting conditions via the OSD menu using the five preset practice-oriented Look Up Tables or automatically calibrated to the desired luminance levels using the LUT calculation function of the SMfit Total Care software.

Selectable bit depth

To enable a broader palette of gray levels for specialized applications, the device supports both standard 8-bit graphics and 10-bit operation.

Application planning

4

4.1 Installation site

Ensure unimpeded access to the power switch

CAUTION
Power switches and connections must be accessible at all times
When assembling or installing the device, ensure that the power switch and the connections are accessible at all times.

Provide adequate ventilation

Ventilation holes are located on the rear of the housing.

In order to guarantee adequate air circulation, the back of the device must be at least 10 cm away from the wall or 15 cm away from another device.

Avoid dusty environments

The display has been designed for use in the clean environment of medical diagnostics. The display dissipates heat through the openings at the rear and top. Dust from dirty environments can penetrate into the display through these openings. In the extreme case, deposits are possible which become evident as dark spots in a white picture and which can result in deterioration of the luminance. Protect the display from dust, e.g. during building measures at the installation location, and use the original packaging for transport.

Observe the permissible ambient temperature range

The permissible ambient temperature range must not be violated.

Avoid reflections on the screen

The display has an anti-glare surface. The anti-glare surface is only effective if the screen is clean and grease-free.

The display should be positioned such that reflections of lights, windows, furniture with shiny surfaces or light-colored walls do not appear on the screen.

In order to reduce mirroring on the unit, only use non-dazzling reflector lights for the ceiling lighting.

Change of environment

If brought from the cold into a warm environment, water may condense inside the unit. The unit should not be switched on until all condensed water has evaporated, including that within the unit. This may take several hours, depending on the conditions.

See also

Safety notes (Page 7)

Cleaning (Page 43)

4.2 Distances and arrangement of units

The unit should be positioned on a hard, level and horizontal surface. It should be positioned at least 10 cm from the side and rear of a wall, or 15 cm from other equipment. The display can be mounted flushly with horizontally and vertically adjacent displays.

Assembly

5

5.1 Mounting the display

The GX1030 display is supplied with a pre-mounted height-adjustable stand. The display has a VESA adapter (100 x 100 und 200 x 100) for practical attachment of the stand.

Mounting the stand

Proceed as follows to mount the stand:

● Affix the display on the VESA adapter or stand using the appropriate screws to secure it.

Because the screws are extremely important for securing the display, the following specifications must be observed:

Fastening screw specifications	
Number	4
Thread	M4
Strength	8.8 in accordance with ISO 898-1
Length of screw (without head)	Min. 8 mm/max. 12 mm
Torque	3 Nm

See also

Safety notes (Page 7)

Connecting 6

6.1 General connection information

⚠ CAUTION
All information and warnings related to this product must be observed to ensure danger-free operation.

CAUTION
Changes to device
• Device settings may only be adjusted by trained service personnel; otherwise, the warranty is void.
• Do not make any changes to the device without prior approval from the manufacturer.

| CAUTION |
| --- |
| **Observe shielding measures** |
| The shielding measures described in the applicable national EMC guideline must be observed. If these guidelines are not observed, malfunctioning of the display may result. |
| **Information on cable installation** |
| • Only shielded cables are permitted for all signal connections. |
| • All plug connections must be screwed tight or locked if the corresponding facility is present on the connector. |
| • Signal and power cables must not be routed through the same duct. |
| • The display must not share a power supply with motors or valves (interference!). |
| • Externally connected cables can represent a trip hazard. Please ensure that all incoming cables are safely routed. |

CAUTION
Completely disconnect device from the supply mains
To completely disconnect the device from the supply mains, toggle the power switch on the rear of the monitor:
• Move the power switch to the "OFF" position.
The device is now switched off and disconnected from the supply mains.

See also

6.2   Connector locations
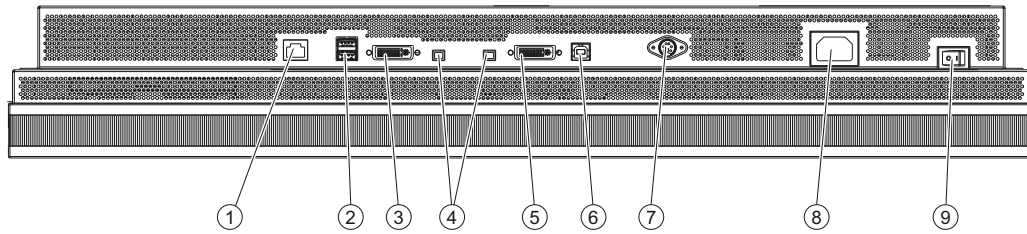
① Service interface (only for authorized service centers)
② USB port:
Downstream (2x), e.g. for external USB photometers, sensors, or displays
③ DVI interface: Signal 2
④ 5 V power supply for external devices (2x)
⑤ DVI interface: Signal 1
⑥ USB port: Upstream (1x)
⑦ Serial RS-232 interface for photometer (6-pin mini-DIN interface)
⑧ Power connector
⑨ Power switch

Figure 6-1   Connection panel

Power connector

The power connector is located next to the power switch on the lower rear of the display.

DVI interfaces

Note

Using the full resolution of the monitor

To make full use of the monitor's 10-megapixel resolution, a valid 5-megapixel signal must be connected to each of its two inputs.

Both DVI interfaces are located in the connection panel on the lower rear of the display. The DVI interfaces supply a video signal for the left and right sides of the monitor respectively.

• The "Signal 1" interface serves as a video source for the left side of the display.

• The "Signal 2" interface serves as a video source for the right side of the display.

Serial interface for photometer

CAUTION
Serial interface: only connect photometer for calibration
Only photometers tested for calibrating the equipment may be connected to the serial interface. Only service personnel or those trained by them may connect or disconnect a device from the unit. A photometer must not be connected in the presence of the patient.

The serial interface is located between the upstream USB port and the Kensington lock slot on the lower rear of the display. This 6-pin mini-DIN socket is used to connect a photometer. The Serial Spot Meter (SSM) and Advanced Serial Luminance Meter (ASLM)) are approved photometers.

Upstream USB port

The upstream USB port is located between the photometer serial interface and the "Signal 1" DVI interface. The upstream USB port supports communication between the display and a connected PC. If the graphics card used does not support the DDC channel, this interface can be used, for example, to communicate with SMfit Total Care (Version 1.1.1 or higher).

Downstream USB port

Two downstream USB ports are located between the RS 232 service bus interface and the "Signal 2" DVI interface. The downstream USB ports enable communication with connected USB photometers, sensors, and displays.

Service interface

The service interface is used exclusively by service personnel for the installation of software updates.

Kensington lock slot

The Kensington lock slot is located between the serial interface of the photometer and the power connector. The Kensington lock slot is used to secure the display at the installation site.

See also

Safety notes (Page 7)

Dimensional drawings (Page 57)

6.3   Power connector

⚠ DANGER
Only connect device to a supply mains with a PE conductor
WARNING: To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth.

CAUTION
Only use the power cable supplied with the display, or a cable with a PE conductor and an appliance socket in accordance with DIN 49 547, IEC 320 (max. length 3 m, cable e.g. H05VV-F 3x1.0 mm²). Furthermore, the cable must adhere to all local safety regulations applicable to the specific country in which the display is used.
Information for installations 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.
Note for installations in China
Power cables, power supply plugs and appliance plugs must be CCC-certified.

CAUTION
Device fuses must only be replaced by authorized repair centers.
Only have equipment fuses replaced by authorized repair centers as such faults are caused by a defect in the display. Do not use any other fuse.

The display power supply is connected using an appliance plug.

* Check the permissible power supply range before connecting the display.

See also

Safety notes (Page 7)

Power supply (Page 52)

6.4   DVI interfaces

The display has two dual-link DVI-I interfaces and receives digital DVI input signals.

* Only use the supplied cables or equivalently high-quality cables.

   The picture quality, noise immunity and radiated interference of the entire system depend on cable quality and length.

6.5   Description of connection procedure

> ⚠ **CAUTION**
>
> The angle, position, and height of the display can be changed on the pre-installed height-adjustable stand. During handling, the display can tip downwards, potentially pinching body parts between the housing and stand.
>
> The stability of the GX1030 display has been checked with the supplied height-adjustable stand.
> - If a different unit such as a stand or wall bracket is used, ensure that the display is secure.

1. Place the display on a stable, horizontal surface.
2. Connect the appliance cable plug to the display's power connector.
3. Plug the DVI plugs into the DVI sockets and fasten the connector screws.
4. If applicable, connect USB cables to the display's upstream and downstream USB ports.
5. Feed the appliance cable, the DVI cables and, if needed, the USB cable through the cable management openings on the side of the stand. Please route the cables with some play to ensure that the plug connections are not overly stressed or detached. Sufficient play must be available for the cables.
6. If desired, insert the Kensington lock into the Kensington slot and lock it.

See also

Safety notes (Page 7)

Scope of delivery (Page 13)

Mounting the display (Page 19)

Commissioning

<div style="text-align: right; font-size: 3em;">7</div>

7.1 Use of the serial interface

The display has a serial RS-232 interface with a 6-pin mini-DIN socket. The following units may be connected to the socket:

- Advanced Serial Luminance Meter with 9-pin Sub-D to 6-pin mini-DIN adapter *)

- Serial Spot Meter with 9-pin Sub-D to 6-pin mini-DIN adapter *)

*) The display must not be serviced in the presence of patients.

7.2 Switch on the monitor and the PC

The display and PC can be switched on in any order.

Requirement

The PC and monitor are connected via DVI cables.
For best results, the graphics card and driver should support the DDC channel.

Switch on monitors before the PC

1. Switch on all displays.

   The operation LED turns yellow after an initialization phase of approx. 5 seconds.

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

Switch on PC before the monitors

1. Switch on the PC.

2. Switch on all monitors.
   If the connected signal can be displayed on the monitor, the operation LED turns yellow after an initialization phase of approx. 5 seconds, and then turns green.

NOTICE
The operation LED does not light green after power has been switched on?
The operation LED turns yellow after an initialization phase of approx. 5 seconds and green after the lamp has stabilized.
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.

See also

Troubleshooting (Page 47)

7.3   Operator controls

①   Mode
②   Menu
③   Down (down arrow)
④   Up (up arrow)
⑤   Enter
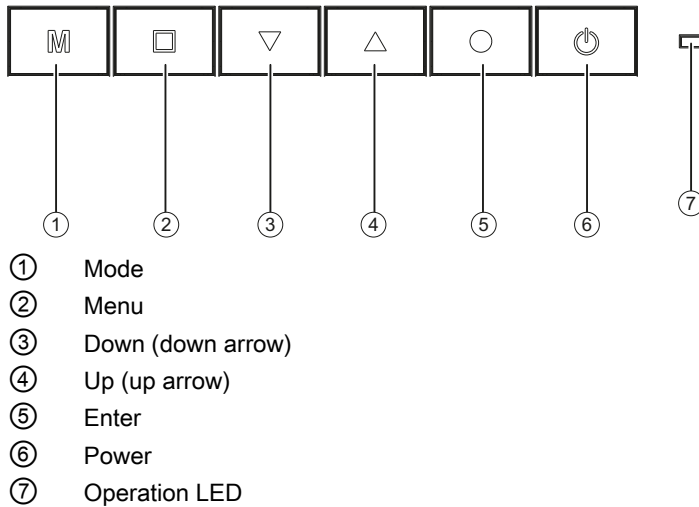⑥   Power
⑦   Operation LED

Figure 7-1   OSD and unit operation

Where are the keys?

The six keys are located in the center of the lower front side of the display.

Key functions

The six keys have the following functions:

Key	Action
Mode	• Start CAL-Switch • Select LUT
Menu	• Opens the main menu • Returns to the next higher-level menu or closes the topmost OSD menu. • Jumps to the element on the left
Down ↓ (down arrow)	• Scroll down in the menu • Decrement the selected entry
Up ↑ (up arrow)	• Scroll up in the menu • Increment the selected entry
Enter	• Opens the next submenu • Jumps to the element on the right • Performs the selected function
Power	Switches the unit into and out of standby mode

7.4 Description of OSD menu

7.4.1 OSD overview

The OSD menu is used to select settings suited for operating the flat panel display with the image source.

To a limited extent, the OSD can also be operated without an input signal.

7.4.2 Menu functions

Main menu	Function	Adjustment/range	Description
Display	CAL Switch	DICOM 1 DICOM 2 DICOM 3 DICOM 4 PAS1054 *Default setting: DICOM 1*	**Selection of LUT (Look Up Table)** A LUT changes the gamma curve of the display. For example, you can emphasize certain gray scales by selecting a different LUT. *Note* • Select a DICOM-LUT for viewing x-ray images.
	Mode Presets	DICOM 1 0 or 1 DICOM 2 0 or 1 DICOM 3 0 or 1 DICOM 4 0 or 1 PAS1054 0 or 1 *Default setting: 1*	**Mode Preset setting** Specifies which LUT settings can be selected in the "CAL Switch". This function allows you to make any LUT settings in the "CAL Switch"-OSD menu selectable (1) or non-selectable (0). *Note* The individual designations of the selectable LUT settings are taken from the "CAL Switch". An active LUT setting cannot be deselected.

Main menu	Function	Adjustment/range	Description
	Bit Depth Model	8 Bit 8 Bit RGB Coding 10 Bit Packed Pixel *Default setting:* *8 Bit*	**Setting the bit depth** Adjustment of the bit depth for "8 Bit" or "10 Bit Packed Pixel" operation. In "8 Bit" operation, there are two modes available: • The RGB components of the DVI signal are reproduced uniformly in standard 8-bit mode. • To allow better differentiation of color elements, e.g. from the operating system, the RGB components are weighted in "8 Bit RGB Coding" mode. In "10 Bit Packed Pixel" mode, 10-bit video signals are depicted. *Note* • To ensure the new monitor settings are read, restart the PC after changing the bit depth. Otherwise, the monitor image may be presented incorrectly. • The correct function of the 10 Bit Packed Pixel modes requires the installation of a suitable graphics card driver.

Main menu	Function	Adjustment/range	Description
	Motion Improvement	On Off *Default setting:* *Off*	**Improved display of moving images** Activates a function within the monitor for improving the representation of moving images. *Note* If the two DVI input signals are not synchronized with one another, an offset may appear between the left and right halves of the image: • In this case, switch off the "Motion Improvement" option.
	Test Pattern	None SMPTE AAPM TG18-QC Special QC Black 50% Gray White *Default setting:* *None*	**Selection and display of integrated test images** To assist visual inspection of the unit without software, the display contains an internal test image generator. The test image generator only works if both 5-megapixel DVI input signals are connected. *Note* A selected test image remains visible until "None" has been selected.

Main menu	Function	Adjustment/range	Description
Power Manager	**DVI DMPM …**	DVI DMPM Lamp Dimmed DVI DMPM Lamp Off DVI DMPM Disabled *Default setting:* *DVI DMPM Lamp Dimmed*	**DVI DMPM mode setting** • In "Lamp Dimmed" mode, the backlight is set to minimum brightness. This saves energy while reducing the long warm-up time required by the lamp upon reactivation. In this mode, the time in energy-saving mode is reflected in the overall operating hours. • In "Lamp Off" mode, the backlight is switched off completely. The energy savings are greater than in "Lamp Dimmed" mode. However, before diagnosing X-ray images, the lamp requires a warm-up period after being reactivated. In this mode, the time in energy-saving mode is not reflected in the overall operating hours. • In "Disabled" mode, DVI DMPM signals are ignored. The display is not switched to energy-saving mode.
Other Options	**Menu Settings**	Horizontal 0 ... 99 Vertical 0 ... 68 Transparency 0 ... 255 *Default setting:* Horizontal 32 Vertical 64 Transparency 255	**Setting the position and transparency of the OSD menu** The horizontal and vertical position of the OSD menu is set using the relevant coordinates. "Transparency" is used to set the transparency of the OSD background.

Main menu	Function	Adjustment/range	Description
	LED Brightness	Bright Dimmed _Default setting:_ _Bright_	**Setting the brightness of the operation LED** To avoid potential distraction from the light, the brightness of the operation LED can be dimmed. _Note_ If an error occurs, the operation LED automatically returns to full brightness to indicate the display error status. The color of the operation LED light indicates possible causes of error. (Page 47)
	LED Timeout	No Timeout Timeout (min) 1 _Default setting:_ _No Timeout_	**Timeout Setting the Timeout for the operation LED** To avoid potential distraction from the light, the operation LED can be switched off after a specified period (in minutes). _Note_ If an error occurs, the operation LED is automatically switched on to indicate the display error status. The color of the operation LED light indicates possible causes of error. (Page 47)
	Front Sensor Test		**Testing the front sensor** When this function is selected, a series of gray tones are presented for the sensor to detect. • If these values deviate from the norm, the "Check with QA SW" message appears. If necessary, recalibrate the sensor with the QA software. • If these values do not deviate from the norm, the "Normal" status is indicated.

Main menu	Function	Adjustment/range	Description
	Backlight Sensor Test		**Testing the backlight sensor**
			When this function is selected, a series of brightness settings are presented for the sensor to detect.
			• If these values deviate from the norm, the "Check with QA SW" message appears. If necessary, recalibrate the sensor with the QA software.
			• If these values do not deviate from the norm, the "Normal" status is indicated.
GX1030 Information		S/N ######## AN ######## Working Hours ### Temperature (C) ## Firmware ##### FPGA 1 ##### FPGA 2 ##### OSD Version #####	**Show information about the monitor** When this function is selected, the following information is displayed: • Serial number • Asset number • Current temperature • Installed firmware, FPGA and OSD versions
Signal		Width (Pixels) #### Height (Lines) #### fD (MHz) #### fH (kHz) #### fV (Hz) ####	**Show information about the input video signal** When this function is selected, information about the input video signal is displayed.

7.4.3   Lock/unlock OSD menu

CAUTION
Locking/unlocking only by authorized service personnel
Only authorized service personnel may lock or unlock OSD menu. If the user can affect the intended use of the display through inappropriate setting, the OSD menu should be locked.

Note

Switching the monitor off while locking or unlocking the OSD menu

The counter for the warm-up period is reset whenever the monitor is switched off. To ensure lamp stability, a warm-up period of 20 to 30 minutes is recommended, even if the monitor is only switched off briefly.

Locking the OSD menu

When the OSD menu is not in use, there are two options for locking the OSD menu.

1. option

- Switch off the display.
- Hold the "Mode" key (first button on the left) pressed while repowering the monitor. Keep holding the "Mode" key until an image is displayed.

2. option

- Press the "↑" key once (up arrow, fourth key from left).
- Then press the "Menu" key three times (second key from left).

Result

The OSD menu is locked.

Unlocking the OSD menu

When the OSD menu is not in use, there are two options for unlocking the OSD menu.

1. Option

- Switch off the display.
- Hold the "Mode" key (first button on the left) pressed while repowering the monitor. Keep holding the "Mode" key until an image is displayed.

2. option

- Press the "↑" key once (up arrow, fourth key from left).
- Then press the "Menu" key three times (second key from left).

Result

The OSD menu is unlocked.

Delivery condition

The monitor is shipped by default with the OSD unlocked.

7.5 System settings

7.5.1 Avoiding image sticking

So-called image sticking may occur with TFT displays. 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 display when it is no longer needed.
- The display has a power saving mode:
- Activate the power saving mode if it is supported by the application being used.

7.5.2 Graphics controller settings

When the PC is switched on, the display properties are read out and the graphics controller is initialized accordingly. The graphics controller must support DDC communication. After this process, the display is recognized, for example, by Windows as Plug and Play monitor. The EDID data (Extended Display Identification Data) are transmitted to the graphics card via the DVI cable's DDC channel.

To operate the display at the desired resolution, a driver designed for the graphics controller in use must be installed.

Once the driver has been successfully installed, the resolution can be configured as dictated by the driver and the operating system settings. Please refer to the graphics controller manufacturer's manual for detailed information about installation and configuration of the graphics controller.

7.5.3 Information on the display settings

All displays are optimally preset in the factory, meaning that changes are not usually required. Should adjustments to the settings be nevertheless required, they can be made using the SMfit Total Care program.

Please note the instructions of the operating system manufacturer regarding the power management settings. The display supports the "DVI DMPM mode" (Digital Monitor Power Management), which can be applied to save energy.

By means of DVI DMPM, the display can be switched off automatically, e.g. after 20 minutes.

See also

Description of OSD menu (Page 30)

Program for changing the display settings (Page 39)

7.5.4   Check for pixel defects

Pixel defects (small bright or dark dots) can occur with LCD monitors.

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

During start-up, the display can be checked using the SMfit Total Care software as follows:

- Generate a black test screen and examine the display for luminous pixel errors.
- Generate a white test screen and examine the display for non-luminous pixel errors.

Pixel defects on an LCD monitor can not be corrected.

- Make a note of the position of the defective pixel.

The GX1030 display has an internal test image generator with which black and white test images can be shown without using additional software.

See also

Description of OSD menu (Page 30)

Software description

<div align="right" style="font-size:3em">8</div>

8.1 Program for changing the display settings

SMfit Total Care

The SMfit Total Care program is supplied on the enclosed software and documentation CD.

Used in conjunction with EIZO photometers, SMfit Total Care is a powerful calibration software tool. The software includes extensive options for adjusting and verifying an LC display.

The software and documentation CD contains SMfit Total Care documentation. Additional information may be contained in a Readme.txt file on the installation CD.

See also

Information on the display settings (Page 37)

8.2 Display-specific software support in SMfit Total Care

The documentation for the SMfit Total Care program is normally included on the supplied software and documentation CD. SMfit Total Care support for the GX1030 display is included in the standard documentation.

Operation

9

9.1 Switch on the monitor and the PC

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

After powering up and an initialization phase of approx. 5 seconds, the operation LED lights yellow, and then turns permanently green once the lamp has been stabilized.
If the operation LED lights up with another color, the device is not in normal operation. The operation LED may have been switched off via the OSD menu.

See also

Description of OSD menu (Page 30)

Troubleshooting (Page 47)

9.2 Measures in the event of an error

Should the display not function correctly, EIZO recommends checking all basic connections and possible operation errors before contacting service personnel.

See also

Troubleshooting (Page 47)

Service and Maintenance

10

10.1 Cleaning

CAUTION
Device maintenance, cleaning and disinfecting
• The front panel is extremely sensitive to mechanical damage. Avoid all scratches, knocks etc.!   • Remove moisture immediately; contact with water over a longer period can cause discoloration or allow calcium deposits to form on the surface.   • When dirty, clean the front panel using a soft, dry microfiber cloth and, if necessary, a cleaning agent. Only clean housing parts using the recommended cleaning agents.   • The entire display must only be disinfected using the tested disinfecting agents.

Recommended cleaning and disinfection agents

Agent class	Tested cleaning and disinfection agents:	Further examples
Aldehyde	Melsitt	Aldasan 2000 Kohsolin Gigasept FF Cidex
Chlorine derivatives	Terralin	Quartamon Med
Disinfecting agents	Mikrozid liquid	TaskiDS5001 (Diverseylever Labs) Morning Mist Surfanios Fraicheur Citron (Anios Labs)
Guanidine derivatives	Lysoformin	
Quaternary compounds	Incidur spray, undiluted	
Standard household washing-up liquid	denk mit	Fairy Ultra, Pril, Palmolive
Pyridine derivatives	Activ spray, undiluted	
Water	Tap water Distilled water	

Impermissible cleaning and disinfection agents

Agent class	Tested cleaning and disinfection agents:	Further examples
Alcohol	Ethyl alcohol, 96 %	Hospiset cloth
Peroxide compounds	Perform	Dismozon pur
Petroleum spirit	Boiling range gasoline	Petroleum ether

These cleaning and disinfection agents can bleach the paint after a longer period of application.

See also

General safety notes (Page 7)

10.2   Maintenance

Check the display settings at regular intervals

The display requires little maintenance. The illumination properties of the display may change due to aging of the LCD unit and the backlight. For this reason, periodically check and, if necessary, correct the display settings to ensure compliance with country-specific guidelines. EIZO also recommends checking the displays for pixel errors.

Measuring instruments

The following devices can be used as measuring instruments:

- Serial Spot Meter
- Advanced Serial Luminance Meter

These photometers can be connected directly to the display.

Carry out quality tests automatically

One can automatically perform all quality tests using the SMfit Total Care Version 1.1.1 program.

Verify and calibrate display properties

The photometers can be used to verify and, if necessary, calibrate the display properties.

Manual modification of settings

The display settings can also be manually adjusted using a Serial Spot Meter and the SMfit Total Care software.

NOTICE
Confirm image quality visually after calibrating the display
After calibration, the display must be visually inspected to verify successful and correct completion of the calibration procedure. This inspection can be performed by reviewing the SMPTE image. The gray levels should be displayed correctly and visibly at both 5 % and 95 %. Alternatively, the VerLum image can serve as a useful test pattern. Successful calibration can be verified if the small squares are displayed correctly in all gray shades.
The internal test image generator and SMfit Total Care provide suitable test images for this visual check.

See also

Connector locations (Page 22)

Use of the serial interface (Page 27)

Description of OSD menu (Page 30)

Check for pixel defects (Page 38)

Program for changing the display settings (Page 39)

Troubleshooting

11

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

1. Check the display for the possible causes listed in this table.

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

Note

The SMfit Total Care software provides additional information concerning the operating status of the display. The remedial measures are described in more detail in the SMfit Total Care instruction manual.

No picture

Screen	Operation LED	Cause	Remedy
No picture	Green	Video signal detected, but the display or graphics card is setup incorrectly.	Select the OSD menu and check whether a black test image is switched on. Check the display settings with SMfit Total Care (e.g. LUT, brightness, no test image, etc.). Check and adapt the graphics card settings.
		Video signal detected, but device defective	Inform servicing department
	Yellow	No fault, DVI-DMPM Power Management System active	Computer's operating system switches the display to power down mode to save power and to preserve the backlight
		No DVI signal	DVI cable is not connected
		Incorrect DVI signal applied	Correct DVI signal
	Red	Critical temperature threshold exceeded: Setpoint for backlight regulation is halved. This significantly reduces the brightness in order to lower the temperature and avoid possible damage.	Switch off the display. Check the ventilation and improve these conditions if necessary. Select a lower luminance level for standard operation.
	Dark	Switch is off	Switch on power switch

Screen	Operation LED	Cause	Remedy
		Applied "LED Timeout" settings expired	Select the OSD menu and check whether the "LED Timeout" setting is activated and the black test image is switched on.
		Power cable is not inserted or incorrectly inserted.	Check power cable
		Power cable is defective	Replace power cable
		Blown fuse	Inform servicing department

Picture displayed

Screen	Operation LED	Cause	Remedy
Picture displayed	Green	Video signal detected, but display or graphics card set incorrectly or DVI cable not connected correctly.	Normally, a green operation LED and a visible image indicate fault free operation. With other image faults: Check DVI cable connection. Check graphics card and display settings (e.g. resolution). If the picture in the display appears too small, check and adapt the graphics card settings.
	Yellow	No fault, the resolution is set larger than can be displayed	Check and adapt the resolution
		Lamp warm-up period: Setting is active, and the display is in the warm-up period.	Wait for the warm-up period to expire. The operation LED turns green when the lamp has reached the stabilized luminance level.
	Yellow (flashing)	Display has reached an initial critical temperature level	Select a lower luminance level for standard operation. Check the ventilation and improve these conditions if necessary.
		Lamp warm-up period: Setting is active, and the warm-up period has expired without the display having reached the stabilized luminance level.	Inform servicing department

Screen	Operation LED	Cause	Remedy
	Red	Critical temperature threshold exceeded: Setpoint for backlight regulation is halved. This significantly reduces the brightness in order to lower the temperature and avoid possible damage.	Switch off the display. Check the ventilation and improve these conditions if necessary. Select a lower luminance level for standard operation.
		Internal error	Inform servicing department
	Dark	"LED Timeout" enabled	No error. "Switch off LED Timeout setting
		Operation LED is defective	Inform servicing department

See also

Technical specifications

12

Applicability of technical specifications

All technical specifications are valid after a warming-up period of 30 minutes.

12.1 Display features

Type	TFT, dual domain, IPS mode, amorphous silicon
Screen size	645.12 mm x 403.2 mm
Screen diagonal	30.0" (76.2 cm)
Resolution	4096 x 2560
Refresh rate	50 Hz
Pixel organization	RGB vertical lines, 10 bits per monopixel
Pixel pitch	0.158 mm x 0.158 mm
Contrast ratio	Typically 850:1
Horizontal viewing angle	Typically 170° at CR: 10:1
Vertical viewing angle	Typically 170° at CR: 10:1
Backlighting	CCFL Options: clear or blue tint
Screen brightness	Typically 1250 cd/m² Factory settings for calibrated screen brightness: see table "Calibrated screen brightness (default settings)".
Lifetime of backlight	50 000 hours (at 25 °C operating temperature)

Table 12- 1   Calibrated screen brightness (factory settings)

Name	Gamma	Maximum (cd/m²)	Minimum (cd/m²)	DUE
DICOM 1	DICOM	500	0,72	Active
DICOM 2	DICOM	400	0,58	Off
DICOM 3	DICOM	300	0,43	Active
DICOM 4	DICOM	300	0,43	Off
PAS1054	DICOM	400	1,1	Active

12.2 Power supply

Power connector	Non-heating appliance socket
Line voltage	100 ... 240 V AC (± 10%)
Line frequency	50 ... 60 Hz (± 5 %)
Power consumption	140 W (maximum)

12.3 Inputs/outputs

DVI input	2 dual-link DVI-I sockets (analog pins are not used). 2048 x 2560 at 50 Hz for the transmission of both the left and right halves of the screen. Service and communication with SMfit Total Care over DDC channel.
RS 232	Mini DIN photometer socket
USB (type B)	Upstream communication with a PC, e.g. for communication with SMfit Total Care
USB (type A)	2 interfaces for downstream communication with a photometer or other USB devices
Hirose 5 V connection (2x)	5 V power supply for external devices
RJ 45	Service or software update

See also

Connector locations (Page 22)

12.4   Controls and connectors

Rear side	• 1x power switch
	• Power connection socket
	• 1x serial interface (6-pin mini-DIN socket)
	• 1x USB type B (upstream)
	• 2x dual-link DVI
	• 2x USB type A (downstream)
	• 1x RJ 45 (for service use)
	• 2x Hirose 5 V connection
Front	• 1x operation LED
	• 6x OSD menu keys (from left to right):
	– Mode
	– Menu
	– Down (down arrow)
	– Up (up arrow)
	– Enter
	– Power (Soft)

12.5   Mechanical design

Housing components	Metal and plastic
Ventilation openings	In rear panel
Degree of protection	IP20 in accordance with DIN 40050
Connection panel	At the rear
Weight	
• without stand	11.8 kg
• With height-adjustable stand	15.3 kg
Dimensions (W x H x D) in mm	
• without stand	688.5 x 458.5 x 102.5
• With height-adjustable stand	688.5 x 513.6 to 631.6 x 254.7

See also

12.6 Climatic conditions

Operation

Temperature range	0 °C ... 40 °C ambient temperature
Temperature gradient	Max. 5 °C/h, no condensation
Air pressure	700 to 1060 hPa

During transport and storage (packaged)

Temperature range	-20 °C ... +60 °C ambient temperature
Temperature gradient	Max. 5 °C/h, no condensation
Air pressure	200 to 1060 hPa

12.7 Mechanical requirements

Operation

Vibrations	Acc. to EN 60068-2-6
	10 ... 58 Hz at ± 0.075 mm oscillation
	58 ... 500 Hz at 10 m/s²
Shock	Acc. to EN 60068-2-27
	50 m/s², 30 ms
	200 ... 500 Hz at 15 m/s²

Packaged unit

Vibrations	Acc. to EN 60068-2-6
	2 ... 9 Hz at ± 3.5 mm oscillation
	9 ... 200 Hz at 10 m/s²
Shock	Acc. to EN 60068-2-27
	300 m/s², 6 ms (in storage packaging)
Falls	To EN 24180-2
	60 cm height

12.8   Safety directives

This product has been assigned a CE marking in compliance with the directives of guideline 93/42/EEC of June 14, 1993, concerning medical products.

Safety standards	- IEC/EN 60601-1 (Second Edition) - IEC/EN 60601-1 (Third Edition) - CAN/CSA C22.2 No. 601.1-M90 - CAN/CSA C22.2 No. 601.1-SI-94 - CAN/CSA C22.2 No. 601.1B-98 - UL 60601-1 (Second Edition)
Protection class	Protection class I
Degree of protection	IP20
Conformity	CE to MDD 93/42/EEC (Class I)

12.9   Electromagnetic compatibility

Interference voltage/emitted noise	EN 60601-1-2; EN 55011; EN 33022 Class B
	Part 15 FCC Class B
Voltage fluctuations	EN 610004-11
Burst on power cables	EN 61000-4-4
	2 kV
Burst on signal lines	EN 61000-4-4
	1 kV
Surge on power cables	EN 61000-4-5
	1 kV symmetric,
	2 kV unsymmetric
Electrostatic discharge on casing parts (ESD)	EN 61000-4-2
	8 kV air, 6 kV contact
RF irradiation	EN 61000-4-3
	80 MHz ... 2500 MHz,
	3 V/m 80 % AM 1 kHz
	895/900/903.5 MHz 10 V/m 50 % duty cycle
	EN 61000-4-8
Constant magnetic fields	4000 A/m (maximum)
Alternating magnetic fields	1000 Aeff/m (maximum)
Line reaction to harmonics	EN 61000-3-2
Line reaction to voltage fluctuations	EN 61000-3-3

See also

Guidance and manufacturer's declaration – electromagnetic emissions (Page 64)

Dimensional drawings

<div style="text-align: right; font-size: 3em;">13</div>

All dimensions in mm

13.1 Installation with height-adjustable stand

13.1.1 Front view
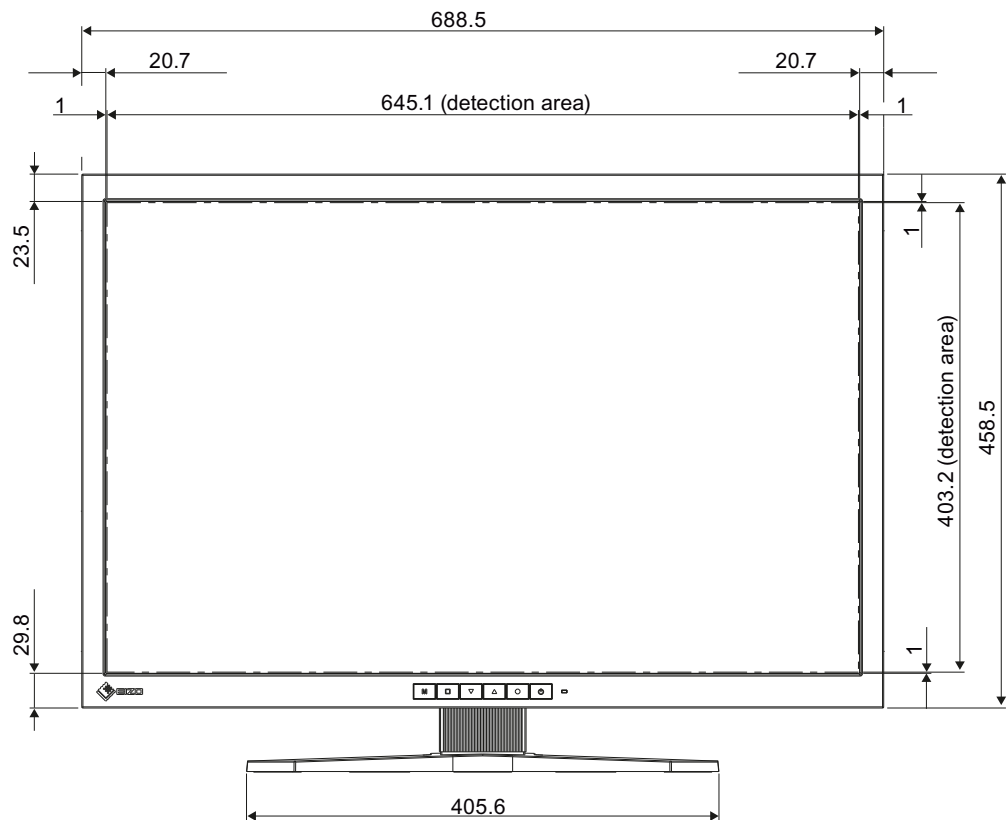
13.1.2 View from right
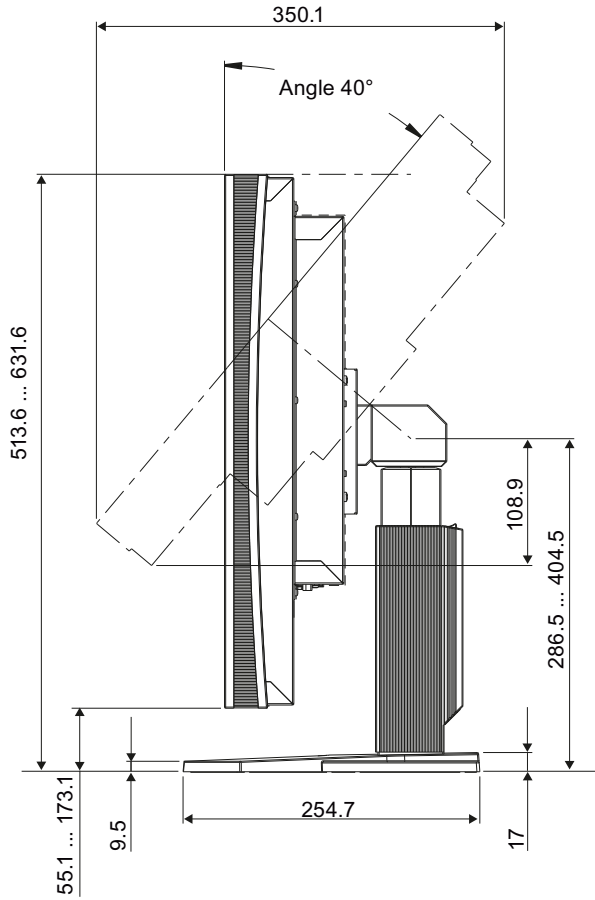
13.1.3 Rear view

13.1.4 View from above

Appendix

A

A.1 Identification and symbols on the GX1030 monitor

Name plate

RadiForce® GX1030
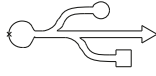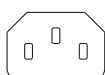
Markings

Meaning of markings and symbols on the GX1030 monitor

Marking/symbol	Description
	Symbol for "Caution, observe accompanying documents". Appears on the name plate.
	CE marking (EU conformity mark). Appears on the name plate.
	U.S. FCC marking for communication devices. Appears on the name plate.
	CSA marking, accounting for U.S. and Canadian national regulations. Appears on the name plate.

Marking/symbol	Description
02/2009	Symbol for date of production for medical products. May appear on the name plate.
	Symbol for "Observe instruction manual". Present on the rear of the device under the name plate.
	Symbol for "Only for authorized service". Present on the rear of the device.
	WEEE Product must be disposed of separately; materials may be recycled. Appears on the name plate.
VCI	Marking for the Japanese "Voluntary Control Council for Information Technology Equipment". May appear on the name plate.
CCC S&E	Marking for the Chinese "China Compulsory Certification" approval. May appear on the name plate.
10	Marking in accordance with ACPEIP (China-RoHS). May appear on the name plate.
ACN 075 770 277	C-Tick Mark marking for conformity with Australian EMC standards. May appear on the name plate.
PC ME06	Marking for the Russian GOST certificate. May appear on the name plate.
∼	Symbol for alternating current at line voltage input. Appears on the name plate.
⏚	Symbol for protective ground (ground)
⚡	Symbol for "Hazardous voltage". Appears on the name plate.
|	Symbol for "On" (voltage). Appears on the connector pinout plate underneath the power switch in the connection panel.

Marking/symbol	Description
⭘	Symbol for "Off" (voltage). Appears on the connector pinout plate underneath the power switch in the connection panel.
🔧	Input for service use. Appears on the connector pinout plate underneath the RJ45 and RS232 inputs in the connection panel.
⛛ USB	Symbol for USB. Appears on the connector pinout plate underneath the upstream and downstream USB inputs in the connection panel.
⎍	DVI input signal. Appears on the connector pinout plate underneath the "Signal 1" and "Signal 2" DVI inputs in the connection panel.
▭ ▭▭▭	DC symbol. Appears on the connector pinout plate underneath the 5 V connections in the connection panel (for the power supply to external devices).
🔒	Symbol for Kensington lock. Appears on the connector pinout plate underneath the Kensington lock on the rear.
🔌	Power supply cable plug. Appears on the connector pinout plate underneath the power supply plug in the connection panel.

See also

Connector locations (Page 22)

Operator controls (Page 28)

Safety directives (Page 55)

A.2 Guidance and manufacturer's declaration – electromagnetic emissions

The GX1030 device is intended for use in the electromagnetic environment specified below. The customer or the user of the display should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The display uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The display is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations / flicker emissions IEC 61000-3-3	Complies	

See also

General safety notes (Page 7)

Electromagnetic compatibility (Page 56)

A.3 Warranty

Opening of the housing, or electrical or mechanical changes on or in the device, result in cancellation of the warranty. For warranty details, please contact the sales partner from whom you purchased the product. These warranty conditions are neither extended nor limited by the contents of this user manual.

A.4 Repairs

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

A.5 Environmental protection

Please observe all local requirements and laws pertaining to the disposal of displays.

A.6 Accessory devices

Devices connected to the display (e.g. PC) must also comply with the relevant safety specifications.

A.7 Contact

Support during installation and for technical questions

Medical Monitor Solutions (http://www.eizo.eu)

A.8 Trademarks

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

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

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

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

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

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

SMfit is a trademark licensed to EIZO GmbH.

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 or a trademark of Video Electronics Standards Association in the United States and other countries.

All other trademarks are the properties of their respective owners.

A.9 China RoHS (Restriction of Hazardous Substances)

LCD Display 液晶显示器
型号 Model: 6GF6201-8C$##

根据SJ/T11364-
2006《电子信息产品污染控制标识要求》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/T11364-2006
Marking for Control of Pollution caused by Electronic Information Products.

电子信息产品污染控制标志说明 Explanation of Pollution Control Label

该标志表明本产品含有超过中国标准SJ/T11363-
2006《电子信息产品中有毒有害物质的限量要求》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 SJ/T11363-2006 *Requirements for
Concentration Limits for Certain Hazardous Substances in Electronic Information
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
平面灯 Flat Lamp	X	X	O	O	O	O
背光逆变器 Backlight Inverter	O	O	O	O	O	O
控制板 Controller Board	O	O	O	O	O	O
电源 Power Supply	O	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） Acessories (signal cable, power line, etc.)	O	O	O	O	O	O
O: 表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下 X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 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毒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。 O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006. 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 SJ/T11363-2006 • Data listed in the table represents 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.

Index

Order No.: 1020008-002