

DON'T FORGET THE AUDIO

How TSL Products ensure Timeline Television's OBs sound just as good as they look

Responsible for delivering quality content to billions of viewers around the world, Timeline Television is no stranger to the everyday challenges surrounding technical and creative excellence. Their OB fleet covers major live events taking place throughout the world and works in tandem with their RF services to provide 'on the go' freedom to production teams.

Timeline's first 4K RF uplink truck (RF1) launched in December 2016 and completed over 80 outside broadcasts (OB) in its first year, including three months in Mallorca for ITV's *Love Island*. RF1 has since been used for major sporting and live events, including the IAAF Athletics, BBC's *Live Lesson* series and was subsequently contracted for the 2018 series of *Love Island*, which attracted over 3.6 million viewers for its premiere episode.

Due to growing demand, two new 4K RF uplink trucks, RF2 and RF3 were launched in 2018 to enable Timeline to support clients' growing 4K requirements. RF2 was deployed at the UEFA Champions League Final for BT Sport and was quickly followed by the Royal Wedding in May for the BBC. The five-ton purpose-built trucks feature the latest in 4K technology and manage UHD and HD uplinks, remote data services and video over IP. Featuring a large monitor stack, Dolby sound monitoring

and ASI/spectrum analysis, they provide complete confidence in monitoring of audio signals.

"For the Royal Wedding, we were providing eight RF cameras for the BBC (three in UHD HDR and five in HD) and the outgoing domestic and international links, so we were responsible for delivery to an estimated 1.9 billion people. It was essential that the audio passing through RF2 was correct," explains Lee Wright, senior engineer at Timeline. "As Timeline's RF trucks are designed to be an all-encompassing RF/comms vehicle, we use TSL's PAM2-MK2 to monitor regular MPEG L2, Dolby 5.1 and Dolby Atmos. Line timing is absolutely critical for Dolby Atmos and the PAM2 allows us to decode the Dolby and check each component is as we would expect."

Dolby audio encoded at the OB is not decoded until it arrives at the consumer's home and best practice is to check a local decode of the encode and adjust the encoder if needed to get it in spec. This has become especially pertinent with the dawn of HEVC encoders. As the technology is still relatively in its infancy some HEVC encoders can affect the line position during the video encoding process. If the line timing is out of spec at the OB, there will not be any audio at the other end.

"Being right on the front line, it is essential that Timeline have the confidence in their audio feeds," explains Stephen Brownsill, audio product manager, TSL Products. "Specifically, in the Timeline trucks, the PAM2 is used to monitor contribution feeds, check a local decode and adjust the audio encoding delay to get the timing in spec. With its Dolby decoding option and on-board loudness and Dialnorm monitoring, the PAM2 is a great tool for contribution monitoring."

Powerful monitoring features aren't the only important factor though when considering key workflow tools. It is essential that they are flexible enough to work in dynamic environments such as the large-scale live events Timeline is used to working with. And the engineering team at Timeline are very used to having to think on their feet, as Wright explains: "The production on *Love Island* was fairly complex, as it was two locations separated by three kilometres of countryside. The camera and production gallery facilities were located at the villa itself, while the edit and production facilities were located at the other site. From a technical point of view, this presented some challenges, and we were





tasked with providing broadcasting facilities to connect the sites before transmitting the finished edit live to ITV2.”

“Customers in these demanding environments just need tools that will allow them to do their job,” adds Brownhill. “Outside broadcasts and RF trucks are typically having to manage many audio signals at once, and the engineers have a tough job to ensure that all audio is present, correct and to specification, that Dolby sources are being encoded and can be decoded correctly and that loudness compliance is being met. The last thing they need is to have to troubleshoot the unit or try and navigate complex menus when they are up against it.”

“The main attraction to using TSL Products is the fact that they are so user-friendly,” explains Wright.

“I have been working with TSL Products since 2010 and we use them across the entire business for all kinds of monitoring. So much is happening at Timeline. RF3 launched in the summer in time to cover the BBC’s RHS Chelsea Flower Show on its first outing, and is now set to tour Europe with the World Superbikes. We have also been on many adventures from Ashgabat in Turkmenistan for the Lagadère Sports’ production of the IWF World Championships, to Saudi Arabia for FIA FormulaE. We simply couldn’t do this job without the support from our technical partners.” ■

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