At Sony we’re proud of our heritage in providing a clearer picture for medical practitioners.

For more than thirty years we’ve led the way with innovative, easy to use quality medical printers to support the work of clinical staff.

Over the last decade Sony has pioneered the evolution from Standard Definition to High Definition imaging in medical environments. And today we’re constantly redefining clarity right across the hospital workflow – from High Definition cameras and recorders to monitors and printers for use in medical environments.

Our imaging, recording and networked sharing tools integrate seamlessly with a wide range of modern modalities in today’s operating room and beyond. Just as importantly, they’re designed for smooth interworking with legacy medical products and systems from Sony and other manufacturers.

We’ve always got an eye on the future. And now we’re innovating further with an exciting new generation of tools that deliver a 4K workflow from image acquisition to display.

Sony’s breadth of experience in developing cutting edge imaging technologies is second to none, spanning television broadcasting, digital cinematography and advanced medical vision applications.

Refining this unique insight through constant dialogue with healthcare professionals worldwide, we create medical products and solutions that offer dependable performance in modern clinical environments.
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Cameras – capturing clarity

Application-specific HD medical cameras

We’re continually challenging the boundaries of medical imaging technology:

Sony’s range of HD colour video cameras helps clinicians capture medical 2D and 3D content with clarity and precision.

We offer a range of application-specific cameras which provide a secondary view from the microscope for a diverse range of challenging fields including ophthalmology, neurosurgery, pathology, biomedical research, veterinary science and teaching.

MCC-3000MT
1/2 inch 3CMOS 3D Full HD Colour Video Camera

Suitable for: Surgical Microscopy

Separate 3D video camera with twin camera heads and single CCU for operating microscopes, delivering high-precision 3D images of operating field.

- Quality stereoscopic 3D HD and 2D HD images
- C-mount compatible compact and lightweight camera head
- Easy parameter adjustment (including colour matching and white balance) with single CCU

Features
- Simultaneous control of left and right camera heads
- Incorporates 3-chip 1/2-inch Exmor Full HD CMOS sensor
- HD-SDI outputs

PMW-10MD
1/2 inch 3CMOS Full HD Colour Video Camera

Suitable for: Surgical Microscopy

An ideal solution for microscopic applications, the PMW-10MD with its 2-piece design captures crisp HD images.

- High sensitivity delivers detail in low light environments
- Small, lightweight C-mount camera head for easy integration
- On-board HD recording capability

Features
- Incorporates 3-chip 1/2-inch Exmor Full HD CMOS sensor
- SDI and HD-SDI outputs
- Two SxS Memory card slots

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

Global Trade Medical Supplies
Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

MCC-500MD
1/3 inch Full HD single CMOS Colour Video Camera

Suitable for: Surgical Microscopy
This Space-saving two-piece camera offers HD image quality and convenient integration with modern medical modality devices.

• C-mount small and lightweight camera head
• Wide Variety of Video Formats – from SD to Full HD (1080/60p)
• Picture Profiles allow you to easily call up customized picture-tonal settings

Features
• 1/2.9-inch single Exmor™ CMOS image sensor
• SDI, HD-SDI and HDMI outputs

*Registration status as a medical device may vary, depending on country. For more details, please contact your nearest Sony office or an authorized dealer.

Official distributor
Global Trade Medical Supplies

Video Recorders – a lasting image

Versatile recording and storage solutions for efficient workflow

Sony understands the clinician’s needs for records in review and training for both surgical applications as well as for radiology and ultrasound. With recording solutions from Sony you can rely on the clarity and integrity of medical images for years to come.

Every product supports efficient workflows with powerful random access storage.
HVO-3000MT
3D & 2D Full HD Medical Video Recorder

Suitable for: Surgical Microscopy, Surgical Endoscopy, Robotic-Assisted Surgery in 3D

Designed specifically for recording long-playing 3D and 2D HD images from OR medical cameras and simultaneous patient monitor information.

• Can record and playback high quality 3D and 2D video with simple operation
• Accept 3D HD video input from HD-SDI and DVI sources with high resolution of 1080 vertical lines up to 60 progressive frames per second
• Simultaneous recording on internal hard drive, DVD/Blu-ray Blu-ray Disc™ and USB slot

Features

• Real-time distribution with a streaming function
• Broad Support of media for data exchange
• High quality HD recording (MPEG-4 AVC/H.264 compression)
• Large capacity hard disc for long recording capability
• Wide range of Interfaces
• Network data transmission through FTP or CIFS
• Pre-installed Sony USB printer drivers
• Still and motion image capture

HVO-1000MD
Full HD Medical Video Recorder

Suitable for: Surgical Microscopy, Endoscopy, Ultrasound, Radiology

To make efficient use of the operating theatre and to drastically improve the way doctors use surgical images, the HVO-1000MD offers many recording advantages and makes a significant contribution to effective hospital data management.

• High quality HD recording
• Simultaneous recording on internal hard drive, DVD/Blu-ray Blu-ray Disc™ drive and USB slot
• Easy to use operation via menu or external touchscreen

Features

• Real-time distribution with a streaming function
• Broad Support of media for data exchange
• High quality HD recording (MPEG-4 AVC/H.264 compression)
• Large capacity hard disc for long recording capability
• Wide range of Interfaces
• Network data transmission through FTP or CIFS
• Pre-installed Sony USB printer drivers
• Still and motion image capture

*Registration status as a medical device may vary, depending on country. For more details, please contact your nearest Sony office or an authorized dealer.
HVO-500MD
HD Medical Recorder, USB/NAS

Suitable for Ultrasound, Radiology
This High Definition Video recorder is designed to support modern workflows with HDD/USB/NAS recording. The compact design allows for easy integration in ultrasound systems or mobile C-Arm systems.

- Pre-recording function not to miss any important moments
- Simultaneous recording on internal HDD and external storage media (USB device or NAS).
- Easy integration thanks to various remote control interfaces

Features
- Extensive digital and analog video interfaces to be compatible from SD to the latest HD modalities
- Supports Full HD-video input through DVI & HDMI as well as standard SD-video-interfaces
- HD (720p) and SD (576i/480i) recording resolutions
- Remote interfaces: USB, RS-232C, Footswitch and Monitor remote
- Compact, lightweight and silent design

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

HVO-550MD
HD Medical Recorder, DVD/USB/NAS

Suitable for Ultrasound, Radiology
This High Definition Video recorder is designed to support modern workflows with HDD/USB/NAS recording as well as DVD disc. The compact design allows for easy integration in ultrasound systems or mobile C-Arm systems.

- Digital recording on DVD-R
- Pre-recording function not to miss any important moments
- Simultaneous recording on internal HDD and external storage media (DVD, USB device or NAS).
- Easy integration thanks to various remote control interfaces

Features
- Extensive digital and analog video interfaces to be compatible from SD to the latest HD modalities
- Supports Full HD-video input through DVI & HDMI as well as standard SD-video-interfaces
- HD (720p) and SD (576i/480i) recording resolutions
- Remote interfaces: USB, RS-232C, Footswitch and Monitor remote
- Compact, lightweight and silent design

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

*Registration status as a medical device may vary, depending on country.
For more details, please contact your nearest Sony office or an authorized dealer.
HVO-500MD (Full HD Version)
Full HD Medical Recorder, USB/NAS

Suitable for Ultrasound, Radiology
This High Definition Video recorder is designed to support modern workflows with HDD/USB/NAS recording. The compact design allows for easy integration in ultrasound systems or mobile C-Arm systems.

- Pre-recording function not to miss any important moments
- Simultaneous recording on internal HDD and external storage media (USB device or NAS)
- Easy integration thanks to various remote control interfaces

Features
- Extensive digital and analog video interfaces to be compatible from SD to the latest HD modalities
- Supports Full HD-video input through DVI & HDMI as well as standard SD-video-interfaces
- HD (1080i/720p) and SD (576i/480i) recording resolutions
- Remote interfaces: USB, RS-232C, Footswitch and Monitor remote
- Compact, lightweight and silent design

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

HVO-550MD (Full HD Version)
Full HD Medical Recorder, DVD/USB/NAS

Suitable for Ultrasound, Radiology
This High Definition Video recorder is designed to support modern workflows with HDD/USB/NAS recording as well as DVD disc. The compact design allows for easy integration in ultrasound systems or mobile C-Arm systems.

- Digital recording on DVD-R
- Pre-recording function not to miss any important moments
- Simultaneous recording on internal HDD and external storage media (DVD, USB device or NAS)
- Easy integration thanks to various remote control interfaces

Features
- Extensive digital and analog video interfaces to be compatible from SD to the latest HD modalities
- Supports Full HD-video input through DVI & HDMI as well as standard SD-video-interfaces
- HD (1080i/720p) and SD (576i/480i) recording resolutions
- Remote interfaces: USB, RS-232C, Footswitch and Monitor remote
- Compact, lightweight and silent design

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

HVO-500MD (Surgical Version)
Full HD Medical USB recorder

Suitable for Surgical Microscopy and Endoscopy applications
This Full HD video recorder is designed to meet modern OR workflows with HDD/USB/NAS recording. The compact design allows for easy integration into surgical cart systems

- Simultaneous recording on internal HDD and one external storage media
- Still and motion image capture
- Pre-installed printer driver for Sony UP-DR80MD
- Easy to use operation via menu

Features
- Supports Full-HD video input through DVI and HDMI as well as standard SD video interfaces
- HD (1080i/720p) and SD (576i/480i) recording resolutions
- High Quality HD recording
- Network data transmission via CIFS only
- Remote interfaces: USB, Footswitch
- Compact, lightweight and silent design

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

HVO-550MD (Surgical Version)

Suitable for Ultrasound, Radiology
This High Definition Video recorder is designed to support modern workflows with HDD/USB/NAS recording as well as DVD disc. The compact design allows for easy integration in ultrasound systems or mobile C-Arm systems.

- Digital recording on DVD-R
- Pre-recording function not to miss any important moments
- Simultaneous recording on internal HDD and external storage media (DVD, USB device or NAS)
- Easy integration thanks to various remote control interfaces

Features
- Extensive digital and analog video interfaces to be compatible from SD to the latest HD modalities
- Supports Full HD-video input through DVI & HDMI as well as standard SD-video-interfaces
- HD (1080i/720p) and SD (576i/480i) recording resolutions
- Remote interfaces: USB, RS-232C, Footswitch and Monitor remote
- Compact, lightweight and silent design

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

The HVO-500MD (Full HD version) and HVO-550MD (Full HD version) are the same product as HVO-500MD and HVO-550MD respectively, but are upgraded to record in Full HD. The HVO-500MD (Surgical Version) is the same product as HVO-500MD but is upgraded version to record still image and motion images in Full HD, as well as supporting printing to the Sony UP-DR80MD medical colour printer.

The order codes for HVO-500MD (Full HD Version) is HVO-500MD/FHD and HVO-550MD (Full HD Version) is HVO-550MD/FHD.

The order codes for HVO-500MD (Surgical Version) is HVO-500MD/SUR. Please contact your local Sony representative for details.

Official distributor
Global Trade Medical Supplies
Thin is in

Introducing the next generation of surgical monitor

The new face of surgical monitors from Sony offers users a larger on-screen image with the added benefit of anti-reflective OptiContrast™ panel technology, boosting image contrast under the glare of direct lighting in the OR. All this takes place within a slender chassis with a minimal bezel, delivering the user a bigger picture on existing carts and boom arms used for 26-inch (66cm) models.
LMD-2760MD
Full HD 27 inch (69 cm) LCD* monitor
Suitable for: Microscopy, Endoscopy, Neurology and Ophthalmology
The robust, high brightness 27" (69cm) LCD panel features an advanced anti-reflective panel technology and allows surgeons and operating room staff to view Full HD images from a wide range of digital medical imaging systems with this high quality LCD monitor.
Features
- Digital connectivity only
- High Brightness 1000cd/m² LED backlit LCD panel
- Anti-reflective OptiContrast™ panel technology
- Choice of PiP/PoP picture modes and image flip function
- Powerful AIME image enhancement
- VESA mounting standard (100 x 100 mm/200 x 100 mm)

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

LMD-2765MD
Full HD 27 inch (69 cm) LCD* monitor
Suitable for: Microscopy, Endoscopy, Neurology and Ophthalmology
The robust, high brightness 27" (69cm) LCD panel features an advanced anti-reflective panel technology and allows surgeons and operating room staff to view Full HD images from a wide range of digital and analogue medical imaging systems with this high quality LCD monitor.
Features
- Digital and analogue connectivity
- High Brightness 1000cd/m² LED backlit LCD panel
- Anti-reflective OptiContrast™ panel technology
- Choice of PiP/PoP picture modes and image flip function
- Powerful AIME image enhancement
- VESA mounting standard (100 x 100 mm/200 x 100 mm)

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

* Measured diagonally
*Registration status as a medical device may vary, depending on country. For more details, please contact your nearest authorized dealer.

Official distributor
Global Trade Medical Supplies
Monitors – displaying the detail

Medical monitors that deliver outstanding image quality

The clarity and resolution of medical imaging is becoming increasingly lifelike. And as it does, the role of the medical monitor in supporting critical decisions is more crucial than ever. An obvious example is in surgery, where a surgeon’s ability to distinguish clearly between different tissue types before making an incision is paramount.

*Monitors are shown with optional display stand.*

PVM-2551MD
24.5-inch Full HD Medical OLED Monitor

Suitable for: Microscopy, Endoscopy
The Sony PVM-2551MD is the first medical monitor with OLED technology and displays sharp images with in-depth detail.

- Wide dynamic range – accurate colour reproduction in dark areas of the displayed image
- Quick response – virtually no motion blur
- Wide colour gamut – reproduces small differences in colour

Features
- Panel Resolution Full HD (1920 x 1080 pixels)
- Variety of Gamma curve settings
- Direct input selection
- Key inhibit function
- Easy-clean flat-surface panel
- Installation-friendly cabling
- VESA mounting standard (100 x 100 mm/200 x 100 mm)

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

Official distributor
Global Trade Medical Supplies
**LMD-2451MD**
24-inch Medical Full HD LCD Monitor

**Suitable for:** Microscopy, Endoscopy

The innovative LMD-2451MD has Advanced Image Processing Technology and enables physicians to see still and moving images with accurate, HD clarity and pinpoint precision.

- HD monitor with high resolution
- Original ChromaTRU colour processing technology
- Quality WUXGA panel
- DVI loopthrough possible with BKM-256DD board

**Features**
- Panel Resolution WUXGA (1920 x 1200 pixels)
- Accepts almost any signal from SD to HD video
- Multi-input capability (HD and SD signals from both analogue and digital sources)
- Selectable Gamma curves
- Key inhibit function
- VESA mounting standard (100 x 100 mm/200 x 100 mm)

**Compliance with Medical Safety Standards**
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

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**LMD-2110MD**
21.5-inch Full HD Medical LCD Monitor

**Suitable for:** Microscopy, Endoscopy

Offering superb picture quality, the feature-rich LMD-2110MD is ideal for video endoscope cart installation.

- Versatile Video and PC inputs ranging from SD to HD
- Two types of interpolation methods for high-quality image reproduction
- Improved picture stability when exposed to high electromagnetic fields in medical environments, i.e. electrical knife

**Features**
- Panel Resolution Full HD (1920 x 1080 pixels)
- Accepts signals ranging from SD to HD video, analogue VGA to SXGA PC input, as well as HDMI input
- HD-SDI input available by optional adaptor
- Parallel and serial remote control ports as standard
- User memory provides the capability of saving 20 patterns of memory settings
- VESA mounting standard (100 x 100 mm)

**Compliance with Medical Safety Standards**
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

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**LMD-1951MD**
19-inch SXGA Medical LCD Monitor

**Suitable for:** Microscopy, Endoscopy

This high resolution LCD monitor with superb picture quality and DC power supply is ideal for surgery arm mount and trolley based applications.

- LED backlight for high contrast and brightness
- Power via AC adaptor or direct DC in
- 10 bit signal processing for enhanced picture quality

**Features**
- Panel Resolution SXGA (1280X1024 pixels)
- Accepts signals ranging from SD to HD video, analogue VGA to SXGA PC input, as well as DVI-D input
- 5 types of optional input adaptors are offered for use in two rear slots
- Parallel and serial remote control ports as standard
- User Memory provides the capability of saving 20 patterns of memory settings
- VESA mounting standard (100 x 100 mm)

**Compliance with Medical Safety Standards**
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

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**LMD-1530MD**
15.3-inch WXGA Medical LCD Monitor

**Suitable for:** Microscopy, Endoscopy

This high resolution LCD monitor with superb picture quality and DC power supply is ideal for Surgery Arm Mount applications.

- Full range of SD inputs & HDMI
- IPS LCD panel
- Wide viewing angle

**Features**
- Panel Resolution WXGA (1280 x 768 pixels)
- Anti-reflection (AR) coated protection panel
- Parallel control interface
- VESA mounting standard (100 x 100 mm)

**Compliance with Medical Safety Standards**
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

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*Registration status as a medical device may vary, depending on country.*

For more details, please contact your nearest Sony office or an authorized dealer.

**Official distributor**
Global Trade Medical Supplies
Suitable for Endoscopic Surgery, Education, Training

The Sony HMS-3000MT is a personal viewing system that provides a 3D colour video display of images from 3D surgical endoscopic/laparoscopic camera systems and other compatible 3D medical imaging systems.

- The system consists of the HMI-3000MT image processor unit plus HMM-3000MT Head Mounted Monitor.
- Connect a second headset to the camera control unit for simultaneous viewing by a second user.

Features

- Video input signals can be either 2D or 3D
- Image FLIP function in both landscape or portrait mode
- Image manipulation in both landscape or portrait
- Picture in picture mode for simultaneous display of a secondary image in a smaller inset window
- Range of image adjustment functions
- 1280x720 resolution from the two 0.7 inch OLED panels
- SDI/HD-SDI, DVI-D and HMM outputs for viewing on an external monitor

Compliance with Medical Safety Standards

This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

Official distributor

Global Trade Medical Supplies

LMD-3251MT
32-inch Full HD 3D Medical LCD Monitor
Suitable for: Endoscopic Surgery, Conferences, Education, Training
With the introduction of the LMD-3251MT, Sony expands the range of 3D monitors available for operating theatres.
• Delivers a stress-free viewing experience of natural depth with smooth, uninterrupted viewing of multiple monitors and flicker-free 3D images
• Optional BKM-250TG 3G-SDI input adaptor enables a variety of 3D display functions to support optimum 3D settings and adjustments
• Also features 2D monitor functionality
Features
• Panel Resolution Full HD (1920 x 1080 pixels) with pioneering technology
• Multiple 3D formats
• Features unique ChromaTRU colour matching technology
• Gamma curve selection
• Multiple display modes available
• Protected controls functionality
• VESA mounting standard (400 x 200 mm)

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

LMD-2451MT
24-inch WUXGA 3D Medical LCD Monitor
Suitable for: Endoscopic Surgery, Conferences, Education, Training
With the introduction of the LMD-2451MT, Sony brings the third dimension back into operating theaters. With it’s circular polarized technology and multiple input possibilities it’s a great choice for medical 3D imaging.
• Delivers a stress-free viewing experience of natural depth with smooth, uninterrupted viewing of multiple monitors and flicker-free 3D images
• Optional BKM-250TGM 3G-SDI input adaptor enables a variety of 3D display functions to support optimum 3D settings and adjustments
• Also features 2D monitor functionality
Features
• Panel Resolution WUXGA (1920 x 1200 pixels) with pioneering 3D technology
• Multiple 3D formats
• Features unique ChromaTRU colour matching technology
• Superb brightness and contrast
• Natural gradation and accurate colour reproduction
• Gamma curve selection
• Multiple display modes available
• Protected controls functionality
• Key Inhibit function
• Mirror image function
• VESA mounting standard (100 x 100 mm/200 x 100 mm)

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

*Registration status as a medical device may vary, depending on country.
For more details, please contact your nearest Sony office or an authorized dealer.

Official distributor
Global Trade Medical Supplies
Leading the way in 4K
4K surgical monitors

LMD-X310MD
31-inch 4K 2D LCD medical monitor

Suitable for: Microscopy, Endoscopy
Displaying four times the detail of Full HD, this monitor delivers
detail when it matters most. The new 31” 4K monitor features
a unique slender chassis, an edge-to-edge easy to clean,
splashproof glass protection screen, thin bezel and also
OptiContrast panel™ technology to provide high contrast
with minimal glare.

Features
• Ultra HD resolution, with four times the detail of Full HD
• Wider colour gamut for a greater depth of colour
• A.I.M.E.™ (Advanced Image Multiple Enhancer) – real-time
  Image processing technology to accentuate the colour and
  the structure of the video image independently.
• A choice of display formats with Multi-image display -
  including picture-in-picture, picture-out-picture with 2 or 3
  screen display
• Quad-split picture display of 4 separate HD image sources
• Installation friendly with removable rear cable cover

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and
product safety standards in the U.S.A., Canada and Europe.

LMD-X550MD
55-inch 4K 2D LCD medical monitor

Suitable for: Microscopy, Endoscopy
Displaying four times the detail of Full HD, this monitor delivers
detail when it matters most. The new 55” 4K monitor features
a unique slender chassis, an edge-to-edge easy to clean,
splashproof glass protection screen, thin bezel and also
OptiContrast panel™ technology to provide high contrast
with minimal glare.

Features
• Ultra HD resolution, with four times the detail of Full HD
• Wider colour gamut for a greater depth of colour
• A.I.M.E.™ (Advanced Image Multiple Enhancer) – real-time
  Image processing technology to accentuate the colour and
  the structure of the video image independently.
• A choice of display formats with Multi-image display -
  including picture-in-picture, picture-out-picture with 2 or 3
  screen display
• Quad-split picture display of 4 separate HD image sources
• Installation friendly with removable rear cable cover

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and
product safety standards in the U.S.A., Canada and Europe.
Professional display solutions

Our range of superior quality public display screens and projectors, highly creative video walls and digital signage software enable a hospital to maximise visitor engagement and content sharing like never before.

From our Professional BRAVIA displays designed to work 24/7 delivering messages to patients waiting to be seen by a doctor, through to large scale auditorium projectors in a university hospital lecture theatre, we have a display solution to suit.

BRAVIA Professional Displays
Sony Professional BRAVIA displays come in a range of sizes, from 40” up to 85” offering either Full HD or 4K screen resolutions. Integration of these slim and attractive displays is simple, with flexible mounting and versatile control options.

With support for HTML5 built in, BRAVIA offers a complete entry-level networked digital signage solution with no extra boxes or player hardware needed.

View the latest range at pro.sony.eu/BRAVIA

Projection
Sony offers a range of projectors to suite a variety of requirements. Small portable models for offices through to larger installation models, complete with lamp free, laser technology.

Whatever your lighting conditions or content, expect outstanding quality with a compellingly low total cost of ownership from Sony projectors.

View the latest range at pro.sony.eu/projectors
Printers – documenting the detail

Dedicated medical printers for every application

Sony print technologies – direct thermal printing for black and white images, and dye sublimation printing for colour images – provide accurate reproduction of grey levels and colour tints, together with good resistance to fading.

Kinder on the environment

The entire range of Sony medical printers employs an advanced, environmentally-friendly printing system. No liquid chemicals are used in the printing process, and no chemical waste is produced after printing. In addition, our thermal blue film does not contain any metal components such as silver. This means that all Sony medical print media can be treated as household waste for disposal and recycling purposes, rather than as industrial waste.
**UP-DR80MD**  
A4 Digital Colour Printer

Suitable for: Endoscopy, Ophthalmology, Ultrasound, Microsurgery, Microscopy, Pathology  
Compact and stylish A4 dye-sublimation colour printer with easy to use front operation.

- A4 colour
- USB 2.0 interface
- High resolution Photo quality
- Long term durability of print out thanks to the lamination

Features
- Superior self laminating roll media
- Compact design for trolley applications
- A4 size colour print in approximately 76 seconds
- Advanced grey balance and colour balance adjustment

**UP-D25MD**  
A6 Digital Colour Printer

Suitable for: Endoscopy, Microsurgery, Microscopy, Pathology, Ophthalmology, Ultrasound

Compact and lightweight in design, this printer is perfectly designed to be integrated and used in a wide range of medical applications.

- A6 colour
- USB 2.0 interface
- Compact size

Features
- Photo-realistic quality prints with Sony dye sublimation printing technology
- Resolution of 423 dpi for high picture quality
- A6 size colour print in approximately 19 seconds
- Supports both self-laminating UPC-24 SA/LA and non-laminating UPC-21 S/L media
- Advanced grey balance and HSV-colour balance adjustment, including preview window in driver

**UP-55MD**  
A5 Colour Video Printer

Suitable for: Endoscopy, Microsurgery, Microscopy, Pathology, Ultrasound

Designed for heavy-duty use, offering superb reliability and durability, this colour video printer is ideal for a host of medical applications.

- Easy image storage of printed images on USB flash memory
- A5 colour
- RGB, Video & S-Video interfaces
- Ultra compact
- Multiple print modes; standard and 2, 4 and 8 split print of different images

Features
- HD television signal support accepting both 1080i and 720p signal types
- Resolution of 379 dpi for photo-quality prints
- A5 size print in approximately 20 seconds
- Compact size and simple front operation

**UP-25MD**  
A6 Colour Video Printer

Suitable for: Ultrasound, Endoscopy, Microsurgery, Microscopy, Pathology

Compact and lightweight in design, this printer is perfectly designed to be integrated and used in a wide range of medical applications.

- A6 colour
- RGB, S-Video & Video interfaces
- Compact size

Features
- HD television signal support accepting both 1080i and 720p signal types
- Photo-realistic quality prints with Sony dye sublimation printing technology
- Resolution of 423 dpi for high picture quality
- A6 size colour print in approximately 19 seconds
- Supports both self-laminating UPC-24 SA/LA and non-laminating UPC-21 S/L media
- RGB and advanced HSV-colour balance adjustment features

*Registration status as a medical device may vary, depending on country. For more details, please contact your nearest Sony office or an authorised dealer.

Compliance with Medical Safety Standards*  
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

*Official distributor: Global Trade Medical Supplies  
Black and white printers

UP-D711MD
A7 Black & White Digital Printer

Suitable for: Ultrasound

The one of the smallest Medical Printer in its class is the ideal solution for all portable medical diagnostic equipment, such as ultrasound systems.

• A7 monochrome
• Very compact: 12.5 cm deep
• Low Power consumption
• USB 2.0 interface
• DC input: 12 to 24V

Features
• Photo quality print out with the UPP-84HG high glossy paper
• AC-adaptor available as optional accessory
• Various Print modes
• Paper saving mode

UP-D898MD
A6 Black & White Digital Printer

Suitable for: Ultrasound, C-Arm, Dental, Electrophoresis, Echo-endoscopy

The Sony UP-D898MD thermal printer is the ideal choice for digital ultrasound systems.

• A6 monochrome
• USB 2.0 interface
• Photo quality print out with UPP-110HG high glossy paper

Features
• High picture quality with high resolution (325 dpi) and accurate gray scale reproduction (8 bits/256 levels)
• High speed printing in approximately 1.9 seconds
• Multiple print modes available for a variety of applications
• Compact and lightweight design

Print Media:
UPP-84HG  UPP-84S

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

UPP-110HG  UPP-110HD
UPP-110S

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

Global Trade Medical Supplies
Suitable for: Ultrasound, C-Arm, Echo-endoscopy

The Sony UP-X898MD thermal printer is the full-feature model offering hybrid interfaces and still image capture for easy use and smooth integration into medical equipments

- Image storage onto USB flash drive
- A6 monochrome
- Hybrid interfaces: USB 2.0 and video composite
- Photo quality print out with UPP-110HG high glossy paper

Features
- High picture quality with high resolution (325 dpi) and accurate gray scale reproduction (8bits/ 256 levels)
- High speed printing in approximately 1.9 seconds in standard mode
- Multiple print modes available for a variety of applications
- Compact and lightweight design

UP-D72XR
8x10" Black & White Digital Film & Paper Imager

Suitable for: C-Arm, Dental X-Ray, Ultrasound, Veterinary

The UP-D72XR provides photo-quality output and has been specifically designed for use with X-ray systems, such as mobile C-arm units and dental X-ray systems.

- 8"x10" monochrome
- USB Interface
- Thermal paper and Blue Film

Features
- High resolution of 300 dpi
- Photo-quality prints with Sony direct thermal printing technology
- High-speed printing of approximately 45 seconds
- Precise Gamma-curve-adjustment capability

Print Media:
UPP-110HG  UPP-110HD  UPP-110S

UPP-735BL  UPP-725

*Registration status as a medical device may vary, depending on country. For more details, please contact your nearest Sony office or an authorized dealer.

Official distributor
Global Trade Medical Supplies
Suitable for: C-Arm, Dental, Ultrasound, Veterinary
The UP-991AD is a compact printer integrated by all major C-arm manufacturers offering x-ray images on blue film or thermal paper.

- A4 monochrome
- Thermal paper and Blue Film
- Hybrid interfaces: USB 2.0 and video composite

Features
- Edge to edge printing on blue film
- Long print up to 60 cm
- Easy access to multiple print modes available via front panel
- More compact in depth and lighter compared to predecessor model
- High picture quality with high resolution (325 dpi) and High speed printing in approximately 8 seconds

UP-991AD
A4 Black & White Hybrid Printer

Suitable for: C-Arm, Ultrasound
The UP-971AD is a compact printer integrated by all major C-arm manufacturers offering x-ray images on thermal paper.

- A4 monochrome
- Thermal paper only
- Hybrid interfaces: USB 2.0 and video composite

Features
- Long print up to 60 cm
- Easy access to multiple print modes available via front panel
- More compact in depth and lighter compared to predecessor model
- High picture quality with high resolution (325 dpi) and High speed printing in approximately 8 seconds

UP-971AD
A4 Black & White Hybrid Printer
UP-DF550
Multi-format Diagnostic DICOM Film Imager

Suitable for: Computed Tomography, Magnetic Resonance, CR/DR

Digital Film Imager for all DICOM compliant general radiology applications.

- Multi-format Diagnostic Film Imager
- DICOM interface
- Very small footprint in its class

Features
- Support for 14"x17", 11"x14", 10"x12" and 8"x10" Sony Blue Thermal Film
- High resolution of 320 dpi and 12 bit processing
- High-speed printing at a rate of up to 85 sheets of film per hour (8"x10")
- Vertical installation capability for saving space
- 20 Gamma curves for advanced image quality adjustment
- Quick warm-up time of less than 2 minutes

UP-DF750
High resolution Diagnostic DICOM Film Imager

Suitable for: Mammography, CR/DR, Computed Tomography, Magnetic Resonance

The UP-DF750 Digital Film Imager features superior image quality through high resolution and high density printing.

- Suitable for Mammography
- DICOM interface
- World’s smallest footprint in its class

Features
- Superior image quality through 604 dpi resolution and 14 bit processing
- Support for 10"x12" and 8"x10" Sony Mammography Blue Film (Dmax=3.8)
- Support for 14"x17", 11"x14", 10"x12" and 8"x10" Sony Blue Thermal Film (Dmax=3.2)
- High-speed imaging at a rate of up to 90 sheets of film per hour (8"x10")
- Fully flexible film trays accept any film size and type
- Large 3.8" graphic display with adjustable orientation
- Vertical installation capability for saving space
- Quick warm-up time of less than 2 minutes
- 40 Gamma curves for accurate greyscale reproduction
- New advanced parameterised magnification types and DICOM configuration utility

Compliance with Medical Safety Standards*
This device is compliant and certified for IEC 60601-1 and product safety standards in the U.S.A., Canada and Europe.

Official distributor
Global Trade Medical Supplies
Thermal Print Media

The Sony difference

Here’s a guide to the unique features that make Sony medical print media significantly superior when used with our medical printers.

The quality of printed images, now and over time, is determined by the performance of the printer itself. But choosing the print media is equally vital to achieve long-term quality and durability of images that’s crucial in medical applications.

High water resistance
Our high-glossy layer prevents smudging from water and fingerprints and increases storage stability.¹

Head-matching performance
Designed to optimally match our printer heads, the top coat layer of Sony print media supports continual consistent printing.

Impressive print quality
Our rigorous application of pressure control ensures that the thermal coat layer delivers high-quality colouring properties. The $Y$ curve and $D_{max}$ are adjusted to ensure the stable provision of consistent, optimal image quality.

High humidity and heat resistance
High humidity can cause a significant loss of print density. Such degradation is much less marked with Sony print media, which is designed to maintain picture durability.

Minimal curling
Enabling hassle-free filing, our print media minimises curling to ensure reliable, smooth throughput.

Advanced tearing properties
The base material of Sony print media uses a dedicated substrate that matches the thermal specifications of our printers, and applies a special process to improve coating properties. This prevents curling in the machine direction, whilst ensuring excellent cutting properties in the cross direction.

Anti-electrostatic layer
The electrostatic energy that builds up during printing can cause sparking which destroys vital printer components, particularly in the thermal head. Our built-in antistatic layer acts effectively against this build-up.

Selecting the right print media can also ensure trouble-free printing, reducing the risk of sudden problems at a critical moment. Because it’s designed to match the mechanical characteristics of our medical printers, Sony print media ensures you can depend on the worry-free delivery of high quality images – today and tomorrow.

1 Applies to UPP-110HG and UPP-84HG

Excellent Grey scale reproduction

Sony video printers and print media are developed together, ensuring accurately matched grey scale characteristics that help to ensure the best possible image transfer quality.
## Print media at a glance

### The Sony range

<table>
<thead>
<tr>
<th>Size</th>
<th>Description</th>
<th>Model</th>
<th>Prints per pack or length</th>
<th>Printers</th>
<th>Number of rolls or packs</th>
</tr>
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<tr>
<td></td>
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<tr>
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<td></td>
<td></td>
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<tr>
<td>A4</td>
<td>Self-laminating Colour Printing Pack</td>
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<td>Colour Printing Pack</td>
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<td>A7</td>
<td>Colour Printing Pack</td>
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<td>240 (80x3)</td>
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<tr>
<td>Black &amp; white printing for reference</td>
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<td></td>
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<tr>
<td>8x10&quot;</td>
<td>Blue Thermal Film</td>
<td>UPT-736BL</td>
<td>100</td>
<td>● ●</td>
<td>5</td>
</tr>
<tr>
<td>8x10&quot;</td>
<td>Blue Thermal Film</td>
<td>UPT-735BL</td>
<td>100</td>
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<tr>
<td></td>
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<tr>
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<td>25m</td>
<td>● ● ● ●</td>
<td>5 20</td>
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<td>A4</td>
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<td>5 20</td>
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<tr>
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<tr>
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<td>Thermal Print Media (Type V: High Glossy)</td>
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<td>Thermal Print Media (Type IV: Superior Density)</td>
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<tr>
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<td>●</td>
<td>10 100</td>
</tr>
<tr>
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<td>12.5 m</td>
<td>●</td>
<td>10 100</td>
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<td>Black &amp; white printing for diagnosis</td>
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<td></td>
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<tr>
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<td>8x10&quot;</td>
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<td>125</td>
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<tr>
<td>8x10&quot;</td>
<td>Blue Thermal High density Film</td>
<td>UPT-M710BL</td>
<td>125</td>
<td>●</td>
<td>4</td>
</tr>
</tbody>
</table>

Printer models in bold are available printers, other models are discontinued.

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### How to identify genuine Sony Print Media

Sony’s print media is developed with patented technologies exclusively alongside Sony’s printers, to ensure they complement each other. When purchasing print media look for the Sony logo in the top left to identify a genuine product.

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Official distributor: Global Trade Medical Supplies

Solutions – supporting the medical workflow

Hardware and software that supports efficient content management

At Sony Healthcare, we are able to draw upon Sony expertise across numerous sectors to develop technology that underpins business and organisational efficiency and productivity.

Applying such expertise to hospitals and other medical facilities has enabled us to create hardware and software that support workflows through highly efficient content management.
**Content Editing Solutions**

**Vegas Pro 13**  
**Professional Video, Audio, and Blu-ray Disc™ Creation**

The Vegas™ Pro 13 collection is an integrated production environment. Combining a familiar track-based timeline with hundreds of thoughtful workflow innovations, Vegas Pro 13 simplifies the editing process while offering the professional performance and more creative control.

- Precise editing tools
- Superior audio control with Dolby® Digital Professional Encoder
- Powerful Blu-ray Disc™ authoring

**Features**

- Device explorer window
- Improved interface and 3D editing functions
- Enhanced window trimmer
- Choice of layout
- Pre-built templates
- 3D capability

---

**Movie Studio 13 Suite**  
**HD video editing, DVD creation, and more.**

Movie Studio 13 Suite brings four impressive Sony applications together to produce a comprehensive multimedia experience. The software allows creation of video in beautiful 4K XAVC S or AVCHD™, development of original music, and enhanced multichannel audio.

**Features**

- Jump Start Tutorials provide a quick overview of the Movie Studio 13 workflow
- Powerful Blu-ray Disc™ authoring
- Sound Forge™ Audio Studio software
- 3D capability

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*Registration status as a medical device may vary, depending on country. For more details, please contact your nearest Sony office or an authorized dealer.*

Official distributor: Global Trade Medical Supplies  
Presentation Solutions

PWA-VP100
Vision Presenter

Suitable for: Clinical review teaching and environments

Sony’s PWA-VP100 Vision Presenter brings together a wide range of multimedia sources to create big, bold, dynamic presentations or training solutions that you control with simplicity. In one view you can connect as many as ten different input sources simultaneously; such as Live cameras, PCs, Videoconferencing systems, Monitoring stations, USB flash drives, as well as file based content. 17 different design layouts are provided as default, allowing you to create, manage and build multiple templates all connecting with different content or source material. Effortlessly arrange multiple types of content into one presentation. Blend live camera sources, PowerPoint presentations, web content, movies files, videoconferencing systems and more to boost audience engagement or enhance learning. Vision Presenter handles just about any kind of content, including 4K video, with simultaneous playback of up to five HD video sources.

• Inputs: PCI board (x2), e.g., 3G-SDI (x4) + HDMI*2 (x2) or HDMI*2 (x2) + HDMI*2 (x2)
• SDI/HDMI embedded audio

Features
• Playback 5 pieces of Full HD video content simultaneously
• Control via wired/wireless mouse or Tablet Control (Android, iOS)

This product is for general purpose only and is not compliant with the technical standards under the medical device directive.
Video Conferencing Solutions

PCS-XC1
Full-HD Videoconferencing system

Suitable for: Peer to peer patient discussion, medical communications, remote learning

Hold high-quality videoconferences, easily, wherever there’s a network connection available with the PCS-XC1. This portable videoconferencing system with colour video PTZ camera and optional wireless capability (license required) enhances collaboration so medical practitioners can communicate more effectively.

- Full HD 1080p video at 60 frames per second*
- Wireless network connection

Features
- Compact, highly portable
- Live data-sharing and video annotation
- Supports Microsoft Lync**

Video Security Solutions

The Sony portfolio of products also extends to a market leading range of professional video security solutions. Our range of network-based products for surveillance applications includes IP cameras, network recorders, accessories, and encoders, providing integrated solutions ideal for keeping staff, patients and property protected.

The range offers both indoor and outdoor cameras, with models such as the 360 degree view SNC-HM662 camera for a great overall view of corridors and waiting rooms, and the market leading SNC-VB632D dual-light model which can watch over entrances and delivery bays day and night with its unique functionality.

This product is for general purpose only and is not compliant with the technical standards under the medical device directive.
Technology – advanced innovation

Bringing medical imaging innovations to life

As a pioneer with a heritage of visual technology breakthroughs, we continue to champion new solutions that support diagnostic and surgical success.

Having created our leading HD medical workflow range – from image capture, display and recording through editing and storage to distribution and print – we have pioneered OLED and 3D technology and most recently introduced 4K image clarity to medical environments.

From our latest 4K medical monitor to harnessing the clarity of precise perceived depth and spatial orientation with our 3D medical monitors, cameras and recorders, we translate the latest technological innovations into dedicated medical imaging solutions.
OLED technology

Wide dynamic range

**Accurate colour reproduction in dark areas of the displayed image**

Thanks to TRIMASTER EL technology, Sony OLED monitors are capable of reproducing pure black levels that are faithful to the source signal. They also provide excellent colour reproduction, especially for dark images.

This can assist medical professionals with observing subtle details—such as faint colour differences of tissue such as blood vessels, membrane and fat under low-light conditions.

Quick response

**Virtually no motion blur**

The OLED electroluminescent layer responds almost instantly to changes in electrical current input, achieving superb response performance for blur-free reproduction of fast-moving images. This is beneficial for a variety of critical medical applications, such as rigid endoscopic surgery and flexible endoscope investigation.

Wide colour gamut

**Reproduces small differences in colour**

OLED exceeds the colour range of any previous Sony monitor technology. The advanced micro-cavity structure uses an optical resonance effect in combination with accurate colour filters to calibrate and stabilise RGB colour accuracy.

This combination is also effective in reducing ambient light reflection. Consequently deep colour reproduction can be achieved with virtually no degradation, particularly in bright environments.

Sony OLED Technology

**PVM-2551MD Medical OLED Monitor**

The PVM-2551MD features the newly developed dedicated OLED processor and establishes a new, improved standard of critical-image monitoring. Sony innovative OLED technology delivers deep black, high-contrast, accurate colour reproduction and quick response times with virtually no motion blur.

**HMS-3000MT Head Mounted Display**

The Sony Head Mounted Display uses OLED panels for detailed image representation of the viewed area. Two 18mm (diagonal) panels positioned inside the monitor, one in front of each eye. Independent HD images are displayed on the left and right panels respectively with no crosstalk.
La Sapienza University of Rome holds study to evaluate the Sony HMS-3000MT 3D medical head mount display

The evaluation study took place as part of the Master’s Course in Technological Innovations in Advanced Laparoscopic Surgery, at the Institute of Orthopaedic Trauma Surgery (ICOT), Rome.

Background

The Master’s Course in Technological Innovations in Advanced Laparoscopic Surgery from the Sapienza University of Rome is focused on teaching the most recent technological innovations in laparoscopic and endoscopic surgery. The course participants are all urologists with experience in laparoscopic and endoscopic surgery, who attend surgical operations at the Complex Operative Unit of Urology at the Pontino Centre. As part of the course, a study was launched to evaluate the Sony HMS-3000MT 3D medical head mount display system, involving 12 of the course participants. All operative procedures were carried out with the assistance of Sony’s 3D technology and the HMS-3000MT system.

Challenges

Laparoscopic surgery is widely used for the treatment of cancer and many other diseases. The precise identification of dissection planes and anatomical structures, as well as the magnification of certain anatomical details, is crucial. The availability of advanced image viewing systems therefore plays a fundamental role in surgery, in order to optimise the safety and success of operations. In recent years, attention has been focused on improving the comfort of the surgeon themselves. Traditional video systems impose physical disadvantages upon surgeons, requiring them to alternate their view between their equipment and a separate monitor. Consequently, in lengthy and demanding procedures, premature fatigue may affect the safety of the surgical procedure.
Sony Solution

3D HD viewing in laparoscopy can contribute significantly to recognising dissection planes and anatomical structures by providing surgeons with greater visual clarity and effective ergonomic support. The Sony HMS-3000MT device is a personal viewing system that allows surgeons to view images from 3D and 2D colour surgical camera systems. The system consists of the HMI-3000MT image processor unit, which receives the video image from the surgical camera, processes it, and sends it to the HMM-3000MT head mounted monitor that provides stereoscopic visualisation.

The head mount monitor is adjustable for increased comfort during extended wear, and also allows a ‘look down’ view of the operating site for the surgeon. Unlike passive (circular polarised) 3D systems, the dual-panel design uses two independent OLED panels to display separate images for the wearer’s left and right eye. This makes it possible to obtain smooth, natural stereoscopic images, free of ‘ghosting’ and crosstalk.

The HMI-3000MT image processor unit accepts video input signals in many common 3D and 2D formats from surgical camera systems. Video images can be flipped or rotated for a more convenient viewpoint and can also be output for viewing on an external 3D monitor. A second head mounted monitor can be connected to the image processor unit, allowing a second user to view the images simultaneously.

The result

On days when a large number of surgical procedures are taking place, a system such as the HMS-3000MT provides significant advantages in terms of reducing muscular fatigue and eye strain according to the feedback from surgeons so far. The HMS-3000MT is a product specifically designed to minimize physical exertion, improve posture and help to reduce eye movement from monitor to patient. It also offers high quality 3D viewing which represents a huge advance in terms of depth of surgical field, manoeuvrability, image detail and suture times.

“This system allows you to dramatically improve the surgeon’s posture during surgical procedures, making operations easier for the entire surgical team,” commented Professor Antonio Carbone, Director of the Complex Operative Unit, Urology, Sapienza University of Rome.

“...one of the advantages of robot-assisted laparoscopic surgery that has enabled surgical techniques to evolve. However, the financial commitment involved in purchasing and maintaining a robotic system can be difficult to justify for many hospitals. The availability of 3D viewing systems such as Sony’s HMS-3000MT can be used in many types of laparoscopic surgery and represents a cost-effective and innovative solution.”

Why Sony was selected

Thanks to the increased development of cutting edge imaging technologies, Sony offers a wide range of market leading products in Surgical, Radiology and Ultrasound fields. In the surgical field, the aim of Sony Medical is to provide endoscopic surgeons a better view inside the human body, while innovations such as OLED, as well as the complete 3D medical workflow, offer considerable advantages and new techniques for improved treatment and patient care.

3D viewing is one of the advantages of robot-assisted laparoscopic surgery that has enabled surgical techniques to evolve. However, the financial commitment involved in purchasing and maintaining a robotic system can be difficult to justify for many hospitals. The availability of 3D viewing systems such as Sony’s HMS-3000MT can be used in many types of laparoscopic surgery and represents a cost-effective and innovative solution.
3D technology

Surgical certainty

Sony 3D technology represents a major breakthrough in medical precision and development, enabling surgeons to gain detailed insights and spatial orientation during complicated operations. The delivery of pin-sharp images is achieved by combining our 3D technology with Sony advanced LCD displays. All our monitors undergo a multistage calibration process, which ensures a true-to-original reproduction of the object under examination. This is indispensable not only for high precision but also for uniformity between monitors. Before shipping monitors, Sony Medical calibrates each individual panel to ensure that the RGB coordinates are identical.

A further calibration ensures that the white balance has a consistent colour temperature across all greyscales. Sony 3D monitors process different 3D signal formats such as 3G-SDI, dual stream left and right and field mode, as well as Side-by-Side HD SDI and DVI-D line-interleave mode (line-by-line).

The display can process numerous signals, ranging from practically all SD and HD video signals, to computer signals that are fed in via the DVI-D or HD15 connection.

Delivering clear 3D Images for precise perceived depth and spatial orientation

With the aid of lightweight, easy-to-wear 3D polarisation glasses, users can also view several monitors seamlessly and without interruption.

To provide a three-dimensional image during surgery or for transmission for educational or in-service training purposes, users can attach the Sony MCC-3000MT camera with two camera heads to an operating microscope and show the images on compatible Sony 3D monitors, such as the LMD-3251MT or HMS-3000MT.

To complete the 3D workflow, the Sony HVO-3000MT 3D HD recorder can record outstanding 3D videos and stills.

Principle of Full Frame 3D

HMM-3000MT adopts the ‘Dual Panel 3D Method’ which uses independent panels to display dedicated 3D images for the left and right eyes. HMM-3000MT delivers brighter, more natural and pure 3D images in HD (high definition) compared with other 3D methods without cross-talk phenomenon (image ghosting) and without losing resolution and brightness unlike other 3D methods.
The Sony 3D workflow helps surgeons and other medical staff benefit from a truer visual experience that’s closer to natural sight than 2D imaging.

**Capture**
For microscopic surgery applications, for example, the MCC-3000MT is the first 3D medical-grade Full HD video camera with twin camera heads and a single camera control unit (CCU). Combining ease of adjustment with high precision and high resolution, this 3D video camera attaches to the operating microscope to deliver precise imaging in all three dimensions – recording the same view that the surgeon sees through the microscope.

**Display**
3D stereoscopic images can be shared with other medical staff via a 3D medical-grade monitor such as the LMD-2451MT. Surgeons benefit from a smooth, uninterrupted view of multiple monitors whilst wearing light, comfortable polarised glasses.

**Record**
3D images can also be recorded using the HVO-3000MT 3D medical-grade HD video recorder. Providing exceptional picture quality for both 3D and 2D video recording and playback, it records high-quality images onto the internal hard disk drive and a variety of removable media.

**Edit and present**
Sony’s 3D workflow extends from recording to editing with Sony Vegas Pro software and multi-viewer presentation, with Full HD 3D projectors such as the VPL-HW55ES. With Sony, surgeons can enhance communication with patients and fellow clinicians by integrating 3D images into every phase of their workflow.
4K – the ultimate definition

Detail when it matters most

What is 4K?

4K means detail and lots of it. It’s the description given for any still image, video or digital cinematographic material which delivers a resolution of 3840 x 2160 pixels, four times the quality of Full HD definition.

The benefit of the increased pixel count found in a 4K image can be easily explained when looking at the same still image in both Full HD and 4K. The increased number of pixels provides a greater level of detail, giving more definition to the entire image and clear detail when zooming into a smaller section of an image. Where the Full HD content will begin to blur, the detail will remain in the 4K image, making it easier for the viewer to identify structure and details within it.
Leading the way in 4K

A market-leader in 4K innovation, we have championed 4K definition across a huge number of product applications.

From Sony F65 4K broadcast live system capturing the latest movie footage, Sony 4K Digital Cinema projectors distributing the content in crisp 4K into cinema screens – through to a 4K Bravia TV you can buy for your home. We’ve also announced the world’s first true 4K smartphone.

4K technology is becoming widely accepted as the new resolution – for the ultimate in clarity. And we have the expertise to revolutionise the way you work.

Introducing 4K to healthcare

We continue to build on our long and unique history of developing technologies used in products throughout the world, and are pleased to introduce image sensor and camera module technology which now offers the healthcare market the opportunity to capture surgical procedures in 4K.

In fact we are developing a 4K workflow which makes it possible for any hospital to upgrade to the latest in imaging technology. With our 4K workflow, designed to work over IP across your existing network we can provide you with detail when it matters most. From the image sensors inside the latest 4K endoscopy cameras and the images they capture shown on our latest 4K surgical monitors, to a 4K recorder*, whose content can then be distributed over the network to content management systems, or one of our 4K displays for post-surgical review or teaching – we’ve got it covered.

Setting a standard

Our products and workflow are designed to work with different modalities; our IP Converter will allow a hospital to share 4K content across an open platform. We are standardising technology to make sure we are providing vendor neutral technology to the market, there is no proprietary technology to worry about.

*Note: 4K Recording solution not currently medically certified, and not ready for commercial sale.

4K Workflow

View
Record
Archive
Distribution
Capture
## Accessories

### RM-C950
Remote Control Unit
- Connector: Stereo mini
- Cable length: 5 m
- Mass: 80 g (3 oz)
- Supplied accessory: Operation manual

### RM-91
Remote Control Unit
- Connector: Stereo mini
- Cable length: 5 m
- Mass: 80 g (3 oz)
- Supplied accessory: Operation manual

### FS-24
Foot Switch
- Connector: Stereo Mini Jack
- Cable length: 5 m
- Water proofing: IPX3

### Cables

<table>
<thead>
<tr>
<th>Model</th>
<th>Length</th>
<th>In</th>
<th>Out</th>
<th>DXC-C33P</th>
<th>PMW-10MD</th>
<th>MCC-500MD</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCMC-T</td>
<td>05/10/15/20</td>
<td>20-pin</td>
<td>36-pin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCMC-SA</td>
<td>06/10/15</td>
<td>20-pin</td>
<td>20-pin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCMC-EA05</td>
<td>5</td>
<td>20-pin</td>
<td>20-pin</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### UPA-500
Cleaning Kit
- Contents:
  - Cleaning roller x 5
  - Cleaning paper x 5
  - Head lapping film x 1

### BKM-220D
SDI 4:2:2 Input Adaptor

### BKM-227W
Composite and S-Video (Y/C) Input Adaptor

### BKM-229X
Analogue Component Input Adaptor

### BKM-243HSM
HD SDI & SDI Input Adaptor

### SMF-405
Component RGB to D-sub 15-pin Signal Cable

All products on this page are MDD Compliant.
Black & white media for reference

**UPT-736BL**
Blue Thermal Film
- Contents: 100 sheets
- Paper size: 203 x 254mm (8 x 10 inches)
- Size: 8 x 10

**UPT-735BL**
Blue Thermal Film
- Contents: 100 sheets
- Paper size: 203 x 254mm (8 x 10 inches)
- Size: 8 x 10

**UPP-725**
Thermal Print Media
- Contents: 100 sheets of print media
- Paper size: 203 x 254mm (8 x 10 inches)
- Size: 8 x 10

**UPT-210HD**
Thermal Print Media
- Print quantity: 139/A4 prints
- Paper size: 210mm (W) x 25 m
- Size: A4

**UPP-210SE**
Thermal Print Media
- Print quantity: 139/A4 prints
- Paper size: 210mm (W) x 25 m
- Size: A4

**UPT-210BL**
Blue Thermal Transparent Film (Type III)
- Print quantity: 42 prints (6-split)
- Paper size: 210mm (W) x 12.5 m
- Size: A4

**UPT-110HD**
Thermal Print Media
- Print quantity: 215 prints/A6 prints
- Paper size: 110mm (W) x 20 m
- Size: A6

**UPP-110HG**
Thermal Print Media
- Print quantity: 193 prints/A6 prints
- Paper size: 110mm (W) x 18 m
- Size: A6

**UPP-110S**
Thermal Print Media
- Print quantity: 215 prints/A6 prints
- Paper size: 110mm (W) x 20 m
- Size: A6

**UPP-84HG**
Thermal Print Media
- Print quantity: 104 prints/A7 prints
- Paper size: 84 mm (W) x 8.5m
- Size: A7

**UPP-84S**
Thermal Print Media
- Print quantity: 112 prints/A7 prints
- Paper size: 84 mm (W) x 13.5m
- Size: A7

All products on this page are MDD Compliant.
## Thermal film for diagnosis

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
<th>Contents</th>
<th>Size</th>
<th>Paper Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPT-517BL</td>
<td>Blue Thermal Film</td>
<td>125 sheets</td>
<td>14 x 17</td>
<td>210 x 297mm</td>
</tr>
<tr>
<td>UPT-514BL</td>
<td>Blue Thermal Film</td>
<td>125 sheets</td>
<td>11 x 14</td>
<td>210 x 297mm</td>
</tr>
<tr>
<td>UPT-512BL</td>
<td>Blue Thermal Film</td>
<td>125 sheets</td>
<td>10 x 12</td>
<td>210 x 297mm</td>
</tr>
<tr>
<td>UPT-510BL</td>
<td>Blue Thermal Film</td>
<td>125 sheets</td>
<td>8 x 10</td>
<td>210 x 297mm</td>
</tr>
<tr>
<td>UPT-M712BL</td>
<td>Blue Thermal High density Film</td>
<td>125 sheets</td>
<td>10 x 12</td>
<td>210 x 297mm</td>
</tr>
<tr>
<td>UPT-M710BL</td>
<td>Blue High density Film</td>
<td>125 sheets</td>
<td>8 x 10</td>
<td>210 x 297mm</td>
</tr>
</tbody>
</table>

## Colour media for reference

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
<th>Contents</th>
<th>Size</th>
<th>Paper Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPC-770</td>
<td>Self-laminating Colour Printing Pack</td>
<td>72 sheets of print paper</td>
<td>A4</td>
<td>210 x 297mm</td>
</tr>
<tr>
<td>UPC-21L</td>
<td>Colour Printing Pack</td>
<td>200 sheets of print paper</td>
<td>A6</td>
<td>144 x 100mm</td>
</tr>
<tr>
<td>UPC-21S</td>
<td>Colour Printing Pack</td>
<td>240 sheets of print paper</td>
<td>A6</td>
<td>100 x 90mm</td>
</tr>
<tr>
<td>UPC-24SA</td>
<td>Self-laminated Colour Printing Pack</td>
<td>(small size)</td>
<td>A6</td>
<td>180 sheets of print paper</td>
</tr>
</tbody>
</table>

All products on this page are MDD Compliant.
### Specifications

**Full HD Colour Video Cameras**

<table>
<thead>
<tr>
<th>Model</th>
<th>MCC-3000MT</th>
<th>PMW-10MD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Image device</td>
<td>3-chip 1/2 inch Exmor CMOS (x2)</td>
<td>3-chip 1/2 inch Exmor CMOS</td>
</tr>
<tr>
<td>Effective picture elements</td>
<td>1920 x 1080</td>
<td></td>
</tr>
<tr>
<td>Scanning system</td>
<td>1080i50/59.94</td>
<td></td>
</tr>
<tr>
<td>Sync system</td>
<td>External with BNC (x1)</td>
<td></td>
</tr>
<tr>
<td>Horizontal resolution</td>
<td>1000 TV lines</td>
<td></td>
</tr>
<tr>
<td>Lens mount</td>
<td>C-mount (x2)</td>
<td></td>
</tr>
<tr>
<td>Flange back</td>
<td>17.526mm</td>
<td></td>
</tr>
<tr>
<td>Sensitivity</td>
<td>F10 typical (in 1920 x 1080/59.94i mode)</td>
<td>0.14 lx (in 1920 x 1080/59.94i mode, F2.2, +21 dB gain, with 64-frame slow shutter)</td>
</tr>
<tr>
<td>Minimum illumination</td>
<td>9 lx (in 1920 x 1080/59.94i mode, F2.2, +21 dB gain)</td>
<td>0.14 lx (in 1920 x 1080/59.94i mode, F2.2, +21 dB gain, with 64-frame slow shutter)</td>
</tr>
<tr>
<td>Gain</td>
<td>0 to 21 dB</td>
<td></td>
</tr>
<tr>
<td>Shutter speed</td>
<td>60i: 1/80, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, 1/20000; 50i: 1/60, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, 1/16000</td>
<td></td>
</tr>
<tr>
<td>Electronic shutter</td>
<td>Off/speed/ECS/SLS/EXSLS</td>
<td></td>
</tr>
<tr>
<td>Iris</td>
<td>Manual</td>
<td></td>
</tr>
<tr>
<td>AE area</td>
<td>Multi/Large/Medium/Spot/SFL Selectable</td>
<td></td>
</tr>
<tr>
<td>AE speed</td>
<td>-99 to +99</td>
<td></td>
</tr>
<tr>
<td>AE detect</td>
<td>Backlight, Standard, Spotlight</td>
<td></td>
</tr>
<tr>
<td>Knee point</td>
<td>Auto, Point, Slope, Manual</td>
<td></td>
</tr>
<tr>
<td>Black stretch</td>
<td>Variable Black max / Black min</td>
<td></td>
</tr>
<tr>
<td>Gamma</td>
<td>Variable</td>
<td></td>
</tr>
<tr>
<td>Peedestal</td>
<td>Master, R/B Manual</td>
<td></td>
</tr>
<tr>
<td>Black balance</td>
<td>-99 to +99</td>
<td></td>
</tr>
<tr>
<td>White balance</td>
<td>Preset/Memory/ATW</td>
<td></td>
</tr>
<tr>
<td>ATW area</td>
<td>Normal/manual selectable</td>
<td></td>
</tr>
<tr>
<td>ATW speed</td>
<td>1 (slow) - 5 (fast) selectable</td>
<td></td>
</tr>
<tr>
<td>Detail level</td>
<td>-99 to +99</td>
<td></td>
</tr>
<tr>
<td>Detail frequency</td>
<td>-99 to +99</td>
<td></td>
</tr>
<tr>
<td>Linear matrix mode</td>
<td>ALL/Target/OFF/Select</td>
<td></td>
</tr>
<tr>
<td>Partial enhance</td>
<td>-99 to +99, Type1-Type4</td>
<td></td>
</tr>
<tr>
<td>CCD integration mode</td>
<td>G-R, B-G, G-B, R-G, R-B, B-R</td>
<td></td>
</tr>
<tr>
<td>Baud rate</td>
<td>Manual</td>
<td></td>
</tr>
<tr>
<td>Sync</td>
<td>Up to 38400</td>
<td></td>
</tr>
<tr>
<td>Trigger</td>
<td>CMOS/Open Collector ext Sync BNC</td>
<td></td>
</tr>
<tr>
<td>Shode</td>
<td>Slave</td>
<td></td>
</tr>
<tr>
<td>Scene file</td>
<td>Profile 1 - Profile 6 (selectable)</td>
<td></td>
</tr>
<tr>
<td><strong>Output signals</strong></td>
<td>HD-SDI, Composite, S-Video (Y/C), Y,Pb,Pr, DVI-D</td>
<td></td>
</tr>
<tr>
<td><strong>Serial data</strong></td>
<td>RS-232C</td>
<td></td>
</tr>
<tr>
<td><strong>Connectors</strong></td>
<td>(on Camera Control Side)</td>
<td></td>
</tr>
<tr>
<td>Composite output</td>
<td>BNC (x1), HD-SDI output for A and B (2x), Ext Sync input BNC (x1), Remote D-sub 9-pin (x1)</td>
<td>Camera input: 35-pin (x1), MIC input: Stereo mini-jack (x1), Composite output: BNC (x3), S-Video output: mini DIN 4-pin (x1) Component output: D-Sub 15-pin (x1), DVI-D output: DVI connector 19-pin (x1), HD SDI output: BNC (x2), EXT SYNC input: BNC (x1), PSTRG IO: Stereo mini-jack (x1), Remote: D-sub 9-pin (x1)</td>
</tr>
<tr>
<td><strong>Measurements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>CHU: 35 x 45 x 50 mm (1 7/16 x 1 13/16 x 2 inches) without projection; CCU: 200 x 88 x 341 mm (7 7/8 x 3 1/2 x 13 1/2 inches) without projection</td>
<td>CHU: 35 x 45 x 50 mm (1 7/16 x 1 13/16 x 2 inches) without projection; CCU: 200 x 88 x 240 mm (7 7/8 x 3 1/2 x 9 1/2 inches) without projection</td>
</tr>
<tr>
<td>Mass</td>
<td>CHU: 90 g (3.2 oz) (x2); CCU: 4.5 kg (9 lb 10 oz)</td>
<td>CHU: Approx. 90 g (3.2 oz); CCU: Approx. 2.8 kg (6 lb 3 oz)</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>DC 24 V</td>
<td>AC 100 to 240 V, 50/60 Hz</td>
</tr>
<tr>
<td>Requirements</td>
<td>1.5 A (rush: 3.0 A) ; 0.6-0.36 A</td>
<td></td>
</tr>
<tr>
<td><strong>Operating conditions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>0 to +40°C (+32 to +104°F)</td>
<td></td>
</tr>
<tr>
<td>Storage/Transporting conditions</td>
<td>-20°C to 60°C (-4°F to 140°F)</td>
<td></td>
</tr>
</tbody>
</table>

Official distributor: Global Trade Medical Supplies

[http://globaltrade31.com/our-products/sony/]
# Full HD Colour Video Cameras

## MCC-500MD

<table>
<thead>
<tr>
<th><strong>System</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Image device</td>
<td>single chip 1/3 inch type Exmor CMOS</td>
</tr>
<tr>
<td>Effective picture elements</td>
<td>1920 x 1080</td>
</tr>
<tr>
<td>Scanning system</td>
<td>1080i50/59.94i/P50/P60</td>
</tr>
<tr>
<td>Sync system</td>
<td>External with BNC (x1)</td>
</tr>
<tr>
<td>Effective picture elements</td>
<td>above 900TV lines</td>
</tr>
<tr>
<td>Lens mount</td>
<td>C-mount</td>
</tr>
<tr>
<td>Flange back</td>
<td>17.526mm</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>F5.6 (Typical) (At 1080/59.94i)</td>
</tr>
<tr>
<td>S/N ratio</td>
<td>55db (Y) (typical)</td>
</tr>
<tr>
<td>Gain</td>
<td>0dB to 27dB</td>
</tr>
<tr>
<td>Shutter speed</td>
<td>1/60 to 1/10000</td>
</tr>
<tr>
<td>Electronic shutter</td>
<td>Auto/manual (semi/full)</td>
</tr>
<tr>
<td>AE detect</td>
<td>Slow/Normal/Fast</td>
</tr>
<tr>
<td>Gamma</td>
<td>Normal/medium/dynamic range</td>
</tr>
<tr>
<td>White balance</td>
<td>Auto/Xenon/Halogen/White Led</td>
</tr>
<tr>
<td>Scene file</td>
<td>Profile 1 - Profile 6 (selectable)</td>
</tr>
<tr>
<td>Output signals</td>
<td>HDMI, HD-SDI, S-Video (Y/C), Composite</td>
</tr>
<tr>
<td>Serial data</td>
<td>RS-232C</td>
</tr>
<tr>
<td>Connectors (on Camera Control Side)</td>
<td>HDMI (x1), HD-SDI output on BNC (x1), S-Video output: mini DIN 4-pin (x1), Composite output BNC (x1), 3D SYNC on BNC (x2)</td>
</tr>
<tr>
<td>Input</td>
<td>FS TRIG IO: Stereo mini-jack (x2)</td>
</tr>
<tr>
<td>Remote</td>
<td>D-sub 9-pin (x1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Measurements</strong></th>
<th></th>
</tr>
</thead>
</table>
| Dimensions | CHU:27 x 28 x 49 mm  
(1 1/8 x 1 1/8 x 1 15/16 inches)  
CCU:200 x 62 x 240mm  
(7 7/8 x 2 1/2 x 9 1/2 inches) |
| Mass | camera head: approx. 40 g/approx. 1.4 oz  
camera camera control unit: approx. 2.3 kg/approx. 5 lb. 1.1 oz |

<table>
<thead>
<tr>
<th><strong>Power</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirements</td>
<td>100 to 240V AC, 50/60Hz</td>
</tr>
<tr>
<td>Consumption</td>
<td>AC 100 to 240V, 50/60Hz</td>
</tr>
<tr>
<td>Temperature</td>
<td>0 to +40°C (+32 to +104°F)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Storage/transferring conditions</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>-20°C to 60°C (-4°F to 140°F)</td>
</tr>
</tbody>
</table>
## Specifications

### 3D HD Video Recorder

<table>
<thead>
<tr>
<th>Recording devices</th>
<th>HD Video Recorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal hard disk drive</td>
<td>500 GB</td>
</tr>
<tr>
<td>Blu-ray Disc/DVD drive (1)</td>
<td>320 GB</td>
</tr>
</tbody>
</table>

**Compatible media:** BD-RE (single or dual layer), BD-R (single or dual layer), DVD-R (single layer)

### Input connectors

| Mini DIN 4-pin type (x1)       | Y: 1.0 Vp-p (75 Ohm), Sync negative (C Burst: 0.286 Vp-p (75 Ohm), NTSC: 0.3 Vp-p (75 Ohm) (PAL)) |
| Video in                        | BNC (x1), Composite 1.0 Vp-p (75 Ohm), Sync negative |
| DVI-D in                        | DVI-D (x2), TMDS 1 channel (single line) |
| RGB in                          | D-sub 15-pin (x1), 0.7 Vp-p (C Burst: 0.286 Vp-p (75 Ohm), NTSC: 0.3 Vp-p (75 Ohm) (PAL)) |
| HD-SDI in                       | SD: SMPTE259M, HD: SMPTE292M |
| Audio line in                   | Stereo mini-jack (x1), 1.4 Vrms (full bit), input impedance, 10 kΩ or higher, unbalanced |

### Output connectors

| Mini DIN 4-pin type (x1)       | Y: 1.0 Vp-p (75 Ohm), Sync negative (C Burst: 0.286 Vp-p (75 Ohm), NTSC: 0.3 Vp-p (75 Ohm) (PAL)) |
| Video out                      | BNC (x1), Composite 1.0 Vp-p (75 Ohm), Sync negative |
| DVI-D out                      | DVI-D (x1), TMDS 1 channel (single link) |
| HD-SDI out                     | BNC (x2), SD: SMPTE259M, HD: SMPTE292M, 3G: SMPTE242M compliant (75W) |
| Audio out                      | 3G: SMPTE242M compliant (75W) |

### Other interfaces

| USB                            | USB 2.0 (x4) |
| Network                        | RJ-45 (x1), 1000Base-T/100Base-TX |
| Remote RS 232C                 | D-sub 9-pin (x2) |
| Remote contact switch          | Stereo mini-jack (x4) |
| Remote monitor                 | RJ-45 type (x1) |
| Menu monitor                   | D-sub 15-pin (1x) |

### Other

| Before Using this Unit (x1), CD-ROM (Instructions For Use, PROTOCOL MANUAL) (x1), Warranty booklet (x1), infrared remote control unit (x1) |

### General

| Power requirements              | 100V to 240V AC, 50 Hz/60 Hz |
| Input current                   | 1.9 A to 0.8 A |
| Operating temperature           | 5 to 40° C (41 to 104° F) |
| Operating humidity              | 20% to 80% 30° C (86° F) (no condensation) |
| Operating pressure              | 700 hPa to 1,040 hPa |
| Temperature range for storage   | -20° C to +60° C (C 4° F to +140° F) |
| Humidity range for storage      | 20% to 90% 30° C (86° F) |
| Storage and transport pressure  | 700 hPa to 1,040 hPa |
| Mass                            | 8.4kg (18.5lb.) |
| Dimensions                      | 305 x 410 x 115.5mm (12 1/8 x 16 1/4 x 4 5/8 in.) including protrusions |

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Official distributor

Global Trade Medical Supplies

### HD Video Recorder

<table>
<thead>
<tr>
<th>Model</th>
<th>HVO-500MD</th>
<th>HVO-500MD</th>
<th>HVO-500MD</th>
<th>HVO-500MD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Full HD Version)</td>
<td>(Surgical Version)</td>
<td>(Full HD Version)</td>
<td>(Surgical Version)</td>
</tr>
<tr>
<td><strong>Recording Features</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recording Video Format</td>
<td>MPEG-4 AVC/H.264</td>
<td>Internal HDD (500GB), External USB Storage, Network (CIFS)</td>
<td>Internal HDD (500GB), DVD-R, External USB Storage, Network (CIFS)</td>
<td>Internal HDD (500GB), External USB Storage, Network (CIFS)</td>
</tr>
<tr>
<td>Recording Audio Format</td>
<td>AC-3/AAC LC</td>
<td>Internal HDD (500GB), External USB Storage, Network (CIFS)</td>
<td>Internal HDD (500GB), DVD-R, External USB Storage, Network (CIFS)</td>
<td>Internal HDD (500GB), External USB Storage, Network (CIFS)</td>
</tr>
<tr>
<td>Recording Resolution</td>
<td>1280 × 720/59.94p, 1280 × 720/50p, 720 × 460/59.94i, 720 × 576/50i</td>
<td>1920 × 1080/59.94i, 1920 × 1080/50i, 1280 × 720/59.94p, 1280 × 720/50p, 720 × 480/59.94i, 720 × 576/50i</td>
<td>1920 × 1080/59.94i, 1920 × 1080/50i, 1280 × 720/59.94p, 1280 × 720/50p, 720 × 480/59.94i, 720 × 576/50i</td>
<td>1920 × 1080/59.94i, 1920 × 1080/50i, 1280 × 720/59.94p, 1280 × 720/50p, 720 × 480/59.94i, 720 × 576/50i</td>
</tr>
<tr>
<td>Recording Bit Rate</td>
<td>14 Mbps (Best), 8 Mbps (High), 4 Mbps (Standard)</td>
<td>20 Mbps (Best), 12 Mbps (High), 6 Mbps (Standard)</td>
<td>20 Mbps (Best), 12 Mbps (High), 6 Mbps (Standard)</td>
<td>20 Mbps (Best), 12 Mbps (High), 6 Mbps (Standard)</td>
</tr>
<tr>
<td><strong>Connectors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Connectors</td>
<td>HDMI (Type A) (1), DVI-D (DVI 19-pin) (1), S VIDEO (Mini DIN 4-pin type) (1), VIDEO (BNC type) (1)</td>
<td>AUDIO (Stereo mini jack) (1), also via HDMI</td>
<td>AUDIO (Stereo mini jack) (1), also via HDMI</td>
<td>AUDIO (Stereo mini jack) (1), also via HDMI</td>
</tr>
<tr>
<td>DC IN</td>
<td>(DIN 3-pin)</td>
<td>(DIN 3-pin)</td>
<td>(DIN 3-pin)</td>
<td>(DIN 3-pin)</td>
</tr>
<tr>
<td>Output Connectors</td>
<td>HDMI (Type A) (1), DVI-D (DVI 19-pin) (1), S VIDEO (Mini DIN 4-pin type) (1), VIDEO (BNC type) (1)</td>
<td>AUDIO (Stereo mini jack) (1), also via HDMI</td>
<td>AUDIO (Stereo mini jack) (1), also via HDMI</td>
<td>AUDIO (Stereo mini jack) (1), also via HDMI</td>
</tr>
<tr>
<td>Other Interfaces</td>
<td>&quot;USB (Type A) (2), USB (Type B) (1), Network (RJ-45, 1000 Base-T/100 Base-TX) (1), REMOTE RS-232C* (D-sub 9-pin) (1), REMOTE contact switch (Stereo mini jack) (2), REMOTE MONITOR (RJ-45) (1), Equipotential&quot;</td>
<td>&quot;USB (Type A) (2), USB (Type B) (1), Network (RJ-45, 1000 Base-T/100 Base-TX) (1), REMOTE RS-232C* (D-sub 9-pin) (1), REMOTE contact switch (Stereo mini jack) (2), REMOTE MONITOR (RJ-45) (1), Equipotential&quot;</td>
<td>&quot;USB (Type A) (2), USB (Type B) (1), Network (RJ-45, 1000 Base-T/100 Base-TX) (1), REMOTE RS-232C* (D-sub 9-pin) (1), REMOTE contact switch (Stereo mini jack) (2), REMOTE MONITOR (RJ-45) (1), Equipotential&quot;</td>
<td>&quot;USB (Type A) (2), USB (Type B) (1), Network (RJ-45, 1000 Base-T/100 Base-TX) (1), REMOTE RS-232C* (D-sub 9-pin) (1), REMOTE contact switch (Stereo mini jack) (2), REMOTE MONITOR (RJ-45) (1), Equipotential&quot;</td>
</tr>
<tr>
<td><strong>General</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Requirements</td>
<td>+12 V to +24 V DC (supply from AC-80MD AC adapter)</td>
<td>3.2 A to 1.6 A</td>
<td>3.5 A to 1.8 A</td>
<td>3.5 A to 1.8 A</td>
</tr>
<tr>
<td>Input current</td>
<td>3.2 A to 1.6 A</td>
<td>3.5 A to 1.8 A</td>
<td>3.5 A to 1.8 A</td>
<td>3.5 A to 1.8 A</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>5°C to 40°C (41°F to 104°F)</td>
<td>20% to 80% (Maximum wet-bulb temperature: 30°C (86°F)) (no condensation)</td>
<td>20% to 80% (Maximum wet-bulb temperature: 30°C (86°F)) (no condensation)</td>
<td>20% to 80% (Maximum wet-bulb temperature: 30°C (86°F)) (no condensation)</td>
</tr>
<tr>
<td>Operating Humidity</td>
<td>20% to 80% (Maximum wet-bulb temperature: 30°C (86°F)) (no condensation)</td>
<td>20% to 80% (Maximum wet-bulb temperature: 30°C (86°F)) (no condensation)</td>
<td>20% to 80% (Maximum wet-bulb temperature: 30°C (86°F)) (no condensation)</td>
<td>20% to 80% (Maximum wet-bulb temperature: 30°C (86°F)) (no condensation)</td>
</tr>
<tr>
<td>Operating Pressure</td>
<td>700 hPa to 1,560 hPa</td>
<td>700 hPa to 1,060 hPa</td>
<td>700 hPa to 1,060 hPa</td>
<td>700 hPa to 1,060 hPa</td>
</tr>
<tr>
<td>Storage and transport temperature</td>
<td>-20°C to +60°C (-4°F to +140°F)</td>
<td>20% to 90% (Maximum wet-bulb temperature: 30°C (86°F)) (no condensation)</td>
<td>20% to 90% (Maximum wet-bulb temperature: 30°C (86°F)) (no condensation)</td>
<td>20% to 90% (Maximum wet-bulb temperature: 30°C (86°F)) (no condensation)</td>
</tr>
<tr>
<td>Storage and transport humidity</td>
<td>20% to 90% (Maximum wet-bulb temperature: 30°C (86°F)) (no condensation)</td>
<td>20% to 90% (Maximum wet-bulb temperature: 30°C (86°F)) (no condensation)</td>
<td>20% to 90% (Maximum wet-bulb temperature: 30°C (86°F)) (no condensation)</td>
<td>20% to 90% (Maximum wet-bulb temperature: 30°C (86°F)) (no condensation)</td>
</tr>
<tr>
<td>Storage and transport pressure</td>
<td>700 hPa to 1,060 hPa</td>
<td>700 hPa to 1,060 hPa</td>
<td>700 hPa to 1,060 hPa</td>
<td>700 hPa to 1,060 hPa</td>
</tr>
<tr>
<td>Mass</td>
<td>2.9 kg (6 lb. 6.3 oz.)</td>
<td>3.2 kg (7 lb. 0.88 oz.)</td>
<td>2.9 kg (6 lb. 6.3 oz.)</td>
<td>3.2 kg (7 lb. 0.88 oz.)</td>
</tr>
<tr>
<td>Dimensions (including longest protrusions)</td>
<td>212.0 × 287.7 × 105.5 mm (8 3/8 × 11 3/8 × 4 1/4 in.)</td>
<td>212.0 × 287.7 × 105.5 mm (8 3/8 × 11 3/8 × 4 1/4 in.)</td>
<td>212.0 × 287.7 × 105.5 mm (8 3/8 × 11 3/8 × 4 1/4 in.)</td>
<td>212.0 × 287.7 × 105.5 mm (8 3/8 × 11 3/8 × 4 1/4 in.)</td>
</tr>
<tr>
<td>Supplied Items</td>
<td>(Before Using This Unit (1), CD-ROM (Instructions for Use, PROTOCOL MANUAL*) (1), Warranty booklet (1), AC-80MD AC adapter (1), AC-80MD Instructions for Use (1), Service Contact List (1))</td>
<td>(Before Using This Unit (1), CD-ROM (Instructions for Use, PROTOCOL MANUAL*) (1), Warranty booklet (1), AC-80MD AC adapter (1), AC-80MD Instructions for Use (1), Service Contact List (1))</td>
<td>(Before Using This Unit (1), CD-ROM (Instructions for Use, PROTOCOL MANUAL*) (1), Warranty booklet (1), AC-80MD AC adapter (1), AC-80MD Instructions for Use (1), Service Contact List (1))</td>
<td>(Before Using This Unit (1), CD-ROM (Instructions for Use, PROTOCOL MANUAL*) (1), Warranty booklet (1), AC-80MD AC adapter (1), AC-80MD Instructions for Use (1), Service Contact List (1))</td>
</tr>
</tbody>
</table>

The HVO-500MD (Full HD Version), HVO-500MD (Surgical Version) and HVO-550MD (Full HD Version) models are the same product as HVO-500MD and HVO-550MD respectively, but are upgraded versions to record in full HD.

*RS232C Protocol is not supported for HVO-500MD (Surgical version)
## LCD Monitor Specifications

### LMD-1530MD
- **Panel**: α-Si TFT Active Matrix LCD with anti reflection (AR) coated protection panel
- **Resolution**: 1280 x 768 pixels (WXGA)
- **Effective picture size (WxH)**: 334 x 200mm (13 1/4 x 7 7/8 inches)
- **Diagonal**: 390mm (15 3/8 inches)
- **Aspect**: 15:9
- **Viewing Angle**: 176°
- **Input**
  - **RGB Component**: BNC (x3) RGB: 0.7Vp-p ± 0.3dB (Sync on Green, 0.3Vp-p sync negative)
  - **Composite**: BNC (x1) 1.0Vp-p ± 0.3dB, sync negative (NTSC/PAL) (Line A)
- **Audio**: Phono jack (x1) -5dBu >47KOhms
- **Output**
  - **RGB Component**: BNC (x3) loop through with 75Ohms automatic terminal function
  - **Composite**: BNC (x1) loop through with 75Ohms automatic terminal function
- **Computer Input**
  - **Analogue HD-15**: D-sub 15-pin (x1), R/G/B: 0.7 Vp-p sync (positive Sync On Green, 0.3 Vp-p sync negative) Sym: TTL level (polarity free, H/V separate sync)
- **HDMI**: HDMI input
- **Other**
  - **Stand**: Supplied 100 x 100mm VESA mount
  - **Operating conditions**
    - **Temperature**: 0 to 35°C (32 to 95°F)
    - **Humidity**: 30 to 85 % (no condensation)

### LMD-1951MD
- **Panel**: α-Si TFT Active Matrix LCD
- **Resolution**: 1280 x 1024 pixels (SXGA)
- **Effective picture size (WxH)**: 376 x 301mm (14 7/8 x 11 7/8 inches)
- **Diagonal**: 481.84mm (19 inches)
- **Aspect**: 5:4
- **Viewing Angle**: 178°
- **Input**
  - **RGB Component**: BNC (x3) RGB: 0.7Vp-p ± 0.3dB (Sync on Green, 0.3Vp-p sync negative)
  - **Composite**: BNC (x1) 1.0Vp-p ± 0.3dB, sync negative (NTSC/PAL) (Line A)
- **Audio**: Phono jack (x1) -5dBu >47KOhms
- **Output**
  - **RGB Component**: BNC (x3) loop through with 75Ohms automatic terminal function
  - **Composite**: BNC (x1) loop through with 75Ohms automatic terminal function
- **Computer Input**
  - **Analogue HD-15**: D-sub 15-pin (x1), R/G/B: 0.7 Vp-p sync (positive Sync On Green, 0.3 Vp-p sync negative) Sym: TTL level (polarity free, H/V separate sync)
- **HDMI**: HDMI input
- **Other**
  - **Stand**: Supplied 100 x 100mm VESA mount
  - **Operating conditions**
    - **Temperature**: 0 to 35°C (32 to 95°F)
    - **Humidity**: 30 to 85 % (no condensation)

### LMD-2110MD
- **Panel**: α-Si TFT Active Matrix LCD
- **Resolution**: 1920 x 1080 pixels (Full HD)
- **Effective picture size (WxH)**: 477 x 268mm (18 7/9 x 10 5/9 inches)
- **Diagonal**: 547mm (21 5/9 inches)
- **Aspect**: 16:9
- **Viewing Angle**: 170°/160°, Typical.
- **Input**
  - **RGB Component**: BNC (x3) RGB: 0.7Vp-p ± 0.3dB (Sync on Green, 0.3Vp-p sync negative)
  - **Composite**: BNC (x1) 1.0Vp-p ± 0.3dB, sync negative (NTSC/PAL) (Line A)
- **Audio**: Phono jack (x1) -5dBu >47KOhms
- **Output**
  - **RGB Component**: BNC (x3) loop through with 75Ohms automatic terminal function
  - **Composite**: BNC (x1) loop through with 75Ohms automatic terminal function
- **Computer Input**
  - **Analogue HD-15**: D-sub 15-pin (x1), R/G/B: 0.7 Vp-p sync (positive Sync On Green, 0.3 Vp-p sync negative) Sym: TTL level (polarity free, H/V separate sync)
- **HDMI**: HDMI input
- **Other**
  - **Stand**: Supplied 100 x 100mm VESA mount
  - **Operating conditions**
    - **Temperature**: 0 to 35°C (32 to 95°F)
    - **Humidity**: 30 to 85 % (no condensation)
<table>
<thead>
<tr>
<th></th>
<th>LCD Monitor</th>
<th>OLED</th>
<th>LCD Monitor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LMD-2451MD</td>
<td>PVM-2551MD</td>
<td>LMD-2760MD</td>
</tr>
<tr>
<td><strong>Panel</strong></td>
<td>LCD α-Si TFT Active Matrix LCD with anti reflection (AR) coated protection panel</td>
<td>OLED (Organic Light Emitting Diode (OLED) with anti reflection film (AR) coated protection panel</td>
<td>α-Si TFT Active Matrix LCD with OptiContrast and anti reflection (AR) coated protection panel</td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>1920 x 1200 pixels (WUXGA)</td>
<td>543.4 x 305.6mm (21 1/2 x 12 1/8 inches)</td>
<td>597.9 x 336.3 mm (23 5/8 x 14 1/2 inches)</td>
</tr>
<tr>
<td></td>
<td>1920 x 1080 pixels (Full HD)</td>
<td>623.4mm (24 5/8 inches)</td>
<td>686 mm</td>
</tr>
<tr>
<td><strong>Effective picture size (WxH)</strong></td>
<td>518 x 324mm (20 1/2 x 12 7/8 inches)</td>
<td>27 inches</td>
<td></td>
</tr>
<tr>
<td><strong>Diagonal</strong></td>
<td>609mm (24 inches)</td>
<td>543.4 x 305.6mm (21 1/2 x 12 1/8 inches)</td>
<td>597.9 x 336.3 mm (23 5/8 x 14 1/2 inches)</td>
</tr>
<tr>
<td><strong>Aspect</strong></td>
<td>16:10</td>
<td>16:9</td>
<td>16:9</td>
</tr>
<tr>
<td><strong>Viewing Angle</strong></td>
<td>178°</td>
<td>89°/89°/89°/89° (typical)</td>
<td>89°/89°/89°/89° (typical)</td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>1920 x 1200 pixels (WUXGA)</td>
<td>543.4 x 305.6mm (21 1/2 x 12 1/8 inches)</td>
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</tr>
<tr>
<td><strong>Effective picture size (WxH)</strong></td>
<td>518 x 324mm (20 1/2 x 12 7/8 inches)</td>
<td>27 inches</td>
<td></td>
</tr>
<tr>
<td><strong>Diagonal</strong></td>
<td>609mm (24 inches)</td>
<td>543.4mm (24 5/8 inches)</td>
<td>686 mm</td>
</tr>
<tr>
<td><strong>Aspect</strong></td>
<td>16:10</td>
<td>16:9</td>
<td>16:9</td>
</tr>
<tr>
<td><strong>Viewing Angle</strong></td>
<td>178°</td>
<td>89°/89°/89°/89° (typical)</td>
<td>89°/89°/89°/89° (typical)</td>
</tr>
<tr>
<td><strong>RGB Component</strong></td>
<td>BNC type (x3), RGB: 0.7 Vp-p ±3 dB (Sync On Green, 0.3 Vp-p sync negative) Component: 0.7 Vp-p ±3 dB (75% chrominance standard colour bar signal)</td>
<td>RGB: Via HD-15 connector (D-sub 15-pin) * 0.7 Vp-p (75 Ω) (when Sync On Green, 0.3 Vp-p sync) * Needs SMF-405 sold separately Component: Via HD-15 connector (D-sub 15-pin) * Y: 1.0 Vp-p (75 Ω) (including 0.3 Vp-p sync) Pbs: 0.7 Vp-p (75 Ω), Pr: 0.7 Vp-p (75 Ω) * Needs SMF-405 sold separately</td>
<td></td>
</tr>
<tr>
<td><strong>External Sync</strong></td>
<td>BNC (x1)</td>
<td>Via HD-15 connector (D-sub 15-pin) * Needs SMF-405 sold separately</td>
<td>BNC (x1)</td>
</tr>
<tr>
<td><strong>Y/C</strong></td>
<td>4-pin Mini DIN x 1 Y:1.0Vp-p + 3dB sync negative C: 0.286Vp-p + 3dB (NTSC burst signal level), 0.3Vp-p + 3dB (PAL burst signal level)</td>
<td>Mini-DIN 4-pin (x1) Y: 1.0 Vp-p (75 Ω) C: 0.286 Vp-p (75 Ω, NTSC burst) 0.3 Vp-p (75 Ω, PAL burst)</td>
<td></td>
</tr>
<tr>
<td><strong>Composite</strong></td>
<td>BNC (x1)</td>
<td>10.0Vp-p ±3dB, sync negative (NTSC/PAL)</td>
<td>BNC (x1)</td>
</tr>
<tr>
<td><strong>SD/HD - SDI</strong></td>
<td>Yes (x2 with optional board)</td>
<td>BNC (x2)</td>
<td>5G/HD/SDI</td>
</tr>
<tr>
<td><strong>computer input</strong></td>
<td><strong>Analogue HD-15</strong></td>
<td>D-sub 15-pin (x1) R/G/B: 0.7 Vp-p, sync positive (Sync On Green, 0.3 Vp-p sync negative) Sync: TTL level (polarity free, H/V separate sync) Plug &amp; Play function: corresponds to DDC2B</td>
<td>TMDS single link (x1)</td>
</tr>
<tr>
<td></td>
<td><strong>DVI-D</strong></td>
<td>(x2) TMDS single link for both models</td>
<td></td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td><strong>RGB Component</strong></td>
<td>BNC (x3) loop through with 75 Ohms automatic terminal function</td>
<td>BNC (x1)</td>
</tr>
<tr>
<td><strong>Y/C</strong></td>
<td>Mini-DIN 4-pin (x1), Loop-through, with 75 ohms automatic terminal function</td>
<td>Mini-DIN 4-pin (x1) Y: 1.0 Vp-p (75 Ω) C: 0.286 Vp-p (75 Ω, NTSC burst) 0.3 Vp-p (75 Ω, PAL burst)</td>
<td></td>
</tr>
<tr>
<td><strong>Composite</strong></td>
<td>BNC (x1) loop through with 75 Ohms automatic terminal function</td>
<td>BNC (x1)</td>
<td></td>
</tr>
<tr>
<td><strong>SDI-SDI</strong></td>
<td>TMDS single link (x1 with optional board)</td>
<td>BNC (x1)</td>
<td></td>
</tr>
<tr>
<td><strong>Computer Output</strong></td>
<td><strong>DVI-D</strong></td>
<td>TMDS single link (x1 with optional board)</td>
<td>DVI-D (x1)</td>
</tr>
<tr>
<td></td>
<td><strong>Parallel 8pin modular Serial R5-232C 9-pin D-sub serial ETHERNET RJ-45</strong></td>
<td>Serial R5-232C 9-pin D-sub connector, serial ETHERNET RJ-45 for both models</td>
<td></td>
</tr>
<tr>
<td><strong>Stand</strong></td>
<td>Optional SU-560100 x 100mm VESA mount</td>
<td>Optional SU-560, 100mm x 100mm VESA mount</td>
<td></td>
</tr>
<tr>
<td><strong>Measurements</strong></td>
<td><strong>Dimensions W x H x D</strong></td>
<td>602 x 386 x 110mm (23 3/4 x 15 1/4 x 4 3/8 inches)</td>
<td>660 x 419 x 58mm (Slimmest 0.29mm) 650 x 474 x 302 mm (with SU-560 optional stand) 25 5/8 x 18 3/4 x 12 inches (with SU-560 optional stand)</td>
</tr>
<tr>
<td></td>
<td>Mass</td>
<td>8.7Kg (with 2 x 8KM-229K installed) 8.1 kg (17 lb 14 oz) Approx. 8.5 kg Approx. 18.75 lb</td>
<td></td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td><strong>Consumption</strong></td>
<td>115W</td>
<td>135W</td>
</tr>
<tr>
<td></td>
<td><strong>Operating conditions</strong></td>
<td><strong>Consumption</strong></td>
<td><strong>Operating conditions</strong></td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td>0 to 35°C (32 to 95°F)</td>
<td>100 V - 240V, 50/60Hz DC 12V</td>
<td>AC IN: 100 V - 240V, 50/60Hz</td>
</tr>
<tr>
<td></td>
<td>Humidity</td>
<td>30% to 85 % (no condensation)</td>
<td>30% to 85% (no condensation)</td>
</tr>
<tr>
<td><strong>Storage conditions</strong></td>
<td><strong>Temperature</strong></td>
<td>-20 to +60°C (-4 to 140°F)</td>
<td>0°C to 35°C (Recommended: 20°C to 30°C) 32°F to 95°F (Recommended: 68°F to 86°F)</td>
</tr>
<tr>
<td></td>
<td>Humidity</td>
<td>0 to 90 % (no condensation)</td>
<td>0% to 90%</td>
</tr>
<tr>
<td><strong>Pressure</strong></td>
<td>700 to 1060 hPa</td>
<td>700 hPa to 1060 hPa</td>
<td><strong>Power</strong></td>
</tr>
</tbody>
</table>

* Needs optional accessory cable SMF-405
### Specifications

<table>
<thead>
<tr>
<th>3D LCD Monitor</th>
<th>LMD-3251MT</th>
<th>LMD-2451MT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel</strong></td>
<td>LCD a-Si TFT Active Matrix LCD with anti reflection (AR) coated protection panel</td>
<td>LCD a-Si TFT Active Matrix LCD with anti reflection (AR) coated protection panel</td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>1920 x 1080 pixels (Full HD)</td>
<td>1920 x 1200 pixels (WUXGA)</td>
</tr>
<tr>
<td><strong>Effective picture size (H x W)</strong></td>
<td>27.1/2 x 15 1/2 inches</td>
<td>20 1/2 x 12 7/8 inches</td>
</tr>
<tr>
<td><strong>Effective picture size (diagonal)</strong></td>
<td>801.3 mm, 31 5/8 inches</td>
<td>613.2 mm (24 1/4 inches)</td>
</tr>
<tr>
<td><strong>Aspect</strong></td>
<td>16:9</td>
<td>16:10</td>
</tr>
<tr>
<td><strong>Viewing angle (3D)</strong></td>
<td>35° at a viewing distance more than 620 mm, crosstalk less than 7% (typical)</td>
<td>50° at a viewing distance more than 300 mm, crosstalk less than 7% (typical)</td>
</tr>
<tr>
<td><strong>Viewing angle (2D)</strong></td>
<td>88°/88°/88°/88° (typical) (up/down/left/right contrast &gt; 10:1)</td>
<td>88°/88°/88°/88° (typical) (up/down/left/right contrast &gt; 10:1)</td>
</tr>
<tr>
<td><strong>Colours</strong></td>
<td>Approx. 16.7 million colours</td>
<td></td>
</tr>
<tr>
<td><strong>Input</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Composite</td>
<td>BNC (x1), 1.0 Vp-p ±3dB sync negative</td>
<td></td>
</tr>
<tr>
<td>Y/C</td>
<td>Mini DIN 4-pin (x1) Y:1.0Vp-p ±3dB sync negative, C: burst:0.268Vp-p/NTSC 0.3Vp-p/PAL</td>
<td></td>
</tr>
<tr>
<td>RGB, Component</td>
<td>BNC (x3) RGB: 0.7Vp-p ±3dB (Sync on Green, 0.3Vp-p sync negative) Component: 0.7Vp-p (75% chrominance standard colour bar signal)</td>
<td></td>
</tr>
<tr>
<td>DVI-D</td>
<td>DVI-D (x1) TMDS single link</td>
<td></td>
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<tr>
<td>HD15</td>
<td>D-sub 15-pin (x1), RGB/VR: 0.7Vp-p sync positive (Sync On Green, 0.3Vp-p sync negative) (Sync: total level (polarity free, H/V separate sync) with Plug &amp; Play function; corresponds to DDC2B)</td>
<td></td>
</tr>
<tr>
<td>External Sync</td>
<td>BNC (x1), 0.3Vp-p to 4.0Vp-p ± bipolar ternary or negative polarity binary</td>
<td></td>
</tr>
<tr>
<td>Option slot</td>
<td>Two (2) ports, Signal format: H: 15 kHz to 45 kHz, V: 48 Hz to 60 Hz</td>
<td></td>
</tr>
<tr>
<td>SD/HD/3G-SDI</td>
<td>Yes (2 x with optional boards)</td>
<td></td>
</tr>
<tr>
<td>Dual HD-SDI (3D)</td>
<td>Yes (2 x with optional boards)</td>
<td></td>
</tr>
<tr>
<td>Parallel remote</td>
<td>Modular connector 8-pin (x1) (Pin-assignable)</td>
<td></td>
</tr>
<tr>
<td>Serial remote</td>
<td>D-sub 9-pin (RS-232C) (x1), RJ-45 modular connector (Ethernet) (x1) (10BASE-T/100BASE-TX)</td>
<td></td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Composite</td>
<td>BNC (x1), Loop-through, with 75 ohms automatic termination</td>
<td></td>
</tr>
<tr>
<td>Y/C</td>
<td>Mini DIN 4-pin (x1), Loop-through, with 75 ohms automatic termination</td>
<td></td>
</tr>
<tr>
<td>RGB, Component</td>
<td>BNC (x3), Loop-through, with 75 ohms automatic termination</td>
<td></td>
</tr>
<tr>
<td>External sync</td>
<td>BNC (x1), Loop-through, with 75 ohms automatic termination</td>
<td></td>
</tr>
<tr>
<td>SD/HD/3G-SDI</td>
<td>Yes (2 x with optional boards)</td>
<td></td>
</tr>
<tr>
<td>Dual HD-SDI (3D)</td>
<td>Yes (2 x with optional boards)</td>
<td></td>
</tr>
<tr>
<td>Audio monitor out</td>
<td>Phono jack (x2) (L, R)</td>
<td></td>
</tr>
<tr>
<td>DVI-D TMDS single link (x1 with optional board)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Measurements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions (W x H x D)</td>
<td>783 x 479.2 x 124.3 mm, 783 x 582.8 x 229 mm (with SU-32FW optional stand)</td>
<td>602.4 x 386.2 x 110 mm (23 3/4 x 15 1/4 x 4 3/8 inches) (including projections)</td>
</tr>
<tr>
<td>Mass (with options)</td>
<td>13.8 kg (when 2x BKM-229X installed)</td>
<td>8.7kg (with 2x BKM-229X installed)</td>
</tr>
<tr>
<td>Power Requirements</td>
<td>AC 100V - 240V, 50/60Hz DC 24V 3.5A; DC 5V 0.03A</td>
<td></td>
</tr>
<tr>
<td>Consumption</td>
<td>Approx. 100 W (max.) (with 2 x BKM-229X)</td>
<td>135W</td>
</tr>
<tr>
<td><strong>Operating conditions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humidity</td>
<td>30% to 85% (no condensation)</td>
<td>30% to 85 % (no condensation)</td>
</tr>
<tr>
<td><strong>Storage/Transporting conditions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>20°C to +40°C (-4°F to +140°F)</td>
<td></td>
</tr>
<tr>
<td>Humidity</td>
<td>5% to 90% (no condensation)</td>
<td></td>
</tr>
<tr>
<td>Pressure</td>
<td>700 hPa to 1060 hPa</td>
<td></td>
</tr>
</tbody>
</table>

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# Head Mount display

**HMS-3000MT**

<table>
<thead>
<tr>
<th>Panel</th>
<th>Active Matrix OLED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture Size (Diagonal)</td>
<td>0.7-inch</td>
</tr>
<tr>
<td>Effective Picture Size (H x V)</td>
<td>15.6 x 8.88 mm</td>
</tr>
<tr>
<td>Pixel pitch</td>
<td>12μm</td>
</tr>
<tr>
<td>Resolution (H x V)</td>
<td>1280x720</td>
</tr>
<tr>
<td>Aspect</td>
<td>16:9</td>
</tr>
<tr>
<td>Colour Display</td>
<td>256 levels, processing (8 bits) each for Red, Green and Blue</td>
</tr>
<tr>
<td>SDI, DVI-D</td>
<td>SDI (HD-SDI (x2), DVI-D (x2)): TMDS Single link</td>
</tr>
<tr>
<td>SDI Output, DVI-D Output, HMM Output</td>
<td>SDI (HD-SDI (x2) (through), DVI-D (x2) (through), HMM (x2)</td>
</tr>
<tr>
<td>Power Requirements</td>
<td>HMI-3000MT: DC IN: 24 V/1.5A (Supplied from AC adaptor), AC Adaptor (Sony, AC-80MD): AC IN: 100-240 V, 50/60 Hz, 1.0-0.5A DC OUT: 24 V/3.3A</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>36W</td>
</tr>
<tr>
<td>Supplied Accessories</td>
<td>Before Using this Unit (1), CD-ROM (Instructions for Use) (1), AC-80MD AC adaptor (1), AC-80MD Instructions for Use (1), Service Contact List (1)</td>
</tr>
<tr>
<td>Optional Accessories</td>
<td>An additional HMM-3000MT Head Mounted Monitor and an additional HMO-CASOM Head mount display cable can be added so that a total of 2 Head Mount displays can be used per system.</td>
</tr>
</tbody>
</table>

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### 4K LCD Surgical Monitor Specifications

#### LMD-X310MD
- **Resolution**: 4096 x 2160 pixels
- **Aspect**: 17 : 9
- **Pixel Efficiency**: 0.9999
- **Panel Technology**: LCD with IPS
- **Luminance** (Panel Specification): 770 cd/m² (typical) 520 cd/m² (typical)
- **Contrast Ratio**: 1450 : 1
- **Viewing Angle**: 89°/89°/89°/89° (typical)
- **Gamma**: 1.8, 2.0, 2.2, 2.4, 2.6, DICOM, Highlight

#### LMD-X550MD
- **Resolution**: 3840 x 2160 pixels
- **Aspect**: 16 : 9
- **Pixel Efficiency**: 1400 : 1
- **Panel Technology**: LCD with IPS
- **Luminance** (Panel Specification): 89°/89°/89°/89° (typical)
- **Contrast Ratio**: 1400 : 1
- **Viewing Angle**: 89°/89°/89°/89° (typical)
- **Gamma**: 1.8, 2.0, 2.2, 2.4, 2.6, DICOM, Highlight

#### Picture Performance
- **Panel**: α-S TFT Active Matrix LCD
- **Picture Size (Diagonal)**: 789.06 mm (31 1/8 inches) 1387.8 mm (54 3/4 inches)
- **Effective Picture Size (H x V)**: 698.0 x 368.1 mm (27 1/2 x 14 1/2 inches) 1209.6 x 680.4 mm (47 5/8 x 26 7/8 inches)
- **Pixel pitch**: 0.1704 x 0.1704 mm 0.315 x 0.315mm
- **Resolution (H x V)**: 4096 x 2160 pixels 3840 x 2160 pixels
- **Aspect**: 17 : 9 16 : 9
- **Pixel Efficiency**: 0.9999
- **Backlight**: LED
- **Panel Technology**: LCD with IPS

#### Power Requirements
- **LCD monitor**: DC Input: 26 V, 6.9 A
- **AC adaptor (AC-300MD)**: 100 V - 240 V, 50/60 Hz, 2.1 A – 1.0 A
- **Power Consumption**: LCD monitor: Approx. 180 W (max.) Approx. 290 W (max.)

#### Dimensions (W x H x D)
- **LMD-X310MD**: 753.8 x 456.4 x 69.3 mm (29 3/4 x 18 x 2 3/4 inches)
- **LMD-X550MD**: 1364.6 x 771.5 x 85.5 mm (33.9 mm) (49 7/8 x 30 3/8 x 3 3/8 inches)

#### Power Input
- **DC 5 V/12 V Output**: 5 V Output (x1), 8 W 12 V Output (x1) 20 W max

#### Operating/Storage/Transport Pressure
- **700 hPa to 1060 hPa

#### Mass
- **LMD-X310MD**: Approx. 11.8 kg (Approx. 26 lb 0.23 oz)
- **LMD-X550MD**: Approx. 35.2 kg (Approx. 77 lb 9.6 oz)

#### Supplied Accessories
- **AC adapter: AC-300MD**: AC power cord (1) Instructions for Use (CD-ROM) (1) Abridged edition of Instructions for Use (1) AC power plug holder (2) Instructions for Use of the AC adaptor (1) Service Contact List (1) M4 x 12 mm Screw (4)
- **AC power cord (1)** Instructions for Use(1) Service Contact List (1) M6 x 12mm Screw (4)

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**Official distributor**

Global Trade Medical Supplies

<table>
<thead>
<tr>
<th>System</th>
<th>UP-25MD</th>
<th>UP-D25MD</th>
<th>UP-DR80MD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Print system</strong></td>
<td>Analogue</td>
<td>Digital</td>
<td>Digital</td>
</tr>
<tr>
<td><strong>Format</strong></td>
<td>A6</td>
<td>A4</td>
<td>A4</td>
</tr>
<tr>
<td><strong>Printing system</strong></td>
<td>Dye sublimation printing technology</td>
<td>Approx. 423 dpi</td>
<td>Approx. 301 dpi</td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>Approx. 2100 x 1600 dots</td>
<td>211 / 24LA : 2100 x 1600 dots 215 / 24A : 1600 x 1200 dots</td>
<td>A4 size UPC-R80MD: 3400 x 2392 dots Letter size UPC-R81MD: 3192 x 2464 dots</td>
</tr>
<tr>
<td><strong>Print matrix</strong></td>
<td>UP-21L/24LA: 2179 x 950mm (8.0 x 3.7 inches) UP-21S/24SA: 950 x 75.5 mm (3.7 x 3 inches)</td>
<td>21L / 24LA : 126 x 99mm (5.0 x 3.9 inches) 215/ 24A : 96 x 72 mm (3.8 x 2.8 inches)</td>
<td>A4 size: 3.400 x 2.592 pixels / Letter size: 3.192 x 2.446 pixels / A4 size:287x202mm / Letter size: 269x208mm</td>
</tr>
<tr>
<td><strong>Printable area</strong></td>
<td>UP-21L/24LA: 1279 x 950mm (8.0 x 3.7 inches) UP-21S/24SA: 950 x 75.5 mm (3.7 x 3 inches)</td>
<td>21L / 24LA : 126 x 99mm (5.0 x 3.9 inches) 215/ 24A : 96 x 72 mm (3.8 x 2.8 inches)</td>
<td>A4 size: 3.400 x 2.592 pixels / Letter size: 3.192 x 2.446 pixels / A4 size:287x202mm / Letter size: 269x208mm</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>8 frame memories</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Tray capacity</strong></td>
<td>S Size tray: Max. 80 sheets L Size tray: Max 50 sheets</td>
<td>50 sheets</td>
<td>50 sheets</td>
</tr>
<tr>
<td><strong>Inputs/outputs</strong></td>
<td>Video, S-Video, RGB, Y/C, HDTV IN/OUT signals: 1080/59.94i, 1080/50i (2:1 interlace) 720/59.94p, 720/50p (progressive)</td>
<td>Hi-Speed USB (USB 2.0)</td>
<td>Hi-Speed USB (USB 2.0)</td>
</tr>
<tr>
<td><strong>Control connectors</strong></td>
<td>Remote 1 (special mini jack) for optional RM-5500 (discontinued). Remote 2 (stereo mini jack) for optional RM-91 or FS-24. RS-232C interface port (D-sub 25-pin) for external computer</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

### Measurements

| Dimensions | 212 (W) x 98 (H) x 398 (D)mm, (8.3 x 3.7 x 15.6 inches) | 15 (5.8 inches) | Approx. 317(W) x 207(H) x 425(D)mm (12.5 x 8.1 x 16.7 inches) |
| Mass | 5.7 kg (12 lb 9 oz) | 5.5 kg (12 lb 2 oz) | Approx. 11.5 kg (25.3 lbs) |
| **Power Requirements** | AC 100 V to 240 V, 50/60Hz | AC 100 V to 240 V, 50/60Hz | AC 100 V to 240 V, 50/60Hz |
| **Consumption** | 1.7 A to 1.0 A | 3.4 to 1.4 A | 3.4 to 1.4 A |

### Operating conditions

| Temperature | 5 °C to 35 °C (41 °F to 95 °F) | 5 °C to 35 °C (41 °F to 95 °F) | 5 °C to 35 °C (41 °F to 95 °F) |
| Humidity | 20% to 80% (non condensing) | 20% to 80% (non condensing) | 20% to 80% (non condensing) |

### Storage/Transporting conditions

| Temperature | -20 °C to 60 °C (-4 °F to 140 °F) | -20 °C to 60 °C (-4 °F to 140 °F) | -20 °C to 60 °C (-4 °F to 140 °F) |
| Humidity | 20% to 80% (non condensing) | 20% to 80% (non condensing) | 20% to 80% (non condensing) |

### Other

| Supplied accessories | CD-ROM (1) (Printer Driver, Operating Instructions (PDF), Before Using this Printer (1), Paper Tray (1), Stopper (1), Cleaning Cartridge (1)) | CD-ROM (1) (Operating Instructions (PDF), Before Using this Printer (1), Paper Tray (1), Stopper (1), Cleaning Cartridge (1), USB Cable (1)) | Power Cable (1), USB cable (1), CD ROM (1), Paper holder (2), Cleaning ribbon (1), Before using this printer (1), Software license agreement |
| Other | | | |

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**Official distributor**
Global Trade Medical Supplies
## Colour Printers

### UP-55MD

### System

<table>
<thead>
<tr>
<th>Format</th>
<th>A5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printing system</td>
<td>Dye sublimation printing</td>
</tr>
<tr>
<td>Resolution</td>
<td>Approx. 379 dpi</td>
</tr>
<tr>
<td>Print matrix</td>
<td>2528 x 1920 dots (full screen print)</td>
</tr>
<tr>
<td>Printable area</td>
<td>169 (W) x 129 (H) mm (6 3/4 x 5 1/8 inches)</td>
</tr>
<tr>
<td>Printing time</td>
<td>Approx. 20 seconds</td>
</tr>
<tr>
<td>Tray capacity</td>
<td>Max. 100 sheets</td>
</tr>
<tr>
<td>Memory</td>
<td>8 frame memories</td>
</tr>
<tr>
<td>Control connectors</td>
<td>Remote 1 (special mini) for optional RM-5500, Remote 2 (stereo mini) for optional RM-V91, RS-232C interface port (D-sub 25-pin) for external computer</td>
</tr>
</tbody>
</table>
| Inputs/outputs  | IN/OUT : Video, S-Video, RGB SYNC  
|                 | OUT : USB host port for USB flash memory |

### Measurements

| Dimensions       | Approx. 280 x 125 x 398mm (11 1/8 x 5 x 1 3/4 inches) excluding the projection parts |
| Mass             | Approx. 9 kg (19 lb 13 oz) |
| Power Requirements | AC 100 to 120 V, 50/60 Hz, AC 220 to 240 V, 50/60 Hz  
| Consumption      | 100 to 120 V: Max. 2.8 A / 220 to 240 V: Max. 1.2 A |
| Operating conditions | Temperature: 5 °C to 35 °C (41 °F to 95 °F)  
|                  | Humidity: 20% to 80% (non condensing)  
|                  | Storage/Transporting conditions | Temperature: -20 °C to 60 °C (-4 °F to 140 °F)  
|                  | Humidity: 20% to 90% (non condensing)  
|                  | Other | Supplied accessories: Paper tray (1), Ink ribbon holder (1), Before using printer document (1), Instruction for use (1), AC power cord (1), CD-ROM with PDF files of multi-language usage instructions (1) |

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## Black & White Printers

<table>
<thead>
<tr>
<th>UP-D711MD</th>
<th>UP-D898MD</th>
<th>UP-X898MD</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
<td><img src="image3.png" alt="Image" /></td>
</tr>
</tbody>
</table>

### System
- **Format**: A7/A8
- **Printing system**: Thermal Printing Technology
- **Resolution**: 301 dpi
- **Gradations**: 256 levels (8-bits processing)
- **Print matrix**: 2688x896 dots
- **Printing time**:
  - High-speed mode: Approx. 1.9 seconds/image (960 x 1,280 dots)
  - Normal speed mode: Approx. 3.3 seconds/image (960 x 1,280 dots)
- **Tray capacity**: 12.5 m (UPP-84HG), 13.5 m (UPP-84S), 20 m (UPP-110HG, UPP-110S), 18 m (UPP-110HG)
- **Memory**: 896 x 2688 pixels max
- **Inputs/outputs**: Hi-Speed USB (USB 2.0)

### Measurements
- **Media Size**: Roll width of 84 mm
- **Print size**: 50.4 mm x 75.7 mm
- **Dimensions**: 140 x 70 x 125 mm (5 5/8 x 2 7/8 x 5 inches)
- **Mass**: Approx. 1kg
- **Power Requirements**: DC 12V to 24V
- **Consumption**: 6 A to 3 A
- **Operating conditions**:
  - Temperature: 5 °C to 35 °C (41 °F to 95 °F)
  - Humidity: 20% to 80% (no condensation allowed)

### Other
- **Supplied accessories**:
  - Thermal head cleaning sheet (4-419-859) (1)
  - CD-ROM (including multi-lingual operating instructions, Readme and printer driver) (1)
  - Thermal head cleaning sheet (1)
  - CD-ROM (1), Before Using this Printer (1)
  - Service Contact List (1)

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## Specifications

### Black & White Printers

<table>
<thead>
<tr>
<th>System</th>
<th>Digital</th>
<th>Analogue &amp; Digital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Format</td>
<td>8” x 10” (20 x 25 cm)</td>
<td>A4</td>
</tr>
<tr>
<td>Printing system</td>
<td>Thermal Printing Technology</td>
<td>Direct thermal printing</td>
</tr>
<tr>
<td>Resolution</td>
<td>300 dpi</td>
<td>325 dpi</td>
</tr>
<tr>
<td>Gradations</td>
<td>512 grey levels (9 bit)</td>
<td>8-bit (256 levels) processing</td>
</tr>
<tr>
<td>Print matrix</td>
<td>2743 x 2320 dots</td>
<td>7680 x 2560 dots</td>
</tr>
<tr>
<td>Throughput</td>
<td>Approx. 40 seconds</td>
<td>Approx. 8 sec</td>
</tr>
<tr>
<td>Tray capacity</td>
<td>Paper: 100 sheets / Film: 100 sheets</td>
<td>25 m (UPP-210HD, UPP-210SE), 12.5 m (UPP-210BL)</td>
</tr>
<tr>
<td>Memory</td>
<td>16 MB</td>
<td>Digital: 2816 x 7680 x 8 bits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Video: 6 frames (720 x 608 x 8 bits for one frame)</td>
</tr>
<tr>
<td>Inputs/outputs</td>
<td>USB connector x 1</td>
<td>Digital: Hi-Speed USB (USB 2.0)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Analogue: Video IN/OUT (BNC type)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EIA/CCIR composite video signals (automatic detection)</td>
</tr>
<tr>
<td>Measurements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Media Size</td>
<td>Sheet of 8” x 10” (20 x 25 cm)</td>
<td>Paper width of 210 mm (8 1/4 inches)</td>
</tr>
<tr>
<td>Print size</td>
<td>232.2 x 196.4 mm (9 1/4 x 7 3/4 inches)</td>
<td>Digital: 600 x 200 mm (23 5/8 x 7 7/8 inch) (Max)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VIDEO: SD NISC: 182 x 144 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PAL: 188 x 140 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD/E NISC: 244 x 184 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PAL: 244 x 183 mm</td>
</tr>
<tr>
<td>Dimensions</td>
<td>412 x 210 x 42.1mm (16 1/4 x 8 3/8 x 1 7/8 inches)</td>
<td>316 x 132.5 x 265 mm (12 1/2 x 5 1/4 x 10 1/2 inch)</td>
</tr>
<tr>
<td>Mass</td>
<td>Approx. 15.5 kg (34 lb 3 oz)</td>
<td>7 kg (15lb 7oz)</td>
</tr>
<tr>
<td>Power</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requirements</td>
<td>AC 100 to 240 V, 50/60 Hz</td>
<td>AC 100 V to 240 V, 50/60 Hz</td>
</tr>
<tr>
<td>Consumption</td>
<td>Standby: 12.6 W (actual measurement)</td>
<td>Black printing: 190 W (actual measurement) Max: 270 W</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.9 A to 1.2 A</td>
</tr>
<tr>
<td>Operating conditions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>10 °C to 30 °C (50 °F to 86 °F)</td>
<td>5 °C to 35 °C (41 °F to 95 °F)</td>
</tr>
<tr>
<td>Humidity</td>
<td>20% to 80% (no condensation allowed)</td>
<td></td>
</tr>
<tr>
<td>Storage/Transporting conditions</td>
<td>-20°C to +60°C (4°F to +140°F)</td>
<td></td>
</tr>
<tr>
<td>Humidity</td>
<td>20% to 80% (no condensation allowed)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplied accessories</td>
<td>Paper tray (1), Thermal Head Cleaning Kit (1), Cleaning Sheets (2), Tray guide cover (1), Connection cable (1), Operation guide (1), CD-ROM (operation manual) (1),</td>
<td>Print Media (1) Thermal head cleaning sheet (1) CD-ROM (1) Before Using this Printer (1) Service Contact List (1)</td>
</tr>
</tbody>
</table>

---

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## Diagnostic Film Imagers

**UP-DF550**

<table>
<thead>
<tr>
<th>System</th>
<th><strong>UP-DF750</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Printing system</td>
<td>Direct Thermal Printing</td>
</tr>
<tr>
<td>Resolution</td>
<td>320 dpi</td>
</tr>
<tr>
<td>Gradations</td>
<td>12 bit</td>
</tr>
<tr>
<td>Print matrix</td>
<td>5232 x 4360 dots (for 14 x 17 inch film)</td>
</tr>
<tr>
<td>Throughput</td>
<td>Approx. 64 sheets (per hour for 14 x 17 inch film)</td>
</tr>
<tr>
<td></td>
<td>Approx. 85 sheets (per hour for 8 x 10 inch film)</td>
</tr>
<tr>
<td>Film supply tray</td>
<td>Two trays</td>
</tr>
<tr>
<td>Tray capacity</td>
<td>125 sheets (max.)</td>
</tr>
<tr>
<td>Maximum density</td>
<td>UPT-517BL, UPT-514BL, UPT-512BL, UPT-510BL: 3.2</td>
</tr>
<tr>
<td></td>
<td>UPT-517BL, UPT-514BL, UPT-512BL, UPT-510BL: 3.2</td>
</tr>
<tr>
<td>Inputs/outputs</td>
<td>DICOM port x 1 (RJ-45 Modular jack)</td>
</tr>
<tr>
<td>Measurements</td>
<td></td>
</tr>
<tr>
<td>Media size</td>
<td>354 x 430mm (14 x 17 inches), 279 x 354mm (11 x 14 inches), 253 x 304mm (10 x 12 inches), 202 x 253mm (8 x 10 inches)</td>
</tr>
<tr>
<td></td>
<td>600 x 316 x 686mm (23 5/8 x 12 1/2 x 27 1/8 inches)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Approx. 63 kg (138 lb 14 oz)</td>
</tr>
<tr>
<td>Mass</td>
<td></td>
</tr>
<tr>
<td>Requirements</td>
<td>AC 100 to 240 V, 50/60 Hz</td>
</tr>
<tr>
<td>Consumption</td>
<td>4.4 to 1.8 A</td>
</tr>
<tr>
<td>Operating conditions</td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>10 °C to 30 °C (50 °F to 86 °F)</td>
</tr>
<tr>
<td>Humidity</td>
<td>20% to 80% (non-condensing)</td>
</tr>
<tr>
<td>Storage/transporting conditions</td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>-20 °C to 60 °C (-4 °F to 140 °F)</td>
</tr>
<tr>
<td>Humidity</td>
<td>20% to 80% (non-condensing)</td>
</tr>
</tbody>
</table>