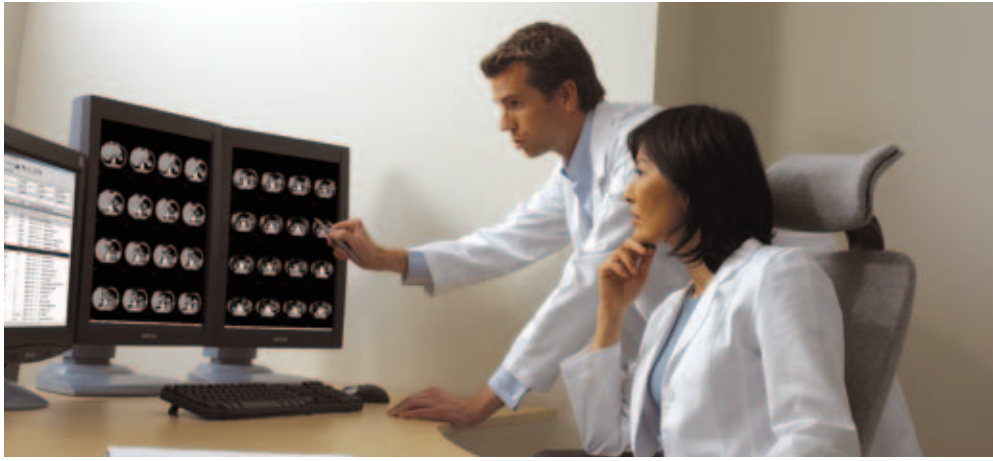


Nio

Industry-standard diagnostic display systems



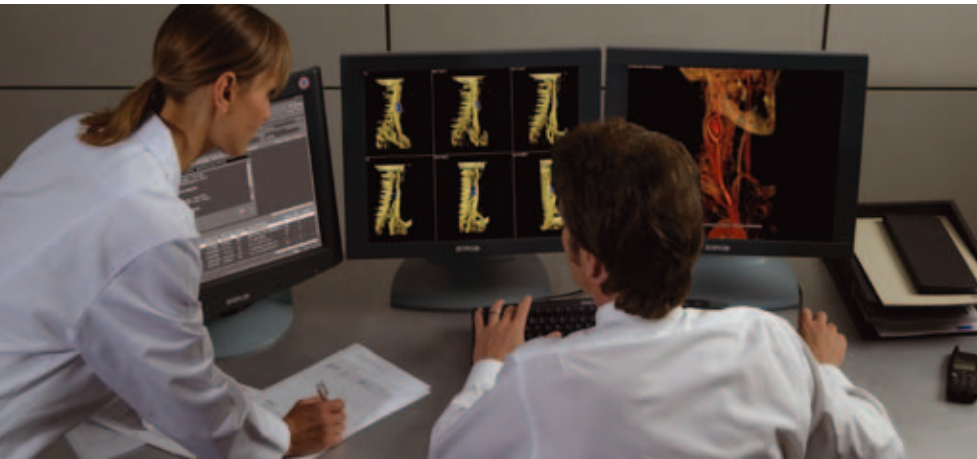
Diagnostic confidence in grayscale



With the Nio diagnostic display system, Barco brings dependable diagnostic imaging to its true potential. Presenting a unique combination of performance and dependability, Nio defines today's industry standard for diagnostic imaging. Nio's proven technology brings high-grade diagnostic confidence in applications such as X-ray, PACS, MRI, angiography, computed tomography and mammography (SMP only).



... or color



In response to the rapid emergence of color applications, the Nio family also presents dedicated color display systems that deliver diagnostic confidence in high bright color. These Nio Color systems provide an effective display solution for cutting-edge color modalities, including 3D PACS, 3D echo, ultrasound, CAD, image fusion, nuclear medicine and PET.

Nio at a glance

Features

- Dependable, proven technology
- Complete product line
- Perfect color matching between displays
- Individual auto-calibration to DICOM
- High-speed image rendering
- Uniformity correction
- 5-year warranty

Benefits

- > Long-term confidence at an exceptional value
- > Optimized solutions for various modalities
- > Identical image quality on every screen
- > Worry-free deployment
- > Maximum productivity
- > Compliance to regional QA standards
- > Worry-free diagnostics for many years

Dependability at an exceptional value

High-quality imaging

Whether you choose for the 2MP, 3MP or 5MP grayscale version or the 3MP color configuration, all Nio display systems will bring high brightness, exceptional crispness and an excellent viewing angle to your readings. This makes Nio the ideal solution for a multitude of color and grayscale applications. The energy-efficient Nio display systems come in an attractive design in single-head or matched dual-head configurations. All Nio systems have a solid and handy tilt and swivel base and can be used in portrait or landscape viewing mode.

Long-term image confidence

Thanks to its high luminance and Backlight Output Stabilization (BLOS) technology, Nio is the ideal solution for a wide range of medical imaging applications. BLOS guarantees fast power-up and continuously stabilizes the luminance output of the LCD's backlight. This significantly improves the overall optical efficiency of your Nio display system and provides long-term image stability.

Perfect color matching

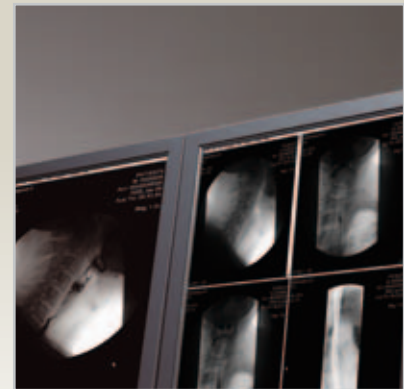
Every multi-head Nio display system is carefully color matched to guarantee that the color characteristics of all displays in the system are consistent. This allows you to perform your work without the distraction of color differences inherent in LCD panels.



Ergonomic viewing thanks to handy tilt and swivel base



BLOS technology for stabilized luminance output



Perfect color matching for consistent diagnostic quality on every screen



High performance for high expectations

High-speed image download



Nio grayscale display systems are driven by high-speed BarcoMed display controllers featuring Barco AURA technology. With PCI or PCI Express performance and image download speeds up to 700 MB per second, the BarcoMed boards are the fastest display controller in their league. They are compatible with Windows XP Professional, Windows Server 2003 and Windows 7.

High-performance 3D support



To support the latest 3D CT, MR and PET applications, Nio display systems can also be combined with Barco's line of high-performance MXRT display controllers. These PCI Express controllers deliver impressive image download speeds and optimized 3D PACS operations through OpenGL and Microsoft DirectX, both on Nio grayscale and color displays.

Protective front cover



Nio display systems are equipped with a protective front cover, which protects your valuable LCD against damage from intensive use in clinical rooms. The cover also allows for easy and safe cleaning. Its non-reflective coating will improve image contrast while keeping reflections very low.



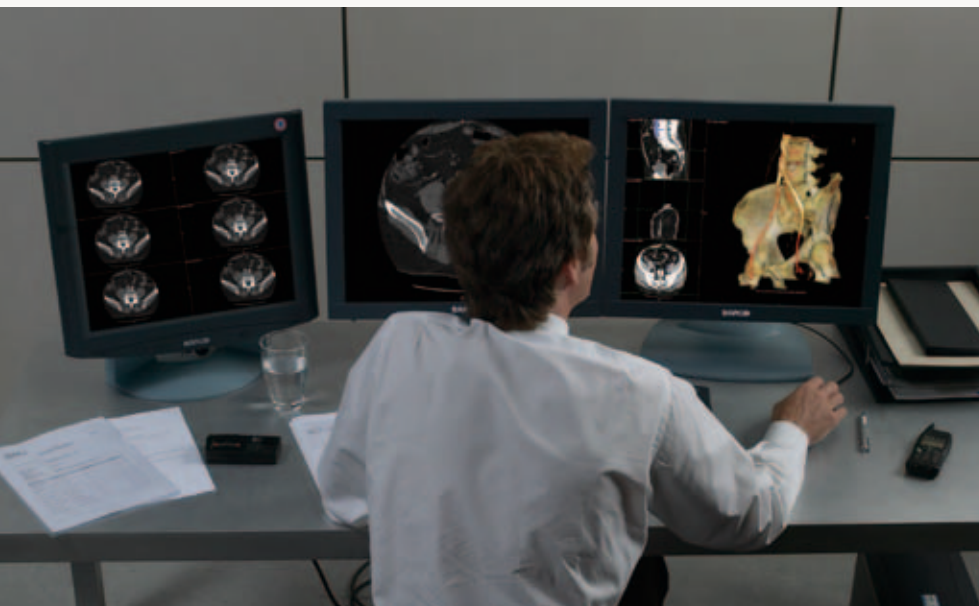
Fast loading with high-speed BarcoMed display controllers



Optimized 3D operations through OpenGL and Microsoft DirectX



Improved diagnostic quality with non-reflective protective front cover



Fully transparent calibration and QA



Nio's innovative softcopy QA system brings a new degree of transparency to your QA routine. MediCal QAWeb is the industry's first and most complete secured online service offering, guaranteeing maximum diagnostic confidence and uptime of your PACS display systems by providing automated DICOM calibration, Quality Assurance, display asset management, problem solving and reporting.

Consistent QA management

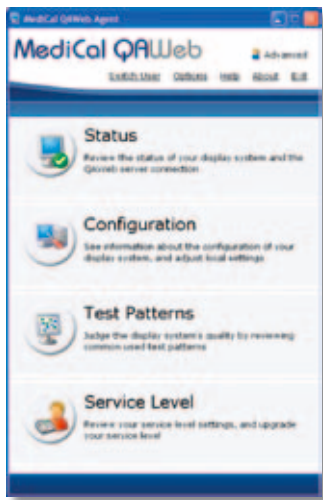
MediCal QAWeb auto-detects and auto-calibrates all displays according to the predefined ambient light settings. This ensures effortless diagnostic confidence for radiologists, without interruption of their workflow.

Compliance with the latest QA standards

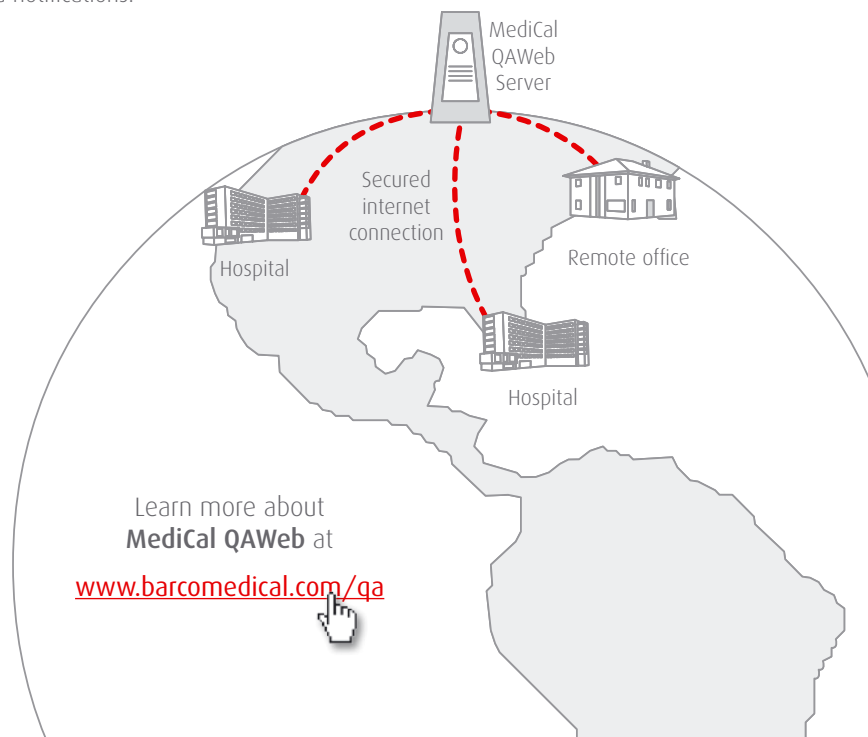
MediCal QAWeb monitors all display systems to ensure continuous compliance with DIN 6868-57, AAPM TG18, JESRA and other regional QA guidelines. If desired, all displays can also be individually DICOM GSDF calibrated in function of the ambient light presets from any remote location.

Effortless asset management

With MediCal QAWeb centralized asset management becomes truly effortless. The system provides a comprehensive overview of all workstations connected to the system and notifies the right person if an asset has been removed. Moreover, it allows you to easily change QA policies (e.g. white luminance) for a group of displays in a specific department from any computer by means of the user-friendly web interface. When opting for the 'Premium' level, remote capabilities further include full remote calibration and QA (e.g. remote display test) and extended notifications.



Transparent Quality Assurance with MediCal QAWeb



Complete peace of mind



Built to deliver maximum peace of mind, Nio display systems come with a 5-year warranty. In addition, Barco offers an array of dedicated support services to help you reduce unscheduled downtime and keep your expenses under control. Barco's global organization is your guarantee for professional support, wherever you are, whenever you need it.



Technical specifications Nio Color

Display	Nio 3MP Color HB
Display	MDNC-3121
Display technology	TFT AM LCD IPS
Active screen diagonal	540 mm (21.3")
Active screen width	433 mm (17")
Active screen height	325 mm (12.8")
Pixel pitch	.2115 mm (0.00833")
Resolution	2048 x 1536 / 1536 x 2048
Maximum luminance (typical)	800 cd/m ²
DICOM calibrated luminance (native white)	400 cd/m ²
Contrast ratio (dark reading room, typical)	750:1
Viewing angle (Horizontal/Vertical)	176°
Display LUT	10 bit
Video input	DVI
Light output stabilization	Backlight sensor BLOS
Uniformity correction	Yes
Display dimensions portrait (w x h x d)	385 x 585 x 250 mm (15.16 x 23.5 x 9.8")
Display dimensions landscape (w x h x d)	485 x 535 x 250 mm (19.1 x 21.1 x 9.8")
Display weight	13 kg (28.7 lb)
Approvals	CE, UL-60601, CSA C22.2 No 601.1, IEC60601, EN-60601-1-2, FCC level B, FDA510(k)
Operational temperature range	0° to +35°C (+32° to + 95°F)
Power consumption (typical)	72 W

Display controller	Barco MXRT-5200
Bus compatibility	PCIe x16
Power consumption	Computer power supply of 375W or higher
Form factor	98,4 x 228,6 x 15,9 mm (3.87" x 9.0" x 0.63")
Operating system	Windows XP 32/64-bit, Server 2003, 2008, Vista XPDM, WDDM
Platforms	Intel® and AMD architectures
Graphics accelerator	ATI FireGL
Display memory	512 MB GDDR4
Look-Up Table	24 bits in / 24 bits out
Pixel depth	24 bit / 30 bit (HDR mode)
Electrical standard	Dual link DVI complying to v1.0
Direct 3D HW support	Microsoft DirectX v10.0/v9.0, Vertex Shader v4.0/v3.0, Pixel Shader v4.0/v3.0
OpenGL HW support	OpenGL 2.1
Video outputs	Two DVI-I connectors
Supported resolutions	Up to 3280 x 2048
	VGA at boot-up
Approvals and compliance	FCC part 15 Class B, CE, UL-60950-1, BMSI CNS, CISPR-22/24, VCCI, CSA C22.2, EU RoHS, MIC
Operational temperature	0° to 55°C (32° to 131°F)

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Technical specifications Nio grayscale

Display	Nio 2MP	Nio 3MP	Nio 5MP	
Display	MDNG-2121	E-3620 MA	MDNG-5121 MA	MDNG-6121
Display technology	TFT AM LCD Dual Domain IPS	TFT AM LCD Dual Domain IPS	TFT AM LCD Dual Domain IPS	TFT AM LCD Dual Domain IPS
Active screen diagonal	540 mm (21.3")	528 mm (20.8")	540.9 mm (21.3")	540.9 mm (21.3")
Active screen width	432 mm (17")	423,9 mm (16.7")	422,4 mm (16.6")	432 mm (17")
Active screen height	324 mm (12.8")	318 mm (12.5")	337,9 mm (13.3")	324 mm (12.8")
Pixel pitch	.270 mm (0.01063")	.207 mm (0.00815")	.165 mm (0.0065")	.154 mm (0.00606")
Native resolution (landscape/portrait)	1600 x 1200 / 1200 x 1600	2048 x 1536 / 1536 x 2048	2560 x 2048 / 2048 x 2560	2800 x 2096 / 2096 x 2800
Maximum luminance (typical)	1200 cd/m ²	1000 cd/m ²	700 cd/m ²	1100 cd/m ²
DICOM calibrated luminance (native white)	500 cd/m ²	500 cd/m ²	500 cd/m ²	500 cd/m ²
Contrast ratio (dark reading room, typical)	850:1	900:1	800:1	1000:1
Viewing angle (H/V, typical)	170° (10:1 contrast)	170° (10:1 contrast)	170° (10:1 contrast)	170° (10:1 contrast)
Display LUT	10 bit grayscale	10 bit grayscale	10 bit grayscale	10 bit grayscale
Video input	DVI	DVI	DVI	DVI
Light output stabilization	Backlight sensor BLOS	Backlight sensor BLOS	Backlight sensor BLOS	Backlight sensor BLOS
Uniformity correction	Yes	Yes	No	Yes
Display dimensions portrait (w x h x d)	385 x 585 x 250 mm (15.16 x 23.03 x 9.8")	385 x 585 x 250 mm (15.16 x 23.03 x 9.8")	408 x 591 x 250 mm (16.06 x 23.27 x 9.8")	385 x 585 x 250 mm (15.16 x 23.03 x 9.8")
Display dimensions landscape (w x h x d)	485 x 535 x 250 mm (19.1 x 21.1 x 9.8")	485 x 535 x 250 mm (19.1 x 21.1 x 9.8")	492 x 549 x 250 mm (19.37 x 21.61 x 9.8")	485 x 535 x 250 mm (19.1 x 21.1 x 9.8")
Display weight	12,2 kg (26.9 lb)	13 kg (28.7 lb)	12,5 kg (27.6 lb)	12,3 kg (27.1 lb)
Approvals	CE, UL60601, CSA C22.2 No 601.1, IEC60601, EN 60601-1-2, FDA 510K, FCC level B	CE, UL60601, CSA C22.2 No 601.1, IEC60601, EN 60601-1-2, FDA 510K, FCC level B	CE, UL60601, CSA C22.2 No 601.1, IEC60601, EN 60601-1-2, FDA 510K, FCC level B	CE, UL60601, CSA C22.2 No 601.1, IEC60601, EN 60601-1-2, FDA 510K, FCC level B
Operational temperature range	0° to +35°C (+32° to +95°F)	0° to +40°C (+32° to +104°F)	0° to +40°C (+32° to +104°F)	0° to +35°C (+32° to +95°F)
Temperature within specs	0° to +35°C (+32° to +95°F)	+15° to +35°C (+59° to +95°F)	+15° to +35°C (+59° to +95°F)	+15° to +30°C (+59° to +86°F)
Power consumption (typical)	65 W	79 W	80 W	78 W

Nio display controllers	BarcoMed Nio	BarcoMed Nio PCIe
Bus compatibility	PCI 2.2 universal signaling	PCI Express [®] x8, x16
Power consumption	< 15 W	< 15 W
Form factor	106 x 176 x 16 mm (4.2" x 6.9" x 0.6")	106 x 176 x 16 mm (4.2" x 6.9" x 0.6")
Operating system	Microsoft Windows [®] 2000, XP, X64, Vista XPDM	Microsoft Windows [®] 2000, XP, X64, Vista XPDM
Platforms	Intel [®] architectures	Intel [®] architectures
Graphics accelerator	Barco Aura	Barco Aura
Display memory	128 MB	128 MB
Look-Up Table	10 bits in / 10 bits out	10 bits in / 10 bits out
Pixel depth	10 bit	10 bit
Electrical standard	Single link DVI complying to v1.0 specification	Single link DVI complying to v1.0 specification
Direct 3D HW support	n/a	n/a
OpenGL HW support	n/a	n/a
Video outputs	Two DVI-I connectors	Two DVI-I connectors
Supported resolutions	Up to 2048 x 2560 VGA at boot-up	Up to 2048 x 2560 VGA at boot-up
Approvals and compliance	FCC-B, CE, EN55022 A, EN 50082-1	FCC-B, CE, EN55022 B, EN 61000-6, IEC 60601-102
Operational temperature	10° to 60°C (50° to 140°F)	10° to 60°C (50° to 140°F)

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Barco medical imaging

Barco, a global market leader in visualization solutions for Picture Archiving and Communication Systems, has been developing visionary medical imaging solutions for almost twenty years. Driven by experience and innovation, Barco presents a full range of state-of-the-art solutions for radiological, surgical and clinical imaging. From acquisition to display, from image processing to quality assurance, Barco's hardware and software solutions deliver the perfection patients deserve.

Barco's commitment to quality has earned the trust of customers from all over the world, who partner with Barco to meet their most demanding imaging challenges. This partnership approach is also reflected in Barco's worldwide customer service network, ensuring professional support, wherever you are, whenever you need it.



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