

Nio®



Diagnostic medical display system

**BARCO**

Visibly yours

# Raising the bar for cost-effective diagnostic viewing

## Higher performance for high expectations

In today's healthcare facilities, high-quality medical imaging is more important than ever. Barco understands the need for affordable, reliable and high-performance image display solutions. Building upon its broad expertise in medical imaging, Barco offers a unique and innovative range of professional medical display systems.

## Innovation at an exceptional value

Barco has raised the bar once again with an innovative line of high-resolution grayscale display systems for diagnostic viewing. Nio® offers medical professionals a flexible and cost-effective solution for a multitude of medical imaging applications, including PACS, MRI, angiography, 3D, computed tomography and mammography.





### Why choose Nio®?

- Cost-efficient, flexible solution for diagnostic viewing
- Complete product line (2MP, 3MP, 5MP) available for a wide variety of applications
- Perfect color matching between displays
- BLOS® technology for continuous image stability
- DICOM-compliant BARCO MED® Nio® display controller enabling ultra-fast image loading
- User-friendly NioWATCH software to optimize the system for medical viewing and to provide accurate DICOM conformance
- Optional protective front cover



# 100% commitment to quality

## High-quality imaging

Nio<sup>®</sup> display systems offer high-brightness, image crispness and excellent viewing angle. This makes Nio<sup>®</sup> the ideal solution for a multitude of medical applications and environments. All Nio<sup>®</sup> systems have a solid and handy tilt and swivel base and can be used in portrait or landscape viewing mode, thanks to the embedded image rotator function. The energy-efficient Nio<sup>®</sup> display systems come in a new, attractive design in single-head or matched dual-head configurations.

## Long-term image confidence

Providing high luminance and Barco's Backlight Output Stabilization (BLOS<sup>®</sup>) technology, Nio<sup>®</sup> is the ideal solution for a wide range of medical viewing applications. BLOS<sup>®</sup> guarantees fast power-up and continuously stabilizes the luminance output of the LCD's backlight. This significantly improves the overall optical efficiency of all Nio<sup>®</sup> display systems and provides long-term image stability.

## High-speed image rendering

Nio<sup>®</sup> display systems are driven by the high-speed BARCOMED<sup>®</sup> Nio<sup>®</sup> display controller, featuring Barco's proprietary AURA technology. With 64-bit PCI performance and image download speeds up to 200 MB per second, the BARCOMED<sup>®</sup> Nio<sup>®</sup> is the fastest display controller in its league. The BarcoMed<sup>®</sup> Nio<sup>®</sup> display controller is compatible with Windows<sup>®</sup> 2000 and Windows<sup>®</sup> XP.

## Perfect color matching

Barco carefully color matches the displays in every multi-head Nio<sup>®</sup> display system to guarantee that the color characteristics of all displays in the system are consistent. This allows radiologists to perform their work without the distraction of color differences inherent in LCD panels.

## Protective front cover

Nio<sup>®</sup> displays can be equipped with a protective front cover, which protects the LCD panel against damage. Moreover, the front cover allows for easy and safe cleaning.





EXAMINATION	NO.	DATE	TIME	STATUS	EXAMINER	REF.
MR	1000001	01/01/01	10:00	OK	DR. SMITH	1000001
MR	1000002	01/01/01	10:05	OK	DR. SMITH	1000002
MR	1000003	01/01/01	10:10	OK	DR. SMITH	1000003
MR	1000004	01/01/01	10:15	OK	DR. SMITH	1000004
MR	1000005	01/01/01	10:20	OK	DR. SMITH	1000005
MR	1000006	01/01/01	10:25	OK	DR. SMITH	1000006
MR	1000007	01/01/01	10:30	OK	DR. SMITH	1000007
MR	1000008	01/01/01	10:35	OK	DR. SMITH	1000008
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MR	1000010	01/01/01	10:45	OK	DR. SMITH	1000010



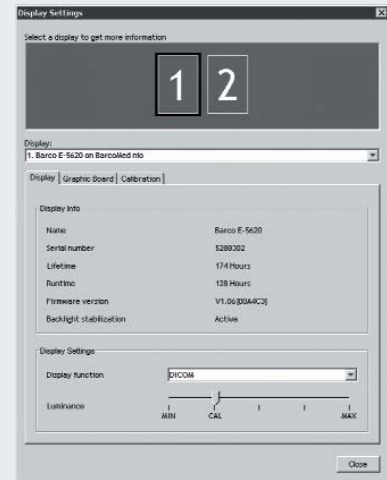
# Long-term diagnostic confidence

## DICOM-compliant out of the box

Nio® display systems are fully DICOM-compliant out of the box, providing a true plug and play solution. For local fine-tuning, Nio® features NioWATCH, a user-friendly software tool, allowing users to optimize their display system in accordance with DICOM part 14 in a few easy steps. As a result, Nio® flat panel displays are perceptually linearized, ensuring an accurate image representation at all times. In combination with an optical sensor, NioWATCH performs accurate DICOM calibration and customized QA checks. With the user-friendly interface of NioWATCH, maintaining the display's image conformance and consistency is easy.

## Optional MEDICAL Administrator software

When combined with Barco's MEDICAL Administrator software, NioWATCH offers networking functionality for display fleet management purposes. As a powerful tool to manage your display base, MEDICAL Administrator generates customized reports and automatic alerts.



# Technical specifications Nio® displays

LCD PANEL	Nio® 2MP	Nio® 3MP	Nio® 5MP
Technology:	TFT AMLCD Dual Domain IPS	TFT AMLCD Dual Domain IPS	TFT AMLCD Advanced SFT
Native resolution:	1600 x 1200	2048 x 1536	2560 x 2048
Pixel pitch:	0.249 mm	0.207 mm	0.156 mm
Active screen diagonal:	498 mm (19.6")	528 mm (20.8")	510 mm (20.1")
Active screen width:	398.4 mm	423.9 mm	399.4 mm
Active screen height:	298.8 mm	318 mm	319.5 mm
Viewing angle (H/V, typ.):	170° (10:1 contrast)	170° (10:1 contrast)	170° (10:1 contrast)
<b>VISUAL CHARACTERISTICS</b>			
Dark room contrast:	typical 850:1	typical 900:1	typical 600:1
Luminance:	500 cd/m <sup>2</sup> Calibrated, 700 cd/m <sup>2</sup> Max. target value luminance	500 cd/m <sup>2</sup> Calibrated, 700 cd/m <sup>2</sup> Max. target value luminance	500 cd/m <sup>2</sup> Calibrated, 700 cd/m <sup>2</sup> Max. target value luminance
Light output stabilization:	Backlight Output Stabilization (BLOS®)	Backlight Output Stabilization (BLOS®)	Backlight Output Stabilization (BLOS®)
<b>CONNECTIVITY</b>			
Analog video input specification:	n/a	n/a	n/a
Digital video specification:	DVI connector	DVI connector	DVI connector
<b>ENVIRONMENTAL</b>			
Operational temperature range:	0°C to +40°C	0°C to +40°C	0°C to +40°C
Within specs:	+15°C to +35°C	+15°C to +35°C	+15°C to +30°C
<b>APPROVALS</b>			
Safety:	CE, UL1950, CSA (or CUL) 950, IEC950	CE, UL1950, CSA (or CUL) 950, IEC 950	CE, UL1950, CSA (or CUL) 950, IEC 950
Emission:	EN55022 limit A, FCC class A, EN 61000-3-2	EN55022 limit A, FCC class A, EN 61000-3-2	EN55022 limit A, FCC class A, EN 61000-3-2
Medical:	FDA 510(k)	FDA 510(k)	FDA 510(k)
<b>SECURITY</b>			
Kensington® lock slot for added security			

# Technical specifications BARCOmed® Nio®

<b>SYSTEM REQUIREMENTS</b>		<b>VIDEO OUTPUT</b>	
Bus:	PCI 2.2 universal signaling	Supported resolution	1600 x 1200 @ 60Hz
Bus clock speed:	66 Mhz	/refresh rates:	2048 x 1536 @ 60Hz
Bus width:	64 bit		2560 x 2048 @ 50Hz
Power consumption:	< 15 Watt	Connectors:	Two DVI connectors (one per head)
Operating system:	Microsoft Windows® 2000, XP		
Platforms:	Pentium® class and up		
<b>CHARACTERISTICS</b>		<b>ENVIRONMENTAL</b>	
Display configuration:	Single- or dual-head, portrait or landscape	Temperature:	
Graphics processor:	Proprietary AURA technology	Operational:	+10 to +60 °C
Display memory:	64 MB	Storage:	-40 to +85 °C
VGA:	Integrated VGA controller	Humidity:	
Pixel clock rate:	120 - 200 MHz	Operational:	80%
Look-Up Table:	8 bits in/10 bits out	Storage:	100%
Electrical standard:	Single link DVI complying to VESA DVI Rev. 1.0 spec	EMI:	FCC class B, CE, EN 55022A, EN 50082-1

# Barco medical imaging systems

Barco has established a solid reputation in the medical imaging market by providing high-performance display technology for X-ray, digital radiography, digital mammography, ultrasound, magnetic resonance, computed tomography, PACS and 3D imaging applications. Its full line of color and grayscale displays, display controllers, radiology display systems, medical grade projectors and QA software facilitates confident diagnoses while guaranteeing perfect image quality over time and across displays.

Barco's expertise is supported by a worldwide network of research, development and support services. A global sales organization, with regional support people who understand your language and requirements, complements Barco's partnership approach.



In search of continuous improvement

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Technical specifications are subject to change without prior notice

[www.barcomedical.com](http://www.barcomedical.com)

BarcoView (Belgium)  
Pres. Kennedypark 35 - B-8500 Kortrijk  
Belgium  
Phone: +32 56 233 244  
Fax: +32 56 233 374  
E-mail: [sales.medical.eu@barco.com](mailto:sales.medical.eu@barco.com)

BarcoView, LLC (USA)  
3059 Premiere Parkway - Duluth  
Georgia, 30097-4905, USA  
Phone: +1 678 475 8000  
Fax: +1 678 475 8100  
E-mail: [sales.medical.us@barco.com](mailto:sales.medical.us@barco.com)

Barco LTD. (Taiwan)  
17th floor, Kuohwa Building  
868-6, Chungcheng Road  
Chungho City, Taipei County, 235, Taiwan  
Phone: +886 2 8221 6868  
Fax: +886 2 8221 6969

Barco Systems Pty. Ltd. (Australia)  
2 Rocklea Drive, Port Melbourne, Vic 3207  
Australia  
Phone +61 3 9646 5833  
Fax +61 3 9646 5887

Barco Ltd. (South Korea)  
3F, Dansan-Nonhyun Building, 216-8  
Nonhyun-dong  
Kangnam-ku, Seoul 135-010, South Korea  
Phone +82 2 3445 8900  
Fax +82 2 3445 8737

Barco nv, Representative Office Shanghai  
(China)  
7F, Fen Yang Road 138  
Shanghai PRC 200120, China  
Phone +86 21 5465 5501  
Fax +86 21 5465 5502

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