Instructions for Use



Important

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



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.

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

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

	Legal	l inform	ation	2
1	Intro	duction.		6
	1.1	Conten	ts of this document	6
	1.2	Overvie	ew of the instruction for use	6
2	Safet	y notes		7
	2.1	Genera	ıl safety notes	7
	2.2	Produc	t-specific safety notes	12
3	Desc	ription		13
	3.1	•	of delivery	
	3.2	•	usage	
	3.3		98	
	3.4	Plate a	nd label layout	15
4	Setur	and in	stallation	17
•	4.1		tion location	
	4.2		ning as a desktop device	
	4.3		ng in a rack	
5	Conn	ectina		20
•	5.1	_	information for connection	
	5.2	•	ction panel	
	5.3		r options	
	5.4		tion procedure	
		5.4.1	Connecting the monitor and video sources	23
		5.4.2	Connecting the video source computer	24
		5.4.3	Connecting to the network	24
		5.4.4	Power supply connection	24
	5.5	Input si	gnals	25
6	Confi	iguring .		27
	6.1	Definition	on of terms	27
	6.2	Basic id	cons	29
	6.3	Proced	ure for setting up the Large Monitor Manager	32
	6.4	Setting	up remote access	33
	6.5	Overvie	ew of the sidebars	34
	6.6	"Base s	settings" (abbreviated) sidebar	35
		6.6.1	Displaying up system information	35
		6.6.2	Changing the language setting	36
		6.6.3	Logging in and out	37

		6.6.4	Restarting or shutting down	38
	6.7	"Base s	settings" (extended) sidebar	39
		6.7.1	Settings	40
		6.7.2	Workspace settings	44
		6.7.3	Setting the network connection	48
		6.7.4	Changing the password	50
		6.7.5	User permissions	50
		6.7.6	Setting the system time	52
		6.7.7	Updating the firmware	53
		6.7.8	Backup/Restore	54
		6.7.9	Creating a logbook	55
		6.7.10	View all inputs	55
	6.8	"Input o	configuration" sidebar	56
		6.8.1	Configuring digital video inputs	57
		6.8.2	Configuring analog video inputs	58
		6.8.3	Configuring an extended window	63
		6.8.4	Creating and configuring instances	64
	6.9	"Layou	t" sidebar	70
		6.9.1	Edit layouts	71
		6.9.2	Editing the window in the selected layout	72
	6.10	"Instan	ces" sidebar	74
	6.11	Status	window	75
	6.12	Screen	shot function	75
	6.13	Informa	ation for developers	77
7	Opera	ation		78
	7.1		ing with control monitor CID1000P	
	7.2	•	ing with the web browser	
	7.3	Runnin	g an applicationg	83
Ω	Clear		d maintenance	
Ü	8.1	_	ng	
	8.2		nance	
_				
9			ting	
	9.1		nessages	
	9.2	I rouble	eshooting	87
10	Tech	nical sp	ecifications	88
	10.1	Inputs/	Outputs	88
	10.2	Power	supply	89
	10.3	Mecha	nical design	89

1	10.4	Climatic conditions	89
1	10.5	Mechanical requirements	90
1	10.6	Safety specifications	90
1	10.7	Electromagnetic compatibility	91
11 [Dime	nsion drawings	92
1	11.1	LMM without brackets	92
1	11.2	LMM with center brackets	93
1	11.3	LMM with front brackets	93
1	11.4	Cable strain relief	94
12 9	Spare	parts / accessories	96
1	12.1	Accessories	96
13 /	Appe	ndix	97
	Appe 13.1	ndix Guidelines and manufacturer's declaration – electromagnetic emissions	
1			97
1	13.1 13.2	Guidelines and manufacturer's declaration – electromagnetic emissions	97 98
1	13.1 13.2	Guidelines and manufacturer's declaration – electromagnetic emissions	97 98 99
1 1 1	3.1 3.2 3.3 3.4	Guidelines and manufacturer's declaration – electromagnetic emissions	97 98 99 99
1 1 1	13.1 13.2 13.3 13.4 13.5	Guidelines and manufacturer's declaration – electromagnetic emissions	97 98 99 99
1 1 1 1	13.1 13.2 13.3 13.4 13.5	Guidelines and manufacturer's declaration – electromagnetic emissions Markings and symbols Warranty Repairs Environmental protection	97 98 99 99 99
1 1 1 1 1	3.1 3.2 3.3 3.4 3.5 3.6	Guidelines and manufacturer's declaration – electromagnetic emissions Markings and symbols Warranty Repairs Environmental protection China RoHS (Restriction of Hazardous Substances)	97 98 99 99 99 100
1 1 1 1 1 1	3.1 3.2 3.3 3.4 3.5 3.6 3.7	Guidelines and manufacturer's declaration – electromagnetic emissions Markings and symbols Warranty Repairs Environmental protection China RoHS (Restriction of Hazardous Substances)	97 98 99 99 100 102

1 Introduction

1.1 Contents of this document

This document explains the functionality and the approved use of the Large Monitor Manager LMM0802. 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 is included on the CD-ROM provided and can be downloaded at www.eizoglobal.com, or provided by the sales partner from whom you purchased the product.

1.2 Overview of the instruction for use

The instructions for use are divided into the following two main sections:

- The first section describes the start up of the Large Monitor Manager, and contains the chapters "Application Planning", "Installation", and "Connection".
- The second section describes the configuration and operation of the Large Monitor Manager in chapters "Configuration" and "Operation".

2 Safety notes

2.1 General safety notes

Correct transport, professional storage, installation and connection, as well as careful operation and maintenance, are required to ensure that the EIZO devices operate safely and correctly.

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

2.1 General safety notes

For safety reasons, the following precautions must be observed:

DANGER

Please observe all warning information present on the device and in the Instruction Manual.

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 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 or signal output unit
- · Use of a safety isolating transformer
- · Use of the additional protective conductor terminal

Mounting of the monitor: The monitor's suspension arm must have its own protective conductor. This protective conductor, together with the protective conductor of the monitor, ensures that the housing leakage current always remains less than 500 μ A, even in the event of a first fault event.

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 line power, components in the device are subject to high voltages. Touching the components may be fatal.

No contact between device and patients

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

A DANGER

Please observe all warning information present on the device and in the Instruction Manual.

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 enclosure

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 penetrating into the device may result in an electric shock or failure of the device.

A 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.

2.1 General safety notes

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 installed stand as well as the mounting surface have to be suitable for the weight of the unit.
- For mounting on a wall or ceiling suspension:
 The mount unit must be suitable for the weight of the device.
- For installation in a mounting frame:
 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 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 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 acclimation 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 particularly to protect the monitor LCD module from shocks.

Care of display / 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 Instruction Manual.
- 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 line power and checked by qualified personnel:

- · Damage to the plug or power cable.
- Following the entry of liquid into the device.
- If the device has been exposed to moisture.
- If the device does not function or if a fault cannot be corrected using the instruction manual.
- If the device has been dropped and/or the housing damaged.
- If the device smells of burning or produces peculiar noises.

Be aware of the aging of monitors

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 discharging, touching the screen can result in brief disturbances to the image.

2.2 Product-specific safety notes

For your protection, observe the following safety notes when installing and setting up your equipment:

- · Follow all cautions and instructions marked on the equipment.
- Ensure that the voltage and frequency of your power source match the voltage and frequency stated on the device's rating plate.
- Never push objects through openings in the device.

NOTICE

Battery

The motherboard of the Large Monitor Manager has a lithium battery. This may only be replaced by the manufacturer.

The stipulations of the Battery Directive (BattG) have to be taken into account when disposing of the equipment.

Security

The software shipped with the system is standard software. When connected to other computers, viruses or other harmful software may attack the software of this product. It is the user's responsibility to protect this system against viruses and attacks from the Internet or other devices in this system

3 Description

3.1 Scope of delivery

The scope of delivery includes the following device and various components. After unpacking, check the scope of delivery for correctness and completeness.

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

Device

Product	Order No.	Description
LMM0802	6GF6030-1AB00	Supports output resolutions up to 3840 x 2160 or 4096 x 2160

Components

The following components are included in the scope of delivery:

- · Power cables for US, EU, CN, JP
- · 6 HDMI to DVI adapter cables
- 4 adhesive feet for the housing
- 2 installation brackets, including screws
- · CD with documentation and test patterns

3.2 Correct usage

NOTICE

Use of the device

The device may only be used by trained and qualified personnel.

Up to twelve different video sources can be connected to the Large Monitor Manager LMM0802. Eight of these video sources can be displayed simultaneously on one or two monitors.

Additionally, up to two keyboards and mice can be connected If the video sources are PCs, they can be linked such that operation with the keyboard and mouse is possible.

Insofar as they are not expressly stated in these instructions, all changes to the device are the sole responsibility of the user.

The device is suited for use in a medical environment. It can be used as a desktop device or installed in a rack.

3.3 Features

3.3 Features

The Large Monitor Manager LMM0802 has the following features that permit a wide range of applications:

Flexible arrangement of different video sources

With the LMM0802 you can simultaneously display up to eight different video sources on one or two monitors. Up to 16 pictures from the eight video sources can be displayed. The video sources can be displayed in different scales or cropping areas.

As a result you can simplify the workflow in the control or examination room for example, and merge multiple workstations.

Operation via keyboard and mouse or via remote connection

You can operate the LMM0802 via the keyboard and mouse or via a remote connection.

Keyboard-mouse switch for operating the video sources

Up to eight different video source computers can be operated with the keyboard and mouse.

Dual User

If two monitors are connected to the LMM0802, they can be operated independent of one another by two users.

User-defined layouts

The user can arrange the layout required on the LMM0802 and select the layout suitable for a given application.

Display of analog and digital signals

The inputs of the LMM0802 can process both analog and digital image signals in resolutions from VGA(640 x 480 at 60 Hz), to WUXGA (1920 x 1200 at 60 Hz), to QXGA (2048 x 1536 at 30 Hz).

Rapid availability of video sources

The video signals are displayed on the screen within a few seconds after switching on the Large Monitor Manager. This therefore meets the requirement for immediate availability after a power failure.

Designed for the medical environment

The special requirements of the medical environment have been taken into account. Accordingly, an ambient temperature of up to 45 °C is permitted; the electrical safety concept was developed and tested in accordance with IEC 60601-1. In addition, electronic components that will be available over the long term were used.

3.4 Plate and label layout

Name plate



Additional plate



3.4 Plate and label layout

Packaging label



Item: LMM0802

(P) P/N: 6GF6030-1AB00

(1S) F/N: HXB6000000

For use with: N/A

ES-HW: 1 ES-SP: 1

(S) Serial No: HXB6000000

(2P) Revision: 01

(Q) Quantity: 1

4 Setup and installation

/ CAUTION

Changes to device

Do not make any mechanical or electric changes to the device.

EIZO GmbH is not liable for changes made to the device.

4.1 Installation location

NOTICE

Area surrounding the installation location

Protect the device from:

- Dirt
- · Dust penetration
- Moisture

Provide adequate ventilation

Ventilation slots are provided on the front and back of the device for the circulation of air. Please note the following safety information.

/!\CAUTION

Overheating of the device

Safe operation is endangered.

- · Do not block or cover the device ventilation slots.
- Place the device so that the distance at the rear is at least 10 cm from a wall or 15 cm from other devices.
- Never place the device near a radiator.
- When installing the device in a rack, observe the permissible ambient temperature range.

Change of environment

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.

4.2 Positioning as a desktop device

The LMM0802 can be used as a desktop device in vertical or horizontal position. Make sure the surface where it is to be placed is solid and even.

An optional cable holder is available to route the cable cleanly and provide strain relief.

Horizontal positioning

Four adhesive feet for horizontal positioning are included in the scope of delivery. They can be attached to the underside of the device.

Vertical positioning

NOTICE

Vertical positioning

- Use the installation brackets and screws provided to secure the device to the surface.
- Position the device so that the power connection is on top. This is the only way to ensure sufficient ventilation. Failure to comply voids the EIZO warranty.

See also

Dimension drawings [▶ 92] Spare parts / accessories [▶ 96]

4.3 Installing in a rack

The LMM0802 can be installed in a 19" rack. Use the brackets provided for the installation. If that is not possible, note the following:

/ CAUTION

Tightening torque

Excessive tightening torque when installing the Large Monitor Manager can damage the mounting surface. The tightening torque depends on the material of the selected mount. Adapt the tightening torque to the mount material accordingly.

Information on the fastening screws		
Number	4	
Thread	M6	
Strength	8.8	
Insertion depth	7 mm minimum / 9 mm maximum	
Torque	Max. 3 Nm	

/ CAUTION

Installing the device in a rack

Comply with the following items when installing in a rack:

- To prevent the rack from tipping over, devices must always be installed from bottom to top.
- Install the device at the lowest position in the rack first, followed by the device in the next higher position, and so on.
- To prevent extreme operating temperatures within the rack, ensure that the maximum temperature does not exceed the rated ambient temperature for the device.
- To prevent extreme operating temperatures due to reduced ventilation, ensure adequate ventilation of the device for safe operation.
- The device must be installed so that the main switch, the plug connector, and the connection panel are accessible to the user. If this is not the case, an additional element ensuring access has to be installed. The installation has to comply with applicable safety standards.

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

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

Power cord and extension cord

Not all power cords have the same rated values.

- Do not use the power cord delivered with the device for other products or purposes.
- Do not use common household extension cords to connect the device.
 Household extension cords do not have overload protection and are not suitable for use with computer systems.

!CAUTION

Shielding measures

Follow all shielding measures according to the country-specific EMC Directive. If these guidelines are not observed, device malfunction may result.

NOTICE

Disconnecting from line power

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

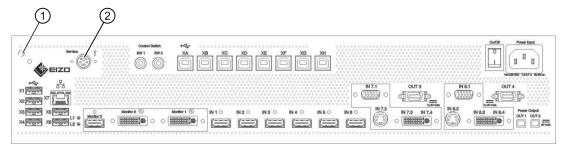
NOTICE

Cable installation

Please note the following:

- · Only shielded cables are to be used for all signal connections.
- If the relevant facility is available on the connector, all plug connections must be screwed tight or locked.
- Do not route signal cables and power cords next to one another. Otherwise, line power subject to heavy interference could result in reversible pixel errors.
- The device must not share a 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 includes cable grips, please use them to prevent unintended loosening of connected cables.

5.2 Connection panel



Connectors	Name	Function
0	PE connection	Additional protective conductor connection
2	PS2 socket (6x Mini-DIN connectors)	For service purposes (at EIZO)
X1 X6	USB Type A: Downstream (6)	For external USB devices such as keyboard, mouse, etc., with a maximum connection value of 5 V and 500 mA.
X7	Network connection (RJ45)	To connect to the existing network (remote access, for example)
L1, L2	LEDs	indicate the device status
XA XH	USB Type B: Upstream (8)	To control PCs connected as video sources
Monitor 1	Dual Link DVI-I output	To connect an output monitor.
Monitor 2	Dual Link DVI-I output	To connect an output monitor.
Monitor 3	Single Link DVI-I downscale output with HDMI socket	To connect an FHD monitor; here, a 3840 x 2160 image is scaled to FHD.
IN1 IN6	DVI inputs (HDMI sockets that only process video signals)	For connecting digital video sources Use the DVI-HDMI adapter that is provided.

5.3 Monitor options

Connectors	Name	Function
IN7.1, IN8.1	VGA input (Sub-D, 15 pins)	For connecting analog video sources with VGA connector.
IN7.2, IN8.2 S-Video input (Mini DIN) For connecting connector.		For connecting analog video sources with mini DIN connector.
IN7.3, IN7.4, IN8.3, IN8.4	DVI-D or DVI-A input	Digital or analog DVI input. Depending on the connected DVI cable and video source.
Power Output, OUT1,	HIROSE RP34L output	To connect external loads with a maximum connection value of 5 V and 500 mA.
Power Output, OUT3,	MDR output	To connect up to seven external loads with a maximum connection value of 5 V and 700 mA each.
Power input	IEC 60320 C14 input	Input power supply
On/Off	Power switch	Switching on / switching off the device

5.3 Monitor options

The LMM0802 supports various output resolutions. This means various monitors can be connected.

Output resolution (monitor 1 & monitor 2)	Downscale output (monitor 3)	Single User / Dual User	Possible monitors
4096 x 2160 (8 MP)	Not activated	Single user only	1 RadiForce RX850
3840 x 2160 (8 MP)	Activated	Single user only	1 RadiForce LS580W
			or
			1 RadiForce LS600W
2560 x 1600 (4 MP)	Not activated	Both possible	2 RadiForce RX440
			or
			2 RadiForce LX300W
2560 x 1440 (3.7 MP)	Not activated	Both possible	2 RadiForce MX270W
1920 x 1200 (2.3 MP)	Not activated	Both possible	
1920 x 1080 (FHD)	Not activated	Both possible	2 RadiForce LX470W
1600 x 1200 (1.9 MP)	Not activated	Both possible	2 RadiForce RS210

Note

If the application does not require it, a single monitor can be connected as well. In this case, workplace settings have to be made.

5.4 Connection procedure

Note

Picture quality, noise immunity, and emitted interference

Use high-quality cables only. The picture quality, noise immunity, and emitted interference of the entire system depend on the cable quality and length.

5.4.1 Connecting the monitor and video sources

Connect the monitor(s) to connectors "Monitor 1" and "Monitor 2" using DVI cables suitable for the resolution. For example, to connect an 8 MP monitor, use two Dual Link DVI cables.

Note: To display the video sources correctly, the monitor or monitors have to support the output resolution of the LMM.

See also Monitor options [> 22].

- If necessary, connect the keyboard and mouse to connection panels X1 X6.
- Optionally, a joystick can be used to move the windows.
- Optionally, a monitor with HD resolution (1920 x 1080 @60 Hz) can be connected to the monitor 3 output. A reduced image of a 3840 x 2160 main monitor is output there.

• Connect the video sources according to the following table:

PC video output	Large Monitor Manager video inputs (IN1 - IN8.4)		
DVI-I	If you assign connection panels IN1 - IN6, use the HDMI-DVI adapter cable from the scope of delivery.		
	If you assign connection panels IN7.3 and/or IN8.3, use a commercially available DVI-I cable.		
DVI-A	If you assign connection panels IN7.4 and/or IN8.4, use a commercially available DVI-A cable.		
	If you assign connection panels IN7.1 and/or IN8.1, use a commercially available DVI-VGA adapter on the PC.		
VGA	If you assign connection panels IN7.1 and/or IN8.1, use a commercially available VGA cable.		
	If you assign connection panels IN7.4 and/or IN8.4, use a commercially available VGA-DVI adapter on the LMM0802.		
S-Video	If you assign connection panels IN7.2 and/or IN8.2, use a commercially available S-video cable.		

5.4.2 Connecting the video source computer

To operate a video source using the Large Monitor Manager, the LMM0802 has to be connected to the video source computer via USB.

Proceed as follows for each computer to be connected:

- 1. Use a commercially-available USB cable, with USB-A and USB-B connectors.
- 2. Connect the USB-A connector to the USB socket of the video source computer, and the USB-B connector with one of the XA ... XH connection panels.
- 3. Record the video input and the corresponding USB-B connector.
 - ⇒ You will need this information to configure the video source link to the LMM in the user interface.

5.4.3 Connecting to the network

If the Large Monitor Manager is to operate over a network (remote operation), a network connection has to be established between the Large Monitor Manager, socket X7, and the workstation (PC).

- Use commercially available network components for this purpose, such as network cables, network hubs, and switches.
- · Contact your network administrator with any questions on the network connection.

5.4.4 Power supply connection

! DANGER

Only connect the device to line power with a protective conductor

To avoid risk of electric shock, this equipment must be connected only to a line power supply with protective ground.

! 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 49 49547, IEC 60320 (max. length 3 m, cable e.g. H05VV-F 3x1.0 mm²). 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.

Note

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

Installations in China

Power cables, power supply plugs and appliance plugs must be CCC-certified.

Connecting the power supply

NOTICE

Line voltage and frequency

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

To connect the Large Monitor Manager to the power supply:

- 1. Check the permissible power supply range.
- 2. Connect the power cable typical to your country and included in the scope of delivery to the "Power Input" connection panel.
- 3. Switch on the device.
- ⇒ The device is operational when the LEDs illuminate green.

The LMM0802 has to be configured during its first use. Refer to chapter Configuration and operation.

5.5 Input signals

Distribution of input signals

 Inputs IN1 through IN6 are digital inputs (HDMI) with a maximum bandwidth of 165 MHz (for example: 1600 x 1200 at 60 Hz, 1920 x 1200 at 60 Hz reduced blanking, or 2048 x 1536 at 30 Hz).

Note: Only DVI signals are supported, DHCP signals are not supported.

- Inputs IN7.1 and IN8.1 are analog inputs (VGA) with a maximum bandwidth of 170 MHz (for example: 1600 x 1200 at 60 Hz or 1920 x 1200 at 60 Hz reduced blanking).
- Inputs IN7.2 and IN8.2 are analog S-video inputs. All NTSC and PAL standards are supported.
- Inputs IN7.3 and IN8.3 are digital inputs (DVI-I) with a maximum bandwidth of 165 MHz (for example: 1600 x 1200 at 60 Hz or 1920 x 1200 at 60 Hz reduced blanking).
- Inputs IN7.4 and IN8.4 are analog inputs (DVI-A) with a maximum bandwidth of 170 MHz (for example: 1600 x 1200 at 60 Hz or 1920 x 1200 at 60 Hz reduced blanking).

5.5 Input signals

Maximum number of pixels

- The maximum number of pixels at inputs IN1 through IN6 is 2048 horizontal.
- The maximum number of pixels at inputs IN7.x through IN8.x is 1920 horizontal.

Note

Note the video input restrictions

Video inputs IN7.1, IN7.2, IN7.3, and IN7.4 as well as video inputs IN8.1, IN8.2, IN8.3, and IN8.4 are each joined together into a group:

- A video signal can be connected to each of these video inputs.
- However, only one video signal from a can be displayed in a layout.
 If an attempt is made to display two video signals from the same group in a layout, the channel with the higher number is hidden and the following symbol appears:



Image refresh rates

Any image refresh rates can be set for inputs.

EIZO recommends a refresh rate of 60 Hz because the video output signal on the LMM0802 has an image refresh rate of 60 Hz.

Video bandwidth

Note

Adapting the video bandwidth

When the Large Monitor Manager determines that the maximum video bandwidth would be exceeded, the applied video signals are automatically reduced. First, the video bandwidth of video signals with the largest scaling factors are reduced. The smallest permissible value for the scaling factor is 1.

6 Configuring

The first time the LMM0802 is switched on is the first time the device is configured for use. The following two methods are available for configuration, depending on the application:

- · Configuration via network for remote operation:
 - Connect a LMM0802 and a suitable workstation with typical network components. Remote access is possible via LAN and WLAN.
 - The workstation has to be equipped with a browser.
 - Microsoft Internet Explorer, Version 11 and higher, or Mozilla Firefox, Version 29 and higher, are the recommended browsers.
 - Remote operation has to be set up on the workstation (IP addresses and network settings).
- Configure for local operation via keyboard and mouse:
 - Connect a keyboard and mouse to the LMM0802.

6.1 Definition of terms

Before starting to configure the Large Monitor Manager LMM0802 you should know the following terms:

Term	Explanation		
Video input	Existing connection on the connection panel of the LMM.		
USB input	Existing connection on the Large Monitor Manager connection panel.		
Video source	Source of a video signal, such as a PC The video source must be connected to a video input of the LMM.		
Video signal	The video signal contains the picture information and is sent, for example, from the graphics card of the video source to the video input of the LMM.		
Sidebar	The sidebars contain the LMM operating menus. They are positioned on the outer edges of the screen (at the top., bottom, left, and right) and open when the mouse pointer is moved there. The sidebar closes when you move the mouse pointer away.		
	During operation via remote access, the sidebars can be opened via icons at the respective edges of the display area. Move the mouse pointer to the respective icon.		
	Please note that some information is visible only to service or users with the appropriate rights. Some sidebars are therefore not visible unless a password is entered.		
Permanent sidebar	The sidebar can be displayed permanently and fixed by clicking the pin.		
Tooltip	Information about a video signal can be displayed in the "Input Configuration" sidebar. Position the mouse pointer over the video input to display it.		
Layout	A layout describes the arrangement (position and size) of windows on the screen.		

6.1 Definition of terms

Term	Explanation
Window	A window is an area in a layout with a prescribed position and size. The instance of a video source is displayed within a window. The content of a window can be moved to another window via Drag & Drop.
Active window	A window is active when the connected video source is controlled directly.
	The mouse can move only within the limits of the window. This is called "Focused Mode"
	An active window is identified normally by a green border.
Inactive window	A window is inactive if only the video content of the connected video source is displayed. Control and operation with the keyboard and mouse are not possible in an inactive window.
Expanded window	If multiple video signals from a video source are connected to the Large Monitor Manager, they can be displayed in various windows. If one of these windows is activated, the other windows of this video source are activated automatically. This is called "Focused Mode" You can move the mouse pointer beyond the edges of the window.
	An active window is identified normally by a green border.
Instance	Defined presentation of a video signal of a video source within a window of a layout. For each video input of the Large Monitor Manager multiple instances can be displayed with different presentations, e.g. 1:1, with a border, or as a cropping area. Each instance can be assigned to one or more windows and layouts.
Overlay Mode	The Large Monitor Manager can be operated with a connected mouse and keyboard in Overlay Mode.
Focused Mode (operating mode)	You change to Focused Mode by double-clicking a window in the layout. The video source can be operated with the mouse, keyboard, or both. In this case, the mouse pointer moves only within the limits of the window.
	To go back to Overlay Mode, press the keys to exit the active window (ALT + Space key is the default setting).
Remote access	Operation of the LMM via LAN or WLAN.
View Management (VM)	Sets the image content for the connected monitors using a workstation or the control monitor with an EIZO touchscreen.

6.2 Basic icons

The following presents a brief description of the icons on the user interface.

General icons

Icon	Description
⊕⊕⊕⊕	Move in the menu by clicking the respective arrow key.
	Note : Scrolling is possible in the menus display the corresponding buttons. This is true for both operation in the device and remote operation. To scroll, one of the menu buttons or another menu objects such as an instance, has to be selected.
MO	Set the respective sidebar by clicking the pin.
	During layout editing, individual windows can be pinned, and therefore cannot be changed.
♦ EIZO	By clicking and holding the mouse key on the icon, a dialog window or menu can be moved.

Mouse pointer icons

Icon	Description
	The video source (such as a PC) displayed in a window can be controlled by mouse and keyboard.
	Double-clicking the left mouse button activates the window, and the video source can be controlled.
	Note: To cancel, click Alt Space. This is the default key combination from the factory. It can be changed by the administrator.
	The video source (such as a PC) cannot be controlled with the mouse or keyboard.
N E	Using Drag & Drop, a window in the current layout can be exchanged with another window.
X	Selecting parameters in various menus.
	Please wait.
	The Large Monitor Manager is busy processing the selected function and cannot process additional input.

Icons in the title bar

Icon	Description
Q 1:1	The video source is presented with the aspect ratio 1:1.
	The video source (such as a PC) can be controlled with the mouse.
	The video source (such as a PC) can be controlled with the keyboard.
U=	The video source (such as a PC) can be controlled with the keyboard and mouse.
	The video source is displayed with reduced image refresh rate.
₩	Display with curve-optimized scaling
	Synchronization of the instance is activated, and the input signal can be displayed as synchronized.
	Synchronization of the instance is activated, by the input signal cannot be displayed as synchronized because, for example, the input signal of another instance is already synchronized.

Icons for instances

Instance icon	Description
O	The instance is deactivated.
× I	The instance is active, but there is no video signal
	The icon is displayed only for remote access.
	The instance is active, but no preview thumbnail is created.
	The instance was deleted.
A S	Insufficient resources available.
	This icon is only displayed for input groups 7.x or 8.x.
	The selected instance cannot be used because another instance of the group is active.
	The miniature thumbnail of the instance has not yet been configured or was deleted.
	The miniature thumbnail of the instance cannot be displayed.

6.3 Procedure for setting up the Large Monitor Manager

You can set up the Large Monitor Manager in one of the following two ways:

- Locally on the Large Monitor Manager screen using the mouse and keyboard.
- Via a workstation with a network browser (remote). Remote access is possible via LAN and WLAN.

Proceed as follows to set up the LMM0802:

- 1. Connect the monitor or monitors.
- 2. Connect the keyboard and mouse.
- 3. Optional: Connect a configuration computer via the network.
- 4. Connect the video sources.
- 5. Connect the USB cable of the video source computer to be operated.
- Connect the LMM to the network if you want to access via remote or access network resources.
- 7. Connect the power supply and switch on the device.
- 8. Log on as Administrator.
- 9. Perform the base settings, such as language and network configuration.
- 10. Perform the input configuration.
- 11. Create and configure instances.
- 12. Select a suitable layout. Create a new layout if necessary or modify an existing one.
- 13. Assign the instances to the windows of the selected layout and save the layout.
- 14. If necessary, repeat steps 11 through 13.
- 15. If you have configured multiple layouts, select the default layout. The default layout is identified in the layout bar with an asterisk $\stackrel{\checkmark}{\bowtie}$.

Note: The default layout is displayed when switching on or, after a power failure, within 10 seconds after power is restored. Defining a default layout is recommended.

16. Log off as Administrator.

The LMM0802 is now set up.

See also

```
Logging in and out [▶ 37]

"Input configuration" sidebar [▶ 56]

Creating and configuring instances [▶ 64]

"Layout" sidebar [▶ 70]

"Instances" sidebar [▶ 74]

Connecting [▶ 20]

Connecting the video source computer [▶ 24]
```

6.4 Setting up remote access

NOTICE

Type of operation

To prevent conflicts during operation, the Large Monitor Manager (LMM) should be operated either locally or via remote access. EIZO recommends that you decide on one type of operation to use.

To establish remote access for the first time, various settings have to be made on the basis of the type of connection in the network.

Prerequisite

The network and PC are set up for remote access according to the local specifications.

Connection via DHCP

If the Large Monitor Manager is connected to an existing network via a DHCP server, perform the following settings on the LMM:

- 1. Log in as administrator and activate the DHCP application under network settings in the right sidebar.
- 2. Confirm with "OK" and close the Network settings dialog window.

The DHCP server now assigns an IP address to the Large Monitor Manager.

3. Click the **1** button.

The window containing general system information opens.

- 4. Record the automatically assigned IP address.
- 5. Start remote access by entering the command "<automatisch vergebene IP Adresse>/ config" in the browser address line.

The Large Monitor Manager screen is available and can be operated.

Connecting without the DHCP server

If the Large Monitor Manager is not connected to an existing network via a DHCP server, perform the following settings on the LMM:

- 1. Log in as administrator. Enter the IP address for the LMM established by the administrator under Network Settings in the right sidebar.
- 2. Confirm with "OK" and close the Network settings dialog window.
- Start remote access by entering the command "<IP Adresse>/config" in the browser address line.

The Large Monitor Manager screen is available and can be operated.

6.5 Overview of the sidebars

Note

Remote operation

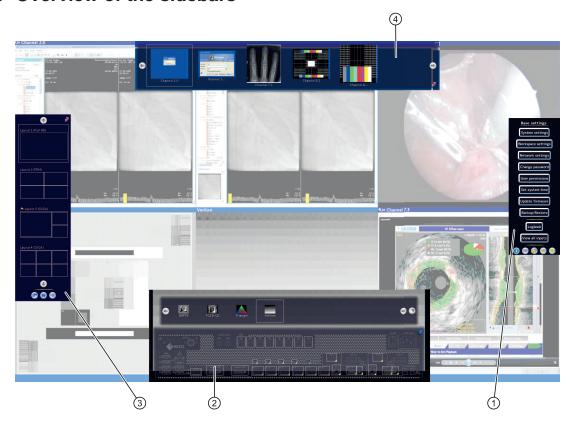
Please note that during remote operation you use the icons displayed on the edges to open the sidebars.

The sidebars look somewhat different for remote operation compared to local operation, but are functionally identical.

During remote operation, windows are identified by their corresponding thumbnail; live images are not transmitted.

To check some settings, it may be necessary to review the changes made on the original image. This is particularly important with the function "Graph optimized scaling".

6.5 Overview of the sidebars



- ① "Base settings" (extended) sidebar
- ② "Input configuration" sidebar
- ③ "Layout" sidebar
- 4 "Instances" sidebar

6.6 "Base settings" (abbreviated) sidebar

The "Standard user" role is active after booting the Large Monitor Manager. The "Base settings" (abbreviated) sidebar is displayed.

To open the sidebar, simply move the mouse to the right edge of the screen.



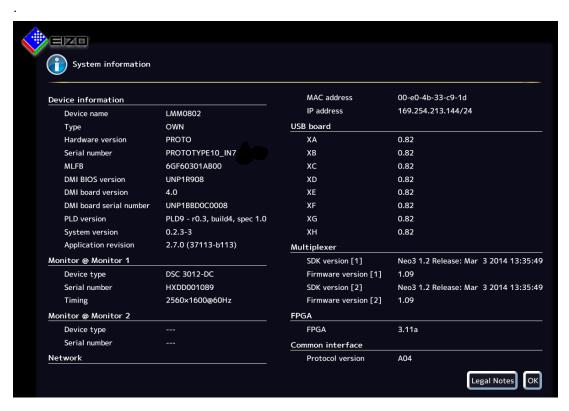
You can do the following in the "Base settings (abbreviated)" sidebar:

- Display general system information.
- Change the default language.
- Log in as "Administrator" or "Default user with advanced rights".
- Restart and shut down the Large Monitor Manager.

6.6.1 Displaying up system information

To open the window with general system information, in the "Base settings" sidebar click f U





6.6 "Base settings" (abbreviated) sidebar

Indicator	Description
Device information	Information on the hardware and software versions of the LMM0802.
Monitor @ Monitor 1	Information on the connected Monitor 1. The information is monitor-specific.
Monitor @ Monitor 2	Optional if a Monitor 2 is connected.
Network	Information on the network settings specified for the LMM0802.
	The MAC address of the network adapter and the IP address of the LMM0802 are specified.
	The address assigned by the DHCP server or given manually by the administrator is displayed as the IP address. Nothing is displayed if an IP address was not assigned. Default setting: IP address 10.1.1.104
	IP address 169.254.213.144 is the fixed default address for access in case of error. It cannot be changed.
USB Board	Information on the hardware / firmware of the USB board.
Multiplexer	Information on the firmware version of inputs IN7.1 - IN8.4.
FPGA	Information on the FPGA version.
Common Interface	Information on the common interface version.
Legal information	Button to display the end user license agreement (EULA) for the installed software. Please read the license agreement.

See also

Setting the network connection [▶ 48]

6.6.2 Changing the language setting

The following languages are available for selection:

- German
- English
- French
- Japanese

English is the default setting

To change the language setting, click the button for the set language in the "Base settings" sidebar. Continue clicking until the language required is displayed.

Note

The default language is displayed each time the LMM0802 starts. To change the default language you have to be logged in as the administrator and change the language in the Settings dialog box.

6.6.3 Logging in and out

The "Default user" role is active after booting the LMM0802. The "Base settings" (abbreviated) sidebar is displayed.

To log in as service or advanced, proceed as follows:

- 1. In the sidebar click 0. The login dialog window is displayed.
- 2. To log in as administrator, select the "Service" user with the 🕙 🕙 button and enter the password "super".
- 3. To log in as a standard user with advanced rights, select the "Advanced" user with the button and enter the password "plus".

To activate the standard user role again, click .



Note

- You can change the saved passwords. In this case you have to be logged in with the "administrator" role or the "standard user with advanced rights" role.
- · Passwords can be reset, A master password is created in this case from the MAC address of the Large Monitor Manager. The master password is generated upon request by EIZO.
- You can enter the master password after clicking .



6.6 "Base settings" (abbreviated) sidebar

6.6.4 Restarting or shutting down

Note

The administrator can set whether a default user can shut down and restart the Large Monitor Manager. If the corresponding rights have not been assigned, the button is deactivated.

See also User permissions [▶ 50].

Restarting

To reboot the Large Monitor Manager, in the "Base settings" sidebar click .

This opens the dialog window to reboot the Large Monitor Manager.

Shutdown

To shut down the Large Monitor Manager, in the "Base settings" sidebar click .

This opens the dialog window to shut down the Large Monitor Manager.

Note

You can switch on the LMM again as follows:

- Switch on using Wake on Lan.
- Switch the LMM power switch on and off. When switching on, wait until LEDs L1 and L2 are off, or LED L1 is illuminated only weakly. This takes at least 15 minutes.

Wake On Lan

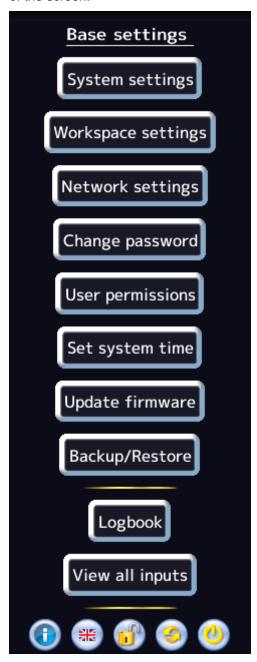
If the LMM0802 was shut down using the button, you can switch back on via the network using Wake on Lan. The required software has to be installed on the PC used for switching on, and configured according to the network address of the LMM.

Note

To access the sidebar, you have to be logged in as administrator ("Service").

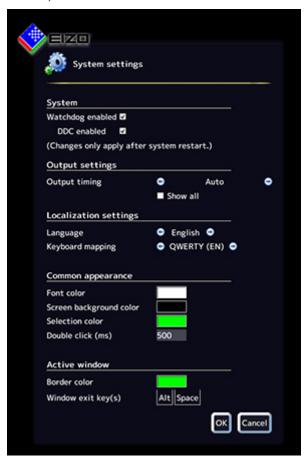
In the "Base settings" (extended) sidebar you can perform basic settings, such as establishing the common appearance, selecting the font color, setting the network, or updating the firmware.

To open the "Base settings" (extended) sidebar , move the mouse pointer to the right edge of the screen.



6.7.1 Settings

To open the "Settings" dialog window, click the "Settings" button in the "Base settings" (extended) sidebar.

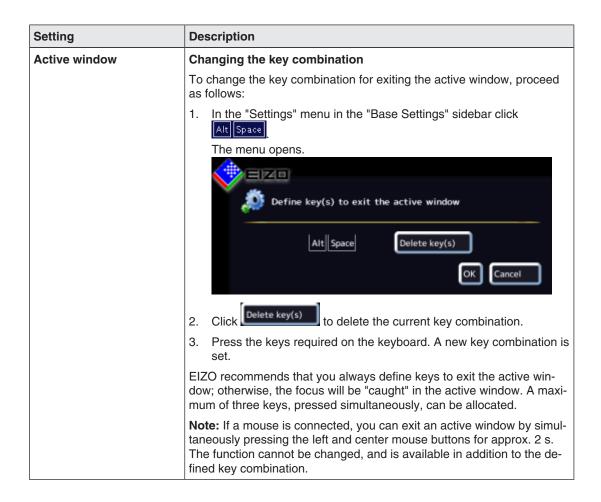


You can make the following settings:

Setting	Description
System	Watchdog enabled
	This setting activates internal monitoring of the Large Monitor Manager. In the event of a system logjam, a reboot is activated automatically and the system is returned to the preset, ready-to-operate state.
	Default setting: Watchdog is enabled.
	DDC enabled
	The monitor information is read via the DDC channel. This process can be deactivated.
	Default setting: DDC is enabled.

Setting	Description
Output settings	Settings for monitor output
	Output timing
	Select the timing to be output at the monitor output.
	The timings stored in the monitor EDID data are available for selection.
	If "Show all" is selected, all timings that the LMM0802 can display are shown.
	Default setting: Auto
	Note: The selected timing has to be supported by the connected monitor. Other wise, no image or only a partial image will be displayed and it will not be possible to operate the LMM with mouse and keyboard because the sidebars will be outside the area shown. See also Troubleshooting [* 86].
	Note: The LMM provides timings that support the "triple Buffer Mode". Timings can be set to eliminate the tearing problems associated with video images. The timings are designated with ³ B. If an image is not displayed using the selected timing, the monitor does not support the timing and reduction in tearing is not possible.
Localization settings	Language
	The language of the dialog windows and menus is set here.
	Click or to make the setting.
	Language selection: German, English, French, or Japanese
	Default setting: English
	Keyboard mapping
	Define the keyboard mapping here. Click or to make the setting.
	Available keyboard mappings: QWERTZ (German keyboard), QWERTY (US English keyboard) or AZERTY (French keyboard)
	Default setting: QWERTY (US)

Setting	Description
Common appearance	Font color
	Click the color box to change the font color of dialog windows and menus.
	Default setting: white
	Screen background color
	This color will be seen on the screen as long as no instances are displayed in the window. Click the color box to change the color.
	Default setting: black
	Selection color
	The currently selected video input is displayed in the sidebar "Input configuration" in this color. The currently selected layout is displayed in the "Layout" sidebar in the same color.
	Click the color box to change the color.
	Default setting: green
	Double click (ms)
	Set the double click speed here.
	Default setting: 500 ms
Active window	Border color
	The border color of an active window can be defined here.
	Default setting: green
	Key(s) to exit
	Proceed as follows:
	Double-click the left mouse button on a window in the layout to directly operate an image source. In this case, the mouse pointer moves only within the limits of the window. You are in "Focused Mode"
	2. To go back to Overlay Mode, use the "keys to exit the active window".
	Default setting: Alt Space



6.7.2 Workspace settings

A user can work on one or two monitors, depending on how the application is configured for the LMM0802. Or, two users can also work on two monitors.

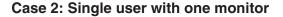
See also the table in Monitor options [> 22].

Case 1: Single user with two monitors

This is the most common type of application. It is saved as the default setting. As such, nothing has to be configured under the workplace settings.



- 1 operator
- 1 user interface (workspace)
- 1 keyboard
- 1 mouse
- 1 layout for 1 monitor (8 MP) or 2 monitors (comprehensive)
- The mouse can move beyond the limits of the monitor





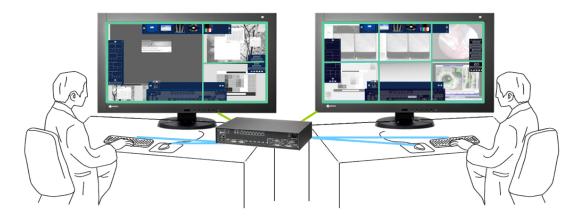
- 1 operator
- 1 workspace
- 1 keyboard
- 1 mouse
- 1 layout for 1 monitor (has to be set)
- · Mouse can move only within the monitor.

Note

Important information on single user

- Workplace settings have to be made to activate the single user.
 See also Workspace settings for Case 2 and Case 3. [▶ 47].
- A maximum of five windows can be displayed at full image refresh rate. If more than five
 windows are created in the layout, the image refresh rate is reduced automatically in the
 smallest windows. For windows of the same size, the image image refresh rate is reduced in the windows the shortest distance to the lower right corner of the screen.
- If there are more than five windows in the layout, the symbol for reduced image refresh rate is displayed in the information banner.
- Five windows in the layout: Full image refresh rate
- Six windows in the layout: Four with full image refresh rate, two with reduced image refresh rate.
- Seven windows in the layout: Three with full image refresh rate, four with reduced image refresh rate.
- Eight windows in the layout: Two with full image refresh rate, six with reduced image refresh rate.

Case 3: Dual users with one monitor each



- 2 users
- · A different layout can be activated on each monitor.
- 2 keyboards
- 2 mice
- The mouse can move only within the respective monitor.
- · Connected sources can be operated independently.

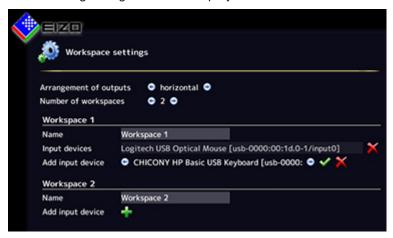
Note

Important information on dual users

- Workplace settings have to be made to activate dual users.
 See also Workspace settings for Case 2 and Case 3. [> 47].
- The monitor connected to "Monitor 1" is considered to be Workspace 1.
- The monitor connected to "Monitor 2" is considered to be Workspace 2.
- Both workspaces can be controlled separately in the CID1000P.
- The same layouts are available for selection for both workspaces.
- When changes are made to the layout on one workspace, they become visible on the other workspace as soon as they are saved.
- When new layouts are generated on one workspace, they become visible on the other workspace as soon as they are saved.
- If layouts are deleted on one workspace, they are also no longer available on the other workspace.
- A separate default layout can be established for each workspace.
- A default layout cannot be deleted. This is also true for a workspace where it is not set at the default layout.

Workspace settings for Case 2 and Case 3.

- 1. Click the "Workspace settings" button.
- 2. The following dialog window is displayed:

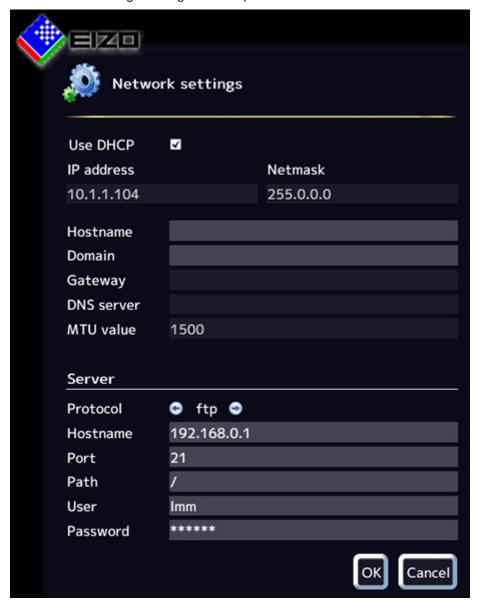


Setting	Description	
Output as-	Defines how the monitors are assigned:	
signment	Next to one another	
	Over one an other	
Number of	Whether one or two workspaces are used is determined here.	
workspaces	1 workspace: One user with two monitors (default setting)	
	2 workspaces: One user with one monitor or two users with two monitors	
	Change the value to 2.	
Workspace 1	Name	
	The name for Workspace 1 is set here. Avoid using special characters.	
	Default setting: Workspace 1	
	Input devices	
	The names of the connected keyboards and mice are displayed here.	
	If you click 🗡 next to the name of the keyboard or mouse, you deactivate it for Workspace 1.	
	If you click 🖶 you can activate the keyboards or mice for Workspace 1 again.	
Workspace 2 Name		
	The name for Workspace 2 is set here. Avoid using special characters.	
	Default setting: no Workspace 2	
	Input devices	
	The names of the connected keyboards and mice are displayed here.	
	If you click 🗙 next to the name of the keyboard or mouse, you deactivate it for Workspace 2.	
	If you click 🖶 you can activate the keyboards or mice for Workspace 2 again.	

6.7.3 Setting the network connection

To set the network connection, click the "Network settings" button in the "Base settings" (extended) sidebar.

The "Network settings" dialog window opens.



You can make the following settings:

Setting	Description
Client network settings	DHCP
(Large Monitor Manager)	The DHCP (Dynamic Host Configuration Protocol) enables the assignment of the network configuration to clients through a server.
	If DHCP is used, the automatically assigned IP address can be found un-
	der "General system information" .
	Default setting: "Use DHCP" is set
	"Use DHCP" set
	The IP address and net mask are assigned automatically and cannot be changed.
	The host name and domain can be assigned here.
	The gateway and DNS server are assigned automatically and cannot be changed.
	The MTU value is assigned automatically and cannot be changed.
	"Use DHCP" is not set
	The IP address and net mask can be assigned here. Note: The information has to be suitable for the existing network. Ask the local administrator for the correct settings.
	The host name and domain can be assigned.
	The gateway and DNS server IP address can be entered here.
	MTU value: MTU (Maximum transmission unit) specifies the maximum size of the data packets that can be sent in the network. Default setting: 1500
	Default setting: IP address 10.1.1.104
Server	Information about the server the Large Monitor Manager will access when the firmware should be updated or configuration data stored (see also Updating firmware [▶ 53], Backup/Restore [▶ 54]).

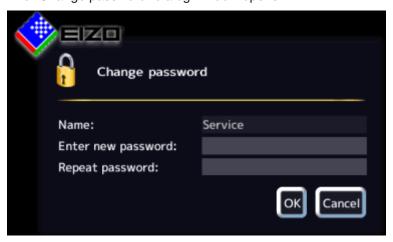
6.7.4 Changing the password

Two passwords are assigned as default for the LMM0802. For the administrator ("Service") the password "super" and for the user with advanced rights B ("Advanced") the password "plus". If you want to change one of these passwords you have to log on either as administrator or as user with advanced rights.

Only the password for the user logged in at the time is changed.

To assign a new password, click the "Change password" button.

The "Change password" dialog window opens.



Note

The password may not contain special characters.

6.7.5 User permissions

The LMM0802 has a concept for rights and roles.

/!\CAUTION

Administration and configuration during operation

Administration and configuration activities should not be performed during medical procedures. Such actions can present a risk to patients as important images may no longer be displayed.

Roles

The system uses the following roles:

- Default user
- Default user with extended rights ("Advanced")
- Administrator ("Service")

After booting the LMM0802 you are always logged in as the default user.

Note

No additional roles can be created/

Rights

The following rights are assigned to the roles "Default user" and "Default user with extended rights". The administrator has all rights.

Note

Assigning rights

Only the administrator can change the rights assigned to roles.

			Role	
		Default user	Default user with extended rights	Administrator
	Show iput configuration bar	-	✓	✓
	Show source instance bar	-	✓	✓
	Configure the unputs	-	-	✓
	Swap source instances in layout	✓	✓	✓
	Add source instances to layouts	-	✓	✓
	Edit source instances	-	-	✓
	Activate layouts	✓	✓	✓
	Edit layouts	-	✓	✓
	Save layout	-	✓	✓
	Save default layout	-	-	✓
	Edit system settings	-	-	✓
ıts	Change network configuration	-	-	✓
Rights	Change system time	-	-	✓
	Backup, restore data, reset to factory defaults	-	-	✓
	Change the GUI langugage	✓	✓	✓
	Configure outputs	-	-	✓
	View info	✓	✓	✓
	Shutdown and restart	✓	✓	✓
	Update firmware	-	-	✓
	Toggle watchdog	-	-	✓
	Change password	-	√	√
	View all inputs	-	✓	√
	Change user rights	-	-	✓

6.7.6 Setting the system time

To set the system time, click the "Set system time" button in the "Base settings" (extended) sidebar.

The "Set system time" dialog box opens.



With NTP server

When the Large Monitor Manager is operated in a network that uses an NTP server as the time basis, the system time can be synchronized with the server. Otherwise, it has to be entered

- 1. Activate the option "Use NTP Server".
- 2. Enter the server address in the "NTP Server" field.
- 3. Click "OK".

Without NTP server

If an NTP server is not used, you can set the system time as follows:

- 1. Incrementally change the date and time with the arrow keys and until the required values are displayed.
- 2. Click "OK".
- 3. Restart the device to apply the changes.

6.7.7 Updating the firmware

The firmware update can be loaded locally using a USB storage medium or using a network server. When updating via the network, the network connection has to be set correctly.

NOTICE

Firmware update

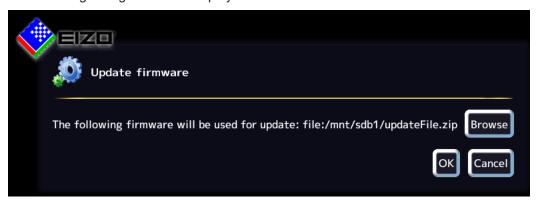
- Ensure that the power supply to the Large Monitor Manager is not interrupted during the firmware update. An interrupted firmware update can result in device failure.
- Perform a firmware update in consultation with your local distributor or on the recommendation of EIZO only.
- Only use firmware updates released by EIZO to ensure proper function of the Large Monitor Manager.

Note

Save the user-defined settings before starting the firmware update. See also Backup/Restore [▶ 54].

To update the firmware proceed as follows:

1. Click the "Update firmware" button in the "Basic settings" (extended) sidebar. The following dialog window is displayed:



- 2. Click "Search".
- 3. Select the update file if you saved it previously to your USB storage medium or to a network server.

Note: The file name always begins with "UpdateFile" and ends with "ZIP".

4. Perform the firmware update.

Note: During the update the LMM restarts once and at the end shuts down.

- 5. Once the LMM fans shut down or LED L1 is off or darker than LED L2, switch off the LMM using the power switch.
- 6. Wait at least 15 seconds, and then switch on the LMM.

6.7.8 Backup/Restore

Backup/Restore allows you to back up user data and restore both user data and factory settings.

To open the Backup/Restore dialog box, click the "Backup/Restore" button in the "Base settings" (extended) sidebar.



You can perform the following functions:

Function	Description
Backup user data	The user-defined settings are backed up.
	Click the "Backup user data" button. A dialog box opens in which you can specify the storage location. Use the FTP server or a USB stick as the storage location.
Restore user data	The previously saved settings are restored.
Restore factory defaults	Note: If you restore the factory defaults for the Large Monitor Manager, all user-defined settings are lost. For this reason, back up the current user data before performing this function.
	Click the "Restore factory defaults" button. A dialog window opens.

6.7.9 Creating a logbook

Note

The information in the logbook is only intended for EIZO support personnel, and can only be evaluated by specialists from EIZO.

To create the logbook for EIZO support :

- 1. Click the "Logbook" button in the "Basic settings" (extended) sidebar.
- 2. Define the storage location and file name in the dialog box displayed and click OK.

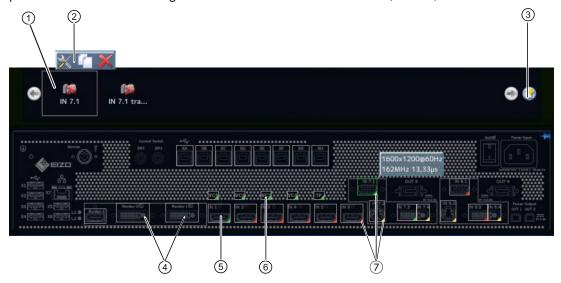
6.7.10 View all inputs

When you click the "View all inputs" button, the video sources are displayed as follows:

- · All inputs are displayed the same size on screen.
- A dialog box is displayed in the center of the screen.
- Every window shows a full-size image (live image) of the connected video source.
- Inputs IN1 IN6 are all displayed simultaneously in 6 windows. The information banner in these windows is blue.
- Inputs IN7.1-IN7.4/IN8.1-IN8.4 are displayed in sequence for approx. 5 seconds. The information banner is blue when the input is displayed; otherwise, it is dark blue.

6.8 "Input configuration" sidebar

The "Input configuration" sidebar is visible only in the Administrator (Service) role. It opens as soon as you move the mouse pointer to the bottom edge of the screen. The physical inputs are selected and configured here. Instances can be created, edited, and deleted.



- ① Miniature thumbnail of an instance
- ② This toolbar is displayed when you move the mouse pointer over the miniature thumbnail ① of the instance. You can change, duplicate, or delete an instance.



Button for editing the instance. If you click the button, the dialog window for configuring the instance is displayed.



Button for duplicating the instance. All settings of the instance are copied.



Button for deleting the selected instance.

If the instance was assigned to a window, the following symbol appears in the window:



- ③ Button for creating a new instance. If an instance has not been defined for a video input, for example, you can create it with this button.
- 4 After double-clicking Monitor 1 or Monitor 2, a dialog window with the LUT settings of the monitor is displayed (only if supported by the monitor).
 The required LUT and corresponding brightness can be set for the monitor.
- ⑤ The inputs are marked by colored triangles in the lower right corner The meanings are as follows:

 - A red triangle d means an inactive input.
 - A yellow triangle indicates an input with unreadable information.

If you click a video input with the left mouse button, the connected instances are displayed (one instance in this case).

If you double-click a video input with the left mouse button, the "Video input configuration" dialog window is displayed

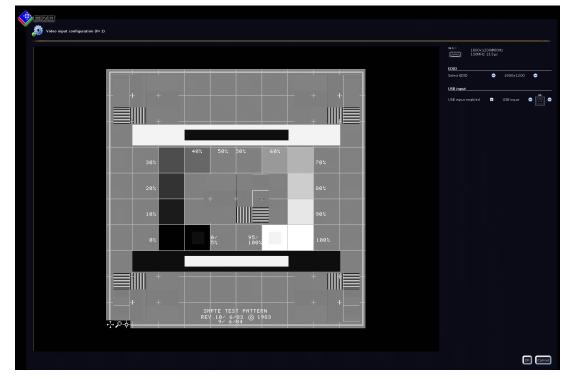
⑤ Virtual channel: When the Large Monitor Manager is connected to a network, you can display test images and text for example from an external device.

- ① If you move the mouse pointer over a video input, one of the following tooltips is displayed depending on the state of the video input:
 - The timing is displayed for an active input ___.
 - The message "Not connected" is displayed for an inactive input 4.
 - The message "No information" is displayed for an input with information that cannot be read

6.8.1 Configuring digital video inputs



If you double-click the digital video input IN1 through IN6 or IN7.3 / IN8.3 that is to be configured, the "Video input configuration" dialog window is displayed.



6.8 "Input configuration" sidebar

Setting	Description
Select EDID	Here you can select the EDID setting for the respective video input with or . The EDID setting specifies the resolution that will be provided by the graphics card of the video source.
	You can select from the following EDID data:
	• 1280 x 1024
	• 1200 x 1600
	• 1600 x 1200
	• 1920 x 1080p (VESA)
	• 1920 x 1080p (EIA)
	• 1920 x 1200
	• 1536 x 2048 (30 Hz)
	• 2048 x1536 (30 Hz)
	• 1920 x 1080 24p
USB input	USB input enabled
	Here you establish whether the video source can be operated by mouse and keyboard (Focused Mode).
	Default setting: "USB input enabled" is set.
	USB input
	You establish the link of the video source with a USB-B connector here. Without this setting, the video source cannot operate with the mouse and keyboard.
	Click e or , to assign the USB-B connector.
	Note: Use the notes made during connection (chapter Connecting the video source computer [▶ 24]).

6.8.2 Configuring analog video inputs

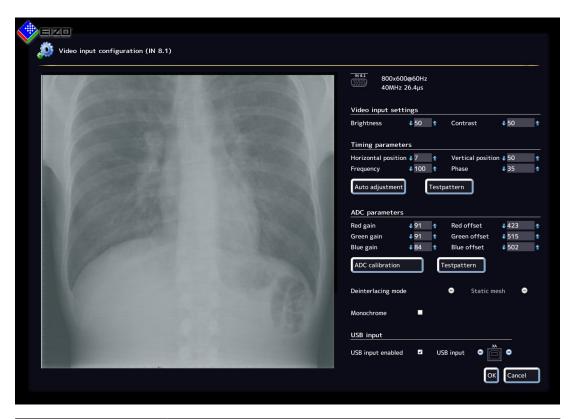


If you double-click the analog video input IN7.1, IN7.2, IN7.4, IN8.1, IN8.2, or IN8.4 that is to be configured, the "Video input configuration" dialog window is displayed.

The dialog window will have a different layout, depending on the input type.

Configuring VGA and DVI-A video inputs

The following "Video input configuration" dialog window is displayed for VGA (IN7.1, IN8.1) and DVI-A (IN7.4, IN8.4) inputs:



Setting	Description
Configuring the input	Brightness
The analog video input pa-	Adapting the representation of darker picture areas.
rameters can be set man- ually step by step. Click	Setting range: 0 100 %
or 1.	Default setting: 50 %
	Note: Failure to set the brightness correctly can lead to a loss of gray scales. Create an SMPTE test pattern and set the brightness such that the picture areas with 5 % and 0 % gray values visibly differ.
	Contrast
	Adapting the representation of brighter picture areas.
	Setting range: 0 100 %
	Default setting: 50 %
	Note: Failure to set the contrast correctly can lead to a loss of gray scales. Create an SMPTE test pattern and set the contrast such that the picture areas with 95 % and 100 % gray values visibly differ.

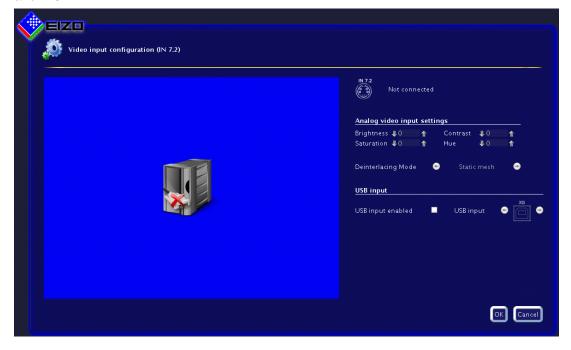
6.8 "Input configuration" sidebar

Timing parameters Horizontal position The horizontal position of the displayed image can be set down to a pixel. Setting range: 0 100 % Default setting: 50 % Vertical position The vertical position of the displayed image can be set down to a pixel. Setting range: 0 100 % Default setting: 50 % Frequency / phase Vertical lines that are still slightly fuzzy can be corrected using the frequency and/or phase setting. The two parameters are automatically set as soon as an analog picture signal is connected to the video input. Setting range: 0 100 % Auto adjustment The parameters for brightness, contrast, horizontal position, vertical position, frequency and phase can be automatically adjusted. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. The click one the sting is applied. ADC parameters Gain / Offset The analog video input ADC parameters can be set manually step by step. Click one the sting is applied. ADC parameters can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click	Setting	Description
pixel. Setting range: 0 100 % Default setting: 50 % Vertical position The vertical position of the displayed image can be set down to a pixel. Setting range: 0 100 % Default setting: 50 % Frequency / phase Vertical lines that are still slightly fuzzy can be corrected using the frequency and/or phase setting. The two parameters are automatically set as soon as an analog picture signal is connected to the video input. Setting range: 0 100 % Auto adjustment The parameters for brightness, contrast, horizontal position, vertical position, frequency and phase can be automatically adjusted. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. The click the "The automatic setting is applied. ADC parameters Gain / Offset The analog video input ADC parameters can be set manually step by step. Click → or ↑. The representation of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click	Timing parameters	Horizontal position
Pefault setting: 50 % Vertical position The vertical position of the displayed image can be set down to a pixel. Setting range: 0 100 % Pefault setting: 50 % Frequency / phase Vertical lines that are still slightly fuzzy can be corrected using the frequency and/or phase setting. The two parameters are automatically set as soon as an analog picture signal is connected to the video input. Setting range: 0 100 % Auto adjustment The parameters for brightness, contrast, horizontal position, vertical position, frequency and phase can be automatically adjusted. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. The click for automatic setting is applied. ADC parameters Gain / Offset The analog video input ADC parameters can be set manually step by step. Click or The representation of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		
Vertical position The vertical position of the displayed image can be set down to a pixel. Setting range: 0 100 % Default setting: 50 % Frequency / phase Vertical lines that are still slightly fuzzy can be corrected using the frequency and/or phase setting. The two parameters are automatically set as soon as an analog picture signal is connected to the video input. Setting range: 0 100 % Auto adjustment The parameters for brightness, contrast, horizontal position, vertical position, frequency and phase can be automatically adjusted. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. The click the adjustment in the video source in the properties of the p		Setting range: 0 100 %
The vertical position of the displayed image can be set down to a pixel. Setting range: 0 100 % Default setting: 50 % Frequency / phase Vertical lines that are still slightly fuzzy can be corrected using the frequency and/or phase setting. The two parameters are automatically set as soon as an analog picture signal is connected to the video input. Setting range: 0 100 % Auto adjustment The parameters for brightness, contrast, horizontal position, vertical position, frequency and phase can be automatically adjusted. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. The click automatic setting is applied. ADC parameters Gain / Offset The analog video input ADC parameters can be set manually step by step. Click of or for the representation of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		Default setting: 50 %
Setting range: 0 100 % Default setting: 50 % Frequency / phase Vertical lines that are still slightly fuzzy can be corrected using the frequency and/or phase setting. The two parameters are automatically set as soon as an analog picture signal is connected to the video input. Setting range: 0 100 % Auto adjustment The parameters for brightness, contrast, horizontal position, vertical position, frequency and phase can be automatically adjusted. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. The click ADC parameters Gain / Offset The analog video input ADC parameters can be set manually step by step. Click of the incompanies of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		Vertical position
Pelault setting: 50 % Frequency / phase Vertical lines that are still slightly fuzzy can be corrected using the frequency and/or phase setting. The two parameters are automatically set as soon as an analog picture signal is connected to the video input. Setting range: 0 100 % Auto adjustment The parameters for brightness, contrast, horizontal position, vertical position, frequency and phase can be automatically adjusted. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. The click Auto adjustment. The automatic setting is applied. ADC parameters Gain / Offset The analog video input ADC parameters can be set manually step by step. Click ♣ or ♠. The representation of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		The vertical position of the displayed image can be set down to a pixel.
Frequency / phase Vertical lines that are still slightly fuzzy can be corrected using the frequency and/or phase setting. The two parameters are automatically set as soon as an analog picture signal is connected to the video input. Setting range: 0 100 % Auto adjustment The parameters for brightness, contrast, horizontal position, vertical position, frequency and phase can be automatically adjusted. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. The click Auto adjustment. The automatic setting is applied. ADC parameters Gain / Offset The analog video input ADC parameters can be set manually step by step. Click I or The representation of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		Setting range: 0 100 %
Vertical lines that are still slightly fuzzy can be corrected using the frequency and/or phase setting. The two parameters are automatically set as soon as an analog picture signal is connected to the video input. Setting range: 0 100 % Auto adjustment The parameters for brightness, contrast, horizontal position, vertical position, frequency and phase can be automatically adjusted. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. The click for automatic setting is applied. ADC parameters Gain / Offset The analog video input ADC parameters can be set manually step by step. Click or for The representation of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		Default setting: 50 %
quency and/or phase setting. The two parameters are automatically set as soon as an analog picture signal is connected to the video input. Setting range: 0 100 % Auto adjustment The parameters for brightness, contrast, horizontal position, vertical position, frequency and phase can be automatically adjusted. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. The click The automatic setting is applied. ADC parameters Gain / Offset The analog video input ADC parameters can be set manually step by step. Click of the "Test pattern" button of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		Frequency / phase
Auto adjustment The parameters for brightness, contrast, horizontal position, vertical position, frequency and phase can be automatically adjusted. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. The click The automatic setting is applied. ADC parameters Gain / Offset The analog video input ADC parameters can be set manually step by step. Click or . The representation of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		quency and/or phase setting. The two parameters are automatically set
The parameters for brightness, contrast, horizontal position, vertical position, frequency and phase can be automatically adjusted. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. The click The automatic setting is applied. ADC parameters Gain / Offset The analog video input ADC parameters can be set manually step by step. Click or . The representation of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		Setting range: 0 100 %
sition, frequency and phase can be automatically adjusted. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. The click The automatic setting is applied. ADC parameters Gain / Offset The analog video input ADC parameters can be set manually step by step. Click or or The representation of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		Auto adjustment
the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. The click The automatic setting is applied. ADC parameters Gain / Offset The analog video input ADC parameters can be set manually step by step. Click or The representation of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		
Open the test pattern in your video source. The click The automatic setting is applied. Gain / Offset The analog video input ADC parameters can be set manually step by step. Click or or The representation of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		the video source. The test pattern can be generated by the LMM0802.
The automatic setting is applied. Gain / Offset The analog video input ADC parameters can be set manually step by step. Click or or The representation of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		Save the generated image on a USB memory stick.
The analog video input ADC parameters can be set manually step by step. Click or T. The representation of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		Open the test pattern in your video source. The click The automatic setting is applied.
Step. Click or . The representation of the bright (gain) and dark (offset) picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click	ADC parameters	Gain / Offset
picture areas can be set directly for the red, blue, and green color channels. Setting range: 0 - 255 Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		
Note: EIZO recommends automatic ADC calibration. ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		picture areas can be set directly for the red, blue, and green color chan-
ADC calibration The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		Setting range: 0 - 255
The ADC parameters can be set automatically. To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		Note: EIZO recommends automatic ADC calibration.
To do so, a test pattern with the correct resolution must be displayed in the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		ADC calibration
the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB memory stick. Open the test pattern in your video source. To do this, click		The ADC parameters can be set automatically.
		the video source. The test pattern can be generated by the LMM0802. Click the "Test pattern" button. Save the generated image on a USB
ADC calibration		Open the test pattern in your video source. To do this, click
Deinterlacing mode This function sets the deinterlacing mode.	Deinterlacing mode	This function sets the deinterlacing mode.
Monochrome When this function is enabled, a signal is displayed monochrome.	Monochrome	When this function is enabled, a signal is displayed monochrome.

Setting	Description
USB input	USB input enabled
	Here you establish whether the video source can be operated by mouse and keyboard (Focused Mode).
	Default setting: "USB input enabled" is set.
	USB input
	You establish the link of the video source with a USB-B connector here.
	Click e or , to assign the USB-B connector.
	Note: In this case use the notes made during connection (chapter Connecting the video source computer [> 24]).
	Without this setting, the video source cannot operate with the mouse and keyboard.

Configuring S-video inputs

The following "video input configuration" dialog window is displayed for S-video inputs IN7.2 and IN8.2.



6.8 "Input configuration" sidebar

Setting	Description
Configuring the analog	Brightness
input	Adapting the representation of darker picture areas.
The analog video input parameters can be set man-	Setting range: 0 100 %
ually step by step. Click	Default setting: 50 %
♣ or ♣.	Note: Failure to set the brightness correctly can lead to a loss of gray scales. Create an SMPTE test pattern and set the brightness such that the picture areas with 5 % and 0 % gray values visibly differ.
	Contrast
	Adapting the representation of brighter picture areas.
	Setting range: 0 100 %
	Default setting: 50 %
	Note: Failure to set the contrast correctly can lead to a loss of gray scales. Create an SMPTE test pattern and set the contrast such that the picture areas with 95 % and 100 % gray values visibly differ.
	Saturation
	The color intensity can be changed here.
	Setting range: 0 100 %
	Default setting: 50 %
	Hue
	The hue can be changed here.
	Setting range: 0 100 %
	Default setting: 50 %
Deinterlacing mode	This function sets the deinterlacing mode.
USB input	USB input enabled
	Here you establish whether the video source is operated by mouse and keyboard (Focused Mode).
	Default setting: "USB input enabled" is set.
	USB input
	You establish the link of the video source with a USB-B connector here.
	Click e or , to assign the USB-B connector.
	Note: In this case use the notes made during connection (chapter Connecting the video source computer [> 24]).
	Without this setting, the video source cannot operate with the mouse and keyboard.

6.8.3 Configuring an extended window

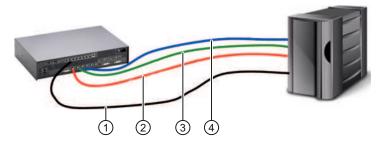
If a video source delivers multiple signals, they can be displayed on the Large Monitor Manager in an expanded window.

Note

When configuring the expanded window, note that the same USB input is always used when configuring the "USB input" field. Physically, there is only one USB cable.

Example

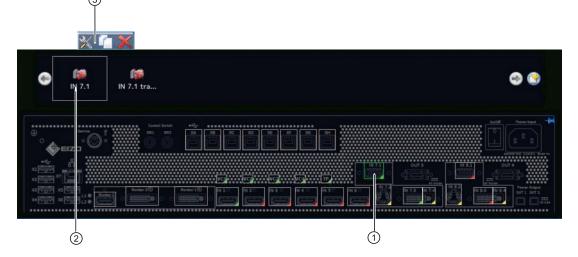
The video signals of the video source are connected to inputs IN1, IN2, and IN3. In the "Video input configuration" dialog window, USB port "XB" has to be entered under "USB input" for each video input.



- ① USB
- 2 Video signal 1
- 3 Video signal 2
- 4 Video signal 3

6.8.4 Creating and configuring instances

Several instances with different representations (e.g. 1:1, cropping area etc.) can be configured for each video input. One instance is already created for each video input by default.



- ① Video input
- ② Miniature thumbnail of an instance
- 3 This toolbar is displayed when you move the mouse pointer over the miniature thumbnail ② of the instance. You can change, duplicate, or delete an instance.

Creating an instance

An new instance can be created or duplicated from an existing instance.

- Left-click the video input ① for which an instance should be created.
 The available instances ② of the input are displayed.
- 2. Left-click to create a new instance.
- 3. To duplicate an existing instance, click

The "Instance configuration of a video input" dialog window is displayed.

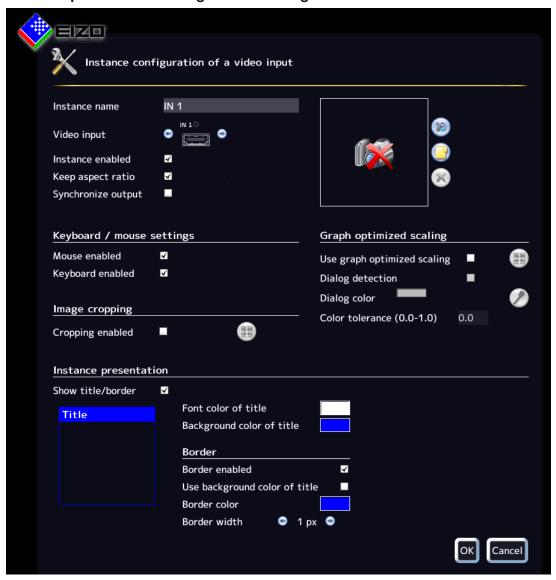
Configuring an instance

- 1. Left-click the video input ① for which an instance should be configured.
- 2. To configure an instance, double-click the miniature thumbnail of the instance ②.

Note: Alternatively, click X.

The "Instance configuration of a video input" dialog window is displayed.

"Video input instance configuration" dialog window



Setting	Description
Instance name	Define the instance name here. It should be short and precise. Do not use special characters.
	Default setting: In xy.
Video input	The correct video input for which the instance is created already appears as default. To assign the same settings to a different video input, click or . The video input is selected.
	Default setting: The selected video input.

6.8 "Input configuration" sidebar

Setting	Description
Instance enabled	The currently selected instance can be disabled here so that it is no longer visible. If the instance was assigned to a window, the following symbol appears in the window:
	Default setting: "Instance enabled" is set (instance is visible).
Keep aspect ratio	This property should always be enabled. The aspect ratio of the connected video source is then retained. If this property is disabled, the aspect ratio of the window in which the instance is displayed is used. This can result in image distortion. Default setting: "Keep aspect ratio" is set.
Create/delete	A miniature thumbnail can be created for each instance. The thumbnail appears
miniature thumb- nail	 Click The "Miniature thumbnail" dialog window opens. Move markers,, to select the suitable cropping area for the thumbnail. Confirm with "OK". The thumbnail is applied. Note: Alternatively, you can load a symbol, for example from a USB stick. Click the button.
	Click the button.
	4. To delete the thumbnail, click the button.
Synchronize out-	Enables input / output synchronization for an instance.
put	Note : If the input/output synchronization is active for multiple instances, the instance with the smallest input channel number is synchronized.
Keyboard/mouse	Activating the mouse / activating the keyboard
settings	Use of the keyboard and mouse is activated by default. As a result, operation of a video source with the mouse / keyboard (Focused Mode) is possible. Additional information is available under Configuring digital video inputs or Configuring analog video inputs.
	If operation with the mouse / keyboard (Focused Mode) is unnecessary for a video source, the function can be deactivated here.
	Default setting: "Enable mouse" is set.
	"Enable keyboard" is set.

Setting	Description
Cropping	Cropping enabled
	If you do not wish to see the entire instance, only a specific part of it, set the cropping area here.
	If you only wish to view a certain part of an instance, you can define the cropping area as follows:
	1. Enable cropping.
	2. Select the instance to change.
	Click The "Define cropping area" dialog window opens.
	4. Move the markers ¬, Г, ≥, to set the suitable cropping area.
	5. Confirm with "OK". The cropping area is applied.
	Multiple instances with various cropping areas can be created.
	Default setting: "Enable cropping" is not set.
Graph optimized	Enable graph optimized scaling
scaling	If vital functions or ECG images are to be displayed in a layout of less than 1:1, the curves (such as the heart rate curve) may appear blurred.
	To prevent this, proceed as follows :
	Activate "Graph optimized scaling".
	Click The dialog window for setting the cropping area opens.
	3. Set the required cropping area with the markers \P, Γ, \gt .
	4. Confirm with "OK".
	Note
	"Graph optimized scaling" may be used in a maximum of two windows in a layout.
	If "Graph optimized scaling" is used in two windows in a layout, the windows must be placed on the right and left half of the monitor and may not extend beyond the center.
	Default setting: "Graph optimized scaling" is not set.

Description Setting Activating dialog recognition / selecting dialog color After graph optimized scaling is enabled for a cropping area, the dialog window and menus may no longer be legible. Channel 6.0 To change this, proceed as follows: 1. Activate dialog recognition. 2. Select the background color of the dialog window. In this way you specify that graph optimized scaling is not used in the dialog window. 3. Click the color bar and select the color. Alternatively, click the **button** and use the pipette in the "Select the dialog color" menu to select the color required. The dialog window and menus are legible once again. **Channel 6.0 (2)** Default setting: "Activate dialog detection" is not set. Color tolerance If various dialog windows / menus present slight color variations (such as white to light gray), you can have both colors detected as dialog window / menu by increasing the color tolerance.

Default setting: 0.0 (no tolerance)

Setting	Description
Instance presentation	Show title/border
	You define whether a title (instance name) and a border are to be displayed for the currently selected instance.
	Default setting: "Show title/border" is set.
	Font color of title/Background color of title
	The font color and the background color of the title can be changed. Click the color box.
	Use scale "A" for the transparency value of the color.
	Default setting for font color of title: white
	Default setting for background color of title: blue
	Border enabled
	You define whether a border is to be displayed for the selected instance.
	Default setting: "Border enabled" is set.
	Use background color of title
	You can define here whether the background color of the title is to be used as the border color.
	Default setting: "Use background color of title" is not set
	Border color
	The border color can be changed by clicking the color box.
	Default setting: white
	Border width
	You change the border width here. Click e or e.
	Setting range: 1 - 10 pixels wide
	Default setting: 1 pixel.
	Direct selection of the border in thumbnail
	You can define the sides on which a border is to be displayed. To do this, click on the individual border sides in the thumbnail.
	Title Default setting: complete border.
	Derault Setting: complete border.

See also

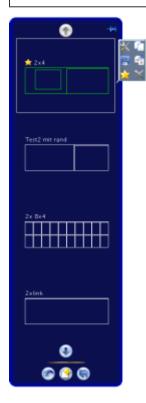
Configuring digital video inputs [▶ 57]

6.9 "Layout" sidebar

To open the "Layout" sidebar you have to move the mouse to the left edge of the screen. You can select a layout with the left mouse button. The current layout is marked in color.

Note

Advanced user rights, such as administrator ("Service"), are required to edit layouts and windows.



Sidebar toolbar

The sidebar toolbar has the following buttons that you select by left clicking.

Button	Description
	Resets the user-defined settings in all layouts to the original values. This is only possible if the settings have not already been saved.
	Saves the user-defined settings in all layouts.
(3)	Creates a new layout.

Layout toolbar

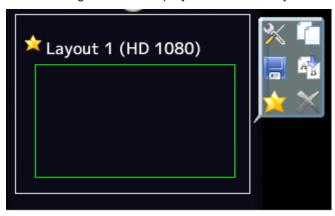
You can create or change layouts. The toolbar of the selected layout has the following buttons:

Button	Description
×	Edits the layout.
	Duplicates the layout.
	Saves changes to the layout.
AB	Renames the layout.
×	Sets the layout as the default layout.
×	Deletes the layout. Note: The layout cannot be deleted if the symbol is displayed in gray. In this case, the layout is defined as the default. To delete it, you have to define another layout as the default.

6.9.1 Edit layouts

Proceed as follows to edit the layout:

- 1. To create a new layout, in the "Layout" sidebar click the button.
- 2. To edit an existing layout, click the layout to be changed in the sidebar. The following toolbar is displayed next to the layout:



3. Click the button to edit the layout directly or click to duplicate the existing layout and then edit it.

6.9.2 Editing the window in the selected layout

A toolbar is displayed in the upper right corner of each window in the selected layout.



The toolbar buttons have the following functions:

Button	Description
Buttons shown in gray	If a button appears in gray, its function cannot be used for the current edit.
×	Deletes the selected window.
	The selected window can be divided into multiple windows. Click the button and select the number of windows required.
	The window moves to the available free space in the layout. Click the button.
M	The sets the window to 1:1 aspect ratio.
\$	With this button you can decide whether and where an information banner appears on the selected window. The information banner shows the name of the instance assigned to this window.
	Select the banner position (click to place the banner here) Position 1 (click to place the banner here) Position 2 The information banner can be shown either above (Position 1) or within (Position 2) the window. It can also be omitted.
	Note: Make sure no image information is covered if the information banner is in the window.
*	Opens the menu for editing the instance in this window.

Button	Description
M C	The size of the window cannot be changed if the pin is set. It can only be deleted or shifted, and the created instance in this window can be edited.

There are other ways to edit windows in addition to buttons.

Creating new windows via drag & drop

Sufficient free space in the layout is required as a prerequisite for this function.

Click and hold the left mouse button on a window and drag the window to an open area. The new window fills the open space completely.

Changing the window size

There are two ways to change the window size:

- Click the window to be changed. The following symbols appear around the window: \(\bigcirc\), \(\bigcirc\). Move the marker as needed. The window size changes. All other windows adapt automatically to the new size. To prevent this, set individual windows with the pin.
- In the lower right-hand corner of each window a field with the current size of the window in pixels as well as the height of the information banner (if this is shown above the window) is visible.



In this example, the window width is 512 pixels, the height is 770 pixels, and the height of the information banner is 30 pixels.

Click the field and enter the values required for the horizontal and vertical position. The information banner height cannot be changed.

Changing the window position.

There are two ways to change the window position:

- Click the window to be changed. The following symbol appears in the enter of the window:
 Click the symbol and drag the window to the required position. The surrounding windows adapt to the new position. To prevent this, set individual windows with the pin.
- A field in each upper left corner displays the position of the window in pixels. If the information window is displayed above the window, its height is taken into account.

2048,30

In this example the horizontal position is 2048 pixels and the vertical position is 30 pixels. The zero position is the top left corner of the displayable screen area.

Click the field and enter the values required for the horizontal and vertical positions.

6.10 "Instances" sidebar

Saving changes

Click the button in the "Layout" sidebar to save all changes in all layouts.

See also

Edit layouts [▶ 71]

6.10 "Instances" sidebar



Displaying the "Instances" sidebar

To open the "Instances " sidebar you have to move the mouse to the top of the screen. The sidebar contains miniature thumbnail or the camera icon for all available instances.

Assigning instances

Proceed as follows to assign instances to a window:

- 1. Select a layout in the "Layout" sidebar.
- 2. Click a miniature thumbnail of an instance in the "Instances" sidebar and drag it to the required window.
- 3. Repeat the procedure to assign additional instances.
- 4. If needed, use drag and Drop to exchange the window contents.
- 5. Save the layout in the "Layout" sidebar by clicking the

 button.

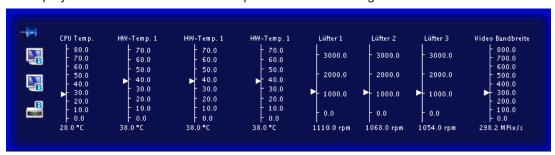
Note

The configuration is retained when switching between layouts. If the settings are not saved, they are lost if you restart or shut down the LMM0802.

6.11 Status window

The status window contains information on the LMM0802 and connected monitor.

To display the window move the mouse pointer in the lower right corner of the screen.



Moving the mouse pointer over the or icon displays monitor information or brief information on the LMM status.

6.12 Screenshot function

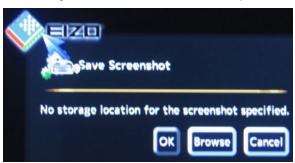
The LMM0802 has a screenshot function. To create a screenshot, the procedure is similar to that done with Microsoft Windows.

Creating a screenshot with the LMM0802

Proceed as follows:

1. Press "Print" on the keyboard.

The dialog box to save the screenshot opens.



6.12 Screenshot function

2. Click "Browse".



- 3. Select a storage location.
- 4. Enter a file name.
- 5. Click "OK".

The dialog box closes and the file is saved.

Creating a screenshot via remote access

Proceed as follows:

- 1. Click the button.
- 2. Select a storage location.
- 3. Enter a file name using the keyboard. Do not use special characters.
- 4. Click "OK".

The dialog box closes and the file is saved.

6.13 Information for developers

A software interface, the common interface, is available for developing your own control software for the Large Monitor Manager. The main components of this interface are:

- · Layout selection and switchover
- · Querying device status
- Saving the device configuration on memory media external to the Large Monitor Manager
- · Reading the log file
- · Saving the current screen content
- · Displaying text fields

Software distribution is available from EIZO. Contact your local distributor with any questions.

7.1 Operating with control monitor CID1000P

7 Operation

After configuring the Large Monitor Manager LMM0802, operation is limited to the following applications:

- · Changing layouts in a workspace.
- · Assigning instances in layouts and workspaces.
- Running an application displayed on one of the monitors

Operating units

The LMM0802 can be operated as follows:

- · Via a remotely linked PC with web browser
- Via a connected control monitor with CID1000P touchscreen.
- With one of the input devices configured in the "Workspace settings" menu, such as the mouse and keyboard.

User interfaces

Two user interfaces are available when the LMM is operated via web browser or the control monitor.

- Operation via standard interface.
- · Operation using view management.

Layout changes can be made for the respective selected workspace when operating via the standard interface. When operating via View Management, instances can also be assigned in addition. This means that the instances can be exchanged within or between the workspaces.

7.1 Operating with control monitor CID1000P

You can make various changes on the LMM0802 depending on the user interface displayed.

- You can change layouts if the start address equals "<IP address of the LMM0802>".
- If the start address equals "<IP address of the LMM0802>/vm", View Management opens and you can also assign instances.

Setting the start address of control monitor CIP1000P

You set the start address on the CID1000P as follows:

- 1. Connect a USB keyboard and mouse to the CID1000P.
- 2. Press <Esc><Ctrl> on the keyboard.
- 3. Select "BrowserPrefs", then "setStartupHomepage".
- 4. Move the cursor fully to the right.
- Change the start address to the IP address for the standard interface ("<IP address of the LMM0802>") or to the IP address for View Management ("<IP address of the LMM0802>/vm").
- 6. Click "OK".
- 7. Restart the device.

Change the layout in a workspace.

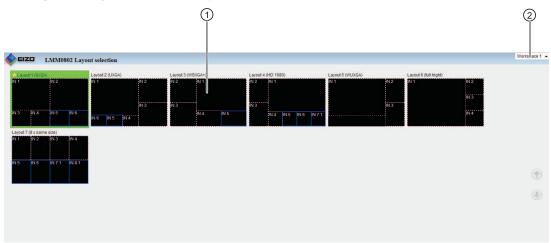


Fig.: Standard interface

- ① Layouts
- ② Workspaces

To switch the layout on the touchscreen of the CID1000P:

- 1. Click the arrow next to the Workspace indicator
- 2. Click the workspace to be processed in the displayed list.
- 3. Click the required layout.

Note: The active layout is highlighted green.

The layout changes immediately.

7.1 Operating with control monitor CID1000P

Assigning instances

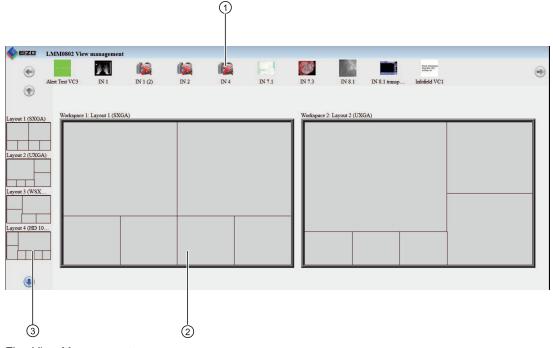


Fig.: View Management

- ① Instances
- ② Workspaces
- 3 Layouts

To assign instances:

1. Click the instance to be assigned.

Note: If you want to exchange instances with or between workspaces, click the instance to be exchanged.

Note: The selected instance is highlighted green. To undo the selection, click the selected instance again.

2. Click the window where the instance should be used.

The instance is assigned immediately.

Note

Change the layout

You can also change layouts in View Management:

- · Click the required layout.
- Click the workspace where the layout is to be used.

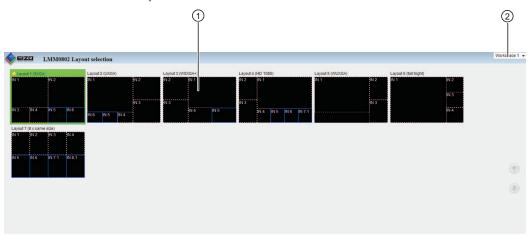
7.2 Operating with the web browser

Depending on the IP address entered, you can perform various operations with the web browser. You can change layouts if the entered IP address equals "<IP address of the LMM0802>". If the entered start address equals "<IP address of the LMM0802>/vm", View Management opens and you can also assign instances.

Change the layout in a workspace.

To switch the layout with the web browser:

1. In the address line of the web browser enter "<IP address of the LMM0802>" . The standard interface opens.



- 2. Click the arrow next to the Workspace indicator ②.
- 3. Select the workspace to be processed in the displayed list.
- 4. Click the required layout, such as ①.

Note: The active layout is highlighted green.

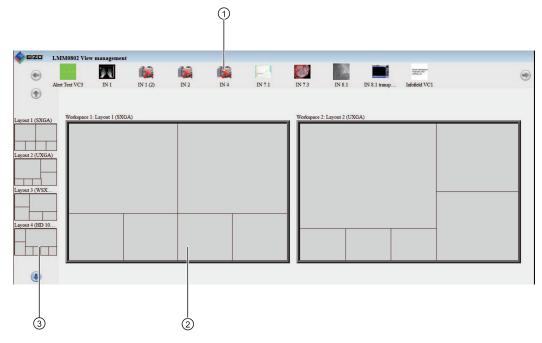
The layout changes immediately.

7.2 Operating with the web browser

Assigning instances

To assign instances using the web browser::

1. In the address line of the web browser enter "<IP address of the LMM0802>/vm". View Management opens.



2. Click the instance to be assigned, such as ①.

Note: If you want to exchange instances with or between workspaces, click the instance to be exchanged.

Note: The selected instance is highlighted green. To undo the selection, click the selected instance again.

3. Click the window, such as ②, where the instance is to be used.

The instance is assigned immediately.

Note

Change the layout

You can also change layouts in View Management:

- Click the required layout, such as 3.
- Click the workspace where the layout is to be used.

Note

Drag & Drop

The described functions can also be executed in the web browser using Drag & Drop.

7.3 Running an application

Running an application means active communication with a PC application, such as patient data entry or running a system. For this, a keyboard and mouse have to be connected to the LMM0802.

To access the application, the PC has to be connected to an input and configured as the video source. The PC operates in "focused mode", which is activated by double-clicking the window. To exit Focused Mode, press the "Button(s) for exiting" defined in the settings. The default is <Alt><Space>.

Note

Refer to the associated documentation for information on running the computer application.

8 Cleaning and maintenance

8.1 Cleaning

!CAUTION

Device maintenance, cleaning and disinfecting

- The device is sensitive to mechanical influences. Avoid mechanical shocks.
- 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.
- Clean the dirty housing with a damp cloth and, if necessary, with a commercially available cleaning agent.
- Remove all cleaning agent and disinfectant residue.
- Use only tested disinfectants.

Recommended cleaning agents and disinfectants

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

Prohibited cleaning agents and disinfectants

The following cleaning agents and disinfectants could lighten the finish and are therefore prohibited.

Agent class	Tested cleaning agents and disinfectants	Further examples
Alcohol	Ethyl alcohol, 96%	Hospiset cloth
Peroxide compounds	Perform	Dismozon pur
Petroleum spirit	Petroleum spirit close to boiling	Petroleum ether

8.2 Maintenance



Cleaning the fans

The device is equipped with fans. Depending on the environment, these may become dirty. The fans may only be cleaned by EIZO.

Ensure that the vents are unobstructed.

Ensure that the vents for air intake and exhaust are not covered.

9 Troubleshooting

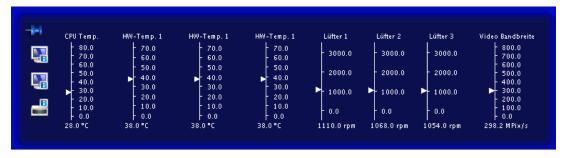
9.1 Error messages

LEDs - LED status

LED	Status	Measure
L1 (FPGA)	Green when loaded successfully.	
	Orange if FPGA is not loaded.	Primary measure: Restart Secondary action: If the L1 LED remains orange, there could be a hardware fault. Return for repair necessary.
	When there is an initialization error.	Primary measure: Restart Secondary action: If the L1 LED remains red, there could be a hardware fault. Return for repair necessary.
L2 (µ-PC)	Orange during boot.	
	Green when software is started.	
	Red when communication to FPGA cannot be established.	Primary measure: Restart Secondary action: If the L2 LED remains red, there could be a hardware fault. Return for repair necessary

Status window

Specific hardware faults are marked in the status window by a flashing red border. The status window is displayed if you move the mouse pointer in the lower right corner of the screen.



The following table presents the actions for remedy.

Indicator	Function	Measure
CPU Temp.	Monitors the CPU temperature	If the temperature is too high, it is recommended to turn off the device and if possible to check and reduce the ambient temperature.
HW-Temp1/2/3	Monitors the temperature of the other hardware,	If the temperature is too high, it is recommended to turn off the device and if possible to check and reduce the ambient temperature.
Fans 1/2	Monitors the fan functions	If the fans do not work (0.0 rpm): Return for repair necessary
Video bandwidth	Monitors the overall video bandwidth (informational display)	No action necessary, it is performed automatically by the Large Monitor Manager LMM0802. See also chapter Input signals [> 25].

9.2 Troubleshooting

Problem	Possible cause	Measure
After changing the layout, the LMM0802 cannot be operated with a connected mouse and keyboard.	You are still in "Focused Mode"	To exit the mode, press the keys to exit the active window (ALT + Space key is the default setting).
The connected PC cannot be operated using the keyboard and mouse connected to the LMM0802.	The connected computer does not correctly detect the USB interface of the LMM0802.	It is not a LMM0802 malfunction. Certain PC BIOS versions do not detect the keyboard of the LMM0802. Check whether there is a newer BIOS available for the PC.
The picture of an analog input is blurred or the colors are not shown correctly.	The analog input is not balanced.	Perform automatic detection of the input signal. Proceed as described in "Configuring analog video inputs".
After changing the output timing in the "Settings" menu, the sidebars are no longer visible or the monitor does not display an image.	The monitor does not support the output timing on the LMM0802.	The output timing has to be set to "Auto. In this case the LMM0802has to be operated using remote access. See also Setting up remote access [▶ 33].
The LMM0802 shut down after the firmware update.	After the firmware update, the LMM0802 was not switched off and switched on again using the power switch.	Use the power switch to switch the device off and switch it back on.

10 Technical specifications

10.1 Inputs/Outputs

Video inputs

Number of video inputs	12
Max. number of simultaneously displayed input channels	Up to 16 images from up to 8 video sources can be displayed with different characteristics (scales, cropping areas).
Max. delay between input and output	< 16.67 ms
Number of digital inputs [HDMI] [165 MHz]	6
Number of digital inputs [DVI-I] [165 MHz]	2
Number of analog inputs [DVI-I] [170 MHz]	2
Number of analog inputs [VGA] [170 MHz]	2
Number of analog inputs [S-Video] [170 MHz]	2
Max. number of horizontal pixels per channel	2048 for IN1- IN6 1920 for IN7.x and IN8.x
Min. pixel clock at input	25 MHz (VGA at 60 Hz)
Support of programmable EDID	Yes
Bandwidth	440 Mpixel/s

Video outputs

Number of digital outputs [DVI-I Dual Link] [330 MHz]	2
Output resolution for monitor 1 and monitor 2	up to max. 4096x2160 or 3840x2160 (QFHD)
Number of digital outputs [DVI-I Single Link] [165 MHz]	1
Output resolution	1920x1080 (FHD)

Interfaces

Ethernet interfaces	1 with 1 GBit/s
PS/2 service interface (for service purposes only)	1
USB Type A (downstream)	6
USB Type B (upstream)	8

Voltage outputs

Number of voltage outputs, 5 V, 500 mA	2
Number of voltage outputs, 5 V, 7 x 500 mA (MDR plug)	2, may only be used with breakout cable, 1 MDR on 7 jacks (see Spare parts / accessories)

10.2 Power supply

Rated voltage	100 V - 240 V, 50 Hz - 60 Hz
Current consumption	1.5 A - 0.7 A

Note

The LMM0802 has power supply outputs. The actual current consumption depends on the number of additional loads.

The following list contains the individual consumption values.

- Typical power consumption: 50 W
- · Maximum additional power consumption due to connected modules: 40 W
- Maximum power consumption: 120 W

10.3 Mechanical design

Housing	19" 2HE
Degree of protection	IP20
Dimensions (W x H x D) in mm	444 x 88 x 286
Weight	5.5 kg

10.4 Climatic conditions

Operation	
Temperature range	5 °C 45 °C ambient temperature
Temperature gradient	Maximum 5 °C/h, without condensation

Transport and storage (packed)		
Temperature range	-20 °C +70 °C ambient temperature	
Temperature gradient	Maximum 10 °C/h, without condensation	

10.5 Mechanical requirements

Operation	
Vibrations	According to EN 60068-2-6: 10 58 Hz at ± 0.075 mm deflection 58 500 Hz at 10 m/s ²
Shock	According to EN 60068-2-27: 150 m/s², 11 ms

Packed unit	
Vibrations	According to EN 60068-2-6: 9 500 Hz at 10 m/s² According to EN 60068-2-64 (broadband noise): 10 200 Hz at 1 m/s² and 200 500 Hz at 0.3 m/s²
Shock	According to EN 60068-2-27: 300 m/s², 6 ms (in storage packaging)
Falls/drop	According to EN 24180-2 0.8 m height

10.6 Safety specifications

((

This product has been assigned a CE marking in compliance with the stipulations of EU directives 2004/108/EC, 2006/95/EC, and 2011/65/EU.

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. 60601-1-08
Protection class	Protection class I
Degree of protection	IP20 in accordance with DIN 40050

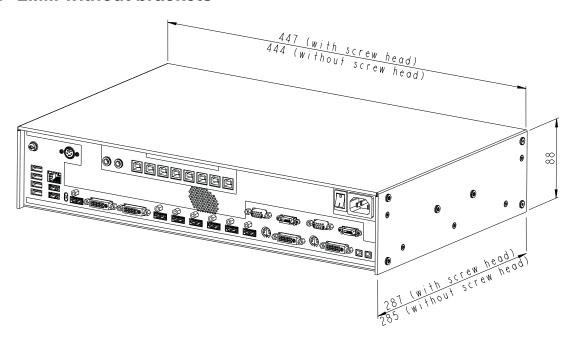
10.7 Electromagnetic compatibility

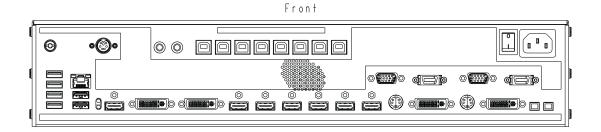
Declaration of conformity	EMC Directive 2004/108/EC
Interference voltage/emitted interference	EN 60601-1-2, EN 55011, EN55022, Subpart B of Part 15 of FCC Rules Class B
Voltage fluctuations	EN 61000-3-3
Voltage dips	EN61000-4-11
Burst on power cables	EN 61000-4-4 2 kV
Burst on signal lines	EN 61000-4-4 1 kV
Surge on power cables	EN 61000-4-5 1 kV symmetrical, 2 kV unsymmetrical
Electrostatic discharge on casing parts (ESD)	EN 61000-4-2 8 kV air, 6 kV contact
RF irradiation	EN 61000-4-3 80 MHz 2.5 GHz, 3 V/m 80 % AM 1 kHz
Constant magnetic fields Alternating magnetic fields	EN 61000-4-8 4000 Aeff/m (maximum) 1000 Aeff/m (maximum)
Line reaction to harmonics	EN 61000-3-2
Line reaction to voltage fluctuations	EN 61000-3-3

11 Dimension drawings

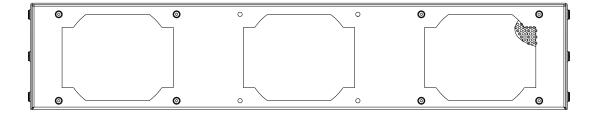
All dimensions in mm

11.1 LMM without brackets

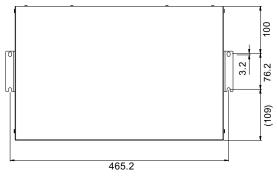




Back



11.2 LMM with center brackets



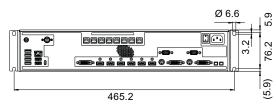




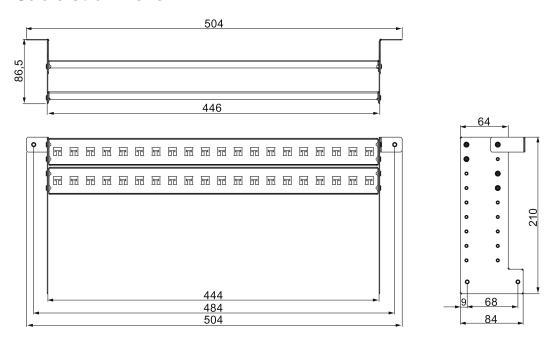
11.3 LMM with front brackets



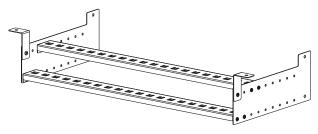




11.4 Cable strain relief



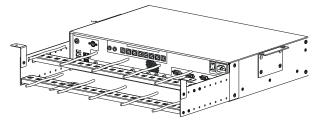
View when not installed



View when installed on the Large Monitor Manager

Use the screws provided to attach on the LMM0802.

For undertable installation, the cable holder also has to be secured on both front brackets.







Cable ties, 3 mm in width, can be used to attach the cables.

The position of the retaining plates should be adapted to the local situation.

12 Spare parts / accessories

12.1 Accessories

Monitor

For the LMM0802, we recommend using the monitors presented in chapter Monitor options [> 22].

These monitors support the resolutions required and have been tested and released with the LMM0802.

Control Interface Device CID1000P

A control monitor with touchscreen. Enables the layout on the LMM0802 to be switched.

Analog-DVI Converter PDC0100

The PDC0100 converts analog video signals to digital signals. With the Force Mode function, even non-standard analog signals can be displayed.

DVI Transmission Link TDL3600

Using the digital transmission link, high-quality video data can be transmitted up to 36 meters with no loss of data. Transmission over Ethernet cables permits robust handling and easy installation. The cable can also be easily routed through small openings.

Cable strain relief

To arrange the connection cables and protect against their unintended disconnection, we recommend the use of cable strain relief (order no.: 6GF-6030-1AB00-0AA0).

Keyboard and mouse / joystick

A commercially available USB keyboard and USB mouse can be used for direct operation of the Large Monitor Manager.

EIZO has tested the following devices for joystick operation:

- Logitech Cordless Freedom 2.4 PC Joystick
- Logitech Extreme™ 3D Pro

Breakout cable, 1 MDR on 7 jacks

Power supply adapter for up to seven external devices, such as optical transmission links.

13 Appendix

13.1 Guidelines and manufacturer's declaration – electromagnetic emissions

The Large Monitor Manager LMM0802 is intended for use in the environment specified below. The customer or the user of the device should ensure that it is used in such an environment.

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

13.2 Markings and symbols

The markings and symbols on the device have the following meanings:

Marking/symbol	Meaning (location on device)
\triangle	Symbol for "Caution, observe accompanying documents". (name plate).
C€	CE marking (EU conformity mark). (name plate).
FC	U.S. FCC marking for communication devices. (name plate)
C US 201133	CSA marking, in accordance with U.S. and Canadian national regulations. (name plate).
11/2011	Symbol for date of production for medical products. (name plate).
	WEEE marking: Product must be disposed of separately; materials may be recycled. (name plate).
(a)	Marking according to ACPEIP (China RoHS). (name plate)
VEI	Mark of the Japanese "Voluntary Control Council for Information Technology Equipment" (name plate)
ACN 075 770 277	C-Tick marking for conformity with Australian EMC standards. (name plate)
\sim	Symbol for alternating current at line voltage input. (name plate).
	Symbol for protective ground (protective conductor connection
	"On" symbol (voltage) (power switch)
	"Off" symbol (voltage) (power switch)

Marking/symbol	Meaning (location on device)
7	Input for service calls. (PS2 socket)
	Symbol for USB. (Upstream and downstream USB inputs)
	DVI output signal. (monitor output)
	Symbol for direct current. (5-V connections for the power supply to external devices).
<u> 25</u>	Symbol for network connection. (network connection)
	Symbol "Comply with the instruction manual". (device)

13.3 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 instruction manual.

13.4 Repairs

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

13.5 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.

13.6 China RoHS (Restriction of Hazardous Substances)

13.6 China RoHS (Restriction of Hazardous Substances)

LMM0802 Model: 6GF6030-1AB## (##=00...99)

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



该标志表明本产品不含有超过中国标准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。该标志还表示本产品废弃后可以回收利用,不应随意丢弃。

This symbol indicates the product does not contain any toxic or 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 symbol also signifies that the product can be recycled after being discarded, and should not be casually discarded.

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)
电源 Power Supply	0	0	0	0	0	0
其他 电路板 Other Circuit Boards	0	0	0	0	0	0
其他(电缆等) Others (cables, etc.)	0	0	0	0	0	0
机架、底盘 Housing, Chassis	0	0	0	0	0	0
附件(信号电缆、输电线等) Accessories (signal cable, power line, etc.)	0	0	0	0	0	0

- 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.

13.7 Accessory devices

Connected devices such as PCs must meet the relevant safety standards.

13.8 Trademarks

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.

RadiCS is a registered trademark EIZO Corporationin Japan and other countries.

RadiNET is a registered trademark of EIZO Corporationin 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 Video Electronics Standards Association in the United States and other countries.

All other trademarks are the properties of their respective owners.

13.9 Contact

Support during installation and for technical questions

Medical Solutions http://www.eizoglobal.com

Index

A		I	
Active window	40	Icon	29
Administrator	37, 50	Input configuration	56
Advanced	37	Input signals	25
		Installation location	17
В		Instance	64, 74
Backup/Restore	54		
Base settings (abbreviated)	35	L	
Battery	12	Language setting	36, 40
Battory	12	Layout	70
		Edit	71
C		LED status	86
CE marking	90	Log in	37
Change of environment	17	Logbook	55
Cleaning	84	_09000.	
Common Interface	77		
Configuration		M	
Analog video input	58	Maintenance	85
Video input	56	Manufacturer's declaration	97
Video input (digital)	57		
Connection panel	22		
Contact	102	N	
		Network connection	48
D			
Definition of terms	27	0	
Device information	36	Operation	
Dialog window		Local	27
Settings	40	Remote	27
Disposal	99	Order No.	
Battery	12	LMM0801	13
E		Р	
	00	Password	27 50
Error message	86		37, 50 25
		Power supply connection	25
F		Power supply connection Product-specific safety notes	12
Factory setting	54	,	
Fan cleaning	85		
Firmware Update	53		
G			
General safety notes	8		
Guidance	97		

R		W	
Rack	18	Warranty	99
Reboot	38	Watchdog	40
Remote		Window	
Configuration	27	process	73
Operation	27	Workspace	44
Remote access	33	Dual User	46
Rights	50	Single User	44, 45
Roles	50		
S			
Scope of delivery	13		
Screenshot	75		
Service	37		
Set up			
Large Monitor Manager	32		
Set-up location	17		
Shielding measures	20		
Shutdown	38		
Sidebar			
Base settings (abbreviated)	35		
Input configuration	56		
Instances	74		
Layout	70		
Overview	34		
Status window	75, 86		
Synchronization	30, 66		
System information	35		
System time	52		
Т			
Troubleshooting	87		
U			
User data	54		
User rights	50		
V			
Ventilation	17		
Video bandwidth	26		
Video input			
Analog	58		
Digital	57		
DVI-A	58		
Expanded window	63		
Instance	64		
S-Video	61		
VGA	58		



Siemensallee 84 76187 Karlsruhe Germany

