

Avatar advancements

LSi discovers how Brompton Technology and ROE Visual are supporting the technical development of avatar-led concert productions by Unit1Studio . . .

[UK] As the first independent, end-to-end producer of avatar concerts, Unit1Studio has launched with a mission to enable fans to relive legendary performances from artists they love. To achieve this, the latest LED display systems from Brompton Technology and ROE Visual have been put through their paces to ensure this popular form of immersive experience can withstand close scrutiny from audiences.

The result is new developments in VFX and AI-enhanced CGI that enable Unit1Studio to create realistic avatars of human artists - no matter the venue size - by combining pinpoint precision and accurate colour matching.

Until now, these types of performances were prohibitively expensive, meaning that only the very highest-grossing artists could put on a show featuring avatar elements. Unit1Studio wanted to vastly reduce the cost of entry, opening the business model up to more artists, back catalogue owners, and visitor attractions.

SCREEN TIME

LED processor specialist Brompton Technology and screen manufacturer ROE Visual have a long history together, and it was this existing relationship that led to Brompton offering the Unit1Studio team time in its West London-based demo space. Here, the combination of ROE's Topaz 1.5mm LED screen and Brompton's 4K SX40 LED processing allowed the Unit1 team to discover the finer details of LED panel technology, and the importance of accurate colour tools and dynamic calibration.

For the first demo of its hyper-realistic avatar and production capabilities, Unit1 collaborated with singer-songwriter KT Tunstall ahead of the 20th anniversary reissue of her breakthrough album, *Eye To The Telescope*.

CEO Barney Wragg, who leads the company alongside



creative director Jonathan Butterell and technical director Pavle Mihajlovic, takes up the story: "In Hollywood VFX, you don't just shoot one shot or camera angle for two hours. But if you go to a gig, you're effectively looking at one shot for that long. To recreate the live feel, the audience needs to be 'in the zone' for the entirety of the concert."

With experience of working in both the music industry and musical theatre, Wragg understands the importance of maintaining the illusion for audiences - something that could prove tricky when presenting avatars in smaller venues.

"We use stagecraft to keep people connected with the live experience," he continues. "The

big fear with the KT project was that we wouldn't be able to achieve the fidelity at the proximity we wanted, as you need distance to account for the resolution of the screens. I take my hat off to Jonathan Sheard at ROE Visual, who was the first person I contacted about the project, for getting us the screen we're now using. ROE only had a limited amount of those panels available, and we have 50 in use at Brompton."

SUDDENLY I SEE

Ultimately, Brompton's demo space was selected as the ideal space for the showcase. Rob Fowler, director of business development at Brompton elaborates: "This is an area of technology that really suits Brompton and ROE Visual. Just

1 Top: KT Tunstall's avatar performs at Brompton's demo space as part of Unit1Studio's showcase of the latest developments in avatar-based productions

Above, L-R: Barney Wragg, Unit1 CEO; Jonathan Butterell, Unit1 creative director; Pavle Mihajlovic, Unit1 technical director



"If the audio didn't sound like it was coming from KT and her guitar, the illusion would be broken straight away..."

- Rob Fowler

as in virtual production, realism is key, and what the team discovered here is that the final 1% can be the difference between success and failure in selling the illusion. With all that synergy it was an easy decision to get behind this and work closely with Barney, Jonathan, Pavle and the stellar group of collaborators they have assembled."

It is the impressive colour accuracy and clarity that can be achieved with the combination of Brompton processing and ROE Visual LED screens that has added that magical 1%, with tiny details suddenly becoming easily adjustable.

"It's perhaps indicative of the attention to detail that Pavle and the team spent quite a bit of time dealing with KT's teeth and the inside of her mouth, getting the space dark, but not too dark," Fowler continues. "The accurate reproduction of colours plays a big part in making sure your brain is comfortable with what it's seeing."

Suspension of disbelief can be key in an audience's enjoyment of a storytelling experience. The KT Tunstall demo wasn't just a film being played back on a screen. Entwining elements from the digital realm with existing fixtures, such as lighting designed by Woodroffe Bassett Design, and staging was key to rooting the performance in the space. Drawing on his background in gaming,

Mihajlovic's role was to render KT Tunstall's avatar and bring it to life in a believable way, recreating the emotional, shared experience of a live performance.

"Getting the consistency between the stage and the screen was something we worked really hard on, and we learnt a lot," he says. "We've used techniques that match the light dispersal from different lighting fixtures, and have also used stagecraft to trick the audience into believing a lamp is lit when actually the effect is coming from the screen. The results are clear even in a small space, giving a sense of scale, and would be equally important in a larger venue. We're not trying to be literal, but we are providing just enough information to deliver a live music experience."

A HARMONIOUS PRODUCTION

Asset creation and colour management sit at the centre of the workflow, with Brompton's Tessera processors used to maintain consistency across the LED system, providing HDR quality and highly accurate, scalable coloured content. While accurate programming is essential, Fowler notes that visual fidelity alone is not enough once the content is placed into a live performance environment.

"When you're actually in the space, the lighting, the audio [designed by veteran theatre



sound designer, Richard Brooker], and the choreography are as important - if not more so - than the final notes of KT's video avatar," he says. "If the audio didn't sound like it was coming from KT and her guitar, the illusion would be broken straight away."

The close collaboration between creative and technical teams began well ahead of the performance, to ensure the LED content integrated convincingly and harmoniously with the other production elements. According to Wragg, that process depended less on individual technologies than on good communication and sustained technical support.

"The first thing that separates the way we worked with ROE Visual and Brompton was their understanding that this was probably going to be very time-consuming, but we all needed to work together to see

where it could go. There aren't many companies willing to do that. It's intangible, but enormously valuable," he shares. "The second was access to the screens. Jonathan pulled out all the stops to get the panels, and when they were installed, the ROE Visual team was there to support from day one. Brompton's support team was there for us all the time - we didn't have a question they couldn't answer."

"This project shows what can happen when technology and creativity are aligned from day one," concludes Jonathan Sheard, managing director of ROE Visual UK. "We are grateful to Barney and the team at Unit1 for inviting us into the project, and to Brompton for the close collaboration that is helping open a new chapter in immersive, avatar-led live performances." 🎧

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