

# PVM-740

Professional Video Monitor

**SONY**  
make.believe



Even a lifetime spent looking at the finest monitors will not prepare you for the PVM-740, Sony's first professional video monitor to incorporate an Organic Light-Emitting Diode (OLED) display. The OLED panel will rivet your attention, amaze your colleagues and establish an entirely new benchmark in professional monitoring.

Built with Sony's proprietary Super Top Emission™ technology, the OLED panel does so many things, so well. Blacks are incredibly deep and specular highlights are intensely powerful. As a result, contrast is so striking, even non-technical people sit up and take notice. On scenes with city lights against a night sky, the PVM-740 produces a picture you simply must experience first-hand. Sony OLED technology is also superbly responsive, for faithful rendering of fast-action sports, camera whip-pans and text scrolling. And with exceedingly low reflection of ambient light, the picture remains gorgeous from the dim light of the control room to exterior day location shoots. These are capabilities that leave even cherished CRT monitors far behind.

The PVM-740 incorporates a 7.4-inch screen (188 mm viewable area, measured diagonally) and offers 960 x 540 resolution. Sony complements the OLED panel with a superb, 10-bit panel driver and ChromaTRU™ technologies. These emulate the colors and gamma of CRT monitors and support color gamuts including SMPTE-C, EBU and ITU-R BT.709. Standard inputs can handle composite video, SD-SDI, HD-SDI, 3G-SDI and HDMI™ sources across the range of signal formats from PAL and NTSC up to 1080/50P and 60P. Sony even supports portable applications with a die-cast aluminum chassis and AC/DC operation. This is a total package.

In this way, the PVM-740 is going to rewrite the rules in professional video monitoring. From the editing studio to the outside broadcast van, from newsgathering to field production and digital cinematography, even research and development, the Sony PVM-740 will be the compact monitor of choice.

**STE**  
SUPER TOP EMISSION

## // Unprecedented picture performance

Take the high resolution, geometric accuracy, compact size and freedom from reflections that you expect from LCD monitors. Then add the deep blacks, rich contrast and instantaneous response you associate with CRT monitors. The organic light-emitting diode (OLED) panel of the PVM-740 is all of this, and much more.

OLEDs are a special class of light emitting diodes made of organic compounds—with the same six-carbon rings as living matter. Unlike LCDs, which can only transmit or block externally generated light, OLEDs generate their own light, responding to electrical current within millionths of a second. The result is a revolution in picture quality.

### Incredibly deep black, high contrast

When an OLED pixel is off, it's completely off, emitting no light when no electric current is applied. This results in blacks that are even deeper than those of CRT monitors. In this way, PVM-740 reproduces the deep black of a night scene with amazing accuracy and will not raise the black portion of an image even in a low-illumination edit suite. While the black is deep, peak brightness is higher than full-field white, for brilliant reproduction of fireworks, nighttime skylines and even stars in the night sky. In addition, low reflection enables the PVM-740 to reproduce delicate, clear images in exterior day location shoots, performance that CRTs and LCDs would be hard-pressed to equal.

Sony makes the most of this extraordinary contrast range with a 10-bit panel driver that creates supremely lifelike, smooth dark-to-light gradations such as in the sky at sunset.



### Intense peak brightness

"Bottom emission" OLED emits light through the panel's TFT circuit, reducing light output. Sony's Super Top Emission™ structure emits light from the other side, increasing on-screen brightness. In addition, Sony created micro-cavities that improve efficiency and increase the brightness further still.

Unlike an LCD, but similar to a CRT, the peak brightness is higher than that of an all-white image. And the black is profoundly deep. In this way, the PVM-740 creates brilliant, sparkling images and reproduces textures with amazing dimension.



### Pure, deep color

Sony controls the spectrum of emitted Red, Green and Blue with carefully sized micro-cavities. Inside the cavities, optical resonance cancels unwanted color frequencies and boosts the desired Red, Green and Blue for exceptional purity.

Toward the surface, RGB color filters further enhance color purity, for a stunning picture. The color filters also minimize the reflection of ambient light. So you get deep color reproduction even in bright environments.



### Quick response with blur-free motion

Because the OLED electroluminescent layer inherently responds to electrical current, it emits light within millionths of a second. This means near instant response for fast-moving images. You'll see virtually blur-free pictures in all types of imagery, including sports broadcasting, rapid camera pans and text scrolling.



### High speed at low temperatures

Because Sony's electroluminescent layer is not liquid crystal, response speed is less affected by low temperatures and performance is maintained in cool climates.

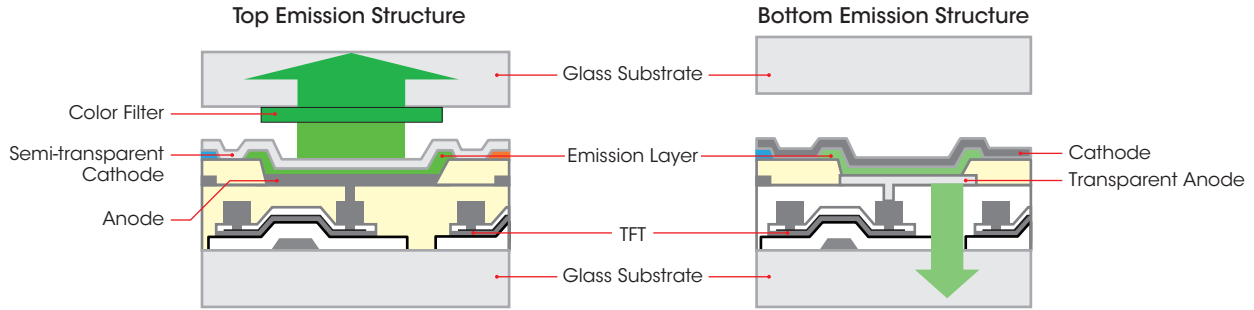
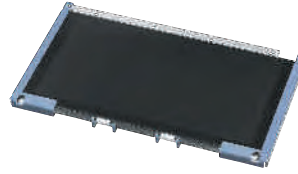
\* Operating temperature: 32°F to 104°F (0°C to 40°C)  
Operating humidity: 30% to 85% (no condensation)



# Sony's exclusive Super Top Emission (STE™) technology

Typical OLED panels use bottom emission. This employs a metal cathode and a chemical desiccant to protect the OLED layer from air and water. It requires the light output to pass through the Thin Film Transistor (TFT) layer, reducing overall output.

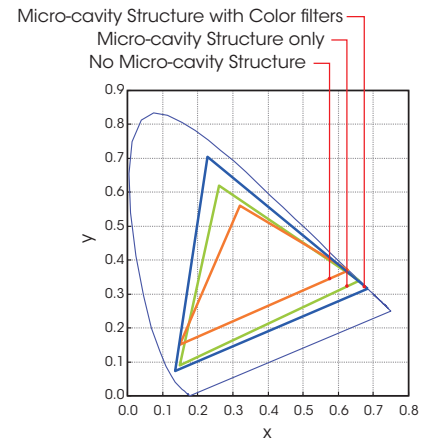
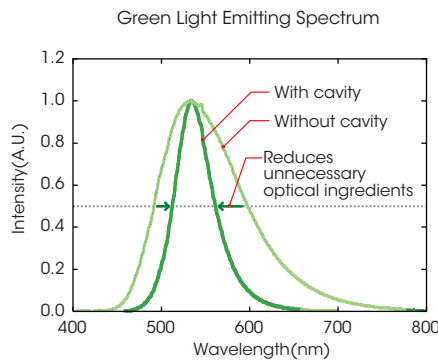
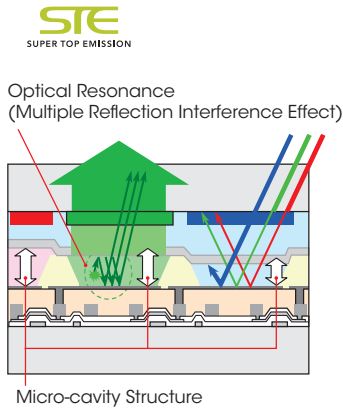
Sony's Super Top Emission™ structure emits light from the other side. This increases light efficiency, achieving higher screen brightness.



## Micro-cavities enhance color purity

Like CRT phosphors, the chemistry of OLED emission layers naturally produces Red, Green and Blue light. But Sony goes even further. Red, Green and Blue each have different wavelengths. Sony provides each color with a different emission layer thickness, corresponding to the desired

wavelength. These layers, called "micro-cavities" enable light to resonate inside, generating Red, Green and Blue light of substantially higher intensity and purity. In addition, RGB color filters reduce ambient light reflection and further enhance color purity.



## Fast motion without blur

Another distinguishing characteristic of Sony's Super Top Emission OLED panel is incredible response to fast motion. Because the OLED electroluminescent layer is not liquid crystal, it inherently responds to any electrical current input and emits light within millionths of a second. And the panel stays fast, even at low ambient temperatures.

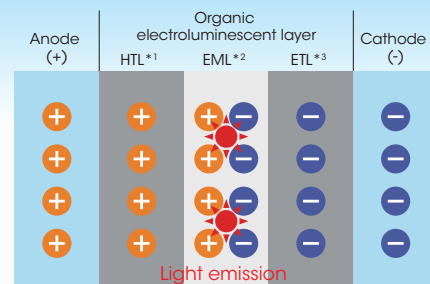
## Solid sealing structure

Sony's Super Top Emission OLED panel is completely sealed by glass substrates, and the electroluminescent layer is wholly isolated from outside air and water.

## How OLED works

At its heart, the organic LED panel incorporates a hole transport layer (HTL), emissive layer (EML), and electron transport layer (ETL). These are sandwiched between an anode and cathode.

When an electric current is applied to the anode and cathode, holes and electrons are sent into the emissive layer (EML). These holes and electrons recombine, stimulating the organic molecules of the EML to generate light.



\*1 HTL: Hole transport layer \*2 EML: Emissive layer  
\*3 ETL: Electron transport layer

## /// Accurate color reproduction and consistency

Sony uses a 10-bit panel driver and our ChromaTRU™ technology to match each individual OLED panel to the familiar colors of CRT monitors. Every PVM-740 monitor is precisely color-calibrated at the factory. ChromaTRU technology uses the calibration data to convert the native OLED color space to the colors and gammas of CRT monitors. In this way, the PVM-740 can achieve SMPTE-C, EBU, and ITU-R BT.709 broadcast-standard color gamuts.



emitted light, to feed back monitor results, and to adjust white balance. This ensures color and gamma consistency, and reduces user maintenance tasks.



8-bit (256-levels) image



10-bit (1024-levels) image

## /// Robust, Light-weight, and Compact body

The PVM-740 incorporates a light-weight, die-cast aluminum chassis with a detachable anti-reflection (AR) coated protection panel. The monitor quickly changes for use with or without the detachable stand, tilted at 15 degrees, mounted in an EIA rack or set on a camera pedestal.



PVM-740 without stand



PVM-740 with supplied stand



PVM-740 with supplied stand tilt (15°)

### VF-510 ENG Kit

With phenomenal blacks, intense highlights and superb contrast in bright environments, the PVM-740 is slam dunk for ENG and EFP. For further protection, the optional VF-510 ENG Kit provides a viewing hood, carrying handle and connector protector.



PVM-740 with VF-510 ENG kit

### Mounting Flexibility

The monitor is 3.8 rack units (RU) high and half-rack wide. You can install two monitors side-by-side in a 19-inch EIA standard rack using the optional MB-531 bracket, which enables 10-degree forward and backward tilt.



PVM-740 installed in the optional MB-531 19" mounting bracket with MB-532 mounting panel.

### Detachable AR (anti-reflection) protection panel

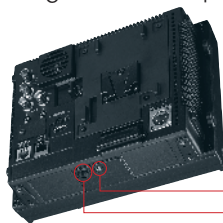
To resist scratches, the PVM-740 is supplied with a detachable protection panel. Robust anti-reflection (AR) coating minimizes reflection of ambient light while maximizing transmission to keep the picture as bright as possible. That's even further assurance that the PVM-740 will maintain high contrast, even when used in exterior day locations, even in dark areas of the picture.



Detachable AR-coated protection panel

### Screw holes for Camera Pedestal

The PVM-740 has 3/8-inch and 1/4-inch screw holes on the bottom, so you can install the monitor in a camera system, for example, by mounting on a camera pedestal.



PVM-740 rear and bottom

1/4 inch hole  
3/8 inch hole

### AC/DC Operation

You can power the PVM-740 three ways: with AC using the attached, dedicated AC adaptor; 12-Volt DC through the 4-pin XLR connector or DC from a BP style battery.



## // Convenient Features

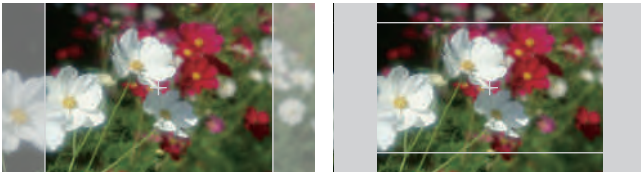
### Camera Focus Function

To assist camera focus, you can increase the aperture level and display images on the screen with sharpened edges. This camera focus function can even be enhanced when combined with native scan mode.



### Advanced Marker Settings

Whether you're shooting live sports, news, field production or digital cinematography, Sony's on-screen markers can help. The PVM-740 can display a center marker and a choice of aspect markers, which you can set at three levels of brightness: white, gray, and dark gray. You can also select either a black or gray matte to fill the area outside the aspect markers.

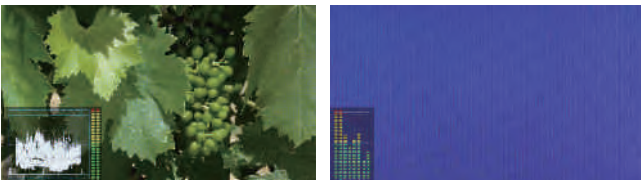


4:3 aspect marker image

16:9 aspect marker image

### Waveform monitor and Audio level meter display

The PVM-740 can display the input signal's waveform and audio level (SDI-embedded audio only). Choose waveform with 2-channel audio levels or audio-only metering for up to 8 channels.

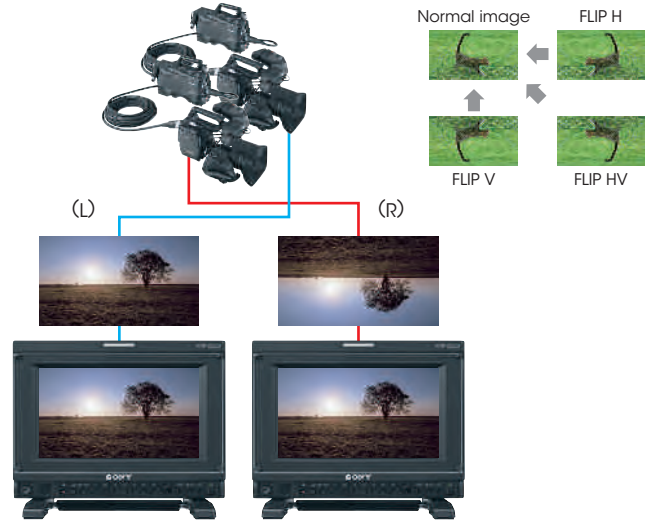


Waveform monitor

Audio level meter

### Flip Function

The PVM-740 monitor can flip the picture horizontally, vertically, or horizontally and vertically—all without frame delay. The feature is invaluable for 3D camera rigs with a pair of 2D monitors. You can connect the monitors directly to the cameras with no need for an external signal converter. This allows for simpler, smaller, lighter, more cost-effective systems.



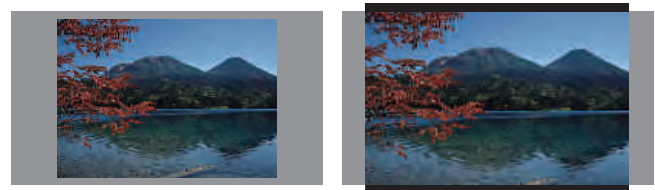
### Color Temperature

You can select color temperatures of 9300K, 6500K, or a user preset.

### Scan Setting and Native Scan Display

You can select scan size for Normal, 5% Over scan, Full scan, and Native scan modes. The aspect ratio can be switched between 16:9 and 4:3 according to the input signal.

Native Scan enables you to display images at the input signal's pixel count, mapping the pixel of the input signal onto the panel pixel-for-pixel. For example, the PVM-740 reproduces an SD signal at picture sizes of 646 x 487 pixels in 480i and 480p, and 768 x 540 pixels in 575i and 576p.



Native Scan image  
646 x 487 pixel (480i, 480p)

Native Scan image  
768 x 540 pixel (575i, 576p)

### Three-color Tally

The PVM-740 features a tally lamp controlled by the parallel remote connector. The tally lamp identifies the status of the signal by the colors red, green or amber.

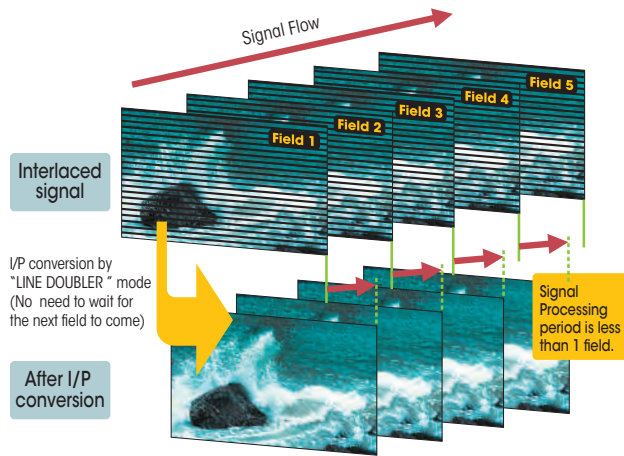
## Sophisticated I/P Conversion

Motion-adaptive interlace-to-progressive (I/P) conversion optimizes the picture whether the image is moving or still. You get accurate reproduction of both HD and SD sources.

### I/P Mode Selection

Three I/P conversion modes enable you to select the best one for your application:

- **Inter-Field:** Interpolates images between fields to maximize picture quality, minimize "jaggies" in areas of motion.
- **Field Merge:** Combines lines in the odd fields and even fields alternately regardless of picture motion. Recommended for PsF (Progressive Segmented Frame) sources and still images.
- **Line Doubler:** Interpolates by simply repeating each line. Recommended for editing and monitoring of fast-moving images and checking line flicker. This mode minimizes processing time, which is held to less than one field (0.5 frame).



## External Remote Control Function

You can control up to 32 PVM-740 monitors and up to four control units via Ethernet connection. The monitor enables you to select inputs and outputs, and adjust a range of settings. You're free to adjust individual monitors, groups of monitors or all connected monitors simultaneously.

## Power-saving Mode

To reduce power consumption, the monitor can automatically go into a power-saving Standby mode whenever no input signal has been detected for over a minute.

## Silent Mode

When the PVM-740 is used on a set with sound recording, Silent mode can stop the built-in cooling fan for noise-free operation.

## Customizable Control Panel

You can customize the PVM-740 for your specific application by assigning functions to the seven function buttons. The factory default functions are brightness, contrast, chroma, scan, H/V delay, volume and I/P mode.



PVM-740



Input selection buttons

Assignable function buttons

Default setting;  
 F1 (BRIGHTNESS)  
 F2 (CONTRAST)  
 F3 (CHROMA)  
 F4 (SCAN)  
 F5 (H/V DELAY)  
 F6 (VOLUME)  
 F7 (I/P MODE\*)

\*Picture Delay Minimum Mode

Up/down Volume &  
 Enter/set button

Enter/set button

Return button

Menu on/off button

PVM-740 Control Panel

## Input Versatility

### Multi-format Signal Support – up to 3G-SDI Input

The PVM-740 accepts almost any SD or HD video format, either analog or digital. The monitor incorporates various video interfaces as standard, including composite, an SDI input for SD-SDI, HD-SDI and 3G-SDI, plus an HDMI™ interface. With the 3G-SDI interface, PVM-740 accepts 1080/50P and 1080/60P formats over a single cable. This meets the SMPTE 425 standard, which transmits up to 4:2:2/10-bit 1080/60P and 1080/50P over one SDI cable. By anticipating upgrades to 1080P, 3G-SDI system is an ideal, future-proof solution.

The HDMI interface enables the PVM-740 monitor to connect with the growing population of HDMI-equipped professional video gear, including selected Sony XDCAM™, XDCAM EX™, NXCAM™ and HDV™ products. You can also connect consumer cameras and Blu-ray Disc™ players, ideal for video authoring or photo image previews.



### Full compatibility with professional HD equipment



### Easy connection with consumer products



## Signal Formats

System	Total lines	Active lines	Frame rates*3	Scanning	Aspect ratio	Signal standard		
						Analog	SDI (3G/HD/SD)	HDMI
575/50i (PAL)	625	575	25	2:1 interlace	16:9 & 4:3	ITU-R BT.470	SMPTE 259M	CEA-861
480/60i (NTSC)*3	525	483	30	2:1 interlace	16:9 & 4:3	SMPTE 170M	SMPTE 259M	CEA-861
576/50p	625	576	50	Progressive	16:9 & 4:3	-	-	CEA-861
480/60p*3	525	483	60	Progressive	16:9 & 4:3	-	-	CEA-861
640 x 480/60p*3	525	480	60	Progressive	4:3	-	-	CEA-861
1080/24PsF*1*3	1125	1080	24	Progressive (sF)	16:9	-	SMPTE RP211	-
1080/25PsF*2	1125	1080	25	Progressive (sF)	16:9	-	SMPTE RP211	-
1080/24p*3	1125	1080	24	Progressive	16:9	-	SMPTE 274M	CEA-861
1080/25p	1125	1080	25	Progressive	16:9	-	SMPTE 274M	CEA-861
1080/30p*3	1125	1080	30	Progressive	16:9	-	SMPTE 274M	CEA-861
1080/50i	1125	1080	25	2:1 interlace	16:9	-	SMPTE 274M	CEA-861
1080/60i*3	1125	1080	30	2:1 interlace	16:9	-	SMPTE 274M	CEA-861
720/50p	750	720	50	Progressive	16:9	-	SMPTE 296M	CEA-861
720/60p*3	750	720	60	Progressive	16:9	-	SMPTE 296M	CEA-861
1080/50p*4	1125	1080	50	Progressive	16:9	-	SMPTE 274M	CEA-861
1080/60p*3*4	1125	1080	60	Progressive	16:9	-	SMPTE 274M	CEA-861

\*1 Displayed as 1080/48i on the screen \*2 Displayed as 1080/50i on the screen \*3 Compatible with 1/1.001.

\*4 Compatible with 4:2:2 Y/Cb/Cr 10-bit of 3G-SDI

## Other features

- Auto chroma/phase function
- Blue only mode
- H/V delay mode
- On-screen menu
- Select language display
- Key inhibit function
- Monaural speaker

## Specifications

Picture Performance	
Type	OLED panel
Resolution	960 x 540 pixels (QHD)
Effective Picture Size(H x W) (Diagonal)	6 1/2 x 3 5/8 inches (164 x 92 mm) 7 1/2 inches (188 mm)
Aspect	16:9
Panel drive	RGB 10-bit
Viewing Angle	85°/85°/85°/85° (typical) (up/down/left/right contrast>10:1)
Input	
Composite	BNC (x1), 1.0 Vp-p ±3 dB sync negative
SDI	BNC (x1)
HDMI	HDMI (x1)
Audio	Stereo mini jack (x1) -5 dBu 47 kilohms or higher
Parallel remote	Modular connector 8-pin (x1) (pin-assignable)
Serial remote	RJ-45 modular connector (Ethernet) (x1) (10BASE-T/100BASE-TX)
DC in	DC 12 V (output impedance 0.05 ohms or less)
Output	
Composite	BNC (x1), loop-through, with 75 ohms automatic termination
SDI	BNC (x1), output signal amplitude: 800 mVp-p ±10%, output impedance: 75 ohms unbalanced
Audio monitor out	Stereo mini jack (x1)
Speaker (Built-in)	0.5 W (mono)
Headphone output	Stereo mini jack (x1)
General	
Power Requirement	AC 100 V to 240 V, 50/60 Hz, 0.5 A to 0.3 A, DC 12 V 1.9 A
Power Consumption	Maximum approx. 27 W
Operating Temperature	32°F to 104°F (0°C to 40°C) Recommended: 68°F to 86°F (20°C to 30°C)
Operating Humidity	30% to 85% (no condensation)
Storage / Transport Temperature	-4°F to +140°F (-20°C to +60°C)
Storage / Transport Humidity	0% to 90%
Operating / Storage / Transport Pressure	700 hPa to 1060 hPa
Dimensions (W x H x D) (with stand)	8 7/8 x 7 1/4 x 6 3/8 inches (222.4 x 183.5 x 161.8 mm) (when AC adaptor is attached)
Dimensions (W x H x D) (without stand)	8 7/8 x 6 5/8 x 2 7/8 inches (222.4 x 166 x 70 mm) (when AC adaptor is detached)
Weight	4 lb 6 oz (2.0 kg) 5 lb 12 oz (2.6 kg) (When AC adaptor is installed)
Supplied accessories	AC power cord (1), AC plug holder (1), AC power adaptor (1), Operating Instructions (1), CD-ROM (1), Using the CD-ROM manual (1), Warranty book (1)

## Optional Accessories



**MB-531**  
Mounting Bracket

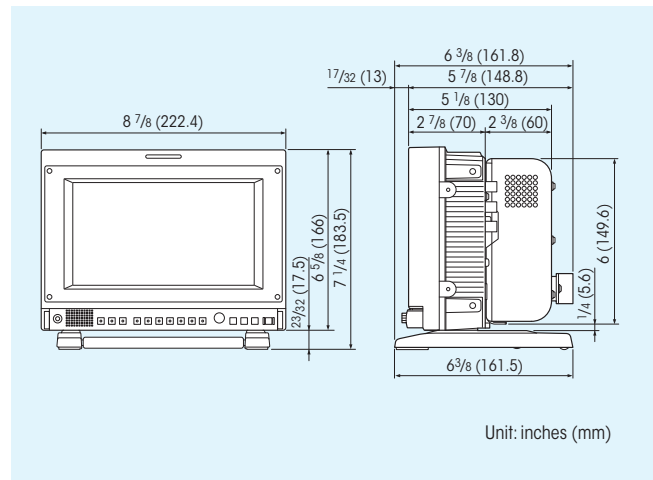


**MB-532**  
Mounting Panel



**VF-510**  
ENG Kit (Viewing Hood, Carrying Handle  
and Connector Protector)

## Dimensions



The PVM-740 is produced at Sony EMCS Corporation Inazawa Tec, which has received ISO14001 the Environmental Management system certification.

