

# MCC-3000MT

3D HD Video Camera

**SONY**  
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**Exmor™**



# The New Dimension in Clarity

## Adding Spatial Orientation to Medical Imaging

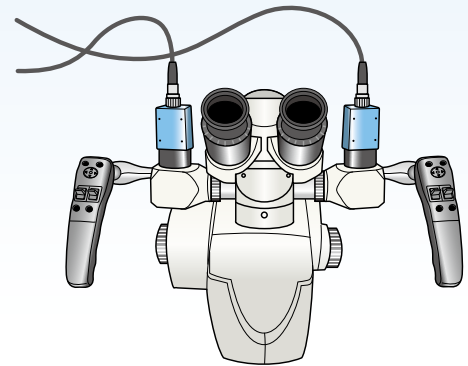
Sony proudly introduces the MCC-3000MT, a 3D medical-grade full-HD video camera that provides exceptional picture quality. The MCC-3000MT consists of two compact camera heads and one CCU (Camera Control Unit), and can be easily integrated into a variety of medical systems.

3D imaging is fast becoming extremely popular in various medical applications such as microscopic surgery and endoscopic surgery because it improves depth perception and spatial orientation. This provides a truer visual experience that is closer to natural sight than 2D imaging.

For microscopic surgery applications, the 3D stereoscopic images that the surgeon sees through a microscope can be shared with other medical staff utilizing one of Sony's 3D medical-grade monitors, such as the LMD-2451MT. These 3D images can be easily recorded using the HVO-3000MT medical-grade recorder.

Physicians can better communicate with patients and fellow surgeons by integrating 3D images – utilizing Sony's complete 3D video solution with a medical-grade 3D camera, monitors, and recorders – into every phase of their workflow, from operating rooms to consulting rooms and teaching facilities.

Together with Sony's medical-grade 3D monitors and recorders, the MCC-3000MT is ideal for all surgery applications.



## Key Features

### Stereoscopic 3D Images

Superb quality 3D video can be achieved easily with the camera's simple configuration, because one CCU controls two camera heads. The depth perception and spatial orientation provided by this 3D technology can help surgeons more easily grasp, cut, and suture tissue. The camera can also be used to capture two separate 2D images under control of one CCU.

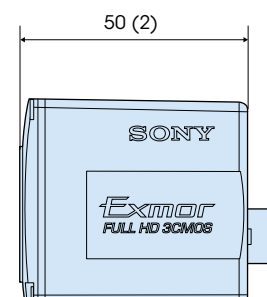
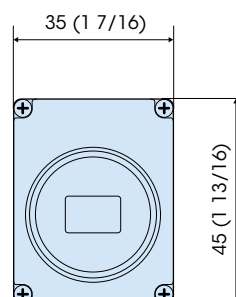
### 1/2-inch Type Exmor™ Full-HD CMOS Sensors

Both camera heads in the MCC-3000MT are equipped with three 1/2-inch type Exmor Full-HD CMOS sensors, each with a pixel count of 1920 (H) x 1080 (V). These sensors deliver excellent picture performance with full-HD resolution in 1080i mode.

By combining Exmor image sensors with Sony's accumulated image processing technologies, the MCC-3000MT provides an excellent sensitivity of F10, a remarkable signal-to-noise ratio of 54 dB, a high horizontal resolution of 1000 TV lines, and a wide dynamic range of 450%.

### Compact and Lightweight Camera Head Unit

The camera head unit is C-mount compatible – the lens mount that is commonly used for microscopes in medical applications. The dimensions (W x H x D) of the camera head unit are 35 x 45 x 50 mm (1 7/16 x 1 13/16 x 2 inches), and it weighs only 90 g (3.2 oz). Thanks to this compact size and light weight, each camera head unit can be installed easily in space-constrained locations.



Unit: mm (inches)

## Various Shooting Modes

A rich variety of features for shooting are incorporated into the MCC-3000MT such as Image Reverse mode, which is convenient for microsurgery, a Freeze function synchronized with the flashlight of retinal cameras, and Spot Photometry mode, which is for AE (Auto Exposure) on a slit lamp.

Additionally, a Picture Profile™ feature allows the camera operator to easily call up customized picture-tonal settings to suit particular shooting conditions, rather than having to readjust the camera each time – giving greater operational efficiency. Up to six different settings such as the parameters of shutter, gain, detail, knee, and gamma can be saved in memory. These settings can be recalled from the switches on the front panel.

## RS-232C Interface

The MCC-3000MT is equipped with a D-sub 9-pin connector for RS-232C connection. It allows control from an external host device such as a computer.



## Intuitive Front Panel Operation

The brightness, red, and blue controls on the front panel allow intuitive picture adjustment. Moreover, it is possible to adjust two camera heads from a single CCU at the same time. This eliminates the need to adjust two camera heads individually.

## Flexible Selection of Camera Cables

The CCU can be located up to 20 m (62.6 feet) away from the camera head. An optional camera cable can be selected from 5 m (16.4 feet), 10 m (32.8 feet), 15 m (49.2 feet), or 20 m (62.6 feet) depending on installation requirements.

## Compliance with Medical Standards

### ■ Safety standards

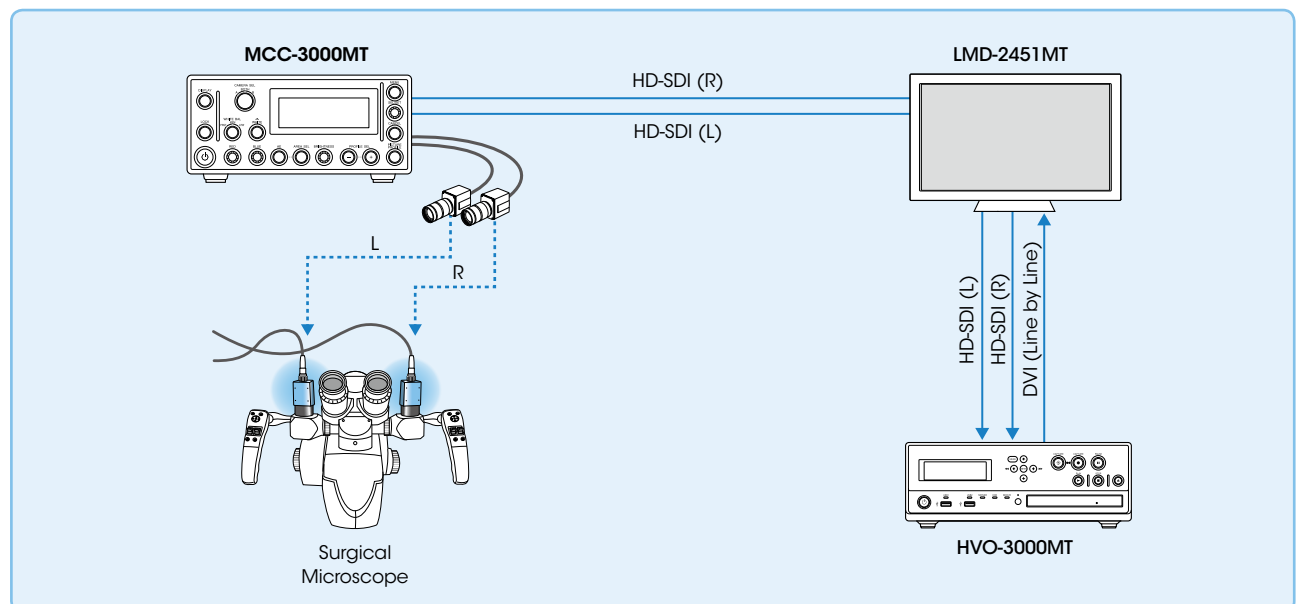
- UL60601-1, ANSI/AAMI ES 60601-1
- CAN/CSA-C22.2 No.601.1, CAN/CSA-C22.2 No.60601-1
- EN 60601-1
- IEC 60601-1

### ■ EMC standards

- VCCI Class A
- FCC Class A Digital Device
- IC Class A Digital Device
- EN60601-1-2



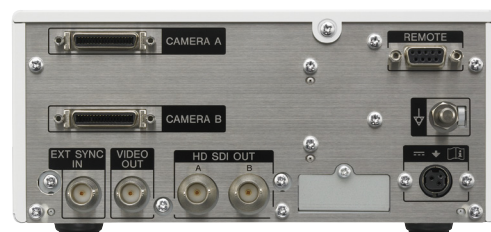
## System Configuration



## Specifications

MCC-3000MT	
Camera Head Unit	
Image Device	3-chip 1/2-inch type Exmor CMOS
Effective Picture Elements	1920 (H) x 1080 (V)
Lens Mount	C-mount
Optical system	F2.2 prism system
Sensitivity	F10 typical (in 1920 x 1080/59.94i mode)
Minimum Illumination	9 lx (in 1920 x 1080/59.94i mode, F2.2, +21 dB gain)
Connector	
Camera output	20pin (x1)
Camera Control Unit	
S/N Ratio	54 dB (Y) (typical)
Horizontal Resolution	1000TV lines (in 1920 x 1080/59.94i ; through HD-SDI)
White Balance	PRESET/MEMORY/ATW
AE	On/Off
AE Area	Multi/Large/Middle/Spot/Slit Selectable
Picture Profile	PictureProfile 1-6
Output Signals	HD-SDI, Composite
Color Bar Type	Multi/75%/100%/Off
Down Converter	Squeeze/Letterbox/Edge Crop
Serial Data	RS-232C
Connectors	
Composite output	BNC (x1)
HD SDI output	BNC (x2)
EXT SYNC input	BNC (x1)
Remote	D-sub 9-pin (x1)
General	
Mass	CHU : 90 g (3.2 oz) (x2) CCU : 4.5 kg (9 lb 15 oz)
Dimensions	CHU : 35 x 45 x 50 mm (1 7/16 x 13/16 x 2 inches) without projection CCU : 200 x 88 x 341mm (7 7/8 x 3 1/2 x 13 1/2 inches) without projection
Power Requirements	DC 24 V
Input Current	1.5 A (inrush: 3.0 A)
Operational Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-20°C to 60°C (-4°F to 140°F)
Supplied Accessories	Tripod adapter (2) Tripod adapter fitting screws (8) Lens mount cap(2) Operating instructions - Japanese version (1) - English version (1) - German version(1) Before Using This Unit(1) CD-ROM - Manuals for HD Video Camera (Operating Instructions in PDF) (1) Warranty Booklet (1)

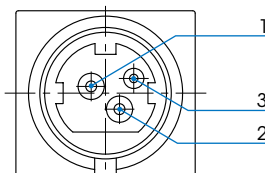
## Rear Panel



## Pin Assignments

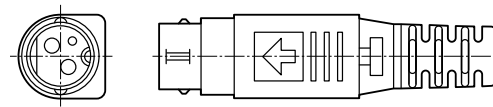
### DC IN connector (Hoshiden TCS7960-53)

Pin No.	
1	DC IN
2	GND
3	NC



\* The DC power plug needs to be Hoshiden TCP8927-53.

### DC Power Plug



## Optional Accessories



**CCMC-T20/CCMC-T15/  
CCMC-T10/CCMC-T05**  
Camera Cables



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



**LMD-2451MT**  
3D HD Medical Monitor

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