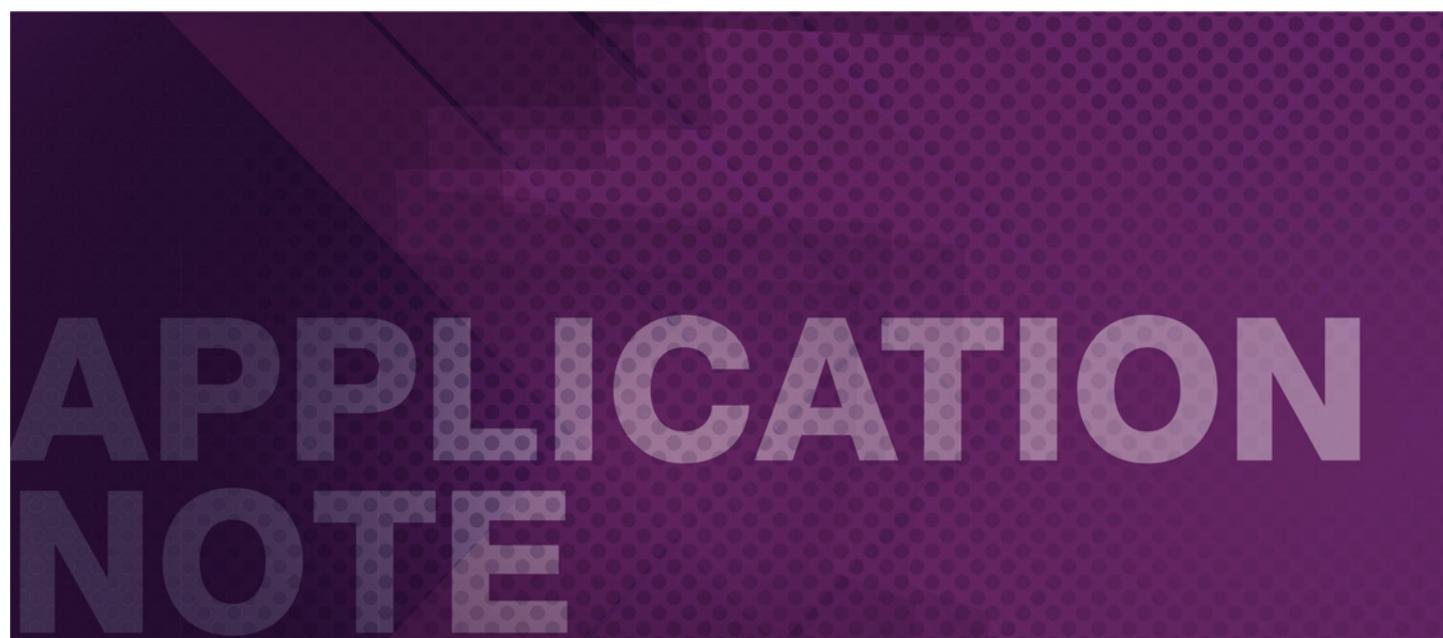




EDIUS for DSLR Post

Stefan Czech, Stefan Czech Filmproduktion, Langen, Germany

November 2010



In addition to traditional video files, the Grass Valley, a Belden Brand, EDIUS NLE is capable of handling Canon XF format and EOS movie files natively, with no conversion on the timeline. This saves editors shooting video with Canon DSLR cameras a lot of time as they can begin editing immediately after the files are loaded into EDIUS.

Introduction

It's been two years since digital single lens reflex (DSLR) cameras began to be used for video. The reason is quite simple: the "film look" that a DSLR creates has an absolutely beautiful look all its own.

The ability to shoot video with the larger sensor of a DSLR gives the filmmaker an amazing shallow depth of field, which visually equates to the cinematic look of 35 mm film.

Thousands of filmmakers worldwide, from consumers, to prosumers, to professionals, have taken the potential of the DSLR to create impressive images and amazing movies.

Another benefit of using a big DSLR sensor is the ability to work with less light. So many projects can now be shot with available light. A big plus for aesthetics and one's budget.

However, it appeared as though companies like Canon and Nikon didn't plan on the popularity of DSLR cameras for use in professional and broadcast videos.

The HD DSLR video trend began with the Canon EOS 5D Mark II with a full-frame 36x24 mm sensor — at the time, the biggest DSLR sensor available to acquire in HD. But it came with a frame rate of 30p, not the 29.97p or 25p expected by the broadcast industry.



The reason was simple: DSLR video was designed for the Internet.

The next generation of DSLRs came with movie functions: the 7D and 1D MKIV. Each had the option to select 24p and 25p for use in the PAL world and 29.97p for the NTSC world. Each also delivered 720 50p/60p. In March 2010, Canon released a firmware update to give similar functionality to the 5D Mark II with 24p, 25p, and 29.97p.

Nikon, on the other hand, elected to remain with 24p — leaving video as a minor feature in their cameras.

The Canon DSLRs mentioned above record using a H.264 AVC1 codec with a variable compression rate ranging from 35 to 44 Mb/s.

Initially, the biggest challenge was the conversion of the video files from 30p to 25p. Additionally, the conversion from 30p to 29.97p was problematic as every NLE had its own way of handling

the conversion, taking an extremely long time and delivering substandard results.

But frame rate converting is now history.

Editing DSLR Video

The H.264 codec was designed as a good balance between memory usage and image quality, but it was not designed to be edited quickly on a non-workstation computer.

Unfortunately, there are a great many HD and SD codecs available. During production, you may not be able to pick the one that works best for you in post. In fact, you may end up with a project that utilizes a number of different codecs.

Each individual nonlinear editing system has its own unique way of handling codecs. For most, the best (and sometimes only) way is to convert all footage into a specific format with a specific codec that works best for the NLE.

Unfortunately, this can take a significant amount of time depending on how much footage you have, the conversion process itself, and the speed of your computer — with a major effect on your time schedule.

In a time of Intel i7 quad core CPUs and fast hard drives, managing HD footage should not be a big problem. But the reality is different.

With the majority of NLEs, trying to play a timeline in real time which has a clip from a Canon 5D Mark II (H.264, 1920x1080 25p) mixing with a clip from a Sony EX1/EX3 (MPEG-2, 1920x1080 25p) is nearly

impossible.

Some NLEs scale down the output, or require a very powerful graphics card to calculate the HD image.

It's the same when your timeline is 1080 25p and you try to add your client's 720 25p footage or WMV-compressed 640x480 footage for picture-in-picture. What's worse is when you try to render out your final project, with no render farm available and when you're on deadline.

Some people say that the best way to work with DSLR footage is to convert everything into another codec. But why should you have to do this? Why convert it before the final render out?

With EDIUS 6 from Grass Valley, a Belden Brand, you can easily handle multiple formats, frame rates, and codecs all on the same timeline without any problems. That's why EDIUS's slogan is "Edit Anything".

EDIUS has everything I need to edit every type of footage that I like to work with. It doesn't need to convert anything to play in real time on the timeline.

Importing DSLR Files Into EDIUS

I have two choices for organizing my footage.

First is to copy all my footage from the camera into a folder on my hard drive. If I've done a good job shooting, there are no problems with the filenames. Then I simply import the folder into the EDIUS bin.

The second and easier way is to open the camera's file drive with the EDIUS source browser and add/transfer the audio, video, and still image files into the EDIUS bin and the project folder at the same time.

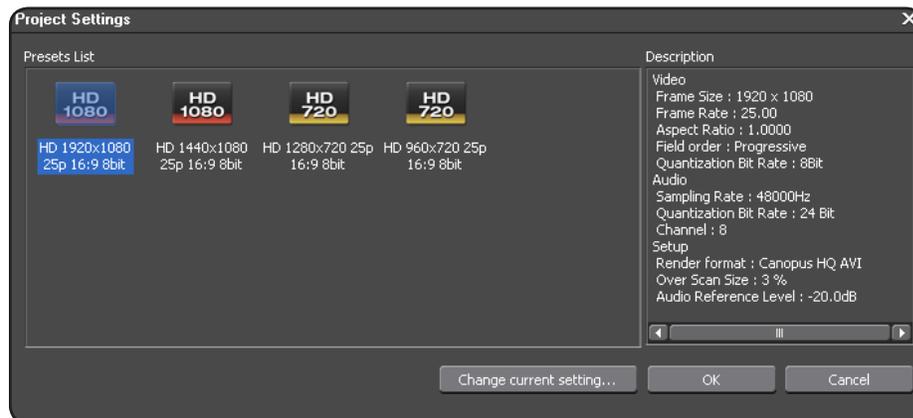
Of course I choose a timeline format for my project ahead of time, but even if I have non-conforming footage, EDIUS can handle it on the timeline without conversion.

With EDIUS, I can choose nearly every frame speed that I might need, from 15p to 50p in resolutions up to 4K in every aspect ratio I could possibly imagine.

Editing with EDIUS 6 gives me:

- The fastest way to bring the footage into my project, without any time wasted on format conversion
- The ability to bring different formats onto one timeline
- Real-time editing with native footage from any DSLR on the market
- Mixed formats on the timeline allowing me to bring in footage from a Sony XDCAM EX/HD, or any other type of camera
- Everything shown in full raster 1920x1080 resolution in real time, all the time
- No rendering for effects like blur, color correction, transitions, fades-ins and outs, time remaps, and slow-motion or speed-up
- With the masking tool, the ability to create effects that I only thought I could do in specialty software like After Effects, but in real time

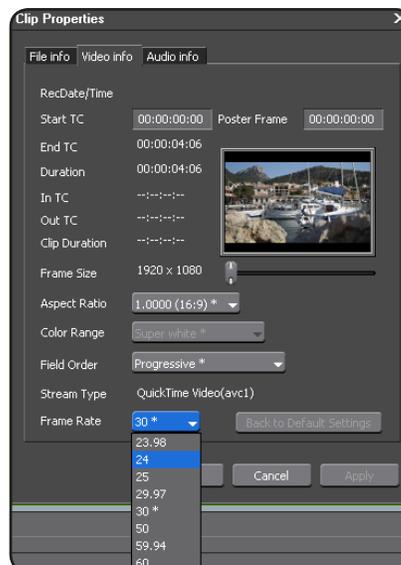
For a example, here's a project with footage with different frame rates: This project is set with a 1920x1080 25p timeline.



When I import clips into EDIUS, I can include 1280x720 50p clips as well, without any worry.

I can drag-and-drop any clip from the bin to the timeline, regardless of its format. Although it's on a 25p timeline, my 10-second 50p clip will play in its native length of 10 seconds at 25p.

If I want to change the playback frame rate to 2X slow-motion, that's easy as well. I simply right mouse-click on the 50p clip within the bin and select "Properties." I can see that it's a 50 fps clip, marked with a star as that was the recorded frame rate.



If I now choose 25p (like the timeline), the clip will play at one-half speed (as I changed the frame rate by half — the 10-second 50p clip now plays back at 25p and takes 20 seconds). This is the best way to generate 2X slow-motion from a clip, because it will use all 50 recorded frames.

Fixing in Post

As we can already see, there are many great creative advantages shooting with DSLRs. But a word of warning: where there is light there is also shadow, and this can sometimes be just as important with a DSLR camera as with a camcorder with a CMOS chip.

CMOS sensors read line by line, unlike CCD sensors, which read all the lines at the same time. So with a CMOS sensor there is always a small time difference between the first and last line of pixels.

When a pan is a little too fast, vertical elements in the picture — for example a tree or a telegraph pole — tend to tilt into the direction of the pan. This is called the “rolling shutter effect.” You can see this clearly in the left image below.



EDIUS 6 comes bundled with a range of third-party video and audio effects packages. One of these is ProDAD’s Mercalli, an image stabilization application.

Mercalli has a special “Anti Rolling Shutter” feature that works really, really well. You simply apply this effect to a clip in the timeline, fine tune the effect visually, and then let Mercalli render the scene. You can see the result above, in the right hand image — the problem is fixed, quickly and easily.

Another plus for EDIUS 6!

Rendering Out

Once I am done with a project, I can choose almost every kind of codec and format to render out the finished movie.

The amount of time I save in NOT having to convert formats just to place clips on the timeline and the ability to work with the native DSLR files until the final render out (including burning to a DVD or Blu-ray Disc directly from the timeline) is the reason I can work so quickly and efficiently for my clients.

Biography

My name is Stefan Czech and I run Stefan Czech Filmproduktion with 3-5 freelancers in Langen, Germany. At times, I work alone as a freelance cameraman and as an editor — mostly both — with 90 percent of my work being time-critical — shooting two hours of footage on location for 6-10 hours, with the 3-6 minute edited footage having to be uploaded to YouTube in HD that same night! It is not always easy to always stay on schedule.

I shoot with two Canon 5D Mark II DSLRs because of the large range of lenses available. EDIUS 6 gives me the ability to work with the native file footage from the DSLR without any conversion, so I save a lot of time in post.

