

## LMD-2451MT

24-inch Full HD 3D LCD medical monitor



### Overview

#### **3D high definition medical monitor with advanced Sony 3D technology**

The LMD-2451MT combines Sony 3D professional technology with an advanced 24-inch LCD panel to display clear 3D pictures.

Surgeons can also view images from multiple monitors whilst wearing light, comfortable polarized glasses.

Practical features include a user memory function and chroma phase control, while ChromaTRU technology contributes to optimised image quality.

**This equipment is intended for use by qualified medical professionals only.**

### Features

#### **Pioneering 3D quality**

The LMD-2451MT uses advanced panel micro polarizer filter technology to deliver clear, smooth, consistent pictures that are viewed with passive glasses.

#### **Multiple 3D formats**

The versatile LMD-2451MT accepts various sources of 3D signal, such as 3D on 3G, dual stream left and right, field sequential and side-by-side HD-SDI, as well as DVI-D line interleave (line by line)

mode. The display can accept almost any signal ranging from SD to HD video, as well as PC signals via its DVI-D or HD15 connectors.

### **Sony unique colour matching technology ChromaTRU**

The LMD-2451MT helps to ensure more accurate colour consistency by means of a series of calibrations. The panel is individually calibrated so that RGB co-ordinates are consistent. A further calibration helps maintain white balance at a uniform colour temperature throughout all grayscale levels.

### **High brightness and contrast through super-wide WUXGA**

The display utilises a wide WUXGA (1920x1200) LCD panel that offers high brightness and contrast.

### **Natural gradation and accurate colour reproduction**

In order to ensure images have a smooth, natural gradation, the LMD-2451MT uses an advanced 10-bit digital video signal processor.

### **Gamma curve selection**

The LMD-2451MT offers users the choice of DICOM or CRT 2.2. as sometimes, the accuracy of images does require a different gamma curve.

### **Multiple display modes**

A choice of different display modes includes picture-out-picture, side-by-side split screen, zooming, and viewing live video all help to view images simultaneously.

### **Mirror image**

The surgeon's assistant can view a mirror image of the surgeon's own display, in order to assist with more convenient manoeuvring of the camera.

## Protected controls

In such a sensitive environment, it is vital to prevent inadvertent operation from the control panel. The LMD-2451MT's key-inhibit function helps to remove this risk.

## Compliance with medical standards

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.

## Specifications

### Picture Performance

Type	a-Si TFT Active Matrix LCD with an AR-coated protection panel
Resolution	1920 x 1200 pixels (WUXGA)
Effective picture size (H x W)	518.4 x 324.0 mm (20 1/2 x 12 7/8 inches)
Effective picture size (diagonal)	613.2 mm (24 1/4 inches)
Aspect	16:10
Colors	Approx. 16.7 million colors (8-bit)
2D Viewing angle	89°/89°/89°/89° (typical) (up/down/left/right contrast >10:1) 50° at a viewing distance more

3D Viewing angle                    than 300 mm, crosstalk less than 7% (typical)

## Input

Composite                            BNC (x1), 1.0 Vp-p  $\pm$ 3dB sync negative

Y/C                                      Mini DIN 4-pin (x1)

Y: 1.0 Vp-p  $\pm$ 3dB sync negative,

C: 0.286 Vp-p  $\pm$ 3dB (NTSC burst signal level),

0.3 Vp-p  $\pm$ 3dB (PAL burst signal level)

RGB, Component                    BNC (x3)

RGB : 0.7 Vp-p  $\pm$ 3dB (sync on green, 0.3 Vp-p sync negative)

Component : 0.7 Vp-p  $\pm$ 3dB (75% chrominance standard color bar signal)

DVI-D                                    DVI-D (x1)

TMDS single link

HD15                                    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
External sync	BNC (x1)
	0.3 Vp-p to 4.0 Vp-p $\pm$ 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)
DC in	DC 5V / 24V (output impedance 0.05 ohms or less)

## Output

Composite	BNC (x1), loop-through, with 75 ohms automatic termination
	Mini DIN 4-pin (x1) loop-through,

Y/C	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

## General

Power requirements	DC IN: 24 V 5.0 A, 5 V 0.030 A (supplied from AC adapter)
	AC adapter (Sony, AC110MD)
	AC IN: 100 V to 240 V, 50/60 Hz, 1.53 A to 0.58 A
	DC OUT: 24 V 5.0 A, 5 V 0.060 A
Power consumption	Maximum: approx. 136 W (with 2 x BKM-229X)
Operating temperature	0°C to 35°C (32°F to 95°F)
Recommended	20°C to 30°C (68°F to 86°F)
Operating humidity	30% to 85% (no condensation)
Storage and transport	-20°C to +60°C (-4°F to +140°F)

temperature

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Storage and transport humidity	0% to 90% (no condensation)
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Operating, storage, and transport pressure	700 hPa to 1060 hPa
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Dimensions (W x H x D)	602.4 x 386.2 x 110 mm (23 3/4 x 15 1/4 x 4 3/8 inches) (including projections)
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Mass	8.7 kg (19 lb 3 oz) (with 2 x BKM-229X) AC adapter (AC110MD) 1.2 kg (2 lb 10 oz)
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## Supplied Accessories

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AC Adaptor (AC-110MD) (1)

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AC power cord (1)

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AC plug holder (2)

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3D Eye Shield Kit (CFV-E30SK) (1) •  
Frame (1) • 3D shield (3)

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Instructions for Use of the 3D Eye  
Shield Kit (1)

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L/R labels (1)

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Before Using This Unit (1)

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CD-ROM (including the  
Instructions for Use) (1)

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Service Contact List (1)

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Information for Customers in  
Europe (1)

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## Related products



### **BKM- 250TGM**

3G/HD/SD-SDI Input  
Adaptor



### **BKM- 256DD**

Medical grade option  
board for medical  
monitors



### **BKM-30G**

Lightweight circular  
micro polarizer 3D  
glasses



### **BKM-31G**

Lightweight circular  
micro polarizer 3D  
glasses (clip-on)



### **SU-560**

Stand specifically  
designed for medical  
monitors, working  
with LMD-1951MD,  
LMD-2451MD and PVM-  
2551MD



### **MCC- 3000MT**

3D Full HD Medical  
Video Camera



## Gallery

