

LC-5621

56" - quad full HD LCD display

User manual

K5960013-00

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1 About the manual

1.1 Contents of the user manual

This manual consists of the following chapters:

Chapter 1: About the manual

Chapter 2: Important notice

Chapter 3: Safety precautions

Chapter 4: Package and storage

Chapter 5: About the product

Chapter 6: Installation

This chapter describes how the monitor should be installed and connected into the system. It incorporates the pin layout of all the connectors.

Chapter 7: Operation

This chapter describes the function and the general operation of all function keys and indicators. How to power up the unit, how to adjust brightness and other adjustments.

Chapter 8: Troubleshooting

This chapter lists some troubleshooting tips for common problems.

Chapter 9: Technical specifications

This chapter tabulates the technical specifications and the dimensions of the display module.

Chapter 10: List of abbreviations

1.2 Change record

Revision	Date	Description
00	Mar-08	Initial Release

1.3 Notation convention

Following notations are applicable to this manual and should be respected through the manual.



WARNING:

Warnings – presented in this manual, provide information, which if not adhered to, may result in personal injury or death.



CAUTION:

Cautions – presented in this manual, provide information, which if not adhered to, may result in damage to the equipment.



NOTE:

Notes – presented in this manual, provide information, which emphasize points, significant to understand and operate the unit.



IMPORTANT:

Important – presented in this manual, provide information, which is important to highlight.

2 Important notice

2.1 Commercial In Confidence

The information contained herein is Barco confidential information. No part of the information contained herein may be disclosed outside of the organization of the recipient, its sub-contractors, and customers in any form or by any means and/or stored in a database or retrieval system without the prior written consent of Barco.

2.2 Notice

The technical specifications mentioned in this manual shall under no circumstances be used as proof or item of evidence.

Only the technical specifications defined in the Barco technical specifications document (which is not part of this manual) can be used as a base for contract negotiations.

Note that the DVI-D connectors are not always used according to the standard DVI-D regulations, carefully follow the instructions of this user manual in order to make the proper connections.

2.3 Federal Communication Commission (FCC) notice

This equipment has been tested and found to comply with the limits of an FCC class (refer to the technical specifications of the specific unit for more details about the corresponding class). These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

2.4 Disposal information



WARNING:

The fluorescent tubes inside the backlight of the LCD contain a small amount of mercury that is considered hazardous to a person's health. Please follow local regulation or laws for disposal. The LCD panel is composed of multiple layers of glass and protective glass with a small amount of liquid in between. Rough handling or dropping can cause the LCD panel to break. If any part of the skin or body comes in direct contact with the liquid, immediately wash the affected areas with plenty of water for at least 15 minutes. If any symptoms are present after washing, get medical care.

2.5 Copyright

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This manual could include inaccuracies or typographical errors. Manual change supplements are revised as often as necessary to keep manuals as current and accurate as possible.

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3 Safety precautions


3.1 Safety warning

**WARNING:**

Electric shock or fire hazard can be caused if critical components are replaced by non-conforming components. These components are marked in this guide by a  sign. **Replace with conform types only!**

3.2 Product safety notice

**WARNING:**

Many electrical and mechanical parts in display units have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this data and its supplements and bulletins. Electrical components having such features are identified by  or * on the schematics and on the parts lists in this data and its supplements and bulletins. The use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part shown in the parts lists in this data and its supplements and bulletins, may create shock or fire.

4 Package & storage

4.1 General

A safe transport of the units can only be guaranteed if the original undamaged package is used for shipping. Handle with care when transporting.

Keep your original packaging. It is designed for this unit and is the ideal protection during transportation.

4.2 Procedure in case of damaging

All shipments should be opened and inspected for concealed damage or pilferage as soon as possible after the arrival at destination. The shipping cartons should be retained for the surveyor's inspection and full and accurate reserves must be made by a letter or a fax message.

Depending upon the used means of transport, the written protest is subject to different time-rules:

- by sea: the protest has to be issued against the captain and/or ship within 3 days of the delivery of the goods.
- by road: the protest has to be issued against the last road-carrier within 7 days after delivery of the goods.
- by air: the protest has to be issued against the air-carrier within 14 days after delivery of the goods.

In all cases, a claim or potential claim should be reported as soon as possible whether or not full documentation is immediately available.

After completion of all required steps, the claim should normally be finalized within one month. For more information about the claims handling procedure, contact Barco NV.

4.3 Storage

Specific storage conditions can be found in the technical specifications. It is best to store the unit in its original packaging, on a shelf in a ventilated and humidity controlled room.



NOTE:

At least every 2 years, all boards containing electrolytic capacitors need to be powered during 24 hours minimum.

5 About the product

5.1 Product description

5.1.1 LC-5621

Barco's LC-5621 display has been specifically designed for us in dedicated professional applications. The display features quad full **High Definition** (3840x2160) and delivers crisp, clear and color-accurate perfect images on a large display size with **56" diagonal**.

With the 56" Quad-HD display, operators benefit from a large display surface without having to compromise on image quality or accuracy.

The LCD technology used in the Barco LC series offers many benefits not found in other flat panel technologies:

- High brightness
- High contrast, even in high ambient light environments
- Lower power consumption
- Long lifetime

5.1.2 Main features

Ultra-high resolution

Barco's LC-5621 is able to show large amounts of data in ultimate detail.

Faster response time

Thanks to its extremely fast response time (6.5 ms gray to gray), the LC-5621 reproduces fast-moving action scenes with vivid accuracy.

Wide viewing angle

The wide viewing angle (176°) and large surface are very beneficial in collaborative environments where detailed information is viewed by multiple participants.

Adjustable color temperature

The color temperature can be set to 5600K, 6500K, 7500K, 8500K, or 9300K to adjust the color balance to different user requirements. User adjustment of the color balance is also possible with R, G and B sliders.

VESA mounting structure for easy installation

Integrated mounting interfaces according to the VESA standards allow easy wall or ceiling installation with VESA-approved standard (VESA MIS F, 800, 400, 8). Table stands and mounting devices are optional.

Control & diagnostics

With extensive control and diagnostic functions through RS232, the LC-5621 can be easily controlled, both on or off site or in real-time with a simple touch of a button.

5.2 Recommended use

5.2.1 General precautions for all units

For optimum performance, please note the following when setting up and using the unit(s).

- Allow adequate ventilation in case the configuration is built in a rack or a console, so that the heat can properly dissipate.
- Make sure all units are disconnected from mains before connecting the signals.
- The power cable or connector (in case of a split design = *connection cable) is the primary means of detaching the system from the power supply. One of the cable ends should be easily accessible.
- Clean the screen surface of the display with a sponge or soft cleaning cloth. Do NOT use abrasive cleaning agents, glass cleaner or tissue paper. Use non-aggressive glass cleaning products instead. Do NOT use alcohol/solvents at higher concentration > 5%.
- Avoid displaying fixed patterns on the display for long periods of time to avoid image persistence (after-image effects).



NOTE:

Always power-down the unit before disconnecting the power cable.



IMPORTANT:

Immediately unplug if:

- Power supply cord or plug is damaged.
- If the units have been dropped or the cabinets are damaged.
- If the units don't operate normally by following operating instructions.

**Connection cable= cable between the panel or display module and control module*

5.2.2 Image retention

The specified usage of the monitor with fixed patterns per 24 hours is maximum 2 shifts of 8 hours, with minimum 1 hour of relaxation between the shifts. The 24 months product warranty does not apply to the case of image retention phenomena (after-image, shadows, dark lines and other image artifacts), that may result from a usage outside of this specification.

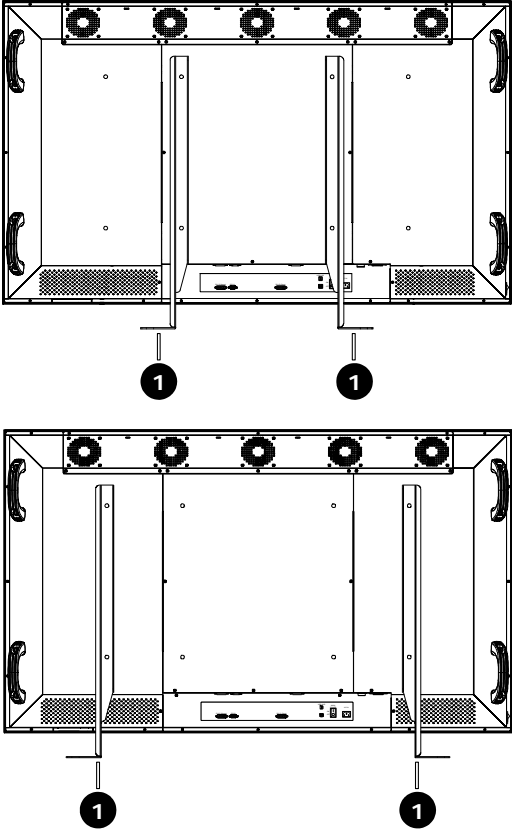
6 Installation

6.1 Mounting procedure

6.1.1 LC-5621 mounted on stands

The unit is standard mounted on two stands on the rear of the unit. The stands use the VESA mounting holes foreseen in the unit.

The stands can be mounted on two ways as shown in the drawing below.



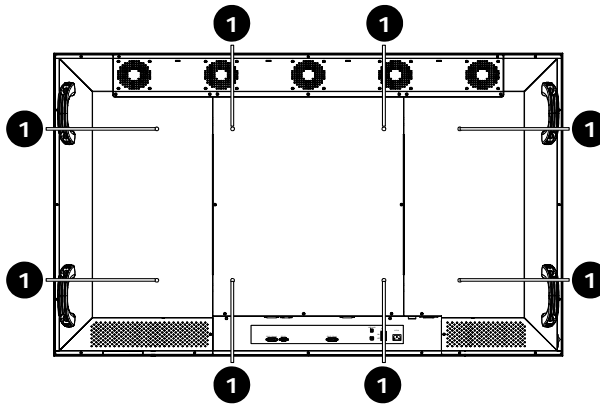
1 | Stand (2x)

Figure 1: Location of the stands of the LC-5621

6.1.2 LC-5621 with VESA compliant mounting solution

The LC-5621 can be mounted on an arm compliant to the VESA MIS F, 800, 400, 8 standards.

The LC-5621 can also be mounted on a wall or ceiling according to the VESA MIS F, 800, 400, 8 standards.

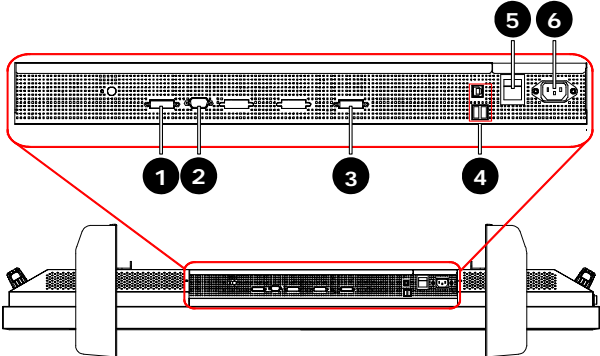


1 | VESA mounting holes (8x)

Figure 2: Location of the VESA mounting holes

6.2 Connecting the signals

6.2.1 Connector location



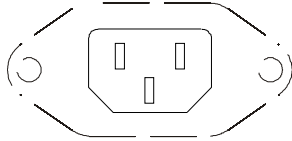
- 1 DVI-D connector (Master)
- 2 RS-232 connector
- 3 DVI-D connector (Slave)
- 4 USB Hub
- 5 Power switch
- 6 Power connector (AC IN)

Figure 3: Connector location LC-5621

6.2.2 Detailed connector information

6.2.2.1 Power connector

IEC connector layout



POWER 100 - 240 VAC

Figure 4: Power connector

Power ranging

Automatic selection between the following voltage ranges:

- 90Vac – 140Vac (100V and 115V nominal)
- 180Vac – 264Vac (230V nominal)
- Frequency: 45 – 65Hz

Mains Fuse inside the unit (T 6.3 A H), for fuse replacement procedures, refer to the maintenance manual of the unit.



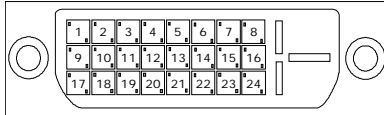
NOTE:

When connecting mains, check if the power source corresponds with the mains voltage marked on the identification label on the display!

6.2.2.2 DVI connector

DVI-D connector layout

DVI-D receptable connector (24 pins), right angle with pegs

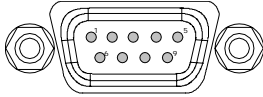


DVI input pinning

Pin	signal
1	TMDS Data 2-
2	TMDS Data 2+
3	TMDS Data 2/4 Shield
4	TMDS Data 4-
5	TMDS Data 4+
6	DDC Clock
7	DDC Data
8	NC
9	TMDS Data 1-
10	TMDS Data 1+
11	TMDS Data 1/3 Shield
12	TMDS Data 3-
13	TMDS Data 3+
14	+5V Power
15	Ground for +5V
16	Hot Plug Detect
17	TMDS Data 0-
18	TMDS Data 0+
19	TMDS Data 0/5 Shield
20	TMDS Data 5-
21	TMDS Data 5+
22	TMDS Clock Shield
23	TMDS Clock+
24	TMDS Clock-

6.2.2.3 Control connector

9 pins subD male connector layout



Control pinning

Pin	signal
1	Nc
2	Signal receive
3	Signal transmit
4	Nc
5	GND
6	Nc
7	Nc
8	Nc
9	Nc

6.3 First installation

6.3.1 Case 1: Customer buys NVIDIA Quadro FX 4600

6.3.1.1 System requirements

Minimum system requirements for using a NVIDIA Quadro FX 4600:

- PC compatible with Intel Pentium® or AMD Opteron® class processor or higher
- Open PCI Express x16 lane slot with open adjacent slot
- Microsoft Windows XP
- 1 GB system memory
- 100 MB of available disk space for full installation
- CD-ROM or DVD-ROM drive
- VGA or DVI-I compatible display
- 750 W power supply (higher capacity may be required for NVIDIA SLI)

6.3.1.2 NVIDIA Quadro FX 4600



- | | |
|---|-----------------|
| 1 | Master DVI slot |
| 2 | Slave DVI slot |

Figure 5: NVIDIA Quadro FX 4600

6.3.1.3 Downloading the correct drivers


NOTE:

Before you install the LC-5621, use an additional LCD monitor to install the drivers to the workstation.

First the correct driver should be installed on your system.

Go to <http://www.nvidia.com>

Go to download drivers and select the following items

Option 1: Manually find drivers for my NVIDIA products. RECOMMENDED [Help](#)

Product Type:

Product Series:

Product:

Download Type:

Operating System:

Language:

Option 2: Automatically find drivers for my NVIDIA products. PRERELEASE [Learn More](#)

Now the following screen should appear:

NVIDIA Driver Downloads

Quadro 169 WHQL

Version: 169.61

Release Date: February 5, 2008

Operating System: Windows XP/2000

Language: U.S. English

File Size: 40.0 MB

I have read and agree to the terms and conditions of the [NVIDIA Software License Agreement](#).

Please make sure to read the [Driver Installation Hints Document](#) before you install this driver.

Release Highlights

Products Supported

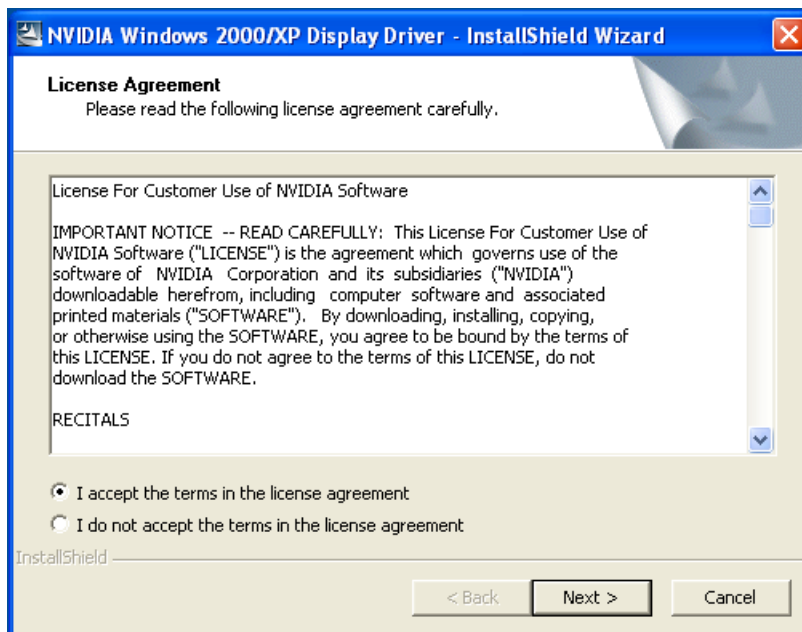
Documentation

- WHQL Certified driver.
- Improved performance on workstation applications.
- Improved compatibility and performance for NVIDIA SLITM technology on Microsoft DirectX 9.0c and OpenGL 2.1 applications.
- Added support for 3-way SLI technology.
- Added driver support for new NVIDIA Quadro product – Quadro FX3700.
- Numerous workstation application compatibility fixes. Please read the release notes for more information on product support, feature limitations, driver fixes and known compatibility issues.
- If you would like to be notified of upcoming drivers for Windows, please subscribe to the [newsletter](#).

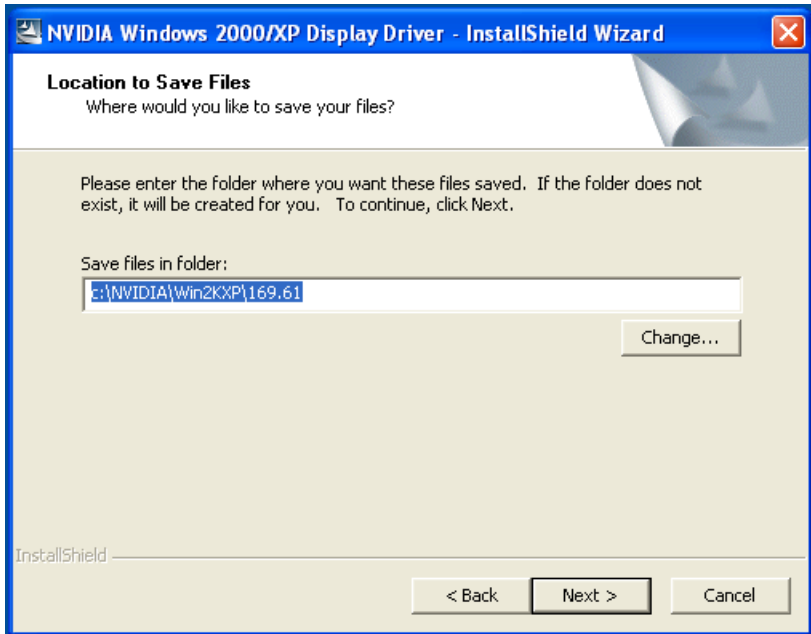
Check the checkbox and push the "Download Now" button.
Now the driver should be downloaded on your system.

6.3.1.4 Installing the drivers

Install the driver of the NVIDIA Quadro FX 4600 by double clicking the icon on your desktop. Following image appears on the screen:

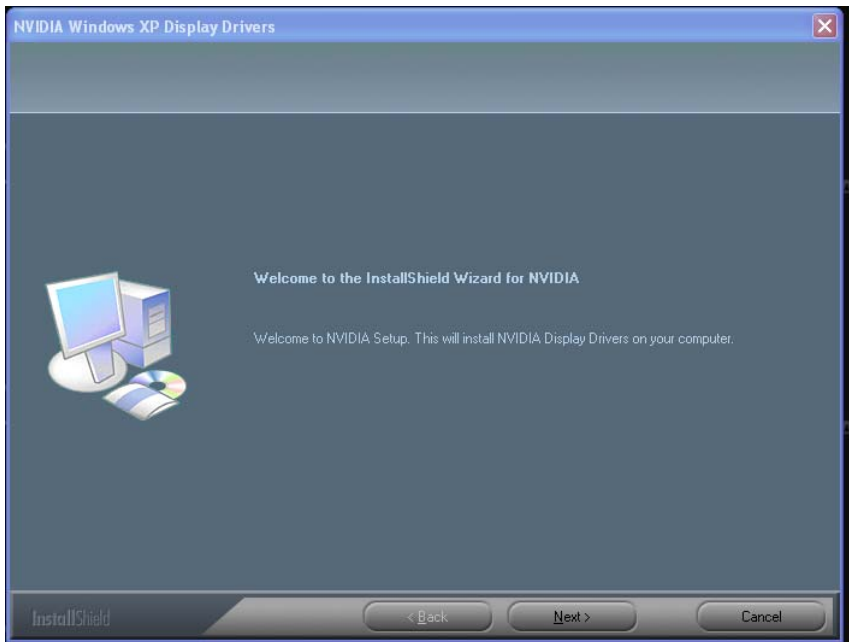


Accept the license agreement and click "Next".

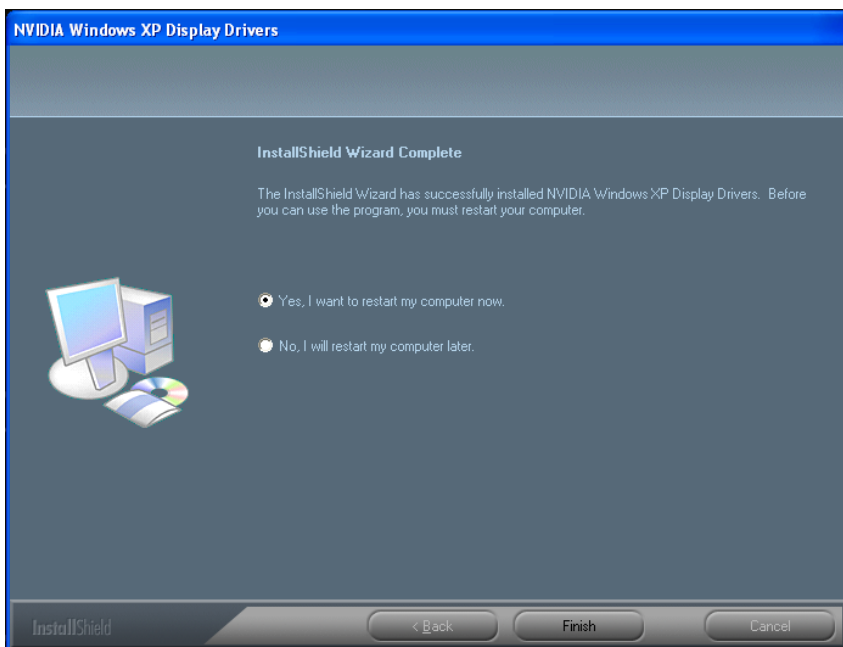


Click "Next".

Following screen appears on the screen, click "Next" to install the drivers to your computer.



Select "Yes, I want to restart my computer now". Click "Finish".



It is possible that the computer doesn't restart automatically. If needed, restart the computer manually.

6.3.1.5 Connecting the LC-5621 to the workstation



NOTE:

Switch the additional LCD screen with the LC-5621.

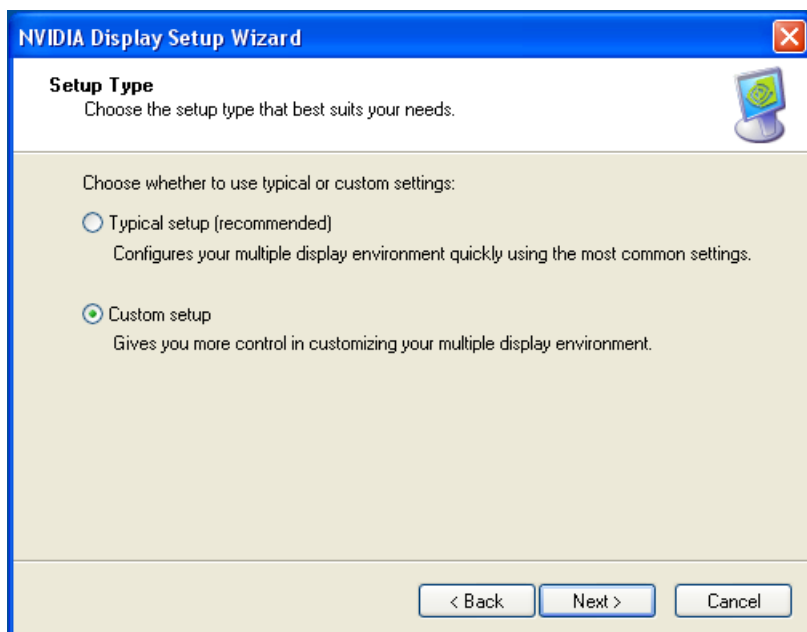
Put DVI-D Master of the unit to the master DVI connector on the graphics card closest to the motherboard. Put DVI-D Slave of the unit to the slave DVI connector on the graphics card furthest from the motherboard.

When the computer is restarted, the following screen appears on the right side of the unit. The left side of the unit is black.



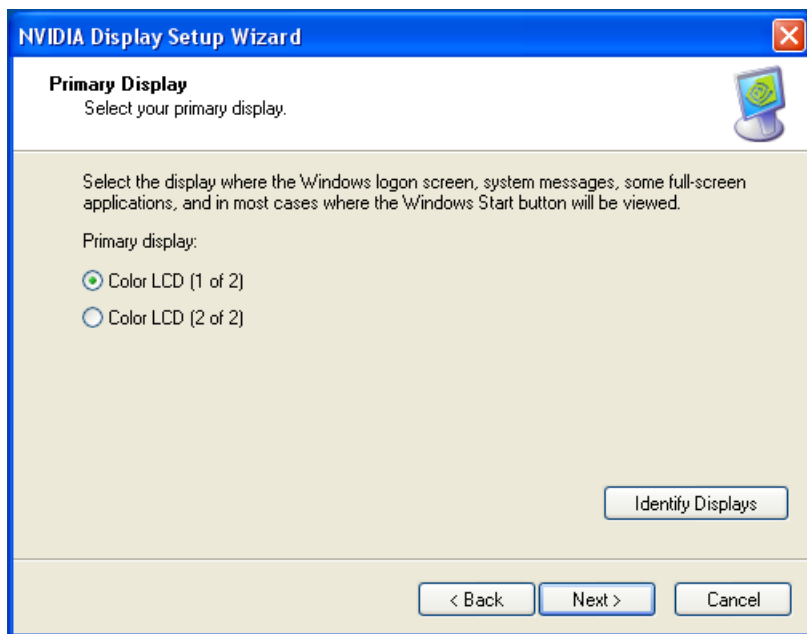
Click "Next" to continue.

Following screen appears on the screen.



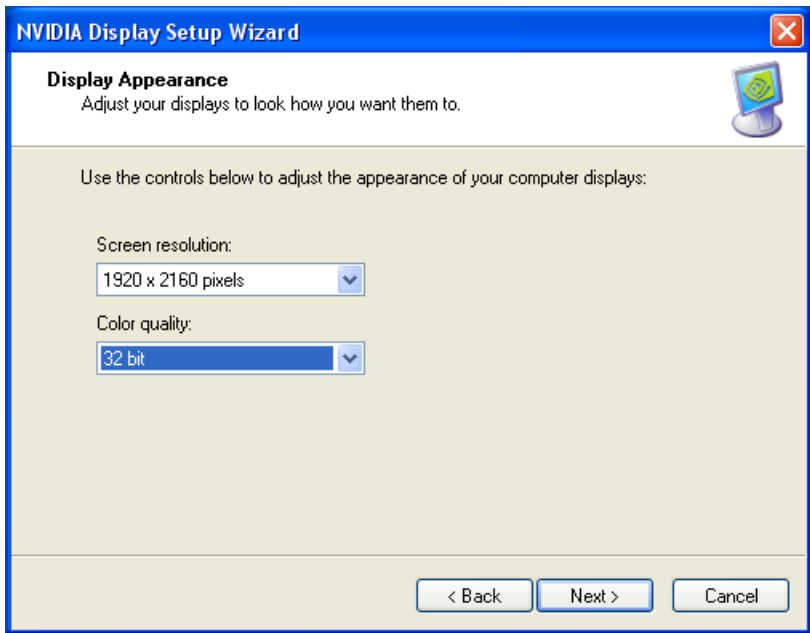
Select "Custom setup" and click "Next".

Following screen appears on the screen.



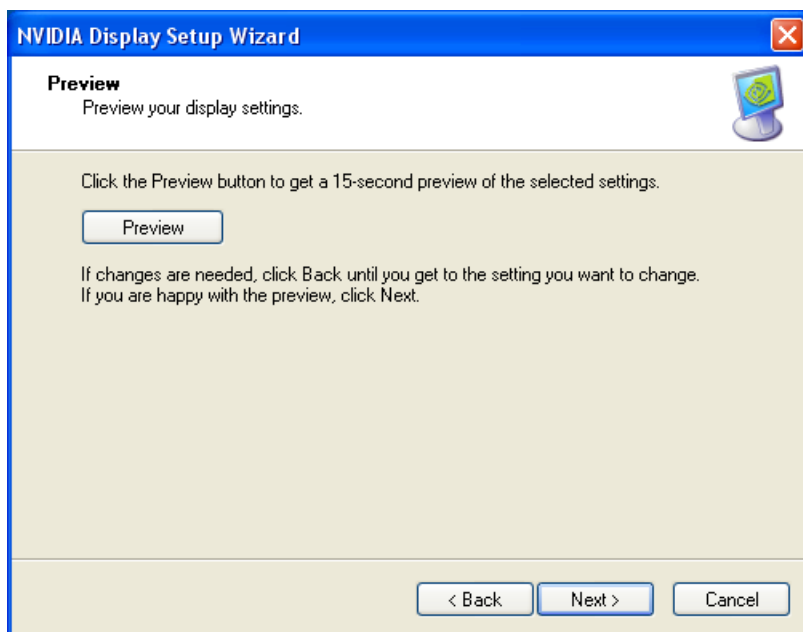
Select "Color LCD (1 of 2)" and click "Next".

Following screen appears on the screen.



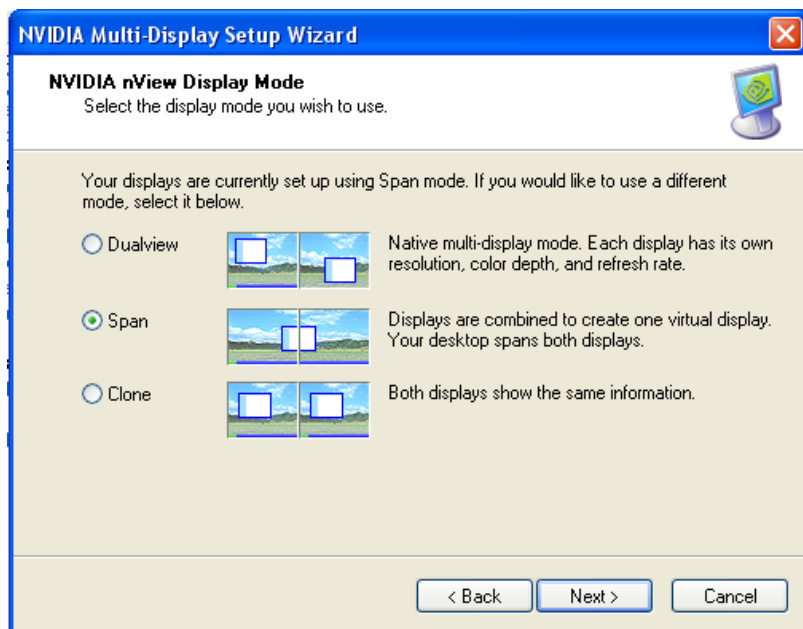
Select the screen resolution and Color quality as shown on the image above. Click "Next".

Following screen appears on the screen.



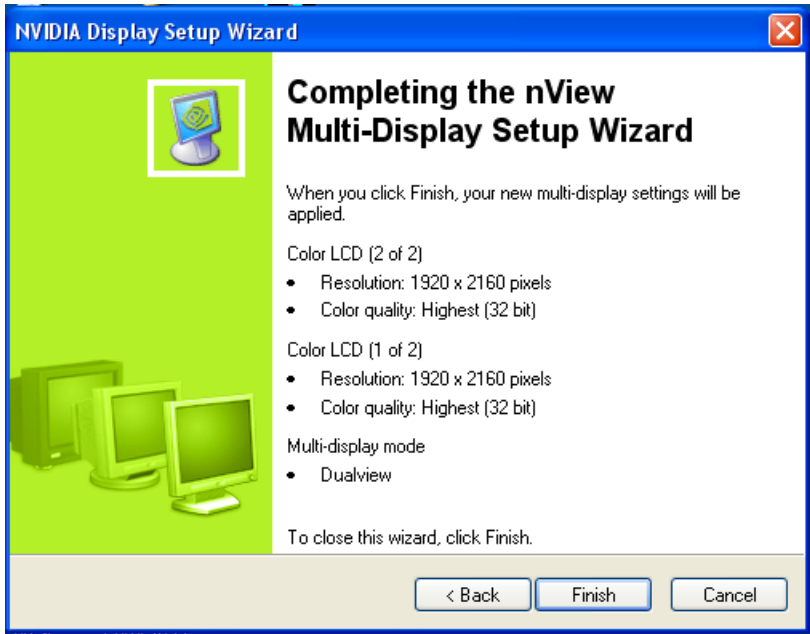
Click "Next".

Following screen appears on the screen.



Choose "Span" and click "Next".

Following screen appears on the screen.



Click "Finish".

Now the left side of the unit and the right side of the unit show the total picture.

6.3.2 Case 2: Workstation delivered by Barco

When the workstation (PWS-101) is provided by Barco, the NVIDIA Quadro FX 4600 will be installed on this work station. The correct drivers of this graphics card will be installed.

The unit can be attached directly to the workstation. Connect the unit with the master DVI-D connector to the master DVI connector of the graphics card. This is the DVI connector closest to the motherboard (as shown on the picture below).

Connect the slave DVI-D connector of the unit to the slave DVI connector of the graphics card. This is the DVI connector furthest of the motherboard (as shown on the picture below).



- 1 | Master DVI slot
- 2 | Slave DVI slot

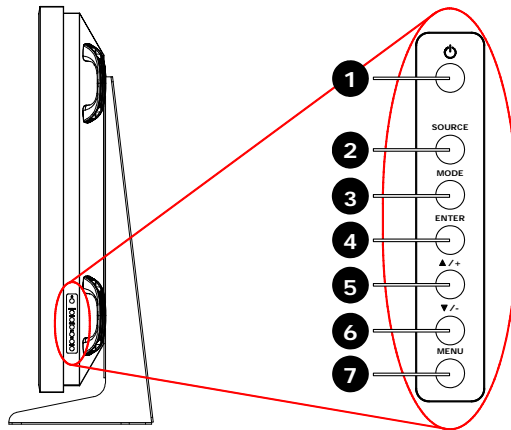
Figure 6: Location of the master & slave DVI-connector

7 Operation

7.1 Function of primary controls and indicators

7.1.1 Primary controls

7.1.1.1 Location of the primary controls



- | | |
|---|---------|
| 1 | Standby |
| 2 | Source |
| 3 | Mode |
| 4 | Enter |
| 5 | Up |
| 6 | Down |
| 7 | Menu |

Figure 7: Primary controls of the LC-5621

7.1.1.2 Standby button



Pressing this button puts the display in standby mode.

Standby mode means that the power to the LCD panel and backlight is disabled and that all power consumption is reduced to a strict minimum. The display turns black.

To bring the unit out of this mode, press the button again. Power is restored immediately.

7.1.1.3 Source button



Pressing this button adjusts the gamma settings of the display.

7.1.1.4 Mode button



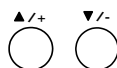
Pressing this button shows information on the display.

7.1.1.5 Enter button



Pressing this button enables the user to select/activate the menu item when the OSD menu is activated.

7.1.1.6 Up/Down buttons



Pressing these buttons will navigate the "cursor" through the OSD menu when active or increase/decrease the selected value in the OSD.

7.1.1.7 Menu button



Pressing this button will activate the OSD menu. Pressing this button when the OSD menu is already activated will close the OSD menu.

7.1.2 IR control

7.1.2.1 Location of the primary controls on the IR control

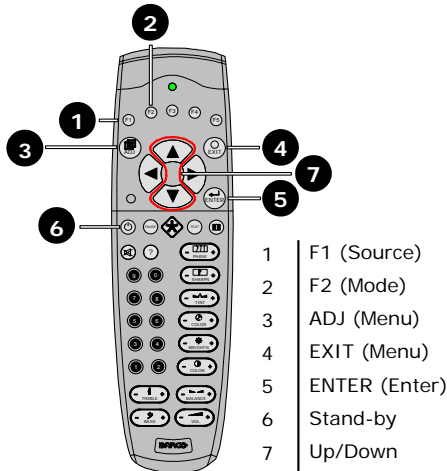


Figure 8: Location of the primary controls on the IR control

7.1.2.2 F1 button (IR control)



Pressing this button adjusts the gamma settings of the display.

7.1.2.3 F2 button (IR control)



Pressing this button shows information on the display.

7.1.2.4 ADJ button (IR control)



Pressing this button will activate the OSD menu.

7.1.2.5 Exit button (IR control)



Pressing this button when the OSD menu is activated will close the OSD menu.

7.1.2.6 Enter button (IR control)



Pressing this button enables the user to select/activate the menu item when the OSD menu is activated.

7.1.2.7 Standby button (IR control)

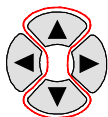


Pressing this button puts the display in standby mode.

Standby mode means that the power to the LCD panel and backlight is disabled and that all power consumption is reduced to a strict minimum. The display turns black.

To bring the unit out of this mode, press the button again. Power is restored immediately.

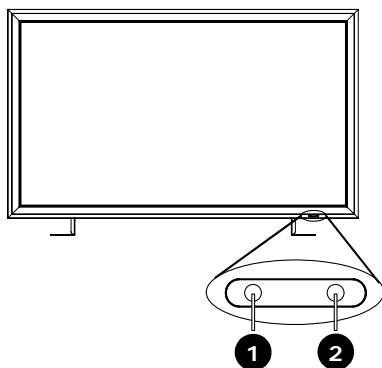
7.1.2.8 Up/down buttons (IR control)



Pressing these buttons will navigate the "cursor" through the OSD menu when active or increase/decrease the selected value in the OSD.

7.1.3 Indicators

7.1.3.1 Location of the indicators



- | | | |
|---|--|-------------|
| 1 | | IR receiver |
| 2 | | Power LED |

Figure 9: Location of the indicators

7.1.3.2 Power LED

Led indicator	Mode
Orange	Standby
Green	In operation

7.2 Adjusting display settings

7.2.1 Overview of the on screen display

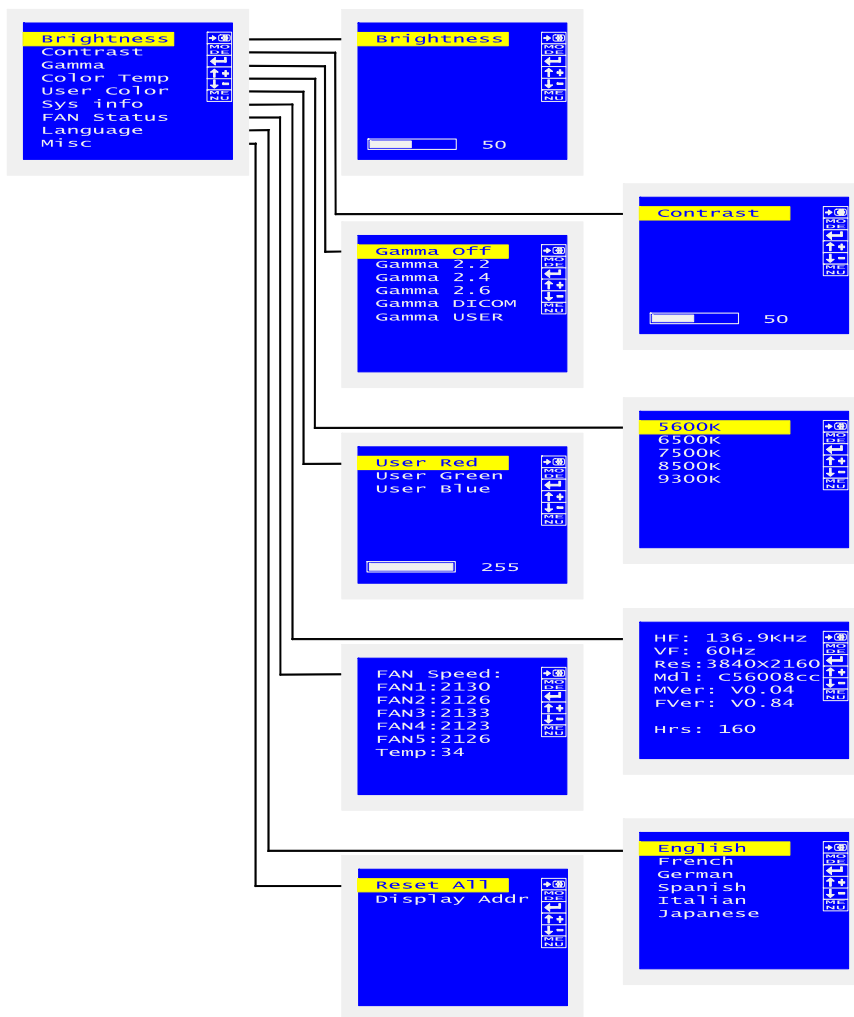


Figure 10: Overview of the on screen display

7.2.2 Using the on screen display

7.2.2.1 Overview of the key functions

Before depicting the OSD menu we will give an overview of the key functions.

Entering one of these menus via control panel?

- Press **MENU**, the OSD main menu appears on the screen.



- Press **▲/+** or **▼/-** until the desired submenu is selected.
- Press **ENTER** to enter the desired submenu.

Quitting a menu?

- To quit a menu push **MENU**.
- Remark: **MENU** from the main menu closes the OSD.

Changing a value?

- Press **▲/+** or **▼/-** to select the desired line.
- If the line displays a value that can be modified:
 - ✓ Press **ENTER** and change the value with **▲/+** or **▼/-** keys.

Executing a command?

- Go to the desired execute line.
- Press **ENTER** to execute the command.











Read-only text

- When a line is not selectable, this line is "read-only".

Entering one of these menus via IR control?

The procedure for entering the menu via IR control is equal to the procedure for entering the menu via control panel.

The buttons used for the IR control are shown below, the left side shows the buttons of the control panel on the display, the right side shows the buttons of the IR control.

ENTER 	
MENU 	
	
	
MENU 	

7.2.2.2 Main menu



Figure 11: Main menu

The main menu enables the user to scroll through the different menu items of the display.

7.2.2.3 Brightness menu



Figure 12: Brightness menu

To enter the brightness menu, push **ENTER**. The brightness bar becomes visible. Push **▲/+** or **▼/-** to increase/decrease the brightness value.

Brightness can be adjusted from 0 (minimum light output) to 100 (maximum light output). The default value for brightness is 30.

7.2.2.4 Contrast menu



Figure 13: Contrast menu

To enter the contrast menu, push **ENTER**. The contrast bar becomes visible. Push **▲/+** or **▼/-** to increase/decrease the contrast value.

Contrast can be adjusted from 0 to 100. The default value for contrast is 50.

7.2.2.5 Gamma menu

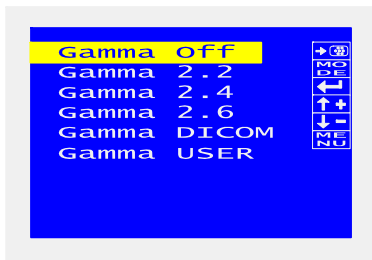


Figure 14: Gamma menu

In the gamma menu, the different gamma settings can be adjusted. One can choose between following gamma settings:

- Gamma off
- Gamma 2.2
- Gamma 2.4
- Gamma 2.6
- Gamma DICOM
- Gamma USER

Gamma DICOM sets the gamma for Medical applications.

Gamma USER activates the LUT that is uploaded via RS-232.

7.2.2.6 Color temp menu

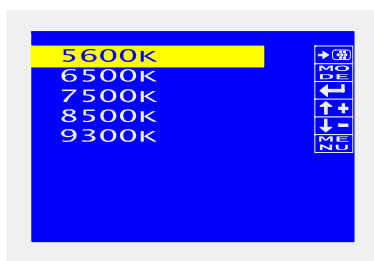


Figure 15: Color temp menu

In the color temp menu, the different color temperatures can be set. One can choose between following color temperatures:

- 5600K
- 6500K
- 7500K
- 8500K
- 9300K

7.2.2.7 User color menu



Figure 16: User color menu

To enter the user color menu, push **ENTER**. The color bar becomes visible. One can adjust the gain of the red, green and blue components. Push **▲/+** or **▼/-** to increase/decrease the color value.

Color can be adjusted from 0 to 255.

7.2.2.8 Sys info

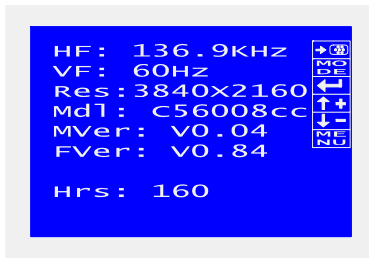


Figure 17: System info

This menu shows system information such as horizontal frequency (HF), vertical frequency (VF), resolution (Res), model number (Mdl), firmware version (MVer), FPGA version (FVer) and runtime hours (Hrs).

7.2.2.9 Fan status menu

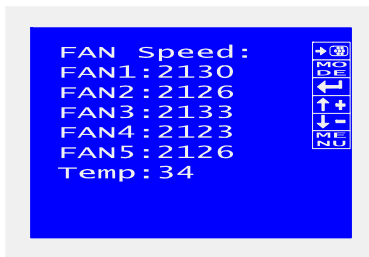


Figure 18: Fan status menu

The fan status menu shows the fan speed (RPM) of the different fans and the temperature reading of the thermal sensor in the display.

7.2.2.10 Language menu



Figure 19: Language menu

The language of the OSD menus can be set in this menu. The different languages that one can choose are:

- English
- German
- Spanish
- Italian
- Japanese

7.2.2.11 Misc menu

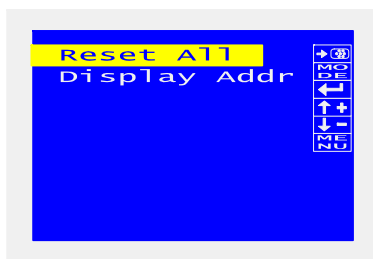


Figure 20: Misc menu

One can reset all settings of the display to the factory settings by entering this menu.

The display RS-232 address can be adjusted via "Display Addr".

8 Troubleshooting

8.1 Troubleshooting procedure

No picture on screen.

- The signal cable should be completely connected to the graphics card/computer.
- The graphics card should be completely seated in its slot.
- Check the power switch should be in the ON position.
- Front power switch and computer power switch should be in the ON position.
- Check to make sure that a supported mode has been selected on the graphics card or system being used (Please consult graphics card or system manual to change graphics mode.).
- Check the monitor and your graphics card with respect to compatibility and recommended settings.
- Check the signal cable connector for bent or pushed-in pins.
- Ensure the DVI input mode is set to digital when the MAC digital output is connected to the DVI-I connector.

Image persistence.

- Image persistence is when a residual or “ghost” image of a previous image remains visible on the screen. To alleviate image persistence, turn off the monitor for as long as the previous image was displayed. See chapter “Recommended use”.

Image is unstable, unfocused or swimming in apparent.

- Signal cable should be completely attached to the computer.

No signal

- Signal cable should be completely attached to the computer.
- Make certain the computer is not in a power-saving mode (touch the keyboard or mouse).
- If no video is present on the screen, turn the power button off and on again.

LED on monitor is not lit (no green or orange color can be seen)

- Power switch should be in the ON position and power cord should be connected.
- Check the power cable should be connected surely.

9 Technical specifications

9.1 Electro-optical specifications

9.1.1 Panel

- a-Si TFT Active Matrix LCD (AM-LCD) – 8 bit/color
- Super MVA technology, normally black

9.1.2 Image specifications

9.1.2.1 Screen dimensions

- Aspect ratio 16:9
- Screen dimensions:
 - ✓ 1244.16 x 699.84 mm (48.98" x 27.55")
 - ✓ 1427.48 mm (56.2") diagonal

9.1.2.2 Screen specifications

- 16.8 million colors - 256 gray scales
- Typical viewing angle:
 - ✓ Horizontal: 176°, Vertical: 176° @ CR>=30

9.1.2.3 Light output

- White surface luminance at maximum brightness
 - ✓ max. 400 cd/m² (116.75 fL)

9.1.2.4 Contrast ratio

- Contrast ratio in dark environment: 1200:1
- Typical specular reflection: <0.5%
- Typical diffuse reflection: TBD%

9.1.2.5 Resolution

- 3840 x 2160 pixels.
- 1 pixel is composed of 3 sub pixels R, G and B (RGB Vertical Stripe configuration)
- pixel dimensions: 0.108 mm x 0.342 mm

9.1.2.6 Color temperature

- color temperatures can be switched between 5600K, 6500K, 7500K, 8500K, 9300K or USER
- Typical CIE coordinates are mentioned in the table below

	x	y
RED	0,651 ± 0.03	0,332 ± 0.03
GREEN	0,269 ± 0.03	0,593 ± 0.03
BLUE	0,144 ± 0.03	0,060 ± 0.03
WHITE	0,285 ± 0.03	0,293 ± 0.03

CIE-1931 x,y coordinates are measured

9.1.2.7 Response time (at 25°C ambient)

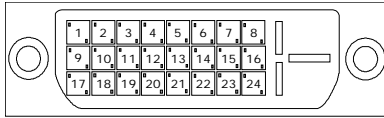
- Rise time (black to white transition): typ. 8 ms
- Fall time (white to black transition): typ. 8 ms

9.1.3 Signal inputs

9.1.3.1 DVI connector

DVI-D connector layout

DVI-D receptable connector (24 pins), right angle with pegs

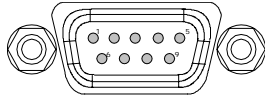


DVI input pinning

Pin	signal
1	TMDS Data 2-
2	TMDS Data 2+
3	TMDS Data 2/4 Shield
4	TMDS Data 4-
5	TMDS Data 4+
6	DDC Clock
7	DDC Data
8	NC
9	TMDS Data 1-
10	TMDS Data 1+
11	TMDS Data 1/3 Shield
12	TMDS Data 3-
13	TMDS Data 3+
14	+5V Power
15	Ground for +5V
16	Hot Plug Detect
17	TMDS Data 0-
18	TMDS Data 0+
19	TMDS Data 0/5 Shield
20	TMDS Data 5-
21	TMDS Data 5+
22	TMDS Clock Shield
23	TMDS Clock+
24	TMDS Clock-

9.1.3.2 Control connector

9 pins subD male connector layout



Control pinning

Pin	signal
1	Nc
2	Signal receive
3	Signal transmit
4	Nc
5	GND
6	Nc
7	Nc
8	Nc
9	Nc

9.1.4 Power supply specification

9.1.4.1 115 Vac / 220 Vac (50 ~ 60 Hz) supply

- Nominal voltage: 115 Vac or 220 Vac
- Operates between 85 Vac – 264 Vac
- Frequency range: 50 ~60 Hz

9.1.4.2 Power consumption

- Pmax = 500 W

9.1.4.3 Safety

- Unit meets:
 - ✓ IEC 60950-1
 - ✓ IEC 60601-1

9.1.4.4 Power connector

- 115/220 Vac
 - ✓ IEC power chassis connector for 115 Vac and 220 Vac



9.1.5 Human Machine Interface (HMI)

9.1.5.1 On-Screen Display (OSD)

- The On-Screen Display (OSD) feature is the ability to display text on top of the input.
- The OSD can be used to adjust parameters like brightness, contrast, gamma,....
- The OSD menu can be accessed via the IR control.
- This information is also accessible form the host processor through the RS-232 interface according to the BARCO remote protocol.

9.1.5.2 Controls

The controls of the monitor are located on the right side of the unit (seen from front). There are 7 buttons:

Main function	Menu
Power (⏻)	Standby / switch into operation
Source	Gamma items selection
Mode	Show information
Enter	Activate selection
▲/+	Scroll up for menu items
▼/-	Scroll down for menu items
Menu	Opens OSD, exits OSD, exit OSD control

9.1.5.3 Indicators

Led indicator	Mode
Orange	Standby
Green	In operation

9.2 Mechanical specifications

9.2.1 Dimensions

	With stand	Without stand
Height	866 mm (34.09")	800.8 mm (31.53")
Width	1345.1 mm (52.96")	1345.1 mm (52.96")
Depth	300 mm (11.81")	135.2 mm (5.32")

9.2.2 Weight

- With stand: 58 kg (128 lbs)
- Without stand: 53 kg (117 lbs)

9.2.3 Mounting specifications

9.2.3.1 VESA compliant mounting solution

The LC-5621 is standard mounted on a stand.

The unit is foreseen with mounting holes to be mounted on a vesa arm or wall with VESA MIS F, 800, 400, 8 standards.

9.2.3.2 Drawings LC-5621

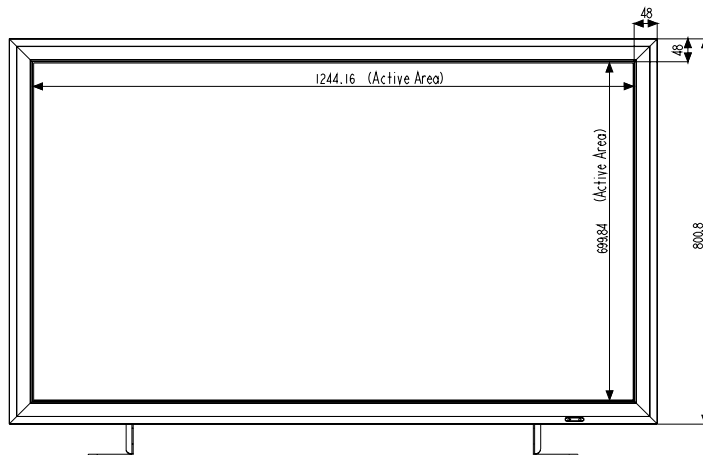


Figure 21: LC-5621 Front view

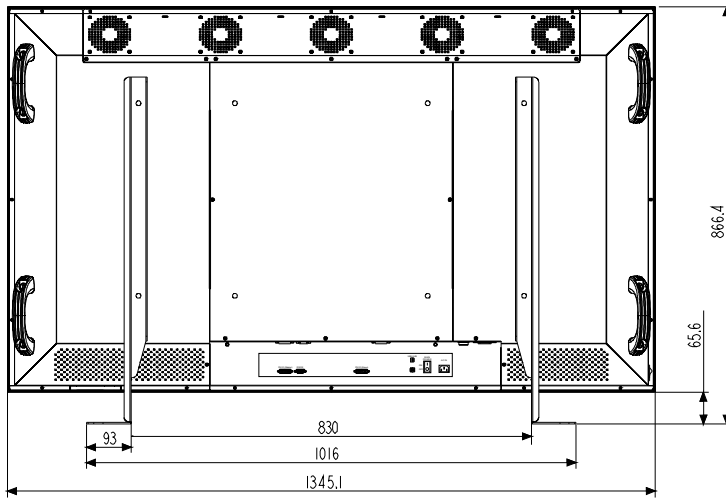


Figure 22: LC-5621 Rear view

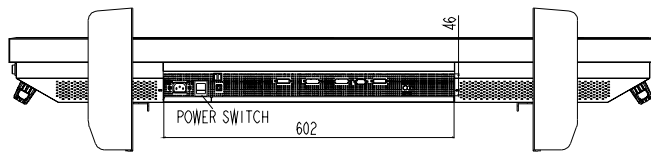


Figure 23: LC-5621 Bottom view

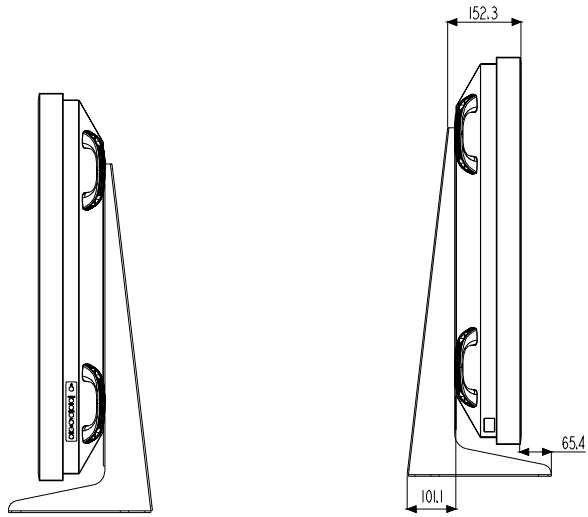


Figure 24: LC-5621 Side view

9.3 Environmental specifications

9.3.1 Temperature

9.3.1.1 Operating (continuous)

- High temp.: + 35°C (+95°F)
- Low temp.: + 5° C (+41°F)

9.3.1.2 Storage

- High temp.: +55°C (+131°F)
- Low temp.: -20°C (-4°F)

9.3.2 Altitude/Low pressure

- Operating nom. 3000 m
- Storage nom. 3000 m

9.3.3 Relative Humidity (RH)

- Operating & storage: nom 75% @ 35°C (95°F) non-condensing

9.3.4 EMI/EMC

9.3.4.1 Immunity EN 61000-4-x

- Unit meets following immunity specifications :
 - ✓ EN 61000-4-2 (Level 3): Electrostatic Discharge immunity
 - ✓ EN 61000-4-3 (Level 3): Radiated, RF immunity, electromagnetic immunity
 - ✓ EN 61000-4-4 (Level 3): EFT-Burst immunity
 - ✓ EN 61000-4-5 (Level 3): Surge immunity
 - ✓ EN 61000-4-6 (Level 2): RF conducted disturbances
 - ✓ EN 61000-4-8: Power frequency magnetic immunity
 - ✓ EN 61000-4-11: Mains voltage interruptions and variations

9.3.4.2 Emission

- Unit meets FCC-A
- Unit meets EN 55022 Limit A

9.4 Other specifications

9.4.1 MTBF

- 50000 hours

9.4.2 MTTR

- TBD

10 List of abbreviations for all units

This list of abbreviations is drawn up for all Barco units. Some of these abbreviations are not applicable for the product described in this manual.

µ

µC Microcontroller

A

A Ampère
AC Alternating Current
ActEv Action and Events
ADC Analog Digital Converter
ADP Auxiliary Display Panel
AGC Automatic Gain Control
AIB Analog Input Board
ALC Ambient Light Controller
AMLCD Active Matrix Liquid Crystal Display
APA Automatic Phase Adjust
APPLIC Application
AR coating Anti-Reflective coating

B

BIB Backlight Inverter Board, Backlight Input Board
BIT Built In Test
BIL Barco Intermodule Link
BLOS Backlight Optical Stabilisation
BNC Bayonet Neil-Concelman or British Naval Connector

C

CAN Controller Area Network
CCFL Cold Cathode Fluorescent Lamp
CLK CLock
CM Console mounted
COMM Communication
Conn. Connector
CPLD Complex Programmable Logic Device
CPU Central Processing Unit
CS Composite Sync
CVBS Composite Video Burst Sync

D

Db Decibels
DC Direct Current
DCM Display Control Module
DDC Direct Digital Controls

DDR SDRAM	Double Data Rate Synchronous Dynamic Random Access Memory
DDS	Direct Digital Synthesizer
DEF-STAN	Defense Standard
DEI	DEInterlacer
DIB	Digital Input Board
Diff	Differential
DM	Display Module
DVI	Digital Video Interface
E	
EDID	Extended Display Identification Data
EEPROM (E ² PROM)	Electrically Erasable and Programmable Read Only Memory
EMC	Electro Magnetic Conductive
EMI	Electro Magnetic Immunity
ESD	Electrostatic Discharge
ETI	Elapsed Time Indication
F	
FCC	Federal Communication Commission
FIFO	First In First Out
FLIR	Forward Looking InfraRed
FPGA	Field Programmable Gate Arrays
FRONT	Assembly of more than 1 I/O connector
G	
GND	Ground
GNDA	Ground Analog
GNDD	Ground Digital
H	
HB	High Bright
HMI	Human Machine Interface
HS	Horizontal Sync
I	
I2C	Inter-IC (bus)
I/O	Input/Output
ICD	Interface Control Document
IIB	Image Input Board
IMB	Interface Mother Board
IOB	Input/Output Board
IOM	Input/Output MIL Connector Board
IOPC	Input /Output Power Control
IPB	Image Processing Board
IR	InfraRed
ITO	Indium Tin Oxide

J	
JTAG	Joint Test Action Group
K	
KEYB	Keyboard
L	
LCD	Liquid Crystal Display
LFC	Light Flicker Compensation
LRU	Line Replaceable Unit
LUT	Look-Up Table
LVDS	Low Voltage Differential Signalling
LVTTTL	Low Voltage Transistor-Transistor Logic
M	
MH	Mounting Holes
MIL	Military
MHz	Mega Hertz
MMAN	Maintenance Manual
MRFD	Modular Rugged Flat Display
ms	Millisecond
MTBF	Mean Time Between Failures
MTTR	Mean Time To Repair
N	
N/A	Not Applicable
NTSC	National Television Standard Committee
NV or NVIS	Night Vision
NVG	Night Vision Goggle
O	
OSD	On Screen Display
OVERTEMP	Overtemperature
P	
PAL	Phase Alternating Line
PCB	Printed Circuit Board
PDB	Panel Driver Board
PIB	Panel Interface Board
PIP	Parallel Interface Port
PLL	Phase Locked Loop
PM	Panel Module
PSB	Power Supply Board
PVM	Panel Video Module
PWM	Pulse Width Modulation
PWR	Power
Q	
R	
RAM	Random Access Memory

RADAR	Radio Detection and Ranging
RDM	Rugged Display Module
RFU	Reserved for future use
RGB	Red Green Blue
RISC	Reduced Instruction Set Computer
RM	Rack Mounted
ROM	Read-Only Memory
RPM	Rotation Per Minute
RX	Receiver
S	
SBB	Symbol Generator Bypass Board
SDRAM	Synchronous Dynamic Random Access Memory
SECAM	Sequential Couleur avec Memoire
SEL	Selection
SER	Serial Port
SG	Symbol Generator
SGB	Symbol Generator Board
SIB	Signal Interface Board
SMPTE	Society of Motion Picture and Television Engineers
SOG	Sync On Green
SONAR	Sound Navigation and Ranging
SRAM	Static Random Access Memory
SRU	Shop Replaceable Unit
STD	Standard
SVGA	Super Video Graphic Array
SW	Software
SXGA	Super extended Graphics Array
S/N	Serial Number
T	
TBB	ThinLITE Backlight Board
TBD	To Be Defined
TBT	To Be Tested
TMAN	Technical Manual
TCK	Test Clock
TDI	Test Data Input
TDO	Test Data Output
Temp	Temperature
TFT	Thin-Film Transistor
TIB	ThinLITE Interface Board
TID	Touch Input Device
TL	Thinlite
TMS	Test Mode Select
TNC	Threaded Neill Concelman

TRST	Test Reset
TRT	TRT connectors
TTL	Transistor-Transistor Logic
TX	Transmitter
U	
UART	Universal Asynchronous Receiver-Transmitter
UMAN	User Manual
UXGA	Ultra eXtended Graphic Array
V	
V	Volt
VCM	Video Control Module
VESA	Video Electronics Standards Association
VGA	Video Graphic Array
VHDL	Is the VHSIC Hardware Description Language
VHSIC	Very High Speed Integrated Circuit
VID	Video
VL	Vectorlink
VL RX	VectorLink Receiver
VM	Vesa Mounted
VPB	Video Processing Board
Vpp	Voltage peak power point
VS	Vertical Sync
W	
WDI	Watch Dog Input
WUXGA	Widescreen Ultra eXtended Graphics Array
X	
XGA	EXtended Graphic Array
Y	
Y	Luminance

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