

PMW-F55

Super 35mm 4K CMOS sensor compact CineAlta camera records HD/2K/4K on SxS memory plus 16-bit RAW 2K/4K output



Overview

Sony 4K sensor for gorgeous, super-sampled HD, 2K and 4K

The PMW-F55 CineAlta camera shoots spectacular images with its 8.9 megapixels (effective) Sony 4K image sensor. You get superb dynamic range, the widest colour gamut, and pristine image quality, whether you shoot in HD, 2K, QFHD or 4K.

- **Multiple recording formats includes HD/2K/QFHD/4K on SxS memory and 16-bit RAW 2K/4K on AXSM™ media**

Multiple recording formats include MPEG-2 HD422, MPEG4 SSiP, XAVC 2K/HD, XAVC QFHD/4K and 16-bit RAW 2K/4K*. You can have simultaneous recording on internal high-speed SxS PRO+ memory cards and RAW 2K/4K recording on sleek AXSM™ memory cards using the optional bolt-on AXS-R5 recorder, designed specifically to attach seamlessly to the F55 and F5 cameras. There is also high speed shooting up to 240 fps RAW 2K and 60 fps in RAW 4K recording onto the AXS-R5. Recording directly in Apple ProRes codec and Avid DNxHD codec are also available options.**

* Recording onto the optional AXS-R5 recorder.

** Requires CBK-55PD codec board.

- **Lightweight modular design to maximise versatility in 2D and 3D**

The F55 is exceptionally small, light and modular, letting you build up the right configuration for each job – or each shot. The camera includes cache recording functions and has an easy-to-access customised user menu that sits on top of the setup menu. As well as the choice of formats and internal and external recording options, you can attach a variety of viewfinders, including the revolutionary optional DVF-EL100 OLED viewfinder, PL-mount, FZ-mount and still lenses, including second-generation Sony PL-mount lenses, and extra long-life Olivine – Lithium Iron Phosphate – batteries. The chassis is only slightly wider than a

typical PL-mount prime lens, perfect for 3D rigs. An optional shoulder rig (CBK-55BK) provides best ergonomics, flexibility and usability for shoulder operation.

- **Version 5.0 firmware update**

Version 5.0 firmware increases the functionality of the PMW-F55/F5. Upgraded functions include: DNR (Noise suppression) in Cine-EI mode; Memory A/B White Balance in Custom mode; assignable Colour Bars On/Off; assignable VF Magnification On/Off; changing FPS (STEP) with Menu knob (push for 2 seconds); the Double Speed VF setting remains while switching HFR On to Off; and simultaneous recording on SStP 422 SQ at 59.94i (SStP and MPEG 50). Version 5.0 also supports additional codecs, including ProRes 4444* with the installation of the optional CBK-55PD codec board. It is also possible to assign EI value to the Gain Switch in Cine-EI mode** and 3200K/4300K/5500K to White A/B/Preset switch in Cine-EI mode**. Wireless Audio settings can also be set via the "WRR" page**.

* Requires CBK-55PD firmware update 2015.

** These functions require the attachment of CBK-55BK build-up kit.

Features

- **Super 35mm equivalent 4K single-chip CMOS sensor with Frame Image Scan technology**

The PMW-F55's Sony 4K image sensor captures a true 4K 4096 x 2160 DCI-standard cinema image. Its 4K CMOS sensor features 11.6 megapixels (total) and 8.9 megapixels (effective).

- **16-bit RAW 2K/4K recording options with bolt-on AXS-R5 recorder**

Capture RAW at your choice of resolutions: the camera's native 4K or beautiful, derived 2K. RAW recording preserves the greatest latitude for colour correction and other post processes. Sony's 16-bit recording captures more tonal values than the human eye can differentiate. Sony RAW retains 16 times as many Red, Green and Blue gradations as 12-bit RAW and 64 times as many tones per channel as 10-bit recording. Sony 16-bit linear RAW is also the ideal point of entry into the 16-bit linear Academy Color Encoding System (ACES) workflow.

- **AXS-R5 records onto ASXM™ memory cards**

The bolt-on AXS-R5 recorder records onto sleek, high-capacity ASXM™ memory cards, which are compatible with an affordable optional USB 3.0 reader, the AXS-CR1. Once on a PC, the RAW files can be screened using Sony's free RAW Viewer software. ASXM memory provides a super fast, affordable format for sensational quality recordings.

- **Choice of HD/2K/4K internal recording formats**

The F55 CineAlta camera allows you a choice of internal recording formats in addition to 16-bit RAW 2K/4K recording output onto the AXS-R5. The camera incorporates high-speed SxS PRO+ memory card recording that allows the choice of: 8-bit MPEG-2 HD422, 50Mbps, MPEG-2 HD422 XAVC 422 Intra (up to 222Mbps), SStP 422 (220Mbps) and SStP 444 (440Mbps). MPEG4 SStP+Proxy simultaneous recording (SR-SQ 422/444 on 29.97p only) allows faster transfer and less storage capacity needed. This is ideal for editing while the hi-resolution files will be used for grading.

- **High speed shooting up to 60 fps 4K and 180 fps 2K internally and 240 fps 2K RAW with optional AXS-R5 recorder**

The F55 features high-data-rate on-board XAVC HD recordings up to 60 fps, plus a free planned upgrade to XAVC 4K, QFHD and 2Kup to 60 fps and XAVC 2K/HD up to 180 fps. It also offers 240 fps 2K RAW with the optional AXS-R5 outboard recorder, achieving the highest frame rates most productions will need, while retaining exceptional, 16-bit image quality.

- **Next generation high-speed SxS PRO+ memory card**

The F55 records internally onto SxS memory. High-speed shooting and the highest quality recording options require next-generation SxS recording media – Sony's 128 GB* SxS PRO+ memory card – which can be read by the next-generation USB card reader, the SBAC-US20.

* 1 GB equals one billion bytes, a portion of which is used for data management functions.

- **Simultaneous RAW and onboard camera SxS recording**

Sony provides a coordinated "off-line, on-line" workflow with simultaneous recording to internal SxS cards and the optional AXS-R5 RAW recorder. For seamless conforming in post, you get matching time code, start frame, stop frame, file names and other metadata. The camera supports the following RAW + Onboard combinations: RAW 4K/2K + 2K/HD, RAW 4K/2K + MPEG-2 HD422 and RAW 2K + XAVC QFHD/4K.

- **Real world workflows with Avid DNxHD codec and Apple ProRes codec recording options**

Sony understands a fundamental truth: working cameras require practical workflows. That's why the F55 is part of a larger production platform that includes affordable media cards, affordable card readers, free

RAW Viewer software and compatibility with popular NLEs and finishing tools. Recording directly in Apple ProRes codec and Avid DNxHD codec are also available as hardware options. The DNxHD or ProRes files can be stored in the easy-to-manage MXF OP-1a wrapper, and recorded onboard to Sony's SxS PRO+ memory card format, which was specially designed to handle mission-critical production applications.

- **Vast exposure latitude to 14 f-stops**

The ability to render tones from deepest shadows to brightest highlights is a crucial test of any digital camera. The F55 excels, with an impressive 14 stops of exposure latitude, extraordinary low-light sensitivity and extremely low noise in the blacks.

- **True colour technology and S-Gamut/S-Log3 options**

Sony believes that your camera should not limit your colour palette. That is why the F55 incorporates the same advanced colour filter array technology as used in Sony's flagship F65, which is equipped with the industry's only 8K sensor. You get a colour gamut that's not only wider than other digital cameras, it is even wider than motion picture print film. S-Gamut/S-Log3 (Log Gamma that is close to Cineon gamma curve) allows users experienced in the Cineon workflow to start grading more easily.

- **Choice of viewfinders includes amazing OLED technology**

A digital interface on the F55 allows for a variety of optional viewfinders, including the DVF-EL100. This 0.7-inch* viewfinder has the incredible clarity of 1280 x 720 High Definition, plus superb OLED brightness, contrast and response. The DVF-L350 3.5-inch* LCD viewfinder has higher resolution (960 x 540) than previous Sony viewfinders, plus ten times the contrast. And the eyepiece flips up for direct monitoring. The DVF-L700 compact 7-inch* LCD viewfinder enables high resolution when shooting in 2K and 4K, not to mention pixel-for-pixel 1920 x 1080 representation of your HD images.

*Viewable area, measured diagonally.

- **Optional shoulder rig**

The optional Sony shoulder rig provides comfortable handheld operation, hour after hour. The rig is sturdy, lightweight and features industry-standard rosettes on both sides for quick and easy attachment of third-party hand grips and other accessories.

- **Small lightweight design for added versatility in 3D**

The small size of the F55 is particularly welcome in stereoscopic 3D shooting. The chassis is only slightly wider than a typical PL mount prime lens, perfect for both mirror rigs and side-by-side configurations.

- **Incredible flexibility with the choice of PL-mount, FZ-mount and still lenses**

The F55 is designed to accommodate PL-mount, FZ-mount and still 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 18 mm flange focal distance. It's perfect for accepting commercially available adaptors for still lenses, including Canon® EF, Canon FD, Nikon® DX, Nikon G, Leica® M and even 2/3-inch broadcast B4 lenses. There's also Sony's game-changing FZ-mount auto focus servo zoom: the SCL-Z18X140.

- **A new generation of Sony PL-mount lenses**

The F55 works with Sony's second generation, cost-effective PL mount prime lenses. Thanks to refined glass, all are certified for 4K capture, while minimizing geometric distortion, vignetting and breathing. A 9-blade iris delivers beautiful bokeh. The focus rings rotate 240°. The series includes focal lengths of 20, 25, 35, 50, 85 and 135 mm. For easy lens changes, all have the same T2.0 aperture, the same external diameter, matte box diameter, and gear locations for follow focus and aperture. All are the same size except for the 135 mm.

- **Intuitive one-touch interface and customisable user menu**

Carefully designed with significant input from cinematographers, the F55 provides an incredibly rich range of controls. And the interface is nicely intuitive. Instead of diving through menus, you get direct, one-touch access to key shooting parameters including frame rate, shutter speed, colour temperature, ISO sensitivity and gamma. Assignable buttons mean that favourite adjustments are always at your fingertips. A user customisable menu sits on top of the setup menu allowing users to access a choice of up to 20 menu items more quickly and easily. Menu control on sub display also allows you to set up without using the attached viewfinder. A selectable colour marker is available for users to use their favourite colour marker that is visible even in light conditions while shooting a white background.

- **Real-time 4K output and other vital connections**

The camera offers powerful connections, including real-time 4K output to a compatible monitor. It is made possible by four 3G-SDI outputs. There is also HDMI®, USB, DC in connection, 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. HDMI V2.0 support for 4K and QFHD at 29.97p, 50p and 60p allows users to connect Sony and other manufacturers' 4K TV sets to display 4K from the camera.

- **Long-life Olivine battery and quick charger**

The F55 takes advantage of Sony's innovative 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.

- **Revolutionary electronic Frame Image Scan**

The traditional CMOS image sensor uses a 'rolling' shutter that can result in images with unwanted distortions like motion skew and flash banding. That can be annoying, especially when shooting visual effects or 3D. Anything but typical, the F55 electronic Frame Image Scan. Rolling shutter distortions aren't minimised, they are completely eliminated.

Technical Specifications

General	
● Power Requirements	DC 12 V (11 V to 17 V)
● Power Consumption	Approx. 25 W (while recording XAVC 4K 60p, EVF Off, LCD monitor Off, 4K SDI On)
● Operating Temperature	0°C to 40°C 32°F to 104°F
● Storage Temperature	-20°C to +60°C -4°F to +140°F
● Mass	2.2 kg (without lens, handle, audio box and accessories) 4 lb 14 oz (without lens, handle, audio box and accessories)
● Dimensions (W x H x D) *1	130 x 125 x 191 mm (without protrusions) 5 1/8 x 5 x 7 5/8 inches (without protrusions)
● Battery Operating Time	Approx. 150 min with BP-FL75 Approx. 210 min with BP-GL95A
● Recording Format (Video)	XAVC (AVC/H.264 High 4:2:2 Intra Profile) 4K: VBR, 600 Mbps max. HD: SMPTE RP2027 Class100 compliant MPEG2 HD (MPEG-2 Long GOP) HD 422 mode: CBR, 50 Mbps max., MPEG-2 422P@HL *2
● Recording Format (Audio)	LPCM 8CH (2CH recording/playback), 24-bit, 48-kHz
● Recording Frame Rate	XAVC 4K (4096 x 2160): 23.98p/24p/25p/29.97p/50p/59.94p XAVC QFHD (3840 x 2160): 23.98p/25p/29.97p/50p/59.94p XAVC 2K (2048 x 1080): 23.98p/24p/25p/29.97p/50p/59.94p XAVC HD (1920x1080): 23.98p/25p/29.97p/50p/59.94p MPEG4 SStP (1920 x 1080): 23.98p/24p/25p/29.97p MPEG2 HD (1920x1080): 23.98p/25p/29.97p/50i/59.94i MPEG2 HD (1280 x 720): 50p/59.94p *3
● Recording/Playback Time	XAVC 4K, 23.98p: Approx. 25 min (SBP-64B)/Approx. 50 min (SBP-128B) 59.94p: Approx. 10 min (SBP-64B)/Approx. 20 min (SBP-128B) XAVC HD, 23.98p: Approx. 70 min (SBP-64B)/Approx. 140 min (SBP-128B) 59.94p: Approx. 30 min (SBP-64B)/Approx. 60 min (SBP-128B) MPEG2 HD: Approx. 60 min (SBS-32G1A)/Approx. 120 min (SBS-64G1A)

Camera Section	
● Imaging Device (Type)	Super 35mm equivalent Single-chip CMOS
● Imaging Device (Pixel Count)	11.6M (total), 8.9M (effective)
● Aspect Ratio	17:9
● Built-in Filters	Clear, 0.9 (1/8ND), 1.8 (1/64ND)
● Sensitivity (2000 lx, 89.9% reflectance)	Video Gamma: T12@24p (3200K light source)
● ISO Sensitivity	S-Log2 Gamma: ISO 1250 (D55 light source)
● Lens Mount	PL mount (with supplied lens mount adapter) FZ mount (without supplied lens mount adapter)
● Latitude	14-stop
● S/N Ratio	57dB (Video Gamma, 24p, Noise Suppression OFF)
● Shutter Speed	1/24s to 1/6,000s (23.98PsF)

● Shutter Angle	4.2° to 360° (electrical shutter)
● Slow Shutter (SLS)	2, 3, 4, 5, 6, 7, 8-frame accumulation
● Slow & Quick Motion Function	XAVC 4K/QFHD: 1-60p (NTSC), 23.98p/29.97p XAVC 4K/QFHD: 1-50p (PAL), 25p XAVC 2K/HD: 1-180p (NTSC), 23.98p/29.97p XAVC 2K/HD: 1-150p (PAL), 25p
● White Balance	Preset (3200K, 4300K, 5500K), Memory
● Gain	-3, 0, 3, 6, 9, 12, 18 dB, AGC
● Gamma Curve	Standard (x6) HG1, HG2, HG3, HG4, HG7, HG8 S-Log2 Gamma

Input/Output	
● Audio Input	CH-1/CH-2: XLR-type 3-pin (female) (x2), Line/Mic/Mic +48V (AES/EBU) *4 switchable
● DC Input	XLR-type 4-pin (male) (x1), 11 V to 17 V DC
● DC Output	4-pin (x2), 11 V to 17 V DC (max. 1.8 A) with battery adapter
● Viewfinder	Digital viewfinder interface (x1)
● SDI Output	BNC (x4), HD mode: SDI 1/2 Line Output, SDI 3/4 Monitor Output 4K mode: SDI 1/2/3/4 Line Output, Display On/Off switchable
● Test Output	BNC (x1), HD-Y or HD Sync (tri-level) V1.0
● Timecode Input/Output	TC IN/OUT (x1) switchable
● Genlock Input	BNC (x1)
● Remote	8-pin (x1)
● HDMI Output	A Type (x1)
● USB	USB host, type-A (x1)
● USB	USB device, Mini-B (x1)
● Headphone Output	Stereo mini jack (x1)
● Speaker Output	Monaural
● Shutter	BNC (x1) *4
● Wi-Fi	USB host, type-A (x1)

Media	
● Type	ExpressCard/34 slot (x2) SD card slot (x1)

Supplied Accessories	
● Supplied Accessories	Lens mount adapter (1) Battery adapter (1) Audio input connector (1) Screws for the audio input connector (4) Tape measure hook (1) USB wireless LAN module IFU-WLM3 (1) *4 Before Using this Unit (1) Operating Instructions (CD-ROM) (1)

Notes	
● Note	*1 The values for dimensions are approximate. *2 These are the supported formats at launch and will be added by future upgrades. *3 Some frame rates are not supported at launch and will be supported by future upgrades.

*4 To be supported by future upgrades.

Accessories

AXS



AXS-512S24
AXS Memory card, 512 GB capacity and 2.4 Gbps guaranteed write speed



AXS-A1TS24
AXS Memory A Series card, 1 TB capacity, 2.4 Gbps guaranteed write speed



AXS-A1TS48
AXS Memory A Series card, 1 TB capacity, 4.8 Gbps guaranteed write speed



AXS-A256S24
AXS Memory A Series card, 256 GB capacity, 2.4 Gbps guaranteed write speed



AXS-A512S24
AXS Memory A Series card, 512 GB capacity, 2.4 Gbps guaranteed write speed

Batteries and Power Supplies



BC-L90
High speed battery charger for BP-FL75 and V-Mount batteries



SCL-P11X15
Wide angle zoom lens for PMW-F3



SCL-PK6/F
CineAlta 4K PL mount lens pack x6 (feet)



SCL-PK6/M
CineAlta 4K PL mount lens pack x6 (metric)

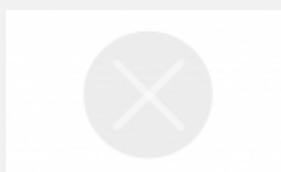


SCL-Z18X140
High Power Zoom Lens for PMW-F3

Option Boards, Modules and Plug-ins



CBK-55BK
EFP-style build-up kit for PMW-F55 and PMW-F5 CineAlta cameras



CBK-55PD
ProRes and DNxHD codec board for PMW-F55 and PMW-F5 CineAlta cameras



BP-FL75

Olivine long-lasting battery for F-series cameras

Camera Adaptors



AXS-AR1

AXS Memory and SxS Memory Thunderbolt card reader



AXS-CR1

Compact card reader for AXS media



AXS-R5

2K/4K external Portable Memory Recorder for PMW-F5 and PMW-F55 using AXS memory card.



AXS-R7

External 4K Portable Memory Recorder for F55 and F5



CA4000

4K fibre transmission camera adaptor



SKC-PB40

Power Booster Unit



CBKZ-55FX

PMW-F5 software upgrade for XAVC 4K and XAVC QFHD recording and playback

SxS Memory Card



SXS Pro Plus Memory Card

64GB, 128GB, and 256GB SxS Pro+ Series Memory Card

Tripods and Supports



VCT-FSA5

Shoulder mount accessory for PMW-F5, PMW-F55

Viewfinders



CBK-55AT

Viewfinder cable and attachment for F55 and F5



DVF-EL100

OLED 0.7-inch colour HD digital viewfinder



DVF-EL200

Full HD OLED viewfinder

Control Panels



RM-B170

Affordable handheld remote control unit for Sony studio cameras and camcorders

Lenses and Lens Adaptors



LA-FZB1

Cost effective lens mount adaptor from B4 mount to FZ mount



LA-FZB2

Lens mount adaptor from B4 mount to FZ mount



DVF-L350

LCD 3.5-inch colour HD digital viewfinder



DVF-L700

LCD 7-inch colour full HD digital viewfinder

XDCAM (Disc/Memory)



SBAC-US20

SxS PRO solid state memory USB 3.0 & 2.0 reader/writer



SBAC-US30

SxS PRO+ and SxS-1 solid state memory USB 3.0 reader/writer