SONY

Studio/OB/EFP Camera Family

BVP-E30 Series

BVP-E30
BVP-E30P
BVP-E30WS
BVP-E30WSP

Experience the Superb Picture Quality of Sony's 14-bit SDTV Portable Cameras

Since their first introduction in 2001, the Sony BVP-E10 Series digital portable cameras have been widely accepted for delivering outstanding results in SDTV-originated program creation. Responding to the diverse requirements in digital television agendas, the BVP-E10 Series has delivered superb-quality pictures and operational versatility in one cost-effective solution.

The BVP-E30/E30WS digital portable camera is the next generation of Sony's BVP Series. Specifically designed for even greater picture quality and enhanced operational convenience, there are two different cameras available: the BVP-E30 4:3 model and the BVP-E30WS 16:9/4:3 switchable model. Both of which use lead-free solder for soldering, and contain no halogenated flame-retardants used in the printed wiring boards, making the BVP-E30/E30WS a highly eco-friendly cameras.*

At the heart of the outstanding picture performance delivered by the BVP-E30 Series are the field-proven Power HAD™ EX CCDs and a totally new 14-bit A/D conversion circuit. These core devices offer switchable operation between progressive and interlace scanning while also giving excellent sensitivity, noise, and smear performance. A range of sophisticated features is incorporated in the BVP-E30 Series, providing highly creative yet easy-to-use functions. In addition, the BVP-E30 Series has outstanding system versatility. When combined with the Sony CA-570 Camera Adaptor and CCU-550D or CCU-700A Camera Control Unit, both models integrate seamlessly into current Sony camera systems from the very basic to the most complex. What's more, the BVP-E30 Series is compatible with the WLL-CA55 Wireless Camera Transmitter, providing the exceptional mobility to cover live events without the hassle of cables.

With excellent performance, a range of sophisticated features, and system versatility, BVP-E30 Series digital portable cameras are an ideal and affordable solution for the origination of a wide range of SDTV programs in the studio and for outside broadcasts.

*In this brochure, the BVP-E30 refers to both BVP-E30 for NTSC and BVP-E30P for PAL, while the BVP-E30WS refers to both BVP-E30WS for NTSC and BVP-E30WS for PAL.

Lens, viewfinder and
camera adaptor are optional.

Excellent Picture Quality

Power HAD EX CCDs

The BVP-E30 Series is equipped with state-of-the-art three-chip 2/3-inch type Sony Power HAD EX CCDs for a high horizontal resolution of 900* TV lines. This CCD imager also achieves a high sensitivity of F11, an excellent S/N ratio of 67 dB (NTSC)/65 dB (PAL), and a remarkably low smear level of -145 dB (typical) - allowing the BVP-E30 Series to make spectacular pictures even in the most difficult shooting environments.

*On BVP-E30 and BVP-E30P models

Power HAD EX CCD and an Innovative LSI

14-bit A/D Conversion

The BVP-E30 Series incorporates a high-resolution 14-bit A/D conversion circuit so that images captured by the Power HAD EX CCDs are processed with greater precision than conventional 10-bit or 12-bit A/D converters. In particular, this high-resolution A/D conversion allows the contrast to be reproduced more faithfully in both mid-to-dark-tone and bright areas of the picture.

Advanced Digital Signal Processing (ADSP)

The ADSP of the BVP-E30 Series uses more than 30 bits in its nonlinear process, minimizing round-off errors to maintain the high quality of the Power HAD EX CCDs. The ADSP also enables highly sophisticated image controls, such as knee saturation, adaptive highlight control and multi-matrix functions.

Stable Image Correction

Thanks to the inclusion of the 14-bit A/D converter, white balance, 3D white shading, and linear saturation can be digitally corrected, allowing for more stable image correction. For example, the BVP-E30 Series replaces the traditional use of vertical and horizontal saw-tooth and parabola waveforms for white-shading correction with digital 3D white-shading correction. A digital 3D multi-zone system, using numerous data points over the raster, creates a smooth correction topography that can far better handle the variations over many lens types.

CREATIVE IMAGE CONTROL

Knee Saturation Control

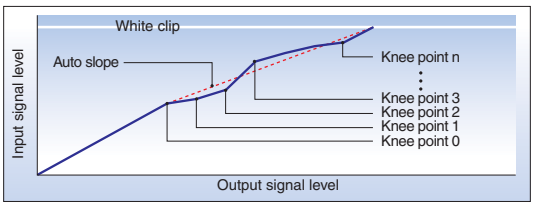
Traditionally, shooting very bright portions of an object (such as key light reflections from a person's forehead) can often reduce color saturation and change the hue. The BVP-E30 Series adopts a knee saturation control function in which this 'wash-out' effect on saturation and hue change is reduced to a minimum, providing a far more natural color reproduction in areas of high light.

Knee Saturation Off

Knee Saturation On

Adaptive Highlight Control (Auto Knee Mode)

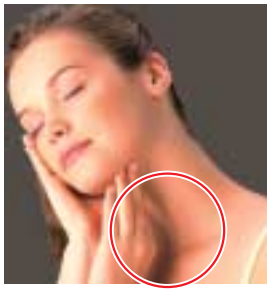
In conventional cameras, only a single knee-point/slope is available for control over highlights. The BVP-E30 Series, however, provides multiple knee-points/slopes for superb overexposure control. The camera detects the highly lit areas of a scene and automatically sets and optimizes multiple knee points/slopes accordingly. This allows the reproduction of extremely difficult images (such as an interior scene with a brightly sunlit window) with much more overexposure latitude. This function applies only to input video levels in excess of the knee point; the middle and low luminance parts of the video signal are unaffected.



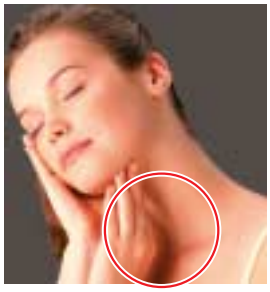
Knee Curve Image

Low Key Saturation

With conventional cameras, low-light areas can be subject to a reduction in saturation. This can result in the color in these areas being "washed out". The low key saturation function on the BVP-E30 Series eliminates this problem by optimizing the amplification of color saturation at low light levels, providing more natural color reproduction.



Low Key Saturation Off



Low Key Saturation On

Multi-Matrix Function

The multi-matrix function of the BVP-E30 Series allows color adjustments to be applied over the color range specified by the operator. The color spectrum is divided into 16 areas of adjustment, where the hue and/or saturation of each area can be modified. This function is especially useful when only the hue of certain colors needs to be adjusted for special-effects work.

Multi-Matrix Off

Multi-Matrix On

Enhanced Vertical Detail (Non-Additive Mix)

In conventional cameras, vertical detail signals are created using the Y-channel, G-channel or, more commonly, the R/G channels combined. Each method has its limitations, such as when the color channel selected to create the detail signal is at a low level. The BVP-E30 Series uses an adaptive image-enhancement method. This creates detail signals from each of the R/G/B components of the video signal, compares them, and then automatically selects the channel with the highest contrast level for use as the detail signal (Non-Additive Mix). This avoids the conventional restrictions of image enhancement observed above. The BVP-E30 Series can automatically correct the enhanced vertical detail but, if required, operators may manually select from the Y, G, or R/G image-enhancement modes.

Enhanced Vertical Detail Off Enhanced Vertical Detail On

Low Light Shooting

The BVP-E30 Series offers two convenient functions for capturing clear images in low-light environments - a slow shutter mode and gain function - which can be used separately or together. The slow shutter mode allows the charge accumulation period of the CCD to be extended to seven frames. The gain function allows the camera gain to be boosted to +42 dB. When used together, the camera offers a minimum illumination of 0.035 lx.

Adaptive Detail Control

The adaptive detail control automatically optimizes the amplitude of the detail signal for high-contrast picture edges. It also eliminates digital aliasing effects, offering very "natural" image enhancement during scenes in which there are severe changes in contrast.

Adaptive Detail Control Off Adaptive Detail Control On

Triple Skin Tone Detail Control

The BVP-E30 Series Skin Tone Detail function enables control of image enhancement within user-specified color tones. The BVP-E30 Series allows enhancement to be set independently for up to three distinct color and/or hue ranges. Skin Tone Detail correction is conventionally used to reduce the amount of detail control in areas of skin tone. With the BVP-E30 Series, correction is not restricted to skin tone and can be applied to any area of color. Image enhancement within the three areas can be increased or decreased relative to the overall image enhancement of a given scene.

Electronic Soft Focus

The BVP-E30 Series' electronic soft focus applies a similar effect to that of an optical soft-focus filter - but in a much more convenient way. Rather than increasing the level of the detail signal, this function reduces it - providing a picture that is "softer" than that achieved when detail is switched off completely. Electronic soft focus is also effective when used in conjunction with skin-tone detail to only change the sharpness within a specific color or hue range.

OPERATIONAL CONVENIENCE

1 Electronic and Optical CC Filter

The BVP-E30 Series cameras come equipped with electronic Color Correction, which replaces the need for optical Color Correction (CC) filters. So in the case of the BVP-30P, all the filters in the filter wheel can be Neutral Density (ND) types, providing the operator with greater flexibility in depth of field and exposure control. The BVP-E30/E30WS/E30WSP cameras have dual filter wheels with both ND and CC filters, but they are also equipped with electronic Color Correction, which gives operators the choice of correcting color temperature optically or electronically, according to their needs. In addition, the filter of the BVP-E30/E30WS/E30WSP can be servo-controlled, while the BVP-E30P is equipped with a manual filter wheel.

BVP-E30P ND Filter

2 Assignable Switch

The BVP-E30 Series has a dedicated 'assignable switch' available for functions frequently used in the field. Located near the filter wheel dial, this switch allows functions such as 5600K On/Off, 4:3/16:9 mode selection (BVP-E30WS/E30WSP only), and ATW On/Off to be assigned as required. Adding further operational convenience, the return viewfinder and intercom buttons located on the camera handle can be assigned to the servo zoom in/out function*. Assignment of all of the above functions is implemented via the menu system.

*Only lenses with a digital interface support this function.

Assignable Switch Near the Filter Wheel

Assignable Button on the Handle

3 Sophisticated Handle

A newly designed carrying handle offers good operator comfort and ensures optimum balance of the camera. The handle is made of light but highly durable die-cast material and includes a non-slip leather finish. In addition, the sophisticated design allows easy operation when the camera is docked with a camera adaptor, dockable VTR, and even with a studio-type lens and large viewfinder.

4 Auto Tracing White Balance (ATW)

The BVP-E30 Series features a convenient Auto Tracing White Balance (ATW) function, which automatically adjusts white balance as lighting conditions change. ATW is useful when shooting in rapidly changing lighting conditions, such as when moving from indoor to outdoor locations.

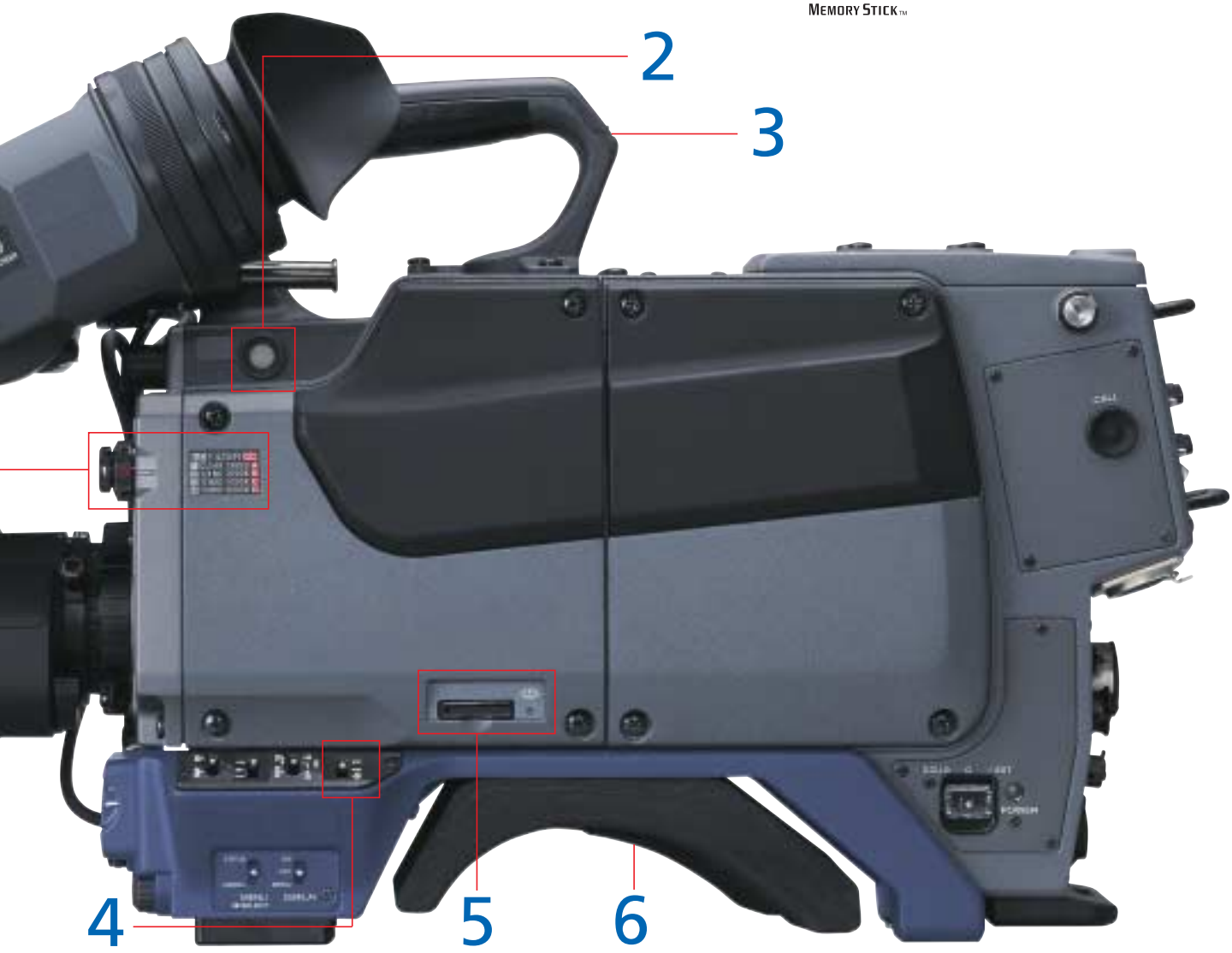
5 File Operation Using Memory Stick™ Media Card

The BVP-E30 Series incorporates the Sony Memory Stick system for the storage and recall of setup parameters. This is an effective, easy-to-use system for storing and recalling camera parameters for individual scenes or the individual preferences of a camera operator, including the settings of assignable switches.

MEMORY STICK™

6 Adjustable Shoulder Pad

The position of the shoulder pad on the BVP-E30 Series cameras can be easily adjusted without using a screwdriver - both forwards and backwards - to always provide the operator with a comfortable and well-balanced camera position, even when docked with a range of lenses or camera adaptors.



SYSTEM VERSATILITY

System Compatibility

The BVP-E30 Series is compatible with a variety of peripherals including camera adaptors, dockable VTRs, camera control units, remote controllers and a wireless camera transmitter. This allows operators to flexibly configure the system according to their needs both in the studio and out in the field. The BVP-E30 Series can be configured in four typical operation styles: Triax CCU, wireless transmission, fiber optic transmission and dockable VTR operation.

MSU-700A

CCU-550D with BKP-5973

Wide Band Triax Transmission System

With the CA-570/570P Triax Camera Adaptor attached, the BVP-E30 Series can be remotely controlled from the CCU-550D/550DP or CCU-700A/700AP Camera Control Unit using a Triax cable. The wide-band transmission system can maintain the high picture performance of the BVP-E30 Series, and offers cable runs of up to 2000 m via ϕ14.5 mm cable (1000 m via ϕ 8.5 mm cable) with return video and remote power.

Wireless Transmission System

By combining the BVP-E30 Series with Sony wireless camera systems WLL-CA55 and WLL-RX55, high-quality and stable wireless transmission for video/audio becomes available, providing the extra mobility for gathering news in the field or covering sports, concerts and other live events. This system also offers the transmission of camera control, intercom, and tally signals* - allowing highly mobile yet creative shooting opportunities. The use of a 2.4-GHz band transmission frequency allows operation of the wireless camera system without the need for a license in most countries.

*An optional WRR Series wireless microphone tuner and a WRT Series wireless microphone transmitter are required for the wireless transmission of camera control, intercom, and tally signals.

OPTIONAL ACCESSORIES

BVF-55/55CE
5-inch*
Monochrome Viewfinder

BVF-10/10CE
1.5-inch*
Monochrome Viewfinder

BVF-20W/20WCE
2-inch*
Monochrome Viewfinder

CA-950/950P
Camera Adaptor
(fiber optics)

CA-570/570P
Camera Adaptor (triax)

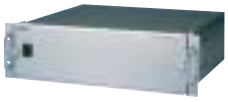
CCU-900/900P
Camera Control Unit

CCU-700A/700AP
Camera Control Unit

CCU-550D/550DP
Camera Control Unit
(an optional BKP-5973 CCU Control Panel is attached)

WLL-CA55
Wireless Camera Transmitter

WLL-RX55
Wireless Camera Receiver
(an optional RM-B750 Remote Control Unit is attached)



CNU-700/500
Camera Network Unit
(photo shows CNU-700)

VCS-700
Video Selector

MSU-700A
Master Setup Unit

MSU-750
Master Setup Unit

RM-B750
Remote Control Unit

RM-B150
Remote Control Unit

RCP-700/701
Remote Control Panel
(photo shows RCP-700)

RCP-750/751
Remote Control Panel
(photo shows RCP-750)

VCT-14
Tripod Adaptor

CA-905K/905F/905L
Large Lens Adaptor and 7-inch type viewfinder saddle (photo shows CA-905L/BKP-9057 with other Sony camera)

AC-550/550CE
AC Adaptor

AC-DN10
AC Adaptor

MSA-8A/16A /32A/64A
Memory Stick

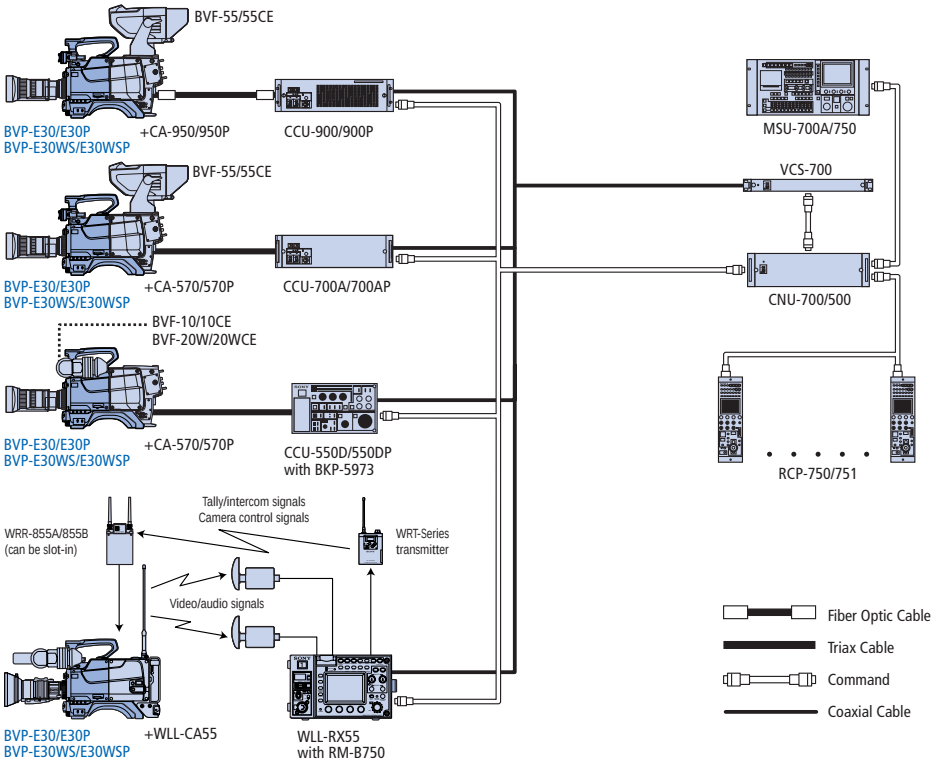
WRR-855A/855B
Wireless Microphone Receiver

WRT-8B/822A/822B
Wireless Microphone Transmitter (photo shows WRT-8B)

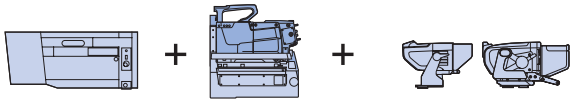
*viewable area measured diagonally

SYSTEM CONFIGURATIONS

Studio/OB Van System



BVP-E30 Series Configured with Studio Lens

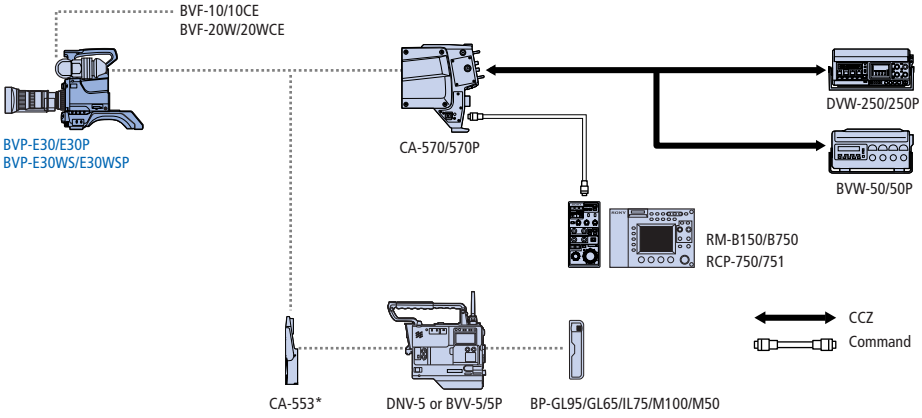


Studio Lens + BVP-E30/E30P+CA*+CA-905** BVP-E30WS/E30WSP + BVF-55 or BVF-77 with BKP-9057

*Either the CA-570 or CA-950 can be used in this configuration

*CA-905L – Fiber CA-905K/F – Triax

Portable System



*Minor modification of camera head is required to use the CA-553. Please contact your nearest Sony office or Sony dealer.
Some models in the above system configurations may no longer be available for purchase.

SPECIFICATIONS

		BVP-E30/E30P	BVP-E30WS/E30WSP
General			
Power consumption		13 W	
Operating temperature		-20 to +45 °C (-4 to +113 °F)	
Storage temperature		-20 to +60 °C (-4 to +140 °F)	
Dimensions (W x H x D)		125 x 285 x 291 mm (5 x 11 1/4 x 11 1/2 inches)	
Mass		Approx. 2.5 kg (5 lb 8 oz) (not including viewfinder)	
Camera			
A/D conversion		14 bits	
Optical system		F1.4 prism	
Image device		3-chip 2/3-inch type Power HAD EX CCD	
Total picture elements (H x V)	NTSC	1038 x 1008	
	PAL	1038 x 1188	
Smear (typical)		-145 dB	
Scan format	NTSC	59.94i/29.97PsF	
	PAL	50i/25PsF	
Built-in filters		1: CLEAR, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND (BVP-E30/E30P/E30WS/E30WSP)	
		A: CROSS, B: 3200K, C: 4300K, D: 6300K (BVP-E30/E30WS/E30WSP)	
Lens mount		Special bayonet mount (B4)	
Horizontal resolution (center)	16:9	–	700 TV lines
	4:3	900 TV lines	700 TV lines
Modulation depth (center)	16:9	–	80%
	4:3	80%	60%
Vertical resolution	NTSC	400 TV lines/450 TV lines (with EVS)	
	PAL	480 TV lines/530 TV lines (with EVS)	
S/N ratio (typical)	NTSC	67 dB	
	PAL	65 dB	
Sensitivity (2000 lx, 3200K, 89.9% reflectance) (typical)		F11	
Gain selection		-3, 0, +3, +6, +9, +12, +18, +24, +30, +36, +42 dB	
Set-up memory card		Memory Stick	
Shutter speed	NTSC	1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 (s)	
	PAL	1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 (s)	
Clear scan	NTSC	1/30* to 1/6000 (s)	
	PAL	1/25* to 1/6000 (s)	
Interface			
Input	Microphone	XLR 3-pin, -60 dBu	
Output	Test out	BNC, 1.0 Vp-p, 75 Ω, unbalanced	
Others	Lens	12-pin	
	Viewfinder	20-pin	
	Digital Interface	68-pin	
	Analog Interface	68-pin	
Supplied Accessories			
		Operation manual (x1), CD-ROM Operating instructions (x1), Label for assignable switch (1 set)	

*1/30 to 1/60 and 1/25 to 1/50 are on PsF mode

SONY

Lead-free solder is used for soldering.
Halogenated flame retardants are not used in the cabinets and the printed wiring boards.

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