PROFILES

SPRING 2019 // VOLUME V

SPOTLIGHT STORY

GRIPPING!

The documentary ***Free Solo,*** directed by Jimmy Chin and Elizabeth Chai Vasarhelyi, depicts climber Alex Honnold's ascent of **El Capitan in Yosemite National Park.**

Canon

GRIPPING!

// CLIMBER ALEX HONNOLD REHEARSED HIS MOVES FOR A YEAR BEFORE TAKING ON THE MIGHTY EL CAPITAN ROCK FACE – WITHOUT ROPES

October 2018 // Definition Magazine // BY PHIL RHODES

PHOTO Courtesy National Geographic

Free Solo is a production that could hardly have been designed for anything but the big screen. The documentary, directed by Jimmy Chin and Elizabeth Chai Vasarhelyi, depicts climber Alex Honnold's ascent of the El Capitan rock formation in Yosemite national park. Made on June 3, 2017, Honnold's climb was the first ever without the use of safety equipment – the 'free solo' of the title. El Capitan is 3000 feet high, so in some ways no screen could ever be quite big enough to capture this achievement.

Jimmy is himself a hugely experienced mountain sportsman, having both climbed and skied on Mount Everest and a host of other imposing terrain features across Africa, Asia and South America. His credits include cinematography on the 2010 documentary 180° South and direction on Everest: Shooting the Impossible and Meru, which covers an ascent of the eponymous Himalayan peak. Jimmy is, in his own words, a climber who became a filmmaker, not the other way around. "I was a climber first. I just started to shoot a lot of climbers in my peer group... I was a photographer, then I became a filmmaker. When I first started shooting it was on transparencies – I was filming before the digital SLRs came onto the scene."

// HONNOLD //

Given the sheer risks involved in a production like *Free Solo*, it's no surprise to find that Jimmy, Alex and the rest of their team have climbed and filmed together for years. "The upper echelon of the climbing community is pretty small," Jimmy says. "I met [Alex] through the climbing community. He joined the North Face athletes team a little over ten years ago, and I've been a member of that for over 20 years. I was with him on his first international expedition to Borneo – that was the first time I shot with him."

Although Alex made his ascent of El Capitan's Freerider route in a hair under four hours, the documentary was produced over a period of nearly two years, with filming taking place in the spring,

summer and autumn of 2016 and the spring of 2017, when the weather is most suitable for climbing. Despite the difficult circumstances, Jimmy was determined to pursue the best possible results. “For the kind of filming we were doing, high-angle and big wall, we were shooting on cinema cameras and cinema lenses because we wanted it to have that look and be shot at 4K. The fact that we were able to do that was one of the big achievements. A lesser team would have shot it with little DSLR lenses.”

Camera crew for *Free Solo* included Jimmy himself alongside cinematographers Mikey Schaefer and Clair Popkin. Building a crew for such a production involves selecting from a very limited pool of people whose experience includes both climbing and camera work. “Many of them are like me in the sense that they are professional climbers who have started filming over the years due to necessity, and people like me calling them, or people I’ve worked with and helped mentor. I never, ever have to worry about them as climbers. There’s absolutely no question for me that they’re 100% on top of their game.” Still, Jimmy adds, “they also have to have a very solid sensibility to what it’s like to film people in this kind of scenario.”

// CREW SAFETY //

The key factor, inevitably, is safety. “The conversations we always have, especially with our crew members, is that you are always a climber first and you have to make sure that you’re covering all your bases as a climber before you start filming. A very simple mistake up there could be catastrophic in terms of your climbing systems.”

Perhaps unusually for a documentary, *Free Solo* was planned in shot-by-shot detail. “You have to remember that we spent two years filming on this specific route. We were training for this specific event and trained as Alex was training to do the climb. We were able to really become surgical about how we were going to shoot it. We had a long lens on the ground, we knew exactly where our camera team would be, we had remote cameras set up, we knew exactly how we were going to shoot it.

“In Yosemite we couldn’t use drones [and] we didn’t want to bother Alex with a little drone flying around, so we shot from very far away with a 1000mm lens.” // Jimmy Chin, *Director*

We couldn’t ask him to go back and do it again… I’m pretty sure that every single shot we set up is in the film.”

“I was also shooting a National Geographic assignment on top of it,” Jimmy continues. “I was shooting on the Canon EOS-1D X so I could film and then switch over to shoot video. I had triple duty because I was directing as well… I’m using it as a handheld photo camera, no kind of rig on it. Everything is pared down to the minimum. Every ounce counts. You’re up there, you have food and water for the day, your layers in case it rains, batteries… it adds up quickly when you’re covering a lot of terrain in the vertical space. We don’t have craft services. Everybody filming on the high-angle team has to be totally self-sufficient.”

// DRONE FREE //

Perhaps surprisingly, given their popularity, there was very little use of drones. Jimmy tells us that “you can’t film with drones in the national parks. In Yosemite we couldn’t use drones [and] we didn’t want to bother Alex with a little drone flying around, so we shot from very far away with a 1000mm lens.” Usually, climbing is not an activity that leaves the hands free for camerawork, and Jimmy’s team used special approaches to make the shoot possible. “Everybody on the team has the capacity to rig their own ropes and set up their own systems to free up their hands to shoot.”

The 1000mm lens chosen for those long-distance shots was Canon’s hugely capable Cine-Servo 50-1000mm T5.0-8.9 zoom, riding a Shotover mount on a helicopter. Jimmy chose the Red Epic Dragon 6K camera for this situation, seeking some extra, spare resolution to punch in even further. Most of the production, though, was shot with Canon equipment. “We worked with Canon on a lot of the production. Obviously the 50-1000mm is a very unique lens and something that was very specific to our needs. We used a lot of the Canon primes, and then shot on the C300 Mark II for a lot of it, in 4K… we really used all kinds of cameras depending on what we needed it for, but probably 75% of it was on the C300 Mark II.”

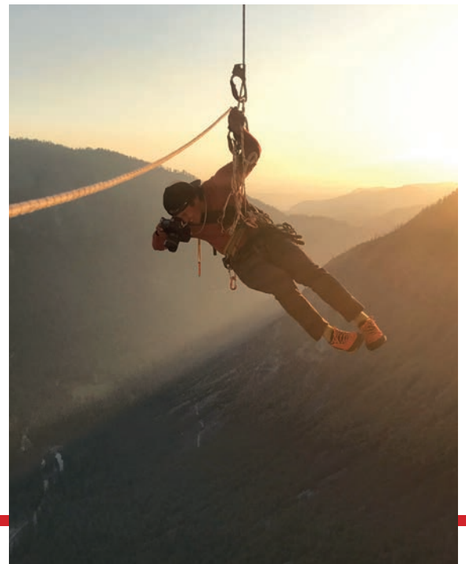
Jimmy and his team used several of Canon's L-series EF zooms, including the 24-70mm f/2.8, the 16-35mm f/4, the 24-105mm f/4 and the 70-200mm, as well as the 14mm f/2.8 and CN-E 35mm T1.5 primes. With the drive for truly cinema-grade images in mind, Jimmy describes the CN7x17 17-120mm T2.95 Cine-Servo lens as "our primary lens for both vérité shooting and on the wall throughout the production."

The CN7x17 is a compact lens in the context of a zoom covering super-35mm sensors, but is still considerably bulkier than lenses often used for action sports and was, as Jimmy puts it, "hell to climb with. Huge packs. And the other thing is, it's very hard to build out your system on the wall, so we had to have these giant packs that could fit the camera system pre-built. After two years we were all in very good shape." Operating, he remembers, is "all handheld… you're bracing it against yourself. At the end of all the takes you can hear the cameraman breathing heavily because they're holding their breath. In the edit room you'd watch the shot finish and then you'd see the shot heaving up and down as the cameraman was breathing."

// GRADE //

The film was graded by Stefan Sonnenfeld, alumnus of a huge variety of prominent feature films, at Company 3's facility in New York. Jimmy's preference was for a minimally affected image, with "everything looking as straight and realistic as possible," emphasizing the reality of the situation. "We'd shot a lot of different camera formats," he says. "The C300s, 1D x, 5D Mark IV, the Alexa Mini, Red…" Jimmy is even willing to admit to a single GoPro shot in the film, though he would have preferred to avoid it. "100% no. We wanted cinema… we killed ourselves to carry those cameras up there."

"The other thing you don't see through the trailer was our vérité film crew. We had a high-angle team and we had a cinema vérité team that was shooting all the things on the ground. It was important to us that we had a vérité film. The reason the film stands up is that it's not a climbing film. It really dives into the



"The other thing you don't see through the trailer was our vérité film crew. We had a high-angle team and we had a cinema vérité team that was shooting all the things on the ground." // Jimmy Chin

emotional content around Alex's decision, meeting this girl and falling in love, it brings up a lot more questions. That is really what rounds the film out… it was really important not to make just a sports documentary. It had to have a lot of layers and guts to it." As for how you should see the film, Jimmy has a view on that, too. "You have to see it on the big screen," he finishes. "As big a screen as possible." //

Free Solo Won The People's Choice Award At The Toronto International Film Festival and was Released On September 28, 2018 in The United States.

NATIONAL GEOGRAPHIC ON HONNOLD

"After trusting his skill and endurance over hundreds of handholds and footholds and controlling his fear for just under four hours, Honnold pulled his body over the last ledges. Chin along with his assistant Sam Crossley and cameraman Cheyne Lempe had rappelled down with their cameras from the top to follow Honnold as he climbed the upper half of the wall. Even using jumars – a type of mechanical winch – to hoist themselves up, the two had struggled to keep up with him."

Source: National Geographic's Mark Synnott

BOTTOM/LEFT
Photo courtesy Samuel Crossley
BOTTOM/RIGHT
Photo courtesy Cheyne Lempe

SUNDANCE 2019: SPOTLIGHT ON DAVID PAUL JACOBSON *"ASK DR. RUTH"*

February 1, 2019 // *cinema5D* // **BY GRAHAM SHELDON**

It's a 19 degree Fahrenheit winter wonderland outside, and that must mean we're at Sundance Film Festival 2019 in Park City, Utah. Thankfully we have a whole host of wonderful documentaries to help keep us warm! Director of Cinematography, David Paul Jacobson discusses his work on the feature documentary, *Ask Dr. Ruth*. The film follows Dr. Ruth's journey from survivor of the Holocaust to famed sex therapist.

DP: David Paul Jacobson
FILM: *Ask Dr. Ruth* (dir. Ryan White)
SUNDANCE CATEGORY: Doc Premieres
CAMERA: Canon C300 MK II
GLASS: Zeiss CP2, Canon L, Angenieux Zoom

A still from Ask Dr. Ruth by Ryan White, Courtesy of Sundance Institute
PHOTO by David Paul Jacobson

cinema5D // What was your approach to shooting *Ask Dr. Ruth*?

DPJ // Films are not made in a vacuum, and each individual project deserves its own approach. With most of *Ask Dr. Ruth*, I was a camera department of one, which informed much of the approach.

Nearly half of Dr. Ruth's 90 years have been spent in front of some recording device, but we wanted this project to feel different for her. Keeping a small footprint was a practical consideration to maintain as intimate an environment as possible. Dr. Ruth didn't feel like she was on one of her talk show sets with lights, crew and all the vanities. It made her far less performative and hopefully shows the audience a side of her that they've never seen before. As the person responsible for the look of the film, this posed some challenges. In the end, it pushed me into a much more instinctual and reactive approach to shooting that taught me a lot.

cinema5D // Did the need to maintain a small footprint help decide your camera choice?

DPJ // Ryan and I both used our C300 Mark IIs. We're big fans of the system for documentary work because it's reliable, the colors are great, the latitude is impressive and it's infinitely scalable to our needs. Ryan would usually hand hold the camera in a simple stripped down configuration and I would build out my camera for shoulder mounted handheld or Easyrig.

cinema5D // What lenses did you use? Why?

DPJ // I own a set of Zeiss CP.2 super speeds and a wide assortment of Canon L series glass. The Zeiss primes were great when subjects were generally not moving much, but we relied on L series zooms quite a bit, mostly out of necessity. Dr. Ruth is always on the move and would constantly strike up conversations in the most precarious of places. Canon's zooms offered good image quality and kept the overall size of the camera package down. Towards the end of the production, we started renting Angenieux EZ 1 and 2 lenses. I liked them so much that I'm now a proud owner. The usefulness of a zoom paired with a fast T2 aperture can not be overstated with documentary work.

A still from Ask Dr. Ruth by Ryan White, Courtesy of Sundance Institute
PHOTO by David Paul Jacobson

cinema5D // Talk a little about pre-production for this project. Did you and director, Ryan White, watch any films together?

DPJ // We mostly discussed the things we wouldn't have. Intimacy and nimbleness were key for this production. It was clear from the beginning that I wasn't going to have any camera or lighting support, so I had to build a camera package that could be carried entirely by myself. I was up for the challenge, but it was definitely outside my comfort zone.

cinema5D // Had you worked together before?

DPJ // Ryan and I have worked together a number of times, and I know what he wants as a director. Since we were shooting mostly verite with Ruth, our conversations were often about the vocabulary of lensing and camera movement— which lenses to shoot Ruth with and at what proximity. I was warned about Ruth's kinetic nature and I really wanted the camera to reflect that. Instead of staying far away on longer lenses, I wanted to be wide, close and at Ruth's diminutive 4'7" level whenever possible.

cinema5D // How did you and the director, Ryan White, work together during production?

DPJ // Ryan and I have a great instinctual relationship. One of the hardest things to do as a documentary shooter is to stop an action or disrupt a moment because something isn't working visually. Ryan always supports me in those moments and helps keep talent at ease. Documentary directors always want to be shooting, as they should, so it's great to have his support. Ryan is also my B camera operator. He is always carrying a camera around with him and knows when a scene demands cross coverage or little detail shots that I don't have the time to grab in the moment.

cinema5D // Did you use any new tech or tools for this shoot?

DPJ // Dr. Ruth is 4'7", and I'm a little over 1' taller than her. I knew that I either needed to start doing squats at the gym or the camera was just not going to live on my shoulder. I didn't want to use any gimbals or steadicam rigs since it was just me, so I settled on an Easyrig with the Flowcine Serene arm. While not perfect, it became an essential tool. The ability to track around with reasonable stability at Ruth's eye level or below was exactly the look I wanted and wouldn't have been achievable with anything else. //

David Paul Jacobson's other credits include work on HBO's *The Jinx* and *Room 104* and *The Keepers* for Netflix. You can view more of his work on his website HERE.

You won't have to wait long to check out the film. Hulu snagged the rights to the project in advance of the festival, so stay tuned for info on when *Ask Dr. Ruth* goes live to your living room.

This interview originally appeared on cinema5D.com and was republished with permission.

NO EXPERIENCE? NO PROBLEM: HOW A FILMMAKER SUCCEEDED BY BECOMING UTTERLY OBSESSED

December 13, 2018 *// No Film School* // BY OAKLEY ANDERSON-MOORE

// RUDY VALDEZ NEEDED TO MAKE THE MOST IMPORTANT FILM OF HIS LIFE WITHOUT HAVING MADE ANYTHING BEFORE, AND THE RESULT IS A SUNDANCE AWARD-WINNING DOCUMENTARY NOW STREAMING ON HBO.

Everything started when Rudy Valdez's sister was given a minimum mandatory sentence of 15 years in jail. Rudy immediately decided to pick up a Hi8 camera and document her three daughters so that his sister could see pieces of them growing up. Living in NYC at the time, Valdez bought a ticket to Michigan.

What was worth emptying his checking account at the time? A dance recital. "I felt I had to be there and while I was filming, my sister called [from prison] completely unexpectedly, and she said something to my niece that changed everything," explained Valdez to No Film School. "She said, 'Do you know what Mommy's going to do while you go to dance? I'm going to lay down in my bed, I'm going to close my eyes, and I'm going to think about you.'"

It was at that moment that Rudy Valdez became a filmmaker. "And it was at that moment that this became a film. I realized that I had an opportunity to tell a story that you don't normally get to hear about when you hear about mass incarceration. I decided that I wanted to tell that story for the people left behind, about the people left behind." He made a promise to his family that if they trusted him, he would make something good. The intersection of his obsession for the story and the image is *The Sentence*.

Valdez sat down with No Film School to talk about moving from Hi8 to Canon DSLR for over a decade of footage, understanding cinema 15 seconds at a time, and why it's worth it to use your own voice as a filmmaker.

No Film School // After that moment when you knew it was a film and you became a filmmaker, what was your strategy for filming? *The Sentence* is full of all these poignant moments with your family. Some of the moments are really difficult, and you occasionally put down the camera. Some of the moments go in and out of your family's lives, like when you're interviewing your mother and she ends with, "I'm going to go dry your clothes now." How did you decide when and how to film them?

Rudy Valdez // When I first decided to make a film, there was this epiphany where I was like, "Okay, I'm going to make this documentary. I'm going to do something for the greater good here." Shortly thereafter, there was a moment of terror because I realized I didn't know how to make a movie. I don't know how to make a film. I don't know what the hell I'm doing. But I was so driven by the opportunity to do this, I quit everything. I was an actor, I was a writer, I was a teacher, and I decided to quit everything and just dive headfirst into documentary film. What that meant was becoming a production assistant.

I was lucky enough to be able to become a PA for a husband-and-wife team that let me hang around and be on sets. I would carry this little camera with me, and this little notepad, and I would snap pictures of everything. I would snap pictures of the camera monitors to see the settings. I didn't know what shutter speed was. I didn't know what an F-stop was. I had no idea what white balance was. Whenever they would set up lights or do any of that stuff, I would draw diagrams of where the lights were. If there was a scrim in front of something, I would write down, "Scrim?" Because I'd want to go and Google what the hell a 'scrim' was. If anyone said anything I didn't understand, I would write it down and go home and research, research, research.

"I decided to quit everything and just dive headfirst into documentary film. What that meant was becoming a production assistant." // Rudy Valdez

PHOTO A still from 'The Sentence' where director Rudy Valdez captures one of the first and most important moments for the film, a seemingly simple dance recital for his sister's daughter.
CREDIT The Sentence/HBO

After spending 10, 12, 14 hours on a set, I would go home where I had this cheap little camera, some Home Depot lights, and I would try to recreate those things in my bedroom. I wanted to understand, "Why is the F-stop at 1.8? What is that doing to the image? Why is the light over here? Why did I have the shutter speed here? Why is the camera at this level?" When I tell you I knew nothing, I knew nothing. I was trying to find this ground zero where I could start to understand what was happening. Luckily I'm pretty technically savvy, so I started to pick up on the technical side of things.

What truly fascinated me was the ability of video to evoke emotion, and again, it was something that I became obsessed with, in the sense that I wanted to figure out why things moved me. Not only documentaries, but movies and things growing up where I was like, "What is sticking out in my mind right now?" I would go and watch the movie or a scene. Luckily nobody was watching what I was doing, because they would say, "Here comes a future serial killer!" I was sitting in this room, rewinding a 15-second scene backwards, watching it again, rewinding it, watching it, pausing it, looking at every detail of it. I was trying to figure out what it is that was making me connect with it.

I immediately realized it was intimacy. It was the connection to people where it didn't feel like you were a voyeur watching from the outside in, but that you were a part of the fabric of that scene.

When I decided to make this a documentary, I looked at the larger systematic problems that were

PHOTO Filmmaker Rudy Valdez spent over a decade documenting the effects of his sister's incarceration, including her daughters, one pictured here, growing up without her.
CREDIT The Sentence/HBO

behind my sister's story. I would go to Washington, D.C. and I would film with pundits, I would film with political figures, I would film with people working on the grassroots level and then I started filming the legal process, fighting through the appeals, doing all that stuff. During all that, I was also flying home whenever I could and filming with the girls and my family. As I started looking at footage, especially at the beginning, what I felt was the strongest was the intimacy, the moments with family. I realized that there are so many other films about the war on drugs, statistics, pundits, and the larger political atmosphere. I rationalized with myself and said, "I don't have to make that film. That film has been made. I have an opportunity to tell a story that I don't have to *tell* you anything, I can *show* you these things. I don't have to *give* you a stat… I can *show* you the stat."

That eventually became what I wanted to do with the film. I knew at that point that I was looking at a 15-year sentence for my sister. My intention was always to film throughout her incarceration, show what time did. Show these behind-the-scenes moments that didn't feel like you were watching a family, but you were a part of the family. I used that in conjunction with learning what lenses to use and learning what shooting wide open does and creating that depth of field and challenging myself to be in every moment, not as a voyeur but as an active participant.

That's why there are scenes in there, like you mentioned, my mom looks at the camera and says, "I'm going to go dry your clothes." I wanted that in there because I wanted you to know who was holding that camera, whose lens you were looking through. I was putting you in my shoes. Whenever you're in a scene, I wanted you to know that it's not a camera guy in there. It's not a producer and three other PAs sitting around. You're in that scene with the son, with the brother, with the uncle. That was what I was going for throughout the process of the 10 years of making this, trying to create and understand and evoke that emotion of being in that room and being part of that family.

NFS // That's an incredible journey. That intimacy that you achieved makes the film so heart-wrenching but also cinematically captivating so it's crazy to hear about your learning process. Having read some of your more recent DP credits since then, I assumed you came into this having already been a DP! You mentioned that you started with your sister had a Hi8 video camera. Can you fill us in on cameras and lenses you used as the project evolved?

Valdez // That first shoot was on a little Hi8 camera because that's what I had at my disposal. Immediately, when I went back to New York, I was like, "I have to figure out how to do this." I got that job PA'ing and I was able to infiltrate the documentary world pretty quickly because of relationships that I had. The next time I went back, I shot with a Sony HDV camera because that's what I could get for free from a filmmaker that I knew.

After that, I wanted to figure out how to create the intimacy as much as possible. I realized if I was going to do that, I needed to use a larger sensor camera with faster lenses. So, I bought a DSLR. First I had a Rebel T2i. Then I quickly moved to shooting with the Canon EOS 5D, and I shot most of this film on a 50mm 1.2 mostly wide open, and I eventually moved over to the Canon EOS C300 and Canon EOS C500, all Canon cameras. That was because the form factor was a huge part of this film.

As I was working on other people's films throughout this process, one of the things we can never discount as production people is the camera changes the room. When you walk into a room and you have a camera, a sound guy, a producer, a director, and all these people coming in, you change the room. I never liked going into a room with a giant rig and all of these things. With my family, the camera needed to become an extension of me. It needed to be something that was natural and you could get used to, so I would strip down these cameras as much as possible. This film was made with a camera, a lens, and a shotgun mic on the camera. Those were basically my tools, and I stripped down the C300 as much as I possibly could and just ran handheld.

NFS // There are all of these different shallow depth of fields and racking focus. I was wondering, how did you deal with focusing? Was that something you wanted to be a big part of the aesthetic?

Valdez // It was 100% part of the aesthetic. I don't want to give any spoilers, but there's a scene at the end where the focus was so critical to me where my sister is holding a red dress. And that scene was magic because I had no idea that she had it. I remember being very shallow. I think I was completely wide open. I put two NDs on because it was kind of bright in there, and I was completely in a 1.2 and I thought, what needs to be in focus right now is what I want to see as a brother. I want to see her hand, I want to see her heart rate. I was watching her as a brother and not a filmmaker.

There are moments throughout the film where the focus is so critical because I wanted you to see what I was seeing as a family member, and it allowed the rest of the world to fall off. The shallow depth of field was something that I used as a way to isolate things that I felt were important and bring you into elements that I wanted you to feel close to.

NFS // What then was the process like for putting the story together after filming so much for such a long time?

Valdez // A lot of the footage, as you can imagine, was pretty difficult for me to watch, so there was a lot of footage that I didn't really go back and go through. I have a weird memory, almost like a card catalog in my head. I can go through and tell you the years and the footage and the days. If you give me long enough, I can remember every scene that was shot. I knew what was important to do, like the tent poles of moments throughout the film that are important to me.

But I brought on an amazing editor, this woman named Viri Lieberman, who's just absolute magic, and

PHOTO A shot of Rudy Valdez in his film 'The Sentence' where he shot wide open for much of the film as part of the intimate aesthetic.
CREDIT The Sentence/HBO

the first two months of us working together, she just sat down and watched every single frame of footage. During the process of her doing that, she organized it in such a way that she could put in keywords and bring it up. We edit on Premiere, and what would happen is she would start the edit and we would be talking and she would say, "Do you remember a time when this and this was going on?" I was like, "Yeah, I think in 2010 that I shot this thing with my Dad," and she would put in keywords and it would come up. We were able to fly through a lot of the edit.

She was also just a really fast editor, and we cut this thing in five months.

> **"I became obsessed with trying to be the best filmmaker that I could be, simply because I wanted to do justice to this story." // Rudy Valdez**

NFS // For other filmmakers, especially those considering documenting their own family in these dark moment, what would your advice be based on what you've learned here?

Valdez // I think my advice for filmmakers, especially those who are trying to tell their own story or a story about their family or something that's very close to them, is do it. You know what I mean? It's hard for me to put into words how much I hope this film empowers people to own their own voice. For so long, there's been a very few people telling so many people's stories. One of the things that I've been, I don't want

to say criticized about, but that has been brought up is people saying, “Do you think that you’re too close to the story to tell it?” I understand where that comes from, but what I hear is they’re questioning whether I have the ability to be my own voice.

I think that’s what’s needed in documentaries. I think we need to be in charge of our voice and we need to tell our own story. There may be documentary filmmakers out there who don’t want to hear that because that just means everyone’s telling their own stories and there’s no jobs for documentary filmmakers. There are stories that need somebody else’s lens, and there are stories that I think need to be told from the inside.

I feel like if you feel like it’s a story that you need to tell, tell it. I see so many people who want to make their first film and make their first documentary, and they’re always hung up on the fact that they don’t have an Alexa. They don’t have a C300. They don’t have a C500. It’s always wonderful to have an amazing camera in your hand, but sometimes you don’t have that. Sometimes you have what is at your disposal. This film started with a camera that was laying around, a Hi8 digital camera. It grew because my passion for it grew, my need to make a better image grew, and my understanding of aesthetic grew, so it grew with the film. Had I waited to get a good enough camera, I may have never started.

Looking back on 11, 12 years of making this film, I ask myself, “If I knew everything that happened, would I do it again?” Sometimes, I don’t know. It was very difficult. I sometimes tell the story of when I was filming my father for the first time and he completely breaks down crying. That was one of my first real gut checks during the process of making this film because everything was telling me to stop filming. Everyone was saying, “Put down the camera and go and hug your dad and tell him it’s going to be okay.” I didn’t. I kept filming, and it was part of that promise.

I’ve only seen my dad cry twice before that, and he was allowing himself to be vulnerable in front of the camera, and I felt like I owed it to him to continue filming, to make something good out of all this. Because I felt so passionate about telling the story, by default I became a filmmaker. I became obsessed with trying to be the best filmmaker that I could be, simply because I wanted to do justice to this story. I made a promise to my sister and to the rest of my family when I decided to make this a film. I said, “Look, if you are open and honest and vulnerable and you let me tell your story, I promise you I’ll make something good out of it.” That promise put a lot of pressure on my shoulders because I always felt that I could not let them down.

Filming your family during some of their worst times can be extremely difficult. Be prepared. It’s going to be difficult, but it’s worth it if you do it for the right reasons. Do it for the greater good, and don’t be afraid to be a storyteller. //

Featured header image of Rudy Valdez catching himself in the reflection of the mirror in ‘The Sentence’ now streaming on HBO.

IN SUNDANCE MOVIE *PADDLETON*, LIMITED SPACE AND TIME YIELD A GENUINE BROMANCE

February 5, 2019 // *The Beat - PremiumBeat.com* // BY LYNDSAY KNECHTICK

// DP NATE MILLER USED SOME CHOICE ROAD MOVIE TRICKS WITH A CLOSE-KNIT TEAM TO LET RAY ROMANO AND MARK DUPLASS SHINE IN NETFLIX’S LATEST DRAMEDY.

El One character in *Paddleton*, which premiered this year at Sundance, was a troublemaker behind the scenes. It was not Mark Duplass‘s middle-aged cancer patient, nor his reforming pessimist neighbor, played by Ray Romano. It was the boxy, red, ’90s-model Nissan Sentra the pair drives for much of the film.

“Of course it was the tiniest thing they could find,” laughs DP Nate Miller.

Greg Hatton, Nate Miller, and Tadd Sackville-West on the *Paddleton* set. Photo by Patrick Wymore (courtesy of Netflix).

Quarters had to be close for *Paddleton*‘s misfit duo to convincingly — and clumsily — bond over a six-hour road trip to pick up a prescription that will end Duplass’s character’s life before cancer kills him. With barely enough room in the car for one camera and a person to operate it, the crew removed the Sentra’s passenger seat at one point. Miller insisted that director Alex Lehmann, also a DP, shoot a key scene requiring a 180-pan. Miller watched from a follow car as Lehmann directed the actors and maneuvered the Canon C700FF on a Bazooka. The take shot by the director is the one in the movie.

Greg Hatton, Nate Miller, and Tadd Sackville-West on the *Paddleton* set.
PHOTO by Patrick Wymore (courtesy of Netflix).

Ray Romano and Nate Miller on the *Paddleton* set.
PHOTO by Patrick Wymore (courtesy of Netflix).

“The whole idea with the film was to make this thing feel as real as possible,” Miller says. “I really love that shot.”

The DP was already a close comrade of Lehmann’s. They go back a decade as colleagues, and worked together on Lehmann’s fictional feature debut *Blue Jay* (2016), also starring Duplass. Miller’s comfort with *Paddleton*’s creative team and small crew extended to the tools he used. He estimates they shot half the movie handheld, on a Canon C700FF that felt natural on his shoulder.

“It was a very improv-heavy film, so we shot with two cameras,” Miller says. “We shot the whole thing in fourteen days, which is kind of crazy — especially for a road movie. [Time is] always the biggest challenge. One thing that I really like to do is be able to shoot the B-roll and all the establishing shots myself. I always try to fight for extra days, usually at the beginning or the end — it’s super important to the story, to let these images of the locations give you a feeling for the place.”

Paddleton’s vistas belong to a city outside Los Angeles called Solvang. Known for wineries and Danish heritage made plain in the architecture, Solvang also had a motel-esque apartment building to house Duplass and Romano’s characters, who are simply friendly neighbors before a terminal diagnosis pulls them closer. The two actors are dear friends, Miller observed, and the DP saw Romano flex his strength for dramatic roles even as his character leans on humor as a coping mechanism while his buddy suffers.

The style of cinematography remains simple for the raw truths nestled in *Paddleton*’s comedic ploys. Still, the in-the-moment quality of handheld shots that sometimes linger is deliberate. Miller hopes audiences can feel the relationship unfold as the characters begin to lean on one another, living out a friendship they know will soon expire.

“You feel the camera breathing with them,” Miller says. //

Paddleton hit Netflix February 22, 2019.

BEHIND THE NASA DOCUMENTARY *ABOVE & BEYOND* WITH AWARD-WINNING **DP TOM HURWITZ**

November 16, 2018 *// ProductionHUB // Advice/Tips & Tricks*

NASA’s awe-inspiring 60-year history and its current ambitions to understand the health of our planet are explored in the new feature documentary *Above and Beyond*, directed by Rory Kennedy, the Academy Award®-nominated and Emmy®-winning documentarian and youngest daughter of Robert Kennedy.

We recently spoke with DP Tom Hurwitz, ASC, about the documentary. He’s won two Emmy Awards, the Sundance and Jerusalem Film Festival Awards for Best Cinematography. Hurwitz has photographed films that have won 4 academy awards and several more nominations (including Dancemaker and Killing in the Name most recently).

“I love the C300 Mark II. It is ergonomically beautifully designed. The size of the camera makes easy to move quickly in the often difficult spaces that we worked in.”
// Tom Hurwitz, *Director Photography*

“The features of the Canon C300 Mark II, from multiple internal ND filters to brilliant color science, make it my first choice for most documentaries.” // Tom Hurwitz

ProductionHUB // Describe *Above and Beyond* and how you became involved.

Tom Hurwitz // *Above and Beyond* is a feature documentary, screened in theaters and broadcast on the Discovery Channel. It looks at NASA’s first 60 years of exploration, both in – all the way to edge of our Solar System and beyond – and of the earth: our climate, our geology our geography. It also forecasts what comes next for this amazing agency.

I had shot several films with Rory Kennedy, the director and niece of John F. Kennedy who, as president, focused NASA’s effort to reach the moon. .

ProductionHUB // What preparation and pre-production went into the project?.

Tom Hurwitz // There is so much archival material in this project and it covers so much complex history, that obviously research was most extensive. NASA is a huge organization and a great deal of time was spent coordinating and filming with them.

ProductionHUB // How many hours were spent interviewing and shooting?

Tom Hurwitz // We spent about 300 hours of interviewing and filming.

ProductionHUB // Was there a lot of NASA research and visiting involved to be able to have it translate well in the film?

Tom Hurwitz // We worked very closely with NASA throughout the process on research and to identify the stories the film focused on. We also worked with NASA to access their vast library of archival materials and animations that were used in the film. And we did careful fact-checking with them as well.

ProductionHUB // What techniques did you lean into and work with for the film?

Tom Hurwitz // We did a lot of filming in NASA facilities. The buildings were huge and lit by all sorts of sources, and with big spaces that were impossible to light. We relied on Canon color science to keep things looking rich and balanced.

Rory wanted the interviews to stay within NASA’s extraordinary world, filled with technical wonders and also history. So, although we were careful with our backgrounds not to be distracting, we also wanted them to feel as though they were in this NASA environment. This meant sometimes working in huge buildings, but also shooting in a few conference rooms that we had to dress with NASA props. Working at low F-stop with Canon Cine Primes made this possible.

ProductionHUB // What features made the C300 Mark II, and EF and Cinema Prime Lenses a no-brainer to work with?

Tom Hurwitz // I love the C300 Mark II. It is ergonomically beautifully designed. The size of the camera makes easy to move quickly in the often difficult spaces that we worked in. The features of the camera, from multiple internal ND filters to brilliant color science make it my first choice for most documentaries.

Canon lenses are crisp but not clinically sharp, with great optical characteristics. I use them all like a buffet of choices, Cine Primes and Zooms and L series lenses. The 14mm L series, virtually distortion-free lens is a wonder. Shooting the interviews, the facial recognition auto-focus is a gift with a subject who tends to move a bit. When the location, on a catwalk or in a small space, forced us to be hand-held, the image stabilizer is a great tool as well.

ProductionHUB // What upcoming projects are you working on?

Tom Hurwitz // I am always working on several projects at the same time. Right now, along with *Above and Beyond*. I have three other films out, *Cradle of Champions, Studio 54* and *China Hustle*, all have been well received, and all were shot with the C300 camera.

“Canon lenses are crisp but not clinically sharp, with great optical characteristics. I use them all like a buffet of choices, Cine Primes and Zooms and L series lenses. The 14mm L series, virtually distortion-free lens is a wonder.” // Tom Hurwitz

ProductionHUB // Is there anything else you’d like to add?

Tom Hurwitz // I think that does it! //

HANDS-ON WITH THE CANON EOS C200

// IS THIS THE CAMERA FOR INDEPENDENT FILMMAKERS AND HIGH-END CONTENT CREATORS?

December 9, 2018 *// Provideo Coalition* // BY KENNY MCMILLAN

I was sent the Canon C200 to review, and while there are a handful of pretty comprehensive reviews from a more clinical perspective, in an effort to shed light on its usability I just grabbed the thing and started shooting. Here's how that shook out.

To start, I've shot 99% of OWL BOT's content on a C100mkII, so I'm already familiar with the body type and workflow. I picked that camera for the ability to basically pull it out of a case and start shooting immediately with minimal downtime; built-in NDs, XLR jacks, excellent autofocus, low power draw/file size, and easy to find/inexpensive recording media. As it's a 1080p camera, I can shoot for about 11 hours on one 128BG SD card, and the battery lasts almost as long. I actually use an IDX Duo to power it, lasting multiple days. Assuming the C200 was largely similar I didn't even read anything about it and got to work.

First step was to set up the camera the way I like it. The menu has been updated slightly but is functionally the same, so I was able to do the exact same somewhat-specific frame guides as my C100 and my waveforms/peaking options/buttons were set the same as well. Nice. In regards to shooting settings, there were obviously more options in the C200 including the oft-mentioned Cinema RAW Lite (4K DCI 12 bit Resolution), which I chose to shoot in as I was also the editor of these videos and knew the workflow involved. As a surprise, I saw that there were *three* system frequencies: 59.9Hz, 50Hz, and 24Hz. This excited me as I've always held the (perhaps silly) belief that you can subconsciously "feel" the difference between 23.98fps and true 24fps. So with that, I chose 24Hz. After formatting the 256GB CFast card (and the two backup SD cards) I saw that I had 36 minutes until I had to offload, which for me is a slight issue as I don't own a laptop. That being said if *you* have a laptop, or a friendly friend, the card dumped in about 8 minutes to my PC so it's not going to really ruin your day if you only use one card. 8 minutes is a nice little pause for the cast and crew without having to break for lunch or whatever.

For the first video, Mahalo's "In My Arms" I shot with the gorgeous 15.5-47mm CN-E lens Canon included with the camera for me. As I primarily shoot with the Sigma 18-35mm, this was a perfect replacement and the extra reach in either direction was nice. As it's a cinema lens, I had to hand pull focus which was a bit of a struggle as the focus throw is so long, but the benefit was that I never was visibly "searching" for focus, and didn't have to be incredibly accurate with my pulls as there was that forgiveness. Since we were literally running around Hollywood stealing shots, that was more beneficial than detrimental. The size of the lens kind of stood out in public, but this being LA no one really cared.

Shooting RAW was a blessing here because I had absolutely no control over the lighting, nor did I have any modifiers. Often times, shooting in direct sunlight proves challenging as you -generally- have to expose for the highlights and that makes the shadows deeper than perhaps they should be, meaning they won't look their best when corrected. With RAW, you can bring those lower exposure ranges up just fine. I also shot with the proxy option on, because why not, which simultaneously recorded 2K files to the SD card. Surprisingly, even at 35Mbps those proxy files looked pretty decent. In addition, the 10 stops of available ND meant I could shoot at an f4 (on average) and keep my depth of field in check while maintaining proper exposure in a matter of seconds no matter where I went, and unlike the C100mkII, the C200's ND wheel is electronically actuated so you don't have to physically rotate them into place. A minor inconvenience but one I think of often.

For the second video, I used my Sigma as I knew I'd be in a car for parts of it, necessitating a smaller lens, and the video was largely focused around dancing so I would want the auto focus. While my C100mkII only uses Center-Weighted AF, the C200 has selectable AF via the touch screen and face detection, both which worked flawlessly for me. Normally I have to center my subject, quickly turn the AF off and on again to pull focus, and then reframe. I try to hide

"The C200 has selectable AF via the touch screen and face detection, both which worked flawlessly for me. With this camera, the Face Detect AF was like having a 1st AC with me; it knows exactly what's important (the people) and doesn't freak out when it loses a face" // Kenny McMillan, *ProVideo Coalition*

that with camera moves usually but sometimes it's painfully obvious. With this camera, the Face Detect AF was like having a 1st AC with me; it knows exactly what's important (the people) and doesn't freak out when it loses a face, just keeps it where it was when it lost tracking. Nice.

Usually when I shoot handheld I'll screw a simple monopod into the top of the camera, resting it against my head to negate rotational movement. This also freed up my left hand to select my focus points on the monitor as I ran around. There are two ¼" screw holes on the top of the C200 that allow for the top handle to be attached, which holds the monitor. I must admit I found the monitor attachment kind of frustrating, so I just ditched it and attached the monitor directly to the body via a Noga arm, freeing up one of those aforementioned screw holes for my monopod. This does delete your top handle from the rig, but I didn't miss it.

Both videos were shot in one day and were pretty simple in terms of story, so we didn't need more than a few takes per setup, if that. Even so, we came up against the 36 minute limit the card imposed on us right at the end of the day, so while we got all of our shots we were having the "what else do we need, we have to get it now" discussion when the 5 minute warning started flashing. My advice would be to, again, either have a laptop or more than one card on you. For something like these videos, another 256GB card (or at least a 512GB card) would have been plenty. At the end of this article you'll see a video supplement to this article. If you're shooting something like that, or a scripted piece, you'll definitely want the ability to offload your footage. And remember, in regards to backups: 2 is one and 1 is none.

The other usual time constraint is battery, and while I didn't take note of the my runtime per A60 battery (I had two), I didn't need to swap in the second battery at any point so there's that. Canon says an A60 will give you 260 minutes of recording time, so let's go with that. With the C100mkII I just forgo the battery completely and use the power distro on my Redrock Micro cage to run the camera of a standard Cinema battery with Dtap, and I usually get a few days off of one of those. Seeing as the C200 runs a little hotter in regards to power consumption (a little more than twice as much), I feel like something like two days on my IDX 150 would be a reasonable guess, but a guess none the less.

For both videos I filmed a bit of slow-mo. In the C100mkII you get 60fps that automatically saves at 24fps in MP4 format, and I like it. Easy to switch over, looks great. With this camera, it takes a bit more work if you're filming at 24Hz, as you have to switch to 59.9Hz and then go through the menu to select slow-mo, and then your desired end frame-rate, but honestly the time spent was 30 seconds instead of 10 so it's not that huge of an issue. I do still wish I could just assign a button to "slow mo mode" though. In any case, the footage I shot at 120fps (which is capped at 1080p with no sensor crop) looked good, but it looked like the footage my C100mkII produces. When compared to the other footage I was getting with the C200, it left a little to be desired. My solution going forward would just be to shoot in 60fps in RAW or MP4 at 4K as before and just slow it down in post, but I figured it was worth mentioning.

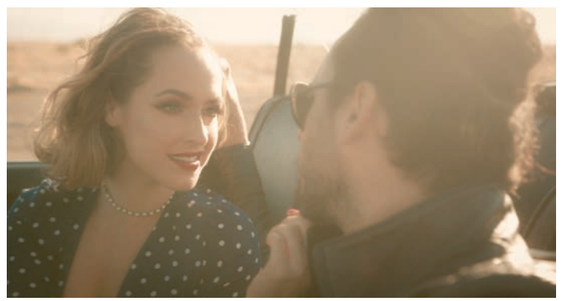
Editing was a simple affair for me. I built my PC a couple years ago, running an Intel i7 7700K processor, nVidia GTX1070, 32GB of RAM, and editing off of an M.2 drive or SSD. In Premiere I was comfortable editing the raw files directly at ⅛ or ¼ resolution with an instance of Lumetri over it, just so I didn't have to look at boring footage while cutting. DaVinci seemed to handle the footage even better. The raw files color beautifully, in any case, and gave me an incredibly cinematic look with very little effort, which was nice.

So after all of that, what did I learn? Well, basically the C200 is the C100mkII but with 2 stops more ND, XLRs built into the body instead of the handle, and a much nicer sensor/output. It's just as easy to use, but you get a way better image out of it. It's even the same "idea" in that it's the premium sensor in a less expensive body; the C100mkII is a casual C500, and the C200 uses the C700 sensor. In terms of image quality both cameras are using the cream of their respective crop. I payed about $6k for my C100mkII when it launched, this camera costs $7.5k with most of the most-used features getting an upgrade. If you're working for yourself, It's absolutely worth it. However, if you're working for someone else, or your work is going to broadcast, there's a chance you'll need to deliver a specific codec or bitrate that this camera doesn't innately offer.

People have spoken extensively about the somewhat confusing fact that this camera offers both an amazing raw image and an underwhelmingly spec'd 8-bit 4:2:0 compressed option, but nothing in the middle. Thankfully, Canon seems to have the 8-bit world on lock, offering the best 8-bit image of any camera I've seen, but at the same time it does stand to reason that a 4:2:2 10-bit kind of option should be possible. I'm on the lower-end of professional, so I don't *need* any particular recording format, but from a business perspective if Canon was offering something like that in the C200 they'd basically undercut their C300mkII by thousands of dollars. For the broadcast-angled among us that can be incredibly frustrating, I understand, but for anyone else it doesn't necessarily matter. The MP4 footage looks great out of this camera, it's a fact. Even the 35Mbps proxies I filmed alongside the RAW looked great. Would I *like* a deeper format for the MP4 option? Sure, but I'm not necessarily torn up about it. When you're spending close to $10K on a camera it's easy to gnaw on what isn't perfect, but at the same time I've been shooting in 1080p for the past 4 years and I've yet to have a client ask about 4K. They sure as hell never ask about 8 vs 10 vs 12 bit footage, but they will absolutely notice if your exposure is off or your white balance isn't set correctly. Don't miss the forest for the trees.

"The raw files color beautifully, in any case, and gave me an incredibly cinematic look with very little effort, which was nice."
// Kenny McMillan

Here's a unsolicited protip: If your distribution is online, render out your 1080p timeline as 1440p at around 40Mbps. YouTube will encode your video at a higher bitrate, ensuring a crisper/more detailed image than all the videos uploaded at 1080p and



“In my opinion, the C200 should be on the top of the list for an independent filmmaker, high-end content creator, or anyone of similar ilk.”
// Kenny McMillan

since *most* displays are 1080p anyway, with anyone on a laptop at 17” max, your audience largely will see it as a quality increase as opposed to what we would traditionally think would degrade the image. I know it’s paradoxical but it works. Right now I’m on a BenQ 4K 10bit monitor (review to come), and I can confidently say that even on this display (with the right steps taken) I don’t necessarily sense a loss in quality vs 4K even when watching strict 1080p footage; it’s YouTube you’re fighting with this idea. Even if you render your timeline out at 150Mbps, if your resolution is 1080, YouTube encodes it at 8Mbps. EIGHT. 2K footage affords you double that, and 4K footage nets you a comparatively massive 45Mbps. Shoot a film on a RED Gemini at 5K 1:1 for 1080 delivery on YouTube? Everyone is going to see it at 8Mbps. If I shot something on my C100mkII and up-res’d/uploaded it in 2K (at a high bitrate), my footage will look cleaner. Different, not necessarily better, but cleaner. So while acquisition formats absolutely matter, the internet is the great equalizer. Am I happy with the C200’s RAW Lite? Absolutely. The 150Mbps 4K 8-bit 4:2:0 MP4s? Yeah, actually. It still looks amazing and I get to shoot a lot more footage for less cost if needed, and at the end of the day it’s on YouTube at 45Mbps anyway. If I need something specific, I’ll rent. Whoever’s asking probably has the budget for it anyway.

Okay, rant aside, where does this put us? In my opinion, the C200 should be on the top of the list for an independent filmmaker, high-end content creator, or anyone of similar ilk. You’re basically getting a C700 in a more accessible body, if you squint. The advantage to Canon’s Cinema line of cameras is you’re able to scale them up or down depending on your needs: When you’re alone and need to go fully automatic, you’ve got industry leading tools right at your fingertips allowing you to keep moving and provide a final product perhaps better than you’d tend to get with a different system in the same shooting situations. If you’ve got a crew and the time, you can rig them up and use your person-power to knock it out of the park. When the image is this nice, the auxiliary tools are where the camera really shines, and this one’s got all the bases covered. //

PHOTO The $10 million, 100,000-sq.-ft. Esports Stadium Arlington is the largest esports-focused venue in North America to date.

INSIDE ESPORTS STADIUM ARLINGTON, NORTH AMERICA’S LARGEST — AND MOST FLEXIBLE — ESPORTS VENUE

// THE 100,000-SQ.-FT. FACILITY IS PART OF AN INITIATIVE TO BUILD A LOCAL ESPORTS COMMUNITY

January 24, 2019 // Sports Video Group // BY JASON DACHMAN

When Esports Stadium Arlington officially opened in November, the $10 million, 100,000-sq.-ft. facility represented the most significant commitment to esports by a municipality to date. Located in the Arlington, TX, Entertainment District, not only is it the largest dedicated esports facility in North America, but it’s also an extremely versatile venue, having already hosted events ranging from FACEIT’s Esports Championship Series (ECS) Finals to the Collegiate Rocket League National Championship..

“This is the most flexible and adaptable esports stadium in the world,” says Corey Dunn, executive producer, NGAGE Esports, which manages all events at the venue. “One of our main goals was to create a space that could bring in many different types of users. The [show] we produce one weekend is probably going to be very different from what we’re

doing the next weekend. So, from a production standpoint, the biggest difference with what we're doing in our facility compared with other esports or [traditional sports] venues is, we have to take different approaches for almost every event we do."

// EXPERIENTIAL VENUE: MORE THAN JUST A SPOT TO WATCH THE GAME

However, ES Arlington — which is a joint venture of the city of Arlington and Esports Venues LLC (an arm of Infinite Esports, which is owned by Texas Rangers co-owner/COO Neil Leibman) and was designed by Populous — is much more than an arena to host live esports competitions. Besides a state-of-the-art competition space, it features a Gaming Center with 50-plus gaming stations open to the public seven days a week, as well as retail and social spaces (including food and beverage), premium hospitality offerings, broadcast and production studios, and ultramodern team training facilities.

"The reality is that these [esports] fans want to be together for a cultural and social experience, and we're creating the environment to make that possible," says Brian Mirakian, senior principal/director for Activate, Populous. "However, they're not there to sit in their seat the entire time; they're there to choose an experiential adventure.

"That's where the gaming center comes into play," he continues. "You could be at a tournament for eight to 10 hours, but you have the ability to walk out and socialize with your friends and participate in games. There is the ability for you to be able to migrate from place to place, and, ultimately, that's the driving factor behind this project."

The project to transform an underutilized space at the Arlington Convention Center into an esports-specific venue was completed in just six months. Populous enlisted Shawmut as its construction partner and systems integrator SimplyNew to build out the technology for the venue's media and IT architecture, broadcast studio, and A/V.

"I think that the number-one thing that's important for people to realize about this facility is that it's a fully immersive experience — not just a place where you watch a game and leave, which is what most sporting events are," says SimplyNew co-founder Marc Scarpa. "This is a fully immersive experiential entertainment center, and it starts the moment you walk in the door of the building."

// INSIDE THE ARENA: A FULLY IMMERSIVE COMPETITION SPACE

The competition arena itself boasts an 85-ft-long LED board and features an immersive, 5.1 surround sound system built on a Dante IP audio network and a dynamic theatrical lighting system.

To serve the wide variety of competitions expected to be held in Arlington, the main stage can accommodate events ranging from 1 v 1 to 7 v 7 and up to 100 game stations for battle royale competitions. The venue can also host conferences and corporate events outside of esports. Seating can be scaled from 250 to 2,500 spectators.

Dunn, a veteran of the esports scene for more than a decade and one of the industry's most experienced producers/directors of live esports events, is overseeing all production at the facility and sees its flexibility as key to its success.

"Canon's ability to supply lenses that met our 4K visual needs, budget constraints, support and time requirements helped us succeed in building this industry-changing facility." // Corey Dunn,
Executive Producer, NGAGE Esports

"One of the key things that we have to be cognizant of is knowing how to integrate our local resources into [customers'] ecosystem because every [show] is different," he explains. "You've got people that are extremely technical and highly proficient in [esports] production, and then you have others that are still learning. You've got people that need a lot of our resources and others that have every resource and just want to be able to come into the space and load in. We've got to be able to serve both equally well."

Eight Grass Valley LDX 86N 4K-capable cameras are on hand for in-arena coverage: two handhelds, three long-lens cameras, a jib, and two studio cameras. The long-lens cameras are outfitted with the new Canon UHD-DIGISUPER UJ 66X9B box zoom lenses, the camera manufacturer's first

TOP Esports Stadium Arlington features a Gaming Center with 50-plus stations open to the public seven days a week.
Middle FACEIT rolled out a studio set inside Esports Stadium Arlington for its ECS Finals show.
BOTTOM The ES Arlington project (shown in a rendering) transformed an underutilized space at the Arlington Convention Center into an esports-specific venue in just six months.

4K-compatible medium telephoto broadcast lens. Focal length on the telephoto end was a priority for ES Arlington, and it was the first facility in the world to receive the new Canon lenses, which offer 66X magnification and the operability of a 2/3-in. HD field lens along with telephoto-end focal length of 600mm (1,200mm when using the built-in 2X extender).

"Canon's ability to supply lenses that met our 4K visual needs, budget constraints, support and time requirements helped us succeed in building this industry-changing facility," Dunn explains. "Working with Canon has been great and has afforded us the maximum flexibility for a facility of this size."

The arena also features four CJ24ex7.5B 4K UHD telephoto zoom lenses and one CJ14ex4.3B 4K UHD wide-angle zoom lens, notable for their compact size and low weight, supporting high-mobility shooting often involved in sports-entertainment production. All the lenses, which are being paired with Grass Valley cameras, will enhance current HDTV optical-imaging performance, while solidifying a place for the shift to 4K production.

"We chose Canon's broadcast lenses not only for their superb 4K optical quality, but for the Company's leading service and support offerings," adds Scarpa. "This is more than a one-time equipment purchase — it's the start of a new relationship with Canon as we look to shape the future of esports."

On stage, up to a dozen Blackmagic Design player cameras can be deployed and subswitched separately via a Blackmagic ATEM switcher. Three additional Blackmagic POVs provide wide shots and beauty shots of the entire area. Three Sony PTZ cameras are also on hand: one for the caster studio, two for down-the-line shots on stage.

// CONTROL ROOM, OBSERVER ROOM OFFER PLENTY OF TECH FIREPOWER

The entire production facility is 1080p60 (an absolute must in esports) and is 4K-ready should the venue opt to upgrade in the future. The main control room features three benches, which can be leveraged at different scales, and produces the live feed for both the streaming and in-venue experiences. The observer room produces the in-game action ("observers" are essentially the in-game camera operators) while the main control room handles the overall show.

ABOVE Esports Stadium Arlington opened in November hosting FACEIT's Esports Championship Series Finals.

"There was no question going in that we were doing a 1080p facility. That was a given from the beginning," says Scarpa. "And we went in with a 4K-ready solution so that they can do upgrades down the line as opposed to having to rebuild the whole facility. There's also fiber throughout the facility, so the infrastructure and the skeleton are there already when they decide to do that upgrade."

"Working with Canon has been great and has afforded us the maximum flexibility for a facility of this size."
// Corey Dunn,
Executive Producer, NGAGE Esports

At the heart of the production operation is a 4M/E Grass Valley Karrera K-Frame S-Series switcher (64 inputs/32 outputs), as well as Grass Valley Densité and enterprise-class NVISION 8280 routing systems.

The main stage LED, player pod displays, and the pre-event lobby LED display are driven with Ross Video products, including a Carbonite Mosaic video processor, XPression Tessera real-time 3D graphics render engine, and DashBoard control system.

Other equipment includes a Grass Valley LiveTouch replay network (15 input, four output), Riedel intercom system, and a Vizrt three-channel CG system for graphics. The 5.1-surround audio-mixing room features a Yamaha console and Genelec speakers.

Other key production areas include the caster studio, where shoutcasters call the action from a studio desk with a chroma key greenscreen background, and a postproduction area.

The equipment room houses 19 racks of gear, and more than 200,000 ft. of fiber and copper cabling has been laid throughout the facility. ES Arlington also has full encoding capability to all streaming broadcast platforms and is fully compatible with a mobile unit should the client require it.

// BEYOND THE ARENA: GAMING CENTER, TEAM AREA HELP BUILD ESPORTS COMMUNITY

The Gaming Center is as integral to the facility as the arena itself, as the local industry seeks to build a robust esports community in Arlington. Gamers from throughout the Dallas/Fort Worth area can come in seven days a week (12 p.m. – 2 a.m.) to play all the latest games on more than 50 gaming stations — NVIDIA-powered PCs with 240-Hz G-Sync monitors or PlayStation 4, Nintendo Switch, and Xbox One consoles — while engaging with other local gamers (with full access to food and beverage and the ES Arlington retail store).

In addition to daily pay-to-play gaming, ES Arlington hosts weekly and monthly meet-ups, tournaments, and other events inside a mini arena in the Gaming Center to further enrich the community experience.

Also contributing to that goal, the Team Area focuses on training and provides players with a communal space comprising eight "Team Rooms," space for players to strategize and practice; a "Player Lounge," where players can relax and socialize; and media and staff areas.

"This is about much more than just the main competition venue," says Mirakian. "There were four primary goals that programmatically we wanted to achieve with the building: the Gaming Center, the competition venue, the production studio, and the team training facilities. We believe all four are absolutely critical to success."

The stadium opened with a bang. Its first event, FACEIT's ECS Season 6 Finals, became the most-watched CS:GO live stream ever on YouTube, peaking with concurrent viewership of 233,950 on the English-language broadcast and logging 3.2 million hours of total watch time (2.4 million of those during the Finals). In December, Arlington hosted Collegiate Rocket League National Championship and Ultimatum, a two-day Smash Bros Ultimate event.

With plenty more events to be announced in 2019, Dunn and company foresee a thriving esports community in Arlington.

"Our No. 1 goal right now is building a community, which then builds up our audience base. And I think we're already seeing that happen," Dunn says. "What's really been exciting has been the impressions from our audiences. One of the coolest things I saw on social media was, a father and son came to the venue together and both loved it. Seeing how we are making an impression on gamers and non-gamers has been really great." //

RED ROCKS CHURCH REACHES NEW HEIGHTS WITH CANON

March 2019 //

Red Rocks Church, based in the Denver area, is a church of mega proportions. The community comes together and provides everything from children and teen ministries, to sports leagues, recovery groups and more. Locations for Red Rocks span the globe and give the Church an opportunity to reach more people than before. With its large and very diverse audience, Red Rocks needed video tools that gave them the opportunity to cover every type of gathering. This realization is when their relationship with Canon came into focus.

"I feel like faith and creativity have an interesting relationship, and people think 'oh if you're doing filmmaking for a church it may be kind of cheesy,'" says Josiah Jones, Creative Film Lead, Red Rocks Church. "The reality is we can produce content at top industry standard as well as anybody else. Right now, there's really nothing stopping us from doing that, equipment-wise, because of our Canon gear."

Red Rocks has outfitted its Colorado churches with EOS C300 Mark II, EOS C100 Mark II, and EOS C200 cinema cameras, and an array of cinema lenses including the CN-E35mm T1.5 L F, CN-E30-300mm T2.95-3.7 L S, and CINE-SERVO 17-120mm T2.95-3.9 EF.

"For a lot of the creative pieces our primary workhorses are the C100 Mark II's and for in-house live production we use the C300 Mark II's and C200's." continues Jones. "All of these cameras are great because we can use them on Sunday for live production and then quickly move to a creative piece later that day. These cameras cover all of our bases and everyone who has used them, from my production team to our volunteers, loves them. These cameras make our work really easy."

Growing along with the times over the last 15 years, Red Rocks started with about eight people on staff and today, they employ over 120. The creative team has grown to about 14 staff and Creative Director Carson Bankord is thrilled to see how the creative team has adapted with today's needs.

"The creative team that I oversee is a mixture of filmmakers, graphic designers, motion graphic artists, and project managers," says Bankord. "The full team works Monday through Friday and then the production team takes over for Saturday and Sunday where we have two days of services for the live broadcast cameras. The creative team works on a lot of short film pieces, promotional materials, testimonials and other pieces like that. Given that we can now use the same Canon cameras and lenses as we do for our live broadcasts gives us the ability to go after the cinematic look that we love."

The Red Rocks creative and production teams have been using the Canon cameras and lenses in a variety of situations and shooting styles. "What's been beneficial for us as a house of worship is the ability to use low light. We don't have to crank up the light in the crowd to capture the whole event. So now, instead of just capturing the few things that are in perfect light, our cameras allow us to capture the whole experience. We have an online presence of about 20,000 people that watch our services every week, and for us that's kind of where it stems from. It's not just for the people in the room that we're enhancing this cinematic look, but our online viewers as well. We're now able to tell the whole story of Red Rocks Church for online viewers who are from 68 countries."

"For a lot of the creative pieces our primary workhorses are the C100 Mark II's and for in-house live production we use the C300 Mark II's and C200's."

// Josiah Jones, *Creative Video Producer, Red Rocks Church*

Another reason why Red Rocks chose to invest in Canon is the workflow of the cameras and lenses through the post production process. "From what we've seen, it's very easy to keep a consistent image across the board once we bring it in to our editor and we're going to start putting things together," says Jones. "It's a very pleasant work flow. All of the Canon cameras match with each other and we don't have to work hard to push and pull colors to keep consistency across the board. Of all the cameras I've used, the Canon color science is by far my favorite, especially in this environment. It doesn't

do an odd compression or banding – it's just a very clean color spectrum and its super easy to work with. The picture looks like it does in the room."

Red Rocks also employs a broad range of prime and zoom lenses to capture all of the various looks they want to achieve. "My favorite lens is the 35mm Cinema Prime," says Jones. "I love doing a lot of handheld work and I love feeling free. like I can move around. I think that 35mm gives me just the right balance where I don't feel like I need to get too close to my subject, but it gives me enough range as far as environment goes. Everything from L series lenses for some of the day-to-day stuff to larger events where we get to the 50-1000's, 30-300's and 17-120's with the Cinema Primes. All of the lenses are tack sharp, the color reproduction is spot on, the way they handle is light and enjoyable. With our Canons we can just pull the image into the computer and think 'okay great we got it.'"

"Of all the cameras I've used, the Canon color science is by far my favorite, especially in this environment."
// Josiah Jones,
Red Rocks Church

Jones is also equally impressed with the reliability and durability of his Canon gear. "I've shot with the Canon lenses and cameras in so many different environments; from tops of mountains to arenas to studios, and the reliability of knowing it's going to work is second-to-none. I've never once had an issue, and when we're throwing a camera 40 feet in the air on a cable cam and we know that it's going to run. The cameras do what they're supposed to and we're confident that in our daily operations we're not going to have any technical difficulties. I don't think I can count any glitch issues that we've had. They're reliable, they're trustworthy, they get the job done and they get it done well."

Moving towards the future, Jones is thankful for his relationship with Canon on both the gear and support. "We've had a very close relationship with Canon for a few years now, from our Canon rep to being able to call and get support, everything and everyone has been really helpful. We've been able to trust and rely on the people to actually be there for us and it's been excellent. Canon understands the house of worship space and we're excited to move forward on this journey with them. We can't wait to see what they put out next!" //

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