SONY

CineAlta Catalog 2015

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'.

VOICE

Since Sony introduced the F65, their quality has been acclaimed by users worldwide including professionals engaged in cinema, drama, documentary, and many other creative productions.
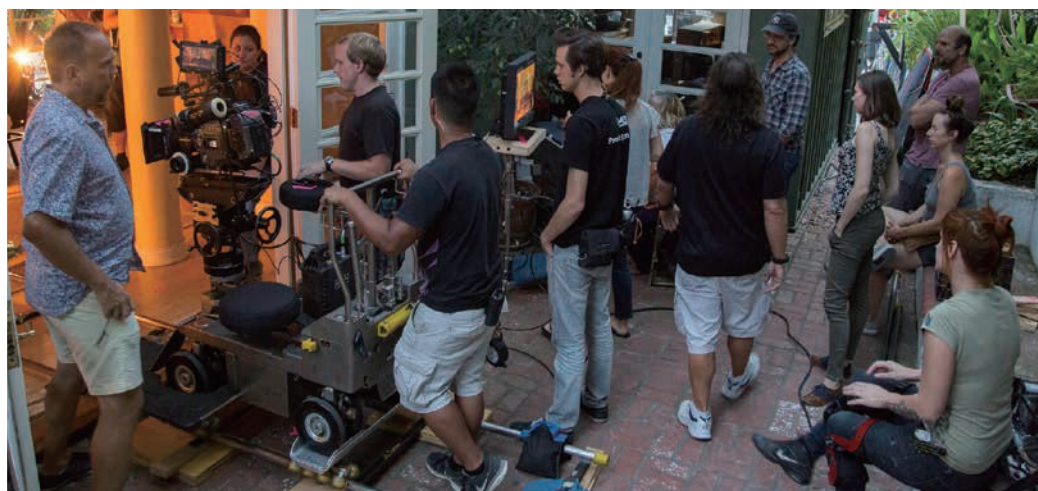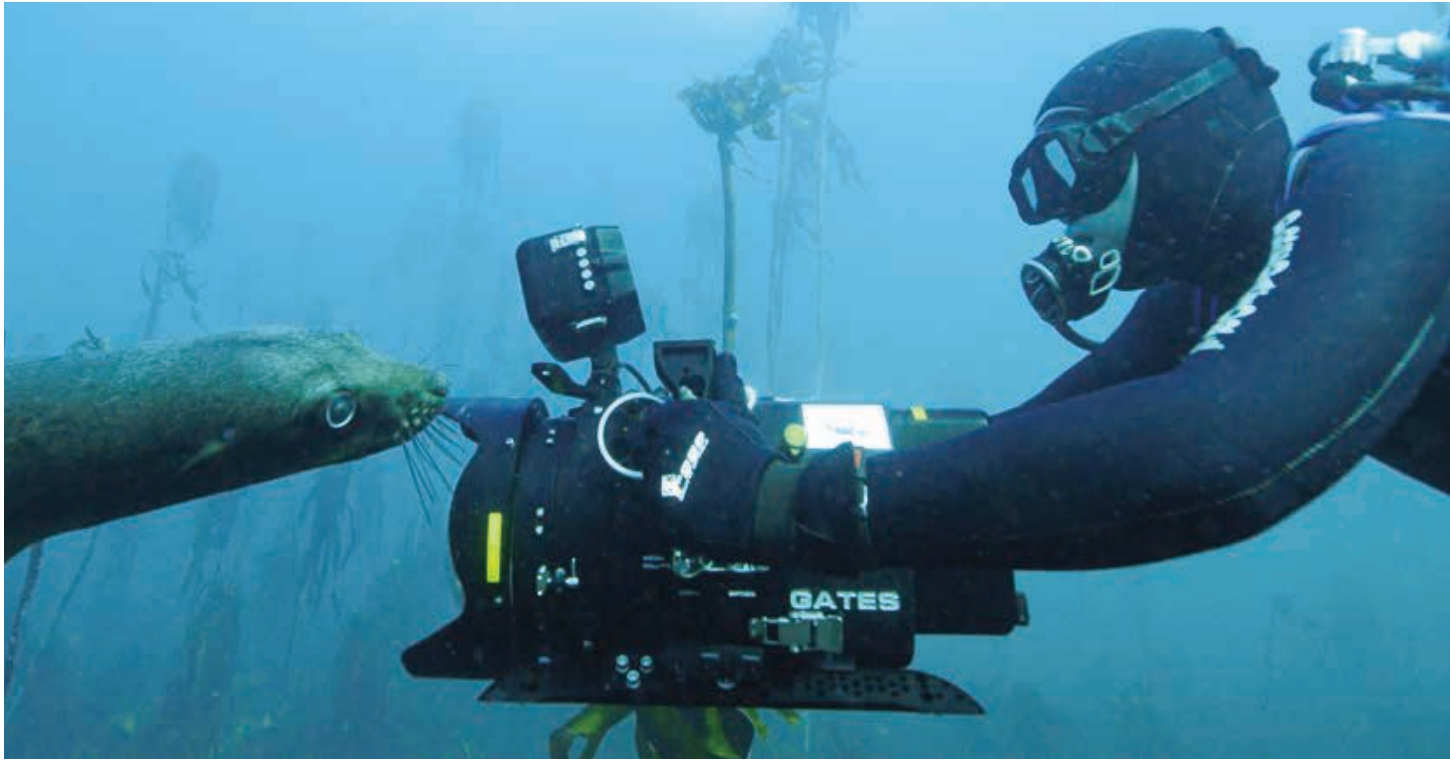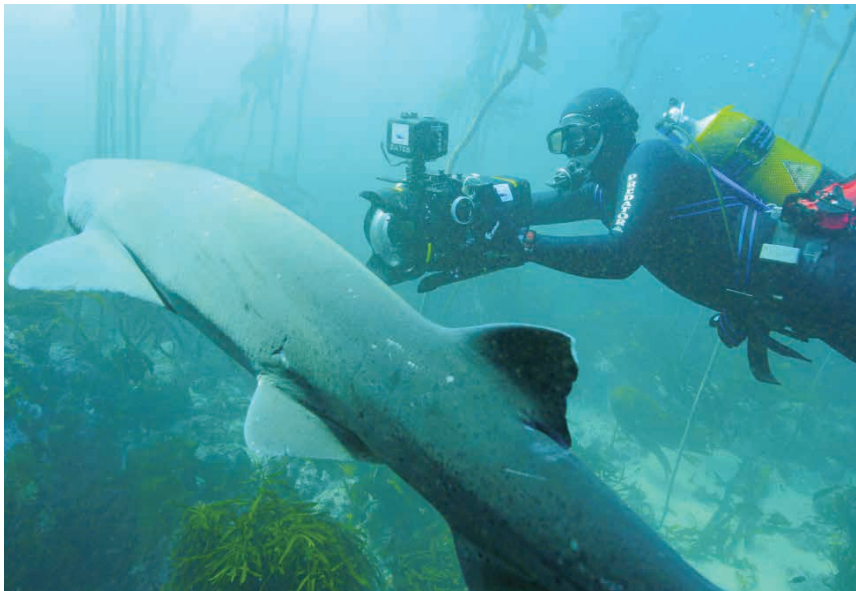
Annie

Since we were shooting 16-bit 4K RAW, we had enormous latitude with dynamic range, color, and gamma. It was unbelievable, and I would always be shocked in certain scenarios at what the cameras could do.

Michael Grady
Cinematographer of the "Annie"

F55 Digital Cinema Housing by GATES

A First Look

When Grading footage from our dives, we can match the colors exactly, getting completely faithful color reproduction. The footage has an ethereal, otherworldly quality, which I think simply comes from the amount of detail it captures.

Dan Beecham,
Underwater cameraman based in Cape Town, South Africa

Let's Be Cops

I was definitely going to have an F65 on Let's Be Cops, and I did. But on this film, it looked like we would also need cameras that were more portable. I had tested the F55 for image quality and I saw that I could intercut the two cameras if I had to.

Daryn Okada, ASC
Cinematographer of the "Let's Be Cops"

Tomorrowland

On Tomorrowland we were able to use F55 cameras when we wanted to get into small, tight places or required a lightweight package. So it was a great complement to the F65. The F55 is an amazing little camera that just fits. It has a great, nice, open beautiful color space. It's simple to use.

Claudio Miranda, ASC
Cinematographer of the "Tomorrowland"

Audi

With the F65 analog film quality is really becoming digital. Using the F65 with the right lenses is giving me the opportunity to create pictures which are so clear and perfect as looking through your own eyes. If a project needs on the other hand a more analog look I can add some grain to it which makes the F65 a perfect tool for different requirements and applications.

Berti Kropac,
Director of Photography, KROPAC MEDIA
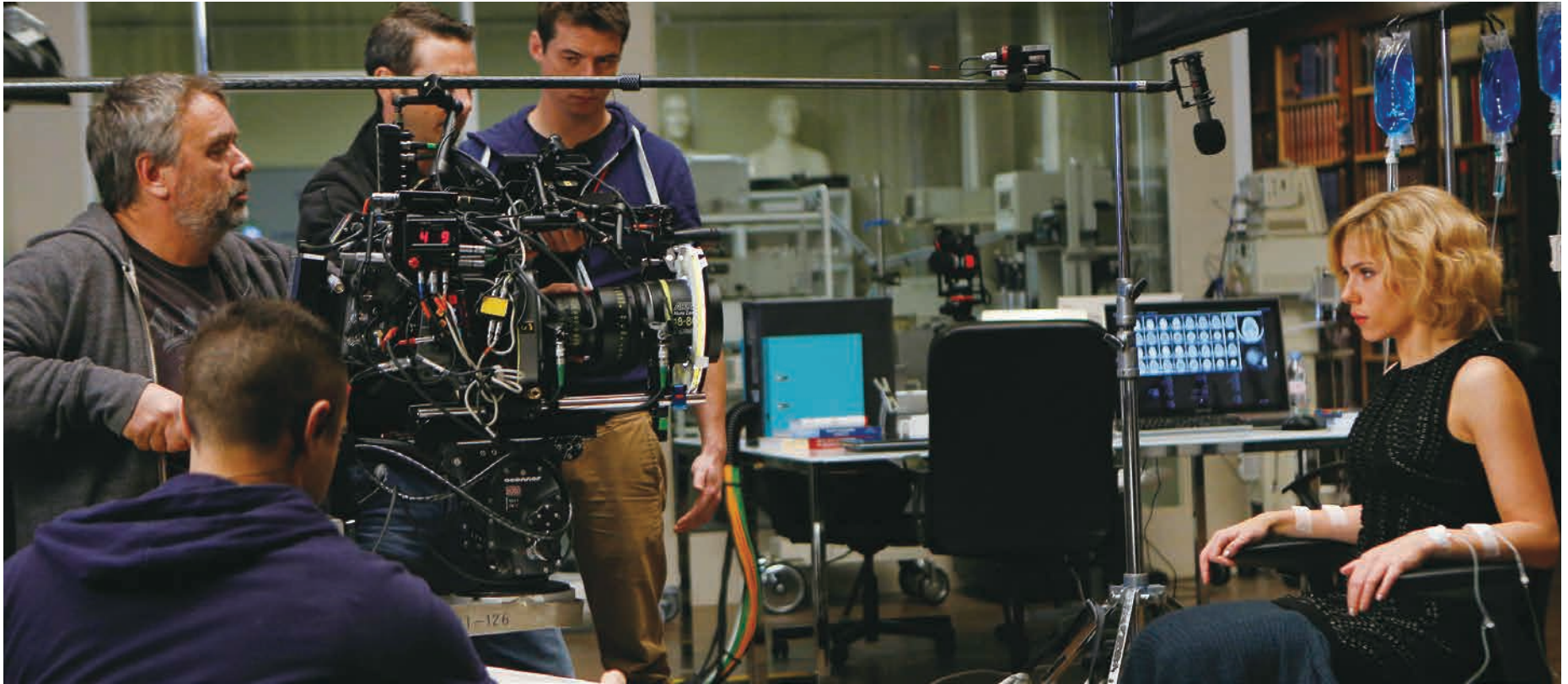
LUCY

A huge draw for Luc Besson was the color fidelity and rendition of skin tones. The colors were really there; we could pick out the blue of the sweater and the carnations seemed very natural.
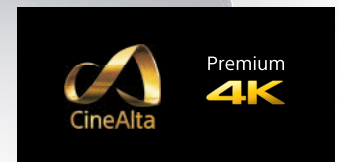
Thierry Arbogast, AFC
Director of Photography on "LUCY"

CineAlta 4K Cameras

F65 CineAlta Premium 4K Camera

F55 CineAlta 4K Camera   **F5** CineAlta 4K Camera

4K CineAlta

Technology

Our top engineers have spent years creating breakthroughs in image sensors, image processors, and recording media, and now we introduce new CineAlta 4K cameras that deliver unprecedented image quality.
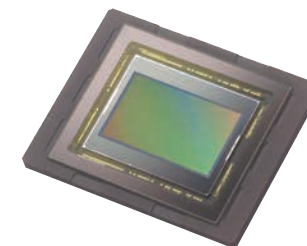
Captured by the F65

Spectacular Images from HD to 8K

Super 35mm 8K/4K CMOS 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. In addition, Sony has provided the PWS-300SR1 which is able to develop superb resolution free aspect images up to 8K from F65RAW by the SRDM technology, Super Resolution De-Mosaicing processor.

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.

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 super-clear 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.
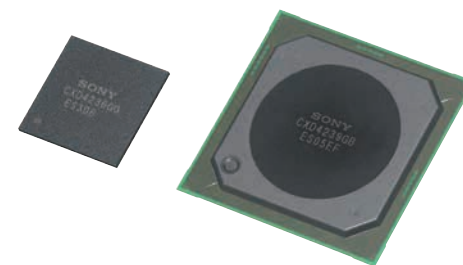
Capture a Dramatic Moment

High Frame Rate

With CineAlta 4K cameras, you can record images at variable speeds of up to 240 frames per second (fps) in 2K with the F55 and F5 (with the AXS-R5)[1] as well as 120 fps in 4K with the F65 (with the SR-R4). High-frame-rate recording allows you to create super-slow-motion effects, which can change an ordinary daily incident into a dramatic scene.

[1] Maximum 180 fps in 2K/HD without the AXS-R5.

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.
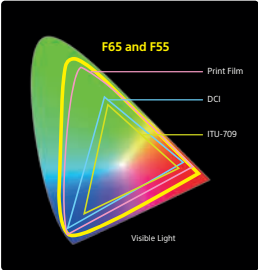
Maximum Color Management Flexibility

With the CineAlta camera's widest mastering color gamut – known as S-Gamut and S-Gamut3 – Sony offers maximum flexibility of color management workflow. The Catalyst Browse and the RAW Viewer is a free solution with color grading and transcoding capabilities that work in close alignment with third-party color grading applications and also non-linear editing systems.

Catalyst

Catalyst Browse is a media assistant that lets you browse files, see and edit media metadata, accurately view video, and apply color correction and looks. And you can copy material to a local hard drive or connected NAS or upload to Sony's Media Cloud Services Ci, and transcode to a variety of formats.

RAW Viewer

RAW Viewer is specialized for checking quality of F65RAW, F55RAW, SStP and XAVC materials and deep color controls. It has total color grading functions and the capability to output HD-SDI signals and support control panels from third-party vendors.

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 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
· MPEG-4 AVC/H.264 video compression
· 10-bit color sampling
· 4K video recording at 23.98p, 24p, 25p, 29.97p, 50p, and 59.94p as native format
· High frame rate up to 180 fps in 2K/HD for super slow motion
· Newly developed SxS PRO+ and XQD memory card for XAVC recording with
  the F55 and F5

SxS PRO+ Card
SBP-128C

SxS Card Reader/Writer
SBAC-US30

Multi SxS Card Reader/Writer
SBAC-UT100

XQD™ Memory Card*[1]
128GB

XQD USB Adaptor

XQD™ Memory Card Adaptor
QDA-EX1

*[1] Please use XQD USB Adaptor or XQD Card Reader MRW-E80 for data transferring.

AXSM

Easier and Faster RAW Workflow

AXSM System

To retain all the 4K RAW data from F55 and F5 sensors, Sony 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™ system.

AXSM Card

By employing Sony's unique high-speed recording technology, each AXSM card offers a 256 GB/512 GB/1 TB capacity and 2.4 Gbps (300 MB/s) sustained transfer speed to record 4K RAW data at up to 60p and 2K RAW data at up to 240 fps via an AXS-R5 RAW recorder with the F55 and F5. In addition, the generic exFAT file system makes the AXSM card more computer friendly when used with an economical card reader, the AXS-CR1. This card reader has a USB3.0 interface for high-speed file transfer to your computer without any special driver software.

RAW Recorder
AXS-R5

AXSM Card Reader
AXS-CR1

AXSM Card
AXS-A1TS24

AXSM Card
AXS-A512S24

AXSM Card
AXS-A256S24

AXSM Card Adapter

F65

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

F65 CineAlta Premium 4K Camera

Featuring an 8K CMOS sensor, premium image quality, and 4K 120p recording

· Super 35 mm 8K CMOS sensor (20 M pixels)

· Mechanical rotary shutter and ND filters

· Wide color gamut and true-color reproduction

· 14 stops of exposure latitude

· On-board recording on SRMemory™ card via an SR-R4 recorder[1]

· High-frame-rate recording up to 120 fps in F65RAW-HFR

· Advanced de-mosaic in 6K and 8K by RAW Viewer

F65 + R4

8K sensor

Rotary Shutter

Wide Color Gamut

RAW	1 ~ 120 fps
HD	**MPEG4 SStP**	1 ~ 60 fps

CBK-65EL: Digital viewfinder interface

F65 Upgrade Kit (CBK-65EL)

· DVF-EL100 OLED digital viewfinder support

· Two independent SDI outputs
 (SDI1: LUT, ACES, etc., SDI2: Magnify, Clip level indicator, etc.)

· 48p production support

[1] F65RAW (F65RAW-SQ, F65RAW-Lite, and F65RAW-HFR) and MPEG4 SStP are supported.

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 sensor, true-color 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 distortion

· 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

· On-board RAW recording on AXSM card via the AXS-R5

· High-frame-rate recording

· Simultaneous recording

· Interval recording

· Cache recording

· Super 16 mm center scan mode

· Compact and modular design

· PL mount with supplied lens mount adapter

· Support for B4 lens with FZ-B4 lens mount adapter

4K sensor

Frame Image Scan

Wide Color Gamut

F55

| 4K QFHD | **XAVC** 1 ~ 60 fps |
| 2K | **XAVC** 1 ~ 180 fps |

HD	**XAVC** 1 ~ 180 fps
	MPEG4 SStP ~ 30p
	MPEG2 ~ 30p/60i (1080) 50p/59p (720)
	Apple ProRes* ~ 30p
	Avid DNxHD®* ~ 30p

* Required to install the CBK-55PD

R5

| 4K | **RAW** 1 ~ 60 fps |
| 2K | **RAW** 1 ~ 240 fps |

F5 CineAlta 4K Camera

Featuring a 4K CMOS 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

· On-board RAW recording on AXSM card via the AXS-R5

· High-frame-rate recording

· Simultaneous recording

· Interval recording

· Cache recording

· Super 16 mm center scan mode

· Compact and modular design

· PL mount with supplied lens mount adapter

· Support for B4 lens with FZ-B4 lens mount adapter

· Upgrade to F55 by installing the CBK-55UK

· 4K recording and playback capability available with the CBKZ-55FX

4K sensor

F5

4K QFHD	**XAVC**[1]	1 ~ 60 fps
2K	**XAVC**	1 ~ 180 fps
HD	**XAVC**	1 ~ 180 fps
	MPEG4 SStP	~ 30p
	MPEG2	~ 30p/60i (1080) 50p/59p (720)
	Apple ProRes[2]	~ 30p
	Avid DNxHD®[2]	~ 30p

R5

4K	**RAW**	1 ~ 60 fps
2K	**RAW**	1 ~ 240 fps

[1] Required to install the CBKZ-55FX
[2] Required to install the CBK-55PD

HDMI OUT

12V 2.8A

Timecode IN/OUT (switchable)

4 × SDI OUT (configurable)
· 4 × 3G-SDI for 4K 60p line out
  (F55 and F5 with the CBKZ-55FX)
· 2 × HD-SDI for line out and
  2 × HD-SDI for monitor out

Digital Viewfinder Interface

HDMI OUT

ASSIGN 4

VF

TC
IN ⇄ OUT

SDI OUT 1
MAIN

SDI OUT 2

TC

GENLOCK IN

SDI OUT 3
SUB

TEST OUT

SDI OUT 4

SHUTTER ⁻

AUDIO IN

REMOTE

CineAlta

HD Sync/HD-Y (switchable)

GENLOCK IN

× 2 XLR 3-pin Audio Input Connector (detachable)

SONY

Top

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 (F55 and F5 with the CBKZ-55FX). They also offer HDMI, a detachable XLR audio input connector, timecode, genlock, DC connection, and more, enabling you to build the best configuration for your shooting situation.
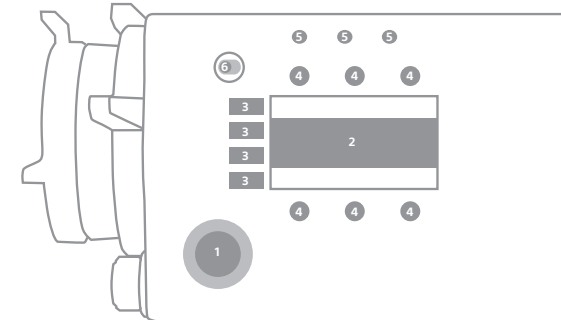
1. Easy-to-navigate MENU dial

2. Current status display

3. 4 x category menus (Camera, File, Audio/TC, View)

4. 6 x direct access buttons for frequently used setup items

5. 4 x assignable buttons (with 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 frame rate, shutter speed, exposure index, and monitor LUT. Additionally, assignable buttons allow you to keep your favorite adjustments always at your fingertips.

Accessories

Sony introduces newly developed accessories along with the F55 and F5, including viewfinders, a RAW recorder, 4K monitor, and more, providing a wide range of options to satisfy individual needs.
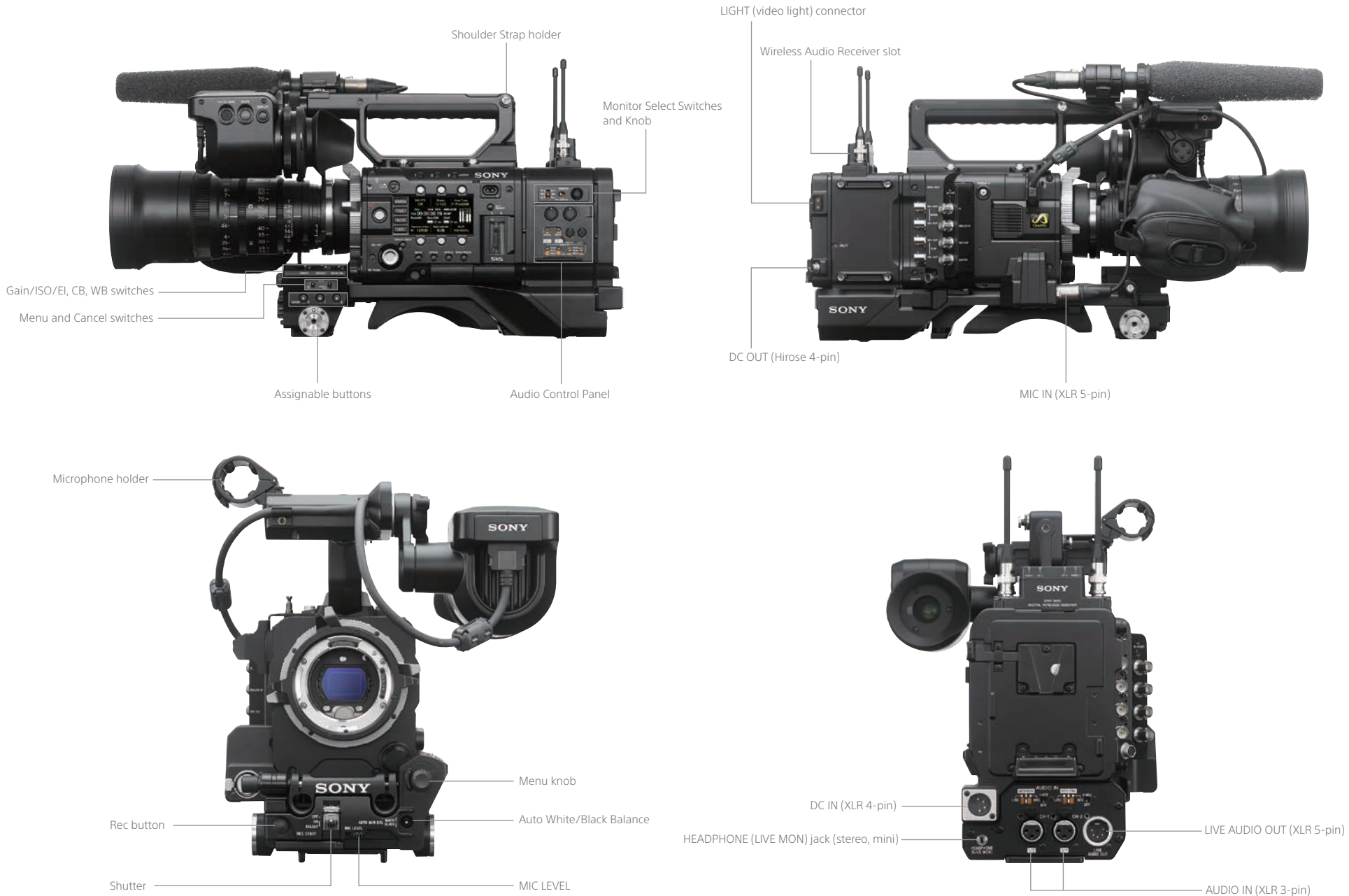
F55/F5 Accessories

EFP-Style Buildup Kit
CBK-55BK

The CBK-55BK is a specialized accessory docking shoulder pad and interface for the PMW-F55/F5. This accessory can be attached easily and allows you to access key functions. For documentary shooters and other camera users who want improved comfort for a run-and-gun style with the F55 and F5, this documentary and docking system (so-called Doc Dock) is an ideal addition to improve their work.

· Easy access to camera functions on the front block
· Adjustable shoulder pad and front block for appropriate weight balance
· Easy docking and undocking with the F55/F5
· Same audio control panel as broadcast shoulder camcorders
· Supports wireless slot-in audio receiver
· In/Output panel at the rear side
· Supports RAW recording with the AXS-R5
· Brushed handle including mic. holder and VF cable protection

Shoulder Strap holder

LIGHT (video light) connector

Wireless Audio Receiver slot

Monitor Select Switches and Knob

Gain/ISO/EI, CB, WB switches

Menu and Cancel switches

Assignable buttons

Audio Control Panel

DC OUT (Hirose 4-pin)

MIC IN (XLR 5-pin)

Microphone holder

Menu knob

Rec button

Auto White/Black Balance

Shutter

MIC LEVEL

DC IN (XLR 4-pin)

HEADPHONE (LIVE MON) jack (stereo, mini)

LIVE AUDIO OUT (XLR 5-pin)

AUDIO IN (XLR 3-pin)

F55/F5 Accessories

Additional Codec Board
CBK-55PD

This accessory allows the F55 and F5 to record new formats, Apple ProRes and Avid DNxHD®.

Codec	Bit Depth	Resolution	System Frequency					
			23.98P	24.0P	25.0P	29.97P	50i	59.94i
ProRes 4444	12 bit	1920 x 1080	✔* 264 Mbps	✔* 264	✔* 275	✔* 330		
ProRes 422 HQ	10 bit	1920 x 1080	✔ 176	✔ 176	✔ 184	✔ 220	✔ 184	✔ 220
ProRes 422	10 bit	1920 x 1080	✔ 117	✔ 117	✔ 122	✔ 147	✔ 122	✔ 147
DNxHD220x	10 bit	1920 x 1080	✔ 175		✔ 185	✔ 220	✔ 185	✔ 220
DNxHD145	8 bit	1920 x 1080	✔ 115		✔ 120	✔ 145	✔ 120	✔ 145

* Requires a firmware upgrade (planned for June 2015).

4K Upgrade License
CBKZ-55FX

This license key option allows the F5 to activate 4K capabilities such as XAVC 4K/QFHD recording and playback, 4K SDI and 4K HDMI output, and simultaneous recording (XAVC 4K/QFHD and MPEG HD). This option is activated by a license key which you download from Sony's website and simply install.

PL Mount Prime Lens

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.

TRIMASTER EL 4K

4K OLED Unleashed

Sony proudly introduces the BVM-X300 30-inch[1] 4K OLED master monitor – the flagship model in our professional monitor lineup. This new monitor offers the inherent performance of TRIMASTER EL OLED monitors, including unparalleled black performance, color reproduction, quick pixel response, and industry-leading wide viewing angles.

In addition, the BVM-X300 supports High Dynamic Range mode and a wide color gamut conforming to DCI-P3 and most of the ITU-R BT.2020 Recommendation.[2] By unleashing these superb features and qualities, this master monitor makes an ideal tool for a wide range of applications such as color grading and QC (quality control) in the 4K production workflow.

[1] 750.2 mm viewable area, measured diagonally.
[2] The BVM-X300 does not cover the ITU-R BT.2020 color space in full.

Delivers New Levels of Convenience with a 4K Memory Player

Unlike the fast-growing 4K shooting and editing environment, the 4K clip playing environment may require expensive high-performance computers or servers and technical backgrounds. For a more affordable and simple yet high-quality 4K player, PMW-PZ1 4K memory player should be the best choice.

The PMW-PZ1 is equipped with a 3.5-inch QHD LCD, SxS card slot, USB, HDMI/SDI(x4) output and audio output. These features enable the unit to play 4K images in a variety of situations. For example, a 4K image captured by the F55 on location can be checked instantly by a 4K SDI professional monitor or consumer 4K TV connected via HDMI.

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 Lithium-ion battery
7. Shoulder adapter

8. SxS PRO+ card
9. AXSM card
10. SxS card reader/writer
11. Multi SxS card reader/writer
12. AXSM card reader
13. 30-inch 4K LCD monitor

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.
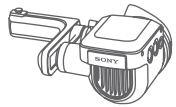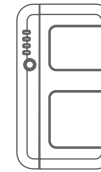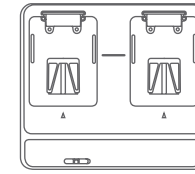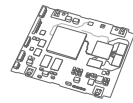
0.7" 720 HD OLED VF
DVF-EL100
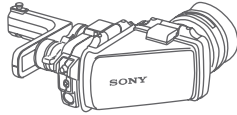
3.5" QHD LCD VF
DVF-L350
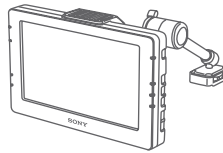
7" FHD LCD VF
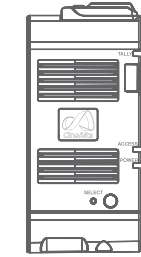DVF-L700

Battery
BP-FL75
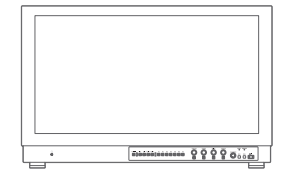
Battery Charger
BC-L90

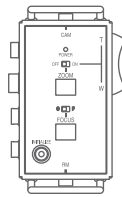PL Mount Prime Lens Set
SCL-PK6/F or /M

Additional Codec Board
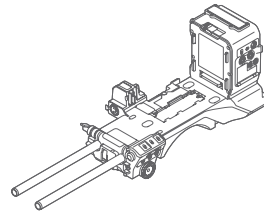CBK-55PD

RAW Recorder
AXS-R5

30" 4K Monitor
BVM-X300

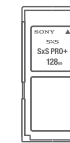Demand Converter Box
CBK-DCB01
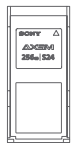
4K Upgrade License
CBKZ-55FX

EFP-Style Buildup Kit
CBK-55BK

Shoulder Adapter
VCT-FSA5

SxS Card
SBP-128C/64C
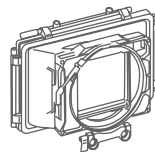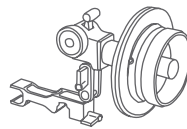SBS-128G1B/64G1B/32G1B

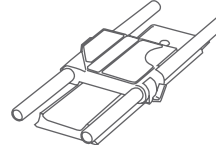AXSM Card
AXS-A256S24/
A512S24/A1TS24
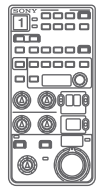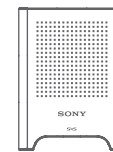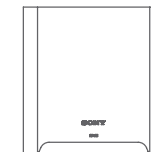
Remote Control Unit
RM-B170

Matte Box

Follow Focus

Bridge Plate

SxS Reader/Writer
SBAC-US30

Multi SxS Card Reader/Writer
SBAC-UT100

AXSM Card Reader
AXS-CR1

System & Workflow

To allow you enormous flexibility in production, the F55 and F5 provide a wide variety of recording systems, workflows, and system configurations.

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

RAW

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, F55RAW and F5RAW workflow.

XAVC

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.

MPEG4 SStP

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.

Apple ProRes*

Avid DNxHD®*

Apple ProRes and Avid DNxHD® formats are popular in postproduction, and are supported by the F55 and F5 with installation of the CBK-55PD. This means there's no need for transcoding; you can simply handle these formats directly from the camera.

MPEG2

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.

* Required to install the CBK-55PD.

Recording Media

SRMemory

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

AXSM

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

SxS

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

F65 + R4 Recording Format

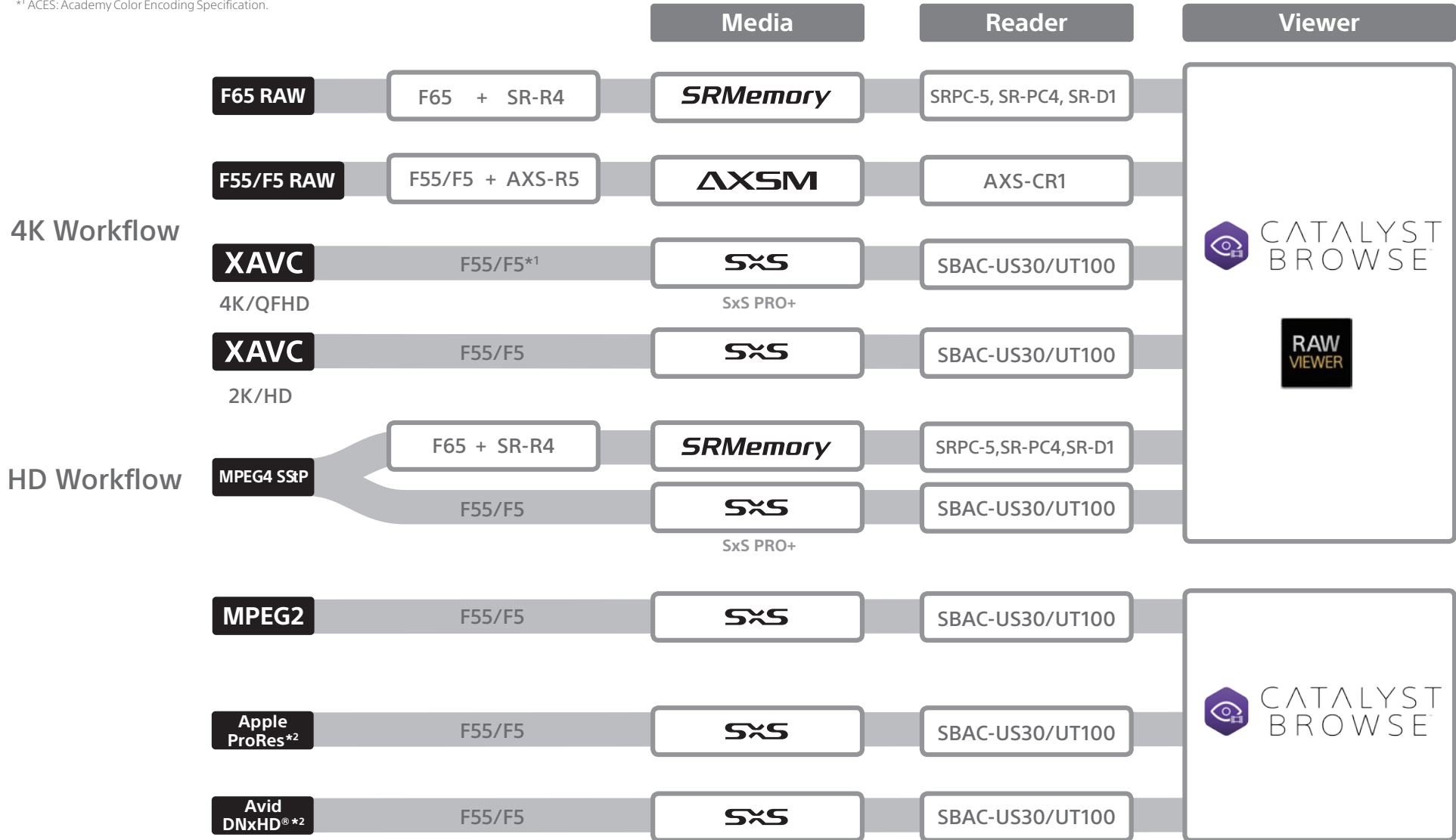| Format	Resolution	Color Sampling Bit-depth	Frame Rate	Select FPS	Recording Media
F65RAW	4K 4096 × 2160 or higher	16-bit Linear	23.98/24/25/29.97/50/59.94p	1 to 60 fps (F65RAW-SQ/Lite) 1 to 120 fps (F65RAW-HFR)	SRMemory
MPEG4 SStP	HD 1920 × 1080	444 12-bit 444 10-bit 422 10-bit	23.98/24/25/29.97PsF 50/59.94p (422 10-bit only)	1 to 60 fps	SRMemory

F55/F5 Recording Format

Format	Resolution	Color Sampling Bit-depth	Frame Rate	S&Q	Recording Media
F55RAW F5RAW (via R5)	4K 4096 × 2160	16-bit Linear	23.98/24/25/29.97/50/59.94p	1 to 60 fps (F55/F5 + R5)	AXSM
	2K 2048 × 1080	16-bit Linear	23.98/24/25/29.97/50/59.94p	1 to 240 fps (F55/F5 + R5)	
XAVC	4K (F55 only) 4096 × 2160	422 10-bit	23.98/24/25/29.97/50/59.94p	1 to 60 fps	SxS PRO+
	QFHD (F55 only) 3840 × 2160	422 10-bit	23.98/25/29.97/50/59.94p	1 to 60 fps	
	2K 2048 × 1080	422 10-bit	23.98/24/25/29.97/50/59.94p	1 to 180 fps	SxS PRO+ SxS PRO
	HD 1920 × 1080	422 10-bit	23.98/25/29.97/50/59.94p	1 to 180 fps	
MPEG4 SStP	HD 1920 × 1080	422 10-bit 444 10-bit	23.98/24/25/29.97p	N/A	SxS PRO+
Apple ProRes*	HD 1920 × 1080	ProRes 4444 12-bit ProRes 422 HQ 10-bit ProRes 422 10-bit	23.98/24/25/29.97p	N/A	SxS Pro+ SxS Pro (not support ProRes 4444)
Avid DNxHD®*	HD 1920 × 1080	DNxHD 220x 10-bit DNxHD 145 8-bit	23.98/25/29.97p	N/A	SxS Pro+ SxS Pro
MPEG2	HD 1920 × 1080	422 8-bit	23.98/25/29.97p50/59.94i	N/A	SxS PRO+ SxS PRO SxS-1
	HD 1280 × 720	422 8-bit	50/59.94p	N/A	

* Required to install the CBK-55PD.

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.

		Media	Reader	Viewer
4K Workflow				
F65 RAW	F65 + SR-R4	SRMemory	SRPC-5, SR-PC4, SR-D1	CATALYST BROWSE / RAW VIEWER
F55/F5 RAW	F55/F5 + AXS-R5	AXSM	AXS-CR1	
XAVC 4K/QFHD	F55/F5*[1]	SxS (SxS PRO+)	SBAC-US30/UT100	
XAVC 2K/HD	F55/F5	SxS	SBAC-US30/UT100	
HD Workflow				
MPEG4 SStP	F65 + SR-R4	SRMemory	SRPC-5,SR-PC4,SR-D1	
	F55/F5	SxS (SxS PRO+)	SBAC-US30/UT100	
MPEG2	F55/F5	SxS	SBAC-US30/UT100	CATALYST BROWSE
Apple ProRes*[2]	F55/F5	SxS	SBAC-US30/UT100	
Avid DNxHD® *[2]	F55/F5	SxS	SBAC-US30/UT100	

*[1] Required to install the CBKZ-55FX
*[2] Required to install the CBK-55PD.

Dailies	Edit	Grade

Dailies

Assimilate™

Blackmagic Design

Codex

Color Front

FilmLight™

MTI Film

POMFORT*³

YoYotta

*³ POMFORT supports RAW and XAVC

Edit

Adobe®
AVID®
Autodesk™
Rhode & Schwarz DVS

Adobe®	Final Cut Pro
AVID®	Rhode & Schwarz DVS
Autodesk™	Vegas Pro
Grass Valley	

Adobe®	Rhode & Schwarz DVS
AVID®	Vegas Pro
Final Cut Pro	

Adobe®	Grass Valley
AVID®	Rhode & Schwarz DVS
Autodesk™	Vegas Pro
Final Cut Pro	

Grade

Assimilate™

Autodesk™

Blackmagic Design

Digital Vision

Film Light™

Quantel™

Rhode & Schwarz DVS

SGO

Please contact Apple and Avid for latest information.

For support and availability information of any desired providers, please refer to the vendor directly.

Appendix

Specifications

	F65RS	PMW-F55	PMW-F5
General			
Power Requirements	DC 10.5 V to 17 V	DC 12 V (11 V to 17 V)	DC 12 V (11 V to 17 V)
Power Consumption	Approx. 65 W (mechanical rotary shutter operating) (without lens, viewfinder, at 23.98PsF mode)	Approx. 25 W (while recording XAVC 4K 60p, EVF Off, LCD monitor Off, 4K SDI On)	Approx .24 W (while recording XAVC HD 60p, EVF Off, LCD monitor Off, HD-SDI On)
Operating Temperature	32°F to 104°F (0°C to 40°F)	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)
Storage Temperature	-4°F to +140°F (-20°C to +60°C)	-4°F to +140°F (-20°C to +60°C)	-4°F to +140°F (-20°C to +60°C)
Weight	11 lb (5.0 kg) (14 lb 5 oz (6.5 kg) with accessories)	4 lb 14 oz (2.2 kg) (without lens, handle, audio box and accessories)	4 lb 14 oz (2.2 kg) (without lens, handle, audio box and accessories)
Dimensions (W x H x D)	9 x 8 x 10 1/8 inches (227 x 203 x 255 mm) (without protrusions)	5 1/8 x 5 x 7 5/8 inches (130 x 125 x 191 mm) (without protrusions)	5 1/8 x 5 x 7 5/8 inches (130 x 125 x 191 mm) (without protrusions)
Camera Section			
Imaging Device (Type)	Super 35mm equivalent Single-chip 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	17:9	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)		Video Gamma: T12@24p (3200K light source)	Video Gamma: T14 @24p (3200K light source)
ISO Sensitivity	ISO800	S-Log2 Gamma: ISO 1250 (D55 light source)	S-Log2 Gamma: ISO 2000 (D55 light source)
Lens Mount	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)
Latitude	14-stop	14-stop	14-stop
Shutter Speed (23.98PsF)	1/24s to 1/6,000s	1/24s to 1/6,000s	1/24s to 1/6,000s
Shutter Angle	4.2° to 360° (electrical shutter), 11.2° to 180° (mechanical rotary shutter)	4.2°to 360°(electrical shutter)	4.2°to 360°(electrical shutter)
Slow Shutter (SLS)		2, 3, 4, 5, 6, 7, 8-frame accumulation	2, 3, 4, 5, 6, 7, 8-frame accumulation
White Balance	3200K, 4300K, 5500K	Preset (3200K, 4300K, 5500K), Memory	Preset (3200K, 4300K, 5500K), Memory
Gain	-6, -3, 0, 3, 6, 9, 12 dB	-3, 0, 3, 6, 9, 12, 18 dB, AGC	-3, 0, 3, 6, 9, 12, 18 dB, AGC
Gamma Curve	HG7, HG8, S-Log2 Gamma, User	Standard (x6), HG1, HG2, HG3, HG4, HG7, HG8, S-Log2 Gamma	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 switchable with SR-R4	CH-1/CH-2: XLR-type 3-pin (female) (x2), Line/Mic/Mic +48V (AES/EBU) switchable	CH-1/CH-2: XLR-type 3-pin (female) (x2), Line/Mic/Mic +48V (AES/EBU) switchable
TEST Output	BNC (x1), 75 Ω, HD-Y, 1.0 Vp-p	BNC (x1), HD-Y or HD Sync (tri-level) V1.0	BNC (x1), HD-Y or HD Sync (tri-level) V1.0
DC Input	Lemo 8-pin (male) (x1), DC 10.5 V to 17 V, DC 20 V to 30 V	XLR-type 4-pin (male) (x1), 11 V to 17 V DC	XLR-type 4-pin (male) (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 (x2), 11 V to 17 V DC (max. 1.8 A) with battery adapter	4-pin (x2), 11 V to 17 V DC (max. 1.8 A) with battery adapter
Viewfinder	20-pin (x1), Digital viewfinder interface (x1)*	Digital viewfinder interface (x1)	Digital viewfinder interface (x1)
Lens	12-pin (x1)		
SDI Output	BNC (x2), HD-SDI (4:2:2)	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	BNC (x4), SDI 1/2 Line Output, SDI 3/4 Monitor Output
Timecode Input/Output	TC IN (x1), TC OUT (x1) with SR-R4	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)	Stereo mini jack (x1)
Speaker Output		Monaural	Monaural
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 connector (1), Screws for the audio input connector (4), Tape measure hook (1), USB wireless LAN module IFU-WLM3 (1), Before Using this Unit (1), Operating Instructions (CD-ROM) (1)	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), Before Using this Unit (1), Operating Instructions (CD-ROM) (1)

* To be supported by CBK-65EL.

ISO 14001
BUREAU VERITAS
Certification