



Issue 5 September 2017



I read an article recently, from a well known consumer camera manufacturer, with a mixture of interest and wonder. I then started to think of what exactly drives the development of consumer goods and their ever increasing sophistication, sometimes useful, timesaving, space saving, energy efficient or sometimes not!

“The CMOS sensor within this camera allows you to take 120 megapixel still images with its increased resolution revealing simply stunning levels of detail.RAW data is sent to a computer to be processed by Digital Photo Professional software, resulting in an extremely high-resolution image. You can then enlarge this image to reveal extraordinary detail, such as the intricacies and texture of small items, or to view objects in the background that would otherwise be imperceptible to the naked eye. It also enables great opportunities to crop an image or to create large prints. “

Then I read :

“The technologies and their specifications on this page are concepts and cannot be purchased today. Details on their future availability and final specifications are not currently available.”

In our context—video editing—what drives the technology market for our hobby or business? In such a short time we have leapt forward technologically, but3D TV?? What happened?? At the moment, dead in the water. No 4K standards for 3D, no manufacturer etc. etc. In retrospect, was it just a marketing hype, a fashion doomed to fail, overtaken by 4K and 360 degree? Yeah, probably.

Hmmm! Wish I had a lot more original vinyls tho'!!

As usual, comments and thoughts welcomed.

PDNews

Monthly news from the PD world

In this issue:

Adding Blending Templates

Custom Profiles

The Newbie Room

Hot Tips

Places to Visit

USB 3.2 – 20Gbit/s announced



USB 3.1 – sports up to 10Gbit/s. This is made possible by combining two individual 5Gbit/s lanes. USB 3.2 will now double these two lanes to 10Gbit/s

each, whoopee - 20Gbit/s transfer speed. Big BUT

Check your cables, check your hardware and anything else in your transfer chain. As usual, any bottleneck will govern the actual performance so getting a new 3.2 external drive with a great logo might not help!!

[Full Announcement here](#)

Industry comment here :

[Trusted reviews](#)

[Red Shark](#)

[Digital Trends](#)

On that note, [Panasonic GH5 Firmware 2.0](#) is due for release by the end of September :

- Professional **400Mbit ALL-I** intraframe codec for 10bit 4K 4:2:2
- “Open Gate” High Resolution Anamorphic Mode (**4992 x 3744**)
- **Hybrid Log Gamma** with view assist feature for HDR shooting
- New and **improved autofocus** engine for video
- Performance optimisations and bug fixes

[Check out the review.](#)



Adding Blending templates

PD15 introduced a Blending Effect toolkit for the first time. There are several blending templates loaded with the program and a download link to the DZ takes you to the Blending Template section where other templates can be downloaded.

As of this date there are no other templates available, however, for those who *really* want to add their own blending templates, there is a way! It's not very slick but it does work!

Firstly you need to be OK with basic tinkering of some of the PD system files, if you're careful no harm will result, so if you're interested read on. If you're not so sure, then maybe stay away?

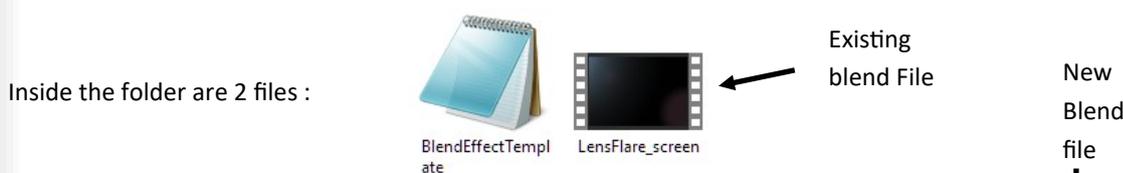
The PD blending templates are found here:

C:\Program Files (x86)\CyberLink\templates\PowerDirector Content Pack Premium 2\BlendEffect

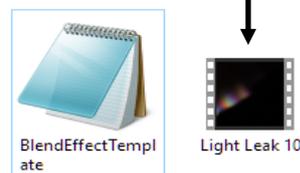
Each effect has its own folder.

Name	Date modified	Type
LensFlare01	01-Sep-16 12:54 PM	File folder
LensFlare02	01-Sep-16 12:54 PM	File folder
Light Leak01	01-Sep-16 12:54 PM	File folder
Light Leak10	16-Aug-17 7:10 PM	File folder
Match	16-Aug-17 7:46 PM	File folder
Spot	01-Sep-16 12:54 PM	File folder
words grunge	01-Sep-16 12:54 PM	File folder

New Blend folders



Basically, to add your own effect, you need to add a new folder, as in the red dot ones above. After adding the folder, copy the BlendEffectTemplate from an existing folder into your new folder. Now copy your new Blending file into the folder.



The template is a simple xml file which can be edited with a plain text editor such as Notepad. Do not use anything more complicated, such as Word.

```
<?xml version="1.0" encoding="UTF-16"?>
<TEMPLATE_MGR VERSION="1.0">
  <TEMPLATE_LIST>
    <TEMPLATE TYPE="PRESET"
      ASPECTRATIO="16:9" CATEGORY="Lens Flare" BLENDMODE="4"
      OPACITY="200" FILENAME="LensFlare_screen.wmv"
      ALIAS="Lens Flare 1" TEMPLATEKEY="f604df34-16d6-4d07-
      92bf-344bd714f20c"/>
    </TEMPLATE_LIST>
  </TEMPLATE_MGR>
```

The existing text now needs to be altered to reflect your new blending file. The minimum is to substitute the correct filename, but the other variables can also be modified to suit.

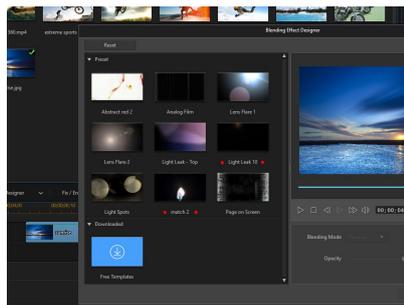
```
<?xml version="1.0" encoding="UTF-16"?>
<TEMPLATE_MGR VERSION="1.0">
  <TEMPLATE_LIST>
    <TEMPLATE TYPE="PRESET"
      ASPECTRATIO="16:9" CATEGORY="Light Leak" BLENDMODE="5"
      OPACITY="100" FILENAME="Light Leak 10.mov" ALIAS="Light
      Leak 10" TEMPLATEKEY="f7b5f8fa-0605-456f-b036-
      afd3018ca7d0"/>
    </TEMPLATE_LIST>
  </TEMPLATE_MGR>
```

The standard file type is .wmv, but .mov and .mp4 seem to work as well but are likely to be larger.

Once done, save and exit.

Fire up PD and your new effect should be available!

Obviously, if necessary, the modified folder can just be deleted when no longer needed.





Custom Profiles

Although PD15 has many preset profiles, available in the Produce section, there are times when something different is needed. Perhaps for a particular app like fb or Instagram, perhaps for another purpose. Usually, the main parameters that needs customising will be resolution or bitrate, often to get a file suitable for transfer or streaming.

If you find that you want, or need, something different, have a look at this quick intro to Custom Profiles.

Open up the Produce section. I'll use **H.264 as the CODEC**. With this codec we can have **.MP4, .M2TS, or .MKV containers**, selected by the drop down under the codec button.

In the Profile Type section we can choose **Default, Custom or all** to view our profiles with the Profile Name/Quality drop down.

Notice that next to the displayed Profile, is the Add button

Hit the Add button to start a new custom profile.

The new profile is based on the currently selected default profile and has 3 tabs. The first gives details of the new profile.

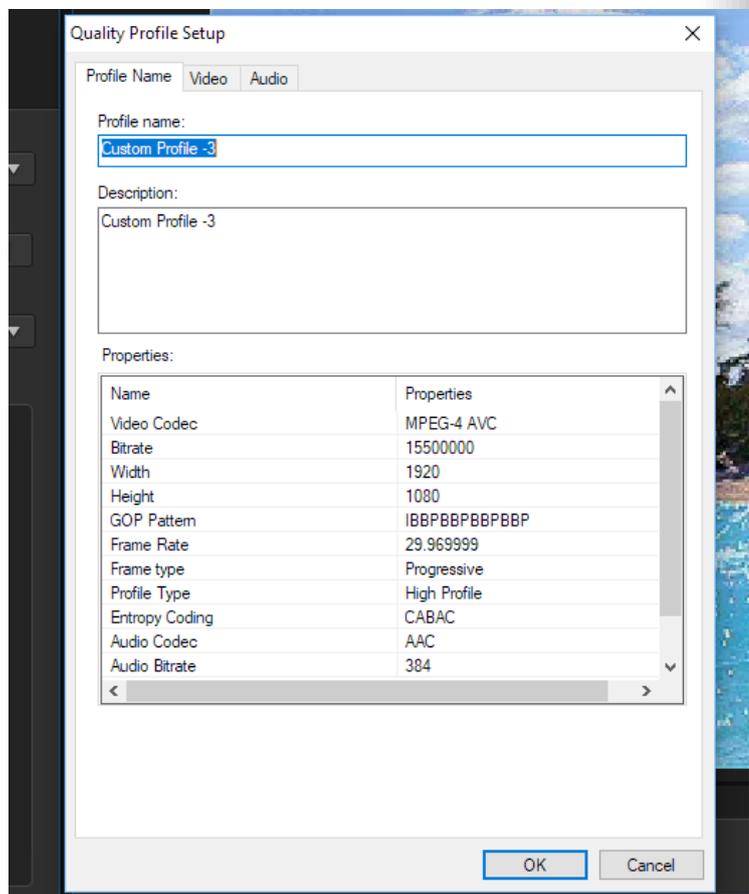
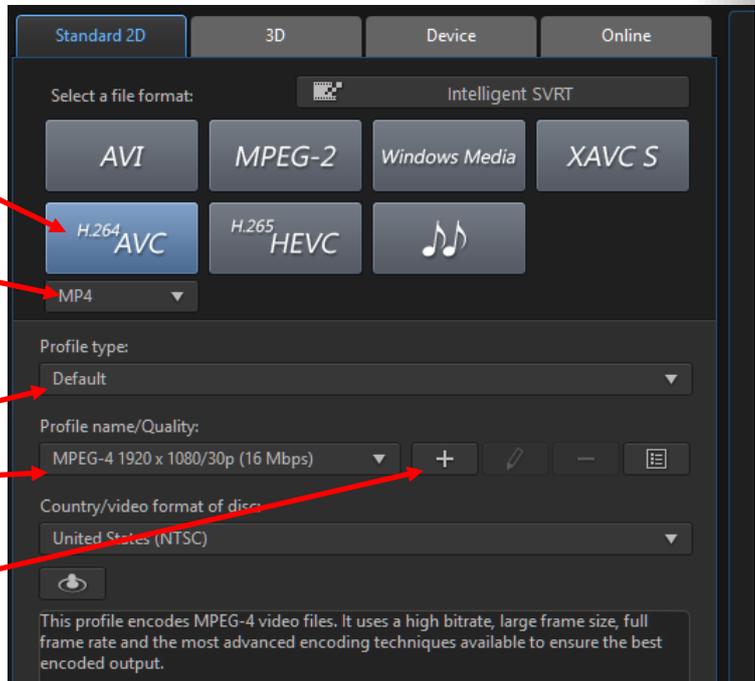
Here you can edit the name to your choice, and edit the description to your choice.

Easy so far! You now have an old profile with a new name and description!

OK, the other 2 tabs, Video and Audio, are where the real customising takes place.

Let's look at the available video section variables, which will vary depending on the codec/container choices you have previously made.

The audio sections are less complex, are often pre-determined and only offer different compression rates— a rule of thumb, choose the lowest that gives you the result you want if you need to restrict file size, otherwise use the best!





Resolution

In this example there are 16 possible resolutions available from the drop down—from 320x240 up to 4096x3072.

Frame rate

There are 11 frame rates—from 15 to 240fps—that we can choose

Frame Type

Two types available for us.

Profile Type

Three types to choose from

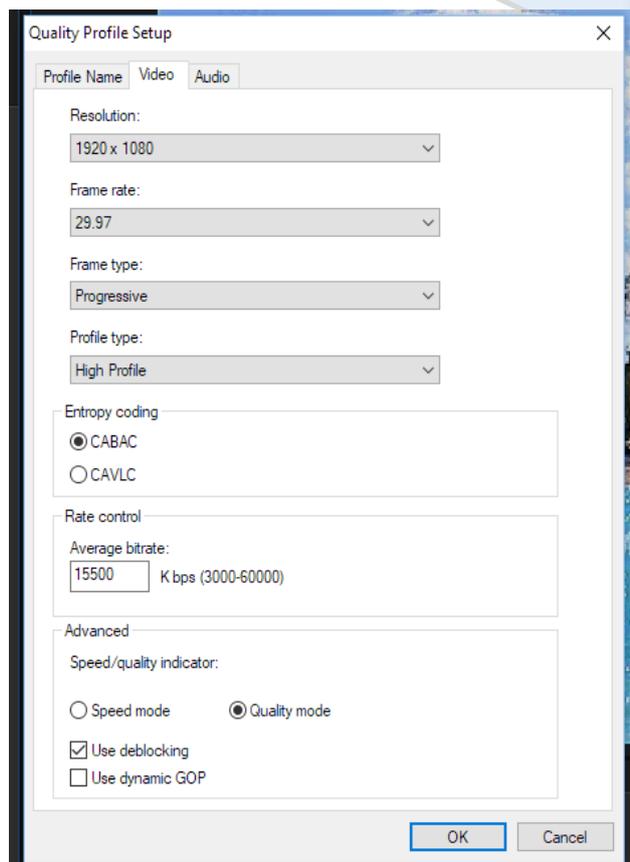
Entropy

2 choices

Rate Control

Within the available parameters in brackets, completely your choice.

We'll leave the Advanced section alone.



How do we choose what we need?

Well, this is where it gets more “difficult”. There may be more or less strict technical requirements, so check your final use first. Here's [vimeo's guidelines](#), and these are [Youtube guidelines](#).

If there aren't, then experimenting may be required. Each parameter will have an effect, but exactly how that effect translates for you will be up to you to judge. Downsizing 1920x1080 to 1280x720 at the same bitrate, viewed on a small screen may not look too bad, lower the bitrate too much and it might look terrible (but it will be a considerably smaller files size). But, here's the issue—if your audience is used to SD DVD viewing, it might be fine, if they are used to a 4k production and viewing, it will be a bit painful!

In addition, we must always be aware of the “limits” of what we are asking. SD video can be upscaled to UHD but the quality will be (in part) determined by the software sophistication, codecs license etc.—so just duplicating pixels, with no adjustment or interpolation may not be very good. In reality, there are limits on what can be achieved just by using custom profiles .

So, it becomes quite difficult to say this profile is good for this, or that profile for that. Better to experiment and judge for yourself with small clips for your own purposes.

To help here are some introductory resources:

[Video Resolution](#)

[Frame rate](#)

[Frame Type](#)

[Profile Type](#)

[Entropy](#)

[Rate Control](#)



The Newbie Room

The place to come if you are new to PowerDirector, video making and editing.

Visit here to pick up some new and useful tips.

LET'S MAKE A FILM

Part 1

Resolution

Frame Rates & Shutter Speed

Codecs, Containers & File Formats

You have just purchased your first movie camera, you point it, you press the red button, and then what do you do? Chances are a modern camera will do a sterling job without too much help from the operator, but a camera needs a lot of human help to turn good video into great video. A basic understanding of how video works will help a great deal.

RESOLUTION

The budding videographer will learn very quickly the importance of resolution, and while learning, be confused by such terms as 4K (UHD), HD, 1920x1080 and many others. All these terms relate to the amount of pixels that make up one video frame. A pixel is the smallest element within the build up of a digital picture. The more pixels there are, the better the representation of the subject will be. So for example 1920x1080 has 2,073,600 pixels, and is known as High Definition, or HD. At the other end of the scale (for our purposes) is 4K with 3840x2160 pixels that total 8,294,400. So for good reason, UHD (Ultra High Definition) is called 4K as it is about 4 times bigger than HD. All those pixels are squeezed into the same area of video frame so the quality of the image is much sharper.

This extra quality has a cost when it comes to film making, and the new videographer should be aware that each pixel uses a small amount of computer memory. HD video files are large, but 4K files are much larger and require a lot of space on storage disks. Consequently, processors need to be at the upper end too. Old, lower spec, PCs will struggle to handle HD video, and 4K may not work at all.

Because the file size of 4K is so large many, even high spec, PCs will struggle to cope, often causing freezing and other similar problems. When it's time to edit the video clips many editing programs (NLEs) use what is known as proxy files. In PowerDirector they are known as Shadow Files. When shadow files are enabled, PowerDirector takes the 4K clips and converts them to a much lower resolution for easy handling on a PC. After editing, when the project is produced, the low resolution files are replaced by the original 4K material, automatically.

FRAME RATE & SHUTTER SPEED

Two other major contributors to film quality are Frame Rate and Shutter Speed, it is important to understand the difference between the two terms.

Shutter Speed is the speed at which the shutter opens and closes. In video terms, in the UK (a PAL country) this is normally 1/50th or 1/100th of a second depending on the frame rate selected. As a rule of thumb, to achieve the most normal looking motion picture the shutter speed should be double the frame rate, e.g. 25fps 1/50th shutter speed. In NTSC countries such as the USA the frame rate would be 30fps and the shutter speed 1/60th. The reason for the difference between PAL & NTSC settings is vertical frequency (the rate at which a screen is refreshed). NTSC is 60Hz and PAL is 50Hz. Notice that the shutter speed generally matches the frequency speed.



Using a shutter speed that is too slow will result in blurred images, whereas a too fast shutter speed will look very erratic. TVs in a PAL area will run at 50Hz, and 60Hz in NTSC areas.

Frame rate is the number of individual frames exposed per second of video. So if the shutter speed is set to 1/50th, each frame is exposed for 1/50th of a second. Later on, the frame rate will have some importance when the clips are transferred into PowerDirector for editing.

CODECS

Because uncompressed video data is very large it needs to be converted into a manageable size, but this operation loses some of the quality of the video material (this is known as a lossy codec).

Codecs are designed to compress the raw data and then decompress it back for editing or viewing. The word CODEC is a portmanteau of CODE and DECODE, very simply put, it is a computer program that takes raw data, such as video and/or audio files, and compresses that data into a manageable size.

CONTAINERS

When the time arrives to render a PowerDirector project a basic knowledge of containers will be required. Editing in PowerDirector creates a .PDS file, but PDS files will not play anywhere other than in PD. Rendering a PDS file creates a container for the completed project that will be recognised by most video players.



fig1 Containers available in PowerDirector

FILE FORMATS

As an example: the H.264 AVC container can hold files of the following format .M2TS, .MP4 and .MKV. If H264 AVC is selected for the project to be rendered, the user must select one of the above. The most commonly used is .MP4 which is recognised by most video players and creates a reasonable file size compared with AVI files which are very much larger.

So what will be seen at the end, when your project is complete?

Let's say the user chose to produce the project with the HD 1920x1080 resolution option with 25 frames per second and the .MP4 file extension.

This would be recorded as a film clip 1920x1080/25 MP4 and should be playable on almost any player or appropriately equipped TV.

Now it's time to go out and press that button and begin creating great video.

In part 2, next month, we'll take that great video and edit it in PowerDirector.



Neat Practical use of 4K to produce a "second camera"?

Have a look at [Pete McKinnons video](#) on a neat and practical idea for using 4K footage to produce a "second camera angle" by zooming in and applying some panning motion.

Hot tips

Need to shoot a subject/event facing away from you?

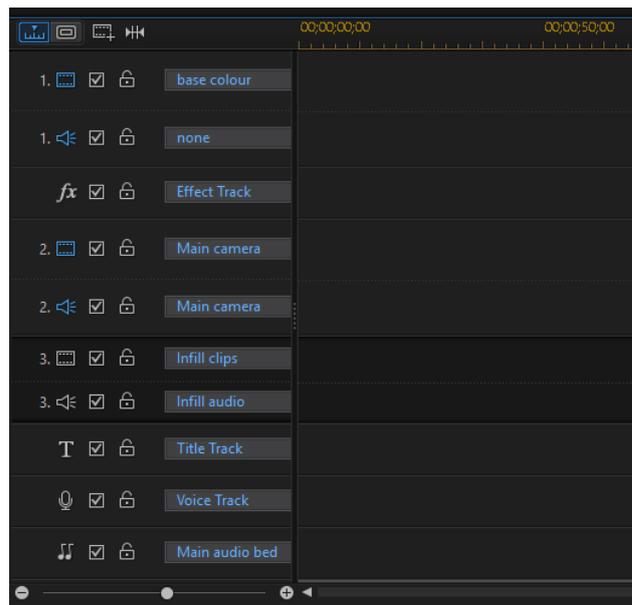
Maybe a wedding service or similar? If you can't get in front of the subject, your sound might be a bit of a problem!

If you have an old small compact camera that shoots video (maybe not so well) stick it somewhere discreet in the front, and use the sound track from that where necessary.

Might not be perfect but it might save the day?

If you have a more complex timeline, consider renaming the tracks and make identification easier down the line.....

—get it? Sorry about the pun.



Request for sample video files

[Barry The Crab's site](#) has a wide selection of interest to editors, including sample files from many camera sources to trial or work with, donated by other members etc.

HE NEEDS MORE SAMPLES TO KEEP THE COLLECTION UP TO DATE!!

Please consider visiting and [uploading samples](#) that are not already available, it will help support a good service.



Places to visit

Freebies from around the world

[Sound samples](#)

[Fascinating images from The Met](#)

[Projector Films](#)

Tutorials

[Official CyberLink Tutorials](#)

[PD University](#)

[Hans van Kempen's Starter Course \[for Dutch users\]](#)

Also many of [PDtoots tutorials](#) are useful to PD15 users.

Members Resources Websites

GodfreyZA's Templates:

<http://oneclickmobi.com/powerdirector-templates/>

Barry Gill's resource page:

http://www.bgillcyberstudio.com/barry_gill_cyber_studio_002.htm

Eric Matyas music page:

<http://soundimage.org/>

Useful Documents

Future Suggestions:

[Q2 2017 wishlist](#)

[Q3 2017 wishlist](#)

Guide to Good Posting

[Before Posting](#)

Resources

DirectorZone

[Effects, particles etc.](#)