

LC-5621

56" - quad full HD LCD display

Technical Specifications

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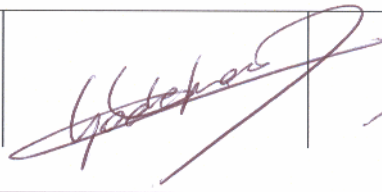



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1 Approval sheet

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2 Proprietary data notice

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3 Revision history

Revision	Date	Description
00	17 Mar 08	Initial release

4 Scope

This document describes the technical specifications for the LC-5621.

5 Content

Table of content

1	Approval sheet	2
2	Proprietary data notice	3
3	Revision history	4
4	Scope	5
5	Content	6
	Table of content	6
	List of figures	7
6	Reference documents	8
6.1	Notice	8
6.2	Specifications & standards	8
7	Product description	9
7.1	LC-5621	9
7.2	Main features	9
8	Technical specifications	10
8.1	Electro-optical specifications	10
8.1.1	Panel	10
8.1.2	Image specifications	10
8.1.2.1	Screen dimensions	10
8.1.2.2	Screen specifications	10
8.1.2.3	Light output	10
8.1.2.4	Contrast ratio	10
8.1.2.5	Resolution	10
8.1.2.6	Color temperature	11
8.1.2.7	Response time (at 25°C ambient)	11
8.1.3	Signal inputs	11
8.1.3.1	DVI connector	11
8.1.3.2	Control connector	12
8.1.4	Power supply specification	12
8.1.4.1	115 Vac / 220 Vac (50 ~ 60 Hz) supply	12
8.1.4.2	Power consumption	13
8.1.4.3	Safety	13
8.1.4.4	Power connector	13
8.1.5	Human Machine Interface (HMI)	13
8.1.5.1	On-Screen Display (OSD)	13
8.1.5.2	Controls	13
8.1.5.3	Indicators	14
8.2	Mechanical specifications	14
8.2.1	Dimensions	14
8.2.2	Weight	14
8.2.3	Mounting specifications	14
8.2.3.1	VESA compliant mounting solution	14
8.2.3.2	Drawings LC-5621	15
8.3	Environmental specifications	16
8.3.1	Temperature	16
8.3.1.1	Operating (continuous)	16
8.3.1.2	Storage	16
8.3.2	Altitude/Low pressure	16
8.3.3	Relative Humidity (RH)	16
8.3.4	EMI/EMC	17

8.3.4.1 Immunity EN 61000-4-x 17
8.3.4.2 Emission..... 17
8.4 Other specifications 17
8.4.1 MTBF 17
8.4.2 MTTR..... 17
9 Abbreviations and acronyms..... 18

List of figures

Figure 1: LC-5621 Front view 15
Figure 2: LC-5621 Rear view 15
Figure 3: LC-5621 Bottom view 15
Figure 4: LC-5621 Side view 16

6 Reference documents

6.1 Notice

The following section lists documents that are referenced in this Specification. The exact issue of each document is defined in this list. The contents of this Specification shall take precedence in the event of a conflict with the referenced document.

6.2 Specifications & standards

EN 55022	Sep 98	Limits and methods of measurement of radio disturbance characteristics of information technology equipment
IEC 61000-4-2	Apr 01	Electromagnetic compatibility (EMC)- Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test
IEC 61000-4-3	Mar 02	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test
IEC 61000-4-4	Jan 95	Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 4: Electrical fast transient/burst immunity test. Basic EMC Publication
IEC 61000-4-5 Edition 1.1	Apr 01	Electromagnetic compatibility (EMC)- Part 4-5: Testing and measurement techniques - Surge immunity test
IEC 61000-4-6 Edition 1.1	Apr 01	Electromagnetic compatibility (EMC)- Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields
IEC 61000-4-11 Edition 1.1	Mar 01	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests
MIL-STD-1275 B	20 Nov 97	Characteristics of 28 Volt DC Electrical Systems in Military Vehicles
VESA FPDM 2	1 Jun 01	VESA Flat Panel Display Measurements Standard
VESA FPMPMI	14 Jun 99	VESA Flat Panel Monitor Physical Mounting Interface Standard

7 Product description

7.1 LC-5621

Barco's LC-5621 display has been specifically designed for use 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

7.2 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.

8 Technical specifications

8.1 Electro-optical specifications

8.1.1 Panel

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

8.1.2 Image specifications

8.1.2.1 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

8.1.2.2 Screen specifications

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

8.1.2.3 Light output

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

8.1.2.4 Contrast ratio

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

8.1.2.5 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

8.1.2.6 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

8.1.2.7 Response time (at 25°C ambient)

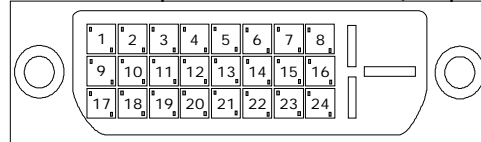
- Rise time (black to white transition): typ. 8 ms
- Fall time (white to black transition): typ. 8 ms

8.1.3 Signal inputs

8.1.3.1 DVI connector

DVI-D connector layout

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



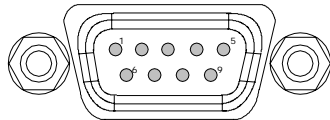
DVI input pinning

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-

8.1.3.2 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

8.1.4 Power supply specification

8.1.4.1 115 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

8.1.4.2 Power consumption

- $P_{max} = 500 \text{ W}$

8.1.4.3 Safety

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

8.1.4.4 Power connector

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



8.1.5 Human Machine Interface (HMI)

8.1.5.1 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 from the host processor through the RS-232 interface according to the BARCO remote protocol.

8.1.5.2 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

8.1.5.3 Indicators

Led indicator	Mode
Orange	Standby
Green	In operation

8.2 Mechanical specifications

8.2.1 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")

8.2.2 Weight

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

8.2.3 Mounting specifications

8.2.3.1 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.

8.2.3.2 Drawings LC-5621

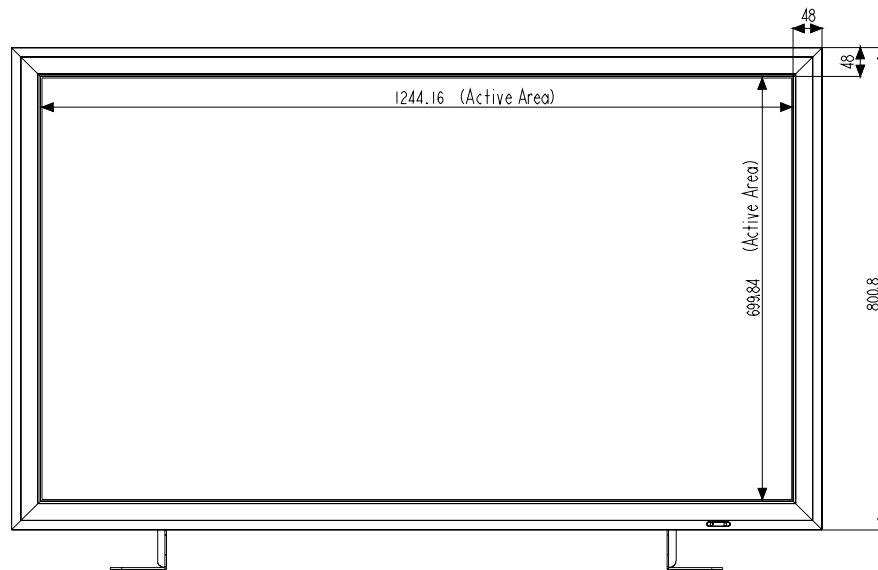


Figure 1: LC-5621 Front view

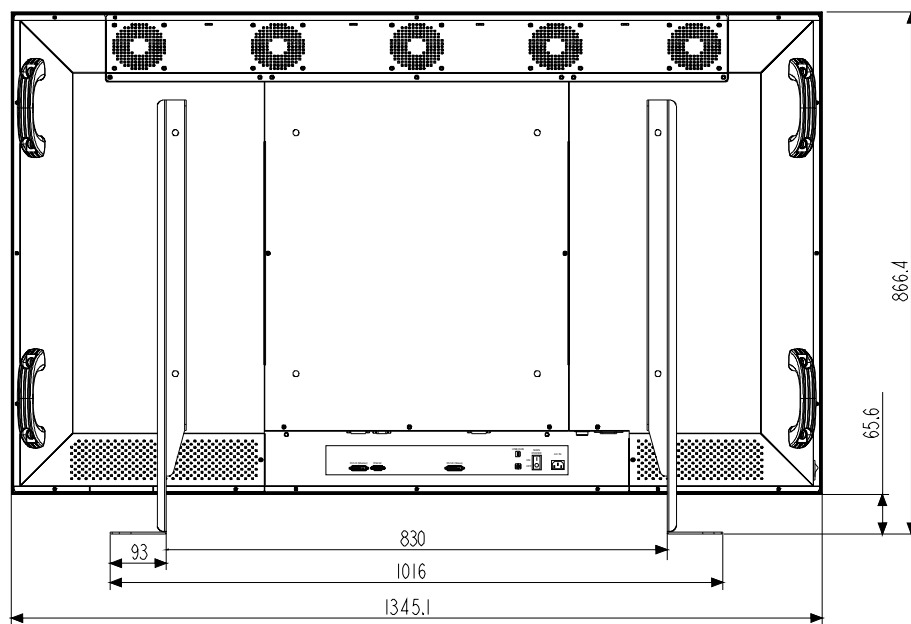


Figure 2: LC-5621 Rear view

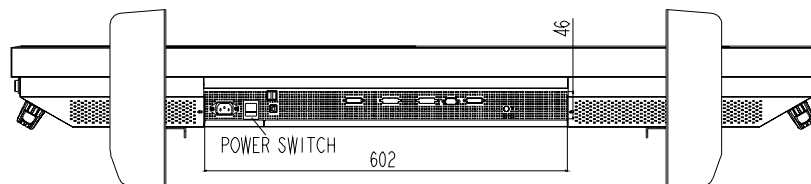


Figure 3: LC-5621 Bottom view

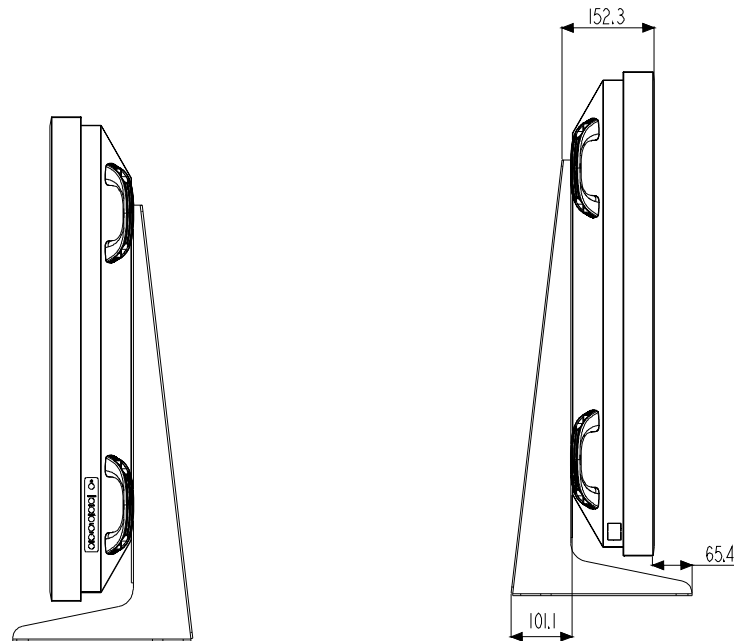


Figure 4: LC-5621 Side view

8.3 Environmental specifications

8.3.1 Temperature

8.3.1.1 Operating (continuous)

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

8.3.1.2 Storage

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

8.3.2 Altitude/Low pressure

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

8.3.3 Relative Humidity (RH)

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

8.3.4 EMI/EMC

8.3.4.1 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

8.3.4.2 Emission

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

8.4 Other specifications

8.4.1 MTBF

- 50000 hours

8.4.2 MTTR

- TBD

9 Abbreviations and acronyms

°C	Degrees Celsius
°F	Degrees Fahrenheit
A	
ActEv	Actions + Events (name of a BarcoView software product)
AGC	Automatic Gain Control
ALC	Automatic Light Control
AMLCD	Active Matrix Liquid Crystal Display
ANSI	American National Standards Institute
APA	Automatic Phase Adjustment
AR	Anti Reflective
a-Si TFT	Amorphous Silicone Thin-Film Transistor
AWG	American Wire Gauge
B	
BARCO	Belgian-American Radio Corporation
C	
CAN	Controller Area Network
CCFL	Cold Cathode Fluorescent Lamp
CCIR	Consulting Committee International
cd	Candela
CE	Conducted Emissions, Conformity European (safety)
CIE	Commission International de l'Éclairage (Illumination)
CM	Console Mount
cm	centimeter
CoG	Combined sync on Green
CR	Contrast Ratio
CS	Combined Sync
CS	Conducted Susceptibility
CVBS	Composite Video Blanking Sync
D	
DC	Direct Current
DDC	Display Data Channel
DM	Display Module
E	
EIA	Electronic Industries Association

EMI / EMC	Electromagnetic Interference / Electromagnetic Compatibility
EN	European Norms
ESD	Electrostatic Discharge
F	
FD	Full Duplex
FLIR	Forward Looking Infrared
FPDM	Flat Panel Display Measurements
G	
GM	Ground Mobile
H	
HD	Half Duplex
HE	Highly Efficient
HEA	High Efficiency Antireflective
HMI	Human-Machine Interface
I	
ICD	Interface Control Document
IEC	International Electrotechnical Commission
IP	Ingress Protection
ISO	International Standard Organization
ITO	Indium Tin Oxide
K	
kg	kilogram
L	
L	Luminance
LCD	Liquid Crystal Display
LFC	LCD Flicker Compensation
LRU	Line Replaceable Unit
LUT	Look Up Table
Lux	Measure of illumination (lumens per meter squared)
M	
MIL-HDBK	Military Handbook
MIL-STD	Military Standard
mm	millimeter
ms	milliseconds
MTBF	Mean-Time-Between-Failures
MTTR	Mean-Time-To-Repair
N	
NEMA	National Electronics Manufacturers Association
NTSC	National Television Systems Committee

O

OSD On-Screen Display

P

PAL Phase Alternating Lines

PM Panel Module

ppi pixels per inch

PVA Patterned Vertical Alignment

PVC polyvinyl chloride

PVM Panel Video Module

R

RE Radiated Emissions

RFU Reserved for Future Use

RGB Red, Green, Blue (letters/colors also referenced separately)

RH Relative Humidity

RM Rack Mount

ROT Rotator

RS Radiated Susceptibility

S

SDRL Supplier Data Requirements List

SG Symbol Generator

SOW Statement Of Work

SS Separate Sync

STANAG Standardization Agreement

SVGA Super Video Graphics Array

SXGA Super eXtended Graphics Array

T

TBC To Be Confirmed

TBD To Be Defined

TBM To be Measured

TBT To Be Tested

TL ThinLITE

TTL Transistor Transistor Logic

V

VCM Video Control Module

VDC Volts Direct Current

VESA Video Electronics Standards Association

VM VESA Mount

W

W Watt