

Live Streaming From NAMM: Easier Than You Think

By George Petersen

In 2013, the Winter NAMM show space was expanded by creating a large open plaza between the two main hotels and the Anaheim Convention Center. This year, the large GoPro stage (sponsored by GoPro) in the center of that Grand Plaza not only featured top-notch entertainment (including Sheila E), but also offered a chance to experience new products — such as JBL's new VTX Series V20 line array system and S25 subwoofers. But to bring this experience to a vast audience, NAMM partnered with GoPro and Marshall Electronics (lcdracks.com) to prove that streaming live events need not be the complex, expensive process it once was.

The system began with 11 affordable GoPro Hero3+ cameras (about \$299/street). The HD video signal from each camera was sent to a Panasonic AV-HS450 switcher and Marshall LCD monitors. From the switcher, the video signal fed a Marshall PS-102 Producer Station where the audio and video was converted into H.264 and streamed to the cloud. Audio came directly from the FOH console for a clean feed, and due to the low latency of the video path, no audio delay was necessary to maintain lip sync. Marshall utilized StreamVu as the CDN, which allowed streamed content to be viewed on the NAMM website by an unlimited number of viewers without impacting the site's bandwidth.



Adding another element, one of the GoPro Hero+3's camera fed a Marshall WHD-1 wireless belt pack transmitter and matching receiver to transmit zero latency uncompressed HD directly from the roving camera. That rig allowed the production team to wander into the crowd for some unique footage. This was enhanced by a Marshall PS-541 box camera used to capture the crowd. The PS-541 camera can stream and do live HD-SDI at the same time, which is a rare combination.

Besides bringing NAMM's music message to anyone who couldn't attend, the production proved the concept for an inexpensive, fairly simple streaming process that could apply equally to concert venues (of any size), clubs, performing acts, music studios, integrators and houses of worship who are considering creating and launching



Near the FOH position before showtime at the GoPro Stage are Marshall Electronics' Alfredo Monterrubio, Greg Boren and Perry Goldstein.

their own high-quality live streaming content.

"Live streaming is a cost effective way for performers and promoters to get their music to a wider audience," says Marshall's Perry Goldstein. "What once required a costly satellite uplink is now done at a reasonable cost through broadband Internet. A concert can become a multimedia event enjoyed by countless viewers all over the world. In terms of growing a fan base and connecting to people, live streaming has tremendous potential in the music industry."