PSSI LIVE

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TRANSMISSION TIMES

Conquering Coronavirus Challenges for American Idol and SpaceX

In collaboration with Pacifico Management, PSSI had the opportunity to work on two very unique and exciting projects — the American Idol finale and the SpaceX launch show.

American Idol

Due to social distancing measures and restrictions on large gatherings, the contestants and judges could not meet in one location for the American Idol finale, dramatically increasing the complexity of the show. But it was nothing we couldn't handle!

To meet this challenge, we had transmission vehicles and engineers at the final contestants' homes across the country, multiplexing two cameras. We also had transmission vehicles and engineers at the homes of the judges — Katy Perry, Lionel Richie, Luke Bryan — and host, Ryan Seacrest, again multiplexing two cameras. Meanwhile, in Burbank, California, our CK35 mobile teleport was waiting outside the production studio to receive all the remote feeds and send back the hosts to each location, as well as provide ABC with the network backhaul. All remote and return feeds were transmitted on three transponders of Eutelsat 113 West A, using PSSI International Teleport as a point of access for our remote engineers.

To bring all these separate venues together into a cohesive show, we collaborated with Nextologies, an IP video provider based in Canada, to deploy Nextologies' NXT-4 equipment to eight of the locations. This technology enabled the production team in Burbank to control each camera remotely by tunneling into the cameras via public internet. Nextologies also provided American Idol producers around the world with an encrypted web portal to watch rehearsals and the live show.

Pulling off an event of this level of complexity required the right technology and a tremendous amount of project management and engineering expertise. We're proud to have the resources to take on any broadcasting challenge, and our success on this project is a testament to the experience and talent of our team. This was a great opportunity for us to do what we do best — find solutions.

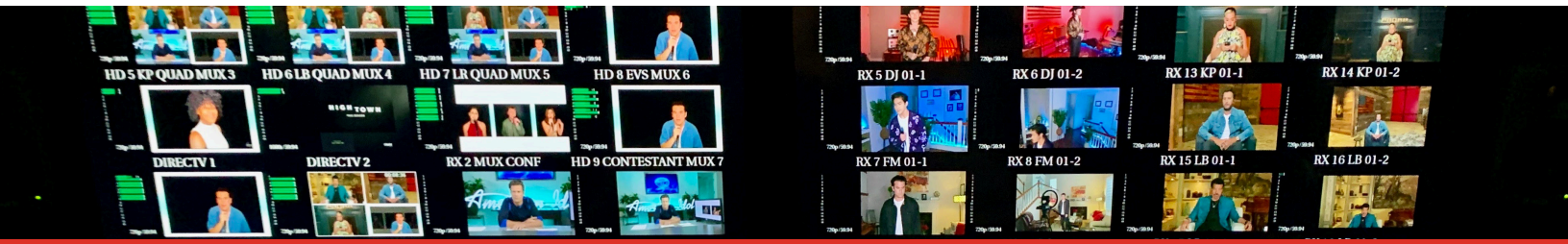
SpaceX

The historic SpaceX launch show, "Space Launch Live: America Returns to Space," brought many of the same social distancing challenges we overcame for the American Idol finale. And once again, working in partnership with Nextologies, we provided a seamless solution.

The show focused on the NASA launch of SpaceX's Crew Dragon capsule and included appearances by Katy Perry, Adam Savage, former NASA engineer and YouTube sensation Mark Rober, and other celebrity guests. It also included expert insights from current and former astronauts.

For this project, Nextologies' NXT-4 and NXT-LITE technology and gear was deployed to the production studio in Burbank as well as to the homes of the talent. The producers utilized the NXT-4 gear to remotely control the cameras. Our CK35 transmission vehicle was on-site at the production studio, where it ingested more than 30 feeds via satellite, fiber and IP for remote production and distribution of the show to viewers across the globe.

We are honored to have been part of this historic event, and we look forward to continuing to provide innovative solutions to the broadcasting challenges COVID-19 has created.



Breaking Ground to Bring Fights to Worldwide Viewers

It will take more than COVID-19 to keep Top Rank and UFC down! We've had the privilege of collaborating with these two organizations for many years, and we're continuing to support their success — with a few pandemic-related modifications.

UFC

Working with our friends at Concom, we've been taking on some exciting UFC projects. For five weeks from the end of May to the end of June, we were on-hand to help out with one pay-per-view and four Fight Nights from the UFC Apex in Las Vegas.

With engineer in charge Tracy Michaels and project managers Keith Valeri and Garrett Hunt keeping everything running smoothly, we leveraged on-site transmission vehicles, PSSI International Teleport, AT&T fiber and Telstra's Global Media Network to provide a full scope of transmission services via satellite and fiber.

Coming up soon in July, we'll also be working with UFC on a pay-per-view and three more Fight Nights from UFC's "Fight Island" in Abu Dhabi. Once again, Keith and Garrett will be managing all the moving pieces as engineers Jim Flowers, Mike Lemieux, Kevin Spangler and Mike Sheehan provide a full scope of transmission services via satellite and fiber.

Top Rank

We are excited to be providing a full complement of traditional and IP-based transmission services for Top Rank's series of live fights from the MGM Grand in Las Vegas, and we've already accomplished several industry firsts in the process.

Our work with Top Rank marks not only the first all-IP origination for a major boxing event, but also the first IP live international distribution to several countries. To help minimize the overall on-site presence of talent and staff, we also partnered with Nextologies to engineer a solution to integrate ringside commentary remotely over a customized IP network.

For each fight, we are providing both on-site engineering services and off-site monitoring and management. We're also leveraging Nextologies equipment to deliver the primary pathways via IP transport. Each time, we generate an IP feed to Paragon Media, where our engineering team is on-site providing two-way remote ringside commentary services. A separate feed goes to a Nextologies server for IP distribution to several worldwide broadcast partners. This approach builds on our longstanding international satellite distribution model, expanding Top Rank's reach and flexibility.

As a key link in the overall transmission chain, we've leveraged PSSI International Teleport not only as a gateway for the live international distribution of these events, but also as an oversight layer for the full network, including satellite, fiber and IP elements.

C-Band Solution Supports Seamless Broadcast of 'The Match II'

With rainy weather all day and no fiber availability on-site, "The Match II" charity golf event presented a significant live broadcast transmission challenge — and, as always, the PSSI team was ready with a solution. To support this event, which turned out to be the most-watched golf telecast in the history of cable television, we provided several primary and backup paths, as well as data and internet via satellite, using C-band transmission vehicles.

Live from the Medalist Golf Club in Hobe Sound, Florida, "The Match II" featured Tiger Woods, Phil Mickelson, Peyton Manning and Tom Brady in an event that raised $20 million for COVID-19 relief. Attracting a peak of 6.3 million viewers, "The Match II" aired on four channels in the U.S. and internationally on CNN International.

Working in partnership with Turner Sports, we provided C-band transmission and data services all week for testing and event services. In total, we provided 420 mbps of services simultaneously via four Eutelsat C-band satellite transponders. Due to the poor weather at both the Medalist Golf Club and Turner's facilities in Atlanta, Georgia, we utilized earth stations at PSSI International Teleport (PIT) to back up the Turner teleport.

Our team had two C-band transmission vehicles at the origination site and worked in collaboration with PIT to transmit two separate paths of video and 16 channels of audio from each of the vehicles. We also provided 100 mbps of bidirectional data and 50 mbps of bidirectional internet. All satellite capacity for the project was provided by Eutelsat and accessed via PIT.

The success of this project reflects the ongoing, and even increasing, value of satellite as a transmission method, and C-band especially in such inclement weather. Despite the challenges presented by the lack of fiber infrastructure and weather conditions, we were able to leverage the C-band spectrum and our expansive satellite resources to engineer a seamless transmission.

An Inside Look at Our FCC Appeal

For years, PSSI has been devoting significant time and resources to ensuring the C-band spectrum remains a viable solution for broadcast transmissions. When the FCC announced its plan to reallocate the C-band spectrum for 5G services — eliminating 60% of the C-band availability for broadcasters — we knew we had to do something. So on April 28, we filed an appeal to challenge the FCC's decision.

If the FCC's planned C-band reallocation is allowed to move forward, it will cause a significant ripple effect in the satellite broadcast industry, disrupting long-established satellite uplink and downlink patterns. The C-band spectrum is used for live coverage of concerts, sporting events and more, and while the demand for these live events remains as strong as ever, the C-band reallocation will leave broadcasters with far less bandwidth to facilitate successful transmissions.

This scenario is particularly troublesome for live events that can't be planned very long in advance and benefit from the flexibility of having C-band transmission vehicles available to deploy to remote locations on short notice. Limiting C-band access would put these fast and convenient transmission services at risk.

Through this appeal, we are continuing to support and advocate for the needs of our valued clients and partners as we fight to keep the C-band spectrum open for broadcasters.

Engineer of the Quarter!

Throughout the coronavirus pandemic, PSSI International Teleport has continued serving our clients with added cleaning and sanitation measures, social distancing procedures, and other precautions to ensure the safety of our team and visitors. And in the midst of it all, Lance Banks has been making sure everything keeps running smoothly. Lance is assigned to every single major event we cover, from UFC and WWE to NASCAR events. For each event, he is there for the entire time — no shift changes in the middle of a show — to see to it that we always deliver the excellent results our clients expect.

Lance Banks

"Lance is an integral part of every service for our top customers. He's the first person to pick up the phone when our engineers and project managers call, and he quickly resolves any problems to ensure a clean show every time."

– Rob Lamb, CEO

Spotlight on **Lance Banks**

Q Please tell us about your journey to your current role at PSSI.

A I was an electrical engineering student at University of Southern California and noticed an ad in the student newspaper for a student engineering job at the Zemeckis Center TV facility in the cinema school. I needed a work study and thought that sounded perfect, so I applied and worked there for three years upgrading and maintaining the TV studio, telecine, digital theaters and production equipment. I quickly realized I enjoyed that much more than school, so I went for it instead of a more traditional electrical engineering job.

I then started working for a company called Pacific Television Center as a broadcast engineer doing many of the same things I had been doing previously, but with the added component of satellite and fiber transmission. I also operated a microwave truck around the LA area. I was there for almost 12 years working with many of the PSSI engineers and Strategic Television project managers on all kinds of feeds, and when the teleport in Pittsburgh was added to PSSI's portfolio, I jumped in.

Q Please tell us a little bit about your daily work at PSSI.

A I manage a variety of services on a day-to-day basis in the teleport. Everything from communicating with project managers and clients to configuring and operating transmission equipment to troubleshooting and fixing problems. We have gotten to the point where we are consistently doing all kinds of different services simultaneously for all kinds of different clients using all kinds of different mediums.

Q What are your favorite things about working in this industry?

A Every day is a new and different puzzle to put together. I love the constant challenge of keeping up with all the project details as well as all of the different technologies. I am constantly stimulated and stretched in new and exciting directions.

Q If not this career, what?

A When I was growing up, my dad worked on the railroad, mostly throughout Nevada and Utah. We moved east as well for a while, and he transitioned from field work to designing the signaling systems for the trains. I worked at different railroading jobs during summers in college and for a while after as well. That is most likely where I would have ended up if not here.

Q Please tell us a bit about your family.

A My family and I moved around a lot as I was growing up. I am in Pittsburgh on my own now, and my family is pretty spread out, but I visit whenever I can.

Q What's something people might be surprised to learn about you?

A As far as surprises go, my Spanish is pretty good. I was a Spanish-speaking missionary for two years, spoke Spanish more often than English and was basically fluent. It has definitely come in handy.