





#### **Unlimited Creative Possibility**

For almost its entire history, cinema has used film as its recording medium. But recently this has changed drastically. In 1999, Sony released the first 24p digital motion picture production system, which was an important step in the shift toward digital production. In 2006, Sony launched the world's first 4K digital cinema projection system which has increased demand for high-quality digital content retaining 4K resolution. And now, following the introduction of Sony's F65 – an epoch-making digital cinema camera, Sony is launching some outstanding new products to strengthen its 4K toolset.

We have designed CineAlta™ 4K acquisition tools as 'total imaging systems' from sensor to codec for capturing the image rendered by lens with the utmost fidelity. Various cutting-edge technologies, such as a Super 35 mm imager, wider dynamic range and color gamut, high sensitivity, and high-speed recording systems, have been used in these camera systems, so that cinematographers can freely express their creative vision.

Regardless of any changes in technology or economy, our mission remains the same: to satisfy the ever-increasing demands of creative minds. Sony is committed to further elevating image quality and improving the visual experience. With this in mind, the CineAlta logo symbolizes 'infinity', which can also be thought of as 'unlimited creative possibility' and 'endless pursuit of perfecting technology'.





F65 CineAlta Premium 4K Camera





# Technology

Our top engineers have spent years creating breakthroughs in sensors, image processors, and recording media, and now we introduce new CineAlta 4K cameras that deliver unprecedented image quality.



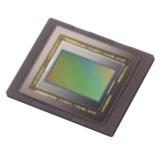


Produced by TV Globo with the F65.

## Spectacular Images from HD to 8K

#### Super 35mm 8K/4K CMOS Image Sensors

Cutting-edge image sensors are at the heart of CineAlta 4K cameras. The F65 has an 8K sensor, and the F55 and F5 have different types of 4K sensor. These Super 35 mm 8K/4K CMOS sensors deliver unparalleled 8K/4K/QFHD/2K/HD resolution images with extremely fine texture and low aliasing. Even if your postproduction and deliverables are in 2K/HD, these sensors provide gorgeous, super-sampled 2K/HD images that ordinary HD cameras cannot touch.



# Say Goodbye to the "Jello Effect" and "Flash Banding"

#### Frame Image Scan

The F55 incorporates a newly developed frame image scan technology, which completely eliminates the so-called "jello effect" and "flash banding" that are typical of other CMOS sensors. With this technology, you will never again hesitate to shoot fast-moving objects or a press conference flooded with flashlights.







Captured by the F55

#### Capture a Dramatic Moment

#### **High Frame Rate**

With CineAlta 4K cameras, you can record images at variable speeds up to 180 frames per second (fps) in 2K/HD with the F55 (120 fps with the F5)\*<sup>1</sup> and 120 fps in 4K with the F65. High-framerate recording allows you to create super-slow-motion effects, which can change an ordinary daily incident into a dramatic scene.



For illustrative purposes only.

<sup>\*&</sup>lt;sup>1</sup> High-frame-rate recording higher than 60 fps with the F55 and F5 will be supported by future upgrades. In addition, with an AXS-R5 RAW recorder, up to 240 fps in 2K RAW with the F55 (120 fps with the F5) will be supported by future upgrades.

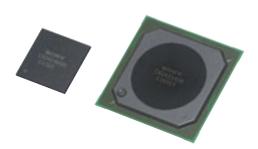


For illustrative purposes only.

### Beyond the Limit of Human Vision

#### Wide Exposure Latitude, High Sensitivity, and Low Noise

Sony's new image sensors and the in-camera image processors of CineAlta 4K cameras give you impressive 14 stops of exposure latitude, high sensitivity, and low noise. These cameras deliver superclear images, even if you are shooting interiors or night exteriors with only ambient lighting, and also enable graceful rendering of scene contrast even in searing sunlight.



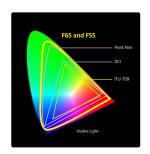


Captured by the F65.

#### More Colors than Print Film

#### Wide Dynamic Range and Color Gamut

CineAlta 4K cameras capture an incredible dynamic range, from deep shadow to bright highlights, and the widest color gamut ever, even wider than print film, and precisely reproduce the true color of what you see. These capabilities give colorists full flexibility in color correction during postproduction.





## Cost-efficient Production System for HD to 4K XAVC New Video Format

Sony has developed a new XAVC™ recording format that delivers workflow efficiency and optimized image quality. It uses the MPEG-4 AVC/H.264 compression codec, and supports HD, 2K, QFHD and 4K resolution \*¹ for variable content creation from TV programs to feature films. XAVC establishes a cost-efficient ecosystem for HD high-frame-rate and 4K 60p production, and this will accelerate the expansion of the 4K content market. Additionally, XAVC is an open format, and is supported by industry-leading manufacturers.

- · Support for HD, 2K, QFHD, and 4K resolution \*1
- · MPEG-4 AVC/H.264 video compression
- · 4:4:4, 4:2:2, 4:2:0 10-bit color sampling
- · 4K video recording at 23.98p, 24p, 25p, 29.97p, 50p, and 59.94p as native format \*2
- $\cdot$  High frame rate up to 180 fps in 2K/HD with the F55 for super-slow-motion  $^{*3}$
- Newly developed SxS PRO+ memory card for XAVC recording with the F55 and F5
- \*1 As for F55 and F5 supported formats, QFHD and 4K are supported only with the F55; 2K and QFHD will be supported by future upgrades.
- $\star^2$  XAVC 4K recording is not supported with the F5. 24p, 50p, and 50.94p with the F55 will be supported by future upgrades.
- $\star^3$  120 fps with the F5. Up to 60 fps in XAVC HD is supported at launch; other high-frame-rate recording will be supported by future upgrades.



SxS PRO+ Card SBP-128B



SxS Card Reader/Writer SBAC-US20

# **AXSM**

#### **Easier and Faster RAW Workflow**

#### **AXSM System**

To retain all the 4K RAW data from F55 and F5 CMOS Image Sensors we had to develop an ultra-high-speed, high-capacity recording system that was also computer-friendly and cost-efficient. This was successfully achieved with the AXSM $^{\text{TM}}$  system.

#### **AXSM Card**

By employing Sony's unique high-speed recording technology, AXSM card offers a 512 GB capacity and 2.4 Gbps (300 MB/s) sustained transfer speed to record 4K RAW data up to 60p and 2K RAW data up to 240 fps \*1 via an AXS-R5 RAW recorder with the F55. In addition, the generic exFAT file system makes the AXSM card more computer-friendly when used with an economical card reader, the AXS-CR1, which has a USB3.0 interface for high-speed file transfer to your computer without any special driver software.



AXSM Card AXS-512S24



RAW Recorder AXS-R5



AXSM Card Reader AXS-CR1

<sup>\*1</sup> Will be supported by future upgrades.

# F65

The F65 is the ultimate CineAlta camera, optimized for cinema production.





#### F65 CineAlta Premium 4K Camera

featuring an 8K CMOS Image Sensor, premium image quality, and 4K 120p recording

- · Super 35 mm 8K CMOS imager (20 M pixels)
- · Mechanical rotary shutter and ND filters
- · Wide color gamut and true-color reproduction
- · 14 stops of exposure latitude
- · High sensitivity (ISO 800) and low noise
- · On-board recording on SRMemory™ card via an SR-R4 recorder \*1
- · High-frame-rate recording up to 120 fps in F65RAW-HFR

#### F65 Upgrade (planned for 2013)

- · DVF-EL100 OLED digital viewfinder support
- · Advanced de-mosaic in 6K by new RAW Viewer
- · Magnify, LUT, etc. can be applied to each SDI output independently
- $\cdot\,48p\ production\ support$



 $<sup>^{\</sup>star 1}$  F65RAW (F65RAW-SQ, F65RAW-Lite, and F65RAW-HFR) and MPEG4 SStP are supported.

## Voice



© 2012 Film and Digital Times, Inc.



Taylor Swift's latest music video. Photo © Nigel Barker.

"I'm a film guy. I'm coming to digital cameras from that point of view. I thought it was very good. The 4K image — I hesitate to use "film look" because I think digital is digital and film is film — but there is a certain grain quality to it that I actually liked. It's got enormous latitude. There's a highlight and shadow so that you can actually see what you are getting in the shadows and in the highlights on a normal monitor, which I thought is a great innovation. The low light performance is fantastic. I thought that the color space is very good. They've really achieved something."

- Paul Laufer, cinematographer for Taylor Swift's latest music video shot with the F65



Two F65 cameras on a CC3D rig. Photo © Francis Hanneman.

"I'd shot in Jerusalem maybe a dozen times before, but this was a dream come true because I really felt we had never captured the city itself and the diversity of its imagery quite like we did this time in large format and 3D. I knew we wanted to have the highest resolution possible and the Sony F65 certainly gave it to us. The camera's 8K image quality is extraordinary."

- Reed Smoot, ASC director of photography for "Jerusalem 3D IMAX" shot with the F65

# F55/F5

The F55 and F5 look very similar — both have the same compact body to accept the same accessories — but they vary in features. The F55 is designed for HD to 4K production, while the F5 is optimized for 2K/HD production.

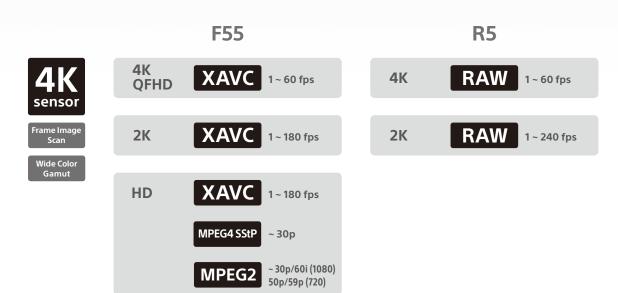




#### F55 CineAlta 4K Camera

#### featuring a 4K CMOS Image Sensor, truecolor reproduction, and frame image scan for HD to 4K production

- · Super 35 mm 4K CMOS imager (8.9 M effective pixels)
- · Frame image scan to eliminate rolling shutter skew
- · Wide color gamut and true-color reproduction
- · 14 stops of exposure latitude
- · High sensitivity (ISO 1250) and low noise
- · In-camera recording on SxS card \*1
- · On-board RAW recording on AXSM card via the AXS-R5 \*2
- · High-frame-rate recording \*3
- · Simultaneous recording on the same SxS PRO+ card \*4
- · Compact and modular design
- · PL mount with supplied lens mount adapter
- \*1 MPEG2 HD and XAVC 4K/HD are supported at launch; XAVC QFHD/2K and MPEG4 SStP (Simple Studio Profile) HD will be supported by future upgrades. XAVC and MPEG4 SStP are supported only with SxS PRO+.
- \*2 4K RAW is supported at launch; 2K RAW will be supported by future upgrades.
- \*3 Up to 60 fps in XAVC HD is supported at launch; up to 180 fps in XAVC 2K/HD, 60 fps in XAVC 4K/QFHD, 240 fps in 2K RAW (via the AXS-R5), and 60 fps in 4K RAW (via the AXS-R5) will be supported by future upgrades.
- \*4 XAVC 4K/MPEG2 HD recording is supported at launch; XAVC QFHD/MPEG2 HD recording will be supported by future upgrades. In addition, dual recording on slot A and B in 2K/HD, and simultaneous recording via the F55 in XAVC/MPEG2 HD and AXS-R5 in 4K/2K RAW will be supported by future upgrades.



#### F5 CineAlta 4K Camera

featuring a 4K CMOS Image Sensor, superior super-sampled 2K/HD images, and 4K RAW recording option

- · Super 35 mm 4K CMOS imager (8.9 M effective pixels)
- · Rich color reproduction
- · 14 stops of exposure latitude
- · High sensitivity (ISO 2000) and low noise
- · In-camera recording on SxS card \*1
- · On-board RAW recording on AXSM card via the AXS-R5 \*2
- · High-frame-rate recording \*3
- · Simultaneous recording \*4
- · Compact and modular design
- · PL mount with supplied lens mount adapter



F5 R5

4K RAW 1~60 fps

2K XAVC 1~120 fps

2K RAW 1~120 fps

~ 30p

~ 30p/60i (1080)

50p/59p (720)

<sup>\*1</sup> MPEG2 HD and XAVC HD are supported at launch; XAVC 2K and MPEG4 SStP HD will be supported by future upgrades. XAVC and MPEG4 SStP are supported only with SxS PRO+

<sup>\*2 4</sup>K RAW is supported at launch; 2K RAW will be supported by future upgrades.

 $<sup>^{*3}</sup>$  Up to 60 fps in XAVC HD is supported at launch; up to 120 fps in XAVC 2K/HD, 120 fps in 2K RAW (via the AXS-R5), and 60 fps in 4K RAW (via the AXS-R5) will be supported by future upgrades.

<sup>\*4</sup> Dual recording on slot A and B in 2K/HD, and simultaneous recording via the F5 in XAVC/MPEG2 HD and the AXS-R5 in 4K/2K RAW will be supported by future upgrades.







Тор

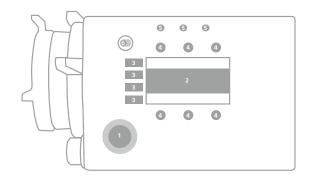


Bottom

## Well-designed Connector Layout

The F55 and F5 offer powerful connections, including real-time 4K output to a compatible monitor via four 3G-SDI outputs. They also offer HDMI, USB, a detachable XLR audio input box, timecode, genlock, DC connection, and more, enabling you to build the best configuration for your shooting situation.





- 1. Easy-to-navigate MENU dial
- 2. Current status display
- 3. x 4 category menus (Camera, File, Audio/TC, View)
- 4. x 6 direct access buttons for frequently-used setup items
- 5. x 4 assignable buttons (one on the other side)
- 6. Lock key for preventing operational errors

#### **Intuitive User Interface**

The F55 and F5 provide a rich range of controls via a nicely intuitive interface for quick, easy setup and adjustment. They have a color 3.5-inch LCD panel and direct, one-touch access buttons to six key parameters, including shutter speed, color temperature, and ISO sensitivity. Additionally, assignable buttons allow you to keep your favorite adjustments always at your fingertips.



## **Total Camera System Solution**

With a compact, modular design camera body, the F55 and F5 offer a total camera system solution — including newly developed viewfinders, a RAW recorder, and 4K monitor — for 4K and future content creation. You'll find these cameras are easy to configure according to your target projects.

- 1. 3.5-inch QHD LCD viewfinder
- 2. 0.7-inch 720 HD OLED viewfinder
- 3. 7-inch Full HD LCD viewfinder
- 4. PL/T2 lens set
- 5. RAW recorder
- 6. New Olivine battery

- 7. Shoulder adapter
- 8. SxS PRO+ card
- 9. AXSM card
- 10. SxS card reader/writer
- 11. AXSM card reader
- 12. 30-inch 4K LCD monitor





#### PL Mount Prime Lens and More

A new 6 x PL mount prime lens set has been developed for the F55 and F5. The set includes focal lengths of 20, 25, 35, 50, 85, and 135 mm. Each is certified for 4K capture, while minimizing geometric distortion, vignetting, and breathing. For easy lens changes, all lenses have a consistent design such as an aperture of T2. A 9-blade iris delivers beautiful bokehs and focus rings rotate 240°. In addition, by removing the supplied PL mount adapter, a native FZ mount allows the F55 and F5 cameras to accept FZ mount lenses directly, and SLR and DSLR lenses via third-party adapters, all without optical degradation. In short, this gives you great flexibility in lens choice.



FZ Power Zoom Lens SCL-Z18X140



PL Wide Angle Zoom Lens SCL-P11X15



PL Mount Adapter (supplied with the F55 and F5)

#### TRIMASTER





#### PVM-X300 TRIMASTER 4K Monitor

The PVM-X300 is a 30-inch\*¹ 4096 x 2160 resolution monitor for powerful support of 4K monitoring in the field. It incorporates Sony's exclusive TRIMASTER™ technology architecture, achieving excellent color and picture quality reproduction.

- · 30-inch \*1, 4096 x 2160
- · True 4K RGB 10-bit LCD, IPS wide viewing angle, ITU-R BT.709 color space
- · Wide variety of 4K interface: 3G SDI (x 4), HDMI (x 4), Display port (x 2) \*2
- · SxS 4K player for XAVC 4K/HD (option) \*2
- · HDMI x 1 cable connection with the F55 (up to 4K 60p)
- · Selectable control system (control panel, optional BKM-16R Control Unit \*2, PC \*2)
- · Zoom\*2, Camera Focus, Stereo Audio Output
- · Marker Display\*<sup>2</sup>, Auto White Adjustment\*<sup>2</sup>

#### SxS 4K Player (Option)\*

The PVM-X300 can incorporate an optional 4K player, which is capable of easy playback of 4K content. The newly developed SxS PRO+ high-speed memory media, which supports XAVC 4K and XAVC HD high-frame-rate recording, can be inserted into the player providing quick viewing of 4K camera images and 4K programs from nonlinear editing systems. This sets you free from preparing expensive, fragile HDD external players or struggling with complicated wired connections.



For illustrative purposes only.

<sup>\*1 767.1</sup> mm viewing area, measured diagonally

<sup>\*2</sup> Will be supported from the monitor firmware version 1.1 or later.

<sup>\*</sup> Will be supported from the monitor firmware version 1.1 or later.

\*\* Will be supported by future upgrades.



#### **Recording System**

When it comes to production, one recording format emphatically does not fit all. That is why the F55 and F5 give you not one but various useful recording formats with several types of recording media.

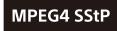
#### **Recording Formats**



This is the standard format for HD TV production. The 50 Mbps 4:2:2 codec is robust with superb pictures and compact files. The workflow is well established with widespread third-party support.



The next-generation of H.264/AVC intra-frame coding, this format establishes a cost-efficient ecosystem for HD high-frame-rate and 4K 60p production. It supports HD to 4K with superb efficiency and beautiful 10-bit pictures.



This standard format for high-end production, postproduction, and program exchange is also known as SR codec. It is a visually loss-less codec with superior picture quality, and is supported by a robust SR workflow.



This ultimate 16-bit linear RAW format preserves all the information captured in 4K/2K with 16 times more tonal values than 12-bit RAW. It is supported by an F65RAW workflow.

#### **Recording Media**



High-speed, high-capacity, compact and compatible media









Ultra-high-speed, high-capacity, and costefficient media for AXSM system products





Ultra-high-speed and high-capacity media for SRMASTER™ products



## F55/F5 Recording Format

Format	Resolution	Color Sampling Bit-depth	Frame Rate**	S&Q***	Recording Media
MPEG2	HD 1920 × 1080	422 8-bit	23.98/25/29.97p 50/59.94i	N/A	SxS-1 SxS PRO
	HD 1280 × 720	422 8-bit	50/59.94p	N/A	SxS PRO+
XAVC	HD 1920 × 1080	422 10-bit	23.98/25/29.97/ 50/59.94p	1 to 180 fps (F55) 1 to 120 fps (F5)	SxS PRO+
	2K* 2048 × 1080	422 10-bit	23.98/24/25/29.97/ 50/59.94p	1 to 180 fps (F55) 1 to 120 fps (F5)	
	QFHD (F55 only)* 3840 × 2160	422 10-bit	23.98/25/29.97/ 50/59.94p	1 to 60 fps	
	4K (F55 only) 4096 × 2160	422 10-bit	23.98/24/25/29.97/ 50/59.94p	1 to 60 fps	
MPEG4 SStP*	HD 1920 × 1080	422 10-bit 444 10-bit	23.98/24/25/29.97p	N/A	SxS PRO+
F55/F5 RAW (via R5)	2K* 2048 × 1080	16-bit Linear	N/A	1 to 240 fps (F55 + R5) 1 to 120 fps (F5 + R5)	AXSM
	4K 4096 × 2160	16-bit Linear	<b>23.98</b> /24/ <b>25/29.97</b> /50/59.94p	1 to 60 fps (F55/F5 + R5)	

<sup>\*</sup> Will be supported by future upgrades.

<sup>\*\*</sup> The frame rates written in red are supported at launch; the other frame rates will be supported by future upgrades.

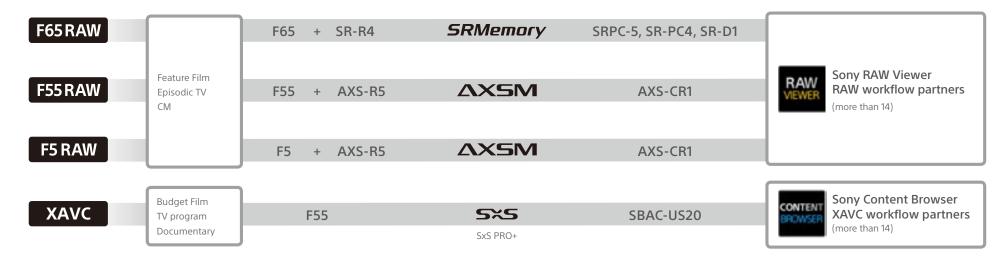
<sup>\*\*\*</sup> Up to 60 fps in XAVC HD is supported at launch; other high-frame-rate recording will be supported by future upgrades.

#### Workflow

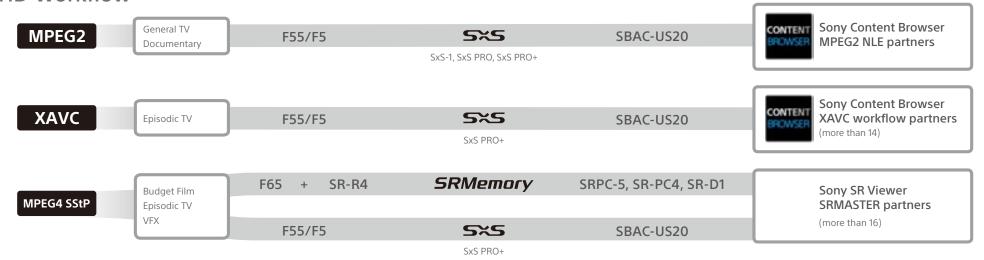
To give you maximum flexibility in postproduction, we offer several 4K workflows including 16-bit linear ACES \*1 workflows. Meanwhile, working cameras still require practical HD workflows with cost-efficient, compatible tools. We support both.

\*1 ACES: Academy Color Encoding Specification.

#### **4K Workflow**



#### **HD Workflow**



System & Workflow

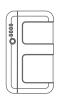
#### **System Configuration**

The F55 and F5 are remarkably small, light, and modular, enabling you to build the right configuration for each job or each shot. These cameras accept Sony's newly designed accessories and industry-standard accessories, offering flexible system configuration to fit into any shooting style, from simple documentary shooting, flying on a jib, and Steadicam operation, to fully rigged for formal cinematography.



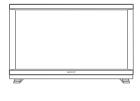


7" FHD LCD VF









30" 4K Monitor PVM-X300



3.5" QHD LCD VF DVF-L350

DVF-L700



**Battery Charger** BC-L90







AXSM Card AXS-512S24



PL Mount Prime Lens Set SCL-PK6/F or /M SCL-PK3/F or /M





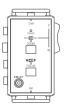




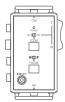
**AXSM Card Reader** AXS-CR1



Remote Control Unit RM-B170



**Demand Converter Box** CBK-DCB01



Matte Box



Follow Focus

Shoulder Adapter VCT-FSA5



Bridge Plate



RAW Recorder AXS-R5

# Appendix 13

## Specifications

General  Power Requirements  Power Consumption  Operating Temperature  Storage Temperature  Mass  Dimensions (W x H x D)	DC 10.5 V to 17 V  Approx. 65 W (mechanical rotary shutter operating) (without lens, viewfinder, at 23.98PsF mode)  0°C to 40°C (32°F to 104°F)  -20°C to +60°C (-4°F to +140°F)  5.0 kg (11 lb) (6.5 kg (14 lb 5 oz) with accessories)	DC 12 V (11 V to 17 V)  Approx. 25 W (while recording XAVC 4K 60p, EVF Off, LCD monitor Off, 4K SDI On)  0°C to 40°C (32°F to 104°F)  -20°C to +60°C (-4°F to +140°F)	DC 12 V (11 V to 17 V)  Approx .24 W (while recording XAVC HD 60p, EVF Off, LCD monitor Off, HD-SDI On)  0°C to 40°C (32°F to 104°F)
Power Consumption Operating Temperature Storage Temperature Mass	Approx. 65 W (mechanical rotary shutter operating) (without lens, viewfinder, at 23.98PsF mode) $0^{\circ}\text{C}$ to $40^{\circ}\text{C}$ (32°F to $104^{\circ}\text{F})$ $-20^{\circ}\text{C}$ to $+60^{\circ}\text{C}$ (-4°F to $+140^{\circ}\text{F})$	Approx. 25 W (while recording XAVC 4K 60p, EVF Off, LCD monitor Off, 4K SDI On) 0°C to 40°C (32°F to 104°F)	Approx .24 W (while recording XAVC HD 60p, EVF Off, LCD monitor Off, HD-SDI On)
Operating Temperature Storage Temperature Mass	0°C to 40°C (32°F to 104°F) -20°C to +60°C (-4°F to +140°F)	0°C to 40°C (32°F to 104°F)	
Storage Temperature Mass	-20°C to +60°C (-4°F to +140°F)		0°C to 40°C (32°F to 104°F)
Mass		-20°C to +60°C (-4°F to +140°F)	
	5.0 kg (11 lb) (6.5 kg (14 lb 5 oz) with accessories)		-20°C to +60°C (-4°F to +140°F)
Dimensions (W x H x D)		2.2 kg (4 lb 14 oz) (without lens, handle, audio box and accessories)	2.2 kg (4 lb 14 oz) (without lens, handle, audio box and accessories)
		151 x 189 x 210 mm (7 1/8 x 7 7/8 x 12 1/4 inches) (without protrusions)	151 x 189 x 210 mm (7 1/8 x 7 7/8 x 12 1/4 inches) (without protrusions)
Camera Section			
Imaging Device (Type)	1-chip Super 35 mm type CMOS	Super 35mm equivalent Single-chip CMOS	Super 35mm equivalent Single-chip CMOS
Imaging Device (Pixel Count)	20 M (total), 19 M (effective)	11.6 M (total), 8.9 M (effective)	11.6 M (total), 8.9 M (effective)
Aspect Ratio	17:9		
Built-in Filters	Clear, ND0.9 (1/8ND), ND1.2 (1/16ND), ND1.5 (1/32ND), ND1.8 (1/64ND)	Clear, 0.9 (1/8ND), 1.8 (1/64ND)	Clear, 0.9 (1/8ND), 1.8 (1/64ND)
Sensitivity (2000 lx, 89.9% reflectance)	ISO800	Video Gamma: T11@24p (3200K light source)	Video Gamma: T13 @24p (3200K Light source)
ISO Sensitivity		S-Log2 Gamma: ISO 1250 (D55 Light source)	S-Log2 Gamma: ISO 2000 (D55 Light source)
Lens Mount	ø54 mm PL mount	PL mount (with supplied lens mount adapter) FZ mount (without supplied lens mount adapter)	PL mount (with supplied lens mount adapter) FZ mount (without supplied lens mount adapter)
Flange Focal Length	52.00 mm (+/-0.04 mm adjustable in 0.01 mm increments by shim replacement)		
Latitude	14-stop	14-stop	14-stop
Shutter Speed		1/24s to 1/6,000s	1/24s to 1/6,000s
Shutter Angle		4.2°to 360°(electrical shutter)	4.2°to 360°(electrical shutter)
Slow Shutter (SLS)		2, 3, 4, 5, 6, 7, and 8-frame accumulation	2, 3, 4, 5, 6, 7, and 8-frame accumulation
White Balance		Preset (3200K, 4300K, 5500K), Memory, ATW	Preset (3200K, 4300K, 5500K), Memory, ATW
Gain		-3, 0, 3, 6, 9, 12, 18 dB, AGC	-3, 0, 3, 6, 9, 12, 18 dB, AGC
Gamma Curve		Standard (x6), HG1, HG2, HG3, HG4, HG7 and HG8, S-Log2 Gamma	Standard (x6), HG1, HG2, HG3, HG4, HG7 and HG8, S-Log2 Gamma
Input/Output			
Audio Input		CH-1/CH-2: XLR-type 3-pin (female) (x2), Line/Mic/Mic +48V/AES/EBU selectable	CH-1/CH-2: XLR-type 3-pin (female) (x2), Line/Mic/Mic +48V/AES/EBU selectable
Video Output	BNC (x1), 75 Ω, 1.0 Vp-p	HD-Y or HD Sync (tri-level) V1.0	HD-Y or HD Sync (tri-level) V1.0
Audio Output		Phono jack (CH-1, CH-2)	Phono jack (CH-1, CH-2)
DC Input	Lemo 8-pin (male) (x1), DC 10.5 V to 17 V, DC 20 V to 30 V	4-pin (x1), 11 V to 17 V DC	4-pin (x1), 11 V to 17 V DC
DC Output	DC 12 V: 11-pin (x1), max. 4 A, DC 24 V: 3-pin (x1), max. 4 A	4-pin (x1), 11 V to 17 V DC (MAX 2.0A) w/ battery adapter	4-pin (x1), 11 V to 17 V DC (MAX 2.0A) w/ battery adapter
Viewfinder	20-pin (x1)		
Lens	12-pin (x1)		
SDI Output	BNC (x2), HD-SDI (4:2:2)	HD mode: SDI MAIN OUT 1/2, SDI SUB OUT 3/4 (character on/off) 4K mode: SDI MAIN/SUB OUT 1/2/3/4 (character on/off), HD-SDI/3G-SDI switchable	SDI MAIN OUT 1/2, SDI SUB OUT 3/4 (character on/off)
Timecode Input/Output		TC IN/OUT (x1) switchable	TC IN/OUT (x1) switchable
Genlock Input	BNC (x1), 75 Ω, HD 3-level sync, 0.6 Vp-p	BNC (x1)	BNC (x1)
Remote	8-pin (x1)	8-pin (x1)	8-pin (x1)
HDMI Output		A Type (x1)	A Type (x1)
External Input/Output	Lemo 5-pin (female) (x1)		
Ethernet	RJ-45 type (x1), 10BASE-T/100BASE-TX		
USB	Type A, USB2.0 Hi-Speed (x1)	USB device, Mini-B (x1), USB host, type-A (x1)	USB device, Mini-B (x1), USB host, type-A (x1)
Headphone Output		Stereo mini jack (x1)	Stereo mini jack (x1)
Speaker Output		Monaural	Monaural
Shutter		BNC (x1)	BNC (x1)
Supplied Accessories	Belt bracket (1), Cable clamp belt (1), 19mm dia carbon rod (1), +B3 x 5 screws (4), Center handle (1), Viewfinder mounting plate (1), Riser plate (1), Power cable connector (LEMO 8-pin) (1), Operation manual (CD-ROM) (1), Operation guide (1)	Lens mount adapter (1), Battery adapter (1), Audio Input Box (1), CD-ROM (1), Operating Instructions (English) (1), Operating Instructions (Japanese) (1)	Lens mount adapter (1), Battery adapter (1), Audio Input Box (1), CD-ROM (1), Operating Instructions (English) (1), Operating Instructions (Japanese) (1)



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The F65, PMW-F55, and PMW-F5 are produced at Sony EMCS Corporation Tokai TEC, which has received ISO14001 Environmental Management System certification.





