

**F35**

Super 35mm CCD sensor with PL lens mount  
CineAlta camera

**A great tool for cinematographers, in daily use worldwide**

The F35 has a PL mount lens and a super 35mm size CCD. When coupled with the SRW-1 HDCAM SR recorder, this system offers the technical and mechanical flexibility needed by Cinematographers, as well as a compact and rugged design to withstand the challenging conditions often encountered on location.

For example, the SRW-1 HDCAM SR digital 4:4:4 recorder will dock directly to the top or to the tail of the F35. This eliminates the need for cumbersome cable handling between the camera and recorder. When more camera mobility is required, the recorder can also be connected using either a 'dual-link' cable connection or the Fibre interface CA-F101, so the camera is as small and light as possible. Full ramping control is possible when connected via fibre up to 50P in 422 and 30P in RGB 444.

This product comes with PrimeSupport – fast, hassle-free repairs and a helpline offering expert technical advice. Which gives you the peace of mind that Sony is looking after your equipment, and your business.

## Features

### Full-Bandwidth RGB 4:4:4 HD Digital Image Capturing

The F35 provides a full-bandwidth RGB 444 output that delivers top-quality picture and colour performance. Connecting with its companion SRW-1 HDCAM-SR™ portable recorder, the F35 creates a stunning-quality portable HD image-recording system. This capability yields significant results, especially in chroma-keying and colour-correction processes where highly exacting special-effects sequences and elaborate finishes are required in demanding movie-making, commercial and television production applications. The F35 also supports high quality 4:2:2 Y/Cb/Cr image capturing.

### Variable Frame Rate Image Capturing

Variable frame rate image capturing, commonly known as over-cranking and under-cranking in film cameras, is one of the common techniques used in cinematic, commercial and other high-quality productions. The F35 realises this long-coveted functionality in conjunction with the SRW-1's "SR Motion" feature.\* You can also manually ramp the speed during recording for special types of shot.

The F35 provides a stunning feature called "Select FPS" function to record variable frame rate images from 1 fps to 50 fps in 4:4:4 \*\* mode. These variable-speed images can be played back by the SRW-1 recorder immediately after shooting, without external processing.

\* An SRW-1 recorder with an optional HKSR-102 Picture Cache Board installed is required for all SR Motion effects, and must be either docked directly to the camera or connected via the CA-F101 fibre adapter on the F35 and the HKSR-101 on the SRW-1

\*\* 1 fps to 50 fps image capturing in 4:4:4 mode requires an optional HKSR-103 Processor Board in addition to the HKSR-102 board (1 - 30 fps without HKSR-103)

### State-Of-The-Art CCD Technology

The F35 is equipped with one new design Super 35mm 27mm diagonal CCD that allows full 1920 x 1080 (H x V) resolution. The CCD has RGB stripes and is not a bayer pattern type, therefore colour value details are never interpolated from neighbouring pixels.

A CCD offers many advantages over other types of sensor such as ultra low noise, no fixed patterning, huge dynamic range and no shuttering effects with movement.

### 14-Bit A/D Converter And Advanced DSP LSI

By incorporating advanced CCD technology and a high-density 14-bit A/D converter, the exposure latitude of the F35 is significantly extended, allowing users to shoot challenging high-contrast scenes of at least 12 stops of dynamic range

### Multi-Format Image Capturing

The F35 offers a broad choice of capturing modes, using 1920 (H) x 1080 (V) active pixels as specified by the industry-standard ITU Common Image Format (CIF), ranging from 59.94i/50i interlace to 59.94P/50P progressive mode. The F35 (when docked to the SRW-1) can do variable speed and ramps in full RGB up to 50 FPS. A unique function of digital gain control allows no picture brightness change regardless of the frame rate, with no extra noise added to the already ultra clean image. Angle control, like a film camera, is also available.

### Compatible With Film Camera Accessories

The F35 is designed to be compatible with a variety of film camera accessories, giving users a broad array of choices. These include bridge plates, matte boxes, follow focus units, lens focus/zoom/iris servo control units and more. These film camera accessories including lenses can be attached to the F35 without any modifications, so users who principally work with film can fully utilise their assets.

### Intuitive Controls

The F35 has been designed with special care to provide intuitive operation for both film and TV production users. It offers two operation modes - "Cine Mode," which is dedicated for movie-making applications where image tone is normally adjusted in post-production process and "Custom Mode," which is suitable for users who want to fine-tune camera parameters to produce their desired look while shooting. The "Cine Mode" offers stringently selected menus that are designed to be familiar to film users, allowing them to intuitively control camera settings as they would when operating a film camera. In contrast, "Custom Mode" allows access to full camera setup functions. In addition, buttons and indicators are designed to give film users a familiar and intuitive user interface.

### Supplied Assistant Panel

In addition to the user-friendly control panel on the camera body, the F35 comes equipped with an "Assistant Panel" remote controller. This is equipped with the identical buttons and indicator layout to the on-camera control panel and provides intuitive remote control of basic camera and VTR operations, such as changing frame rates, shutter angle and gain, etc. This easy-to-use panel greatly increases operational convenience in the field.

### Supplied Interface Box

For flexible connection to a range of peripherals, the F35 is supplied with an interface box. This provides two HD-SDI outputs, which can be used either for Dual-Link connection with the SRW-1 recorder or a single HD-SDI connection. It also comes equipped with two channel analogue audio inputs. This interface box can also be used for battery operation, allowing the Sony BP-GL95 to be attached to the F35.\*

\* To use the battery, the optional BKP-L551 is

required between the camera and battery, and can only power the camera, not the SRW-1

### Built-in Down-conversion Output

The F35 provides an analogue composite down-conversion output. With this capability, HD-originated content can be monitored using an existing SD monitor especially Steadicam.

### 12 V and 24 V DC Accessory Power Outputs

The F35 can supply power to any compatible accessories attached to it, such as a lens focus/zoom/iris servo control unit, through its DC 12 V and DC 24 V\* connectors. This convenient feature eliminates the need for external power supply equipment for these accessories and contributes to maintaining high mobility even when the camera is configured with many accessories.

\* To supply power to an accessory that operates with DC 24 V, a dual-voltage battery, which can supply both DC 12 V and 24V simultaneously, is required. An example is the Anton/Bauer Cine VCLX - CA battery system

### Twin Viewfinder Operation

Two viewfinders can be attached to the F35 for simultaneous monitoring. This is convenient for camera operator and focus puller. The HDVF-C30WR HD LCD colour viewfinder has been specially developed for use with the F35, as mechanically it allows very wide angle lenses to fit without interference, and electrically has a special button for switching Monitor LUT on and off. In addition it has a gamma corrected panel, unique for a viewfinder, working in the same way as the BVM monitors to retain a consistent colour and uniformity at all brightness points.

### Memory Stick Storage of Camera Setup Parameters

The F35 is capable of saving and recalling setup parameters such as scene files, reference files and lens files via Memory Stick PRO™ media. This allows users to effectively manage camera parameters for individual scenes, plus the specific camera-setup preferences of individual operators, such as viewfinder indicator settings.

### Assignable Switches

Functions frequently used in the field can be assigned to three push buttons and one switch, allowing the operator to make rapid changes when working in the field.

### Versatile Gamma Settings

In addition to artistic and skilful lighting techniques, the use of in-camera gamma settings plays an important role in handling contrast range and producing a specific 'look' for an image. The F35 offers the following enhanced gamma control options to expand such capabilities:

### S-LOG Gamma

The F35 is equipped with S-Log gamma that is designed to capture the entire dynamic range of the

CCD. All S-Log material must have some colour correction applied. The characteristics are similar to Cineon Log and the best workflow is to convert from S-Log to Cineon, then continue as with normal film scans. In this way all of the standard viewing, input and output LUT will all work correctly and minimise the chance of any picture degradation.

On set monitors require some LUT correction, otherwise the pictures look flat and desaturated. The monitoring output of the F35 allows you to do this as a built in feature.

### HyperGamma

HyperGamma allows rather more of a "WYSIWYG" approach, requiring much less colour correction in post. In addition on set monitoring does not require any LUT.

There are 8 different settings according to the type of shot, brightness and highlights. Using S-Log removes the need for this choice.

### Customisable Gamma Curve By CVPFileEditor Software

The new CvpFileEditor V4.2 when linked with F35 V1.5 software allows basic on set colour correction when the camera is linked to a computer via Ethernet cable. This is stored as standard ASC CDL data on both tape and memory stick, as well as on the HDSi stream. This can then be read by a large number of on and off line editing solutions, so the on-set colour by the DP is automatically carried through to the editing process.

### Wide colour space

The F35 has a very wide colour space, at least as wide as film, allowing the accurate hue and saturation reproduction of many natural objects, and especially faces.

### Monitor LUT function

The F35 has a built in LUT for monitoring out, including 709 and Hypergamma options. This allows a much improved monitoring and viewfinder display when using S-Log

### Lens Hot Shoe

Supporting the Arri LDS and Cooke /i Lens data systems, details of all the lens data can be viewed and stored on tape and memory stick.

## Technical Specifications

General	
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)
Mass	5.0 kg (11 lb)
Power requirement	DC 10.5 V to 17 V
Power consumption	58 W (without lens, viewfinder, at 23.98PsF mode)

## Benefits

### Flexibility for enhanced film-style operation

Developed specifically for cinematographers, the F35 offers a compact, rugged and unique design that is similar to film-type cameras, and uses the same PL mount lenses. The Sony SRW-1 - an RGB 4:4:4 companion digital recorder - can dock directly to the top or the rear of the F35, eliminating the need for cumbersome cable-handling between the camera and recorder.

### Intuitive controls & compatibility with film camera accessories

The F35 can be used with an array of film camera lenses and accessories without modification, which is extremely important for film users. The layout of the controls, the panel indicators and the assistant panel were designed to give film camera users a familiar and intuitive user interface.

### Delivering the ultimate in creativity

When used with the SRW-1 recorder, the F35 provides a variable frame rate recording capability, which is also commonly known as "over-cranking" and, "under-cranking," allowing users to create unique 'looks' or special effects of slow and fast motion. Frame-rate settings for this function are variable from 1 frame per second (fps) to 50 fps in single frame increments in full RGB 4:4:4 quality. Other creative features such as HyperGamma, S-LOG gamma mode and a unique gamma-curve editing capability are also incorporated into the F35.

### Flexible Design

The design of the F35 is based on years of thorough discussion with experts in cinematography. The camera employs a totally new ergonomic design - compact, lightweight and cable-free - for a high level of mobility. The camera body is compact and lightweight, weighing just 5 kg (11 lb) without a viewfinder and the shape is similar to that of a film camera. The SRW-1 recorder can dock directly to the top or rear of the F35, in a similar way to how magazines would be attached to a film camera, allowing for cable-free operation. What's more, the camera handle is flat on top, allowing for the stable attachment to a Steadicam® for low-mode operation.

Operating temperature	0 °C to 40 °C (32 °F to 104 °F)
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Camera section	
Pickup device	1-chip Super 35 mm type Progressive CCD
Aspect ratio	16:9

Effective picture elements (H x V)	1920 x 1080
Built-in filters	None
Lens mount	ø54 mm PL mount
Sensitivity (at 2000 lx, 89.9% reflective)	T10.6 at ExtendMode at 23.98PsF mode
Distortion	Below measureable level (without lens)
Setup card	Memory Stick™ PRO
Horizontal resolution	1000 TV lines

### Signal inputs/outputs

Genlock video input	BNC type x1, 1.0 Vp-p, 75 ohms
Audio CH1/CH2 input (with supplied interface box)	XLR-3-31 type (Female), line/mic/mic +48 V selectable
Test output	BNC type x1, VBS/HD Y
Dual-Link HD-SDI output (with supplied interface box)	BNC type x2
Monitor output	BNC type x2, HD-SDI (4:2:2)
DC input	Lemo 8-pin (Male) x1, DC 10.5 V to 17 V, DC 20 V to 30 V

DC input (with supplied interface box)	XLR-4-pin type (Male) x1
DC output	DC 12 V: 11-pin x1, max. 4 A DC 24 V: 3-pin x1, max. 5.5 A
Remote	8-pin x1
Viewfinder	20-pin x2
External input/output	Lemo 5-pin (Female) x1
Network	RJ-45 type x1, 10BASE-T/100BASE-TX

### Supplied Accessories

Interface box x1	
Assistant panel x1	
Cable for assistant panel x1	
Assistant panel hanger x1	
+B4x8 screw x4	
Center handle x1	
LEMO 8-pin connector x1	
Operation manual x1	

## Accessories

### Network Production

#### HDFA-200

Dual-channel HD fibre-optic transmission adaptor

### Viewfinders

#### HDVF-C30WR

High resolution 2.7inch colour viewfinder