SONY®

MEDICAL
and
SCIENTIFIC

IMAGING SYSTEM

March 2004

Sony Technology—Providing High Quality Medical Images

As video technology moves from analogue to digital, it provides the opportunity to enhance the performance, flexibility and reliability of video equipment used in medical environments. This catalog illustrates the latest models in the wide range of Sony professional imaging products that makes it possible to capture, evaluate, share and store visual information of the highest quality. With our innovative technologies, we continue to develop and support the many ways in which video imaging is applied to the advancement of medicine.

Imaging Systems for Medical Applications

Telehealth

Operating Room

Consulting Room

Networks

Networks

Medical Classroom
Congress
Exhibition
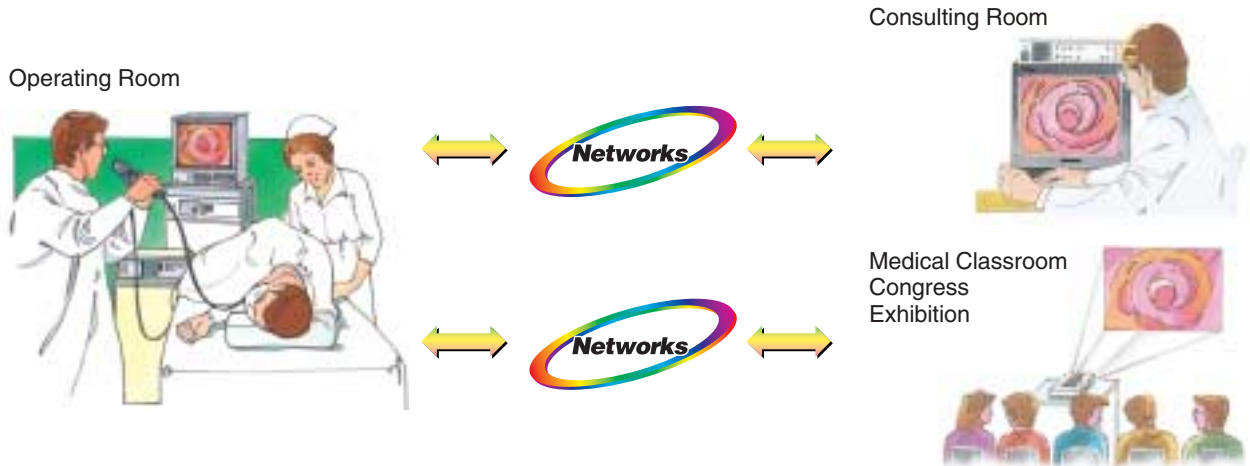
General Teleconferencing

Sony offers teleconferencing products that can be used for basic conferencing plus simple consultations. Education and training are other practical applications.

Open Surgery
Surgical Endoscopy
Ultrasound Systems

Videoconferencing System

Monitor

LAN

Videoconferencing System

Monitor

Videoconferencing System

Monitor

Videoconferencing System

Monitor

Consultant
Specialist
Medical Classroom
Congress / Exhibition
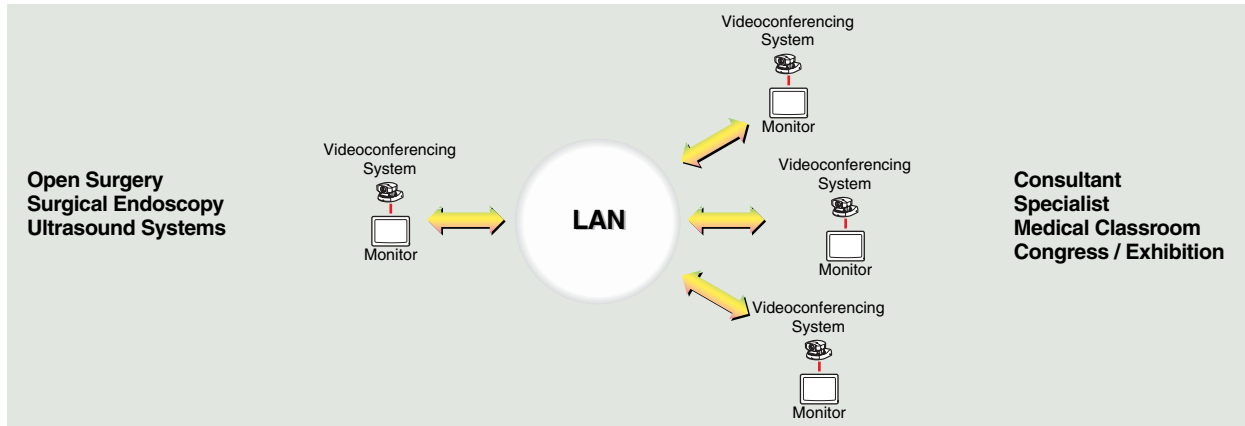
Image Sharing Over Networks

The Sony video network station and digital capture unit allows images obtained from a variety of medical equipment to be shared over a network. By connecting this system to a network, multiple users can view images from remote PCs running a standard Internet browser. With its flexible and scalable functions, the Sony video network station and digital capture unit is ideal in a wide range of medical fields.

Video Camera   Video Network Station

Open Surgery
Surgical Endoscopy
Surgical Microscopy
Ultrasound Systems
Pathology Diagnosis
Documents & Film Pointing
Consultation

Endoscope

Digital Capture Unit

MIcroscope

Networks

Computer

Computer

Computer

Computer

Server

X-Ray Viewing Room
Consultant
Specialist
Medical Classroom
Congress/Exhibition
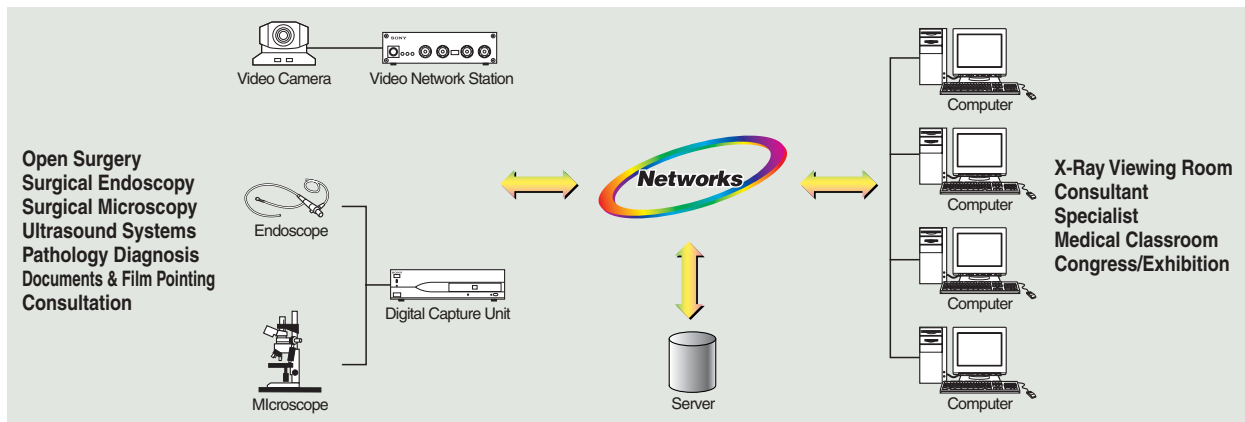
Ultrasound

Sony provides the finest high-resolution monitors, a range of VTRs and a digital capture unit for viewing, recording and sharing clear images obtained from ultrasound equipment, thus enabling accurate diagnosis and analysis. Highly detailed, economically priced, hard copies of on-screen images are provided within seconds by a printer from the sony product line-up.

Example 1.

LCD Monitor

Color Doppler
Ultrasound

Videocassette
Recorder

Color Monitor

Digital Color
Printer

Color Monitor

Digital Capture Unit

Example 2.

Monochrome
Video Printer

Monochrome
Ultrasound

Video casette
Recorder
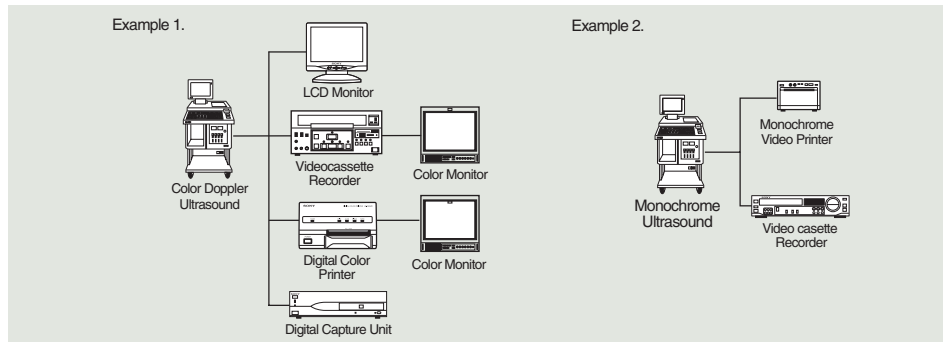
Radiology

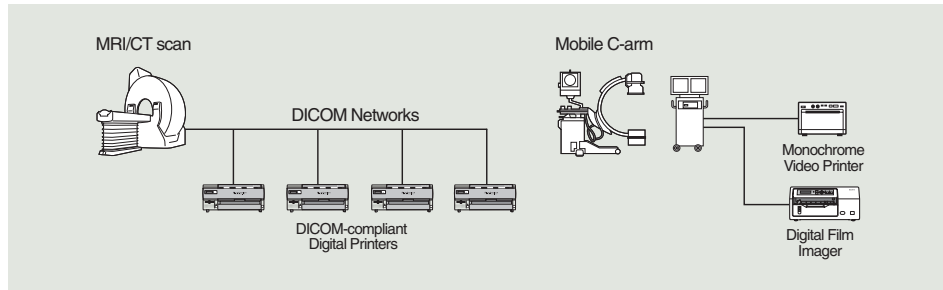Sony offers a wide range of printers to capture the precise images put out by X-ray diagnostic systems. Images obtained from MRI, CT scan, and Mobile C-arm applications are reproduced by these printers at high speed, and with superior image quality.
A DICOM*-compliant Sony digital film imager is also available, enabling you to easily print diagnostic images from the modalities connected to the DICOM network.

* DICOM (Digital Imaging and Communication in Medicine) is the official standard of the ACR (American College of Radiology) and NEMA (National Electrical Manufactures Association).

MRI/CT scan

DICOM Networks

DICOM-compliant
Digital Printers

Mobile C-arm

Monochrome
Video Printer

Digital Film
Imager

Endoscopy

Sony compact and lightweight CCD video cameras are suitable for endoscopic examinations. High-resolution monitors are used to display incredibly clear and true-to-life images, allowing several physicians to participate in the examination, conferring to make a more accurate diagnosis. High-quality color still images can be obtained from the printer. A Sony VTR or digital capture unit can also be used to store images for later viewing.

Color Monitor

Color Video Printer

Color Video Camera

Endoscope Adaptor

Videocassette Recorder

Digital Capture Unit

Endoscope
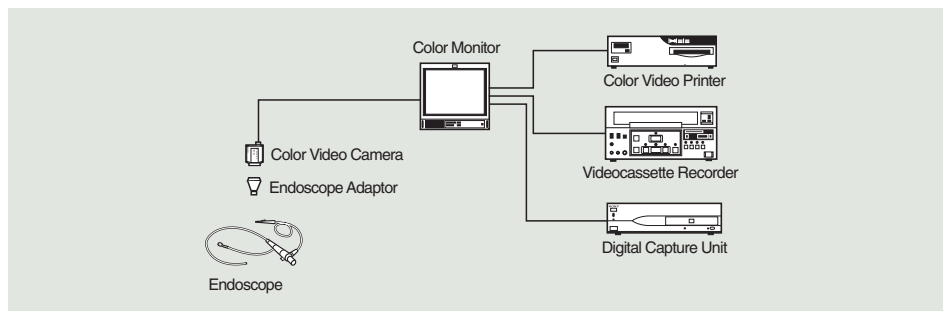
Dental

Sony compact video cameras are suitable for intra-oral applications. VTRs, video monitors and still recorders can be used to store and monitor the captured images. For dental X-ray, multiscan monitors and digital graphic printers are available.

Intra-oral Endoscopy

Color Monitor

Digital Color Printer

Color Video Camera

Videocassette Recorder

Dental X-ray

LCD Monitor

Digital Graphic Printer
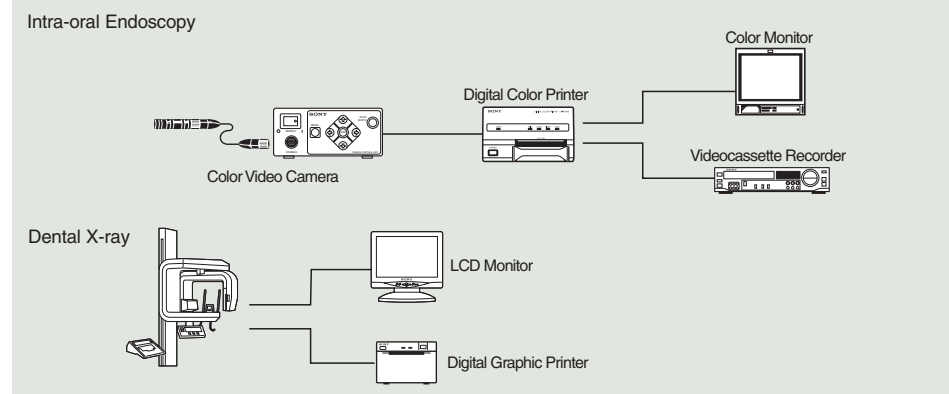
Pathology

The combination of Sony high-performance color video cameras and high-resolution monitors allows the display of tissue in lifelike colors as viewed through a microscope. These images can also be easily printed out using a color video printer. High-resolution digital images can be obtained by Sony digital camera for a workstation-based digital pathology system.

Color Video Camera
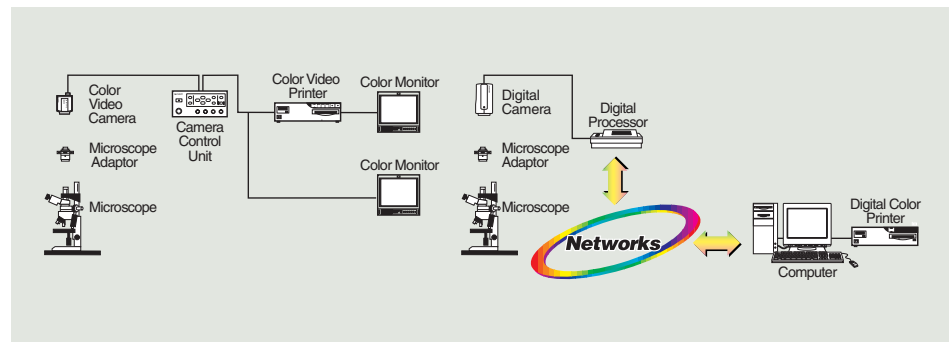
Camera Control Unit

Color Video Printer

Color Monitor

Microscope Adaptor

Microscope

Color Monitor

Digital Camera

Digital Processor

Microscope Adaptor

Microscope

Networks

Computer

Digital Color Printer

Ophthalmology

The combination of Sony high-performance color video cameras and high-resolution monitors enables detailed images to be displayed from various optical devices. These images can also be easily printed out using a color video printer. High-resolution digital images can be obtained by a Sony digital camera for a workstation-based digital ophthalmology system.

Color Video Camera

Digital Color Printer

Color Monitor

Remote Control Unit

Microscope Adaptor

Rerinal Camera

Digital Camera

Digital Processor

Microscope Adaptor

Rerinal Camera

Networks

Computer

Digital Color Printer
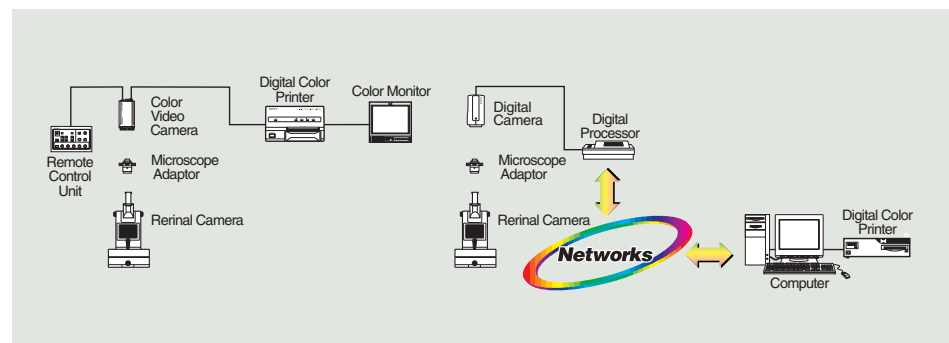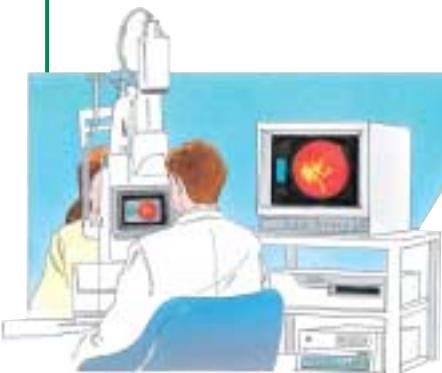
Microsurgery

Sony compact, high-performance CCD video cameras offer excellent surgical support when connected to operation microscopes. Images captured can be displayed on a high-resolution monitor so that the surgical team in the operating theater can view details of the operation as seen under the operation microscope. At the same time, these high-quality images can be recorded on a Sony high-resolution VTR or a Sony Digital Capture Unit 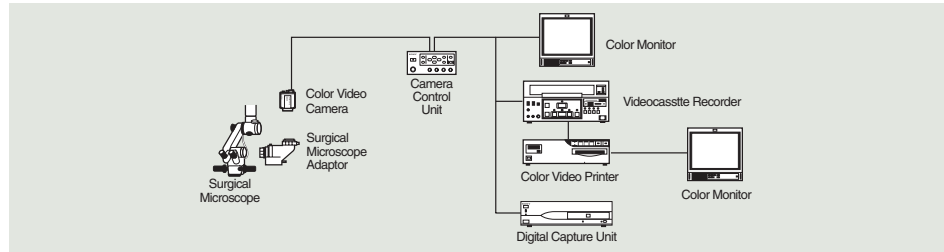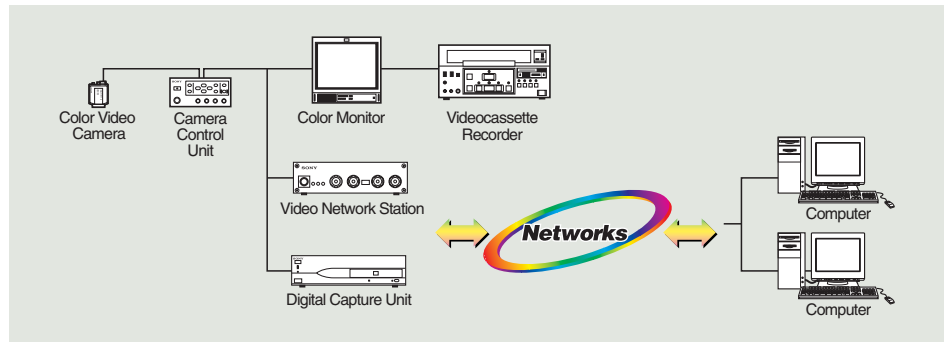for later viewing. The Sony line of color video printers can also reproduce quick, high-quality hardcopy prints. The recording of microsurgery procedures is beneficial for medical education and for presentations at medical conferences.

Color Video Camera

Camera Control Unit

Color Monitor

Videocasstte Recorder

Surgical Microscope Adaptor

Color Video Printer

Color Monitor

Surgical Microscope

Digital Capture Unit

Operating Theater Monitoring

The combination of Sony video cameras, color monitors and VTRs allows the overall view of surgical procedures in an operating theater to be recorded. This recorded material is useful for conferences and medical education. By adding a Sony video network station or digital capture unit to the system, the recorded images can be viewed by multiple users and at multiple locations through a network.

Color Video Camera

Camera Control Unit

Color Monitor

Videocassette Recorder

Video Network Station

Networks

Computer

Digital Capture Unit

Computer

Patient Monitoring

Sony monitors provide reliable patient monitoring systems at bedsides and in monitoring centers. Each monitor lets physicians keep continuous watch on patients physiological information.

Room 1

Room 6

Physiological Monitors

Monitoring Center

Physiological Monitors
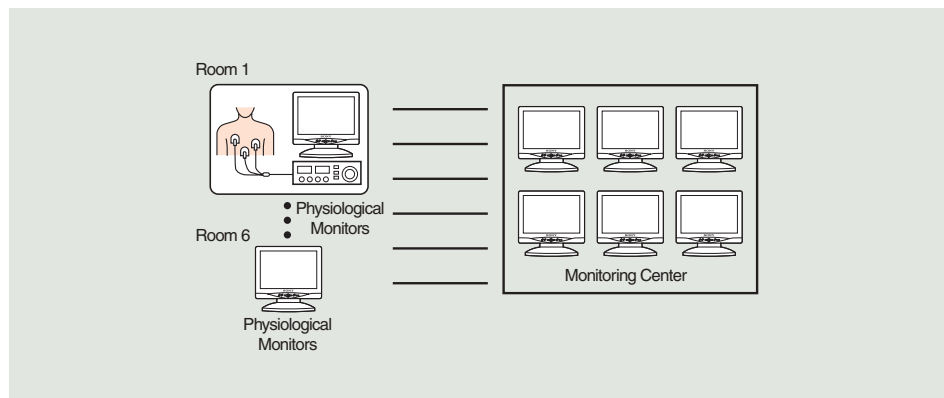
— For Image Capture —

Color Video Cameras

Specially Designed for Medical Applications. Sony also offers other high quality cameras mentioned below.

1/2-type 3-CCD Color Video Camera
DXC-990/990P

Lens is optional

- ExwaveHAD™ technology provides excellent sensitivity and low smear levels
- 1/2-type bayonet mount
- Compact and lightweight design
- High horizontal resolution of 850 TV lines
- RGB, Y/C, composite and component outputs
- On-screen programmable menu functions
- Full function control from the side panel or the optional RM-C950 Remote Control Unit
- DynaLatitude™, Partial Enhance and Color Shading compensation functions
- Many advanced Automatic Exposure (AE) functions
- Optional CMA-D2MD/D2MDCE or CMA-D3/D3CE can be used for AC power supply
- UL 544 listed
- Compiles with the MDD (Medical Device Directive)

Dimensions:	70 (W) x 72 (H) x 123.5 (D) mm (2 $7/8$ x 2 $7/8$ x 4 $7/8$ inches)
Mass:	630 g (1 lb 6 oz)
Power consumption:	8.0 W

1/3-type CCD Color Video Camera
DXC-C33/C33P

Lens is optional

- Incorporates one of the smallest/lightest camera head units
- High horizontal resolution of 850 TV lines, excellent S/N ratio of 61 dB
- DV output terminal allows image recording into i.LINK interface-equipped VTR with no deterioration
- 10-bit DSP (Digital Signal Processing)
- DynaLatitude, Partial Enhance functions
- Frame memory (Long term exposure, Freeze function)
- Two AE (Automatic Exposure) areas can be preset
- Easy control and operation of the camera by external computer is possible with RS-232C interface
- External synchronization (HD/VD, VBS) allows for multiple camera operation
- UL-2601-1 listed
- Compiles with the MDD

Dimensions:	CHU:	32 (W) x 38 (H) x 40 (D) mm (1 $5/16$ x 1 $1/2$ x 1 $5/8$ inches)
	CCU:	200 (W) x 88 (H) x 242 (D) mm (7 $7/8$ x 3 $1/2$ x 9 $5/8$ inches)
Mass:	CHU:	48 g (1.7 oz)
	CCU:	2.5 kg (5 lb 8 oz)
Power consumption: Max. 18 W		

1/3-type 3-CCD Color Video Camera
DXC-390/390P

Lens is optional

- Exwave HAD technology provides excellent sensitivity and low smear levels
- C mount
- Very compact and light weight
- High horizontal resolution of 800 TV lines
- RGB, Y/C and composite video outputs
- On-screen programmable menu functions
- Full function control from the side panel or the optional RM-C950 Remote Control Unit
- DynaLatitude, Partial Enhance and Color Shading compensation functions
- Many advanced Automatic Exposure (AE) functions
- Optional CMA-D2MD/D2MDCE or CMA-D3/D3CE can be used for power supply
- Compiles with the MDD

Dimensions:	56(W) x 50(H) x 128 (D) mm (2 $1/4$ x 2 x 5 $1/8$ inches)
Mass:	370 g (13 oz)
Power consumption:	7.6 W

2/3-type CCD Color Digital Camera
DXC-S500

Lens is optional

- Compact digital camera composed of a camera head and a camera control unit
- High resolution image capturing with a five mega-pixel 2/3-type IT CCD
- CCD cooling device provides an excellent S/N ratio
- C mount
- Long-term exposure shooting (maximum 60 seconds)
- Easy fluorescent-image-capturing capability
- IEEE 1394 for direct interface with PCs
- PCMCIA card slot
- Original TWAIN driver for the use of various application software
- Full function control from the camera control unit
- Comprehensive display on the built-in 3.5-type LCD monitor
- TIFF and JPEG recording with three selectable image sizes (Full: 2560 x 1920, SXGA: 1280 x 960, and VGA: 640 x 480)
- Y/C and composite video outputs

Dimensions:	CHU:	56(W) x 72(H) x 72(D) mm (2 $1/4$ x 2 $7/8$ x 2 $7/8$ inches)
	CCU:	270(W) x 163(H) x 79(D) mm (10 $3/4$ x 6 $1/2$ x 3 $1/8$ inches)
Mass:	CHU:	300 g (11 oz)
	CCU:	1.8 kg (3 lb 15 oz)
Power consumption: Max. 24 W		

1/4-type CCD Color Video Camera
DXC-LS1/LS1P
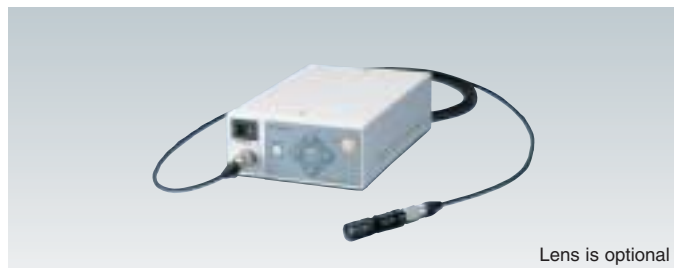
Lens is optional

- Extremely small and compact camera composed of a camera head and a camera control unit
- 460 TV lines of horizontal resolution
- AE control function (CCD IRIS function combined AGC) provides automatic control over incoming light
- Built-in electronic zoom function (x1 to x3)
- Positive films can be shot as negative, or vice versa
- B&W mode for sharp images free from color noise
- Y/C and composite video outputs
- On-screen programmable menu functions
- Optional CMA-D2/D2CE or AC-E90HG can be used for power supply

Dimensions: 40 x 12 mm (1 $^5/_8$ x $^1/_2$ inches)
(without lens and cable)
Mass: Camera head (without lens and cable): 8 g (0.3 oz)
Camera control unit : Approx. 665 g (1 lb 7 oz)
Power consumption: 5 W

1/2-type CCD Color Video Camera
SSC-DC54A/DC50A
SSC-DC58AP/DC54AP/DC50AP

Lens is optional

- High density 1/2-type IT Exwave HAD CCD offers excellent sensitivity with a minimum illumination of 0.8 lx (F1.2), very low smear, and high resolution of 470 TV lines
- Smart Control® function optimizes the balance between Iris and Gain settings to control a wide range of incoming light levels
- Extra gain with Turbo AGC function
- Aperture/Sharp Mode makes object outlines sharper in the reproduced picture
- Variable speed electronic shutter
- Accepts DC servo and Video servo type auto iris lenses
- Accepts C/CS-mount lenses
- Alternative power source operation - AC 220 to 240 V (SSC-DC58AP) AC 24 V (SSC-DC54A) and DC 12 V (SSC-DC50A)

Dimensions: SSC-DC58AP: 64 (W) x 57 (H) x 162 (D) mm (2 $^5/_8$ x 2 $^1/_4$ x 6 $^1/_2$ inches)
SSC-DC54A/DC54AP/DC50A/DC50AP:
64 (W) x 57 (H) x 137 (D) mm (2 $^5/_8$ x 2 $^1/_4$ x 5 $^1/_2$ inches)
Mass: SSC-DC58AP: 900 g (2 lb)
SSC-DC54A/DC54AP/DC50A/DC50AP: 600 g (1 lb 5 oz)
Power consumption: SSC-DC58AP: 5.5 W
SSC-DC54A/DC54AP: 6 W
SSC-DC50A/DC50AP: 4.5 W

Remote Control Unit
RM-C950

- Full remote control of DXC-990/990P/C33/C33P/390/390P/9000/ 9100P/H10 camera functions and lens zoom/focus/iris functions via RS-232C

Dimensions: 212 (W) x 41 (H) x 132 (D) mm (8 $^3/_8$ x 2 $^5/_8$ x 5 $^1/_4$ inches)
Mass: Approx. 400 g (14 oz)
Power requirements: DC 12 V

Camera Adapters

CMA-D3/D3CE

- Supplies DC power and transmits video/sync signal between the adapter and the DXC-990/990P/390/390P with CCZ-A cable or CCMC-3MZ cable
- Connects with optional RM-C950 Remote Control Unit
- AC IN/DC IN

Dimensions	210 (W) x 44(H) x 210(D) mm (8 $^3/_8$ x 1 $^3/_4$ x 8 $^3/_8$ inches)
Mass	Approx. 1.4 kg (3 lb 1 oz)

CMA-D2/D2MD/D2MDCE

- Supplies DC power with a CCDC cable to the DXC-990/990P/390/390P/9000/9100P cameras
- Transmits DC power and video/sync signals between the camera and the adapter with a CCMC 12-pin cable
- UL-544 listed (CMA-D2MD only)

Dimensions:	210 (W) x 50 (H) x 200 (D) mm (8 $^3/_8$ x 2 x 7 $^7/_8$ inches)
Mass:	1.1 kg (2 lb 7 oz)
Power consumption:	CMA-D2/D2MD: 23 W CMA-D2/D2MDCE: 24.5 W

AC-E90HG

- The AC-E90HG supplies DC 9 V to the DXC-LS1/LS1P

Dimensions:	58 (W) x 86 (H) x 51 (D) mm (2 $^3/_8$ x 3 $^1/_2$ x 2 inches)
Mass:	500 g (1 lb 2 oz)
Power consumption:	14 W

YS-W170P

- Transmits power and video/sync signals between the adapter and the SSC-DC50AP over a single coaxial cable

Dimensions:	212 (W) x 52 (H) x 345 (D) mm (8 $^3/_8$ x 2 $^1/_8$ x 13 $^5/_8$ inches)
Mass:	1.9 kg (4 lb 3 oz)
Power consumption:	15 W

Microscope Adapter Connection Chart

For the availability of adapters and couplers for endoscope and other microscopes, please contact the microscope manufactures or the Sony office nearest you.

Microscope	Couplers	Microscope Adaptors	Video Cameras
Nikon	Nikon Coupler		**C-Mount**
Nikon SMZ-10	Nikon Coupler	Adaptor	DXC-C33/C33P/390/390P
Olympus	Olympus Coupler		SSC-DC54A/DC50A
	BHB Coupler		SSC-DC58AP/DC54AP/DC50AP
Leica	Leica — Photo/TV Dual Attachment 445319 / Cine/TV Tube 445179		DXC-LS1/LS1P
Zeiss	Zeiss C-Mount TV Adaptor		LO-UCMT
Others	Coupler	Adaptor	
Nikon	MVAC-33-N		
Nikon SMZ-10	MVAC-33-SM		
Olympus	MVAC-33-O		**38 Bayonet**
	BHB Coupler	Adaptor	DXC-990/990P
Zeiss	ZBB Coupler		
	ZSB Coupler		
Leica	LB Coupler		
Others	Coupler	Adaptor	
Nikon	Nikon Coupler		**C-Mount**
Olympus	Olympus Coupler		DXC-S500
Leica	Leica Coupler	Adaptor	
Zeiss	Zeiss Coupler		
Others	Coupler		
For Operational Microscope			
Topcon 600 Series		Adaptor	DXC-990/990P

Videocassette Recorders

Specially Designed for Medical Applications

Digital Videocassette Recorder
DSR-20MD/20MDP

- Superb picture quality of the DVCAM™ format
- Max. 184 minutes of recording/playback time with a standard cassette and 40 minutes with a mini cassette
- Compact and lightweight (half-rack width)
- i.LINK™* (DV In/Out) interface based on the IEEE 1394 standard
- AC/DC operation
- Frame still picture
- Index picture search
- Optional foot switch for hands-free control
- Supplied wireless remote controller
- RS-232C and Control S interfaces for remote control
- UL 2601-1 listed (DSR-20MD)
- Compiles with the MDD (DSR-20MDP)

* i.LINK stands for IEEE 1394-1995 standards and their revisions.
  is the logo for products that implement i.LINK.

Dimensions: Approx. 212 (W) x 98 (H) x 395 (D) mm (8 ³/₈ x 3 ⁷/₈ x 15 ⁵/₈ inches) (including external projections)
Mass: Approx. 5.0 kg (11 lb)
Power requirements: AC 120 V (DSR-20MD), AC 220 to 240 V (DSR-20MDP) 50/60 Hz, DC 12V
Power consumption: AC: 28 W DC: 2.0 A

S-VHS Videocassette Recorder
SVO-9500MD/9500MDP

- Digital frame memory provides noiseless, clear freeze pictures
- Fully compatible with other S-VHS or VHS VTRs
- High-speed color picture search at ±10 times normal speed
- Optional remote control unit provides jog/shuttle picture search
- Three alternative optional remote control interfaces: Sony 33-pin, 34-pin and RS-232C
- Compact and lightweight
- UL 2601-1 and CSA C22.2 NO 601.1 listed (SVO-9500MD)
- Compiles with the MDD (SVO-9500MDP)

Dimensions: 270 (W) x 144 (H) x 370 (D) mm (10 ³/₄ x 5 ³/₄ x 14 ⁵/₈ inches)
Mass: 12 kg (26 lb 7 oz)
Power requirements: AC 120 V, 60 Hz (SVO-9500MD), AC 220 V to 240 V, 50/60 Hz (SVO-9500MDP)
Power consumption: 55 W (SVO-9500MD), 64 W (SVO-9500MDP)

VHS Videocassette Recorder
SVO-3500MD/3500MDP

- Reality Regenerator provides clearer, more accurate pictures during playback
- Picture capture function
- Dual Mode Shuttle (DMS) control
- High-speed FF/Rewind
- Control S IN connector
- UL 2601-1 listed (SVO-3500MD)
- Compiles with the MDD (SVO-3500MDP)
- Wireless Remote Commander RMT-V1918 included (SVO-3500MDP)

Dimensions: 420 (w) x 100 (H) x 300 (D) mm (16 ⁵/₈ x 4 x 11 ⁷/₈ inches)
Mass: 4.3 kg (9 lb 8 oz)
Power requirements: AC 120 V, 60 Hz (SVO-3500MD), AC 220 to 240 V, 50/60 Hz (SVO-3500MDP)

Sony also provides a variety of VTRs such as Betacam SP® and Digital VTRs, which are renowned worldwide.

Digital Videocassette Recorder/Player

DSR-1800/1800P/1600/1600P

- Superb picture quality of the DVCAM 1800 format
- Max. 184 minutes of recording (1800/1800P)/playback time with a standard cassette and 40 minutes with a mini cassette
- Digital slow function (0 to ±0.5)
- Frame accurate editing capability
- High-speed picture search over a range of up to 60 times normal speed in both forward and reverse
- DVCPRO and consumer DV (SP mode only) playback capability without need for a special adapter
- Component (Y, R-Y, B-Y), S video and Composite in (1800/1800P)/out connectors
- Optional i.LINK*[1], SDI, SDTI (QSDI™)*[2] digital video interfaces
- Optional AES/EBU digital audio interface
- Auto repeat/power-on playback function

*[1] i.LINK stands for IEEE1394–1995 standards and their revisions.
*[2] SDTI (Serial Data Transport Interface) is defined as SMPTE 305M.
   SDTI (QSDI) is the DV compressed signal interface defined as SMPTE 322M.

Dimensions:	427 (W) x 174 (H) x 400 (D) mm (16 7/8 x 6 7/8 x 15 3/4 inches)
Mass:	13 kg (28 lb 10 oz)
Power requirements:	AC 100 to 240 V, 50/60 Hz
Power consumption:	1800/1800P: 100 W (Max.)
	1600/1600P: 70 W (Max.)

Digital Videocassette Recorder

DSR-1500A/1500AP

- Compact, half-rack size
- Superb picture quality of the DVCAM format
- Playback compatibility with DV (25 Mb/s) family formats including consumer DV (SP mode) and DVCPRO without a mechanical adapter*[1]
- DV-format recording capability (SP mode, 10-µm track pitch recording)*[2]
- Long recording time: max. 184 min (DVCAM mode)/276 min (DV SP mode) with a standard-size cassette
- Versatile digital interfaces: equipped with i.LINK (DV)*[3], and optional SDI, SDTI (QSDI)*[4] and AES/EBU interfaces
- Extensive range of analog interfaces: composite, component, S-video and two XLR audio channels
- Variable-speed playback within the range of -0.5 to +0.5 times normal play speed
- High-speed color picture search: 60 times normal play speed in both forward and reverse
- Menu keys on front panel for frame-by-frame picture search
- RS-422A remote control interface
- 16:9 aspect ID signal recording
- Universal powering system: allows the use of AC 100 to 240 V power sources
- Closed caption function

*[1] SDTI (QSDI) interface does not support DVCPRO playback.
*[2] Assemble or insert editing is not possible.
*[3] i.LINK stands for IEEE1394–1995 standards and their revisions.
*[4] SDTI (Serial Data Transport Interface) is defined as SMPTE 305M.
   SDTI (QSDI) is the DV compressed signal interface defined as SMPTE 322M.

Dimensions:	210 (W) x 130 (H) x 420 (D) mm (8 3/8 x 5 1/8 x 16 5/8 inches)
Mass:	6 kg (13 lb 3 oz)
Power requirements:	AC 100 to 240 V, 50/60 Hz
Power consumption:	55 W (Max.)

Betacam SP Videocassette Recorder

UVW-1400A/1400AP

- Affordable Betacam SP video recorder for superior picture quality
- High-speed picture search (color: up to ±5 times, B/W: up to ±16 times)
- RGB, Component (Y, R-Y, B-Y), S video and Composite in/out connectors
- RS-232C computer interface
- Foot switch control capability
- Trigger function for Sony color video printers

Dimensions:	427 (W) x 193 (H) x 474 (D) mm
	(16 7/8 x 7 5/8 x 18 3/4 inches)
Mass:	19 kg (41 lb 14 oz)
Power consumption:	85 W

Digital Videocassette Recorder

DSR-70A/70AP

- Superb picture quality of the DVCAM format
- Playback capability of DV (25 Mb/s) recorded tapes including DV tapes recorded in SP mode and DVCPRO tapes* without a mechanical adapter
- Compact, all-in-one package including a 6.4-inch VGA LCD monitor, a full cut-editing controller with a Jog/Shuttle dial and an audio speaker
- Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a mini-size cassette
- Sequential recording for up to 6 hours
- High-speed picture search over a range of 32 times normal speed, in both forward and reverse
- Closed caption function
- Parallel-run recording
- Two-way power supply system (AC/DC)

* SDTI (QSDI) and i.LINK (DV) interfaces do not support DVCPRO playback.

Dimensions:	211 (W) x 149 (H) x 443 (D) mm
	(8 3/8 x 5 7/8 x 17 1/2 inches)
Mass:	5.8 kg (12 lb 12 oz)
Power requirements:	DC 12 V
Power consumption:	46 W (without options)

Digital Videocassette Recorder

DSR-50/50P

- Superb picture quality of the DVCAM format
- Max. 184 minutes of recording/playback time with a standard cassette and 40 minutes with a mini cassette in DVCAM mode
- Recording and playback of consumer DV (SP mode only) tapes
- Built-in 2.5-inch full-color LCD monitor
- Composite and S video in/out connectors
- Analog component video out connectors
- Battery operation capability

Dimensions:	279 (W) x 99 (H) x 315 (D) mm
	(11 x 4 x 12 1/2 inches)
	(including external projections)
Mass:	3.9 kg (8 lb 9 oz)
Power consumption:	15 W (Max.)

Digital Videocassette Recorder
DSR-45/45P

- Superb picture quality of the DVCAM format
- Recording and playback capability of the DV format (SP mode only)[1]
- Long recording time: up to 184 minutes with a standard-size cassette, 40 minutes with a mini-size cassette in DVCAM mode
- Full range of analog Video IN/OUT: component, composite, and S-video
- Four channel independent Audio IN/OUT with XLR connectors for Audio OUT
- i.LINK[2] (DV) interface for simultaneous transfer of audio, video, and command signals
- RS-422A remote control interface[3]
- RS-232C interface for basic control from a PC
- LANC and Control S interface
- Time code IN/OUT
- Time code/User bit preset
- Time code IN through DV IN
- Duplication function (including the duplication of cassette memory data)
- Compact size (half-rack size width, 2U height)
- Low power consumption (22 W during playback)
- Built-in 2-inch type (123,200 dot) color LCD monitor
- Tape counter
- Wireless remote controller RMT-DS5 supplied

[1] When recording in DV (SP) format, the transition between cut to cut may not be smooth. Similarly when the recording format is switched between DVCAM and DV, the transition may not be recorded smoothly.
[2] i.LINK stands for IEEE 1394-1995 standards and their revisions. $\textbf{i}$ is the logo for products that implement i.LINK.
[3] The DSR-45/45P is not equipped with the synchronization capability, therefore, it is recommended to be used only as a source feeder in A/B roll editing.

Dimensions:	212 (W) x 98 (H) x 392.8 (D) mm (8 3/8 x 3 7/8 x 15 1/2 inches)
Mass:	Approx. 4.6 kg (10 lb 2 oz)
Power requirements:	AC 100 to 240 V, 50/60 Hz
Power consumption:	22 W

Digital Videocassette Recorder
DSR-30/30P

- Superb picture quality of the DVCAM format
- Max. 184 minutes of recording/playback time with a standard cassette and 40 minutes with a mini cassette
- Consumer DV playback (SP mode only)
- i.LINK[1] (DV In/Out) interface based on the IEEE 1394 standard
- LANC interface
- Auto repeat/One program play
- Index/Photo/Date search
- Clear frame picture
- Control tray with a jog and shuttle dial
- Supplied wireless remote controller

[1] i.LINK stands for IEEE 1394-1995 standards and their revisions. $\textbf{i}$ is the logo for products that implement i.LINK.

Dimensions:	Approx 430 (W) x 129 (H) x 374 (D) mm (17 x 5 1/8 x 14 3/4 inches)
Mass:	Approx 9.2 kg (20 lb 4 oz)
Power requirements:	AC 120 V (DSR-30), AC 220 to 240 V (DSR-30P), 50/60 Hz
Power Consumption:	32 W

Digital Videocassette Recorder
DSR-25

- Superb picture quality of the DVCAM format
- Recording and playback capability of DV recorded tapes (SP mode only)[1]
- Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a mini-size cassette in DVCAM mode
- Recording and playback capability of both NTSC/PAL signals[2]
- i.LINK[3] (DV) interface for simultaneous transfer of audio, video, and command signals
- LANC and control S interface
- Time code/ User bit preset
- Time code IN through DV IN
- Duplication function (including the duplication of cassette memory data)
- Power-on recording and playback capabilities
- Compact size (half-rack size width, 2U height)
- Low power consumption (16 W during playback)
- Built-in 2-inch type (123,200 dot) color LCD monitor
- Tape counter
- Wireless remote controller RMT-DS5 supplied

[1] When recording in DV (SP) format, the transition between cut to cut may not be smooth. Similarly when the recording format is switched between DVCAM and DV, the transition may not be recorded smoothly.
[2] The DSR-25 is not equipped to convert signals from NTSC to PAL, or vice versa.
[3] i.LINK stands for IEEE 1394-1995 standards and their revisions. $\textbf{i}$ is the logo for products that implement i.LINK.

Dimensions:	212 (W) x 98 (H) x 392.8 (D) mm (8 3/8 x 3 7/8 x 15 1/2 inches) (including external projections)
Mass:	Approx. 4.3 kg (9 lb 8 oz)
Power requirements:	AC 100 to 240 V, 50/60 Hz
Power consumption:	16 W

Digital Videocassette Recorder
DSR-11

- Superb picture quality of the DVCAM format
- Max. 184 minutes of recording/playback time with a standard cassette and 40 minutes with a mini cassette in DVCAM mode
- Recording and playback of consumer DV (SP mode only) tapes
- NTSC/PAL compatible[1]
- Composite and S video in/out connectors
- i.LINK[2] (DV In/Out) interface based on the IEEE 1394 standard
- Auto repeat function

[1] The DSR-11 does not convert signals from PAL to NTSC, or vice versa.
[2] i.LINK stands for IEEE 1394-1995 standards and their revisions. $\textbf{i}$ is the logo for products that implement i.LINK.

Dimensions:	180 (W) x 69 (H) x 258.4 (D) mm (7 1/8 x 2 3/4 x 10 1/4 inches) (including external projections)
Mass:	2.8 kg (6 lb 2 oz)
Power requirements:	DC 12 V
Power consumption:	15 W (Max.)

Videoconferencing/Network Station/Scan Converter

Multimedia Videoconferencing System
PCS-1/1P

- Compact and stylish two-piece body consisting of Camera unit and Communication terminal
- Multi-point videoconferencing for up to six sites using ISDN and/or IP connections[1]
- Support up to 2 Mbps IP or 768 kbps ISDN
- Support H.264, a new video standard for high-quality video
- Data sharing capabilities and built-in electronic white board interface
- Quality of Service (QoS) function to maintain picture quality
- MPEG-4 Advanced Audio Coding (AAC) standard to deliver high-quality audio
- Sony **Memory Stick™** support

[1] Optional MCU (Multi-point Control Unit) software is required.

Camera unit:
Dimensions: 147 (W) x 130 (H) x 138 (D) mm (5 $7/8$ x 5 $1/8$ x 5 $1/2$ inches),
Mass: 1.1 kg (2 lb 7oz)

Communication terminal:
Dimensions: 258 (W) x 54 (H) x 171 (D) mm (10 $1/4$ x 2 $1/4$ x 6 $3/4$ inches),
Mass: 1.3 kg (2 lb 14 oz)

Power requirements:
PCS-1:   AC 120 V, 50/60 Hz
PCS-1P: AC 220 V to 240 V, 50/60 Hz
Power consumption: DC 19.5V, 3.5 A

Video Network Station
SNT-V304

- Enables up to four video surveillance cameras to be remotely monitored and controlled over existing TCP/IP networks (LAN, WAN, telephone lines)
- GUI-based monitoring and control using networked PCs running standard web browser
- Easy to install, expand and maintain
- Multi-user access and password protection
- High refresh rates provide near-motion pictures
- S Video input
- Remote camera/HSR recorder control
- Alarm image buffering allows storage of pre-alarm and post-alarm images
- When an alarm occurs a JPEG file showing the alarm event can be sent to a pre-determined e-mail address or server
- Alternative viewing modes
- TCP/IP, 10/100BaseT interfaces
- Image transfer to FTP server
- Relay out control

Dimensions: 146 (W) x 41.5 (H) x 223.5 (D) mm (5 $3/4$ x 1 $11/16$ x 8 $7/8$ inches)
                   excluding projecting parts
Mass: 0.8 kg (1 lb 12 oz)
Power requirements: AC 12 V
Power consumption: 5.5 W

Digital Scan Converter
DSC-1024HD
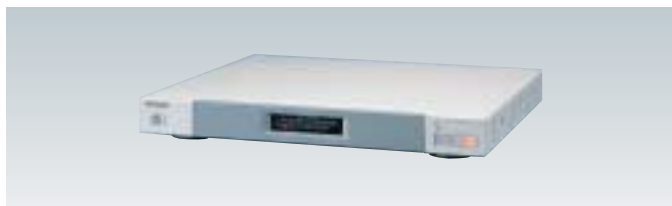
- Versatile upward and downward digital scan converter
- Input accepted in the 15.6 to 70 kHz horizontal frequency range and the 50 to 120 Hz vertical frequency range and output at an industry standard 15.6 kHz, 31.5 kHz, 33.75 kHz (1080i*), 37 kHz, 48 kHz or 64 kHz frequency
- Built-in transcoder for universal conversions between video signal formats
- NTSC/PAL conversion capability
- Scan doubler capability
- Automatic input signal recognition
- On-screen menu display

Dimensions: 424 (W) x 44 (H) x 354 (D) mm (16 $3/4$ x 1 $3/4$ x 14 inches)
Mass: 4.1 kg (9 lb 1 oz)
Power requirements: AC 100 to 120 V, 0.4 A (max.), AC 220 to 240 V, 0.25 A (max), 50/60 Hz
Power consumption: 30 W (max. power on), 3 W (typical power off)

* When a 1080i signal is output, a fV (60 Hz/59.94 Hz) is selectable on the on-screen display menu.

High Resolution Monitors

Specially Designed for Medical Applications

Color Monitors

LCD Monitor
LMD-181MD

- 18.1-inch a-Si TFT Active Matrix Liquid Crystal Device (LCD) with a double-layer AR (Anti-Reflection)-coated protection panel
- 18.1-inches viewable area measured diagonally
- High-resolution of 1280 x 1024 pixels
- High-performance LCD panel provides high-brightness, high-contrast images with natural color reproduction
- Accepts VGA, SVGA, XGA and SXGA signals with horizontal frequencies of 24 to 73 kHz
- Mounting slot accepts an optional input adapter for NTSC, PAL and HD video signals
- Fluid-resistant structure
- Parallel remote control capability
- VESA mounting standard
- UL 2601-1 and CSA 601.1 listed
- Complies with the MDD

Dimensions: 432 (W) x 395 (H) x 124 (D) mm (17 $\frac{1}{8}$ x 15 $\frac{5}{8}$ x 5 inches)
Mass: Approx. 7.0 kg (15 lb 7 oz)
Power consumption: 0.9 to 0.5 A/AC 100 to 240 V

Color Video Monitor
PVM-20L2MD/14L2MD (NTSC/PAL)

- 20-inch/14-inch Trinitron CRT provide a resolution of 600 TV lines
- 19-inches/13.5-inches viewable area measured diagonally
- Beam current feedback circuit for stable color reproduction
- Accepts composite, Y/C , RGB, and component (Y/R-Y/B-Y) signals
- Aspect ratio switchable between 4:3 and 16:9
- Auto setup for chroma and phase
- Color temperature selectable between D65, D93, and user-defined presets
- Built-in H/V delay, underscan, blue only and tally functions
- Complies with the MDD, UL 2601-1 and CSA 601.1 listed

Dimensions:
  PVM-20L2:   453 (W) x 463 (H) x 529 (D) mm (17 $\frac{7}{8}$ x 18 $\frac{1}{4}$ x 20 $\frac{7}{8}$ inches)
  PVM-14L2:   346 (W) x 340 (H) x 430 (D) mm (13 $\frac{5}{8}$ x 13 $\frac{1}{2}$ x 17 inches)
Mass:
  PVM-20L2:   32.6 kg (72 lb 12 oz)
  PVM-14L2:   18.0 kg (39 lb 11 oz)
Power requirements: AC 100 to 240 V
Power consumption:
  PVM-20L2: 98 W,   108 W (with BKM-150CP)
  PVM-14L2: 75 W,   86 W (with BKM-150CP)

Color Monitors

Color Video Monitor
PVM-14L1MDE

- 14-inch Trinitron CRT provides a high resolution of 600 TV lines
- 13.5-inches viewable area measured diagonally
- Beam current feedback circuit for stable color reproduction
- High-quality Y/C separation
- Fluid resistant side covers (supplied)
- Complies with EN60601-1 and EN60601-1-2
- Aspect ratio switchable between 4:3 and 16:9
- Accepts composite and Y/C signals
- 19-inch EIA standard rack mountable
- On screen display
- Ground earth terminal

Dimensions: 346 (W) x 340 (H) x 414 (D) mm (13 $\frac{5}{8}$ x 13 $\frac{1}{2}$ x 16 $\frac{3}{8}$ inches)
Mass: Approx. 15.0 kg (33 lb 1 oz)
Power requirements: AC 100 to 240 V, 50/60 Hz
Power consumption (typical): 68 W

In addition, Sony offers a number of alternative monitor types suitable for a wide range of medical applications.

Color Video Monitor
PVM-20L5/14L5 (NTSC/PAL/ NTSC4.43/SECAM)

(unavailable in some areas)

- 20-inch/14-inch HR Trinitron CRT provide a high resolution of 800 TV lines
- 19-inches/13.5-inches viewable area measured diagonally
- SMPTE-C standard phosphors
- Beam current feedback circuit for stable color reproduction
- Accepts composite, Y/C, RGB and component (Y/R-Y/B-Y) signals
- 1 slot available for optional input adapters
- Accepts a variety of digital signals
- Accepts external sync
- Parallel and serial remote control capability
- 19-inch EIA standard rack mountable

Dimensions: PVM-20L5:
                 Approx. 452 (W) x 414 (H) x 500 (D) mm
                 (17 $^7/_8$ x 16 $^3/_8$ x 19 $^3/_4$ inches)
                 PVM-14L5:
                 Approx. 346 (W) x 280 (H) x 424 (D) mm
                 (13 $^5/_8$ x 11 $^1/_8$ x 16 $^3/_4$ inches)
Mass: PVM-20L5:Approx. 31 kg (68 lb 5 oz)
                 PVM-14L5:Approx. 17 kg (37 lb 8 oz)
Power requirements: AC 100 to 240 V
Power Consumption: PVM-20L5:130 W (with options: 140 W)
                 PVM-14L5:110 W (with options: 120 W)

Color Video Monitor
PVM-20L4/14L4 (NTSC/PAL/ NTSC4.43/SECAM)

(unavailable in some areas)

- 20-inch/14-inch HR Trinitron CRT provide a high resolution of 800 TV lines
- 19-inches/13.5-inches viewable area measured diagonally
- EBU standard phosphors
- Beam current feedback circuit for stable colour reproduction
- Accepts composite, Y/C, RGB and component (Y/R-Y/B-Y) signals
- 1 slot available for optional input adapters
- Accepts external sync
- Parallel and serial remote control capability
- 19-inch EIA standard rack mountable

Dimensions: PVM-20L4:
                 Approx. 452 (W) x 414 (H) x 500 (D) mm
                 (17 $^7/_8$ x 16 $^3/_8$ x 19 $^3/_4$ inches)
                 PVM-14L4:
                 Approx. 346 (W) x 280 (H) x 424 (D) mm
                 (13 $^5/_8$ x 11 $^1/_8$ x 16 $^3/_4$ inches)
Mass: PVM-20L4: Approx. 31 kg (69 lb 5 oz)
                 PVM-14L4: Approx. 17 kg (37 lb 8 oz)
Power requirements: AC 100 to 240 V
Power Consumption: PVM-20L4: 115 W (with options: 120 W)
                 PVM-14L4: 90 W (with options: 95 W)

Color Video Monitor
PVM-20L1/14L1

- 20-inch/14-inch Trinitron CRT provide a high resolution of 600 TV lines
- 19-inches/13.5-inches viewable area measured diagonally
- Beam current feedback circuit for stable color reproduction
- Accepts composite and Y/C signals
- Compatible with NTSC and PAL signals
- Aspect ratio switchable between 4:3 and 16:9
- Parallel remote control capability
- 19-inch EIA standard rack mountable

Dimensions: PVM-20L1: 449 (W) x 441 (H) x 502 (D) mm
                 (17 3/4 x 17 3/8 x 19 7/8 inches)
                 PVM-14L1: 346 (W) x 340 (H) x 414 (D) mm
                 (13 5/8 x 13 1/2 x 16 3/8 inches)
Mass (Approx):   PVM-20L1: 28.0 kg (61 lb 12 oz)
                 PVM-14L1: Approx. 15.0 kg (33 lb 1 oz)
Power requirements: AC 100 to 240 V, 50/60 Hz
Power consumption (typical): PVM-20L1: 75 W
                 PVM-14L1: 68 W

Color Video Monitor
PVM-9L3

- 9-inch HR Trinitron CRT provides a high resolution of 450 TV lines
- 7 3/4-inches viewable area measured diagonally
- Accepts standard Y/C and composite signals
- Variety of optional inputs for SDI, SDTI-CP, DV, Analog Component and PAL-M signals
- Blue Only mode
- High-quality Y/C separation
- Assignable parallel remote port, (modular 8-pin)
- On-screen display
- High level of portability
- Supports NTSC and PAL color systems
- 19-inch EIA standard rack mountable

Dimensions: 217 (W) x 218 (H) x 373 (D) mm
                 (8 $^5/_8$ x 8 $^5/_8$ x 14 $^3/_4$ inches)
Mass: Approx 8.0 kg (17 lb 10 oz)
Power requirements: AC 100 to 240 V, 50/60 Hz
Power consumption: AC: 47 W, DC: 38 W
                 AC: 58 W, DC: 48 W (with BKM-150CP)

LCD Monitor
LMD-650

- 6.5-type a-Si TFT Active Matrix Liquid Crystal Device (LCD) with Multi-layer AR (Anti-Reflection)-coated protection panel
- 6.5-inches viewable area measured diagonally
- Resolution of 640 x 480 pixels
- High-performance LCD panel provides high-brightness, high-contrast images
- Accepts composite video and S video signals
- Parallel remote control capability
- 19-inch EIA standard rack mountable
- AC/DC operation capability

Dimensions: 393 (W) x 338 (H) x 119.5 (D) mm
                 (15 $^1/_2$ x 13 $^3/_8$ x 4 $^3/_4$ inches)
Mass: Approx. 5.5 kg (12 lb 2 oz)
Power consumption: 0.6 to 0.4 A/AC 100 to 240 V

Black and White Monitors

B/W Video Monitor
PVM-135/95 (EIA/CCIR)

(unavailable in some areas)

- 14-inch/9-inch CRT provides a high resolution of 1000 TV lines (PVM-135) and 900 TV lines (PVM-95)
- 13-inches/8-inches viewable area measured diagonally
- Accepts composite signals
- Accepts external sync
- 19-inch EIA standard rack mountable

Dimensions:	PVM-135:	346 (W) x 340 (H) x 330 (D) mm (13 5/8 x 13 1/2 x 13 inches)
	PVM-95:	217 (W) x 218 (H) x 250 (D) mm (8 5/8 x 8 5/8 x 9 7/8 inches)
Mass:	PVM-135:	11 kg (24 lb 4 oz)
	PVM-95:	5.5 kg (12 lb 2 oz)
Power requirements:	AC 100 to 240 V	
Power consumptions:	PVM-135:	30 W
	PVM-95:	28 W

B/W Video Monitor
PVM-145E/95E (CCIR/EIA)

(unavailable in some areas)

- 14-inch/9-inch CRT provides a high resolution of 1000 TV lines (PVM-145E) and 900 TV lines (PVM-95E)
- 13-inches/8-inches viewable area measured diagonally
- Accepts composite signals
- Accepts external sync
- 19-inch EIA standard rack mountable

Dimensions:	PVM-145E:	346 (W) x 340 (H) x 330 (D) mm (13 5/8 x 13 1/2 x 13 inches)
	PVM-95E:	217 (W) x 218 (H) x 250 (D) mm (8 5/8 x 8 5/8 x 9 7/8 inches)
Mass:	PVM-145E:	11 kg (24 lb 4 oz)
	PVM-95E:	5.5 kg (12 lb 2 oz)
Power requirements:	AC 120	
Power consumptions:	PVM-145E:	30 W
	PVM-95E:	28 W

Color Monitors

Flat Panel Monitor
PFM-42B2 (NTSC/PAL/SECAM/ NTSC4.43/PAL-M/PAL 60)

(unavailable in some areas*)

- 42-inch** Plasma Display Panel with AR (Anti-Reflection) screen
- High-resolution (1024 x 1024 pixels) display
- I/P (Interlace/Progressive) conversion technology for smooth image reproduction
- Accepts composite, S video (Y/C), RGB/component and computer signals up to UXGA with the high-performance scan converter***
- Slim, at a depth of just 83 mm (3 3/8 inches)
- RS-232C remote control capability
- Supplied with an easy-to-use remote control unit (RM-42B)

Dimensions:	1033 (W) x 631 (H) x 83 (D) mm (40 3/4 x 24 7/8 x 3 3/8 inches)
Mass:	Approx. 28.4 kg (62 lb 9 oz)
Power requirements:	AC 100 to 240 V, 50/60 Hz, 4.2 to 1.5 A
Power consumption:	360 W

* Contact your nearest Sony office for model availability in your area.
** Viewable area measured diagonally.
*** An optional BKM-B10 input adapter is required to accept video signals.

Flat Panel Monitor
PFM-42V1 (NTSC/PAL/SECAM/ NTSC4.43/PAL-M/PAL 60)

(unavailable in some areas*)

- 42-inch** Plasma Display Panel with AR (Anti-Reflection) screen
- High brightness WVGA (852 x 480 pixels) display
- I/P (Interlace/Progressive) conversion technology for smooth image reproduction
- Accepts DVI signals when used with a DVI-capable PC (DVI cable supplied)
- Accepts composite, S video (Y/C), RGB/component and computer signals up to UXGA with the high-performance scan converter***
- High-quality integrated digital audio amplifier for clear audio reproduction -also feeds Speaker OUT (L/R) connectors for optional speakers
- An optional BKM-V11 Component/RGB Input Adapter is available to accommodate BNC connectors
- Slim, at a depth of just 83 mm (3 3/8 inches)
- RS-232C remote control capability
- Supplied with an easy-to-use remote control unit (RM-971)

Dimensions:	1033 (W) x 631 (H) x 83 (D) mm (40 3/4 x 24 7/8 x 3 3/8 inches)
Mass:	Approx. 27.0 kg (59 lb 8 oz)
Power requirements:	AC 100 to 240 V, 50/60 Hz, 3.7 to 1.5 A
Power consumption:	360 W

* Contact your nearest Sony office for model availability in your area.
** Viewable area measured diagonally.
*** An optional BKM-V10 input adapter is required to accept video signals.

Printers

Color Video Printers

Color Video Printer
UP-20

- Photo-realistic quality prints with Sony dye sublimation printing technology
- High-resolution of approximately 400 dpi
- High-speed printing of approximately 16 seconds (NTSC)*/17 seconds (PAL)*
- Compact design enables the UP-20 to fit into a limited space and be rack-mounted on a medical cart side by side with other equipment
- Front-loading operation allows easy maintenance and flexible set up
- RS-232C port for remote control operation
- 2 or 4 split print modes
- Four frame memories for fast printing
- Worldwide AC power supply
- Convenient remote control with the optional RM-91/RM-5500 Remote Commander
- UL2601-1 and CSA 601.1 listed
- Complies with the MDD

* Measured in high-speed mode with the UPC-21S Color Printing Pack (excluding data-transfer time).

Dimensions: 212 (W) x 125 (H) x 395 (D) mm (8 ³/₈ x 5 x 15 ⁵/₈ inches)
Mass: Approx. 6.5 kg (14 lb 5 oz)
Power consumption: AC 100 to 120 V: 1.8 A, AC 220 to 240 V: 1.0 A

Color Video Printer
UP-21MD

- Resolution of 403 dpi for high picture quality
- Photo-realistic quality prints with Sony dye sublimation printing technology
- A6 size color print in approx. 16 seconds (NTSC)/17 seconds (PAL)*
- Easy-to-use color adjustment function
- Compact design
- 2 or 4 split prints mode
- Four frame memories capability
- Front-loading operation allows easy maintenance and flexible set up
- Accepts and outputs an analog RGB, S Video (Y/C) or composite video signal
- RS-232C port for remote control operation
- Convenient remote control with the optional RM-91/RM-5500 Remote Commander
- Worldwide AC power supply
- UL2601-1 and CSA 601.1 listed
- Complies with the MDD

* Measured in high-speed mode with the UPC-21S Color Printing Pack.

Dimensions: 212 (W) x 125 (H) x 395 (D) mm (8 ³/₈ x 5 x 15 ⁵/₈ inches)
Mass: 6.5 kg (14 lb 5 oz)
Power consumption: AC 100 to 120 V: 1.8 A, AC 220 to 240 V: 1.0 A

Color Video Printer
UP-51MD

- 2048 dots thermal head and high resolution of 300 dpi
- 8 bit (256 gradations) for each color
- A5 size print in approx. 22 seconds*
- 2, 4, 8 or 16 split/duplicate image print modes
- RGB, Y/C, and composite video inputs
- Wired and wireless remote controls with the optional RM-5500 Remote Commander
- External control via RS-232C interface
- Eight frame memories capability
- Optional RM-91 Remote Commander for easy printer control
- UL2601-1 and CSA 601.1 listed
- Complies with the MDD

* When measured at high-speed mode using the UPC-510.

Dimensions: 370 (W) x 125 (H) x 475 (D) mm (14 ⁵/₈ x 5 x 18 ³/₄ inches)
Mass: 14 kg (31 lb)
Power consumption: AC 100 to 120 V: 1.8 A, AC 220 to 240 V: 1.0 A

Black and White Video Graphic Printers

B/W Video Graphic Printer
UP-980/980CE

- Thermal video graphic printer with 256 steps of gray level
- Large print size (EIA standard (NTSC): 188x 249 mm at side direction print mode, 187x 140 mm at normal direction print mode, CCIR standard (PAL): 186x 249 mm at side direction print mode, 187x 138 mm at normal direction print mode
- High-speed printing of 10 seconds (NTSC)/12 seconds (PAL)
- Multiple print modes; Standard, Side and 2, 4, 6 split (different images) print
- Accepts both 15.75 kHz video signal and 31.5 kHz high scan signal
- Blue transparency prints with optional UPT-210BL
- Auto paper cut function
- UL2601-1 and CSA 601.1 listed
- Complies with the MDD

Dimensions: 316 (W) x 132 (H) x 305 (D) mm (12 ¹/₂ x 5 ¹/₄ x 12 ¹/₈ inches)
Mass: 8 kg (17 lb 10 oz)
Power consumption: AC 120 V: 2.4 A, AC 220 to 240 V: 1.3 A

B/W Video Graphic Printer
UP-960/960CE

- Thermal video graphic printer with 256 steps of gray level
- Large print size (EIA standard (NTCS): 184x 243 mm at side direction print mode, 190x 144 mm at normal direction print mode, CCIR standard (PAL): 181x 243 mm at side direction print mode, 190x 142 mm at normal direction print mode
- High-speed printing of 10 seconds (NTSC)/12 seconds (PAL)
- Multiple print modes; Standard, Side and 2 split (different images) print
- Accepts worldwide video signals of both EIA and CCIR standard
- UL2601-1 and CSA 601.1 listed
- Complies with the MDD

Dimensions: 316 (W) x 132 (H) x 305 (D) mm (12 ¹/₂ x 5 ¹/₄ x 12 ¹/₈ inches)
Mass: 8 kg (17 lb 10 oz)
Power consumption: AC 120 V: 2.4 A, AC 220 to 240 V: 1.3 A

Black and White Video Graphic Printers

B/W Video Graphic Printer
UP-895MD/895CE

- High-quality, glossy, near photographic printing on the UPP-110HG
- 1280 dots thermal head with 256 gradations
- Compact and lightweight design
- Print size: 90 x 68 mm (normal mode, aspect ratio 4:3)
- Hard copy prints in approx. four seconds (aspect ratio 4:3)
- Three width settings, including wide-scan
- 4:3/1:1 aspect ratio selectable
- EIA/CCIR automatic selection
- Auto paper load system for simple operation
- Optional RM-91 Remote Commander for easy printing control
- UL2601-1 and CSA 601.1 listed
- Complies with the MDD

Dimensions: 154 (W) x 105 (H) x 260 (D) mm (6 $\frac{1}{8}$ x 4 $\frac{1}{4}$ x 10 $\frac{1}{4}$ inches)
Mass: 3.4 kg (7 lb 8 oz)
Power consumption: AC 100 to 120 V: 1.5 A, AC 220 to 240 V: 0.8 A

Digital Printers

Digital Film Imager
UP-DF500

- Support for 14 x 17 inch Sony Blue Thermal Film
- High resolution of approximately 320 dpi
- Photo-quality prints with Sony direct thermal printing technology
- High-speed printing at a rate of up to 70 sheets of film per hour
- Compact design and small footprint
- Vertical installation capability for saving space
- Quick warm-up time of only a few minutes
- DICOM-compliant network capability
- Ten selectable gamma curves
- Edge-to-edge printing capability
- Worldwide AC power supply
- Incorporates environmentally friendly Sony dry-processing technology
- UL2601-1 and CSA 601.1 listed
- Complite with the MDD

Dimensions: 600 (W) x 251 (H) x 688 (D) mm (23 $\frac{5}{8}$ x 10 x 27 $\frac{1}{8}$ inches)
Mass: Approx. 55 kg (121 lb 4 oz)
Power consumption: AC 100 to 120 V, AC 220 to 240 V, 50/60 Hz: 450 W

Digital Printers

Digital Film Imager
UP-D71XR

- Support for both 8 x 10 inch Blue Thermal Transparent Film and Thermal Print Media
- High resolution of approximately 300 dpi
- Photo-quality prints with Sony direct thermal printing technology
- High-speed printing of approximately 45 seconds
- Precise gamma-curve-adjustment capability
- Compact and light-weight design
- SCSI and IEEE1284 interfaces*
- Front-loading operation allows easy operation and flexible maintenance
- Secure paper-tray lock system
- Equipped with a small window on the paper tray for media-availability checking
- Detachable dust filter
- Worldwide AC power supply
- Incorporates environmentally friendly Sony dry-processing technology
- UL2601-1 and CSA 601.1 listed
- Complies with the MDD

* Supported in ECP (Extended Capabilities Port), Nibble and Compatible modes.

Dimensions: 412 (W) x 210 (H) x 431 (D) mm (16 $\frac{1}{4}$ x 8 $\frac{3}{8}$ x 17 inches)
Mass: 15.5 kg (34 lb 3 oz)
Power consumption: AC 100 to 120 V, AC 220 to 240 V, 50/60 Hz: 270 W (max.)

Line Shot Printer
LPR-1000MD

- Ink-jet printer equipped with a high-speed line shot
- High-quality gray scale ink-jet printer designed for C-arm and a digital image sensor applications
- LD Shot (Lateral Deflection Shot) technology provides a 2400 x 3600 dpi dot density
- USB (version 2.0, high-speed/full-speed) interface
- Sony's coated High Quality Printing Paper provides high gradation printing
- Power saving and low power consumption system
- Quiet printer for a work-friendly environment
- Complies with EN60601-1 and EN50081-1/EN50082-1

Dimensions: 350 (W) x 210 (H) x 520 (D) mm (13 $\frac{7}{8}$ x 8 $\frac{3}{8}$ x 20 $\frac{1}{2}$ inches)
Mass: Approx. 15 kg (33 lb 1 oz)
Power supply: 100 V to 240 V

Print by Sony

Digital Printers

Digital Color Printer
UP-D23MD

- Resolution of 403 dpi for high picture quality
- Photo-realistic quality prints with Sony dye sublimation printing technology
- A6 size color print in approximately 19 seconds*[1]
- Compact design enables it to fit into the limited space and to be rack mounted on a medical cart side by side with other equipment
- Front-loading operation allows for easy maintenance and flexible set up
- USB interface (Version 2.0)
- Resize-to-fit feature allows users to enlarge images of VGA (640 x 480 dots), SVGA (800 x 600 dots) and XGA (1024 x 768 dots) to the approximately 1,520 x 1,144 dots size image*[2] or approximately 2,000 x 1,520 dots size image*[3]
- Grey balance adjustment capability
- Image spooling function (Two frame memories)
- Worldwide AC power supply
- UL2601-1 and CSA 601.1 listed
- Complies with the MDD

*[1] Measured in high-speed mode with the UPC-21S (not include data transfer time).
*[2] When using the UPC-21S.
*[3] When using the UPC-21L.

Dimensions: 212 (W) x 125 (H) x 395 (D) mm (8 3/8 x 5 x 15 5/8 inches)
Mass: 6.5 kg (14 lb 5 oz)
Power consumption: AC 100 to 120 V: 1.8 A, AC 220 to 240 V:1.0 A

Digital Color Printer
UP-D50

- 2048 dots thermal head
- Photo-quality prints with Sony dye sublimation printing technology
- A5 size print in approx. 30 seconds*[1]
- Standard SCSI interface
- Compatibility with Windows® 95/98/2000, Windows NT® 4.0, and Macintosh® OS
- Selectable print finish: glossy, matte, and texture*[2]
- UL2601-1 and CSA 601.1 listed
- Complies with the MDD

*[1] When measured at high-speed mode using the UPC-510.
*[2] When using the UPC-540.

Dimensions: 370 (W) x 125 (H) x 482 (D) mm (14 5/8 x 5 x 19 inches)
Mass: 13 kg (28 lb 10 oz)
Power consumption: AC 100 to 240 V: 250 W

Digital Printers

B/W Digital Graphic Printer
UP-D895/D895MD

- USB (version. 1.0) and Parallel* (IEEE 1284) interfaces
- Resize-to-fit feature to enlarge images for printing
- Resolution of 325 dpi and 256 steps of grey level for high picture quality
- High-speed printing of approximately 3.8 seconds
- Multiple print modes available for a variety of applications
- 8 MB picture memory for panoramic-size prints
- Compact, space-saving design
- Worldwide AC power supply
- UL2601-1 and CSA 601.1 listed
- Complies with the MDD

Dimensions: 154 (W) x 105 (H) x 260 (D) mm (6 1/8 x 4 1/4 x 12 inches)
Mass: Approx. 3.4 kg (7 lb 8 oz)
Power Consumption: Approx. 120 W
                   Approx. 20 W (stand-by mode)
                   AC 100 to 120 V: 1.8 A, AC 220 to 240 V: 1.0 A

* Parallel interface is available only for the UP-D895.

Digital Capture Unit

Digital Capture Unit
UPA-P100MD

- Records images in TIFF and JPEG formats
- Large recording capability of 20 GB allows users to record up to approx. 15,000 non-compressed TIFF images
- Built-in CD-R drive
- Selectable CD-R recording modes; Singles session or Multiple session
- Networking capability allows users to view the images from Internet browsers, and to share the images with multiple users through a LAN
- Direct printout capability
- Optional RM-P110 Remote Control unit for easy operation
- UL2601-1 and CSA 601.1 listed
- Complies with the MDD

Dimensions: 300 (W) x 330 (H) x 78 (D) mm (11 7/8 x 13 x 3 1/8 inches)
Mass: 5.5 kg (12 lb 2 oz)
Power consumption: 60 W

Print accessories

Large Size

Blue Thermal Film
UPT-517BL

Contents:	125 sheets of print film
Paper size:	354 x 430 mm (14 x 17 inches)

8 x 10 Size

Blue Thermal Transparent Film
UPT-735BL

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

8 x 10 Size

Thermal Print Media
UPP-725

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

A4 Size **Letter Size**

Blue Thermal Transparent Film
UPT-730BL (A4)/731BL (Letter)

Contents:	100 sheets of print film
Paper size:	297 x 210 mm (11 $^3/_4$ x 8 $^3/_8$ inches) (UPT-730BL)
	279 x 216 mm (11 x 8 $^5/_8$ inches) (UPT-731BL)

A4 Size **Letter Size**

Color Printing Pack
UPC-8810 (A4)/8811 (Letter)

Contents:	Roll of YMC ink ribbon
	100 sheets of print paper
Paper size:	297 x 210 mm (11 $^3/_4$ x 8 $^3/_8$ inches) (UPC-8810)
	279 x 216 mm (11 x 8 $^5/_8$ inches) (UPC-8811)

A5 Size

Color Printing Pack
UPC-510

Contents:	1 roll of ink ribbon
	200 sheets of print paper
Paper size:	148 x 210 mm (5 $^7/_8$ x 8 $^3/_8$ inches)

A5 Size

Self-Laminating Color Printing Pack
UPC-540

Contents:	1 roll of ink ribbon
	102 sheets of print paper
Paper size:	148 x 210 mm (5 $^7/_8$ x 8 $^3/_8$ inches)

A6 Size

Color Printing Pack
UPC-21S

Contents:	240 sheets of print paper
	3 rolls of ink ribbon
Paper size:	100 x 90 mm (4 x 3 $^5/_8$ inches)

A6 Size

Color Printing Pack
UPC-21L

Contents:	200 sheets of print paper
	4 rolls of ink ribbon
Paper size:	144 x 100 mm (5 $^3/_4$ x 4 inches)

Print Media at a Glance

Size	Description	Model	Print sheets/pack	UP-DF500		
Large Size	Blue Thermal Film	UPT-517BL	125	O		
				UP-D71XR		
8 x 10 Size (inches)	Blue Thermal Transparent Film	UPT-735BL	100	O		
	Thermal Print Media	UPP-725	100	O		
				UP-D70XR	**UP-D8800***	
A4 Size **Letter Size**	Blue Thermal Transparent Film	UPT-730BL/731BL	100	O		
	Color Printing Pack	UPC-8810/8811	100	O	O	
	B&W Printing Pack	UPC-8820/8821	100	O	O	
	Self-Laminating Color Printing Pack	UPC-740/741	72	O		
	OHP Transparency Printing Pack	UPC-8830*/8831*	100		O	
	Self-Laminating Color Printing Pack	UPC-8840*/8840A/8841*/8841A	70		O	
						LPR-1000MD
	Ink Jet Paper	EPP-300A4MD	300			O
	Ink Cartridge	EPI-L100GL				O
		EPI-L100GS				O
		EPI-L100BS				O
A4+ Size	Color Printing Pack	UPC-8817	100	O	O	
	Self-Laminating Color Printing Pack	UPC-747	72			
				UP-51MD/51MDP*	**UP-D50**	
A5 Size	Color Printing Pack	UPC-510	200	O	O	
	Self-Laminating Color Printing Pack	UPC-540/540MD*	102	O	O	
				UP-20/21MD/D21MD/D23MD		
A6 Size	Color Printing Pack	UPC-21S	240	O		
	Color Printing Pack	UPC-21L	200	O		

* Production of these products has been discontinued. This information has been included to assist customers who are still using this media.

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

A4
Width
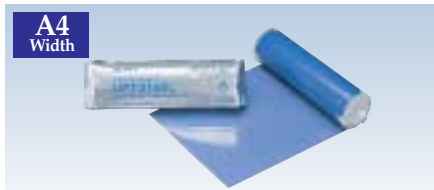
Blue Thermal Transparent Film (Type III)
UPT-210BL

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

A4
Width

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

Paper size: 210 mm (W) x 25m
Print quantity: 118 prints (with UP-980)
124 prints (with UP-960)

A4
Width

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

Paper size: 210 mm (W) x 25 m
Print quantity: 118 prints (with UP-980)
124 prints (with UP-960)

A6
Width

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

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

A6
Width

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

Paper size: 110 mm (W) x 20 m
Print quantity: 215 prints (with UP-895MD)

A6
Width

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

Paper size: 110 mm (W) x 20 m
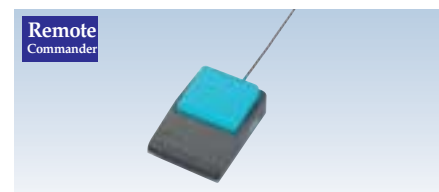Print quantity: 215 prints (with UP-895MD)

Remote
Commander

Remote Control Unit
RM-91

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

Remote
Commander

Wired/Wireless Remote Commander
RM-5500

Connector: Special mini
Cable length: 5 m
Mass: 200 g (7 oz)—including cable
Supplied accessory: Operation manual

Remote
Commander

Foot Switch
FS-20

Connector: Monaural mini
Cable Length: 5 m

Slide Adapter
UPA-21SA

Slide adapter for a medical cart
Applicable models: UP-21MD/D21MD/D23MD

Print Media at a Glance

Size	Description	Model	Print sheets/pack	UP-980/980CE	UP-960/960CE	UP-930*/910*
A4 Width	Blue Thermal Transparent Film (Type III)	UPT-210BL	12.5 m	O		
	Thermal Print Media (Type II: High Density)	UPP-210HD	25 m	O	O	O
	Thermal Print Media (Type I: High Quality)	UPP-210SE	25 m	O	O	O
	Thermal Print Media (Type II: High Density)	UPP-216HD	25 m			O
	Thermal Print Media (Type I: High Quality)	UPP-216SE	25 m			O

Size	Description	Model	Print sheets/pack	UP-895MD/ 895CE/D895/D895MD	UP-890MD*/ 890CE*/D890*	UP-860*/860CE* /D860*/D860E*
A6 Width	Thermal Print Media (Type V: High Glossy)	UPP-110HG	18 m	O		
	Thermal Print Media (Type IV: Superior Density)	UPP-110HA	18 m		O	
	Thermal Print Media (Type II: High Density)	UPP-110HD	20 m	O	O	O
	Thermal Print Media (Type I: High Quality)	UPP-110S	20 m	O	O	O

Foot Switch/Remote Commander at a Glance

Type	Description	Model	UP-7300*/ 7300MDP*	UP-51MD/ 51MDP*	UP-20/21MD/ 2950MD*/2900MD*/ 2850P*/2800P*/ 2300P*/2100*/ 2100P*	UP-980/980CE/ 960/960CE/ 895MD/895CE/ 890MD*/890CE*
Foot Switch **Remote** Commander	Multiple Function Foot Switch	FS-30*		O		
	Simple Remote Commander	RM-91	O	O	O	O
	Multiple Function Remote Commander	RM-5500			O	O

* Production of these products has been discontinued. This information has been included to assist customers who are still using this media.

All print quantity numbers are measured in default setting.
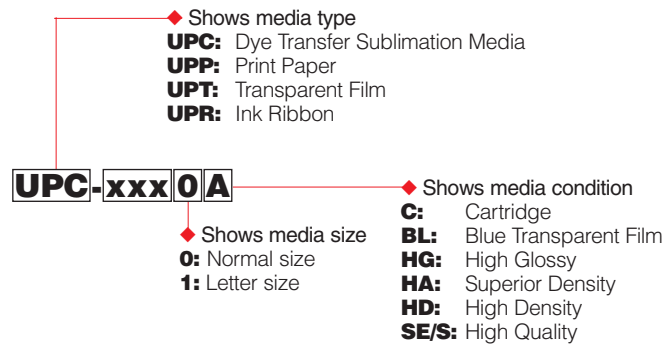
Print Media at a Glance (for discontinued printers)

Size	Description	Model	Print sheets/pack	UP-7300MD/7300MDP/7200MD/7200MDP/7000/7000P/D7000/D7000E
A4 Size / Letter Size	Color Printing Pack	UPC-7010/7011	100	O
	B&W Printing Pack	UPC-7020*1/7020A/7021*1/7021A	100	O
	OHP Transparent Printing Pack	UPC-7030*1/7031*1	100	O

Size	Description	Model	Print sheets/pack	UP-5600/5600MDP	UP-D5500	UP-5000 series
A5 Size	Color Printing Pack	UPC-5510	200	O	O	
	Ink Ribbon Holder for UPC-5510/5UPC-5510	UPA-5500	—	O	O	
	OHP Transparent Printing Pack	UPC-5530*1	100	O		
	Color Printing Pack	UPC-5010A	100			O
	Color Printing Pack	UPC-5010P	100			O
	B&W Printing Pack	UPC-5020A	100			O

Size	Description	Model	Print sheets/pack	UP-1000 series	UP-3000 series	UP-2950MD/2900MD/2850P/2800P/2300P	UP-211/2100P	UP-D2600/D2600S/D2500
A6 Size	Color Printing Pack	UPC-1010	100	O				
	Color Printing Pack	20UPC-1010*1	2000 (100 prints x 20 packs)	O				
	Color Printing Pack	UPC-3010	80		O			
	B&W Printing Pack	UPC-1020	100	O				
	B&W Printing Pack	UPC-3020	80		O			
	4-Split Self-Adhesive Stickers Printing Pack	UPC-S04*2	100	O				
	16-Split Self-Adhesive Stickers Printing Pack	UPC-S16*2	100	O				
	16-Split Self-Adhesive Stickers Printing Pack	20UPC-S16*1*2	2000 (100 prints x 20 packs)	O				
	Self-Laminating Color Printing Pack	5UPC-1040*1	375 (75 prints x 5 packs)	O				
	Color Printing Pack	UPC-2010	200			O	O	O
	B&W Printing Pack	UPC-2020	200			O		O
	Self-Adhesive Stickers Printing Pack	UPC-20S01*2	200			O		O
	4-Split Self-Adhesive Stickers Printing Pack	UPC-20S04*2	200			O		O
	16-Split Self-Adhesive Stickers Printing Pack	UPC-20S16	200			O		O
	Self-Laminating Color Printing Pack	UPC-2040A*2	120					O
	Color Postcard Printing Pack	UPC-2070E*1	150			O		O

*1 Production of these products has been discontinued. This information has been included to assist customers who are still using this media.
*2 For details, please consult your nearest sony office.

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

◆**How to Read
  Print Media Product Code**

◆ Shows media type
UPC: Dye Transfer Sublimation Media
UPP: Print Paper
UPT: Transparent Film
UPR: Ink Ribbon

UPC-xxx0A

◆ Shows media condition
C: Cartridge
BL: Blue Transparent Film
HG: High Glossy
HA: Superior Density
HD: High Density
SE/S: High Quality

◆ Shows media size
0: Normal size
1: Letter size

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