Because it matters

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Doc NO: LCD_MD_BR_EN_20150805

Great Health Care Begins Here

Precise color and accurate detail for medical professionals

Medical Display MD/ SE Series

BenQ medical displays are created to meet the needs of modern health care institutions. Designed and manufactured to help medical professionals deliver the best possible care, these displays offer DICOM 3.14 conformance, proprietary color calibration, and precision-controlled luminance, along with interface features to ensure efficient, intuitive operation.

Because it matters

Superior Displays for Superior Care

BenQ provides high-quality imaging for two major classes of medical applications. The MD Series brings features and specifications tailored to the needs of diagnostic reviews, while the SE Series is designed for the requirements of the modern operating room. Our mission is to help health professionals to perform their critical work more efficiently, effectively, and reliably.

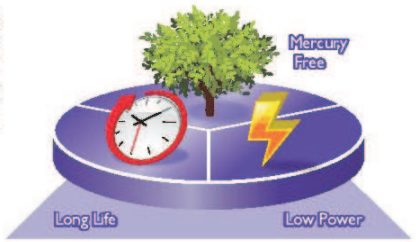
Fully Certified

BenQ is committed to ensuring compliance with medical regulations and safety standards. Additionally, all displays conform to the ISO13845 quality management system for medical devices.

EN 60601-1
IEC 60601-1
R43002

Better for the User, and the Environment

An LED backlight not only delivers performance advantages such as higher luminance and better contrast, but also helps preserve the environment through lower power consumption and mercury-free manufacture. In addition, LED backlights sustain their illumination capacity better than do conventional CCFL backlights, offering longer use.



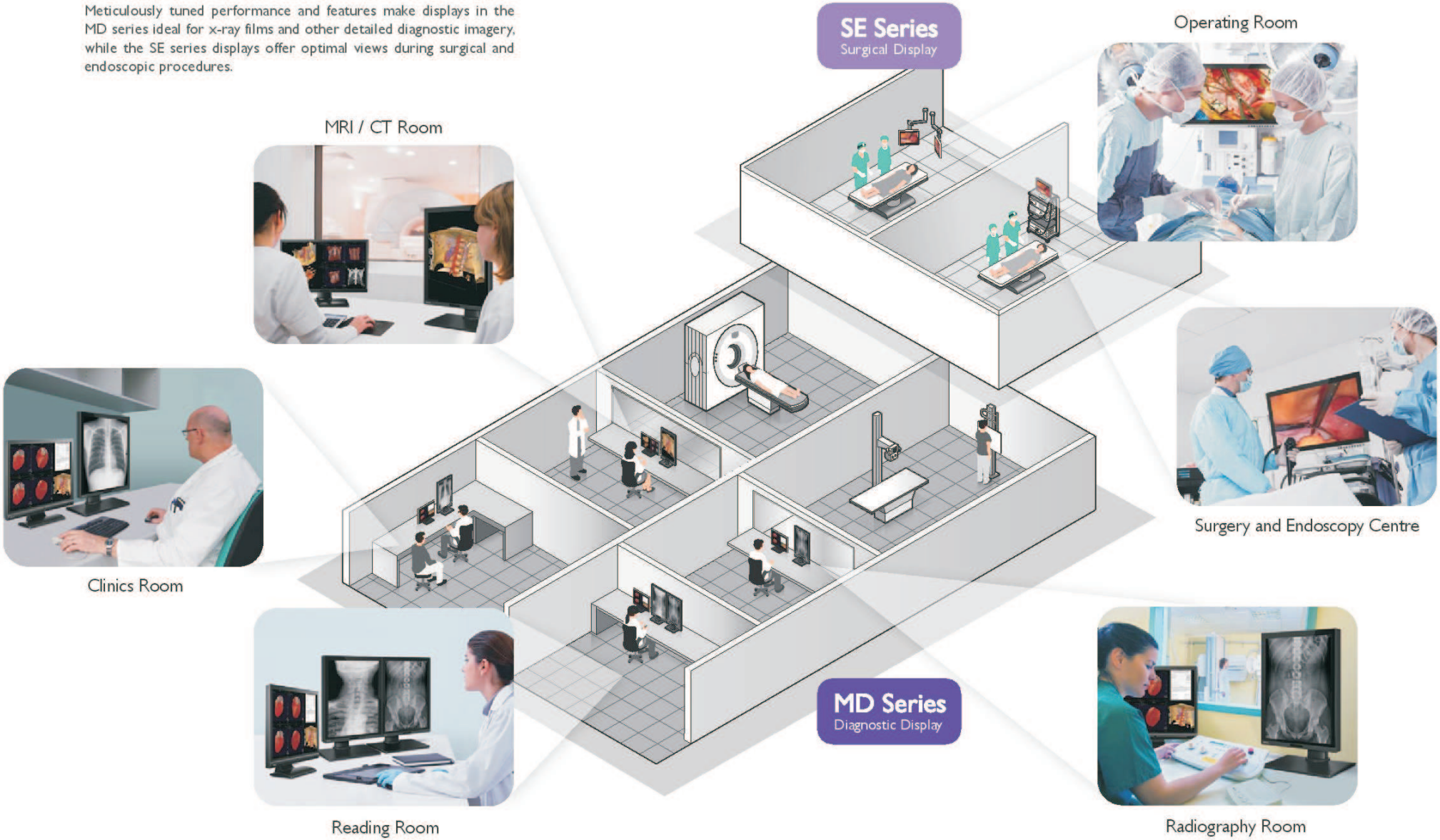
Quality That Stands the Test of Time

A five-year warranty* attests to BenQ's long-term commitment to serving the health care field, and our dedication to quality.

* Specific warranty terms may vary by country or region.

Displays Optimized for Diagnostic and Surgical Applications

Meticulously tuned performance and features make displays in the MD series ideal for x-ray films and other detailed diagnostic imagery, while the SE series displays offer optimal views during surgical and endoscopic procedures.



Operating Room

MRI / CT Room

Clinics Room

Surgery and Endoscopy Centre

Reading Room

Radiography Room

BenQ Medical Display

MD Series

SE Series

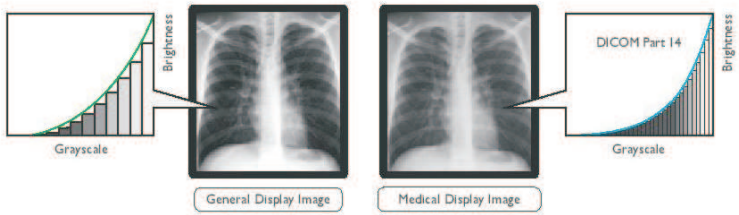
Different Uses, Same Excellence

Commitment to superior imaging quality and interoperability with other equipment ensures that the requirements of particular medical applications are fully satisfied. A carefully considered interface accommodates users' personal preferences and particular working environments.

Reliable Imaging

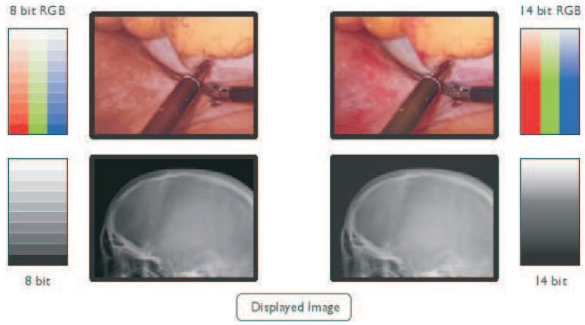
Consistent, Standards-Compliant Grayscale Images

Conformance with DICOM Part 3.14 ensures that grayscale images are rendered accurately and consistent with their appearance on other imaging devices, so that radiologists and other specialists have a reliable basis for assessment and diagnosis.



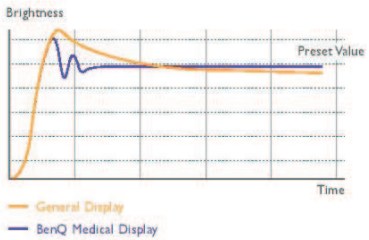
Greater Grayscale and Color Range

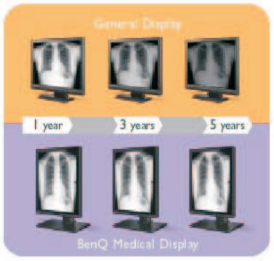
14-bit grayscale and color LUTs provide dramatically expanded grayscale levels and color values. The result is clearer differentiation of visual detail for easier identification of important features whatever the particular medical application.



Stable, Precision-Controlled Luminance

Advanced luminance control not only ensures an ideal level of brightness that is quickly achieved after powering on, but also provides consistency both during a session of use and over the lifetime of the display.

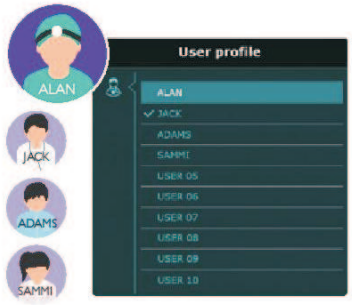




Thoughtful Design

Greater Convenience for Users

Different users can save individualized settings for various imaging parameters and quickly switch to accommodate a particular usage scenario or personal preference.



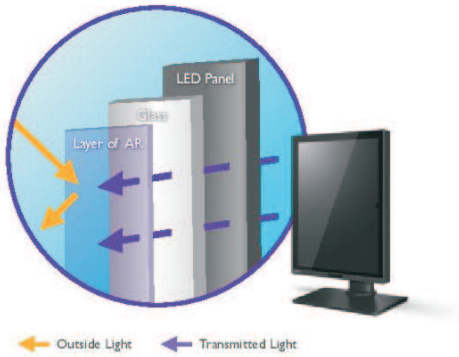
Protect Against Errors

An OSD lock prevents accidental overwrites of settings when operating the display, while a notifications system presents real-time warnings about any irregular system conditions.

Useful Safeguards

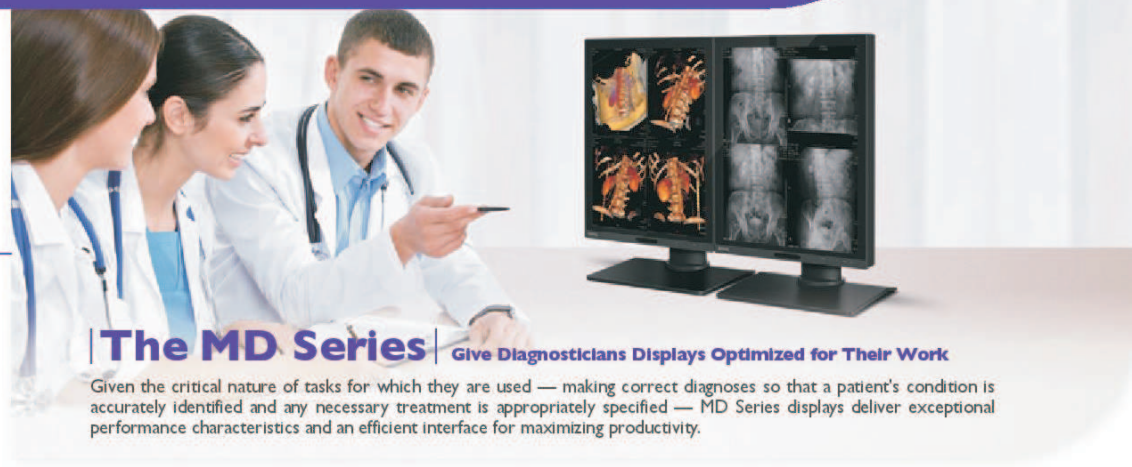
Easy Viewing, Easy Cleaning

Protective front glass guards the display screen against damage, while a double anti-reflective coating not only reduces glare, but enhances light transmission, providing users with a clearer view. Moreover, the screen treatments make the displays easier to clean.



Prevent Contamination

Specially treated materials on the external surface prevent the growth of microbes that can cause unpleasant odors and pose an infection threat.



The MD Series | Give Diagnosticians Displays Optimized for Their Work

Given the critical nature of tasks for which they are used — making correct diagnoses so that a patient's condition is accurately identified and any necessary treatment is appropriately specified — MD Series displays deliver exceptional performance characteristics and an efficient interface for maximizing productivity.

Superior Image Quality

Ambient Light Sensor

Achieve Optimal Brightness and Grayscale Tones

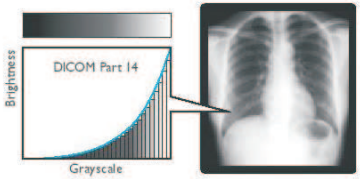
A sensor on the front bezel measures ambient light levels, adjusting black levels in darker areas of the screen image to provide optimal viewing and conformance to AAPM TG-18 specifications.

Without Ambient Light Sensor | With Ambient Light Sensor

Sensor-Based Image Monitoring

Ensure DICOM-Standard Picture Quality at All Times

An advanced sensor monitors luminance levels over the entire screen to ensure DICOM-conformant images with uniform luminance across the entire screen both during a single session of use and over the lifetime of the display.



Displayed Image

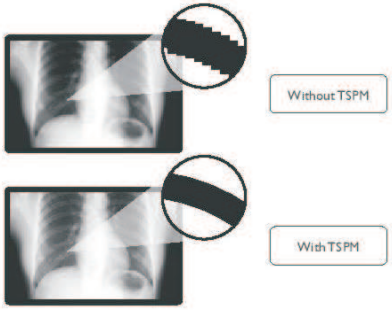
Accurate Imaging

True Sub-Pixel Manipulation (TSPM)

Make It Sharp

TSPM is BenQ's implementation of true pixel rendering*, using the subpixels that compose each pixel to perform anti-aliasing. The result is that even extremely fine visual details in images are rendered with extraordinary crispness.

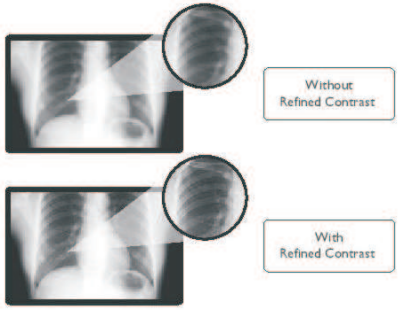
* Available on the MD310G 3MP grayscale model.



Refined Contrast

Bring Out Easy-to-Miss Visual Features

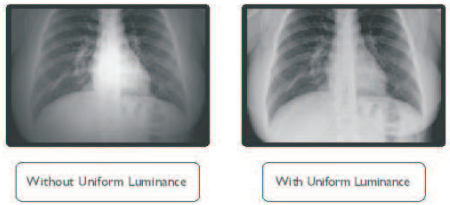
By algorithmically identifying areas of interest in an image and applying adjustment to black and white levels, especially fine or subtle details that could otherwise be overlooked are made more clearly visible, a feature especially valuable for diagnostic reading of complex images.



Uniform Luminance

Ensure Consistency in Brightness

Uniform luminance across the entire screen guards against discrepancies in brightness levels in different areas of the screen. The result is images that are rendered with consistent luminance across their entirety.



DisplayPort and Dual-Link DVI Input

Future-Proof High-bandwidth Input Support

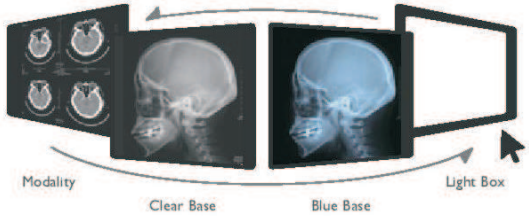
High-bandwidth inputs deliver excellent performance and picture quality. DisplayPort connectivity allows easily handling of high-resolution images with higher bit-depth support (10-bit grayscale and 10-bit in each R, G, B), while the high-speed dual-link DVI interface ensures smooth rendering of high-definition video.

Efficient Operation

Fast Mode Switching

Instantly Change Settings for Different Applications

A simple button press allows the user to switch to a different display mode. Commonly used modes such as DICOM and variants, Modality, and Light Box are included, while custom modes can also be configured to meet the requirements of specific applications or usage scenarios.

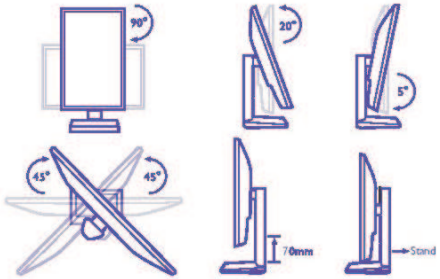


User-Oriented Design

Ergonomic Design

Ensure User Comfort Even Over Extended Periods of Viewing

A versatile stand allows the screen's height to be adjusted, as well as enabling the screen to be tilted or swiveled, accommodating user preferences, as well as the needs of a particular medical application or usage environment.



Eco Sensor

Save Power Effortlessly

A sensor on the front of the display detects when a user moves away, shifting into the power-saving screen-off Eco mode automatically, then restoring the screen view instantly when the user returns.

Power saving begins automatically when the user is away.

The system turns back to the normal operation when the user is back.

Auto OSD Rotation

Switch Orientations Automatically

As the panel is rotated, screen orientation is automatically switched between landscape and portrait. The OSD menu is also repositioned to ensure that accessing and adjusting settings is always convenient.

The Menu Rotates Automatically When the Screen Is Rotated.

The SE Series

Give Surgeons a Sophisticated Display to Count on

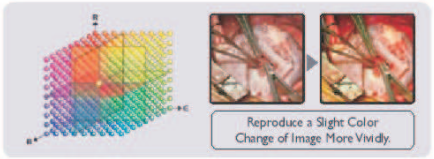
Designed to meet surgeons' exacting requirements in the areas of image quality, support for a full range of modality systems and input sources, compliance with medical-related standards, and versatile installation options, the SE Series offers ideal display solutions for endoscopic cameras and other operating room equipment.

High-Precision Imaging

Three-Dimensional Lookup Table (3D-LUT)

Render Colors with Pinpoint Accuracy

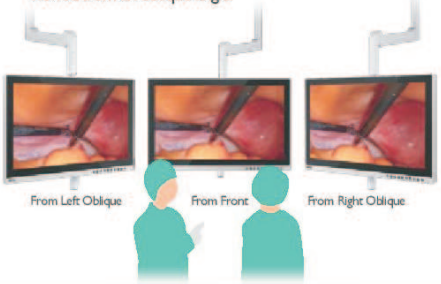
A 3D-LUT improves on the conventional single LUT for each RGB color, using a 3D lattice of output RGB values that can be indexed by specific sets of input values. This approach offers more precise representation of color gradations and grayscale tones to make even slight color variations more easily perceptible.



Wide Viewing Angle

Get a Optimal View

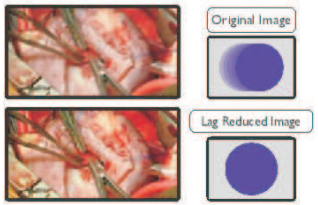
Use of a high-quality IPS LCD panel not only enhances picture quality, but provides wide viewing angles so images and video are perceived accurately even when viewed from an oblique angle.



Advanced Signal Processing

Optimize Video, Reduce Lag

SE Series displays utilize signal processing chips selected for speed to ensure that video signals from input sources such as endoscopic cameras are rendered on-screen without lag, ghosting, or other visual artifacts that might interfere with the ability to gain an accurate, real-time view.



Advanced Management Features

***Endoscopy Light Source Measurement* — Capture Colors Accurately**

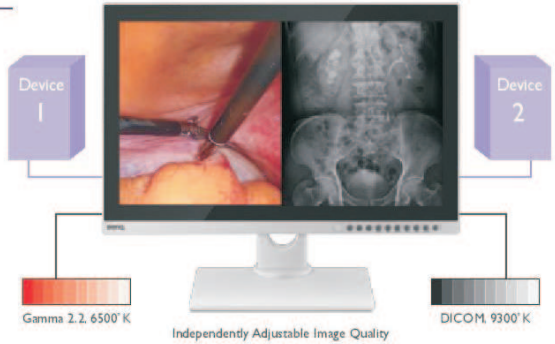
The light sensor can be used to detect the color temperature of a light source, allowing better matching between the source and the display so surgeons have a more accurate idea of the actual condition of the tissue under examination.

Streamlined Operation

Dual-Source Display

Double the Information on View

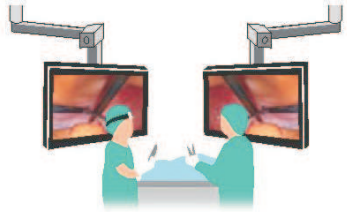
Surgeons can view video from two separate sources side-by-side on a single BenQ SE Series display by taking advantage of Picture-by-Picture mode, or view one source in a smaller window within the main window using Picture-in-Picture mode. Moreover, color temperature and gamma values can be adjusted for each source independently for even greater flexibility.



View Doubling

Easily Obtain Simultaneous Alternative Views

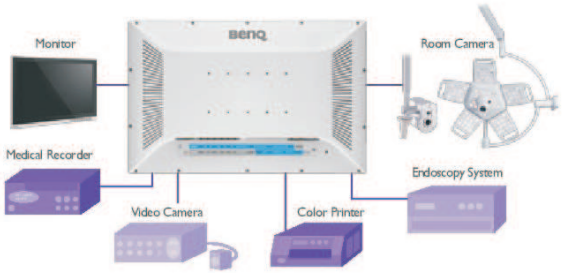
A pair of SE displays can be used with a single output device to provide both a normal view and alternate view, such as a mirror image. By taking advantage of this feature, separate views can be provided for different users, or two views can be made available to a single user, as needed.



Multiple Input/Output Support

Work with a Wide Range of Other Devices

The presence of both legacy interfaces such as VGA and S-Video and modern interfaces such as DVI and 3G-SDI allows input from the widest possible range of analog and digital equipment. In addition, broad interface support enables use of the display as part of a modality system, as well as for output to other devices.



Interruption-Free Viewing

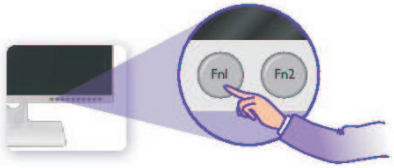
***Auto Second Source* — Switch to a Backup Source Seamlessly**

When the main source signal input is interrupted, automatic switching to a predefined backup source occurs. Surgeons can thus be assured of continual display of critical images or video without the need for possibly time-consuming manual intervention.

Considered Design

Configurable Buttons
Access Frequently Used Settings Instantly

Easily accessible buttons on the front panel facilitate rapid switching between user-defined display settings. Clearly labeled and generously spaced to reduce mistaken button presses, these buttons ensure different users can easily obtain optimal views of whatever visual data is displayed.



16:9 Aspect Ratio
View More with Widescreen Format

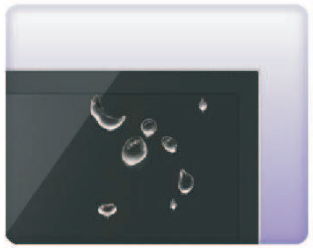
The widescreen format provides a larger viewable area for images and videos as well as for software interface elements.

Fan-Less Design
Reduce Infection Risks

A fan-less design results in a lighter, more compact device that's better suited to the operating room environment, while also reducing the risk of circulating airborne pathogens.

IPX3 Waterproof Design
Prevent Liquid Damage

A sealed front and IPX3-rated housing protect internals from damage by liquids, while also enabling easy cleaning and disinfection.



VESA Compliant Mounting
Ensure Flexible Installation Options

VESA 100x100 and 200x100 standard mounting options make installation on surgical equipment arms, carts, walls, or other locations in the operating room fast and simple.

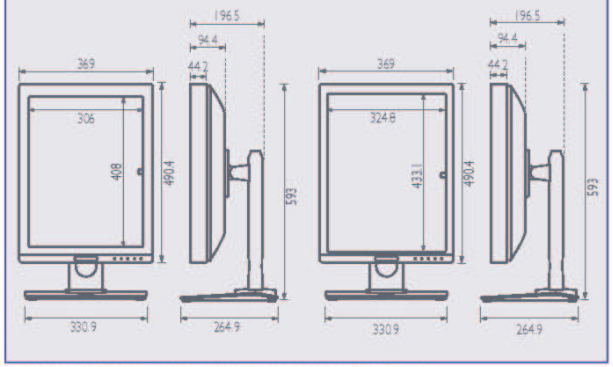
Model Name		MD210G	MD310G	MD310C
LCD Panel	Technology	TFT Monochrome LCD Panel	TFT Monochrome IPS LCD Panel	TFT Color IPS LCD Panel
	Backlight	LED	LED	LED
	Panel Size (diagonal)	20.1" (51.1cm)	21.3" (54.1cm)	21.3" (54.1cm)
	Display Size (H x V)	408 x 306 mm	433.1 x 324.8 mm	433.1 x 324.8 mm
	Mega Pixels	2MP	3MP	3MP
	Native Resolution (H x V)	1600 x 1200	2048 x 1536	2048 x 1536
	Pixel Pitch (H x V)	0.255 x 0.255 mm	0.2115 x 0.2115 mm	0.2115 x 0.2115 mm
	Viewing Angle (H,V)	170° / 170° @ CR>10 (Typ)	176° / 176° @ CR>10 (Typ)	176° / 176° @ CR>10 (Typ)
	Response Time	30 ms (Typ)	40 ms (Typ)	40 ms (Typ)
	Brightness	400 cd/m² (Calibrated), 1000 cd/m² (Typ)	400 cd/m² (Calibrated), 1700 cd/m² (Typ)	400 cd/m² (Calibrated), 800 cd/m² (Typ)
	Contrast Ratio	1400:1 (Typ)	1400:1 (Typ)	1400:1 (Typ)
Connectivity	Input Terminals	VGA x 1, DVI-D x 1, DisplayPort x 1	DVI-D (Dual link) x 1, DisplayPort x 1	
	USB Ports / Standard	1 upstream, 2 downstream / Rev. 2.0		
Power Supply	Power Input	AC 100-240V, 50~60 Hz		
	Power Consumption	55W (Maximum)	80W (Maximum)	95W (Maximum)
Sensor	Backlight Sensor, Front Sensor, Eco Sensor, Ambient Light Sensor, Gravity Sensor			
Physical	Screen Protection	Protective, Double AR Coating Glass		
	Dimensions with stand (W x H x D)	Portrait: 369 x 523~593 x 264.9 mm / Landscape: 490.4 x 462.2~532.2 x 264.9 mm		
	Dimensions w/o stand (W x H x D)	Portrait: 369 x 490.4 x 94.4 mm / Landscape: 490.4 x 369 x 94.4 mm		
	Net weight with stand	Approx. 10.3 kg	Approx. 10.9 kg	Approx. 11 kg
	Net weight w/o stand	Approx. 6.3 kg	Approx. 7 kg	Approx. 7.1 kg
	Desktop Stand	Pivot, Tilt, Swivel, Height adjustment		
	Mounting	100 x 100 mm VESA compliant		
Environmental	Operating Temperature	0°C to + 35°C		
	Transport / Storage Temperature	-20°C to +60°C		
	Operating Humidity	20% to 80% (non-condensing)		
	Transport & Storage Humidity	10% to 80% (non-condensing)		
	Operating Atmospheric Pressure	700hPa to 1060hPa		
	Transport & Storage Atmospheric Pressure	200hPa to 1060hPa		
Certification and Compliance		cTÜVus (ANSI/AAMI ES 60601-1, CAN/CSA C22.2 No. 60601-1), CB (IEC 60601-1, IEC 60950-1), TUV/RH (EN 60601-1), CE, FCC, CCC, BSMI, VCCI, RoHS, WEEE, REACH		
Supplied Accessories		DVI-D Cable, USB Cable, Power Cord, Manual CD, QSG	DVI-D Cable (Dual link), DisplayPort Cable, USB Cable, Power Cord, Manual CD, QSG	

Model Name		SE26101
LCD Panel	Technology	TFT Color IPS LCD Panel
	Backlight	LED
	Panel Size (diagonal)	26"(66.1cm)
	Display Size (H x V)	576 x 324 mm
	Mega Pixels	2.3 MP
	Native Resolution (H x V)	1920 x 1080
	Pixel Pitch (H x V)	0.300 x 0.300 mm
	Viewing Angle (H,V)	178° / 178° @ CR>10 (Typ)
	Response Time	18 ms (Typ)
	Brightness	450 cd/m² (Typ)
	Contrast Ratio	1400:1 (Typ)
Inputs	DVI (1)	DVI-D x1
	DVI (2)	DVI-D x1
	DisplayPort	DisplayPort x1
	3G-SDI	BNC x1
	VGA	HD-15 x1
	RGBS/YPbPr	BNC x5
	S-Video	Mini-DIN 4-pin x1
	Composite	BNC x1
Outputs	3G-SDI	BNC x1
	RGBS/YPbPr	BNC x5
	S-Video	Mini-DIN 4-pin x1
	Composite	BNC x1
DC Power Output	DC Out 5V, 1A	Round type pin (female) x1 (For powering an external equipment)
Control Input	Serial Remote	RS-232C, D-sub 9-pin x1
Power Supply	Power Input	DC 24V, 3.75A (Supplied from AC adapter)
	Power Consumption	80W (Maximum)
Physical	Screen Protection	Protective, Double AR Coating Glass
	Water proofing Level	IPX3 (front side)
	Dimensions with stand (W x H x D)	638 x 471.7 ~ 541.7 x 264.9 mm
	Dimensions w/o stand (W x H x D)	638 x 409.5 x 90.2 mm
	Net weight with stand	Approx. 12.6 kg
	Net weight w/o stand	Approx. 8.6 kg
	Mounting	100 x 100 mm, 200 x 100 mm VESA compliant
Environmental	Operating Temperature	0°C to + 40°C
	Transport & Storage Temperature	-20°C to +60°C
	Operating Humidity	20% to 80% (non-condensing)
	Transport & Storage Humidity	10% to 80% (non-condensing)
	Operating Atmospheric Pressure	700hPa to 1060hPa
	Transport & Storage Atmospheric Pressure	200hPa to 1060hPa
Certification and Compliance		cTÜVus (ANSI/AAMI ES 60601-1, CAN/CSA C22.2 No. 60601-1), CB (IEC 60601-1, IEC 60950-1), TUV/RH (EN 60601-1), CE, FCC, CCC, BSMI, IP33 (IPX3 only the front side), RoHS, WEEE, REACH
Supplied Accessories		Power Adapter, DVI-D to DVI-D Cable, S-Video Cable, Power cord, Manual CD, QSG, Display Stand

MD210G

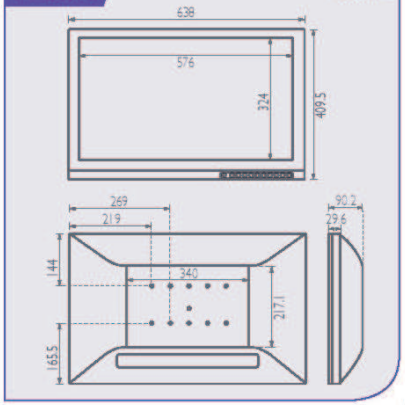
MD310G / MD310C

Unit : mm



SE26101

Unit : mm



Specifications and functions are subject to change without notice for quality improvement.