

# FV ^ VR

**film video & virtual reality**

APRIL 2018

## **Review: Sony CyberShot RX0**

**Review: GoPro Hero 6 Black**

**Review: Canon PowerShot G1X Mark 111**

**Review: Vegas Movie Studio Suite 15**

**Feature: Just What /S Virtual Reality?**

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# Publisher's message

## Second month of new look and all is well!

Well the new name and look seemed to go over OK after our massive change to Film, Video and Virtual Reality in Feb / Mar. (We have decided to abbreviate this to FV^VR by the way for brevity).

Thanks for all the comments and well wishes, it is much appreciated I assure you. If I can ask a favour, we have a quick survey at <https://www.surveymonkey.com/r/N98H7PY> to gauge what you think of the new look. And we have a prize to give away too! All details at the link! Thank you :)

This month, for hardware, we have ramped up a bit more with no less than three camera reviews, an explanation of Sennheiser's new 3D Ambeo audio technology and revisited an old friend from the original Australasian Camcorder days in the form of Cokin filters.

Software wise, we review the latest version of Vegas Movie Studio Suite from MAGIX and check out some VR applications you might want to try.

We had intended to also review a new VR application from MAGIX, but time beat us sadly so this will now be in next month.

Our feature story is a monster piece courtesy of InstaVR on how to successfully shoot for creating VR imagery, including picking the right camera, shooting tips and more. Have a look; it's a good read!

On a sad note, we heard during the month that after 60 years, the Federation of Australian Movie Makers (FAMM) has decided to dissolve.

The reasons given were varied and I have had my say on it at <https://wp.me/p9nUON-8K>.

You may choose to agree or disagree with my summation, but nevertheless, what I say in that piece about individual clubs still stands.

Just contact me for a chat; all my contact details are on this page.

In the same vein, if you are making a film, whether it be for commercial, hopeful commercial release, or simply for the fun of it, we want to know what / how / why and when to give you some exposure! Again, just contact me via the details on this page.

Finally, a note to vendors. If you have any products or services to promote, we reach more than 45,000 video and film makers, professionals and users on a daily basis. In other words, your PRIME market!

Who else in Australia can say that?

Until next edition.



**David Hague**  
**Publisher / Managing Editor**



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# News & Products



## MY RØDE REEL 2018 IS Now Open – \$1 Million In Prizes, 5th Big Year

Australian pro audio brand RØDE Microphones is thrilled to announce the return of My RØDE Reel, the world's largest short film competition.

To be in the running, entrants are required to create a short film of 3 minutes or less, and a behind-the-scenes featurette showcasing the RØDE product/s used in the making of the film. It's that simple.

RØDE has teamed up with some of the world's most respected brands in filmmaking to assemble this year's giant prize pool, valued at an incredible \$1 MILLION.

These brands include: Blackmagic Design, Zhiyun, Musicbed, MZed, Blastwave FX, FuzzMeasure, Movcam, Rhino, Miller, Astora, Angelbird, Freefly, CamCaddie, FilmConvert, Lowepro, Red Giant, Moment, Atomos, iOgrapher, Adobe, JOBY, Michael Wiese Productions, APHEX and SoundField

To enter click [here](#).



### YI Action Gimbal

The YI Action Gimbal is a must have for any YI Action Camera owner, it's compatible with the YI Lite, YI 4K, and YI 4K+, and delivers spectacularly smooth footage every time. This 3-axis gimbal is built with brushless motors and has a 320° pan/tilt rotation, turning your footage into clear, stable, professional videos. It has four operation modes, including Selfie Mode, so you can get in all the action, and with a battery life of up to 8 hours you just have to find enough action to film!



### YI Halo Camera

Say hello to the Halo, an 8K, 3D, 360-degree pro camera that's super portable YI Technology, the company shaking up the action camera market with its budget-friendly shooters, is moving into the professional 360-degree space.

On April 24, the company launched the YI Halo, a stereoscopic 8K 360 camera, and the consumer grade YI 360 VR camera, during the NAB conference in Las Vegas. To learn more details about YI HALO, please visit: the [YI Technology website](#).



## GOPRO Launches Entry-Level Hero Camera For \$299.95

GoPro, Inc. has added a new HERO camera to the family. On sale now, HERO is a \$299.95, go-anywhere, capture-anything camera that makes it easy to share experiences that would be difficult to capture with a phone.

HERO features a 2-inch touch display, is waterproof to 30 feet and is extremely durable, making it the perfect GoPro for kids, adventurous social sharers and travellers.

“HERO is a great first GoPro for people looking to share experiences beyond what a phone can cap-

ture,” says Meghan Laffey, GoPro’s SVP of Product. “HERO makes it easy to share ‘wow’ moments at a price that’s perfect for first-time users.”

Sharing cool experiences with HERO is simple. It offloads your photos and videos to the GoPro app which creates fun, shareable videos for you, automatically. No more fumbling with your SD card or plugging your camera into a computer. HERO makes it simple.

More info on [our website inc features etc.](#)



## TV to be broadcast in 4K in Sydney

Free TV and Broadcast Australia plus SBS and the ABC have announced trials of the next generation for broadcast technology that will commence in Sydney.

The centre piece of the tests will be the new DVB-T2 technologies and compression algorithms that could give Australian viewers 4K TV reception. The DVB-T2 standard is being mooted as a potential replacement for the current DVB-T standard giving video with four times the picture quality than the high definition standard now in use

## MAGIX Photostory Premium VR



MAGIX releases its first virtual reality software MAGIX Software announces Photostory Premium VR, its first virtual reality software. Now impressive virtual worlds can be created in just a few steps with conventional photos and video

More at the [FV^VR website](#)

## Canon Releases Flagship EOS Full Frame Camera

Canon Australia today announces its flagship full-frame Cinema EOS camera, the C700 FF. Featuring a newly developed, next-generation Canon full frame 38.1 mm x 20.1mm CMOS sensor, the camera is capable of recording up to 5.9K, delivering ultimate creative freedom and quality.



The EOS C700 FF also supports multi-format recording, shooting with EF, PL and anamorphic lenses. When using EF lenses, the C700 FF supports Canon’s innovative autofocus (AF) system, Dual Pixel CMOS AF, which is ideal for full frame format shooting.

More at [FV^VR website](#)



**Whilst looking for all the world like a souped up “action camera”, don’t be fooled**

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*The first question you are invariably asked when you show someone the Sony CyberShot RXO and you have told them the price, is “why so expensive when I can get a GoPro for \$500, or a knock off for even less!”.*



# Sony CyberShot RX0



The answer dear reader, is that the RX0 is not an action camera. Well it *is*, but it is much, much more as well.

Instead, think of it as a miniaturised grown up camera, with all the attributes to boot, and then a bit more besides.

## Build

The waterproof and shock proof design gives the RX0 a wide range of flexibility; the high rigidity of the extra super duralumin chassis enhances the reliability of the RX0, especially under tough conditions.

Sony says it has put the camera under rigorous, repeated testing to ensure that its performance is consistent, especially when shooting scenes of land, sea and air.

To be exact, the RX0 rated at 10 metres depth in water, shockproof for a 2.0 metre drop and can withstand a crush weight of 200Kg

## Specifications

Like it's larger CyberShot siblings, the RX0 boasts an Exmor RS CMOS Sensor and BIONZ image processor. Super slow motion

is available with frame rates up to 960 fps and an anti distortion shutter speed of up to 1/32,000 sec. For fast continuous shooting, the RX0 can perform at 16 fps to capture moving objects in high detail and Picture Profile and S-Log2 gamma settings enable pro-style movie expression.

Uncompressed 4K footage can be shot and recorded to an external recorder only sadly.

The inbuilt lens is a ZEISS Tessar T 24mm with a fixed F4 aperture. Focal length range is from 7.7mm to 30.7mm depending on settings. ISO can be dropped as low as 125 and up to a maximum 25600.

On the rear is a 3.8cm colour TFT LCD screen. It is not a touch screen, but is quite readable in sunlight, albeit with very small text as you'd expect.

To the left of the screen is a lift off panel underneath of which is the slot for the microSD card, USB and micro HDMI port. NFC is not supported but WIFI is as is Bluetooth.

Dimensionally, the RX0 is 59mm wide, 40.5mm tall and 29.8mm deep.

One thing we did not like was the pop out

By David Hague

# Sony Cybershot RX0



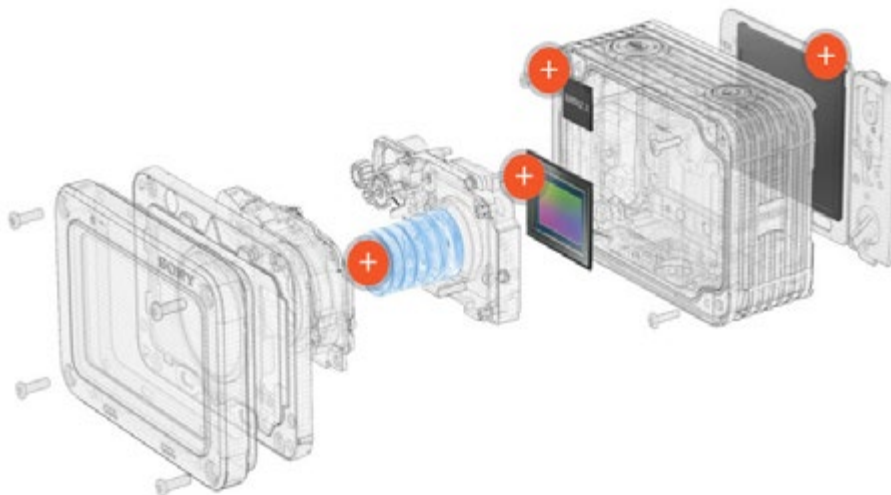
panel covering the interface ports is removable, and as we found, easily dropped. Hopefully a future model will have this panel on some sort of hinge or with a restraining device to keep it attached to the camera. *(We have since discovered this part should be tethered, but on the sample unit*

## Multiple Cameras

The RX0 has been designed not only as a standalone camera, but to be used in concert with other cameras thus opening up the gamut of the potential of the camera. Sony says that for multi-angle shooting with multiple cameras is made easy

as “... Respective optical axes of multiple RX0 cameras used together can be properly aligned for flexible set-ups, thanks to the cameras’ minimal symmetric design”.

Cameras can be controlled with a smartphone or tablet and the Sony PlayMemories app installed.



*it had snapped somehow)*

The full specifications of the RX0 can be found [here](#) including the complete range of recording modes (of which there are lots, as well as a whole bunch of shooting modes, picture effects, drive modes and dynamic functions.)

## Accessories

The RX0 appears to have been designed as its own little ecosphere with a range of accessories available to make the camera suitable for different environments and shooting conditions.





For example, there is a cage, underwater housing (to go beyond the 10 metre depth limit of the standalone camera), a camera control box for a wired network and multiple cameras, filter adaptor kit, external microphones and more on the Sony website.

No doubt there are more on the way, but for tripod mounting, thankfully a standard thread is on the underside of the RX0.

## Price

When placed against a GoPro or similar, the price tag of \$1049 does look steep, but after delving deeper into the capabilities and functionality of the RX0, it's easy to see how this, as I said at the start, is much, much more than a relatively simplistic "Action Camera" style of beast.

Indeed, Sony make its own Action Camera which is a very capable and cost-effective animal on its own, so the RX0 is not even needed as a GoPro competitor.

Sony seems to be treating and marketing the RX0 more as an "artistic" camera if the samples on the website are anything to go by. And

it can be said the results they show are quite stunning and worth a look.

I have reproduced one here to give you an idea (*click the image above to play*)

Would I buy one? I feel there is a specific place for a camera such as the RX0 and in that sense, I cannot see a place for it for my day-to-day usage.

But I can certainly see that in the right hands, some beautiful imagery can be created with it, and I can think off the top of my head a number of photographers and videographers who would make very good use of the RX0.

I understand that well known photographer / cinematographer [Pieter deVries ACS](#) has already put the camera through its paces and called it "brilliant".

You couldn't get a better testimony than that.





# Yet another GoPro? What makes this one any different?

by David Hague

*There seems to have been many GoPro models and sometimes, it has been hard to discern one from the next – especially when in each model number there are differing models as well such as Silver and Black.*

The AUD\$600 GoPro 6 is said to differentiate itself from the 5 in a number of ways, but I can say, one of these is not looks! Side by side they are identical except for the colouring of the GoPro logo on the front.

GoPro does say though that the Hero Black 6 has an all new processor, the GP1 which allegedly gives twice the performance of the previous processor.

Additionally, 4K60 and 1080p240 contribute to excellent slow-motion results.

GoPro is also saying that they have improved the image stabilisation in the GoPro Hero Black 6, and as good as it appears to be, I still think I'll be hanging on to my copies of [ProDAD Mercalli 2](#) to smooth out those really difficult shots.



# GoPro Hero 6



Other improvements are in the area of low light performance and new night photo modes have been added. And hurray, zooming is now achieved by simply using the touch screen with gestures.

If splashing in the briny is your bag (or one of them), no longer do you need a housing to take the GoPro Hero 6 for a swim or snorkel. As long as you stay above 10 metres that is (which is getting into SCUBA territory anyway).

Voice commands are included for hands free operation. I can think of many areas this will be of benefit (not when snorkelling obviously) but when driving, most certainly. I know when we travelled across Australia last October, turning the Hero 4 on and off was the biggest hassle, having to stop the car each

time, and that is now eliminated. Finally, RAW and HDR modes are available as are on-screen exposure controls, advanced stereo audio processing and GPS data can be used in QuikStories, an app that transforms your footage into edited videos automatically.

We'll be putting our GoPro Hero 6 Black through its paces and have a full review soon. For more info, go to the [GoPro website](#).





# Canon Powershot G1X Mk III

by David Hague



**Acts like a DSLR and has a shed-load of features to boot. What's not to like?**





*As many will know, I am not a great fan of using dSLR or dSLR style cameras for shooting video. This has absolutely nothing to do with the quality of the image, but purely because of the ergonomics of the things. I am just not convinced that out of the box a dSLR body shape is the right one for video capture.*

The fact there is such an after market for rigs, cages and other bits of Meccano seems to justify my position.

All that aside, I was interested to see the new Canon Powershot G1X Mark III (there is a mouthful!) as it has an AS-C sized CMOS sensor – read BIG, the same as used in the EOS cameras – and this is matched with Canon's tried and proven DIGIC 7 processor, so the HD video it captures should be pretty damn good.

Throw in a ISO range to 25600, a small form factor and Canon telling anyone that will listen this is the most advanced Canon compact camera yet, and we may, just may, have something special here.







## The Design

The physical size definitely places this camera in the “compact” area. It is not a dSLR, nor is it a mirrorless by the way. But weighty it is at 399g. The front of the G1X Mk III is devoid of any controls apart from the lens ring that is, while the top has a pair of rotary dials – one each edge, a combined zoom

and shutter release assembly, on / off switch and hot shoe.

The rear is taken up mainly by the 3” variable angle LCD monitor with a touch screen. To the right is a small area containing the video record button, and further buttons for menu, playback, AE Lock, AF selection point and a rotary cluster for drive mode, macro, info, flash set, delete and set.

As we are more interested in the video, I won’t delve too much into the still image specs. The Power-shot G1X Mk II as mentioned shoots in full HD 60p to a single SD card. Maximum aperture is F/2.8 (w) – f/5.6 (T) and the optical zoom maxes out at 3x which is 24-72mm. Not huge by any means.





## Shooting Movies

When you turn the dial to the shoot movie function, you are offered four different types – standard, short clip, manual or timelapse. Simply touch the option on screen to select the one you are after.

One annoyance I found that was when shooting in “short clip” mode, the zoom is deactivated. There is no mention of this in the manual that I could find, just a note that sound is also not recorded in this mode. You can set the time for between 4 and 6 seconds, and when recording. A progress bar appears.

In short, I am not really sure why this mode is even there.

The “Standard” shooting mode offers everything you’ll need including with specific shutter speeds and aperture values. These can also be changed on the fly while recording. The image brightness can also be locked or changed.

Time lapse lets you set the shooting scene (from three types), the interval, exposure and the total time for the shoot – up to one hour. Again audio is not recorded, focus is fixed as is frame rate (25fps).

## In Operation

To get some footage, I went out of the back of our Karri forest surrounded house and over to the local lake - called for obvious reasons, Karri Lake.

It was a quite bright and sunny afternoon - perfect for taking video.

The first thing I noticed is that the LCD became almost unusable in the bright sunshine.

Now this doesn't faze me as I much prefer using the viewfinder, but your ideas may be different and this is therefore potentially important.

The location of the record on / off button is good; you cannot press it by mistake, well not easily anyway.

But the slight recess of it means that an initial press might not do anything, so you have to press again, and if you were trying to get some specific moment in time, this could be ruined.

## Conclusion

If you want a portable and very good still camera that takes excellent images and only have a fleeting need for video, the Powershot G1X Mark III may suit your needs.

It is fully featured, compact and has the horsepower and pedigree for excellent imagery.

If however, your needs are more video than still, then this camera I think will frustrate you.

Price: \$ 1,599.00

Website: <https://store.canon.com.au/powershot-g1x-mark-iii.html>

# Ambeo 3D Technology



**Early in 2016, Sennheiser unveiled a strategic focus on 3D immersive audio promising the ultimate in audio capture and reproduction.**

*3D immersive audio is increasingly becoming a format of choice in professional recording, mixing and listening.*

The composer, producer, and musician Simon Franglen, well known for his work on the films *Titanic* and *Avatar*, commented: "Every time I do an immersive mix, I

*notice how much more clearly I can hear what's going on within a track. The extra playback area allows individual voices and instruments room to breathe in a way that the flat plane of a stereo mix can never hope to accomplish. 3D audio gives a completely new experience to the listener."*

## **AMBEO 3D Audio Recording and AMBEO Listening Experiences**

Sennheiser has been making original 9.1 recordings since 2010, and has promoted this immersive format ever since at audio congresses, workshops and tradeshow around the globe. In the course of this work, a tonmeister-quality AMBEO upmix algorithm was developed to turn legacy stereo material into stunning 9.1 music.

A key highlight in Sennheiser's work with the 3D audio format is the creation of immersive AMBEO 3D audio installations for the Victoria and Albert Museum (V&A) in London, the world's leading museum of art, design and performance.

Their internationally successful "David Bowie is" exhibition (1.7 million visitors on the global tour as of August 2017) and the "You Say You Want a Revolution? Records and Rebels 1966 – 1970" touring exhibition use AMBEO sound installations that fully envelop visitors in sound and music, establishing a completely new type of museum experience.

AMBEO 3D Audio is also used for "[The Pink Floyd Exhibition: Their Mortal Remains](#)", which runs at the V&A







until 1 October 2017. Retracing the legendary band's history, music, live performances and sound technology, the exhibition features an AMBEO installation in a dedicated Performance Zone, where a unique 17-channel remix of "Comfortably Numb" is played back over a total of 25 loudspeakers.

The immersive live mix was created at the Abbey Road Studios by producers Simon Rhodes and Simon Franglen, who closely collaborated with Pink Floyd associate and recording engineer Andy Jackson on this project.

### **AMBEO VR Mic**

High-quality 3D audio that eliminates the boundaries between playback and reality – this is the promise of the AMBEO VR Mic.

The compact handheld Ambisonics microphone comes with everything needed for creating professional virtual-reality sound: a split cable with four colour-coded and labelled XLR connectors according to the capsule position, Rycote suspension mount, foam windshield, and a free A to B format encoder for downloading as VST, AAX and AU plug-ins or as a stand-alone version for Mac or Windows

### **AMBEO Music Blueprints**

AMBEO Music Blueprints is a dedicated website that explores how to record, mix

and deliver live music as an immersive 3D audio experience.

At three Blueprints – AMBEO for Loudspeakers, AMBEO for Binaural and AMBEO for Virtual Reality – provide straightforward information on recording set-ups and microphone positioning, on mixing with additional spot microphones and on delivery and playback for a 3D listening experience.

Complete with expert voices, equipment rental options, sound examples, video material and free plug-in downloads, the website gives seasoned engineers, aspiring recordists and streaming specialists guidance on how to record and mix immersive 3D sound.

### **VR Gaming / AR applications**

Another central field for AMBEO will be virtual-reality gaming, for which Sennheiser will be providing 3D audio libraries that ensure that the sounds in a given game are easily localizable and transport the listener to an imaginary yet utterly realistic soundscape. The transition between real-life sounds and virtual audio sources for augmented-reality applications will be incredibly smooth.





# cokin filters

by David Hague



I remember a time a few years back when I lived in Bridgetown in the south west of WA. It was the annual Blues Festival where the main street was blocked off for the day (which was also the main highway and so the truckies used to get a tad peeved), to be populated by stalls, stages, performers, buskers and other associated hangers on.

I was shooting various parts of the festival and a bunch of young children aged between 8 and 10 came running up to me and begged me to film them.

It turns out they thought I was a part of a TV crew. Sure I had a Sony jacket on, but no other identification that would place me thus so I asked why they thought I was.

*'Because you have a microphone on your camera with one of those big fluffy things on it' they said. 'And that big black square thing'.*

Well the mic was a standard **RØDE NTG-3**, and yes, I suppose as most TV ENG cameras have one (or similar), they could have been confused by that. But the 'big black box thing' threw me for a while until I realised they meant the Cokin matte box.

So, if you ever wondered what a matte box is for, and asked yourself, should I get one or do I need one, then the answer is 'yes' if you want to be mistaken as part of a film crew that is! (Just kidding).

In actual fact, a matte box does have a very serious use and convenience.

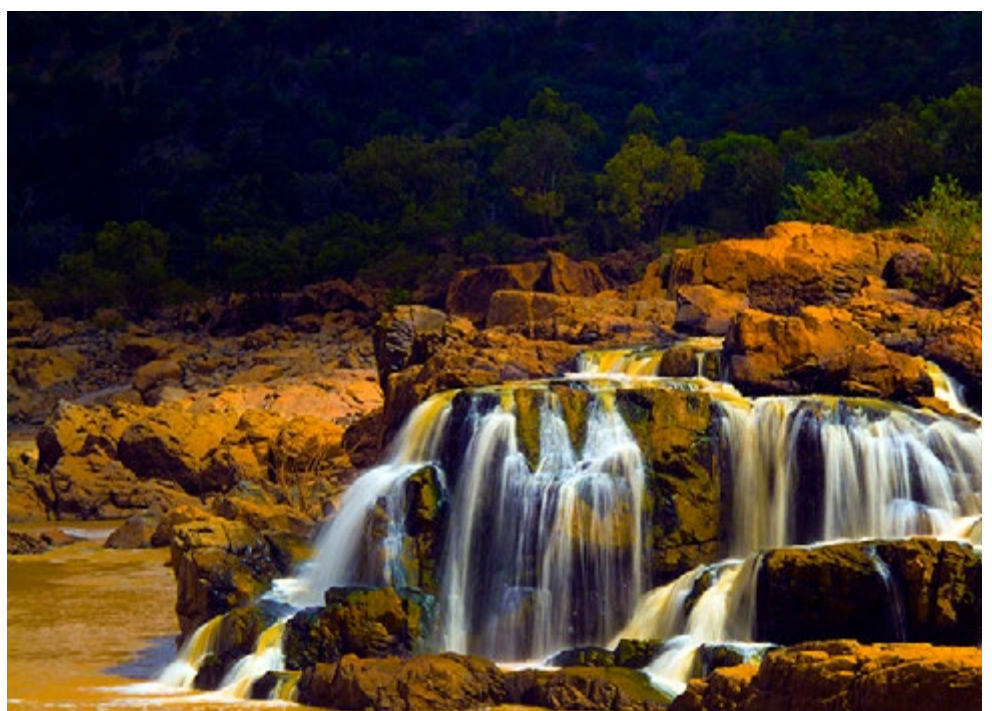
To the uninitiated, a matte

box may just look like the 'barn doors' you see on some lights, where the 'doors' are used to force the light into a specific direction, and this is partially true. If your matte box has the facility for these top and side mounted flaps, they do perform this function and this also stops lens flare. But far more important I think, is that a matte box allows you to quickly add and subtract multiple filters in a stack, to give specialist effects.

As mentioned, my own matte box is a Cokin system, and I bought it primarily so I could have access to the huge range of Cokin filters available. (At the time of purchase I knew the range was large, but it wasn't until a trip to Japan courtesy of Nikon a couple of years back I realised just how big it was. Their stand at a major trade fair in Yokohama was HUGE).

It can hold up to three filters at a time and these slide in from the top (or bottom)

**Add some flare to your video  
the need for learning color  
software based effects**





## ideos (and photos) without colour correction or using

letting you use the whole filter (ie covering all of the lens aperture)) or only partially covering it. The whole assembly can also be rotated, so if, for example, you are using a gradient lens (say blue to clear), to can get the gradient affecting the image vertically or horizontally.

On the Cokin system, you can only rotate the complete assembly, but in more sophisticated matte boxes, individual filters can be rotated separately.

A good example of the use of filters in this way is the popular TV show 'Top Gear'. Next time you are watching, especially in scenes outdoors where they tend to use lots of artistic licence (a master class in themselves on many occasions), keep an

eye out on the textures they use for the sky – the director favours a dark brown contrasty look by using something like a 'tobacco' filter. There are two ways that a matte box can be mounted on a camcorder. Larger cameras use a rails system, whereby the whole matte box can move forwards or back from the lens. Others, like the Cokin system, use a lens mount adaptor.

A major advantage of this type on smaller cameras is that you buy a single Cokin mount and the filters you want, and then if you have multiple cameras, just purchase the lens adaptor(s) you need and then you can easily switch the mount from camera to camera.

There is no doubt a Cokin kit (or similar) is a major accessory letting you add flair to your filmmaking. And they needn't be expensive either. Filters start at around \$22 and the basic mount kit is around \$70.

For more information see [CR Kennedy's website](#)

**cokin** filters

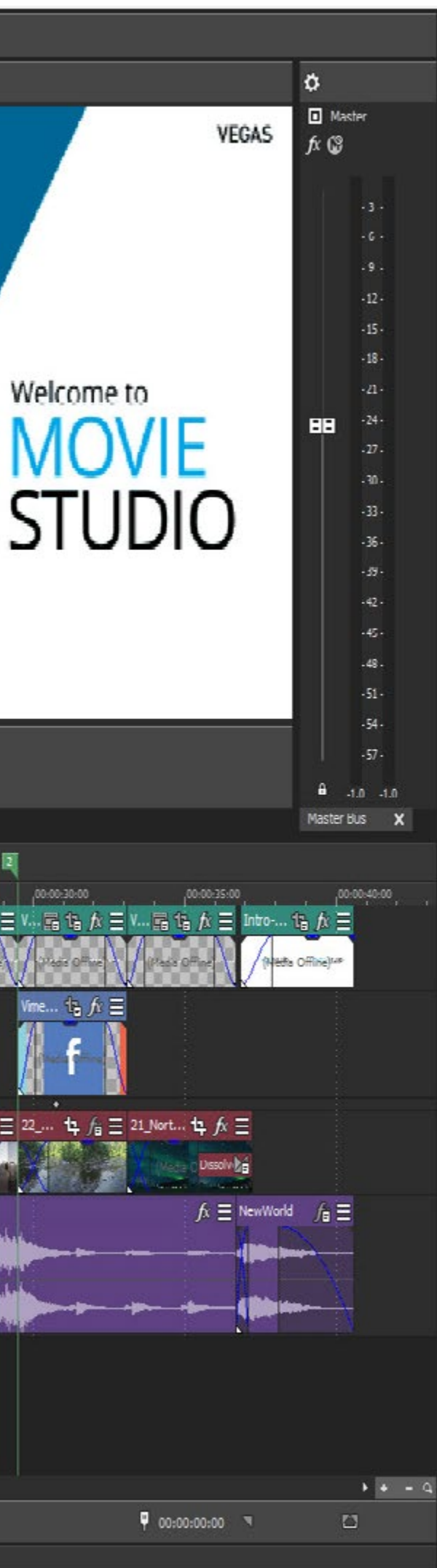




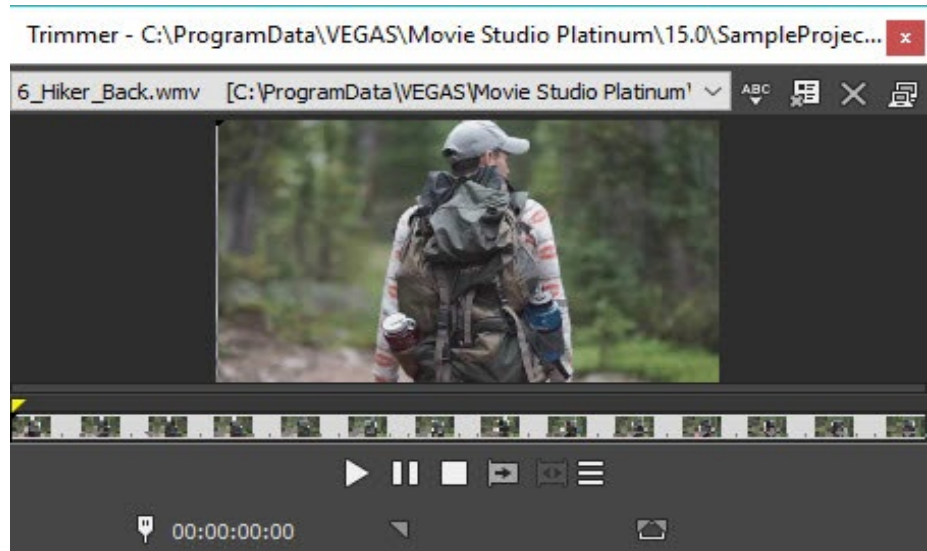
# VEGAS MOVIE STUDIO 15 SUITE

by David Hague





The high end non-linear editing packages (NLE) are being caught up to very quickly by the likes of Vegas Movie Studio 15 Suite. For good reason.

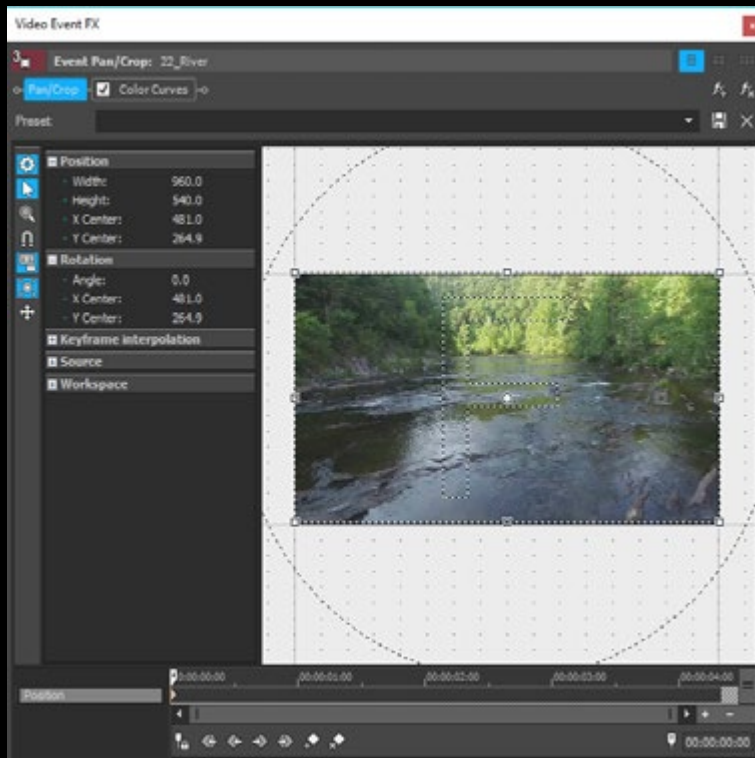


The new owners of the Vegas Creative Software suite of products, German company MAGIX, has given Vegas Movie Studio a major makeover with a new user interface (UI) mimicking Vegas Pro with its “hamburger” system – a sort of stacked menu option that can be open and closed at will in each of the main components.

Each layer of the “hamburger” contains commands relevant to that component.

The UI has also been darkened by default, to as MAGIX says, “ease eye strain after long editing sessions and make better colour evaluations and corrections”.

A new Quick Start window contains a launch dashboard showing a clean and logical set of processes making up the average workflow. Additionally, the UI can be customised to your personal preference. You can rearrange your workspace so that everything is right where it works best for you.



You can save multiple workspaces and call them up depending upon the task at hand.

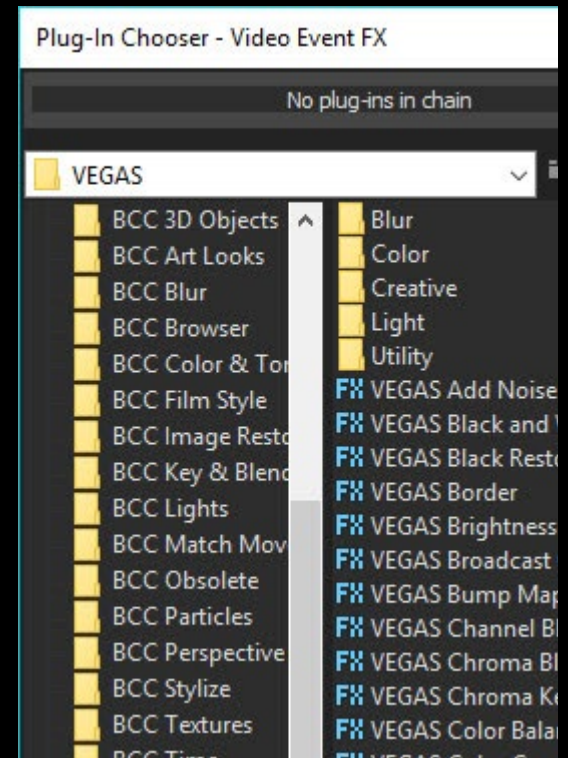
### Editing and Workflow

Editing is easier than ever it was - pick the file you want to work with, drag it to the timeline and place it in the perfect spot. Quickly trim, edit, and rearrange clips or instantly create fades with simple mouse moves.

Fades are achieved with mouse driven levels and can be fine tuned while video is playing and effects automation makes adding effects or corrections on the fly a snap.

If you are an action cam fan, Vegas Movie Studio 15 now contains technology from ProDAD's famous Mercalli V2 package achieving smooth flowing video from shaky and jerky clips.

Also new is a command called "Event Healing" letting you quickly and easily join two clips together that were previously



split, and it would be too laborious to backtrack via the standard Undo feature.

What previously were step-by-step processes to remember to create such as Picture-in-Picture (PIP) and split screen presentations (needing masking) are now much easier with WYSIWYG controls (crikey, not used THAT term for a while!)

Freeze frames are equally as simple in version 15. And for those that follow video formats and want the latest, HEVC allows the latest from modern camcorders to be edited.

### One Click Social Media Posting

For fans of YouTube, Facebook and Vimeo, movies created in Vegas Movie Studio Suite 15 can be loaded via a one click system to your online account, and the package comes with a bunch of templates, lower thirds, text treatments and the like give you a quick way to start to get those elusive "professional looks".

## Freebies

Other freebies include iZotope RX Elements for audio sweetening, **Boris Continuum Film Style Unit** (filters and effects) and HitFilm Effects Boost Pack (more filters and effects – especially good for gun shot flashes, explosions and so on among many others).

MAGIX has included their Music Maker app in the package for the musically inclined to compose their own sound tracks.

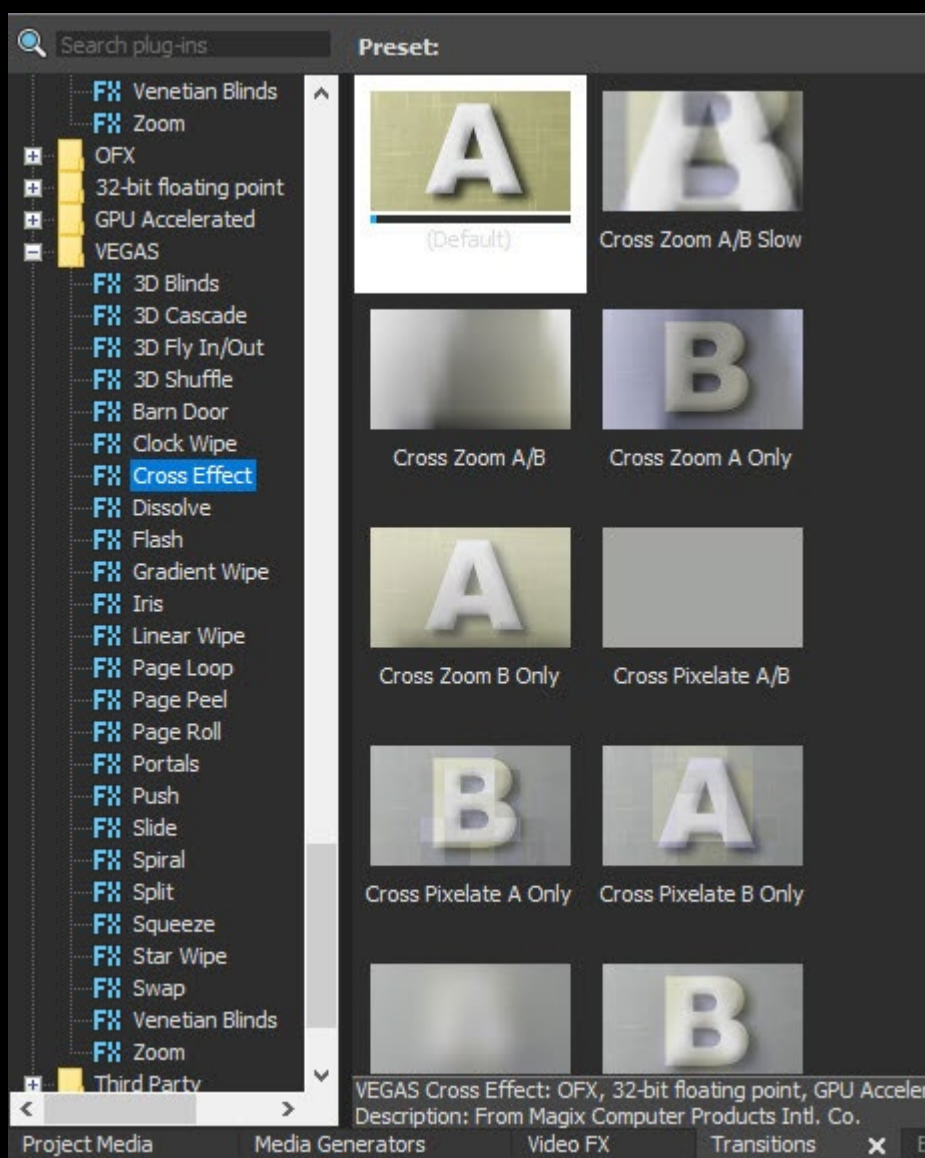
A major boost is the support for OFX based plugins from 3rd party companies such as NewBlueFX, **BorisFX** and many, many more which take Vegas Movie Studio 15 to an entirely new level of “consumer” editing software.

This also means that if at a later stage, you wish to go up rung in video editing software power, you can jump to the full Vegas 15 Pro and be familiar with the interface and also continue to use any 3rd party tools you have purchased.

There are in effect 3 different packages you can get; Vegas Movie Studio 15 is the basic editing system, Platinum version and the Vegas 15 Movie Studio Suite which has all the bells and whistles including DVD Architect for DVD and Blu-ray burning.

Comparison between the three packages can be found [here](#).

Prices start at AUD\$69 for the basic system but we'd recommend the full suite for AUD\$159 as the Best Buy.



## SYSTEM REQUIREMENTS

You need a 64-bit version of one the following operating systems: Microsoft Windows 7, Windows 8, Windows 8.1, or Windows 10

2 GHz processor (multicore or multiprocessor CPU recommended for HD or stereoscopic 3D)

1.5 GB hard-disk space for program installation

4 GB RAM (8 GB recommended; 16 GB recommended for 4K)

USB 2.0 connection (for importing from AVCHD, XDCAM EX, NXCAM, or DVD camcorders)

512 MB GPU memory

Supported NVIDIA, AMD or Intel GPU

Windows-compatible sound card

Supported BD-R/RE drive (for Blu-ray Disc burning only)

Microsoft .NET Framework 4.0 SP1 (included on application disc)

Internet connection: Required for registration





# So What IS Virtual Reality

If you are not totally *au fait* with what virtual reality is, or just plain confused, here is a primer to get you going. Virtual Reality uses imagery, audio and technology to “place” you in an imaginary location or environment. The idea is for you to experience as close as possible, what it would like to actually be there in person.

This location or environment could be something as “real” as standing on top of the Sydney Harbour Bridge whilst safely sitting in front of the fire in your living room on a cold and wet, windy day, or driving in a buggy through the sands of Mars.

By using a special headset with stereoscopic lenses and some sort of computer acting as a delivery advice, you get to be immersed in one of these fictitious scenarios. This could be a full on connected PC or an everyday smartphone

attached to the headset as shown at left.

The software used to create them allows a full 360° vision, so as you turn your head or look up or down, the scene changes.

Imagine standing inside a large ball that has a scene painted on the inside that wraps all the way around, and you have the idea.

Of course, this sort of technology leads itself very well to gaming – blowing up aliens, flying spaceships, piloting aircraft – but there are many more uses in medicine, real estate, news delivery and education and training being explored.

To gain entry into this world is also quite inexpensive – especially if you own one of the newer smartphones such as those from Samsung. A headset can cost as little as \$39.00 and there are many VR titles that are free.

A Google search of “Virtual Reality Apps” or “Virtual Reality headsets” should clue you in!

Of course with a 360° camera such as a [360Fly](#) or from companies like [VUZE](#), you can also make your own, and we’ll explore that in the next edition of [FV^VR](#).



by David Hague



# Google Earth VR

Google Earth VR as he next step to help the world see the world. With Earth VR, you can fly over a city, stand at the top of the highest peaks, walk along new streets, and even soar into space.

Now, at 196.9 million square miles, we know the world is pretty big, so Google made it easy to find great places to visit.

Earth VR comes with cinematic tours and hand-picked destinations that send you to the Amazon River, the Manhattan skyline, the Grand Canyon, the Swiss Alps, and more.

Full release notes available at: [goo.gl/hQpWgc](http://goo.gl/hQpWgc)



# Tilt Brush

Tilt Brush is a room scale 3D painting virtual reality application developed and published by Google. The application is designed for motion interfaces in virtual reality but also works with keyboard and mouse. Users can export their images as animated GIFs.

It is available for [Oculus](#) or [HTC Verve](#) devices.



# Cardboard Camera

Cardboard Camera is the official app from Google for taking 3D photos that you can then enjoy with your Google Cardboard virtual reality device.

Of course, you can also view the photos as you normally would on your Android screen, but if you want to get the most out of the app, you have to use a virtual reality device.

Cardboard Camera is an easy, convenient, and inexpensive way to create 3D pictures to show off to all your friends.

There is a [dedicated website](#) for the app.

## NYTVR

Like the Guardian, with NYT VR, The New York Times takes a step into virtual reality.

The free phone app can be used — along with your headphones — to simulate richly immersive scenes from across the globe. You can use the app on its own, just by moving your smartphone.

But the experience is even better with a Google Cardboard virtual reality viewer. is experimenting with virtual reality as a news format. Its app is a showcase for its VR reports, taking you from the depths of the ocean to the surface of Pluto, via the spire of 1 World Trade Center.

For more info go to the [New York Times VR web page](#).

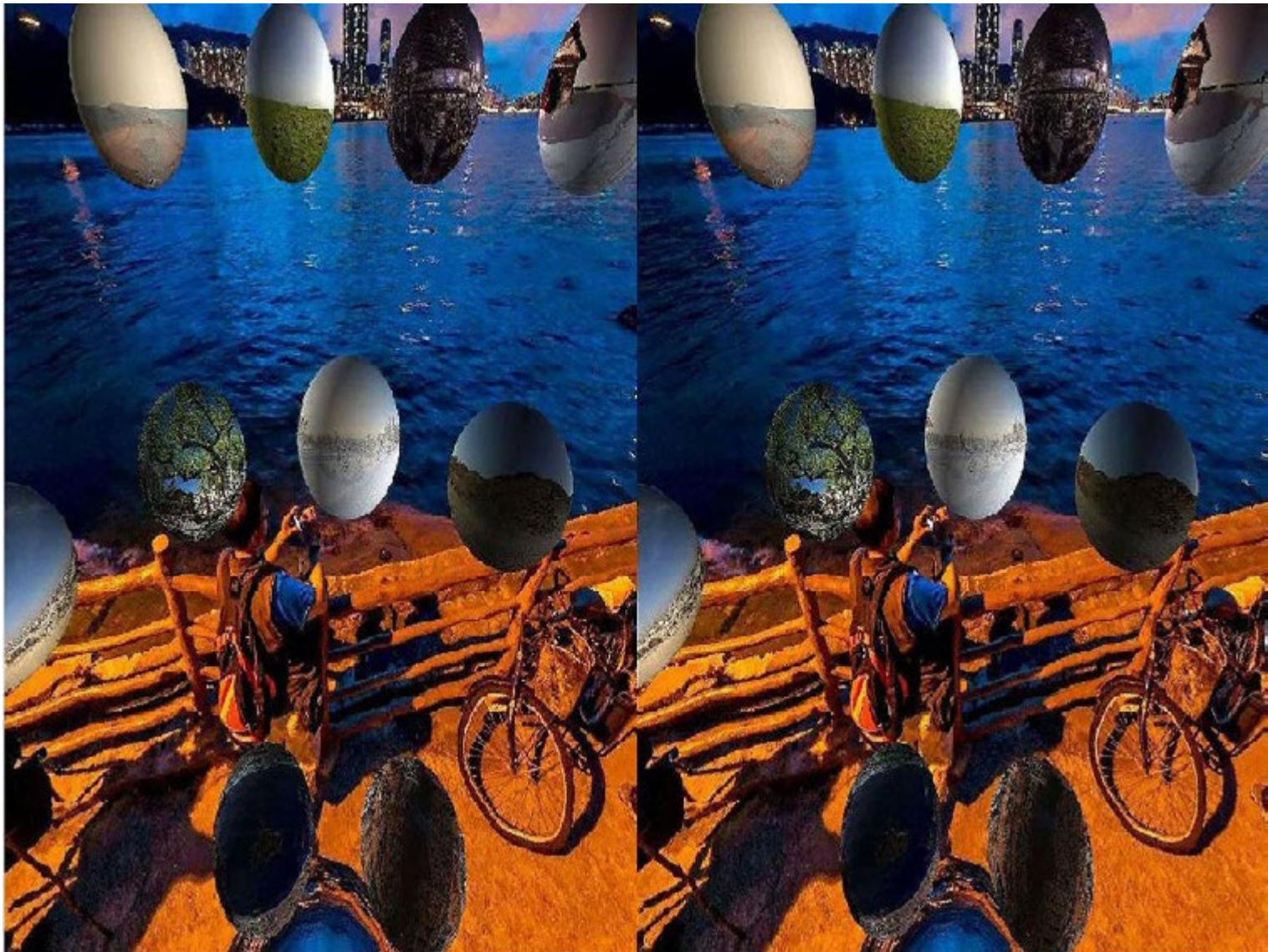
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**The number of VR Apps and content is growing rapidly**

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# Orbulus

Orbulus is evidence that one of the more convincing applications for VR is to give us a new perspective on real-world places we can't visit in person.

This new app has many old favourite locations from the ability to stand on Mars, visiting the Salt Flats, New Year's Fireworks on Hong Kong Harbour or chill looking at the Northern Lights. Many new delights await including caverns, Bond moments and new iconic locations from around the world.

It's available from the [Google Play Store](#) for Android and Cardboard.



# InCell

InCell is an action/racing game with a bit of strategy and bio science thrown into the mix in a rare and highly unusual micro world of the carefully recreated human cell. The game is focused on Virtual Reality but you can play just fine without a set (Cardboard or any other). For iOS

See the [iTunes store](#)



# Shooting for VR needs preparation. Here's what to do, with thanks to InstaVR.

by David Hague

## How to Pick the Right 360° Camera for your VR Project

The number of 360-degree cameras has exploded since we launched in early 2016. Almost every major camera maker now produces at least one 360 camera. And most of the early camera producers have already moved upstream in terms of quality (see Ricoh Theta S -> Ricoh Theta V, Insta360 Nano -> Insta360 Pro, Samsung Gear 360 -> Samsung Gear 360 v2, etc)

Picking the right camera can be an overwhelming process for a first time 360° creator. We at InstaVR are camera agnostic — we only require that the camera capture in .jpg or .png for images, or mp4 for video — which virtually every VR camera does.

The best place to get an overview of the 360° camera market is tech news sites such as Tom's Guide or PC Magazine.

To help you narrow down your decision, you should ask the following questions



### Do you want a 180-degree camera or a 360-degree camera?

This is a relatively new wrinkle in the camera selection process. In June 2017, Google announced it would be partnering with hardware companies to create VR180 cameras. Concurrently, InstaVR announced support for media generated by those 180-degree cameras. Unveiled at CES 2018, the first two official Google cameras are the Lenovo Mirage and the Yi Horizon VR180 camera, along with them offering support for the Z Cam K1 Pro.

If you're creating VR, why would you choose a 180-degree camera? Well first off, our heatmap data shows users spend the vast majority of their time in the front 180-degree field of view. So you're not depriving your users of much visually. From a production standpoint, 180-degrees is much easier to film. You can hold the camera without worrying about being in the shot, you only have to consider 1/2 as



much action, and your resulting files will be considerably smaller.

On the flip side, there's way more 360-degree cameras on the market. There is also a certain cache to total immersion. And, if you're going to be doing spatial audio (more on that later), you'll get more mileage in a 360-degree environment. Ultimately, if you're going for creating a more practical VR application (ie employee training), a 180-degree camera might be advantageous. Otherwise, you'll likely stick with the more popular 360-degree cameras.

Is a prosumer (sub-\$1K camera) going to be enough? Or do you need to invest in a Professional level camera?

The answer to this question largely depends on the project. Some of our most noteworthy clients have created solid VR projects using what are largely considered prosumer cameras — eg TUI Group (Nikon KeyMission), US Navy via Left of Creative Agency (Kodak Pixpro + Samsung Gear 360), Zimmer Biomet Dental (Vuze), and Premise LED (360Fly).

Agencies that tend to work with more varied clients often have access to a number of different cameras, including higher-end multi-camera GoPro rigs, Insta360 Pro cameras, and YI Halos. You can read about use cases for more sophisticated rigs in our interviews with Galago Vision

and Dusk, two premiere 360-degree agencies.

What are the upsides to multi-camera, higher-end cameras? They capture stereoscopic VR images/video, they can capture higher than 4K resolution (beneficial if you're displaying via a high-end VR headset), and the audio/video experience will just be better overall.

On the downside, you'll have to invest



considerably more money (though you can rent some of the cameras), spend significant time stitching (though Insta360 Pro will stitch in-camera for 8K flat or 6K stereo videos now), and burn through a ton of SD cards.

For absolute beginners, it might be best to start with a \$500+ prosumer camera with a decent reputation, such as the Nikon KeyMission or Garmin Virb, and then graduate to the Professional level.





## What other camera equipment will I need for a VR shoot?

You'll definitely need a monopod or tripod. These help with stabilization and allow you to get the camera eye level (the preferred angle for 360 filming). It might also prevent what happened when we used a Gear 360 at SXSW last year, and put tape over the exhaust fan which caused the camera to overheat.

Depending on your audio goals, you may need ad-



ditional mics, particularly for things such as capturing spatial audio. Like our interviewee Michael Wohl explained, you want the mics near the audio sources to capture lifelike audio. For instance, the new Ricoh Theta V has spatial audio built in, but the four mics are so close together in the camera, that it makes the spatial audio not as impactful.

Extra SD cards. You never want to run out of storage space while filming. Always carry more than you think you'll need, so you don't end up short-handed.

## Camera Charging Equipment.

You're not going to be able to charge your camera easily if you're doing an outdoor shoot. So if you can bring an extra camera charging mechanism, do so. 360-degree cameras burn through power like crazy, so plan accordingly.

## How to Plan for your 360° Shoot Days

In any type of filming, preparation is absolutely essential. Because of the unique nature of 360-degree video, and the way it's viewed, preparation before shooting is even more impactful. Whereas traditional movie or advertising shoots can include shots done on the fly, doing the same in a 360 landscape is perilous. If not planned properly, you may not notice issues (i.e. missed audio) until you get home, as many 360 cameras don't have easy playback mechanisms.

For that reason, we suggest investing significant amounts of time in the following activities:

### Spend Plenty of Time Location Scouting

As 360-Degree Video Handbook author Michael Wohl shared with us, location is almost always a key character in 360 video, and thus location scouting is more important than you might think. Because users will be fully immersed, you have to consider the location from all angles. Obviously, that includes things like where will the cameraperson will be during shooting — holding the camera or out of frame?

But also, you have to consider the depth of the



scene you'll be capturing, the ambient noise quality, and whether you can effectively keep passing people from entering the scene. All of this is hard enough in a normal shoot, but gets compounded with the extra geographic territory covered in 360 media. Also, lighting — both in terms of location of lights and quality of lights — is essential. That's why interview subject Scott Robinson of Galago Vision developed his own proprietary Ambit 360 Video Light.

### **Storyboard (If You Possibly Can)**

Anytime you're filming, storyboarding is a good idea. It's even more valuable in 360-degree shooting though. Why? Because each scene you shoot is really two scenes, and many of your cast and crew may be first timers with 360 media. Accordingly, you'll need to include twice the number of panes in your storyboards, to accommodate both 180-degree Fields of View.

You also might have to shoot quickly, as 360 media is often filmed outdoors. For instance, our client Left of Creative had limited time and access when shooting on a US Navy ship. By storyboarding ahead of time, the shoot process went much smoother. The crew knew where to be, where to set up the camera, and what should be captured.

### **Consider Camera Location Carefully**

With the vast majority of 360-degree shoots, the camera is placed at eye level. This is because it will make the user feel most natural in the VR headset.

But there are other considerations as well, like should the camera be used as

the sole POV for the viewer or should you have a person in front of the camera? Client Toyota, for instance, had an employee as a guide for their 360 office tour. This felt more natural than using voice over for conveying information. But when you introduce someone in front of the camera, you then have to consider things like how far from the camera the person should be placed.

### **Consider Audio Capture Carefully**

Audio is as essential to immersion as video in VR. For that reason, many individuals and companies are investing a lot of time and energy into how they capture the audio. So equipment is obviously something to consider — will you just use the camera's built-in microphones? Or possibly additional microphones to capture spatial audio?

Beyond equipment, you also have to consider the ambisonic sound. Do you want to draw attention of the VR viewer to a certain location in the scene? Do you want more natural sound or will you be overdubbing additional .mp3 audio/music later? Can you hear and understand people talking?

By doing all of this work prior to shooting, the actual shoot day(s) will go much smoother. 360-degree shooting is no more difficult than normal filming, there's just more variables to consider. And the earlier you consider those variables, the better your final VR experience will be.

## **Tips on Filming in 360°**

Even if you've prepared extensively, your first 360-degree shoot is likely to be stressful. You're working in a new me-





dium, probably under a deadline, possibly with a crew that is seeing a 360 camera for the first time. To minimize the stress, we suggest the following:

### **Overshoot, if Possible**

Yes, purchasing and using a ton of SD cards is annoying. But you know what's worse? Getting home and realizing you missed a shot you needed. Or having something unexpected on the footage, like people walking in front of the camera. (read Emporia State University's interview about how that happened on their very first shoot)

So like with regular filming, it's better to shoot

the SD cards as you take them out. It's a small thing, but you'll thank yourself later.

### **Just Because It's 360 Doesn't Mean You Don't Need Coverage**

There's a belief amongst new 360 videographers that they don't need to film coverage. They think because the camera is capturing the full 360-degree landscape, doing extra filming is not necessary. But sometimes differences in depth, or inability to capture audio, means you should definitely re-shoot scenes with new camera placement. If you can do multiple takes, do multiple takes.

Don't Forget to Do Some Additional 2D Standard Photography for Hotspots, Icons, Splash Screens, etc

You'll likely want to capture some additional 2D media, either using a standard camera or a phone. You can use these images or video to augment your VR experience with interactive hotspots. You'll also likely use those images in the app icon, splash image, and splash video.

### **Organizing & Editing Your 360° Media Post Shoot**

more than you need, and then edit down later to the material you want to use in the final app.

### **Label Your SD Cards Properly**

If you're shooting a decent amount of material, you'll be using a number of SD cards. For later organizational purposes, it's best to properly label

Prior to uploading and authoring your VR app using InstaVR, you'll need to do a number of things with your shoot footage. Some of those things are obvious — ie stitching together images if you used a camera rig that doesn't have in-camera stitching. But there are some more nuanced actions you have to take to make your media InstaVR-ready. We cover those below.





## Edit Your Images/Videos (Using Software Like Adobe Premiere Pro)

There's a number of reasons you'd want to edit your media prior to upload to InstaVR. For videos, you might want to condense the video length, reducing unnecessary footage. For images and video, you may want to edit out the tripod/monopod or camera person.

If you have access to Adobe Premiere Pro, I strongly suggest you read our guide on [How to Create an App Easily With Adobe Premiere Pro](#).

## Re-Name Files Making Them Easier to Identify

When exported from cameras, single files are often given unique but not informational file names. Prior to uploading to InstaVR, we strongly suggest re-naming these files to something recognizable. Last year we added a toggle feature between Pano Preview and Name, particularly to help clients with a bunch of 360s that look similar (ie rooms in a house). However, if you don't use a good naming structure for your files, you're only making Authoring in InstaVR more complicated for yourself.

## Organize Your VR Projects Into Folders on Your Desktop

Our InstaVR File Manager allows you to upload files sequentially or by dragging a folder into the File Manager space. To expedite getting your project-specific media into the File Manager, it's easiest to put it all in one folder on your desktop and drag it to the File Manager. Our cloud infrastructure can upload fairly quickly if you have a good Internet connection.

## Conclusion

Doing your first 360 shoot can seem a little overwhelming at first. But it's really not that hard. You just have to take a rational, prepared approach, that takes into account the things that make the media unique — a full 360-degree field of view, the ability to capture ambisonic sound, and a VR experience that will likely emanate from the viewer's eye-level POV.

Also, feel free to jump on our weekly Thursday 10am EST training — <https://join.me/instavrandrew>. Besides showing all the features & functionality of InstaVR, we also discuss the overall process of VR experience creation, including filming. Thanks for using InstaVR and we can't wait to see what VR projects you create!



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