

## PMW-10MD

Full HD Medical 2-piece Camera



### Overview

#### **Full HD Medical 2-piece Camera - Providing Outstanding Image Quality and Workflow Innovation**

The demand for high-quality image acquisition in surgery and medical observation has been growing rapidly. High-quality images contribute not only to the improvement of surgery, but also conference and education applications. To accommodate this need, Sony introduces the PMW-10MD medical-compliant full HD video camera. Sony's expertise and knowledge, accumulated over decades as a world-leading supplier of broadcast and medical video equipment, are consolidated in this camera.

The PMW-10MD has a compact camera head unit, that can be attached easily either to a surgical microscope, a surgical boom arm, or to a ceiling, and a separated camera control unit. The distance between the camera head and the camera control unit can be extended up to 20 m (62.6 feet).

In the camera control unit, there are two SxS PRO memory card slots for recording full HD quality moving images and capturing still images. The PMW-10MD can record up to 280 minutes of high-quality moving images on two 32-GB cards. The SxS Pro memory card provides a number of significant benefits, such as

instant random access to recordings, easy editing, and quick copying of footage to IT-based devices - all of which offer tremendous workflow improvements.

With its outstanding image quality, extremely long recording time, and a number of advanced features, the PMW-10MD is an ideal medical camera that improves both image quality and operational efficiency.

Note: Models sold in the U.S. are bundled with camera cable, available in 5m, 10m, 15m, and 20m lengths.

## Features

### **High performance CMOS sensors**

Three 1/2-inch type Exmor Full HD CMOS sensors, each with an effective pixel count of 1920 x 1080 provide high levels of detail in all parts of the image and at all lighting conditions

### **Small, lightweight camera head unit**

The camera head unit can be installed in confined spaces and remotely, up to 20 m from the camera control unit

### **Specialist shooting modes**

Various shooting modes are supported such as image reverse mode convenient for microsurgery, freeze function synchronized with flash light of retinal camera, and spot photometry mode provided for the AE (Auto Exposure) on slit lamp

### **Picture Profile settings**

Six Picture Profile settings for camera parameters, which can be customized and directly controlled from the switch on the front panel

### **Solid-state recording and playback**

On-board high definition video recording utilising the flexible SxS pro memory card for instant acquisition and reuse of surgical footage and still images

## Choice of recording modes

The HQ mode supports 1920 x 1080 resolution at 35Mb/s and the SP mode supports 1440 x 1080 resolution at 25Mb/s, which provides compatibility with HDV 1080i products and up to 140 minutes with one 32-GB SxS memory card

## Flexible Interfacing

Equipped with a wide variety of interfaces including two HD-SDI outputs, a DVI-D output that supports 1080/60P and 1080/50P, an analogue component output, analogue composite output, S-Video output and microphone input for audio recording

## Remote control

9-pin RS-232C connector and a mini-stereo jack for a footswitch

## "Clip Browser" software

Browse and copy video clips recorded by the PMW-10MD

## Compliance

Compliance with Medical Safety Standards

## Specifications

### General

|      |                                  |
|------|----------------------------------|
| Mass | CHU : Approx. 90 g (3.2 oz)      |
|      | CCU : Approx. 2.8 kg (6 lb 3 oz) |

|            |   |
|------------|---|
| Dimensions | CHU : 35 x 45 x 50mm (1 7/16 x 1 13/16 x 2 inches) without projection     |
|            | CCU : 200 x 88 x 240 mm (7 7/8 x 3 1/2 x 9 1/2 inches) without projection |

|                         |                               |
|-------------------------|-------------------------------|
| Power Requirements      | AC 100 to 240 V, 50/60 Hz     |
| Power Consumption       | 0.6-0.36 A (Max.30 W)         |
| Operational Temperature | 0°C to 40°C (32°F to 104°F)   |
| Storage Temperature     | -20°C to 60°C (-4°F to 140°F) |

## Camera Head Unit

|                            |   |
|----------------------------|---|
| Image Device               | 3-chip 1/2-inch type Exmor CMOS   |
| Effective Picture Elements | 1920 (H) × 1080 (V)   |
| Lens Mount                 | C-mount   |
| Optical system             | F2.2 prism system   |
| Sensitivity                | F10 typical (in 1920 x 1080/59.94i mode)  |
| Minimum Illumination       | 0.14 lx (in 1920 x 1080/59.94i mode, F2.2, +21 dB gain, with 64-frame slow shutter) |
| 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/Medium/Spot/Slit<br>Selectable |
| Connector | Camera output: 20-pin (x1)                 |

## Camera Control Unit

|                      |   |
|----------------------|---|
| Picture Profile      | PictureProfile 1-6                                  |
| Output Signals       | HD-SDI, Composite, S-Video (Y/C),<br>Y,Pb,Pr, DVI-D |
| DVI-D output         | 1080i/1080P   |
| Colour Bars          | Multifomat/75%/100%/Off                             |
| Downconvert Mode     | Squeeze/Letterbox/EdgeCrop                          |
| Flash Trigger output | CMOS/Open-Collector                                 |
| Serial Data          | RS-232C   |

|            |  |
|------------|--|
| Connectors | Camera input : 36-pin (x1)<br>MIC input : Stereo mini-jack (x1)<br>Composite output : BNC (x1)<br>S-Video output : mini DIN 4-pin (x1)<br>Component output : D-Sub 15-pin<br>(x 1)<br>DVI-D output : DVI connector 19-<br>pin (x1) |
|------------|--|

|                             |   |
|-----------------------------|---|
|                             | <p>HD SDI output : BNC (x 2)</p> <p>EXT SYNC input : BNC (x1)</p> <p>FS,TRIG IO : Stereo mini-jack (x1)</p> <p>Remote : D-sub 9-pin (x1)</p>  |
| Freeze function             | OFF/ON  |
| Recording Media             | SxS Pro Memory Card   |
| Recording Format<br>(Video) | <p>HQ mode : 35Mbps (VBR) MPEG-2<br/>MP@HL - 1920 x 1080 / 59.94i, 50i</p> <p>SP mode : 25Mbps (CBR) MPEG-2<br/>MP@H-14 - 1440 x 1080 / 59.94i, 50i</p>   |
| Recording Format<br>(Audio) | LPCM (16 bits, 48 kHz, 2Ch)   |
| Recording Capacity          | <p>HQ mode :</p> <p>Approx. 100 min. with SBP-32 (32 GB) memory card</p> <p>Approx. 50 min. with SBP-16 (16 GB) memory card</p> <p>Approx. 25 min. with SBP-8 (8 GB) memory card</p> <p>SP mode :</p> <p>Approx. 140 min. with SBP-32 (32 GB) memory card</p> <p>Approx. 70 min. with SBP-16 (16 GB) memory card</p> <p>Approx. 35 min. with SBP-8 (8 GB) memory card</p> |

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## Optional Accessories

Optional Accessories    MEAD-SD02 (Not for medical use)

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## Gallery





