



The current top of the Cinealta range, the HDW-F900 – recently updated as the F900R.

Moving up in the world

Dan Mulligan assesses the technical merits of the Cinealta 750P and F900 HD cameras, and offers an opinion on the suitability for each when shooting different genres.

Hopefully here I can evaluate Sony's F900 Cinealta camera and provide a small insight into its capabilities. I'll show you the benefits of using the F900 above other similar Sony cameras and show its plus point, such as gamma download curves and recording externally to HDCAM SR tape.

I've used many HD cameras, from HDV, HDCAM, F900 (series 1, 2 & 3) up to Viper 4:4:4. The obvious thing to bear in mind is the cost. The more expensive the camera the better its imaging capabilities – stands to reason – but HDV has shown to be remarkably cost-effective at its level.

The F900 as such is priced very high, and so has a great deal more to it than say the cheaper 750P (P for Pal). Although you can use all cameras for all

genres (with a greater or lesser degree of success), here I will try to explain why I think the F900 is much more suited to HD drama for film/TV than the 750P and why in my opinion the 750P is a great documentary/TV camera.

The F900/3 (series 3) was the last upgrade of the original F900 chassis and has now just been replaced by the F900R (sleeker chassis, built-in HD-SDI downconversion, etc), but I'll concentrate on the F900/3, the most widely available on the market today.

The F900/3 has a 12-bit CCD (10-bit on 750P) and displays the full 1080x1920 frame in either 1080i or 1080p modes at 2.2 million pixels per frame. It carries the ability to select a number of frame rates (23.98 to 30 PsF) in 1080P and 50/50.94/60Hz in its

1080i mode.

It has 53 pages of menus (76 on 750P), but most are irrelevant (engineering mostly). Gamma tables can be loaded into the F900, disabling some menu settings, but giving the camera a much better response.

It has a greater exposure range than the 750P and has a more filmic response to the highlights and the blacks. The camcorder design means that the internal tape recorder suffers from 3:1:1 compression and makes for a fairly bulky camera. The 750P is much leaner. You will need to convert the HD YRB signals to HD-SDI (via an adaptor) to achieve 4:2:2 uncompressed external recordings.

HDCAM SR offers the very best tape acquisition format today for 4:2:2

For further information on the HDW-750P or HDW-F900, browse www.sonybiz.net/hdcamsr



The new F900/R was used with great results on Robert Altman's recent feature, A Prairie Home Companion.

recordings. The only portable option being Sony's SRW1, as the studio decks (SRW 5500) are generally too bulky, although they were used on *Collateral*.

For the HDV enthusiast, the F900 is a considerable leap up the technical food chain and would pose many challenges for such a user. The menus are tricky to navigate and to anyone not familiar with certain terminology it could prove very hard to understand. But having said that, if you hired one and left the camera at its factory settings you would still get excellent images, just not tweaked enough to get the full value of the camera's abilities.

For the film user this camera represents the best value for filmlike response and options. You can select the required frame rate you need (23.98, 24, 25, 29.97, 30PsF, etc); and the ability to load in gamma curves (like film curves) means you can achieve very filmlike results (highlight control, black response) – especially if you are considering a DI and eventually a film-out for cinema release.

But be warned, although you can squeeze out an extra few MPH out of the F900, the basic camera architecture means you are still compromising a little – undoubtedly one reason Sony has announced its even higher spec NGC-23 digital cinema camera (see page 34). The F900 uses 3:1:1 compression, which could render grading a bit more troublesome on effects-heavy shows. To get the best from the camera you should record uncompressed on to an external recorder (say an SRW1) via an HD-SDI output adapter to enable uncompressed 4:2:2 recording, thus helping to record as much image data and colour information as possible. Also,

the camera menus mean that some form of in-camera correction is taking place, losing a good stop's worth of exposure latitude compared to log capture straight from the CCD, which bypasses the camera's internal menu circuits.

I have shot 4:2:2 uncompressed to D5 and SRW1, and the results are very good indeed. The best way to squeeze the most out of the F900 is to rig the camera with an HD-SDI adapter and record to the SRW1 via a single BNC, giving 4:2:2 uncompressed images using a 709 gamma curve (provided by Digital Praxis). This is the best results I have seen, and if the F900 is your camera of choice, it's the only way. In fact, Robert Altman has recently shot a full feature using F900 to SRW1, *A Prairie Home Companion*, and the results are fantastic. Otherwise, use the 709 curve straight onto HDCAM internally; you won't be disappointed.

HDCAM SR

HDCAM SR (Superior Resolution?) is Sony's new ace-in-the-hole for tape capture. Recording four times as much information as standard HDCAM stock, it does suffer from tape compression, but so slight as to be virtually non-existent. Compared to data/disk capture it is, by eye, undetectable. I love it.

F900 compared to 750 is like Porsche to a Subaru, both very quick and capable, but one just offers that bit more refinement and options. The 750P (Pal) has fewer options (1080p at 25PsF or 1080i 50Hz), a 10-bit CCD (12-bit on F900, worth a stop or two of latitude, highlight control, etc), but it is cheaper, still pumps out 2.2 million pixels per frame and has an easier menu

structure (76 pages worth). A new version 2.0 of the camera software was released last December (2005), which gives a new menu for filmlike response. This is not a gamma curve, as in the F900, but a series of menu numbers for you to punch in and then save to the memory stick.

I like the 750P – it is a very capable camera, but to me it's a documentary camera. It has a lot of detail level, which you can switch off, and makes waterfalls, mountains, landscapes and so on stunning, but put an actor's face in front of the camera and to my eye it looks too harsh. But it's a very good video camera.

The F900 is a much more capable and forgiving camera, especially when shooting drama. It has a much more filmlike response to highlights and blacks, and when using the gamma curves correctly gives very pleasing results. Ultimately, though, your budget will decide what's best for you, but for my money the F900 is the much better choice for drama and the 750P fits the documentary/travel/TV show market perfectly.

My choice of kit with F900/3 would be:

- For drama/film: F900, Zeiss DigiPrimes, SRW1 SR stock external, gamma curves;
- For drama/TV: F900, Zeiss lenses, HDCAM internal recorder, gamma curves;
- For documentary/TV: 750P, Canon HD lenses, careful menu set up.

However, as I own a Viper with HDCAM SR and Zeiss DigiPrimes, I'd shoot that too.



Having started a camera career as a clapper loader and focus puller, as well as fashion and travel stills photography, Dan Mulligan is now a full-blown camera operator and occasional DP. He runs Rogue Element Films providing 4:4:4 digital camera services with Viper and Zeiss lenses. He lives in Worcestershire.

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