

Sony PMW-F55 CineAlta 4K Digital Cinema Camera

The **Sony PMW-F55 CineAlta 4K Digital Cinema Camera** features an 8.9MP Super 35mm image sensor, capable of capturing 4K, 2K and HD resolution video in a variety of formats via the camera's internal recorder. The F55 is among the first digital motion picture cameras with a global shutter, which completely eliminates motion skew and other "rolling" shutter distortions. Sony has designed the F55 as the foundation of an exceptionally versatile, modular system.

Optional components¹ of the F55 system include bolt-on recording units, a series of digital viewfinders, and camera support rigs. Notably, the AXS-R5 recorder¹ can be mounted onto the rear of the F55, enabling 4K and 2K 16-bit RAW recording and high speed frame rates of up to 240 fps in 2K². In keeping with Sony's mandate on versatility, the F55 will have a native FZ-mount, which will provide an interface for Sony's SCL-Z18x140³ auto focus servo zoom lens as well as a wide range of lens adapters, such as the included PL-mount adapter.

Many digital sensors can match and even surpass traditional motion picture film for resolution and low light image quality, but with approximately 14.3 stops of dynamic range, film has maintained an advantage over most digital sensors. However, the F55's exposure latitude is rated at 14 stops of dynamic range, for truly film-like rendering of highlights and shadows. Moreover, the F55 incorporates the same color filter array technology used in Sony's flagship F65, for a color gamut that is even wider than motion picture film.

On-board 4K recording requires high-data rate recording media, and the F55 will use Sony's newly developed SxS PRO+ memory cards. A 128 GB card will provide enough space for approximately 40 minutes of 4K video in the XAVC Intra 422 format. SxS PRO+ cards will also allow on-board recording of 2K video at up to 180 frames per second².

8.9MP Super 35mm CMOS Image Sensor

With 8.9 effective megapixels (11.6 total MP), the Sony 4K CMOS sensor captures a true 4K 4096 x 2160 DCI-standard cinema image. The sensor approximates the size of traditional 2-perf, Super 35mm motion picture film, which allows cinematographers to use their favorite lenses on the F55 without a significant disparity in apparent angle-of-view.

Internal 4K/2K/HD Recording

The F55 CineAlta camera incorporates high-speed SxS PRO+ memory card recording that allows the choice of 8-bit MPEG-2 HD422 at 50 Mbps, 10-bit XAVC 2K/HD at 100 Mbps, SR Codec 10-bit MPEG4 SStP at 220/440/880 Mbps, and XAVC 4K/QFHD at 300 Mbps. All formats can be recorded at a range of interlace and progressive frame rates. *Some recording settings will require a free firmware upgrade.*

Electronic Global Shutter

Traditional CMOS sensors employ what is commonly known as a "rolling shutter." The F55 is among the first digital motion picture cameras with a global shutter, which completely eliminates motion skew and other rolling shutter distortions.

Highly Modular Design

In addition to the AXS-R5 recorder, a digital interface on the F55 allows for a variety of optional viewfinders. DVF-EL100 is a 0.7" OLED viewfinder with 1280 x 720 resolution. DVF-L350 is a 3.5" LCD viewfinder with 960 x 540 resolution, and the eyepiece flips up for direct monitoring. DVF-L700 is a 7" LCD viewfinder with 1920 x 1080 resolution for monitoring Full HD pixel-for-pixel. Other modular components include the optional Sony shoulder rig, which features industry-standard rosettes on both sides for quick and easy attachment of third-party hand grips and other accessories.

Optional AXS-R5 "Bolt-on" Recorder

The optional AXS-R5 recorder is designed to dock on the rear of the PMW-F55 and enables 4K and 2K resolution video recording in 16-bit RAW. The AXS-R5 also facilitates high speed frame rates of up to 240 fps in 2K and simultaneous RAW + on-board SxS recording. The recorder uses Sony's newly developed AXSM memory cards, which are compatible with an optional USB 3.0 reader (AXS-CR1). RAW files can be screened using Sony's free RAW Viewer software. (*AXS-R5 is sold separately.*)

Native FZ-Mount and PL-Mount Adapter

The F55 is designed to accommodate a wide range of lenses. With the PL-mount adaptor, you can take advantage of acclaimed cine optics from Angénieux, Canon, Carl Zeiss, Cooke, FUJIFILM, Leica and more. Slip off the supplied PL-mount adaptor to reveal the native FZ-mount with an 18mm flange focal distance. The FZ-mount provides an interface for native FZ lenses like Sony's SCL-Z18X140 auto focus servo zoom lens or a range of adaptors for still lenses, including Canon EF, Canon FD, Nikon F, Leica M and more.

Dynamic Range Rated at 14 Stops

The ability to render a range of exposure values from deepest shadows to brightest highlights is a crucial test of any digital camera. The F55 is capable of an impressive 14 stops of exposure latitude, low-light sensitivity and low noise in the blacks. The digital sensor's dynamic range approaches that of traditional motion picture film.

Wider Color Gamut than Film

The F55 incorporates the same advanced color filter array technology as Sony's flagship F65, for a color gamut that is even wider than motion picture film.

SxS Pro+ Media Cards

On-board recording of XAVC 4K and 180 fps XAVC 2K/HD requires high-data-rate recording media. The F55 will use Sony's 64 and 128 GB SxS PRO+ memory cards. A 128 GB card will provide enough space for approximately 40 minutes of 4K video in the XAVC Intra 422 format.

Intuitive One-touch Interface

Designed with significant input from cinematographers, the F55 features an intuitive interface for a range of controls. Instead of diving through menus, you get direct, one-touch access to key shooting parameters including frame rate, shutter speed, color temperature, ISO sensitivity and gamma. Assignable buttons mean that your favorite adjustments are always at your fingertips.

Real-time 4K Output and Other Vital Connections

The F55 supports real-time 4K output to a compatible monitor, via four 3G-SDI outputs. There is also HDMI, USB, DC input, a removable XLR audio module and a removable time code/genlock module. The XLR inputs accept balanced analogue signals, provide 48-Volt phantom power and will accept four channels of AES/EBU digital audio with an expected firmware upgrade.

Long-life Olivine Battery and Quick Charger

The F55 takes advantage of Sony's BP-FL75 battery pack, which uses Olivine Lithium Iron Phosphate instead of conventional Lithium Ion cathodes. The result is a substantial increase in charge-discharge cycles, compared to previous Sony batteries. The Olivine battery works with Sony's BC-L90 quick charger. The camera is also compatible with Sony's BP-GL95A, GL65A, L80S and L60S batteries, which use the BC-L70 and L160 chargers.

Sensor	
Sensor Type	Super 35mm equivalent single-chip CMOS with global shutter
Pixels	Total: 11.6 MP Effective: 8.9 MP
Sensitivity	Luminance: 2000 lx, 89.9% reflectance Video Gamma: T11@24p (3200K light source) S-Log2 Gamma: ISO 1250 (D55 Light source)
Dynamic Range	14 stops
Signal to Noise Ratio	57dB (Video Gamma, 24p, Noise Suppression OFF)
Recording	
Video Recording Format	MPEG-2 Long GOP HD 422 mode: CBR, 50 Mbps max, MPEG-2 422P@HL
Audio Recording Format	Linear PCM (2 ch, 24-bit, 48-kHz)
Recording Modes	XAVC 4K: 4096 x 2160 at 23.98p, 25p, 29.97p, 50p, 59.94p XAVC QFHD: 3840 x 2160 at 23.98p, 25p, 29.97p, 50p, 59.94p XAVC 2K: 2048 x 1920 at 23.98p, 24p, 25p, 29.97p, 50p, 59.94p XAVC HD: 1920 x 1080 at 23.98p, 25p, 29.97p, 50p, 59.94p MPEG4 SStP: 1920 x 1080, 23.98p/24p/25p/29.97p MPEG2 HD: 1920 x 1080 at 50i, 59.94i, 23.98p, 25p, 29.97p MPEG2 HD: 1280 x 720 at 50p, 59.94p
Shutter Speed	1/24s to 1/6,000s
Shutter Angle	4.2 - 360°(electrical shutter)
Slow Shutter	2, 3, 4, 5, 6, 7, and 8 frame accumulation
Slow & Quick Motion Function	XAVC 4K/QFHD: 1-60p (NTSC) XAVC 4K/QFHD: 1-50p (PAL) XAVC HD/2K: 1-180p (NTSC), 23.98p/29.97p with option XAVC HD/2K: 1-150p (PAL), 25p with option XAVC HD: 1-60p (NTSC) XAVC HD: 1-50p (PAL)
White Balance	Preset (3200K, 4300K, 5500K), Memory, ATW
Gain	-3, 0, 3, 6, 9, 12, 18 dB, AGC
Gamma Curve	Standard (x6)

	HG1, HG2, HG3, HG4, HG7 and HG8 S-Log2 Gamma
Interface	
Memory Cards	SxS (x2, ExpressCard 34 slots) SD card slot (x1)
Video Output	HD-Y or HD Sync (tri-level) V1.0 Analog Composite (VUP)
HD-SDI Output	HD mode: SDI 1/2 Line Output, SDI 3/4 Monitor Output (character on/off) 4K mode: SDI 1/2/3/4 Line Output (character on/off), HD-SDI/3G-SDI switchable
Timecode	TC IN/OUT switchable (x1)
Genlock	BNC input (x1)
HDMI	A Type output (x1)
Audio	Input: XLR-type 3-pin with Line/Mic/Mic +48V/AES/EBU selectable (x2, female) Output: phono jack (CH-1, CH-2) Headphone: Stereo mini jack (x1) Speaker: monaural
USB	USB device, Mini-B (x1) USB host, type-A (x1)
Wi-Fi	USB host, type-A (x1)
DC Output	4-pin (x1), 11 V to 17 V DC (MAX 2.0A) w/ battery adapter
Remote	8-pin (x1)
General	
Lens Mount	FZ-mount, PL-mount (with supplied adapter)
Built-in Filters	Clear, 0.9 (1/8 ND), 1.8 (1/64 ND)
Power Requirements	DC 12 V (11 V to 17.0 V)
Power Consumption	Approx. 25 W (while recording XAVC 4K 60p, EVF Off, LCD monitor Off, 4K SDI On)
Battery Operating Time	With BP-FL75: approximately 150 minutes With BP-GL95A: approximately 210 minutes
Operating Temperature	32 ~ 104° F (0 ~ 40° C)
Storage Temperature	-4° ~ +140° F (-20° ~ +60° C)
Dimensions	Without protrusions: 7.13 x 7.88 x 12.25" (15.1 x 18.9 x 21 cm)
Weight	Body only: 4.88 lb (2.2 kg)