

## BVM-E251

24.5-inch TRIMASTER EL™ OLED critical reference monitor with wide viewing angle supports 4K production



### Overview

#### **24.5-inch TRIMASTER EL™ reference monitor, with 2nd Gen OLED. Dramatically improved viewing angle for critical picture evaluation in the studio and on-set**

For professional applications such as colour grading, high-end editing, broadcasting and scientific research, Sony's leading edge Organic Light-Emitting Diode (OLED) technology and signals processing technology ensures absolutely outstanding performance with the BVM-E251. The colour shift depending on the viewing angle has reduced to less than half compared the 1st generation OLED panel. It allows several people to evaluate the image with extreme accuracy at the same time, increasing the monitor's versatility in top end monitoring solutions.

#### **24.5-inch TRIMASTER EL™ reference monitor with second generation OLED offers dramatically improved viewing angle for critical picture evaluation in the studio and on location**

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image with extreme accuracy at the same time, increasing the monitor's versatility in top end monitoring situations.

## **State-of-the-art product**

Super Top Emission technology enhances OLED's intrinsic benefits to deliver outstanding black performance, a quick response time with virtually no motion blur and a wide colour gamut. A 12-bit output digital signal processing engine provides a nonlinear cubic conversion colour-management system that delivers precise colour reproduction, stunning picture uniformity, smoother-than-ever gamma performance and picture quality consistency.

## **Flicker free mode**

The TRIMASTER EL OLED panel's superb quick response and scan-driving performance deliver stunning picture quality with virtually no motion blur. However, there is a possibility that flicker is just visible especially when a lower frequency signal is displayed (24p, 24PsF, and 50i). To remove visible flicker, the BVM-E251 is equipped with Flicker-free mode.

## **DC operation with DC low power indicator\***

The BVM-E251 can be DC operated and features a DC low power indicator. This feature gives more flexibility and mobility to users who want the larger size screen for the on-set application.

\* Requires v1.1 update.

## **ITU-R BT.2020 support for 4K production**

The BVM-E251 conforms to ITU-R BT.709 colour space. Responding to an increase of the demand of using an HD monitor in a 4K production, BVM-E251 also supports the ITU-R BT.2020 colour space and transfer matrix.

## **Accepts computer signals via HDMI with RGB/YCC full range support\***

The BVM-E251 accepts various computer signals input up to 1920 x 1080 through its HDMI connector. It also accepts Digital Cinema

2048 x 1080 signals. The monitor supports the HDMI specification for RGB/YCC full range.

\* Requires v1.1 update.

## Features

### **Superb picture performance**

Sony TRIMASTER EL™ technology combines the ultimate performance of the Sony OLED display with the highly sophisticated TRIMASTER™ technology to provide the highest level of picture performance:

Wide viewing angle

Accurate black reproduction

High purity and accurate colour reproduction

Quick response time with virtually no motion blur

Very high contrast ratio

### **Flicker-free mode**

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### **Super Top Emission™ technology**

Sony's Super Top Emission™ technology has a micro-cavity structure which incorporates colour filters. The micro-cavity structure uses an optical resonance effect to enhance colour purity and improve light-emission efficiency. In addition, the colour filter of each RGB further enhances the colour purity of emitted light and reduces ambient light reflection.

### **Ultimate Sony display engine**

The monitor's high-precision signal processing engine has been developed to fulfil the reference monitor criteria and is optimized to maximize the OLED panel performance. This engine

incorporates 12-bit output accuracy at each process and provides both a high quality I/P conversion algorithm and a highly accurate colour management system.

### **Multi-format signal support**

The BVM-E251 monitor can accept almost any SD or HD video format, such as analogue composite video, HDMI and SDI, and variable computer signals through HDMI. The monitor supports the HDMI specification for RGB/YCC full range\*.

\* Requires v1.1 update.

### **Auto White Balance function**

The colour temperature and white balance of BVM Series monitors can be automatically adjusted by the Auto White Balance function using specified colour temperature probes, such as

Konica Minolta: CA-210, CA-310, CS-200

DK-Technologies: PM5639/06

X-Rite: i1 (Eye-One) Pro and i1Pro2

Photo Research: PR-655, PR-670

Klein: K-10

Jeti: Specbos 1211

### **High quality I/P conversion technology**

The BVM-E251 monitor uses a sophisticated I/P conversion technique that keeps artefacts that are often seen in flat panel displays to a minimum, such as edge jaggedness, conversion errors, etc

### **Low video delay**

The BVM-E251 display engine ensures a picture delay that is less than one field.

### **Panel calibration**

Every BVM-E251 monitor is carefully calibrated at the factory on an individual basis, providing a high level of accuracy and stability for characteristics such as gamma and uniformity.

## **Interlaced display mode**

Faithfully reproduces interlaced signals, emulating CRT monitors.

## **Picture & Picture mode**

The unique Picture & Picture function of the BVM-E251 allows simultaneous display of two input signals on the monitor's screen. This function is extremely convenient for making instant adjustments to two input sources. Four modes are available to provide users with enhanced operational flexibility: Side by Side, Wipe, Butterfly and Blending.

## **Pixel zoom mode**

A selected area of the displayed picture can be enlarged on a pixel basis, up to eight times in size both vertically and horizontally.

## **Gamut Error Display function**

BVM-E171 incorporates a Gamut Error Display function that detects irregular signal input.

## **S-Log3 (SDR) and S-Log2 (SDR) EOTF**

BVM-E251 incorporates EOTF tables to reproduce images captured using S-Log3(SDR) and S-Log2(SDR). These are techniques used in Sony's digital cinematography cameras that allows the full latitude of the camera sensor to be maintained throughout the production chain.

## **2K picture resolution**

The 2048 Image Slide function of the BVM-E251 allows 2K resolution (2048 x 1080 pixels) images to be mapped, pixel-to-pixel, on the Full HD (1920 x 1080 pixels) panel without picture degradation. The monitor is equipped with a slide function that allows the display of missing pixels in native mode from the left and right part of the picture.

## **Scan Switch function**

The Scan Switch function allows switching between under scan

(-3%), normal scan (0%), and over scan (5%).

### **Native Scan (pixel-to-pixel display)**

The Native Scan function is a unique display mode that reproduces images without changing the input signal's pixel count.

### **HD Frame Capture function**

The HD Frame Capture function of the BVM Series allows a picture frame from the 3G-SDI and HD-SDI input to be captured and saved as a picture file on a USB memory media (via the BKM-17R). This picture file can be used as a reference for various purposes, for example, for picture-tone adjustments between past images and for camera-framing adjustments.

### **Separate control unit with USB memory slot**

A separate BKM-17R monitor control unit is available for the BVM-E251. It is equipped with a USB Memory slot enables users to download and save all monitor set-ups such as input channel configuration, control preset adjustments, white balance settings and maintenance parameters. This is useful for multiple monitor systems, allowing the transfer of one monitor's setup and adjustment data to another. This data can also be transferred via the BVM's Ethernet connection.

### **Centralised monitor-wall control**

The BVM Series monitors and the BKM-17R are equipped with an Ethernet port, allowing remote control of display parameters across a standard Ethernet connection. One BKM-17R Monitor Control Unit can control up to 32 BVM monitors.

### **DC operation with DC low power indicator\***

The BVM-E251 can be DC operated and features a DC low power indicator. This feature gives more flexibility and mobility to users who want the larger size screen for the on-set application.

\* Requires v1.1 update.

## **Character Off button**

To facilitate parameter adjustments, the On-Screen Menu indication can be taken off the screen, while in Menu mode. The On-Screen Menu indication can be toggled on or off with a simple press of a button on the BKM-17R's front panel.

## **+12dB Chroma UP function**

A Chroma UP button located on the front panel of the BKM-17R allows the chroma level to be boosted by +12dB. This is a convenient feature for adjusting camera white balance with a higher degree of accuracy.

## **Marker settings**

BVM Series monitors can display various markers, including an aspect marker, safe area marker and centre marker. In addition to this flexible selection of marker types, detailed display settings of each marker are offered. For example, the colour, brightness, horizontal/vertical position and width of aspect markers can all be controlled, while the height and width of safe area markers can be adjusted.

## **Aspect switch**

The aspect ratio can be switched between 4:3, 16:9, 2.39:1 and 1.896:1 depending on the input signal.

## **Wide variety of functions**

The user has a wide variety of over 40 functions to choose from. Each of these can be assigned to any of the 16 function buttons (F1 to F16) on the BKM-17R. Press ENTER to display the F1 to F8 (or F9 to F16) button assignment on screen.

## **Status display**

Simply assign STATUS to one of the function buttons (F1 to F16) on the BKM-17R. The user can instantly grasp the whole monitor status and configurations without having to search through menus.

## Copy function for monitor setup and adjustment data

The optional BKM-17R Monitor Control Unit includes a USB Memory slot to save and load monitor configuration and adjustment settings. This is useful for multiple monitor systems, allowing the transfer of one monitor's setup and adjustment data to another. This data can also be transferred via the BVM's Ethernet connection.

## Specifications

### Picture Performance

Panel	OLED panel
Picture size (diagonal)	623.4 mm (24 5/8 inches)
Effective picture size (H x V)	543.4 x 305.6 mm (21 1/2 x 12 1/8 inches)
Resolution (H x V)	1920 x 1080 pixels (Full HD)
Aspect	16:9
Pixel efficiency	99.99%
Panel drive	RGB 10-bit
Panel frame rate	48 Hz / 50 Hz / 60 Hz (48 Hz and 60 Hz are also compatible with 1/1.001 frame rates)
Viewing angle (panel specification)	89°/89°/89°/89° (typical) (up/down/left/right contrast >10:1)



	100 cd/m <sup>2</sup> (preset1 to preset5 at EOTF 2.4)
Standard luminance	48 cd/m <sup>2</sup> (preset (DCI)) (1.0 Vp-p reference signal, 100% white signal input)
Colour temperature	D55, D61, D65, D93, DCI*1, DCI XYZ and user 1-5 (5,000 k to 10,000 k adjustable)
Colour space (colour gamut)	ITU-R BT.2020*2, ITU-R BT.709, EBU, SMPTE-C, DCI-P3*2, BVM-E251 Native*3, S-Gamut/S-Gamut3*2, S-Gamut3.cine*2
Transmission Matrix	ITU-R BT.2020 (Non-constant luminance is supported), ITU-R BT.709, ITU-R BT.601, SMPTE 240M
EOTF	2.2, 2.4, 2.6, CRT, S-Log3(SDR), S-Log2(SDR)

## Input

SDI	BNC (x2)
HDMI	HDMI (x1) (HDCP correspondence, deep colour correspondence)
Composite Video	BNC (x1)

Parallel remote	RJ-45 modular connector 8-pin (x1) (Pin-assignable)
Serial remote (LAN)	Ethernet (10BASE-T/100BASE-TX), RJ-45 (x1)
DC Input	XLR (x1)

## Output

SDI	BNC (x2)
Composite Video	BNC (x1)
DC 12V out	Circle 4-pin (female) (x1)

## General

Power requirement	AC 100 V to 240 V, 1.2 A to 0.6 A, 50/60 Hz, DC 24 V to 28 V, 4.5 A to 3.9 A
Power consumption	Approx. 117 W (AC power supply) (max.) Approx. 55 W (AC power supply) (average power consumption in the default status) 0.3 W in off-mode (When the Power switch is off)
Off Mode Activated	After About 60 Minutes

Operating Pressure	700 hPa to 1060 hPa
Dimensions (W x H x D)	(W x H x D) 576.0 x 424.0(408.0)* x 148.0 mm (22 3/4 x 16 3/4(16 1/16)* x 5 7/8 inches)
	* Height without legs
Mass	Approx. 10.3 kg (22 lb11 oz)
Supplied accessories	AC power cord (1), AC plug holder (1), Before Using This Unit (Japanese, English 1), HDMI cable holder(1)

## Notes

\*1 DCI: x=0.314 y=0.351

\*2 The BVM-E251 does not support the ITU-R BT.2020, DCI-P3, S-Gamut/S-Gamut3 and S-Gamut3.cine colour space in full.

\*3 The BVM-E251 individual chromaticity points. The widest colour space setting of the signal is reproduced by the BVM-E251.

## Related products



### **BVM-X300 V2**

30-inch 4K  
TRIMASTER EL™ OLED  
critical reference  
monitor



### **PVM-X550**

55-inch 4K  
TRIMASTER EL™ OLED  
high grade picture  
monitor



### **BVM-E171**

16.5-inch TRIMASTER  
EL™ OLED critical  
reference monitor  
with wide viewing  
angle supports 4K  
production



### **BVM-E251**

24.5-inch TRIMASTER  
EL™ OLED critical  
reference monitor  
with wide viewing  
angle supports 4K  
production



### **PVM-A250 v2.0**

25-inch TRIMASTER  
EL™ OLED high grade  
picture monitor



### **PVM-A170 v2.0**

17-inch TRIMASTER  
EL™ OLED high grade  
picture monitor

## Gallery

