SONY

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Medical
Catalogue

2012/13

Redefining clarity

pro.sony.eu/medical

redefining clarity

Sony Medical is focused on enabling clinicians achieve a clearer view of the human body. We are redefining clarity – with innovations including the first OLED medical monitor and 3D line-up. We continue to support the advancement of diagnosis and patient care.

Our dedicated marketing, product planning and engineering teams meet regularly with medical doctors and other healthcare professionals. This regular dialogue feeds crucial customer insights into all stages of our product development, enabling us to continually refine our expertise and deliver innovative solutions.

From the world's first OLED medical monitor to our leading 3D medical monitor, radiology monitor lineup, camera and recorder line-up, Sony Medical brings you a comprehensive range of equipment.

As well as helping to shape modern surgical practice, we also remain committed to supporting cost-efficient workflows with the delivery of networks for storing, sharing and distributing digital data.

Over the years, Sony have been at the forefront of printing innovation. With this extensive heritage, we have continued to develop medical printers that fulfill the needs and requirements of the heathcare industry.

contents

Cameras – capturing clarity

Application-specific SD & HD medical cameras

Continuing to challenge the boundaries of medical imaging technology, we enable clinicians to capture precise digital images with our range of medical cameras.

Ensuring details are captured with clear precision, our range extends from SD to HD video cameras. We provide application-specific solutions that capture clarity across fields as diverse and demanding as ophthalmology, neurosurgery, pathology, biomedical research and veterinary science.
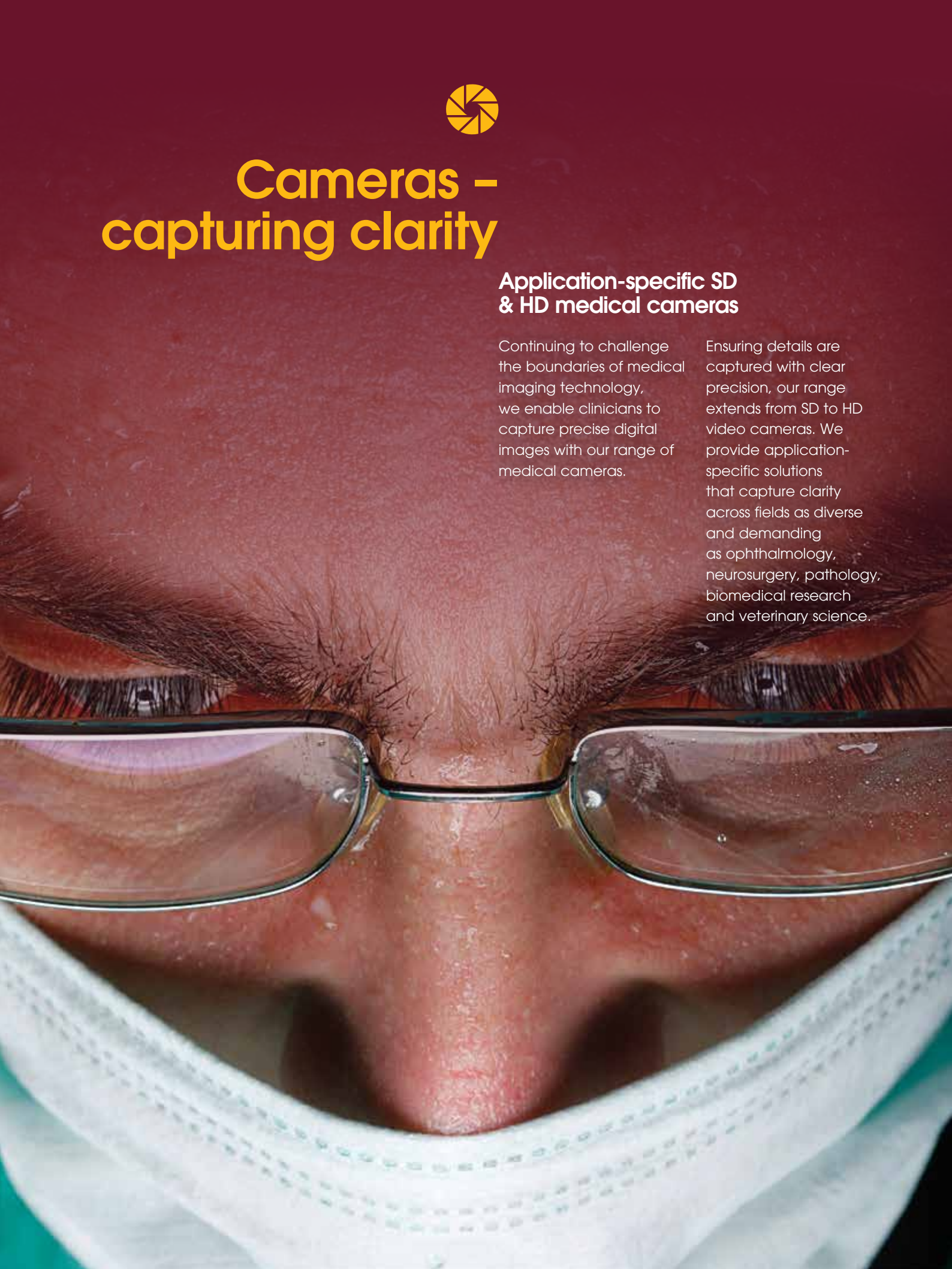
MCC-3000MT ½ inch 3CMOS 3D Full HD Colour Video Camera

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.

> Superb quality of 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 type Exmor Full HD CMOS sensor
> HD-SDI interfaces

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

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

Suitable for: Surgical Microscopy
Unrivalled HD performance, groundbreaking technology and its 2-piece design combine to make the PMW-10MD the ideal solution for ultimate image quality in microscopic applications.

> 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
> DVI-D and HD-SDI outputs
> Two SxS Memory card slots

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

DXC-C33P 1/3 inch 3CCD Colour Video Camera

Suitable for: Surgical Microscopy
The 2-piece compact design makes this model a perfect fit for space-limited applications, whilst offering great picture resolution and many useful features.

> Ultra-small 3CCD remote camera head
> High resolution
> DV connection to compatible VTR

Features
> Incorporates one of the smallest/lightest camera head units
> High horizontal resolution of 800 TV lines
> DV output allows image recording into i.LINK interface-equipped VTR with no deterioration

Product compliance
EN 60601-1, EN 60601-1-2

Lens shown is optional

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DXC-990P 1/2 inch 3CCD Colour Video Camera

Suitable for: Microscopy, Observation

With so many functions, the DXC-990P is the perfect choice for a variety of applications. It incorporates ExwaveHAD™ technology which greatly improves camera sensitivity and reduces smear.

> Superior picture quality
> Advanced digital signal processing

Features
> ExwaveHAD™ technology provides excellent sensitivity and low smear levels
> High horizontal resolution of 850 TV lines
> Complies with the MDD when used with optional CMA-D2MD/CE AC power supply

Product compliance
EN 60601-1, EN 60601-1-2

V MDD Approved

Lens shown is optional

DXC-390P 1/3 inch 3CCD Colour Video Camera

Suitable for: Microscopy, Observation

Feature-rich and using a C-mount lens, this ExwaveHAD™ camera is ideal where picture accuracy and detail are essential.

> High picture quality
> Wide choice of available lenses from various manufacturers
> Small and lightweight

Features
> ExwaveHAD™ technology provides excellent sensitivity and low smear levels
> High horizontal resolution of 800 TV lines
> Complies with the MDD when used with optional CMA-D2MD AC power supply

Product compliance
EN 60601-1, EN 60601-1-2

V MDD Approved

Lens shown is optional

Recorders - lasting clarity

Versatile, workflow-efficient recording and storage solutions

Applying our deep expertise across recording, storage and network technology, our solutions ensure clinicians can rely on the clarity of their medical images for years to come.

The Sony Medical range of compact and versatile solutions deliver exceptional archive picture quality. They support workflow efficiency with powerful random access capability, plus enhanced security that protect patient data.

HVO-3000MT 3D & 2D 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 proggressive frames per second
> Simultaneous recording on internal hard drive, DVD/ Bluray Disc drive 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-install Sony USB printer driver
> Still and motion image capture

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class B

√ MDD Approved

HVO-1000MD 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 surgery 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 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-install Sony USB printer driver
> Still and motion image capture

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class B

√ MDD Approved

DVO-1000MD Medical SD DVD Recorder

Suitable for: Ultrasound, Endoscopy, Radiology, Surgery

This DVD recorder has been designed specifically for use in
a wide range of surgical and other healthcare environments.
Compact, rugged and easy to use, it offers all the benefits of remov-
able disc media.

> DVD+RW Digital Recording
> Easy to use operation

Features
> Rewritable DVD+RW disc as recording media (highly re-usable,
  low-cost and wide interoperability)
> High quality MPEG2 video recording (HQ/SP/LP mode available)
> Quick recording and high reliability with back-up hard disk recording
> RS-232C and USB remote control
> Compact size & lightweight

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class B

√MDD
Approved

Monitors – clarity that displays precise detail

Medical monitors that ensure outstanding image quality

As image quality becomes increasingly lifelike, the importance of medical monitors in supporting critical decisions increases too. An obvious example is in surgery where, for a surgeon about to make an incision, the ability to distinguish clearly between different tissue types is paramount.

In the pursuit of the ultimate image clarity, we have now developed the first dedicated medical monitor with Organic Light-Emitting Diode (OLED) technology. Applying our expertise in delivering high quality displays for surgery and other medical applications, we have also introduced our first complete line-up of diagnostic radiology monitors – see page 14.

Another first is the application of our leading expertise across 3D technology to introduce our first widescreen 3D medical LCD monitor.

Adding these new models to our line-up of HD and SD medical monitors now gives medical practitioners and administrators even more choice, helping to ensure they can benefit from exceptional image clarity with the right screen for every application.

Surgical Monitors

LMD-1530MD 15 inch 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
> VESA mounting standard compliance
> Parallel control interface

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

MDD Approved

LMD-1951MD 19 inch 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

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

MDD Approved

LMD-2110MD 21 inch Full HD Medical 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 can be accepted by additional adaptor
> Parallel and serial remote control ports as standard
> User Memory provides the capability of saving 20 patterns of memory settings
> VESA mounting standard

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

MDD Approved

LMD-2451MT   24 inch 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 the perfect 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-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 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
> Mirror image function
> Protected controls functionality
> Key Inhibit function

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

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.

> Exceptional HD monitor with class-leading resolution
> Original ChromaTRU colour processing technology
> Superb 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
> Complies with the 100mm VESA mounting standard
> Multi-input capability (HD and SD signals from both analogue and digital sources)
> Selectable Gamma curves
> Key inhibit function

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

PVM-2551MD Medical OLED Monitor

Suitable for Microscopy, Endoscopy

The Sony PVM-2551MD is the first medical monitor with OLED technology and displays images in outstanding brilliance 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 pixel)
> Variety of Gamma curve settings
> Noise filter
> Direct input selection
> Key inhibit function
> Easy-clean flat-surface panel
> Installation-friendly cabling
> VESA mounting compatibility

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

✓MDD Approved

LMD-4251TD 42 inch 3D Professional LCD Monitor

Suitable for Conferences, Education, Training and other non-medical applications

This widescreen 3D medical LCD monitor incorporates a WUXGA LCD panel providing Full HD resolution images with pioneering 3D technology.

> Delivers a stress-free viewing experience of natural depth with smooth, uninterrupted viewing of multiple monitors and flicker-free 3D images
> High purity colour filters ensure precise colours
> Optimised for group viewing with a very wide viewing angle
> Also features 2D monitor functionality

Features
> Panel Resolution WUXGA (1920 x 1200 pixels) with pioneering 3D technology
> Future-proofed longevity with multi-format and HD capability
> Features unique ChromaTRU colour matching technology
> Numerours 3D display features
> Protected controls functionality

Product compliance
LVD, EMC, UL 60950-1, CSA C22.2 No. 60950-1, FCC / IC Class B

✓GENERAL PURPOSE

Diagnostic Radiology Displays

The all-new Sony LMD-DM series of diagnostic radiology displays feature high-luminance and high-contrast to deliver excellent clarity across CT, MRI, CR and DR X-ray, nuclear medicine and digital mammography.

The 3MP and 5MP grayscale models feature Independent Sub-pixel Drive technology* that is capable of producing 3x the resolution of conventional monochrome LCDs. Independent Sub-pixel Drive creates

superb image quality for viewing high resolution diagnostic studies, particularly in full field digital mammography (FFDM) where detailed viewing of micro-calcifications is possible.

LMD-DM50   5 MP Monochrome LCD Diagnostic Display

Suitable for: Digital mammography, PACS, CR/DR

The LMD-DM50 offers a high resolution of 5 MP required in Digital Mammography. Moreover Independent Sub-pixel Drive technology which triples the resolution is capable of improving the diagnosis by showing more accurate details.

> Up to 15 MsP by using Independent Sub-pixel Drive technology
> Resolution: 2048 x 2560
> High Luminance 1100 cd/m² and
> High Contrast 850:1 (typ)

Features
> Equipped with Display port which supports 10 bit output
> Luminance Stabilization System with built-in luminance sensor
> Digital Uniformity Equalizer for accurate luminance
> Remote Calibration with the optional LMD-KT10 Kit
  and LMD-SN10 Display Network manager
> Flexible Display Positioning
> Luminance and Gamma Presets

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

MDD Approved
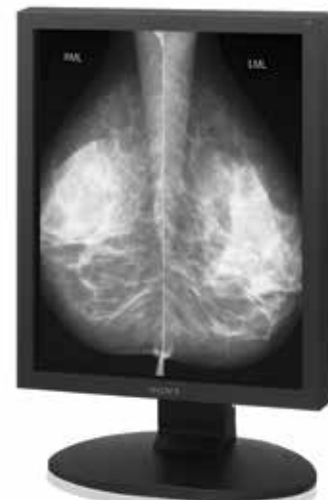
LMD-DM30   3 MP Monochrome LCD Diagnostic Display

Suitable for: CR/DR, CT, MRI, Digital Mammography, PACS

The LMD-DM30 can achieve 9MsP resolution by using the Independent Sub-pixel Drive technology and can be used in this case for Digital Mammography as well.

> Up to 9 MsP by using Independent Sub-pixel Drive technology
> Resolution: 1536 x 2048
> High Luminance 1000 cd/m²
> High Contrast 900:1 (typ)

Features
> Equipped with Display port which supports 10 bit output
> Luminance Stabilization System with built-in luminance sensor
> Digital Uniformity Equalizer for accurate luminance
> Remote Calibration with the optional LMD-KT10 Kit
  and LMD-SN10 Display Network manager
> Flexible Display Positioning
> Luminance and Gamma Presets

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

MDD Approved

* Independent Sub-pixel Drive technology is the property of, and developed by, Totoku Electric Co., Ltd.

LMD-DM20 2 MP Monochrome LCD Diagnostic Display

Suitable for: CT, MRI, Nuclear Medicine, CR/DR, PACS

> Resolution: 1200 x 1600
> High Luminance 1800 cd/m²
> High Contrast 700:1 (typ)

Features
> Equipped with Display port which supports 10 bit output
> Luminance Stabilization System with built-in luminance sensor
> Digital Uniformity Equalizer for accurate luminance
> Remote Calibration with the optional LMD-KT10 Kit
  and LMD-SN10 Display Network manager
> Flexible Display Positioning
> Luminance and Gamma Presets

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

✓ MDD Approved

LMD-DM30C 3 MP Colour LCD Diagnostic Display

Suitable for: CT, MRI, Nuclear Medicine, CR/DR, PACS

> Resolution: 1536 x 2048
> High Luminance 800 cd/m²
> High Contrast 750:1 (typ)

Features
> Equipped with Display port which supports 10 bit output
> Luminance Stabilization System with built-in luminance sensor
> Digital Uniformity Equalizer for accurate luminance and colour
> Remote Calibration with the optional LMD-KT10 Kit
  and LMD-SN10 Display Network manager
> Flexible Display Positioning
> Luminance and Gamma Presets

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

✓ MDD Approved

LMD-DM20C 2 MP Colour LCD Diagnostic Display

Suitable for: CT, MRI, Nuclear Medicine, CR/DR, PACS

> Resolution: 1200 x 1600
> High Luminance 950 cd/m²
> High Contrast 900:1 (typ)

Features
> Equipped with Display port which supports 10 bit output
> Luminance Stabilization System with built-in luminance sensor
> Digital Uniformity Equalizer for accurate luminance and colour
> Remote Calibration with the optional LMD-KT10 Kit
  and LMD-SN10 Display Network manager
> Flexible Display Positioning
> Luminance and Gamma Presets

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

✓ MDD Approved

LMD-KT10

Diagnostic Display Calibration Kit

Kit composed of a calibration sensor and application software for quality control and evaluation of LMD-DMseries LCD Displays.

> Display Calibrator
> Display Quality Controller
> Display Utility Software
> Calibration sensor

LMD-SN10

Diagnostic Display Network Manager Software

> Remote Calibration of multiple
  diagnostic Displays via hospital network
> Remote Workstation administration
> Maintenance/Constancy test & report
> Licence for 10 displays

Public displays for general purpose

FWD-S55H2 55 inch Full HD LED Backlit Public Display

Suitable for Medical Reviewing, Training Rooms, Telemedicine, Distance Learning
Sony slim-bezel professional public displays provide brilliant and dynamic messaging in Full HD.

> 1080 Full HD – high resolution of 1920 x 1080
> High brightness – allowing for use in bright light conditions
> DICOM Gamma – for picture viewing in medical applications
> Landscape / Portrait – adaptable for a variety of applications

Features
> Screen Saver
> Picture-in-Picture
> Eco Mode
> Display Control via RS232C/RJ45
> Multi-Display
> True Colour Control
> Low power and environmentally-conscious

Product compliance
LVD, EMC, UL 60950-1, CSA C22.2 No. 60950-1, FCC / IC Class B

☑ GENERAL PURPOSE

FWD-S46H2 46 inch Full HD LED Backlit Public Display

Suitable for Medical Reviewing, Training Rooms, Telemedicine, Distance Learning
Sony slim-bezel professional public displays provide brilliant and dynamic messaging in Full HD.

> 1080 Full HD – high resolution of 1920 x 1080
> High brightness – allowing for use in bright light conditions
> DICOM Gamma – for picture viewing in medical applications
> Landscape / Portrait – adaptable for a variety of applications

Features
> Screen Saver
> Picture-in-Picture
> Eco Mode
> Display Control via RS232C/RJ45
> Multi-Display
> True Colour Control
> Low power and environmentally-conscious

Product compliance
LVD, EMC, UL 60950-1, CSA C22.2 No. 60950-1, FCC / IC Class B

☑ GENERAL PURPOSE

FWD-S42H2 42 inch Full HD LED Backlit Public Display

Suitable for Medical Reviewing, Training Rooms, Telemedicine, Distance Learning
Sony slim-bezel professional public displays provide brilliant and dynamic messaging in Full HD.

> 1080 Full HD – high resolution of 1920 x 1080
> High brightness – allowing for use in bright light conditions
> DICOM Gamma – for picture viewing in medical applications
> Landscape / Portrait – adaptable for a variety of applications

Features
> Screen Saver
> Picture-in-Picture
> Eco Mode
> Display Control via RS232C/RJ45
> Multi-Display
> True Colour Control
> Low power and environmentally-conscious

Product compliance
LVD, EMC, UL 60950-1, CSA C22.2 No. 60950-1, FCC / IC Class B

☑ GENERAL PURPOSE

Printers – printing clarity

Dedicated medical printers for every application

With over 25 years' experience in developing medical printers, we focus on designing printers that can be used across the full range of medical applications. This focus revolves around delivering:

• Highly compact units
• High-speed printing
• Multiple interfaces
• Exceptional image quality

Sony printing technology – thermal printing for black and white images, and dye sublimation printing for colour images – provides superb reproduction of grey levels and colour tints, as well as exceptional resistance to fading.

Environmentally friendly

Across our entire medical printer range, we utilise an environmentally-friendly printing system. No liquid chemical is used in the printing process and no chemical waste is produced after printing. Also, Sony thermal film does not contain any metal components, such as silver. Which means that all Sony print media can be treated as household waste, rather than as industrial waste.

Colour medical printers

UP-DR80MD A4 Colour Digital Printer

Suitable for: Ultrasound, Endoscopy, Microsurgery, Microscopy,
Ophtalmology, 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 laminated roill media
> Compact design for trolley applications
> A4 size colour print in approximately 76 seconds
> Advanced grey balance and colour balance adjustment

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

✓ **MDD** Approved

Print Media:
UPC-R80MD

UP-D55 A5 Digital Colour Printer

Suitable for: Endoscopy, Microsurgery, Microscopy,
Pathology, Ophthalmology, Ultrasound
The optimum choice for many medical applications and also for a
wide range of scientific, industrial and engineering uses, the UP-D55
provides working efficiency for high-performance printing.

> A5 colour
> USB 2.0 interface
> Ultra compact

Features
> Dye sublimation printing for photo-realistic print quality at 379 dpi resolution
> A5 size colour prints provided in approx. 20 seconds
> Compact size enabling it to fit into limited space

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

✓ **MDD** Approved

Print Media:
UPC-55

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
  ("USB Stick")
> A5 colour
> RGB, Video & S-Video interfaces
> Ultra compact
> Multiple print modes; standard and 2, 4, 8 split print of different images

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

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

✓ **MDD** Approved

Print Media:
UPC-55

UP-D25MD A6 Colour Digital 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

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

MDD Approved

Print Media:

UPC-21S	UPC-21L	UPC-24SA	UPC-24LA

UP-25MD A6 Colour Video Printer

Suitable for: Endoscopy, Microsurgery, Microscopy, Pathology, 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
> RGB, S-Video & Video interfaces
> Compact size

Features
> HDTV (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

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

MDD Approved

Print Media:

UPC-21S	UPC-21L	UPC-24SA	UPC-24LA

Black and white printers

UP-D711MD A7 Black & White Digital Printer

NEW

Suitable for: Ultrasound
The Smallest Medical Printer in the world is the ideal solution for all portable medical diagnostic equipment, such as ultrasound systems.

> A7 monochrome
> Extremely 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

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

MDD Approved

Print Media:	
UPP-84HG	UPP-84S

UP-D897 A6 Black & White Digital Printer

Suitable for: Ultrasound, C-Arm, Dental, Electrophoresis, Echo-endoscopy
The Sony UP-D897 thermal printer is the ideal choice for digital ultrasound systems.

> A6 monochrome
> USB 2.0 interface
> Photo Quality Print out with the UPP-110HG high glossy paper

Features
> High picture quality with high resolution (325 dpi) and excellent gray scale reproduction (8bits/ 256 levels)
> High-speed printing of approximately 2 seconds
> Multiple print modes available for a variety of applications
> Compact and lightweight design

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

MDD Approved

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

UP-897MD A6 Black & White Video Printer

Suitable for: Ultrasound, C-Arm, Echo-endoscopy
The UP-897MD black and white video printer is designed specifically for use with medical diagnostic equipment, such as ultrasound systems

> A6 monochrome
> Composite video interface
> Photo Quality Print out with the UPP-110HG high glossy paper

Features
> Compact and lightweight design
> High picture quality with high resolution (325 dpi) and excellent gray scale reproduction (8bits/ 256 levels)
> High speed printing of approx 2 seconds in standard mode
> Selectable 4:3 or 1:1 aspect ratio

Product compliance
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

MDD Approved

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

UP-970AD A4 Black & White Hybrid Printer

Suitable for: C-Arm, Ultrasound

Integrated by all the major C-Arm manufacturers, the UP-970AD ensures high image quality with high reliability in a compact and easy-to-use printer.

> A4 monochrome
> Composite video interface and USB 2.0
> Thermal paper only

Features
> High quality and accurate gray scale reproduction with 8 bits/ 256 levels.
> High resolution of 325 dpi
> High-speed printing of 8 seconds
> Multiple print modes; standard, side and 2, 4 and 6-split print of different images

Product compliance	
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A	√ MDD Approved

Print Media:

UPP-210HD	UPP-210SE

UP-990AD A4 Black & White Hybrid Printer

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

The UP-990AD is the smallest printer offering x-ray images on blue film and used by all major C-arm manufacturers.

> A4 monochrome
> Composite video interface and USB 2.0
> Thermal paper and Blue Film

Features
> High quality and accurate gray scale reproduction with 8 bits/ 256 levels.
> High resolution of 325 dpi
> High-speed printing of 8 seconds
> Multiple print modes; standard, side and 2, 4 and 6-split print of different images
> Auto-cut function

Product compliance	
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A	√ MDD Approved

Print Media:

UPP-210SE	UPP-210HD	UPT-210BL

UP-D72XR 8x10" Black & White Digital Printer

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

Product compliance	
EN 60601-1, EN 60601-1-2, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A	√ MDD Approved

Print Media:

UPT-735BL	UPP-725

Radiology Diagnostic Imagers

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
> World's smallest footprint in its class

Features
> Support for 14" x 17", 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

Product compliance
EN 60601-1, EN 60601-1-2, R&TTE, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

MDD Approved

Print Media:

UPT-517BL	UPT-514BL
UPT-512BL	UPT-510BL

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 ultimate image quality adjustment versatility
> New advanced parameterised magnification types and DICOM configuration utility

Product compliance
EN 60601-1, EN 60601-1-2, R&TTE, UL 60601-1, CSA C22.2 No. 601.1, FCC / IC Class A

MDD Approved

Print Media:

UPT-517BL	UPT-514BL
UPT-512BL	UPT-510BL
UPT-M712BL	UPT-M710BL

Print media at a glance

Delivering clarity through optimum print quality

Your choice of medical print media is vital in achieving durable, long-term image quality. To ensure the optimal performance and longevity of Sony medical printers, you need to choose Sony print media. Using media of lower grade not only results in poorer image quality, but is also likely to result in early printer failure and higher maintenance costs.

Specifically designed to match the mechanical characteristics of Sony medical printers, Sony print media guarantees the hassle-free delivery of high quality images by giving you:

- Accurate grey-scale and colour reproduction
- Superior print quality
- Head-matching performance
- Anti-electrostatic layer
- Minimal curling
- Advanced tearing properties
- High humidity and heat resistance

Size	Description	Comments	Model	Prints per pack or length	Printers			Number of rolls or packs	
								Per subcarton	Per mastercarton
Colour printing for reference					UP-D77MD	UP-D75MD	**UP-DR80MD**		
A4	Self-laminating Colour Printing Pack		UPC-R80MD	50x2			●		4
A4	Self-laminating Colour Printing Pack		UPC-770	72	●	●			5
						UP-55MD/D55			
A5	Colour Printing Pack		UPC-55	100x2		●			5
					UP-20/21MD/D23MD		**UP-25MD/UP-D25MD**		
A6	Self-laminating Colour Printing Pack		UPC-24LA	40x4			●		6
A7	Self-laminating Colour Printing Pack		UPC-24SA	60x3			●		6
A6	Colour Printing Pack		UPC-21L	50x4	●		●		6
A7	Colour Printing Pack		UPC-21S	80x3	●		●		6
Black & white printing for reference					UP-D74XRD		**UP-D72XR**		
8x10"	Blue Thermal Film		UPT-736BL	100	●				5
8x10"	Blue Thermal Film		UPT-735BL	100			●		5
8x10"	Thermal Printing Paper		UPP-725	100	●		●		5
					UP-990AD		**UP-970AD**		
A4	Thermal Printing Paper	(Type II: High Density)	UPP-210HD	25m	●		●		20
A4	Thermal Printing Paper	(Type I: High Quality)	UPP-210SE	25m	●		●		20
A4	Blue Thermal Film	(Type III)	UPT-210BL	12.5m	●				20
					UP-897 series	UP-895 series	UPP-890 series		
A6	Thermal Printing Paper	(Type V: High Glossy)	UPP-110HG	18m	●	●		10	100
A6	Thermal Printing Paper	(Type IV: Superior Density)	UPP-110HA	18m			●	10	100
A6	Thermal Printing Paper	(Type II: High Density)	UPP-110HD	20m	●	●	●	10	100
A6	Thermal Printing Paper	(Type I: High Quality)	UPP-110S	20m	●	●	●	10	100
					UP-D711MD				
A7	Thermal Printing Paper	(Type HG: High Glossy)	UPP-84HG	12.5 m	●			10	100
A7	Thermal Printing Paper	(Type S: High Quality)	UPP-84S	13.5 m	●			10	100
Black & white printing for diagnosis					**UP-DF750**	**UP-DF550**	UP-DF500		
14x17"	Blue Thermal Film	For general Radiology	UPT-517BL	125	●	●	●		4
11x14"	Blue Thermal Film		UPT-514BL	125	●	●			4
10x12"	Blue Thermal Film		UPT-512BL	125	●	●			4
8x10"	Blue Thermal Film		UPT-510BL	125	●	●			4
10x12"	Blue Thermal Mammography Film	For Mammography application	UPT-M712BL	125	●				4
8x10"	Blue Thermal Mammography Film		UPT-M710BL	125	●				4

All print quantity numbers are measured in default setting.
All non-metric weights and measures are approximate.

Solutions – digital data clarity

Hardware and software that supports efficient content management

At Sony Medical, 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.

From our VMI-40MD medical image multiplexer that combines multiple streams of clinical information into a single output for easy sharing and management to intuitive content editing software with Vegas Pro 10.0 and our OPSIGATE content management and delivery system, our solutions give you greater content control.

VMI-40MD Medical Image Multiplexer

Suitable for: Observation in Operating Rooms, Emergency Rooms, Acute Care, Conference Rooms for Education and Training

Receives up to 4 separate medical images and information from procedure site, displays them in multiple frames on a single screen and transmits to other on-site or remote locations.

> Single-device solution for combining multiple streams of clinical information input into a single image output for easy sharing and management
> Reduces load on hospital networks with transmission over single Ethernet line
> Ideal for connecting to remote specialist facilities

Features
> Multiple layout patterns
> Multi-image composition and RGB output
> Still image capture

☑ GENERAL PURPOSE

Vegas Pro 10.0 Professional Video Editing Software

Suitable for: Ultrasound, Endoscopy, Urology, Radiology

The Vegas™ Pro 10 collection offers an efficient and intuitive environment for professional video and broadcast production, as well as DVD and Blu-ray Disc™ authoring.

> Precise editing tools
> Superior audio control
> Powerful Blu-ray Disc™ authoring

Features
> Device explorer window
> Improved interface and 3D editing functions
> Vegas Pro 10 supports projects up to 4096 pixels by 4096 pixels
> Enhanced window trimmer
> Choice of layout
> Pre-built templates

☑ GENERAL PURPOSE

OPSIGATE Content management and delivery system

Suitable for: Ultrasound, Endoscopy, Urology, Radiology

Providing web-based administration of multimedia content, Sony OPSIGATE™ enables speedy and secure management and delivery of video, audio, image and text files.

> Web-based content administration
> Multimedia content distribution
> Content access, view and download direct from PCs and mobile devices

Features
> Secure content access and sharing
> Multiple multimedia formats handled
> Flexible configuration
> Standards-based solution for universal compatibility
> Sophisticated content distribution options
> Scalable network storage

☑ GENERAL PURPOSE

Technology – next-generation clarity

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 are now brining next-generation OLED and 3D clarity to medical environments.

From the world's first OLED medical monitor to harnessing the clarity of precise perceived depth and spatial orientation with our 3D medical monitors, camera and recorder, 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 Sony TRIMASTER EL technology, the Sony OLED monitor is capable of reproducing pure black, faithful to the source signal. It provides superb colour reproduction, especially for dark images. This enables medical professionals to observe very subtle details in each image. For example, the faint colour differences of tissue under low-light conditions such as blood vessels, membrane and fat, are correctly reproduced.

Quick response

Virtually no motion blur

Because the OLED electroluminescent layer inherently responds to any electrical current input, it emits light with virtually no delay. It therefore achieves superb quick response performance for fast moving images. This efficient blur-free, fast response time is beneficial for a variety of critical medical applications, such as rigid endoscopic surgery and flexible endoscope investigation.
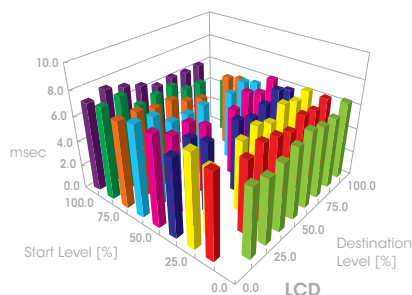
LCD screen image
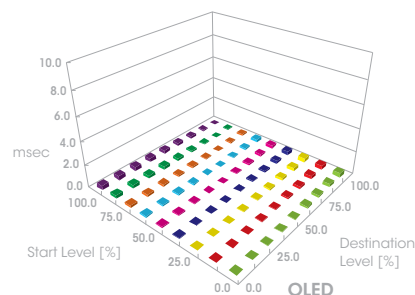
Sony OLED screen image

Wide colour gamut

Reproduces small differences in colour

Sony OLED technology displays the largest colour range of any Sony monitor previously offered. The Sony 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, and consequently deep colour reproduction can be achieved with virtually no degradation, particularly in bright environments.
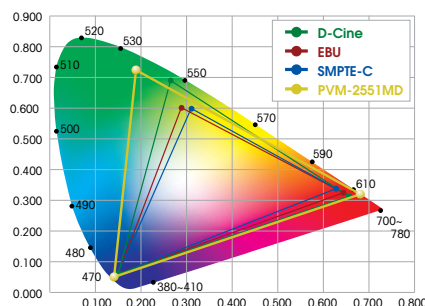
PVM-2551MD Medical OLED Monitor

With its exceptional picture quality and medical-friendly design, the PVM-2551MD ushers in a new era of exceptional medical monitoring.

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.

In addition, the PVM-2551MD employs a high-performance noise filter which reduces effects on the monitor image that typically occur when an electrosurgical knife is used during surgery. The PVM-2551MD complies with the 100mm hole spacing VESA mounting standard, making it ideal for use with a variety of medical installations.

Cameras

Recorders

Monitors

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Cameras

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HD workflow

1. Capture

2. Display

3. Record

4. Edit

7. Archive

6. Distribute

5. Print

You can rely on the leader in medical imaging technology for ultra compact cameras that capture the most intricate detail with advanced HD clarity.

Now professionals and students can all benefit from a clearer picture of surgical procedures with displays that show the different colours of blood and distinguish between different types of tissue.

Compact, versatile recording solutions incorporating patient data while delivering long-lasting picture quality, random access capability and enhanced security that incorporates patient data.

As the unrivalled experts in networked video and media management, we deliver complete control of all digital data for more tailored teaching and colleague collaboration.

Purpose-built, reliable technology with superb colour reproduction and exceptional durability to assist accurate and consistent diagnosis.

Workflow-friendly, cost-efficient, dependable and secure solutions with the capacity to store and share the massive and continually increasing volume of digital medical data.

The highest image and sound quality for more immersive group teaching and colleague collaboration, sharing HD digital still and moving images across campuses and around the world.

HD technology

Perception and discrimination

Everyone knows the closer you are to something, the more detail you see. The human eye can discriminate detail within about 1 minute of arc (MOA). This is the equivalent to being able to see 1mm lines from about 3½ metres away.

Therefore the larger the monitor or viewing screen, or the nearer you sit to it, the more detail you see. The ideal size of screen or viewing distance, is when the screen's line structure is just imperceptible. If you sit any nearer or the screen is any larger, the image begins to break up as you see the

individual pixels. Too far away, or too small a screen, and you cannot see all the image's available detail. This is why our HD line-up is so important to medical practitioners: when it comes to a patient's health, no detail is too small.

Pixels and resolution

SD pixels and resolution

The resolution of 625 line SD television (PAL) is 720 x 576 pixels, or 414,720 pixels in total (shown below). This is shown as a 4:3 image. PAL pixels are therefore not square but slightly tall.

Standard Definition (PAL 720x576)
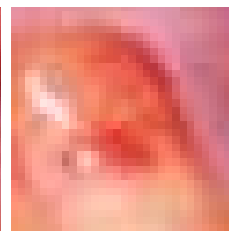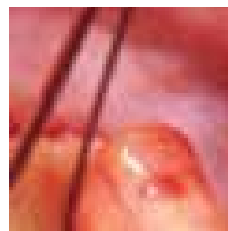
HD pixels and resolution

The resolution of 1080 HD is 1,920 x 1,080 pixels, or 2,073,600 pixels in total (shown below). The resolution of 720 HD is 1280 x 720 pixels, or 921,600 pixels. Both 1080 HD and 720 HD are a true 16:9 image with square pixels.

Comparing PAL with 1080 HD. In comparison both images are made the same height.

Standard Definition (PAL 720x576)
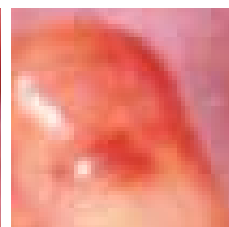
HD and colour

HD television offers a new colour space with a redefined Y. For professionals, there is a jump in brightness in the colour bars standard test signal between green and magenta. The new standard also extends this gamut even further for selected HD equipment.

Cameras

Recorders

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Technology

Cameras

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Monitors

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Solutions
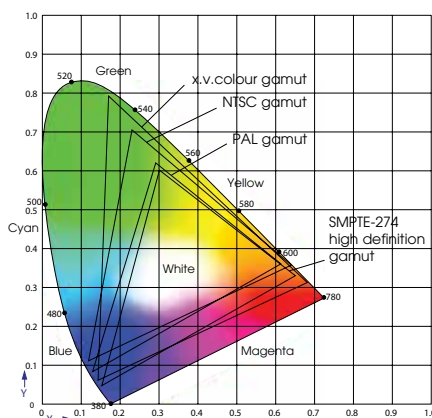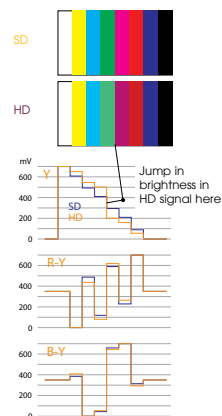
Technology

PMW-10MD 1/2 CMOS - Full HD Medical Camera

Suitable for surgical microscopy and observation, the first Sony HD medical camera features groundbreaking technology for the ultimate image quality. The PMW-10MD features on-board Solid-state recording and playback of high definition video.

> Superior quality, highly compact camera head
> New high-performance, ½" Exmor™ Full HD 3CMOS imager
> 1920 x 1080 resolution and 2.2 mega pixels
> Exclusively designed, compact and lightweight ½" C-mount prism assembly
> Excellent picture quality with low power consumption: F10 sensitivity, 54dB S/N ratio and 450% dynamic range

LMD-2451MD 24 inch Medical LCD Monitor

Our innovative LMD-2451MD with Advanced Image Processing Technology enables users to see still and moving images with accurate, HD clarity and-pinpoint precision - making it ideal for critical endoscopic applications. The extraordinary quality and resolution of the HD images means that new, intricate surgical procedures may be attempted, creating the possibility for new approaches to medical treatment to be developed. The HD 24-inch* medical monitor with class-leading resolution picture is so exceptional it vastly improves the detail of all small structures.

> Advanced full 10-bit digital video signal processor to produce accurate, life-like images with smooth and natural gradation
> Multiple display modes such as Picture-out-Picture and Side-by-Side
> Accepts almost any signal ranging from SD to HD video in both analogue and digital, as well as PC signals via its DVI-D or HD15 connectors
> Complies with the 100mm hole spacing VESA mounting standard making it ideal for use with surgical equipment arms

HVO-1000MD Full HD Hard Disc Video Recorder

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

> Superior quality, highly compact design
> High quality HD recording
> Simultaneous recording
> Easy to use operation
> Streaming functionality

Cameras

Recorders

Monitors

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Technology

3D technology

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

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 multi-stage 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.

BKM-30G 3D glasses

Surgical certainty

User-defined storage, chroma phase control and ChromaTRU technology all optimise our monitors' images. These give the surgeon certainty that his hand movements are reproduced true to detail, even during complex procedures such as incisions and suturing.

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-4251TD. To complete the 3D workflow, the Sony HVO-3000MT 3D HD recorder can record outstanding 3D videos and stills.

The HVO-3000MT is first and foremost a medical HD 3D video recorder, but can also stream video material in 2D to conference rooms and lecture theatres. It outputs images in many different formats, such as Blu-ray and DVD, or for USB storage media.

LCD panel
Polariser
Patterned retarder

Circular-polariser glasses

Left eye

Right eye

Right-signal on odd lines (Clockwise)

Left-signal on even lines (Counter-clockwise)

R
L

R
L
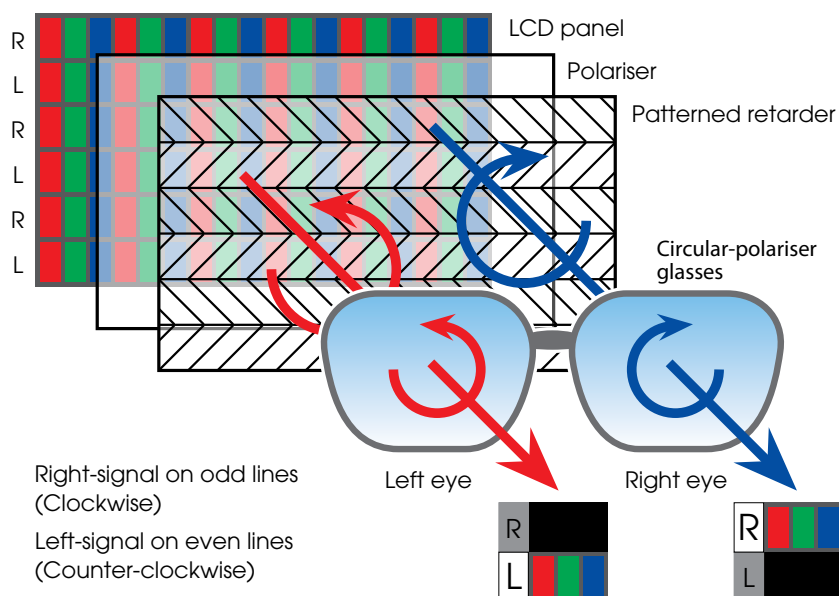
Principle of 3D Circular-polariser

Cameras

Recorders

Monitors

Printers

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Technology

3D workflow

1. Capture

2. Display

3. Record

4. Edit

7. Present

6. Playback

5. Preview

The Sony 3D workflow enables surgeons and other medical staff to benefit from a truer visual experience that is closer to natural sight than 2D imaging.

For microscopic surgery applications, for example, the Sony MCC-3000MT is the first 3D medical-grade full-HD video camera with separate video camera featuring 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 extremely precise imaging

in all three dimensions – recording the same view that the surgeon sees through the microscope.

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

The 3D images can also be easily recorded using our 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.

From recording to editing with Sony Vegas Pro software and through to multi-viewer presentation with full HD 3D projection on the Sony VPL-HW50ES, the Sony 3D workflow enables physicians to better communicate with patients and fellow surgeons by integrating 3D images into every phase of their workflow.

MCC-3000MT 3D HD Video Camera

Suitable for: Surgical Microscopy

Industry's first separate Video Camera with twin camera heads and single CCU for Operating Microscopes that also delivers realistic High-Precision 3D images of operating field.

> Superb quality of stereoscopic 3D HD and 2D HD images
> Easy parameter adjustment (including colour matching and white balance) with single CCU
> Simultaneous control of left and right camera heads.
> Multiple shooting modes
> C-mount compatible
> Twin 3D outputs support flexible workflows

LMD-2451MT 24 inch 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 the perfect choice for medical 3D imaging.

> Panel Resolution WUXGA (1920 x 1200 pixels) with pioneering 3D technology
> 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
> Multiple 3D formats and also features 2D monitor functionality
> Features unique ChromaTRU colour matching technology
> Superb brightness and contrast through super-wide WUXGA LCD panel

HVO-3000MT 3D HD video recorder

Suitable for: surgery applications

A 3D medical-grade HD video recorder that provides exceptional picture quality for both 3D and 2D video recording and playback.

> Stereoscopic 3D images
> Can record and playback high quality 3D and 2D video
> Accepts 3D HD video input from HD-SDI and DVI sources with high resolution of 1080 vertical lines up to 60 proggressive frames per second
> Simultaneous recording on internal hard drive, DVD/ Bluray Disc drive and USB slot
> Real-time distribution with a streaming function
> Broad Support of media for data exchange
> Large capacity hard disc for long recording capability
> Wide range of Interfaces
> Network data transmission through FTP or CIFS

Cameras

Recorders

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Printers

Solutions

Technology

Accessories

RM-C950
Remote Control Unit

DXC-990P	DXC-390P
DXC-C33P	

CMA-D2MD
Camera Adaptor

DXC-990P	DXC-390P

CMA-D3CE
Camera Adaptor

DXC-990P	DXC-390P

Cables	Model	Length	In	Out	DXC-390P/ DXC-990P	DXC-C33P	PMW-10MD	MDD Approved
	CCDC-	5/10/25/ 50A/100A	12-pin	4-pin DC Cable	●			●
	CCMC-20P	5/10/30	20-pin	20-pin		●		●
	CCMC-T	50/10/15/20					●	●
	CCXC-12P	5/10/25	12-pin	12-pin multicore	●			●
	CCZ-A	5/10/25/50/100	26-pin	26-pin	●			
	CCMC-3MZ	3	26-Pin	12-Pin, 9-Pin D-Sub, 8-Pin Mini DIN and BNC	●			
	CCMC-9DS	5	9-pin	4BNC, DIN 4-pin	●	●		●
	CCMC-9DB	5	9-pin	5BNC		●		
	CCXC-9DBS	5	9-pin	4BNC, DIN 4-pin	●			●

DSRM-10
Remote Control Unit

DVO-1000MD

SVRM-100A
Remote Control Unit

DVO-1000MD

VMC-IL6615B/IL6635B
i.LINK Cable (6-pin to 6-pin)

PDW-75MD	DVO-1000MD

VMC-IL4615B/IL4635B
i.LINK Cable (6-pin to 4-pin)

PDW-75MD	DVO-1000MD

RCC-5G
Remote Control - Cable (5m)

PDW-75MD

RM-91
Remote Control Unit

Connector: Stereo mini
Cable length: 5 m
Mass: 80 g (3 oz)
Supplied accessory:
Operation manual

Remote Commander	
UP-20	UP-21MD
UP-55MD	UP-897MD
UP-990AD	UP-970AD

FS-24
Foot Switch

Connector:
Stereo Mini Jack
Cable Length: 5 m
Water proofing: IPX3

Remote Commander	
UP-20	UP-21MD
UP-55MD	UP-897MD
UP-990AD	UP-970AD

Cameras

Recorders

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Technology

Accessories

BKM-220D

SDI 4:2:2 Input Adaptor

LMD-1951MD	LMD-2451MD
LMD-2451MT	PVM-2551MD

BKM-227W

Composite and S-Video (Y/C) Input Adaptor

LMD-1951MD	LMD-2451MD
LMD-2451MT	PVM-2551MD

BKM-229X

Analogue Component Input Adaptor

LMD-1951MD	LMD-2451MD
LMD-2451MT	PVM-2551MD

BKM-243HS

HD SDI&SDI Input Adaptor

LMD-1951MD	LMD-2451MD
LMD-2451MT	PVM-2551MD

BKM-256DD

DVI Input Expansion Board

LMD-1951MD	LMD-2451MD
LMD-2451MT	PVM-2551MD

BKM-250TG

3G/HD/SD-SDI Input Adaptor

LMD-1951MD	LMD-2451MD
LMD-2451MT	LMD-4251TD
PVM-2551MD	

BKM-320D

SD-SDI Input Adaptor

LMD-1530MD

BKM-341HS

HD-SDI Adaptor

LMD-2110MD	LMD-1530MD

SU-560

Display Stand

LMD-1951MD	LMD-2140MD
PVM-2451MD	PVM-2451MT
PVM-2551MD	

AC-110MD

AC Adaptor for LMD Monitors

LMD-1951MD	LMD-2451MD
PVM-2551MD	LMD-2451MT

BKM-30G

Circular-polariser 3D Glasses

LMD-2451MT	LMD-4251TD

BKM-31G

Clip-on Type
Circular-polariser 3D Glasses

LMD-2451MT	LMD-4251TD

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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

UP-D74XRD

UPT-735BL
Blue Thermal Film

Contents:
100 sheets
Paper size:
203 x 254mm
(8 x 10 inches)

Size: 8 x 10

UP-D72XR

UPP-725
Thermal Printing Paper

Contents:
100 sheets of print media
Paper size:
203 x 254mm
(8 x 10 inches)

Size: 8 x 10

| UP-D74XRD | UP-D72XR |

UPP-210HD
Thermal Print Media
(Type II: High Density)

Paper size:
210mm (W) x 25 m
Print quantity:
139 prints

Size: A4

| UP-990AD | UP-970AD |

UPP-210SE
Thermal Print Media
(Type I: High Quality)

Paper size:
210mm (W) x 25 m
Print quantity:
139 prints

Size: A4

| UP-990AD | UP-970AD |

UPT-210BL
Blue Thermal Transparent Film (Type III)

Paper size:
210mm (W) x 12.5 m
Print quantity:
42 prints (6-split)
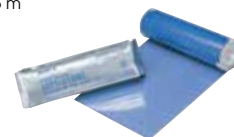
Size: A4

UP-990AD

UPP-110HG
Thermal Print Media
(Type V: High Glossy)

Paper size:
110mm (W) x 18 m
Print quantity:
193 prints

Size: A6

| UP-897MD | UP-D897 |

UPP-110HD
Thermal Print Media
(Type II: High Density)

Paper size:
110mm (W) x 20 m
Print quantity:
215 prints

Size: A6

| UP-897MD | UP-D897 |

UPP-110S
Thermal Print Media
(Type I: High Quality)

Paper size:
110mm (W) x 20 m
Print quantity:
215 prints

Size: A6

| UP-897MD | UP-D897 |

UPP-84HG
Thermal Print Media
(Type HG: High Glossy)

Paper size:
84 mm (W) x 12,5m
Print quantity:
173 prints

Size: A7

UP-D711MD

UPP-84S
Thermal Print Media
(Type S: High Quality)

Paper size:
84 mm (W) x 13,5m
Print quantity:
187 prints

Size: A7

UP-D711MD

MDD Approved All products on ths page are MDD approved.

Thermal film for diagnosis

UPT-517BL
Blue Thermal Film
Contents:
125 sheets
Paper size:
354 x 430mm
(14 x 17 inches)

Size: 14 x 17	UP-DF500
UP-DF750	UP-DF550

UPT-514BL
Blue Thermal Film
Contents:
125 sheets
Paper size:
279 x 354mm
(11 x 14 inches)

Size: 11 x 14	
UP-DF750	UP-DF550

UPT-512BL
Blue Thermal Film
Contents:
125 sheets
Paper size:
253 x 304mm
(10 x 12 inches)

Size: 10 x 12	
UP-DF750	UP-DF550

UPT-510BL
Blue Thermal Film
Contents:
125 sheets
Paper size:
202 x 253mm
(8 x 10 inches)

Size: 8 x 10	
UP-DF750	UP-DF550

UPT-M712BL
Blue Thermal Mammography Film
Contents:
125 sheets
Paper size:
253 x 304mm
(10 x 12 inches)

Size: 10 x 12
UP-DF750

UPT-M710BL
Blue Thermal Mammography Film
Contents:
125 sheets
Paper size:
202 x 253mm
(8 x 10 inches)

Size: 8 x 10
UP-DF750

Colour media for reference

UPC-770
Self-laminating Colour Printing Pack
Contents:
72 sheets of print paper
a roll of ink ribbon
Paper size:
210 x 298mm
(8 3/8 x 11 3/4 inches)

Size: A4	
UP-D77MD	UP-D75MD

UPC-R80MD
Self-laminating Colour Printing Pack
Contents:
2x 50 sheet print
paper roll for 100 prints
2x ink ribbon
Paper size:
210mm (W) x 16m

Size: A4
UP-DR80MD

UPC-55
Colour Printing Pack
2x 100 sheets of paper
2x ink ribbon
Paper size:
178mmx152mm

Size: A5	
UP-D55	UP-55MD

UPC-21L
Colour Printing Pack
Contents:
200 sheets of print paper
4 rolls of ink ribbon
Paper size:
144 x 100mm
(5 3/4 x 4 inches)

Size: A6	
UP-20	UP-21MD
UP-25MD	UP-D25MD
UP-D23MD	

UPC-21S
Colour Printing Pack
Contents:
240 sheets of print paper
3 rolls of ink ribbon
Paper size:
100 x 90mm
(4 x 3 5/8 inches)

Size: A6	
UP-20	UP-21MD
UP-25MD	UP-D25MD
UP-D23MD	

UPC-24LA
Self-laminated Colour Printing Pack
Contents (large size):
160 sheets of
print paper
(40 sheets x 4 packs)
4 rolls of ink ribbon

Size: A6	
UP-25MD	UP-D25MD

UPC-24SA
Self-laminated Colour Printing Pack
Contents (small size):
180 sheets of
print paper
(60 sheets x 3 packs)
3 rolls of ink ribbon

Size: A6	
UP-25MD	UP-D25MD

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

Cleaning Kit	
UP-DF750	UP-DF550
UP-DF500	

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	Colour Video Camera		
	MCC-3000MT	**PMW-10MD**	**DXC-C33P**
System			
Image device	3-chip 1/2 inch Exmor CMOS (x2)	3-chip 1/2 inch Exmor CMOS	3 CCD ⅓ inch EXWAVE HAD Sensor
Effective picture elements	1920 × 1080		752 (H) x 582 (V)
Sensing area			4.8 (H) x 3.6 (V)mm
Scanning system	1080i50/i59,94		2:1 interlaced, 625 TV lines
Horizontal frequency			15.625 kHz
Vertical frequency			50Hz
Sync system	External with BNC (x1)		Internal or external with VBS, HD/VD
Phase control			H/SC phase control
Horizontal resolution	1000 TV lines		850 TV lines
Lens mount	C mount		C mount
Flange back	17.526mm		17.526mm
Sensitivity	F10 typical (in 1920 x 1080/59.94i mode)		F8.0 at 2000 lx
Minimum illumination	9 lx (in 1920 x 1080/59.94i mode, F2.2, +21 dB gain)	0.14 lx (in 1920 x 1080/59.94i mode, F2.2, +21 dB gain, with 64-frame slow shutter)	4 lx (F2, GAIN: HYPER)
S/N ratio	54 dB (Y) (typical)		61dB
Gain	0 to 21 dB		STEP/AGC/HYPER selectable, STEP: 0 to 24 dB by 1 dB step, AGC: 0 to 24 dB (Limit value: 6 dB, 12 dB, 18 dB, 24 dB selectable), HYPER: 30 dB
Shutter speed	60i: 1/60, 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		8.0 to 1/100,000 s
Electronic shutter	OFF/SPEED/ECS/SLS/EXSLS		OFF/STEP/VARIABLE/CCD IRIS/KNOB selectable
Iris	Manual		Manual
AE area	Multi/Large/Medium/Spot/Slit Selectable		Multi/Large/Medium/Spot/Slit/Manual selectable
AE speed	-99 to +99		Fast/Mid/Slow selectable
AE detect	Backlight, Standard, Spotlight		Average/Peak selectable
Contrast effect			Manual/DynaLatitude/DCC+ selectable
Knee point	Auto, Point, Slope, Manual		High/Mid/Low/Off selectable (Contrast: Manual)
Black stretch	Variable Black max / Black min		Variable (Contrast Effect: Manual)
Gamma	Variable		On/Off (Variable at ON)
Pedestal	Master, R/B Manual		Master and R/B Manual adjustable
Black balance	-99 to +99		ABB
White balance	Preset/Memory/ATW		AWB/ATW normal/ATW wide/Manual/3200 K/5600 K selectable AWB or ATW R/B paint, manual R/G gain
ATW area	Normal/manual selectable		Normal/Manual selectable
ATW speed	1 (slow) - 5 (fast) selectable		Fast/Mid/Slow selectable
Detail level	-99 to +99		All/Target/Off (Variable at All or Target)
Detail frequency	-99 to +99		High/Mid/Low selectable
Linear matrix			All/Target/Off (Variable at All or Target)
Linear matrix mode	ALL/Target/OFF/Select		Standard/R Enhance/G Enhance/B Enhance/ Manual selectable
Partial enhance	-99 to +99, Type1-Type4		All/In/Out selectable
CCD integration mode	G-B, B-G, G-R, R-G, R-B, B-R		Field/Frame selectable
Shading compensation			Off/On (Manual control)
Baud rate	Manual		19200/9600/4800/2400/1200 selectable
Sync	Up to 38400		RGB/G/Off selectable
Trigger	CMOS/ Open Collector ext Sync BNC		On (Positive edge trigger/Negative edge trigger)/Off
Strobe	Slave		Slave
User file			A/B switchable
Scene file	Profile 1 - Profile 6 (selectable)		Standard/Microscope/Full Auto/Strobe/File A or B
Output signals	HD-SDI, Composite	HD-SDI, Composite, S-Video (Y/C), Y,Pb,Pr, DVI-D programmable (via Profile 1- 5)	VBS, RGB/SYNC, Y/C, i.LINK(DV)
Serial data	RS-232C		RS-232C
Connectors (on Camera Control Side)	Composite output BNC (x1), HD-SDI output BNC for A and B (2x), Ext Sync input BNC (x1), Remote D-sub 9-pin (x1)	Camera input: 36-pin (x1), MIC input: Stereo mini-jack (x1), Composite output: BNC (x1), S-Video output: mini DIN 4-pin (x1) Component output: D-Sub 15-pin (x 1), DVI-D output: DVI connector 19-pin (x1), HD SDI output: BNC (x 2), EXT SYNC input: BNC (x1), FS,TRIG IO: Stereo mini-jack (x1), Remote: D-sub 9-pin (x1)	DV OUT (6-pin jack), RGB/SYNC (9-pin D-sub) VIDEO OUT (BNC), S-VIDEO (4-pin mini DIN), FS/TRIG IN (Stereo Mini jack), REMOTE (8-pin mini DIN), AC Inlet, Camera (20-pin), EXT SYNC IN (BNC)
Measurements			
Dimensions	CHU : 35 × 45 × 50 mm (1 7/16 × 13/16 × 2 inches) without projection CCU : 200 × 88 × 341mm (7 7/8 × 3 1/2 × 13 1/2 inches) without projection	CHU : 35 x 45 x 50mm (1 7/16 x 1 13/16 x 2 inches) without projection CCU : 200 x 88 x 240mm (7 7/8 x 3 1/2 x 9 1/2 inches) without projection	CHU: 32 x 38 x 40mm (1 5/16 x 1 1/2 x 1 5/8 inches) CCU: 200 x 88 x 242mm (7 7/8 x 3 1/2 x 9 5/8 inches)
Mass	CHU : 90 g (3.2 oz) (x2) CCU : 4.5 kg (9 lb 15 oz)	CHU : Approx. 90 g (3.2 oz) CCU : Approx. 2.8 kg (6 lb 3 oz)	CHU: 48 g (1.7 oz) CCU: 2.5 kg (5 lb 8 oz)
Power			
Requirements	DC 24 V	AC 100 to 240 V, 50/60 Hz	AC 100 to 240 V, 50/60 Hz
Consumption	1.5 A (inrush: 3.0 A)	0.6-0.36 A (Max.30 W)	Max. 18 W
Operating conditions			
Temperature	0 to +40 °C (+32 to +104 °F)		-5 to 45°C (23 to 113°F)
Storage/Transporting conditions			
Temperature	-20°C to 60°C (-4°F to 140°F)		

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Colour Video Camera		
DXC-390P		**DXC-990P**

System		
Image device	3 CCD ⅓ inch EXWAVE HAD Sensor	3 CCD ½ inch EXWAVE HAD Sensor
Effective picture elements		752 (H) x 582 (V)
Sensing area	4.8 (H) x 3.6 (V)mm	6.4 (H) x 4.8 (V)mm
Scanning system	2:1 interlaced, 625 lines	
Horizontal frequency	15.625 kHz	
Vertical frequency	50Hz	
Sync system	Internal or external with VBS, HD/VD	
Phase control	H/SC phase control	
Horizontal resolution	800 TV lines	850 TV lines
Lens mount	C mount	Bayonet mount
Flange back	17.526mm	38.00mm
Sensitivity	F8.0 at 2000 lx	F11 at 2000 lx
Minimum illumination	4 lx (F2, GAIN: HYPER)	1 lx (F1.4, GAIN: HYPER)
S/N ratio	61dB	62 dB
Gain	STEP/AGC/HYPER selectable STEP: 0 to 24 dB by 1 dB step AGC: 0 to 24 dB (Limit value: 6 dB, 12 dB, 18 dB, 24 dB selectable) HYPER: 30 dB	
Shutter speed	8.0 to 1/100,000 s	0.5 to 1/100,000 s
Electronic shutter	OFF/STEP/VARIABLE/CCD IRIS selectable	
Iris	Auto/Manual	
AE area	Multi/Large/Medium/Spot/Slit/Manual selectable	
AE speed	Fast/Mid/Slow selectable	
AE detect	Average/Peak selectable	
Contrast effect	Manual/DynaLatitude/DCC+ selectable	
Knee point	High/Mid/Low/Off selectable (Contrast Effect: Manual)	
Black stretch	Variable (Contrast Effect: Manual)	
Gamma	On/Off (Variable at ON)	
Pedestal	Master and R/B Manual adjustable	
Black balance	ABB	
White balance	AWB/ATW normal/ATW wide/Manual/3200 K/5600 K selectable AWB or ATW R/B paint, manual R/G gain	
ATW area	Normal/Manual selectable	
ATW speed	Fast/Mid/Slow selectable	
Detail level	All/Target/Off (Variable at All or Target)	
Detail frequency	High/Mid/Low selectable	
Linear matrix	All/Target/Off (Variable at All or Target)	
Linear matrix mode	Standard/R Enhance/G Enhance/B Enhance/Manual selectable	
Partial enhance	All/In/Out selectable	
CCD integration mode	Field/Frame selectable	
Shading compensation	Off/On (Manual control)	
Baud rate	19200/9600/4800/2400/1200 selectable	
Sync	RGB/G/Off selectable	
Trigger	On (Positive edge trigger/Negative edge trigger)/Off	
Strobe	Slave	
User file	A/B switchable	
Scene file	Standard/Microscope/Full Auto/Strobe/File A or B	
Output signals	VBS, RGB/SYNC, Y/C	VBS, RGB/SYNC, Y/C, Y/R-Y/B-Y
Serial data	RS-232C	RS-232C
Connectors	RGB/SYNC (9-pin D-sub), DC IN/VBS (12-pin), VIDEO OUT (BNC), TRIGGER IN (BNC), REMOTE (8-pin mini DIN), LENS (6-pin)	RGB/SYNC (9-pin D-sub), DC IN/VBS (12-pin), VIDEO OUT (BNC), TRIGGER IN (BNC), REMOTE (8-pin mini DIN), GEN LOCK IN (BNC) LENS (6-pin)
Measurements		
Dimensions	56 x 50 x 128mm (2 1/4 x 2 x 5 1/8 inches)	70 x 72 x 123.5mm (2 7/8 x 2 7/8 x 4 7/8 inches)
Mass	Approx. 370 g (13 oz)	Approx. 630 g (1 lb 6 oz)
Power		
Requirements	DC 10.5 to 15.0 V	
Consumption	Approx. 7.6 W	
Operating conditions		
Temperature	-5 to 45°C (23 to 113°F)	
Storage/Transporting conditions		
Temperature	-20 to 60°C (-4 to 140°F)	

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	3D HD Video Recorder	HD Video Recorder
	HVO-3000MT	**HVO-1000MD**

Recording devices		
Internal hard disk drive	500 GB	320 GB
Blu-ray Disc/DVD drive (1)	Compatible media: BD-RE (single or dual layer), BD-R(single or dual layer), DVD-R (single layer)	
Input connnectors		
S-Video in	Mini DIN 4-pin type (x1) Y: 1.0 Vp-p (75 Ω) Sync negative C (BURST): 0.286 Vp-p (75 Ω) (NTSC) C (BURST): 0.3 Vp-p (75 Ω) (PAL)	
Video in	BNC (x1), Composite 1.0 Vp-p (75 Ω), Sync negative	
DVI-D in	DVI-D (x2), TMDS 1 channel (single link)	DVI-D (x1), TMDS 1 channel (single link)
RGB in	D-sub 15-pin (x1), 0.7 vp-p/with synce on green G: 1.0 Vp-p 75 Ω	
HD-SDI in	BNC (x2) SD: SMPTE259M / HD: SMPTE292M / 3G: SMPTE424M compliant (75 Ω)	BNC (x1) SD: SMPTE259M compliant HD: SMPTE292M compliant 75 Ω
Audio line in	Stereo mini jack (x1) 1.4 Vrms (full bit), input impedance 10 k Ω or higher, unbalanced	
Output connectors		
S-Video out	Mini DIN 4-pin type (x1) Y: 1.0 Vp-p (75 Ω) Sync negative C (BURST): 0.286 Vp-p (75 Ω) (NTSC) C (BURST): 0.3 Vp-p (75 Ω) (PAL)	
Video out	BNC (x1) SD/HD/3G 0.8 Vp-p 75 Ω	BNC (x1) SD/HD 0.8 Vp-p 75 Ω
DVI-D out	(x1), TMDS 1 channel (single link)	
HD-SDI out	BNC (x1), SD/HD 0.8 Vp-p 75 Ω	
Audio out	Stereo mini jack (x1), 1.4 Vrms (full bit), load impedance 10 k Ω, unbalanced	
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 9-pin (1x)	
Other		
Supplied accessories	Before Using this Unit (x1), CD-ROM (Instructions For Use, PROTOCOL MANUAL) (x1), Warranty booklet (x1), Infared 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% (Maximum wet-bulb temperature: 30° C (86° F) (no condensation)	
Operating pressure	700 hPa to 1,040 hPa	
Temperature range for storage	-20° C to +60° C (-4° F to +140° F)	
Humidity range for storage	20% to 90% (maximum wet-bulb temperature: 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	

DVD Recorder
DVO-1000MD

System	
Recording system	DVD Recording, NTSC/PAL Switchable
Recording format	Video: MPEG-2 compression/Audio: Dolby Digital format
Recordable media	DVD+RW (2.4x and 4x speed)
Recording time	HQ Mode: 60 minutes/SP Mode: 120 minutes/LP Mode: 180 minutes
Safety standards	IEC60601-1, EN60601-1, UL60601-1, CAN/CSA C22.2 No.601.1
Input/Output	
Analogue composite input	BNC x2, with loop-through, unbalanced, 1.0 Vp-p, 75 Ω
S-video input	4-pin DIN x2, with loop-through, Y: 1.0 Vp-p, 75 Ω, unbalanced, C: 0.286 Vp-p (NTSC)/0.3, Vp-p (PAL), 75 Ω, unbalanced
Analogue composite output	BNC x1, 1.0±0.2 Vp-p, 75 Ω, unbalanced
S-video output	4-pin DIN x1 Y: 1.0 Vp-p, 75 Ω, unbalanced, C: 0.286 Vp-p (NTSC)/0.3 Vp-p (PAL), 75 Ω, unbalanced
Analogue audio input	RCA Pin x2 (L/R), 2 Vrms (full bit), input impedance 47 kΩ
Analogue audio output	RCA Pin x2 (L/R), 2 Vrms (full bit), load impedance 47 kΩ
Monitor audio output	Monitor RCA Pin x1, 2 Vrms (full bit), load impedance 47 kΩ
i.LINK (DV IN)	i.LINK 6-pin x1, IEEE1394
Remote control	RS-232C x1, D-sub 9-pin Remote1 x1, stereo mini jack (for connection with the optional SVRM-100A/DSRM-10 controllers) Remote2 x1, stereo mini jack (for connection with the optional FS-20 foot switch) USB 2.0 x1 (Full Speed)
Measurements	
Dimensions	212 x 128.5 x 382mm (8 3/8 x 5 x 15 inches)
Mass	6 kg (13 lb 4 oz)
Power	
Requirements	AC 100 V to 240 V, 50/60 Hz
Consumption	35 W
Operating conditions	
Temperature	+5 to +40°C (41 to 104°F)
Humidity	20 to 80%
Storage/Transporting conditions	
Temperature	-20 to +60°C (-13 to 140°F)

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Input connnectors	
Video in	BNC (x1), NTSC/PAL 1.0 Vp-p (75 Ω), Sync negative
DVI-D in	3.3 Vp-p
RGB in	D-sub 15-pin (x1), 0.7 vp-p/with synce on green G: 1.0 Vp-p 75 Ω
HD-SDI in	BNC (x2) SD: SMPTE259M / HD: SMPTE292M / 3G: SMPTE424M compliant (75 Ω)
HDMI In	3.3 Vp-p
Audio line in	Stereo mini jack (x2) (XLR) (2) +4 dBm, balanced 10 k Ω or higher, unbalanced

Output connectors	
Component	1.0 Vp-p (Y) 0.7 Vp-p (B-R, R-Y), 75 Ω sync negative
Video out	NTSC/PAL, 1.0 Vp-p (75 Ω), Sync negative
HD-SDI out	BNC (x1), SD/HD 0.8 Vp-p 75 Ω
HDMI out	3.3 Vp-p 50 Ω
Audio out	Stereo mini jack (x1), 1.4 Vrms (full bit), load impedance 10 k Ω, unbalanced

Other interfaces	
USB	USB 2.0
Remote RS 232C	D-sub 9-pin (x2)
Mini Jack	For remote

General	
Power requirements	DC IN: 24 V 1.5 A (supply from AC adaptor) AC adaptor (Sony, AC-110MD) AC IN: 100 V to 240 V, 50/60 Hz
Mass	Approx 4kg (8.8lb.)
Dimensions	305 x 114 x 322mm (12 1/8 x 14 1/2 x 12 3/4 in.) including protrusions

Operating conditions	
Operating temperature	5 to 35° C (41 to 95° F)
Operating humidity	20% to 80% (Maximum wet-bulb temperature: 30° C (86° F) (no condensation)
Operating pressure	700 hPa to 1,060 hPa

Storage conditions	
Temperature range for storage	-20° C to +60° C (-4° F to +140° F)
Humidity range for storage (no condensation)	20% to 90% (maximum wet-bulb temperature: 30° C (86° F)
Storage and transport pressure	700 hPa to 1,060 hPa

LCD Monitor

	LMD-1530MD	LMD-1951MD	LMD-2110MD
Panel			
LCD Panel Type	a-Si TFT Active Matrix LCD with anti reflection (AR) coated protection panel		a-Si TFT Active Matrix LCD
Resolution	1280 x 768 pixels (WXGA)	1280 x 1024 pixels (SXGA)	1920 x 1080 pixels (Full HD)
Effective picture size (WxH)	334 x 200mm (13 1/4 x 7 7/8 inches)	376 x 301mm (14 7/8 x 11 7/8 inches)	477 x 268mm (18 7/9 x 10 5/9 inches)
Diagonal	390mm (15 3/8 inches)	481.84mm (19 inches)	547mm (21 5/9 inches)
Aspect	15:9	5:4	16:9
Viewing Angle	176°	178°	170/160°, Typical.
Input			
RGB Component	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)		
External Sync	BNC (x1)		
Y/C	4-pinMini DIN x 1 Y:1,0Vp-p +-3dB sync negative C: 0,268Vp-p +- 3dB (NTSC burst signal level), 0,3Vp-p +-3dB (PAL burst signal level) (Line A)		
Composite	BNC (x1) 1,0Vp-p +-3dB, sync negative (NTSC/PAL) (Line A)		
SD/HD - SDI	SD-SDI with adaptor	Yes (x2 with optional board)	Yes, with adaptor
Audio	Phono jack (x1) -5dBu >47KOhms		Phono jack (x1) -5dBu >47KOhms
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) Sync: TTL level (polarity free, H/V separate sync)	
HDMI	HDMI input		HDMI input
Output			
RGB Component	BNC (x3) loop through with 75Ohms automatic terminal function		
Y/C	4-pinMiniDIN (x1) loop through with 75 Ohms automatic terminal function		
Composite	BNC (x1) loop through with 75 Ohms automatic terminal function		
Audio	built-in speaker 0,5W (x1 Mono), phono jack (x1) loop through with 75Ohms terminal function		built-in speaker 0,5W (x1 Mono), phono jack (x1) loop through with 75Ohms terminal function
Computer Output			
DVI-D		TMDS single link (x1)	
Other			
Remote	Parallel 8pin modular	Parallel 8pin modular Serial RS-232C 9-pinD-sub RJ-45 modular connector (ETHERNET)	AC 100 to 240 V ±10%, 50/60 Hz
Stand	Supplied 100 x 100mm VESA mount	Optional SU-560 100 x 100mm VESA mount	Supplied 100 x 100mm VESA mount
Measurements			
Dimensions W x H x D	372 x 336 x 264mm (14 3/4 x 13 3/8 x 10 1/2 inches)	455.8 x 368.3 x 101.7mm (18 x 14 5/8 x 4 1/8 inches) (without a stand) 455.8 x 435.7 x 302mm (18 x 17 1/4 x 12 inches) (with SU-560 optional stand)	505 x 444 x 119mm (20 x 17 5/8 x 4 3/4 inches)
Mass	6,2Kg	6.7 kg (14 lb 12 oz) 7.1 kg (15 lb 10 oz) (with two BKM-229X installed)	8.6 kg (18 lb 15 oz)
Power			
Requirements	AC 100V - 240V, 50/60Hz	AC 100-240 V, 50/60 Hz, 0.92 A-0.40 A DC IN: 24 V 3.5 A 5 V 0.030 A (Supplied from AC adaptor) AC Adaptor (Sony, AC-110MD) (optional) AC IN: 100 V-240 V, 50/60 Hz, 1.53 A-0.58 A DC OUT: 24 V 5.0 A 5 V 0.060 A	AC 100 V- 240V, 50/60Hz
Consumption	40W	Maximum: approx. 85 W (when two BKM-229X are installed)	100W
Operating conditions			
Temperature	0 to 35°C (32 to 95°F)		
Humidity	30 to 85 % (no condensation)		
Storage conditions			
Temperature	-20 to +60 °C (-4 to +140 °F)		- 10 to + 40°C (14 to 104°F)
Humidity	0 to 90 % (no condensation)		
Pressure	700 to 1060 hPa		

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LCD Monitor		
LMD-2451MT	**LMD-2451MD**	**PVM-2551MD**

Panel			
Panel Type	LCD a-Si TFT Active Matrix LCD with anti reflection (AR) coated protection panel		OLED (Organic Light Emitting Diode)
Resolution	1920 x 1200 pixels (WUXGA)		1920 x 1080 pixels (Full HD)
Effective picture size (WxH)	518 x 324mm (20 1/2 x 12 7/8 inches)		543.4 x 305.6mm (21 1/2 x 12 1/8 inches)
Diagonal	613.2mm (24 1/4 inches)	609mm (24 inches)	623.4mm (24 5/8 inches)
Aspect	16:10		16:9
Viewing Angle	89°/89°/89°/89° (typical) (up/down/left/right, contrast > 10:1)	178°	89°/89°/89°/89° (typical) (up/down/left/right, contrast > 10:1)
Input			
RGB Component	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)		
External Sync	BNC (x1)		
Y/C	4-pinMini 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)		
Composite	BNC (x1) 1,0Vp-p +-3dB, sync negative (NTSC/PAL)		
SD/HD - SDI	Yes (x2 with optional board)		
Computer input			
Analogue HD-15	D-sub 15-pin (x1), RGB: 0.7 Vp-p sync positive (sync on green, 0.3 Vp-p sync negative), Sync : Total level (polarity free, H/V separate sync), Plug & Play function : corresponds to DDC2B	D-sub 15-pinR/G/B: 0,7Vp-p sync positive (when G channel is sync negative, the internal sync can be used 0,3Vp-p)	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 & Play function: corresponds to DDC2B
DVI-D	TMDS single link (x1)		
Output			
RGB Component	BNC (x3) loop through with 75Ohms automatic terminal function		
Y/C	Mini-DIN 4-pin (x1), Loop-through, with 75 ohms automatic terminal function		
Composite	BNC (x1) loop through with 75 Ohms automatic terminal function		
Computer Output			
DVI-D	TMDS single link (x1 with optional board)	TMDS single link (x1 with optional board)	
Other			
Remote	Parallel 8pin modular Serial RS-232C 9-pinD-sub serial ETHERNET RJ-45		Modular connector 8-pin (x1)
Stand	Optional SU-560 100 x 100mm VESA mount		
Measurements			
Dimensions W x H x D	602 x 386 x 110mm (23 3/4 x 15 1/4 x 4 3/8 inches)		618.4 x 376 x 102.1mm (24 3/8 x 14 7/8 x 4 1/8 inches)
Mass	8,7Kg (with 2 x BKM-229X installed)		8.1 kg (17 lb 14 oz)
Power			
Requirements	AC 100V - 240V, 50/60Hz DC 24V 3,5A; DC 5V 0,03A		AC 100V - 240V, 50/60Hz DC 24 V/5.0 A, 5 V/0.060 A
Consumption	135W	115W	135W
Operating conditions			
Temperature	0 to 35°C (32 to 95°F)		0 to 35°C (32 to 95°F)
Humidity	30% to 85 % (no condensation)		
Storage conditions			
Temperature	-20 to +60°C (-4 to 140°F)		
Humidity	0 to 90 % (no condensation)		
Pressure	700 to 1060 hPa		

3D LCD Monitor

LMD-4251TD

Panel	
LCD Panel Type	42"
Resolution	1920 x 1080 pixels, Full HD
Picture size (H/V)	930 x 523mm (36 3/4 x 20 3/4 inches)
Aspect	16:9
Viewing angle (3D)	40° at a viewing distance more than 600mm, crosstalk less than 7% (typical)
Viewing angle (2D)	89°/89°/89°/89° (typical) (up/down/left/right contrast > 10:1)
Colours	Approx. 16.7 million colours
Type	a-Si TFT Active Matrix LCD
Input	
Composite	BNC (x1), 1.0 Vp-p ±3dB sync negative
Y/C	Mini DIN 4-pin (x1) Y: 1.0 Vp-p ±3dB sync negative, C: 0.286 Vp-p ±3dB (NTSC burst signal level), 0.3 Vp-p ±3dB (PAL burst signal level)
RGB, Component	BNC (x3) RGB: 0.7 Vp-p ±3dB (Sync On Green, 0.3 Vp-p sync negative) Component: 0.7 Vp-p ±3dB (75% chrominance standard colour bar signal)
DVI-D	DVI-D (x1) TMDS single link
HD15	D-sub 15-pin (x1) R/G/B: 0.7 Vp-p sync positive (Sync On Green, 0.3 Vp-p sync negative) Sync: Total level (polarity free, H/V separate sync)w Plug & Play function: corresponds to DDC2B
External Sync	BNC (x1) 0.3 Vp-p to 4.0 Vp-p ± bipolarity ternary or negative polarity binary
Option slot	2 slots
Parallel remote	Modular connector 8-pin (x1) (Pin-assignable)
Serial remote	D-sub 9-pin (RS-232C) (x1), RJ-45 modular connector (Ethernet) (x1) (10BASE-T/100BASE-TX)
Output	
Composite	BNC (x1), Loop-through, with 75 ohms automatic termination
Y/C	Mini DIN 4-pin (x1), Loop-through, with 75 ohms automatic termination
RGB, Component	BNC (x3), Loop-through, with 75 ohms automatic termination
External sync	BNC (x1), Loop-through, with 75 ohms automatic termination
Audio monitor out	Phono jack (x2) (L, R)
Speaker (Built-in)	1.0 W + 1.0 W (stereo)
Measurements	
Dimensions	1027 x 616 x 130mm (40 1/2 x 24 3/8 x 5 1/8 inches)
Mass (with options)	23.5 kg (51 lb 13 oz) (with 2 x BKM-229X)
Power	
Requirements	AC 100 V to 240 V, 50/60 Hz, 2.3 A to 1.1 A
Consumption	Maximum: approx. 230 W (with 2 x BKM-229X)
Operating conditions	
Temperature	0°C to 35°C (32°F to 95°F) Recommended: 20°C to 30°C (68°F to 86°F)
Humidity	30% to 85% (no condensation)
Storage/Transporting conditions	
Temperature	-20°C to +60°C (-4°F to +140°F)
Humidity	0% to 90% (no condensation)
Pressure	700 hPa to 1060 hPa

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Monochrome Diagnostic Display		
LMD-DM50	**LMD-DM30**	**LMD-DM20**

Panel			
LCD Panel Type	a-Si TFT Active Matrix LCD (Monochrome)		
Resolution	Landscape 2560 × 2048 pixels (QSXGA) Portraite 2048 × 2560	Landscape 2048 × 1536 (QXGA) Portraite 1536 × 2048	Landscape 1600 × 1200 pixels (UXGA) Portraite 1200 × 1600 pixels
Effective picture size (WxH)	422.4 × 337.9 mm (16 3/4 × 13 3/8 inches)	423.9 × 318.0 mm (16 3/4 × 12 5/8 inches)	432.0 × 324.0 mm (17 1/8 × 12 7/8 inches)
Diagonal	21.3-inch	20.8-inch	21.3-inch
Aspect	Landscape 5:4 Portrait 4:5	Landscape 4:3 Portrait 3:4	Landscape 4:3 Portrait 3:4
Viewing Angle	85°/85°/85°/85° (typical) (up/down/left/right contrast > 20:1)	85°/85°/85°/85°(typical) (up/down/left/right, contrast > 10:1)	85°/85°/85°/85° (typical) (up/down/left/right, contrast > 10:1)
Luminance	Panel:1100 cd/m2 typ 410/500 cd/m2 (calibrated to 410 cd/m2 by factory default) Contrast Ratio 850:1 typ	Panel:1000 cd/m2 typ 410/500 cd/m2 (calibrated to 410 cd/m2 by factory default) Contrast Ratio 900:1 typ	Panel:1800 cd/m2 typ 410/500 cd/m2 (calibrated to 410 cd/m2 by factory default) Contrast Ratio 700:1 typ
Input			
DisplayPort	DisplayPort connector (x1)	DisplayPort connector (x1)	DisplayPort connector (x1)
DVI-D	DVI-D (x1) TMDS Dual link	DVI-D (x1) TMDS Dual link	DVI-D (x1) TMDS Single link
Measurements			
Dimensions W x H x D	Landscape 474.5 × 479.9/541.4 × 220 mm (18 3/4 × 19/21 3/8 × 8 3/4 inches) Portrait 390 × 522.2/583.7 × 220 mm (15 3/8 × 20 5/8/23 × 8 3/4 inches)	Landscape 474.0 × 468.4/529.9 × 220 mm (18 3/4 × 18 1/2/20 7/8 × 8 3/4 inches) Portrait 367 ×5 21.9/583.4 × 220 mm (14 1/2 × 20 5/8/23 × 8 3/4 inches)	Landscape 474.0 × 468.4/529.9 × 220 mm (18 3/4 × 18 1/2/20 7/8 × 8 3/4 inches) Portrait 367 ×5 21.9/583.4 × 220 mm (14 1/2 × 20 5/8/23 × 8 3/4 inches)
Mass	12.3 kg (27 lb 1.9 oz) including tilt stand of 4.2 kg (9 lb 4.2 oz)	11.6 kg (25 lb 9.2 oz) including tilt stand of 4.2 kg (9 lb 4.2 oz)	12.0 kg (26 lb 7.3 oz) including tilt stand of 4.2 kg (9 lb 4.2 oz)
Power			
Requirements	AC 100 V to 240 V, 50/60 Hz, 1.5 A to 0.6 A		
Consumption	90 W typ		85 W typ
Operating conditions			
Temperature	5 °C to 40 °C (41 °F to 104 °F)		
Humidity	30% to 80 % (no condensation)		
Storage conditions			
Temperature	-20 to +60°C (-4 to 140°F)		
Humidity	10 to 85 % (no condensation)		
Pressure	700hPa to 1060hPa (Operating) 266hPa to 1060hPa (Storage)		
Supplied Accessories			
	AC power cord (1) DVI cable(Dual Link)(1) USB cable(1) CD-ROM(1) Before Using this Display (1) Sales Companies Guide		
Optional Accessories			
	Calibration Kit LMD-KT10 Display Network Manager LMD-SN10		

Colour Diagnostic Display

	LMD-DM30C	LMD-DM20C
Panel		
LCD Panel Type	a-Si TFT Active Matrix LCD	
Resolution	Landscape 2048 × 1536 (QXGA) Portrait 1536 × 2048	Landscape 1600 × 1200 pixels (UXGA) Portrait 1200 × 1600 pixels
Effective picture size (WxH)	433.2 × 324.9 mm (17 1/8 × 12 7/8 inches)	433.2 × 324.9 mm (17 1/8 × 12 7/8 inches)
Diagonal	21.3-inch	21.3-inch
Aspect	Landscape 4:3	Landscape 4:3
Viewing Angle	85°/85°/85°/85° (typical) (up/down/left/right, contrast > 10:1)	85°/85°/85°/85° (typical) (up/down/left/right, contrast > 10:1)
Colours	16.77 million colors out of 68 billion colours Approx. 1.0643 billion colors (DisplayPort 10 bit input)	
Luminance	Panel:800 cd/m2 typ 410/300 cd/m2 (calibrated to 410 cd/m2 by factory default) Contrast Ratio 750:1 typ	Panel:950 cd/m2 typ 410/300 cd/m2 (calibrated to 410 cd/m2 by factory default) Contrast Ratio 900:1 typ
Input		
DisplayPort	DisplayPort connector (x1)	DisplayPort connector (x1)
DVI-D	DVI-D (x1) TMDS Dual link	DVI-D (x1) TMDS Single link
Measurements		
Dimensions W x H x D	Landscape 474.0 × 468.4/529.9 × 220 mm (18 3/4 × 18 1/2/20 7/8 × 8 3/4 inches) Portrait 367 ×5 21.9/583.4 × 220 mm (14 1/2 × 20 5/8/23 × 8 3/4 inches)	Landscape 474.0 × 468.4/529.9 × 220 mm (18 3/4 × 18 1/2/20 7/8 × 8 3/4 inches) Portrait 367 ×5 21.9/583.4 × 220 mm (14 1/2 × 20 5/8/23 × 8 3/4 inches)
Mass	12.3 Kg (27 lb 1.9 oz) including tilt stand of 4.2 kg (9 lb 4.2 oz)	12.3 Kg (27 lb 1.9 oz) including tilt stand of 4.2 kg (9 lb 4.2 oz)
Power		
Requirements	AC 100 V to 240 V, 50/60 Hz, 1.5 A to 0.6 A	
Consumption	120 W typ	
Operating conditions		
Temperature	5 °C to 40 °C (41 °F to 104 °F)	
Humidity	30% to 80 % (no condensation)	
Storage conditions		
Temperature	-20 to +60°C (-4 to 140°F)	
Humidity	10 to 85 % (no condensation)	
Pressure	700hPa to 1060hPa (Operating) 266hPa to 1060hPa (Storage)	
Supplied Accessories		
	AC power cord (1) DVI cable(Dual Link)(1) USB cable(1) CD-ROM(1) Before Using this Display (1) Sales Companies Guide	
Optional Accessories		
	Calibration Kit LMD-KT10 Display Network Manager LMD-SN10	

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Public displays		
FWD-S55H2	**FWD-S46H2**	**FWD-S42H2**

Panel			
LCD Panel Type	a-Si TFT Active Matrix LCD Direct lit type LED Backlight		
Resolution	1920 x 1080 pixels, Full HD		
Effective picture size (WxH)	1,209.6 x 680.4 mm (47 5/8 x 26 3/4 inches)	1018.1 x 572.7 mm (40 1/8 x 22 5/8 inches)	930.2 x 523.3 mm (36 5/8 x 20 5/8 inches)
Panel size (diagonal)	55 inches	46 inches	42 inches
Pixel pitch	0.63 x 0.63 mm	0.53 x 0.53 mm	0.48 x 0.48 mm
Colour depth	8 bits + FRC, 1.06 billion colours		
Contrast ratio	4,000 : 1 (typical)		
Viewing Angle	178 degrees (typical)		
Luminance	1000 cd/m2 (typical)	700 cd/m2 (typical)	700 cd/m2 (typical)
Signal			
Colour signal	NTSC, PAL		
Sampling rate	13.5 MHz to 162 MHz	13.5 MHz to 165 MHz	13.5 MHz to 165 MHz
Input			
Digital Video	HDMI (1080p) in with audio in DVI in with audio in Rev. 1.0 compliant	HDMI(1080p) in with audio in DVI in with audio in Rev. 1.0 compliant DVI out	
Analog video	HD15 in with audio in (RGB/Component Video) HD15 out (RGB/Component Video) Composite Video in/out with audio in** (BNC (x2)) Component Video in with audio in** (pin jack (x3))		
Remote control	Network port (RJ45, 10BASE-T/100BASE-TX) RS-232C (D-sub 9-pin, straight)		
Audio	Audio out (L/R, pin jack (x2))		
Speaker out	L/R, 7 W + 7 W, 6 ohms		
Option slot	x1 for BKM-FW16		
Measurements			
Dimensions W x H x D	1,253.0 x 723.8 x 120.0 mm (49 3/8 x 28 1/2 x 4 3/4 inches) (excluding protruding parts)	1,053.6 x 608.2 x 84.0 mm (41 1/2 x 24 x 3 3/8 inches) (excluding protruding parts)	967.8 x 560.7 x 88.0 mm (38 1/8 x 22 1/8 x 3 1/2 inches) (excluding protruding parts)
Mass	35.7 kg (78.7 lb)	22.7 kg (50.0 lb)	20.2 kg (44.5 lb)
Power			
Requirements	AC 100 V to 240 V, 50/60 Hz, 2.9 A (maximum)	AC 100 V to 240 V, 50/60 Hz, 1.4 A (maximum)	AC 100 V to 240 V, 50/60 Hz, 1.45 A (maximum)
Consumption	250 W (typical) 290 W (maximum)	100 W (typical) 140 W (maximum)	108 W (typical) 145 W (maximum)
Operating conditions			
Temperature	0°C to 40°C (32°F to 104°F)		
Humidity	20% to 90%, no condensation		
Storage conditions			
Temperature	-10°C to 40°C (14°F to 104°F)		

Colour Printers

System	UP-25MD	UP-D25MD	UP-DR80MD
	Analogue	Digital	Digital
Format	A6		A4
Printing system	Dye sublimation printing technology		
Resolution	Approx. 423 dpi		Approx. 301 dpi
Gradations	8bit (256 levels) processing each for Yellow, Magenta, Cyan		
Picture elements	L Size: 2,100 x 1,600 pixels S Size: 1,600 x 1,200 pixels	L Size: 2,132 x 1,600 pixels S Size: 1,600 x 1,260 pixels	3508 x 2470 pixels
Picture area	L Size: 126.0 x 96.0mm (5 x 3 3/4 inches) S Size: 96.0 x 72.0mm (3 3/4 x 2 7/8 inches)	L Size: 127.9 x 96.0mm (5 1/8 x 3 3/4 inches) S Size: 96.0 x 75.6mm (3 3/4 x 3 inches)	202 x 287mm
Memory	8 frame memories	NC	NC
Tray capacity	S Size tray: Max. 80 sheets L Size tray: Max 50 sheets		50 sheets
Printing time	UP-21L : approx. 29 seconds, UP-24LA : approx. 36 seconds, UP-21S : approx. 19 seconds, UP-24SA : approx. 25 seconds		A4 size: 3,400 x 2,392 pixes / Letter size: 3,192 x 2,464 pixes / A4 size:287x202mm / Letter size: 269x208mm
Inputs/outputs	Video, S-Video, RGB, SYNC, HDTV IN/OUT signals 1080i/59.94i, 1080/50i (2:1 interlace) 720/59.94p, 720/50p (progressive)	Hi-Speed USB (USB 2.0)	
Control connectors	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		
Measurements			
Dimensions	212 (W) x 98 (H) x 398 (D)mm, (8 3/8 x 3 7/8 x 15 5/8 inches)		Approx. 317(W) x 207(H) x 425(D)mm (12 1/2 (W) x 8 1/8 (H) x 16 3/4 (D) inches)
Mass	5.7 kg (12 lb 6 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		
Consumption	1.7 A to 1.0 A		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)		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 80% (non condensing)		
Other			
Supplied accessories	CD-ROM (1) (Printer Driver, Operating Instructions (PDF) 21 Languages).Before Using this Printer (1) (21 Languages), Paper Tray (1), Stopper (1), Cleaning Cartridge (1)	CD-ROM (1) (Operating Instructions (PDF) 21 Languages), Before Using this Printer (1) (21 Languages), 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 ths printer (1), Software license agreement

Colour Printers

System	UP-55MD	UP-D55
	Analogue	Digital
Format	A5	
Printing system	Dye sublimation printing	
Resolution	Approx. 379 dpi	
Gradations	8 bits (256 levels) processing each for Yellow, Magenta and Cyan	
Picture elements	2528 x 1920 pixels (full screen print)	
Picture area	169 (W) x 129 (H) mm (6 3/4 x 5 1/8 inches)	
Printing time	Approx. 20 seconds	
Tray capacity	Max. 100 sheets	
Memory	8 frame memories	18 MB (two frame memories)
Control connectors	Remote 1 (special mini) for optional RM-5500, Remote 2 (stereo mini) for optional RM-91, RS-232C interface port (D-sub 25-pin) for external computer	
Inputs/outputs	IN/OUT : Video, S-Video, RGB SYNC OUT : USB host port for USB flash memory	Hi-Speed USB (USB 2.0)
Measurements		
Dimensions	Approx. 280 x 125 x 398mm (11 1/8 x 5 x 15 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)	Paper tray (1), USB connecting cable (1), Ink ribbon holder (1) Software License Agreement (1), Before Using this Printer (1), CD-ROM (including the printer drivers and PDF files of multi-lingual instructions for use) (1)

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Black & White Printers		
UP-897MD	**UP-D897**	**UP-D711MD**

System	Analogue	Digital	Digital
Format	A6		A7/A8
Printing system	Thermal Printing Technology		
Resolution	325 dpi		301 dpi
Gradations	256 levels (8-bits processing)		
Picture elements	EIA: 1210 x 490 pixels max CCIR: 1210 x 582 pixels max	4096 x 1280 pixels (max.)	2688x896 pixels
Printing time	Approx. 2 seconds (High Speed & standard image mode) Approx. 3.3 seconds (Normal Speed & standard image mode)		Approx 5 sec. (High Speed & standard image mode) Approx 8 sec. (Normal Speed & standard image mode)
Tray capacity	20м (UPP-110HD ᴇᴛ UPP-110S), 18м (UPP-110HG)		12,5 m (UPP-84HG), 13,5 m (UPP-84S)
Control connector	Remote (stereo mini jack) for optional RM-91 or FS-24		
Memory	10 frames (800 k x 8 bits per frame)	4096 x 1280 pixels max	896 × 2688 pixels max
Inputs/outputs	VIDEO IN / OUT (BNC type) EIA or CCIR composite video signals (automatic detection)	Hi-Speed USB (USB 2.0)	Hi-Speed USB (USB 2.0)
Measurements			
Media Size	Roll width of 110mm		Roll width of 84 mm
Print size	Mode Standard Image : EIA: 94 x 73mm & CCIR: 94 x 71mm Mode Side Image : EIA: 124 x 96mm & CCIR: 127 x 96mm	320 x 100mm (max.) (12 5/8 x 4 inches)	50,4 mm x 75,7 mm 56,8 mm x 75,7 mm 75,7 mm x 75,7 mm 75,7 mm x 101,1 mm 75.7 mm × 227.1 mm
Dimensions	154 x 88 x 240mm (6 1/6 x 3 1/2 x 9 1/2 inches)		140 × 70 × 125 mm (5 5/8 × 2 7/8 × 5 inches)
Mass	Approx. 2.6 kg (5 lb 11 oz)		Approx. 1kg
Power			
Requirements	AC 100 to 240 V, 50/60 Hz		DC 12V to 24V
Consumption	1.5 A to 0.8 A		6 A to 3 A
Operating conditions			
Temperature	5 °C to 35 °C (41 °F to 95 °F)		
Humidity	20% to 80%		
Storage/Transporting conditions			
Temperature	-20 °C to 60 °C (-4 °F to 140 °F)		
Humidity	20% to 80%		
Other			
Supplied accessories	Thermal head cleaning sheet (1) Operating instructions (1) Media label (1)	Thermal head cleaning sheet (1) CD-ROM (including multi-lingual operating instructions, Operating instructions Readme and printer driver) (1), Media label (1) USB cable (1) Software License Agreement (1)	Thermal head cleaning sheet (4-419-859) (1) CD-ROM (including multi-lingual operating instructions, Readme and printer driver) (1) Before Using this Printer (1)

Black & White Printers

	UP-D72XR	UP-970AD	UP-990AD
System	Digital	Analogue & Digital	
Format	8" x 10" (20 x 25 cm)	A5/A4	
Printing system	Thermal Printing Technology		
Resolution	300 dpi	325 dpi	
Gradations	512 grey levels (9 bit)	8-bit (256 levels) processing	
Picture elements	2743 x 2320 pixels	Digital: 3414 x 2560 pixels EIA: 1280 x 508 pixels CCIR: 1280 x 612 pixels	
Throughput	Approx. 40 seconds	Approx. 8 seconds / image (in standard mode)	
Tray capacity	Paper: 100 sheets / Film: 100 sheets	25m (UPP-210HD and UPP-210SE), 12,5m (UPT-210BL)	
Memory	16 MB	Digital mode: 3414 x 2560 pixels max. Analog mode: 6 frames (800 k x 8 bits per frame)	
Control connector		Remote (stereo mini jack) for optional RM-91 or FS-24	
Inputs/outputs	USB connector x 1	Digital: Hi-Speed USB (USB 2.0), Analogue: VIDEO IN / OUT (BNC type) EIA or CCIR composite video signals (automatic detection)	
Measurements			
Media Size	Sheet of 8» x 10» (20 x 25 cm)	Paper width of 210mm	
Print size	232.2 x 196.4mm (9 1/4 x 7 3/4 inches)	Mode Standard Image EIA: 187 x 140mm & CCIR: 187 x 138mm Mode Side Image EIA: 249 x 188mm & CCIR: 249 x 186mm	
Dimensions	412 x 210 x 431mm (16 1/4 x 8 3/8 x 17 inches)	316 x 132.5 x 305mm (12 1/2 x 5 1/4 x 12 1/8 inches)	
Mass	Approx. 15.5 kg (34 lb 3 oz)	Approx. 8 kg (17 lb 10 oz)	
Power			
Requirements	AC 100 to 240 V, 50/60 Hz	AC 100 to 240 V, 50/60 Hz	
Consumption	Standby: 12.6 W (actual measurement) Black printing: 190 W (actual measurement) Max: 270 W	2.4 A to 1.3 A	
Operating conditions			
Temperature	10 °C to 30 °C (50 °F to 86 °F)	5 °C to 35 °C (41 °F to 95 °F)	
Humidity	20% to 80% (non-condensing)	20% to 80%	
Storage/Transporting conditions			
Temperature	-20 °C to 60 °C (-4 °F to 140 °F)	-20 °C to 60 °C (-4 °F to 140 °F)	
Humidity	20% to 90% (non-condensing)	20% to 80%	
Other			
Supplied accessories	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),	Head cleaning sheets (1), UPP-210HD High density printing paper (1), BNC cable (1), USB cable (1), Operation guide (Getting Started) (1), CD-ROM (Instruction for use, driver software) (1), Media label (1) Software License Agreement (1)	

Diagnostic Film Imagers

	UP-DF550	UP-DF750
System		
Printing system	Direct Thermal Printing	
Resolution	320 DPI	604 dpi
Gradations	12 bit	14 bit processing
Picture elements	5232 x 4360 pixels (for 14 x 17 inch film)	8,256 x 9,888 pixels (for 14 x 17 inch film)
Throughput	Approx. 64 sheets (per hour for 14 x 17 inch film) Approx. 85 sheets (per hour for 8 x 10 inch film)	Approx. 75 prints (per hour for 14 x 17 inch film) Approx. 90 prints (per hour for 8 x 10 inch film)
Film supply tray	Two trays	
Tray capacity	125 sheets (max.)	
Maximum density	UPT-517BL, UPT514BL, UPT-512BL, UPT-510BL: 3.2	UPT-M710BL, UPT-M712BL: 3.8 UPT-517BL, UPT514BL, UPT-512BL, UPT-510BL: 3.2
Inputs/outputs	DICOM port x 1 (RJ-45 Modular jack)	
Measurements		
Media size	354 x 430mm (14 x 17 inches), 279 x 354mm (11x 14 inches), 253 x 304mm (10 x 12 inches), 202 x 253mm (8 x 10 inches)	
Dimensions	600 x 316 x 686mm (23 5/8 x 12 1/2 x 27 1/8 inches)	
Mass	Approx. 63 kg (138 lb 14 oz)	Approx. 67 kg (147 lb 11 oz)
Power		
Requirements	AC 100 TO 240 V, 50/60 Hz	AC 100-120 V/ AC 200-240 V, 50/60 Hz
Consumption	4.4 TO 1.8 A	4.4 to 2.4 A
Operating conditions		
Temperature	10 °C to 30 °C (50 °F to 86 °F)	
Humidity	20% to 80% (non-condensing)	
Storage/Transporting conditions		
Temperature	-20 °C to 60 °C (-4 °F to 140 °F)	
Humidity	20% to 80% (non-condensing)	

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