NDS

ENDOSCOPY VIDEO SOLUTIONS
2016

V1

ABOUT NDS

Located in Silicon Valley, NDS is a global leader in designing and manufacturing medical visualization, video processing and wireless solutions for today's minimally invasive and endoscopy procedures. Our success is a testimony to a proven track record of adoption by leading medical OEMs.

We are dedicated to providing our customers with the latest in clinical and technical innovations and the highest quality products and support available.

CONTENTS

VISUALIZATION

RADIANCE ULTRA

The next generation of configurable visualization systems, the Radiance Ultra family is designed with a view to the future, with enhanced visibility of anatomy, edge-to-edge glass backed by a 10-year scratch-resistance guarantee, and the introduction of ultra wide gamut and 4K UHD displays.
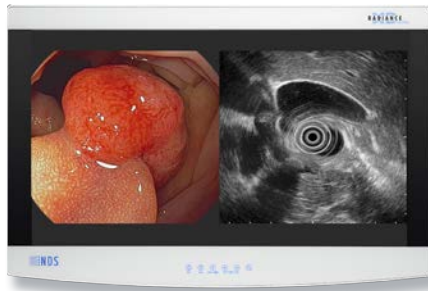
RADIANCE G2

Regarded as the global industry standard for the modern digital OR, Radiance surgical displays offer advanced and comprehensive HD visualization solutions for minimally invasive surgery and endoscopic procedures.

ENDOVUE

Offering the widest range of display sizes available in its market segment, the EndoVue HD surgical displays provide all the features you need in a cost-effective solution.

RADIANCE ULTRA 27"

Advanced Surgical Visualization Platform

The Radiance® Ultra 27" features the brightest LED backlight in the industry*, providing a typical luminance of 900 cd/m^2 at 6500°K color temperature. This improves visualization in high ambient light environments by overcoming glare and reflection.

- 10-year Scratch-Resistant Edge-to-Edge Glass Guarantee
- Improves Visualization in High Ambient Light Environments and Enhances Visibility of Recessed Anatomy
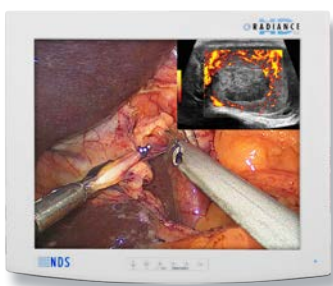- Modular I/O Board Design Supports Analog & Digital

RADIANCE ULTRA 4K UHD 32"
RADIANCE ULTRA TRUCOLOR 32"
RADIANCE ULTRA HD 32"

- Available 1H – 2016

*The highest output luminance at the industry standard color temperature of 6500°K .

RADIANCE G2 19"

Long-Life LED Backlight

The Radiance G2 19" display offers LED backlight technology to provide bright, clear images, as well as a 900:1 contrast ratio for an enhanced viewing experience.

- Patented Color Correction Technology (CCT)
- Lightweight Design, Easy to Maneuver

RADIANCE G2 24"

Full-Featured, LED Backlight

The Radiance G2 24" display is a full-featured 24" surgical display that utilizes the latest LED backlight technology. It also features NDS's patented Color Correction Technology (CCT), which enables the display to conform to the BT.709 HDTV color standard.

- Supports 3G-SDI and Optional Single-Fiber Inputs
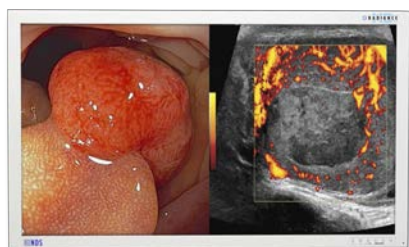- Optional Touch Screen

RADIANCE G2 HB 26"

High Brightness & LED Technology

With bright luminance output, the Radiance G2 HB 26" display incorporates backlight stabilization, as well as Color Correction Technology (CCT) to conform to the BT.709 standard.

- Patented Color Correction Technology (CCT)
- Supports 3G-SDI and Optional Single-Fiber Inputs

RADIANCE G2 32"

Long-Life LED Backlight

The Radiance G2 32" was the industry's first 32" surgical display to feature LED backlight technology. The display is ideal for applications such as flexible endoscopy, where color representation plays a critical role in the identification of unhealthy tissue.

- Factory calibrated in accordance with the BT.709 HDTV color standard
- Supports 3G-SDI and Optional Single-Fiber Inputs

RADIANCE G2 42"

Enhanced Confidence in Image Consistency

The Radiance G2 42" offers full multi-modality imaging capabilities for two input sources to be viewed simultaneously on the same display with a variety of different on-screen viewing options.

- Patented Color Correction Technology (CCT)
- Supports 3G-SDI and Single-Fiber Inputs

RADIANCE G2 55"

Industry-Leading LED Backlight

The Radiance G2 55" display utilizes NDS's patented Color Correction Technology (CCT). Surgeons can now have the clinical confidence that the endoscopic image they view in different rooms and on different size displays are exactly the same. Compliant with the 3rd Edition medical safety standard and RoHS requirements, the 55" Radiance G2 display is a future-proof investment.

- Patented Color Correction Technology (CCT)
- Supports 3G-SDI and Single-Fiber Inputs
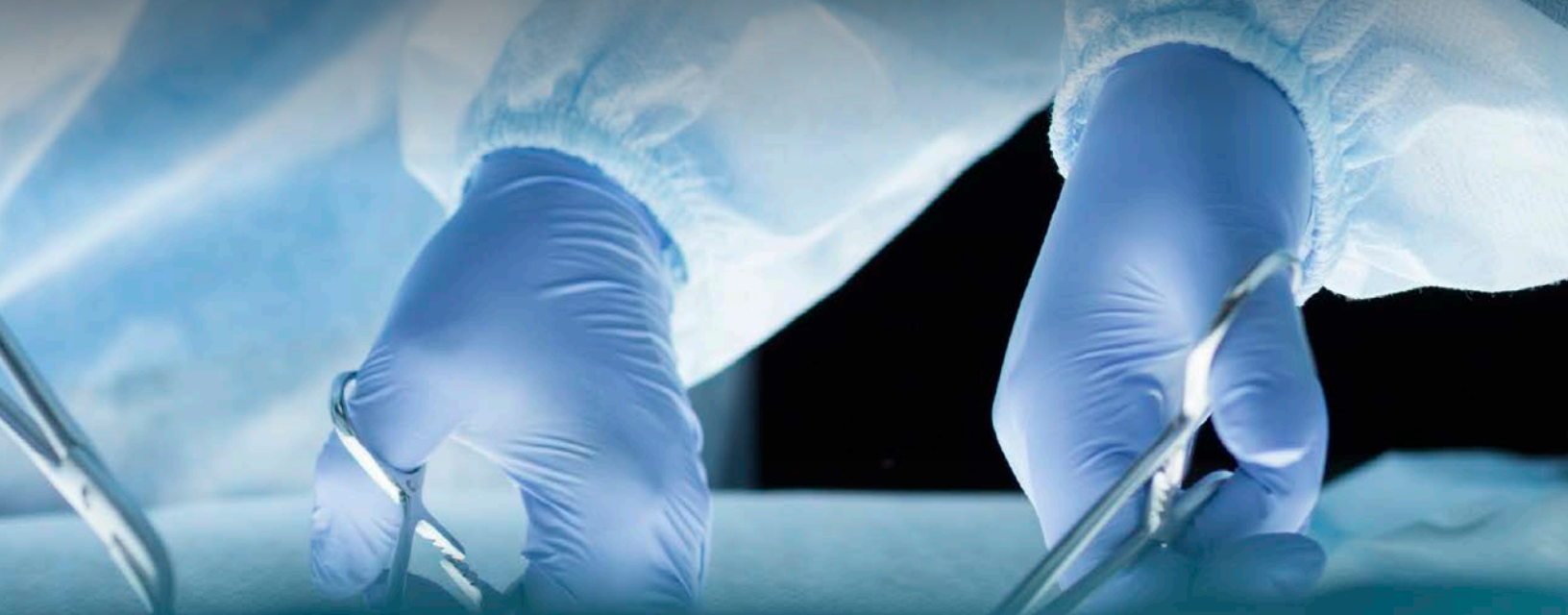
RADIANCE TOUCH (24", 55")

IR Touch Screen & Full Multi-Modality

The Radiance with touch series offers versatile medical visualization systems designed for minimally invasive surgery as well as other medical imaging applications within the operation room. The Radiance with touch can easily be combined with imaging informatics platforms that can display and deliver customized clinical content to OR staff and enhance surgical workflow.

- Medical-grade touch screen displays designed specifically for the operating room.
- Easily integrate with operating room control systems for advanced imaging applications.

ENDOVUE 19"

High-Definition Medical Imaging

The EndoVue 19" is a medical visualization system capable of displaying multiple image modalities and designed for minimally invasive surgery.

- Re-drive capability enables image viewing on multiple displays
- Video-switching with serial port interface

ENDOVUE 21"

High-Quality, High-Value Solution

The EndoVue 21" delivers all the image performance of a high-end surgical display at a value price. Featuring LED backlight technology, and supporting both digital and analog HD video inputs, the EndoVue 21" offers a low-profile, lightweight, and durable design.

- Full HD, high-resolution (1920 x 1080)
- Fanless cooling
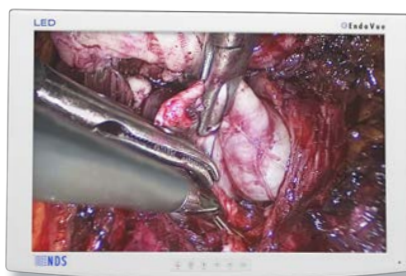
ENDOVUE 24"

Larger-Sized, Value-Based Display

The EndoVue 24" is an affordable alternative to a full-featured surgical display, but can still accommodate high-definition signals from a variety of medical imaging sources.

- High resolution (1920 x 1200)
- Programmable User and Modality Preferences

FEATURES & BENEFITS

10-year Scratch-Resistant Glass Guarantee

Improves Visualization in High Ambient Light Environments and Enhances Visibility of Recessed Anatomy

Clinician Confidence in Image Consistency

RADIANCE® ULTRA 27"

Advanced Surgical Visualization Platform

The Radiance® Ultra 27" offers cutting-edge technology and industry-leading features. Its LED backlight is the brightest in the industry*, providing a typical luminance of 900 cd/m^2 at 6500°K color temperature. This provides improved visualization in high ambient light environments by overcoming glare and reflection. It also increases the usable contrast ratio, and enhances visualization of recessed anatomy. Proprietary Medi-Match™ color calibration in combination with NDS's Intelli-guard™ backlight stabilization system delivers superior image consistency from one display to the next over years of continuous operation. This consistency instills a greater level of confidence in the surgical team. Its infection control friendly design makes it quick and easy to clean, enabling faster OR turnaround times and enhanced clinical efficiency.

*The highest output luminance at the industry standard color temperature of 6500°K .

PROPRIETARY MEDI-MATCH™ COLOR CALIBRATION

NDS's Medi-Match™ color calibration is a proprietary method of performing color correction that has been optimized for medical imaging. It uses a dynamic algorithm, in combination with the display's unique chromaticity and gamma characterization data stored in memory, to achieve a color response consistent with industry standards such as BT.709 or SMPTE-C. This enables clinicians to have a higher level of confidence in their procedures knowing that the color of various anatomy is always reproduced accurately and consistently, regardless of which operating room they are in, or which cart they are using.

SPECIFICATIONS

Ultra-High-Brightness (900 cd/m2 , Typical @ 6500°K)

Proprietary Medi-Match™ Color Calibration, Intelli-guard™ Backlight Stabilization

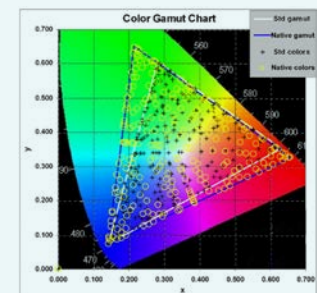10-year Scratch-Resistant Edge-to-Edge Glass Guarantee

COMPLIANCE & CERTIFICATIONS

ANSI/AAMI ES60601-1, CAN/CSA C22.2 No. 60601-1, FCC Class B, EN60601-1, EN60601-1-2, CE, MDD 93/42/EEC, RoHS 2, REACH, Conflict Minerals, WEEE, Class I Medical Device, CCC (Pending), IPX6

With MEDI-MATCH™ calibration
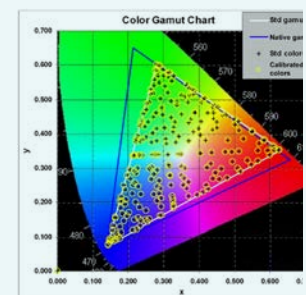
Without MEDI-MATCH™ calibration

FEATURES & BENEFITS

Industry-Leading LED Backlight Technology

Patented Color Calibration

Supports 3G-SDI and Optional Single-Fiber Inputs

RADIANCE® G2 24"

## Industry-Leading High-End Surgical Display

The Radiance® G2 24" display is one of the first to utilize the latest LED backlight technology. It also features NDS's patented Color Correction Technology (CCT), which enables the display to conform to the BT.709 HDTV color standard. The precise color calibration achieved using CCT ensures consistent color response across the entire family of Radiance® G2 displays. Surgeons can now have the clinical confidence that the endoscopic image they view in different rooms and on different size displays are exactly the same. The Radiance® G2 24" is equipped with two 3G-SDI inputs and an optional single-fiber input. Plus it is compliant with both the 3rd Edition medical safety standard and RoHS requirements, making it a future-proof investment.
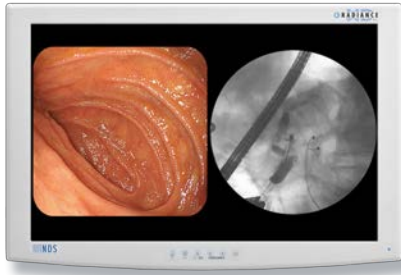
Endoscopy & Fluoroscopy

Endoscopy & Ultrasound
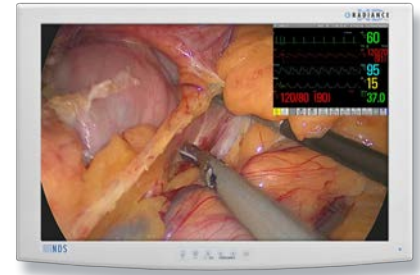
Endoscopy & Vital Signs

SPECIFICATIONS

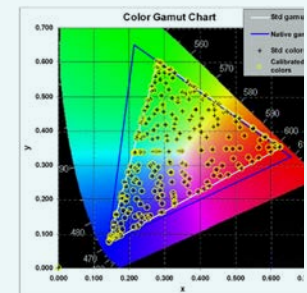|	
LCD Panel	Active Matrix TFT with In-Plane-Switching, LED Backlight
Output Luminance (Max)	300 cd/m2
Output Luminance (Calibrated)	250 cd/m2 (BT.709)
Resolution (H x V)	1920 x 1080 (Full HD)
Single-Fiber Input (LC x 1)	Optional Feature
3G-SDI Capability	Comes Standard With Two 3G-SDI Inputs
Full Multi-Modality Support	Yes
Gamma	1.8, 2.0, 2.2, 2.4, 2.6, Color-Corrected Video Gamma, and PACS
"Quick Select" Feature	New Interface for Quickly Switching Inputs

COLOR CORRECTION TECHNOLOGY (CCT)

NDS's Color Correction Technology (CCT) is a patented dynamic color calibration solution. Pixel-by-pixel color response correction is performed in real-time, providing consistent color response in accordance with the BT.709 HDTV color standard. The clinical benefit of this is consistent color reproduction year after year across all Radiance G2 displays, regardless of which operating room they are installed in, or which cart they are mounted on.

With MEDI-MATCH™ calibration

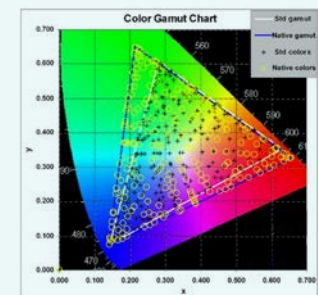### Without MEDI-MATCH™ calibration

COMPLIANCE & CERTIFICATIONS

ANSI/AAMI ES60601-1, CAN/CSA C22.2 No. 60601-1, FCC Class B, EN60601-1, EN60601-1-2, CE, MDD 93/42/EEC, 2007/47/EC, RoHS 2, REACH, Conflict Minerals, WEEE, Class I Medical Device, CCC
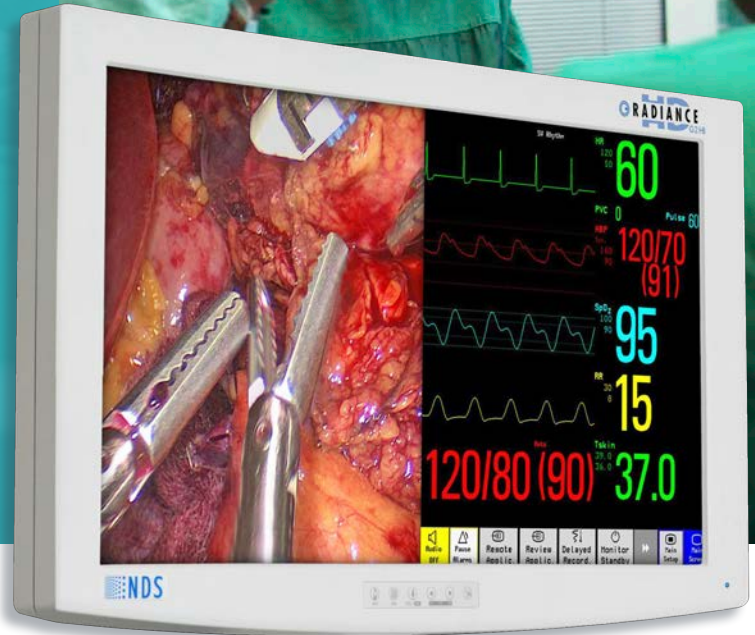
FEATURES & BENEFITS

Long-Life, High-Brightness LED Backlight

Exceptional Contrast and Color Saturation

Patented Color Calibration

Full Multi-Modality Imaging Support

Dual 3G-SDI & Optional Single-Fiber Inputs

RADIANCE® G2 HB 26"

High-Brightness LED Backlight Technology

The Radiance® G2 HB 26" display is the highest-end surgical visualization system available in the industry. Featuring a long-life LED backlight and NDS's patented Color Correction Technology (CCT), the display is calibrated in accordance with the BT.709 color standard. This factory calibration provides consistent color reproduction and accurate grayscale response.
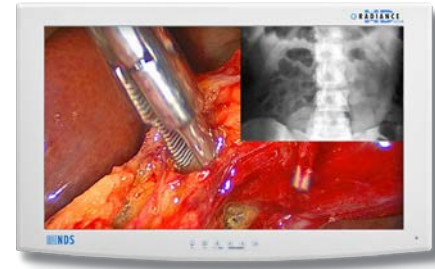
With industry-leading features and the widest range of video inputs and outputs, this display is truly state-of-the-art. The Radiance® G2 HB 26" supports two 3G-SDI inputs and an optional single-fiber input, making it suitable for the most advanced digital OR installations.
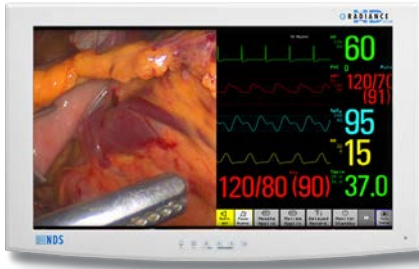
Endoscopy & Vital Signs

Endoscopy & Ultrasound

Endoscopy & PACS

SPECIFICATIONS

LCD Panel	Active Matrix TFT with IPS, LED Backlight
Output Luminance	450 cd/m2 (Typical)
Contrast Ratio	1400:1
Resolution (H x V)	1920 x 1080 (Full HD)
Single-Fiber Input (LC x 1)	Optional Feature
3G-SDI Capability	Two 3G-SDI Inputs
Single-Fiber Input (LC x 1)	1.8, 2.0, 2.2, 2.4, 2.6, Color-Corrected Video Gamma & PACS
"Quick Select" Feature	User Interface For Quickly Switching Inputs

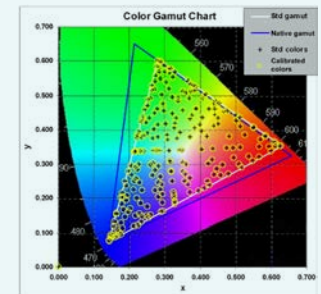With Color Correction Technology

COLOR CORRECTION TECHNOLOGY (CCT)

NDS's Color Correction Technology (CCT) is a patented dynamic color calibration solution. Pixel-by-pixel color response correction is performed in real-time, providing consistent color response in accordance with the BT.709 HDTV color standard. The clinical benefit of this is consistent color reproduction year after year across all Radiance G2 displays, regardless of which operating room they are installed in, or which cart they are mounted on.

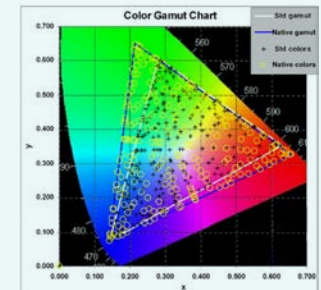Without Color Correction Technology

COMPLIANCE & CERTIFICATIONS

ANSI/AAMI ES60601-1, CAN/CSA C22.2 No. 60601-1, FCC Class B, EN60601-1, EN60601-1-2, CE, MDD 93/42/EEC, 2007/47/EC, RoHS 2, REACH, Conflict Minerals, WEEE, Class I Medical Device, CCC

FEATURES & BENEFITS

Industry-Leading LED Backlight Technology

Patented Color Calibration

Ideal for Small-Scope Applications
such as Arthroscopy and ENT

RADIANCE® G2 19"

Industry-Leading High-End Surgical Display

The Radiance® G2 19" utilizes the latest LED backlight technology. It also features NDS's patented Color Correction Technology (CCT), which enables the display to conform to the BT.709 HDTV color standard. The precise color calibration achieved using CCT ensures consistent color response across the entire family of Radiance® G2 displays. Surgeons can now have the clinical confidence that the endoscopic image they view in different rooms and on different size displays are exactly the same. The Radiance® G2 19" is equipped with two 3G-SDI and two DVI inputs. Plus it is compliant with both the 3rd Edition medical safety standard and RoHS requirements, making it a future-proof investment.

Endoscopy & Fluoroscopy
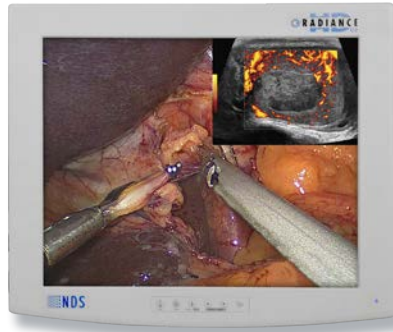
Endoscopy & Ultrasound
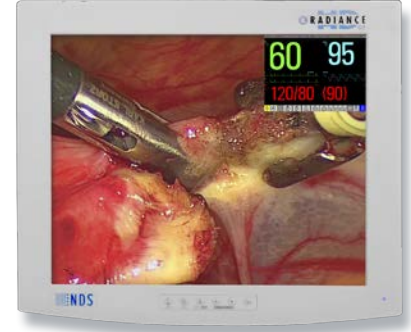
Endoscopy & Vital Signs

SPECIFICATIONS

LCD Panel	Active Matrix With IPS. LED Backlight
Luminance	330 cd/m2 (Typical)
Image Size (W x H)	14.8 x 11.9 inches (376 x 301 mm)
Dimensions (W x H x D)	18 x 16 x 4 inches (465 x 400 x 98 mm)
Resolution (H x V)	1280 x 1024 (SXGA), 5:4 Aspect Ratio
Number of Colors	16.8 Million
Color Gamut	BT.709 or SMPTE-C
Response Time	7 ms (Typical)

With Color Correction Technology

Without Color Correction Technology

COLOR CORRECTION TECHNOLOGY (CCT)

NDS's Color Correction Technology (CCT) is a patented dynamic color calibration solution. Pixel-by-pixel color response correction is performed in real-time, resulting in a display that conforms to the BT.709 HDTV color standard. The clinical benefit for surgeons is superior color consistency across all displays, no matter which operating room they are installed in, or which cart they are on.

COMPLIANCE & CERTIFICATIONS

ANSI/AAMI ES60601-1, CAN/CSA C22.2 No. 60601-1, FCC Class B, EN60601-1, EN60601-1-2, CE, MDD 93/42/EEC, 2007/47/EC, RoHS 2, REACH, Conflict Minerals, WEEE, Class I Medical Device, CCC

FEATURES & BENEFITS

Boom Mountable, Lightweight Design

Patented Color Calibration

Versatile Connectivity

Mid-Size Display also Suitable for Carts
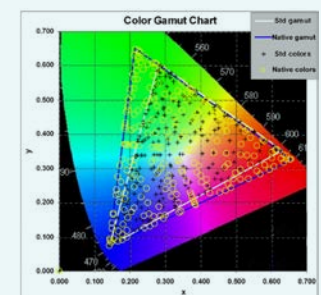
RADIANCE® G2 32"

The First 32" Surgical Display with LED Backlight

The Radiance® G2 32" was the industry's first 32" surgical display to feature LED backlight technology. As part of the Radiance® G2 family of surgical displays, it incorporates patented color calibration technology to ensure consistent and accurate color reproduction year after year. It is factory calibrated in accordance with the BT.709 HDTV color standard. This makes the Radiance® G2 32" display ideal for applications such as flexible endoscopy, where color representation plays a critical role in the identification of unhealthy tissue.

Featuring two 3G-SDI inputs and an optional single-fiber input, this display could be considered a "future-proof" investment that minimizes exposure to technology obsolescence.
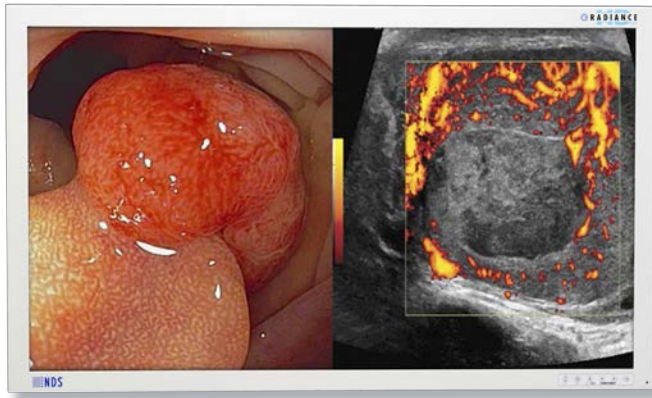
Endoscopy & Ultrasound
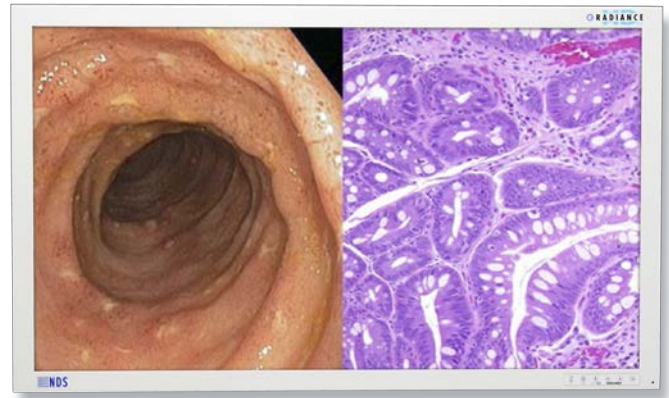
Endoscopy & Pathology

SPECIFICATIONS

LCD Panel	Active Matrix TFT with LED Backlight
Luminance	350 cd/m2 (Typical), 300 cd/m2 (BT.709)
Native Contrast Ratio	3000:1 (Not Dynamic)
Gamma & Color Calibration	NDS's Proprietary Color Correction Technology (CCT)
Display Weight	25 lbs. (11.4 kg)
Resolution (H x W)	1920 x 1080 (Full HD)
Single-Fiber Input (LC x 1)	Optional Feature
3G-SDI Capability	Comes Standard with Two 3G-SDI Inputs
Gamma Settings	1.8, 2.0, 2.2, 2.4, 2.6, Video, and PACS
"Quick Select" Feature	New User Interface for Quickly Switching Inputs

With Color Correction Technology

Without Color Correction Technology

COLOR CORRECTION TECHNOLOGY (CCT)

NDS's Color Correction Technology (CCT) is a patented dynamic color calibration solution. Pixel-by-pixel color response correction is performed in real-time, resulting in a display that conforms to the BT.709 HDTV color standard. The clinical benefit for surgeons is superior color consistency across all displays, no matter which operating room they are installed in, or which cart they are on.

COMPLIANCE & CERTIFICATIONS

ANSI/AAMI ES60601-1, CAN/CSA C22.2 No. 60601-1, FCC Class B, EN60601-1, EN60601-1-2, CE, MDD 93/42/EEC, 2007/47/EC, RoHS 2, REACH, Conflict Minerals, WEEE, Class I Medical Device

FEATURES & BENEFITS

Patented Color Calibration Technology

Advanced LED Backlight Technology

Single Fiber and Two 3G-SDI Inputs

Low Power Consumption, Fanless Cooling

RADIANCE® G2 42"

Industry-Leading High-End Surgical Display

The Radiance® G2 42" display utilizes the latest LED backlight technology. It also features NDS's patented Color Correction Technology (CCT), which enables the display to conform to the BT.709 HDTV color standard. The precise color calibration achieved using CCT ensures consistent color response across the entire family of Radiance® G2 displays. Surgeons can now have the clinical confidence that the endoscopic image they view in different rooms and on different size displays are exactly the same. The Radiance® G2 42" comes standard with two 3G-SDI inputs and an embedded single-fiber input.

Endoscopy & Vital Signs

Endoscopy & Ultrasound

Fluoroscopy & PACS

SPECIFICATIONS

LCD Panel	Active Matrix TFT with In-Plane-Switching
Output Luminance (Max)	450 cd/m^2
Contrast Ratio	1300:1 (Typical)
Resolution (H x V)	1920 x 1080 (Full HD)
Single-Fiber Input (LC x 1)	Standard Feature
3G-SDI Capability	Comes Standard with Two 3G-SDI Inputs
Full Multi-Modality Support	Yes
Gamma	1.8, 2.0, 2.2, 2.4, 2.6, Color-Corrected Video Gamma, and PACS
"Quick Select" Feature	New Interface for Quickly Switching Inputs

COLOR CORRECTION TECHNOLOGY (CCT)

NDS's Color Correction Technology (CCT) is a patented dynamic color calibration solution. Pixel-by-pixel color response correction is performed in real-time, providing consistent color response in accordance with the BT.709 HDTV color standard. The clinical benefit of this is consistent color reproduction year after year across all Radiance G2 displays, regardless of which operating room they are installed in, or which cart they are mounted on.

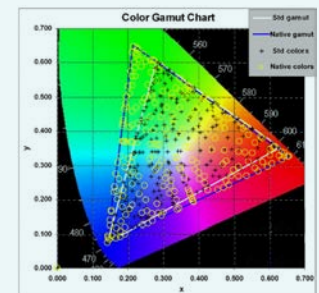## COMPLIANCE & CERTIFICATIONS

ANSI/AAMI ES60601-1, CAN/CSA C22.2 No. 60601-1, FCC Class B, EN60601-1, EN60601-1-2, CE, MDD 93/42/EEC, RoHS 2, REACH, Conflict Minerals, WEEE, Class I Medical Device

With Color Correction Technology
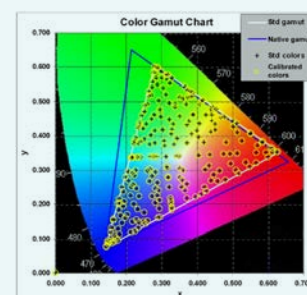
Without Color Correction Technology

FEATURES & BENEFITS

Industry-Leading LED Backlight

Patented Color Calibration

Standard Dual 3G-SDI and Single-Fiber Inputs

Fanless Cooling
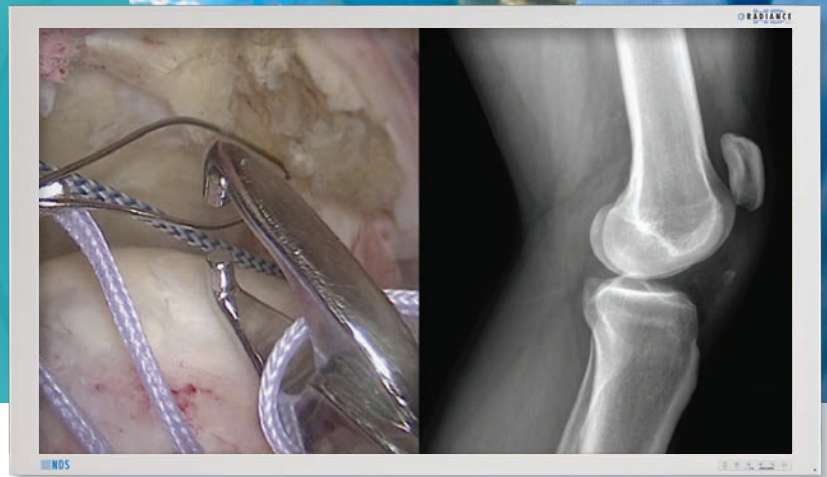
RADIANCE® G2 55"

Industry-Leading High-End Surgical Display

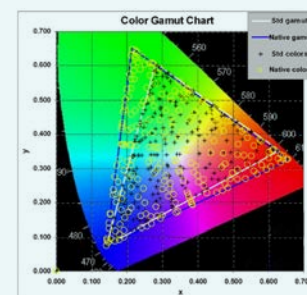The Radiance® G2 55" display utilizes the latest LED backlight. It also features NDS's patented Color Correction Technology (CCT), which enables the display to conform to the BT.709 HDTV color standard. The precise color calibration achieved using CCT ensures consistent color response across the entire family of Radiance® G2 displays. Surgeons can now have the clinical confidence that the endoscopic image they view in different rooms and on different size displays are exactly the same. The Radiance® G2 55" comes standard with two 3G-SDI inputs and an embedded single-fiber input. Plus it is compliant with both the 3rd Edition medical safety standard and RoHS 2 requirements, making it a future-proof investment.
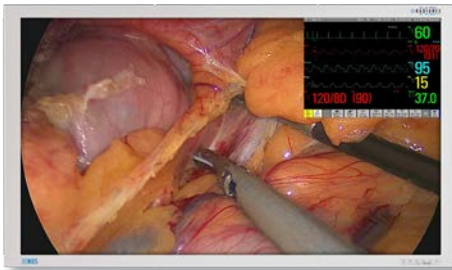
Endoscopy & Vital Signs
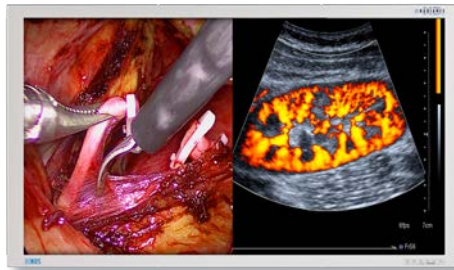
Endoscopy & Ultrasound

Fluoroscopy & PACS

SPECIFICATIONS

LCD Panel	Active Matrix TFT with In-Plane-Switching
Output Luminance (Max)	450 cd/m^2
Contrast	1300:1
Resolution (H x V)	1920 x 1080 (Full HD)
Single-Fiber Input (LC x 1)	Standard Feature
3G-SDI Capability	Comes Standard with Two 3G-SDI Inputs
Full Multi-Modality Support	Yes
Gamma	1.8, 2.0, 2.2, 2.4, 2.6, Color-Corrected Video Gamma, and PACS
"Quick Select" Feature	New Interface for Quickly Switching Inputs

With Color Correction Technology

COLOR CORRECTION TECHNOLOGY (CCT)

NDS's Color Correction Technology (CCT) is a patented dynamic color calibration solution. Pixel-by-pixel color response correction is performed in real-time, providing consistent color response in accordance with the BT.709 HDTV color standard. The clinical benefit of this is consistent color reproduction year after year across all Radiance G2 displays, regardless of which operating room they are installed in, or which cart they are mounted on.

Without Color Correction Technology

COMPLIANCE & CERTIFICATIONS

ANSI/AAMI ES60601-1, CAN/CSA C22.2 No. 60601-1, FCC Class B, EN60601-1, EN60601-1-2, CE, MDD 93/42/EEC, RoHS 2, REACH, Conflict Minerals, WEEE, Class I Medical Device

FEATURES & BENEFITS

Accepts HD Video Inputs (Analog & Digital)

Lightweight, Robust, Highly-Maneuverable

Fanless Cooling for Use in Sterile Field

ENDOVUE® 19"

High-Definition Medical Imaging

The EndoVue® 19" display from NDS delivers a great value without compromising functionality. This display is fully HD (high-definition) capable, offering everything you need for endoscopy applications. As part of the value segment line of surgical displays from NDS, the EndoVue® 19" is ideal for applications where space is limited, but functionality is still required. This product accommodates both standard and high-definition signals from a variety of medical modalities, producing bright, sharp, and lag-free images. In addition, the mechanical design provides the maneuverability and outstanding durability needed in the OR environment.

PRODUCT DETAILS

HD Imaging compatible

Fast Response Time (<15 ms)

Wide Viewing Angle

Programmable User and Modality Preferences

Compact and Lightweight Design

APPLICATIONS

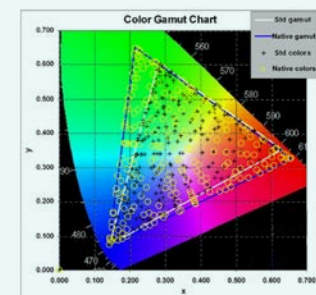| SOURCE	APPLICATION
DVI, HD-SDI	HD Endoscopy, PACS, Vital Signs, Room Camera
HD-RGBS, HD-YP$_b$P$_r$	HD Endoscopy
RGBS, YP$_b$P$_r$, SDI	SD Endoscopy
S-Video, Composite	Fluoroscopy, SD Endoscopy, Ultrasound
VGA	PACS, Endoscopy, Ultrasound, Angiography

COMPLIANCE & CERTIFICATIONS

ANSI/AAMI ES60601-1, CAN/CSA C22.2 No. 60601-1, FCC Part 15, EN60601-1, EN60601-1-2, CE, MDD 93/42/EEC, 2007/47/EC, RoHS 2, REACH, Conflict Minerals, WEEE, Class I Medical Device

FEATURES & BENEFITS

Industry-Leading LED Backlight Technology

Includes Fully Adjustable Desktop Stand

Digital and Analog HD Inputs

Lightweight Design with Fanless Cooling

ENDOVUE® 21"

High-Definition Surgical Visualization

The EndoVue® 21" delivers the image performance of a high-end surgical display at a value price. It features an LED backlight and supports both digital and analog high-definition video inputs.

This display accommodates high-definition signals from a variety of medical imaging sources, including endoscopes, ultrasound, PACS, and vital signs. It also features a fanless cooling design to minimize the risk of spreading airborne contaminants within the sterile field.

PRODUCT DETAILS

Industry-Leading LED Backlight Technology

Large, 21.5" Diagonal Size (Widescreen)

HD Imaging Compatible

High-Resolution (1920 x 1080, Full HD)

Includes Fully Adjustable Desktop Stand

Fanless Cooling

APPLICATIONS

SOURCE	APPLICATION
DVI	HD Endoscopy, PACS, Vital Signs
HD-RGBS, HD-YP$_b$P$_r$	HD Endoscopy
RGBS, YP$_b$P$_r$	SD Endoscopy
S-Video, Composite	Fluoroscopy, SD Endoscopy, Ultrasound
VGA	PACS, Endoscopy, Ultrasound, Angiography

COMPLIANCE & CERTIFICATIONS

ANSI/AAMI ES60601-1, CAN/CSA C22.2 No. 60601-1, FCC Part 15, EN60601-1, EN60601-1-2, CE, MDD 93/42/EEC, 2007/47/EC, RoHS 2, REACH, Conflict Minerals, WEEE, CCC, Class 1 Medical Device

Endoscopy

PACS
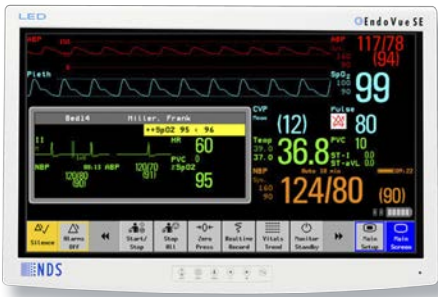
Vital Signs

FEATURES & BENEFITS

Industry-Leading LED Backlight Technology

High-Quality, Value-Based Solution

Fanless Cooling
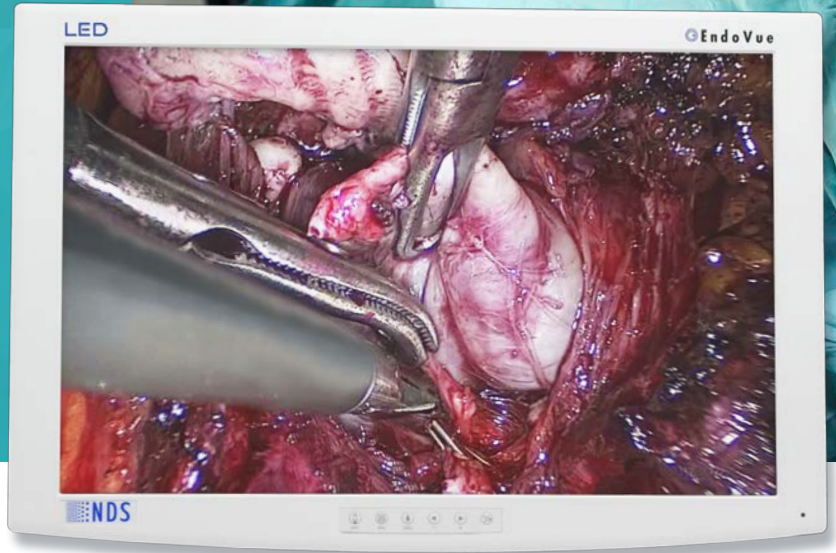
ENDOVUE® 24"

High-Definition Surgical Visualization

Fully compliant for medical use in surgery, the EndoVue® 24" is a high-quality, value-based surgical display solution featuring an LED backlight. It is an affordable alternative to a full-featured surgical display but can still accommodate high-definition signals from a variety of medical imaging sources, including endoscopes, ultrasound, PACS, and vital signs.

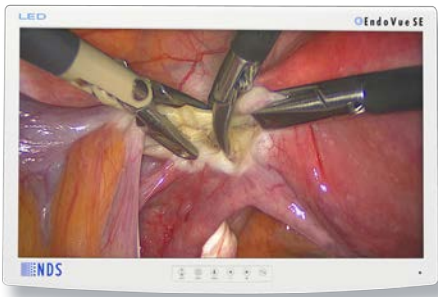It also features a fanless cooling design to minimize the risk of spreading airborne contaminates within the sterile field. EndoVue® displays can be packaged with the NDS ConductOR™ and ZeroWire® products to provide a cost-effective video integration solution that is simple to install.

PRODUCT DETAILS

Industry Leading LED Backlight Technology

High Resolution (1920 x 1200)

Programmable User and Modality Preferences

Fanless Cooling, Sealed Front Enclosure (IP 32)

Compact and Lightweight Design

Flexible Standard VESA Mounting

APPLICATIONS

| SOURCE	APPLICATION
DVI, HD-SDI	HD Endoscopy, PACS, Vital Signs, Room Camera
HD-RGBS, HD-YP$_b$P$_r$	HD Endoscopy
RGBS, YP$_b$P$_r$	SD Endoscopy
S-Video, Composite	Fluoroscopy, SD Endoscopy, Ultrasound
VGA	PACS, Endoscopy, Ultrasound, Angiography

COMPLIANCE & CERTIFICATIONS

ANSI/AAMI ES60601-1, CAN/CSA C22.2 No. 60601-1, FCC Part 15, EN60601-1, EN60601-1-2, CE, MDD 93/42/EEC, 2007/47/EC, RoHS 2, REACH, Conflict Minerals, WEEE, CCC, IP 32, Class I Medical Device

VIDEO PROCESSING

As medical imaging technologies become more complex in today's endoscopy settings, simplifying the management of visual information takes on more importance. Endoscopy suites need to provide interactive and easy access to any type of clinical visualization content, enabling doctors or surgeons to make informed decisions in real time.

NDS provides processing solutions for real-time image management, distribution, and control from multiple sources, while incorporating internet connectivity for streaming video throughout the hospital and beyond.
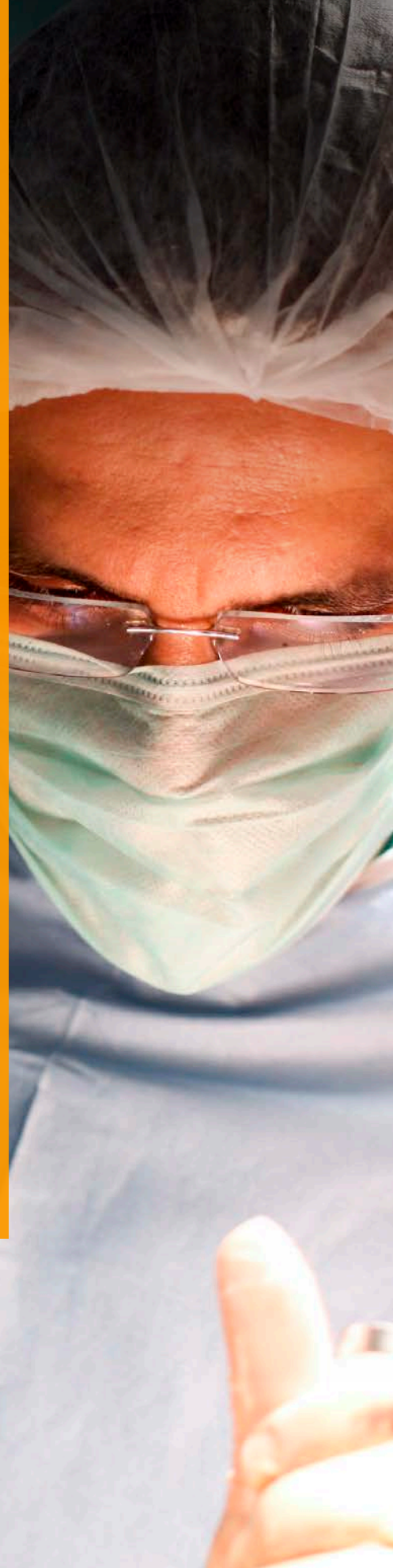
ConductOR
Video Management

ConductOR is a medical-grade device that can serve as the image processing backbone for integrated operating rooms, enhancing clinical workflow and improving overall video routing efficiency.

- Converts any OR video source to DVI and 3G-SDI for easy routing of images
- Streams OR video sources (in HD) and audio to remote locations via Ethernet

ScaleOR
Video Scaling & Conversion

ScaleOR is a medical-grade video scaling device for use in endoscopy environments. It gives the user the flexibility to choose the appropriate input module per their needs to accommodate either analog or digital signal conversions and scaling.

- The video input is scaled and converted to two simultaneous output formats: 3G-SDI and DVI-D.

ExpandOR
Secure Multi-Node Video Streaming

ExpandOR is the first medical-grade streaming device to allow secure bi-directional HD video/audio streaming up to 1080p@60Hz to multiple destinations simultaneously.

- The unit supports RTSP/RTP/UDP streaming protocols

FEATURES & BENEFITS

Medical-Grade, Video Routing Solution

Matrix Switching Functionality

Easy Control as a Stand-Alone Unit

Modular Design Enables Flexible
Configuration

Built-In HD Video Streaming Over IP

ConductOR™

Video Management

ConductOR™ is a medical-grade video management device that enables routing of virtually any medical imaging source to the surgeon's field of view and beyond. This unique solution provides matrix switching functionality within the OR, and HD video streaming to enable telemedicine applications beyond the OR. It addresses the needs of the surgical suite by delivering the functionality of a typical video rack in a single routing solution.

The customizable and modular design allows you to purchase the inputs and outputs you need, saving cost. Each of the display outputs scales and converts all signals to an HD digital format, dramatically simplifying the cabling requirements, making installation simple.

SPECIFICATIONS

3G-SDI, HD-RGBS / YP_bP_r	HD Endoscopy
SDI, RGBS, YP_bP_r	SD Endoscopy
Sync-On-Green (SOG)	Fluoroscopy, Angiography
DVI	HD Endoscopy, PACS Imaging, MRI, CT, Vital Signs
S-Video, Composite	Fluoroscopy, SD Endoscopy, Ultrasound
VGA	PACS Imaging, MRI, Endoscopy, Ultrasound, Angiography, Vital Signs

CUSTOMIZABLE USER INTERFACE

Allows for naming of source selection buttons, streaming presets, and system configuration presets. All stored on a USB drive, making serviceability easy.

Input Names	Inputs Can be Renamed Using Front Touch Panel
System Presets	Easily Store/Recall All User-Definable Settings
USB Port	Save/Recall All System Presets via USB Storage

Built-In Touch Screen

Endoscopic Camera **Fluoroscope** **PACS** **Ultrasound** **Vitals** **Room Camera**

INPUTS

ETHERNET

Remote Location

DISPLAY OUTPUTS

Cart-Mounted Displays

Boom-Mounted Display

Wall-Mounted Display

COMPLIANCE & CERTIFICATIONS

ANSI/AAMI ES60601-1, CAN/CSA C22.2 No. 60601-1, FCC Part 15, EN60601-1, EN60601-1-2, CE, MDD 93/42/EEC, 2007/47/EC, RoHS 2, REACH, Conflict Minerals, WEEE, Class I Medical Device

FEATURES & BENEFITS

Medical-Grade Video Converter/Scaler

Modular Design

Multiple Simultaneous HD Video Output Formats

OSD Menu Functionality

Universal Video Format Conversion

ScaleOR™

Video Scaling & Conversion

The ScaleOR product is a medical-grade video scaling device for use in healthcare environments. It provides the user with the flexibility to choose the appropriate input module per their needs to accommodate either analog or digital signal conversions and scaling.

The available input modules are DVI-D, 3G-SDI, RGB/SOG, and, S-video/Composite. The video input is scaled and converted to two simultaneous output formats: 3G-SDI and DVI-D. The scaled output format is selectable using a dip-switch setting or by using the on-screen-display menu (OSD). From the OSD menu, users can access advanced features such as RGB gain, brightness, contrast, hue, saturation, zoom, and scaling settings.

SPECIFICATIONS

Control Interface	Front Keypad & OSD or RS-232 Interface
Input Signal Detection Indicator	Switch Illuminates Steady When Detected
Supports 25 video input formats & 30 graphics resolutions up to 1080p or 1920 x 1200	
Supports a total of 47 different output resolutions (some on DVI only)	
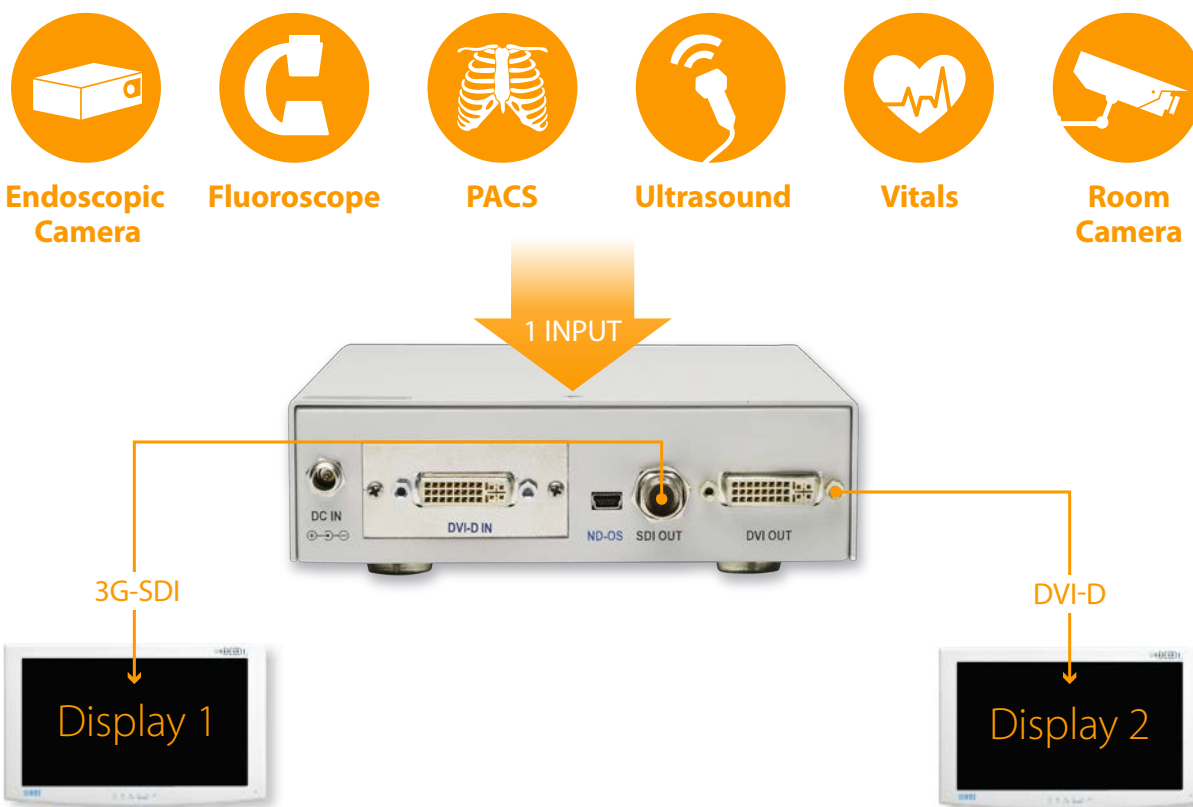
Endoscopic Camera **Fluoroscope** **PACS** **Ultrasound** **Vitals** **Room Camera**

1 INPUT

3G-SDI

DVI-D

Display 1

Display 2

COMPLIANCE & CERTIFICATIONS

ANSI/AAMI ES60601-1, CAN/CSA C22.2 No. 60601-1, FCC Part 15, EN60601-1, EN60601-1-2, CE, MDD 93/42/EEC, 2007/47/EC, RoHS 2, REACH, Conflict Minerals, WEEE, Class I Medical Device

FEATURES & BENEFITS

Bi-Directional Video/Audio Streaming

Secure Multi-Node to 1080p@60Hz

Captures Video and Still Images to USB Storage
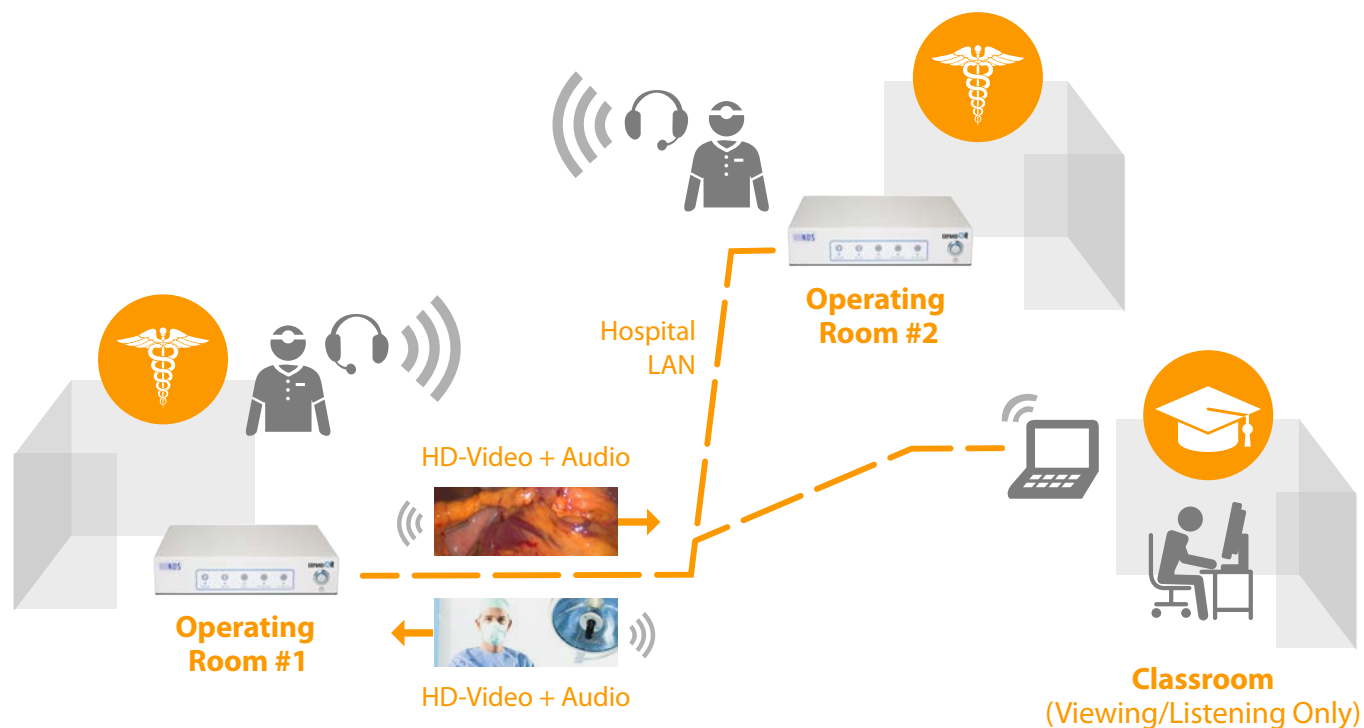
High-Quality H.264 Compression

ExpandOR™

Secure Multi-Node Video Streaming

The award-winning ExpandOR™ product is the first medical-grade streaming device to allow secure bi-directional HD video/audio streaming up to 1080p@60Hz to multiple destinations simultaneously.

It provides the user with the flexibility to configure the appropriate settings through an easy-to-use interface. ExpandOR features a DVI-D input, DVI-D and S-Video outputs, as well as audio inputs and outputs. The unit supports RTSP/RTP/UDP streaming protocols and can be controlled via web interface, RS-232, GPIO or Front Buttons. ExpandOR is specifically designed and certified for patient vicinity use within the operating room.

SPECIFICATIONS

Power Requirements	12 - 24 VDC
Dimensions (D x H x W)	5.8 x 1.75 x 7.5 inches (147 x 45 x 191 mm)
Weight	5 lbs (2.3 Kg)
Temperature	Operating: 0 to +35°C (+32 to +95°F)
	Storage: -20 to +60°C (-4 to +140°F)
Humidity	Operating: 20 – 85% RH, Storage: 5 – 85% RH
Control Interface	Web Interface, RS-232, GPIO or Front Buttons
Compatible Displays	NDS Radiance®, EndoVue® and Other Displays

Operating
Room #2

Hospital
LAN

HD-Video + Audio

Operating
Room #1

HD-Video + Audio

Classroom
(Viewing/Listening Only)

COMPLIANCE & CERTIFICATIONS

ANSI/AAMI ES60601-1, EN 60601-1, EN 60601-1-2, MDD 93/42/EEC & 2007/47/EC, CE, CAN/CSA C22.2 NO. 60601-1,
Class I Medical Device, FCC Part 15, RoHS 2, REACH, Conflict Minerals, WEEE

WIRELESS VIDEO

NDS is a leader in wireless HD video transmission. By delivering full-HD images in real time wirelessly with unnoticeable video delay, NDS's ZeroWire technology gives clinical teams greater mobility and flexibility of imaging, which can enhance patient care. ZeroWire also helps eliminate cables which can become tripping hazards, and shorten OR turnaround time by reducing cable cleaning requirements.

ZeroWire G2

Advanced Wireless HD-Video Transmission System

The latest advancement in HD-video wireless technology, ZeroWire G2 is design engineered for easy user operation, delivering full HD video in real time with unnoticeable video delay.

- Medical-grade certified to operate within the patient vicinity
- Point-to-point tracking system to avoid signal loss

ZeroWire Ultra

Wireless HD-Video Transmission System

NDS's award-winning ultra-wideband (UWB) wireless technology, ZeroWire Ultra allows up to nine transmitter/receiver pairs to operate simultaneously within neighboring vicinities (75-feet radius).

- Proprietary memory enabled pairing system makes setup easy
- Ultra-low latency for real-time surgical video

FEATURES & BENEFITS

Improved efficiencies

Medical-grade certified

Full 1080p HD-video quality

Easy setup and operation

Unnoticeable video delay

ZEROWIRE® G2

Advanced Wireless HD-Video Transmission System

The next advancement in HD-video wireless technology, ZeroWire® G2 is design engineered for easy user operation, delivering full HD video in real time with unnoticeable video delay. Clinical teams can now enjoy the greater mobility and flexibility of wireless imaging, which can enhance patient care.

The ZeroWire G2 transmitter automatically pairs with the receiver partner once the "Link" process is completed. An advanced point-to-point tracking system keeps the ZeroWire G2 pair locked together, avoiding signal loss when one or both of the ZeroWire G2 units are repositioned during a clinical procedure. Intelligently designed with a 45-degree upward orientation, the antenna directs the wireless signal away from any potential obstacles, reflecting wireless waves from the ceiling to the intended destination.

SPECIFICATIONS

Wireless Signal Type	HD-Video Transmission
Frequency	60 GHz
Data Rate	Up to 8 Gbps
Transmission Range*	30 feet (10 meters)
Compression Technology	None
System Latency	Less Than One Frame
Hardware Encryption	256-bit AES
Interference Robustness	Up to -10 dB Signal To Interference Ratio
DDC Support (DVI Only)	Display EDID Communication
Bonding of Tx / Rx Pair	Memory-Enabled Pairing System

* The effective range between the transmitter and receiver can vary depending upon the environment in which the product is operating. Follow the guidelines specified in the product's installation guide to achieve optimum performance and maximum Tx to Rx (transmitter to receiver) range.

COMPLIANCE & CERTIFICATIONS

ANSI/AAMI ES60601-1, CAN/CSA C22.2 No. 60601-1, EN 60601-1, EN 60601-1-2, FCC Part 15 Class A, ICES-003, VCCI V-3, MDD Class I, FDA Class II, FDA 510(k) cleared including RF module model SII-SK63102 and SII-SK63101, R&TTE, EN 302 567, EN 301 489, CE 0984 , FCC ID: UK2-SII-SK63101, SII-SK63102, IC ID: 6705A-SIISK63101 and 6705A-SIISK63102, RoHS 2, REACH, Conflict Minerals and WEEE

FEATURES & BENEFITS

Nine-Channel Wireless Video

Full High-Definition Video

Ultra-Wideband Technology

Less Than One Frame of Latency

ZEROWIRE® ULTRA

Wireless HD-Video Transmission System

ZeroWire® Ultra allows up to nine transmitter/receiver pairs to operate simultaneously within neighboring vicinities (75- foot radius). Utilizing an innovative system of "Time Frequency Coding," ZeroWire Ultra units are programmed to change frequency bands in a specific sequence and timing, creating nine non-interfering channels. This enables a significant increase in wireless capability for the modern OR. Delivering full HD surgical video in real time with less than one frame of latency, ZeroWire Ultra is easy to install, interfaces to a wide range of video sources in the surgical environment, and complies with the EN 60601-1-2 standard. The ZeroWire Ultra solution helps eliminate cables, reduce cleaning and turnaround time, and improve OR safety by helping to remove tripping hazards.

Receiver (Rx)   **Transmitter (Tx)**

SPECIFICATIONS

Wireless Signal Type	Ultra-Wideband (UWB)
Frequency	3.1 to 4.8 GHz (Single Channel 4.2 -4.8 GHz)
Data Rate	53.3 to 480 Mbps
Tx to Rx Range *	30 feet (10 meters)
Compression Technology	H.264
System Latency	Less Than One Frame
Hardware Encryption	128-bit AES
Interference Robustness	Up to -10 dB Signal To Interference Ratio
DDC Support (DVI Only)	Display EDID Communication
Bonding of Tx / Rx Pair	Memory-Enabled Pairing System

* The effective range between the transmitter and receiver can vary depending upon the environment in which the product is operating. Follow the guidelines specified in the product's installation guide to achieve optimum performance and maximum Tx to Rx (transmitter to receiver) range.

COMPLIANCE & CERTIFICATIONS

UL 60601-1, EN 60601-1, EN 60601-1-2, FCC Part 15 Class A, EN 302 065, EN 301 489, CE 0673 , CISPR11, FCC ID: UEZTZM7201, RoHS 2, WEEE MDD 93/42/EEC & 2007/47/EC, MDD Class I, FDA Class II, FDA 510(k) Clearance, Japan TELEC 001UWAA1005 and 001UWAA1006
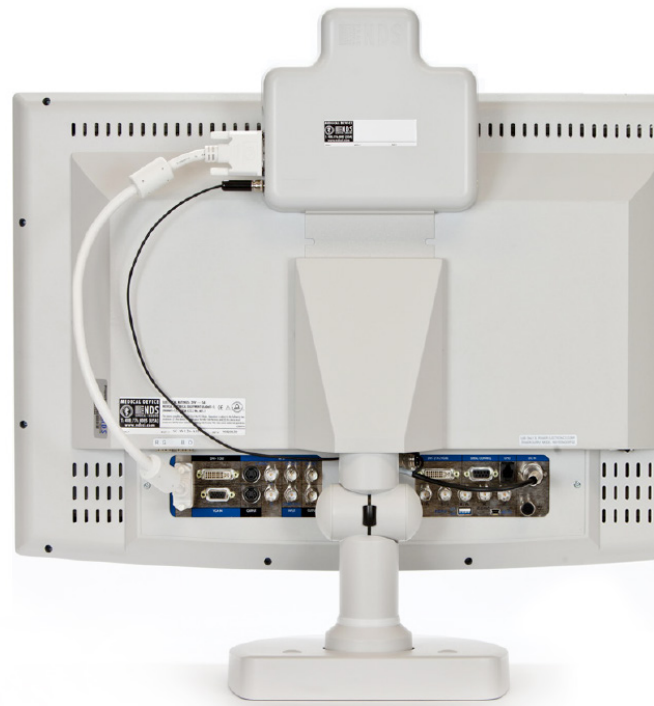
**Mounted Using
Display VESA Bracket**

"Quality work leads to customer satisfaction. That's why we take pride in making sure NDS products meet the highest standards of quality, without compromise."

NDS

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NDS Quality System Compliance