January 2019 Volume 31 No.7 www.nvm.org.au

NEWCASTLE VIDEO MOVIEMAKERS
NVM
Celebrating 30 Years
16th August 1988
1988 - 2018

January 2019

Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2	3	4	5	6
7	8	9				13
14		16	1			20
			24			27
28			31			

8th January 7.30pm Tuesday Committee Meeting at Geoff's

2nd January 7.30pm Wednesday NO Club Meeting No Club Meeting this Month

February 2019

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	3
4	5	6				10
11	12	13				17
18	19	20	21	22	23	24
25	26	27	28			

6th February 7.30pm Wednesday Club Meeting One Minute Competition

2019 COMPETITIONS & FUNCTIONS	
January 2019	No Club Meeting This Month
February 2019	One Minute Competition
March 2019	Novice Competition up to 10min.

From the President's Desk

Happy New Year to all of our members and their families. I had a chance to catch up with many of you at our club's December Christmas party. And what a warm enjoyable night it was too. Everyone chipped in with the party food - delicious but as usual too much. ("Oh my belly!")

I took the chance to talk film making ideas and networking with many of my N.V.M. colleagues.

Mark and I had a conversation about making some Minute films during January - getting them shot, edited, completed and ready for screening at the Minute Competition on Wednesday the 6th of February. (And that's not long now...) I had a similar conversation with Geoff also.

Geoff was discussing purchasing new equipment. He is always interested in quality equipment and these days he values compact / user friendly stuff. Geoff also expressed a keen interest in making some 1 minute films together in January. We all agreed that should any of our club mates have difficulty getting an idea , a crew to film it or even some actors to get the ball rolling, then please

get in touch with Mark ,Geoff or myself and we will gladly welcome you into whatever projects we have dreamed up to film during January. Honestly it would be wonderful to have you involved and of course then you would own a piece of the film. You may even see a bit of your input up on the big screen. And wouldn't that be something...
See you all then!

Phillip Reynolds.

Geoff Peel and Bruce Hoskin chatting at the Christmas party

Mike Creevey can't believe how good Phil Reynolds looks with his Xmas hat on

Christmas Party Club Photos

Our 3 Xmas party girls. Gail Wright, Laura Owens and Narelle Chesterfield

Mansel Williams, Mark Owens and Phil Reynolds discussing filming

Bob Cook, Noel Kidd, Paul Wright and Mike Creevey in group discussion

Robert Farquhanson chatting with Noel Kidd

Our wonderful Xmas food on the night

Three of our original members, Bob Cook, Laurie Chesterfield and Graham Bryant

8-Bit, 10-Bit, What Does It All Mean for Your Videos?

By Shawn C. Steiner

Digital photography has made cameras a lot more complicated and, once we tacked on video, we entered a whole new world. The latest mirrorless cameras and DSLRs are incredibly capable video-making machines, with 4K recording at up to 60 frames per second. Some even offer advanced modes that bump the specs up to 10-bit over HDMI, have different sampling options including 4:2:0 and 4:2:2, and there are plenty with logarithmic, or log gamma profiles. Coming to video from a still-photo background can mean all these settings can be quite confusing if you want to jump into your system's video functions, so here's a quick rundown of some of the most essential, especially with newer options being even better and offering substantial upgrades .

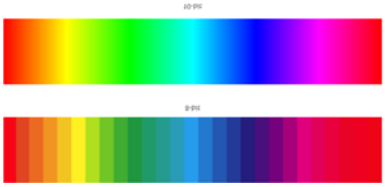
Your Best Bet is Bit Depth

Until the past couple of years, getting 10-bit on a mirrorless camera was nearly impossible. Today, we have accessible options, such as the Panasonic GH5S and Fujifilm X-T3 to give us this previously cinema-only specs. This is a huge improvement for shooters. Upgrading the bit depth is the best way to capture the highest-quality video, including bumps to dynamic range and color rendering. Before, most video was limited to 8-bit, which is just fine for many things but not ideal if you intend to do professional work or capture footage using a log gamma profile. I'll explain.

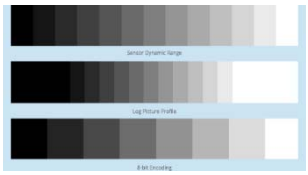
Panasonic Lumix DC-GH5S Mirrorless Micro Four Thirds Digital Camera

Many cameras will record 8-bit video internally. In photo terms, this is the equivalent of a JPEG. Now, consumer-grade raw still images are generally 12- or 14-bit recordings (some pro options will deliver 16-bit). Imagine working on a JPEG and how you may struggle to recover detail in the shadows or bring back a highlight or even just manipulate the colors to look better. Then, when you open the raw version, you have a whole world of new data to work with that you can push and pull to your heart's content. Every jump in bit depth is a dramatic change in data, so while a 10-bit video may not yet be as good as a raw still, going from 8-bit to 10-bit is huge.

In more technical terms, an 8-bit file works with RGB using 256 levels per channel, while 10-bit jumps up to 1,024 levels per channel. This means a 10-bit image can display up to 1.07 billion colors, while an 8-bit photo can only display 16.7 million. But JPEGs look fine, so how much difference can this really make? Practically speaking, if you are just going to save this to YouTube or Facebook, you may not need more than 8-bit. If you intend to edit the video at all you may quickly see the difference. 8-bit video is prone to banding when you start manipulating areas that require a smooth gradient of color. A sunset is a great example because you may see moments where it jumps from one color to the next instead of making a smooth transition.



Another benefit of this extra data comes when using log gammas. These ultra-flat settings maximize dynamic range in the captured footage, specifically so that their colorist can pull out as much detail as they need to get the look they want. This obviously requires a great deal of manipulation in post, because it is nearly unwatchable straight out of camera. With 10-bit, you have more color to work with and smoother transitions, meaning you can do more as you work with it.



There is one final note when it comes to bit depth: just because a camera can do it, doesn't mean it always will. One key thing to find out is whether 10-bit recording is only possible via an external recorder. Many cameras can't process all that uncompressed data internally—take the Nikon Z6 and Canon EOS R as examples—so they will send a signal straight through an HDMI output that is 10-bit, which can then be captured by external devices, such as the Atomos Ninja V. Now the questions become whether this extra cost and weight is worth it for your shoot. On vacation and shooting a vlog? Probably not. Shooting a short you plan on entering into festivals? Definitely helps. Working on a documentary in a remote location? Maybe? Depends on your resources and needs for that specific shoot.

Atomos Ninja V 5" 4K HDMI Recording Monitor

If you want/need the best quality, make sure you go with higher bit depths because they will have the greatest impact on your footage.

Chroma Subsampling, Bit Depth's Sidekick

Sitting right next to bit depth is generally a string of numbers along the lines of 4:2:2 or 4:2:0 or, if you are lucky, 4:4:4. Called chroma subsampling, it refers to how much color information is recorded at a pixel level. Generally, video can get away with less color resolution since it can sample from nearby pixels to generate a complete image that looks very good. 4:4:4 is the best and means that there is no subsampling happening, meaning each pixel has its own color information. 4:2:2 is very common and its shortcut is by halving the horizontal resolution while maintaining the full vertical resolution. 4:2:0 is, perhaps, what most people see when they record internally to a mirrorless camera or DSLR—this halves both vertical and horizontal resolution. Remember, this is referring only to color resolution, not luminance.

When you watch a video, you likely won't notice the differences here. Many videos are finished in the low 4:2:0 spec. It's a great way to lower your data rates. What can be affected is the clarity of edges or contrasting colors. When you remove some color resolution, what ends up happening is the player must estimate the in-between values based on nearby saved values. If the values are contrasty, this may end up blending them when you don't want that to happen, blurring your edges. Real-world shooting may not be too badly affected by this; however, things get more complicated when you bring things into post.

This matters if you have a text-heavy image with smaller print that needs to stay legible, or if you are working with green screens and trying to pull a clean key. You need that extra color detail and clarity to ensure edges don't blend into one another. It also results in those visible blocky artifacts that can show up in motion, because the summed pixels don't always come back conveniently into smooth or sharp transitions. The less compression you have here, the better.

Some cameras give you the choice or require an external monitor to improve subsampling. A good example is the Fujifilm X-T3, which offers internal 4K recording at 10-bit 4:2:0, requiring an external recorder for 4:2:2. On location, the internal recording will do the trick, while studio and effects work may demand getting a recorder for the benefits of 4:2:2. Again, the need for improved sampling will depend on your specific shoot, though a good middle ground is 4:2:2. As long as you are lighting everything well, and understand the post process, pulling keys should be fine.

Extract form: https://www.bhphotovideo.com/explora/video/tips-and-solutions/8-bit-10-bit-what-does-it-all-mean-for-your-videos

CLUB MEETINGS

WHEN: The first Wednesday of each month at 7.30pm.
WHERE: Jesmond Neighbourhood Centre 44 Mordue Parade Jesmond

CORRESPONDENCE TO:
The Secretary,
NEWCASTLE VIDEO MOVIE MAKERS Inc
PO Box 67 ADAMSTOWN NSW 2289

Contact us Email: contact@nvm.org.au

Committee meetings: These are held on the Tuesday following the club meeting each month at a committee member's home in rotation. All members are welcome to attend, however a courtesy call to the committee member concerned would be appreciated.

Location of NVM Club room

44 Mordue Pd Jesmond Neighbourhood Centre