SONY

# BVM-E171

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


SR Live for HDR HDR

## Overview

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

TRIMASTER EL™ reference monitor with 2nd Gen OLED panel. 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-E171. The colour shift depending on the viewing angle has reduced to less than half compared to 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.

### HDR images support

With v1.1 update and optional BVML-HE171 HDR licence, the BVM-E171 supports fantastic HDR images. The HDR licence activates EOTF 2.2, 2.4, 2.6 CRT, S-Log3(HDR), S-Log3(Live HDR), S-Log2(HDR), ITU-R BT.2100(HLG), SMPTE ST2084, 2.4(HDR).

### 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-E171 is equipped with Flicker-free mode.

### DC operation with DC low power indicator*

The BVM-E171 can be DC operated and features a DC low power indicator. Due to its lightweight and slim design, the BVM-E171 is ideal for field applications.

* Requires v1.1 update.

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

BVM-E171 is surely an HD monitor that conforms to ITU-R BT.709 color space.

Responding to an increase of the demand of using an HD monitor in a 4K production, BVM-E171 newly supports ITU-R BT.2020 color space and transfer matrix.

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

The BVM-E171 accepts various computer signals input up to 1920 x 1080 through its HDMI connector. It is also equipped with Digital Cinema 2048 x 1080 signals.
*Requires v1.1 update.

**This product contains pre-installed software and requires the purchase of licence keys to activate some functions.**

## 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**
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-E171 is equipped with Flicker-free mode.

**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-E171 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**
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-E171 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-E171 display engine ensures a picture delay that is less than one field.

### Panel calibration
Every BVM-E171 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-E171 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
BVM-E171 incorporates a Gamut Error Display function that detects irregular signal input.

### HDR production support
With v1.1 update and optional BVML-HE171 HDR licence*, the BVM-E171 supports HDR images. The HDR licence supports EOTF 2.2, 2.4, 2.6 CRT, S-Log3(HDR), S-Log3(Live HDR), S-Log2(HDR), ITU-R BT.2100(HLG), SMPTE ST2084, 2.4(HDR).

* BVML-HE171 HDR licence available separately. Monitor must be updated to v1.1 first. The HDR features are activated via the BKM-17R monitor control unit.

### 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.

* When not activated by BVML-HE171.

### 2K picture resolution
The 2048 Image Slide function of the BVM-E171 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-E171. 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-E171 can be DC operated and features a DC low power indicator. Due to its lightweight and slim design, the BVM-E171 is ideal for field applications.

* 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) | 420.0 mm (16 5/8 inches) |
| Effective picture size (H x V) | 365.8 x 205.7 mm (14 1/2 x 8 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) |
| Standard luminance | 100 cd/m2 (preset1 to preset5 at EOTF 2.4)<br>48 cd/m2 (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-E171 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 |
| EOTF | 2.2, 2.4, 2.6, CRT, S-Log3(SDR), S-Log2(SDR)<br>2.2, 2.4, 2.6, CRT, S-Log3(HDR), S-Log3(Live HDR), S-Log2(HDR), ITU-R BT.2100(HLG), SMPTE ST2084, 2.4(HDR) when BVML-HE171 activates the HDR monitoring features. |

| 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-4 pin (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, 0.9 A to0.5 A, 50/60 Hz, DC 24 V to 28 V, 3.3 A to 2.9 A |
| Power consumption | Approx. 88 W (AC power supply) (max.)<br>Approx. 53 W (AC power supply) (average power consumption in the default status) |
| Dimensions | (W x H x D) 436.0 x 282.4 (266.4)* x156.5 mm (17 1/4 x 11 1/4 (10 1/2)* x 6 1/4 inches)<br>* Height without legs |
| Mass | Approx. 6.5 kg (14 lb5 oz) |
| Supplied accessories | AC power cord (1), AC plug holder (1), CD-ROM (1), Before Using This Unit (Japanese, English 1), HDMI cable holder(1), Handle(1), Rack mount brackets(L 1, R 1) |

## Notes

| | |
|---|---|
| *1 | DCI: x=0.314 y=0.351 |
| *2 | The BVM-E171 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-E171 individual chromaticity points. The widest colour space setting of the signal is reproduced by the BVM-E171. |

## Related products


**PVM-X550**

55-inch 4K TRIMASTER EL™

**BKM-17R**

Monitor Control Unit


**BVM-X300 V2**

30-inch 4K TRIMASTER EL™


**BVML-HE171**

HDR monitoring licence for

OLED high grade picture monitor

OLED critical reference monitor

BVM-E171 TRIMASTER EL™ OLED critical reference monitor

## HXC-FB80

Three 2/3-inch Exmor™ CMOS sensor HD colour studio camera

## BVM-E251

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

## PXW-Z750

4K 2/3-type 3-chip CMOS Shoulder-mount Camcorder with global shutter, high sensitivity, 4K/HD simultaneous recording, 120p HFR in HD, 12G-SDI and advanced wireless workflow capabilities

## Gallery