

SONY



F35

Flagship 35 mm CineAlta Camera supporting full 4:4:4 1920 x 1080 RGB acquisition

A new tool for cinematographers.



Responding directly to requests for a 35mm film style mounting, Sony are proud to announce the F35. This is a camera with 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.

The F35 inherits all of the benefits of the F23, itself a direct result of feedback from production professionals.

For example, the SRW-1 HDCAM SR digital 4:4:4 recorder will dock directly to the top or to the tail of the new system. This eliminates the need for cumbersome cable handling between the camera and recorder. When more mobility is required, the recorder can also be connected using either a 'dual-link' cable connection or the new Fibre interface CA-F101, so the camera is as small and light as possible.

Features

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

The F35 provides a full-bandwidth 4:4:4 digital High Definition (HD) R, G and B 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 newly-developed Super 35mm 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. The PL lens mount allows use of virtually all 35mm film lenses, and gives the same depth of field as a film camera.

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. This not only gives greater freedom in highlight control, but also in depth-of-field control - both of which are important factors for creative shooting. A new powerful and high-speed DSP enables highly sophisticated image controls to expand the use of in-camera effects, such as multi-matrix, adaptive detail and skin-tone detail corrections.

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. This multiformat image-capturing capability allows the F35 to be used for multiple purposes in HD content-creation applications, including cinematic, commercial and television productions.

The following range of frame rates can be output:

- Progressive mode: 1080/23.98P, 24P, 25P, 29.97P, 50P
- Interlace mode: 1080/50i, 59.94i

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.

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 particularly when a number of people want to view the same picture at the same time. The combination of the newly developed HDVF-C35W 3.5-inch* type HD LCD colour viewfinder and a HDVF-C950W 9-inch* type LCD colour viewfinder is particularly recommended.

* Viewable area measured diagonally.

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.

* Although operational check of this product has been performed with up to 2GB "Memory Stick PRO" media, please note that operation is not guaranteed for every type of "Memory Stick™" media.

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 an innovative "S-LOG" gamma that can make full use of the wide dynamic range of the CCD. The characteristics of the "S-LOG" gamma are similar to that of a film negative, which allows users to flexibly adjust images as they wish in the postproduction process. When the S-LOG mode is selected, the full latitude (dynamic range) captured by the CCD is efficiently converted to gamma data using Sony's unique algorithm and can be transferred as a 10-bit HD-SDI signal. This unique gamma-handling technique allows all the image information - even in extreme highlight areas, for example - to be maintained so that tone can be faithfully reproduced.

HyperGamma

HyperGamma is another powerful gamma feature, which is inherited from the HDW-F900R CineAlta camcorder and the F23. The F35 provides four types HyperGamma curves:

HyperGamma 1, 2, 3 and 4. Operators can select the best-suited preset gamma curve depending on the scene being shot and their desired 'look' for the image. HyperGamma 1 and 3 enhance natural tonal reproduction in low-key areas, while HyperGamma 2 and 4 are suitable for scenes with wide dynamic ranges.

All HyperGamma are quickly accessible via the set-up menu.

Customisable Gamma Curve By CVPFileEditor Software

The F35 allows cinematographers to customise gamma curves depending on their creative needs using the

CVPFileEditor™ gamma creation software. This software runs on a Microsoft® Windows® PC. It enables the gamma curve to be visually edited via an easy-to-use GUI, simply by plotting the x and y values of each point of the curve. Once the gamma curve has been created, it can be easily loaded into the F35 using a Memory Stick.

Multi-Matrix Control

The multi-matrix function of the F35 allows colour adjustments to be applied over a colour range specified by the operator. The colour spectrum is divided into 16 areas of adjustment (approximately 20 degrees), where the hue and/or saturation of each area can be flexibly modified. This unique function presents interesting 'in-camera' effects - similar to the secondary colour correction normally reserved for post-production special-effects work - and is performed at the full bit depth.

Knee Saturation Correction

Shooting very bright portions of an object (such as key light conditions from a person's forehead) can reduce colour saturation and change the hue in highlight areas. The F35 adopts a knee saturation function, in which this "washed-out" effect on saturation and hue change is reduced to a minimum and offers far more natural colour reproduction in highlight areas.

Low Key Saturation Correction

With traditional video cameras, low light areas can be subject to a reduction in saturation. This can result in the colours in those areas appearing "washed-out". The low key saturation function on the F35 eliminates this problem by optimising the amplification of colour saturation at low light levels by boosting it to an optimised level, thus providing more natural colour reproduction.

Triple Skin Tone Detail Control

The F35 comes equipped with a triple skin tone detail control function, which allows for independent detail control over three specified colours. This enhances the capability of skin tone detail correction - enabling one colour selection to be used for reducing the detail level of skin colour and two other selections to be used for either increasing or decreasing the detail level of two other objects. This can be a powerful imaging tool not available in film shooting.

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.