SONY

FS7 II

PXW-FS7M2/PXW-FS7M2K Advanced Handheld Super35 Camcorder

Beyond Definition

FS7 II

Since its introduction in 2014, the FS7 has become one of the most popular cameras in the production world. We listened to our users to create an advanced version of the FS7 with technical, mechanical and ergonomic enhancements to take your production to even greater heights.

The original FS7 will remain in the product line-up.

The FS7 II retains all of those features which have made the FS7 a widely used camera for documentary, run and gun, unscripted TV, interview, event, broadcast, web series and countless other production applications. We have just added advancements to give our users more features and ergonomic advances.

FS7

FS7 II

How did we improve on our bestselling FS7? We listened.

Users will benefit from three key features we have added to the FS7 II:

- Lever Lock Type E-Mount to secure your lenses
- Electronic Variable ND Filter to control exposure
- Ergonomic innovations to work faster, with greater confidence
- And more...

LEVER LOCK TYPE E-MOUNT

Our users have asked for a lens mounting system that can carry heavier cine and zoom lenses without additional support. Why can't it be more like a PL mount in its security and ease of lens changes? Well, we developed a unique Lever Lock Type E-Mount.

Operation of the Lever Lock Type E-Mount is similar to PL mounts commonly used on cine cameras. Simply place the lens into the mount opening. No twisting of the lens is required. With your free hand, rotate the locking ring counterclockwise until it clicks, telling you that a secondary latch has locked the ring securely in order to prevent any accidental disengagement. To remove a lens, release the secondary latch, rotate the ring counterclockwise and then remove the lens.

Our Lever Lock Type E-Mount holds the lens securely as you operate.

FS7 II with B4 ENG zoom lens

Sony's new mount system securely locks E-Mount lenses to the camera body and enables the use of larger, heavier lenses without need for additional support.

This breakthrough is based on a clever combination of advanced material science and ingenious engineering. The Lever Lock Type E-Mount securely holds E-Mount lenses and adapters to the camera body. In fact, it can hold, unsupported lenses of similar weight as the larger F55 camcorder can.

The Lever Lock Type E-Mount works with native E-Mount lenses as well as all adapters currently on the market.

ELECTRONIC VARIABLE ND FILTER

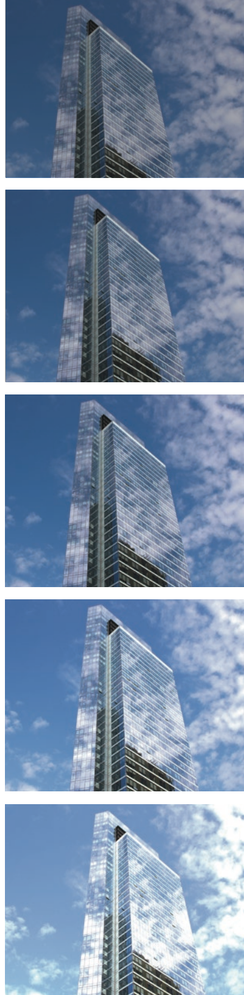
Electronic variable ND filtration opens all kinds of new vistas for shooting creativity. Imagine being able to set a constant aperture while being able to adjust exposure through neutral density adjustments.

You can use your iris aperture to determine a consistent depth of field. Or you can set your aperture for what you know to be the "sweet spot" of your lens for maximum sharpness. We've given you a whole new way to control exposure using any of three variable ND operating modes.

PRESET ND
Turning the ND turret knob instantly changes ND attenuation to any of four ND presets: clear + three user preselected ND densities. ND densities are selectable in 1/3 stop steps within the camera's 2 to 7 stop range. Therefore, the attenuation for each of the three ND presets can be exactly set to the optimum ND density for three particular scenes, preventing the usual over-attenuation when using conventional fixed density optical ND filters commonly used in cameras.

ELECTRONIC VARIABLE ND FILTER
We've designed this mode for run and gun shooting. In this mode, the operator can seamlessly adjust ND settings within that 2 to 7 stop ND attenuation range. Adjust ND settings either by the dial on the operator's side of the camera or via the front wheel on the SmartGrip.

AUTO ND
Auto ND replaces an auto iris workflow as an effective means of adjusting exposure, particularly when shooting outdoor scenes, nature shots, or changing lighting conditions. Yes, you can still shoot the camera with manual or auto iris, but Auto ND can yield better results. Rather than shooting auto iris, with all of the concerns of changing depth of field, Auto ND quickly adjusts exposure through ND attenuation. Here's a great way to use it. Assign one of the FS7 II's 10 assignable buttons to "push auto ND". Then let the camera find an exposure setting. Toggle Auto ND off and manually fine tune the exposure with the electronic variable ND function.



VERSATILE VIEWFINDER SYSTEM

The viewfinder rod mounting system has been completely redesigned with two independent clamps and a square rod shape. This allows for easy horizontal adjustment of the viewfinder without tools. A second independent clamp allows for vertical adjustment of the VF screen. Both of these operations can be performed with one hand while the camera is still on operator's shoulder.

Because this system utilizes standard 15 mm rods, it is possible to replace any of the standard rods with longer rods to telescope the viewfinder out further. Left-eye operators will love this feature.

The eyepiece hook has been improved as well to allow easier attachment to the LCD screen. Simply place the eyepiece attachment on the LCD screen to engage the buttom latch. It uses an industry-standard interchangeable 52 mm diopter which can be accessed by removing the rubber eyecup.

A new pop-up LCD monitor hood eases monitoring viewing in bright conditions when shooting without the detachable eyepiece.

Viewfinder set up has never been faster, more convenient and more precise.

"The viewfinder improvements are significant. The new rod system, with the square rod prevents the viewfinder from tilting sideways. It's easier and stronger. You can adjust the viewfinder to any position and flip it over to other side of the camera."

— Chuck Fishbein, Creative Director
Crazy Duck Productions, Inc.

Top: Upgraded monitor arm. A robust, articulated arm makes it even easier to place the monitor exactly where you want it.

Middle: Pop-up monitor hood. The FS7 II supplements the detachable eyepiece with a pop-up hood that maximizes visibility in sunlight.

Bottom: Upgraded eyepiece with more robust attachment to the monitor.

ERGONOMIC DESIGN

FAST AND SECURE SET UP

The FS7 II is now faster to set up and adjust even while shooting. New, secure robust mechanical designs of the SmartGrip, VF and microphone holder allow quick one-hand adjustments for changing shooting positions without tools. We've also created an entirely new operator control panel layout and increased assignable buttons from six to ten.

Refinements help make the FS7 II an even more intuitive tool, even more responsive to your needs in the midst of a cinema verité shoot.

"Simple things make a difference, especially with run and gun, where you need to do things on the fly. Controls are easier to find. Adjustments knobs are easy to loosen and tighten. The Audio door no longer blocks the media cards. The XQD media cards pop further out, making them easier to grab. The new mount design is brilliant. It's easy to use and secure – simply slide and click. We use a lot of different lenses; some are extremely heavy, so the strength of new mount is critical."

— Sarah Fishbein, Senior Producer
Crazy Duck Productions, Inc.

MICROPHONE HOLDER

The FS7 II updates the FS7's mic holder which was permanently attached to a 15 mm rod. The mic holder now fits to a 15 mm rod secured by a hand-adjustable clamp. If desired, you can even replace the supplied rod with a longer standard 15 mm rod. But a big feature here is the ability to swap positions of the mic holder and viewfinder for shooting from the right side, a boom for left-eye dominant shooters.

ERGONOMICS TO WORK FASTER WITH MORE CONFIDENCE

FS7 II

LEVER LOCK TYPE E-MOUNT

A sturdy E-Mount with a locking collar makes for more confident lens changes. To mount, simply hold the lens steady and turn the collar instead. When the collar clicks, your lens is positively locked into place. The Locking E-Mount also supports heavier cine and ENG lenses without additional rigging. As before, the camera accepts Sony's E-Mount lenses, along with simple third-party adaptors for PL mount cinema lenses, SLR and DSLR glass, and even classic rangefinder lenses.

SMARTGRIP IMPROVEMENTS

The SmartGrip as well now has a new toolless knob design that can adjust the arm length while the camera is on the operator's shoulder. The SmartGrip can now be easily configured to shoot at waist level. You can quickly configure the SmartGrip for the way you shoot. All of these operations as well can be performed with one hand. Never has handgrip configuration been so fast.

AN EVEN BETTER VIEWFINDER EXPERIENCE

Like its predecessor, the FS7 II has a large, bright and detailed LCD monitor that you can view directly or through the clip-on eyepiece. While cinematographers appreciated the arrangement, they had suggestions for making it even better. Sony responded with the upgraded configuration of the FS7 II.

RECONFIGURED OPERATOR'S SIDE CONTROLS AND ADDITIONAL ASSIGNABLE BUTTONS

In order to accommodate the variable and auto ND functions, operator side controls have been rearranged from the FS7. FS7 II now has 10 user configurable buttons, 7 on the camera body and 3 on the handgrip. More user configurable preset buttons translates to instant recall of more parameters which in turn speeds up camera operation.

XQD CARD SLOTS

We listened to our users when designing the XQD card slots for the FS7 II. The cards protrude twice as far from the slot than in the FS7. That makes insertion and removal of cards much easier, even when wearing gloves.

POWER LED LIGHT

We've added a power LED light. No more forgetting to power down the camera only to be greeted by a discharged battery.

UPGRADED TELESCOPING ARM

Another key to handheld comfort is the telescoping arm that holds the SmartGrip. With the FS7 II, you adjust the arm length by simply turning a knob – no tools required. Another knob at the joint adjusts angle. So you can instantly adapt the arm to suit your physique and your shooting position. You can also reposition the arm alongside the camera body for waist-level shooting.

The upgraded FS7 II telescoping arm is also available for purchase to owners of the original FS7.

A REVOLUTIONARY NEW CINE ZOOM LENS

SEL18110G f/4 LENS

An advanced camera deserves an advanced lens. We built our new 18-110 f/4 G lens from the ground up specifically for motion picture applications. This Super35/APS-C lens is available as a bundle, or sold separately. It is the perfect complement to the new FS7 II or any other Sony E-mount still or video camera. Another powerful alternative is the existing powered zoom lens SEL-P28135G with a constant f/4 aperture (sold separately).

Like the 28-135 predecessor, this new lens has a push pull focus ring to switch between automatic and manual mode. When the 18-110 lens servo zoom is switched to manual, it's fully mechanical, allowing snap zooms and eliminating servo lag.

The focus ring incorporates a cine-style gear for use with external follow focus or motor drives. As an added feature, the zoom ring direction is reversible. This truly manual focus system, with a full 240 degree rotation, offers precise and repeatable focus pulls as needed. Autofocus and auto iris changes are virtually silent and will not be picked up by the camera microphone.

This lens is completely parafocal, with an f/4 aperture which remains constant throughout its entire zoom range (no ramping), giving the creative freedom of zooming while shooting. This lens simply doesn't breathe, hence there is no appearance of zooming or change of image size while focusing.

Most unique for a lens in this range is there is no shift of optical axis. The image does not move in the frame when zooming.

The lens' sunshade is now equipped with a built-in louver-style lens cap; no more worries about losing, that big rectangular lens cap! The lens shade is also engineered to be dust and moisture resistant.

Lens metadata is transferred to the camera to be visible in the VF as well as recorded into the file (for Sony formats only).

Optical SteadyShot™ can easily be toggled on or off via a switch on the lens.

Sony G series class ensures high contrast images which are sharp from edge to edge. Its 6 aspherical and 3 Extra-low Dispersion (ED) glass elements reduce the chances of flare. Sony's years of lens design and experience have led to this line, with rich color rendition.

The support shoe is detachable to expose a standard 3/8" support point if shooting with rails and support.

FS7 II ACCESSORIES

Lens Adapter

LA-EA4 35 mm Full-Frame A-Mount Adapter
accepts A-Mount lenses and provides phase detection AF

Remote Control

RM-30BP Wired LANC Remote Control

Extension Unit

XDCA-FS7 Extension Unit

Software

Catalyst Browse
Free, simple viewing and logging tool

Catalyst Prepare
Fast, simple, reliable path from camera to post

Catalyst Production Suite
Focused, fast production for 4K, RAW, and HD video

Batteries

BP-U30/U60/U60T/U90
Battery Packs

Battery Charger

BC-U1/U2 Battery Charger

Video Light

HVL-LBPC LED Video Light
Achieves 2100 lux at 1 meter in booster mode; variable color temperature; works with MI Shoe

Mics & Wireless

ECM-VG1 Compact Shotgun Mic

ECM-MS2 Stereo Mic
Mid-Side configuration for one-point stereo

UWP-D11/D12/16*
Wireless Mic Package
(Works with SMAD-P3 MI Shoe)

URX-P03D** Dual Channel Wireless Audio Receiver
(Optional SMAD-P3D adapter is required)

CBK-WA100 Wireless Adapter
Adds smartphone content browsing, wireless streaming and wireless proxy transfer to PXW-FS7M2/PXW-FS7M2K

Supports & Adapters

VCT-FS7 Shoulder Pad
With 15 mm rods, adjustable shoulder pad and industry standard rosettes for PXW-FS7M2/PXW-FS7M2K

SMAD-P3 MI Shoe
for UWP-D11/12/16
*(Required for cable-free operation of URX-P03 receiver)

SMAD-P3D MI Shoe
for URX-P03D Wireless Receiver
**(Required for cable-free operation of URX-P03D receiver)

Media

QD-G32A/G64A/G128A/256GB XQD™ G Series memory cards for PXW-FS7M2/PXW-FS7M2K, which come with a USB 3.0 Adapter.

QD-M32/M64/M128 XQD™ M Series memory cards for PXW-FS7M2/PXW-FS7M2K. Requires FS7 II free firmware upgrade V3.10. USB 3.0 adapter not included.

Adapter/Card Reader

QDA-SB1/J XQD USB Adapter
Supports both XQD Series G and XQD Series M memory cards

MRWE90BC/2 Card Reader
Transfers data from your XQD and SD cards via the USB 3.0 port

Long Term Storage

Sony's Generation 2 Optical Disc Archive system
includes ODS-D280U Standalone Drive and ODC3300R Cartridge

	PXW-FS7M2/PXW-FS7M2K
General	
Weight	Approx. 4 lbs 7oz (2.0 kg) (body only)
	Approx. 10 lbs (4.5 kg) (with Viewfinder, Eyepiece, Grip Remote Control, BP-U30 battery, SEL-18110G LENS, an XQD memory card)
Dimensions (W x H x D)*	6.26 x 9.66 x 9.65 in. (158.9 x 245.2 x 247 mm) (body without protrusions)
Power Requirements	DC 12 V
Power Consumption	Approx. 19 W (while recording XAVC™-I QFHD 59.94P, SELP18110G Lens, Viewfinder ON, not using external device)
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. 1 hrs with BP-U30 battery (while recording XAVC-I QFHD 59.94P, SELP18110G Lens, Viewfinder ON, not using external device)
	Approx. 2 hrs with BP-U60 battery (while recording XAVC-I QFHD 59.94P, SELP18110G Lens, Viewfinder ON, not using external device)
	Approx. 3 hrs with BP-U90 battery (while recording XAVC-I QFHD 59.94P, SELP18110G Lens, Viewfinder ON, not using external device)
Lens	
Lens Mount	E-mount (Lever Lock Type)
Camera Section	
Imaging Device (Type)	Super35 type Single-chip Exmor CMOS
Effective Picture Elements	17:9 4096 (H) x 2160 (V) 16:9 3840 (H) x 2160 (V)
Built-in Optical Filters	Electronic Variable ND: Linear Variable ND from 1/4-ND (2 Stops) to 1/128-ND (7 Stops) attenuation
Sensitivity (2000 lx, 89.9% reflectance)	Video Gamma: T14 (3840 x 2160/23.98P mode 3200K)
ISO Sensitivity	ISO 2000 (S-Log3 Gamma D55 Light source)
Minimum Illumination	0.7 lx (+18dB, 23.98P, Shutter OFF, ND Clear, F1.4)
S/N Ratio	57 dB (Y) (typical)
Shutter Speed	1/3 sec to 1/9,000 sec
Slow & Quick Motion Function	XAVC-I mode 3840x2160: 1 to 60 frames (59.94P, 50P, 29.97P, 23.98P, 25P)
	XAVC-I mode 1920x1080: 1 to 180 frames (59.94P, 29.97P, 23.98P), 1 to 150 frames (50P, 25P)
	XAVC-L mode 3840x2160: 1 to 60 frames (59.94P, 50P, 29.97P, 23.98P, 25P)
	XAVC-L mode 1920x1080: 1 to 120 frames (59.94P, 50P, 29.97P, 23.98P, 25P)
White Balance	Preset, Memory A, Memory B (1500K-50000K)/ATW
Gain	-3, 0, 3, 6, 9, 12, 18 dB, AGC
Gamma Curve	STD, HG, User, S-Log3
Input/Output	
Audio Input	XLR-type 3-pin (female) (x2), line/mic/mic +48 V selectable, Mic Reference: -40, -50, -60dBu
SDI Output	BNC (x2), switchable with 3G-SDI/HD-SDI SMTPE292M/424M/425M
USB	USB device, mini-B (x1)
Headphone Output	Stereo mini jack (x1), -16dBu 16Ω
Speaker Output	Monaural
DC Input	DC jack
Remote	Stereo mini-minijack (ø2.5 mm)
HDMI Output	Type A (x1)
Option	4-pin, Type A for W-LAN (x1)
Monitoring	
Built-in LCD Monitor	(3.46 in) 8.8 cm (3.5 type), Approx. 1.56M dots
Built-in Microphone	
	Omni-directional monaural electret condenser microphone
Media	
Type	XQD Card slot (x2)
	SD Card slot (x1) for saving configuration data
Supplied Accessories	
	Body Cap (1)
	Viewfinder (1)
	Eyepiece (1)
	Viewfinder Hood
	Grip Remote Control (1)
	USB wireless LAN module IFU-WLM3 (1)
	Wireless remote commander (1) (RMT-845)
	WA Adaptor Bracket (1)
	MPA-AC1 AC Adapter (1)
	BC-U1 battery charger (1)
	BP-U30 battery pack (1)
	Power cord (2)
	USB cable (1)
	Operating Guide (2)
	CD-ROM “Manuals for Solid-State Memory Camcorder” (1)

* The values for dimensions are approximate.

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