Stepping Up with Sony's HVR-Z5U

A B&H Hands-on Preview

by David Speranza

Sony likes to release its higher-end camcorders in twos, so it was no surprise when last September's announcement of the prosumer HDR-FX1000 included specs on the pro-level HVR-Z5U. These two HDV cameras are nearly identical in terms of build and imaging, but the Z5U offers some important step-ups for professional shooters. The most significant are dual XLR audio, native progressive 24p/30p, DVCAM recording, SMPTE timecode support, and full docking ability with Sony's new HVR-MRC1K compact flash recorder.

But let's review the similarities. In our hands-on look at the HDR-FX1000, we noted all the great new features and improvements Sony brought to its replacement of the prosumer HDR-FX1. Those same upgrades apply to the HVR-Z5U, which we spent some face-time with prior to its official December release.

Like the FX1000, the Z5U has Sony's new G-Series 20x wide-angle lens (72mm filter), three Exmor-enhanced 1/3" CMOS sensors (1120k pixels apiece), low-light sensitivity down to 1.5 lux, dedicated zoom/focus/iris rings, three built-in ND filters, and the same Xtra Fine 3.2" LCD screen found on the flagship HVR-Z7U (with an outstanding 921K pixels of resolution). Both cameras also shoot in 24p/30p progressive modes to produce a more cinematic look, but where the FX1000 uses what Sony calls "progressive scan," the Z5U also offers native progressive mode. (The difference, as will be explained later, is less about image quality than how that image is recorded and edited.) One feature not previously mentioned is the 1.5x digital extender, which extends the zoom range to 30x with a minimal loss of quality.

Limited to a preproduction model for this review, we were unable to shoot actual footage to test out the camera's specs against real-world results. But there was more than enough in the Z5U's build and control set to determine what makes it different from its prosumer sibling.

Let's Get Physical

At first glance, there's not much physically different between the two cameras. Both are equally handsome and rugged-looking, with the Z5U's black surface and two-tone grip and handle appearing a touch more polished and professional. Along with a clip-type microphone mount on top, the Z5U also

HDR-FX1000

HVR-Z5U

sports a large, flexible rubber eye cup. Other differences are more subtle, from a second, screw-hole type accessory shoe on the top handle to a pair of audio cable clips affixed to the camera's side and rear—useful for wrangling unruly accessory cables.

The other major external difference from the FX1000 is the smart shoe connector found on the camera's back—a small clip-in mount just above the battery area that allows a proprietary connection to Sony's optional flash memory recorder, the HVR-MRC1K. This is identical to the mount found on the higher-end Z7U and S270U camcorders, and provides the option of recording either tapeless or simultaneously to miniDV. This makes the Z5U great for anyone still making the transition from tape to flash memory, and adds a great deal of control and interoperability between memory unit and camera. The HVR-MRC1K, it should be added, also works (via FireWire) with Sony's other HDV camcorders, but with more limited capabilities.

Professional Shooting Modes

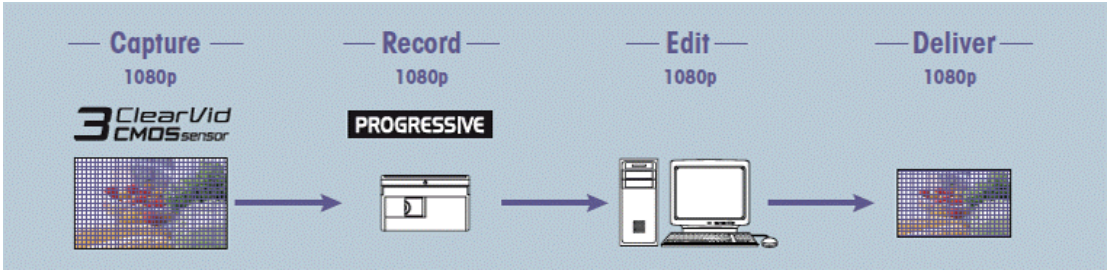
As with all of Sony's pro HDV step-up cams, the Z5U provides DVCAM recording in addition to HDV and standard DV settings. DVCAM is a higher-speed, more stable standard-definition format than regular DV, and uses miniDV tape to record video with locked audio and fewer potential dropouts.

Embedded SMPTE timecode control and user bits are another professional addition, giving filmmakers and videographers the ability to more precisely calibrate their workflow and to sync up multiple cameras.

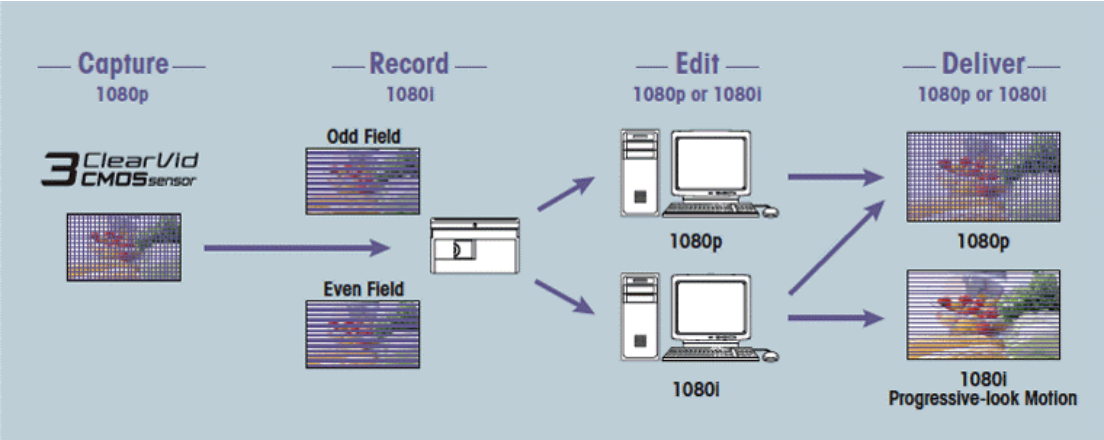
"Native progressive" vs. "Progressive scan"

Another significant difference between the FX1000 and the Z5U is the latter's ability to record native progressive 1080p video, as opposed to the former's "progressive scan" mode. What's the difference? It's a bit technical, but for those already familiar with digital video production, here are the basics:

When shooting **progressive scan** 24p on the FX1000, the image captured by the camera's three CMOS sensors starts out as 1080p (that is, 1,080 lines of progressive resolution). But as it's recorded to tape, the image is converted, via 2:3 pull-down, to 60 frames-per-second interlaced video (or 60i). This retains the progressive "film look" of 24p while making footage easier to view and edit with most consumer and prosumer editing software. You can then output your project in either standard 1080i or, by removing the 2:3 pull-down, in 1080p—depending on if your final product will be viewed on an interlaced platform (e.g., a standard TV) or a progressive one (HDTV, 35mm film).



The **native progressive** recording of the Z5U, on the other hand, does not convert the 1080p signal to 1080i when going to tape (or flash memory). Instead, the images are recorded in their original, or "native," state. This means that footage stays progressive from capture to recording through editing and exhibition. The advantage is more stable video, less prone to the errors that can be introduced with the 2:3 pull-down process. This is especially important if you plan to distribute your project on film (which of course originates at 24 frames per second) or on DVD. The only real downside is cost, since cameras recording in native progressive are more expensive—as is the more powerful editing software needed to edit 24p video in its native form.



Having said this, it's important to point out that there should be little discernible difference in the basic quality of the FX1000 and Z5U's 1080p images. The video from either camera will look great no matter what. But what the Z5U provides is a more robust image—one that can be more smoothly edited (with the proper equipment) and more easily transferred to film. As with DVCAM, it's another small but crucial technical advantage serving the higher demands of professional shoots.

Controlling Picture

Most professionals take for granted the ability to adjust every aspect of their image while shooting, and the Z5U adds to the FX1000's already impressive control set with even more advanced settings. These include expanded control over black level, gamma, color mode, color depth and skintone, advanced white balance adjustments and presets, and color correction settings. The Z5U also features Hypergain, an extreme gain boost for shooting below 1 lux, along with smooth gain and smooth white balance, which allow for more subtle transitions between manual gain and white balance settings. This prevents the sudden jumps in image brightness or color that can accompany changing light conditions within a shot.

Controlling Sound

Often the most obvious element separating a professional production from an amateur one is the quality of its sound. That's why so many filmmakers insist on XLR inputs and balanced, adjustable audio—and why they're willing to pay extra for it. This not only provides more control over the sound as it's recorded, but allows the use of a wider range of professional microphones. And while the FX1000 (and other cameras with 1/8" mini jacks) can use XLR-to-mini or Beachtek adapters to record professional-quality sound, these don't offer the same flexibility and control that a camera like the Z5U does. Its dual XLR inputs not only provide 48-volt phantom power to non-powered mics, they

allow line input and the ability to separately adjust or mix both audio channels—essential to any high-end production.

Taking One's Measure

Another hallmark of a professional (versus prosumer) camcorder is the ability to control your image before it's recorded. That means having access to shot information that will better inform your creative choices. To that end, the Z5U provides zoom and focus measurements within the viewfinder, measurable in either feet or meters, allowing you to recreate precise lens positions from shot to shot. This is a crucial function, especially considering the one feature the Z5U did not carry over from the Z1U or the FX1: a non-perpetual zoom with barrel markings. Why Sony didn't include this is a mystery, and one that will frustrate many shooters, but the inclusion of viewfinder measurements at least provides an alternative solution.

Other display tools on the Z5U include aspect and safety zone markers and a switchable B&W/color viewfinder. These nicely complement other features shared by both cameras, including an advanced histogram and a color-selectable (and brightness-adjustable) peaking function.

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Whereas the HDR-FX1000 was a direct replacement for the now-discontinued HDR-FX1, the HVR-Z5U can be seen as the unofficial successor to both the HVR-Z1U and the HVR-V1U. At a list price of $4,950, that makes the Z5U—about a grand less than the Z1U, and on par with the V1U—a nice package indeed. Essentially an HVR-Z7U ($6,850) without the interchangeable lens, it's a solid choice for anyone without the need (or budget) for additional lenses.

For many advanced amateurs—and quite a few pros—the FX1000 will offer more than enough camera for the money. But if you're ready to step it up a little, to round out your projects with the flexibility and precision of truly professional equipment, then the HVR-Z5U provides an indispensable foundation to your production toolkit.