



News

Product

Education

Inspiration



# Technical

Home / Technical / De Vos on uncompressed HDMI



## Jacques de Vos on uncompressed HDMI with the EOS 5D Mark III

© Jacques de Vos

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The latest firmware update – Version 1.2.1 – for the Canon EOS 5D Mark III DSLR includes a host of important new features, including uncompressed HDMI output, and one of the first videographers to take advantage of this was underwater specialist Jacques de Vos. He has established a considerable reputation for shooting still images and video with a Canon EOS 7D whilst free-diving and has recently switched to the EOS 5D Mark III, with very favourable results. CPN video writer James Morris spoke to Jacques de Vos to discover his first thoughts about shooting uncompressed HDMI output with his EOS 5D Mark III underwater rig.

Jacques de Vos's footage has already appeared on the BBC and the Discovery Channel, as well as in Red Bull promotional material. In fact, 90% of the underwater footage featuring world free-diving champion Sarah Campbell in the Blue Hole, shown in the BBC programme 'To Boldly Go', was shot by de Vos, despite a scuba-equipped cameraman being available. "With free-diving, you have no constraints on how fast you can ascend, unlike scuba diving. So you can follow the action more directly," explains de Vos.

### Biography: Jacques de Vos



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Jacques de Vos is an award-winning photographer and videographer who specialises in underwater shooting. He is also a scuba and free-diving instructor, and is co-owner of Freedive Cape Town in South Africa. He won Gold in the Wide Angle category in the 2012 Our World Underwater awards and took top place in the DRT Underwater Photography Competition 2012, too. Originally from Cape Town, South Africa, he worked in the oil industry, before switching to free-diving and underwater photography. His footage has been used in the BBC's 'To Boldly Go' documentary, for Red Bull promotional videos and broadcast on the Discovery Channel.

### Downloads

[EOS 5D Mark III: uncompressed HDMI footage](#)



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Please click on the window above to view Jacques De Vos's underwater EOS 5D Mark III firmware 1.2.1 test footage. This was originally shot with uncompressed HDMI and unedited out of an Atomos Ninja-2 external recorder.

"The improved HDMI output with new EOS 5D Mark III firmware has opened up exciting possibilities," reveals Jacques de Vos. "In order to qualify as 'broadcast quality', 75% of a programme has to be shot at 50Mbps per second or greater. Footage shot on a DSLR like my EOS 7D has therefore been in the 25% that doesn't meet that level. But now I can shoot at true broadcast quality with the EOS 5D Mark III."

In his first uncompressed HDMI output tests Jacques de Vos free-dived and filmed seven-gill cow sharks off the coast of his native South Africa. The clip that's shown here features footage that is unedited and is straight out of the Atomos Ninja-2 recorder.

The rig de Vos employs consists of an EOS 5D Mark III DSLR in an Ikelite underwater housing. Ikelite has allowed de Vos to modify the housing to provide a bulkhead for the HDMI connection. He can then connect the camera to an Atomos Ninja-2 external recorder inside a Dive and See DNC-N housing, which is mounted directly onto the Ikelite housing to make a single unit, whilst providing a large monitor screen. The Ninja-2 is fitted with a SanDisk Solid State Disk to record footage in ProRes format.



© Jacques de Vos

Jacques De Vos's underwater rig includes the EOS 5D Mark III in Ikelite housing, plus an Atomos Ninja-2 external recorder in Dive and See housing.


"The obvious big advantage with this rig is the higher bitrate, and the ability to record 4:2:2 colour," explains de Vos. "But being able to view on an external screen is also really useful. With the Atomos Ninja-2, you can put it in monitoring mode and trigger start and stop recording from the camera, which is great when you're free-diving and you only have a minute or two for each dive."

Previously, the EOS 5D Mark III DSLR did not output a clean video signal over HDMI, and video was recorded in H.264/MPEG-4 AVC MOV files, with a 4:2:0 colour space, to a CF or SD card within the camera. The new firmware also transmits timecode over the HDMI connection, which is what enables the camera to control the external recorder so effectively.

"I have only used this setup for a few days, but already I can see a higher dynamic range from the footage I have shot," de Vos reveals. "The bright areas aren't too bright and you can see more in the dark areas." The lack of compression and 8-bit 4:2:2 colour pay dividends when it comes to grading and correction, which de Vos mostly performs when editing in Adobe Premiere Pro CS6. This is absolutely crucial with underwater shooting, which can easily cause errors in white balance. With compressed 4:2:0 footage, extensive colour work can introduce banding in the expansive underwater areas of blue or green, but de Vos has found the uncompressed YCbCr 8-bit 4:2:2 colour format avoids this issue.

De Vos could have chosen to travel with a camcorder as well as a camera, but that would have meant carrying two separate devices, and underwater camcorder rigs capable of the quality he produces can be unwieldy. With the EOS 5D Mark III, he can take photos and video with the same rig. Now, thanks to the new firmware, he can also shoot true broadcast-quality footage underwater with his DSLR, making him the

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### Links

- Canon Europe Download Centre
- Jacques de Vos's website

first in the world to do so.

Please note: the video shown within this article is a compressed version of the original uncompressed HDMI footage shot with EOS 5D Mark III firmware Version 1.2.1. To download and view the original uncompressed HDMI footage please click on the 'Downloads' box link on the right hand side of this article.

- To find out more and download EOS 5D Mark III firmware Version 1.2.1 please [click here](#) and enter your country and product details. Please read all of the instructions before downloading the firmware.



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