SONY

PXW-FS5/FS5K

Solid-State Memory Camcorder

α Mount System   XDCAM   XAVC   Exmor CMOS Sensor   4K

Grab and shoot with handheld Super35

A handheld camera should be able to get you into tight places. To work in your lap. To move with the talent. To shoot high and low angles with equal agility. And a handheld camera should function beautifully against your chest comfortably steadied by your right hand with all the controls at your fingertips. Sony's extraordinary PXW-FS5 does all of this, and more.

Ultimate mobility

The FS5 is a radical re-imagining of the FS7 for unsurpassed on the go shooting in the most demanding of conditions. With a body-only weight less than half the FS7 at approximately 1 lb 13.2 oz, you can shoot almost anywhere. Handheld operation is simply exceptional as the superbly balanced chassis is easily configured to shoot from high to low angles thanks to a flexible, rotatable grip and a LCD viewfinder that can be mounted in up to nine locations.

Modular design for easy integration

The FS5 is designed to be taken apart quickly and easily, with no need for custom tools. There are also ¼-inch screw holes on handle, top and bottom of the body to support mounting on a drone, gimbal or in a underwater housing. For tripod mounting, there are both 1/4 and 3/8-inch screw holes on the bottom. You can even add the FS7's rosette mount* to securely attach an FS7 arm and compatible third-party accessories (sold separately).

* Rosette mount component available from Sony's service centers.
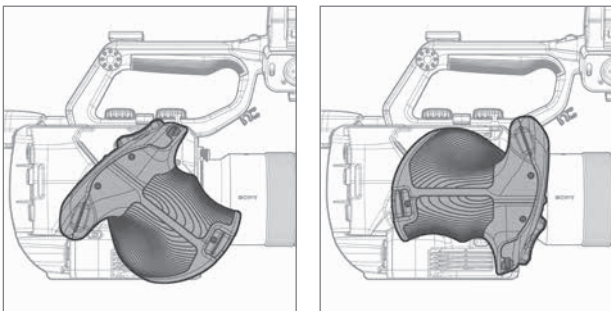
Rotatable grip

All of the FS5's key functions are put at your fingertips - from an electronic zoom lever to assignable dials and responsive joystick. The smart grip is located as close as possible to the center of gravity of the camera to avoid rolling, while a grip belt makes your hold completely secure. To adjust the smart grip's angle, you only need to press one button and turn. Detaching the grip is made fast and simple with a bayonet connection.
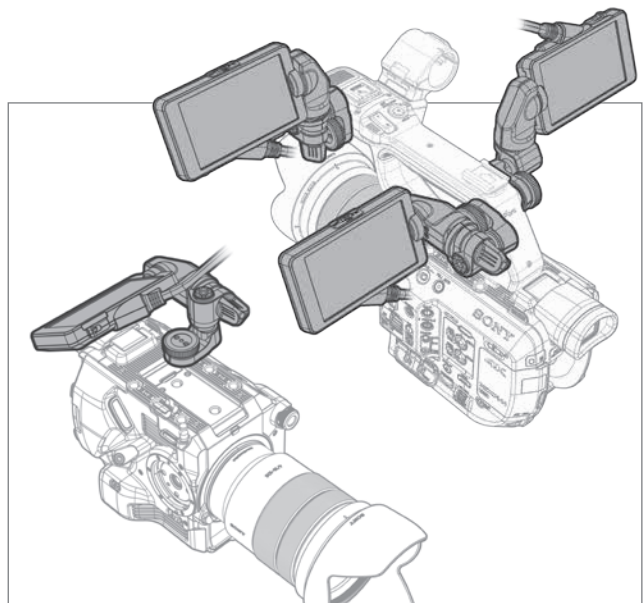
Versatile monitoring

However you want to shoot, the FS5 adapts to fit your style. Its 3.5-inch* LCD screen can be attached in up to nine different locations, three on top of the handle and another six on top of the body. And once attached, the positioning of the screen can be freely adjusted – for example either beside the camera body or directly along the axis of the lens.

* Viewable area measured diagonally.

Compact & reliable

Approximately
1 lb 13.2 oz

- Main circuit board
- Vertical heat sink
- Image sensor

Lightweight
Despite its amazingly light 1lb 13.2 oz body, the FS5 is more than tough enough for the rigors of real-world shooting. The main frame is magnesium, for high rigidity and light in weight. Cooling is must have necessity in a 4K camera, all the more so in a camera as compact as the FS5.
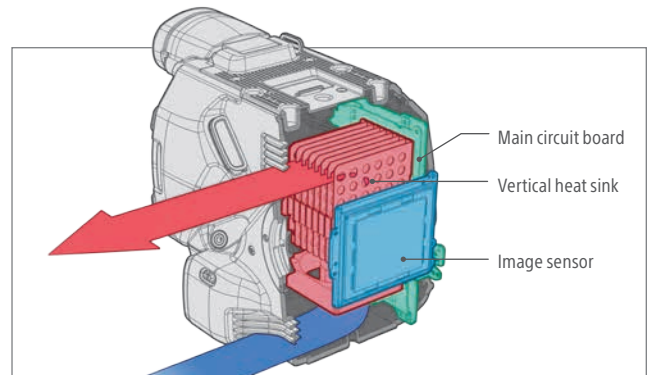
Durability
An advanced cooling system design features a vertical heat sink placed directly beside the image sensor and main circuit board to maximize its effectiveness. An air duct cools the heat sink while isolating the electrical components from exposure to dust.

Other features

+ LA-EA4 → E-mount Lenses / A-mount Lenses

+ Third party adaptor → Other Lenses
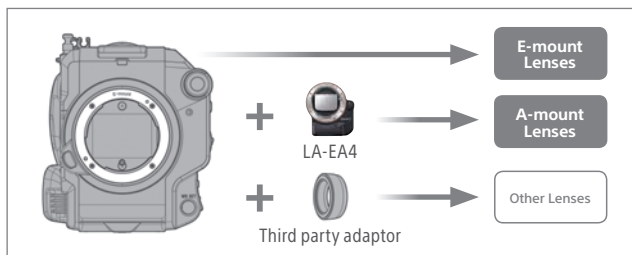
α mount flexibility
Sony's α mount system offers unsurpassed compatibility with both Sony and third-party lenses. The FS5's E-Mount can take Cinema lenses and SLR lenses with a third party adaptor, as well as Sony's E-mount and A-mount lenses. So whether buying new lenses, or making use of lenses you've already purchased, the FS5 makes it easy. (optional lenses sold separately)

Multi-Interface (MI) Shoe
The FS5 takes advantage of Sony's flexible Multi-Interface (MI) Shoe, which provides power, signal connections and coordinated on/off switching to compatible accessories from Sony. For example, you can connect and control Sony's wireless microphone systems such as the UWP-D11 or UWP-D12 or attach the HVL-LBPC light.*

* Accessories sold separately. HVL-LBPC light does not draw power from FS5.

(Simulated image)

Direct Menu
Direct Menu function onscreen display, so shooting parameters can be changed quickly and conveniently without taking your eyes off the action.

 One-touch functions

Networked for high mobility
Live stream from any event thanks to a choice of Wi-Fi® or built-in wired LAN.

Control FS5 from your smartphone or tablet.
Built-in NFC supports one-touch authentication is possible with compatible devices.

Be first with breaking news, thanks to a built-in wired LAN jack for high-speed FTP transfer of full resolution content.

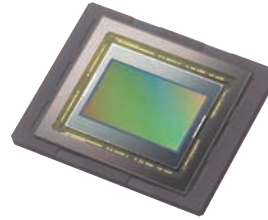Sony's FE 90mm F2.8 Macro G OSS Lens, Std. Gamma, ISO1000 F4

Sony's Distagon T* FE 35mm F1.4 ZA Lens, Std. Gamma, ISO1000 F8   (Actual images)

4K

PXW-FS5 Captured 4K Images

4K

4K Super35 Exmor® sensor

The FS5 is built around a high-sensitivity 4K Super35 Exmor CMOS Sensor that offers all the benefits of a large format sensor in combination with the exceptional image readout speeds required for 4K motion-picture shooting, Super Slow Motion and 4K resolution. 4K resolution delivers - 11.6 milllion pixels and 8.8 million effective pixels. Even if you're delivering in HD, your recordings will capture detail and image texture that HD sensors simply cannot see. Super35 size sensor offers "bokeh," the de-focused backgrounds made possible by shallow depth of field, as well as excellent low-light sensitivity and an expansive field of view. Fourteen (14) stops of exposure latitude deliver powerful grayscale rendition without crushing shadow detail or blowing out highlight detail. Exceptional sensitivity enables you to shoot well after sunset, without tons of lighting and grip. Sony's Exmor CMOS design provides high-speed full-pixel read- out capability (without pixel binning) and sophisticated camera processing to help ensure jaggies and moiré are minimized.

240fps

(Simulated images)

High Frame Rate (HFR) recording

The FS5 offers High Frame Rate (HFR) cache recording at Full HD 10bit 4:2:2 image quality and a frame rate of up to 240 fps. The 8-second cache recording means no more missed shots leading to extra takes. It takes and also lets you pick out footage at exactly the point that you want. Recording 120 fps with up to 16-second cache recording, and higher frame rates of 480 fps and 960 fps are also possible.
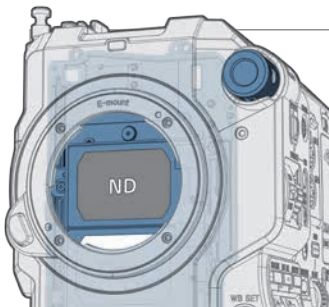
Built-in Electronic Variable ND Filters

The FS5 is the world's first Super 35mm camcorder* with a built-in electronic variable Neutral Density (ND) filter, further expanding the depth of field capability of its large format sensor. Unlike conventional optical ND filters, the electronic ND filter on the FS5 can be controlled from 1/4ND to 1/128ND linearly. This makes the FS5 ideal for fast-moving shoots in changeable environments - there's no need to change filters as lighting conditions change and variable control makes it easy to keep depth of field under control.

*Sony's market research as of September 2015.

Std. Gamma, ISO1000 F2, No ND Filter (Clear)

Std. Gamma, ISO1000 F2, 1/128ND   (Actual images)

Full HD **10**bit

XAVC

Color, contrast and the XAVC™ codec

When quality is everything, make the most of the FS5's Super35 Exmor sensor and shoot 100Mbps 4K (3840 × 2160) using Sony's advanced XAVC (Long GOP) recording system. In the future, there will even be the option to record RAW externally*. If you need a fast turnaround, switch to Full-HD (1920x1080) - recording at up to 60p XAVC 10bit 4:2:2 50Mbps. The FS5 has the flexibility to suit how you need to work, today and tomorrow.

*Details to be announced at a later date.

S-Log3 Original

S-Log3 Grading   (Actual images)

S-Log3 and Maximum Dynamic Range

As the exposure latitude of modern cameras climbs, conventional HD recording systems are hard-pressed to keep pace. That's why Sony developed S-Log2 and now S-Log3. Sony's most refined logarithmic gamma mode yet, S-Log3 enables faster, easier color grading with more levels devoted to shadows and mid-tones for spectacular grayscale rendition. You'll spend less time "getting into the ballpark," leaving more time for creativity. Of course, for the S-log2 lover, Sony supports S-log2 gamma for PXW-FS5.

S-Gamut3 and S-Gamut3.cine

The camera features the ample color space of S-Gamut3 and S-Gamut3.cine. The first reproduces the maximum available color space, and is well suited to archiving. The second matches well with the Digital Cinema Initiatives (DCI) P3 color space.

Clear Image Zoom

This proprietary technology from Sony significantly extends your ability to get closer to a remote scene while preserving image quality. Once you've zoomed in at maximum optical magnification, By Pixel Super Resolution Technology can enlarge the image by additional 200%. It is also compatible with fixed focal length lenses, so you can zoom into a scene while using a prime lens.
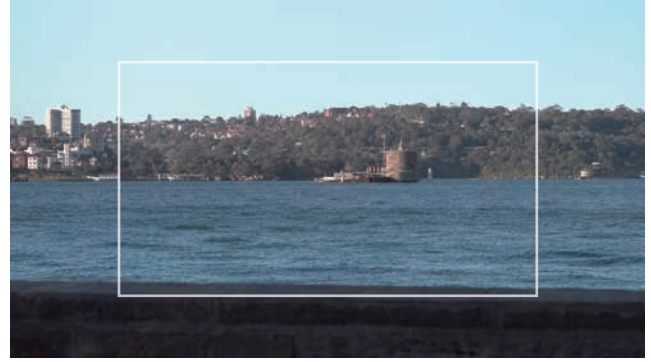
(Actual images)

Center Scan Mode

To support traditional Super 16mm cinema lenses, the FS5 has a Center Scan Mode which selectively outputs 2K or Full HD from the sensor's center. This gives the FS5 all the characteristics of a Super 16mm film camera and avoids any vignetting. It also offers a 2X Digital Extender zoom – effectively doubling your range for HD content.

Dual media slots with independent record control

To extend recording time and workflow flexibility, the FS5 is equipped with two memory card slots. "RELAY" mode automatically switches recording from the first to the second memory card when the first is full, while "SIMUL" mode permits simultaneous recording to two memory cards (for example to create an immediate back-up version). The FS5's three Start/Stop buttons on the grip, handle and camcorder body, can independently start and stop recording on different memory cards while recording in "SIMUL" mode.

Input / Output

The FS5 has two XLR connecters – so even if you remove the handle with its standard, easy-access XLR connector then a second on the body is still available, making it ideal for applications such as shooting in a confined space, such as a car interior, or when mounting on a gimbal.

SDI OUT

HDMI

Wired LAN

XLR INPUT
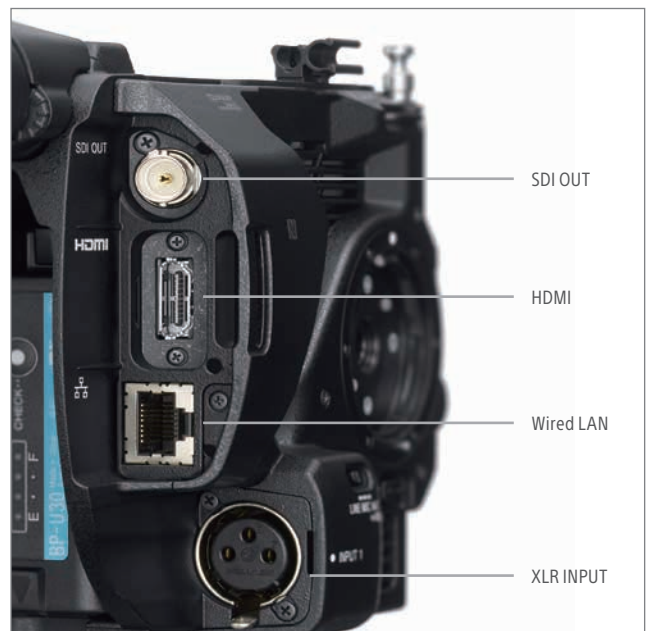
α series to PXW-FS5 & FS7 shown

Advanced E-mount lenses

Sony's E-mount interchangeable lenses feature precision-crafted optics with aspherical glass elements for compact high performance, and a circular iris mechanism for smooth background defocusing. Offering high performance in movie shooting, following E-mount lenses will be of special interest to videographers and moviemakers.

E PZ 18-105mm F4 G OSS
SELP18105G
SEL18105G is supplied with PXW-FS5K

FE PZ 28-135mm F4 G OSS
SELP28135G

FE 70-200 F4 G OSS
SEL70200G

Distagon T* FE 35mm F1.4 ZA
SEL35F14Z

α Mount System
for a wide selection of lenses

Adopts E-mount that is suitable for movie shooting

The FS5 incorporates the E-mount lens mount. This is especially useful for motion-picture shooting because the system supports power driven silent auto focus, iris control, power zoom and more, as well as SteadyShot® image stabilization and other functions. Moreover, the E-mount system's short flange-back distance (the distance from the lens-mounting surface to the image sensor) enables use of A-mount lenses via LA-EA4 or LA-EA3 lens adapter, as well as various other lenses via third-party adapters. The E-mount system makes it possible to take advantage of a wealth of lens resources suitable for creative, versatile video expression.

Zoom

Zooming is a fundamental movie-making technique that is used for both practical framing changes as well as creative effect. "Smooth" is the key requirement here. Any tracking irregularities such as jitter or axial image shifts are unacceptable. Sony's professional camcorder technology combines with state-of-the-art lens design and control technologies once again to deliver exceptionally smooth tracking throughout the zoom range at any speed. And, like focus operation, zooming is quiet as well as responsive thanks to advanced mechanical and actuator design and manufacture. Lenses are individually tested to ensure that the desired level of performance is achieved in every unit.

Iris

Background bokeh (defocusing) can be just as important in movies as it is in still images. The original Sony's circular aperture design contributes to smooth, beautiful bokeh with natural highlights. Iris noise can be an issue for moviemaking too, so the quietest, most accurate and responsive control and actuator systems are used for iris operation as well.

Focus

When making movies you're frequently focusing while shooting, either with autofocus or manually. A lens that has not been designed with movies in mind might exhibit "breathing," or variations in the angle of view while focusing. That can be a jarring distraction, so Sony α mount lenses feature optical designs and control technology inherited from our professional camcorders that ensure an absolute minimum of breathing. Noise while focusing can also be an issue, but advanced Sony's linear motor and lens control technologies achieve quiet focusing that is also extremely responsive. Part of the reason that focus control is so quiet is that Sony's original linear motors are contactless, with no gears or mechanical coupling to generate noise. Internal focusing is an advantage too, since the front element of the lens does not rotate and the overall length of the lens does not change while focusing.

Specifications

	PXW-FS5
General	
Weight	Approx. 1 lb 13.2 oz (Body only)
	Approx 4 lb 14.5 oz (with SELP18105G and lens hood [optional], battery pack BP-U30, large eyecup, LCD viewfinder, handle, grip w/o gripbelt)
Dimensions (W x H x D)*	Approx. 4 1/2 x 5 1/8 x 6 7/8 inches (Body only including the projecting parts) Approx. 7 3/8 x 8 5/8 x 14 5/8 inches (with SELP18105G and lens hood[optional], large eyecup, LCD viewfinder, handle, grip w/o grip belt and the projecting parts)
Power Requirements	DC 14.4V (battery pack) / DC 12.0V (AC adaptor)
Power Consumption	NTSC: Approx. 11.8W, PAL: Approx. 11.5W (while recording with LCD Off, EVF On when the external device connector is not used.)
Operating Temperature	32°F to 104°F (0°C to 40°C)
Storage Temperature	-4°F to +140°F (-20°C to +60°C)
Battery Operating Time	Approx. 2 hours, 10 minutes with BP-U30 battery (While recording with LCD On, EVF Off when the external device connector is not used.)
	Approx. 4 hours, 20 minutes with BP-U60 battery (While recording with LCD On, EVF Off when the external device connector is not used.)
	Approx. 6 hours, 50 minutes with BP-U90 battery (While recording with LCD On, EVF Off when the external device connector is not used)
Lens	
Lens Mount	E-mount
Camera Section	
Imaging Device (Type)	Super35 type Single-chip Exmor CMOS
Effective Picture Elements	3840 (H) x 2160 (V)
Built-in Optical Filters	OFF: Clear, 1: 1/4ND, 2: 1/16ND, 3: 1/64ND Linear variable ND (Approx. 1/4ND to 1/128ND)
Sensitivity (2000 lx, 89.9% reflectance)	Video Gamma: T14 (3840 x 2160/23.98p mode 3200K)
ISO Sensitivity	ISO 3200 (S-Log3 Gamma)
Minimum Illumination	0.16Lux [60i] (IRIS F1.4, GAIN Auto, Shutter Speed 1/24) 0.18Lux [50i] (IRIS F1.4, GAIN Auto, Shutter Speed 1/25)
S/N Ratio	57 dB (Y) (typical)
Shutter Speed	1/8 to 1/10000 sec. (60i) 1/6 to 1/10000 sec. (50i/24p)
Slow & Quick Motion Function	[30p]:2160p: Frame rate selectable 1.2.4.8.15.30 fps
	[25p]:2160p: Frame rate selectable 1.2.3.6.12.25 fps
	[60i]:1080p: Frame rate selectable 1.2.4.8.15.30,60 fps
	[50i]:1080p: Frame rate selectable 1.2.3.6.12.25,50 fps
Super Slow Motion Function	[60i] Frame rate selectable 120, 240, 480, 960 fps
	[50i] Frame rate selectable 100, 200, 400, 800 fps
White Balance	Preset (3200K), Memory A, Memory B/ATW
Gain	0,3,6,9,12,15,18,24,27,30dB,AGC
Gamma Curve	Selectable

	PXW-FS5
Input/Output	
Audio Input	XLR-type 3-pin (female) (x2), line/mic/mic +48 V selectable
Video Output	Integrated into Multi/Micro USB jack Composite 1.0Vp-p, 75Ω
SDI Output	BNC type (1) (3G-SDI/HD-SDI/SD-SDI)
HDMI Output	HDMI connector (Type A)
USB	Multi/Micro USB jack (x1)
Headphone Output	Stereo mini mini jack (x1)
Speaker Output	Monaural
DC Input	DC jack
Remote	Stereo mini-minijack (ø2.5 mm)
Wired LAN	LAN Terminal 100BASE-TX/10BASE-T
Monitoring	
Built-in LCD Monitor	3.5 inch type, Approx. 1.56M dots
Viewfinder	0.39 inch type OLED, Approx 1.44M dots
Built-in Microphone	
	Omni-directional stereo electret condenser microphone
Media	
Type	MS/SD(1),SD(1)
Wi-Fi/NFC	
Supported Format	IEEE 802.11 b/g/n
Frequency Band	2.4 GHz bandwidth
Security	WEP/WPA-PSK/WPA2-PSK
NFC	NFC Forum Type 3 Tag compliant
Supplied Accessories	
	Handle (1)
	Grip Remote (1)
	LCD Panel (1), LCD Protector (1)
	Accessory shoe kit (accessory shoe (1), accessory shoe plate (1), screws (4))
	Large eyecup (1)
	USB cable (1)
	AC adaptor (1) (AC-UES1230)
	Power cord (2 or 4) *depends on area
	Wireless remote commander (1) (RMT-845)
	CD-ROM "Manuals for Solid-State Memory Camcorder" (1)
	Operating Guide (2)
	SELP18105G (1) (PXW-FS5K only)
	LENS Hood (1) (PXW-FS5K only)
	BP-U30 battery pack (1)
	BC-U1 battery charger (1)

* The values for dimensions are approximate.

	Format	bitrate	mode	definition	recording frame rate	audio format	recording time 64G SD card
4K	XAVC Long MPEG-4 AVC/H.264	100Mbps	-	3840 x 2160	29.97p, 25p, 23.98p	Linear PCM 2ch, 24bit, 48kHz	Approx. 65 min
		60Mbps	-		29.97p, 25p, 23.98p		Approx. 100 min
HD	XAVC Long MPEG-4 AVC/H.264	50Mbps	-	1920×1080	59.94p, 50p, 59.94i, 50i, 29.97p, 25p, 23.98p,		Approx. 120 min
				1280×720	59.94p, 50p,		
		35Mbps	-	1920×1080	59.94p, 50p, 59.94i, 50i, 29.97p, 25p, 23.98p,		Approx. 170 min
		25Mbps	-	1920×1080	59.94i, 50i,		Approx. 220 min
	AVCHD MPEG-4 AVC/H.264 AVCHD 2.0 format compatible	28Mbps	PS	1920×1080	59.94p, 50p,	Linear PCM 2ch, 16bit, 48kHz Dolby Digital 2ch, 16bit, 48kHz	Approx. 290 min
		24Mbps	FX	1920×1080	59.94i/50i/29.97p/25p/23.98p,		Approx. 340 min
				1280×720	59.94p, 50p,		
		17Mbps	FH	1920×1080	59.94i/50i/29.97p/25p/23.98p,		Approx. 450 min
				1280×720	59.94p, 50p,		
		9Mbps	HQ	1280×720	59.94p, 50p,		Approx. 590 min

Accessories

**BP-U30/BP-U60/
BP-U60T/BP-U90**
Rechargeable Battery Pack

BC-U1/BC-U2
Battery Charger/
AC Adaptor

HVL-LBPC
Battery Video Light

UWP-D11/UWP-D12
Wireless Microphone
Package

SMAD-P3
MI Shoe Mount Adaptor
* required for cable-free operation
  with UWP-D11/UWP-D12

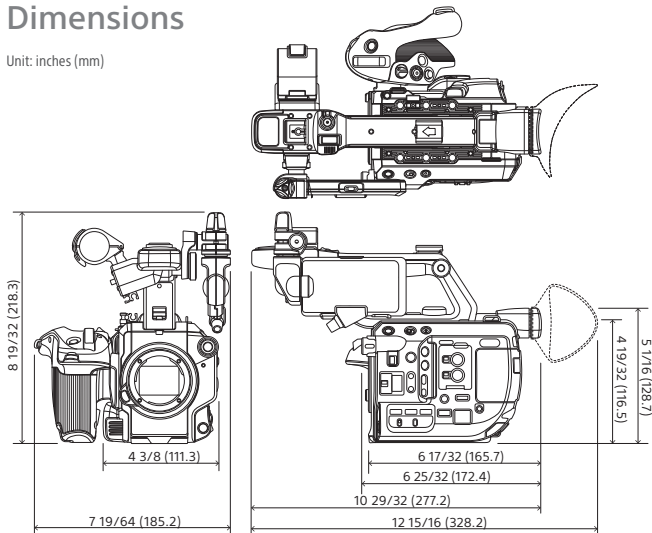**ECM-VG1**
Electret Condenser
Microphone

SDXC 128GB
SDHC Memory Card

RM-1BP
Remote Commander

VCT-SP2BP
Camcorder Support

Dimensions

Unit: inches (mm)

8 19/32 (218.3)

4 3/8 (111.3)

7 19/64 (185.2)

4 19/32 (116.5)

5 1/16 (128.7)

6 17/32 (165.7)

6 25/32 (172.4)

10 29/32 (277.2)

12 15/16 (328.2)