

SONY

See microsurgical
images in their
best light

MCC-1000MD
Medical HD Camera

sony.com/mcc1000md
Beyond Definition



The sensors make all the difference.

The MCC-1000MD medical HD camera is built on Sony's expertise and knowledge, accumulated over decades as a world leading supplier of high-quality broadcast and professional products. This new medical HD camera features the latest generation image sensor technology – and that makes all the difference – offering outstanding low-light sensitivity compared to traditional cameras on the market.

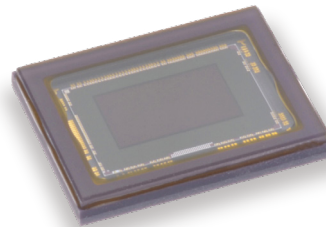
Discover the amazing difference that Sony's latest generation HD medical camera can bring to your surgical video. It's the ultra-sensitive camera for low-light microsurgery conditions.

Designed for microsurgery applications

Because of its high sensitivity to low light, the MCC-1000MD camera is particularly ideal for low-light surgical applications, such as ophthalmic and neurological procedures. The MCC-1000MD's compact and lightweight design allows the camera's C-mount head to be easily mounted on most existing surgical microscopes. Pair the camera with Sony's HD medical monitors so that everyone in the O.R. can see the HD surgical footage. Or record the video with Sony medical recorders and share the HD surgical footage with clinicians and colleagues, at conferences and symposiums, and for surgical training and education.

Capture minute surgical details

- The MCC-1000MD medical HD camera is equipped with the latest three-chip technology to deliver higher illumination and excellent color resolution in low light.
- The MCC-1000MD camera head combines (3) 1/2.8-inch type Exmor R™ CMOS sensors, which can capture full HD (1920 x 1080).
- It delivers a signal-to-noise ratio of 63 dB.
- It produces a horizontal resolution of 1000 TV lines or more.



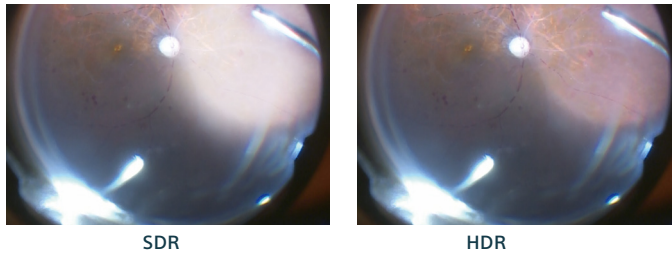
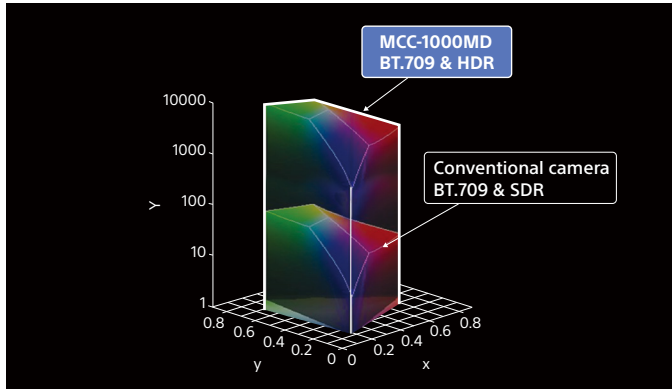
Exmor R
CMOS Sensor

High sensitivity designed for near darkness

With high sensitivity of F20, the MCC-1000MD can capture remarkably clear video and still images in near darkness for procedures involving areas of the anatomy that are difficult to illuminate during a particularly intricate microsurgery. This level of sensitivity allows the camera to capture more natural colors and suppress noise caused by higher gain. It is ideal for ophthalmic posterior surgical procedures that involve the retina and optic nerve areas as well as neurosurgical procedures. The camera can also capture and reproduce very bright-lit areas at standard exposure level.

High Dynamic Range (HDR) mode

The MCC-1000MD supports HLG and 2.4 wide gamma* in HDR (High Dynamic Range) mode when used in conjunction with an HDR display, offering a wider range of brightness levels to capture surgical images with even greater color contrast and accuracy compared to non-HDR cameras and displays. When in HDR mode, objects with surfaces such as wetness, dark shadows, or glossiness are also visually improved.



* 2.4 wide gamma is a gamma curve that can suppress blown-out highlights in high-luminance areas.

Simulated images

Picture profile function

The camera features a Picture Profile menu that adjusts and changes the parameters to determine the characteristics of the image. The MCC-1000MD features six pre-installed picture profiles, which match various shooting conditions in ophthalmic surgery and fluorescein observation.

Useful camera functions

Other image adjustment features include Auto Exposure, Knee, Digital Zoom, Picture Profile, Picture Flip, and Genlock. The Picture Flip function can turn the camera picture horizontally, vertically, or both horizontally and vertically according to the microscope.

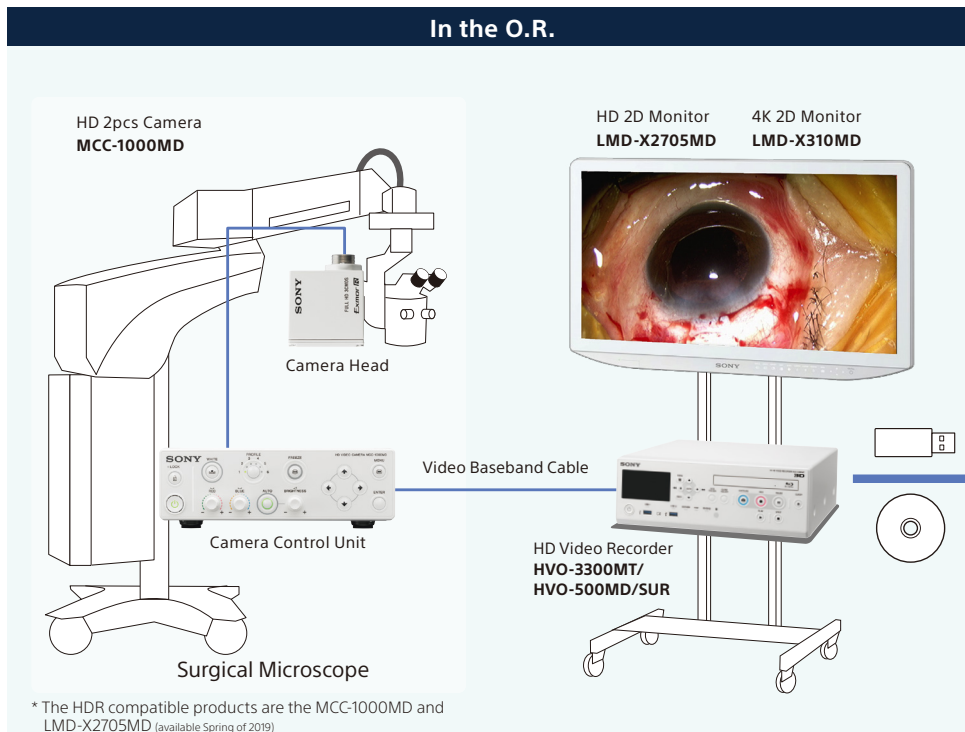
Various outputs for flexible connectivity

The MCC-1000MD has enough output flexibility to fit into a range of medical environments with HDMI, SDI (3G-SDI), S video, and Composite video. All of the camera's outputs are active simultaneously, so it can be used with a second or even third monitor in the operating room.

3D surgical images can be captured in 3D

Simultaneous video outputs from (2) MCC-1000MD units can be synchronized, allowing the capture of HD 3D stereoscopic video images. These 3D images can be displayed on Sony's 3D 4K displays, (LMD-X310MT or LMD-X550MT), and recorded with Sony's HVO-3300MT medical 3D video recorder.

In the O.R.



Secondary Use



Conferences and Symposiums



Education in the O.R.



Collaboration with Colleagues

Find out more at www.sony.com/mcc1000md

Beyond Definition

Specifications

Camera Head	
Image Device	1/2.8 type "Exmor R" CMOS image sensor, RGB 3CMOS type
Effective Pixels	1920 (H) x 1080 (V)
Lens Mount	C-mount
Sensitivity	F13 (Typical) (At 1080/59.94i, 89.9% reflection, 2000 lx) F20 (Typical) (At 1080/59.94i, 89.9% reflection, 2000 lx, "High Sensitivity" is "ON")
Picture S/N	63 dB (Y) (Typical)
Horizontal Resolution	1000 TV lines or more
Gain	0 dB to 30 dB
Shutter Speed	1/60 to 1/10000
Slow Shutter	2 to 8 Frames
Camera Cable Connector	20-pin, round
SDI Video Format	1080/60i 1080/60p 1080/50i 1080/50p

Camera Control Unit	
Picture Profile	Yes (Six settings)
Picture Flip	Yes
Freeze Function	Yes (capturing a still image)
Color Bar	Off/Multi/EBU 75%/EBU 100%/Test Saw
Camera Synchronization for 3D-shooting	Yes
AC Power Operation	Yes

Optional Accessories

CCMC-SA06/SA10/SA15

Camera Cables
(Standard cable 19.685ft/32.808ft/49.212ft)



CCMC-EA05

Camera Cable (Extension cable 16.404ft)



FS-24*

Foot Switch

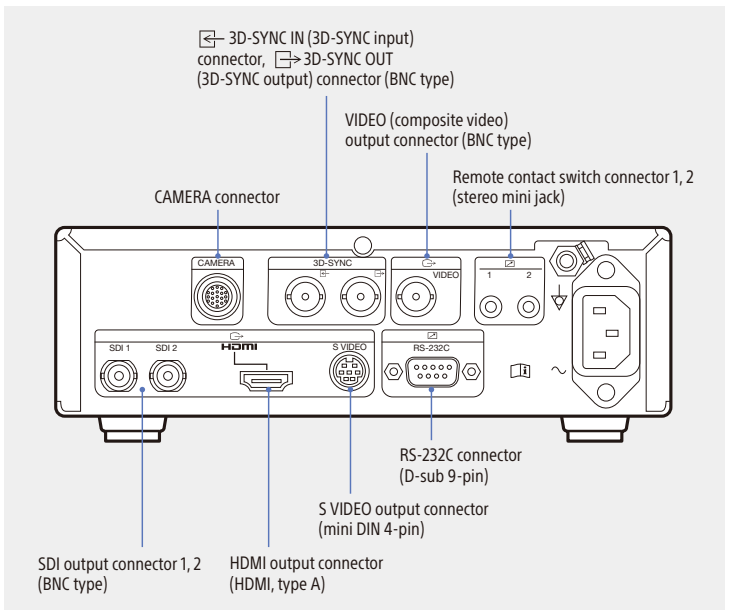
* The FS-24 has an Ingress Protection rating of IPx3. Therefore, do not operate it in environments exposed to splashing liquids (e.g., surgical operating rooms). For safety, use a device with a rating of IPx6 or higher when operating in such environments.



Connectors	
Input Connectors	Remote contact switch connectors 1, 2 (Stereo mini jack)
Output Connectors	VIDEO OUT (x1) (BNC) S VIDEO OUT (x1) (4-pin mini DIN connector)
Output Connectors	HDMI OUT (x1) (HDMI connector) HD-SDI OUT (x2) (BNC, HD/3G)
Input/Output Connectors	CAMERA (x1) (20-pin, round) RS-232C (x1) (D-sub 9-pin) 3D-SYNC IN, OUT (BNC)
Other Connector	Equipotential ground connector (x1)
General	
Power Requirements	100 V to 240 V AC, 50/60Hz
Input Current	0.40 A - 0.25 A
Operating Temperature	32°F to 104°F (0°C to 40°C)
Operating Humidity	20% to 80% (no condensation allowed)
Storage and Transport Temperature	-4°F to +140°F (-20°C to +60°C)
Storage and Transport Humidity	20% to 90% (no condensation allowed)
Weight (Camera Head)	approx. 2.1 oz (approx. 60 g)
Weight (Camera Control Unit)	approx. 4 lb. 3 oz (approx. 1.9 kg)
Dimensions (Camera Head) (WHD, excluding longest protrusions) *1	approx. 1 3/8 x 1 9/16 x 1 3/4 in. (approx. 34 x 39 x 43 mm)
Dimensions (Camera Control Unit) (excluding longest protrusions)	approx. 7 7/8 x 2 1/2 x 10 1/2 in. (approx. 200 x 62 x 264 mm)
Supplied Items	Lens mount cap (x1) Before Using This Unit (x1) CD-ROM (Instruction for Use in PDF format) (x1) Warranty Booklet (x1) Service Contact List (x1)

*1 The values for dimensions are approximate.

This product is distributed to the US and EU as a medical device and satisfies product safety standards (e.g. IEC 60601-1). For more details, please contact your nearest Sony sales office or an authorized dealer.



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CAUTION: Federal (USA) law restricts this device to sale by or on the order of a physician or other appropriately licensed medical professional.

CAUTION: See product labeling for indications, contraindications, warnings, cautions, and directions for use.