May 13, 2008

**RE: Test report on the Sony EX1 and Gates EX1 housing**

The camera / housing system was tested on 5/11/08 on the wreck of the Yukon in San Diego. The conditions I hoped for were present: Overcast skies and typical San Diego visibility of about 30 feet. Water appeared greenish and more than the usual particulate matter in the water. These conditions were ideal to evaluate the low light capability of the camera.

(Side note: one of the problems with HD cameras is very poor low light and WB capability. The introduction of HD meant a big step backward in these features compared to their SD predecessors. HD cameras often will not WB below 15 feet or so, requiring the addition of light and/or the use of the red filter to assist. The EX1 is conversely a step forward again showing remarkable low light capability on land. A key element of this test was to see how it would perform in the inherently low-light medium of underwater).

The housing setup included the SP44 dome port and EM43 monitor. The EX1 prototype needed 6 lbs of weight to get slightly negative in the water. (Production models will need only 4 lbs in the basic configuration.) No lights used as this was a test of the camera in ambient light conditions only.

The down line was moored to the forward guns of the Yukon, where I began shooting at 70 feet. The camera was set in ATW (Auto Tracking White balance) without the red filter and gain=0 to see if the camera could adjust for water conditions. It did not. The screen showed exactly the scene in front of me: green, washed out, muddy and dark.

The next step was switching to Preset B and manually white balancing on a metridium anemone (which are very handy for WB. They are pure white and conveniently abundant). I must admit that the image on my monitor genuinely surprised me. The colors literally jumped off the screen. Rich red corynactis anemones surrounded by the white metridiums and hazy blue background were unexpected. Honestly it looked completely Photoshop-ed. But the camera reported a WB setting of 3200K (shifting very red) and captured colors as they are – not as they appear under the highly blue / green shifted ambient light underwater. It was at once striking and enjoyable to see.

I then continued on to other visually engaging spots on the Yukon including the main mast, stack and propellers. Max depth was 90 feet and still the EX1 performed flawlessly correcting for color.

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Reviewing the video later on a large LCD monitor revealed the camera struggled for detail and sharpness in these conditions. I do not know if this is due to low light or the XDCAM format compression -- or both. Either way this is typical for video cameras in low light and not surprising, but it remains notable the EX1 performed exceedingly well in conditions from which nearly every other HD camera on the market would be precluded.

As for the housing I discovered a three minor tweaks necessary for production, but otherwise it performed like a classic Gates product. A control knob requires slight change as do two bottom rails on the rear shell.

One item of note is the trim weights. The EX1 design includes adjustable trim weights secured to the bottom rails which can be added/removed and trimmed forward/aft for just the right buoyancy/trim. On my second dive I moved two 4 oz trim weights to the front shell as the housing was a bit 'nose light'. Doing so brought it perfectly into trim – exactly as planned and designed. I believe users will really appreciate this feature.

The new camera tray is a delight, too. A single captive thumbscrew makes fast the camera, and two lock arms snap the tray in the housing with and secure it with a positive 'click'. Easy, quick and convenient.

Editing the XDCAM footage from the SxS flash cards is straightforward. First, using the Clip Browser utility from Sony I can plug the camera into my USB port and review, delete and transfer clips right from my PC. No tape transfers, no edit lists. From there Canopus Edius Broadcast (my editing suite of choice) readily imports the files and handles them effortlessly.

(Side note: this is a big reason I choose Edius: support for HD formats is available when the format hits the market (that is, no waiting for a 'plug in' support months after you got the camera) and it handles the format flawlessly. No bugs, crashes or other issues requiring a support call. This has been true with HDV, DVCPRO HD and XDCAM. )

In summary the camera performed beyond expectations for white balance in low light. Users will appreciate the new cam tray and trim weight features. In well lit conditions I expect the camera to produce sharp detail – especially with the SWP44C super wide. Downloading and editing the video is easy and straightforward, readily lending itself to the emerging discipline of acquisition, editing and internet broadcast from the field – not the station.

Video can be found here: http://www.gateshousings.com/EX1videotest.html





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