

Radiance™ 19



- Ultra High Bright - High Contrast
- Image Lag Reduction™ Technology
- Super Fast Response
- Picture Perfect™ Technology
- Medical-Grade UL/IEC-60601-1
- Splash Proof
- 24 VDC Remote Power

The Radiance series of surgical displays are ideally suited for use with minimally invasive surgical equipment in the OR. These medical grade devices exceed the stringent performance and safety requirements necessary for use in a surgical environment, where superior image quality, true color reproduction, exceptional contrast, and high brightness are required. For mounting on light arms, the external 24Vdc power supply can be located up to 100 feet away from the display.

Picture-Perfect Technology™

PPT™ technology, invented and used by NDS in manufacturing Radiance displays, eliminates the jagged edges that appear when interlaced video signals are displayed on a progressive scan flat-panel device (LCD or Plasma). NDS PPT uses proprietary angle correlated vector interpolation algorithms to eliminate intra-field spatial interpolation (staircasing effect), and enhances the visual quality necessary for tying sutures, examining tissues and other delicate procedures.

Image Lag Reduction (ILR) for Super Fast Video Imaging

Proprietary Image Lag Reduction technology (ILR), developed at NDS in conjunction with PPT, provides the fastest video imaging available in the market today. ILR technology anticipates the LCD drive required from one video frame to the next and modifies the LCD sub-pixel drive level to provide an industry-leading fast response time. These advanced interpolation and smoothing algorithms, result in images presented lag-free. Equipped with ILR technology, the Radiance display family delivers the fastest response time of any flat-panel display (between 10 and 16ms response time).

Certifications/Compliance

EN 60601-1, UL 60601-1 (Classified), MDD 93/42/EEC, IEC-601.1, EN 46001, CE, ISO 9001, ISO 13485, Class I Medical Device, FDA Registration #2954921

The New Surgical Display Standard

With 24Vdc power input,
the Radiance is a perfect solution
for boom arm mounting.



Surgical and Radiology Support

The Radiance display supports eight different video formats, including SDI, DVI digital, VGA analog, RGBS, Component Video, (YPbPr), S-Video(Y/C), Composite, and Sync-On-Green (SOG). And with gamma correction included, the Radiance is a perfect solution for fluoroscopy, ultrasound, PACS, MR, DR, etc.

Remote Functionality Control for Switching Signals in Real-Time

Integrated Operating Rooms require that display adjustments and video image source switching occur in real-time, without the intervention of the surgeon in the sterile field. Radiance displays answer this requirement with Remote Functionality Control (RFC) technology. All Radiance displays deliver RFC via a serial communication port located on the display.

General Purpose Input Connector

The General Purpose Input/Output (GPIO) connector allows customization to the Radiance display. It can be connected to a foot pedal to provide the surgeon with the ability to switch between different video sources, or be used to invoke the Tally-Lamp™ indicator.

Medically Manufactured

The Radiance is a professional medical device designed specifically for the OR environment. Unlike many LCD manufacturers who fashion existing off the shelf displays into medical equipment, this flat-panel is designed from the ground up for extreme durability and safety. Membrane style buttons and a non dimpled, sealed enclosure ensures particles or other foreign matter won't accumulate into voids or openings and possibly spread contaminants. The completely sealed case also protects the internal components from any exposure to liquids that can sometimes be prevalent in the OR facility. The unit is designed to run without fans of any sort (internal or external) that could possibly make contaminants airborne and spread bacteria. Designed for safety, the low voltage input eliminates concerns with running mains power through a metal arm. In addition, the low voltage design allows the external power supply to be located up to 100 feet away from the display.

Radiance 19-inch specifications

General

Viewing Area (Diagonal)	
inches	19" (Trinitron PVM20M=18.5")
mm	483
Active Area	
Inches	14.8 x 11.9
mm	376 x 301
Pixel pitch (mm)	0.294
Native Resolution	1280 x 1024 (SXGA)
Luminance (cd/m ²)	450
Contrast ratio	650:1
# of Colors	16.77 million
Color Gamut	
(% SMPTE 296M, HD std.)	100
Viewing Angle (degrees)	±85
Response	10-16ms; gray – to – gray
Gamma:	1.8, 2.0, 2.2, 2.4 & PACS
Display Technology	a-Si TFT
Power Requirements	
Display	16 - 24 VDC
DC Power Supply	100 to 240 VAC ± 10%, 50/60 Hz
Power Consumption	40W
Dimensions	
inches	18 x 16 x 4
mm	465 x 400 x 98
Weight (lbs.)	14 (6.4 Kg)

Inputs

(for video input formats, see pg.4)

Horiz Freq (kHz, max)	75
Vertical Freq (Hz, max)	85
Bandwidth (MHz, max)	135
SDI	BNC, 75 Ω terminated
S-video	BNC x 2 (Y & C), and DIN-4, 0.7 Vp-p ± 6db, high impedance
RGBS, YPbPr	BNC x 4, or HD-15, 0.7 Vp-p ± 6db, 75 Ω terminated
Composite	BNC, 0.7 Vp-p ± 6db, 75 Ω terminated
Sync-On-Green (SOG)	BNC x 3, 75 Ω terminated
Graphics Inputs	
DVI	DVI-d
VGA	HD-15
Control Inputs	
RS-232	DB-9
GPIO	DIN-6

Outputs

SDI	BNC
S-Video	DIN-4
RGBS	BNC x 4, and HD-15
Composite	BNC

User Controls

OSD	R, G, B adjust, Hue, Saturation adjust, Color Temperature: D55/D65/D80/D93 Contrast, Brightness, Backlight Level, Horizontal & Vertical Position Overscan: Off / On (up to 25% overscan), Phase & Frequency
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Operating Conditions

Temperature	
Operating	0 to +40 °C
Storage	-20 to +60 °C
Humidity	
Operating	20 - 85 %RH
Storage	5 - 85 %RH

Mounting

	100 mm VESA
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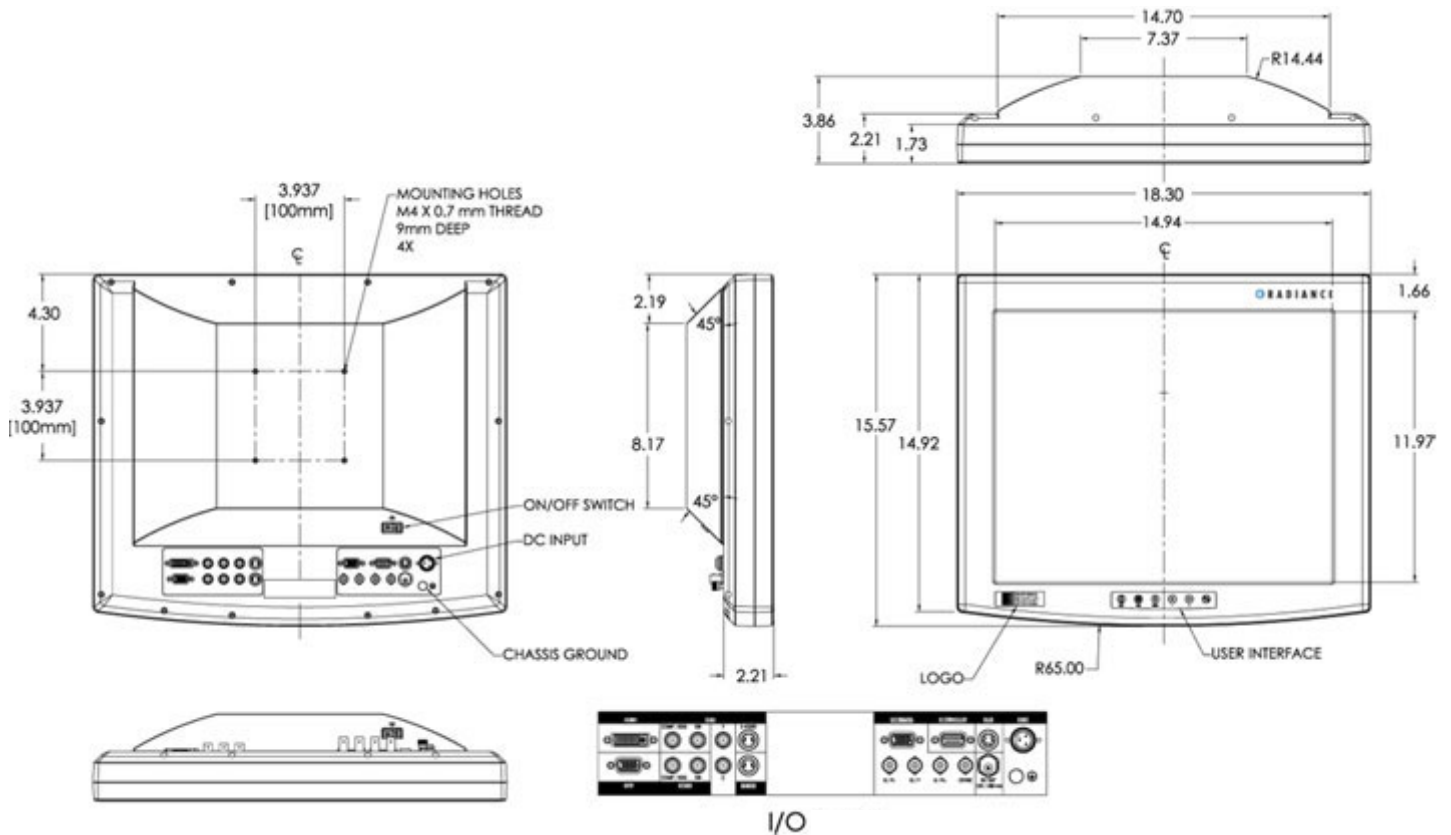
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Video Input Formats

Format	Input		Horiz. Freq (kHz)	Interlace / Progressive	Aspect	Standard
	Digital	Analog				Digital/Analog
Serial						
576/50i (PAL)	SDI	Comp, S-video, RGB, YP _B P _R	15.625	Int	16:9 / 4:3	SMPTE 259M/C ITU 601
480/60i (NTSC)	SDI	Comp, S-video, RGB, YP _B P _R	15.734	Int	16:9 / 4:3	SMPTE 259M/C ITU 601
576/50p		RGB, YP _B P _R , SOG	31.250	Prog	16:9 / 4:3	-
480/60p		RGB, YP _B P _R , SOG	31.469	Prog	16:9 / 4:3	- SMPTE 293M
720/50p		RGB, YP _B P _R	37.500	Prog	16:9	- SMPTE 296M
720/60p		RGB, YP _B P _R	45.000	Prog	16:9	- SMPTE 296M
1080/50i		RGB, YP _B P _R	28.125	Int	16:9	- SMPTE 274M
1080/60i		RGB, YP _B P _R	33.750	Int	16:9	- SMPTE 274M
Up to 1024/60p		SOG	64.0, max	Prog	-	-



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** NDS continuously enhances its products, therefore specifications are subject to change without notice.

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