ILME-FX6V Specifications | Professional Video Cameras

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Full Specifications & Features

General

LENS MOUNT
E-mount

Size & Weight

WEIGHT (MAIN UNIT ONLY) (approx.)
890g (1lb15oz)

WEIGHT (INCLUDING SUPPLIED ACCESSORIES) (approx.)
2.59kg(5lb11oz) (with Viewfinder, Grip Remote Control, BP-U35 battery, SEL24105G LENS, Lens Hood, Handle, MIC holder)

DIMENSIONS (W X H X D) (BODY WITHOUT PROTRUSIONS) (approx.)
114 x 116 x 153 mm(4 1/2 x 4 5/8 x 6 1/8 inch) (body without protrusions)

Power

POWER REQUIREMENTS
DC 19.5V

POWER CONSUMPTION
Approx. 18.0 W (while recording XAVC-I QFHD 59.94p, SEL24105G Lens, Viewfinder ON, not using external device)

BATTERY OPERATING TIME
Approx. 105min. with BP-U35 battery (while recording XAVC-I QFHD 59.94p, SEL24105G Lens, Viewfinder ON, not using external device), Approx. 215min. with BP-U70 battery (while recording XAVC-I QFHD 59.94p, SEL24105G Lens, Viewfinder ON, not using external device)

Operation

OPERATING TEMPERATURE
0°C to 40°C, 32°F to 104°F

STORAGE TEMPERATURE
-20°C to +60°C, -4°F to +140°F

Recording Format (Video)

XAVC INTRA
XAVC-I DCI4K 23.98p mode:VBR, MAX bit rate 240 Mbps, MPEG-4 AVC/H.264, XAVC-I DCI4K 24p mode:VBR, MAX bit rate 240 Mbps, MPEG-4 AVC/H.264, XAVC-I DCI4K 25p mode:VBR, MAX bit rate 250 Mbps, MPEG-4 AVC/H.264, XAVC-I DCI4K 29.97p mode:VBR, MAX bit rate 300 Mbps, MPEG-4 AVC/H.264, XAVC-I DCI4K 50p mode:VBR, MAX bit rate 500 Mbps, MPEG-4 AVC/H.264, XAVC-I DCI4K 59.94p mode:VBR, MAX bit rate 600 Mbps, MPEG-4 AVC/H.264, XAVC-I HD 23.98p mode:CBG, MAX bit rate 89Mbps, MPEG-4 AVC/H.264, XAVC-I HD 25p mode:CBG, MAX bit rate 112Mbps, MPEG-4 AVC/H.264, XAVC-I HD 29.97p mode:CBG, MAX bit rate 111 Mbps, MPEG-4 AVC/H.264, XAVC-I HD 50p mode:CBG, MAX bit rate 223 Mbps, MPEG-4 AVC/H.264, XAVC-I HD 59.94p mode:CBG, MAX bit rate 222 Mbps, MPEG-4 AVC/H.264, XAVC-I QFHD 23.98p mode:VBR, MAX bit rate 240 Mbps, MPEG-4 AVC/H.264, XAVC-I QFHD 25p mode:VBR, MAX bit rate 250 Mbps, MPEG-4 AVC/H.264, XAVC-I QFHD 29.97p mode:VBR, MAX bit rate 300 Mbps, MPEG-4 AVC/H.264, XAVC-I QFHD 50p mode:VBR, MAX bit rate 500 Mbps, MPEG-4 AVC/H.264, XAVC-I QFHD 59.94p mode:VBR, MAX bit rate 600 Mbps, MPEG-4 AVC/H.264

XAVC LONG
XAVC-L HD 29.97p/25p/23.98p/59.94p/50p mode:VBR, MAX bit rate 35 Mbps, MPEG-4 H.264/AVC, XAVC-L HD 29.97p/25p/23.98p/59.94p/50p mode:VBR, MAX bit rate 50 Mbps, MPEG-4 H.264/AVC, XAVC-L QFHD 29.97p/25p/23.98p mode:VBR, MAX bit rate 100 Mbps, MPEG-4 H.264/AVC, XAVC-L QFHD 59.94p/50p mode:VBR, MAX bit rate 150 Mbps, MPEG-4 H.264/AVC

Recording Format (Audio)

RECORDING FORMAT (AUDIO)
LPCM 24 bits, 48 kHz, 4 channels

Recording Frame Rate

XAVC INTRA
XAVC-I DCI4K mode:4096 x 2160/59.94P, 50P, 29.97P, 23.98P, 25P, 24P, XAVC-I HD mode:1920 x 1080/59.94P, 50P, 29.97P, 23.98P, 25P, XAVC-I QFHD mode:3840 x 2160/59.94P, 50P, 29.97P, 23.98P, 25P

XAVC LONG
XAVC-L HD 35 mode:1920 x 1080/59.94P, 50P, 29.97P, 23.98P, 25P, XAVC-L HD 50 mode:1920 x 1080/59.94P, 50P, 29.97P, 23.98P, 25P, XAVC-L QFHD mode:3840 x 2160/59.94P, 50P, 29.97P, 23.98P, 25P

Recording/Playback Time

XAVC INTRA
XAVC-I DCI4K/QFHD 23.98p When using CEA-G160T (160 GB):Approx. 74 minutes When using CEA-G80T (80 GB):Approx. 36 minutes, XAVC-I DCI4K/QFHD 25p When using CEA-G160T (160 GB):Approx. 71 minutes When using CEA-G80T (80 GB):Approx. 35 minutes, XAVC-I DCI4K/QFHD 29.97p When using CEA-G160T (160 GB):Approx. 60 minutes When using CEA-G80T (80 GB):Approx. 29 minutes, XAVC-I DCI4K/QFHD 50p When using CEA-G160T (160 GB):Approx. 36 minutes When using CEA-G80T (80 GB): Approx. 17 minutes, XAVC-I DCI4K/QFHD 59.94p When using CEA-G160T (160 GB):Approx. 30 minutes When using CEA-G80T (80 GB):Approx. 15 minutes, XAVC-I DCI4K 24p When using CEA-G160T (160 GB):Approx. 74 minutes When using CEA-G80T (80 GB):Approx. 36 minutes, XAVC-I HD 23.98p When using CEA-G160T (160 GB):Approx. 185 minutes When using CEA-G80T (80 GB):Approx. 91 minutes, XAVC-I HD 25p When using CEA-G160T (160 GB):Approx. 150 minutes When using CEA-G80T (80 GB):Approx. 74 minutes, XAVC-I HD 29.97p When using CEA-G160T (160 GB):Approx. 150 minutes When using CEA-G80T (80 GB):Approx. 74 minutes, XAVC-I HD 50p When using CEA-G160T (160 GB):Approx. 78 minutes When using CEA-G80T (80 GB):Approx. 38 minutes, XAVC-I HD 59.94p When using CEA-G160T (160 GB):Approx. 78 minutes When using CEA-G80T (80 GB):Approx. 38 minutes

XAVC LONG
XAVC-L HD 35 29.97p/25p/23.98p/59.94p/50p When using CEA-G160T (160 GB):Approx. 430 minutes When using CEA-G80T (80 GB):Approx. 210 minutes, XAVC-L HD 50 /29.97p/25p/23.98p/59.94p/50p When using CEA-G160T (160 GB):Approx. 320 minutes When using CEA-G80T (80 GB):Approx. 155 minutes, XAVC-L QFHD 29.97p/25p/23.98p When using CEA-G160T (160 GB):Approx. 170 minutes When using CEA-G80T (80 GB):Approx. 86 minutes, XAVC-L QFHD 59.94p/50p When using CEA-G160T (160 GB):Approx. 115 minutes When using CEA-G80T (80 GB):Approx. 57 minutes

PROXY AUDIO
XAVC Proxy: AAC-LC, 128 kbps, 2 channels

PROXY VIDEO
XAVC Proxy: AVC/H.264 High Profile 4:2:0 Long GOP, VBR 1920x1080, 9Mbps

Camera Section

SENSOR TYPE
35 mm full-frame, single-chip CMOS image sensor

PIXELS
Approx. 12.9 megapixels(total), Approx. 10.2 megapixels(effective)

BUILT-IN OPTICAL FILTERS
Clear, linear variable ND(1/4ND to 1/128ND)

SENSITIVITY
ISO 800/12800 (Cine EI mode, D55 Light source)

SIGNAL-TO-NOISE RATIO
delete

SHUTTER SPEED
64F to 1/8000 sec

Slow & Quick Motion

XAVC-I
1 to 60 frames (59.94/50/29.97/25/24/23.98), 4096x2160

XAVC-I/L
1920 x 1080, 1 to 60, 100, 120, 150, 180, 200, 240 frames (59.94/50/29.97/25/23.98), 1 to 60, 100, 120 frames (59.94/50/29.97/25/23.98), 3840 x 2160

White Balance

WHITE-BALANCE MODES
Preset, Memory A, Memory B (2000K-15000K)/ATW

Exposure

GAIN CONTROL
-3 to 30dB (every 1dB), AGC

Gamma

GAMMA CURVE
SDR mode : S-Cinetone, Standard, Still, ITU709, HDR mode : HLG_Live, HLG_Natural

Latitude

Latitude
15+ stop

Interface

TC INPUT/TC OUTPUT
BNC, TC IN/OUT Switchable

AUDIO INPUT
Mic Reference: -30 to -80 dBu, XLR-type 3-pin (female) (x2), line/mic/mic +48 V selectable

SDI OUTPUT
SDI OUT: BNC, 12G-SDI, 6G-SDI, 3G-SDI(Level A/B)

USB
USB Type-C(x1), Multi/Micro-B (x1)

HEADPHONE OUTPUT
-16 dBu 16 Ω, Stereo mini jack (x1)

SPEAKER OUTPUT
Monaural

DC INPUT
DC jack

HDMI OUTPUT
Type A (x1)

REMOTE
Stereo mini-minijack (Φ2.5 mm)

GRIP
Minijack(φ3.5mm / 4pin)

Media

MEDIA TYPE
CF express Type A / SD card (x2), Slot B can be used for saving configuration data.

Monitoring

LCD
8.8 cm (3.5 type), Approx. 2.76M dots

Built-in Microphone

BUILT-IN MICROPHONE
Omni-directional monoral electret condenser microphone (body) (x1), Stereo electret condenser microphone (handle) (x1)

Wi-Fi/NFC

SUPPORTED FORMAT

IEEE 802.11 a/b/g/n/ac

FREQUENCY BAND
2.4 GHz bandwidth, 5.2/5.3/5.6/5.8 GHz bandwidth

SECURITY
WEP/WPA-PSK/WPA2-PSK

NFC
NFC Forum Type 3 Tag compliant

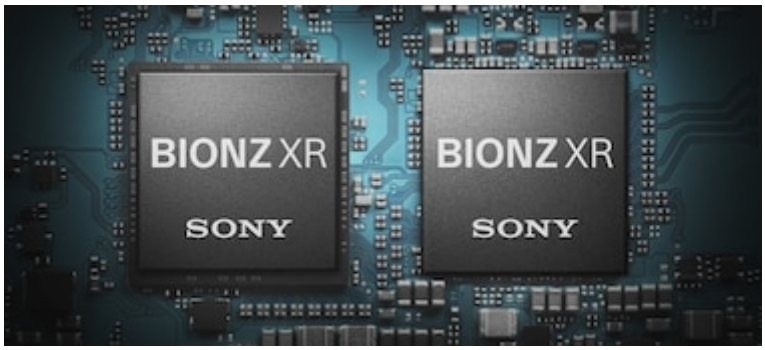
Supplied Accessories

SUPPLIED ACCESSORIES
AC Adaptor(1), Battery charger(1), Battery pack(1), Before Using This Unit(1), Cold shoe kit(1), Grip remote control(1), Handle(1), Handle connector cap(1), LCD hood(1), LCD monitor(1), Lens mount cap(1), Power cord(1), USB-C cable(1)

Features

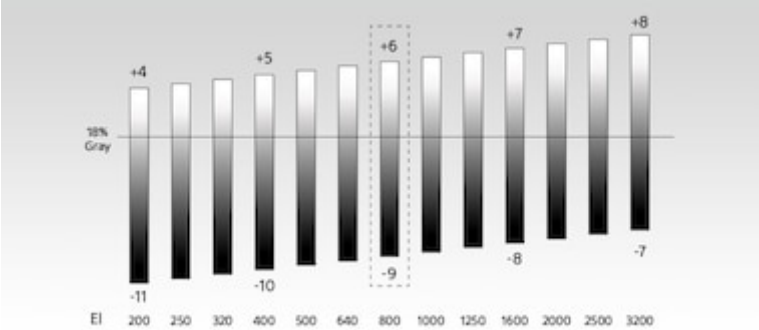
Image sensor with blazing fast readout speed

The back-illuminated full-frame Exmor R™ CMOS sensor, with 10.2 effective megapixels, boasts a blazingly fast data readout speed along with high sensitivity and wide dynamic range. An advanced colour filter array boosts colour reproduction accuracy, while focal plane phase-detection AF enables solid autofocus stability and excellent precision, all of which contribute to outstanding image quality.



High performance image-processing engine

The BIONZ XR™ image-processing engine boasts class-leading speed performance, minimising latency while providing impressive real-time processing capabilities. The engine performs real-time processing of AF, image recognition and image quality adjustments, while also handling data transfer, user interface and other camera operations.



High sensitivity, wide dynamic range

The full-frame 10.2-megapixel configuration enables high sensitivity with low noise throughout the camera's sensitivity range by optimising the output signal from the sensor. Capture usable images in near total darkness with an impressive ISO expanded range up to 409600. The dynamic range is an impressively wide 15+ stops, for beautiful, true-to-life images without blown highlights. Together, the camera's high sensitivity and wide dynamic range expand your creative freedom during shoots.

4K High Frame Rate 120fps recording

Full-frame 4K (QFHD) recording at up to 120fps with autofocus is possible thanks to the high-speed readout capabilities of the image sensor and the powerful BIONZ XR processor. Even at high frame rates, ultra-detailed 4K (QFHD) images are captured using full-pixel readout without binning, for clear post-produced slow motion (up to 5x slower than real time). The high-precision AF even allows beautiful full-frame bokeh to be achieved during slow motion shooting, for impressive creative scope.

Acclaimed cinematic colour with S-Cinetone™

The inclusion of Sony's acclaimed S-Cinetone look, inherited from the development of the FX9, allows beautiful images to be achieved directly in-camera. S-Cinetone is optimised for natural skin tones and mid-range colours, with gentle highlight roll-off, for impressive subject depiction and powerful camera-matching and post-production possibilities.

Preset and User 3D LUT compatibility with Scene File

The Scene File function provides powerful colour interpretation right in the camera, with a range of presets and custom User 3D LUT imports to fit your production or style requirements. Four preset scene file types are included for SDR shooting (S-Cinetone, Standard, Still, ITU709) and two for HDR (HLG Live, HLG Natural). A further 16 slots support User 3D LUT import to achieve custom looks or for specific monitoring or colour-space transforms.

10-bit HLG picture profile

An HLG (Hybrid Log-Gamma) HDR picture profile, complete with the wide-gamut BT.2020 colour space, can be used for direct HDR (HLG) playback on compatible TVs. The result is true-to-life imagery close to what the naked eye can see, with detailed shadows and highlights, less blackout and less whiteout, all without the need for colour grading. In particular, 10-bit recordings reproduce a level of fine gradation and detail for extraordinary realism. [1] High flexibility to fine-tune images as desired (colour grading required)[2] Instant high-quality image (colour grading not required)

S-Log3 for better reproduction of gradations

S-Log3 gamma curves are available, with S-Log3 designed for better reproduction of gradations from shadows to the mid-grey range (18% grey), enabling a dynamic range of up to 15+ stops. Two colour gamut settings (S-Gamut3, and S-Gamut3.Cine) make it easier to match the colours of footage shot with Sony's Cinema Line Cameras. Because the colours match, colour grading is easier in post-production editing, making it more convenient when used along with other pro cameras.

Recording movies with 10-bit depth and 4:2:2 colour sampling

The FX6 is capable of 4K internal recording, encoding 10-bit depth and 4:2:2 colour sampling with All-Intra compression. This makes it possible to push your colour grades further, stretching video out for ultimate HDR realism while still retaining natural gradation, for true editing freedom.

A choice of battery types for different applications

The FX6 is compatible with BP-U series battery packs. The BP-U35, BP-U70, BP-U100, or BP-U60T can be selected according to shooting needs. The BP-U35, for example, is an ideal choice to make most of the camera's mobility when it is to be used handheld. The BP-U100, on the other hand, can provide extended recording time when the FX6 is to be mounted on a tripod or other support. The battery CHECK button allows charge level to be checked even when the battery is not connected to the camera.

All-Intra internal recording

In addition to Long-GOP inter-frame compression, internal intra-frame (All-Intra) recording is supported. XAVC 4K Intra recording compresses each frame independently at a high bitrate, up to 600Mbps, so is ideal for capturing complex motion, and allowing maximum flexibility and playback performance during post-production. [1] All-Intra (All-I) [2] Long-GOP [3] Group of Pictures

16-bit RAW data output

Facilitating improved image quality and more flexible and efficient editing in post production, the camera supports 16-bit RAW data output to an external recorder via SDI. RAW video output is 4096x2160 or 3840x2160 data from the image sensor with a choice of 120 / 100 / 59.94 / 50 / 29.97 / 25 / 24 / 23.98 frame rates.

Proxy recording for more efficient editing workflow

When shooting movies, low bit-rate HD proxy files can be recorded simultaneously with higher bit-rate formats such as XAVC 4K, and these smaller proxy files can then be used for editing and previewing prior to final production delivery. This reduces computer load and allows faster and more efficient workflows. Proxy files are captured in 8-bit XAVC-L (1980x1080 9Mbps MP4 wrapper).

Fast Hybrid AF for dependable focus during movie shooting

Fast Hybrid AF combines focal plane phase-detection AF with contrast-detection AF. This results in highly precise, smooth tracking of fast-moving subjects even over a wide range with a shallow depth of field. AF Transition Speed and AF Subject Shift Sensitivity parameters allow more flexible focus control, as demanded by professional users. Both allow preset settings to be recalled during recording by using a customisable button.

Real-time Eye AF and Face Detection AF

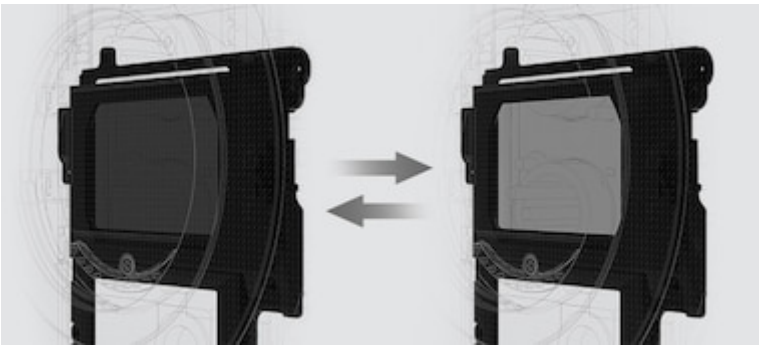
For reliable focusing on people, especially in unpredictable shooting environments such as news gathering, event and documentary shooting, powerful Real-time Eye AF and Face Detection AF are built in. The real-time processing capability of the BIONZ XR image processing engine automatically maintains accurate eye focus on faces even in profile, looking up or down, or partially obscured - allowing you to concentrate fully on shot composition.

Reliable durability and weather resistance in tough situations

In response to pro opinions, enhanced sealing is applied to the media compartment lid, terminal cover and all joints in the chassis. Routes to dust and moisture entry have been re-examined to ensure reliable operation in challenging environments.

Lens-ring AF subject selection

When the AF Assist function is ON, rotating the focus ring instantly switches from autofocus to manual focus so that a different subject can be quickly selected. The face selection algorithm has also been improved so that the focus ring can be used to quickly and intuitively select specific individuals from within a group when shooting with Real-time Eye AF or Face Detection. Autofocus operation resumes as soon as the user stops rotating the lens focus ring, and the last subject selected by the focus ring is automatically tracked.

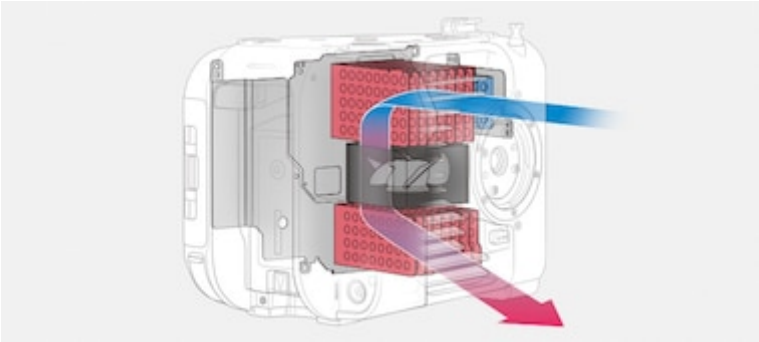


Sony’s powerful electronic Variable ND Filter built in

The revolutionary electronic Variable ND Filter controls the opacity of the neutral filter seamlessly from 1/4 to 1/128ND to achieve unmatched creative control and fluidity. Unique to Sony, it can manually or automatically adjust exposure without affecting the depth of field or shutter angle, letting you achieve perfect exposure even moving between different environments such as from indoors to out.

Magnesium alloy body achieves high durability with light weight

To perform reliably in challenging environments the main chassis, as well as top, front, and rear covers and the handle are constructed from lightweight magnesium alloy. The magnesium alloy main frame achieves high strength and durability with minimum weight in order to maximise mobility. The rigidity of the mount area is also boosted by the provision of six screws for stable attachment of heavy lenses.



Innovative heat dissipation to prevent thermal shut down

To ensure dependable full-frame recording in demanding environments and at high resolutions and frame rates, the FX6 features an innovative heat dissipation structure. A complete redesign of the chassis structure assessed the placement of internal heatsinks and the entire airflow structure, from louvers to circuit board layout. When required, a silent fan provides ventilation for continuous recording at full resolution, with intake and exhaust air structurally isolated to maintain strong dust and moisture resistance.

High-definition 2.76 million-dot flexible LCD touch panel

The 3.5-size LCD panel (1280 x 720 pixels) is mounted on an extended pedestal, and adjustable to a wide range of angles for easy video monitoring regardless of camera rigging and shooting angle. Mounting points are provided at three places on the handle and two on the body. With touch panel support, it also provides intuitive control for many camera settings, even where camera body controls are less accessible.

Smart grip

The FX6's ergonomic Smart Grip is designed for powerful and comfortable camera control even during prolonged or dynamic shooting situations. Three customisable buttons, plus essential zoom and start/stop control and a custom dial suitable for Iris or Variable ND Filter control, are all positioned in easy grip reach. The freely-adjustable telescoping handle and grip angle are set with a single button, for effortless position changes without slowing production.

Smart handle

Attachable to the top face of the camera, the smart handle allows stable camerawork and operation when the smart grip is difficult to hold, for example in low-angle shooting. It's also equipped with XLR terminals, a mic holder and a digital Multi Interface (MI) Shoe, allowing use with a variety of existing pro accessories. Two assignable buttons, a multi-selector button and a handle assignable dial have also been added for improved operability. Compatible with 1/4-20 UNC screws (length of 6 mm or less) for accessory attachment are provided at seven locations on the handle and 10 locations on the body for increased freedom. Thoughtful touches for adaptable workflows are also considered, such as including storage for the handle protection cap in the handle itself – ready to seal the body connectors if the handle is removed for rigging.

Professional connectivity

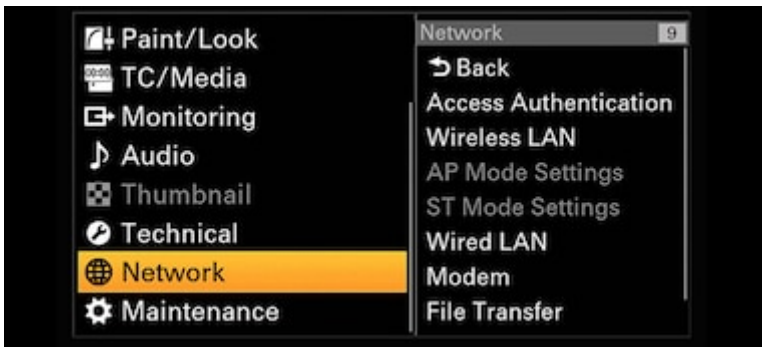
The FX6 features a range of professional interfaces including independent 12G-SDI (supports 3G/6G-SDI) suitable for external 16-bit RAW recording as well as HDMI output for program monitoring. Timecode (TC IN / TC OUT) connectors allow multi-camera sync, and SuperSpeed USB-C 5Gbps (USB 3.2) allows shooting data to be uploaded to a PC at high speed.

Dual XLR inputs and enhanced audio capability

The handle of the FX6 carries two independent audio inputs (easy-access XLR connectors) to connect external professional microphones. Additionally, a UWP series wireless microphone may be connected via the MI Shoe.

Two CFexpress Type A-compatible media slots

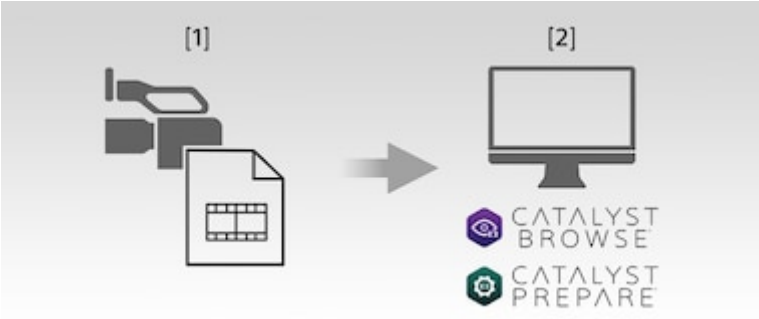
The camera's two media slots are compatible with CFexpress Type A cards as well as SDXC/SDHC cards supporting UHS-I and UHS-II speed classes. CFexpress Type A cards are the next standard for compact storage with fast write/read speeds suitable for 4K movie recording at high bit rates. They are capable of quickly clearing camera buffers even when high volumes of movie data are being generated.



Data communications to support on-site workflow

Network communications features support FTP transfer for movie files as well as remote shooting capability, to facilitate professional workflows during shoots. Wireless 5GHz / 2.4GHz LAN connections are supported, and wired connectivity to 1000BASE-T Ethernet

networks is available via a USB-to-Ethernet adaptor cable connected to the camera's USB Type-C® port supporting SuperSpeed USB 5Gbps (USB 3.2).



Metadata to facilitate editing with Catalyst

Sony’s Catalyst Browse and Prepare software are ideal production partners for the FX6. The FX6 records three types of metadata: image stabilisation, clip flag, and camera rotation. These can be useful when previewing and preparing to edit in Sony’s free Catalyst Browse or cost-effective Catalyst Prepare software. [1] Shoot [2] Edit